imageRUNNER
C6800/C5800
C6870U/C5870U

SERVICE
MANUAL

Canon

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REV. 1

Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

Corrections

This manual may contain technical inaccuracies or typographical errors due to improvements or changes in products. When changes occur in applicable products or in the contents of this manual, Canon will release technical information as the need arises. In the event of major changes in the contents of this manual over a long or short period, Canon will issue a new edition of this manual.

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Caution

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
	Indicates an item intended to provide notes assisting the understanding of the topic in question.
	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

   In the diagrams, ▬▬▬ represents the path of mechanical drive; where a signal name accompanies the symbol , the arrow ⟶ indicates the direction of the electric signal.

   The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

   In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."

Contents

Chapter 2 Installation

Chapter 3 Basic Operation

Chapter 4 Main Controller

Contents

Chapter 5 Original Exposure System

Chapter 6 Laser Exposure

Chapter 7 Image Formation

Chapter 8 Pickup/Feeding System

Chapter 9 Fixing System

Chapter 10 Externals and Controls

Chapter 11 RDS (for iR C6870U/iR C5870U)

Chapter 12 Maintenance and Inspection

Chapter 13 Standards and Adjustments

Chapter 14 Correcting Faulty Images

Chapter 17 imageRUNNER C6800/C5800 Upgrading

Chapter 18 imageRUNNER C6870U/C5870U Upgrading

Chapter 19 Service Tools

Appendix

Chapter 1

Introduction

Contents

1.1 System Construction for iR C6800/iR C5800

1.1.1 System Configuration with Pickup/Delivery Accessories

<iR C6800/iR C5800>

The machine may be configured as follows with pickup/delivery accessories.
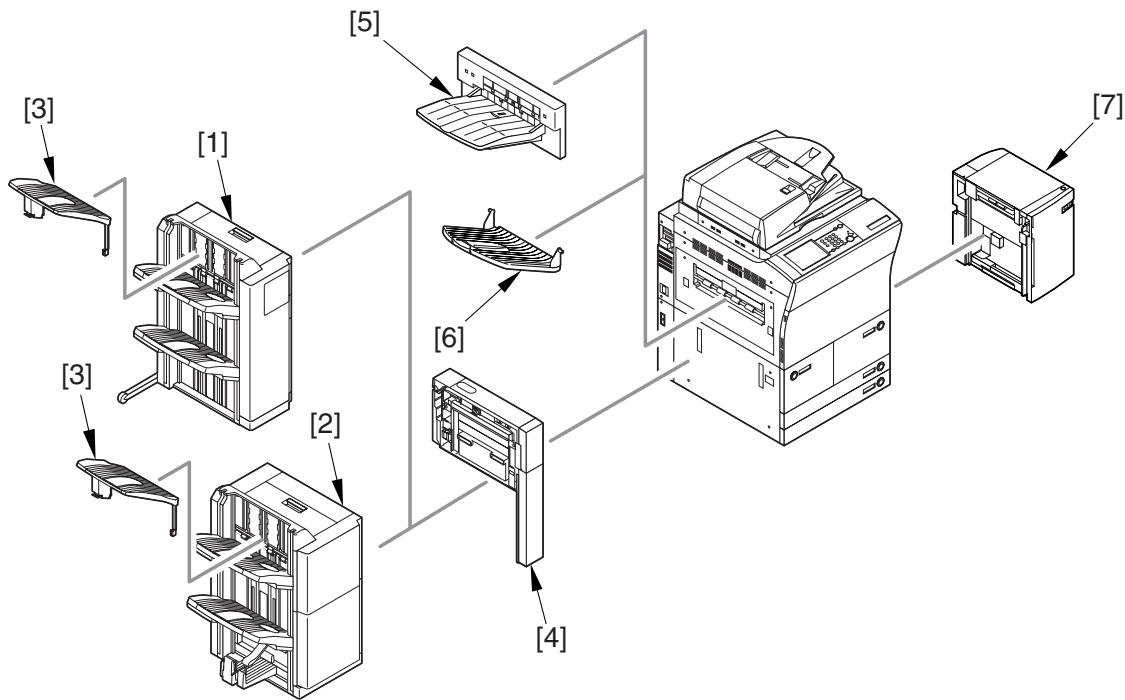
F-1-1
[1] Finisher-R1
[2] Saddle Finisher-R2
[3] Additionary Finisher Tray-A1
[4] Puncher Unit-L1/M1/N1/P1
[5] Shift Tray-C1
[6] Copy Tray-K1
[7] Side Paper Deck-U1

* If any of the accessories [1] through [3] is used, the accessories [5] and [6] cannot be attached as part of the system.

1.1.2 System Configuration with Printing/Transmission Accessories

<iR C6800/iR C5800>

System Configuration with Printing/Transmission Accessories:
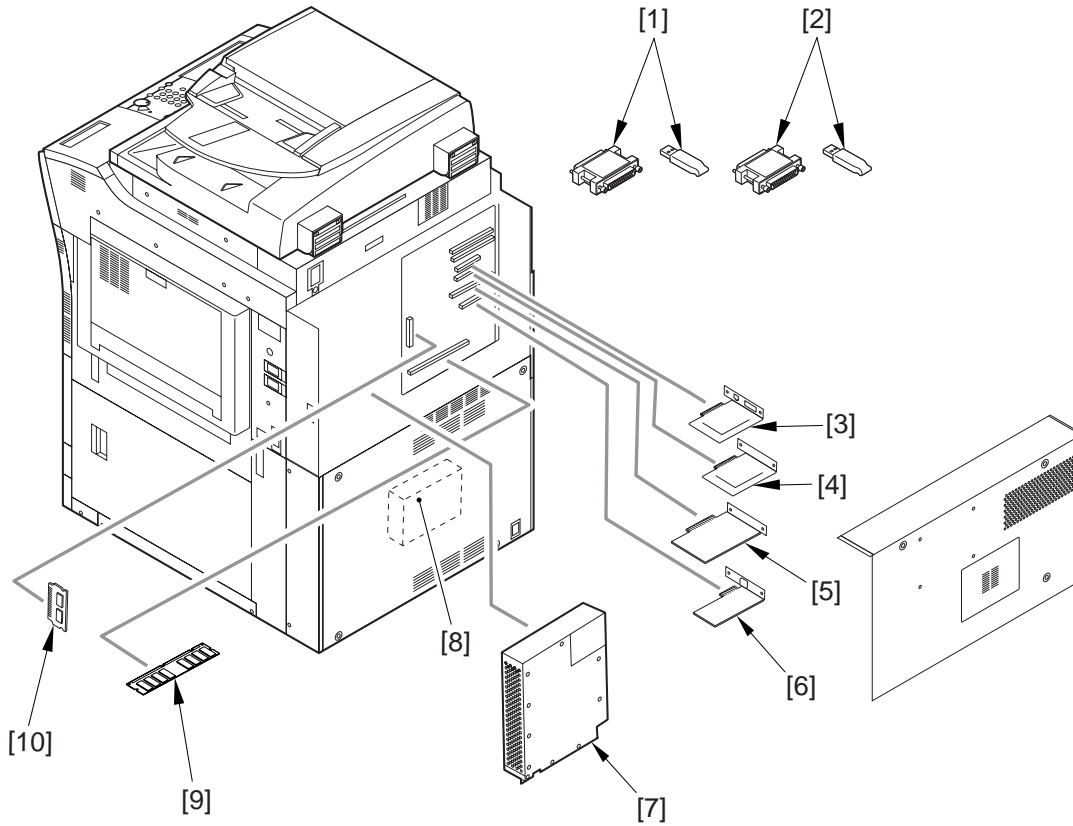
F-1-2

[1] iR Security Kit
[2] SEND Expansion Kit D1P/D1U (dongle for extended functions)
[3] Image Conversion Board-A2
[4] USB Interface Board-A3, or TokenRing Board (optional for 120V model)
[5] UFR Board (standard for N model)
[6] Ethernet Board (standard)
[7] Super G3 Fax Board-P1
[8] PS Print Sever Unit-D1
[9] Color iR 256 MB Expansion RAM (optional for 100V)
[10] PDL Expansion Kit (LIPS) C1 (for 100V model, LIPS model boot ROM)

1.1.3 Functions of Printing/Transmitting Accessories

\<iR C6800/iR C5800\>
1. table of functions expected of printing/transmitting accessories

T-1-1

	UFR Printer/ Scanner Kit-C1	SEND Expansion Kit-DIP/DIU	Image Conversion Board-A2	USB Interface Board-A3	Super G3 Fax Board-P1
GDI-UFR printing	yes*	-	-	-	-
SEND function	-	yes	yes	-	-
Faxing	-	-	yes	-	yes
Local printing	yes*	-	-	yes	-

2. brief explanation of the functions expected of the accessories
- UFR Printer/Scanner-C1
  adds the GDI-UFR printing function and a scanning function in combination with ScanGear.
- SEND Function Expansion DIU-DIP/DIU
  adds a transmission function; the setup work calls for a PC, requiring the selection of DIP (parallel port) or DIU (USB port) depending on the type of connection offered by the PC.
- Image Conversion Board-A2
  needed when a transmission/fax function is added.
- USB Interface Board-A3
  adds a printing function by connection to a PC in a local configuration (USB); requires a UFR board.
- Super G3 Fax Board-P1
  adds the G3 fax function.

1.2 System Construction for iR C6870U/C5870U

1.2.1 System Configuration with Pickup/Delivery Accessories
<iR C6870U/C5870U>
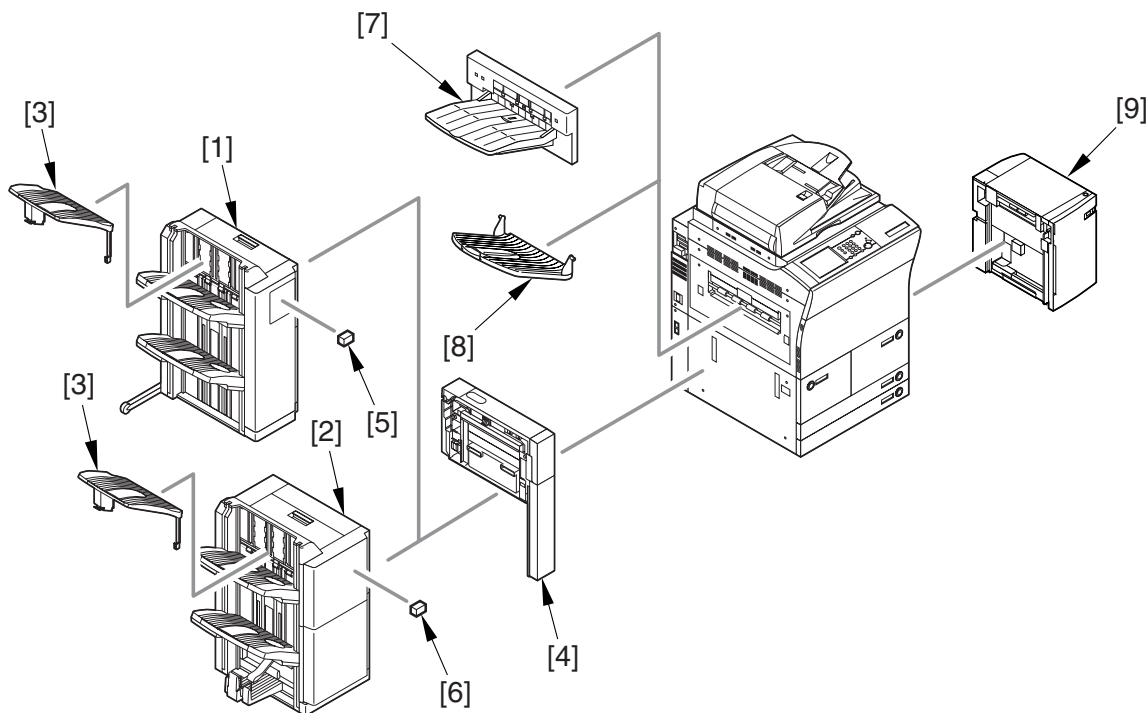
F-1-3

[1] Finisher-R1
[2] Saddle Finisher-R2
[3] Additionary Finisher Tray-A1
[4] Puncher Unit-L1
[5] Stapler-J1
[6] Stapler-D3
[7] Shift Tray-C1
[8] Copy Tray-K1
[9] Side Paper Deck-U1

1.2.2 System Configuration with Printing/Transmission Accessories
<iR C6870U/C5870U>
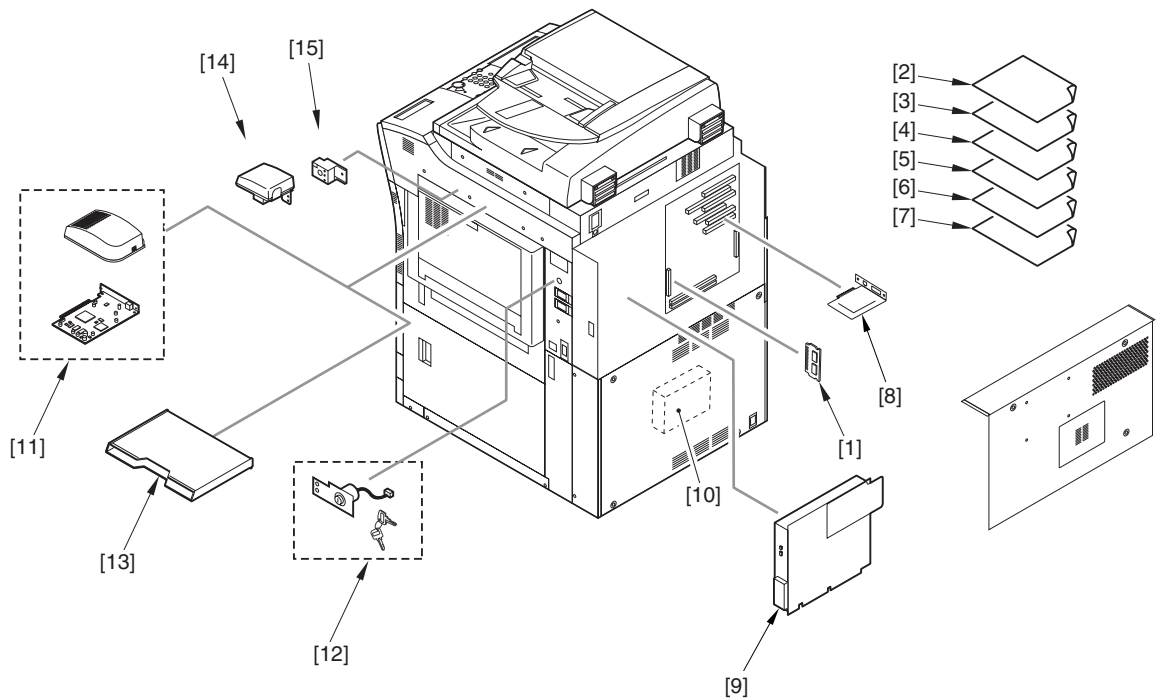
F-1-4

[1] Color UFR II/PCL/PS Printer Kit-L1
[2] Barcode Printing Kit-A1 (Licence)
[3] iR Security Kit-A2 (Licence)
[4] Remote Operator's Software kit-A1 (Licence)
[5] PDF High Compression Kit-A1 (Licence)
[6] Universal Send Enhancement Kit-C1 (Licence)
[7] Web Access Software-D1 (Licence)
[8] Security Expansion Board-E1
[9] Canon SUPERG3 FAX Board-U1
[10] image PASS-G1 US
[11] Voice Guidance Kit-A2
[12] Key Switch Unit-A1/A2
[13] Document Tray-K1
[14] Card Reader-C1
[15] Card Reader Attachment-C1

1.2.3 Functions of Printing/Transmitting Accessories

<iR C6870U/iR C5870U>

System Configuration with Printing/Transmission Accessories:

T-1-2

Functions	Color UFR II/PCL/PS Printer Kit-L1	Barcode Printing Kit-A1	image PASS-G1 USA	Security Expansion Board-E1	iR Security Kit-A2	Voice Guidance Kit-A2	Remote Operator's Software kit-A1	Canon SUPER G3 FAX Board-U1	PDF High Compression Kit-A1	Universal Send Enhancement Kit-C1	Web Access Software-D1
UFR II/PCL/PS print function	Y		N								
Bar code print function		Y	N								
PS print server function	N	N	Y								
encryption board function				Y							
HDD encryption + full deletion function					Y	N					
voice guidance function				N		Y					
remote operation function							Y				
G3 fax 1-line function								Y			
high-compression PDF generation function									Y		
encryption PDF generation function										Y	
Web browser function (display only)											Y
Web browser function (content/PDF print)	Y										Y

Y: optional.
N: exclusive.

1.3 Product Specifications

1.3.1 Names of Parts

1.3.1.1 External View
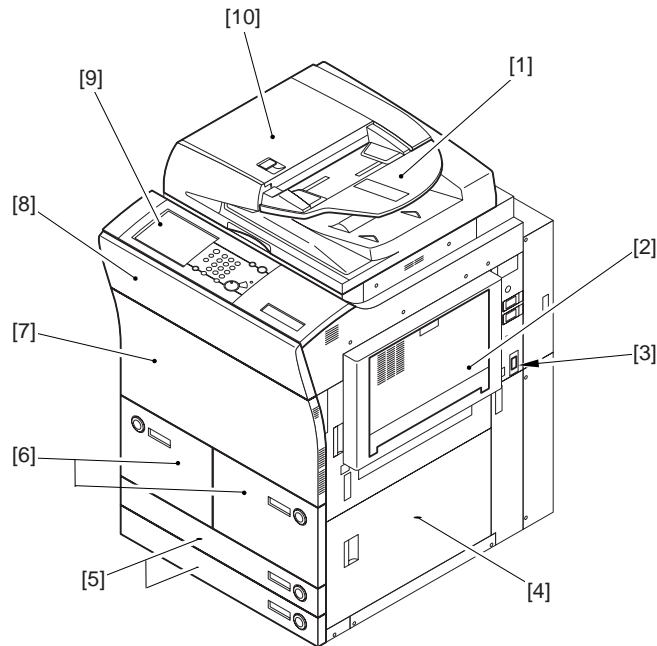
F-1-5

[1] Original pickup tray
[2] Manual feed tray
[3] Main power switch
[4] Right front paper deck
[5] Cassette

[6] Left front paper deck
[7] Front cover
[8] Black toner supply cover
[9] Control panel LCD (touch panel)
[10] Feeder
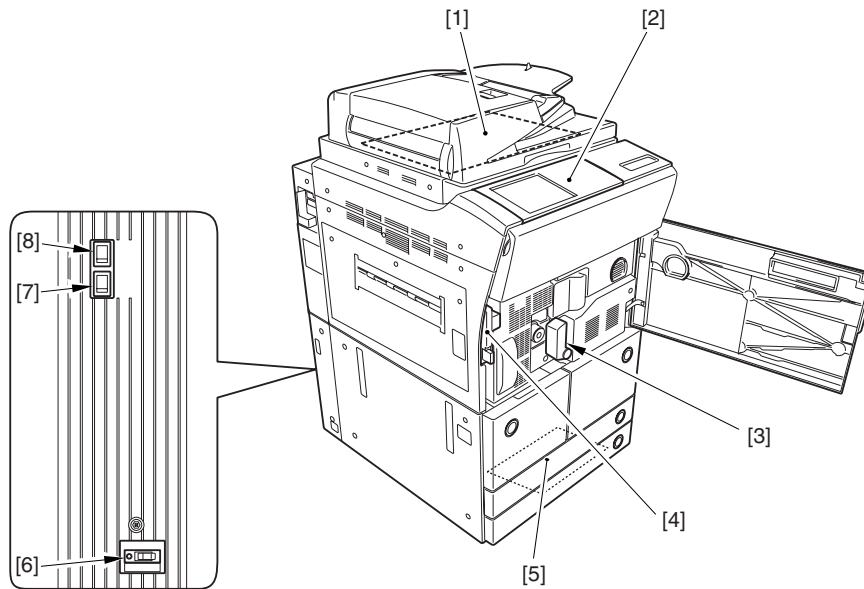
F-1-6

[1] Copyboard glass
[2] Color toner container grip
[3] Color toner access cover

[4] Fixing transport unit
[5] breaker
[6] Test button

1.3.1.2 Cross Section
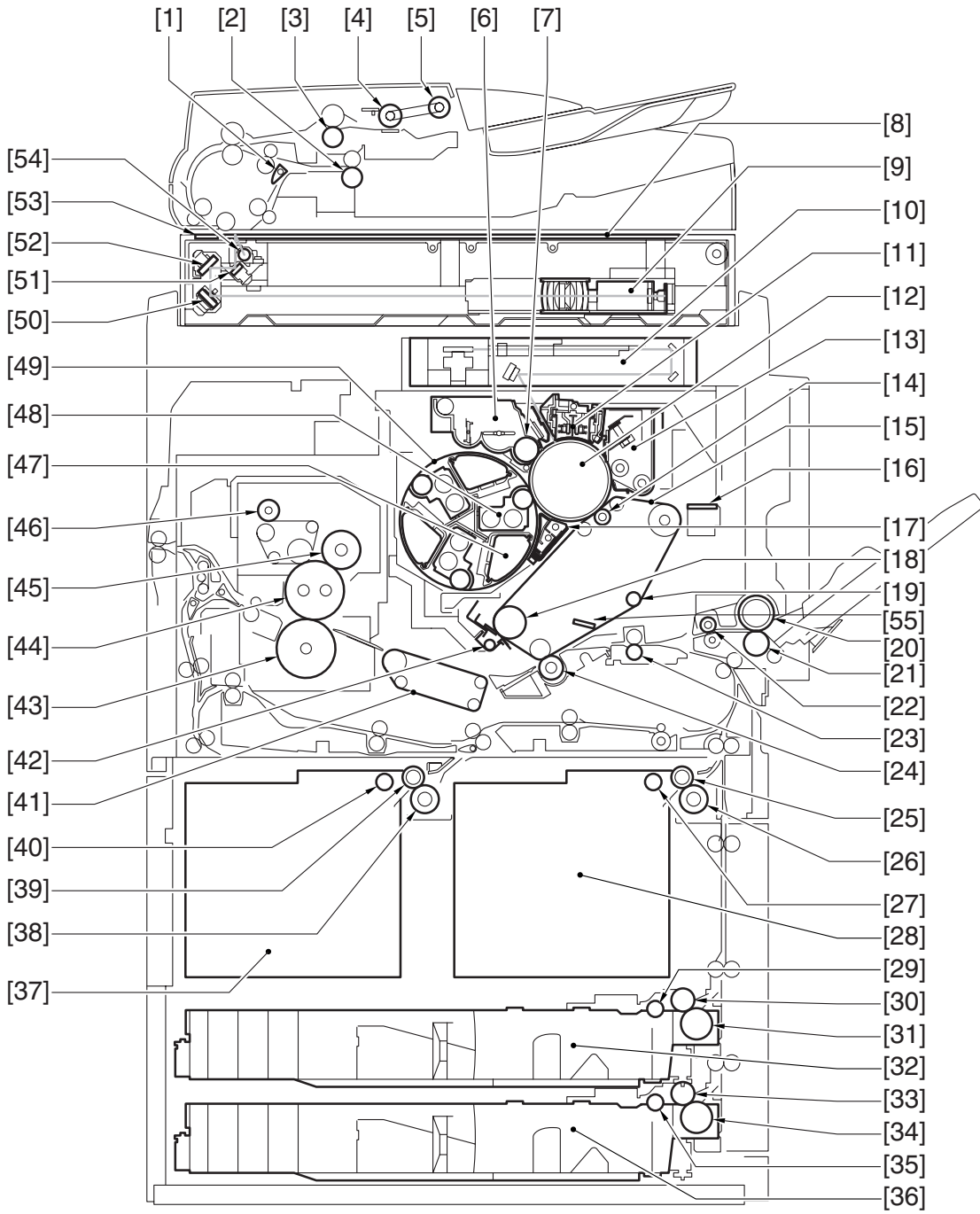
F-1-7

[1] Delivery reversing flapper
[2] Delivery reversing lower roller
[3] No. 1 registration lower roller
[4] Separation roller
[5] Pickup roller
[6] Black toner developing assembly
[7] Black developing cylinder
[8] Copyboard glass
[9] CCD unit
[10] Laser/scanner assembly
[11] Primary charging assembly
[12] Photosensitive drum
[13] Drum cleaner assembly
[14] Primary transfer roller
[15] ITB (intermediate transfer belt)
[16] Patch image read sensor
[17] Pre-transfer charging assembly
[18] ITB drive roller
[19] Tension roller
[20] Manual feed roller
[21] Manual feed separation roller
[22] Manual feed pull-off roller
[23] Registration roller
[24] Secondary transfer outside roller
[25] Right deck feed roller
[26] Right deck separation roller
[27] Right deck
[28] Copyboard glass

[29] Cassette 3 pickup roller
[30] Cassette 3 feed roller
[31] Cassette 3 separation roller
[32] Cassette 3
[33] Cassette 4 feed roller
[34] Cassette 4 separation roller
[35] Cassette pickup roller
[36] Cassette 4
[37] Left deck
[38] Left deck separation roller
[39] Left deck feed roller
[40] Left deck pickup roller
[41] Feeding assembly
[42] ITB cleaner assembly
[43] Pressure roller
[44] Fixing roller
[45] External heating roller
[46] Fixing web
[47] Color toner cartridge
[48] Color developing assembly
[49] Developing rotary assembly
[50] No. 3 mirror
[51] No. 1 mirror
[52] No. 2 mirror
[53] ADF reading glass
[54] Scanning lamp
[55] ITB inside cleaner end scraper

1.3.2 Using the Machine

1.3.2.1 Turning On the Power Switch

The machine is equipped with 2 power switches: main power switch and control panel power switch. the machine goes on when the main power switch is turned on (i.e., other than in power save mode, low power mode, sleep mode).
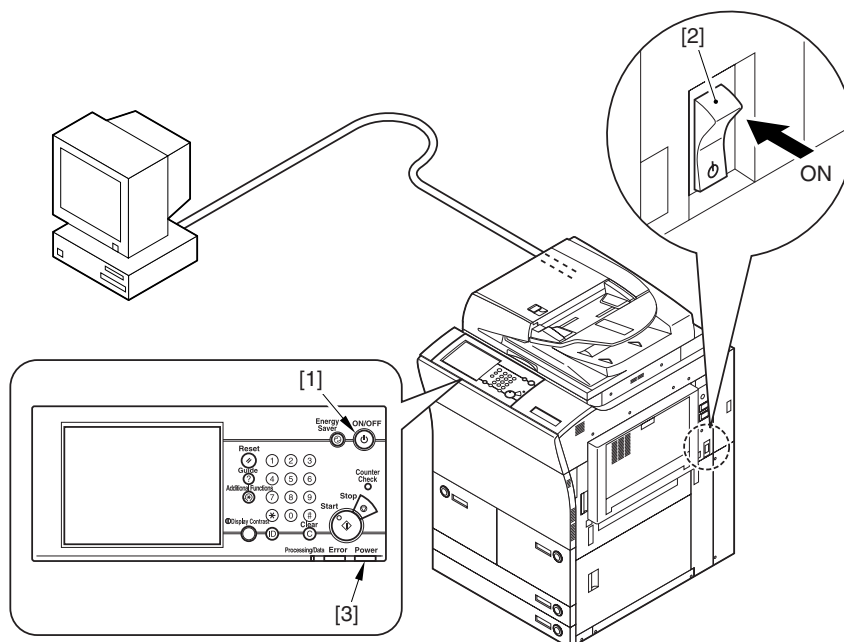
F-1-8

[1] Control panel power switch
[2] Main power switch
[3] Main power indicator lamp

⚠️

Do not turn off the main power while the progress bar is indicated, during which access is made to the HDD. If deprived of power, the HDD can suffer a fault (E602).

Starting up. Please wait.

Canon
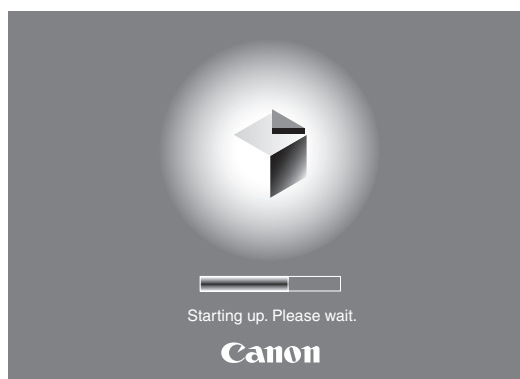
F-1-9

1.3.2.2 Points to Note About Turing Off the Main Power Switch
< iR C6800 / iR C5800 >

⚠
Be sure to turn off the control panel power switch [2] before turning off the main power switch [1].
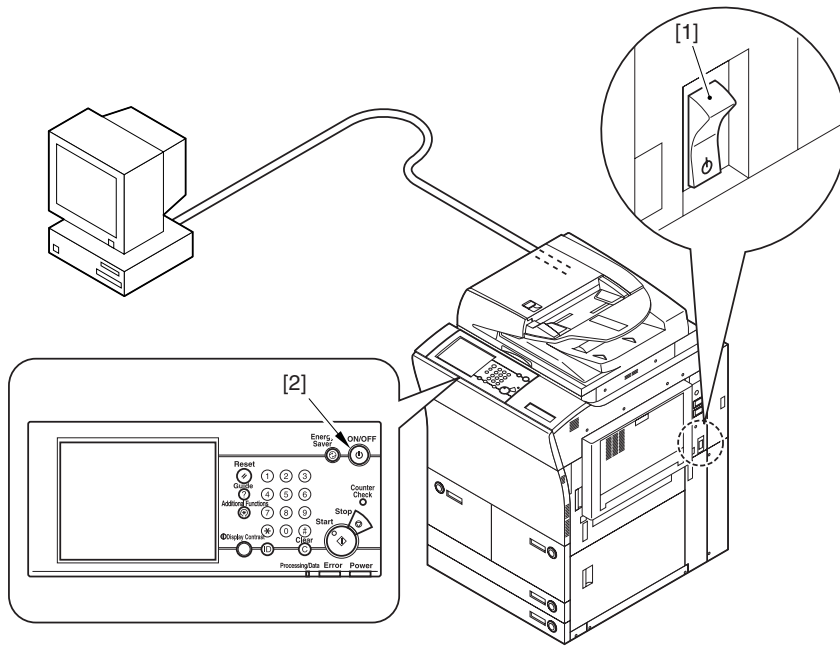
F-1-10

⚠When Sending Data to the Printer or Using the Fax Unit
Be sure that the Execution/Memory lamp [2] on the control panel is off before operating the main power switch. (Turning off the main power while a job is under way can cause loss of the data being processed.)
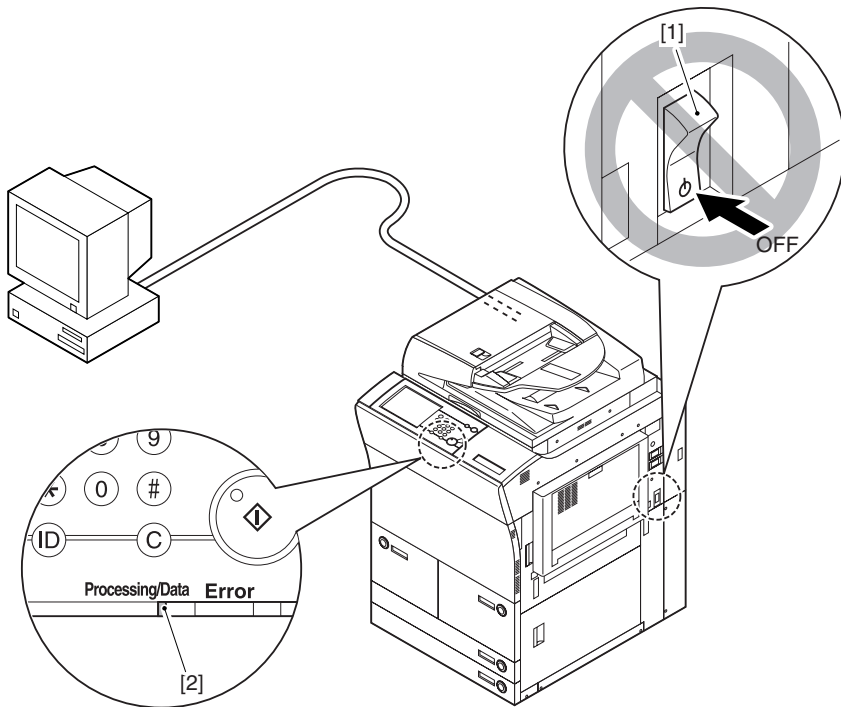
F-1-11

⚠When Downloading Is Under Way

Do not turn off the control panel switch [2] or the main power switch [1]. (Turning off the main power switch while downloading is under way can disable the machine.)
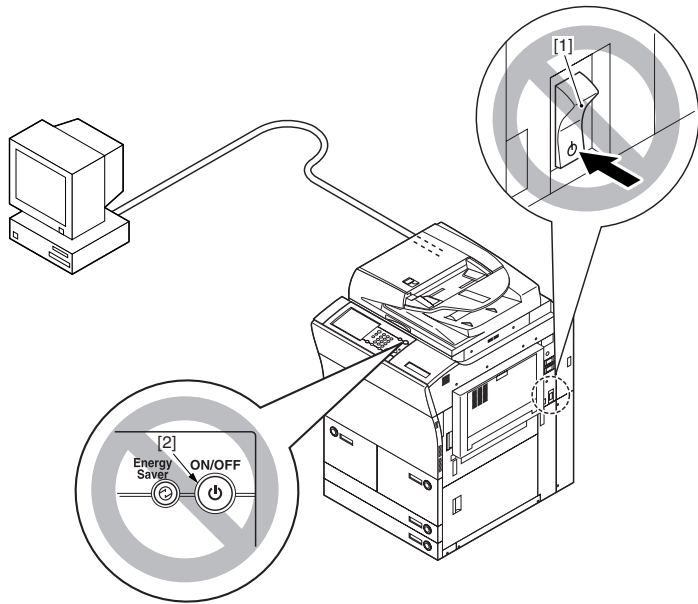
F-1-12

1.3.2.3 Points to Note About Turing Off the Main Power Switch

< iR C6870U / iR C5870U >

Before turning off the main power switch [1], press the control panel power switch [2] more than 3 second, and do shutdown sequence.
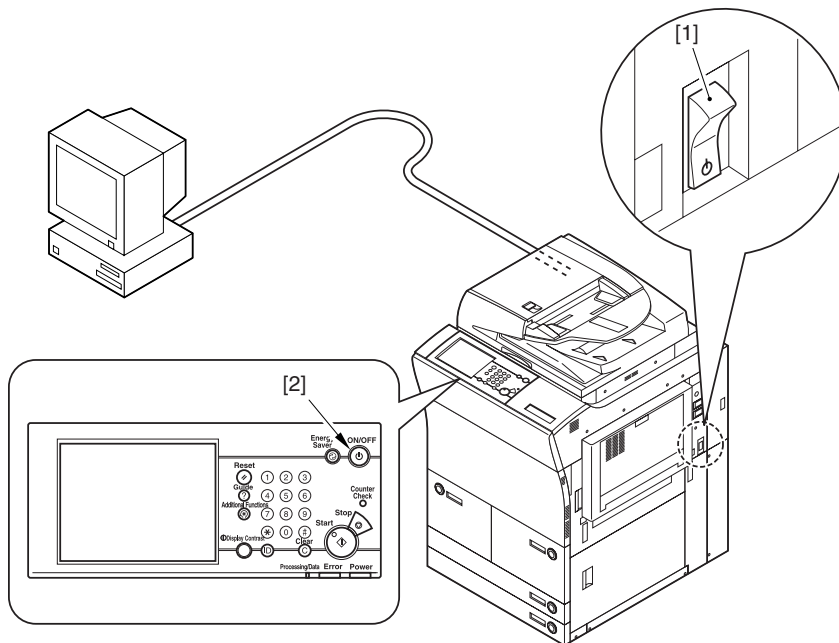
F-1-13

⚠ When Sending Data to the Printer or Using the Fax Unit

Be sure that the Execution/Memory lamp [2] on the control panel is off before operating the main power switch. (Turning off the main power while a job is under way can cause loss of the data being processed.)
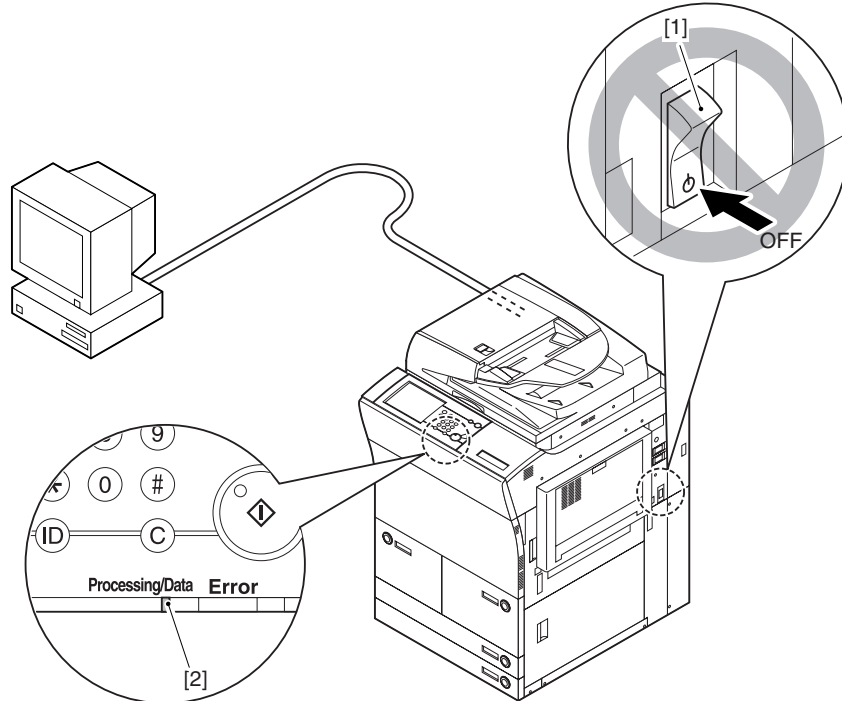
F-1-14

⚠ When Downloading Is Under Way

Do not turn off the control panel switch [2] or the main power switch [1]. (Turning off the main power switch while downloading is under way can disable the machine.)
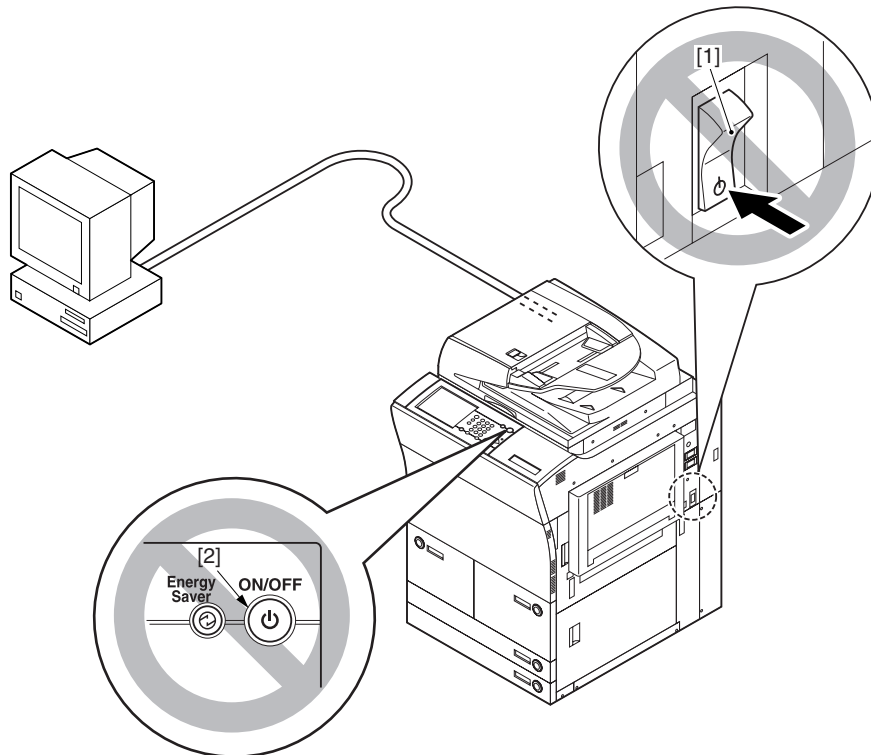
F-1-15
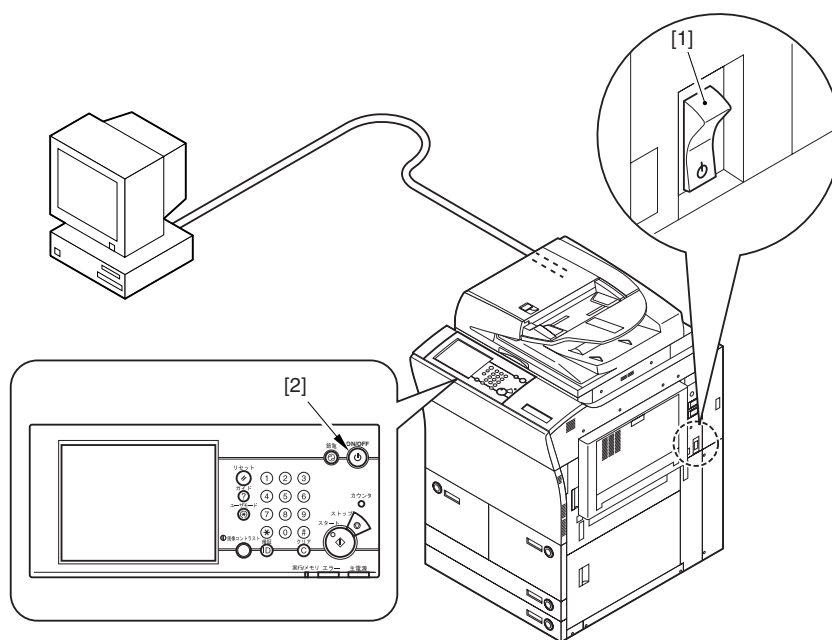
F-1-16

1.3.2.4 Control Panel
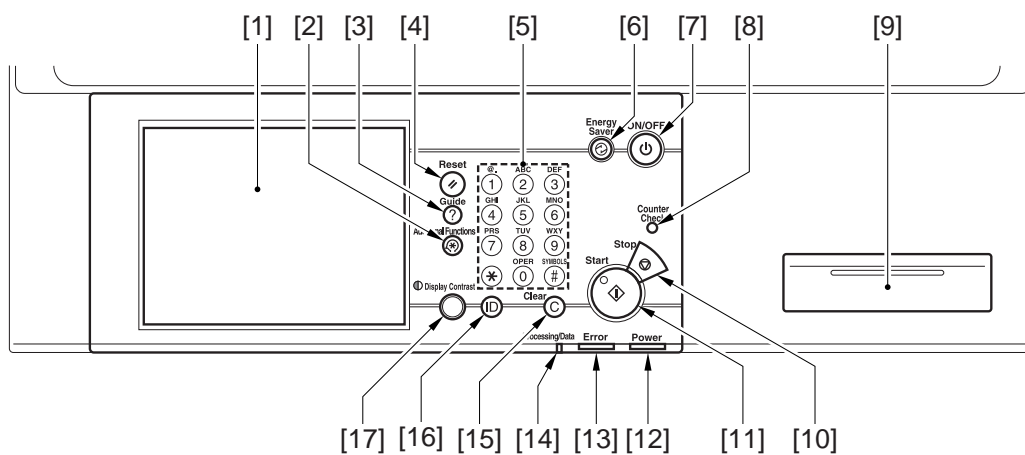
F-1-17

[1] Control panel LCD (touch panel)
[2] User mode key
[3] Guide key
[4] Reset key
[5] Keypad
[6] Power Save key
[7] Control panel power switch
[8] Counter key
[9] Clip recess

[10] Stop key
[11] Start key
[12] Main power indicator lamp
[13] Error indicator lamp
[14] Execute/Memory indicator lamp
[15] Clear key
[16] ID key
[17] Screen contrast dial

1.3.3 User Mode Items <iR C6800/iR C5800>

1.3.3.1 Common Settings

< iR C6800 / iR C5800 >

* Factory setting.

T-1-3

Item	Description
initial function	initial function: *copy, transmit/fax, box
	system initial screen: ON/*OFF
	priority on system device: *ON/OFF
function after auto-clear	*return, do not return
buzzer ON/OFF	input sound: *ON/OFF
	input invalid sound: ON/*OFF
	supply alert sound: ON/*OFF
	warning sound: *ON/OFF
	job end sound: *ON/OFF
paper level message	*ON/OFF
auto color (w/ BW selected)	priority on text/*on photo
inch input	inch input
	(on/*off; on if 230-V model)
cassette auto select ON/OFF	copier: *manual off, other on
	printer: *all on
	box: *manual off, other on
	reception/fax: *manual off, other on
	other: *manual off, other on
paper type registration	yes
change power save mode	*-10%, -25%, -50%, no return time
power consumption in sleep	*low, high
LTRR/STMT original distinction	manual, *on at LTRR, on at STMT
special tray setup (indicated only if w/ finisher)	yes
priority on output	copier: *1/2/3
	printer: 1/*2/3
	box: 1/2/*3
	reception/fax: 1/2/*3
	other: 1/2/*3
manual feed paper standard mode registration	on (paper size select, paper type select), *off
local print standard mode	paper select: *auto, cassette 1 thorough 5
	print quantity: *1 to 2000
	sorter (if w/ finisher): non-sort, *sort, rotation sort, group, rotation group
	sorter (w/ finisher): non-sort, sort, *shift sort, group, shift group, rotation group, staple
	double-sided print: on (left/right spread, top/bottom spread), *off
	file delete after printing: ON/*OFF
	file merge: ON/*OFF
display language	ON/*OFF
screen color reversal	ON/*OFF
between-job shift (indicated if w/ finisher)	*ON/OFF
read area cleaning message	*ON/OFF
gamma level during remote scan (indicated if w/ UFR Printer & Scanner Kit-B1)	gamma1.0/gamma1.4/*gamma1.8/gamma2.2
function limit mode (indicated if w/ finisher)	ON/*OFF
common settings initialize	ON/*OFF

1.3.3.2 Setting the Timers
< iR C6800 / iR C5800 >

* Factory setting.

T-1-4

Mode	Description
date/time	enable time zone, *daylight saving
auto sleep time	10, 15, 20, 30, 40, 50, 1 hr, 90 min, 2, 3, 4 hr
auto clear time	0=no; 1... *2... 9 min (in 1-min increment)
weekly timer	00:00 to 23:59 (1-min increment) from Sunday to Saturday
low power mode shift time length	10, *15, 20, 30, 40, 50 min, 1 hr, 90 min, 2, 3, 4 hr

1.3.3.3 Adjustment and Cleaning
< iR C6800 / iR C5800 >

* Factory setting.

T-1-5

Item	Description
zoom fine adjustment	XY individually; -1.0 to +1.0% (in 0.1%-increments), *0%
center bind staple edging (if w/ saddle finisher)	start key
center bind position change (if w/ saddle finisher)	size: A3, 11X17/B4/A4R, LTRR
auto gradation correct	full correction (read test print x 3 times); quick correction (no test print)
density correct	copy, transmit; 9 steps each (set to 5 at time of shipment) copy/box, BW transmit, color transmit; 9 steps each (set to 5 at time of shipment)
roller cleaning (transfer roller)	start key
wire cleaning	start key
feeder cleaning	start key
toner replacement (if enabled in service mode)	yellow, magenta, cyan

1.3.3.4 Report
< iR C6800 / iR C5800 >

* Factory setting.

T-1-6

Item	Description
transmit (specifications)	transmission result report: *only if error, on, off transmitted original display: *on, off
communications control report	auto print every 100 communications: *on, off
timed	as specified: on, *off *00:00 to 2:59 send/receive separate: yes, *no
fax (specifications)	fax transmission results report: *only if error, on, off transmitted original display: *on, off
fax communications control report	auto print every 40 communications: *ON/OFF specified time: ON/*OFF time: *00:00 to 23:59 transmission/reception separate: (toggle) on, *off
fax reception results report	only if error, on, *off
fax box reception report	*ON/OFF
list print (transmit)	address list: address list 1 to 10, one-touch button list print: keys, *no
user data list (transmit)	yes, *no
user data list (fax)	yes, *no

1.3.3.5 System Control Settings

< iR C6800 / iR C5800 >

* Factory setting

T-1-7

Item	Description
system administrator info	yes using ID, address
group ID	ON/*OFF
communications control setup	yes using e-mail, fax, box
remote UI	*ON/OFF
address book limit	ID No., access NO.: ON/*OFF
device information setup	device name, location
transfer setup	reception method/condition: on, off; settings
bulletin delete	delete
auto on-line/offline shift	auto on-line shift: ON/*OFF
	auto off-line shift: ON/*OFF
LDAP server register	register, detail: edit, delete/list print
limit to function with control key Off	*limit some, limit all

1.3.3.6 Copier Settings

< iR C6800 / iR C5800 >

* Factory setting.

T-1-8

Item	Description
preference key 1	*no setting (magnification, sorter, page separation may be enabled)
preference key 2	*no setting (magnification, sorter, page separation may be enabled)
auto sort	*ON/OFF
copy wait time indication	ON/*OFF
auto vertical/horizontal rotation	*ON/OFF
standard mode change	register, initialize
copier settings initialize	yes, no

1.3.3.7 Common Transmission Settings
< iR C6800 / iR C5800 >
* Factory setting.

T-1-9

Item	Description
common transmission setup	source register (99 max.)
	user abbreviation (various settings)
	FTP transmission (ON/*OFF)
	error file clear (*ON/OFF)
	transfer error file (print always, save and print, *off)
	retry (*3 times; between 0 and 5)
	transmission function change (read: 150x150; file: TIFF/JPEG)
	routine task register (M1 through M9)
	PDF image level (data size, *average, priority on image)
	transmission screen (default, one-touch, *new)
	transmission source record (*attach, do not attach)
	color transmission gamma (y1.0, y1.4, y1.8, *y2.2)
	transmission function initialize (yes, no)
common reception functions setup	double-sided print (*on, off)
	cassette (all, *on, off)
	image reduce (*on, off)
	reception info (add, *do not add)
	2-on-1 (ON/*OFF)
fax basic setup	user telephone No. (No. input)
	line type (*20 pps, 10 pps, touch tone)
	volume adjust (alarm sound, communication sound) volume adjust (alarm sound, communication sound)
fax transmission function setup	ECM (*ON/OFF)
	pause time length (*2 sec; between 1 and 15 sec)
	auto redial (*ON/OFF)
fax reception function setup fax reception function setup	ECM (*ON/OFF)
	reception mode (*auto reception, fax/tel switch-over, modem dial-in)
	ring (ON/*OFF)
	remote reception (ON/*OFF)
	auto reception switch-over (ON/*OFF)

1.3.3.8 Box Settings
< iR C6800 / iR C5800 >

T-1-10

Item	Description
box function setup	user box setup, register (99 max.)
	read-in setup (register, initialize)
	fax box setup, register (49 max.)

1.3.3.9 Printer Settings
< iR C6800 / iR C5800 >
* Factory setting.

T-1-11

Item	Description
setting	copy count (1 to 2000: *1)
	double-sided (double-sided, *single-sided)
	blank paper save (*yes, no)
	pickup (A4, plain; no switch-over)
	print adjust (super smooth, toner density, toner save)
	layout (lengthwise bind margin; margin 0; between -30 and + 30 m)
	layout (horizontal correction 0, vertical correction 0; between -50 and +50 mm)
	error skip (yes, *no)
	print delete time length (*1, 2, 3, 6, 12, 24 hr)
	time-out (*x sec; between 5 and 300)
	RIP (yes, *no)
	sorter (*no, rotation sort, rotation group)
	transparency interleaf (*no, blank paper interleaf, printed paper interleaf)
	printer operation mode (*auto, or one of 6)
	emulation (*no, or 1 or 4)
	auto switch-over (LIPS, ESC-P, 15577, HP-GL, all)
	color mode (*auto, full color, mono color)
	gradation (gradation; *standard, zoom 1, zoom 2)
	gradation (graphics: *yes, image, *yes)
	halftone (text: resolution, gradation, *error diffusion)
	halftone (graphics: *resolution, gradation, error diffusion)
	halftone (image: resolution, *gradation, error diffusion)
	printer initialize (yes, no)
	LIPS, emulation (12 items)
utility	printer initialize (yes, no)

1.3.3.10 Address Book Settings
< iR C6800 / iR C5800 >

T-1-12

Item	Description
address register	various times
address list name register	register
one-touch button register	various items

1.3.4 User Mode Items <iR C6870U/C5870U>

1.3.4.1 Common Settings

< iR C6870U / iR C5870U >

*1 Indicates the default setting.

*2 Indicates items that appear only when the appropriate optional equipment is attached.

T-1-13

Item	Settings
Initial Function	Select Initial Function: Copy*1, Send, Mail Box, MEAP
	Set [System Monitor] as the Initial Function: On, Off*1
	Set [Device] as the default screen for [System Monitor]: On*1, Off
Auto Clear Setting	Initial Function*1, Selected Function
Function Order Settings	Function Order Settings, Settings for Function Group Order: Group A, MEAP
Audible Tones	Entry Tone: On*1, Off
	Invalid Entry Tone: On, Off*1
	Restock Supplies Tone: On, Off*
	Error Tone: On*1, Off
	Job Done Tone: On*1, Off
Display Remaining Paper Message	On*1, Off
Text/photo priority when ACS is set to Black	Text Priority*1, Photo Priority
Auto-switch Orig. Image for Color Mode Selectn	On*1, Off
Display the Black Mode Shortcut Key	On, Off*1
Inch Entry	On*1, Off
Drawer Eligibility For APS/ADS	Copy, Printer, Mail Box, Receive/Fax, Other: (Stack Bypass: On, Off*1, All Other Paper Sources: On*1, Off)
	Copy: Consider Paper Type: On, Off*1
Register Paper Type	Paper Drawers 1 and 2, and paper Deck-U1:
	Plain*1, Recycled, Color, Pre-punched, Heavy 1, Heavy 2
	Paper Drawers 3 and 4:
	Plain*1, Recycled, Color, Pre-punched, Heavy 1, Heavy 2, Transparency, Tab Paper 1, Tab Paper 2
Energy Saver Mode	-10%*1, -25%, -50%, None
Energy Consumption in Sleep Mode	Low*1, High
LTRR/STMT Original Selection	Distinguish Manually, Use LTRR Format*1, Use STMT Format
Tray Designation*2	If the optional Finisher-R1 or SaddleFinisher-R2 is Attached
	Tray A: Copy*1, Mail Box*1, Printer*1, Receive/Fax*1, Other*1
	Tray B: Copy*1, Mail Box*1, Printer*1, Receive/Fax*1, Other*1
	Tray Home Position: Tray A*1, Tray B, Off
	If the optional Additional Finisher Tray-A1 is attached to the Finisher-R1 or Saddle Finisher-R2
	Tray A: Copy, Mail Box, Printer, Receive/Fax*1, Other*1
	Tray B: Copy*1, Mail Box*1, Printer*1, Receive/Fax, Other
	Tray C: Copy*1, Mail Box*1, Printer*1, Receive/Fax, Other
	Tray Home Position: Tray A*1, Tray B, Tray C, Off
Printing Priority	Copy: 1*1, 2, 3
	Printer: 1, 2*1, 3
	Mail Box, Receive/Fax, Other: 1, 2, 3*1

Item	Settings
Register Form for Form Composition	Register, Erase, Check Print, Details
Image Priority for Form Composition	Auto*1, Original Priority, Form Priority
Register Characters for Page No./ Watermark	Register, Edit, Erase
Stack Bypass Standard Settings	On, Off*1
Registering Irregular Size for Stack Bypass	Register/Edit, Erase, Register Name
Standard Local Print Settings	Paper Select: All Paper Sources, Auto*1
	Copies: 1*1 to 9,999 sets
	Finisher:
	If the Optional Copy tray-K1 Is Attached:
	Do Not Collate, Collate*1, Rotate Collate, Group, Rotate Group
	If the Optional Finisher-R1 or Saddle Finisher-R2 Is Attached:
	Do Not Collate, Collate, Offset Collate*1, Group, Offset Group, Staple (Corner: Top Left, Bottom Left, Top Right, Bottom Right), (Double: Left, Right)
	If the Optional Finisher-R1 or Saddle Finisher-R2, and Puncher Unit-M1 Are Attached:
	Do Not Collate, Collate, Offset Collate*1, Group, Offset Group, Staple (Corner: Top Left, Bottom Left, Top Right, Bottom Right), (Double: Left, Right), Hole Punch
	Two-sided Print: On (Book Type, Calendar Type), Off*
	Erase Document After Printing: On, Off*1
	Merge Documents: On, Off*1
Language Switch	On, Off*1
Reversed Display (Color)	On, Off*1
Offset Jobs*2	On*1, Off
Job Separator between Jobs	On, Off*1
Job Separator between Copies	On, Off*1
Job Duration Display	Copy: On, Off*1
	Mail Box: On, Off*1
	Other: On, Off*1
Cleaning Display for the Original Scanning Area	On*1, Off
Gamma Value for Remote Scans*3	Gamma 1.0, Gamma 1.4, Gamma 1.8*1, Gamma 2.2
Limited Functions Mode*3	On, Off*1
Erase Remaining Toner Error Message	On, Off*1
Shutdown Mode	Press [Start]
Initialize Common Settings	Initialize

1.3.4.2 Timer Settings

< iR C6870U / iR C5870U >
*1 Indicates the default setting.

T-1-14

Time Fine Adjustment	00:00 to 23:59, in one minute increments
Auto Sleep Time	10, 15, 20, 30, 40, 50 min., 1 hour*1, 90 min., 2, 3, 4 hours
Auto Clear Time	0 (Off) to 9 minutes, in one minute increments; 2 min.*1
Time Until Unit Quiets Down	0(Off), to 9 minutes, in one minutes increments; 1 min.*1
Daily Timer Settings	Sunday to Saturday, 00:00 to 23:59, in one minute increments
Low-power Mode Time	10, 15*1, 20, 30, 40, 50 min., 1 hour, 90 min., 2, 3, 4 hours

1.3.4.3 Adjustment and Cleaning

< iR C6870U / iR C5870U >
*1 Indicates the default setting.
*2 Indicates items that appear only when the appropriate optional equipment is attached.

T-1-15

Item	Settings
Zoom Fine Adjustment	X, Y: -1.0% to +1.0%, in 0.1% increments; 0.0%*1
Saddle Stitcher Staple Repositioning*2	Press [Start]
Saddle Stitch Position Adjustment*2	All paper sizes: -2.0 mm to +2.0 mm, in 0.25 mm increments; 0.00 mm*1
Auto Gradation Adjustment	Full Adjust: Automatic after the machine prints and scans three sets of test prints
	Quick Adjust: Press [Start]
Exposure Recalibration	Copy/Inbox, Send (B&W), Send (Color): Light, Dark: 1 to 9 levels; 5*1
Numbering/Date/ Watermark Position Adjust.	X, Y: -5/16" to +5/16" (-8 mm to +8 mm); 0 mm*1
Feeder Cleaning	Press [Start]
Wire Cleaning	Press [Start]
Roller Cleaning	Press [Start]

1.3.4.4 Report Settings

< iR C6870U / iR C5870U >

*1 Indicates the default setting.

*2 Indicates items that appear only when the appropriate optional equipment is attached.

*3 The Activity Report and Fax Activity Report do not appear when the optional iR Security Kit is activated.

T-1-16

Item	Settings
Settings: Send	
TX Report	For Error Only*1, On, Off
	Report with TX Image: On*1, Off
	Report with Color TX Image: On, Off*1
Activity Report*3	
Auto Print	On*1, Off
Daily Activity Report Time	On, Off*1
	Timer Setting: 00:00 to 23:59
Send/Receive Separate	On, Off*1
Settings: Fax*2	
Fax TX Report	For Error Only*1, On, Off
	Report with TX Image: On*1, Off
Fax Activity Report*3	
Auto Print	On*1, Off
Daily Activity Report Time	On, Off*1
	Timer Setting: 00:00 to 23:59
Send/Receive Separate	On, Off*1
Fax RX Report	For Error Only, On, Off*1
Confidential Fax Inbox RX Report	On*1, Off
Print List: Send	
Address Book List	Address Book 1 to 10; Address Book 1*1,
	One-touch Buttons, Print List
User's Data List	Print List
Print List: Fax*3	
User's Data List	Print List
Print List: Network	
Print List: Printer*3	

1.3.4.5 System Settings

< iR C6870U / iR C5870U >

*1 Indicates the default setting.
*2 Indicates items that appear only when the appropriate optional equipment is attached.
*4 Indicates items that are not delivered as device information.
*5 The machine may not enter the Sleep mode completely, depending on the status and type of installed MEAP
applications (e.g., there still may be applications running in the background consuming power).

T-1-17

Item	Settings
System Manager Settings	
System Manager ID	Seven digit number maximum
System Password	Seven digit number maximum
System Manager	32 characters maximum
E-mail Address	64 characters maximum
Contact Information	32 characters maximum
Comment	32 characters maximum
Dept. ID Management	
Dept. ID Management	On, Off*1
Register Dept. ID/Password	Register, Edit, Erase, Limit Functions
Page Totals	Clear, Print List, Clear All Totals
Allow Printer Jobs with Unknown IDs*2	On*1, Off
Allow Remote Scan Jobs with Unknown IDs*2	On*1, Off
Allow Black Copy/Inbox Print Jobs	On, Off*1
Allow Black Printer Jobs	On, Off*1
Communications Settings	
E-mail/I-Fax Settings	
Maximum Data Size for Sending	0 (Off), 1 to 99 MB; 3 MB*1
Full Mode TX Timeout	1 to 99 hours; 24 hours*1
Divided Data RX Timeout	0 to 99 hours; 24 hours*1
Default Subject	40 characters maximum; Attached Image*1
Print MDN/DSN on Receipt	On, Off*1
Always send notice for RX errors	On*1, Off
Use Send Via Server	On, Off*1
Fax Settings*2	
Send Start Speed	33600 bps*1, 14400 bps, 9600 bps, 7200 bps, 4800 bps, 2400 bps
Receive Start Speed	33600 bps*1, 14400 bps, 9600 bps, 7200 bps, 4800 bps, 2400 bps
Receive Password	20 digits maximum
PIN Code Access	On, Off*1
Memory RX Inbox Settings	
Memory RX Inbox Password	Seven digit number
Use Fax Memory Lock	On, Off*1
Use I-Fax Memory Lock	On, Off*1
Memory Lock Start Time	Everyday, Select Days, Off*
Memory Lock End Time	Everyday, Select Days, Off*
Remote UI	On*1, Off
	Use SSL*4: On, Off*1
Restrict Access to Destinations*2	
Address Book Password	Seven digit number
Access Number Management	On, Off*1

Item	Settings
Restrict New Addresses	On, Off*1
Allow Fax Driver TX*2	On*1, Off
E-mail/I-Fax Domain Sending Restriction	Restrict Sending to Domain; On, Off*1
	Register/Edit, Erase
Device Information Settings	
Device Name	32 characters maximum
Location	32 characters maximum
Network Settings	
Forwarding Settings	Receive Type, E-mail Priority, Edit, Erase, Print List
	Validate/Invalidate, Register (Registered Forwarding Settings), Forward w/o Conditions
Clear Message Board	Clear
Auto Online/Offline*2	
Auto Online	On, Off*1
Auto Offline	On, Off*1
Date & Time Settings	Date and Time Setting (12 digit number)
	Time Zone:
	GMT -12:00 to GMT +12:00; GMT -05:00*1
	Daylight Saving Time: On*1, Off
Limit Functions with the Security Key Off*2	Partial Functions*1, All Functions
License Registration	24 characters maximum
Register LDAP Server	Register, Edit, Erase, Print List
MEAP Settings*5	
Use HTTP	On*1, Off
	Use SSL*4: On, Off*1
Print System Information	Print
Copy Set Numbering Option Settings	Copy Set Num. Op: On (Dept. ID: On, Off; Date: On, Off; Characters: On, Off), Off*1
Display Remaining Toner Error Message	On, Off*1
Display Dept.ID/ User Name	On*1, Off
Device Information Delivery Settings	
Transmitting Settings	
Register Destinations	Auto Search/Register, Register, Details, Erase, Print List
Auto Delivery Settings	Everyday, Select Days, Off*1
	Add. Functions Settings Value: On (Network Settings: Include, Exclude*1), Off*1
	Dept. ID: On, Off*1
	Address Book: On, Off*1
	Details
Manual Delivery	Add. Functions Settings Value: On (Network Settings: Include, Exclude*1), Off*1
	Dept. ID: On, Off*1
	Address Book: On, Off*1
	Details, Manual delivery Start
Receiving Settings	
Restrictions for Receiving Device Info.	On, Off*1
Restore Data	Add. Functns Set. Value, Dept. ID, Address Book

Item	Settings
	Press [Start]
Receive Limit for Each Function	Add. Functions Settings Value: On*1, Off
	Dept. ID: On*1, Off
	Address Book: On*1, Off
Communication Log	Details, Print List, Report Settings
Initialize All Data/ Settings	Initialize
Use Asterisks to Enter Access No./ Passwords	On*1, Off

1.3.4.6 Copy Settings

< iR C6870U / iR C5870U >
*1 Indicates the default setting.
*2 Indicates items that appear only when the appropriate optional equipment is attached.

T-1-18

Item	Settings
Screen Display Setting	Regular Copy Only*1, Regular and Express Copy, Express Copy Only
	Regular Copy Screen Priority: On*1, Off
Paper Select Key Size for Express Copy Screen	Large*1: Four paper sources maximum (Stack Bypass, Stack bypass Settings, 1: Paper Drawer 1, 2: Paper Drawer 2, 3: Paper Drawer 3, 4: Paper Drawer 4, 5: Paper Deck-U1),
	Small
Standard Key 1, 2 Settings for Regular Screen	Various modes; No Settings*1
Standard Key Settings for Express Copy Screen	Displayed Standard Keys: Up to 5 Set Keys*1, Up to 10 Set Keys, Settings: Various modes; No Settings*1
Auto Collate*2	On*1, Off
Image Orientation Priority	On, Off*1
Auto Orientation	On*1, Off
Standard Settings	Store, Initialize
Initialize Copy Settings	Initialize

1.3.4.7 Communications Settings

< iR C6870U / iR C5870U >
*1 Indicates the default setting.
*2 Indicates items that appear only when the appropriate optional equipment is attached.

T-1-19

Item	Settings
Common Settings: TX Settings	
Sender's Names (TTI)*2	01 to 99, Register/Edit, Erase
Unit Name	24 characters maximum
Erase Failed TX	On*1, Off
Handle Documents with Forwarding Errors	Always Print, Store/Print, Off*
Retry Times	0 to 5 times; 3 times*1
Edit Standard Send Settings	Scanning Mode, File Format, Divide into Pages, Stamp
Register Favorites Button	Register/Edit, Erase (M1 to M18)
Confirmation Display for the File Format	On*1, Off
Image Level for PDF (Compct)*2	Image Level in Text/Photo or Photo Mode: Data Size Priority, Normal*1, Image Priority
	Image Level in Text Mode: Data Size Priority, Normal*1, Image Priority
PDF(OCR) Settings*2	Smart Scan: On*1, Off
	Num. of Char. for Doc. Name Setting: 1 to 24 characters; 24 characters*1
Default Screen for Send	Favorites Buttons, One-touch Buttons, New Address*1

Item	Settings
TX Terminal ID	On*1 (Printing Position: Inside, Outside*1; Display Destination Name: On*1, Off; Telephone # Mark*2: FAX*1, TEL),
	Off
Gamma Value for YCbCr Send Jobs	Gamma 1.0, Gamma 1.4, Gamma 1.8*1, Gamma 2.2
Initialize TX Settings	Initialize
Common Settings: RX Settings	
Two-sided Print	On, Off*1
Select Cassette	Switch A: On*1, Off
	Switch B: On*1, Off
	Switch C: On*1, Off
	Switch D: On*1, Off
Receive Reduction	On*1: RX Reduction:
	Auto*1, Fixed Reduction
	Reduce %
	Reduce Direction:
	Vertical & Horizontal,
	Vertical Only*1
	Off
Received Page Footer	On, Off*1
2 On 1 Log	On, Off*1
Gamma Value for YCbCr Received Jobs	Gamma 1.0, Gamma 1.4, Gamma 1.8*1, Gamma 2.2
Fax Settings: User Settings*2	
Unit Telephone #	20 digits maximum
Tel Line Type	Pulse, Tone*1
Volume Control	Alarm Volume: 0 to 8 levels; 4*1
	Monitor Volume: 0 to 8 levels; 4*
Fax Settings: TX Settings*2	
ECM TX	On*1, Off
Pause Time	1 to 15 seconds; 2 seconds*1
Auto Redial	On*1: Option:
	Redial Times:
	1 to 10 times;
	2 times*1
	Redial Interval:
	2 to 99 minutes;
	2 minutes*1
	TX Error Resend
	Error and 1st Page*
	All pages, Off
	Off
Check Dial Tone Before Sending	On, Off*1
Fax Settings: RX Settings*2	
ECM RX	On*1, Off

1.3.4.8 Mail Box Settings

< iR C6870U / iR C5870U >
*1 Indicates the default setting.
*4 Indicates items that are not delivered as device information.

T-1-20

Item	Settings
User Inboxes Settings	Inbox No.: 00 to 99
	Register Inbox Name: 24 characters maximum
	Password: Seven digits maximum
	Time until Doc. Auto Erase: 0 (Off), 1, 2, 3, 6, 12 hours, 1, 2, 3*1, 7, 30 days
	URL Send Settings
	Initialize*4
Standard Scan Settings	Store, Initialize
Confidential Fax Inboxes Settings	Inbox No.: 00 to 49
	Register Inbox Name: 24 characters maximum
	Password: Seven digits maximum
	URL Send Settings
	Initialize*4

1.3.4.9 Printer Settings

< iR C6870U / iR C5870U >
* Factory setting.

T-1-21

Item	Description
setting	copy count (1 to 2000: *1)
	double-sided (double-sided, *single-sided)
	blank paper save (*yes, no)
	pickup (A4, plain; no switch-over)
	print adjust (super smooth, toner density, toner save)
	layout (lengthwise bind margin; margin 0; between -30 and + 30 m)
	layout (horizontal correction 0, vertical correction 0; between -50 and +50 mm)
	error skip (yes, *no)
	print delete time length (*1, 2, 3, 6, 12, 24 hr)
	time-out (*x sec; between 5 and 300)
	RIP (yes, *no)
	sorter (*no, rotation sort, rotation group)
	transparency interleaf (*no, blank paper interleaf, printed paper interleaf)
	printer operation mode (*auto, or one of 6)
	emulation (*no, or 1 or 4)
	auto switch-over (LIPS, ESC-P, 15577, HP-GL, all)
	color mode (*auto, full color, mono color)
	gradation (gradation; *standard, zoom 1, zoom 2)
	gradation (graphics: *yes, image, *yes)
	halftone (text: resolution, gradation, *error diffusion)
	halftone (graphics: *resolution, gradation, error diffusion)
	halftone (image: resolution, *gradation, error diffusion)
	printer initialize (yes, no)
	LIPS, emulation (12 items)
utility	printer initialize (yes, no)

1.3.4.10 Address Book Settings

< iR C6870U / iR C5870U >
*1 Indicates the default setting.

T-1-22

Item	Settings
Register Address	Register New Address, Edit, Erase
Register Address Book Name	Address Book 1 to 10; Address Book 1*1, Register Name (16 characters maximum)
One-touch Buttons	Register/Edit (from 001 to 200), Erase

⚠

- If an SDL or SSO login service is selected for authentication, the system control setup mode is not available to a general user (user type).
- If an SDL or SSO login service is selected for authentication, the system control setup mode is available to an administrator (user type; it is important that the appropriate fields be filled in when a dialog box appears asking for a system control department ID and system control ID No.).

1.3.5 User Maintenance

1.3.5.1 Cleaning

The machine has some components that must be cleaned by the user on a periodical basis (about once a month); advise the user on how to clean such components:

1. Copyboard Cover
Wipe the copyboard cover [1] using a cloth moistened with water or solution of mild detergent (well wrung); then, dry wipe it with a soft cloth.
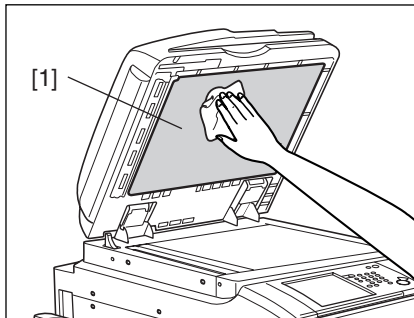
F-1-18

2. Platen Roller
Wipe the platen roller [1] using a cloth moistened with water or solution of mild detergent (well wrung); thereafter, dry wipe it with a soft cloth.
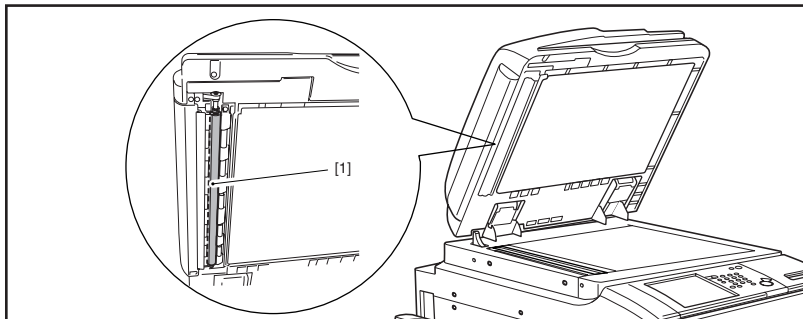
F-1-19

3. Copyboard Glass, ADF Reading Glass
Wipe the copyboard glass [1] and the DF reading glass [2] using a cloth moistened with water or solution of mild detergent (well wrung); thereafter, dry wipe them with a soft cloth.
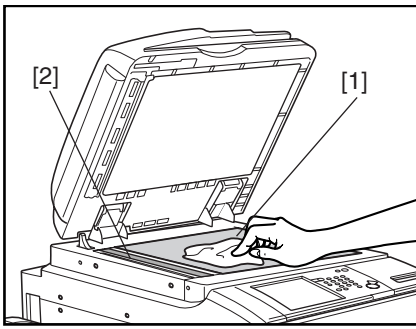
F-1-20

4. DF Glass Retainer, Edge Guide

Wipe the DF glass retainer [1] and the edge guide [2] using a cloth moistened with water or solution of mild detergent (well wrung); thereafter, dry wipe them with a soft cloth.
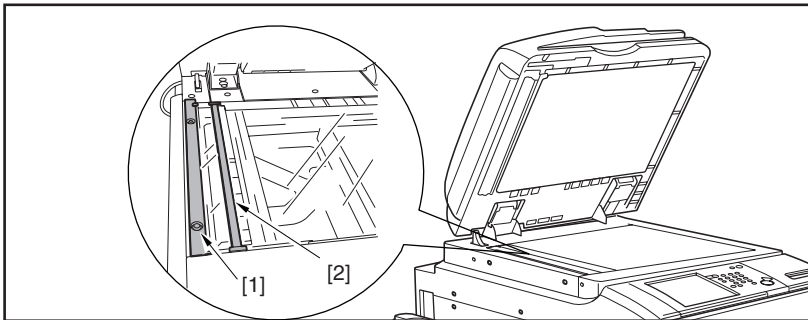
F-1-21

5. Vertical Size Plate

Clean the vertical size plate [1] using a cloth moistened with water or solution of middle detergent (well wrung); thereafter, dry wipe it with a soft cloth.
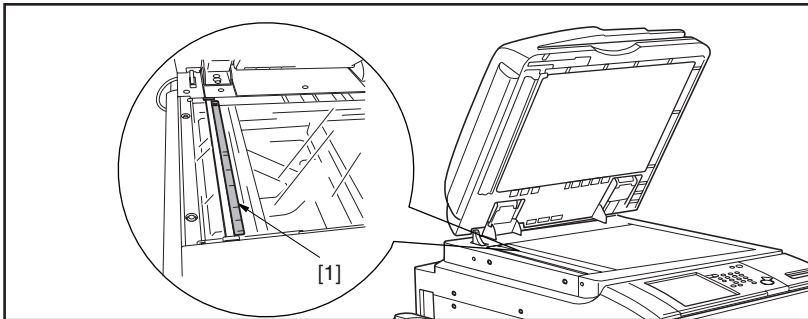
F-1-22

1.3.5.2 Inspection

The machine is equipped with a breaker to protect against over-current and leakage current, and it is important to check the operation of the leakage breaker to ensure a higher level of safety.
Advise the user to check the breaker as follows on a periodical basis (about once a month) and keep a record of the checks:
1) Turn on the main power switch.
2) Press the test button [1] of the breaker using the tip of a ball-point pen or the like.
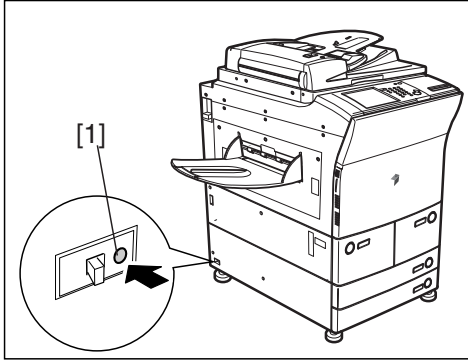
F-1-23

3) Check that the breaker switch [1] has shifted to the OFF side, thus cutting off the power.
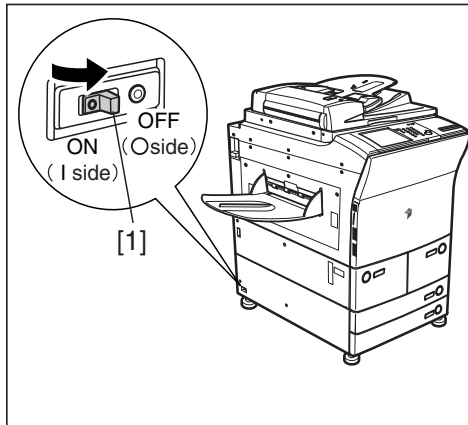
F-1-24

4) Turn off the main power switch.
5) Shift the breaker switch [1] back to the ON side.
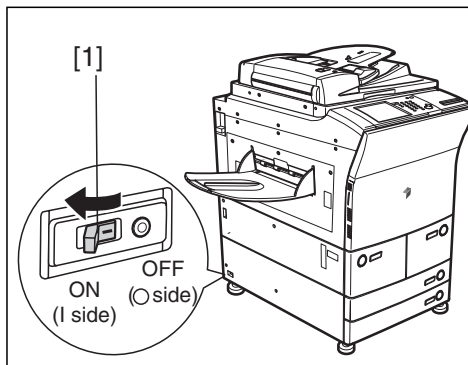
F-1-25

⚠️
After the check, be sure that the breaker switch has shifted fully to the ON side. If it has stopped between the ON and the OFF sides, push it over to the OFF side and then back to the ON side.

6) Turn on the main power switch.

1.3.6 Safety

1.3.6.1 Safety of the Laser Light

Laser light can prove to be hazardous to the human body. The machine's laser unit is fully enclosed in a protective housing and external covers so that its light will not escape outside as long as the machine is used normally.

1.3.6.2 Regulations by the us Center for Devices and Radiological Health

The Center for Devices and Radiological Health of the US Food and Drug Administration put input force a set of regulations to govern laser products on August 2, 1976. These regulations apply to laser products that are manufactured on and after August 1, 1976, and the sale of laser products is prohibited inside the US without indicating compliance with the regulations.
The following label is used to indicate certification under CDRH regulations, and all laser products sold inside the US are required to bear the label.


```
CANON INC.
  30−2,SHIMOMARUKO,3−CHOME,OHTA−KU,TOKYO,
  146.JAPAN

MANUFACTURED :

THIS PRODUCT CONFORMS WITH DHHS RADIATION
PERFORMANCE STANDARD 21CFR CHAPTER1
SUBCHAPTER J.
```
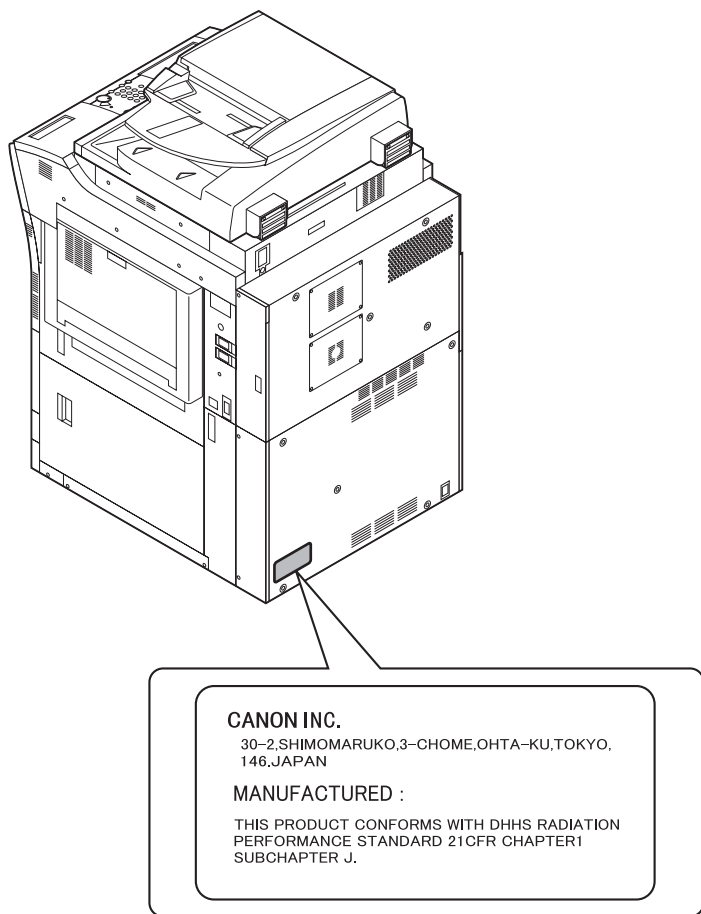
F-1-26

⚠ The text on the label may differ from model to model.

1.3.6.3 Handling the Laser Unit

⚠ **Points to Note When Servicing Areas Around the Laser Scanner System**
- do not put an item with a high reflectance (e.g., screwdriver) into the laser path.
- remove watches and rings before starting the work (they tend to reflect the laser beam, possibly exposing the eye).

The light from the machine's laser unit is red. The covers of the machine that can reflect the laser beam are identified by a warning label (attached as shown). If you must remove any of these covers, be sure to work while paying full attention to the laser light. The machine's laser unit is not designed for adjusting in the field.
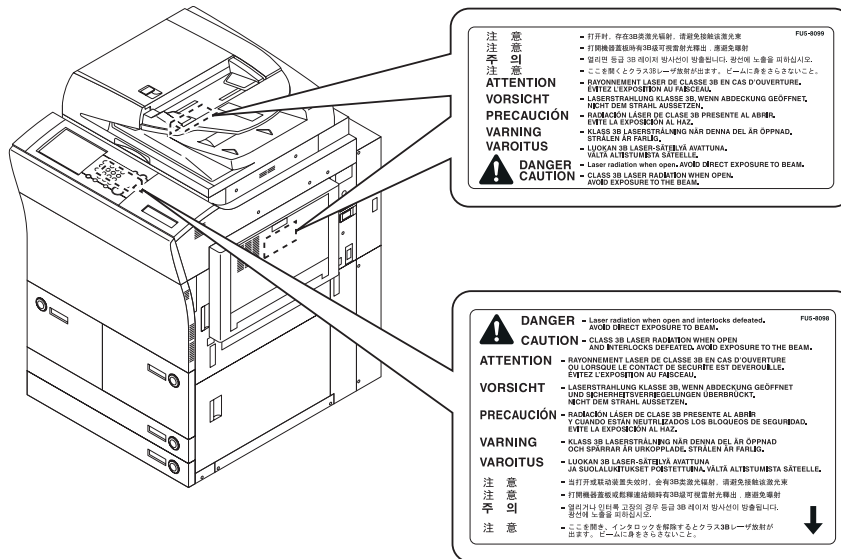
F-1-27

1.3.6.4 Safety of Toner

The machine's toner is a non-toxic material made of plastic, iron, and small amounts of dye.

⚠ Do not throw toner into fire. It may cause explosion.
Toner on Clothing or Skin
1. If your clothing or skin has come into contact with toner, wipe it off with tissue; then, wash it off with water.
2. Do not use warm water, which will cause the toner to jell and fuse permanently with the fibers of the cloth.
3. Do not bring toner into contact with plastic material. It tends to react easily.

1.3.7 Product Specifications

1.3.7.1 iR C6800 / iR C5800 Specifications

Copyboard	fixed
Body	console
Light source type	xenon lamp
Lens type	fixed focus, lens array
Photosensitive medium	A-Si drum (1 pc.)
Image reading method	light-receiving element (RGB line CCD)
Reproduction method	by laser beam, indirect electro-photographic
Exposure method	by laser
Copy density adjustment function	auto or manual
Charging method	by corona
Development method	toner projection
Development method (color)	dry, 2-component, toner projection
Development method (mono)	dry, 1-component, toner projection
Attraction method	no
Transfer method	by intermediate transfer belt
Transfer method (primary transfer)	by charging roller
Transfer method (secondary transfer)	by charging roller
Separation method	by curvature separation + static eliminator
Pickup method	from cassette, manual feeder, paper deck
Cassette pickup method	separation retard
Paper deck pickup method	separation retard
Multifeeder pickup method	separation retard
Drum cleaning method	by blade + magenta roller
Trasnsfer cleaning method	by blade
Fixing method	by roller + external heating roller
Delivery method	face-down, face-up
Contrast adjustment function	auto
Toner level detection function	yes (Bk: piezoelectric; CMY: optical)
Toner type	Bk: magnetic, negative toner; CMY: non-magnetic negative toner
Toner supply type	from toner cartridge (CMY: 240 g), from toner bottle (Bk: 2000 g)
Original type	sheet, book, 3-D object (2 kg max.)
Maximum original size	297 x 432 mm
Original size detection function	by fixed sensor in combination with CCD: in relation to opening/ closing of copyboard cover
Reproduction ratio	100% (1:1), reduce (1:0.250, 1:0.500, 1:0.611, 1:0.707, 1:0.816, 1:0.865), enlarge (1:1.154, 1:1.224, 1:1.414, 1:2.000, 1:4.000), between (1:0.250 to 4.000) (25% and 400%, in 1%-increments)
Warm-up time	8 min 50 sec or less at power-on (at 20 deg C room temperature)
Print area	maximum image guarantee area: 305x466.5 mm; maximum print area: 314.5 x 466.5 mm (single-side) maximum print area: 310.0 x 466.5 mm (double-side)
Image margin (leading edge)	40 +1.5/-1.0mm (2nd side: 4.0 +1.5/-1.0mm)
Image margin (trailing edge)	2.0+1.5/-1.5mm
Image margin (left/right)	2.5 +1.5/-1.5mm (2nd side: 2.5 +2.5/-2.0mm)
Non-image width (leading edge)	4.0 +1.5/-1.0mm (w/ ADF: 4.5 +1.8/-1.8mm)
Non-image width (trailing edge)	2.0 +1.5/-1.5mm(w/ ADF: 2.0 +1.8/-1.8mm)
Non-image width (left/right)	2.5 +1.5/-1.5mm (w/ ADF: 2.5 +2.5/-2.0mm)
Number of gradations	reader unit: 256; engine unit: 256

Reading resolution	600×600dpi
Printing resolution	1200 (equivalent) x 600 dpi (North American model only); 9600 (equivalent) x 600 dpi (non-North American models)
First print time	mono color: 53 sec (A4, plain paper; 64 to 105 g/m2) full color: 12.2 sec (A4, plain paper; 64 to 105 g/m2)
Print speed (A4)	mono color: 68 prints/min (A4; 64 to 209 g/m2) full color: 15.5 prints/min (A4, plain paper; 64 to 105 g/m2)
Cassette paper size	cassette 3/4: A5R, B5, B5R, A4, A4R, B4, A3, 279x432 mm (11x17), 305x457 mm (12x18), 330x483 mm (13x19), 320x450 mm (SRA3), LGL, LTR, LTRR, Executive (horizontal) STMTR
Paper deck paper size	front deck, side deck: B5, A4, LTR
Multifeeder paper size	100x148 mm (min.) to 330x483 mm (max.)
Cassette paper type	cassette 3/4: Plain (;64 to 105 g/m2), Heavy (209 g/m2 max.), Recycled (64 to 105 g/m2), Color (80 g/m2), Tab Paper (80 g/m2), transparency
Multifeeder tray paper type	Plain (64 to 105 g/m2), Heavy (250 g/m2 max.), Recycled (64 to 105 g/m2), Color (80 g/m2), Postcard, Transparency, Tracing Paper, Labels
Paper deck paper type	deck left/right: plain (64 to 105 g/m2), Heavy (209 g/m2 max.), Recycled (80 g/m2), Color (80 g/mm2), Labels (80 g/m2)
Duplex paper type	plain (64 to 105 g/m2), Recycled (80 g/m2), Color (80 gm/2), Heavy (163 g/m2 max.), Heavy (163 g/2 max.; 209 g/m2 for color print; 209 g/m2 for black-and-white print)
Cassette capacity	600 sheets (64g/m2) 550 sheets (80g/m2)
Multifeeder tray capacity	100 sheets(64, 80g/m2)
Paper deck capacity	1700 sheets (64g/m2) 1500 sheets (80g/m2)
Duplex method	through path
Delivery tray stack	250 sheets (A4, plain paper, 80 g/m2), 50 sheets (transparency)
Continuous reproduction	9999 prints max.
Memory	main controller: RAM512 MB (768 MB max.)
Hard disk	40GB
Low-power mode	default: 15 min (between 10 and 240 min)
Auto power off	default: 60 min (between 10 and 240 min)
Auto gradation correction	yes
Operating environment (temperature range)	15 to 30 deg C
Operating environment (humidity range)	25% to 80%
Operating environment (atmospheric pressure)	810.6 to 1013.3 hpa (0.8 to 1.0 atm)
Noise	standby: 55 dB or less; printing: 78 dB or less (Sound power level)
Power supply rating	100V/120V/230V
Power consumption (maximum)	1500 W or less
Power consumption	standby: 450 Wh (reference only); continuous printing: 1300 Wh (reference only)
Ozone	0.035 ppm or less (max.; 0.02 ppm or less on average)
Dimensions	975 (W) x 1100 (L) x 1570 (H) mm
Weight	230 kg (approx.; excluding toner cartridge)

1.3.7.2 iR C6870U / C5870U Specifications

Copyboard	fixed
Body	console
Light source type	xenon lamp
Lens type	fixed focus, lens array
Photosensitive medium	A-Si drum (1 pc.)
Image reading method	light-receiving element (RGB line CCD)
Reproduction method	by laser beam, indirect electro-photographic
Exposure method	by laser
Copy density adjustment function	auto or manual
Charging method	by corona
Development method	dry, toner projection
Development method (color)	dry, 2-component, toner projection
Development method (mono)	dry, 1-component, toner projection
Attraction method	no
Transfer method	by intermediate transfer belt(ITB)+roller
Transfer method (primary transfer)	by roller
Transfer method (secondary transfer)	by roller
Separation method	by curvature separation + static eliminator
Pickup method	from cassette, manual feeder, paper deck
Cassette pickup method	separation retard
Paper deck pickup method	separation retard
Multifeeder pickup method	Abridged retard
Drum cleaning method	by blade + magenta roller
Trasnfer cleaning method	by blade
Fixing method	by roller + external heating roller
Delivery method	face-down, face-up
Contrast adjustment function	auto
Toner level detection function	yes (Bk: piezoelectric; CMY: optical)
Toner type	Bk: magnetic, negative toner; CMY: non-magnetic negative toner
Toner supply type	from toner cartridge (CMY: 240 g), from toner bottle (Bk: 2000 g)
Original type	sheet, book, 3-D object (2 kg max.)
Maximum original size	297 x 432 mm
Original size detection function	by fixed sensor in combination with CCD: in relation to opening/ closing of copyboard cover
Reproduction ratio	100% (1:1), reduce (1:0.250, 1:0.500, 1:0.611, 1:0.707, 1:0.816, 1:0.865), enlarge (1:1.154, 1:1.224, 1:1.414, 1:2.000, 1:4.000), between (1:0.250 to 4.000) (25% and 400%, in 1%-increments)
Warm-up time	8 min 30 sec or less at power-on (at 20 deg C room temperature)
Print area	maximum image guarantee area: 305x466.5 mm; maximum print area: 314.5 x 466.5 mm (single-side) maximum print area: 310.0 x 466.5 mm (double-side)
Image margin (leading edge)	40 +1.5/-1.0mm
Image margin (trailing edge)	2.0+1.5/-1.5mm
Image margin (left/right)	2.5 +1.5/-1.5mm (2nd side: 2.5 +2.5/-2.0mm)
Non-image width (leading edge)	4.0 +1.5/-1.0mm (w/ ADF: 4.5 +1.8/-1.8mm)
Non-image width (trailing edge)	2.0 +1.5/-1.5mm(w/ ADF: 2.0 +1.8/-1.8mm)
Non-image width (left/right)	2.5 +1.5/-1.5mm (w/ ADF: 2.5 +2.5/-2.0mm)
Number of gradations	reader unit: 256; engine unit: 256
Reading resolution	600X600dpi

Printing resolution	1200 (equivalent) x 600 dpi (North American model only); 9600 (equivalent) x 600 dpi (non-North American models)
First print time	mono color: 53 sec (A4, plain paper; 64 to 105 g/m2) full color: 12.2 sec (A4, plain paper; 64 to 105 g/m2)
Print speed (A4)	mono color: 68 prints/min (A4; 64 to 209 g/m2) full color: 15.5 prints/min (A4, plain paper; 64 to 105 g/m2)
Cassette paper size	cassette 3/4: A5R, B5, B5R, A4, A4R, B4, A3, 279x432 mm (11x17), 305x457 mm (12x18), 330x483 mm (13x19), 320x450 mm (SRA3),LDR, LGL, LTR, LTRR, Executive (horizontal) STMTR
Paper deck paper size	front deck, side deck: B5, A4, LTR
Multifeeder paper size	100x148 mm (min.) to 330x483 mm (max.)
Cassette paper type	cassette 3/4: Plain (;64 to 105 g/m2), Heavy (209 g/m2 max.), Recycled (64 to 105 g/m2), Color (80 g/m2), Tab Paper (80 g/m2), transparency
Multifeeder tray paper type	Plain (64 to 105 g/m2), Heavy (250 g/m2 max.), Recycled (64 to 105 g/m2), Color (80 g/m2),Postcard, Transparency, Tracing Paper, Labels
Paper deck paper type	deck left/right: plain (64 to 105 g/m2), Heavy (209 g/m2 max.), Recycled (80 g/m2), Color (80 g/mm2), Labels (80 g/m2)
Duplex paper type	plain (64 to 105 g/m2), Recycled (80 g/m2), Color (80 gm/2), Heavy (163 g/m2 max.), Heavy (163 g/2 max.; 209 g/m2 for color print; 209 g/m2 for black-and-white print)
Cassette capacity	600 sheets (64g/m2) 550 sheets (80g/m2)
Multifeeder tray capacity	100 sheets(64, 80g/m2)
Paper deck capacity	1700 sheets (64g/m2) 1500 sheets (80g/m2)
Duplex method	through path
Delivery tray stack	250 sheets (A4, plain paper, 80 g/m2), 50 sheets (transparency)
Continuous reproduction	9999 prints max.
Memory	main controller: RAM512 MB (1 GB max.)
Hard disk	80GB
Low-power mode	default: 15 min (between 10 and 240 min)
Auto power off	default: 60 min (between 10 and 240 min)
Auto gradation correction	yes
Operating environment (temperature range)	15 to 30 deg C
Operating environment (humidity range)	25% to 80%
Operating environment (atmospheric pressure)	810.6 to 1013.3 hpa (0.8 to 1.0 atm)
Noise	standby: 55 dB or less; printing: 78 dB or less (Sound power level)
Power supply rating	100V/120V/230V
Power consumption (maximum)	1500 W or less
Power consumption	standby: 450 Wh (reference only); continuous printing: 1300 Wh (reference only)
Ozone	0.035 ppm or less (max.; 0.02 ppm or less on average)
Dimensions	975 (W) x 1100 (L) x 1570 (H) mm
Weight	230 kg (approx.; excluding toner cartridge)

1.3.8 Function List

1.3.8.1 Print Speed

T-1-23

Paper type	Paper size	Cassette/deck (single-sided)		Manual feeder (singe-sided)		Cassette/deck (double-sided)	
		Color	Mono	Color	Mono	Color	Mono
Plain paper mode (64 to 105 g/m2)	A3	7.8	28	7.8	20	3.9	17
	279mmX432mm(11"X17")	7.8	28	7.8	20	3.9	17
	305mmX458mm(12"X18")	5.2	25	5.2	17	2.6	15
	330mmX482mm(13"X19")	5.2	25	5.2	17	2.6	15
	B4, LGL	7.8	34	7.8	23	3.9	18
	A4R, LTRR, B5R	7.8	42	7.8	29	3.9	19
	A4, LTR, B5	15.5	68(58*)	7.8	35	7.8	34(29*)
	A5R	15.5	68(58*)	7.8	35	7.8	34(29*)
Heavy paper mode 1 (105 to 163 g/m2)	A3	4.0	21	4.0	20	2.0	10
	279mmX432mm(11"X17")	4.0	21	4.0	20	2.0	10
	305mmX458mm(12"X18")	3.0	18	3.0	17	1.5	9
	330mmX482mm(13"X19")	3.0	17	3.0	17	1.5	8
	B4, LGL	4.0	25	4.0	23	2.0	12
	A4R, LTRR, B5R	4.0	31	4.0	29	2.0	15
	A4, LTR, B5	8.4	41	4.0	35	4.2	20
	A5R	8.4	42	4.0	35	4.2	21
Heavy paper mode 2 (164 to 209 g/m2)	A3	2.8	21	2.8	20	---	10
	279mmX432mm(11"X17")	2.8	20	2.8	20	---	10
	305mmX458mm(12"X18")	2.3	18	2.3	17	---	9
	330mmX482mm(13"X19")	2.3	17	2.3	17	---	8
	B4, LGL	2.8	22	2.8	22	---	11
	A4R, LTRR, B5R	2.8	27	2.8	27	---	13
	A4, LTR, B5	6.2	40	2.8	35	---	20
	A5R	6.2	36	2.8	35	---	18
Heavy paper mode 3 (210 to 253 g/m2)	A3	---	---	2.8	20	---	---
	279mmX432mm(11"X17")	---	---	2.8	20	---	---
	305mmX458mm(12"X18")	---	---	2.3	17	---	---
	330mmX482mm(13"X19")	---	---	2.3	17	---	---
	B4, LGL	---	---	2.8	22	---	---
	A4R, LTRR, B5R	---	---	2.8	27	---	---
	A4, LTR, B5	---	---	2.8	35	---	---
	A5R	---	---	2.8	35	---	---
Transparency	A4, LTR	2.8	40(20*)	2.8	35(20*)	---	---
Postcard	2-pane postcard	---	---	2.8	35	---	---
	Gvn postcard	---	---	2.8	35	---	---
Tab sheet	A4, LTR	4.0 (Under 163g/m2) 2.8 (164g/m2 to 203g/m2)	42	---	---	---	---

(unit: prints/min)
*iRC5800/iRC5870U

1.3.8.2 Paper Type

T-1-24

Paper type		Paper size	Source of paper		
			Cassette	Deck (left/ right)	Manual feeder
Plain paper (64 to 105g/m2) Eco paper Recycled paper Heavy paper mode1,2 (106 to 209g/m2)		A3, B4, A4R, 279mmno432mm(11"no17"), LGL,LTRR	yes	no	yes
		A4, B5, LTR	yes	yes	yes
		B5R	yes	no	yes
		A5R	yes	no	yes
		305mmno457mm(12"no18"), 330mmno482mm(13"no19"), SRA3	yes	no	yes
		Exective	yes	no	yes
		Exective-R	no	no	no
Heavy paper mode 3 (210 to 250g/2m)		A3, B4, A4R,279mmno432mm(11"no17"), LGL, LTRR	no	no	yes
		305mmno457mm(12"no18"), 330mmno482mm(13"no19"), SRA3	no	no	yes
Special paper	trans-parency	A4, LTR	yes	no	yes
	Postcard	gvn postcard, 2-pane postcard	no	no	yes
	label sheet	A4, A4R, LTR, LTRR, B4	no	no	yes
	index paper	A4, LTR	yes	no	no
	tracing paper	A3, B4, A4R, A4, B5R, B5	no	no	yes

1.3.8.3 Accessories

The following accessories are offered for the machine:

    (1) Finisher-R1
    (2) Saddle Finisher-R2
    (3) Additional Finisher Tray-A1 (Japanese model only)
    (4) Puncher Unit-L1
    (5) Side paper Deck-U1
    (6) Shift Tray -C1
    (7) Image Conversion Board-A2
    (8) Super G3 Fax Board-P1
    (9) PDL Expansion Kt (LIPS)-C1 (Japanese model only)
    (10) Color Network Printer Expansion Kit-C1 (non-Japanese model only)
    (11) SEND Expansion Kit-D1P
    (12) SEND Expansion Kit-D1U (Japanese and European models only)
    (13) UFR & Scanner Kit-C1
    (14) Color Network Multi-PDL Printer Kit-C1 (non-Japanese model only)
    (15) Card Reader-C1
    (16) Card Reader Attaching Kit-C1
    (17) Delivery Tray-K1
    (18) Original Holder-K1
    (19) Stamp Unit-A1
    (20) Key Switch Unit-A2
    (21) Security Kit-A1P/A1U
    (22) 256-MB Expansion RAM-A2
    (23) USB Interface Board-A3
    (24) TokenRing Interface Adapter iN-TR2 (US model only)
    (25) Color imagePass-D1 (US model)
       Color Network Printer unit-D1 (Other model)

1.3.9 RDS Specification for iR C6870U / C5870U

1.3.9.1 Embedded RDS(e-RDS)

Product Overview

Embedded RDS (hereafter, e-RDS) is a front-end module of e-Maintenance system built into the network module of the device controller.

Product package composition/commodity composition

It is built in the network module of the device.

Feature

It is built into the network module of the device controller, and the front-end module of e-Maintenance system is achieved without needing hardware other than the device.

In a past e-Maintenance system, software for e-Maintenance was installed in special hardware such as a small box Linux computer or Windows PC in the front end. (RDS Agent or RDS server).

The e-Maintenance system can be introduced without putting a strain in the user by being built in the device controller.

Moreover, the serviceman's loads for the installation are greatly reduced.

e-RDS transmits device information on counter, trouble, and articles of consumption, etc. by using the SOAP protocol for the back end server of e-Maintenance system (hereafter, UGW).

List of Supported Devices

Model name	e-RDS Supported version		e-RDS Full supported version	
	Version number	Point of correction	Version number	Point of correction
iR2270, iR2870, iR3570, iR4570	v31.01	#1, #2	v32.02	#3
iR2230, iR2830, iR3530 (Make sure that the device can be connected on network)	v5.xx	#1, #2	v20.25	#3
iR5570,iR6570	v12.04	#1, #2	v20.65	#3
iR85+, iR8070, iR105, iR9070	v10.40	#1, #2	v11.05	#3
iR C3170 series iR C2570 series USA: imageRunner C3170 Color imageRunner C3170N EU, Other: iR 2570C / iR 2570CN iR 3170C / iR 3170CN	v10.15	#2	v20.29	#3
iR C6870, iR C5870 USA: imageRunner C3170 Color imageRunner C3170N EU: iR 5870C / iR 5870Ci iR 6870C / iR 6870Ci Other: iR C5870 / iR 5C870i iR C6870 / iR C6870i	From the first mass production machine			

Title	Description
#1 e-RDS Proxy server connection trouble	It cannot connect a proxy server via e-RDS
#2 e-RDS freeze	At rare intervals, the e-RDS gets into the freezing, and does not send the billing counter data.
#3 e-RDS Parts counter trouble	The e-RDS sends the wrong value of parts counter sometimes.

Chapter 2

Installation

Contents

2.1 Making Pre-Checks

2.1.1 Selecting the Site of Installation

Be sure that the site of installation satisfies the following requirements; if possible, visit the user's before delivery of the machine:

(1) There must be a properly grounded power outlet that is rated as indicated (+/-10%) and that may be used exclusively by the machine.

(2) The temperature of the site must be between 15 and 30 deg C and humidity, between 25% and 80%. The machine may not be installed near a water faucet, water boiler, humidifier, or refrigerator.

(3) The site must not be near a source of fire or in an area subject to dust or ammonium gas. If the area is exposed to the direct rays of the sun, the windows must be furnished with curtains.

(4) The site must be well ventilated. However, the machine must not be installed near the air vent of the room. The ozone generated by the machine while in operation is not of a level that can harm the health of the individuals around the machine. Nevertheless, some may find it to be unpleasant, and the room must be ventilated often.

(5) The machine must be placed on a level floor so that all its feet remain in contact with the floor and the machine will remain level.

(6) There must be enough space around the machine. The following diagram shows the minimum dimensions; whenever possible, be sure there will be more space than indicated:

(a) Copier [1]
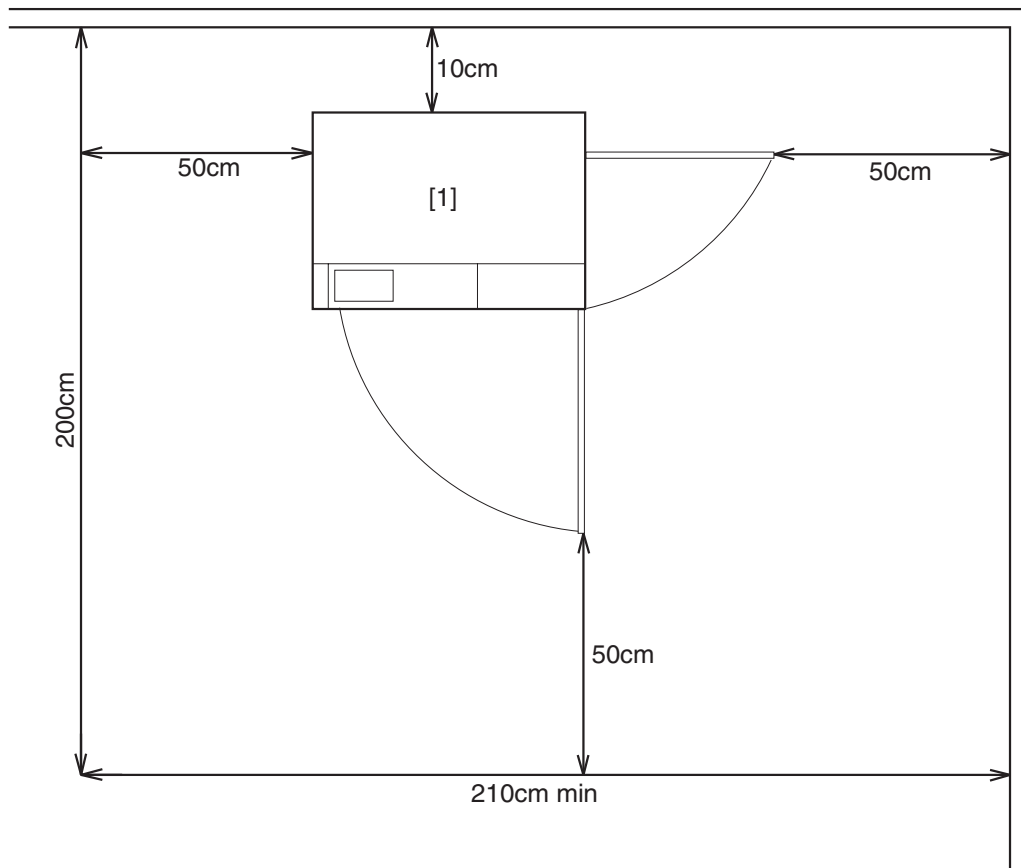
F-2-1

(b) Copier [1] + Punch Unit [2] + Finisher [3] + Side Deck [4]
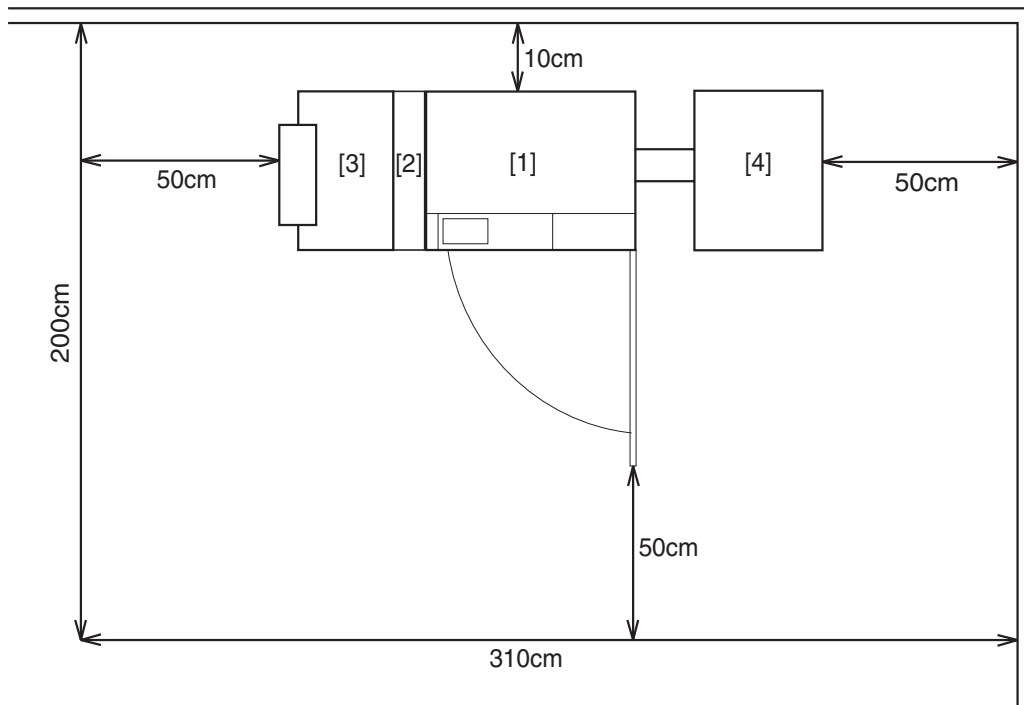
F-2-2

(7) The machine will be placed on the side of the slope plate having a pin hole [1]. Be sure that the space will be on this side (left side).

   The side of the slope plate having a pin hole (left) is where the delivery side of the machine will be, with the front of the machine facing the side indicated by the arrow.
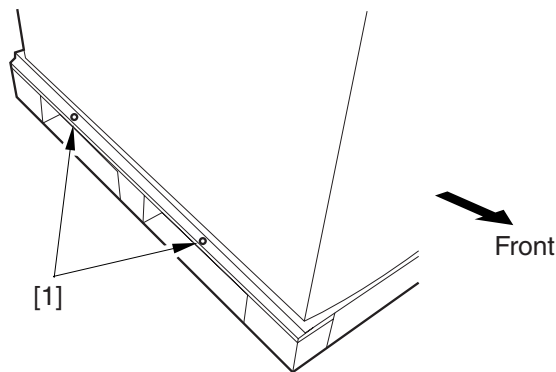
F-2-3

2.1.2 Installation Environment

Check that the environment of the site meets the following requirements:

F-2-4
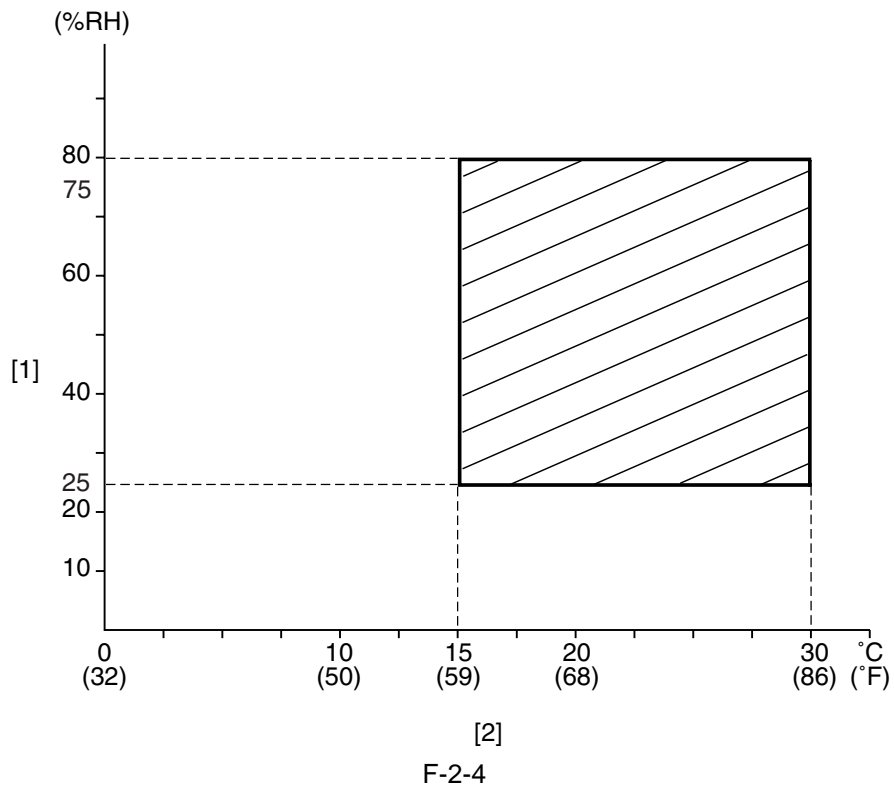
[1] Humidity
[2] Temperature

2.1.3 Checking the Contents

The following shows the contents of the shipping box found with the machine:

[1]   [2]   [3]   [4]   [5]

[6]   [7]   [8]   [9] *   [10]

[11]   [12]   [13]   [14]   [15]

[16]   [17]   [18]   [19]   [20]

[21]   [22]   [23]   [24]

F-2-5
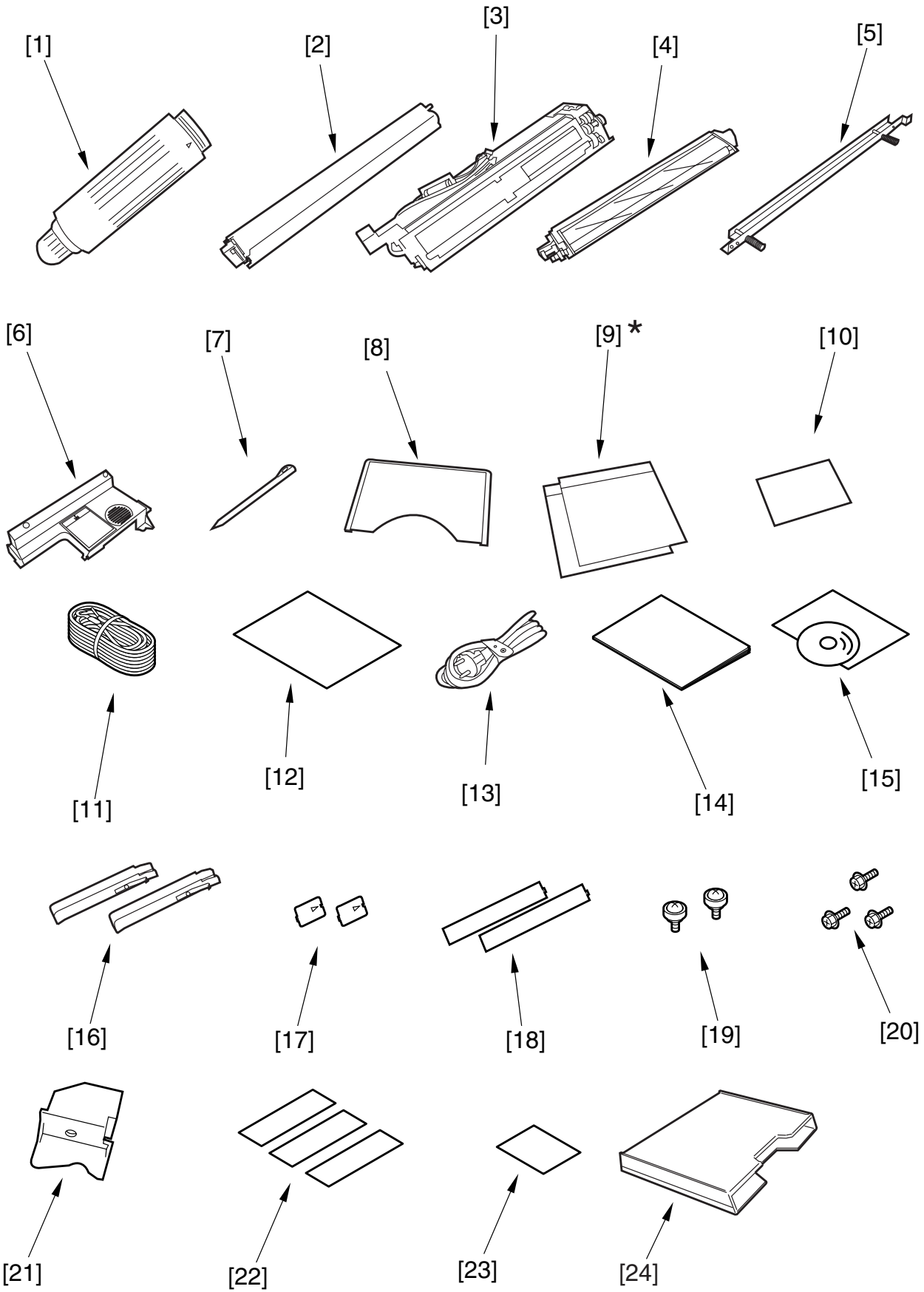
[1] Black toner bottle (black; only for 100/230V AU model)........1 pc.
[2] Color toner cartridge (cyan, magenta, yellow;
       only for 100V/230V AU model)..................................1 pc. each
[3] Black developing assembly (black)............................1 pc.
[4] Color developing assembly (cyan, magenta, yellow).............1 pc. each
[5] Black developing assembly locking plate ....1 pc.
[6] Process unit cover ....1 pc.
[7] Touch pen ....1 pc.
[8] Service book case ....1 pc.
[9] Cassette size label* ....2 pc.
[10] ADF size label ....1 pc.
[11] Grounding cord (100-V model only) ....1 pc.
[12] QR sheet (100-V model only) ....1 pc.
[13] Power cord (230-V model only) ....1 pc.
[14] Service book ....1 pc.
[15] User's Manual ....1 pc.
[16] Grip ....2 pc.
[17] Pickup assembly face place ....2 pc.
[18] Delivery assembly face plate ....2 pc.
[19] Binding screw (M4x8) ....2 pc.
[20] RS tightening screw (M4x8) ....3 pc.
[21] Left deck locking plate ....1 pc.
[22] No Copy label (non-100-V model) ....3 pc.
[23] Glass Cleaning instructions label (non-100-V model) ....1 pc.
[24] Original holder (120V model only).............................1 pc.

* Found inside the cassette 3 (upper cassette).

2.2 Unpacking and Installation

2.2.1 Before Starting the Work

Keep the following in mind when installing the machine:

⚠

- When a machine is moved from a cold to warm location, condensation can occur in its pickup/feeding assembly, ultimately causing image faults. As necessary, leave the machine alone for at least 1 hour without unpacking, and start the work when it has fully become used to the room temperature.

  (The term "condensation" refers to a symptom in which droplets of water occur on the surface of a metal object brought in from a cold to warm location as the result of rapidly cooling vapor around it.)
- The machine weighs about 230 kg. Be sure to work in a group of 4 persons when lifting it.
- Be sure to turn the 2 adjusters (front) found on the bottom of the machine clockwise to release them. These adjusters can slip off the machine when the machine is moved. Take care not to lose them.

2.2.2 Turning Off the Host Machine

iR C6800/iR C5800

⚠ Turning Off the Main Power
[1] Turn off the control panel power switch.
[2] Turn off the main power switch.
[3] Disconnect the power cable (from the power outlet).

iR C6870/C5870

⚠Turning Off the Main Power
When turning off the main power, be sure to go through the following in strict sequence to protect the machine's hard disk:
[1] Hold down on the power switch on the control panel for 3 sec or more.
[2] Operate on the touch panel according to the shut-down sequence indicated so that the main power switch may be turned off.
[3] Turn off the main power switch.
[4] Disconnect the power cable (for the power outlet).

2.2.3 Unpacking the Machine

1) Open the shipping box, and remove the plastic covers.
2) Insert the two grips [2] while inserting a screwdriver to the grip insert hole [1] where is main body's
paper pickup side.
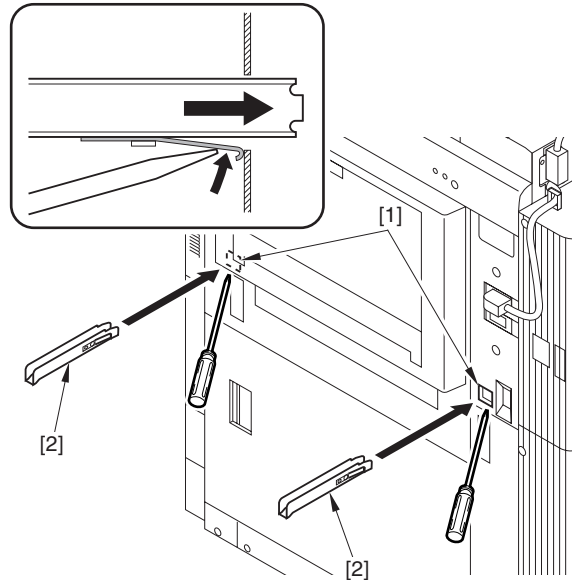
F-2-6

3) While holding the grips on the pickup side (front, rear), lift the machine slightly, and remove the pad [1] in the direction of the arrow. (weight of the machine: about 230 kg)
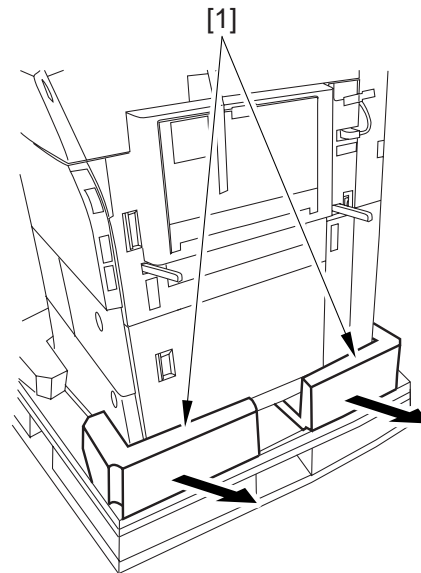
F-2-7

4) While holding the grips on the delivery side (front, rear), lift the machine slightly, and remove the pad [1] in the direction of the arrow. At this time, do not lift the machine more than necessary. Otherwise, you can lose the balance. (weight of the machine: about 230 kg)
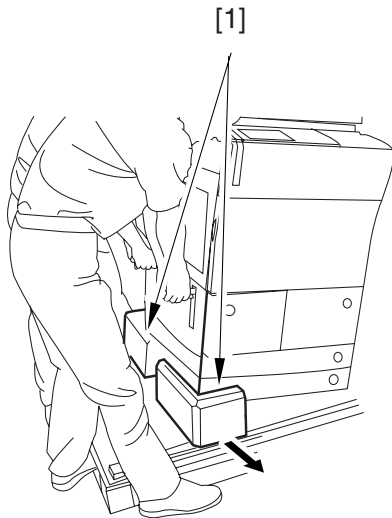
F-2-8

5) Move the machine in the direction of the arrow; then, remove the 2 slope plates [2] from the middle of the skid [1].
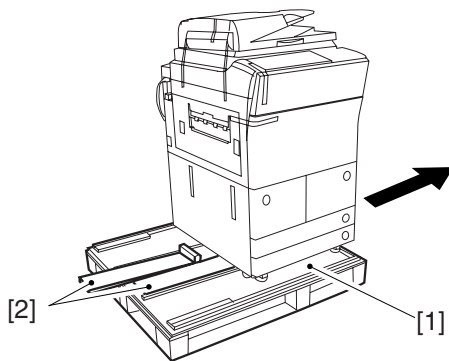
F-2-9

6) Detach the 2 pins taped to the back of the slope plate.
7) Turn over the slope plate [1], and set it as shown; then, match the skid and the slope plate by their pin holes, and insert the pin [2] (1 pc. each).
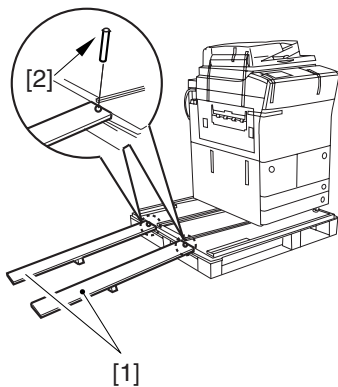
F-2-10

⚠️
Check that the caster [1] has not rolled off the skid [2]. Also, Check that it has not ridden over the edge [3] of the skid.
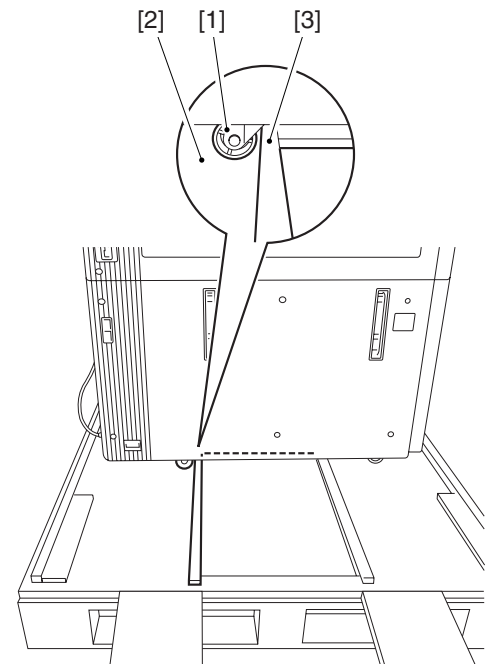
F-2-11

8) While holding the grips on the delivery side of the machine, move the machine along the slope plates and off the skid.
9) Remove the packing tape from the machine.
10) Remove the two grips [2] by inserting a screwdriver to the grip insert hole [1].
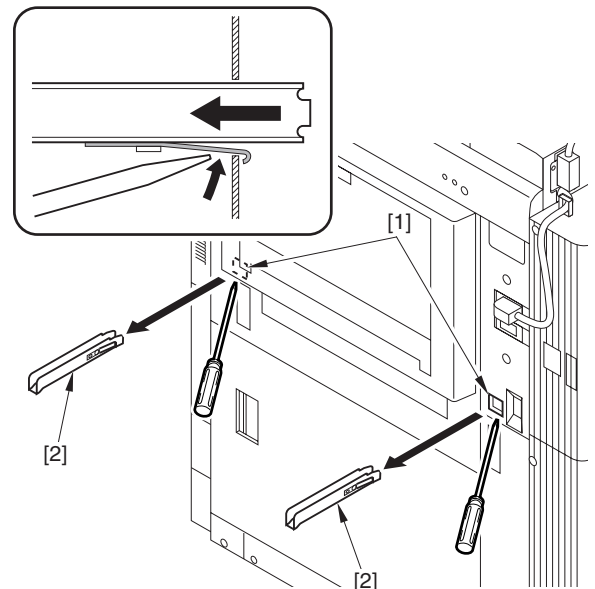
F-2-12

11) Attach the 2 included pickup assembly face plate [2] over the holes [1] from which you have removed the grips.
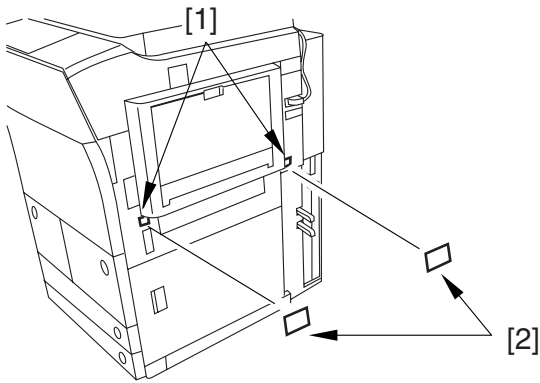
F-2-13

12) Remove the 2 screws [1], and rear right cover [2].
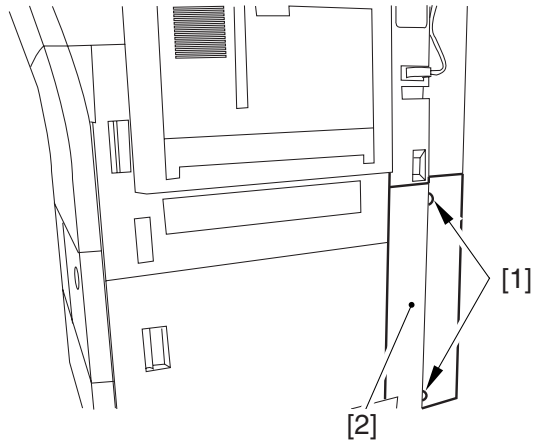
F-2-14

13) Insert the 2 grips [1] you removed in the foregoing step in the compartment [2] found at the rear right of the machine.
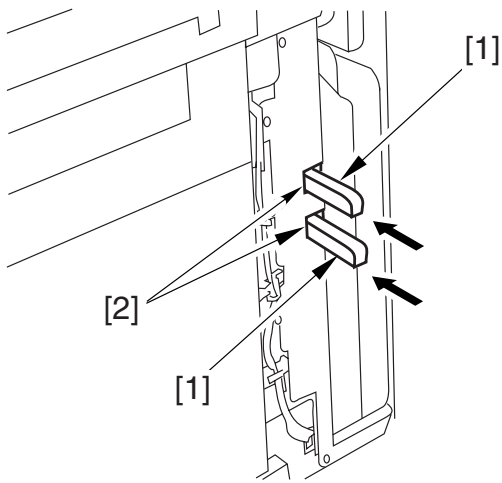
F-2-15

14) Attach the right cover (lower rear) [2] with 2 screws [1].
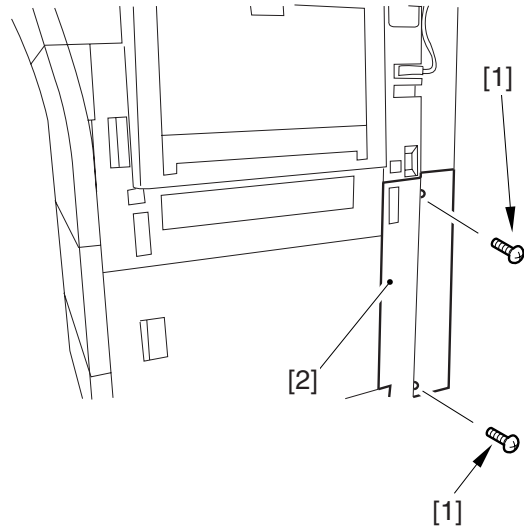
F-2-16

15) Store the 2 grips [1] on the delivery side as shown so that they are inside the machine.
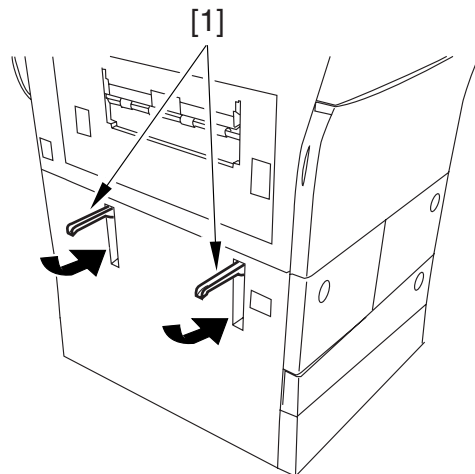
F-2-17

16) Attach the 2 included delivery assembly face plates over the holes [1] in which you have stored the grips.
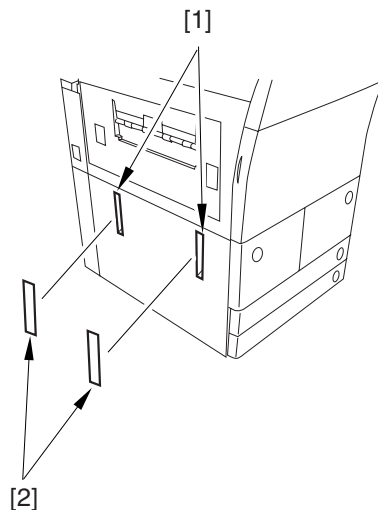
F-2-18

2.2.4 Attaching the Pickup Assembly

1) Remove the 3 shipping tags [1] from the right rear lower cover.
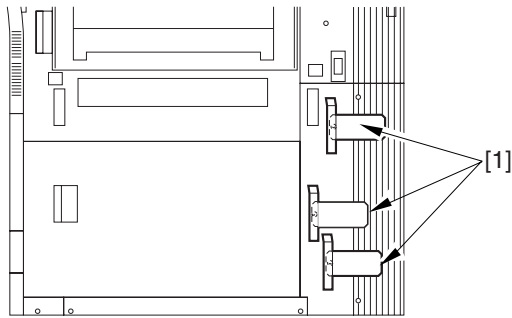
F-2-19

2) Open the upper right cover [1] and the lower right cover [2]; then, remove the 3 unlocking spacers [3] from the pickup slot of the right deck and the cassettes.
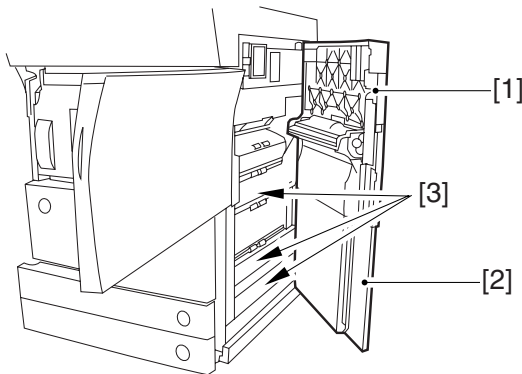
F-2-20

⚠

To remove the release spacer, be sure first to push its lever [1] in the direction of A before removing it in the direction of B. removing the lever [1] of the release spacer horizontally by mistake can damage the pickup assembly. Take full care.
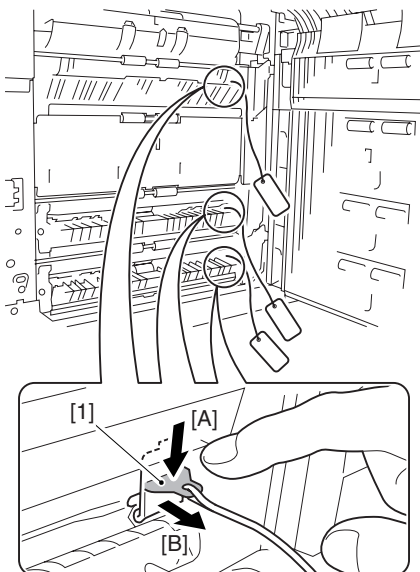
F-2-21

3) Close the upper right cover and the lower right cover.
4) Press the release button, and remove the left deck.

⚠

The left deck is not supported by its locking plate, and the deck assembly may not remove in response to a press on the release button. If so, remove the deck assembly by hand.

5) Open the front cover.
6) Match the included left deck locking plate [1] against the 2 holes in the left deck rear side plate; then, secure it in place using a screw (RS tightening; M4x8) [2].
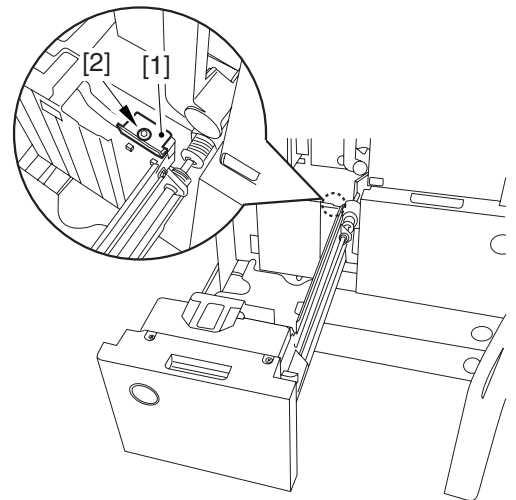
F-2-22

⚠

- When attaching the left deck locking plate, take care not to trap the left deck cable by the plate. (To facilitate the work, try lightly pressing down on the deck cable.)
- Pull lightly on the deck cable to check that the cable is not trapped.

7) Close the left deck.

2.2.5 Attaching the Scanner System

1) Open the ADF, and remove the packing material.
2) Remove the screw [1] used to attach the scanner.
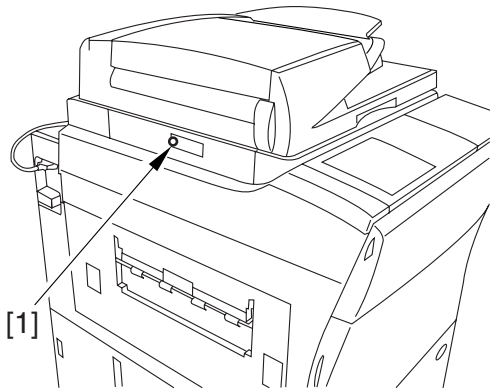
F-2-23

⚠

Advise the user to store away the screw used to fix the scanner system in plate. It will be used when relocating the machine in the future.

2.2.6 Locking the Primary Transfer Roller in Place

1) Lift the primary transfer roller locking lever [1] in the direction of the arrow to lock the roller in place; then, attach the primary transfer roller locking lever [1] using the included binding screw (M4x8) [2].
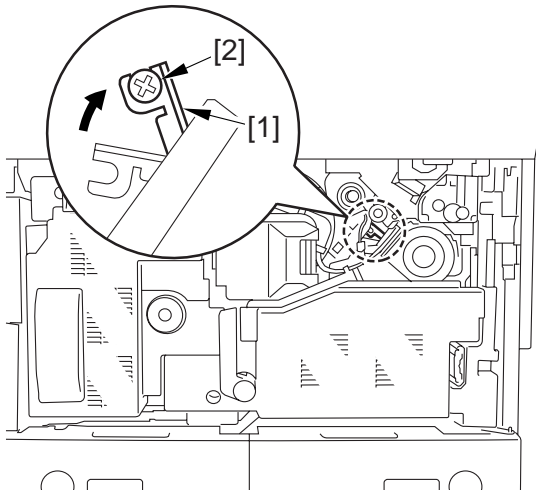
F-2-24

2.2.7 Before Attaching the Developing Assembly

1) Pull the grip [1] toward the front to fully open the upper right cover [2].
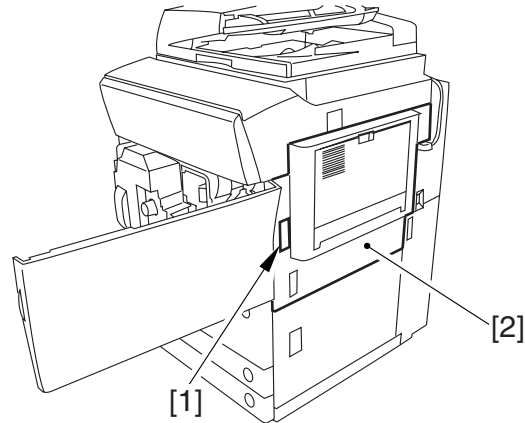
F-2-25

2) Remove the 2 screws [1], and remove the right cover (upper) [2].
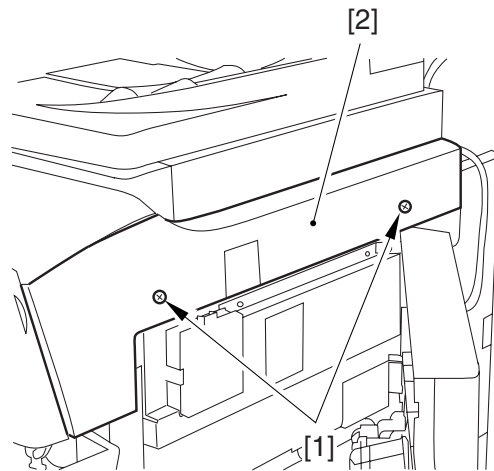
F-2-26

3) Press the release button [1] of the right deck, and slide out the right deck [2].
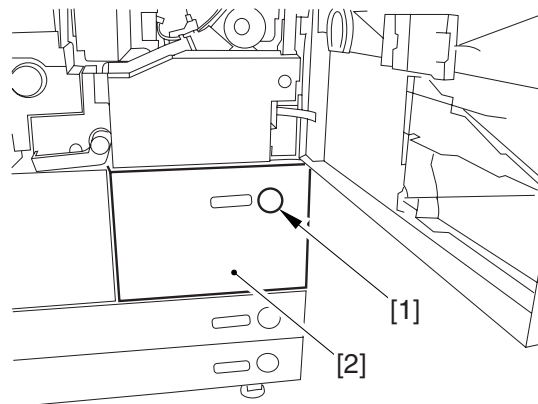
F-2-27

4) Remove the screw [1] found at the lower right; then, remove the front cover strap [2].
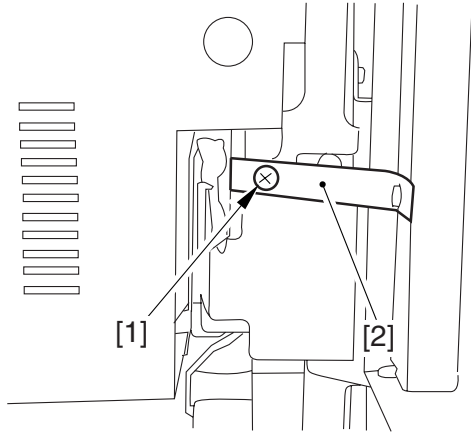
F-2-28

5) Remove the 2 screws [1] (binding) of the front cover; then, fully open the front cover [2].
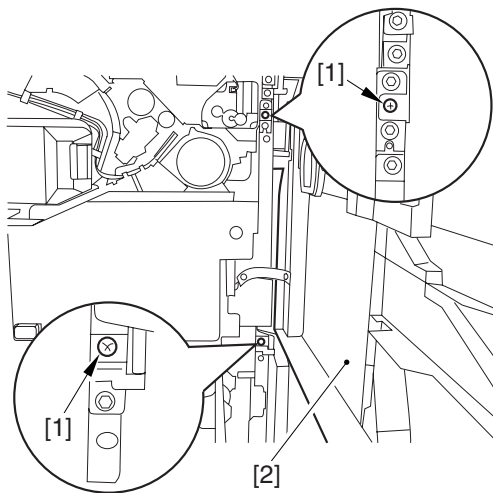
F-2-29

6) Close the right deck.
7) Open the black toner supply cover [1].
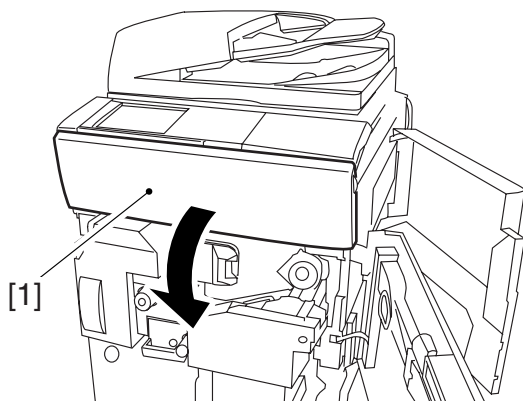
F-2-30

8) Remove the 3 screws [1].
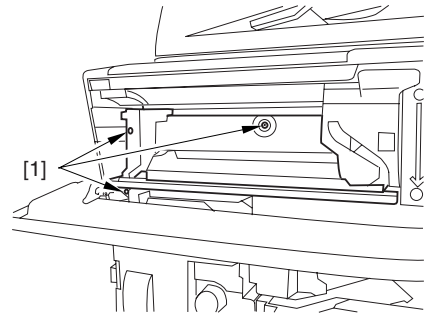
F-2-31

9) Close the black toner supply cover [1]; then, fully open the hopper assembly [2].
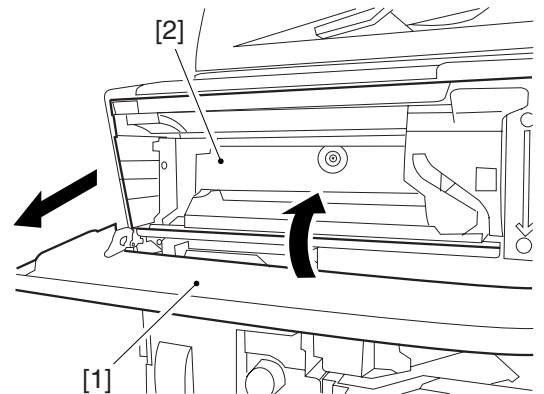
F-2-32

10) Remove the 4 connectors [1] found at the upper right.
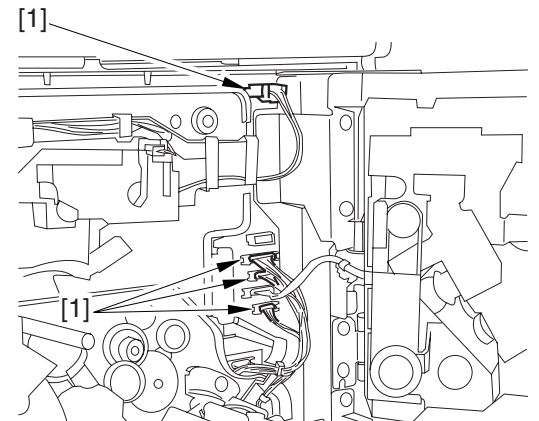
F-2-33

11) Remove the 4 connectors [1] found at the upper left.
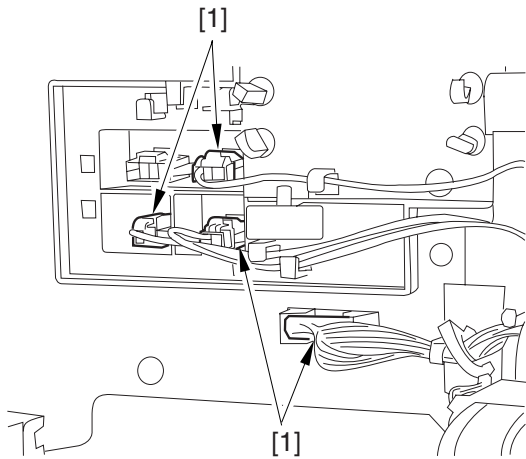
F-2-34

12) Remove the connector cable [1] of the high-voltage side from the 2 wire saddles [2] to avoid trapping it. (Keep it on the cable hook [3] during the work.)
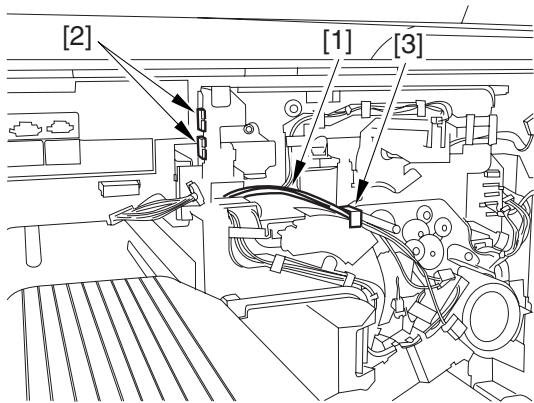
F-2-35

13) Remove the process unit cover [1] from the box; then, remove the drum stop tool [2] attached to its back.
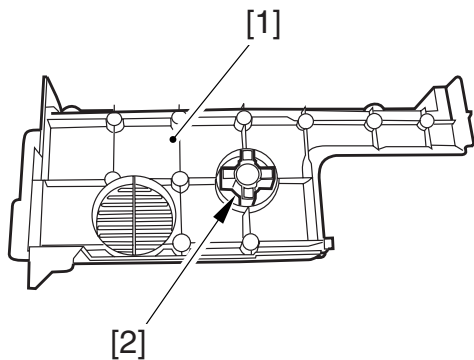
F-2-36

14) Hold the drum fixing member [1] in place using the drum stop tool [2]. Then, using a screwdriver, remove the drum fixing screw [3].

⚠

As shown in the figure, be sure to remove the screw on the protrusion [4] of the drum stop only after matching it against the notch [5] in the drum flange.
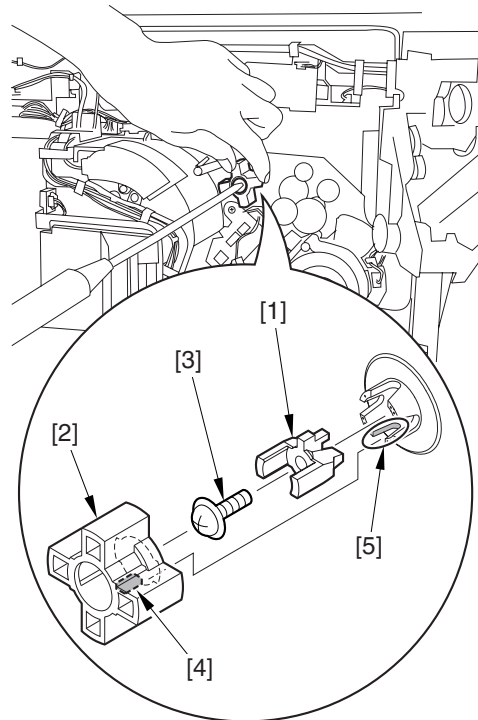
F-2-37

15) Remove the drum fixing member [1] using precision pliers.
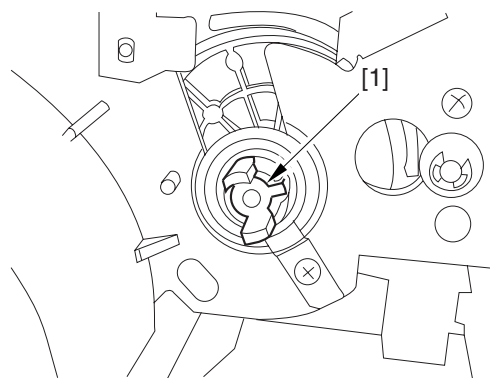
F-2-38

16) Remove the 3 binding screws (M4x8) [1].
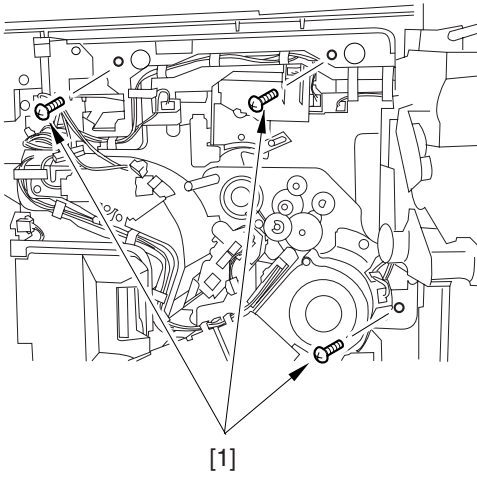
[1]

F-2-39

17) Shift down the fixing/feeding assembly releasing lever [1] in the direction of the arrow.
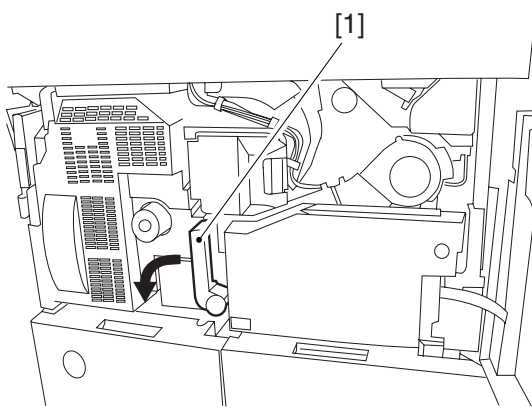
[1]

F-2-40

18) Slide out the fixing/feeding assembly [1] to the front.
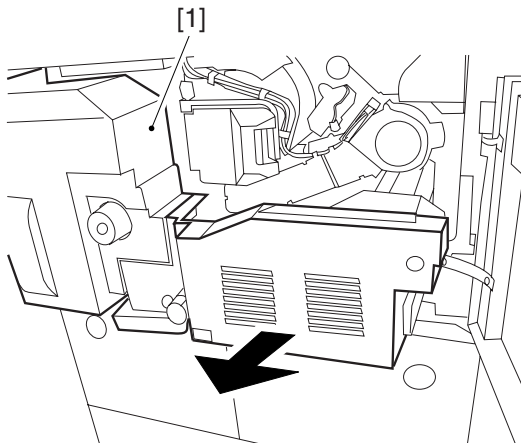
[1]

F-2-41

19) Press the 2 slide-out hook [1] found on both sides of the fixing/feeding assembly, and fully slide out the fixing/feeding assembly [2].
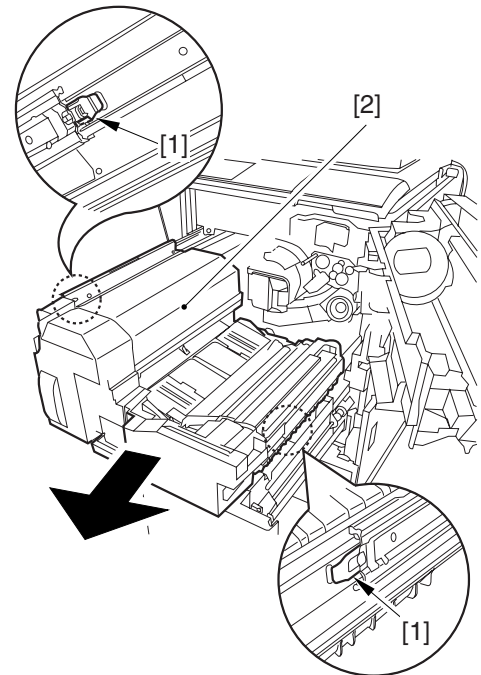
F-2-42

20) Lift both ends [1] of the process unit slightly; then, fully slide out the process unit [2] to the front.
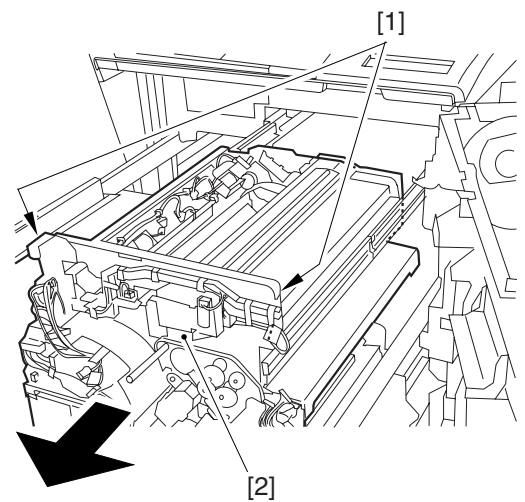
[1]

[2]

F-2-43

⚠️

- Be sure to take care not to deform the joint plate found at the left end when drawing out the process unit.
- When drawing out the process unit, be careful not to lift the process unit more than necessary. The unit may slip off the rails, not permitting detachment.
- When you have slid out the process unit, try placing paper between the photosensitive drum and the developing rotary to protect the drum from scratches and light.

2.2.8 Attaching the Color Developing Assemblies

⚠

If you must touch a color developing assembly, be sure that your hands are free of foreign matter (especially of metal) before doing so. (Adhesion of foreign matter on the cylinder is likely to cause image faults.)

1) Remove the color developing assembly (yellow, magenta, cyan) from its package box.
2) Press the lever [1] of the developing rotary solenoid once by hand; then, turn the developing rotary [2] counterclockwise by hand.

⚠

If you turn the developing rotary clockwise with a color developing assembly inserted in place, the anti-stray sheet attached to the sleeve of the color developing assembly can come off by friction against the photosensitive drum. Be sure to turn the developing rotary always in counterclockwise direction.
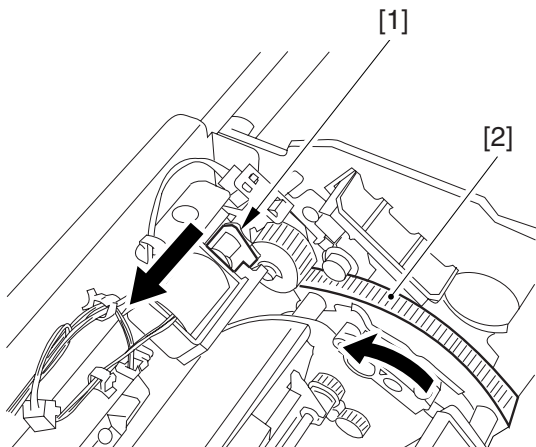
F-2-44

3) Turn the developing rotary so that its partition side [1] is vertical (i.e., position for attaching the developing assembly).

⚠

If you keep pressing the lever of the developing rotary solenoid, the developing rotary will not stop to permit attaching the developing assembly. When you have pressed the lever once, turn the developing rotary slightly and then let go of the lever.
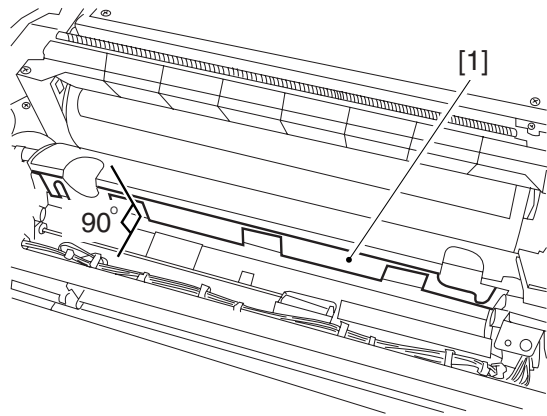
F-2-45

4) Remove the protective sheet [1] from the toner supply mouth of the developing rotary.
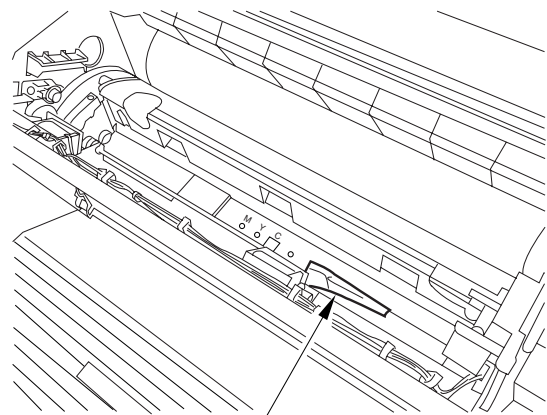
F-2-46

5) Remove the 2 screws [1], and open the 2 developing assembly arms [2] in the direction of the arrow.

⚠

Be sure to attach the developing fixing arm with a screw before turning the developing rotary.
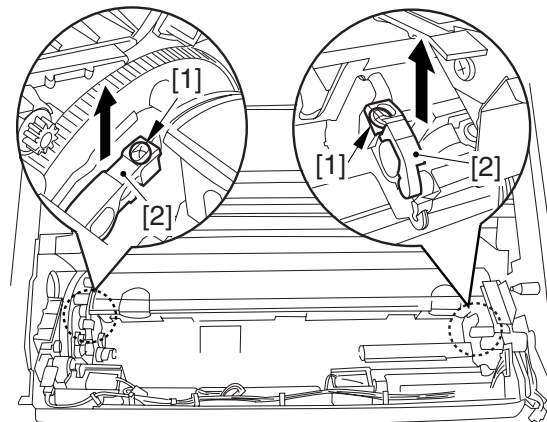
F-2-47

6) Have the appropriate color developing assembly on hand by checking the ID mark [1] attached to the developing rotary assembly. The following shows the ID mark attached to the cyan color developing assembly.
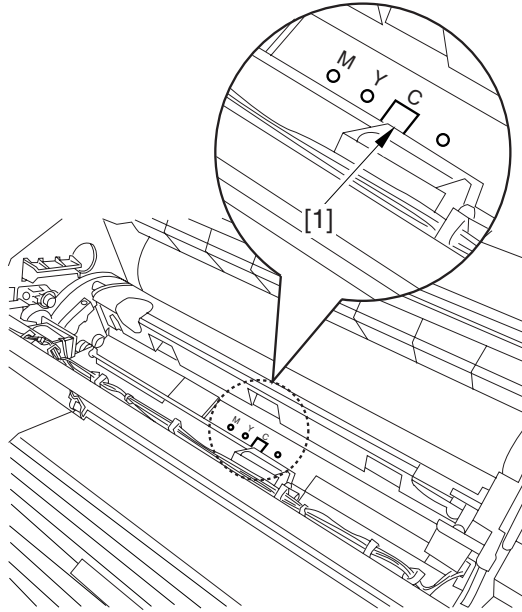
F-2-48

7) Place A3 paper on a smooth table, and place the appropriate color developing assembly.
8) With the developing cylinder of the color developing assembly facing upward, remove the tape [1]; then, remove the protective sheet [2] while holding both its edges.
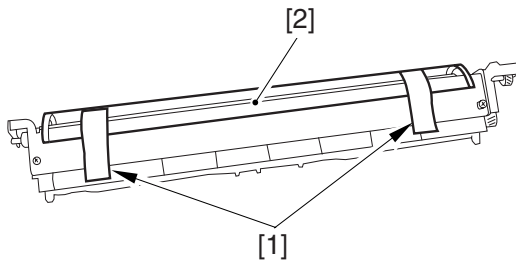
F-2-49

⚠
- Do not touch the developing cylinder.
- After finishing the foregoing step, be sure to change the orientation of the color developing assembly so that the sponge side faces upward.

9) Remove the tape [1], and remove the sponge.

⚠
After removing sponges, toner or starting agent may be spilled. Do not work with the supply mouth down.
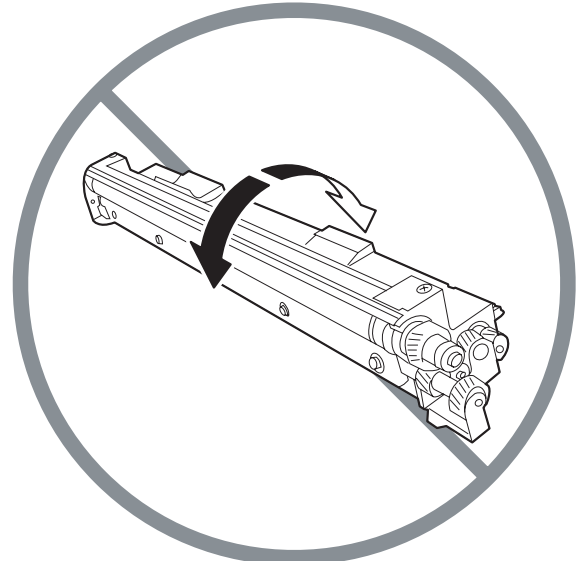
F-2-50

10) Check for scratches on the developing cylinder while turning the developing cylinder gear [1] 5 to 6 times in the direction of the arrow. The work also serves to even out the starter inside the unit.
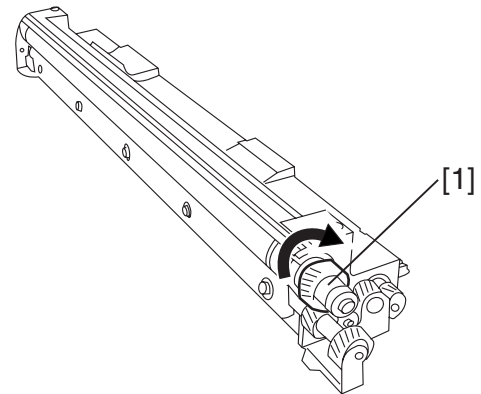
F-2-51

11) Make sure that the color developing assembly matches the ID mark; then, attach it in the developing rotary.
To do so, start with the front of the color developing assembly; while keeping its front fully against the front of the developing assembly, fit its rear in place.

⚠️
Try holding the color developing assembly by both its ends to facilitate the work.
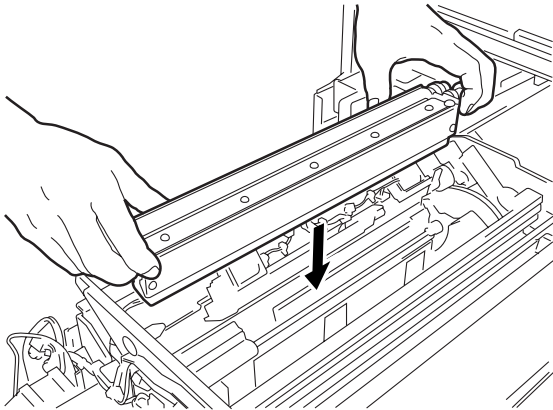
F-2-52

12) Close the 2 developing assembly fixing arms [1] in the direction of the arrows; then, attach them using 2 screws [2].
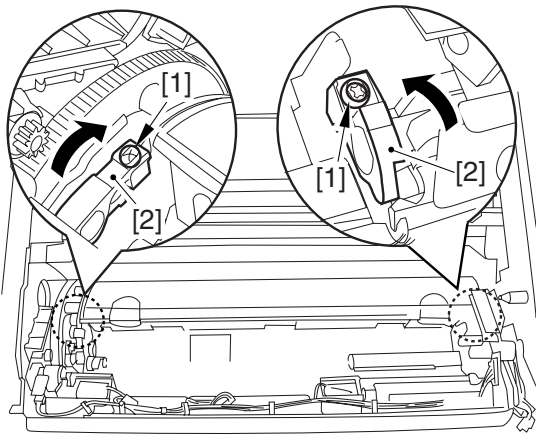
F-2-53

13) Repeat steps from 2) to 12) to attach all 3 color developing assemblies in the developing rotary.

14) If the developing cylinder [1] is found as in the figure marked NG, turn the developing rotary so that it is positioned as shown in the figure marked OK.

NG

[1]

F-2-54

OK

[1]
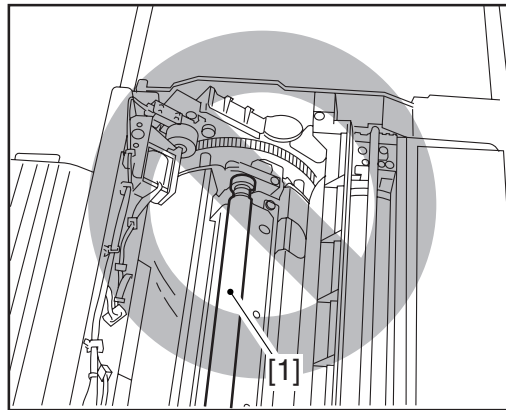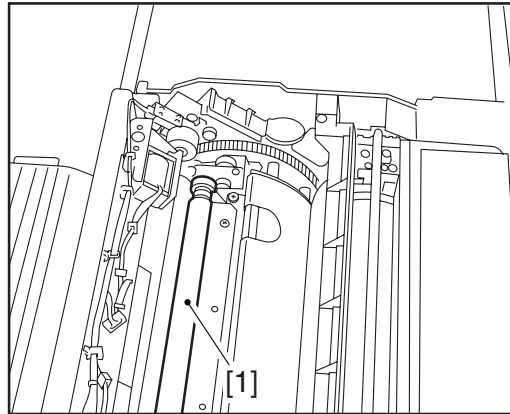
F-2-55

15) Loosen the screw [2] used to attach the torque limiter [1] of the developing rotary; then, move it upward to release.

[2]   [1]
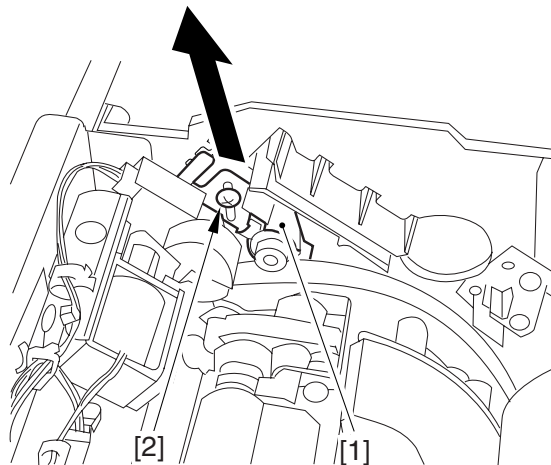
F-2-56

16) Attach the torque limiter using a screw [1].
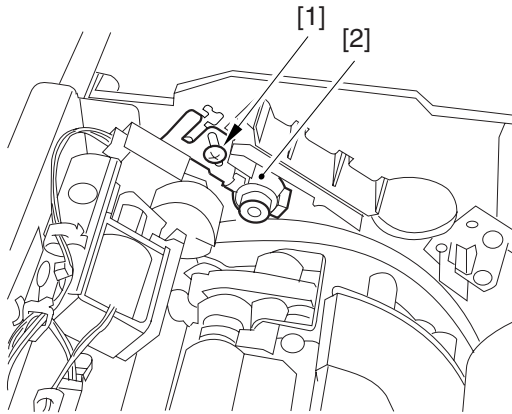
F-2-57

⚠

If you fail to release the torque limiter, you will not be able to attach the locking plate of the black developing assembly. Be sure not to leave out the work.

2.2.9 Attaching the Black Developing Assembly

⚠

If you must touch a black developing assembly, check that your hands are free of foreign matter (especially of metal) before doing so. (Adhesion of foreign matter on the cylinder is likely to cause image faults.)

1) Remove the 2 screws [1], and remove the joint plate [2].
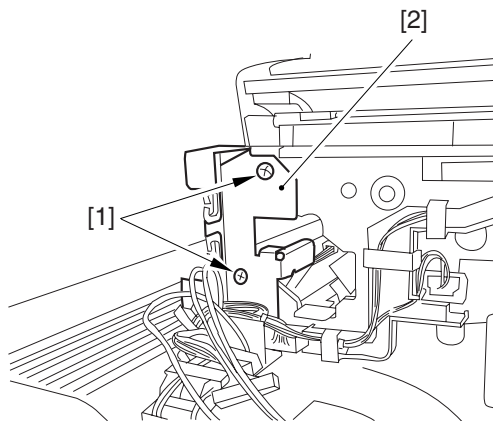
F-2-58

2) Hold the black developing assembly in lengthwise direction, and remove it out of its package box.

⚠

- The machine's black developing assembly is equipped with a potential sensor. Do not touch the detection window [1] of the sensor.
- Do not subject the black developing assembly to impact to prevent damage to the potential sensor as by dropping it.
- Be sure to place paper before placing the black developing assembly on the floor or a table.
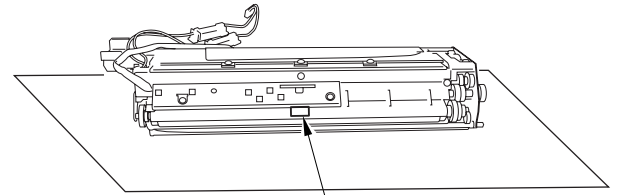
F-2-59

3) Turn the developing cylinder gear [1] by hand to check for scratches on the cylinder.

⚠

Do not touch the area [2] of the developing cylinder cover indicated in the diagram; otherwise, the blade can leave its trace on the cylinder.
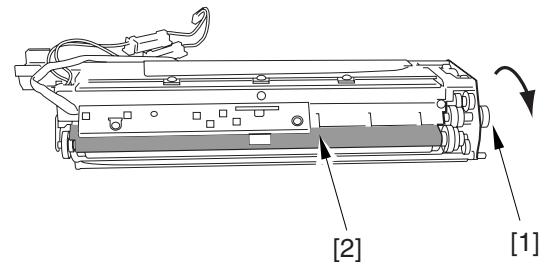
F-2-60

4) Turn the developing cylinder gear by hand to check for scratches on the cylinder.
5) Remove the tape [2] used to keep the high-voltage cable [1] in place.
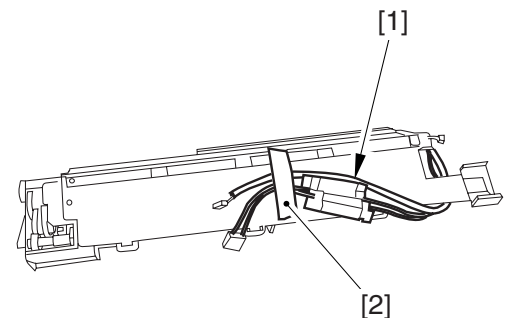
F-2-61

6) Hold the black developing assembly [1] by both its ends; while keeping it level, attach it in place while pressing it downward at an angle.
At this time, be sure that the boss [2] at the rear of the developing assembly matches the left guide [3] of the machine.
Be sure also that the rib [4] at the front of the developing assembly matches the right guide at the front of the machine.
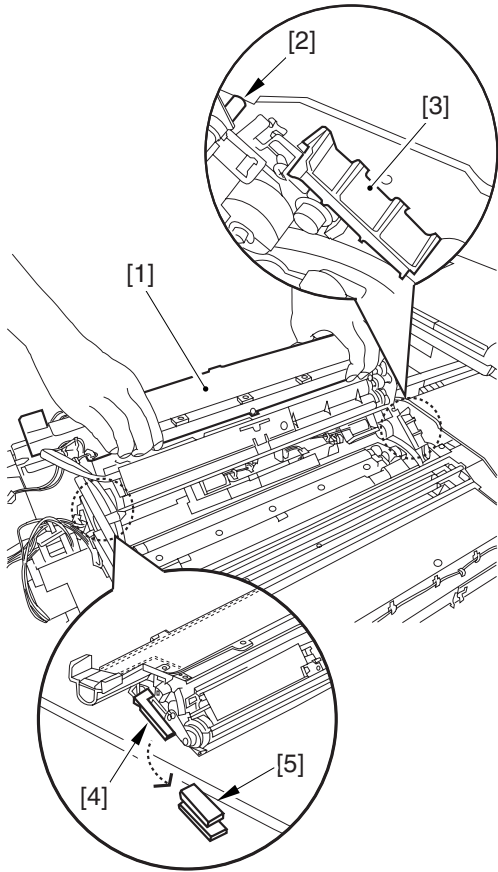
F-2-62

⚠️
When attaching the black developing assembly in the machine, try keeping the high-voltage cable [1] on top of the assembly. Otherwise, the cable can get trapped when the assembly is put inside the machine.
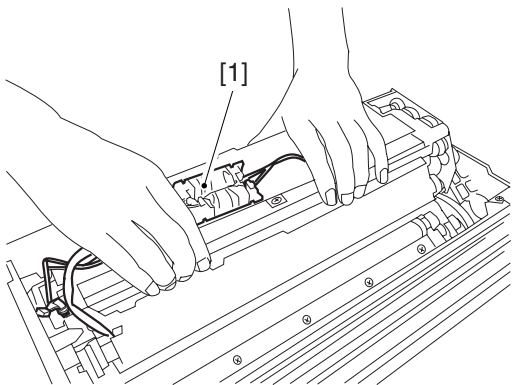
F-2-63

7) Insert the cable [1] having the tube of the black developing assembly through the hole [2] indicated in the figure.
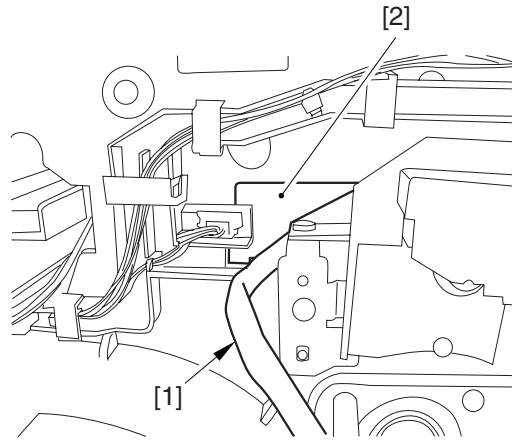
F-2-64

8) Insert the high-voltage cable [1] of the black developing assembly along the side of the toner supply mouth [2].
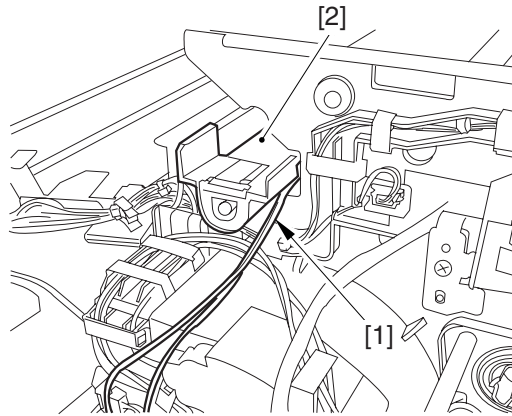
F-2-65

9) Connect the connector [1] found at the inside front.
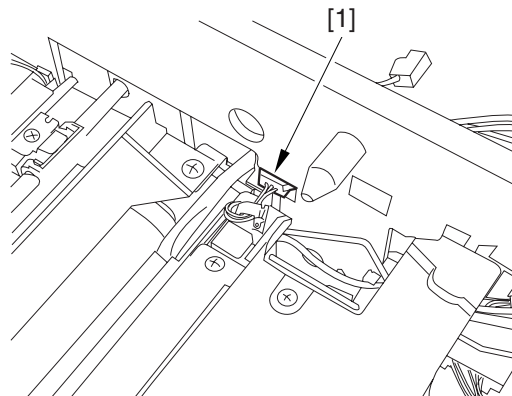
F-2-66

10) Attach the joint plate [1] using 2 binding screws [2].
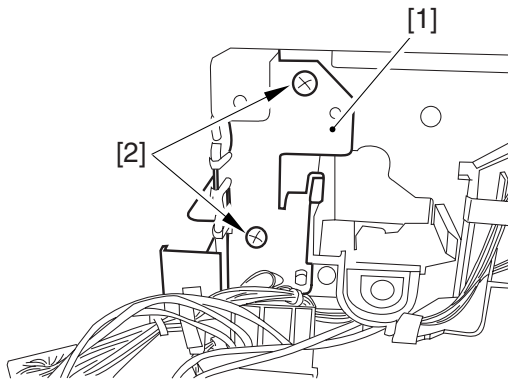
F-2-67

11) Remove the paper put between the photosensitive drum and the developing rotary.
12) Attach the protrusion [1] of the included black assembly locking plate into the positioning hole [2] found at the rear of the machine.
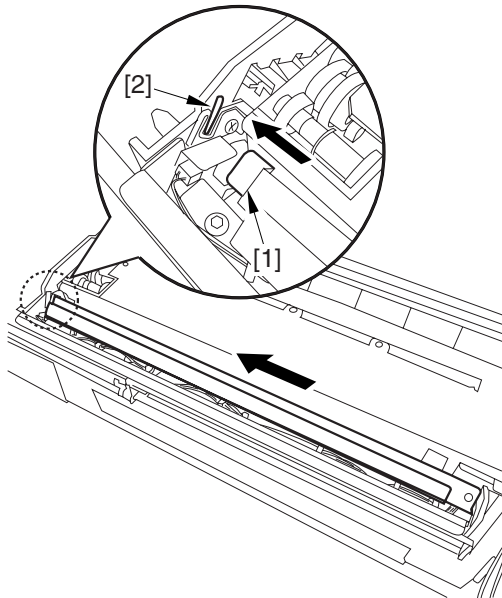
F-2-68

13) Attach the black developing assembly locking plate [1] in place using the included screw (binding; M4x8) [2].
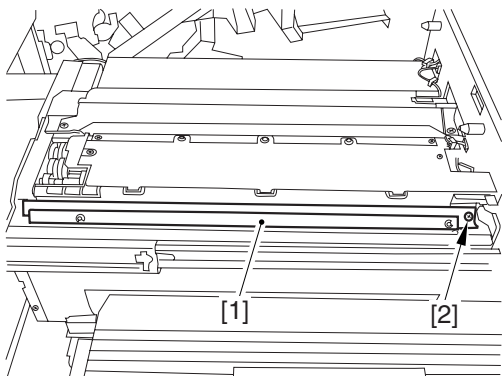
F-2-69

14) Close the process unit.

⚠

Take care not to trap the cable found at the right front of the machine by the process unit. Be sure to close the process unit while the front cover is fully open.

⚠

If you cannot fit the process unit all the way to the rear, go through the following:
Slide out the process unit, and turn the developing rotary drive gear found on the host side slightly; thereafter, be sure to close the process unit.

2.2.10 Attaching the Process Unit

1) Match the area [1] where the resistance of the high-voltage cable is found in the upper left of the front against the 4 pins [2] of the host machine; then, attach it using the 4 clamps [3].
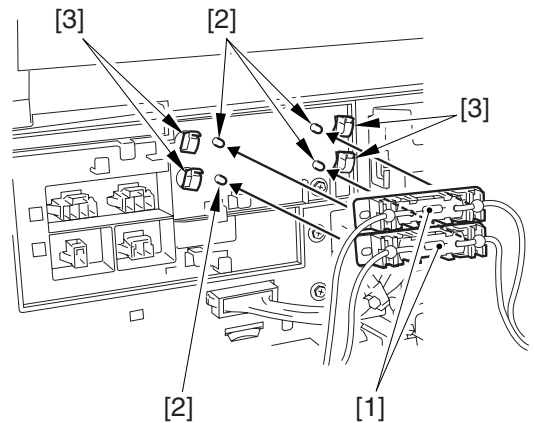
F-2-70

2) Insert the 2 cables [1] into the cable clamp [2].
3) Connect the 2 connectors [3], and insert the 2 cables [4] into the 3 cable guides [5].
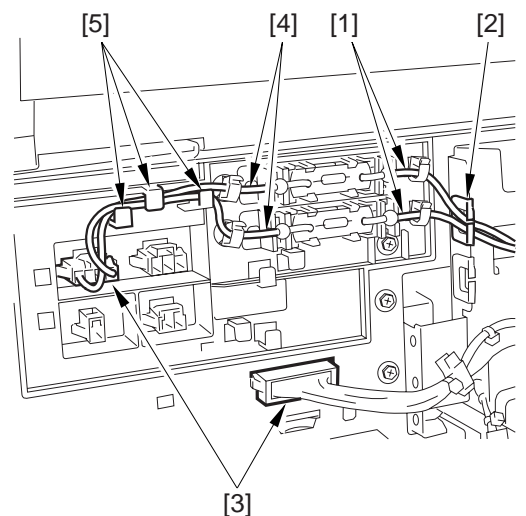
F-2-71

4) Connect the 3 connectors [1], and insert the cable into the 4 cable guides [2] and the 2 cable clamps [3].
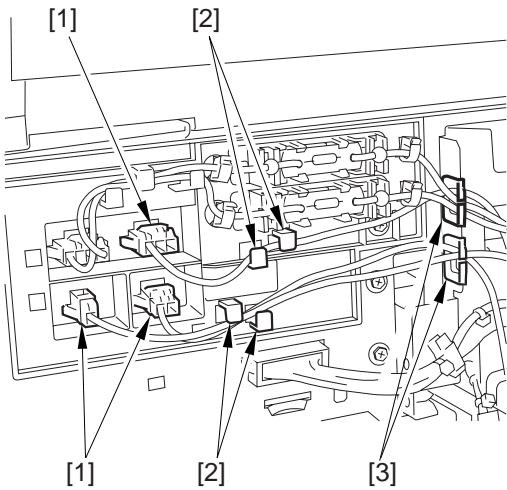
F-2-72

5) Connect four connectors [1] on the upper right of the front side and fix them with a clamp [2].
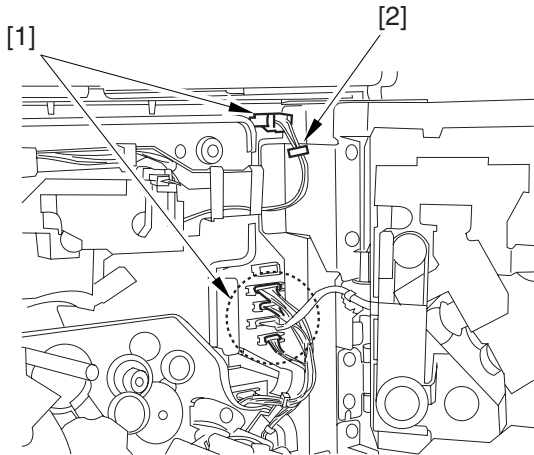
F-2-73

6) Attach the cable [1] of the black developing assembly using the harness guide [2].
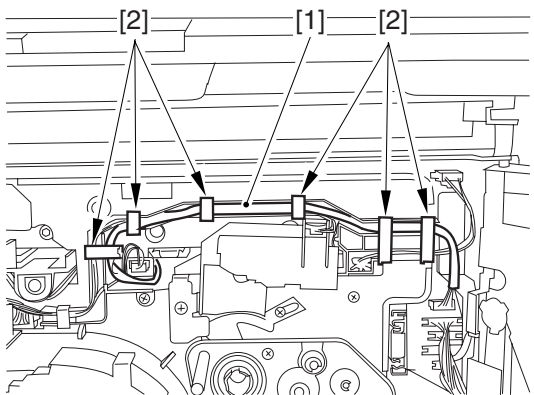
F-2-74

7) Connect the connector [1] coming from the black developing assembly.
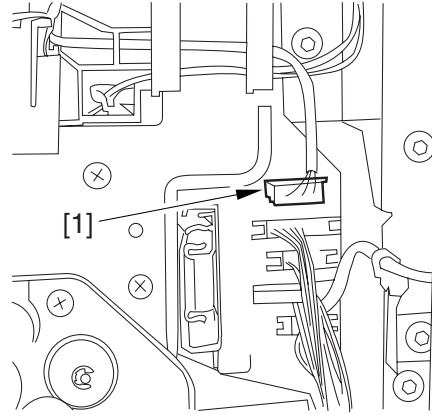
F-2-75

8) Attach the process unit [1] using 3 binding screws (M4x8).
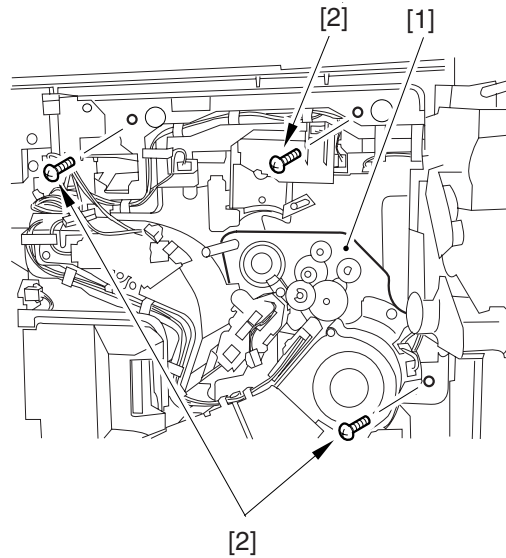
F-2-76

⚠

Be sure to use the binding screws. The use of RS tightening screws in the area of aluminum die-casting can damage the threads of the screws.

9) Attach the drum fixing member [2] to the drum flange [1]; then, hold it in place using the drum stop tool. Thereafter, tighten the drum fixing screw [4] using a screwdriver.

⚠

Be sure to attach the protrusion [5] of the drum stop tool with a screw while matching it against the notch [6] of the drum flange.
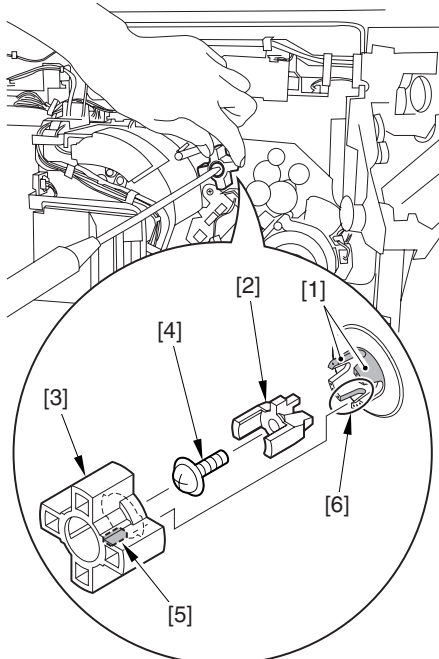
F-2-77

⚠
- If the photosensitive drum is let to turn clockwise during the work, the scoop-up sheet can become soiled to cause stray toner. Be sure to hold the drum stop tool firmly in place when tightening the drum fixing screw.
- Check that the protrusion of the drum fixing member is between he markings [1] "." and ".." of the drum flange.
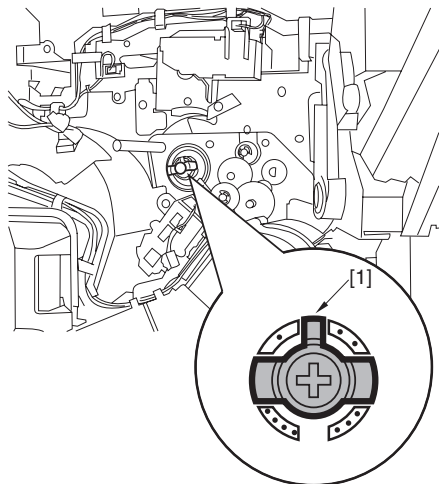
F-2-78

- Be sure to attach the drum stop tool [2] to the back of the process unit cover [1] for possible future relocation of the machine.
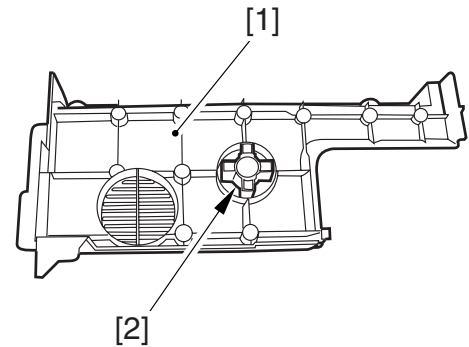
F-2-79

10) Close the fixing/feeding assembly.
11) Loose the screw [1], and move the charging assembly fixing [2] in the upper right direction; then, attach it in place using a screw.
12) Remove the connector [3], and remove the primary charging assembly [4]. Check the primary charging wire and the shielding plate for soiling. If it is soiled with dirt or paper lint, clean it using alcohol.
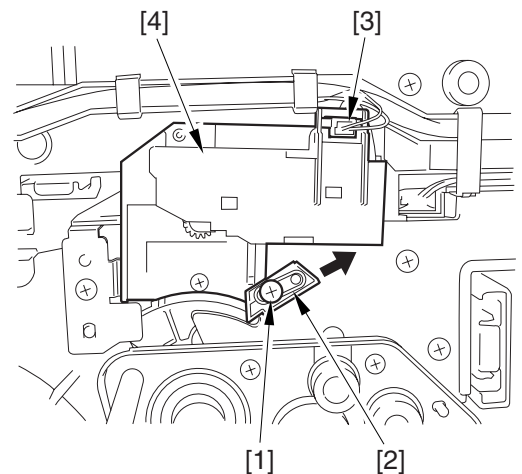
F-2-80

13) Remove the connector [1], and remove the screw [2].

14) Remove the pre-transfer charging assembly [3].
Check the pre-transfer charging wire and the shielding plate for soiling. If it is soiled with dirt or paper lint, clean it using alcohol.
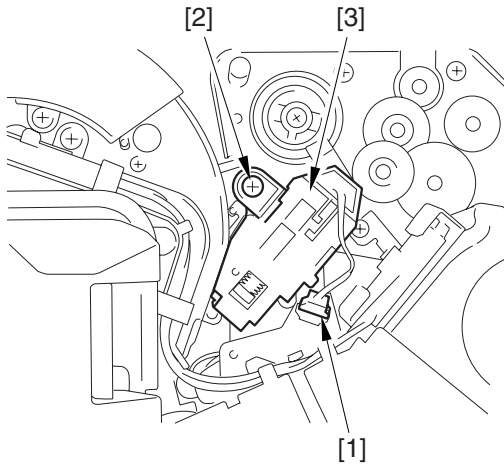
F-2-81

15) Attach the primary charging assembly and the pre-transfer charging assembly.
16) Close the hopper assembly.
17) Open the black toner supply cover [1].
18) Attach the hopper assembly [1] using 3 screws [2].
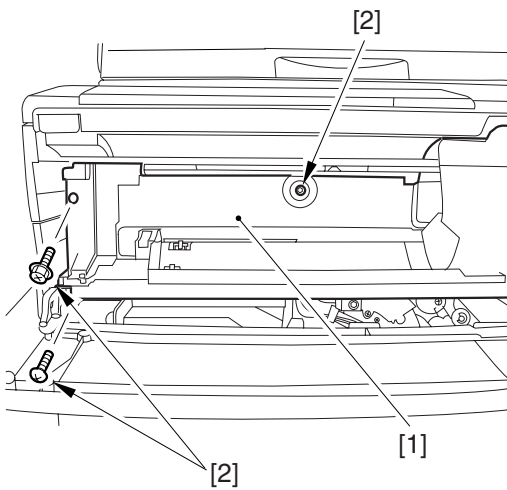
F-2-82

19) Close the black toner supply cover [1].
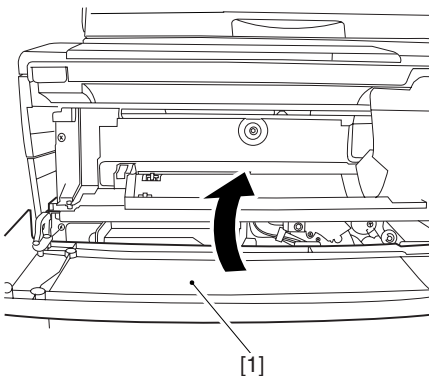
F-2-83

20) Slide out the right deck.
21) Attach the front cover hinge [1] using 2 binding screws [2].
22) Attach the front cover strap [3] using a screw [3].
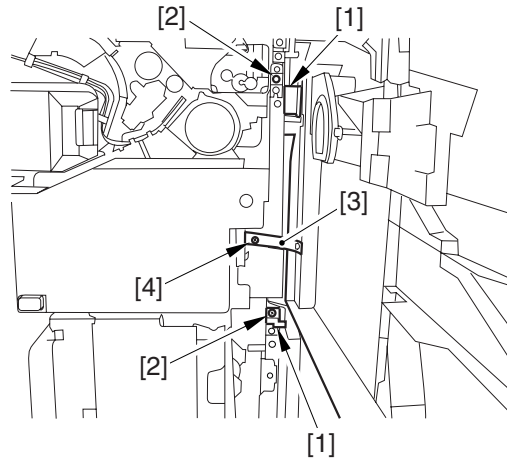
F-2-84

23) Close the right deck.
24) Slide out the fixing/feeding assembly.
25) Open the color toner supply cover [1].
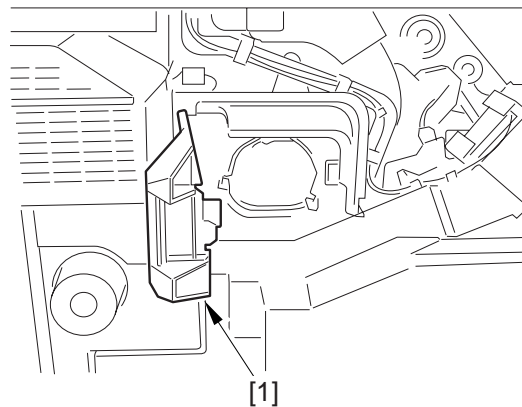
F-2-85

26) Attach the process unit cover [1] using the 2 RS tightening screws (M4x8) [2].
27) Close the color toner supply cover.
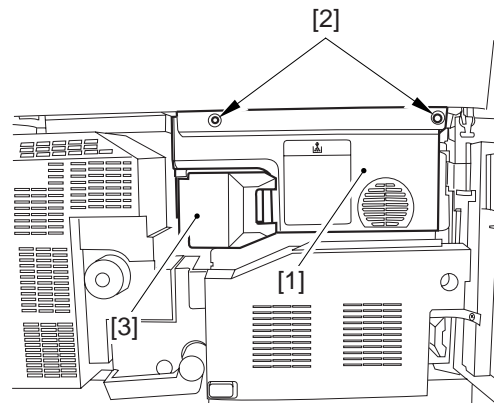
F-2-86

28) Attach the right cover (upper) [1] with 2 screws [2].
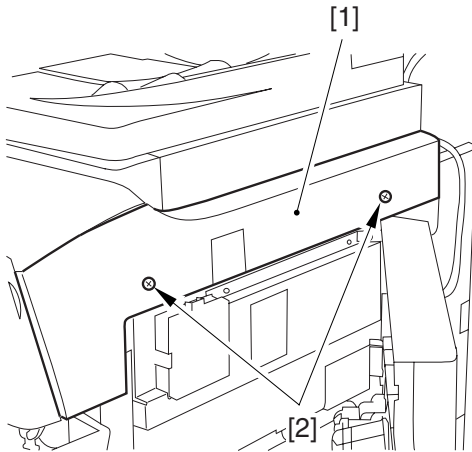
F-2-87

29) Close the right upper cover.

2.2.11 Attaching the Fixing Assembly

1) Slide out the fixing/feeding assembly fully.
2) Open the reversal delivery cover [1].
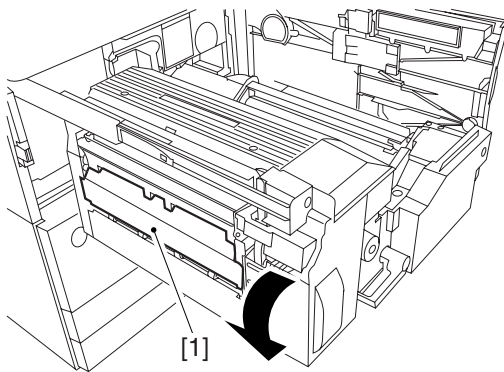
F-2-88

3) Open the middle cover [1].
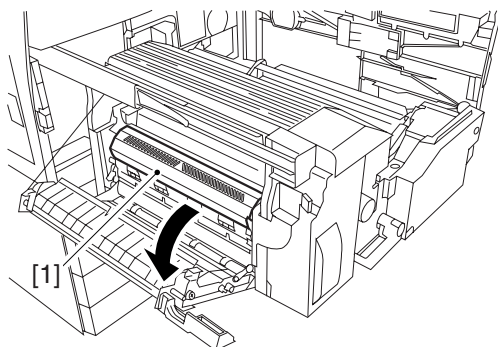
F-2-89

4) Remove the tape [2] used to keep the tag [1] in place.
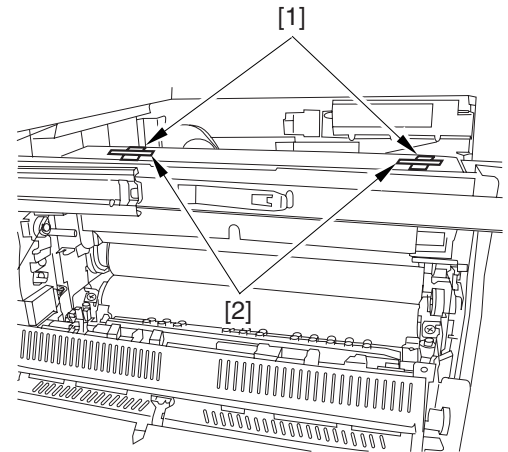
F-2-90

5) Remove the 2 fixing nip releasing screws [1].
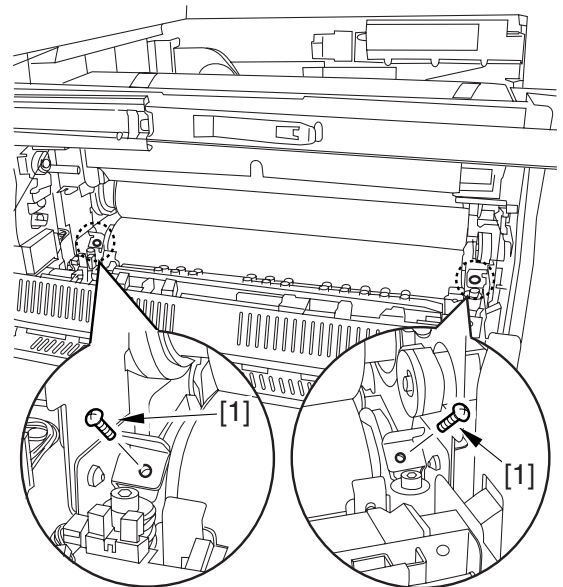
F-2-91

6) Check the fixing web for any slack; as necessary, perform steps 7) and 8).
7) Remove the 3 screws [1] and the fixing knob [2]; then, remove the fixing front cover [3].
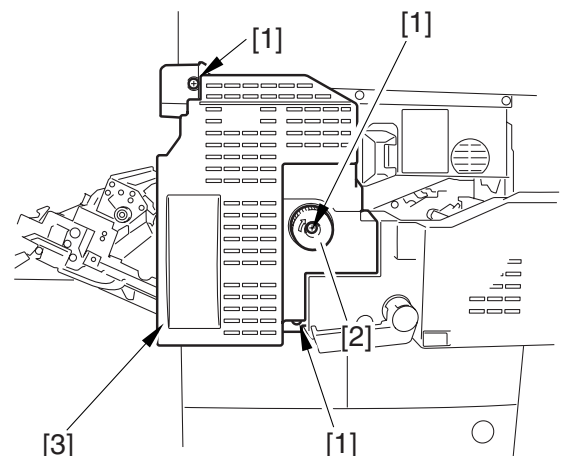
F-2-92

8) Turn the gear [1] counterclockwise (viewing the machine from the front) to remove the slack.
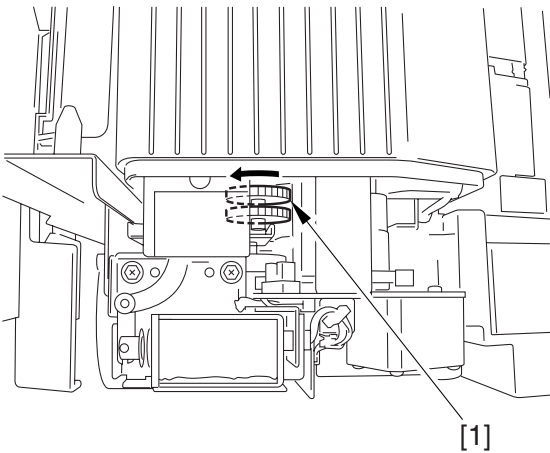
F-2-93

9) Attach back the fixing front cover and the fixing knob by reversing the work in step 7).
10) Close the middle cover.
11) Close the reversal delivery cover.
12) Close the fixing/feeding assembly.
13) Lock the releasing lever in place; then, close the front cover.

2.2.12 Fitting the Black Toner Bottle

1) Remove the black toner bottle from its packaging box.
2) Open the black toner supply cover [1]; then, press down the lock lever [2].
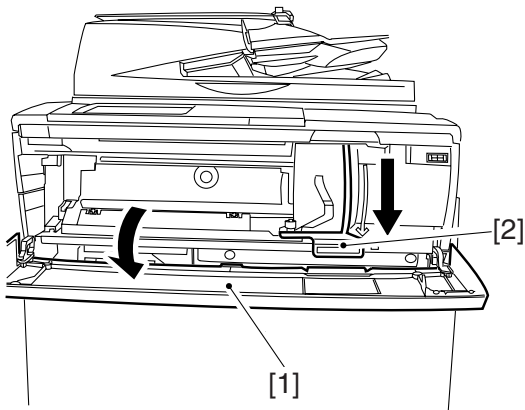
F-2-94

3) Hold the black toner bottle [1] as shown in the figure; then, turn the cap [2] in the direction of the arrow to remove from the bottle.
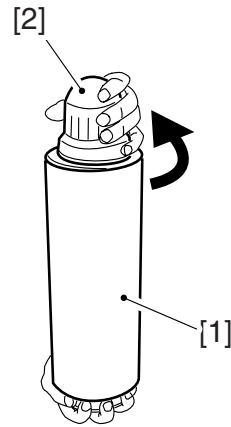
F-2-95

4) Hold the black toner bottle with its mouth [1] on the right side; then, attach it in the supply case [2] of the machine.
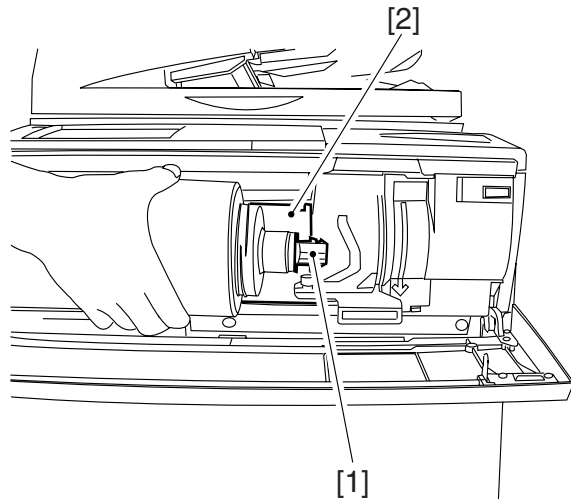
F-2-96

5) Shift the attach lever [1] upward to attach the black toner bottle [2].
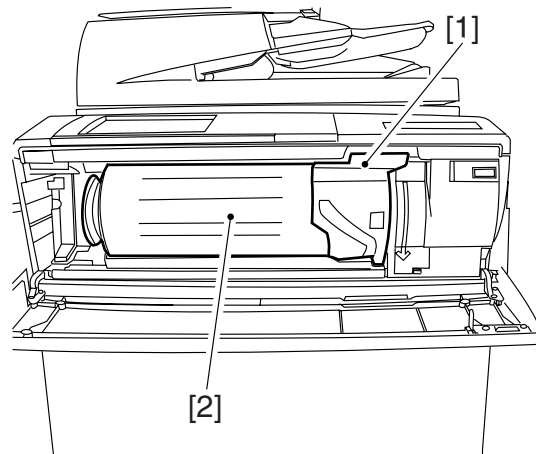
F-2-97

6) Close the black toner supply cover.

⚠

If you turn on the main power without first attaching the bottle in the machine, the black toner level meter appearing on the control panel will indicate 25% as the remaining level of toner. Check that the black toner bottle has correctly been attached in the machine before turning on the main power.

2.2.13 Checking the Environment Switch

1) Set the environment switch to suit the site of installation.
   If the site is in a high humidity environment, turn on the environment switch [1] (so that the drum heater will go on regardless of the state of the main power switch [2]).
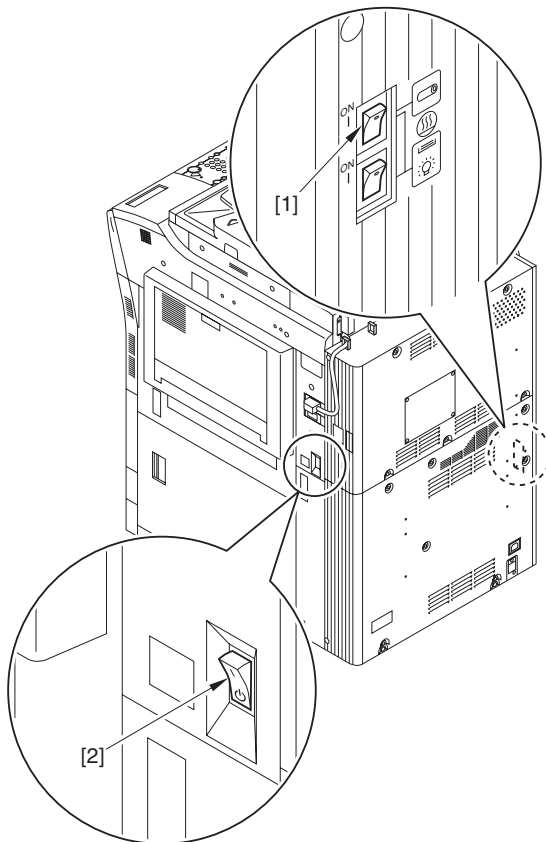
F-2-98

⚠

At time of shipment from the factory, the environment switch is off.

2.2.14 Turning On the Main Power Switch

⚠
- Be sure to remove all packing material from the cassette before turning on the main power.
- In the case of the 230-V model, take out the power cord from the shipping box; then, connect its one end to the machine and the other end to the power outlet.
- The rotary starts to rotate when the main power is tuned on. Do not use the door switch actuator.

1) In the case of the 100V model, connect the grounding wire to ground the machine.
2) Connect the machine's power plug to the power outlet, and turn on the main power [1].
3) Execute the following in service mode to disable initial rotation: COPIER>FUNCTION>INSTALL>AINR-OFF; then, set it to '1'.

⚠

Be sure to perform the foregoing service mode item after turning on the power to disable initial rotation. If the power is turned off and then on, the machine will start initial rotation, possibly causing an error in its image stabilization mechanism.
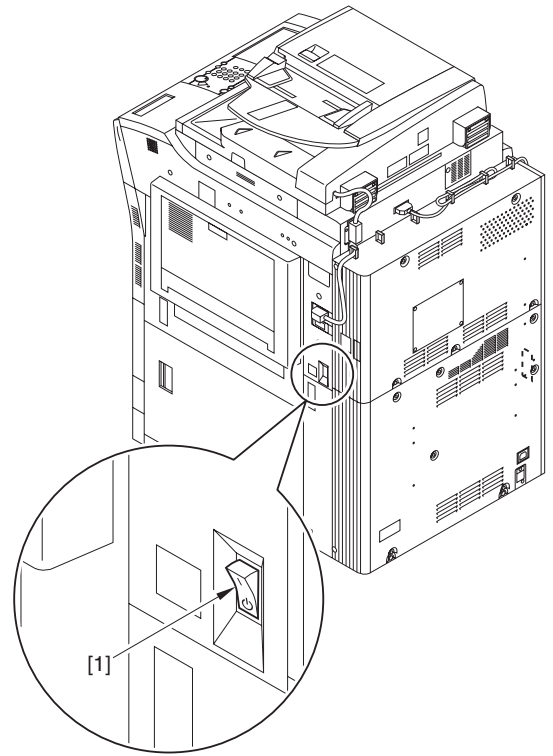
F-2-99

2.2.15 Setting Up the Paper Cassette

1) Press the cassette release button, and slide out the cassette to the front.
2) Check with the user to find out the type of paper to use; then, check if the size configuration switch [1] of the cassette is set to the desired paper type. If not, set the cassette to suit the type.
3) Turn the paper size dial [2] to suit the desired paper size.
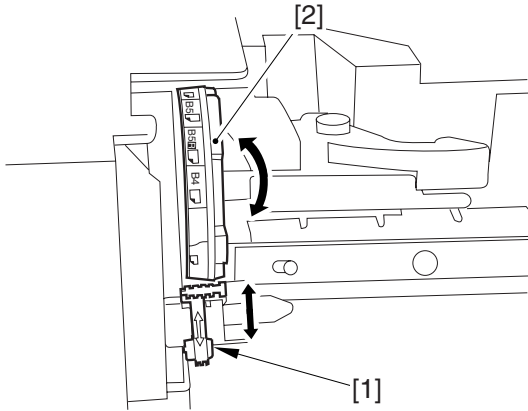
F-2-100

4) Pick the lever [1] of the side guide plate, and move the side guide plate to the desired size marking.
5) Remove the lever [2] of the rear end guide plate.
Fit the rear end guide plate to match the desired size marking on the bottom plate of the cassette.
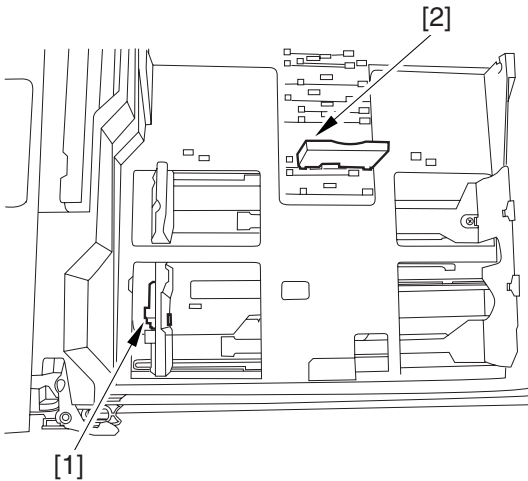
F-2-101

6) Attach the correct size label [1] to the front of the cassette.
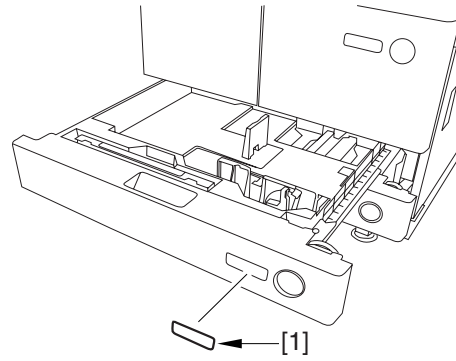
F-2-102

7) Deposit paper in the cassette; then, slide the cassette back into the machine.
8) As necessary, perform the same work for the other cassette.
9) Open the front cover; then, remove the color toner cartridge supply tab [1] from its back.
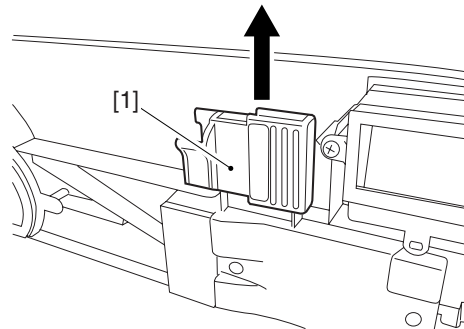
F-2-103

10) Remove the 2 color toner cartridge replacement supply tab labels from the 2 base sheets on which the cassette size label was found.
11) Attach the 2 color toner cartridge supply tab labels [2] to the color toner cartridge replacement supply tab [1].
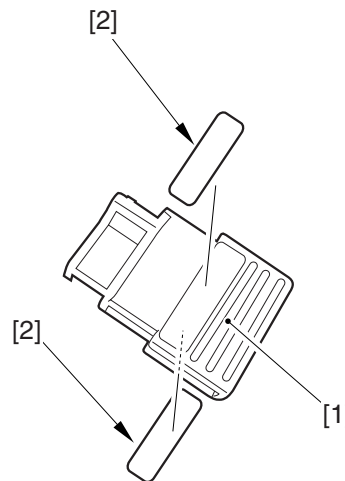
F-2-104

12) Attach the color toner cartridge replacement supply tab to the back of the front cover; then, close the front cover.

2.2.16 Changing the Deck Paper Size (right, left)

1) Open the front cover.
2) Press the release button, and slide out the right deck.
3) Remove the screws [4] (3 pc. in total), and remove the rear end guide plate [1], left guide plate [2], and right guide plate [3]. Then, attach them to suit the needs of the user.
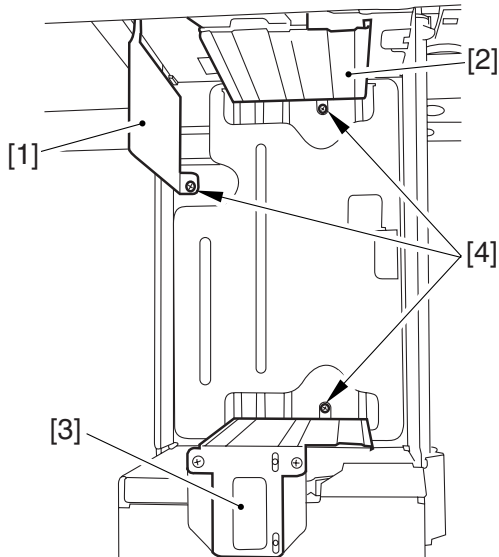
F-2-105

at time of shipment : A4 size (100/230V),LTR size (120V)
4) Deposit paper in the right deck; then, attach it into the machine.
5) Attach the size sticker [1] of the new paper size to the frond of the deck.
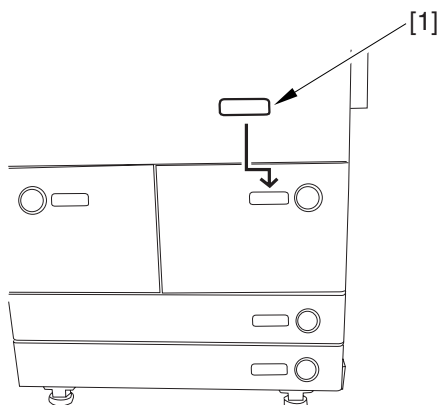
F-2-106

6) As necessary, perform the same work on the left deck.
7) After changing the size, execute the following in service mode to register the front deck paper size: for the right deck, COPIER>OPTION>CST>P-SZ-C1; for the left deck, COPIER>OPTION>CST>P-SZ-C2 (A4=0, B5=1, LTR=2).
8) Press the Reset key twice to end service mode.

2.2.17 Fitting the Color Toner Cartridge

1) Remove the color toner cartridge (yellow, magenta, cyan) from its packaging box.
2) Hold the color toner cartridge (yellow, magenta, cyan) as shown with both hands, and turn it in the direction of the arrows 10 times to even out the toner inside it.
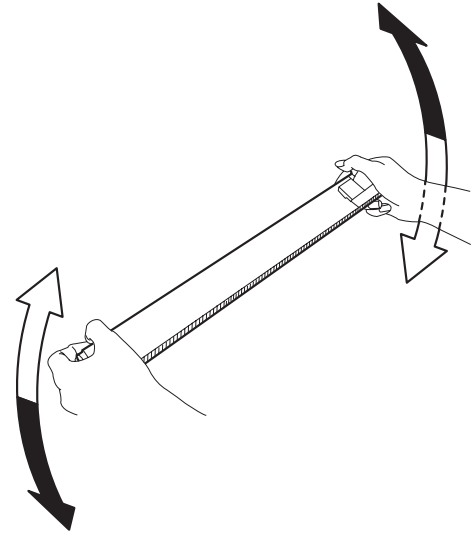
F-2-107

⚠

When turning the color toner cartridge, be sure not to touch the shutter assembly or turn the knob; otherwise, the toner can start to leak.
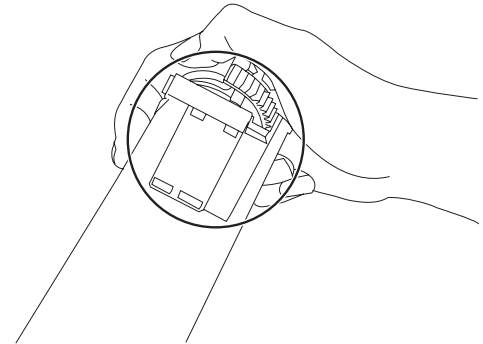
F-2-108

3) Check to see that the control panel indicates the message "Set the Toner Cartridge."
4) Open the front cover.
5) Open the color toner supply cover [1].
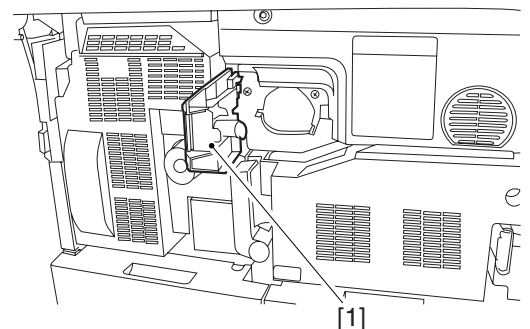
F-2-109

6) Insert the Y toner cartridge [2] through the color toner cartridge slot [1].
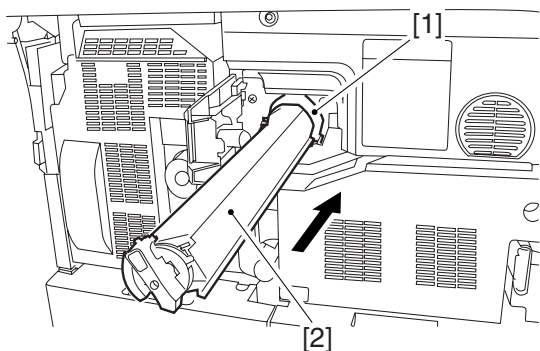
F-2-110

7) Turn the lock lever [1] clockwise to attach the Y toner cartridge [2].
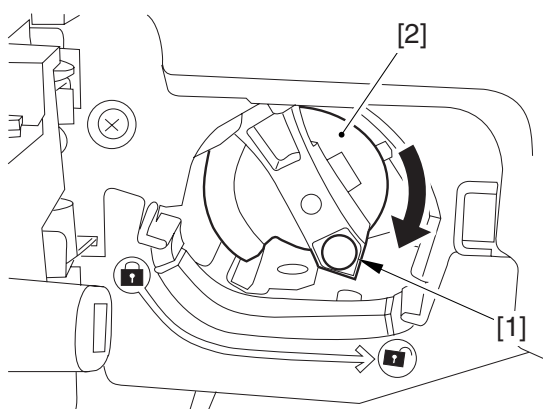
F-2-111

8) Close the color toner supply cover.
9) Close the front cover.
10) See that the control panel indicates the message "Set the Toner Cartridge."
11) Repeat steps 4) through 9) to attach the C toner cartridge.
12) See that the control panel indicates the message "Set the Toner Cartridge."
13) Repeat steps 4) through 9) to attach the M toner cartridge.

2.2.18 Supplying Black Toner

1) Check that the warm-up period is over (i.e., Keep paper in the machine so that the control panel will indicate the message "Ready to Copy").
2) Perform the following service mode item to supply black toner: FUNCTION>INSTALL>TONER-S (10 min avr; 13 min max.).

⚠

While this service mode item is under way, a countdown is made on the control panel; at the end, 'OK!' is indicated.

2.2.19 Cleaning the Intermediate Transfer Belt

1) Perform the following service mode item to clean the ITB: FUNCTION>CLEANING>TBLT-CLN (about 20 seconds).

⚠

The notation "OK!" appears on the screen to indicate the end of the service mode item.

2.2.20 Supplying Color Toner

1) Perform the following service mode item to set up color toner settings: FUNCTION>INSTALL>INSET-3 (about 14 minutes).

⚠

- Do not turn off the power switch while the machine is in operation.
- If the machine is turned off, the ITB may carry a deposit of toner, which can cause image faults. As necessary, perform COPIER>FUNCTION>CLEANING>TBLT-CLN and then INISET-3 to correct the problem.

⚠

While this service mode item is under way, a countdown is made on the control panel; at the end, "OK!" is indicated.
This mode uses ATVC control, possibly taking a while depending on the site environment. The count on the screen, for this reason, may loop between 890 and 820.

2) Perform the following service mode item to supply color toner: FUNCTION>INSTALL>SPLY-H-3 (about 45 seconds).

⚠

The notation "OK!" appears on the screen to indicate the end of the service mode item.

⚠

Do not turn off the power switch while the machine is in operation.

2.2.21 Setting Auto Gradation Correction

1) Clean the reading glass surface of the machine's copyboard.
2) Press the User Mode key.
3) Make the following selections: adjust/ cleaning>auto gradation correction>full correction>test print 1.
   In a while, the machine prints out Test Print 1.
4) Place the printout (Test Print 1) on the copyboard glass as indicated on the control panel.
5) Press [read start].
   - The machine will read the printout of Test Print 1.
   - When a message has appeared asking you to remove the printout, remove it from the copyboard glass.
6) Press [test print 2].
   In a while, the machine prints out Test Print 2.
7) Place the printout of Test Print 2 on the copyboard glass as indicated on the control panel.
8) Press [read start].
   - The machine will read Test print 2.
   - When a message has appeared asking you to remove the printout, remove it from the copyboard glass.
9) Press [test print 3].
   In a while, the machine prints out Test Print 3.
10) Place the printout of Test Print 3 on the copyboard as indicated on the control panel.
11) Press [read start].
   - The machine will read Test Print 3.
   - When a message has appeared asking you to remove the printout, remove it from the copyboard.
12) Press the Reset key to end User mode.

2.2.22 Checking the Image/Operation

1) Place the Test Chart on the copyboard glass, and make copies using the cassettes and the deck as the source of paper; then, check the output images.
   - be sure there is no abnormal noise.
   - be sure that images produced at different magnifications are all correct.
   - be sure that as many copies as specified are made.
   - be sure that the images are all correct regardless of the source of paper used.
The output must satisfy the following standards:
   - horizontal registration (margin on image left edge): 2.5 +/-1.5 mm
   - leading edge (margin on image leading edge): 4 +1.5, -1.0 mm

Reference:
If the output is not as indicated, see the instructions on how to adjust the horizontal registration and leading edge registration.

2.2.23 Adjusting the Horizontal Registration

Adjust the horizontal registration as follows according to the source of paper:

1. Cassette 3
1) Press the cassette release button, and slide out the cassette 3 to the front.
2) Open the upper right cover and the lower right cover.
3) Insert a screwdriver through the hole in the front right stay; then, loosen the screw [1] to adjust the position of the adjusting plate [2].
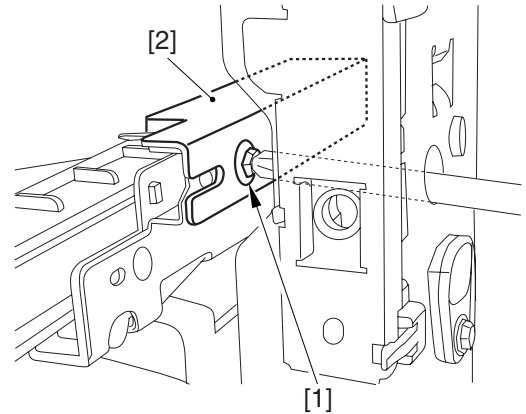
F-2-112

- move the adjusting plate toward the rear to decrease the left margin.
- move the adjusting screw toward the front to increase the left margin.

4) Check that the horizontal registration (left/ right margin; L1) of the copy on paper from cassette 3 is 2.5 +/-1.5 mm.
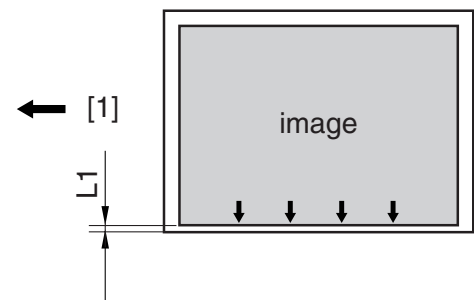
F-2-113
[1] Paper feed direction

5) Tighten the screw.
6) Close the upper right cover and the lower right cover.
7) Fit the cassette 3 back in.

2. Cassette 4
1) Perform the steps given for the cassette 3 to adjust the horizontal registration for the cassettes 4.

3. Left Deck
1) Press the release button, and slide out the left deck.
2) Remove the left face cover [1] using a flat-blade screwdriver.
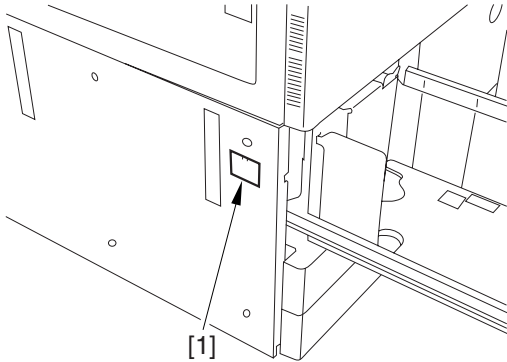
F-2-114

3) Loosen the 2 screws [1], and insert a screwdriver through the hole in the front left stay; then, turn the adjusting screw to adjust the horizontal registration.
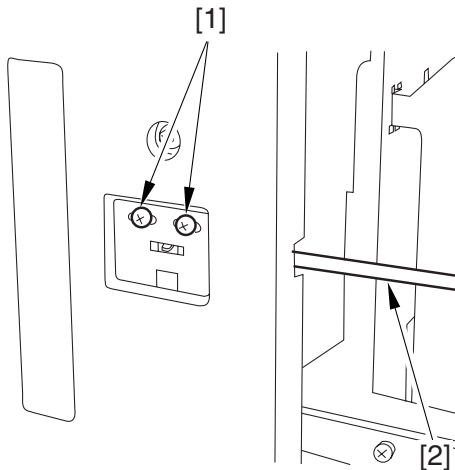
F-2-115

4) Make a copy using the left deck as the source of paper; then, check that the horizontal registration (left/right; L1) is 2.5 +/-1.5 mm.
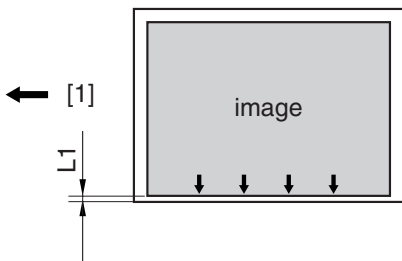
F-2-116

[1] Paper feed direction

5) If the output is not as indicated, make the following adjustments:
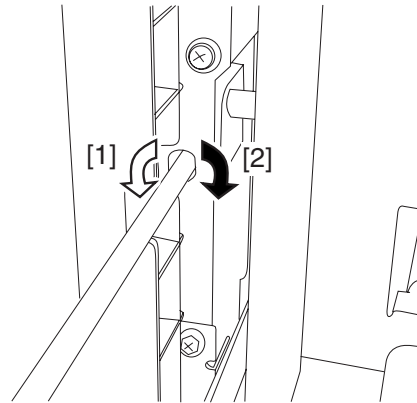
F-2-117

Turn the screwdriver counterclockwise so as to decrease the horizontal registration (left/right margin) [1].
Turn the screwdriver clockwise so as to increase the horizontal registration (left/right margin) [2].
A full turn of the screwdriver moves the horizontal registration (left/right margin) by 1.0 mm.
6) Tighten the 2 screws you loosened in step 3).
7) Attach the left face cover you removed in step 2) back on the machine.
8) Close the left deck.

4. Right Deck
1) Press the release button, and slide out the right deck.
2) Open the upper right cover and the lower right cover.
3) Loosen the 2 screws [1], and insert a screwdriver [2] through the hole in the front right stay; then, turn the adjusting screw to adjust the horizontal registration.
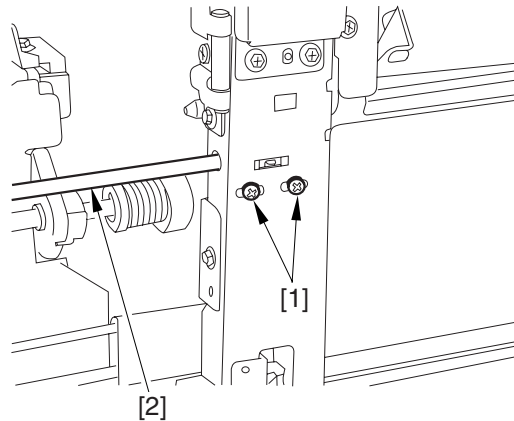
F-2-118

4) Check that the horizontal registration (left/right marking; L1) of the copy made on paper from the right deck is 2.5 +/-1.5 mm.
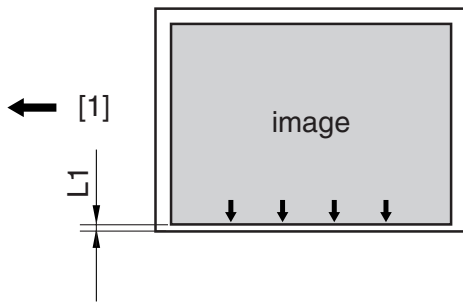
F-2-119

[1] Paper feed direction

5) If the output is not as indicated, make the following adjustments:
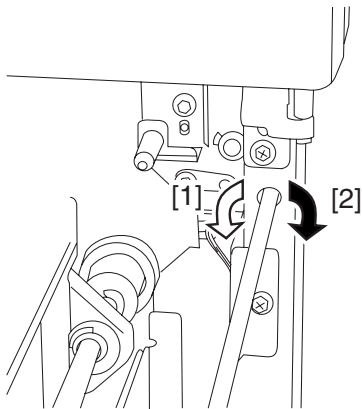
F-2-120

Turn the screwdriver counterclockwise so as to decrease the horizontal registration (left/right margin) [1].

Turn the screwdriver clockwise so as to increase the horizontal registration (left/right margin) [2].

A full turn of the screwdriver will move the horizontal registration (left/right margin) by 1.0 mm.

6) Tighten the 2 screws you loosened in step 3).

7) Close the right deck.

5. Manual Feed Tray

1) Loosen the 2 screws [1], and move the slide guide [2] to adjust the horizontal registration.
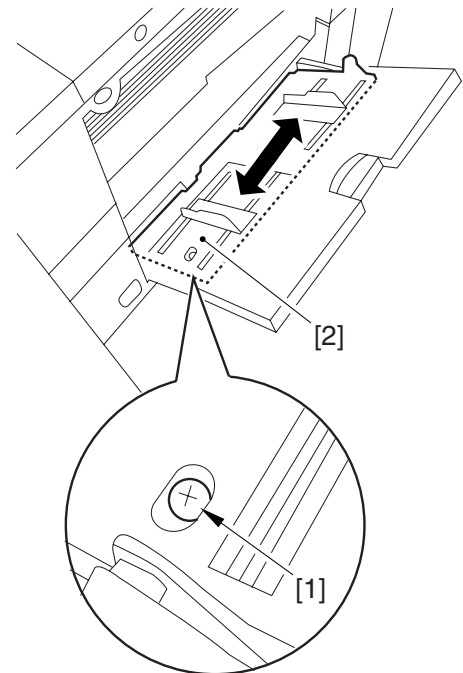
F-2-121

2) Check to see that the horizontal registration (left/right margin; L1) of the copy made on paper from the manual feed tray is 2.5 +/-1.5 mm.
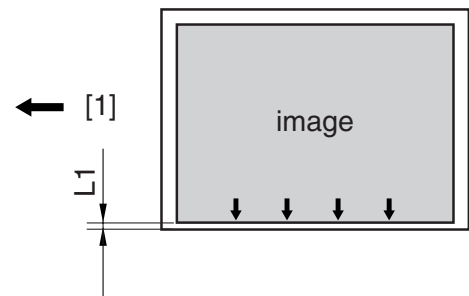
F-2-122

[1] Paper feed direction

3) Tighten the screws you loosened in step 1) to attach the slide guide in place.

2.2.24 Adjusting the Leading Edge Registration

Adjust the leading edge registration as follows according to the source of paper:
Check that the leading edge registration (leading edge margin; L1) of the copy made on paper from the cassettes and the deck is 4.0 +1.5/-1.0 mm.
If not, go through the following:
- Select the service mode: COPIER>ADJUST>FEED-ADJ>REGIST.
- Then, change the setting to adjust.
(A change of '1' moves the leading edge registration by 0.1 mm. A higher setting will move the image toward the leading edge.)
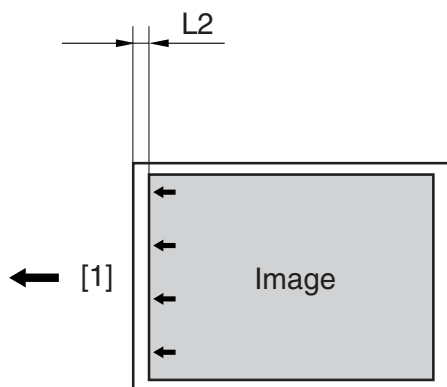
F-2-123
[1] Paper feed direction

2.2.25 Securing the Machine in Place

1) If the machine is already at its site of installation, attach it using the 2 adjusters.
2) Remove the double-sided tape from the back of the service book case [1]; then, attach the case by matching its right edge against the line marking [3] found on the right side of the bottom plate [2] of the machine.

⚠
Be sure to match the front edge of the service book case against the front edge of the base plate of the machine.
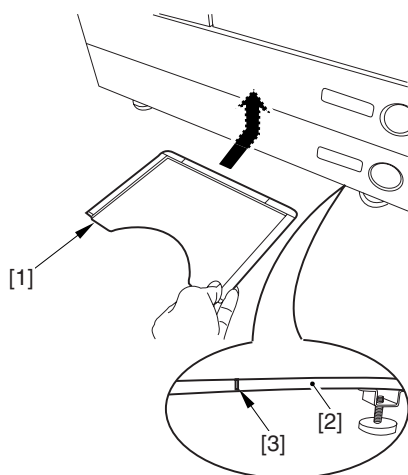
F-2-124

⚠ **Areas to Avoid**
- inside the machine (behind the front cover)
- louver
- grip slot

3) As appropriate, attach the 3 included labels ([1], [2], [3]) to the locations indicated in the figure:
[1] Do Not Copy label (non-Japanese model)
[2] Cleaning Instructions label (non-Japans model)
[3] ADF size label
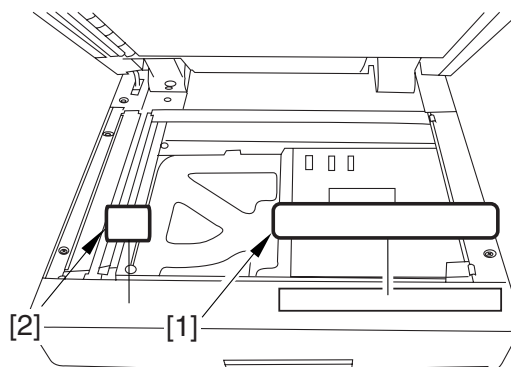
F-2-125

⚠ **Attaching the ADF Size Label**
Spread the ADF size guide plate [1] fully; then, match segment A of the plate and the A4/A3 marking of the label [2].
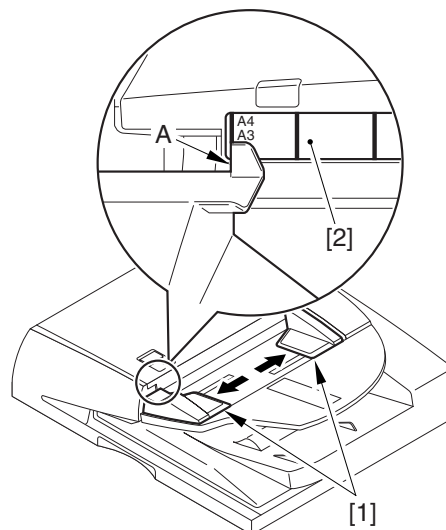
F-2-126

4) Attach the touch pen [1] on the control panel.
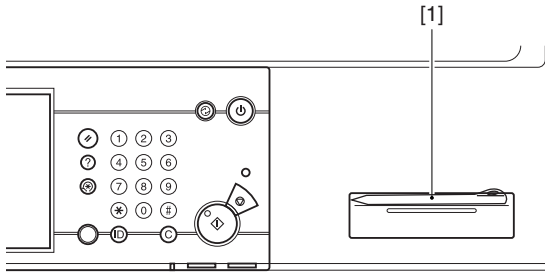
F-2-127

5) Clean up the area around the machine, and fill out the service book.
6) Make necessary settings in user mode (date, time) and service mode (COPIER>OPTION>USER).

⚠

When shipped from the factory, the 230-V model is set to English for its language of display. If needed, change the setting.

7) Perform the following service mode item, and store the output away in the service book case: COPIER>FUNCTION>MISC-P>P-PRINT.

⚠

In the course of installing the machine, be sure to record the various adjustment values indicated by P-PRINT (printout) to the Service Label attached behind the front cover.

2.2.26 If Not Connected to a Network

MEMO:
If the machine is not connected to a network, its control panel will display the message "Check Connection to the Network." To disable the message, set the following service mode item to "0":

COPIER> OPTION> BODY> NWERR-SW (level 2)

2.3 Checking the Connection to the Network

2.3.1 Overview

Go through the steps herein only if the machine is connected to a network.
If the user's network is based on TCP/IP, use the PING utility to check that the Ethernet PCB has properly been installed and the network settings have correctly been made. If the user's network is based on IPX/SPX or AppleTalk, you need not make this check.

⚠

If the machine is equipped with a network board and yet not connected to a network, it will indicate an network-related error message. To disable the indication of such a message, use the following service mode item (set it to "0"): COPIER>OPTION>BODY>NWERR-SCREW.

2.3.2 Using the PING Utility

1) Select the followings in service mode: COPIER>TEST>NETWORK>PING.
2) Enter the IP address of the machine using the keypad on the control panel; then, press [OK].
3) Press the Start key.
   The machine will indicate 'OK' if the result of the check is good and 'NG' if not good.
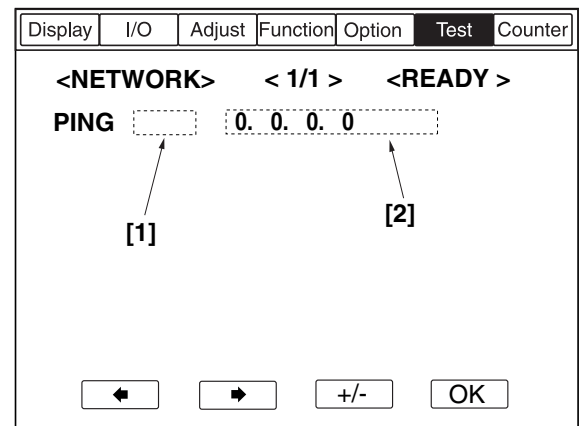
F-2-128

[1] Result (OK/NG)
[2] IP address field

2.3.3 Using a Remote Host Address

You can also use a remote host address and perform the PING utility to check if the connection to the network is correct or not.
The term 'remote host address' refers to the IP address of a PC terminal connected to and operating on the TCP/IP network to which the machine is connected.
1) Inform the system administrator that you will be checking the network connection using the PING utility.
2) Check the system administrator for the remote home address you can use.
3) Enter the remote home address to the appropriate PING field.
   - See if 'OK' has appeared to indicate that the connection to the network is correct.
   - If the machine indicates 'NG, ' the connection is not correct; go through the following:

2.4 Troubleshooting the Network

2.4.1 Overview

Go through the steps herein only if the machine is connected to a network.

If the machine's connection to the network fails, suspect the following causes:

- The connection between the network and the Ethernet PCB is faulty.
- The machine's TCP/IP settings are incorrect.
- The Ethernet PCB is faulty, or is not attached correctly.
- The network is faulty.

To identify the cause, go through the following:

2.4.2 Checking the Connection of the Network Cable

1) Check if the network cable is correctly connected to the Ethernet PCB.
   - If yes, go to the next check.
   - If no, correct it, and run a check using the remote host address once again.

2.4.3 Using a Loopback Address

A loopback address comes back before it reaches the network PCB; as such, you can check whether the machine's TCP/IP settings are correct by performing PING using a loopback address.

1) Enter a loopback address (127.0.0.1) in the appropriate PING field.
   - If the result of the check is not good, check the machine's TCP/IP settings once gain, and perform PING once again.
   - If the result of the check is good, go to the following check.

2.4.4 Using a Local Host Address

A local host address is the machine's IP address, and it comes back after reaching the network PCB when you perform PING, enabling you to check whether the network PCB is normal.

1) Enter the machine's IP address in the appropriate PING field.

   If 'NG' is indicated, go through the following check/remedy, and perform PING once gain:
   - The machine's IP address is not correct: check with the system administrator to find out if the machine's IP address is correct and valid.
   - The connection of the network PCB is faulty: check the connectors used to connect the network PCB.
   - The network PCB is faulty: replace the network PCB.

   If 'OK' is indicated, suspect a fault in the user's network environment; contact the system administrator for appropriate correction.

2.5 Relocating the Machine

2.5.1 Relocating the Machine

If you need to move the machine after installation, be sure to go through the following:

1) Remove all paper from the left/right deck and the cassettes.
2) Turn off the main power switch, and remove the power plug. If the grounding wire is connected, remove it.
3) Attach the scanner using the scanner fixing screw stored away from the time of installation.
4) Remove the black toner bottle, all color developing assemblies, and all color toner cartridges, and put them in separate boxes.
5) Tape the toner supply mouths of the developing rotary in place as soon as developing assemblies have been removed. Also, be sure to attach the developing assembly fixing arm using a screw.

[1]
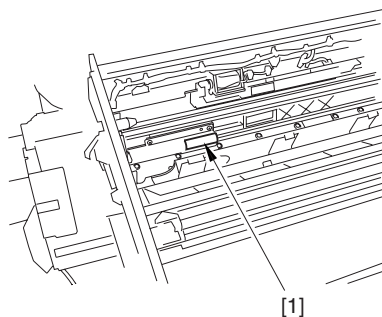
F-2-129

6) Tape the fixing/feeding assembly releasing lever in place to protect against vibration.
7) Attach the covers, decks, and cassettes using tape.
8) Place A3 copy paper on the copyboard glass, and tape the ADF in place.

⚠

- If you must use a flight of stairs, keep the following in mind:
- The machine weighs about 230 kg; be sure to work in a group of 4 persons.
- Check that the 2 adjusters on the bottom plate of the machine are released; moreover, be sure not to lose them, as they tend to slip out because of the movement of the machine during relocation.
- If a side paper deck or a finisher (accessory) is installed, be sure to remove it before starting to move the machine.

2.6 Installing the Card Reader

2.6.1 Points to Note About Installation

⚠️

You need a Card Reader Attaching Kit-C1 for the installation.

2.6.2 Checking the Contents
1. Card Reader-C1
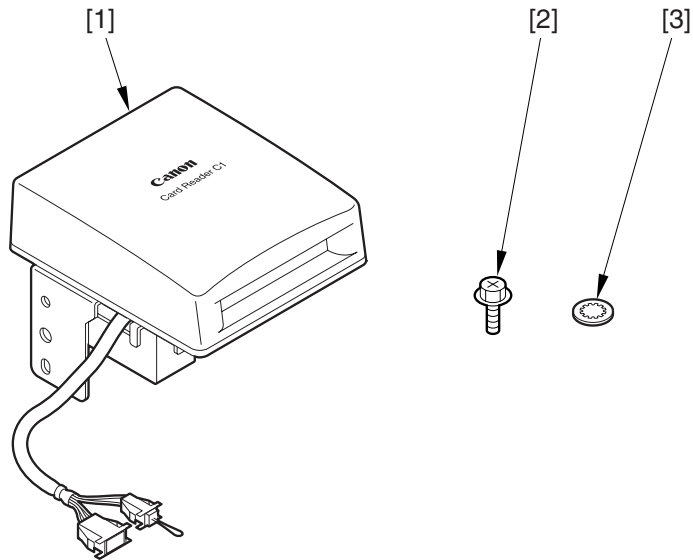
F-2-130

[1] Card Reader-C1   1 pc.
[2] RS tightening screw (M4x10)   1 pc.
[3] Toothed washer   1 pc.

2. Card Reader Attaching Kit-C1
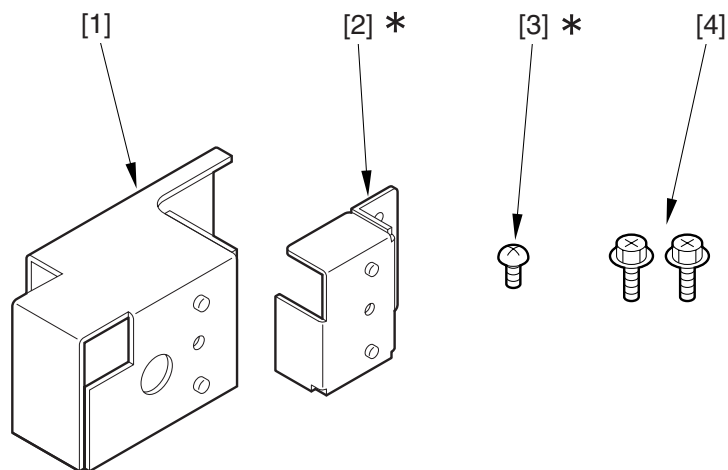
F-2-131

[1] Card reader mount   1 pc.
[2]* Joint plate   1 pc.
[3]* Screw (Bind; M4X6)   1 pc.
[4] Screw (RS tight; M4X10)   2 pc.
     *Not use in this machine

2.6.3 Installation

1) Make the following selections in the host machine's service mode: COPIER>FUNCTION>INSTALL>CARD; then, enter a number (1 to 2001).
   - Use the lowest number of the cards that will be used by the usered.
   - As many as 1000 cards, starting with the number you enter, will be registered.
2) Turn off the host machine's main power switch.
3) Remove the 2 screws [1], and remove the right cover (upper) [2].
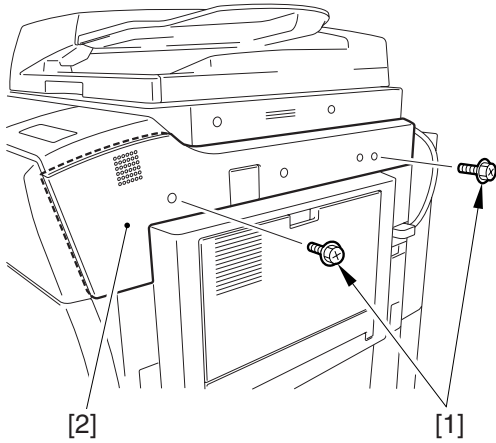
F-2-132

4) Attach the card reader base [1] using the 2 included screws [2].
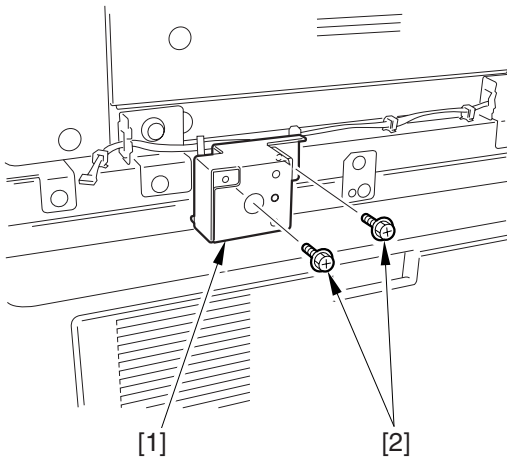
F-2-133

5) Insert the harness [1] of the card reader through the hole [2] in the card reader base.
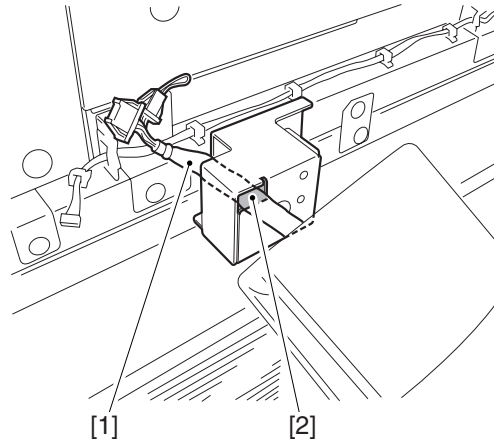
F-2-134

6) Attach the card reader [2] to the card reader base [3] using the included screw and toothed washer [1].
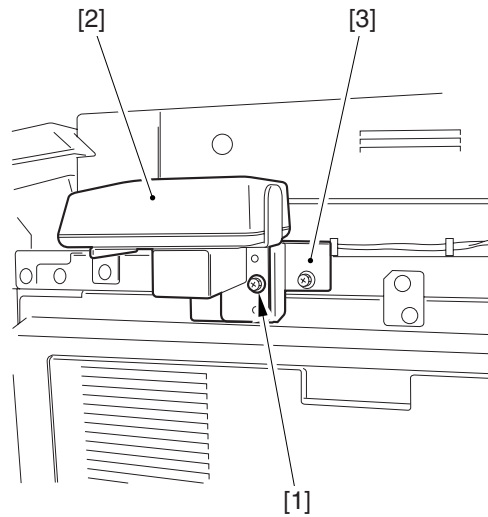
F-2-135

7) Route the card reader harness through the wire saddle, and connect the connector [1].
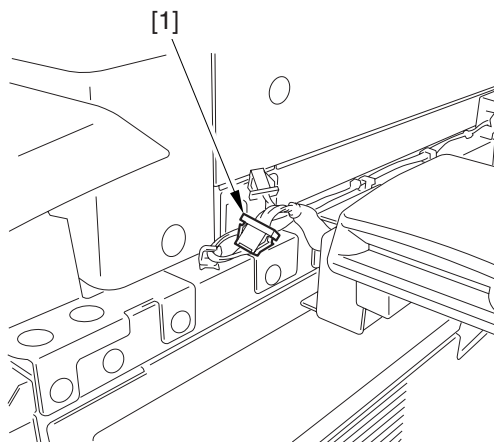
F-2-136

8) Cut the section [1] of the right cover (upper) indicated in the figure using nippers.
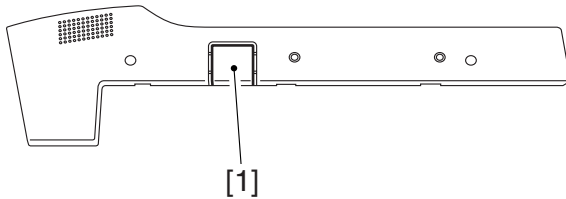
F-2-137

9) Attach the right cover (upper) you removed in step 3).
10) Turn on the main power switch, and check that a message has appeared asking for a control card.
11) Insert a control card, and check that the machine is ready to make copies.

2.6.4 Using the Card Reader in Combination with NetSpot Accountant (hereafter, NSA)

1) Make the following selections in Additional Function: system control settings>group ID control>count control; then, check to see IDs 00000001 thorough 00001000 have been created (i.e., if you entered '1' as the first number in service mode): COPIER>FUNCTION>INSTALL>CARD).
2) Make the following selections in Additional Function: system control settings>network settings>TCP/IP settings>IP address; then set up the following: IP address, gateway address, subnet mask.

⚠Take care. If you fail to register [system control group] and [system control ID No.], you will not be able to perform 'register card to device' as part of NSA setup work.

3) Under [system administrator info] of Additional Function, enter any number for [system control group] and [system control ID No.].
4) Turn off the control panel switch.
5) Turn off and then on the main power switch.

2.7 Installing the Original Tray

2.7.1 Checking the Contents

| [1] | Original holder | 1 pc. |
| [2] | Stepped screw (M4) | 2 pc. |
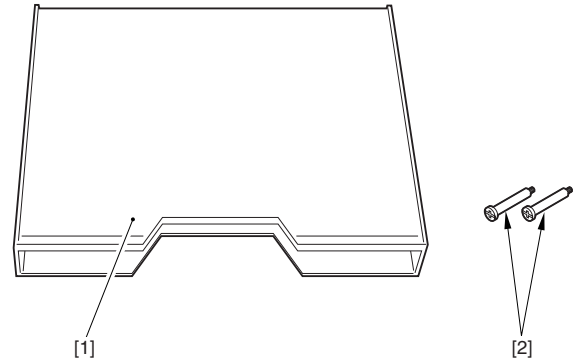
F-2-138

2.7.2 Attachment

1) Attach the 2 stepped screws [2] in the right cover (upper) [1].
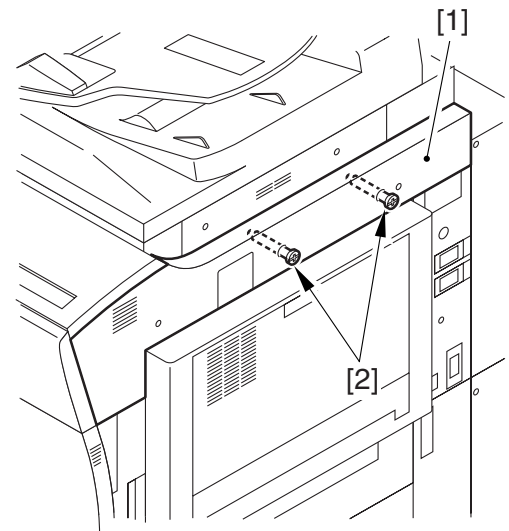
F-2-139

2) Hook the original holder [1] on the stepped screws you attached in step 1).
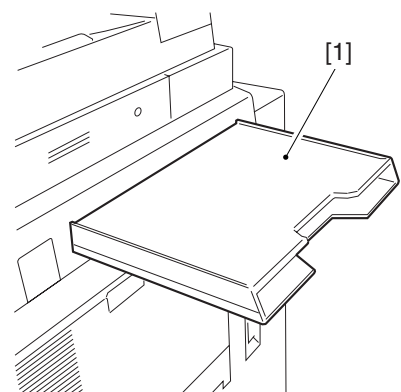
F-2-140

2.8 Installing the Key Switch Unit-A1

2.8.1 Checking the Contents

[1]   Key switch unit   1 pc.
[2]   Control key   1 pc.
[3]   Binding screw (M4x6)   1 pc.
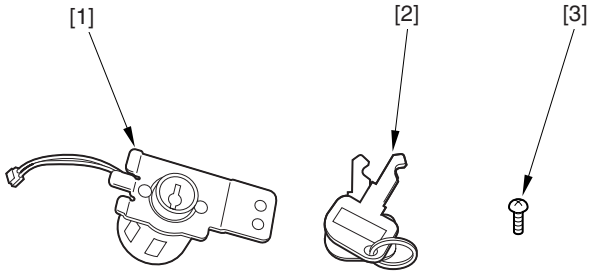
F-2-141

2.8.2 Attachment

1) Turn off the control panel power switch.
2) Turn off the main power switch.
3) Remove the power plug.
4) Remove the reader communications cable [1].
5) Remove the 2 screws [2], and detach the right cover (upper rear) [3].
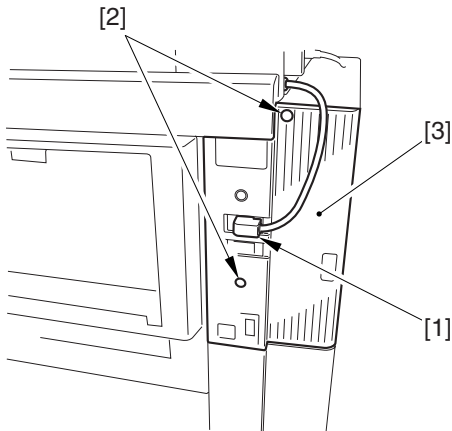
F-2-142

6) Cut off the section [1] of the right cover (upper rear) indicated in the figure.
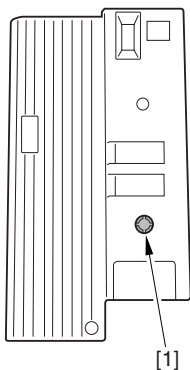
F-2-143

7) Remove the 2 screws [1], and remove the plate [2].
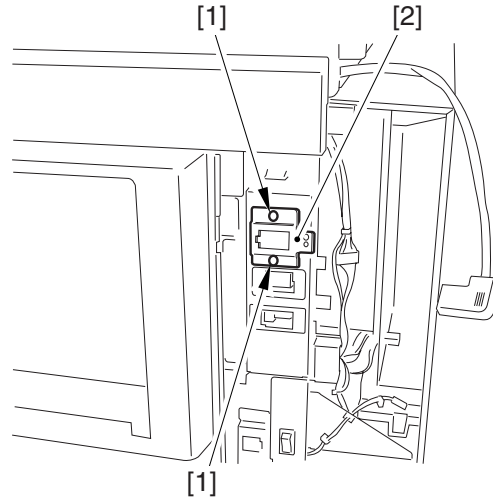
F-2-144

8) Insert the protrusion [1] of the key switch into the plate [2]; then, attach it using the included screw [3].
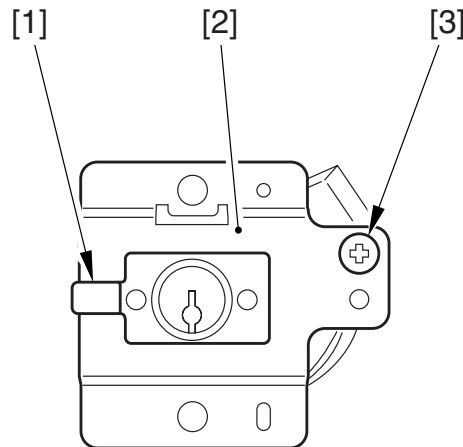
F-2-145

9) Insert the harness [1] of the key switch through the wire saddle [2].
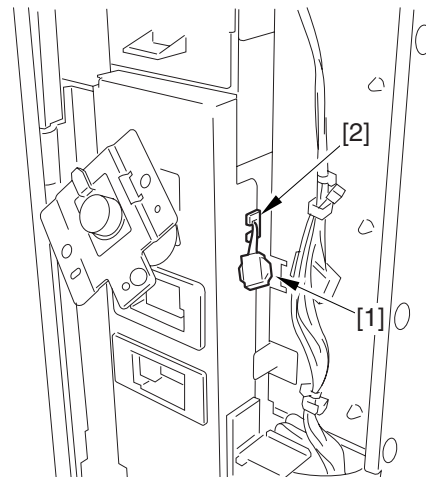
F-2-146

10) Connect the connector [1] of the key switch.
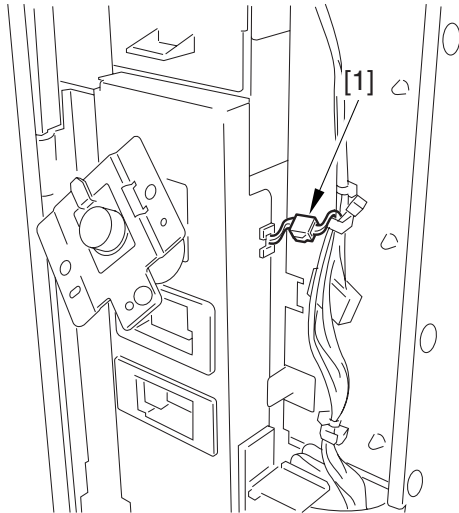
F-2-147

11) Attach the plate (key switch) [1] using the 2 screws [2] you removed in step 7).
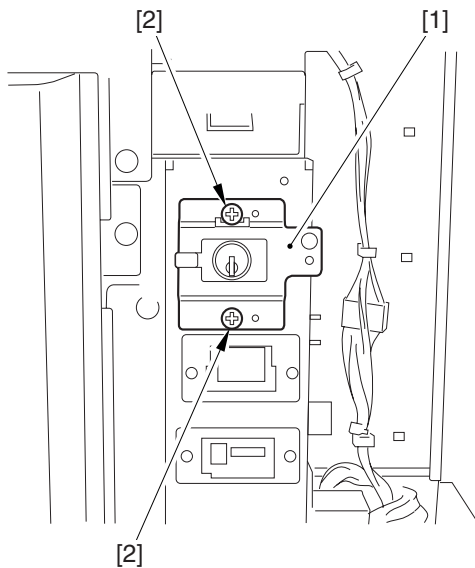
F-2-148

12) Attach the right cover (upper rear) you removed in step 5).
13) Insert the power plug, and turn on the main power switch.
14) Start service mode, and make the following selections:
   COPIER>FUNCTION>INSTALL>KEY:
   then, enter '1'.
15) Turn off and then on the main power switch.
16) Check that a message has appeared asking for the control key.
17) Insert the control key, and check that the machine is ready to make copies.

2.9 Installing the Voice Guidance Kit

2.9.1 Checking Items in the Package

<Only for iR C6870U/ iR C5870U)
Below are the items included in the Voice Guidance Kit-A2 packege.
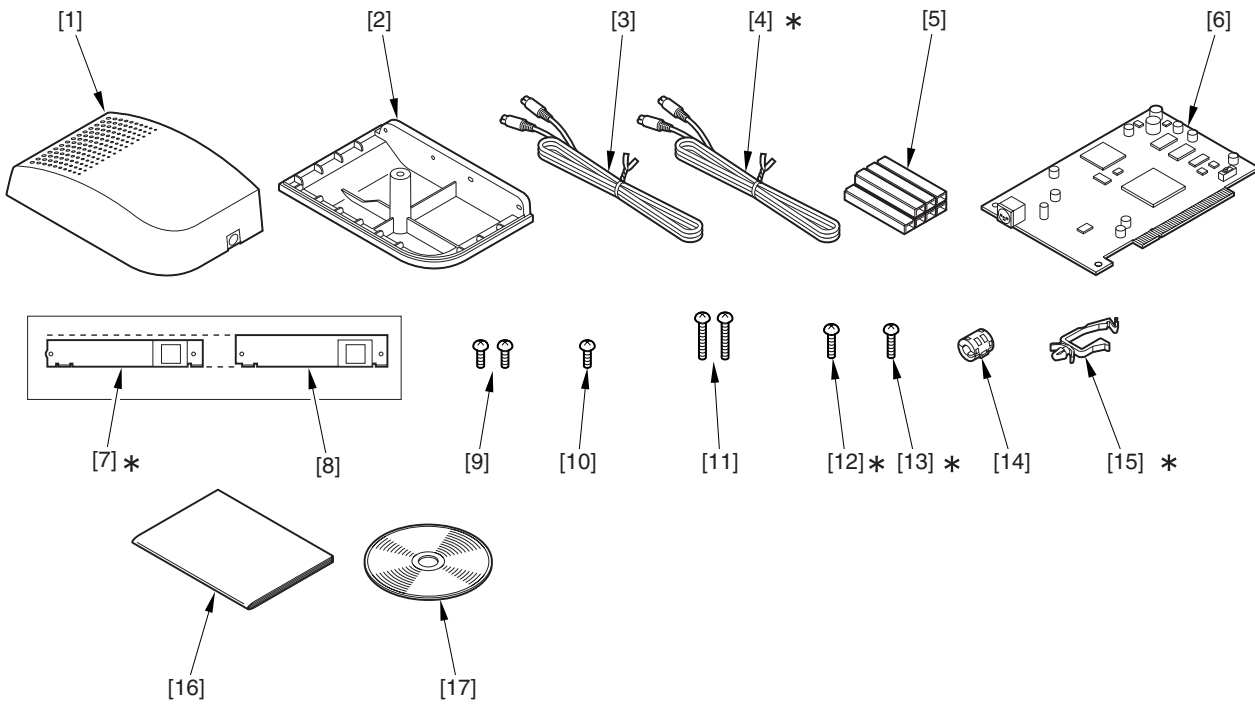
F-2-149

[1]	Speaker unit (upper)	1 pc.
[2]	Speaker unit (lower)	1 pc.
[3]	Cable (1300mm)	1 pc.
[4]*	Cable (1850mm)	1 pc.
[5]	Cord guide (4 cord guide to be used)	7 pc.
[6]	Voice Guidance Board	1 pc.
[7]*	Voice Guidance Board Face Plate	1 pc.
[8]	Voice Guidance Board Face Plate	1 pc.
[9]	Binding screw (M3X6)	2 pc.
[10]	Binding screw (M4X6)	1 pc.
[11]	Binding screw (M4X40)	2 pc.
[12]*	Binding screw (M3X16)	1 pc.
[13]*	Binding screw (M4X16)	1 pc.
[14]	Ferrite core	1 pc.
[15]*	Clamp	1 pc.
[16]	Users Guide	1 pc.
[17]	User Manual CD-ROM	1 pc.
	*Not to be used for this machine	

2.9.2 Turning Off the Host Machine

⚠ **Turning Off the Main Power**
When turning off the main power, be sure to go through the following in strict sequence to protect the machine's hard disk:
[1] Hold down on the power switch on the control panel for 3 sec or more.
[2] Operate on the touch panel according to the shut-down sequence indicated so that the main power switch may be turned off.
[3] Turn off the main power switch.
[4] Disconnect the power cable (for the power outlet).

2.9.3 Installation Procedure

1. Installation Procedure
1) Open four cable clamps [1] to release a reader communication cable [2].
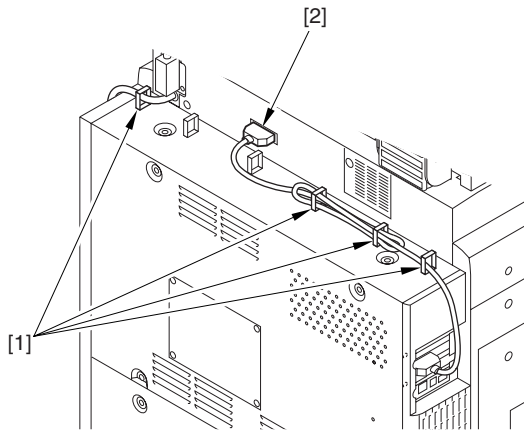
F-2-150

2) Unscrew 7 screws [1] and detach the rear cover (upper) [2].
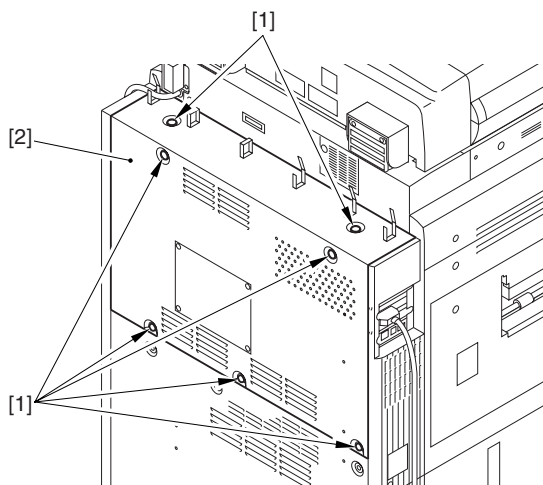
F-2-151

3) Unscrew 16 screws [1] and detach the controller box cover [2].
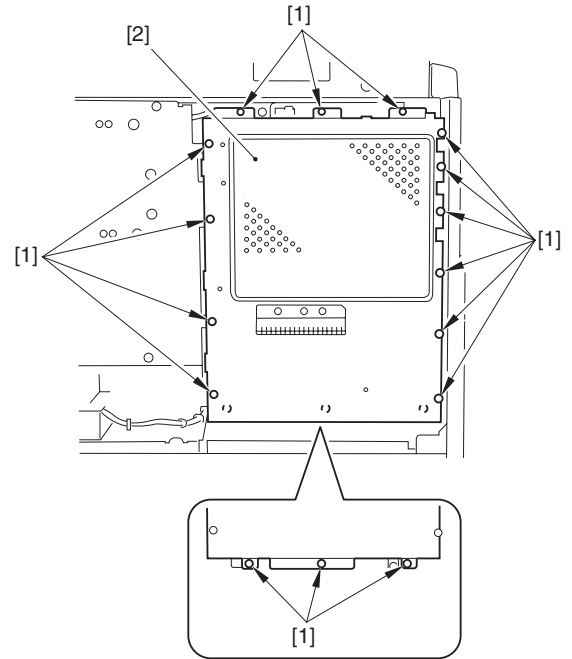
F-2-152

4) Mount the facing plate [2] to the voice board [1] by 2 binding screws (M3X6) [3].
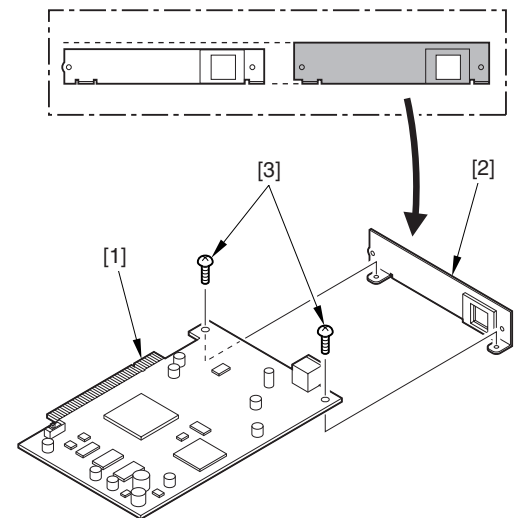
F-2-153

5) The slide switch SW1 found on the voice guidance board is set to 33 MHz at time of shipment; be sure to set it to 66 MHz for use on this machine.
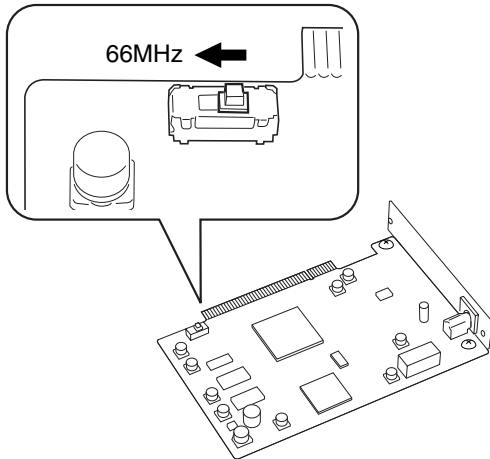
F-2-154

⚠️**Checking the slide switch SW1 on the voice guidance board**

The slide switch (SW1) on the Voice Guidance Board-A1 is provided as a means of switching frequencies (33 MHz/66 MHz) to suit the transfer speed of the PCI bus. It is important for the switch setting to suit the transfer speed so that the voice will be free of interruption.

For the machine, 66MHz is the correct position of the switch.
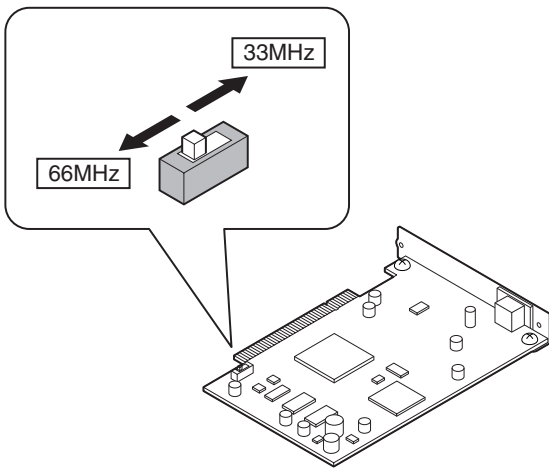
F-2-155

6) Unscrew 2 screws [1] and detach the blanking plate [2].
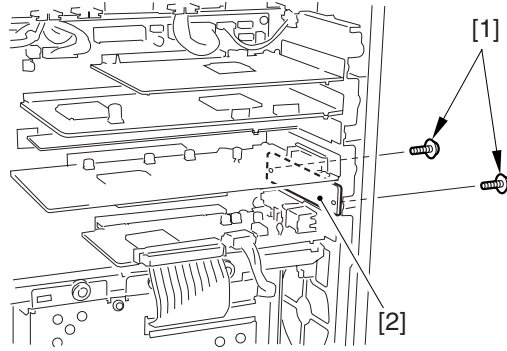
F-2-156

7) Insert the voice board [1] and mount it with two screws [2] which were unscrewed at the previous step.

⚠️

Be sure to insert the board in the vertical direction to the connector.
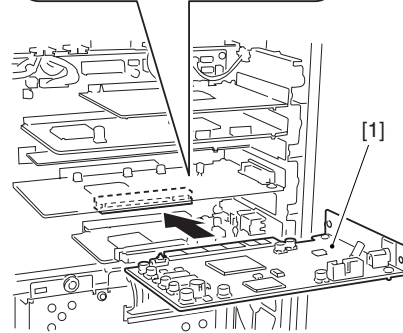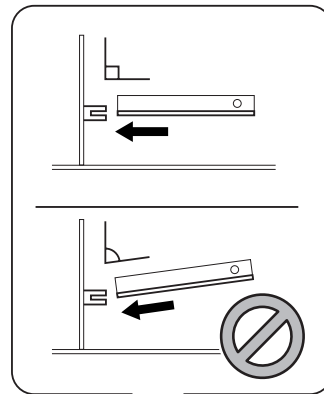
F-2-157
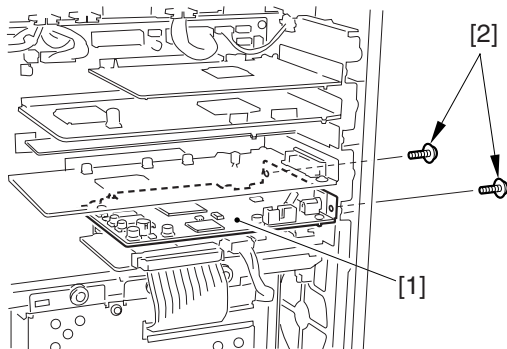
F-2-158

8) Attach the controller box cover.

9) Attach the rear cover (upper).

10) Insert the reader communication cable and fix it with cable clamp.

11) Mount the speaker unit (lower) [1] on the upper right cover of main body with two screws (Bind; M4X40).
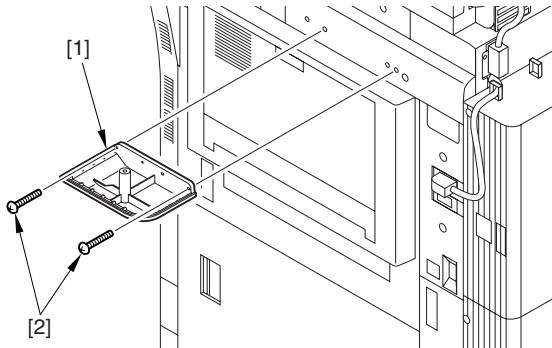
F-2-159

12) Mount the speaker unit (upper) [1] on the speaker unit (lower) mounted at the previous step, and fix it using a screw (Bind; M4X6) [2] from beneath.
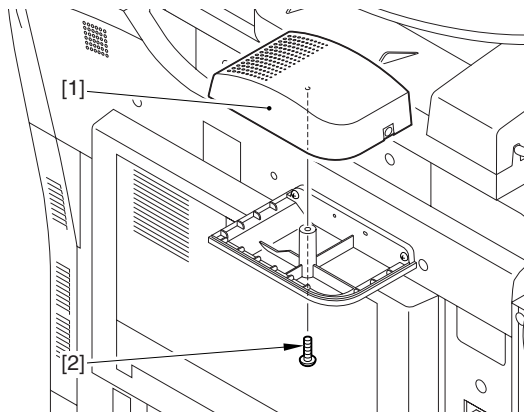
F-2-160

13) Remove a cord guide cover [1].
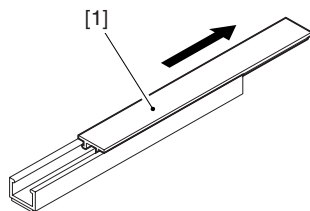
F-2-161

14) Peel off the release paper of cord guide [1] and affix them as shown in the figure.
   Right side --- 1 position
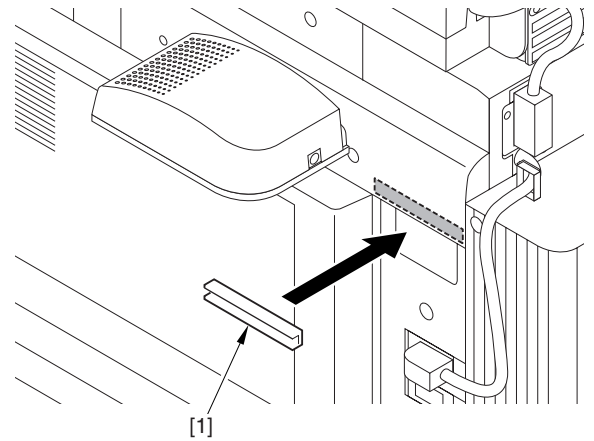
F-2-162

Back --- 3 positions
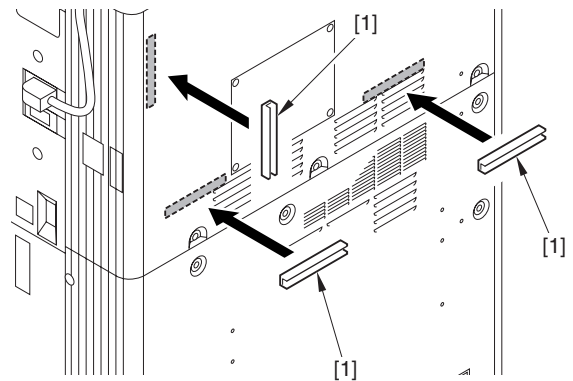
F-2-163

15) Plug the cable [2] into the speaker unit [1].
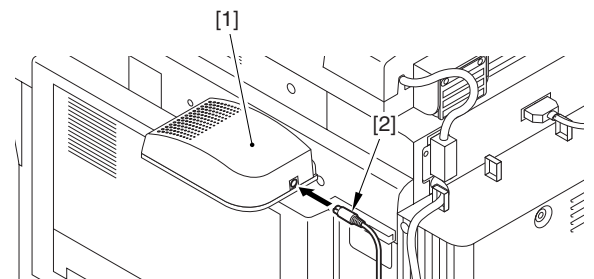
F-2-164

16) Run the cable [1] through the cord guide [2] and mount the cord guide cover [3].

⚠

Be sure that there is no slack of the cable.

Right side --- 1 position
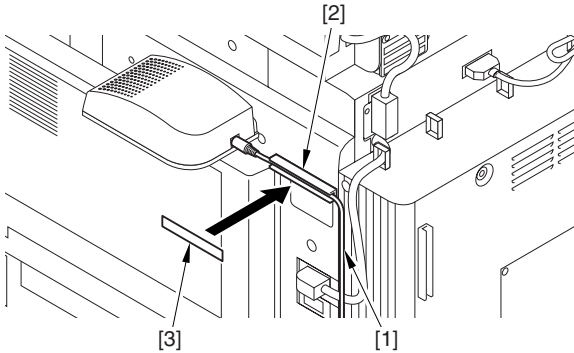
F-2-165

Back --- 3 positions
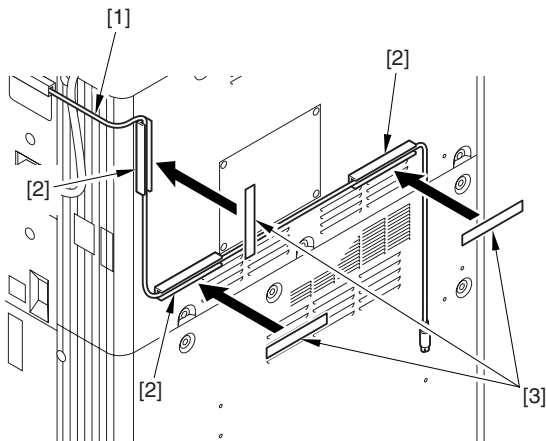
F-2-166

17) Mount the ferrite core [1] on the cable. The length [2] should be less than 50mm.
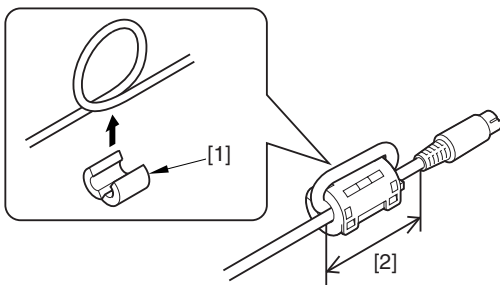
F-2-167

18) Plug the cable [1] into the terminal [2] of voice board.
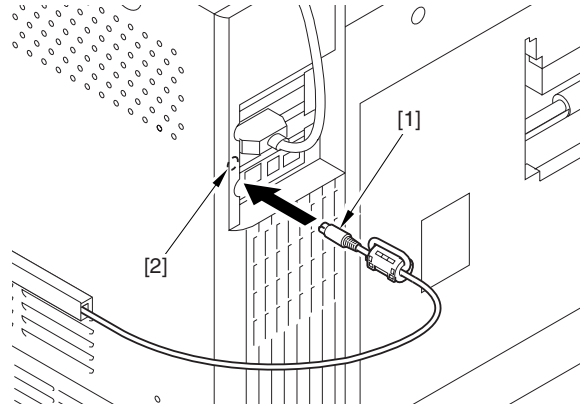
F-2-168

19) Plug the power cable of host machine into a wall outlet.
20) Turn on the main power switch.
21) Check if the voice board is recognized.

Enter service mode ("✱"->"2"& "8"at the same time ->"✱")
COPIER > DISPLAY > ACC-STS > PCI1
If 'voice board' is indicated for PCI1, the board is correctly recognized by the machine.

3. Making Settings After Installation
To make use of the Voice Guidance Kit-A2 after turning on the host machine, you need to make the following settings in Additional Function:
Additional Function > System Setting > Voice Guide Manegement Setting > Use Voice Guide.
1) Select [ON].
2) Press [OK].
default : OFF

4. Checking the Operation
- To Enable
  1) Hold down the Reset key 3 sec or more.
  2) See that the copy count on the screen is enclosed in red, indicating 'Voice Guidance' is ready for use.
- To Disable
  1) Hold down the Reset key for 3 sec or more.

Chapter 3

Basic Operation

Contents

3.1 Construction

3.1.1 Functional Construction

The machine is broadly divided into the following 3: reader unit, printer unit, and system unit.
Of these 3, the printer unit serves as the core of the machine, and consists of the following 5 functional blocks: laser exposure system, image formation system, pickup/feed system, fixing/delivery system, printer control system.
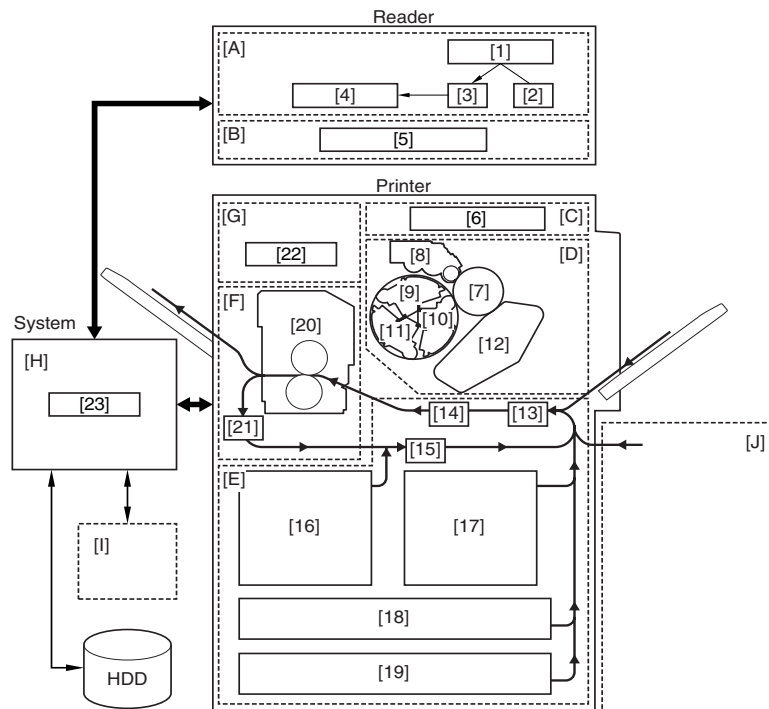
F-3-1

1. Reader Unit

[A]Original Exposure System   [4] CCD/analog processor PCB
   [1] original   [B]Reader Control System
   [2] scanning lamp   [5] reader controller PCB
   [3] optical system

2. Printer Unit

[C]Laser Exposure System   [14] transfer assembly
   [6] laser/scanner unit   [15] lower feeding assembly
[D]Image Formation System   [16] left deck
   [7] photosensitive drum   [17] right deck
   [8] Bk developing assembly   [18] cassette 3
   [9] M developing assembly   [19] cassette 4
   [10]Y developing assembly   [F] Fixing/Delivery System
   [11]C developing assembly   [20] fixing assembly
   [12]intermediate transfer belt (ITB)   [21] reversing assembly
[E] Pickup/Feeding System   [G] Printer Control System
   [13] pickup control assembly   [22] DC controller PCB

3. System Unit   **4. Accessory**

[H] System Control Block   [I] optional board
   [23] Main controller PCB   [J] side paper deck

3.1.2 Arrangement of the Major PCBs

< iR C6800 / C5800 >
Arrangement of the Major PCBs
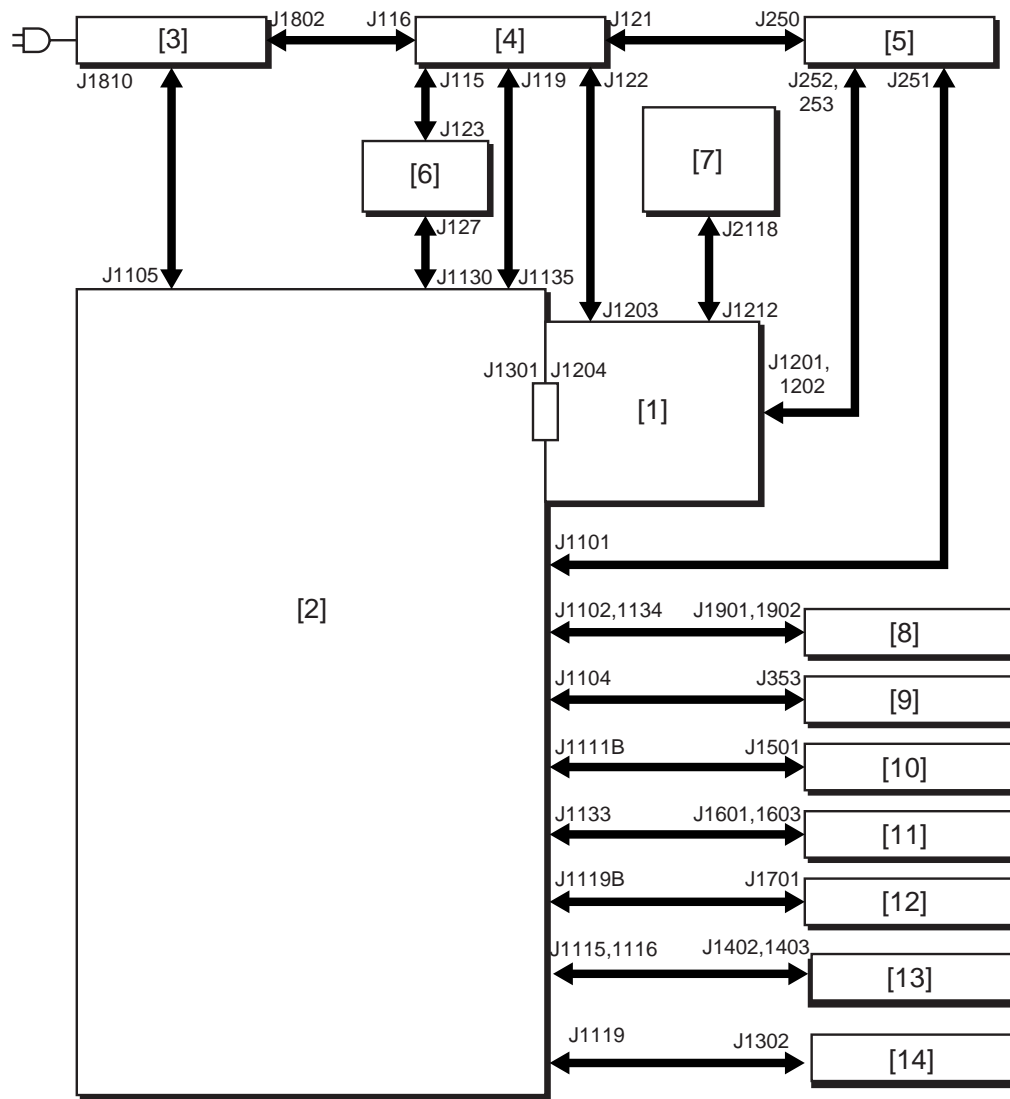
F-3-2

[1] Main controller PCB   [8] Laser drive PCB
[2] DC controller PCBl   [9] BD PCB
[3] AC driver PCB   [10] HVT1 PCB
[4] main DC power supply PCB   [11] HVT2 PCB
[5] Sub DC power supply PCB 1   [12] HVT3 PCB
[6] Sub DC power supply PCB 2   [13] Pickup driver PCB
[7] Control panel CPU PCB   [14] Fixing/feeding driver PCB

⚠ The arrows $ in the figure indicate connections of PCB, not the direction of signals.

3.1.3 Arrangement of the Major PCBs

< iR C6870U / iR C5870U >
Arrangement of the Major PCBs
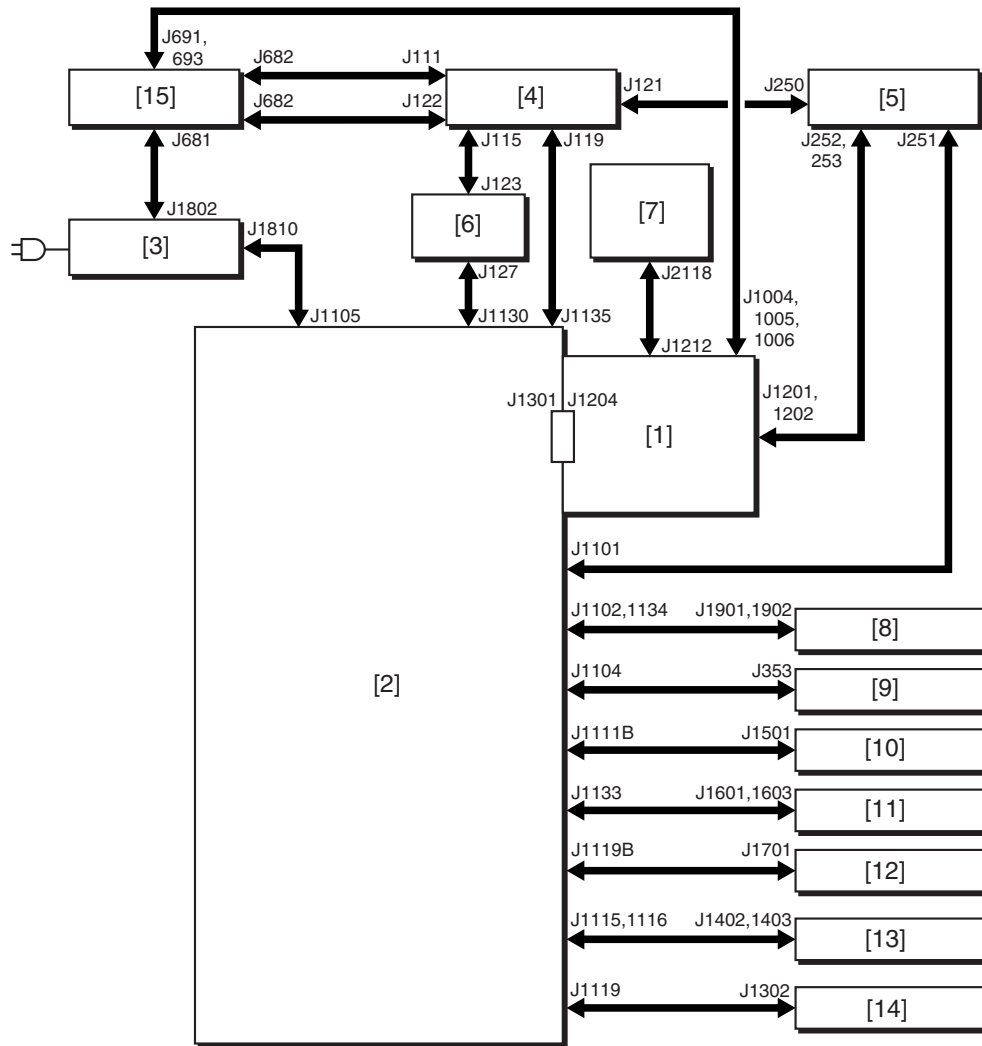
F-3-3

[1] Main controller PCB
[2] DC controller PCBl
[3] AC driver PCB
[4] main DC power supply PCB
[5] Sub DC power supply PCB 1
[6] Sub DC power supply PCB 2
[7] Control panel CPU PCB

[8] Laser drive PCB
[9] BD PCB
[10] HVT1 PCB
[11] HVT2 PCB
[12] HVT3 PCB
[13] Pickup driver PCB
[14] Fixing/feeding driver PCB
[15] All nigit power supply PCB

The arrows in the figure indicate connections of PCB, not the direction of signals.

3.1.4 DC Controller

The following shows the functional construction of the DC controller PCB:
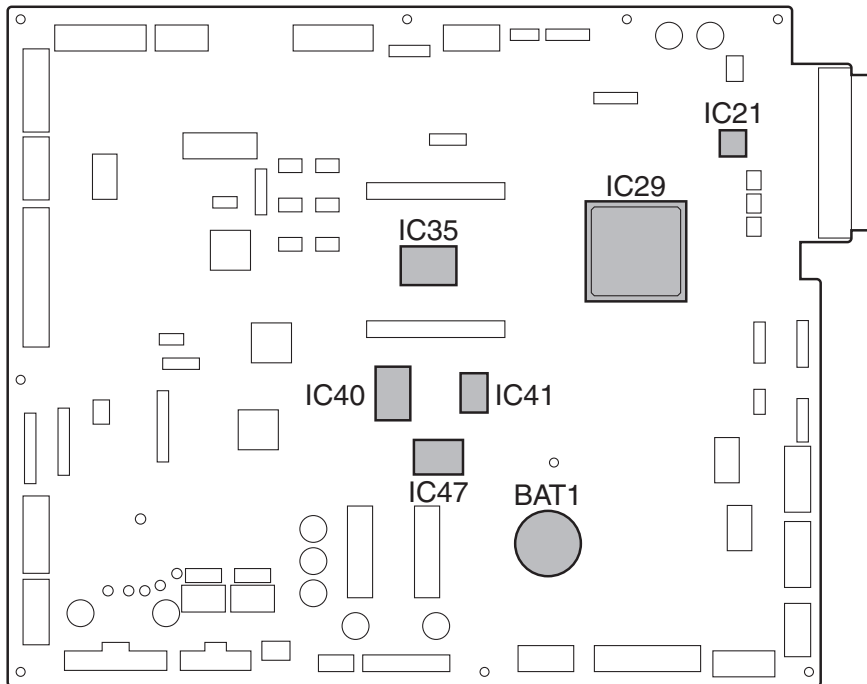
F-3-4

BAT1 (lithium battery)
serves as the backup battery for RAM.

IC21 (PWM IC)
converts image data from ASIC1 into data processed by pulse width modulation.

IC29 (ASIC1)
controls the laser driver, high-voltage mechanisms, fixing control mechanisms, and motors.

IC35 (CPU)
controls printing sequence, high-voltage mechanisms, finisher, interface with the controller, and various loads (sensor, clutch, solenoid).

IC40 (Flash ROM)
stores firmware.

IC41 (ASIC2)
controls communication between finisher and CPU.

IC47 (RAM)
stores settings data (e.g., service mode).
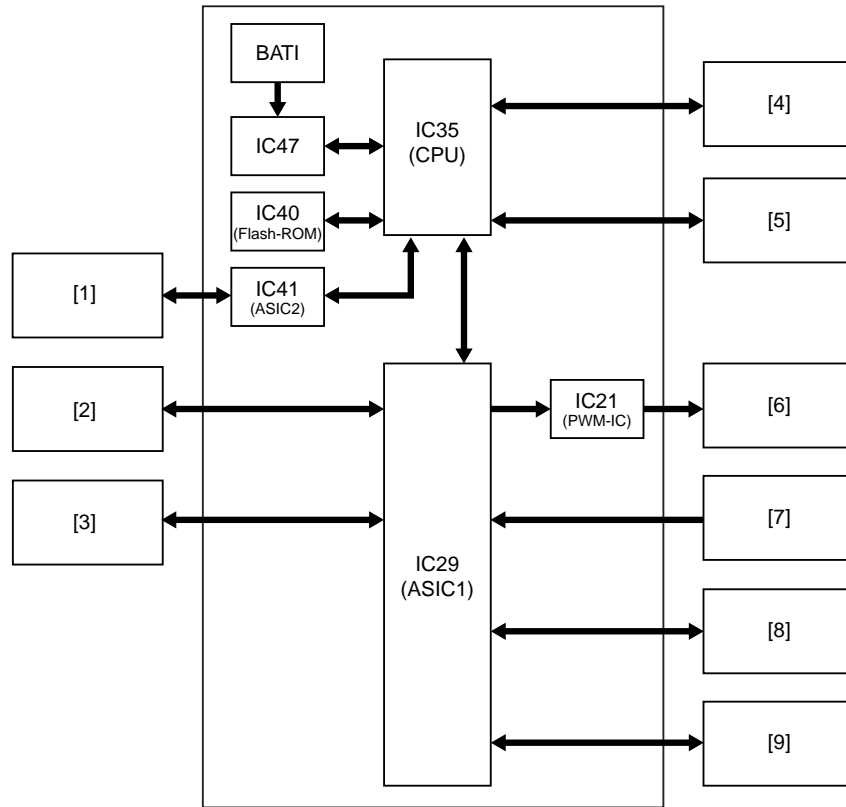
F-3-5

[1] Finisher (accessory)   [6] Laser drive PCB
[2] Side paper deck (accessory)   [7] BD PCB
[3] Motors   [8] HVT
[4] Main controller PCB   [9] Fixing assembly
[5] Loads (sensor, clutch, solenoid)

3.2 Basic Sequence

3.2.1 Basic Sequence of Operation at Power-On

T-3-1

Period	Description
WMUP (warm-up)	with the drive system at rest, until the temperature of the external heating roller reaches 190 deg C.
SREADY (scanner ready)	from when shading correction ends unit the Start key is pressed or the main power switch is turned off.
WMUPR (warm-up rotation)	with the drive system starting up, until the temperature of the fixing roller reaches 200 deg C, that of the pressure roller reaches 140 deg C, and that of the external heating roller reaches 225 deg C.
PSTBY (print standby)	the machine is ready to accept the copy/print request signal.
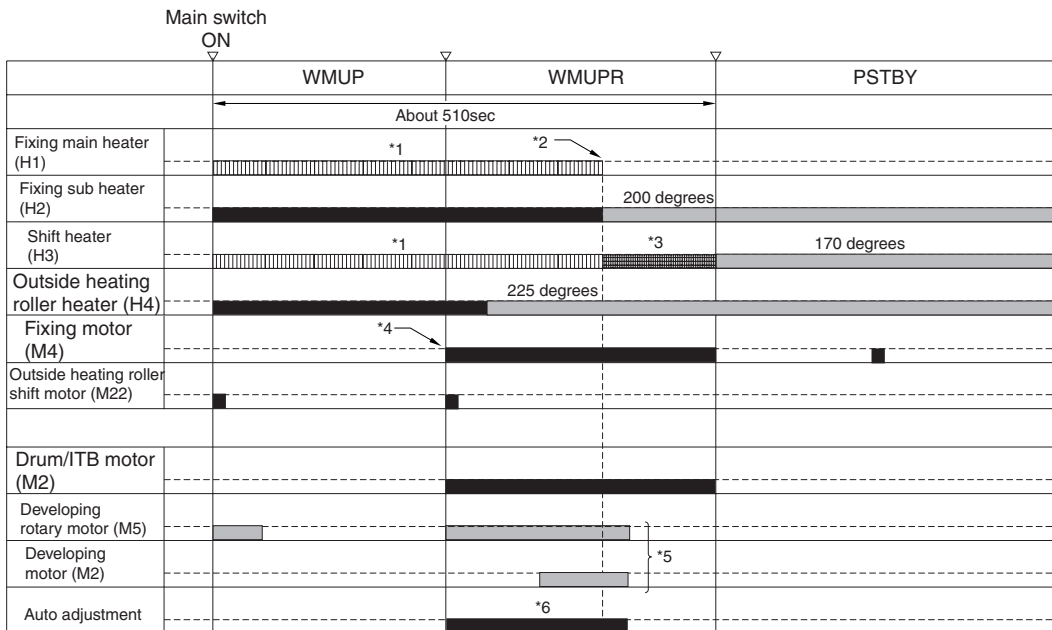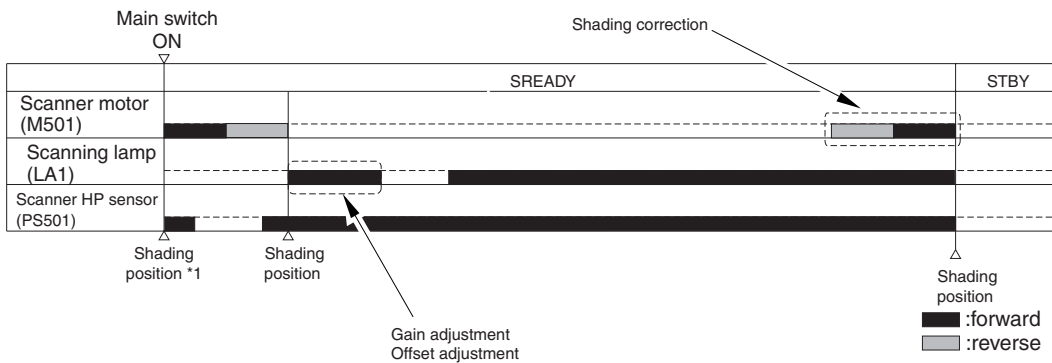
F-3-6

*1: the fixing main heater and the pressure heater go on alternately.
*2: if the temperature of the fixing roller is 200 deg C, that of the pressure roller is 140 deg C, and that of the external heating roller is 225 deg C, the alternate activation is ended.
*3: the pressure heater is subject to activation control.
*4: if the temperature of the external roller is 190 deg C or higher, the fixing motor starts up.
*5: the motor rotates and stops for auto adjustment.
*6: the image stabilization control mechanism is executed only if the surface temperature the fixing roller is lower than 100 deg C.
   - potential control
   - primary transfer ATVC
   - secondary transfer ATVC
   - D-max control
   - D-half control (when the power is turned on with its color print counter reading 500 or higher.

3.2.2 Basic Sequence of Control During Printing (full-color)

A4, Full-color (1 print), Right deck

T-3-2

Period	Description
PSTBY (print standby)	the machine is ready to receive the coy/print request signal.
PINTR (initial rotation)	from when the machine has received the print request signal to when it discharges paper.
PRINT	from when all toner has been transferred to paper and the paper is delivered.
LSTR (last rotation)	from when the paper has been delivered to when all drive has been stopped.

reading: book, 1 A4 original
printing: A4, plain paper, single-sided, full color, 1 print
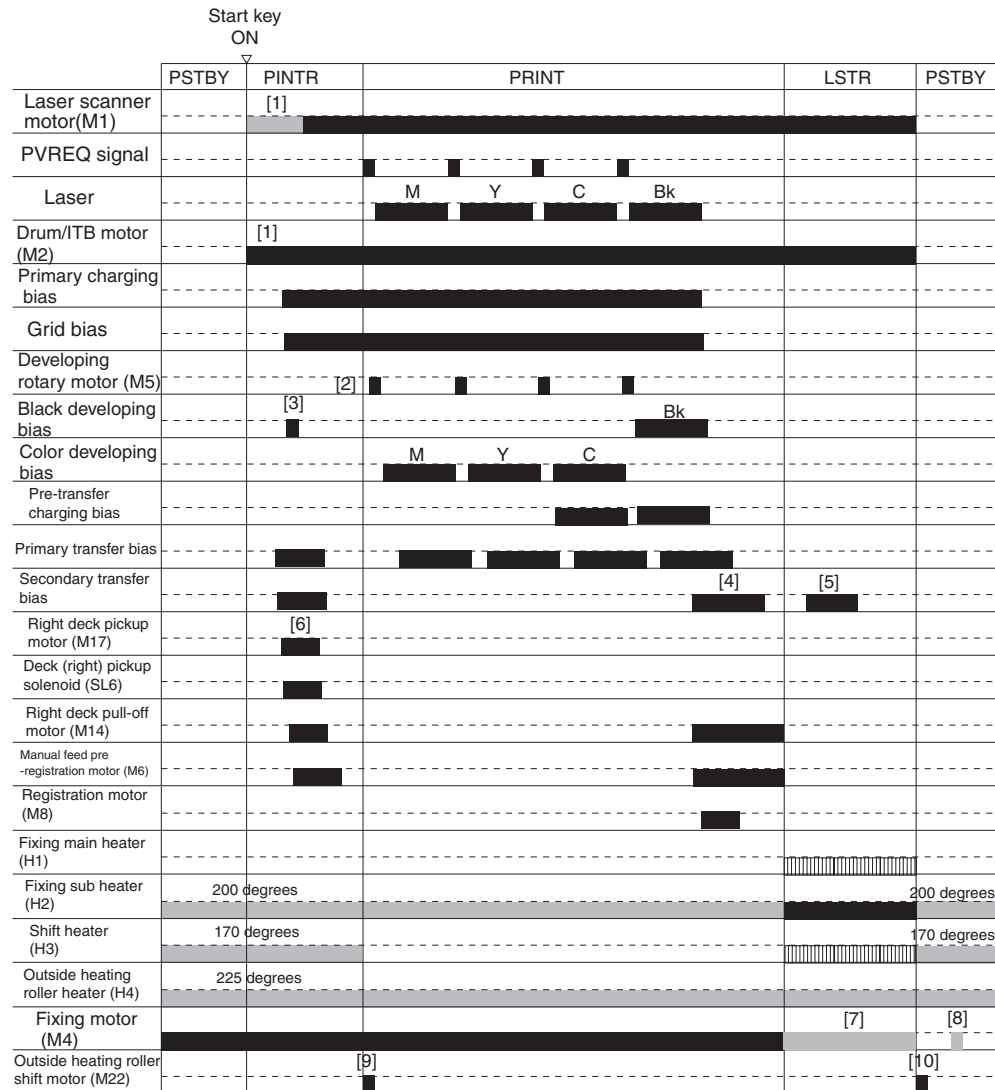
F-3-7
[1] used to stabilize the rotation.
[2] developing rotary shifts to home position>point of M development>point of Y development>point of C development>home position
[3] preparation for black development
[4] transfer to paper
[5] cleaning of the secondary transfer outside roller
[6] pickup from the right deck
[7] maintenance operation of the fixing roller
[8] anti-deformation operation of the fixing roller (every 30 min after the stop of the fixing roller)
[9] external heating roller brought into contact with the fixing roller
[10] external heating roller moved away from the fixing roller

3.2.3 Basic Sequence of Operation During Printing (mono color)

A4, Mono color (1 print), Right deck

T-3-3

Period	Description
PSTBY (print standby)	The machine is ready to accept the copy/print request signal.
PINTR (initial rotation)	from when the machine has received the print request signal to when it generates the image signal.
PRINT	from when all toner has been transferred to paper and the paper is delivered.
LSTR (last rotation)	from when the paper has been delivered to when all drive has been stopped.

reading: book, 1 A4 original
printing: A4, plain paper, single-sided, mono color, 1 print
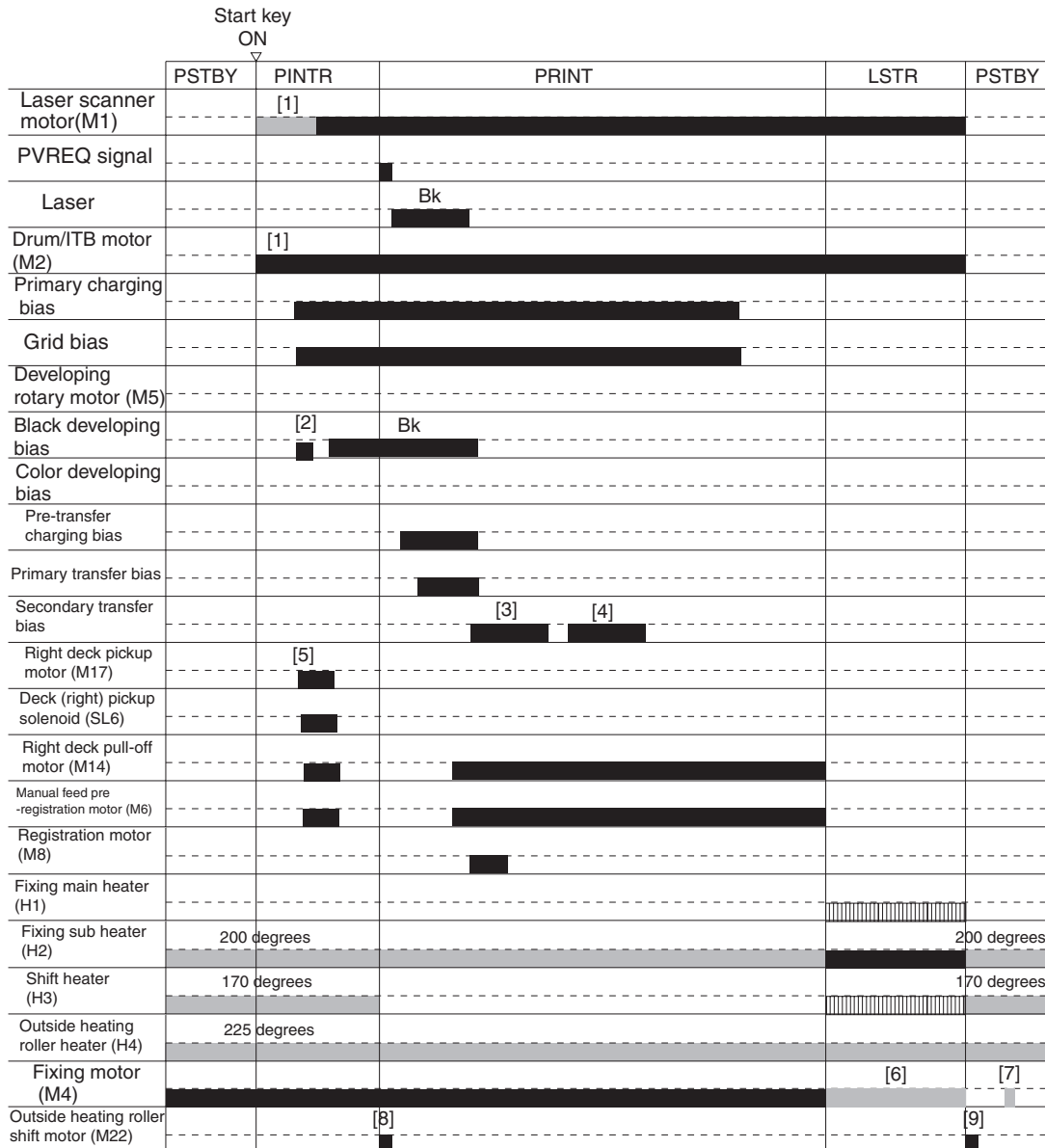
F-3-8
[1] period used to stabilize rotation
[2] preparation for development
[3] transfer to paper
[4] cleaning of the secondary transfer outside roller
[5] pickup from the right deck
[6] maintenance operation of the fixing roller
[7] anti-deformation operation of the fixing roller

Chapter 4

Main Controller

Contents

4.1 Construction

4.1.1 Functional Construction

< iR C6800 / iR C5800 >

The machine's main controller block consists of the following components that serve specific functions:

T-4-1

Item	Description
Main controller PCB (main)	controls the system, memory, and printer output image processing.
Main controller PCB (sub)	processes reader input images.
Expansion bus PCB	controls the color LCD and card reader interface.
SRAM PCB	retains service mode settings and HDD control data using SRAM.
Image memory (SDRAM)	stores image data temporarily.
BOOTROM	stores the boot program.
HDD	stores the system software; retains Box/fax function image data.
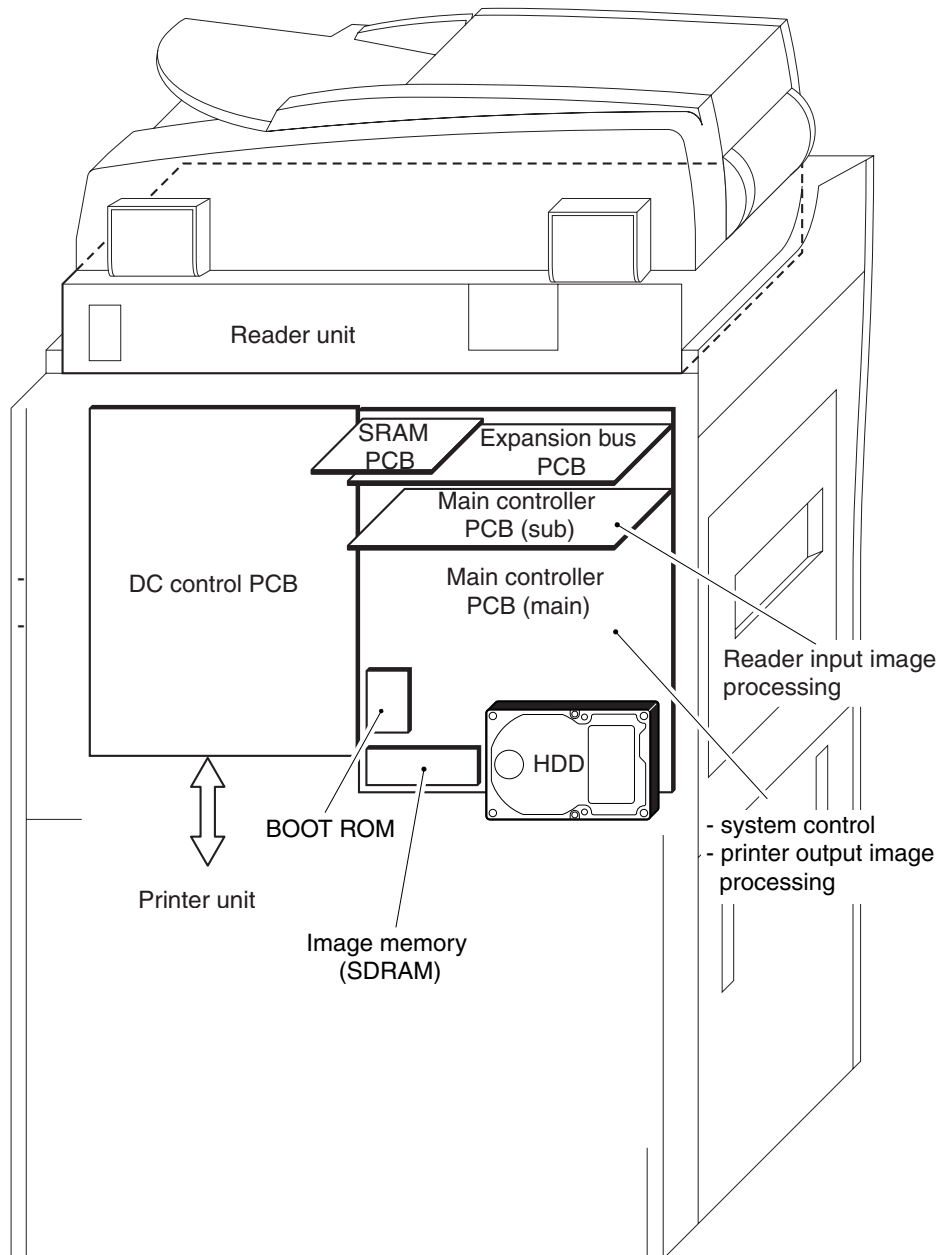
F-4-1

4.1.2 Functional Construction

< iR C6870U / iR C5870U >

The main controller block of the device has the following functions and mechanisms:

T-4-2

	PCB	Description
[1]	Main controller PCB (main)	system control, memory control, printer output image processing control
[2]	Main controller PCB (sub R-A)	color space conversion, rotation for electronic sorting, binary processing, resolution conversion
[3]	Main controller PCB (sub PE-A)	image processing for printer output (color space compression, background removal, LOG conversion, direct mapping, color balance, zoom fine adjustment, gradation conversion, screen processing, framing, add-on)
[4]	Rely PCB (Gu-short)	bus connection (when EFI controller not connected)
	main controller PCB (sub O-A)	EFI controller connection
[5]	Main controller PCB (sub SJ-A)	scanner interface, scanner image processing (resolution conversion, image rotation, compression/expansion)
[6]	Main controller PCB (sub LAN-bar-A)	LAN connection, HDD controller, HDD power supply
[7]	SRAM PCB	SRAM mount
DDR-SDRAM	DDR-SDRAM	program-related data retention, image data retention
BOOT ROM	BOOT ROM	boot program retention
HDD	HDD	system software storage, image data storage, Box/fax function image data retention
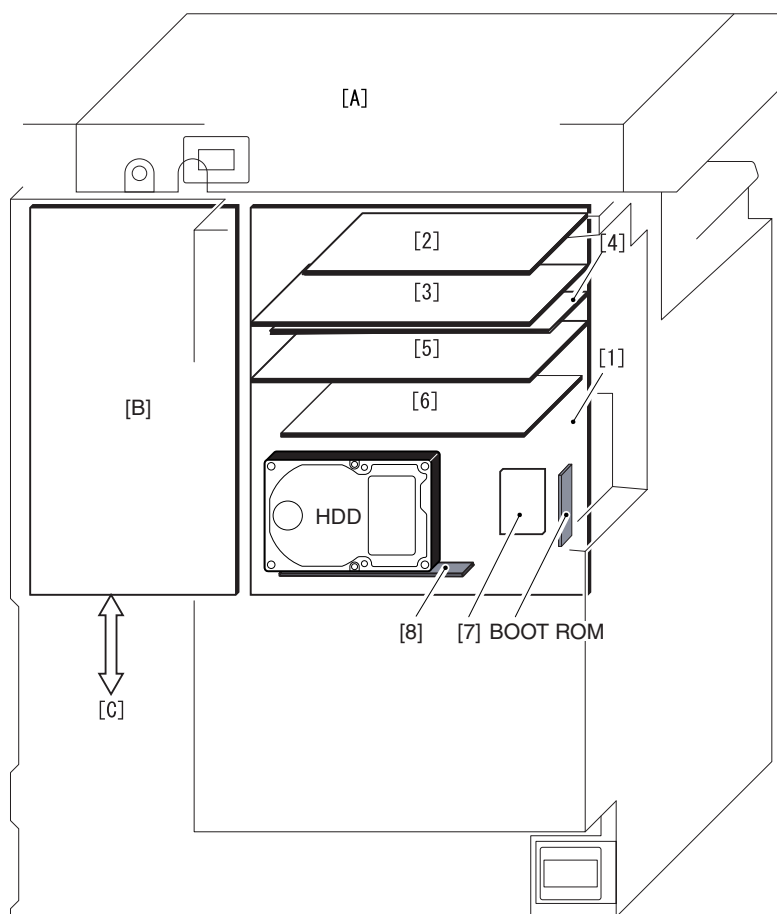
F-4-2
T-4-3

[A] Reader unit   [B] DC controller PCB   [C] Printer unit

4.2 Construction of the Electrical Circuitry

4.2.1 Main Controller PCB (main)

< iR C6800 / C5800 >

The following shows the major control functions of the main controller PCB (main) grouped according to jack/IC:
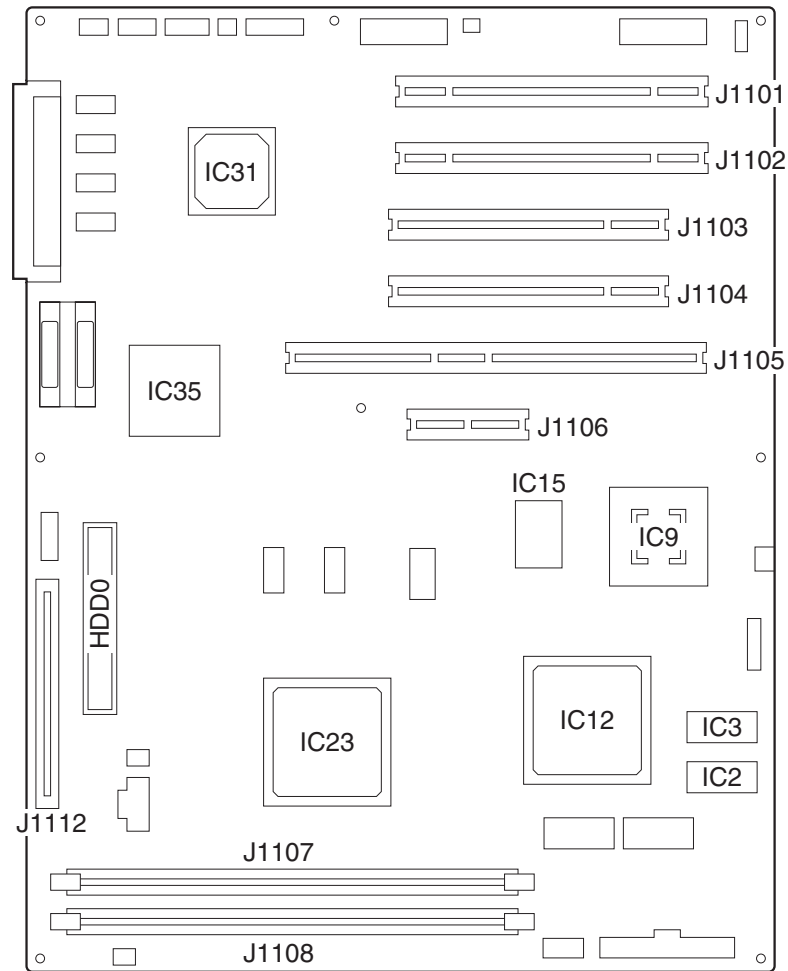
F-4-3
T-4-4

Jack No.	Description
J1101	expansion bus PCB slot
J1102	main controller PCB (sub) connection slot
J1103	image conversion board connection slot
J1104	USB interface board/TokenRing connection slot
J1105	UFR board/OPEN I/F board connection slot
J1106	Ethernet board connection slot
J1107	image memory (SDRAM, 512 MB; standard)
J1108	image memory (SDRAM, 256 MB; optional for 100-V model or standard for 120/230-V model)
J1112	boot ROM connection slot
HDD0	hard disk connection connector

T-4-5

IC No.	Description
IC9	controls the processing of images coming from IC12 for output to the printer.
IC12	controls image input/output functions, image rotation function, resolution conversion function, and binary processing function.
IC15	controls the conversion of 4-bit serial image data coming from IC9 into 8-bit parallel image data; keeps track of video count.
IC23	CPU: system control
	raster JPEG compression/decompression
	network controller
	PCI bus controller
	ROM/RAM controller
	serial communication controller
IC31	I/O processing of signals
IC35	HDD controller

4.2.2 Main Controller PCB (main)

< iR C6870U / iR C5870U >

The following show the major jacks found on the main controller PCB (main):
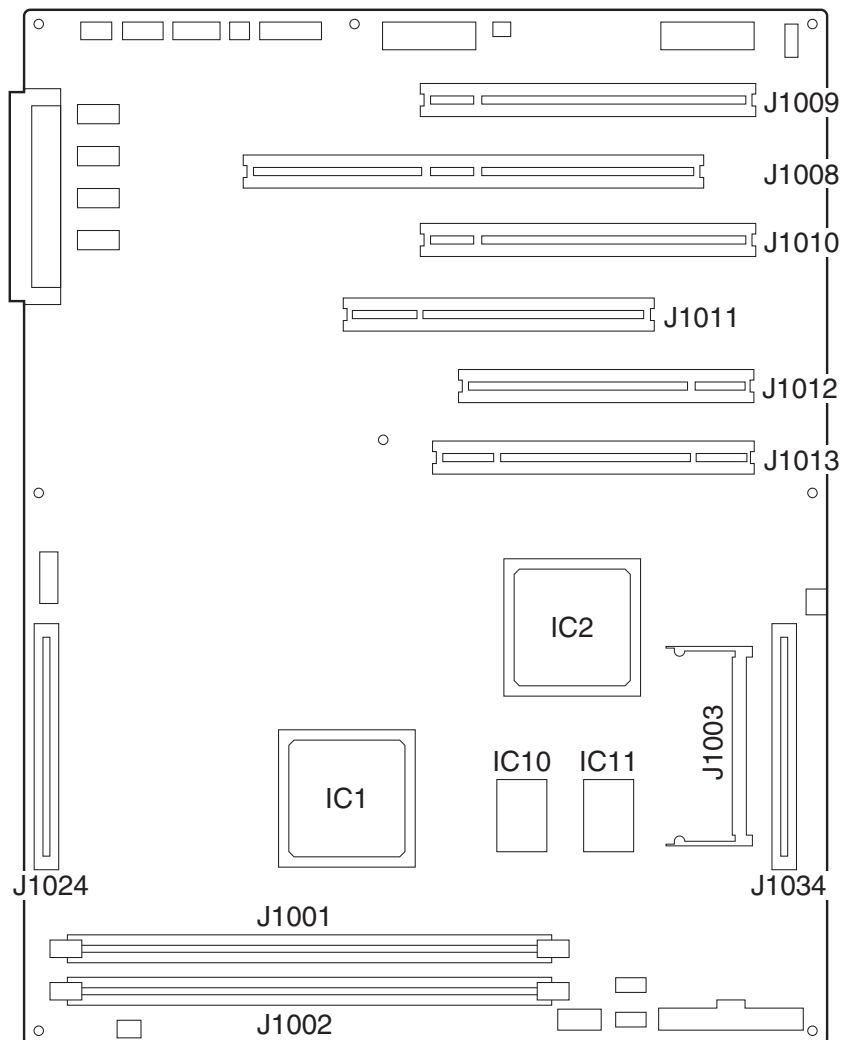
F-4-4

T-4-6

J No.	Description
J1001	image memory (512 MB DDR-SDRAM standard)
J1002	image memory (512 MB DDR-SDRAM standard)
J1034	boot ROM connection slot
J1003	SRAM PCB connection slot
J1009	main controller PCB (sub R-A) connection slot
J1008	main controller (sub PE-A) connection slot
J1010	main controller PCB (sub O-A, optional) connection slot, or relay PCB (Gu-short) connection slot
J1011	main controller board (sub SJ-A) connection slot
J1012	Optional board connection slot
J1013	main controller PCB (sub LAN-bar-A) connection slot
J1024	reserved

4.2.3 Main Controller PCB (sub)

< iR C6800 / iR C5800 >

The following shows the major functions of the main controller PCB (sub) grouped according to jack/IC:
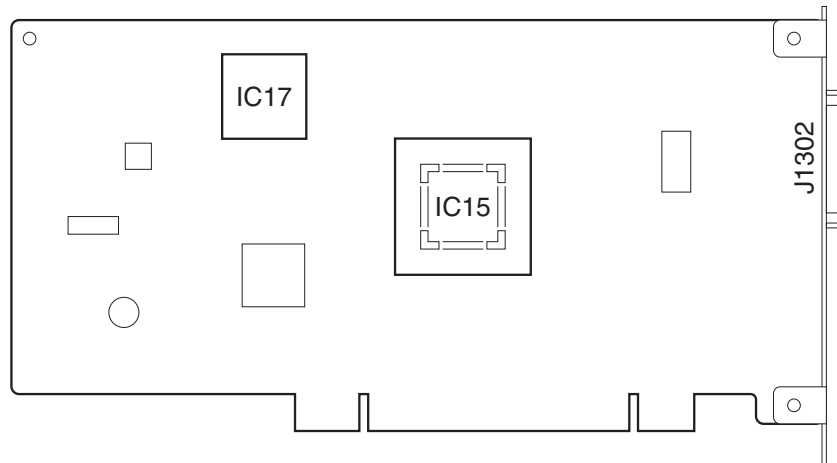
F-4-5
T-4-7

Jack No.	Description
J1302	connector for reader unit communication

T-4-8

IC No.	Description
IC15	controls image processing of input image data from the reader unit.
IC17	controls indication of images read by the scanner.

4.2.4 Expansion Bus PCB

< iR C6800 / iR C5800 >
The following shows the major functions of the expansion bus PCB grouped according to jack/IC:
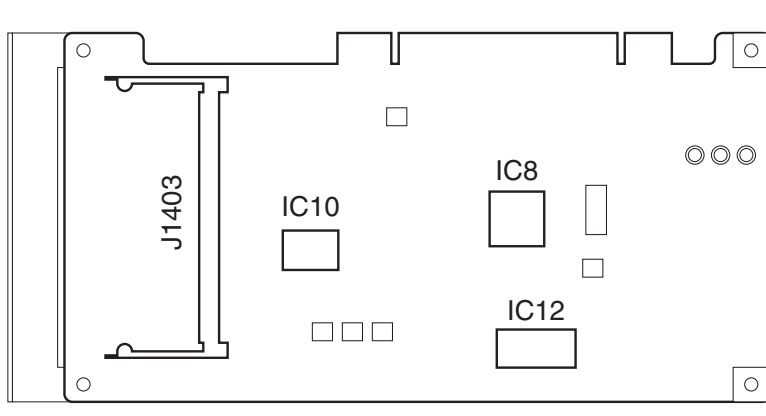
F-4-6
T-4-9

Jack No.	Description
J1403	connector for the SRAM PCB.

T-4-10

IC No.	Description
IC8	LCD controller
IC10	NE controller, coin vendor, interface ASIC for card reader connection
BAT	backup battery for SRAM

4.2.5 SRAM PCB

< iR C6800 / iR C5800 >
The following is a discussion of the major control functions of the SRAM indicated with reference to ICs:
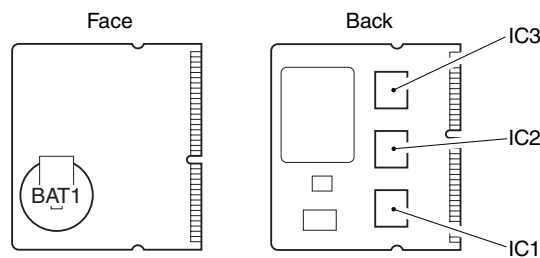
F-4-7
T-4-11

IC No.	Description
IC1,2,3 (SRAM)	retains control information on the image data stored on the HDD; retains service mode settings data and Additional Function settings data

4.2.6 SRAM PCB

< iR C6870U / iR C5870U >

The following shows the principal control mechanisms of the SRAM PCB according to IC:

Face   **Back**
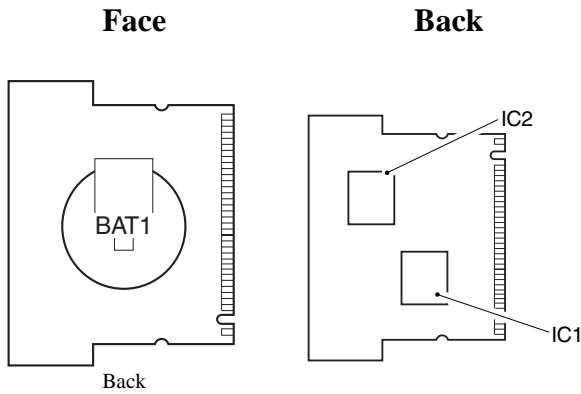
F-4-8

T-4-12

IC No.	Description
IC1,2(SRAM)	stores the following: control information on the image data stored on the HDD, service mode settings data, user mode settings data

4.2.7 HDD

As many as 9 partitions (units or blocks of division) are created on the HDD, and each partition is assigned a specific task.

T-4-13

Partition	Description
DOSDEV	stores general-use data.
FSTDEV	stores image data.
DOSDEV2	stores thumbnail display data for image data.
FSTPDEV	stores image data.
DOSDEV3	stores general-use files temporarily (e.g., PDL spool).
PDLDEV	stores PDL-related files (font, registration form, ICCProfile, PDL color correction information file).
DOSDEV4	stores user data (address book, transfer settings).
BOOTDEV	stores system software.
DOSDEV5	for future expansion.
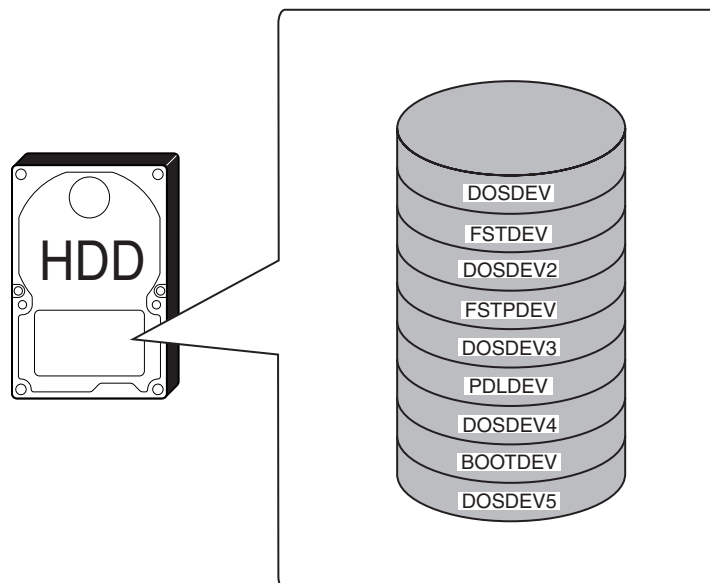
F-4-9

The following shows the construction of the machine's system software:

T-4-14

System software	Function	Location	Remarks
System	system module (overall control)	HDD (BOOTDEV)	
Language	language module (LCD indication control)	HDD (BOOTDEV)	
RUI	language module (remote UI control)	HDD (BOOTDEV)	
Boot	machine startup	BootROM	DIMM
G3FAX	G3 fax control	G3 fax board	DIMM
Dcon	DC controller control	DC control PCB	hardwired flash ROM
Rcon	reader controller control	reader controller PCB	hardwired flash ROM
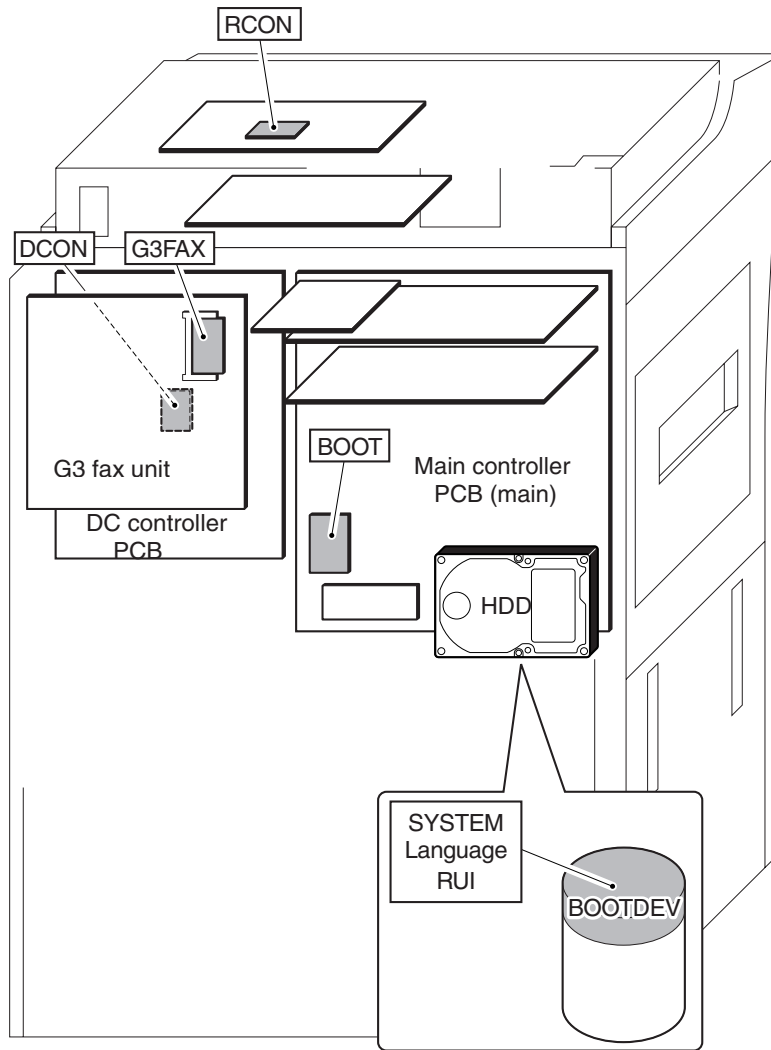
F-4-10

4.3 Start-Up Sequence < iR C6800 / iR C5800>

4.3.1 Overview

< iR C6800 / iR C5800 >
The system software used to control the operation of the machine is stored on the HDD.
When the machine is started up, the CPU on the main controller PCB reads the system software from the HDD into the image memory (SDRAM) of the main controller PCB for use as instructed by the boot program of the boot ROM.
The following screen remains on the control panel white the CPU is reading the system memory from the HDD into the image memory (SDRAM), with the bar indicating the progress of the startup sequence.
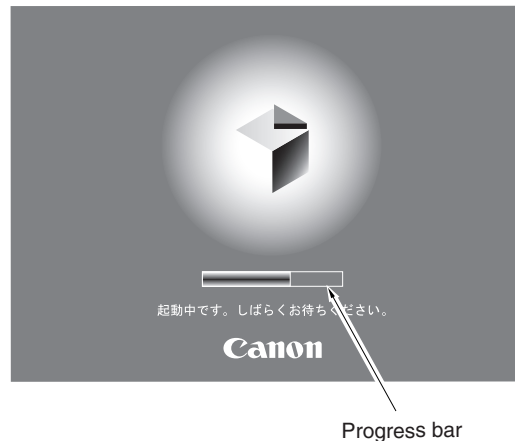
Progress bar

F-4-11

⚠
Never turn off the main power while the progress bar is indicated. The CPU is accessing the HDD, and turning off the power can cause a fault (E602) on the HDD.

4.3.2 Start-Up Sequenc
< iR C6800 / iR C5800 >

1. Boot ROM Area
a. Self-Diagnostic Program (interval 1)
When the main power switch is turned on, the CPU of the main controller PCB runs a self-diagnostic program, which checks the condition of the image memory (SDRAM) and the HDD. If a fault is found, the machine will indicate its presence by an error code.

b. Boot Program (interval 2)
When the self-diagnostic program ends normally, the CPU on the main controller PCB executes the boot program to read the system software from the HDD, writing it to the system area of the image memory (SDRAM).

2. Image Memory (SDRAM) Area> (interval 3)

The machine initializes its various parts using the system software written into memory by the boot program (i.e., I/F settings for the main controller).

When all ends normally, the machine becomes ready for a job (indicating the Operation screen on the control panel, and changing the Start LED key from red to green).
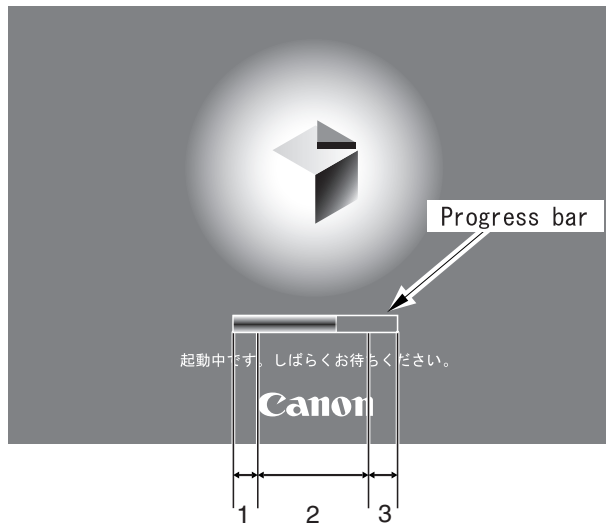
F-4-12

- Self diagnosis program being executed
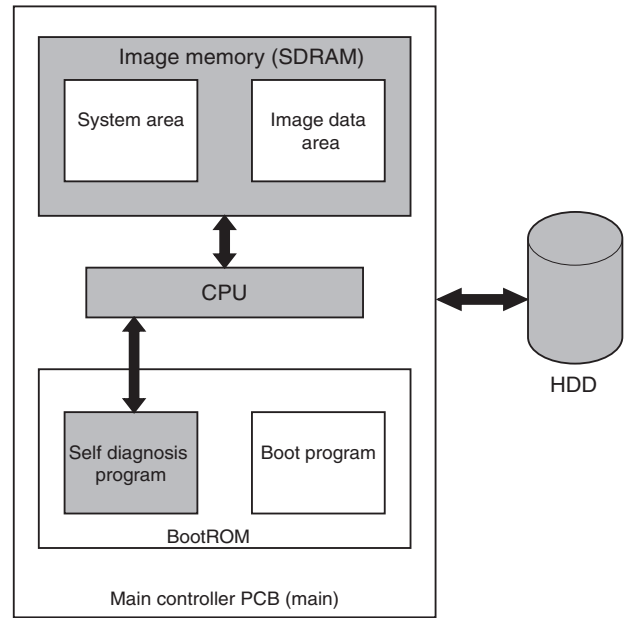
- Boot Program in Execution
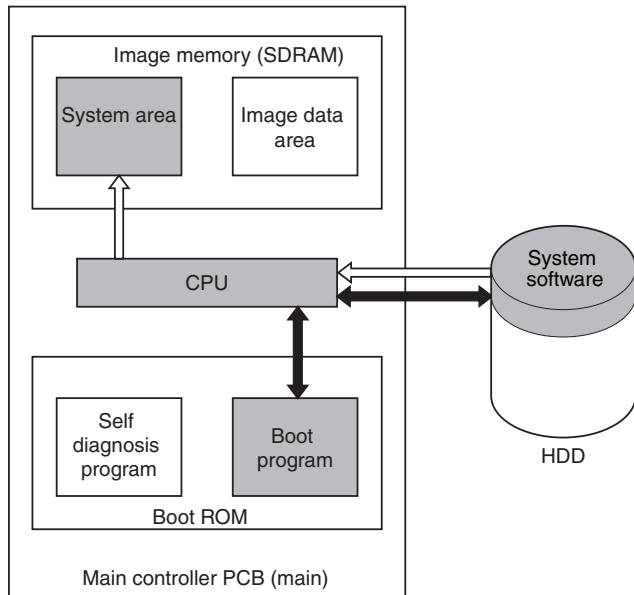
F-4-13

4.4 Start-Up Sequence < iR C6870U / iR C5870U>

4.4.1 Overview

< iR C6870U / iR C5870U >

The system software used to control the operation of the machine is stored on the HDD.

When the machine is started up, the CPU on the main controller PCB reads the system software from the HDD into the image memory (DDR-SDRAM) of the main controller PCB for use as instructed by the boot program of the boot ROM.

The following screen remains on the control panel white the CPU is reading the system memory from the HDD into the image memory (DDR-SDRAM), with the bar indicating the progress of the startup sequence.

起動中です。しばらくお待ちください。
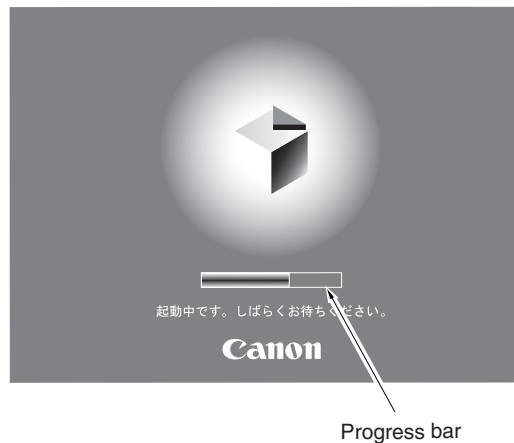
Progress bar

F-4-14

⚠

Never turn off the main power while the progress bar is indicated. The CPU is accessing the HDD, and turning off the power can cause a fault (E602) on the HDD.

4.4.2 Start-Up Sequence

< iR C6800 / iR C5800 >

1.Boot Program (interval 1)

The boot program is executed by the CPU on the main controller PCB when the main power switch is turned on, making checks on the image memory (DDR-SDRAM) and the HDD condition.

2.Control Program 1 (interval 2)

1)The individual devices (i.e., hardware components on the controller PCB) are checked and initialized.

2)If the engine was not previously turned off appropriately (i.e., by performing its shut-down sequence), the system files are repaired as necessary. (The engine may need an extra time when starting up.)

3)The individual program modules are initialized.

3.Control Program 2 (interval 3)

1)The individual software modules are initialized, and the printer and screen configurations are established.

2)The start-up sequence ends when the printer and scanner are correctly recognized.

The engine becomes ready to accept a job when the start-up sequence ends normally. (Its control panel displays the control screen, and the Start key LED changes from red to green.)
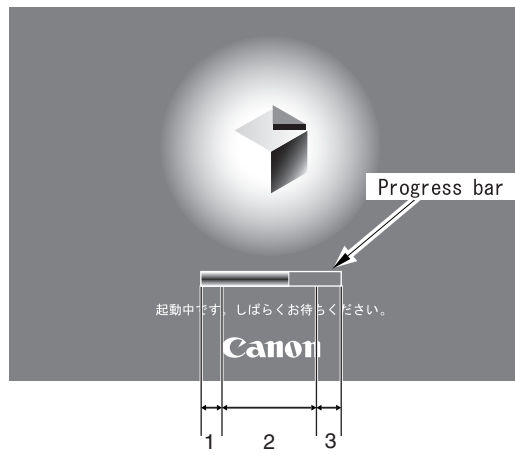
F-4-15

-When Executing the Boot Program

: access to the program at time of execution.
: flow of system program operations.
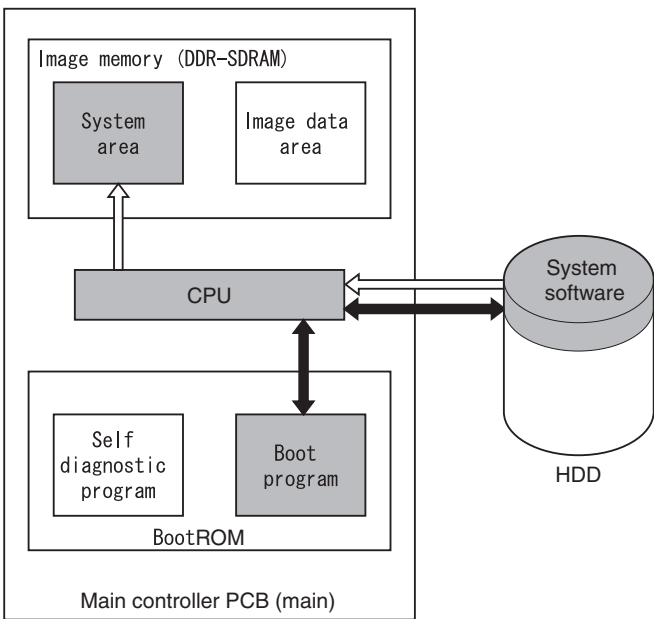
-When Executing the Control Program

: access to the program at time of execution.

F-4-16

4.5 Actions when HDD Error

4.5.1 E602 in Detail
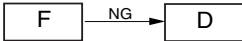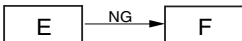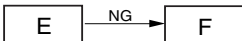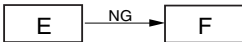
< iR C6800 / iR C5800 >

If the machine suffers a fault associated with E602-xxyy, it calls for different remedial actions as identified by the sub code.

⚠
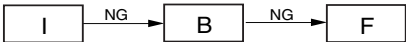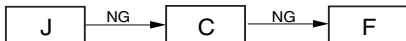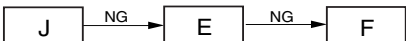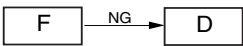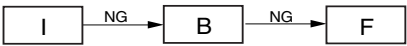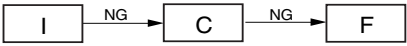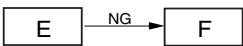
if E602-xxyy is indicated, be sure always to turn off and then on the machine (so that it will run auto recovery sequence).

T-4-15

xx	Partition	yy	Description
00	HDD as a whole	01	The machine cannot recognize the HDD. The machine cannot find BOOTDEV at time of startup.
			Remedy: Turn off the main power, and check the connection of the 2 types of cables (power, IDE) connecting to the HDD; then, turn on the power. When doing so, check to see if the HDD rotates and if the power is supplied.
			[F] —NG→ [D]
		02	The machine cannot find the system software for the CPU of the main controller (main) in BOOT DEV.
			Remedy:
			[E] —NG→ [F]
		03	The machine detects a read error sector while it is reading data from BOOTDEV.
			Remedy:
			[H] —NG→ [E] —NG→ [F]
		06	The machine cannot find the system software for the CPU of the main controller (sub) in BOOTDEV.
			Remedy:
			[E] —NG→ [F]
		07	The machine cannot find an appropriate ICCProfile in BOOTDEV/PDLDEV.
			Remedy:
			[E] —NG→ [F]

T-4-16

xx	Partition	yy	Description
01	DOSDEV	01, 02	The machine has encountered a read error or a file system error while starting up.
02	FSTDEV		
03	DOSDEV2		Remedy:
04	FSTPDEV		[I] —NG→ [B] —NG→ [F]
05	DOSDEV3		if xxyy is 0701, 0702.
06	PDLDEV		Remedy:
07	DOSDEV4		Ask the user to use the RUI to collect address book data, transfer settings, and user
08	BOOTDEV		mode data. [J] —NG→ [C] —NG→ [F]
09	DOSDEV5		if xxyy is 0801, 0802.
FF	not identified		Remedy:
			[J] —NG→ [E] —NG→ [F]
			if xxyy is FF01, FF02.

xx	Partition	yy	Description

Remedy:

```
[ A ] ─NG→ [ E ] ─NG→ [ F ]
```

03   The machine has encountered an HDD contact fault or, operating system error.

Remedy:

Turn off the main power, and check the 2 types of cable (power, IDE) connecting to the HDD; then, turn on the main power.
While doing so, check to see if the HDD rotates and if power is supplied.

```
[ E ] ─NG→ [ F ] ─NG→ [ D ]
```

11,21   The machine has encountered an HDD contact fault.

Remedy: Turn off the main power, and check the 2 types of cable (power, IDE) connecting to the HDD; then,turn on the power.
While doing so, check to see if the HDD rotates and if the power is supplied.

```
[ F ] ─NG→ [ D ]
```

13,25   The machine has encountered a read error.

Remedy:

```
[ I ] ─NG→ [ B ] ─NG→ [ F ]
```

 if xxyy is 0713, 0725.

Remedy:

```
[ I ] ─NG→ [ C ] ─NG→ [ F ]
```

 if xxyy is 0813, 0825.

Remedy:

```
[ I ] ─NG→ [ E ] ─NG→ [ F ]
```

10,12,   The machine has encountered a system error or a packet data error.
14,22,
23,
24

Remedy:

```
[ E ] ─NG→ [ F ]
```

A:
1) Make the following selections, and enter '1': COPIER>FUNCTION>SYSTEM>CHK-TYPE.
2) Make the following selections, and press the OK key to perform: COPIER>FUNCTION>SYSTEM>HDCHECK*.
3) When done, turn off and then on the main power.
B:
1) Find the appropriate CHK-TYPE from the table 'HDD Format' ; then, make the followingselections, and type: COPIER>FUNCTION>SYSTEM>CHK-TYPE.
2) Make the following selections, and press the OK key to perform: COPIER>FUNCTION>SYSTEM>HD-CLEAR.
3) When done, turn off and then on the main power.
C:
1)** Start up the machine in normal mode (i.e., turn on the main power while pressing the 1 and 7 keys ; then, make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>DOWNLOAD).
2) Perform formatting of DOSDEV4 using the Service Support Tool.
3) When done, turn off and then on the main power.
D:
1) Replace the main controller (main) board.
2) Remove the image memory (SDRAM) and the boot ROM from the previous board, and attach them on the new board.
E:
1)** Start up the machine in safe mode (i.e., turn on the power while pressing the 2 and 8 keys).
2) Format the HDD (ALL) using the Service Support Tool, and download the system software (SYSTEM,

LANG, RUI).

3) When done, turn off and then on the main power.

F:

1)** Replace the HDD, and start up the machine in safe mode (i.e., turn on the main power while pressing the 2 and 8 keys).

2) Format the HDD (ALL) using the Service Support Tool, and download the system software (SYSTEM, LANG, RUI).

3) When done, turn off and then on the main power.

G:

1) Make the following selections, and enter '1': COPIER>FUNCTION>SYSTEM>CHK-TYPE.

2) Make the following selections, and press the OK key to perform: COPIER>FUNCTION>SYSTEM>HD-CLEAR.

3) When done, turn off and then on the main power.

H:

1) Turn off the main power; then, turn on the main power while pressing the 1 and 9 keys (so that the machine will automatically start its remedial program*, turning the control panel solid black).

2) When done (i.e., when the control panel turns white), turn off and then on the main power.

⚠

If the machine does not run its remedial program in response to the foregoing step, go to E.

I:

1) Find the appropriate CHK-TYPE in the table "HDD Format"; then, make the following selections and enter CHK-TYPE.

2) Make the selections, and press the OK key to perform: COPIER>FUNCTION>SYSTEM>HD-CHECK*.

3) When done, turn off and then on the main power.

J:

1) Make the following selections, and enter '4': OPIER>FUNCTION>SYSTEM>CHK-TYPE.

2) Make the following selections, and press the OK key to perform: COPIER>FUNCTION>SYSTEM>HD-CHECK (1 to 5 min).

3) When done, turn off and then on the main power.

* Takes about 30 to 50 min.

** As necessary, ask the user to use the RUI to collect address book data, transfer settings, and user mode settings.

T-4-17

HDD Format

Partition	CHK-TYPE	Typical data item deleted
DOSDEV	1	all relating to images (reservation, Box, fax); mode memory, routine task button
FSTDEV	1	
DOSDEV2	1	
FSTPDEV	1	
DOSDEV3	2	PDL spool
PDLDEV	3	PDL-related file (font, registration form, ICCProfile)
DOSDEV4	4	user data (address book, transfer settings), system software
BOOTDEV	4	
DOSDEV5	5	-
non specific	0	-

4.5.2 E602 in Detail

< iR C6870U / C5870U >
E602-XXYY

- if XX='00'

T-4-18

XX	YY	Description	Remedial action
00	01	The HDD is not recognized. The boot partition (BOOTDEV) is not found at time of start-up.	1. Turn off the main switch, and check the HDD cable. Thereafter, turn on the main switch. 2. Check to see if the HDD rotates at power-up. Check to see if 5V/12V power is being supplied. 3. If the foregoing fails to correct the fault, replace the HDD and reinstall the system software. If the fault still persists, replace the main board.
	02	There is no system software for the main CPU.	1. Start up in safe mode; then, execute full formatting using the SST, reinstall the system software (System, Lang, RUI), and turn off and then on the main switch. 2. If the foregoing fails, suspect a fault on the HDD. Replace the HDD, and reinstall the system software.
	03	WriteAbort has been detected in BootDevice.	1. Locate the sector that shows WriteAbort, and repair it. <in the case of black-and-white E code> 1-1 Go through the following, as service mode cannot be started: 1-2 Turn off the power; then, while holding down the 1 and 9 keys, turn on the power so that the WriteAbort sector repair routine will start automatically, causing the screen to go solid black. 1-3 Allow for some time (40 to 50 min). A progress indictor will appear. When the screen turns solid white, the repair is over. <in the case of spanner icon indication> 1-1 Set CHK-TYPE=0, and execute HD-CHECK (40 to 50 min); then, turn off the main switch. 2. If the foregoing fails, start up in safe mode, and execute full formatting using the SST and reinstall the system software (System, Lang, RUI); then, turn off and then on the main switch. 3. If the fault still persists, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
	06	The system software of the sub CPU is missing.	1. Start up in safe mode, and execute full formatting using the SST and reinstall the system software (System, Lang, RUI); then, turn off and then on the main switch. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
	07	ICCProfile is missing.	1. Start up in safe mode, and execute full formatting using the SST and reinstall the system software (System, Lang, RUI); then, turn off and then on the main switch. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.

XX				YY					
							During normal operation		
				YY=03	YY=05	YY=00,01,02,04	YY=11,21	YY=13,25	YY=10,12,14,22,23,24
				At time of start-up			During normal operation		
XX	CHK-TYPE	Partition in question	Description	Remedy	Remedy	Remedy	Remedy	Remedy	Remedy
01	1	FSTDEV	image data storage area (e.g., Box)	*1	*5	*9	*10	*11	*12
02		IMG_MNG	image management data	*1	*5	*9	*10	*11	*12
03		FSTCDEV	image data storage area (for Chasing)	*1	*5	*9	*10	*11	*12

XX				YY					
04		APL_GEN	general-purpose data storage area	*1	*5	*9	*10	*11	*12
05	2	TMP_GEN	general-purpose data storage area (temporary file)	*1	*5	*9	*10	*11	*12
06		TMP_FAX	fax (temporary file)	*1	*5	*9	*10	*11	*12
07		TMP_PSS	PSS (temporary file)	*1	*5	*9	*10	*11	*12
08	3	PDLDEV	PDL-related file storage area (font, registration form, ICCProfile PDL function color correction information file)	*1	*5	*9	*10	*11	*12
09	4	BOOTDEV	Firmware storage area (Booktable, MEAP, Key, certificate, PDF dictionary, RUI content, voice dictionary (ICC profile, PS test data))	*3	*8	*9	*10	*11	*12
10	5	APL_MEAP	MEAP	*1	*5	*9	*10	*11	*12
11	6	APL_SEND	address book, filter	*2	*5	*9	*10	*11	*12
FF	0	Not identified	HDD full fault check and recovery	*4	*7	*9	*10	*11	*12

- if XX='01 to FF'

XX	CHK-TYPE	Partition in question	Description	YY=03	YY=05	YY=00,01,02,04	YY=11,21	YY=13,25	YY=10,12,14,22,23,24	Items deleted (typical)	HDD formatting by HD-CLEAR	HDD formatting by normal mode + SST	HDD formatting by Safe mode + SST
				At time of start-up			During normal operation						
				Remedy	Remedy	Remedy	Remedy	Remedy	Remedy				
01	1	FSTDEV	image data storage area (e.g., Box)	*1	*5	*9	*10	*11	*12	all stored data (e.g., Box)	possible (3 partitions simultaneous)	FSTDEV selected (3 partitions simultaneous)	
02		IMG_MNG	image management data	*1	*5	*9	*10	*11	*12				
03		FSTCDEV	image data storage area (for Chasing)	*1	*5	*9	*10	*11	*12				
04	2	APL_GEN	general-purpose data storage area	*1	*5	*9	*10	*11	*12	General	possible (4 partitions simultaneous)	APL_GEN selected (4 partitions simultaneous)	
05		TMP_GEN	general-purpose data storage area (temporary file)	*1	*5	*9	*10	*11	*12	General			
06		TMP_FAX	fax (temporary file)	*1	*5	*9	*10	*11	*12	FAX			
07		TMP_PSS	PSS (temporary file)	*1	*5	*9	*10	*11	*12	PSS			
08	3	PDLDEV	PDL-related file storage area (font, registration form, ICCProfile, PDL function color correction information file)	*1	*5	*9	*10	*11	*12	UserFont IccProfile	possible	PDLDEV selected	

09	4	BOOT DEV	Firmware storage area (Booktable, MEAP, Key, certificate, PDF dictionary, RUI content, voice dictionary (ICC profile, PS test data))	*3	*8	*9	*10	*11	*12	System	Not possible	Not possible
10	5	APL_MEAP	MEAP	*1	*5	*9	*10	*11	*12	MEAP	possible	possible
11	6	APL_SEND	address book, filter	*2	*5	*9	*10	*11	*12	SEND	Not possible	Not possible
FF	0	Not identified	HDD full sector fault check and repair	*4	*7	*9	*10	*11	*12	-	-	-

	YY	Description	Remedial action
*1	03	WriteAbort(start-up)	1. Indicate the partition in question for CHK-TYPE; then, execute HDD-CHECK (several min to several 10s of min); then, turn off and then on the power. 2. If the foregoing fails, indicate the partition for CHK-TYPE, and execute HDD-CLEAR; then, turn off and then on the main power switch.
*2	03	WriteAbort(start-up)	1. If possible, ask the user to make a backup of the data (address book) using the remote UI. 2. Indicate the partition in question for CHK-TYPE, and execute HDD_CHECK (several min to several 10s of min); then, turn off and then on the main power switch. 3. If the foregoing fails, start download mode, and execute full formatting and reinstall the system software (System, Lang, RUI); then, turn off and then on the main power switch.
*3	03	WriteAbort(start-up)	Recovery on the boot partition always calls for the use of SST in safe mode: 1. Set CHK-TYPE=0, and execute HDD-CHECK (several 10s of min); then, turn off and then on the power. 2. If the foregoing fails, start download mode, and execute full formatting and reinstall the system software (System, Lang, RUI); then, turn off and then on the main power switch.
*4	03	WriteAbort(start-up)	1. Set CHK-TYPE=0, and execute HDD-CHECK (several 10s of min); then, turn off and then on the power. 2. If the foregoing fails, use CHK-TYPE-1, 2, 3, 5 to execute HDD-CLEAR; then, turn off and then on the power.
*5	05	file system error	1. Indicate the partition for CHK-TYPE, and execute HDD-CLEAR; then, turn off and then on the main switch. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
*6	05	file system error	HDD-CLEAR cannot be executed in service mode so as to prevent inadvertent deletion of data for address book, filter, and the like. 1. If possible, ask the user to make a backup of the data for address book using the remote UI. 2. Start in service mode, and start download mode. Execute full formatting using the SST, and reinstall the system software (System, Lang, RUI); then, turn off and then on the main power switch.
*7	05	file system error	This error seldom occurs. 1. Using CHK-TYPE=1, 2, 3, 5, execute HDD-CLEAR; then, turn off and then on the power. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.

	YY	Description	Remedial action
*8	05	file system error	Repair of the boot partition always calls for the use of the SST in safe mode. 1. Start up in safe mode, and execute full formatting using the SST and reinstall the system software (System, Lang, RUI); then, turn off and then on the main power switch. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
*9	00,01,02,04	HDD contact fault, or v x Works system error	1. Check the cable and power supply connectors. 2. If the foregoing fails, start up in safe mode, and execute full formatting using the SST and reinstall the system software; then, turn off and then on the main power switch. 3. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
*10	11,21	HDD contact fault	This error seldom occurs in the course of normal read/write operations. 1. Check the cable and power connectors. 2. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
*11	13,25	WriteAbort	The text file on the HDD (e.g., Box) may be damaged. 1. Indicate the partition for CHK-TYPE, and execute HDD-CHECK (several min to several 10s of min); then, turn off and then on the power. 2. If the forgoing fails, indicate the partition for CHK-TYPE, and execute HDD-CLEAR; then, turn off and then on the main switch. (In the case of BOOTDEV, BOOTDEV2, or APL_SEND, execute formatting using the SST and reinstall the system software.) 3. If the foregoing fails, suspect a fault on the HDD, and replace the HDD and reinstall the system software.
*12	10,12,14 22,23,24	system error, or packet data error	This error occurs in response to corruption of data or a bug in software. 1. Start up in safe mode, and execute full formatting using the SST and reinstall the system software (System, Lang, RUI); then, turn off and then on the main power switch. 2. If the foregoing fails, suspect a fault on the HDD; replace the HDD, and reinstall the system software.

4.5.3 E609 in Detail

< iR C6800 / C5800 >

E609 is an HDD error associated with the HDD from Samsung.
See below for its cause and remedy.

T-4-19

Code	Detail	Possible Cause/Description	Remedy
E609		Samsung HDD-related error code	
	0000	at time of start-up, there is no increase in temperature to a specific level.	Replace the HDD.
	0001	at time of sleep recovery, the temperature does not reach a specific level.	Turn off and then on the main power supply. If resetting fails, replace the HDD.

4.6 Image Processing <iR C6800/ C5800>

4.6.1 Overview of the Flow of Image Data

< iR C6800 / C5800 >
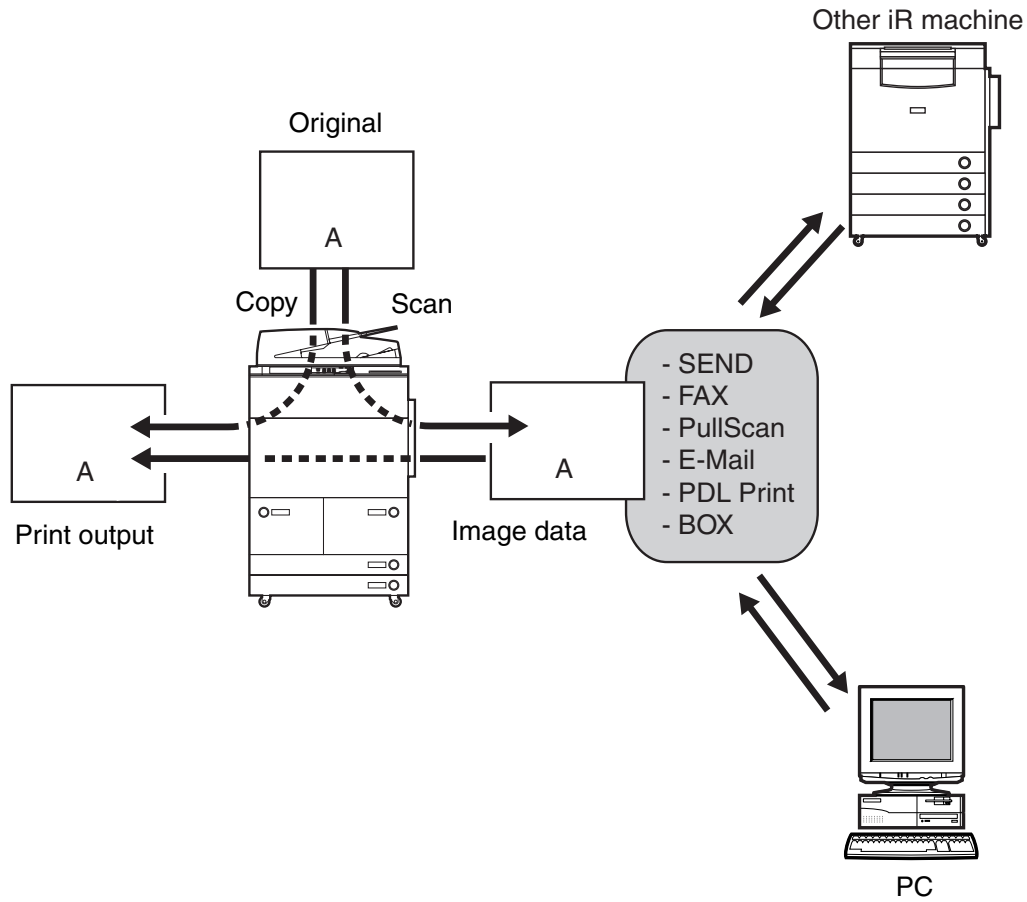
F-4-17

4.6.2 Construction of the Image Processing Modules

< iR C6800 / iR C5800 >

The machine's major image processing mechanisms are carried out by the main controller PCB(main). The following shows the construction of the modules associated with these mechanisms:

Reader controller
PCB

Reader unit

Interface
PCB

Reader Input Image
Processing Block

Processes image data
collected by the reader unit.

SRAM
PCB

Expansion bus
PCB

Main controller
PCB (sub)

DC control
PCB

Main controller
PCB (main)

Processes image data
from the reader unit
for output to the printer.

SDRAM

HDD

- image memory
- program temporary storage
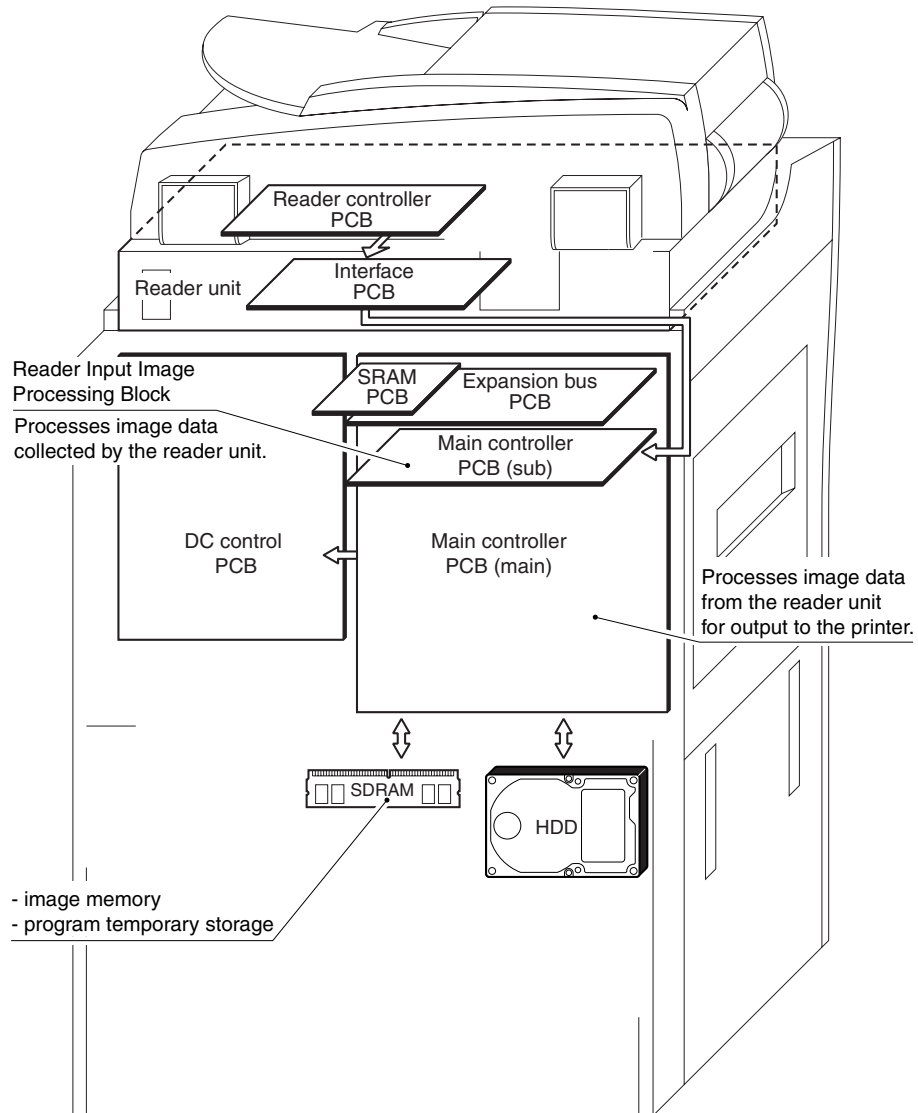
F-4-18

4.6.3 Reader Input Image Processing

< iR C6800 / iR C5800 >
The image data (RGB data) from the CCD unit is processed by the main controller PCB (sub).

Processing that takes
the place of conventional
input masking;
executes color correction
for the CCD RGB filters.

Hereafter, Bk signals only
in the case
of mono color mode.

Reader unit

RGB 24

Main controller PCB (sub)

IC15

RGB phase correction

Input y correction

Input direct mapping

- edge emphasis
- smoothing

- anti-see-through (BE)
- Bk generation
  (mono color)

- framing
- blanking
- frame erasing

IC17

black character
identification

ACS
identification

Image area image
signal generation

4

RGB

IC12

Main controller PCB (main)

F-4-19

4.6.4 Compression/Decompression and Editing Blocks

< iR C6800 / iR C5800 >
IC12 is used to compress/decompress and edit various data.
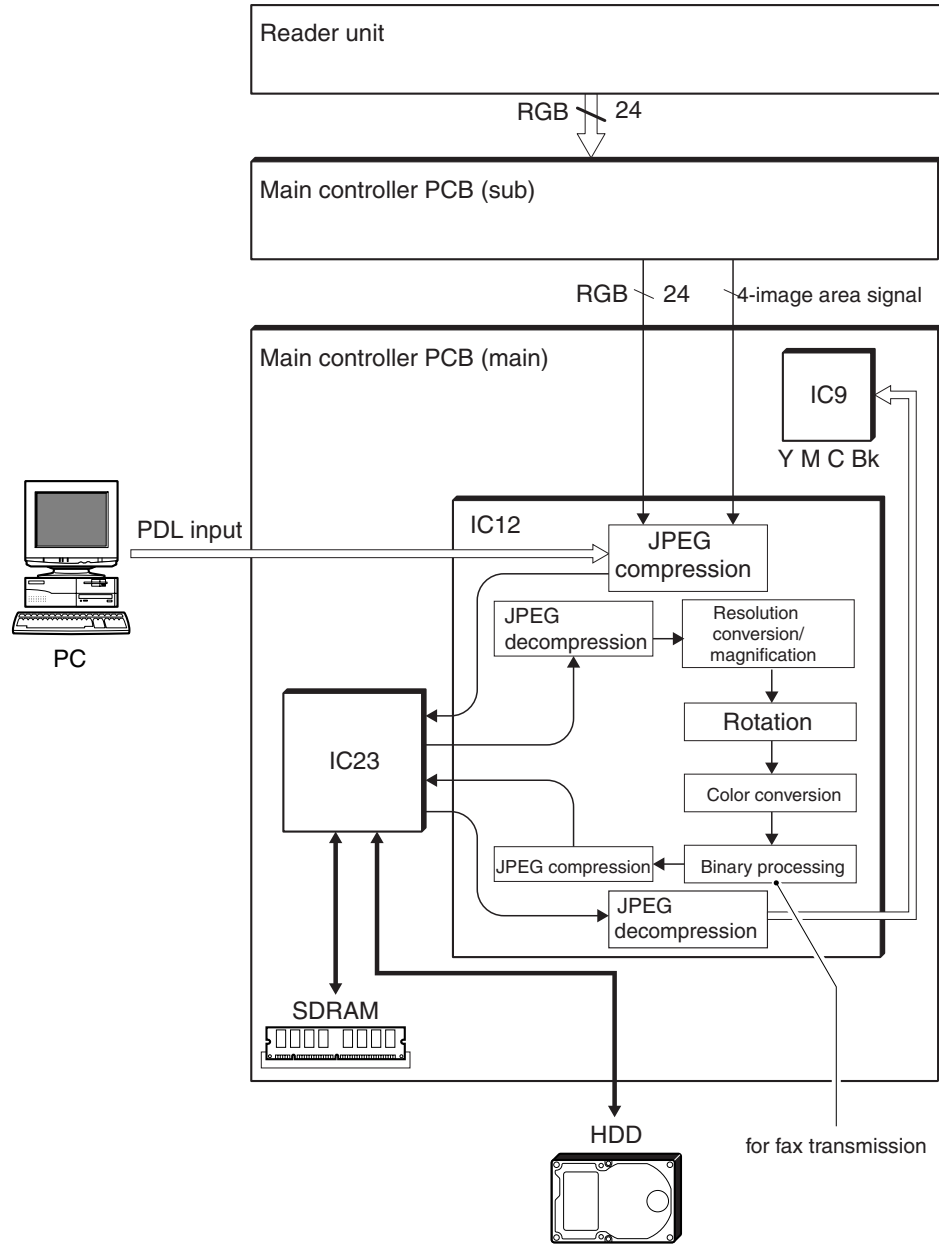
F-4-20

4.6.5 Printer Output Image Processing

< iR C6800 / C5800 >

Main controller PCB processes image data from the Reader unit for output to the printer.

```
                      ┌─────────────────────────────────────┐
                      │  Reader unit                        │
                      └─────────────────────────────────────┘
                                    │ RGB ⧵ 24
                                    ▽
                      ┌─────────────────────────────────────┐
                      │  Main controller PCB (sub)          │
                      └─────────────────────────────────────┘
                          RGB ⧵ 24          area signal
```

If ACS identifies the original
as being black-and-white,
the machine generates
the Bk signal here.
(Otherwise, the data is
let to pass through the block.)

If color mode is selected,
the Bk signal is generated here.

The text area is subjected
to UCR processing.

The correction LUT is prepared
as part of PASCAL control.

Main controller
PCB (man)

RGB ⧵ 24   area signal

- background removal (AE)
- Bk generation

RGB-to-CMY conversion

output direct mapping

CMYK

- F value adjustment
- color balance correction

output gamma correction

Best screen selection

Smoothing

- framing
- blanking

Y,M,C,Bk ⧵ 24   area signal

- image data serial/
  parallel conversion
- video count

To DC controller   Y,M,C,Bk
PCB

F-4-21

4.7 Image Processing <iR C6870U / iR C5870U>

4.7.1 Overview of the Flow of Image Data
< iR C6870U / iR C5870U >
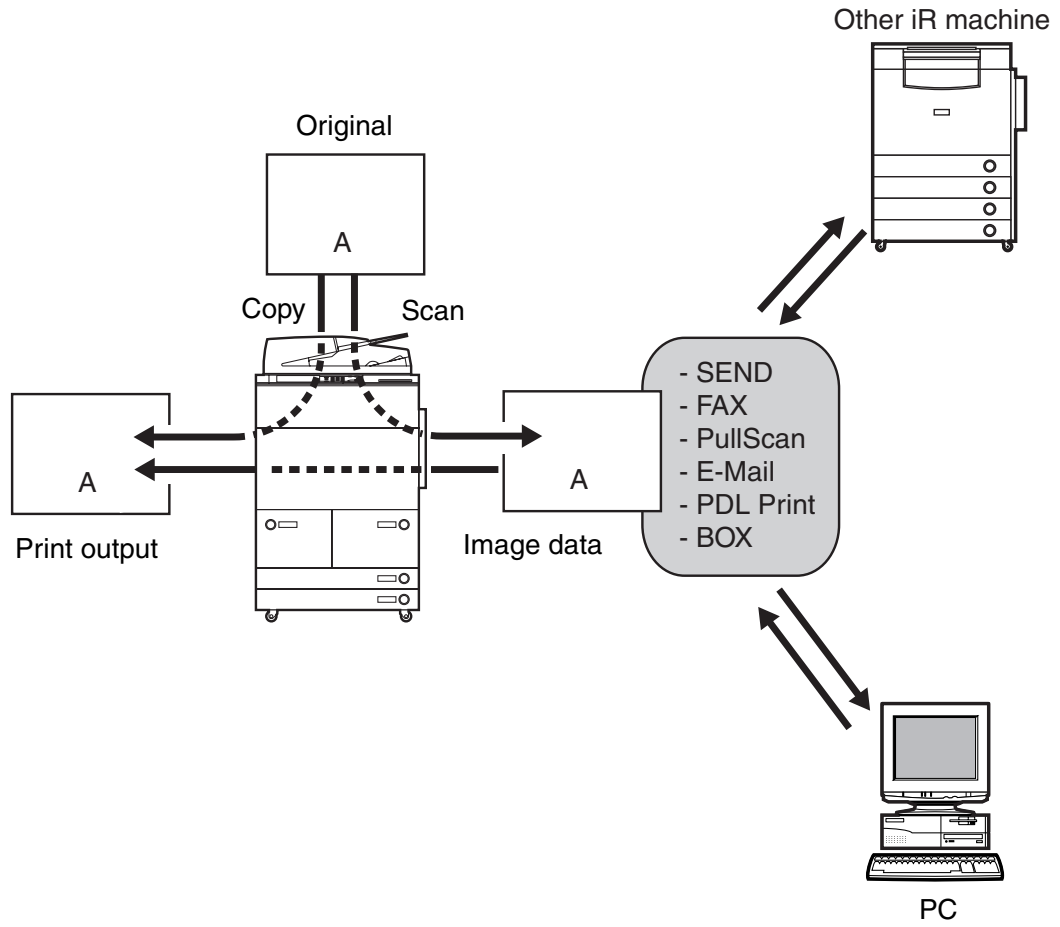
F-4-22

4.7.2 Construction of Image Processing Modules
< iR C6870U / iR C5870U >
The device uses a main controller (main) and other 4 types of main controllers (sub) to process image data.
The modules associated with image processing are as follows:
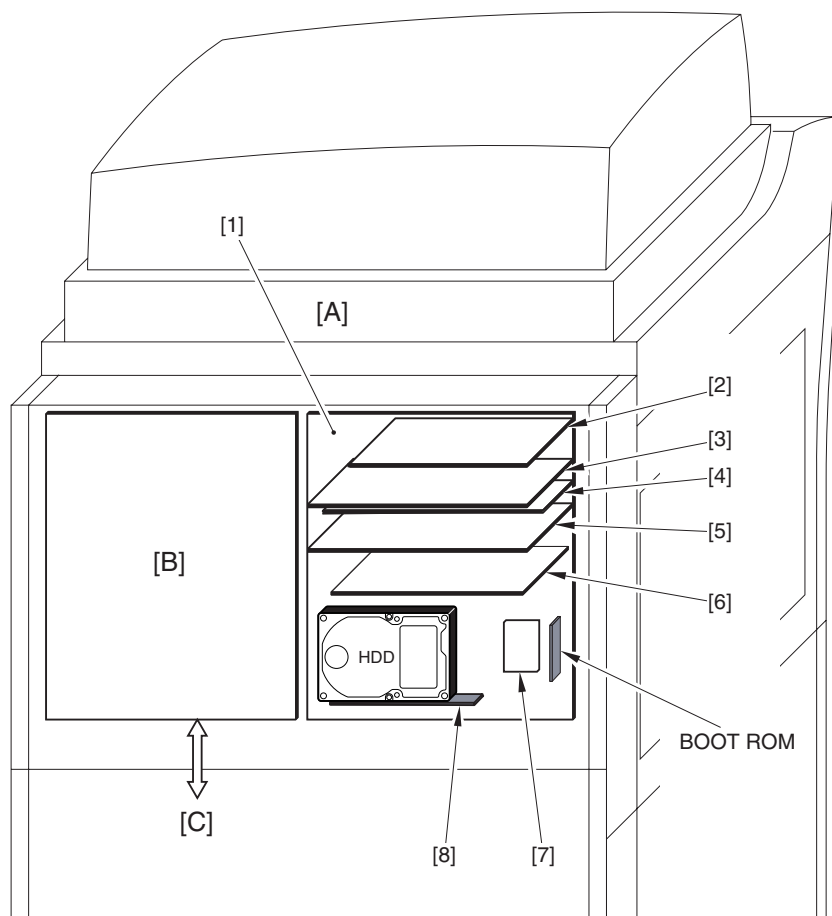
F-4-23
T-4-20

	PCB	Description
[1]	Main controller PCB (main)	system control, memory control, printer output image processing control
[2]	Main controller PCB (sub R-A)	color space conversion, resolution conversion, binary processing, image merge, image shift, rotation, compression expansion
[3]	Main controller PCB (sub PE-A)	printer output image processing (color space compression, background removal, LGO conversion, direct mapping, color balance, zoom fine-adjustment, gradation conversion, screen processing, framing, add-on)
[4]	Main controller PCB (sub SJ-A)	scanner interface, scanner image processing (resolution conversion, image rotation, compression expansion)
[5]	Main controller PCB (sub LAN-bar-A)	LAN connection, HDD controller, HDD power supply, USB-Host, USB-Device
[A]	Reader unit	
[B]	Reader controller PCB	
[C]	Main controller PCB (main)	
[D]	DC controller PCB	

4.7.3 Reader Input Image Processing

< iR C6870U / iR C5870U >

The image data (RGB data) collected by the CCD is processed by the main controller PCB (sub SJ-A, sub R-A, sub PE-A).

Reader unit

RGB ↘ 24

Main controller PCB
(sub SJ-A, sub R-A,
sub PE-A)

RGB phase correction

Processing taking the place
of conventional masking.
Executes color correction
for the CCD RGB filters.

Input gamma correction

Input direct mapping

- Edge enhancement
- Smoothing

If mono-color mode,
only Bk signals hereafter.

- See-though prevention (BE)
- Bk generation
  (mono-color mode)

- Framing
- Blanking
- Frame erasing

CMYK

Main controller PCB (main)

F-4-24

4.7.4 Compression, Decompression, and Edit Processing Blocks
< iR C6870U / iR C5870U >
The main controller PCB processes data for compression, decompression, and editing.
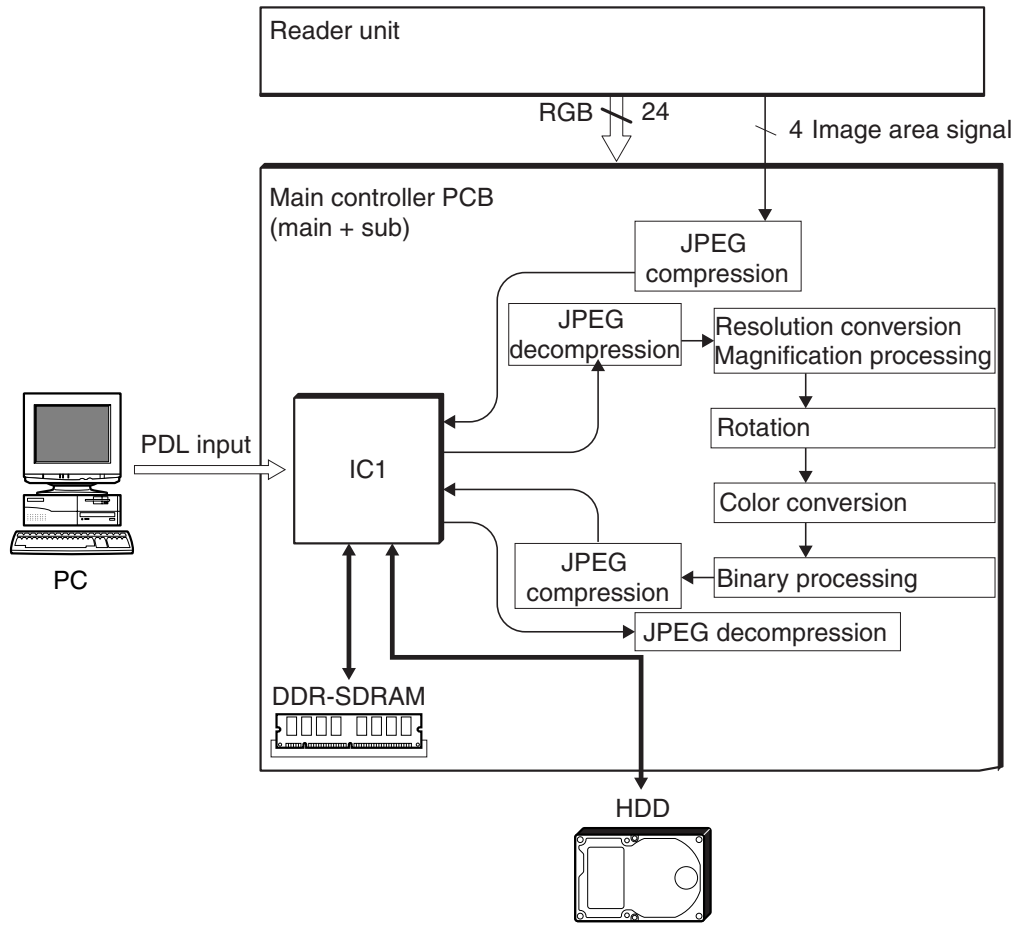
F-4-25

4.7.5 Printer Output Image Processing
< iR C6870U / C5870U >
The main controller processes the image data arriving from the reader unit for output to the printer unit.
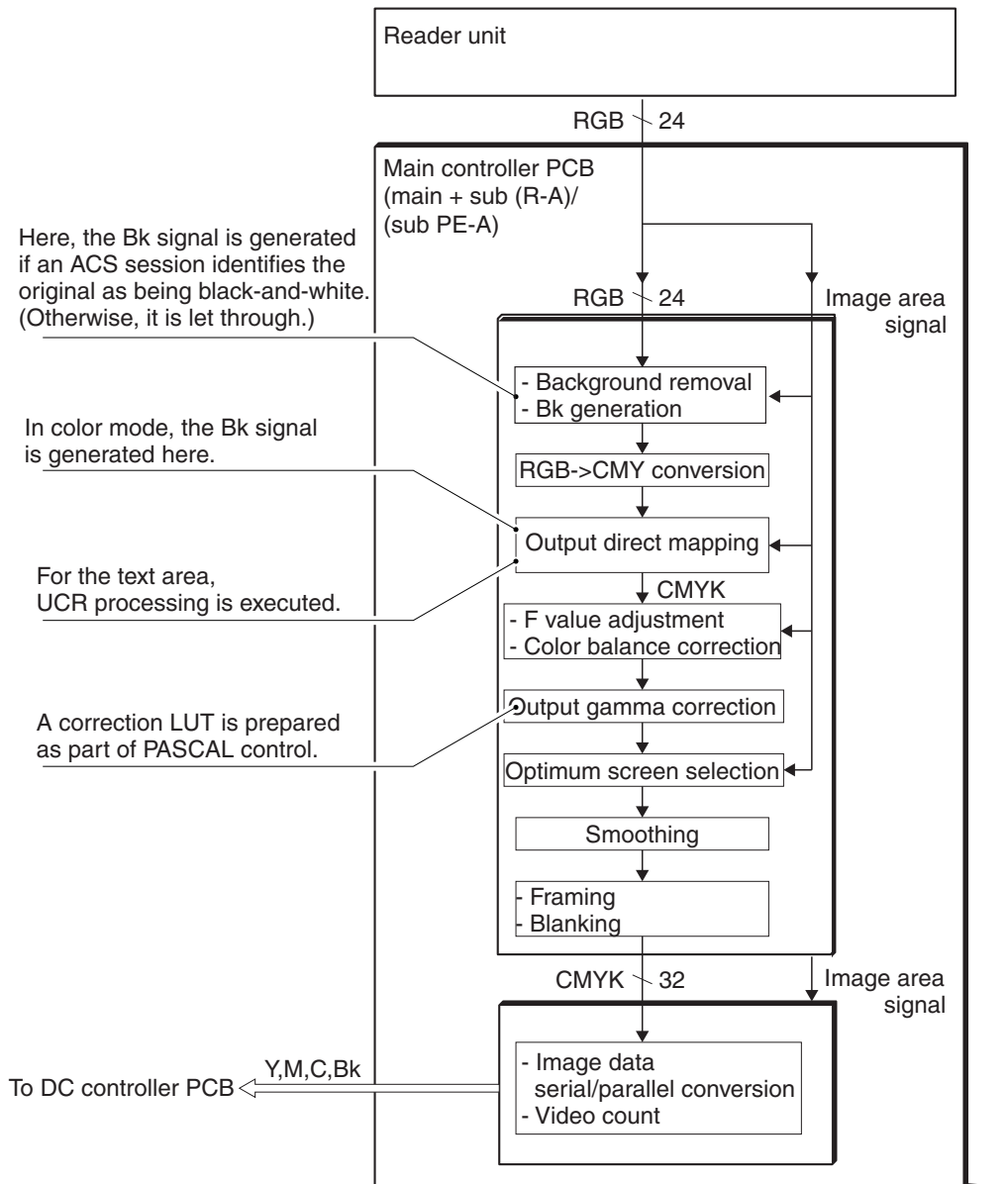
F-4-26

4.8 Flow of Image Data < iR C6800 / iR C5800 >

4.8.1 Flow of Image Data (copier function)
< iR C6800 / iR C5800 >
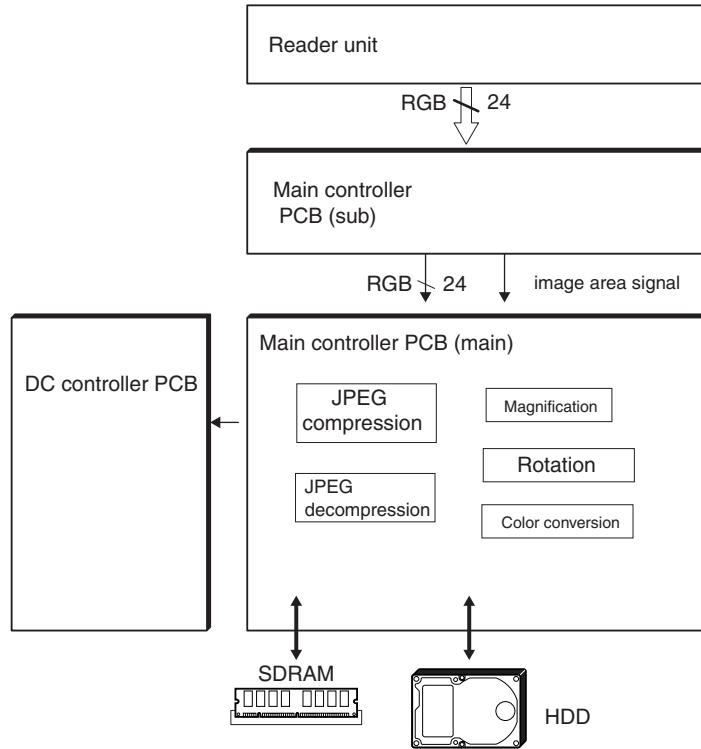
F-4-27

4.8.2 Flow of Image Data (Box function)
< iR C6800 / iR C5800 >
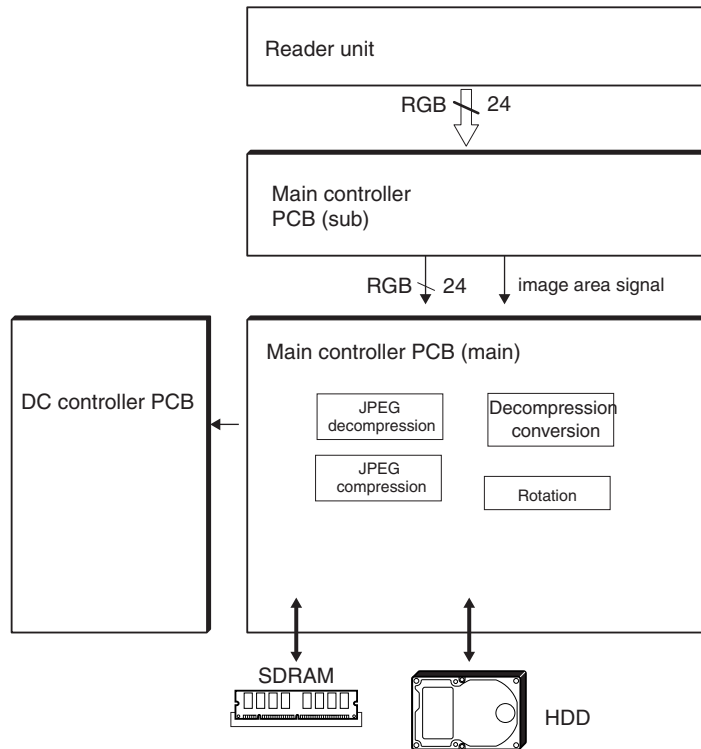
F-4-28

4.8.3 Flow of Image Data (SEND function)

< iR C6800 / iR C5800 >

```
                  ┌─────────────────────────────┐
                  │  Reader unit                │
                  └─────────────────────────────┘
                          RGB      24
                             ↓

                  ┌─────────────────────────────┐
                  │  Main controller            │
                  │  PCB (sub)                  │
                  └─────────────────────────────┘
                     RGB    24    image area signal
                        ↓          ↓
                  ┌─────────────────────────────────────┐
                  │  Main controller PCB (main)         │
                  │   ┌──────────────┐  ┌──────────────┐│
                  │   │ JPEG         │  │ Resolution   ││
                  │   │ decompression│  │ conversion   ││
   for B/Wimage   │   ├──────────────┤  ├──────────────┤│
                  │   │ Binary       │  │ Rotation     ││
                  │   │ processing   │  ├──────────────┤│
                  │   ├──────────────┤  │ JPEG         ││
                  │   │ MMR          │  │ compression  ││
                  │   │ compression  │  └──────────────┘│
                  │   └──────────────┘                  │
                  └─────────────────────────────────────┘
                        ↕                    ↕
                     SDRAM                  HDD

                  ┌─────────────────────────────┐
                  │  Image conversion board     │
                  └─────────────────────────────┘
                             ↓
                  ┌─────────────────────────────┐
                  │  Ethernet board             │
                  └─────────────────────────────┘
```
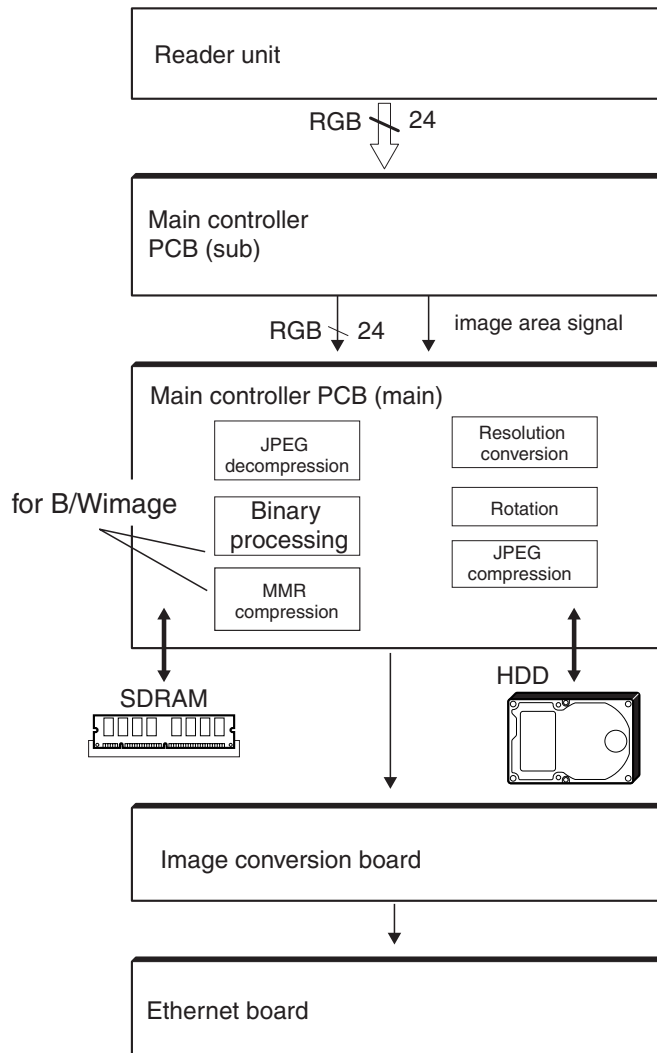
F-4-29

4.8.4 Flow of Image Data (fax transmission)

< iR C6800 / iR C5800 >

The following shows the flow of image data when fax transmission functions are used:
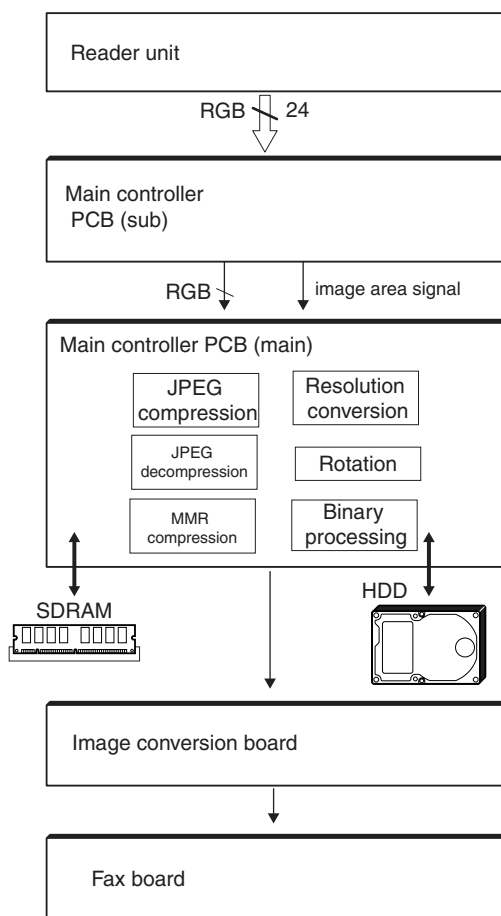
F-4-30

4.8.5 Image Data Flow for Fax Reception Functions
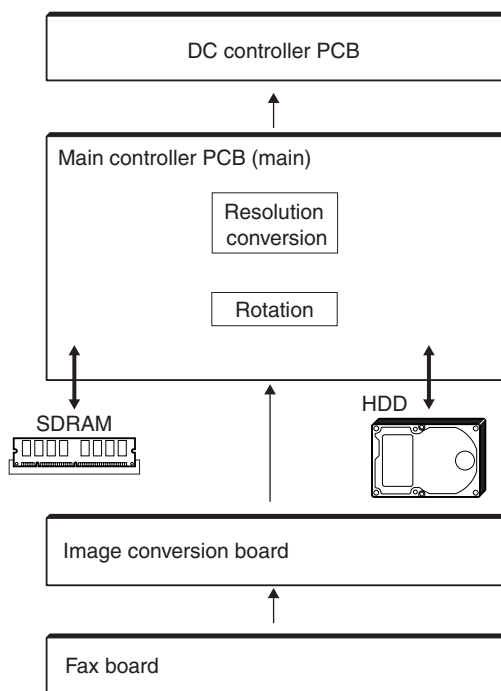
< iR C6800 / iR C5800 >

F-4-31

4.8.6 Flow of Image Data (PDL function)
< iR C6800 / iR C5800 >
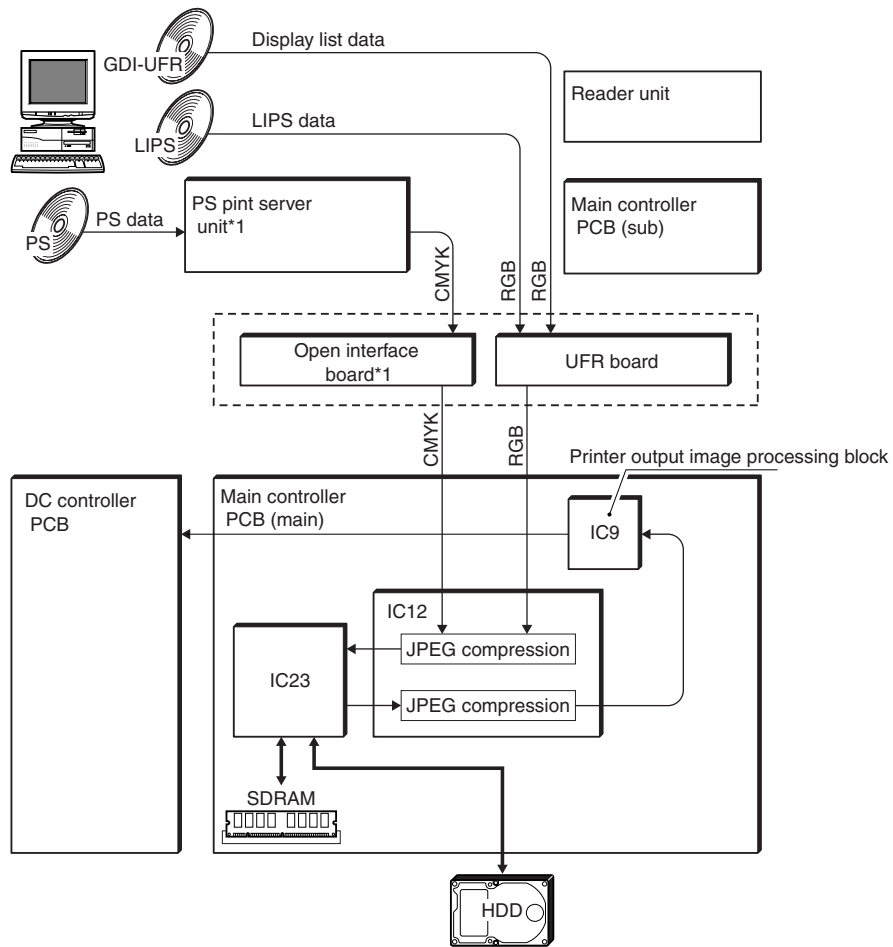
F-4-32

4.9 Flow of Image Data < iR C6870U / iR C5870U >

4.9.1 Flow of Image Data for Copier Functions
< iR C6870U / iR C5870U >
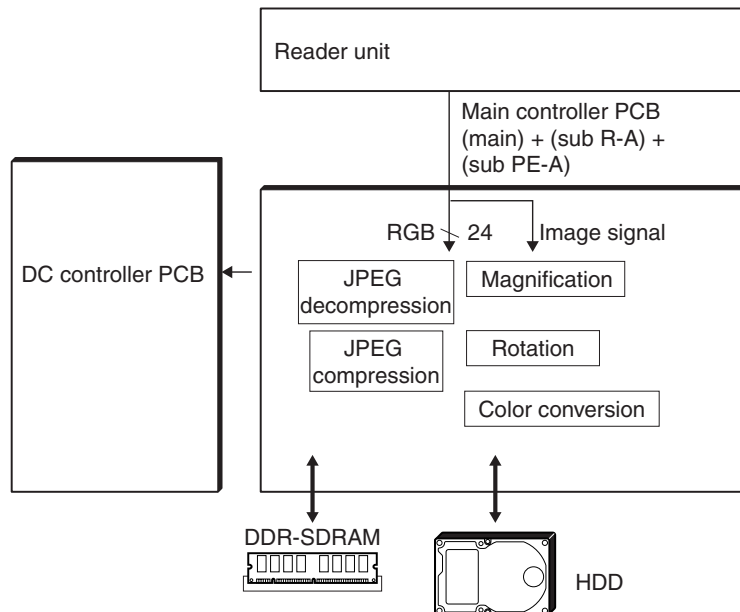
F-4-33

4.9.2 Flow of Image Data for Box Functions

< iR C6800 / iR C5800 >

Reader unit

Main controller PCB
(main) + (sub SJ-A) +
(sub R-A) + (sub PE-A)

RGB 24   Image area signal

DC controller PCB

| JPEG decompression | Resolution conversion |
| JPEG compression | Rotation |

DDR-SDRAM

HDD
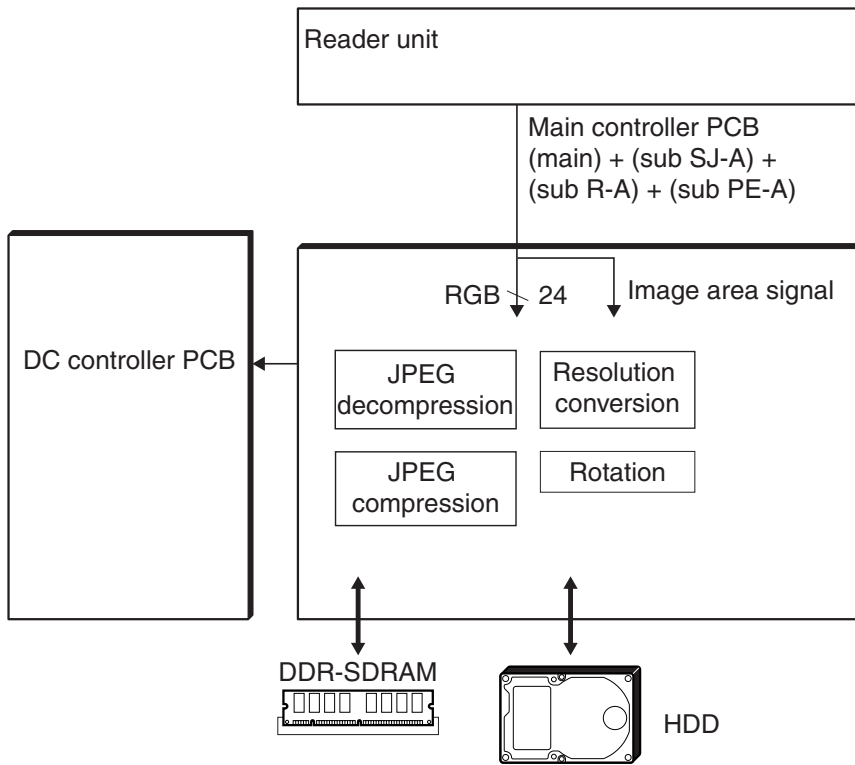
F-4-34

4.9.3 Flow of Image Data for SEND Functions

< iR C6800 / iR C5800 >

Reader unit

Main controller PCB
(main) + (sub SJ-A) +
(sub R-A) + (sub PE-A)

RGB 24   Image signal

JPEG decompression   Resolution conversion

For black-and-white image

JPEG compression   Rotation

Binary processing

MMR compression

DDR-SDRAM

HDD

Main controller PCB (sub LAN-bar-A)
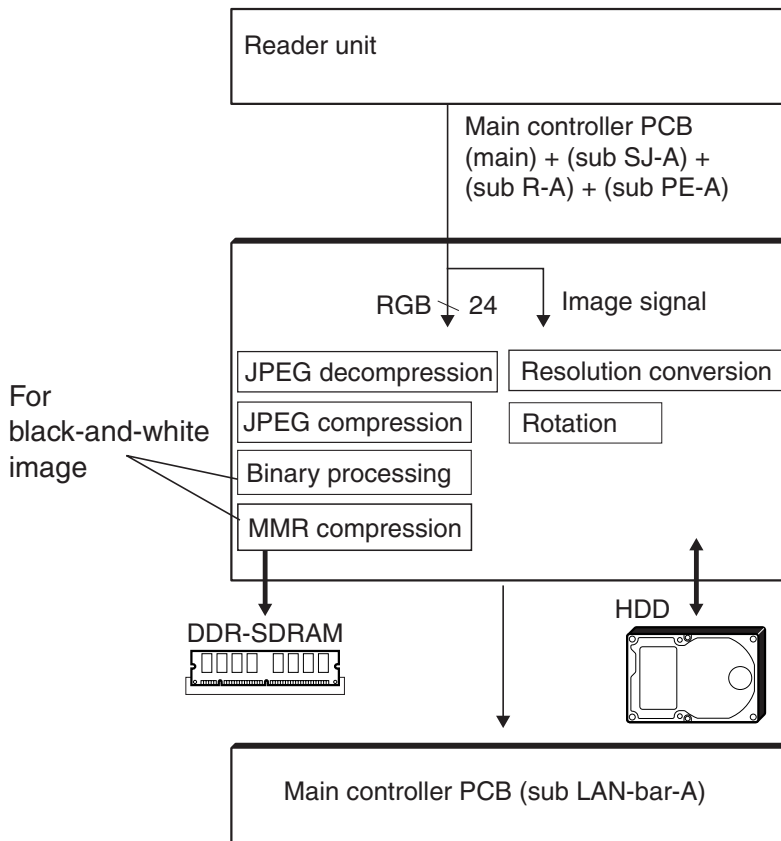
F-4-35

4.9.4 Flow of Image Data for Fax Transmission Functions

< iR C6800 / iR C5800 >

Reader unit

Main controller PCB
(main) + (sub SJ-A) +
(sub R-A) + (sub PE-A))

RGB   Image area signal

JPEG compression | Resolution conversion

JPEG decompression | Rotation

MMR compression | Binary processing

SDRAM

HDD

Fax unit
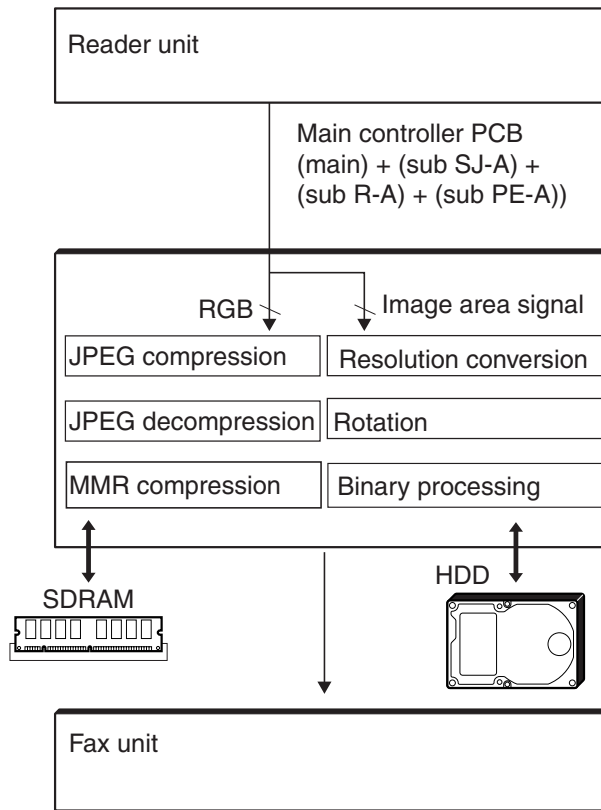
F-4-36

4.9.5 Flow of Image Data for Fax Reception Functions

< iR C6800 / iR C5800 >

DC controller PCB

Main controller PCB
(main + sub)

Resolution conversion

Rotation

SDRAM

HDD

Fax unit
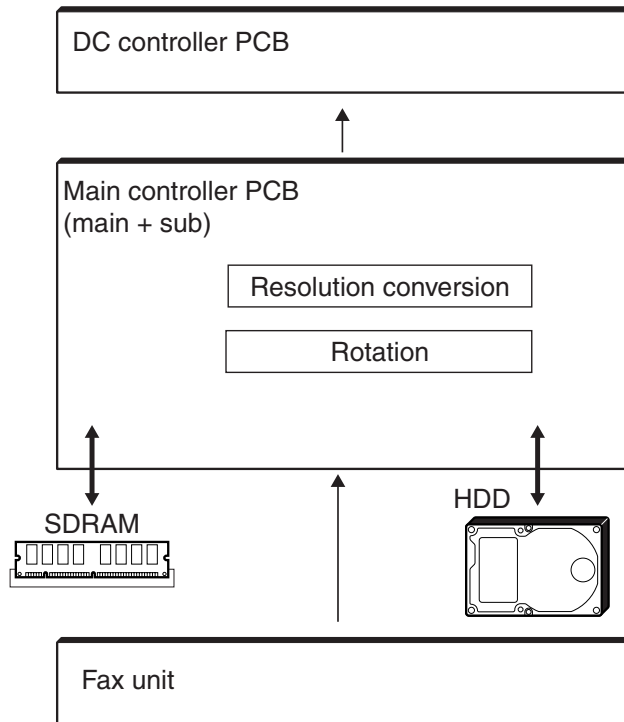
F-4-37

4.9.6 Flow of Image Data for PDL Functions

< iR C6800 / C5800 >
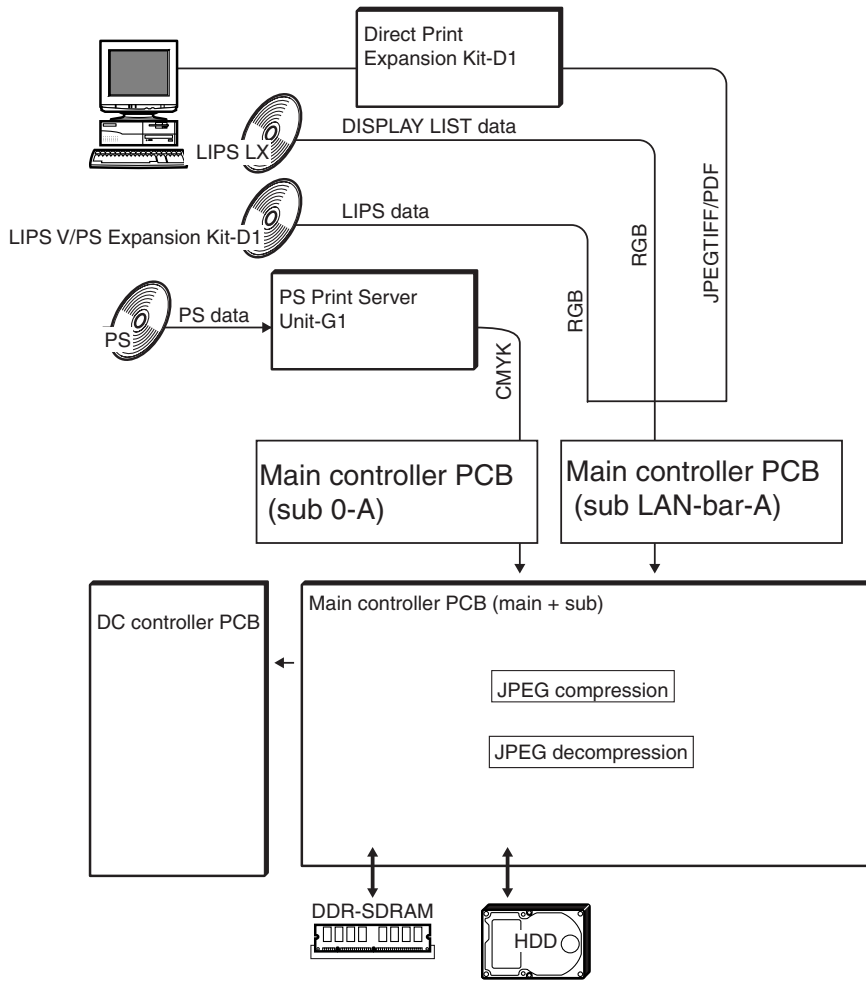
F-4-38

4.10 Parts Replacement Procedure

4.10.1 Controller Box <iR C6800/iR C5800>

4.10.1.1 Preparation for Removing the Controller Box

<iR C6800/iR C5800>

1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Rear Cover (upper).
5) Remove the Controller Box Cover.
5-1) Remove the controller box cover [2].
   - 2 screws [1]
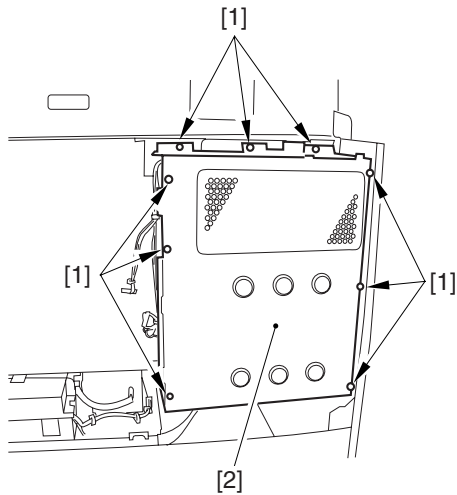
F-4-39
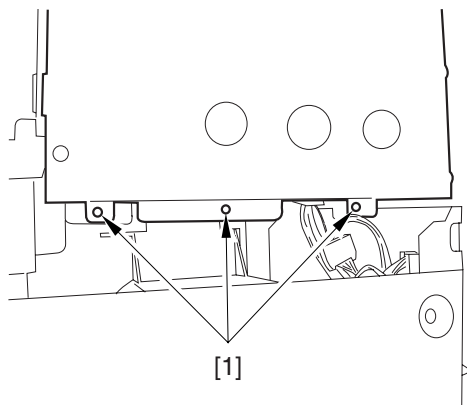
F-4-40

4.10.1.2 Removing the Controller Box <iR C6800/iR C5800>

1) Remove the 9 connectors [1].
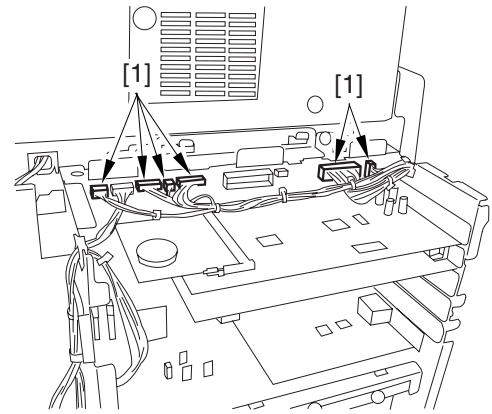
F-4-41
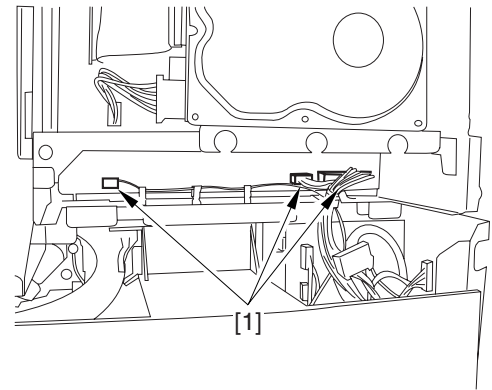
F-4-42

2) Remove the harness from the 3 harness retainers [1].
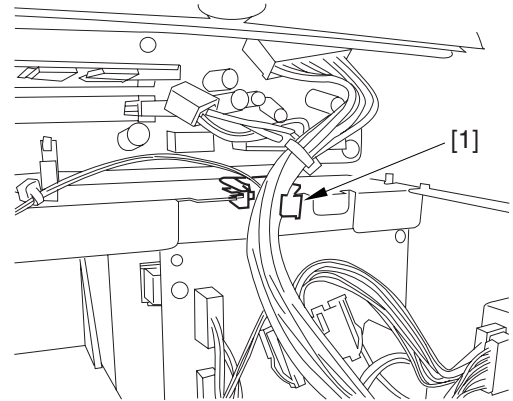
F-4-43
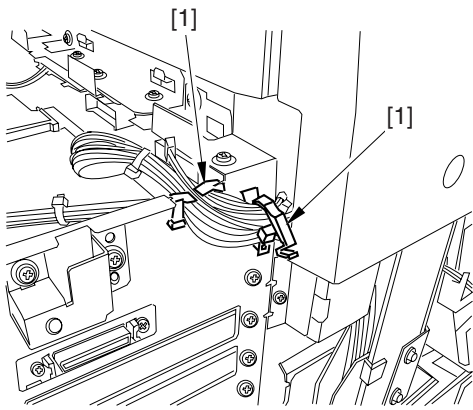
F-4-44

3) Remove the 9 screws [1] used to attach the main controller box.
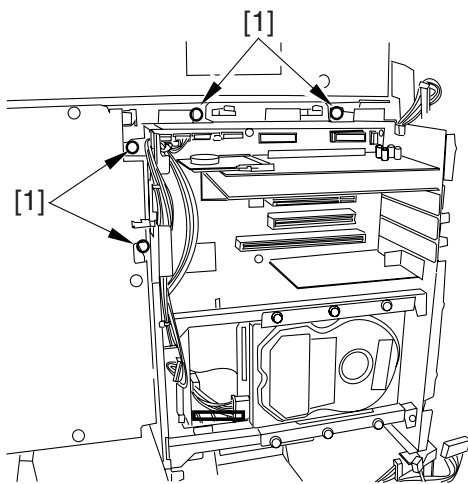
F-4-45
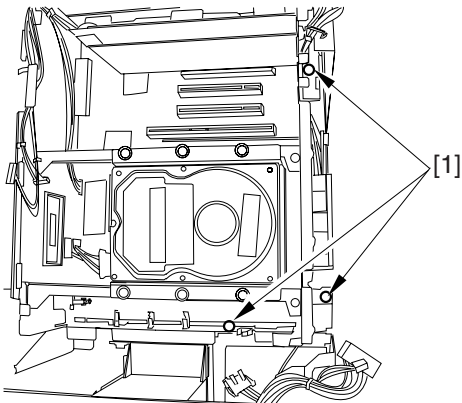
F-4-46
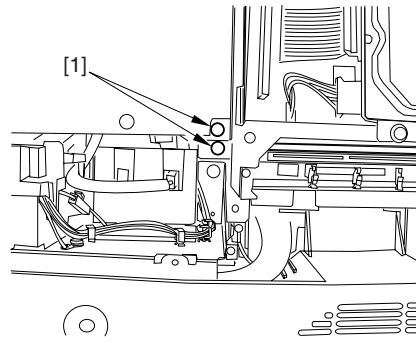
F-4-47

4) Move the main controller box [1] toward the delivery side to remove.
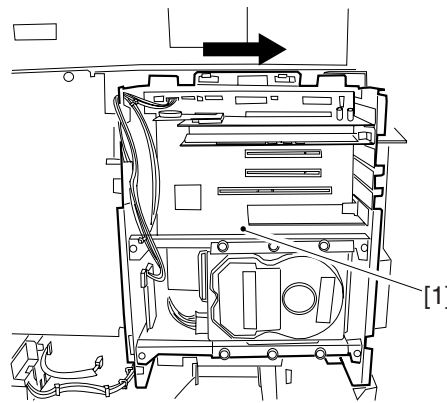
F-4-48

⚠

During removal/attaching, be sure to take care not to damage the connector [2] found at the joint to the DC controller PCB.
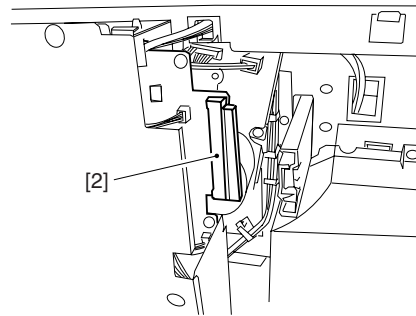
F-4-49

4.10.2 Controller Box <iR C6870U/iR C5870U>

4.10.2.1 Preparation for Removing the Controller Box

<iR C6870U/iR C5870U>
1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Rear Cover (upper).
5) Remove the Controller Box Cover.
5-1) Remove the controller box cover [2].
   - 16 screws [1]
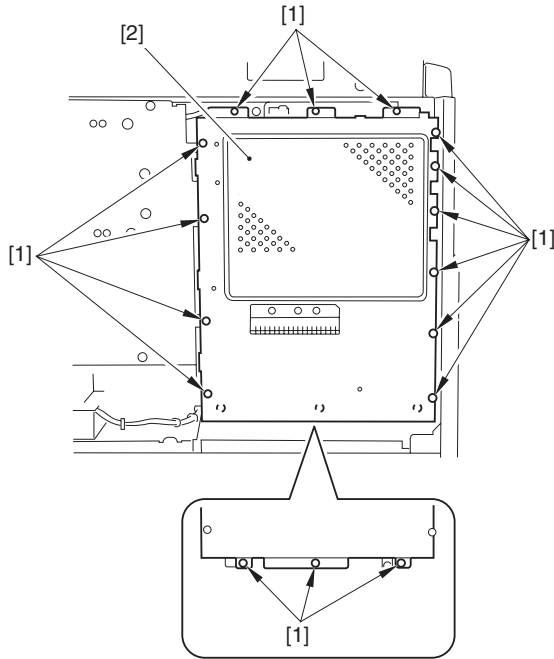
F-4-50

4.10.2.2 Removing the Controller Box

<iR C6870U/iR C5870U>
1)Slide it in the direction of the arrow to detach the connector [1]; then,detach the main controller box [2].
- 2 edge saddle[3]
- 1 clamps[4]
- 10 connectors [5]
- 9 screws[6]
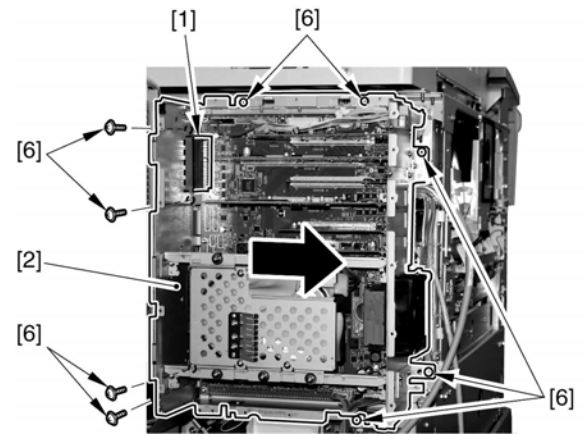
F-4-51
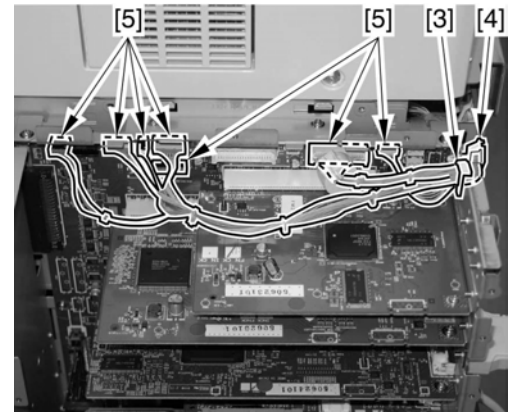
F-4-52
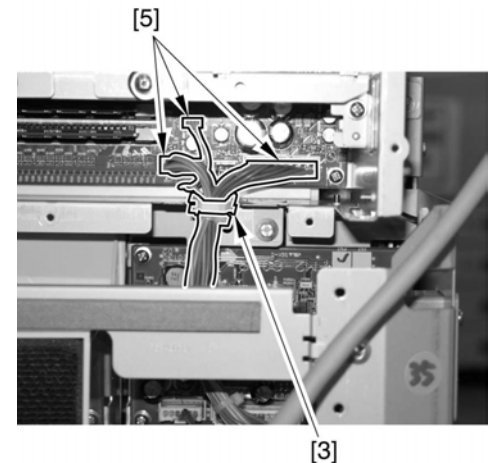
F-4-53

4.10.3 Main Controller PCB (main) <iR C6800 / iR C5800>

4.10.3.1 Preparation for Removing the Main Controller PCB (main)

<iR C6800 / iR C5800>
1) Remove the Delivery Cover.
2) Reove the Left Cover (middle).
3) Remove the Rear Cover (upper).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover [2].
 - 2 screws [1]

4.10.3.2 Removing the Main Controller PCB (main)
<iR C6800 / iR C5800>
1) Remove the connector [1] of the controller fan.
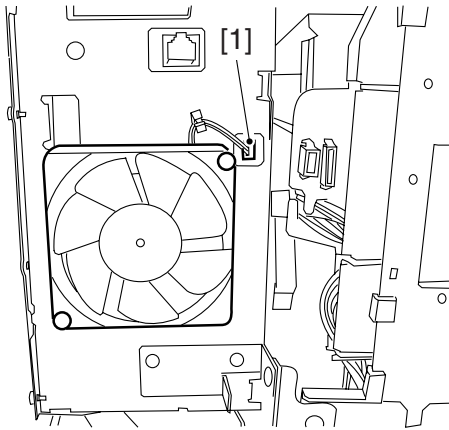
F-4-54

2) Remove the boot ROM [1] and the image memory (SDRAM) [2].
3) Remove the 2 connectors [3].
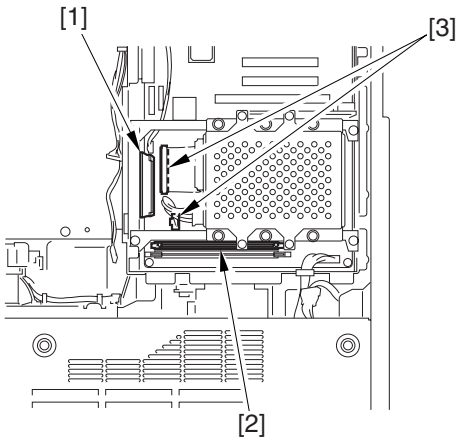
F-4-55

4) Remove the 2 screws each [1] [3] [5], and remove the following:
 - expansion bus PCB [2]
 - main controller PCB (sub) [4]
 - Ethernet board [6]
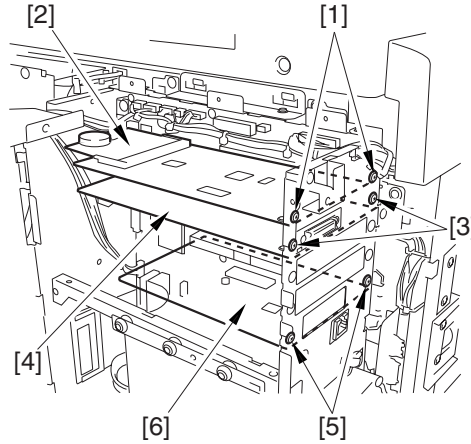
F-4-56

5) Remove the 9 connectors [1].
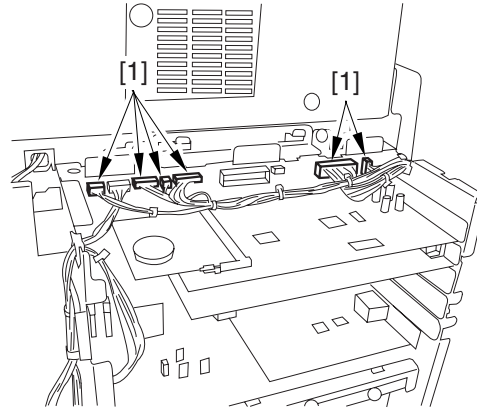
F-4-57
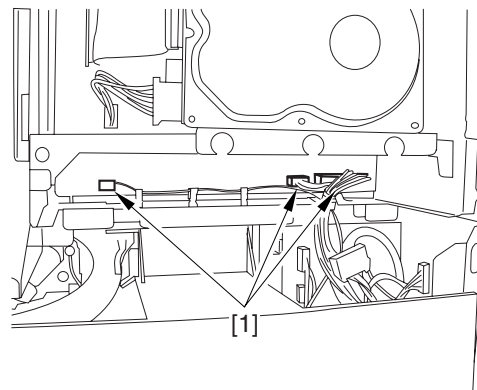
F-4-58

6) Remove the harness from the 3 harness retainers [1].
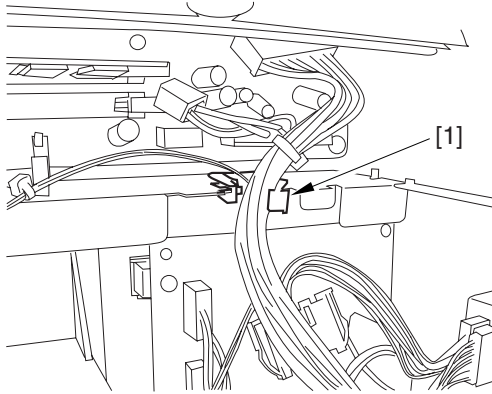
F-4-59
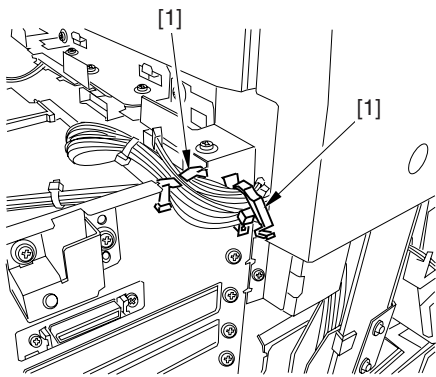
F-4-60

7) Remove the 9 screws [1] used to attach the main controller box.
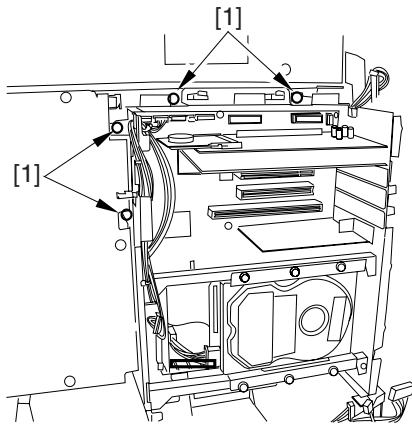
F-4-61
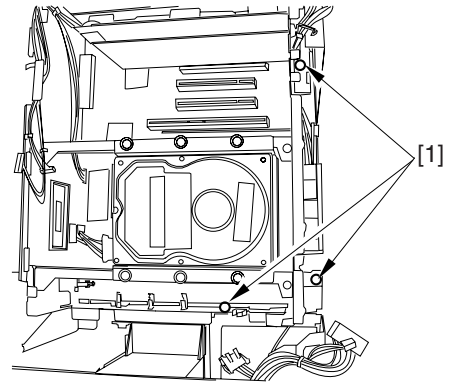
F-4-62
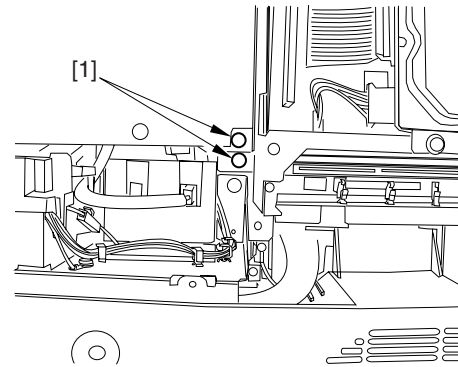
F-4-63

8) Move the main controller box [1] toward the delivery side.
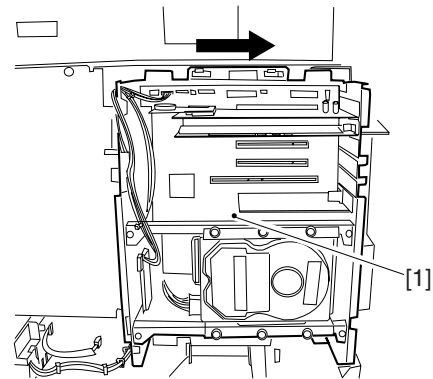
F-4-64

⚠️

When moving the DC controller box, be sure to take care so as not to damage the connector [2] in the joint to the DC controller PCB.
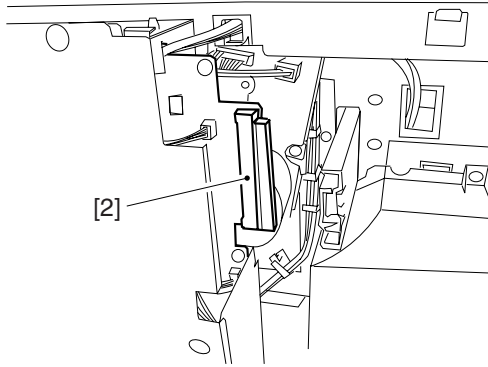
F-4-65

9) Remove the main controller PCB [2].
   - 8 screws [1]
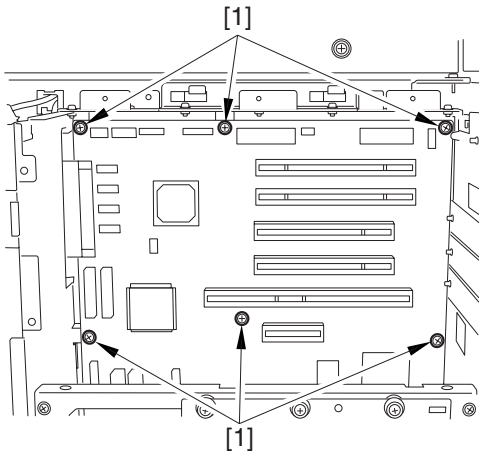
F-4-66
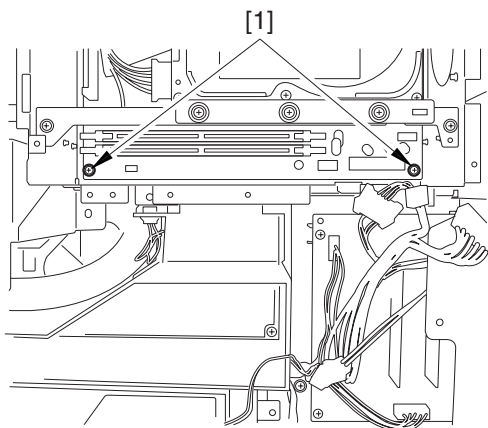
F-4-67

4.10.3.3 After Replacing the Main Controller PCB (main)
<iR C6800 / iR C5800>

After attaching the main controller PCB (main), be sure to attach all PCBs you may have removed before replacement:

[1] boot ROM
[2] image memory (SDRAM)
[3] expansion bus PCB
[4] main controller PCB (sub)
[5] Ethernet board
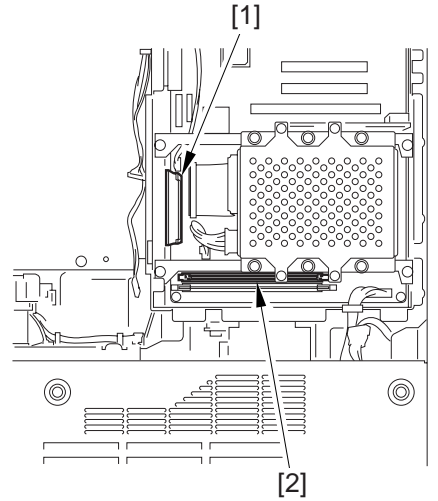
F-4-68
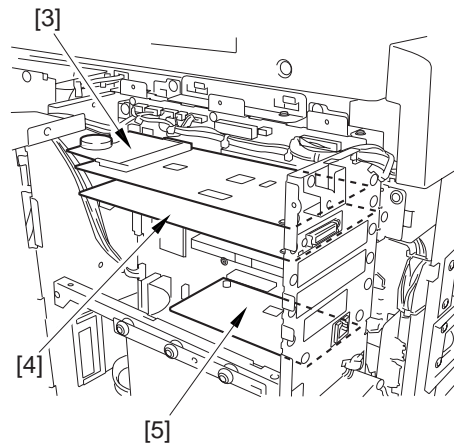
F-4-69

4.10.4 Main Controller PCB (main) <iR C6870U / iR C5870U>

4.10.4.1 Preparation for Removing the Main Controller PCB (main)

<iR C6870U / iR C5870U>
1) Remove the Delivery Cover.
2) Remove the Left Cover (middle).
3) Remove the Rear Cover (upper).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover [2].
    - 16 screws [1]

4.10.4.2 Removing the Main Controller PCB (main)

<iR C6870U / iR C5870U>
1) Disconnect the connector [1] of the controller fan.
*The main controller box has already been detached.
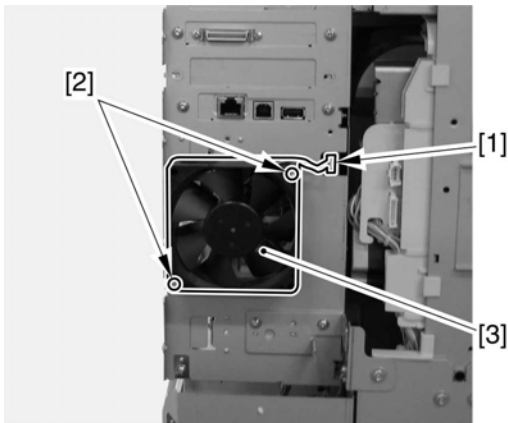
F-4-70

2) Disconnect the 2 connectors [1] of the main controller PCB (sub LAN-bar-A).
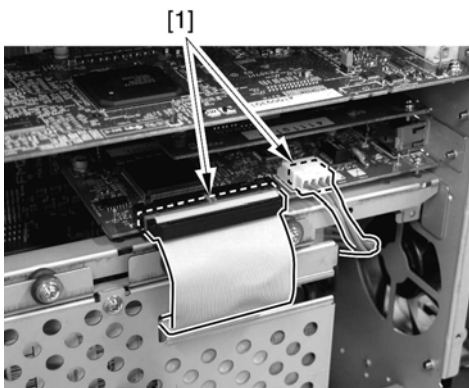
F-4-71

3) Remove the 10 screws [1] from the side of the controller box.
*The main controller box has already been detached.
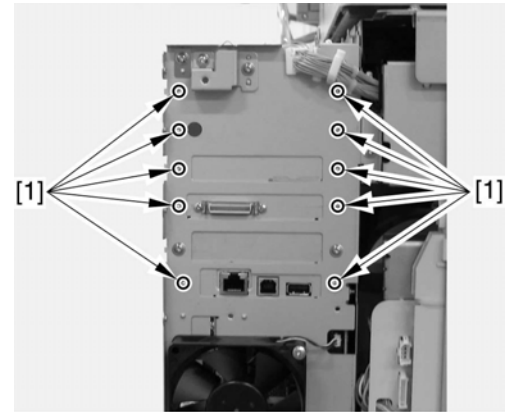
F-4-72

4) Remove the 5 PCBs [1] from the main controller PCB (main).
*The main controller box has already been detached.
    main controller PCB (sub R-A)
    main controller PCB (sub PE-A)
    relay PCB (Gu-short)
    main controller PCB (sub SJ-A)
    main controller PCB (sub LAN-bar-A)
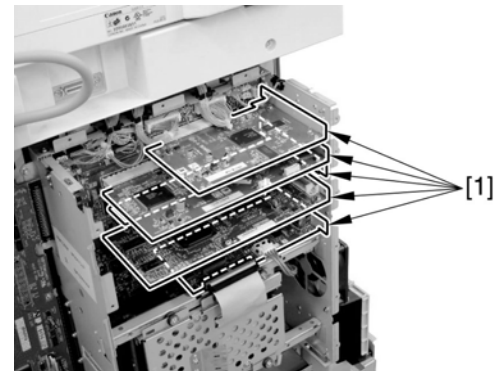
F-4-73

5) Detach the main controller PCB [1] in upward direction.
    ÅE8 screws [2]
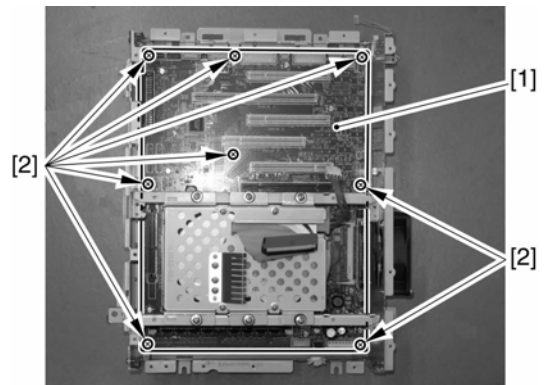
F-4-74

6) Detach main controller PCB [1] in upward direction.
- 1 BOOTROM PCB
- 1 SRAM PCB
- 1 COUNTER PCB
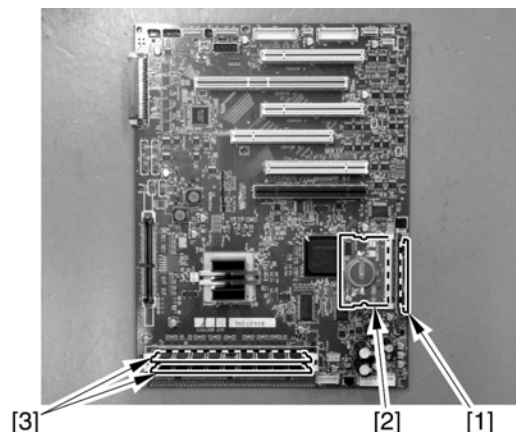
F-4-75

4.10.4.3 After Replacing the Main Controller PCB (main)

<iR C6870U / C5870U>

When you have mounted the main controller PCB (main), be sure to put back all the PCBs you have so far removed:
[1] BootROM
[2] Image memory (DDR-SDRAM)
[3] Main controller PCB (sub R-A)
[4] Main controller PCB (sub PE-A)
[5] Relay PCB (Gu-short)
[6] Main controller PCB (sub SJ-A)
[7] Main controller PCB (sub LAN-bar-A)
[8] HDD

4.10.5 Main Controller PCB (sub) <iR C6800 / iR C5800>

4.10.5.1 Preparation for Removing the Main Controller PCB (sub)

<iR C6800 / iR C5800>

1) Remove the Delivery Cover.
2) Remove the Left Cover (middle).
3) Remove the Rear Cover (upper).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover [2].
    - 2 screws [1]

4.10.5.2 Removing the Main Controller PCB (sub)

<iR C6800 / iR C5800>

1) Remove the main controller PCB (sub) [2].
  - 2 screws [1]
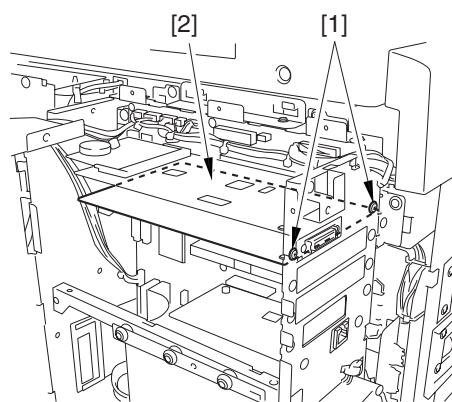
F-4-76

4.10.6 Main Controller PCB (sub) <iR C6870U / iR C5870U>

4.10.6.1 Preparation for Removing the Main Controller PCB (sub)

<iR C6870U / iR C5870U>
1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Rear Cover (upper).
5) Remove the Controller Box Cover.
5-1) Remove the controller box cover [2].
 - 16 screws [1]
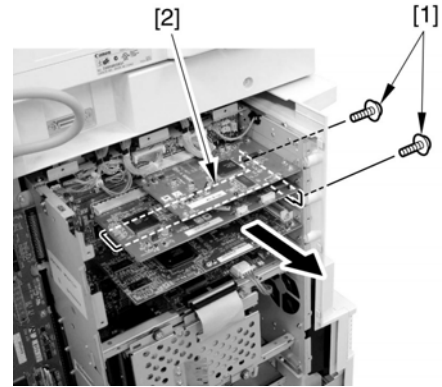
4.10.6.2 Removing the Main Controller PCB (Sub)

<iR C6870U / iR C5870U>
1.Removing the Main Controller PCB (sub R-A)
1) Remove the 2 screws [1], and detach the main controller PCB (sub R-A) [2].
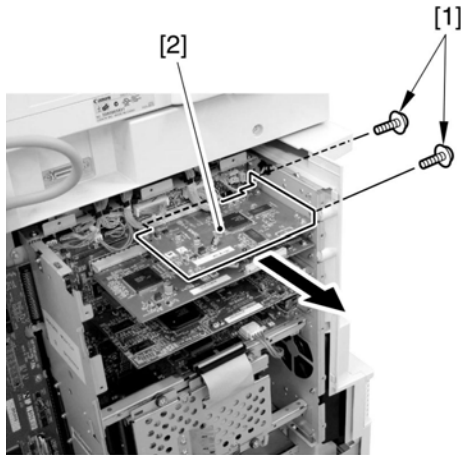
F-4-77

2.Removing the Main Controller PCB (sub PE-A)
1) Remove the 2 screws [1], and detach the main controller PCB (sub PE-A) [2].
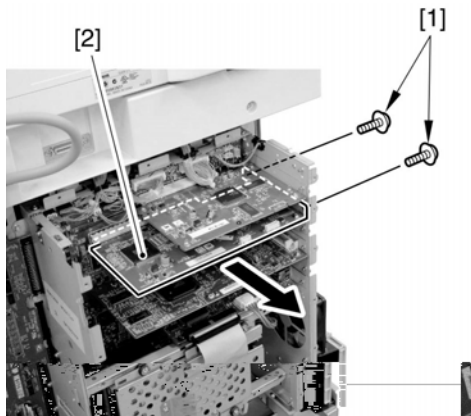
F-4-78

3.Removing the Relay PCB (Gu-short)
1) Remove the 2 screws [1], and detach the relay PCB (Gu-short) [2].

F-4-79

4.Removing the Main Controller PCB (sub SJ-A)
1) Remove the 2 screws [1], and detach the main controller PCB (sub SJ-A) [2].
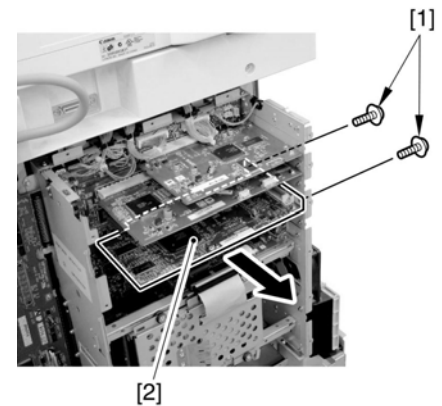
F-4-80

5.Removing the Main Controller PCB (sub LAN-bar-A)
1) Remove the main controller PCB (sub LAN-bar-A)
 - 2 connectors [1].
 - 2 screws [2]

4.10.7 Expansion Bus PCB

4.10.7.1 Preparation for Removing the Expansion Bus PCB

1) Remove the Rear Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover [2].
   - 2 screws [1]
5) Remove the SRAM Board.
5-1) Remove the SRAM board [2].
   - 2 locks [1]
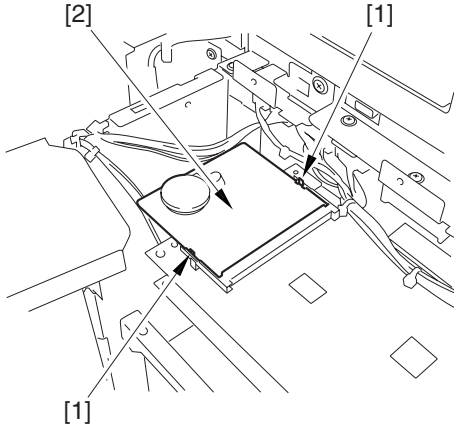
F-4-81

4.10.7.2 Removing the Expansion Bus PCB

1) Remove the expansion bus PCB [2].
  - 2 screws [1]
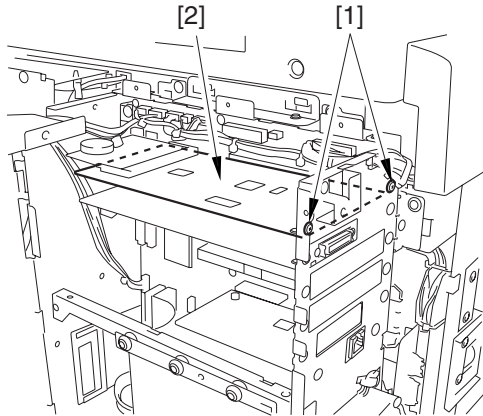
F-4-82

4.10.7.3 After Replacing the Expansion PCB

Attach the SRAM PCB [1] removed from the existing PCB to the newly attached expansion bus PCB [2].
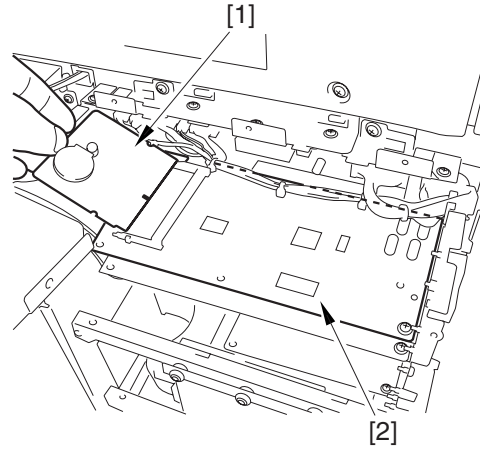
F-4-83

4.10.8 SRAM PCB

4.10.8.1 Preparation for Removing the SRAM PCB

1) Removing the Rear Cover (upper).
2) Remove the Controller Box Cover.
2-1) Remove the controller box cover[2].
   - 2 screws [1]

4.10.8.2 Removing the SRAM Board

1) Remove the SRAM board [2].
  - 2 locks [1],
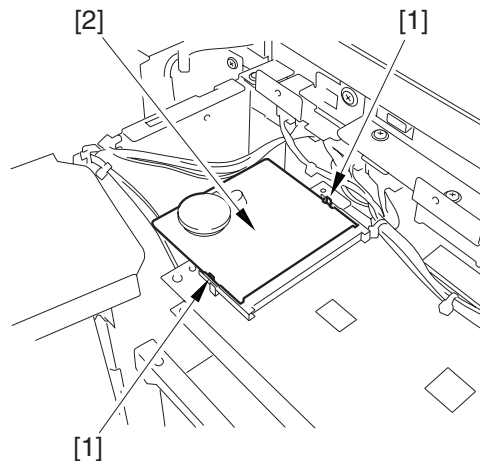
F-4-84

4.10.9 UFR Board

4.10.9.1 Preparation for Removing the UFR Board

1) Remove the Rear Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover[2].
   - 2 screws [1]

4.10.9.2 Removing the UFR Board

1) Remove the UFR board [2].
  - 2 screws [1]

[2]   [1]
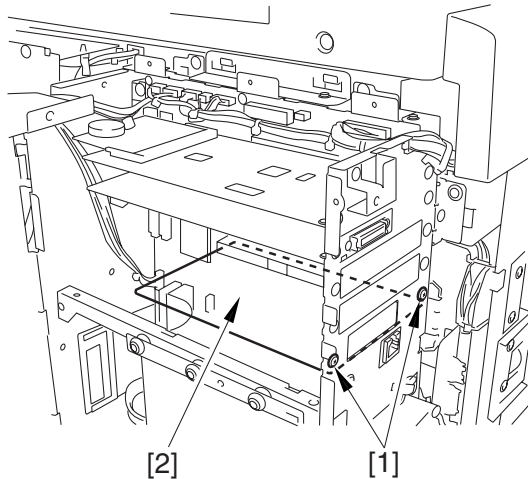
F-4-85

4.10.10 Ethernet Board

4.10.10.1 Preparation for Removing the Ethernet Board

1) Remove the Rear Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Controller Box Cover.
4-1) Remove the controller box cover[2].
   - 2 screws [1]

4.10.10.2 Removing the Ethernet Board

1) Remove the Ethernet board [2].
  - 2 screws [1]

[2]   [1]
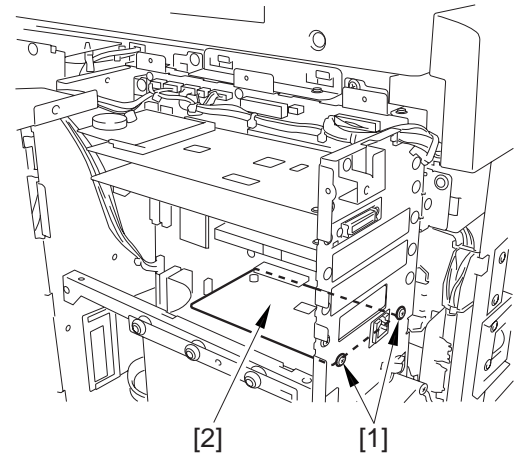
F-4-86

4.10.11 HDD

4.10.11.1 Preparation for Removing the HDD

<iR C6800 / iR C5800>

1) Remove the Rear Cover (upper).
2) Remove the Controller Box Cover.
2-1) Remove the controller box cover[2].
   - 2 screws [1]

4.10.11.2 Removing the HDD
<iR C6800 / iR C5800>

1) Remove the HDD.
1-1) Remove the HDD box [3].
    - 2 connectors [1]
    - 6 screws [2]

[2]

[3]

[1]

[2]
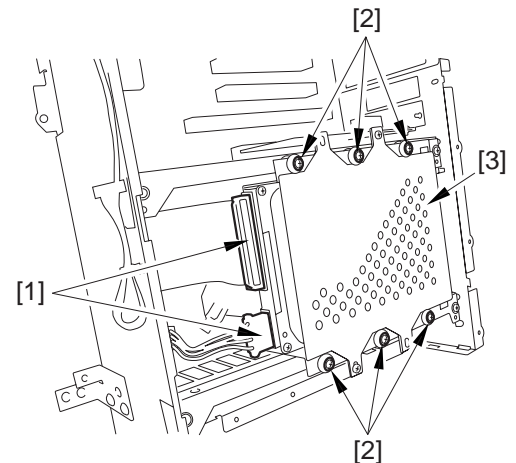
F-4-87

1-2) Remove the HD cover [2].
    - 6 screws [1]
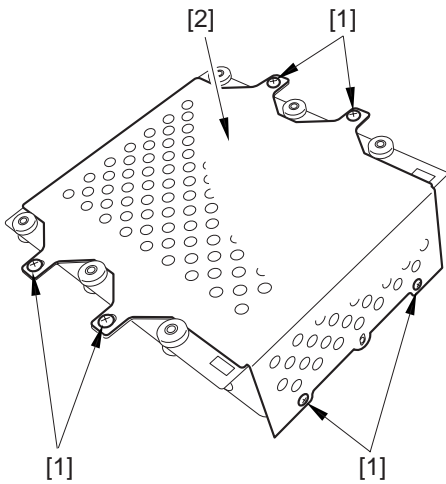
F-4-88

1-3) Remove the HDD [2].
- 4 screws [1]
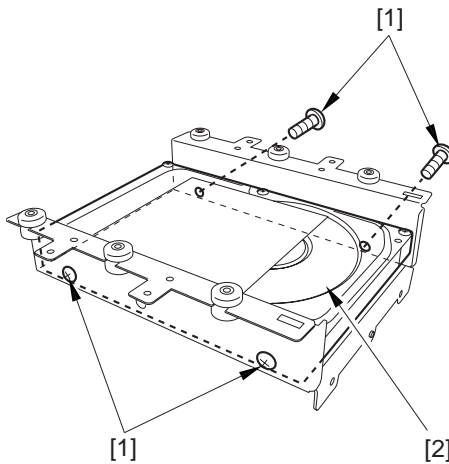
F-4-89

4.10.11.3 After Replacing the HDD
<iR C6800 / iR C5800>
1. If NetSpot Accountant (NSA) Is Not Used

1) Format the HDD.

Start up the machine in safe mode (i.e., turn on the main power while holding down the 2 and 8 keys).

Using the SST's HD formatting function, perform formatting of all partitions. (For details, see the instructions on how to upgrade the machine.)

2) Download the system software.

Using the SST, download the system, language, and RUI files.

It may take about 5 min for the machine to start up after a download session.

2. If a Card Reader and NetSpot Accountant (NSA) Are Used

A card ID used by the NSA exists on the HDD. If you have replaced the HDD, you must also download the card data used by the NSA once again; otherwise, you will not be able to make use of statistical management functions of the NSA.

You will first have to format the HDD and download the system software as for 1 above; thereafter, you need to perform additional steps:

1) Format the HDD.
2) Download the system software.
3) Make the following selections:
   COPIER>FUNCTION>INSTALL>CARD
4) Enter a card number.
5) Turn off and then on the machine's main power.

Enter the number of the first card of those to be used for group control, and press the OK key. (For instance, if the group will be using numbers between 1 through 1000, enter '1'.)

6) Make a check.

Make the following selections in Additional Function: system control settings>group ID control>count control; then, check to make sure the following IDs are made ready: ID00000001 through ID00001000.

7) Set the appropriate addresses.

Make the following selections in Additional Function: system control settings>network settings>TCP/IP settings>IP address. Then, set the following addresses: IP address, gateway address, subnet mask.

8) Enter a number.

Make the following selections in Additional Function, and enter a number: system administrator information settings>system control group ID/system control ID No.

9) Turn off and then on the machine's main power.

⚠

Unless you set up the system control ID and the system control ID No., you will not be able to register a card to the machine while using NSA.

10) Download the card ID.

Keep the machine in a standby state, and download the card ID through the NSA.

11) Check the count control.

Make the following selections in Additional Function to bring up the Count Control screen: system control settings>group ID control; then, check to see that only the ID data you have downloaded are indicated.

12) Check to see that the operation is normal.

Using a user card that has been registered to the NSA, make copies; then, check that the number of copies you have made are associated with the card you have used in the machine.

4.10.11.4 Making a Backup of Data (reference only)

<iR C6870U / iR C5870U>

When exchanging the HDD, you may need user data backup.

The following is an outline of how a backup of data may be made:

Making a Backup Using the Import/Export Function of the Remote User Interface (RUI)

Backing Up the Address Book
1) Type in the following URL to access the RUI.

http://[IP address of machine]/

2) Click [user mode]. From the menu that appears in response, select 'import/export'. If a system administrator ID and ID number have been used, a dialog box will appear. Type in the system administrator ID for 'user name' and the appropriate ID number for 'password'; then, click [OK].
3) Click [address book].
4) Select the appropriate address book and the file format you want; then, click [export].
5) Select an appropriate location for file storage as instructed on the screen. (Be sure to use a name that can be readily recognized for an import session.)

Memo
When you export transfer settings, all address book contents will be included. (As such, there is no need for backing up an address book unless specific books are needed.)

Exporting the Transfer Settings

1) Access the following URL:

http://[IP address of machine]

2) Click [user mode]. When a menu has appeared, select 'import/export'. If a system administrator ID and ID number have been used, a dialog box will appear. Type in the system administrator ID for 'user name' and the ID number for 'password'; then, click [OK].
3) Click [transfer settings].
4) Click [export]; then, click [start export].
5) Select an appropriate location for file storage as instructed on the screen.

Exporting User Mode Settings

1) Access the following URL:

http://[IP address of machine]

2) Click [user mode]. When a menu has appeared, select 'import/export'. If a system administrator ID and ID number have been used, a dialog box will paper. Type in the system administrator ID for 'user name' and ID number for 'password'; then, click [OK].

3) Click [user mode].
4) Click [exposure]; then, click [start export].
5) Select an appropriate location for file storage as instructed on the screen.

Making a Backup Using the Machine Information Distribution Function
If multiple iR machines of the same type are connected to a network and, in addition, they have the same machine information distribution function, the machine in question may send the same information to all the rest so that all will have the same settings. For details, see the descriptions on the machine information distribution function in the Reference Guide.

1) Make the appropriate settings on the source machine. Register the recipients of machine information by making the following selections: user mode>system control setup>machine information distribution setup>recipient.
2) Register the targets manually or using the auto search mechanism. (In the case of the latter, select the appropriate targets from the result of the search, and click [OK].)
3) Check the setup of the targets (recipients of machine information); then, check the setup of the source, thereby making sure they are ready for distribution.
4) Make settings for manual distribution. Be sure that the targets are not being used by the network or local UI when doing so.
5) Make the following selections: user mode>system control setup>machine information distribution setup>manual distribution setup. Of the following, enable (ON) the settings you want: 'user mode setting', 'group ID', 'address book'; then, click [next]. If you select 'address book', the transfer settings and routine job button settings will also be distributed in addition to address book settings.
6) When you have selected the targets and then click [start manual distribution], the machine information will be distributed to the selected recipients. When done, check the result of distribution.

Caution
You will not be able to receive information using the machine information distribution function if a system administrator ID has been registered. Be sure to delete the system

administrator ID temporarily; further, be sure also to register it once again after receiving machine information.

Backing Up a MEAP Application

If a MEAP application has been installed, the data and license retained by the application will be lost. There is no need to consider this point if no MEAP application exists. If the MEAP application in question provides a backup function, be sure to use the function to back up the data that is specific to the application. As for the license, all applications must be disabled using the SMS (Service Management Service), the licenses must be invalidated, and the invalided license files must be downloaded.

Note

1. Backing Up a MEAP Application Using the SST

The data that has been backed up using MEAPack of the SST before starting to use a security kit must not be returned to the iR machine after the implementation of the kit. Likewise, the data that has been backed up after the implementation of a security kit will not be valid on an iR machine for which a security kit has been put into use. In other words, the security kit implementation conditions must be the same before and after a backup is made (i.e., the MEAP backup function cannot be used to make a backup when installing the Kit).

2. Reinstalling a MEAP Application

Although a backup of a MEAP application may be made, it cannot be reinstalled once the Kit has been installed.

The following is an outline of how to disable a MEAP application, invalidate a license, and download the invalided license file. For details, see the MEAP SMS Administrator Guide.

Disabling and Invalidating a MEAP Application and Downloading and Uninstalling the Invalidated License

1) Type in the following URL to access the SMS:

http://[IP address of machine]:8000/sms/

If the user has changed the SMS password, ask him to log in himself (or, ask him to change the password after implementation of security mechanisms). The default password is 'MeapSmsLogin'.

Caution

When the user starts to use a security mechanism, the SMS password will be reset. Ask the user to change the password.

2) On the list of applications, select the radio button of the application you want to disable, and click [disable].

3) Click the name of the application in question (whose license has been installed) to access the application/license information page.

4) Click [manage license], and then click [invalidate]. When a screen has appeared asking you if you want to invalidate the license, click [OK].

5) When a screen has appeared asking you if you want to download/delete the invalidated license file, click [download]. Select an appropriate location for file storage according to the instructions on the screen. At this time, be sure to use a name that can readily indicate the application with which the invalidated license file is associated. When the invalidated license file is ready for downloading to a PC, click [delete]. When a screen has appeared asking you if you want to delete the license, click [OK].

6) Go back to the list of applications, and select the radio button of the application you want to uninstall, and click [uninstall]. If there are multiple applications you want to uninstall, repeat steps from 1) through 6).

User Authentication Information Registered Using SDL (Single Device Login)

If SDL has been selected for a MEAP login application, you must make a backup of the user authentication information as follows:

1) Access the following URL:
http://[IP address of machine]:8000/sdl/

2) Log in using the user name and password registered as an administrator using SDL.

The default administrator user is as follows:

user name: Administrator
password: password

3) Click [user management].

4) Select [all], and then click [export].

5) Keep the file format and the character code as they are (default). Click [start].

6) Select an appropriate location for file storage as instructed on the screen.

Caution

Data Not Permitting a Backup

A backup cannot be made of data stored in a Box, files that are yet to be transmitted, and image merge data. (These types of data will be lost.) Be sure to consult with the user as to how they must be handled. (As necessary, make a backup of them.) For details of the types of data of which a backup cannot be made, see the points to note provided for installation.

4.10.11.5 Handling the HDD
<iR C6870U / C5870U>

⚠

When removing the HDD, be sure to protect against static destruction. Keep the HDD free of impact.

4.10.11.6 Preparation for Removing the HDD
<iR C6870U / C5870U>
1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the Rear Cover (upper).
5) Remove the Controller Box Cover.
5-1) Remove the controller box cover [2].
    - 16 screws [1]

4.10.11.7 Removing the HDD
<iR C6870U / C5870U>
1) Disconnect the 2 connectors [2], and remove the 6 screws [1]; then, detach the HDD unit [3] from the device.

MEMO
Take care not to drop the washer and the fastener.
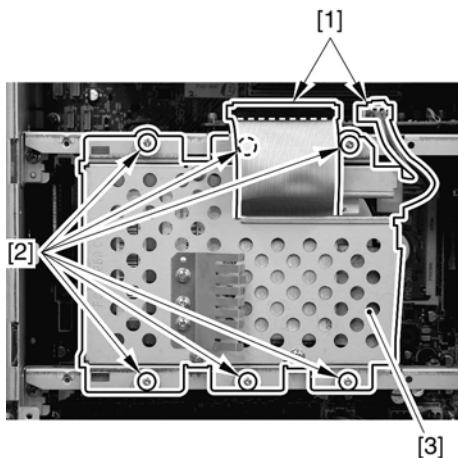
F-4-90

2) Remove the 4 screws [1], and detach the cover [2].
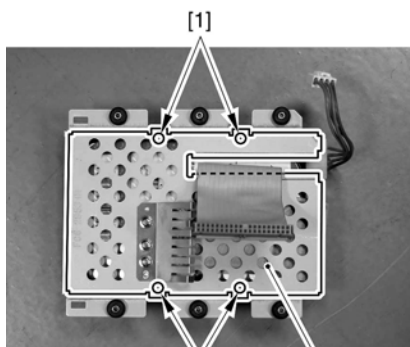
F-4-91

3) Disconnect the harness [1] and the flat cable [2].
4) Remove the 4 screws [3], and detach the HDD [4] from the HDD unit.
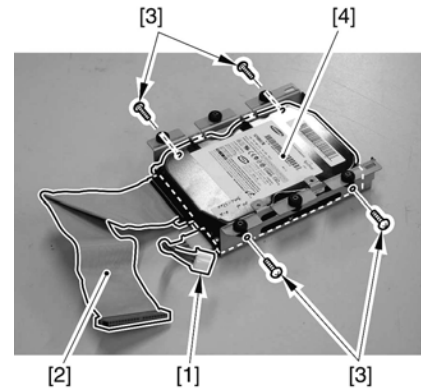
F-4-92

4.10.11.8 After Replacing the HDD
<iR C6870U / C5870U>
1. If NetSpot Accountant (NSA) Is Not Used
1) Format the HDD.
Start up the machine in safe mode (i.e., turn on the main power while holding down the 2 and 8 keys).
Using the SST's HD formatting function, perform formatting of all partitions. (For details, see the instructions on how to upgrade the machine.)
2) Download the system software.
Using the SST, download the system, language, and RUI files.
It may take about 5 min for the machine to start up after a download session.

2. If a Card Reader and NetSpot Accountant (NSA) Are Used
A card ID used by the NSA exists on the HDD. If you have replaced the HDD, you must also download the card data used by the NSA once again; otherwise, you will not be able to make use of statistical management functions of the NSA.
You will first have to format the HDD and download the system software as for 1 above; thereafter, you need to perform additional steps:
1) Format the HDD.
2) Download the system software.
3) Make the following selections:
COPIER>FUNCTION>INSTALL>CARD
4) Enter a card number.
5) Turn off and then on the machine's main power.
Enter the number of the first card of those to be used for group control, and press the OK key. (For instance, if the group will be using numbers between 1 through 1000, enter '1'.)
6) Make a check.
Make the following selections in Additional

Function: system control settings>group ID control>count control; then, check to make sure the following IDs are made ready: ID00000001 through ID00001000.

7) Set the appropriate addresses.
Make the following selections in Additional Function: system control settings>network settings>TCP/IP settings>IP address. Then, set the following addresses: IP address, gateway address, subnet mask.

8) Enter a number.
Make the following selections in Additional Function, and enter a number: system administrator information settings>system control group ID/system control ID No.

9) Turn off and then on the machine's main power.

⚠

Unless you set up the system control ID and the system control ID No., you will not be able to register a card to the machine while using NSA.

10) Download the card ID.
Keep the machine in a standby state, and download the card ID through the NSA.

11) Check the count control.
Make the following selections in Additional Function to bring up the Count Control screen: system control settings>group ID control; then, check to see that only the ID data you have downloaded are indicated.

12) Check to see that the operation is normal.
Using a user card that has been registered to the NSA, make copies; then, check that the number of copies you have made are associated with the card you have used in the machine.

4.10.12 Controller Fan

4.10.12.1 Preparation for Removing the Controller Fan

<iR C6800 / iR C5800>
1) Remove the Delivery Cover.
2) Remove the Left Cover (middle).

4.10.12.2 Preparation for Removing the Controller Fan

<iR C6870U / iR C5870U>
1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).

4.10.12.3 Removing the Controller Fan

<iR C6870U / iR C5870U>
1) Remove the controller fan [3].
- 1 connector [1]
- 2 screws [2]
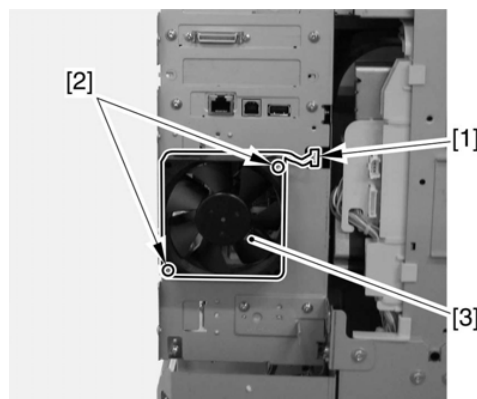
F-4-93

4.10.12.4 Removing the Controller Fan

<iR C6800 / iR C5800>
1) Open the cable guide [2].
- connector [1]
2) Remove the controller fan [4].
- 2 screws [3]

F-4-94

Chapter 5
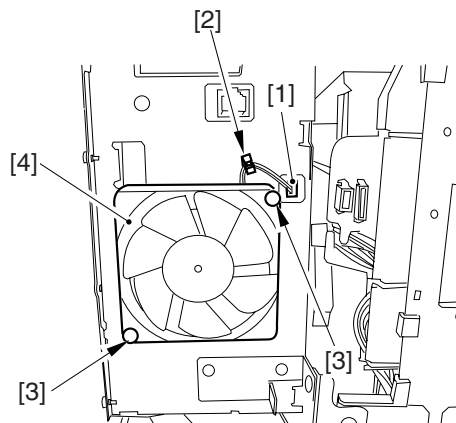
Original Exposure System

Contents

5.1 Construction

5.1.1 Specifications, Control Mechanisms, and Functions

The following shows major specifications, control mechanisms, and functions of the machine's original exposure system:

T-5-1

Item	Description
Scanning lamp	xenon lamp (white)
scanning	book mode: by moving optical unit
	ADF mode: by moving original
Reading resolution	600 (main scanning) x 600 (sub scanning) dpi
Scanner position detection	scanner HP sensor (PS501)
scanner HP Lens	single-focus, fixed
Magnification	copyboard mode: 100%
	ADF mode: 100%
	main scanning direction: image processing by controller block
	sub scanning direction: image processing by controller block
Scanner drive control	No. 1/No. 2 mirror base: by pulse motor (M501)
Original scanning lamp	[1]activation control by inverter circuit
Activation control	[2]error detection control
Original size detection	[1]book mode
	sub scanning direction: by reflection type sensor
	main scanning direction: by CCD
	[2]w/ ADF in use
	main scanning direction: by slide guide in ADF
	sub scanning direction: by photo sensor in ADF

5.1.2 Major Components

The original exposure system consists of the following major components:

T-5-2

Item	Notation	Description
Scanning lamp	LA1	xenon lamp: 77.500 lx
Scanner motor	M501	2-phase pulse motor: pulse control
Reader Cooling fan	FM13	cools the reader assembly.
Scanner HP sensor	PS501	detects the home position of the scanner.
ADF open/closed sensor 1	PS502	detects the state (open/closed) of the ADF using the ADF open/closed sensor (5 deg).
ADF open/closed sensor 2	PS503	detects the size with the ADF at 25 deg or less.
Original size sensor (AB-configuration)	---	detects the size in sub scanning direction (AB-configuration)
Original size sensor (inch-configuration)	---	detects the size in sub scanning direction (inch-configuration).
Mirror	---	No. 1, No. 2, No. 3, mirror

Scanner motor

Signal size sensor
(A/B-configuration)

Original size sensor
(inch-configuration sensor)

Interface
PCB

Reader controller
PCB

Reader cooling fan

CCD unit

ADF
open/closed sensor 1

Inverter PCB

Scanner
HP sensor

ADF
open/closed sensor 2

Anti-condensation
sensor

Original scanning lamp

F-5-1

Image HP
leading edge

Stream reading position
(start position)

HP

Size detection

Original

No. 2 mirror

Copyboard glass

No. 1 mirror base

Original scanning lamp

Lens   CCD

No. 1 mirror

No. 2 mirror base

No. 3 mirror

F-5-2

Scanner motor

Light-blocking plate

Scanner HP
sensor

(forward)

Original scanning
lamp

(reverse)

No. 2 mirror base

No. 1 mirror base

F-5-3

5.1.3 Construction of the Control System

The following shows the construction of the control system of the original exposure system:
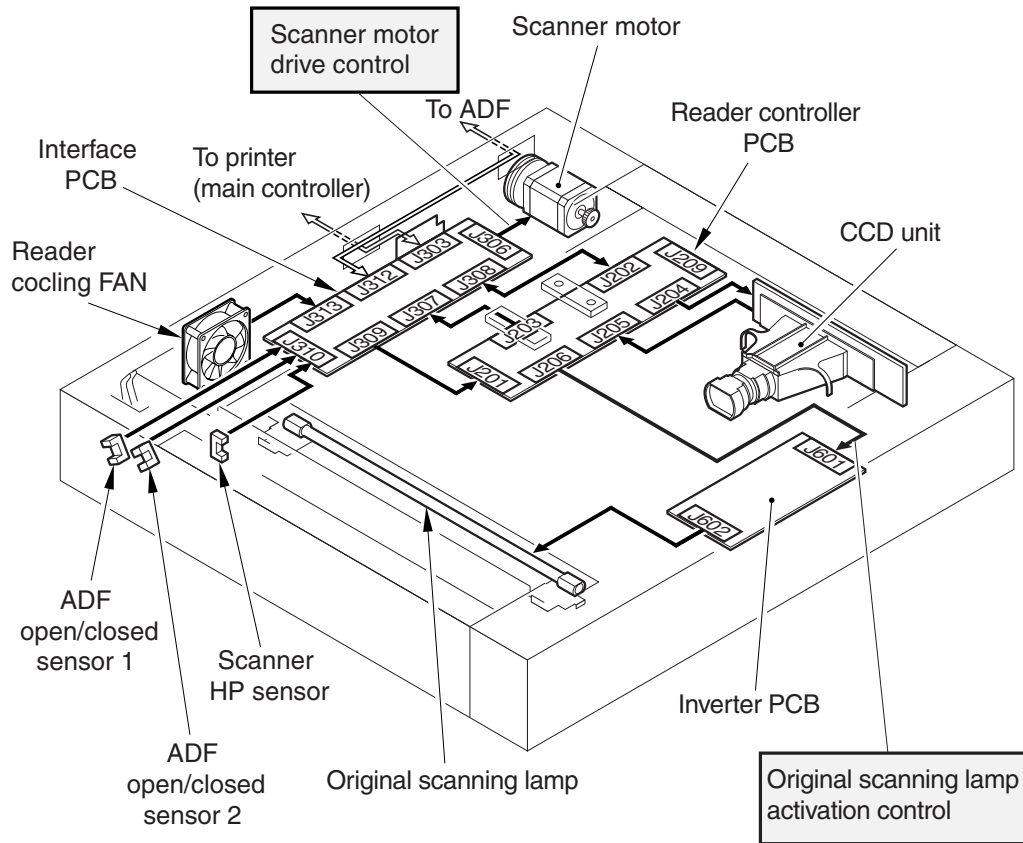
F-5-4

5.1.4 Reader Controller PCB

The following shows the functional construction of the reader controller PCB:

F-5-5
T-5-3
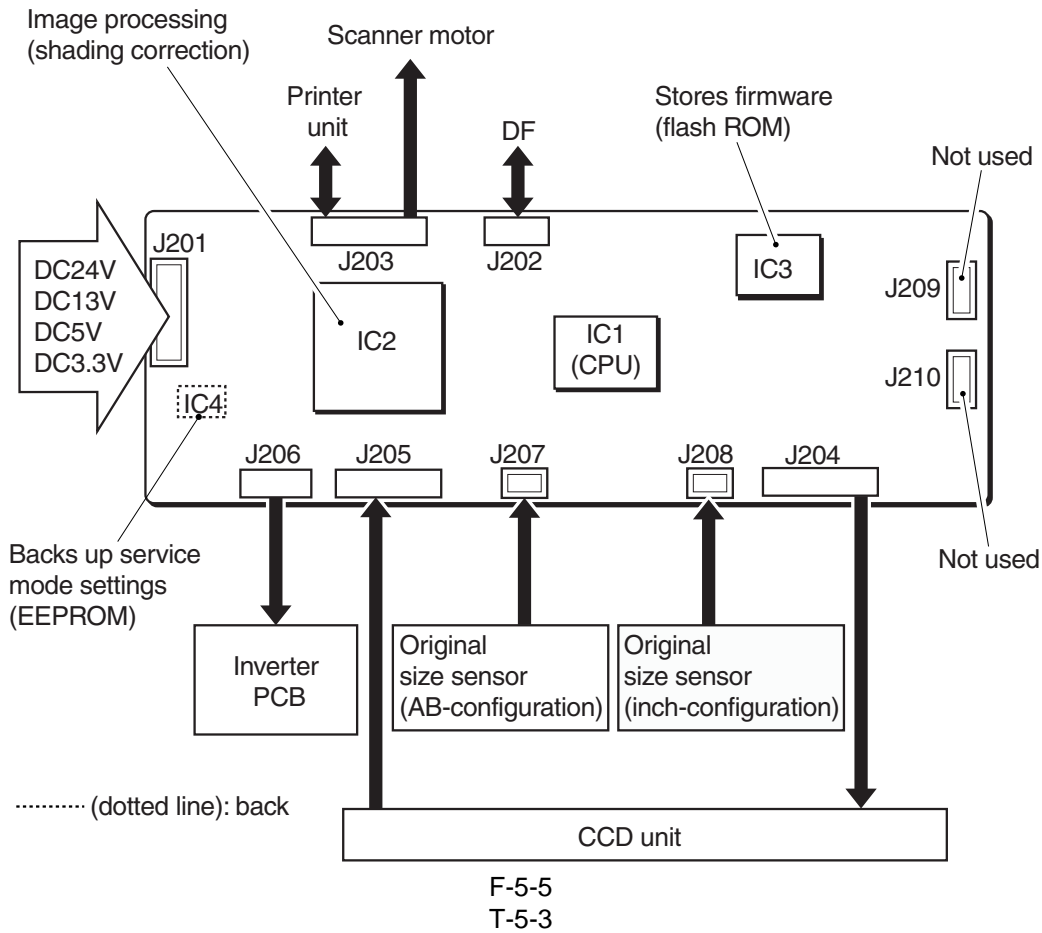
Jack No	Description
J201	used for the power from the machine (printer unit).
J202	used for the power from the machine (printer unit).
J203	used for communications with the printer unit (connection with the scanner motor). used for communications with the ADF (image signal input).
J204	used for connection with the CCD unit.
J205	used for communication with the CCD unit.
J206	used for connection with the inverter PCB.
J207	used for connection with the original size sensor (AB-configuration).
J208	used for connection with the original size sensor (inch-configuration).
J209	not used
J210	not used.

T-5-4

IC	Description
IC1	CPU (stores boot program)
IC2	ASCI (built-in RAM)
IC3	flash RAM (stores firmware)
IC4	EEPROM (backs up service mode settings)

5.2 Basic Sequence

5.2.1 Basic Sequence of Operation at Power-On
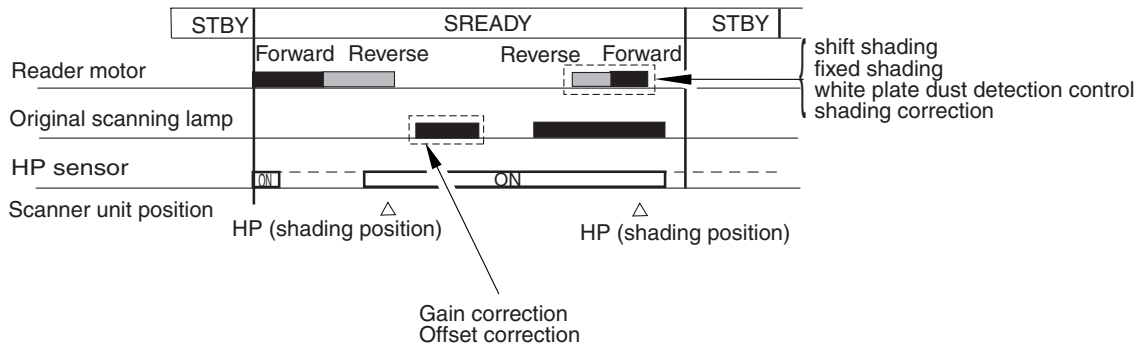
F-5-6
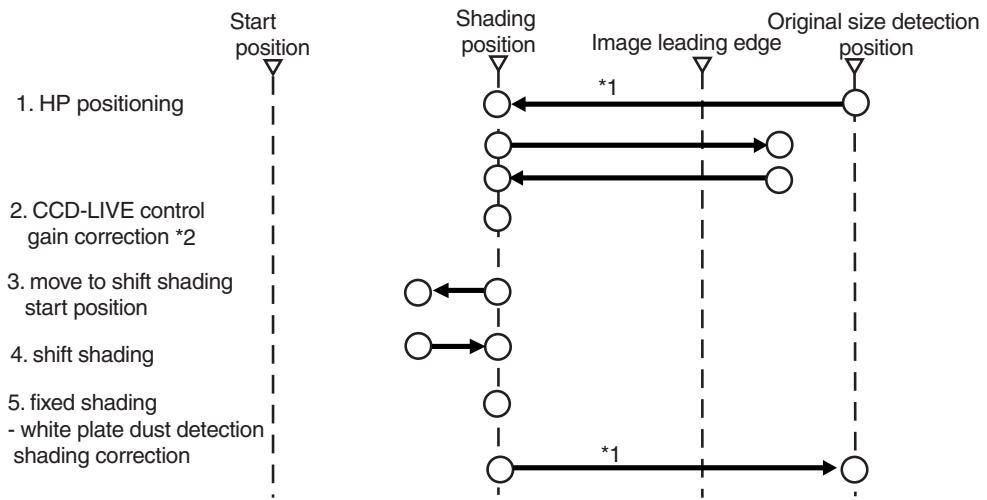
*1: shifts only if the copyboard (ADF) is open.
*2: controls by turning on/off the power of the CCD and the circuitry around it for power saving and
for protection against overheating.

F-5-7

5.2.2 Basic Sequence of Operation in Response to a Press on the Start Key

1. Basic Sequence of Operation in Response to a Press on the Start Key (book mode; 1 original)

Start key
ON

	STBY	SREADY	SCFW				SCRW	STBY
Reader motor		Forward Reverse	Reverse Forward	Reverse	Forward		Reverse	
Original scanning lamp								
HP sensor		ON	ON				ON	
Scanner unit position								

HP (shading position)

Copyboard cover start position

Image end
Shift to copyboard scan start position

HP (shading position)

CCD-KILL control*1

CCD-LIVE control*1

shift shading
fixed shading
white plate dust detection control
shading correction

*1: controls by turning on/off the power of the CCD and the circuitry around it for power saving and for
protection against overheating.

F-5-8

	Start position	Shading position	Image leading edge	Original size detection position		Stop position

1. HP positioning
2. move to shift shading start position
3. move to shift shading
4. fixed shading
   - white plate dust detection
   shading correction
5. Start position move to shift
6. Original scann
7. HPposition move to shift

*1: shifts only if the copyboard cover (ADF) is open.
*2: executed only if 1 min or more (power off) has passed from the previous session.

F-5-9

2. Basic Sequence of Operation in Response to a Press on the Start Key (ADF mode; 1 original)

Start key
ON

Not executed if 1 min or less (power off) from previous session.

	STBY	SREADY		SCRW		SCFW		STBY

Reader motor
Forward   Reverse   Reverse   Forward   Reverse   Forward   Forward   Reverse   Forward

Original scanning lamp

HP sensor   ON   ON

Scanner unit position

HP (shading)

Stream reading position

CCD-KILL control*1

ADF Dust

Stream reading shift position

Image end

shading shift position

HP (shading)

shift shading fixed shading white plate dust detection control shading correction

shift shading fixed shading white plate dust detection control shading correction

CCD-KILL control*1

shift shading fixed shading white plate dust detection control shading correction

*1: controls by turning on/off the power of the CCD and the circuitry around it for power saving and for protection against overheating.

F-5-10

Stream reading position   Shading position   Image leading edge   Original size detection position   Stop position

1. HP positioning   *1
    *2
    *2

2. move to shift shading start position

3. shift shading

4. fixed shading
   - white plate dust detection shading correction

5. stream reading position to shift

6. original stream reading scan

7. shifts to point of dust detection

8. shifts to point of stand by position

9. moves to shift shading start position

10. shift shading   *1

11. fixed shading
    - white plate dust detection shading correction

*1: shifts only if the copyboard cover (ADF) is open
*2: executed only if 1 min (power ON) or more has passed from the previous session.

F-5-11

5.3 Various Control Mechanisms

5.3.1 Controlling the Scanner Drive System

5.3.1.1 Overview

The following shows the arrangement of the components associated with the drive of the scanner:
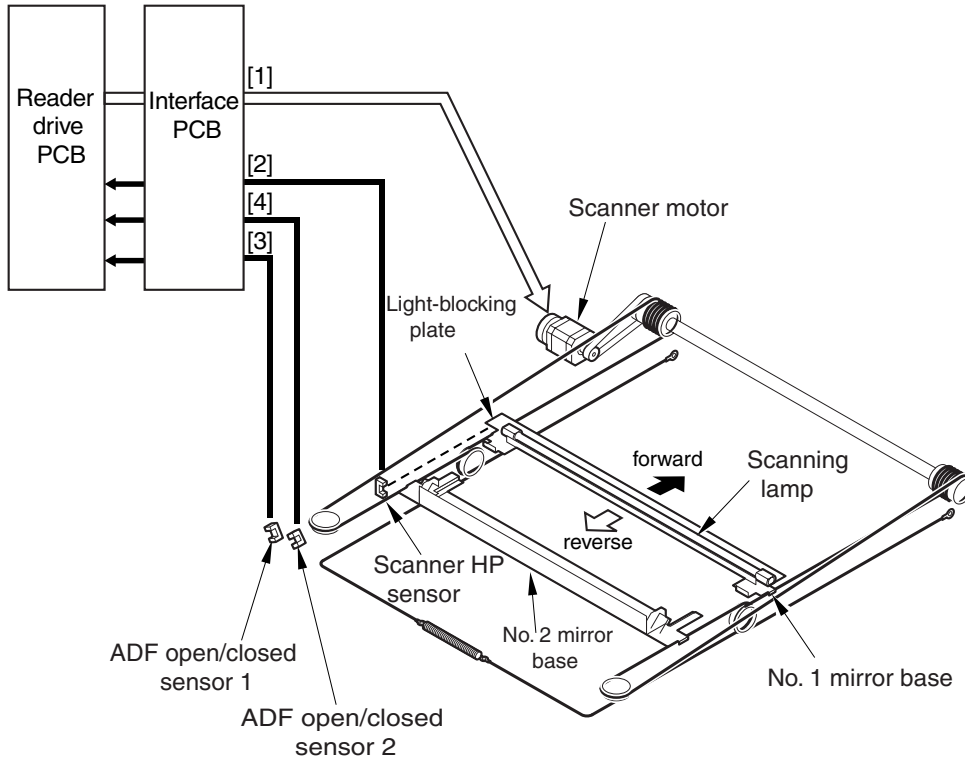
F-5-12

[1] Scanner Motor M501 Drive Signal
   controls the activation/deactivation of the motor and the direction and speed of the motor.
[2] Scanner HP Sensor PS501 Detection Signal
   used in reference to the detection of the No. 1 mirror base at its home position.
[3] ADF Open/Closed Sensor 1 PS502 Detection Signal
   used in reference to the detection of the state (open/closed) of the ADF.
[4] ADF Open/Closed Sensor 2 PS503 Detection Signal
   used in reference to the detection of the state (open/closed) of the ADF.

5.3.1.2 Controlling the Scanner Motor

The following shows the construction of the mechanisms used to control the scanner motor.
The motor driver on the interface PCB controls the rotation (activation/deactivation) of the scanner motor and its direction and speed of rotation according to the signals from the CPU.
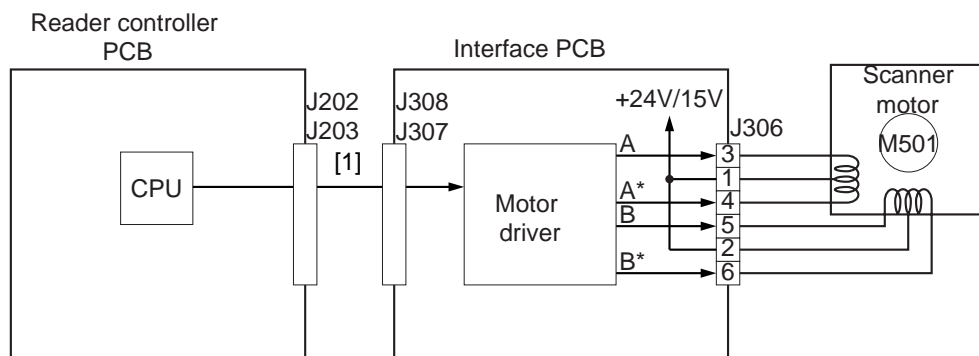
1 Scanner motor control signal

F-5-13

- Moving the Scanner in Reverse After an Image Scan
    After an image scan, the No. 1 mirror base is moved in reverse to shading position at 234 mm/sec regardless of the selected color mode.
- Moving the Scanner Forward for an Image Scan

When making an image scan, the No. 1 mirror base unit is moved by controlling the motor as follows:
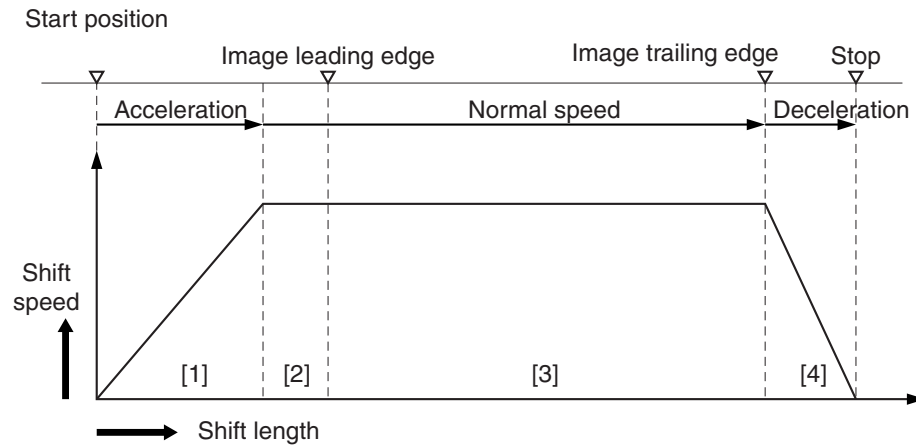
1. Acceleration Zone: accelerates to suit the selected mode
2. Approach Zone: moves for speed stabilization.
3. Image Read Zone: reads the image at a specific speed.
    (if black-and-white/SEND mode, twice as fast as in full-color mode)
4. Deceleration Zone: past the image trailing edge, immediately decelerates and stops.

F-5-14

The machine uses the following scanning speeds to suit different modes;

T-5-5

Function	Mode	Scanning speed
Copier	black-and-white	234 mm/sec
	full-color	234 mm/sec
SEND	black-and-white	468 mm/sec
	full-color	234 mm/sec

5.3.2 Enlargement/Reduction

5.3.2.1 Changing the Magnification in Main Scanning Direction

For main scanning direction in both copyboard and ADF modes, the image is read at 100%, and the magnification is varied by the main controller block.

5.3.2.2 Changing the Magnification in Sub Scanning Direction

For sub scanning direction in both copyboard and ADF modes, the image is read at 100%, and the magnification is changed by the main controller block.
In SEND mode, the reading size is switched between 100% and 50% depending on the selected resolution.

5.3.3 Controlling the Scanning Lamp

5.3.3.1 Overview

The scanning lamp is controlled for the following, with associated control mechanisms operating as follows:

1. Turning On and Off the Scanning Lamp
   The scanning lamp is turned on or off by the drive signal (XE-ON) generated by the CPU of the reader controller PCB. When the signal is generated, the inverter PCB generates high-frequency high voltage using the activation control circuit from the drive voltage (+24V) supplied by the reader controller PCB, thus turning on the scanning lamp.

2. Detection Error Activation
   The machine detects a fault in the intensity of the lamp as an activation error caused by a fault in the intensity of the lamp at time of initial activation (shading correction).

MEMO:
E225
- the reader controller PCB is faulty
- the inverter PCB is faulty
- the scanning lamp (xenon tube) is faulty
- CCD is faulty
- flexible cable has poor contact

F-5-15
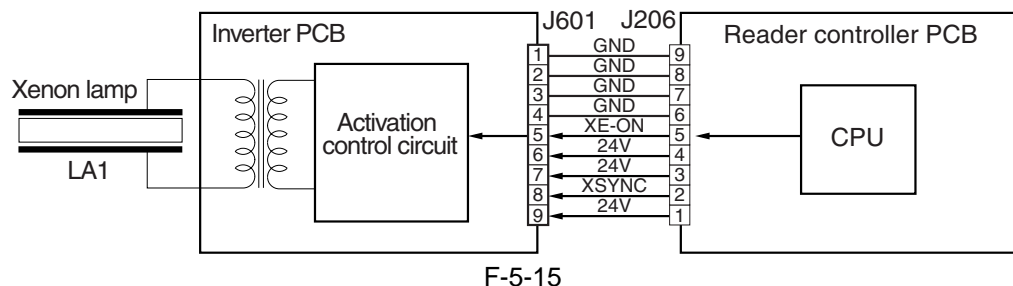
5.3.3.2 Scanning Lamp

The machine's scanning lamp is a xenon lamp, which uses xenon gas sealed inside. On the outside of the glass tube, 2 electrodes are arranged in parallel with the tube; the inside of the tube, on the other hand, is coated with fluorescent material. When a high-frequency high voltage is applied to the electrodes, the gas inside the tube starts to discharge, causing the fluorescent material to emit light.

F-5-16
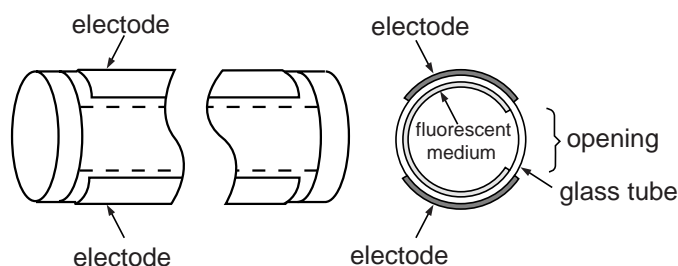
5.3.3.3 Turning On and Off the Scanning Lamp

The scanning lamp is turned on and off by the drive signal (LAMP_ON) generated by the CPU of the reader control PCB. When the signal is generated, the inverter PCB generates high-frequency high voltage in the activation control circuit using the drive voltage (+24 V) supplied by the reader controller PCB to turn on the xenon lamp.

5.3.4 Detecting the Size of Originals

5.3.4.1 Identifying the Size of Originals

The machine identifies the size of an original based on combinations of measurements taken of the light reflected by specific points (using a reflection type sensor and CCD). In consideration of possible displacement of the original when the ADF is closed, the machine uses a 2-point CCD check.
- Main Scanning Direction:
  by CCD (AB-configuration; 8-point measurement; inch-configuration, 6-point measurement)
- Sub Scanning Direction:
  reflection type photo sensor (AB-configuration: 1-point measurement; inch-configuration: 1-point measurement)

Specifically, the following takes place:
1) External Light Search (main scanning direction only)
   While keeping the scanning lamp off, the machine measures the level of the CCD at specific points in main scanning direction.
2) Sensor Output Level Detection
   The machine turns on the scanning lamp, and measures the sensor output at specific points. It then checks combinations of these measurement to find the size of the original.

5.3.4.2 Points of Measurement Used for Original Size Identification

For main scanning direction, the machine moves the No. 1 mirror base to the following points in relation to the location of the original to measure the levels of the CCD. For sub scanning direction, the machine checks the states of the sensors arranged as follows:

AB-Configuration

Inch-configuration

CCD original detection position

CCD original detection position
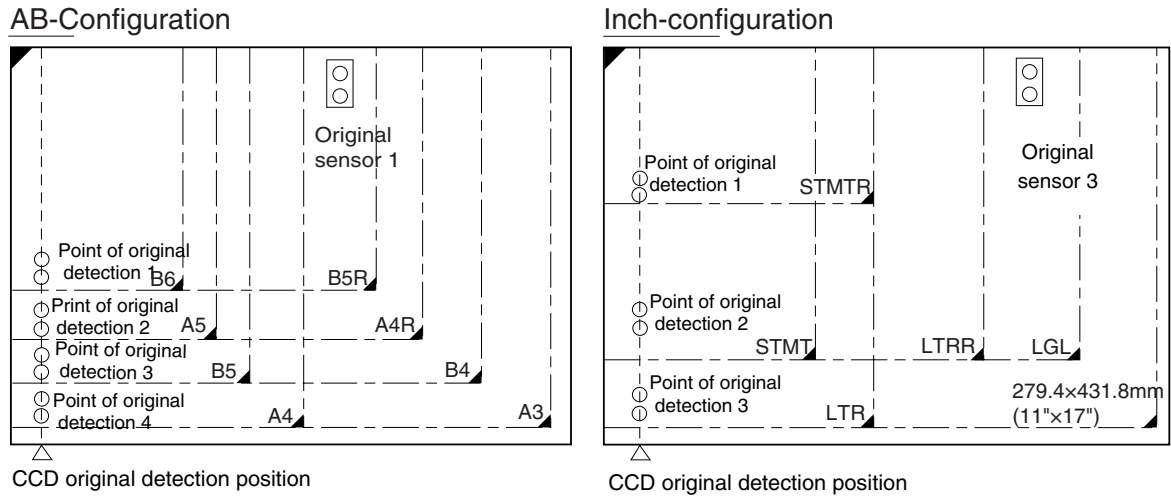
F-5-17

To raise the accuracy of original size identification (as when the original is displaced while the ADF is closed), the machine makes use of the following 2 types of mechanisms:

1. Presence/Absence of an Original at 2 Points (for each point of measurement)

For each point of measurement in main scanning direction, the machine checks the presence/absence of an original with reference to the CCD output at 2 points near the point of measurement.
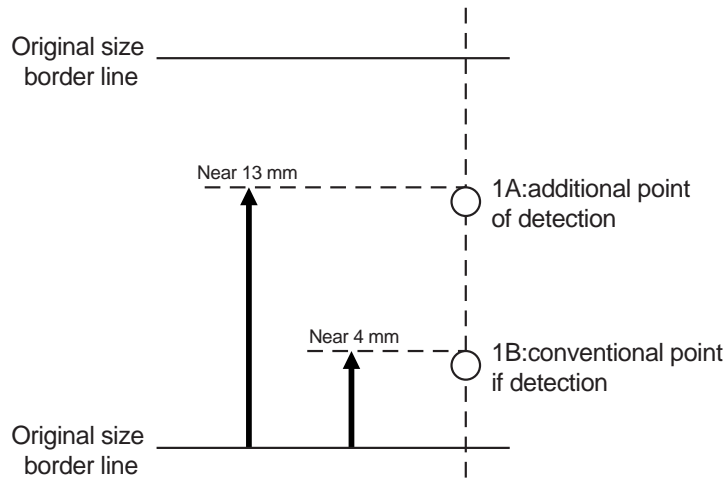
F-5-18
T-5-6

Result of measurement		Result of detection
A	B	
no	no	original absent
yes	no	original present
no	yes	original present
yes	yes	original present

Note:
Changes in the Signal (from ADF open to close)
  change: no
  other: yes
The machine uses OR combinations for identification.

2.Priority on the Front Sensors

 When checking the measurements for main scanning direction, if the absence of an original is indicated at the rear while the presence of an original is indicated at the front, the machine will give priority to the indication at the front (i.e., presence of an original).

CCD original detection position
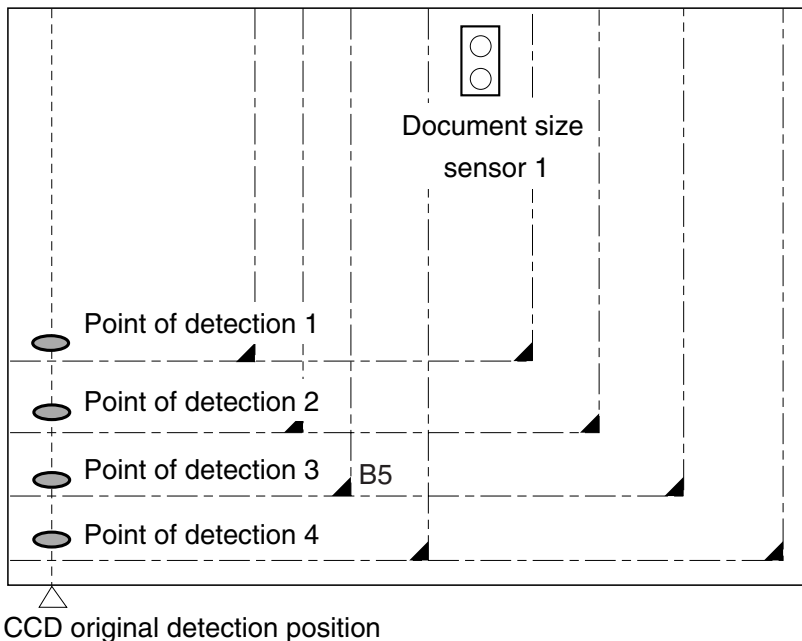
F-5-19
T-5-7

Point of detection	yes/no	Size identified
1	yes	yes
2	no	yes
3	yes	yes
4	no	no
Result		B5

Note:
Change in the Signal (ADF open to closed)
  change: no
  other: yes

5.3.4.3 Overview of Operation

1) Standby
   No.1 mirror base: shading position
   xenon lamp: off
   original sensor: off

Original detection position
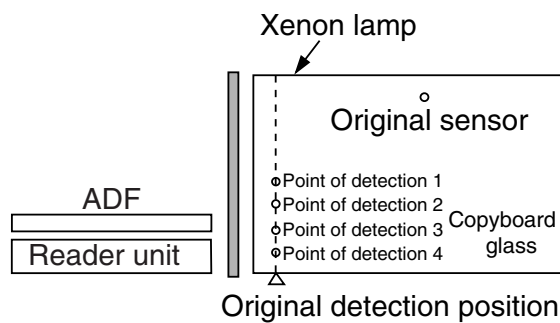
F-5-20

2) ADF Opened
   No.1 mirror base: moves to original detection position
   xenon tube: off
   original sensor: off
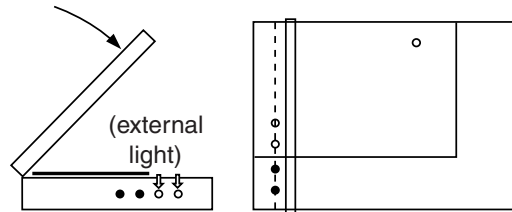
(external light)

F-5-21

3) ADF Closed
3-1) When the ADF is brought to 25 deg, the area covered by an original will be blocked from external light; therefore, the machine will assume the absence of an original at points that detect external light (external search).
   The ADF open/closed sensor 2 identifies the condition as being "closed," and the machine starts original size identification.
   At this position, B5, B4, A4, and A3 are excluded from the list of possible sizes.
3-2) The machine executes an external light search: for main scanning direction, it turns on the xenon lamp to check its light (reflected) at 4 points using the CCD; for the sub scanning direction, the machine checks the state of the original sensor.

(external light)

F-5-22

25°
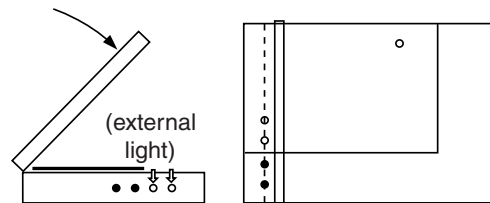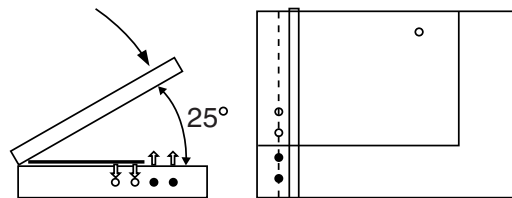
F-5-23

4) ADF Cover Fully Closed (5 deg or less).
   The machine checks for a change in the output levels of the sensors for 2 sec after the ADF open/closed sensor has identified the ADF as being "closed"; the machine assumes the absence of an original at points without a change.
   The machine then identifies the size of the original based on the combination of changes at 5 points.

5°
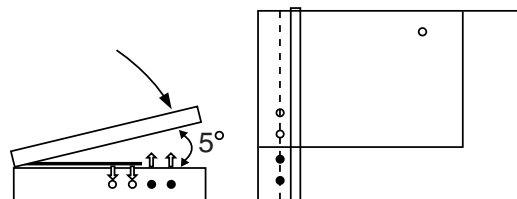
F-5-24

5) Standby (in wait for a press on the Start key)
No. 1 mirror base: at point of original detection
xenon lamp: off
original sensor: off

F-5-25

AB-Configuration

Point of CCD detection

Original size	1 A B	2 A B	3 A B	4 A B	Original sensor 1
A3	○ ○	○ ○	○ ○	○ ○	○ ○
B4	○ ○	○ ○	○ ○	● ●	○ ○
A4R	○ ○	○ ○	● ●	● ●	○ ○
A4	○ ○	○ ○	○ ○	○ ○	● ●
B5	○ ○	○ ○	○ ○	● ●	● ●
B5R	○ ○	● ●	● ●	● ●	○ ○
A5	○ ○	○ ○	● ●	● ●	● ●
B6	○ ○	● ●	● ●	● ●	● ●
absent	● ●	● ●	● ●	● ●	● ●

Inch-configuration

Point of CCD detection

Original size	1 A B	2 A B	3 A B	Original sensor 3
11"x17"	○ ○	○ ○	○ ○	○ ○
LGL	○ ○	○ ○	● ●	○ ○
LTRR	○ ○	○ ○	● ●	● ●
LTR	○ ○	○ ○	○ ○	● ●
STMTR	○ ○	● ●	● ●	● ●
STMT	○ ○	○ ○	● ●	● ●
absent	● ●	● ●	● ●	● ●

○:unchanged ●:changed

F-5-26

5.3.5 Dirt Sensor Control

5.3.5.1 Stream Reading Dust Detection Control

The machine checks the stream reading glass and the ADF platen roller for the presence/absent of dust. It then changes the point of reading or executes image correction depending on the result of detection, thereby avoiding reproduction of dust particles in its output images. The machine executes the detection mechanism only when the ADF is used:

1. Timing of Detection
(1) at the end of a job
(2) between sheets (for every sheet read)
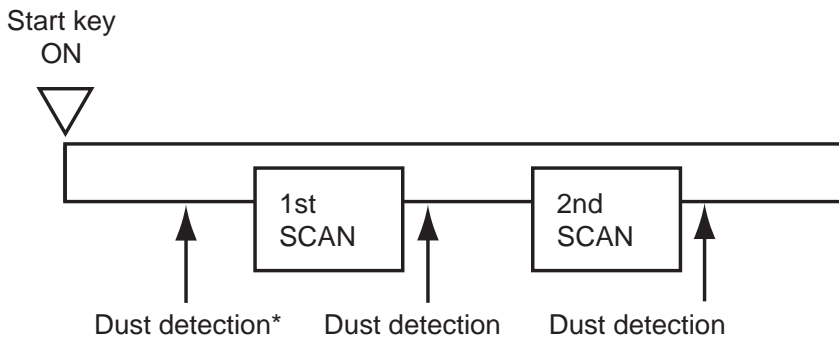
F-5-27

*Executed only if dust has been detected at all points, i.e., A, B, C, D, and E in the previous job. If so, the machine uses the point with least dust as the reading position and executes dust correction before starting reading operation.

2. Particulars of Control

(1) at the end of a job (makes a change to the point of stream reading dust reading position)

The machine checks the light reflected by the platen roller at the reading position to see if there is dust, moving to the next point if it finds dust (from A to B, C, D, and then to E; 5 points max.). It uses the first point that is free of dust as the reading point for the next job.

F-5-28
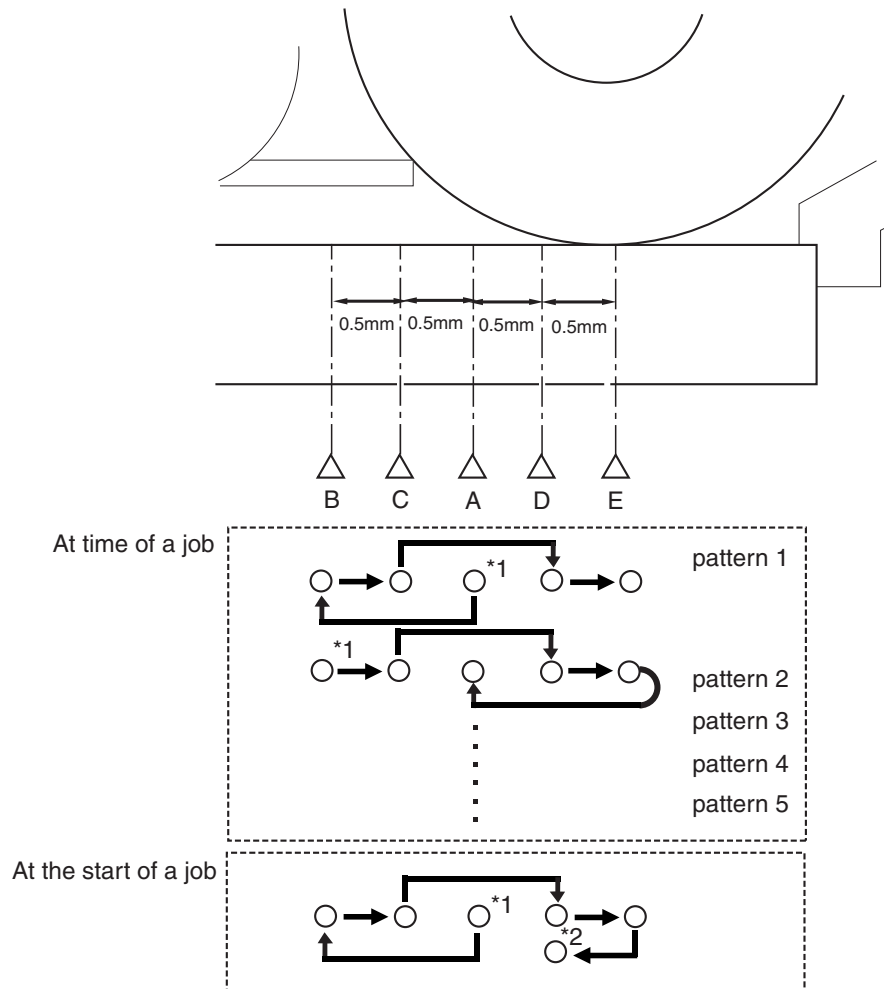
If it finds dust at all 5 points (A, B, C, D, E), then it will indicate an alarm when an original is placed in the ADF, prompting the user for cleaning. To reset, press [close].

When it starts a job, it will run the session once again and use a point with no dust or little dust as the reading position.

*1: reading position at the end of the previous job.

*2: point with no dust or little dust.

T-5-8

A	reading reference position (1.0 mm to the left from the center of the platen roller)
B	1.0 mm to the left from the reference position
C	0.5 mm to the left from the reference position
D	0.5 mm to the right from the reference position
E	1.0 mm to the right from the reference position (center of the platen roller)

(2) between sheets (dust correction)

The machine does not move the xenon lamp for dust detection.

If dust is detected between sheets, the machine executes dust correction by making correction on the pixels on both sides of the area where dust is found.

MEMO:

COPIER>OPTION>BODY>DFDST-L1 (level 1)
(adjustment of dust detection level between sheets)
COPIER>OPTION>BODY>DFDST-L2 (level 1)
(adjustment of dust detection at job end)

5.3.5.2 White Plate Dust Detection Control

The machine uses a fan to cool the inside of the reader unit to prevent overheating otherwise caused by the xenon lamp in stream reading mode. The fact, however, can cause stray dust inside the reader unit to collect on the white plate, showing up as lines in output images.

1. Timing of Control
  (1) Before a Job
    (a) white plate dust detection
    (b) white plate dust correction
  (2) After a Job
    (a) white plate dust detection
    (b) white plate dust correction
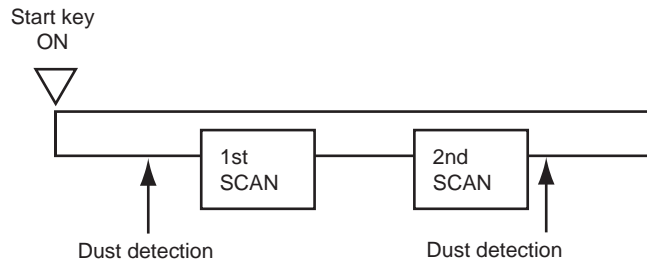
F-5-29

2. Particulars of Control
  (1) White Plate Dust Detection
    The machine compares the shading coefficient obtained from shift shading and the shading coefficient obtained from fixed shading to identify the presence/absence of dust and, if any, coordinates and width of the area.
  (2) White Plate Dust Correction
    If the machine detects dust as a result of white plate dust detection, it corrects the shading coefficient of the area using the shading coefficient of both sides so as to decrease the effects of the presence of dust. It executes shading correction using the coefficient it obtains after correction.
    If the result of white plate dust detection indicates the presence of dust, the shading coefficient of the area in question will be corrected by the coefficients of its adjacent areas during shading correction with the aim of reducing the effects of the presence of dust. Thereafter, shading correction will be executed using the corrected coefficient.
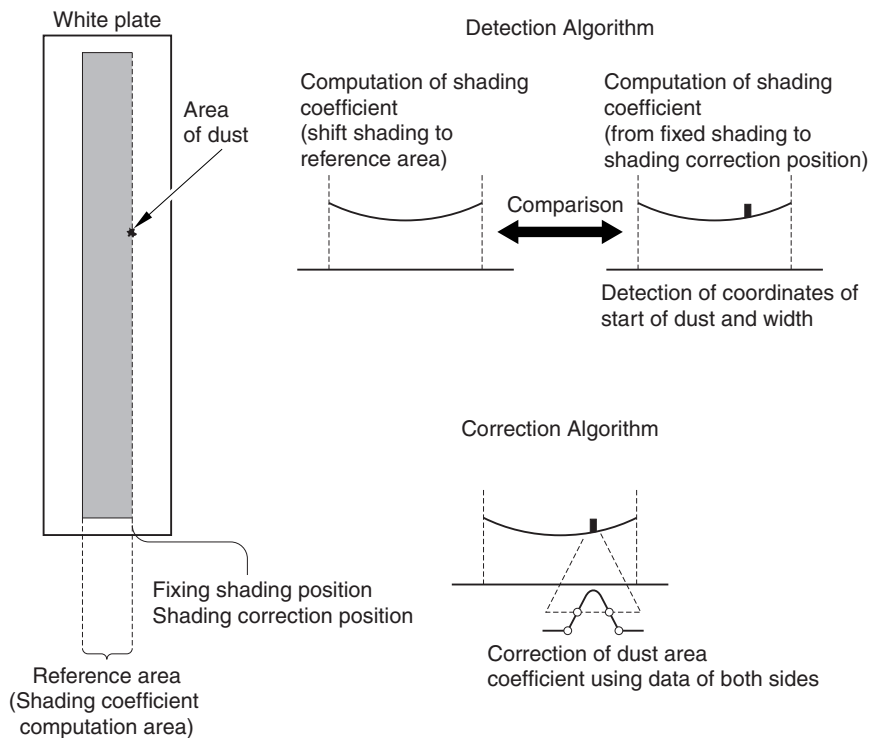
F-5-30

5.3.6 Image Processing

5.3.6.1 Overview

The following shows the major functions of the machine' s image processing system:
- CCD (image sensor)
  number of lines: 3 (RGB, 1 line each)
  number of pixels: 7350
  size of pixel: 9.3 x 9.3 ym
- Shading Correction   shading adjustment: in service mode
          shading correction: performed for every copy
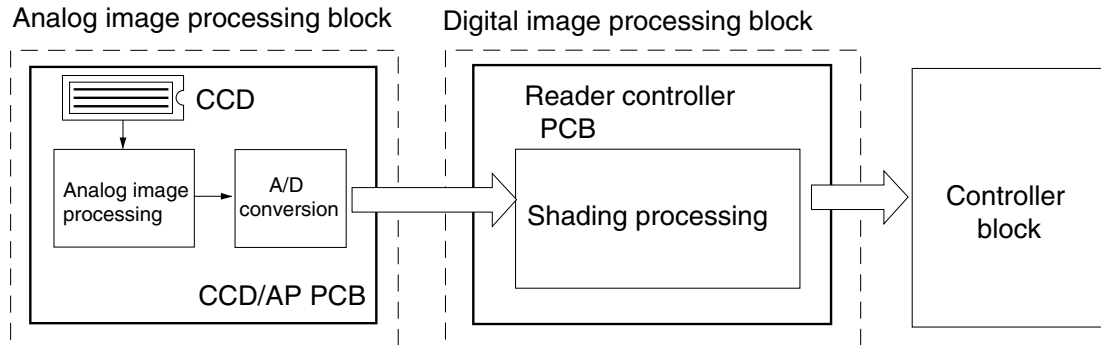
F-5-31

 The following shows the functions of the PCBs associated with the image processing system:
CCD/AP PCB: CCD drive, analog image processing, A/D conversion
reader controller PCB: shading correction
 The machine performs image processing for every RGB line using the reader controller PCB, and the major functions involved are as follows:
  (1) Analog Image processing
    (a) CCD drive
    (b) CCD output gain correction, offset correction
    (c) CCD output A/D conversion
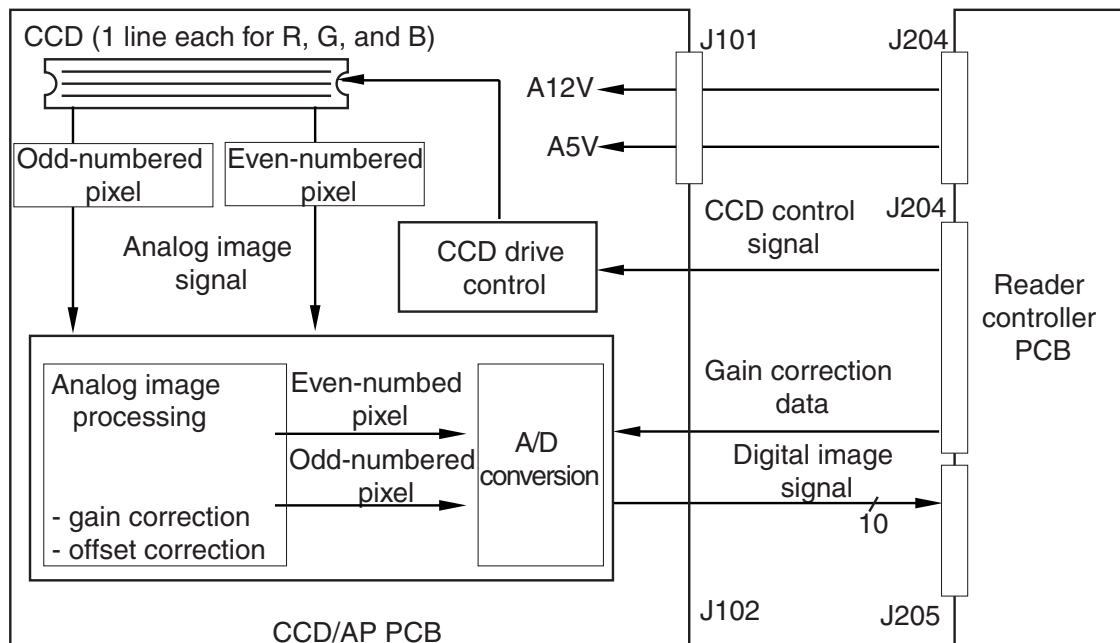
F-5-32

(2) Digital Image Processing
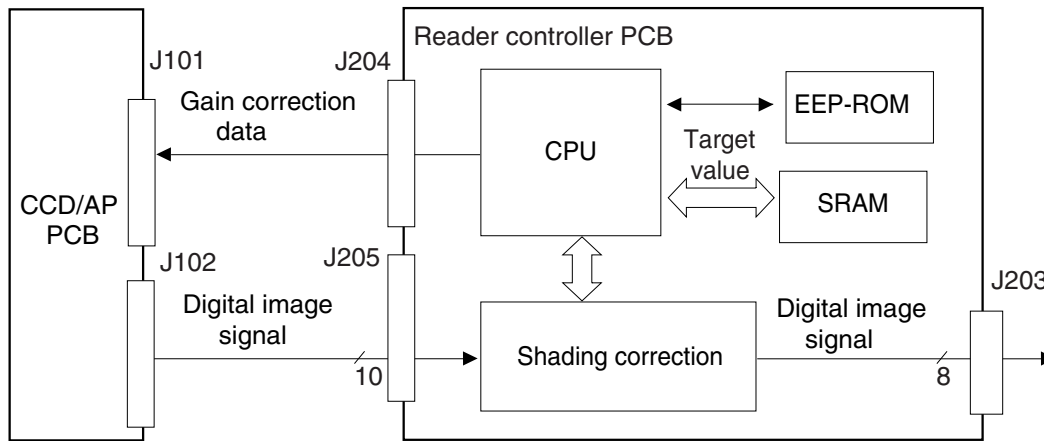
F-5-33

5.3.6.2 CCD Drive

 The machine's CCD is a linear image sensor consisting of 3 lines (R, G, B, 1 line each), each line composed of 7350 photo cells. The signal that has been put through photo-conversion in the light-receiving segment is divided into 2 analog signals of 2 channels for output: even-numbered pixels (EVEN) and odd-numbered pixels (ODD).
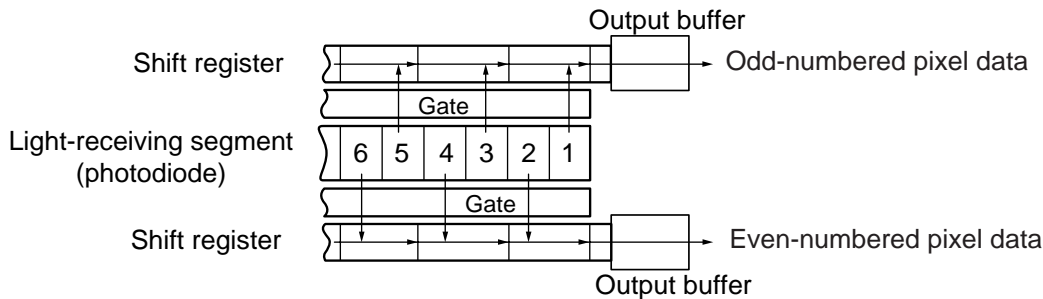
F-5-34

5.3.6.3 CCD Gain Correction, Offset Correction

 The analog video signal from the CCD is processed so that the rate of amplification is even (gain correction); the output in the absence of incident light is also processed for a specific level (offset correction).

5.3.6.4 CCD Output A/D Conversion

 The odd-numbered and even-numbered pixel analog video signals after the foregoing correction are then converted into 10-bit digital signals by the A/D converter according to their pixel voltage levels.

5.3.6.5 Outline of Shading Correction

The output of the CCD may not always be uniform because of the following reasons even when the density of the original in question is uniform:
- variation in the sensitivity among individual pixels of the CCD.
- difference in the level of transmission between the center and the edge of the lens.
- difference in the intensity of light between the middle and the edges of the scanning lamp.
- deterioration of the scanning lamp

The machine executes shading correction to even out the output of the CCD.

The machine executes either of the following 2 shading mechanisms: shading correction it carries out for every copy and shading adjustment for which the target value is set in service mode.

5.3.6.6 Shading Adjustment

 The machine performs shading adjustment in response to a command made in service mode. The machine measures the density of blank white paper and that of the white plate to obtain density data; it then computes the data to produce the target value for use at time of shading correction.

5.3.6.7 Shading Correction

The machine executes shading correction each time it scans an original.

The machine directs the light from the scanning lamp against the standard white plate, and converts the reflected light into a digital signal by the analog image processing block on the CCD/AP PCB. The result (i.e., a digital signal representing the intensity of the reflected light) is sent to the shading correction circuit of the reader controller PCB as a shading coefficient. The shading correction circuit in turn compares the coefficient against the target value it holds, and offers the difference as the shading correction value.

The machine uses the shading correction value to correct the variation that may exist among the individual pixels of the CCD, thereby keeping the image density to a specific level at all times.
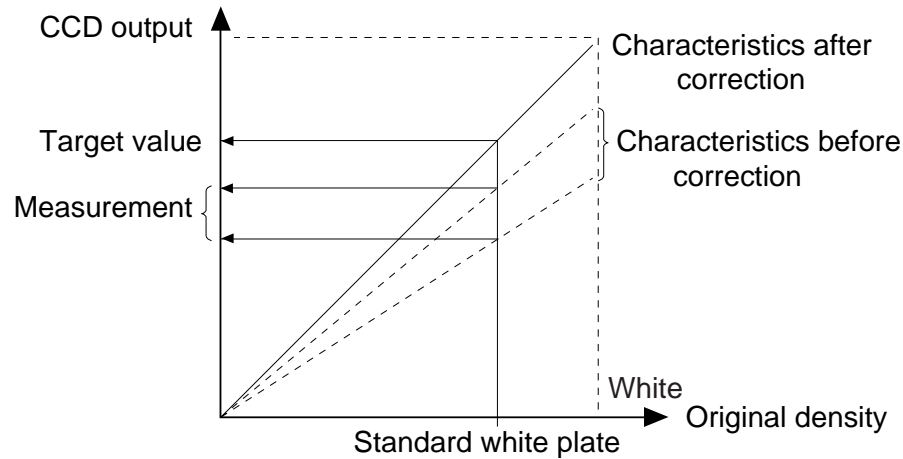
F-5-35

5.4 Parts Replacement Procedure

5.4.1 Copyboard Glass

5.4.1.1 Removing the Copyboard Glass

1) Open the ADF.
2) Remove the copyboard glass[3].
   - 2 screws[1]
   - right glass retainer[2]
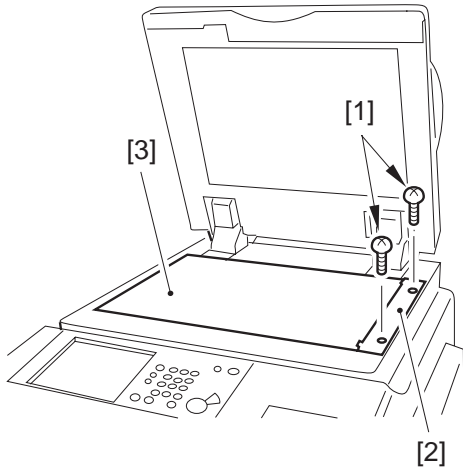
F-5-36

⚠️
When removing the copyboard glass, take care not to touch the white plate attached to its back. (soiling can cause lines in the image) If soiled, clean it using lint-free paper moistened with alcohol.

5.4.2 Exposure Lamp

5.4.2.1 Preparation for Removing the Scanning Lamp

1) Remove Copyboard Glass.
2) Remove the Right Cover (upper).
3) Remove the Reader Right Cover.
4) Remove the Left Cover (upper).
5) Remove the Reader Left Cover.
6) Remove the Reader Front Cover.
7) Remove the Reader Rear Cover.
8) Remove the CCD Unit Cover.
-Refer to Procedure 5.4.6

5.4.2.2 Removing the Scanning Lamp

1) Remove the cable [2] from the cable guide [3].
   - connector [1]
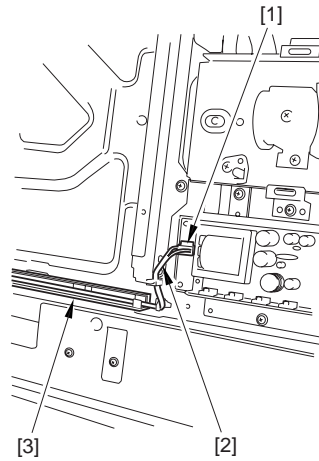
F-5-37

2) Move the No. 1 mirror base [1] to the right to match it against the cut-off [2] of the frame.

Reference:
When moving the No. 1 mirror base, be sure to hold it by the cut-up tab [A] of the mirror stay.
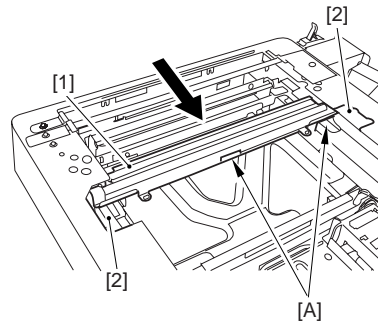
F-5-38

3) Remove the scanning lamp [2].
   - 2 screws [1]
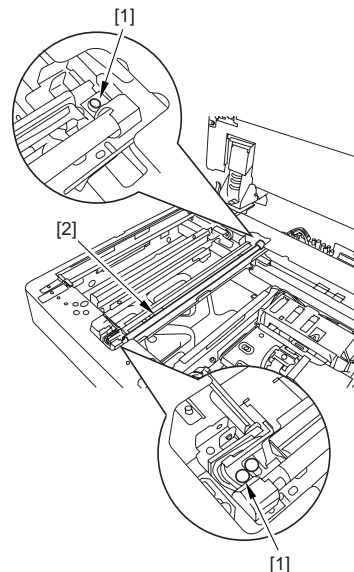
F-5-39

5.4.3 Reader Controller PCB

5.4.3.1 Preparation for Removing the Reader Controller PCB

1) Remove the Copyboard Glass.
2) Remove the CCD Unit Cover.
-Refer to Procedure 5.4.6
3) Remove the Original Size Sensor Unit.
-Refer to Procedure 5.4.10

5.4.3.2 Removing the Reader Controller PCB

1) Remove the reader controller PCB [4].
   - 5 flat cables [1]
   - connector [2]
   - 4 screws [3]
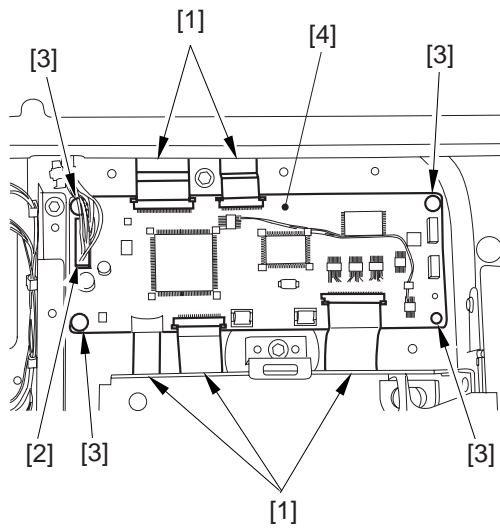
F-5-40

Reference: Disconnecting the Flat Cable
Slide the locking lever [1] in the direction of the arrow; then, disconnect the flat cable [2].
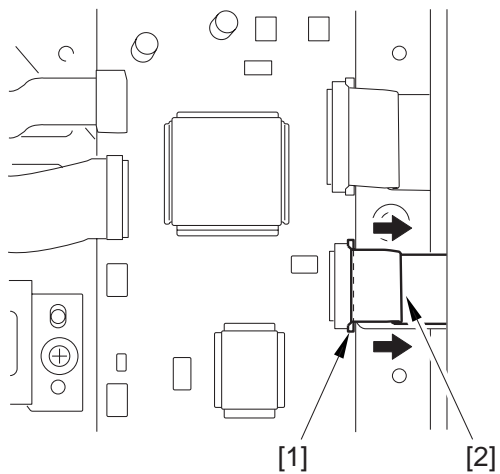
F-5-41

5.4.3.3 After Replacing the Reader Controller

⚠️

Be sure to print out the settings using P-PRINT before replacing the reader controller.

1. Initializing the RAM of the Reader Controller Without Replacing the PCB
Using the SST, upload the backup data of the reader controller; after you have initialized the RAM, download the backup data, thereby eliminating the need for the following adjustment work.

a. Reader Unit-Related Adjustment
1) Using the SST, download the latest system software (R-CON).
2) Make the following selections in service mode, and press the OK key to initialize the RAM: COPIER>FUNCTION>CLER>R-CON. Then, turn off and then on the main power.
3) Enter the following settings in service mode:
   (1) standard while plate white level data
      COPIER>ADJUST>CCD-W-PLATE-X,Y,Z

* 820686679349 *
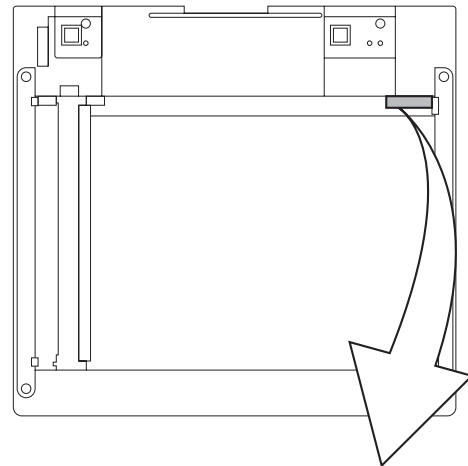
W-PLT-X
W-PLT-Y
W-PLT-Z

F-5-42

   (2) service mode label record (behind reader front cover)
      (a) image read start position adjustment (x direction; for fixed position reading)
         COPIER>ADJUST>ADJ-XY>ADJ-X
      (b) image read start position adjustment (Y direction: for fixed reading)
         COPIER>ADJUST>ADJ-XY>ADJ-Y
      (c) shading position adjustment (for fixed reading)
         COPIER>ADJUST>ADJ-XY>ADJ-S

(d) feeder mode main scanning position adjustment
    COPIER>ADJUST>ADJ-XY>ADJ-Y-DF
(e) ADF stream reading CCD read position adjustment
        COPIER>ADJUST>ADJ-XY>STRD-POS
(f) CCD unit RG/GB sub scanning direction color displacement correction
    COPIER>ADJUST>CCD>CCDU-RG/GB
(g) factory default CD unit RG/GB sub scanning color displacement correction
    COPIER>ADJUST>CCD>FCCDU-RG/GB
(h) auto gradation correction target value
    COPIER>ADJUST>PASCAL>OFFSET-P-Y,M,C,K

b. ADF-Related Adjustment

⚠

The machine retains ADF-related service data in the RAM of its reader controller, calling for adjustment of the ADF if you have initialized its RAM.

1) In service mode, enter the settings indicated on the P-PRINT printout you have previously obtained:
    (1) original stop position adjustment
        FEEDER>ADJUST>DOCST
    (2) original feed speed (magnification) adjustment
        FEEDER>ADJUST>LA-SPEED
2) Make the following adjustments using the following service mode items:
    (1) ADF sensor sensitivity adjustment
        FEEDER>FUNCTION>SENS-IN
    (2) tray width adjustment
        FEEDER>FUNCTION>TRY-A4
        FEEDER>FUNCTION>TRY-A5R
        FEEDER>FUNCTION>TRY-LTR
        FEEDER>FUNCTION>TRY-LTRR
    (3) white level adjustment
        COPIER>FUNCTION>CCD>DF-WLVL1
        COPIER>FUNCTION>CCD>DF-WLVL2

When done, put the P-PRINT printout [1] in the service book case, disposing of the previous printout.
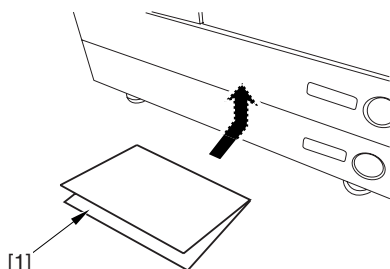
F-5-43

5.4.4 Interface PCB

5.4.4.1 Preparation for Removing the Interface PCB

1) Remove the reader rear cover.

5.4.4.2 Removing the Interface PCB

1) Remove the interface PCB cover [3].
    - 4 RS tightening screws [1]
    - 2 binding screws [2]
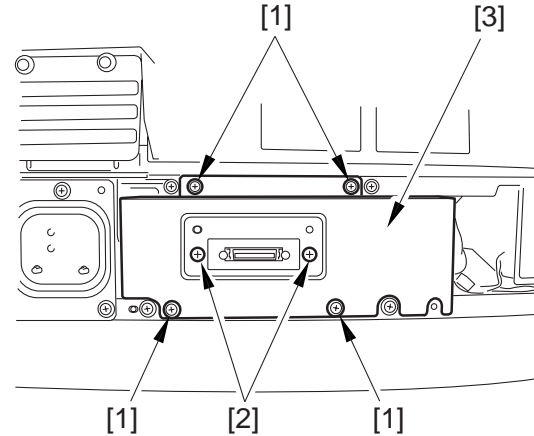
F-5-44

2) Remove the interface PCB unit [4].
    - 7 connectors [1]
    - 2 flat cables [2]
    - 5 screws [3]
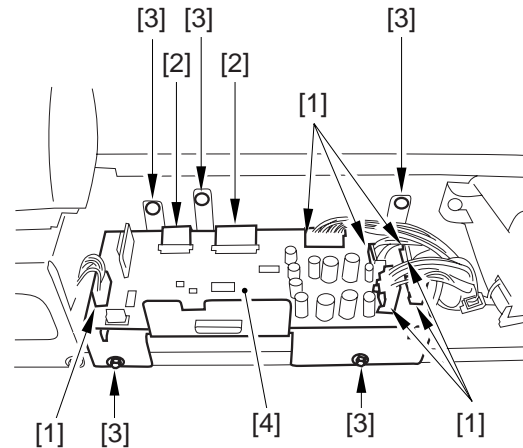
F-5-45

Reference: How to Remove the Flat Cable
Move the locking lever [1] in the direction of the arrow, and remove the flat cable [2].
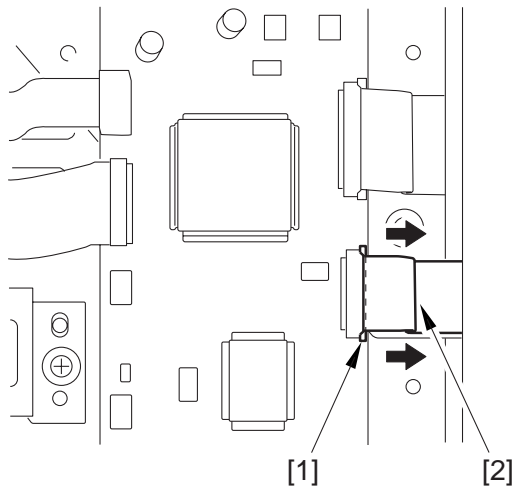
F-5-46

3) Remove the interface PCB [2].
   - 9 screws [1]
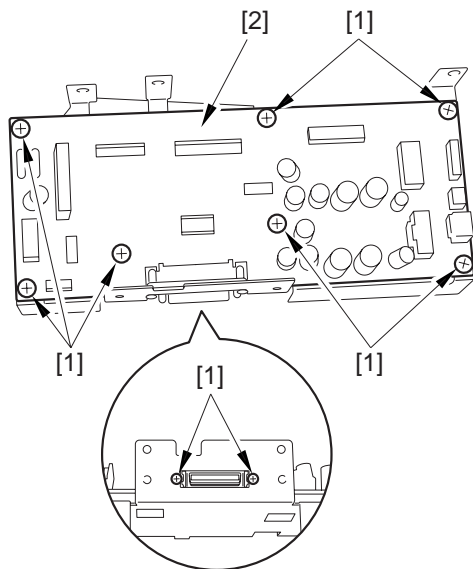
F-5-47

5.4.4.3 Points to Note When Attaching the Interface PCB

⚠

If the tie-wrap [1] of the scanner motor harness is closer to the motor than the wire guide [2], the harness will come into contact with the rotor and suffer damage. Be sure that the tie-wrap is closer to the interface PCB than the wire guide.
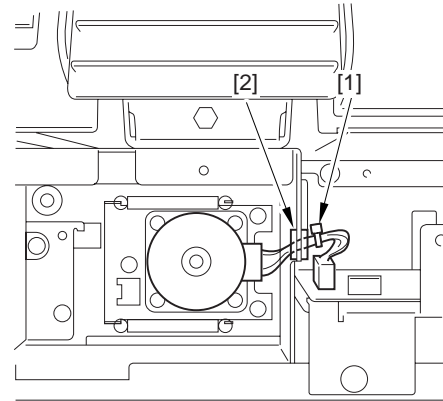
F-5-48

5.4.5 Inverter PCB

5.4.5.1 Preparation for Removing the Inverter PCB

1) Remove the Copyboard Glass.
2) Remove the CCD Unit Cover.
-Refer to Procedure 5.4.6

5.4.5.2 Removing the Inverter PCB

1) Remove the 2 PCB supports [4], and remove the inverter PCB [5].
   - connector [1]
   - flat cable [2]
   - screw [3]
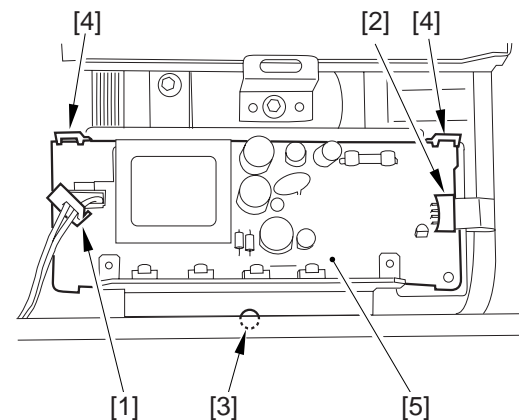
F-5-49

5.4.5.3 After Replacing the Inverter PCB

There is no special adjustment after replacing the inverter PCB.

5.4.6 CCD Unit

5.4.6.1 Preparation for Removing the CCD Unit

1) Remove Copyboard Glass.
2) Remove the CCD Unit Cover.
2-1) Remove the CCD unit cover [2].
   - 9 screws [1]
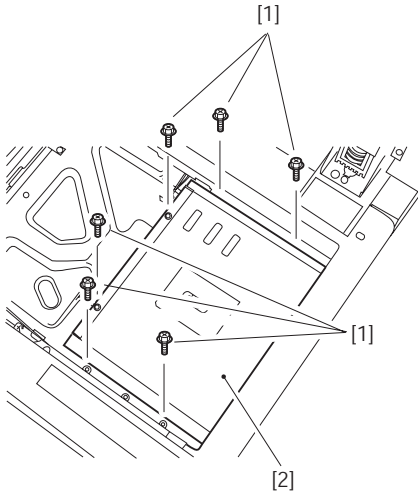
F-5-50
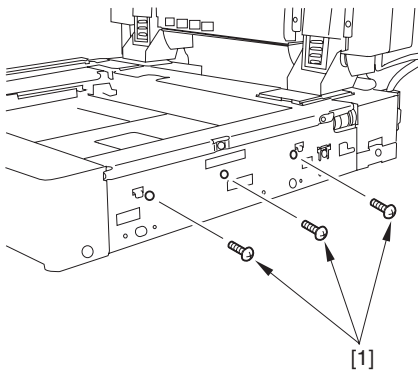
F-5-51

3) Remove the Original Size Sensor Unit.
-Refer to Procedure 5.4.10

5.4.6.2 Removing the CCD Unit

1) Remove the original size detection unit [2].
   - 3 screws [1]
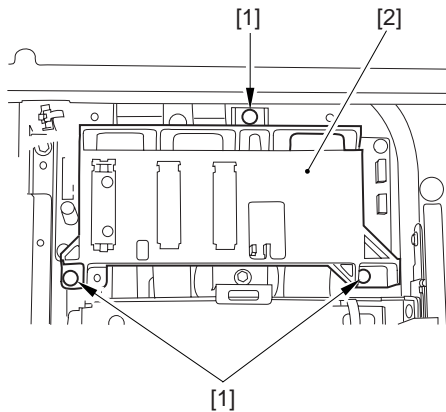
F-5-52

2) Remove the CCD unit [4].
   - 2 flat cables [1] from the reader controller PCB
   - 2 screws [2]
   - 2 leaf springs [3]
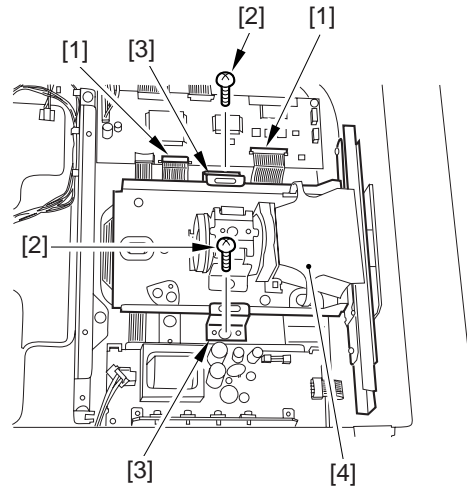
F-5-53

5.4.6.3 After Replacing the CCD Unit

If you have replaced the CCD unit, be sure to enter the settings indicated on the label attached to the CCD unit:

COPIER>ADJUST>CCD>CCDU-RG
(to enter the correction value for CCD-dependent RG color displacement in sub scanning direction)
COPIER>ADJUST>CCD>CCDU-GB
(to enter the correction value for CCD-dependent GB color displacement in sub scanning direction)
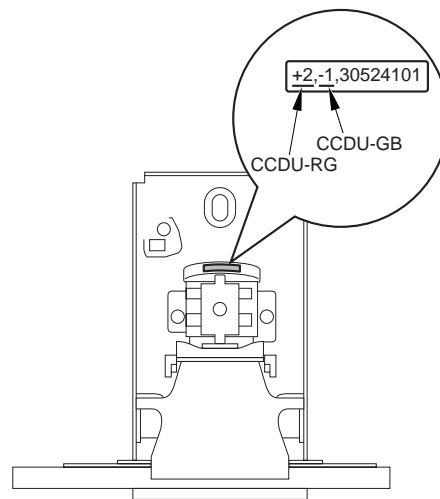
F-5-54

Moreover, be sure to update the settings indicated on the service label attached behind the reader unit front cover with the settings indicated on the label attached to the CCD unit.

5.4.7 Scanner Motor

5.4.7.1 Preparation for Removing the Scanner Motor

1) Remove the reader rear cover.

5.4.7.2 Removing the Scanner Motor

1) Remove the cover [2].
   - 4 screws [1]
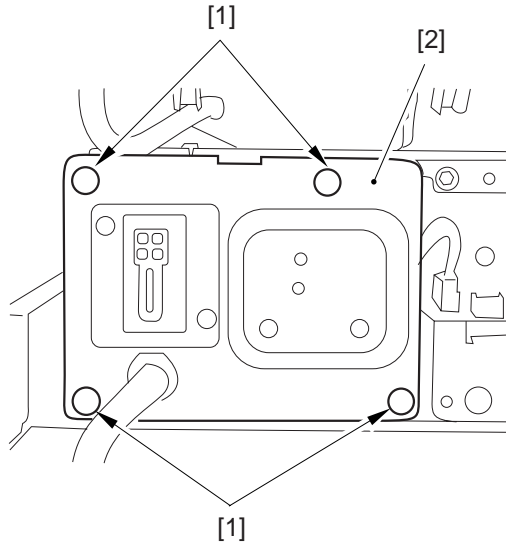
F-5-55

2) Remove the 2 harness retainers [2] from the back of the cover [1] to remove the cover.
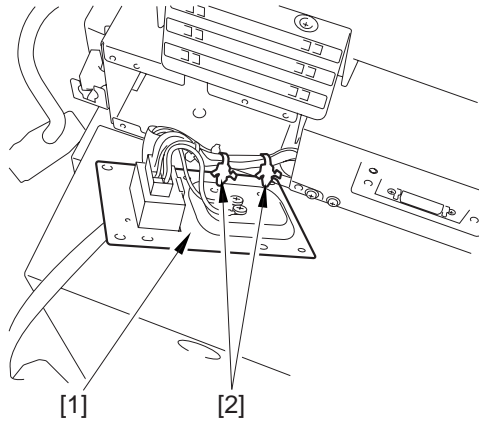
F-5-56

3) Move the scanner motor [3] in the direction of the arrow to remove.
   - 3 screws [1]
   - 2 springs [2]
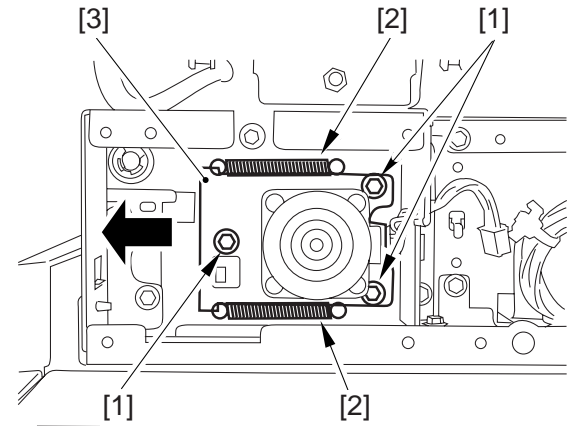
F-5-57

4) Remove the scanner motor [2].
   - connector [1]
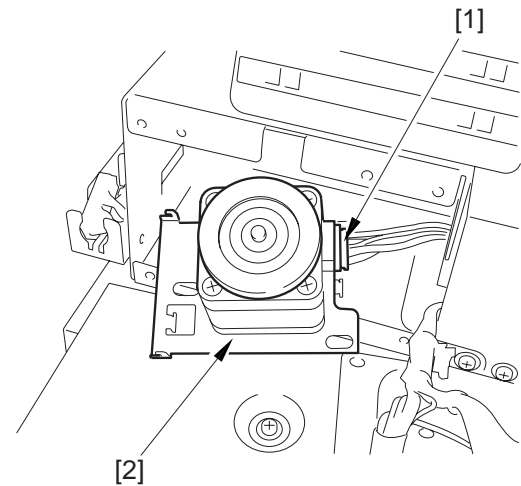
F-5-58

5.4.7.3 Attaching the Scanner Motor

When attaching the scanner motor, be sure that the timing belt [3] is securely attached to the scanner pulley [1] and the motor shaft [2].
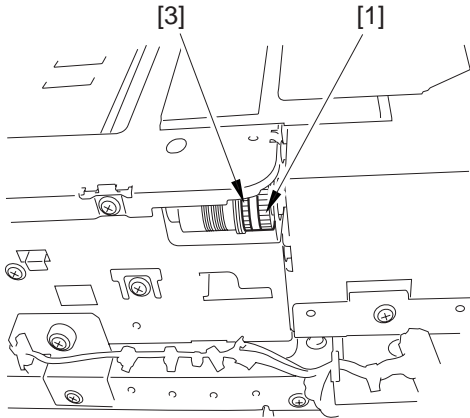
F-5-59
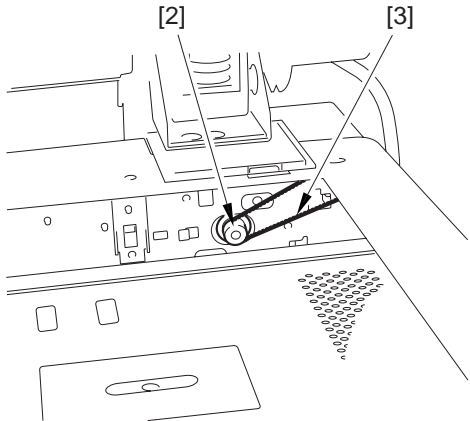
F-5-60

⚠

If the tie-wrap [1] of the scanner motor harness is closer to the motor side than the wire guide [2], the harness can come into contact with the rotor of the scanner motor and suffer damage. Be sure that the tie-wrap is closer to the interface PCB than the wire guide when mounting the scanner motor.
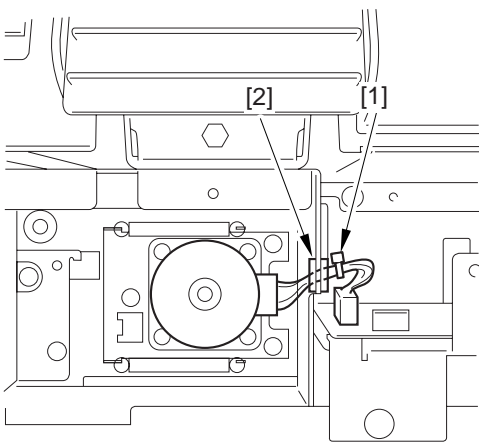
F-5-61

5.4.8 ADF Open/Close Sensor

5.4.8.1 Preparation for Removing the ADF Open /Close Sensor

1) Remove the Reader Rear Cover.

5.4.8.2 Removing the ADF Open/Closed Sensor

1) Remove the connector [1].
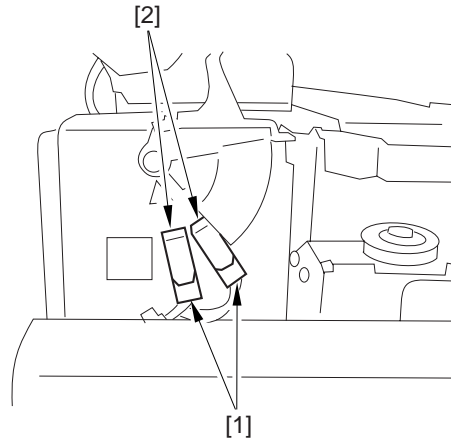
F-5-62
2) Remove the reinforcing plate [2].
   - 4 screws [1]
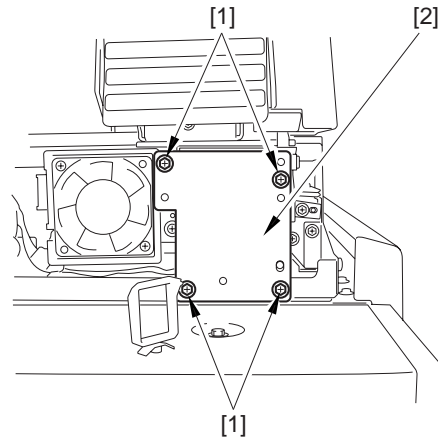
F-5-63
3) Remove the ADF open/closed sensor (1, 2).
   - hook [1]
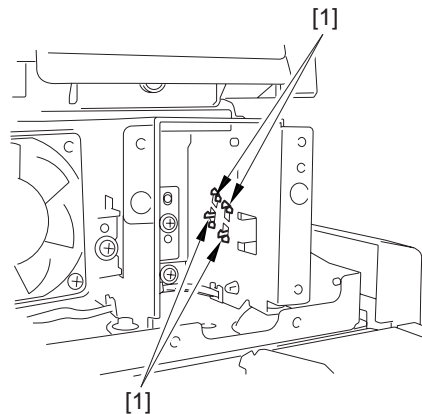
F-5-64

5.4.9 Scanner HP Sensor

5.4.9.1 Preparation for Removing the Mirror Base Home Position Sensor

1) Remove the Reader Rear Cover.

5.4.9.2 Removing the Mirror Base Home Position Sensor

1) Remove the plate [2].
   - 4 screws [1]
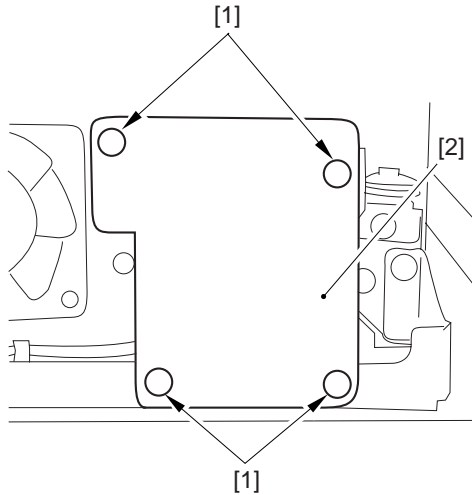
F-5-65

2) Remove the sensor mounting plate [2].
   - screw [1]
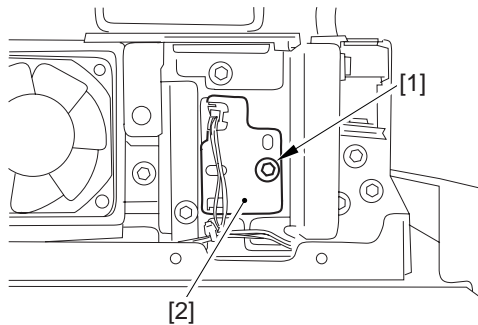
F-5-66

3) Remove the home position sensor [1].
   - connector [1]
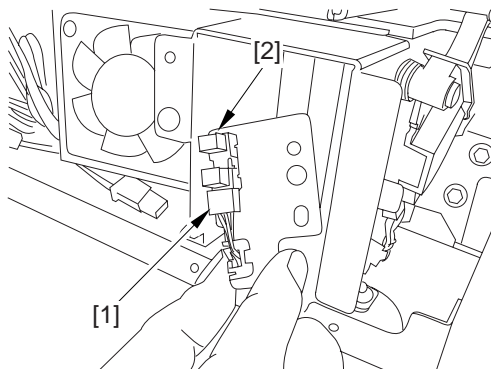
F-5-67

5.4.10 Original Sensor

5.4.10.1 Preparation for Removing the Original Size Sensor

1) Remove Copyboard Glass.
2) Remove the CCD Unit Cover.
-Refer to Procedure 5.4.6
3) Remove the Original Size Sensor Unit.
3-1) Move the original size detection unit [2].
   - 3 screws [1]
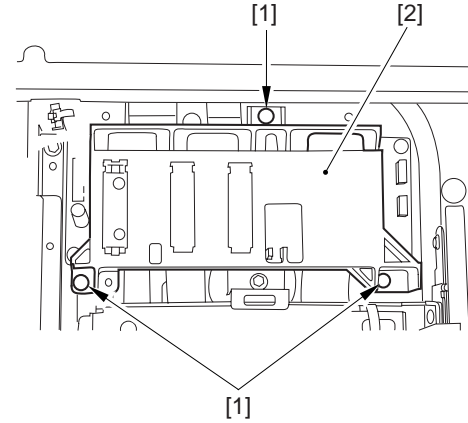
F-5-68

3-2) Remove the original size sensor unit [2].
   - connector [1]
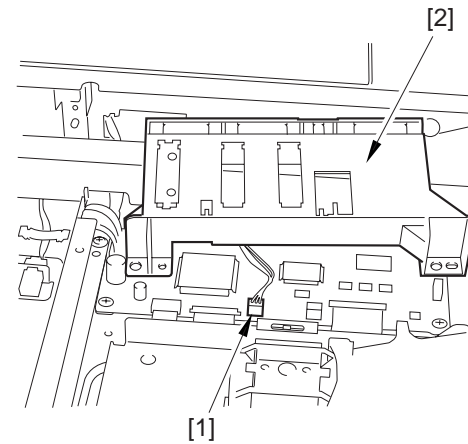
F-5-69

5.4.10.2 Removing the Original Size Sensor

1) While removing the claw at the edge, remove the original size sensor [1].
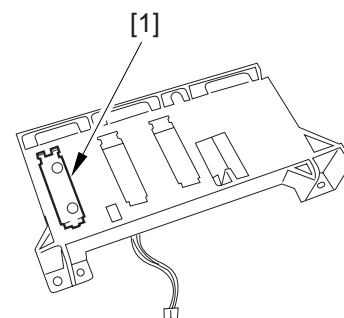
F-5-70

5.4.11 Cooling Fan

5.4.11.1 Preparation for Removing the Cooling Fan

1) Remove the Reader Rear Cover.

5.4.11.2 Removing the Cooling Fan

1) Remove the cooling fan [3].
   - connector [1]
   - 2 screws [2]
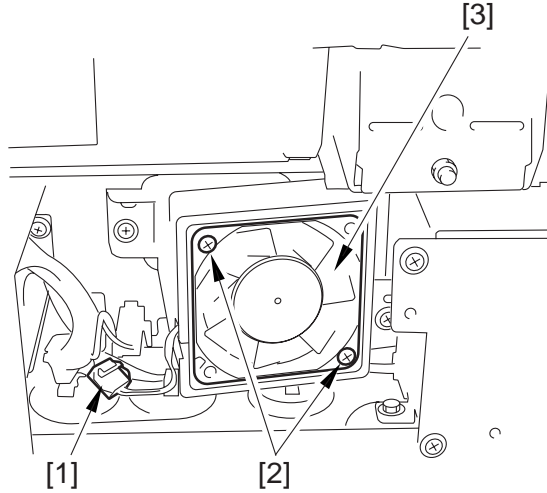
F-5-71

5.4.12 Scanner Drive Cable

5.4.12.1 Preparation for Removing the Scanner Drive Cable

Be sure to keep the following on hand when re-placing the scanner drive cable:
   - mirror positioning tool
1) Remove the Copyboard Glass.
2) Remove the Right Cover (upper).
3) Remove the Reader Right Cover.
4) Remove the Left Cover (upper).
5) Remove the Reader Left Cover.
6) Remove the Reader Front Cover.
7) Remove the ADF.
7-1) Remove the communications cable [1] of the ADF from the host machine.
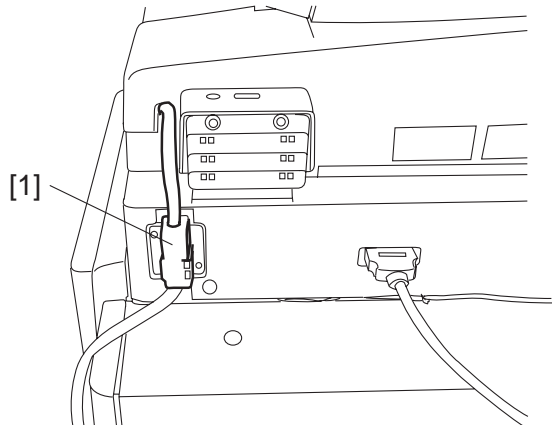
F-5-72

7-2) Bend up the edge of the rubber cover [1], and remove the 2 screws [2]; then, remove the angle guide plate [3].
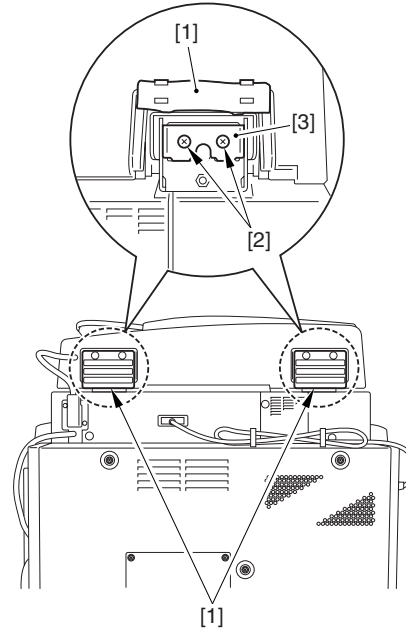
F-5-73

7-3) Move toward the front, and lift it to remove.
   - 3 knurled screws [1]
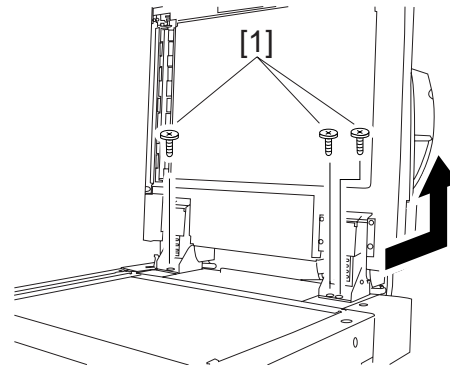
F-5-74

8) Remove the Control Panel.
8-1) Remove the connector [1].
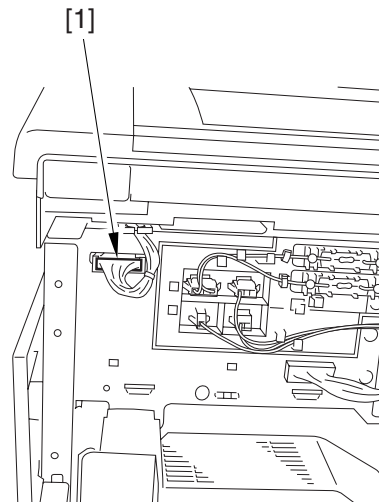
F-5-75

8-2) Remove the control panel [2] together with the cover.
  - 5 screws [1]
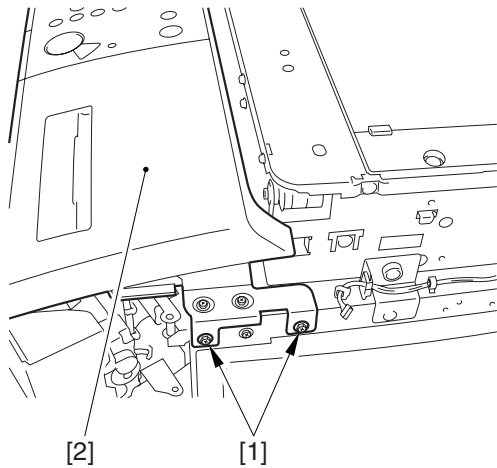
F-5-76
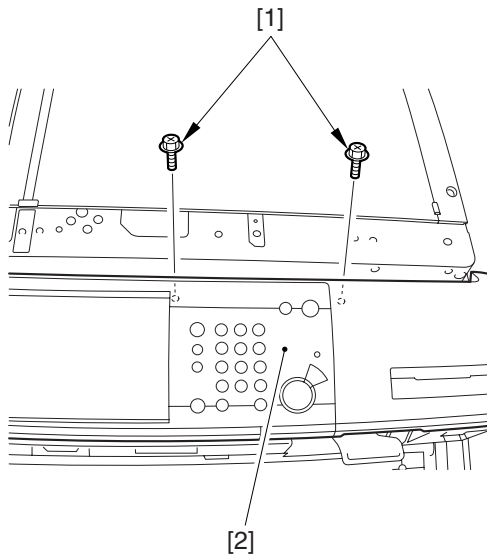
F-5-77
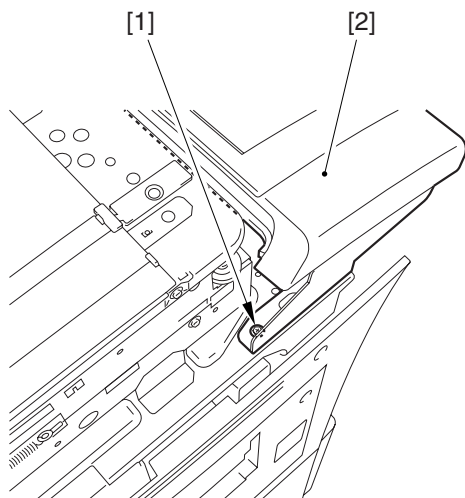
F-5-78

5.4.12.2 Removing the Scanner Drive Cable

1) Remove the 2 screws [1], and remove the reading glass retainer [2].

⚠
When removing the reading glass retainer, take care so that the leaf spring will not come off.

2) Remove the reading glass [3].
3) Remove the 2 screws [4], and remove the left glass retainer [5].
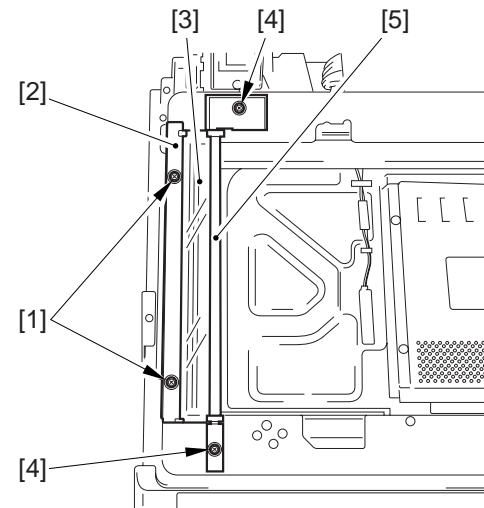
F-5-79

⚠
When attaching it, be sure to hold down both ends of the leaf spring [A] with your fingers. (Take care not to bend the leaf spring.)
Be sure to attach it while forcing the left glass retainer [B] against the reading glass [C].
Check to make sure that the side of the reading glass and the leaf spring [D] of the left glass retainer are in firm contact.
Otherwise, dust from the reading glass can start to collect, causing lines in images.

F-5-80

[C]   [D]

[B]
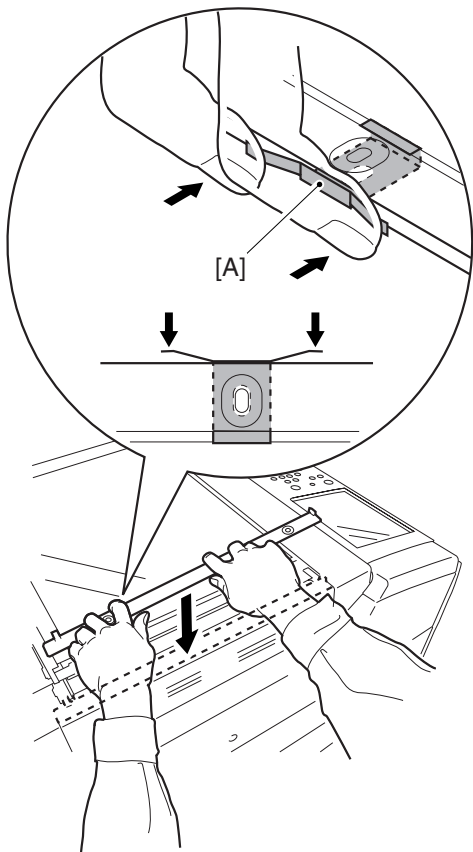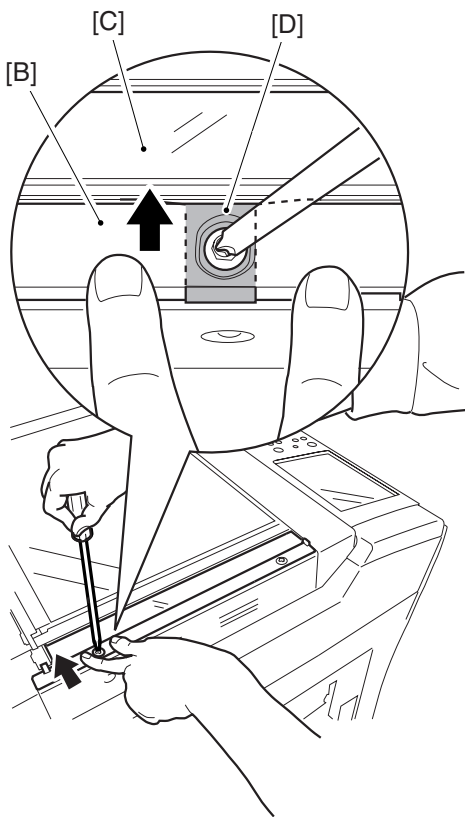
F-5-81

4) Remove the ADF right screw cover [2].
   -screw [1]
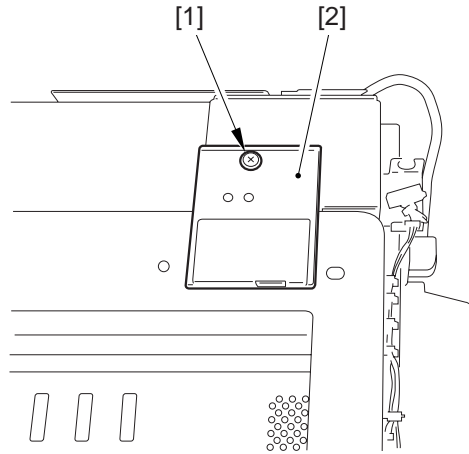
F-5-82

5) Remove the ADF left screw cover [2].
   -the screw[1]
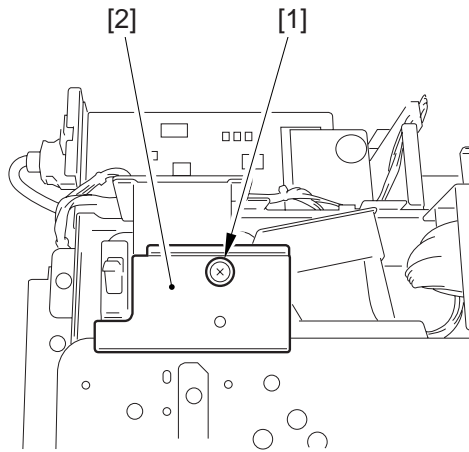
F-5-83

6) Remove the interface PCB cover [3].
   - 6 screws [1]
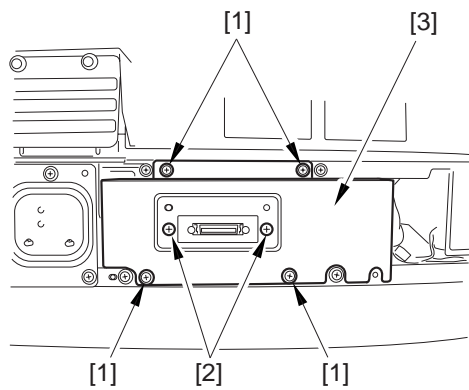
F-5-84

7) Remove the interface PCB [3] together with its base.
- 9 connectors [1]
- 5 screws [2]
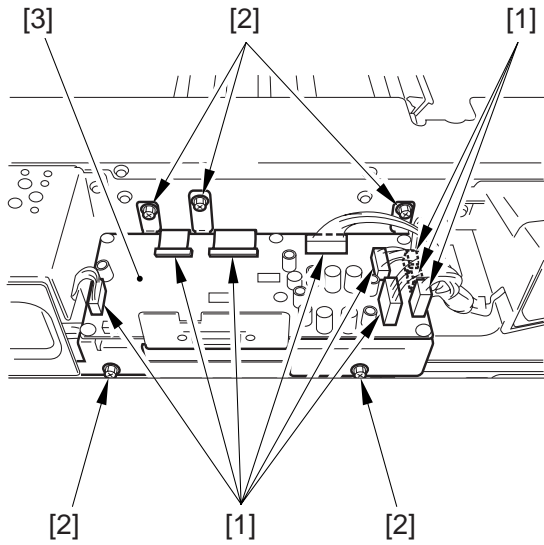
F-5-85

8) Remove the reader communications cable.
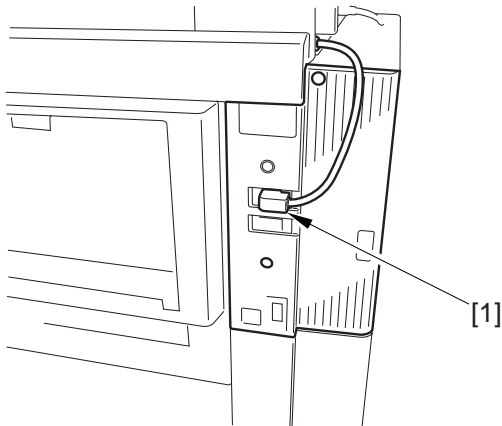
F-5-86

9) Open the 3 wire saddles [2].
- connector [1]
10) Remove the motor cover [4] together with the harness.
- 4 screws [3]
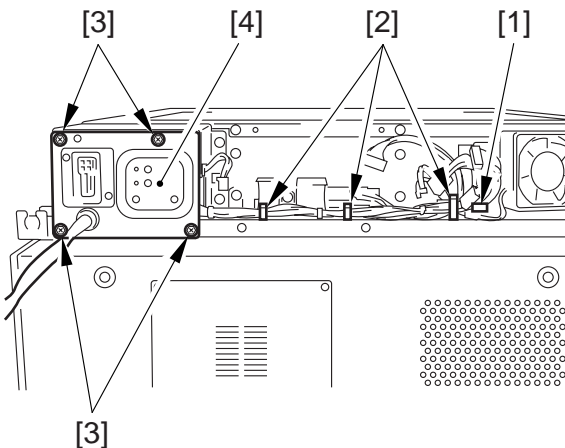
F-5-87

11) Remove the motor frame [3].
- wire saddle [1] (Remove the harness)
- 6 screws [2]
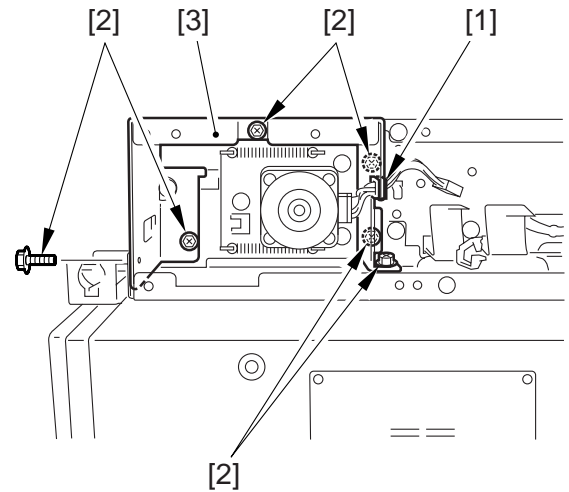
F-5-88

12) Remove the ADF open/closed sensor cover [2].
- 4 screws [1]
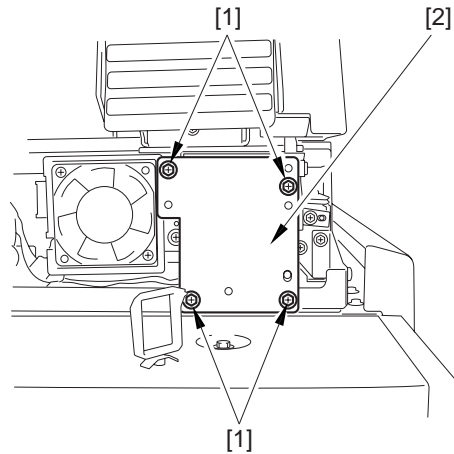
F-5-89

13) Remove the harness from the wire saddle [3].
- 2 connectors [1]
- snap-open band [2]
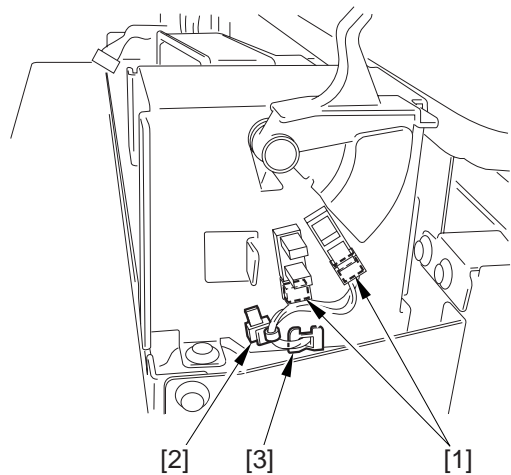
F-5-90

14) Remove the ADF open/closed sensor base [3].
   - harness [1] (From the wire saddle)
   - 6 screws [2]
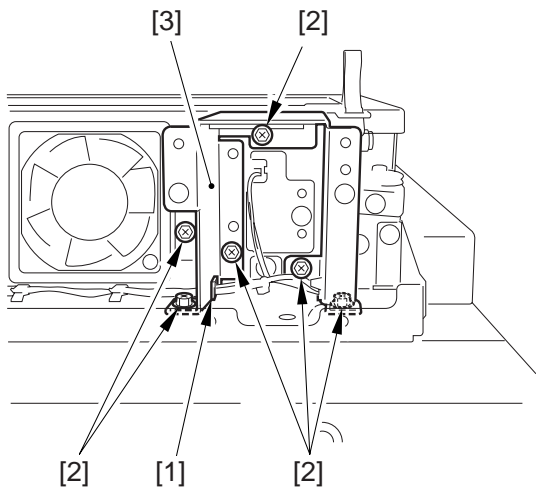
F-5-91

15) Remove the reader upper frame [2].
   - 24 screws [1]
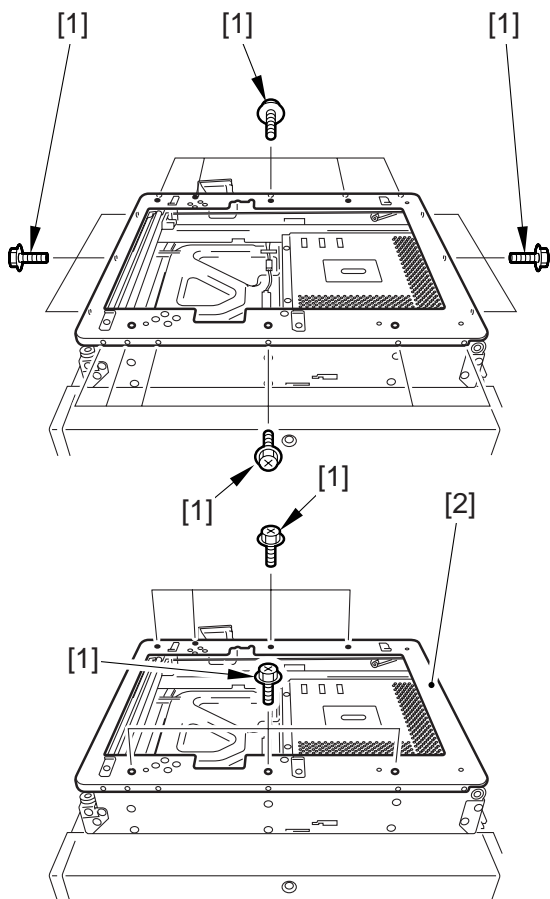
F-5-92

16) Remove the 2 cable fixing screws [2] of the No. 1 mirror base [1].
17) Remove the spring [3] used to hold the cable in place.
18) Remove the 2 hooks of the cable from the right side of the reader frame.
19) Remove the cable from the pulleys.
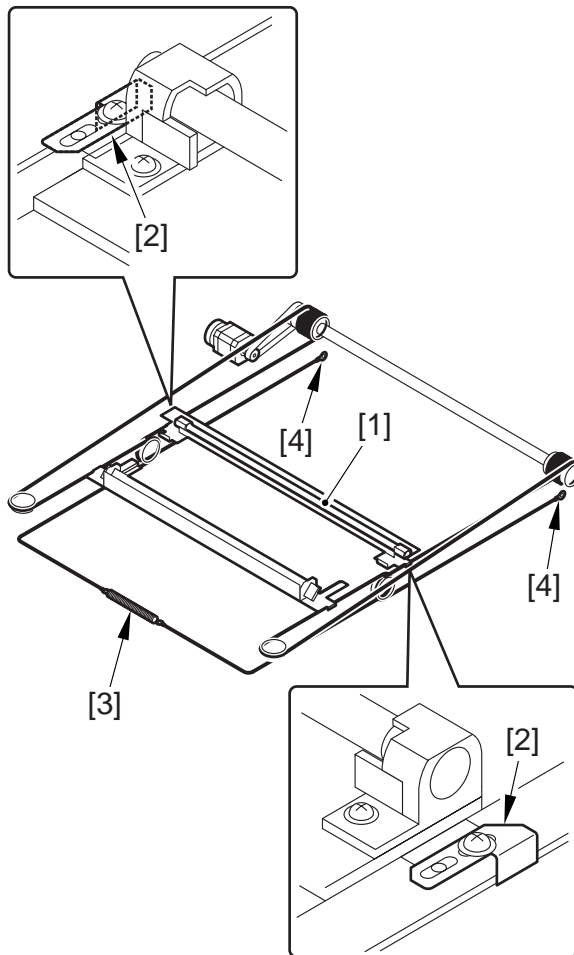
F-5-93

5.4.12.3 Attaching the Scanner Drive Cable

1) Attach the ball of the cable in the hole of the drive pulley [1], and wind the cable (4 times inside, 5 times outside); then, attach it using tape or the like. At this time, be sure that the cable fixing [2] is on the inside.
2) Engage the cable on the pulleys; then, engage one end of the cable on the hook [3] of the left side and the other end on the hook of the right side.
3) Temporarily fix the cable fixing plate [2] in place to the No. 1 mirror base [5].
4) Attach the reader upper frame.
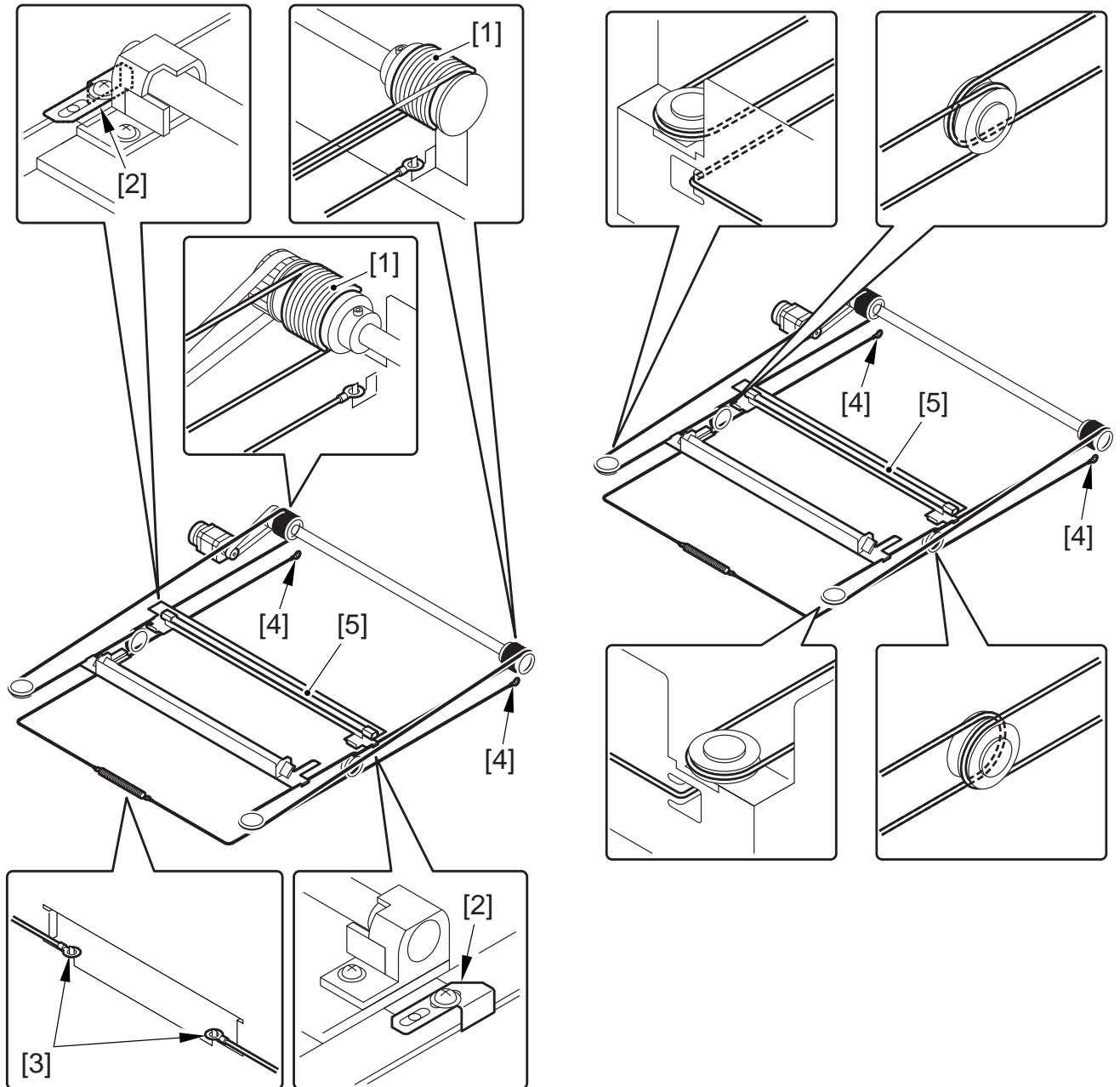
F-5-94

F-5-95

5.4.12.4 Adjusting the Position of the No. 1/No. 2 Mirror Base

1) Set the pins at the rear of the mirror positioning tool (FY9-3009-040) in such a way so that the tool may be used for the machine.
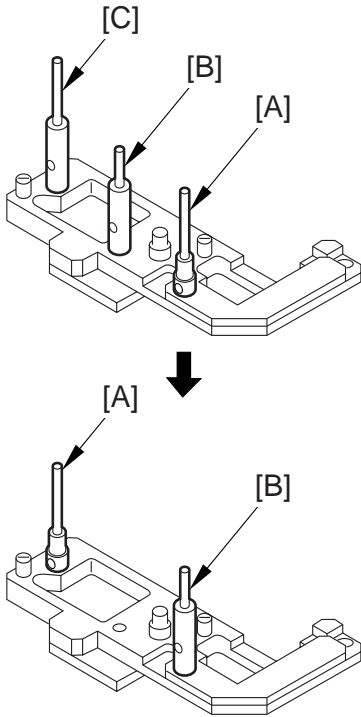
F-5-96

2) Set the pins at the front of the mirror positioning tool in such a way so that the tool may be used for the machine.
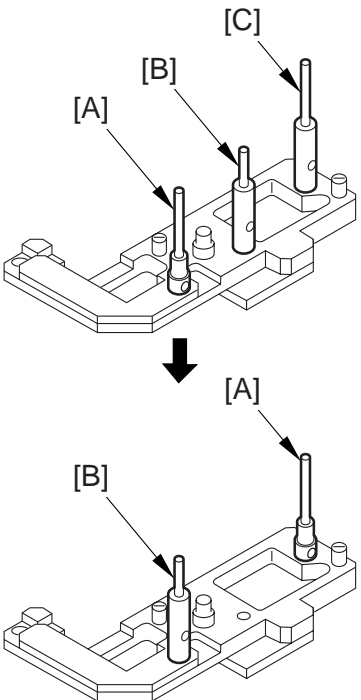
F-5-97

3) Insert the pins of the mirror positioning tool (front [2]; rear [3]) of the mirror positioning tool into the holes [1] of the No. 1 mirror base, No. 2 mirror base, and rail.
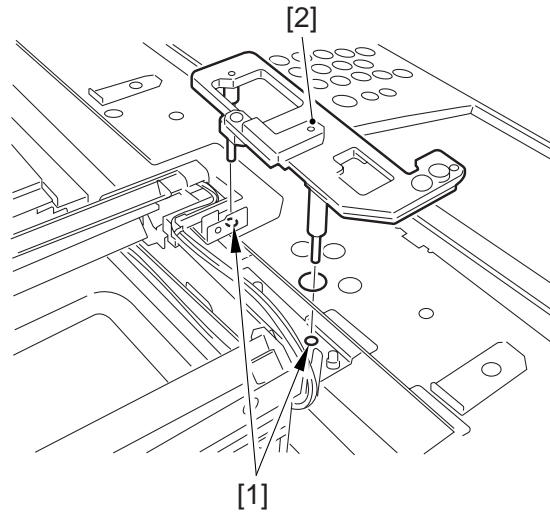
F-5-98
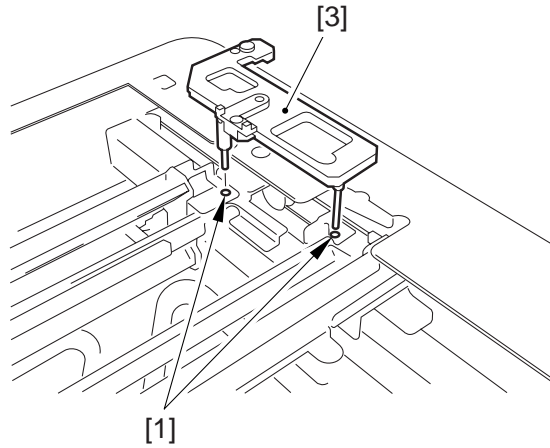
F-5-99

4) Fully secure the ends of the cable (you have temporarily fixed to the hooks of the reader frame previously).
5) Remove the mirror positioning tool (front, rear).
6) Put back the parts by reversing the steps used to remove them.

Chapter 6

Laser Exposure

Contents

6.1 Construction

6.1.1 Specifications, Control Mechanisms, and Functions

T-6-1

Laser Light

Wave length	645 to 665 mm (visible light)
Output	35mW
Number of beams	1

T-6-2

Laser Scanner Motor

Type of motor	DC brushless
Revolution	32000 rpm (approx.)
Type of bearing	oil

T-6-3

Polygon Mirror

Number of facets	12 (29-mm dia.)

T-6-4

Control Mechanism

Synchronization	main scanning direction
	sub scanning direction
Light intensity	APC
	PWM
Others	laser activation/deactivation*1 (exposes "light" areas)
	laser scanner motor
	laser shutter

*1: The machine directs its laser beam to shine on "light" areas (non-image areas), leaving "dark" areas (image areas) as they are.
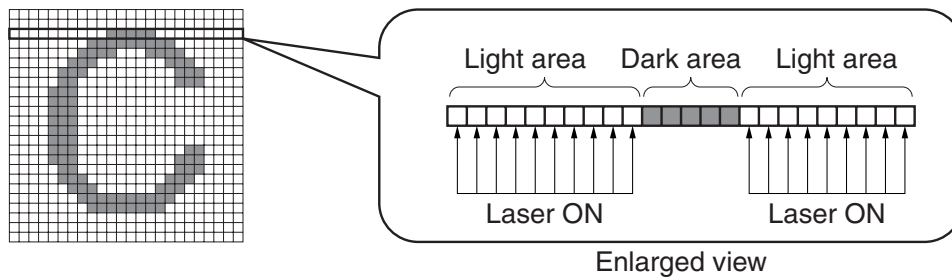
F-6-1

6.1.2 Major Components

T-6-5

Item		Description
[11	Laser unit	emits laser light.
[2]	Polygon mirror	scans laser light in main scanning direction.
[3]	BD mirror	reflects laser light, directing it to the BD PCB.
[4]	BD PCB	generates the BD signal.
[5]	Laser mirror 1	reflects laser light, directing it to the photosensitive drum.
[6]	Laser mirror 2	reflects laser light, directing it to the photosensitive drum.
[7]	Laser mirror 3	reflects laser light, directing it to the photosensitive drum.
[8]	Routing mirror	reflects laser light, directing it to the photosensitive drum.

Drum
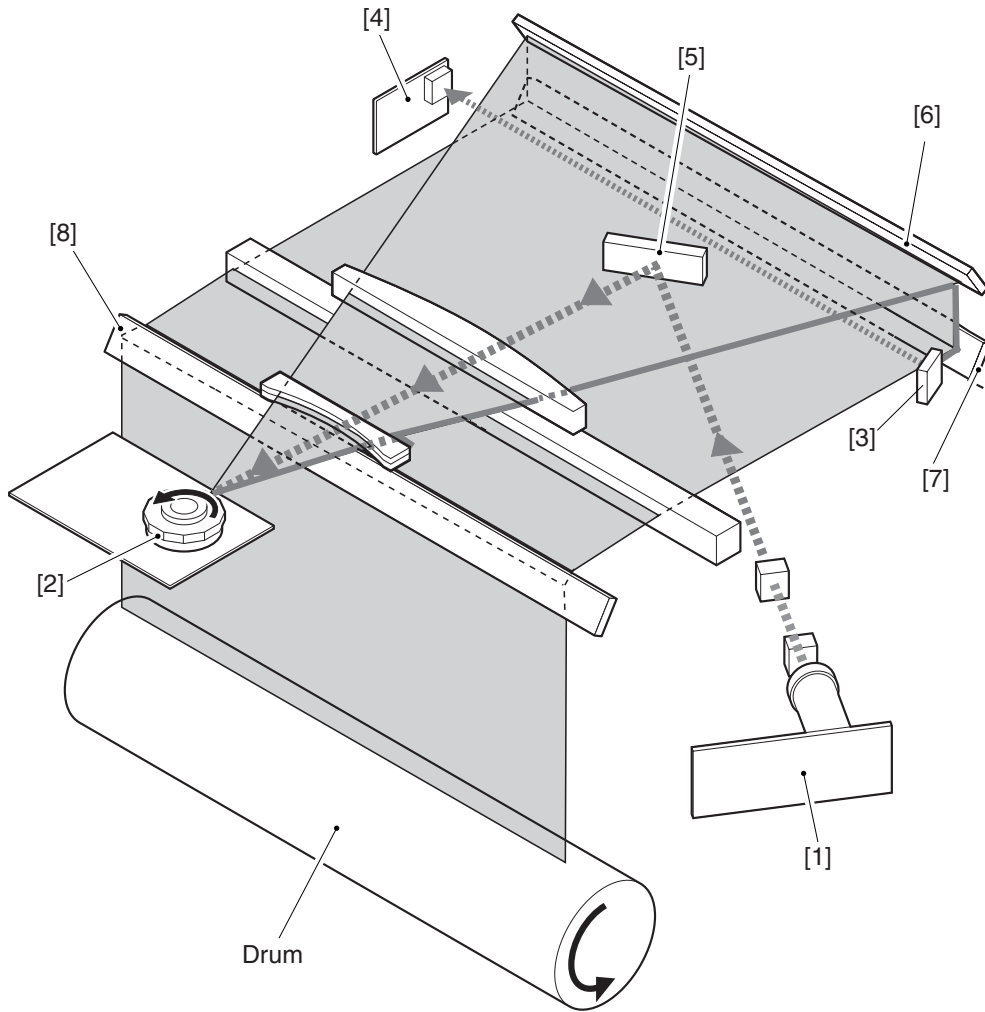
F-6-2

6.1.3 Construction of the Control System

The machine uses ASIC1 (IC29) on its DC controller PCB to control the laser exposure system. ASIC1 (IC29) uses the video signals coming from the main controller PCB to form a latent static image on the photosensitive drum through the following 6 control mechanisms:
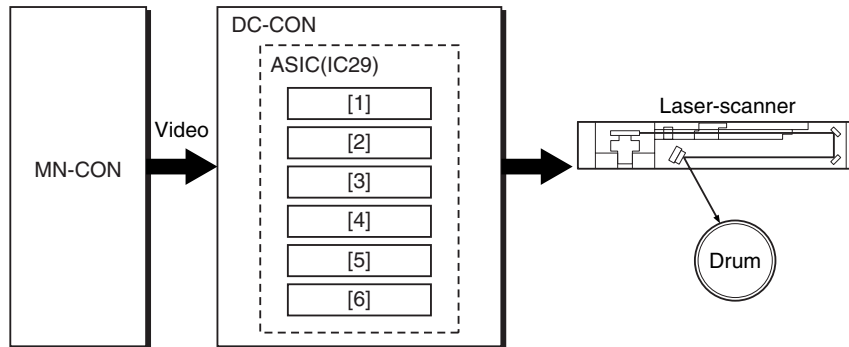
F-6-3

[1] turns on/off the laser unit
[2] controls the laser light in main scanning direction
[3] performs APC control
[4] performs PWM control
[5] controls the laser scanner motor
[6] controls the laser shutter
MN-CON: main controller PCB
DC-CON: DC controller PCB

6.2 Basic Sequence

6.2.1 Basic Sequence of Operation

The following shows the basic sequence of operation of the laser exposure system:
1) the Start key is pressed or the print request signal arrives from the main controller PCB.
2) the DC controller PCB executes a control mechanism so that the laser scanner
3) rotates at the target speed; at the same time, it forces the laser unit to go on for a check on faults.
4) the machine becomes ready for forming an image.
5) the DC controller PCB generates sub scanning sync signals (see MEMO: PVREQ-Y, PVREQ-M, PVREQ-C,PVREQ-K) for individual colors, and sends them to the main controller PCB.
6) the main controller PCB generates video signals using the sub scanning sync signals, and sends them to the DC controller PCB.
7) in response, the DC controller PCB turns on the laser unit to suit the video signals.

- Full Color, A4, Plain Paper, 1 Page
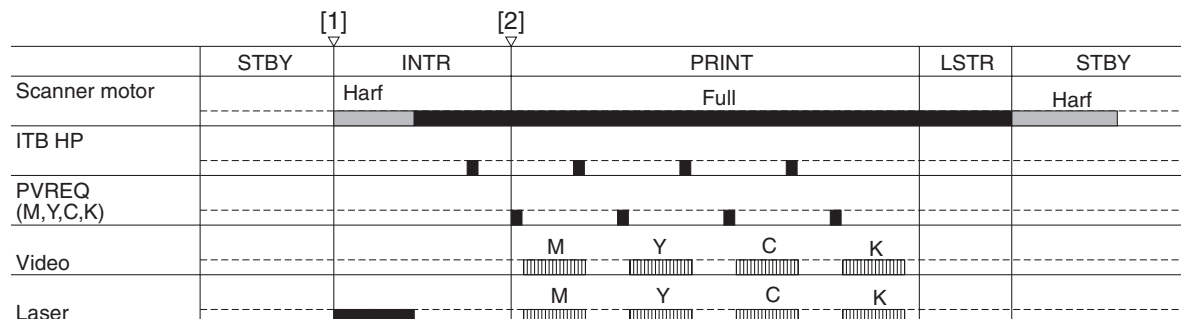
F-6-4

[1] press on the Start key (print request signal)
[2] ready for image formation

MEMO:

The sub scanning direction sync signal (PVREQ) is used to match the leading edge of the toner image on the drum and the leading edge of the print paper.

The timing at which the PVREQ signal is generated differs depending on the selected color mode:

- **Full Color Mode**

  In the case of full color mode, an image must be formed in 4 colors (Y, M, C, Bk). All images are first formed on the intermediate transfer belt (ITB), and they must be controlled so that their leading edges will match without color displacement.

  When the machine becomes ready for image formation in full color mode, the ITB home position sensor generates the ITBHP signal to serve as a reference so that the machine may generate the PVREQ signal for each color.

- **Mono Color Mode**

  In the case of mono color mode, there is no need for color matching. When the machine becomes ready for image formation, therefore, it generates the PVREQ signal at specific timing regardless of the ITB home position signal (ITBHP).

6.3 Various Control

6.3.1 Controlling the Laser Activation Timing

6.3.1.1 Turning On and Off the Laser Unit

The laser unit is turned on or off by the laser driver PCB in response to the laser control signal (CONT0/CNT1) coming from the DC controller PCB.

T-6-6

Laser control signal		State of operation	State of laser
CNT0	CNT1		
0	0	standby	OFF
0	1	printing	video signal input enabled
1	0	APC	ON
1	1	forced OFF	OFF
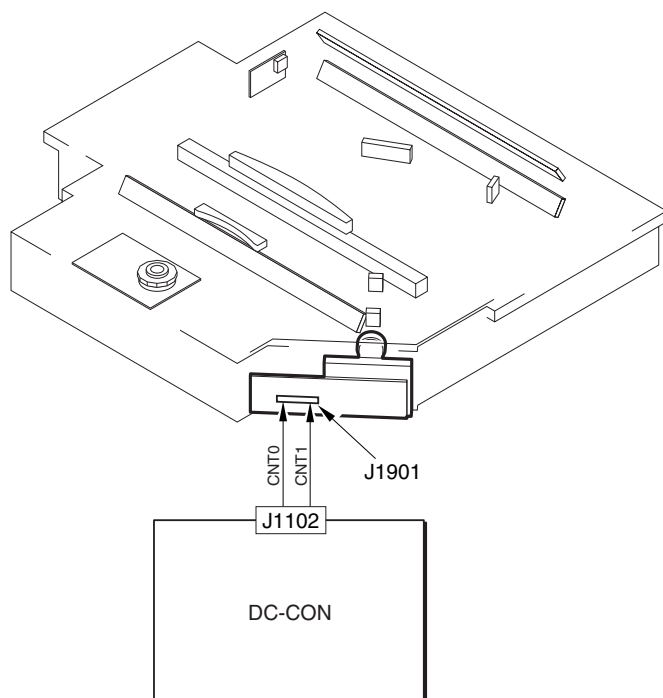
F-6-5

⚠

In standby mode, the intensity setting selected in APC is canceled.

6.3.1.2 Controlling the Synchronization in Main Scanning Direction

The machine controls the synchronization in main scanning direction to mach the write start position in main scanning direction, and the control is executed by the BD sync control circuit found in ASIC1, which serves to generate the sync signal for main scanning direction used by the DC controller PCB based on the BD signal coming from the BD PCB.

The following shows how the circuit operates:
The VIDEO signal from the main controller PCB is sent to FIFO of ASIC1; at the same time, the BD sync control circuit generates the printer sync signal (WCK) based on the BD signal, and sends the result to PWMIC and FIFO. Thereafter, FIFO reads the image signals in sync with the printer synch signal, and sends them to PWM1C, which converts the image signals into a laser drive signal (LD) for output to the laser unit.
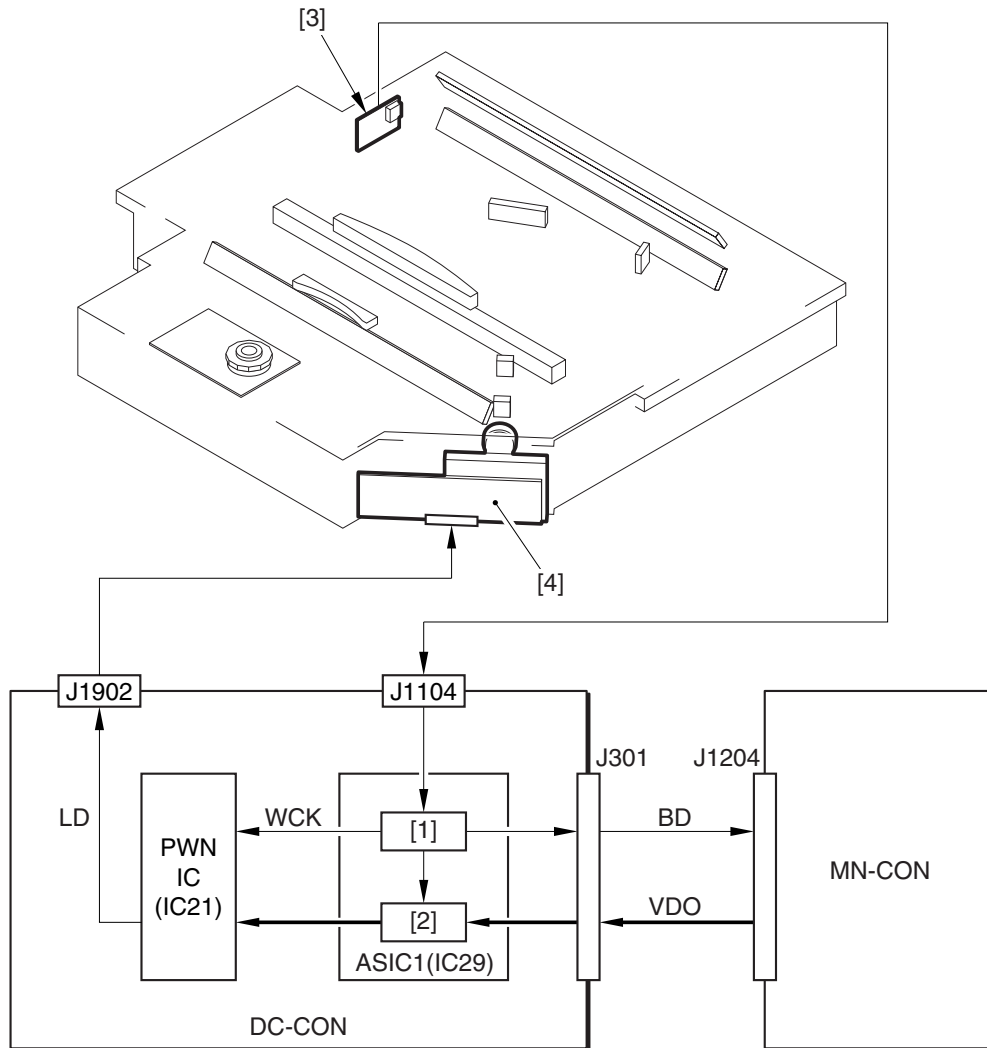
F-6-6
[1] BD sync control circuit
[2] FIFO
[3] BD PCB
[4] Laser unit
MN-CON: main controller PCB
DC-CON: DC controller PCB

6.3.1.3 Controlling the Synchronization in Sub Scanning Direction

 The machine controls the synchronization in sub scanning direction to match the write start position of each image to be formed on the ITB in full color mode.

This control mechanism is executed by the sub scanning sync control circuit of ASIC1, which uses the ITB home position signal (ITBHP) generated by the ITB home position sensor to generate the synch signal (PVREQ) for sub scanning direction.

The following shows how the circuit operates:

The ITB home position signal (ITBHP) generated by the ITB home position sensor is detected by the sub scanning synch control circuit; at the same time, the circuit generates the PVREQ signal for each color and sends the result to the main controller PCB. In response, the main controller PCB sends video signals to the DC controller PCB, which will form an image starting at a specific point on the ITB.
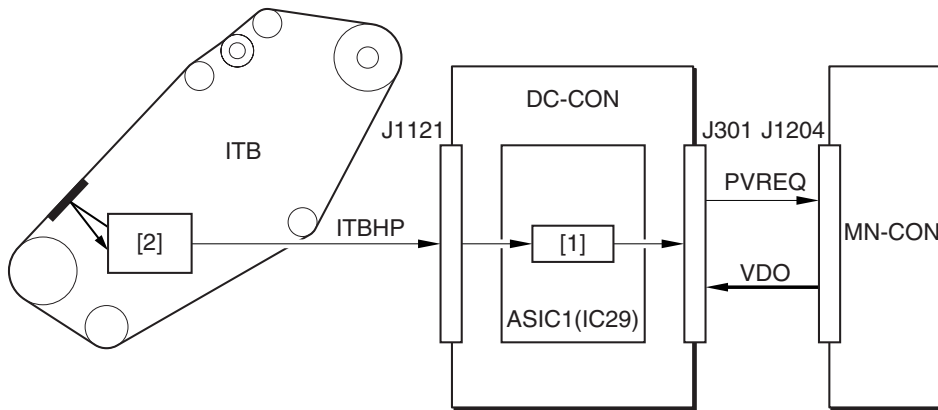
F-6-7
[1] Sub scanning sync control circuit
[2] ITB home position sensor
MN-CON: main controller PCB
DC-CON: DC controller PCB

Error Code:
E100 (BD detention error)
-0001 indicates that the BD signal is not detected a specific period of time after the scanner has started up.
-0002 the BD signal is not detected while the scanner motor is rotating at a constant speed.

6.3.2 Controlling the Intensity of Laser Light

6.3.2.1 APC Control

 The machine uses APC control to make sure that the intensity of laser light remains at a specific level by controlling the output of the laser diode of the laser driver.

For the control, the machine causes the DC controller to send the laser control signal (CNT0=1, CNT1=0) to the laser drive IC on the laser driver PCB. As a result, the laser drive IC is set to APC mode, thus forcing the laser diode (LD) to emit light. While the control is under, way, the laser driver IC uses the photo diode (PD) to monitor the laser diode (LD), adjusting the output of the laser diode until a specific level of intensity is reached.
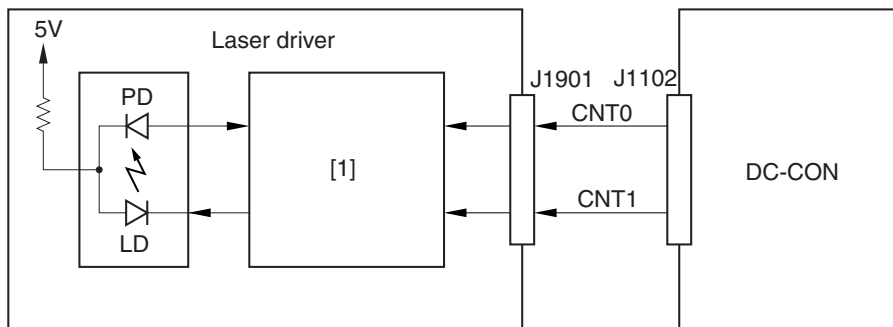
F-6-8
[1] Laser driver IC1
DC-CON: DC controller

6.3.2.2 PWM Control

The machine uses PWM control to determine how long the laser unit must remain on to suit the image data coming from to the main controller PCB.
The length of time (see MEMO) is selected by the DC controller PCB (16-step activation patterns for each pixel).

MEMO:
The relationship between the length of laser activation and the density of the image is as follows. The machine exposes the light areas (non-image areas) and leaves the dark areas (image areas) as they are; further, the darker the image, the shorter the laser activation and, conversely, the lighter the image, the longer the laser activation.
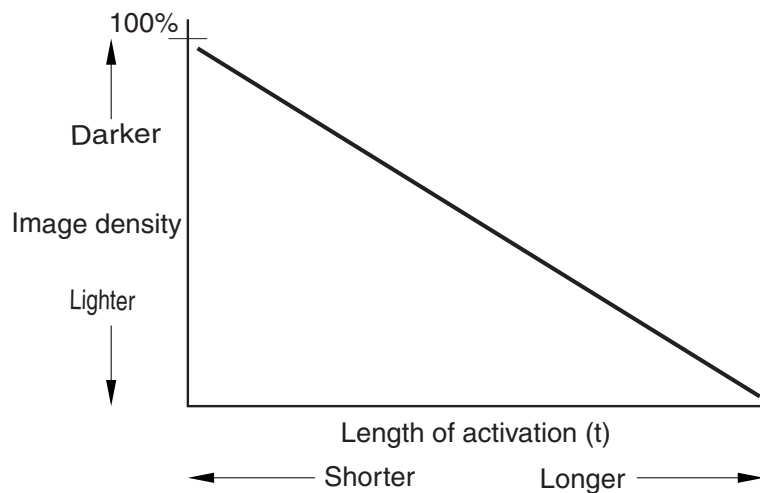
F-6-9

6.3.3 Controlling the Laser Scanner Motor

6.3.3.1 Controlling the Laser Scanner Motor

The machine controls the laser scanner motor so that the motor rotates at a specific speed using its motor speed control mechanism and reference signal generation mechanism found inside the DC controller PCB. The motor speed control mechanism detects the speed detection signal (FG, BD), and compares it against the reference signal generated by the reference signal generation mechanism, thereby controlling the acceleration signal (ACC) and the deceleration signal (DECK) to make sure that the motor rotates at a specific speed.
The machine checks different references for speed detection to suit the state of the printer unit, ultimately reducing the length of time used to control the scanner motor speed. The FG signal is a detection signal used to roughly adjust the scanner motor speed, and it is used at power-on or during last rotation. The BD signal, on the other hand, is a detection signal used to finely adjust the motor speed, and it is used at time of printing.
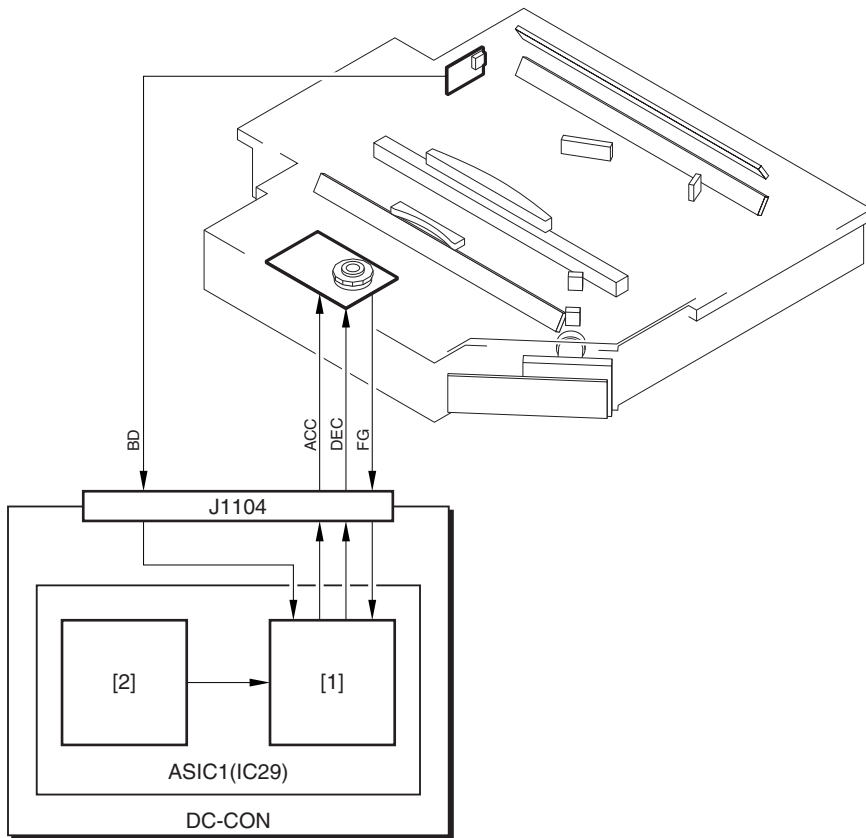
F-6-10
[1] Motor speed control mechanisms
[2] Reference signal generation mechanism
DC-CON: DC controller PCB

Error Code:
E110 (scanner motor error)
-0001 the FG signal is not detected a specific period of time after the scanner motor starts up.
-0002 the FG signal is not detected while the scanner motor is rotating at a constant speed.

6.3.4 Controlling the Laser Shutter

6.3.4.1 Controlling the Laser Shutter

 The machine is equipped with a mechanism to protect against exposure of its inside by laser light when the black toner assembly is opened. When the black toner hopper assembly is opened, the protrusion attached to the hopper assembly releases the laser shutter, causing the laser shutter to close so that the laser path is closed.
If the DC controller PCB identifies the front cover, right cover, or black toner supply cover as being open, controller PCB forces the laser scanner motor and the laser unit to turn off.
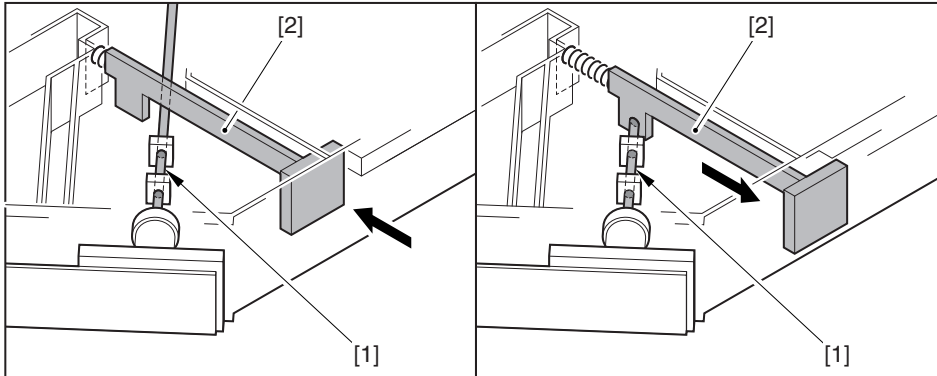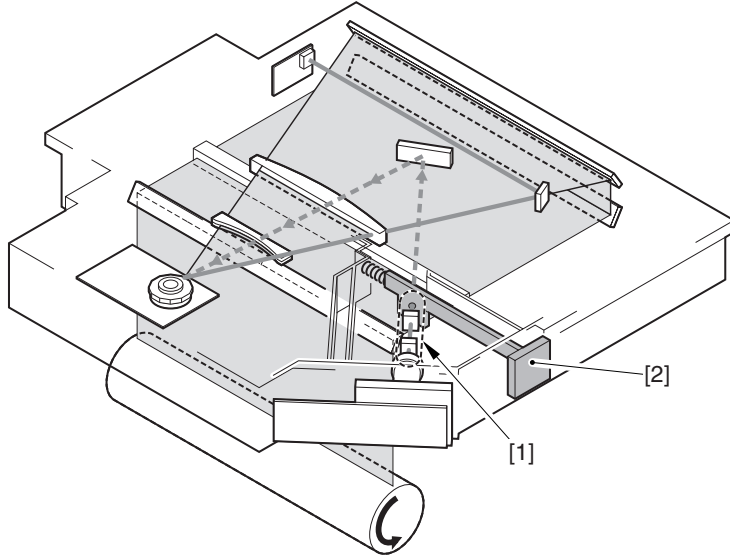
F-6-11
[1] Laser light
[2] Laser shutter

6.4 Parts Replacement Procedure

6.4.1 Laser Scanner Unit

6.4.1.1 Preparation for Removing the Laser Scanner Unit

1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the HV2 PCB.
4-1) Remove the harness [2] from the cable guide [3].
- connector [1]
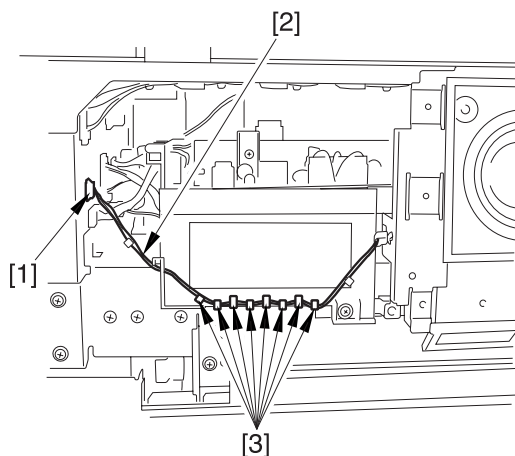
F-6-12

4-2) Remove the delivery cooling fan [2] together with its base.
- 3 screws [1]
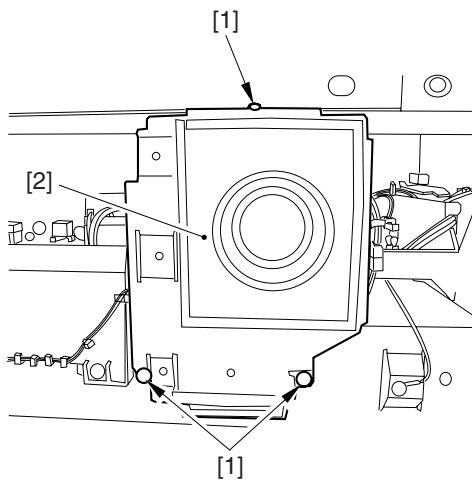
F-6-13

4-3) Remove the harness from the cable guide [3].
- 5 connectors [1]

4-4) Remove the HV2 PCB [5].
- 2 screws [4]
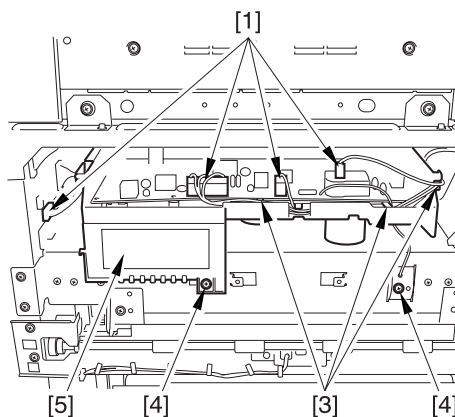
F-6-14

6.4.1.2 Removing the Laser Scanner Unit

1) Remove the wire guide [2].
- connector [1]
2) Remove the 2 locking plates [4].
- 2 screws [3]
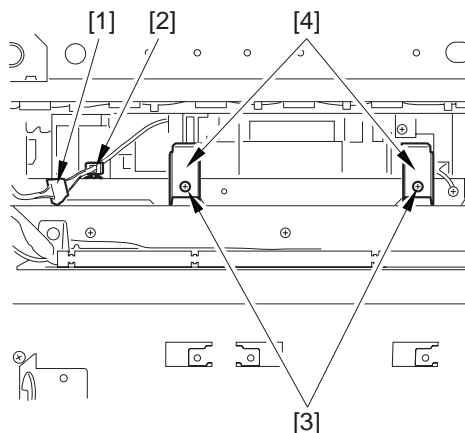
F-6-15

3) Remove the grounding wire [2].
- screw [1]
4) Open the wire guide [3], and remove the harness [4].
5) Remove the laser driver cover [6].
- 5 screws [5]
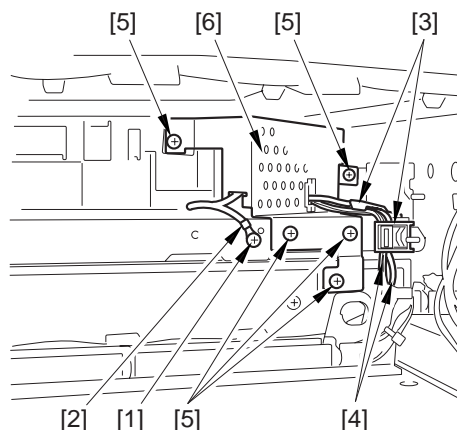
F-6-16

6) While lifting the area [A], slide out the laser scanner unit [1] slightly.
7) Remove the laser scanner unit [1].
   - 2 connectors [2]
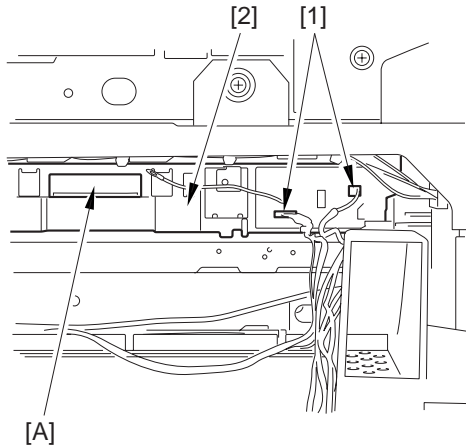
F-6-17

6.4.1.3 Points to Note When Replacing the Laser Scanner Unit

⚠

The laser scanner unit is attached with a laser shutter [1].
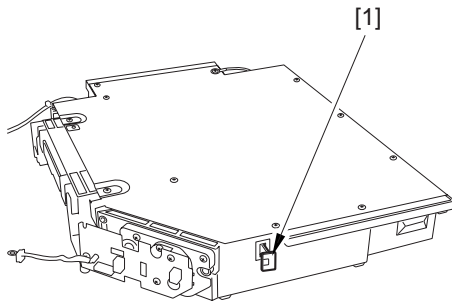
F-6-18

Moreover, the actuator [1] of the laser shutter is attached to the hopper assembly.
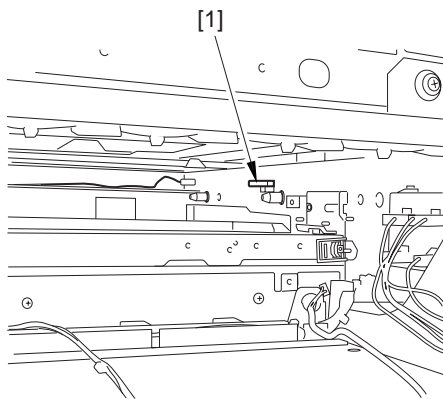
F-6-19

Be sure to keep the hopper assembly open when inserting the laser scanner unit into the machine so that the laser shutter will not interfere with the actuator.

After replacing the laser scanner unit, be sure to perform the following:
1) Select the following in service mode, and press the OK key:
   COPIER>FUNCTION>DPC>DPC.
2) Turn off and then on the main power switch.

6.4.1.4 Cleaning the Laser Scanner Unit

1) Remove the right cover (upper) [2].
   - 2 screws [1]
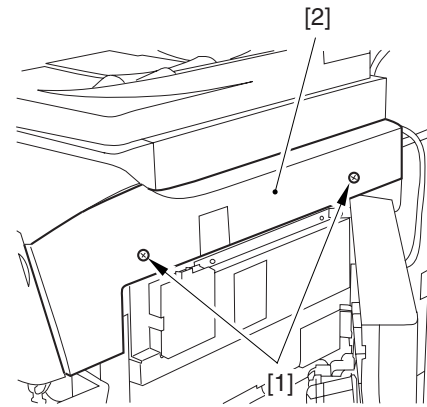
F-6-20

2) Open the front cover.
3) By pulling the grip [1] toward the front, fully open the manual feed cover [2].
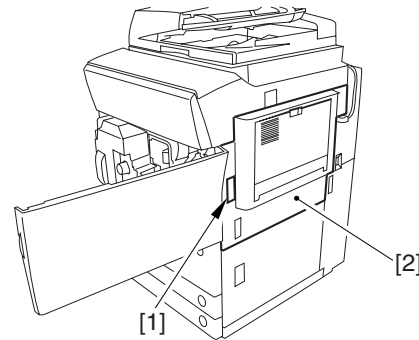
F-6-21

⚠

If the machine is attached with a side paper deck, be sure to remove the 2 screws [1] and removed the latch plate (front) [2] to prevent damage to the surface of th front cover when the cover is released.
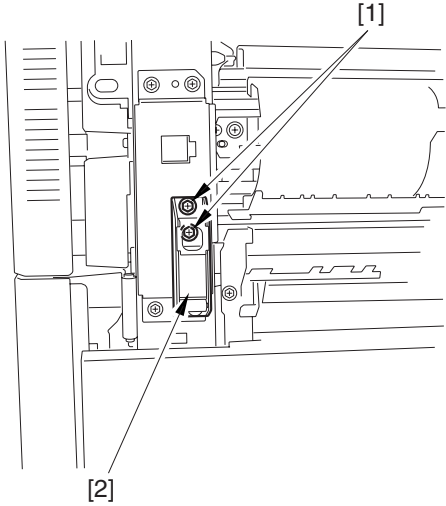
F-6-22

4) Slide out the fixing/feeding assembly.
5) Remove the process unit cover [2].
   - 2 screws [1]
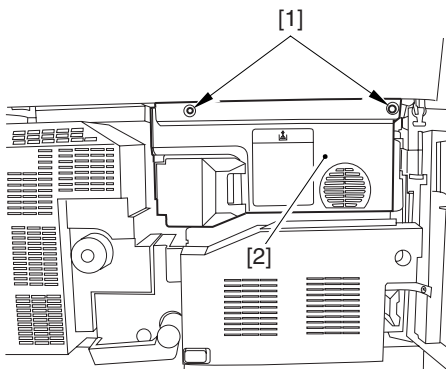
F-6-23

6) Attach the fixing/feeding assembly, and set the lever in position.
7) Press the release button [1] of the right deck, and slide out the right deck [2].
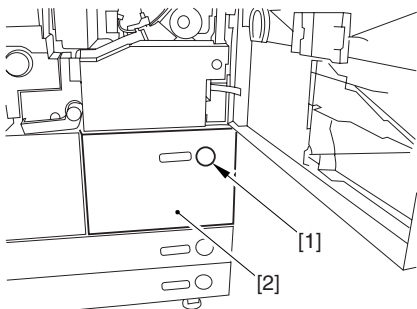
F-6-24

8) Remove the front cover strap [2].
   -screw [1] from the lower right
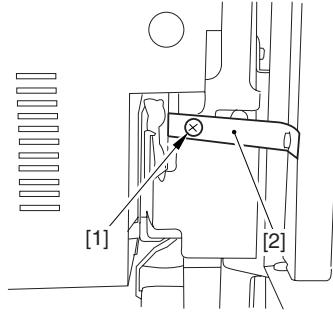
F-6-25

9) Fully open the front cover [2].
   - 2 screws [1] (binding) of the front cover hinge
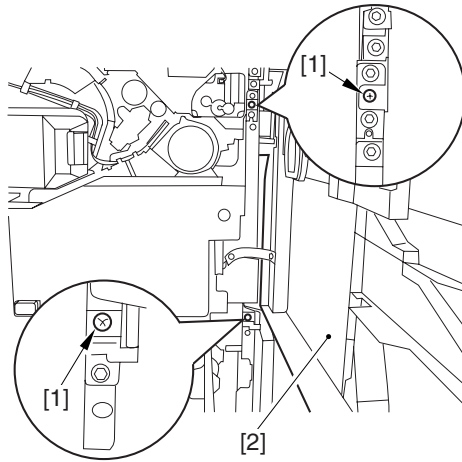
F-6-26

10) Close the right deck.
11) Open the black toner supply cover [1].
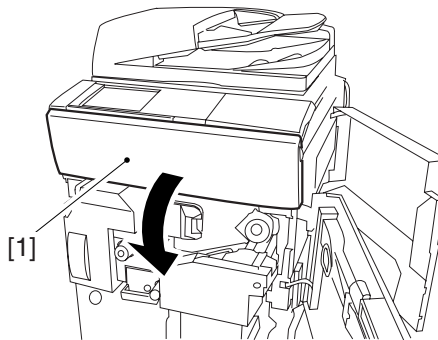
F-6-27

12) Shift down the lever [1], and remove the black toner bottle [2].
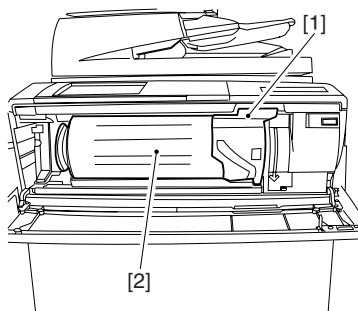
F-6-28

13) Remove the 3 screws [1].
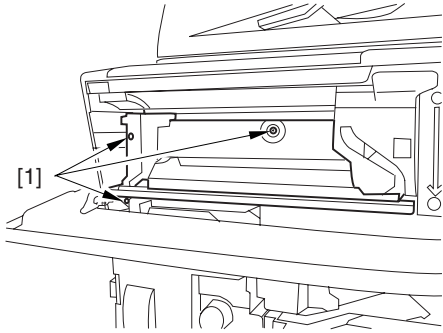
F-6-29

14) Close the black toner supply cover [1]; then, fully open the hopper assembly [2].
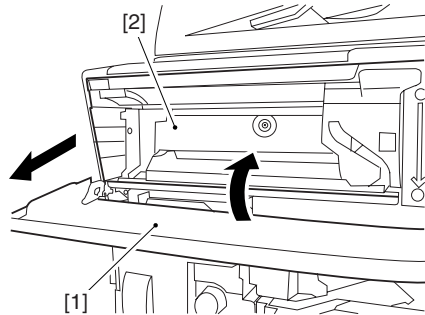
F-6-30

15) Slide out the grip [1] found on the edge of the dust-blocking glass to remove the glass for the machine.
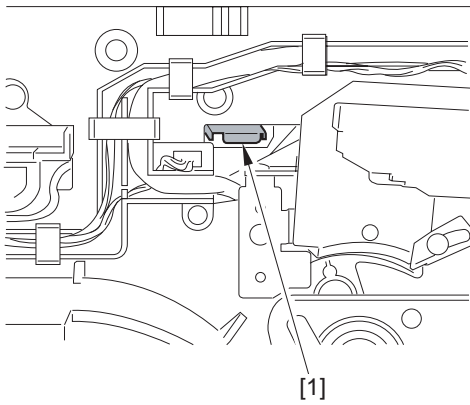
F-6-31

16) Remove the 5 connectors [1] from the upper right.
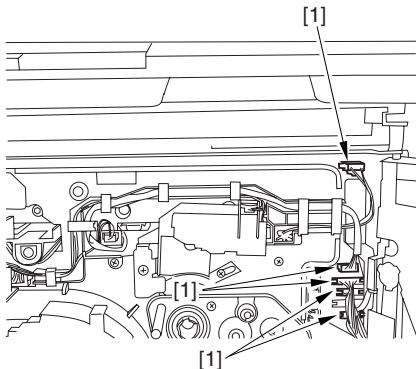
F-6-32

17) Remove the 5 connectors [1] from the upper left.
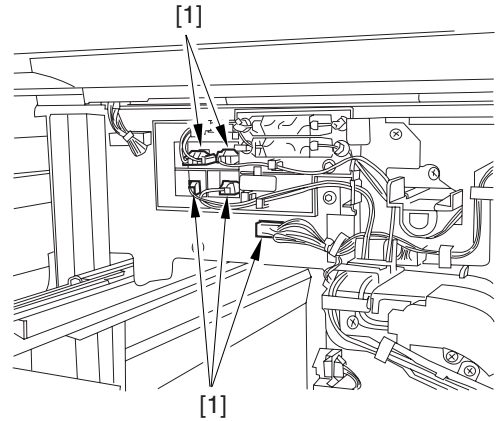
F-6-33

18) When you have freed the high-voltage connector cable [1] from the 2 wire saddles [2], be sure to keep it on the cable hook [3] to avoid trapping it during the work.
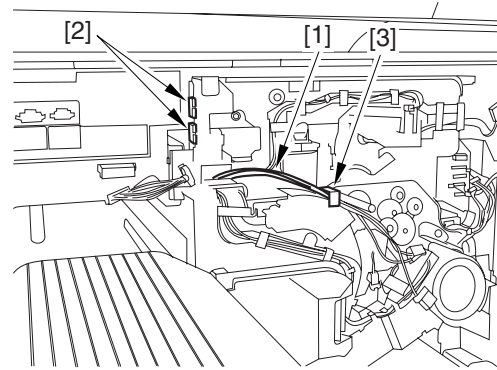
F-6-34

19) Remove the process unit cover [1] from the shipping box, and remove the drum stop tool [2] from the back of the cover.
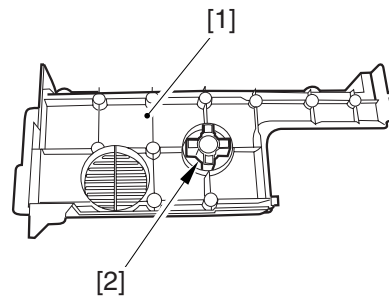
F-6-35

20) While forcing the drum stop tool [3] against the drum fixing member [2] of the drum shaft [1], remove the fixing screw [4].

⚠

Be sure to match the protrusion [5] of the drum fixing member and the protrusion [6] of the drum stop tool.
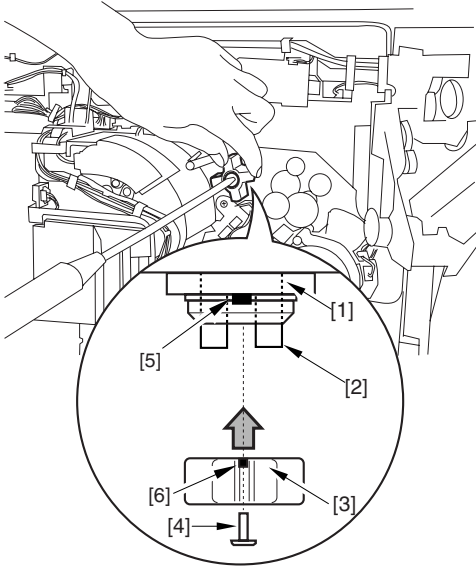
F-6-36

21) Using a pair of precision pliers, remove the drum fixing member [1].
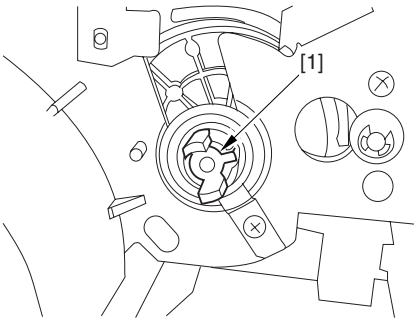
F-6-37

22) Remove the 3 binding screws (M4x8).
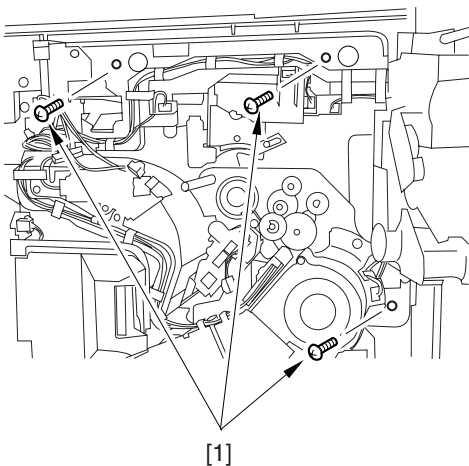
F-6-38

23) Shift down the fixing/feeding releasing lever [1] in the direction of the arrow.
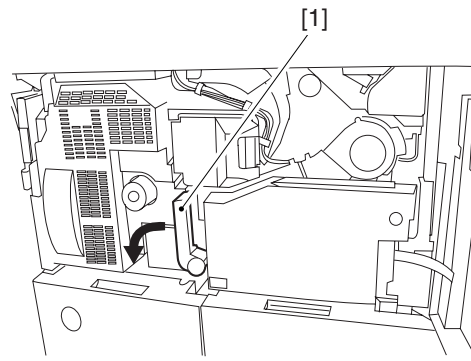
F-6-39

24) Slide out the fixing/feeding assembly [1].
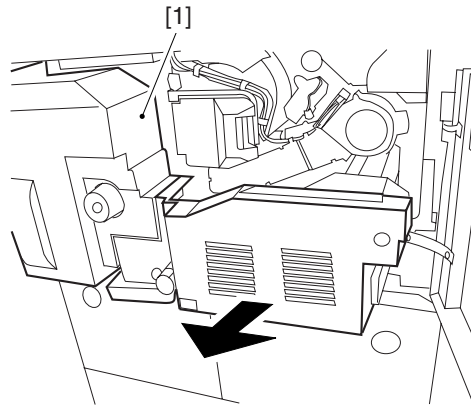
F-6-40

25) While pressing on the 2 hooks [1] found on both sides of the fixing/feeding assembly, fully slide out the fixing/feeding assembly [2].
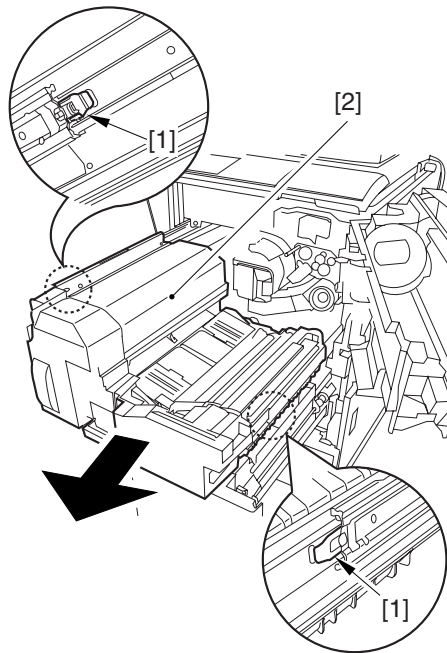
F-6-41

26) While lifting both ends [1] of the process unit slightly, fully slide out the process unit [2] to the front.
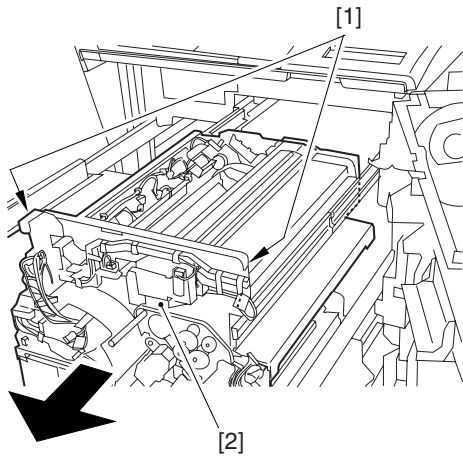
F-6-42

27) Fully open the upper right cover [2].
  - screw [1]
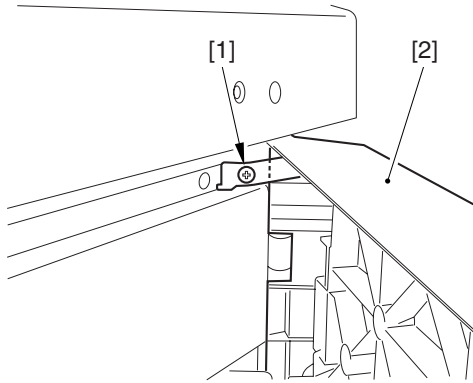
F-6-43

28) Remove the filter retainer [2] and the filter [3].
  - screw [1]
29) Remove the connector cover [5].
  - screw [4]
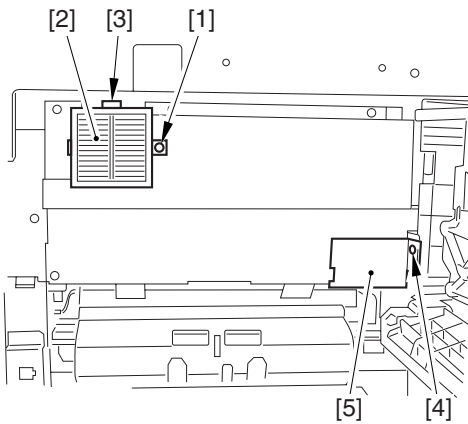
F-6-44

30) Remove the grounding wire [2].
  - screw [1]

31) Remove the side plate [4].
  - 5 screws [3]
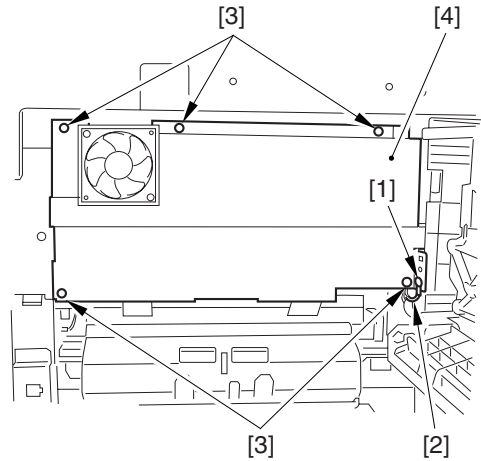
F-6-45

32) While holding the mirror cleaning tool [1] as shown, insert it into the slit [2].
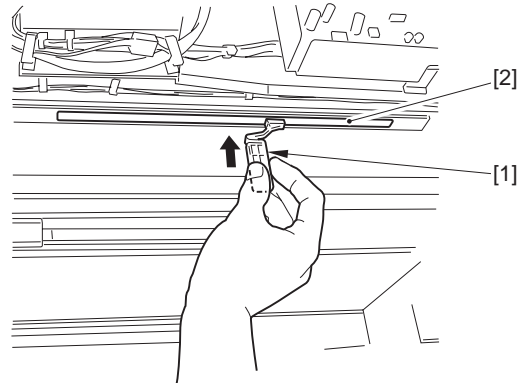
F-6-46

33) Turn the mirror cleaning tool [1] 90 deg clockwise as shown. (step 1)
34) Move the mirror cleaning tool [1] to the front and the rear as shown to clean the laser mirror [2]. (step 2)
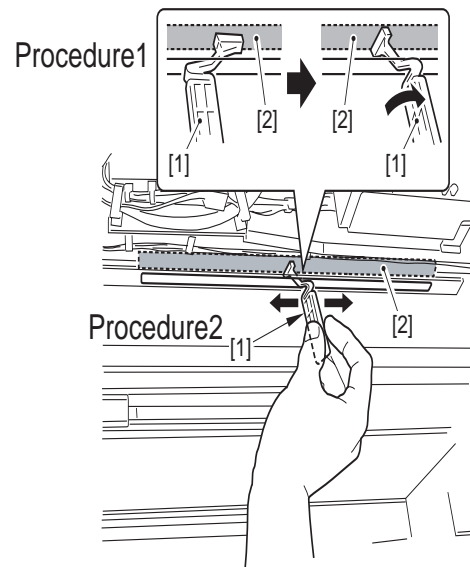
F-6-47

Chapter 7

Image Information

Contents

7.1 Construction

7.1.1 Specifications of the Image Formation System

T-7-1

Drum Unit	
Photosensitive drum	
Type of drum	A-Si
Diameter of drum	84 mm
Cleaning mechanism	by blade (in contact)
Speed of process	276 mm/sec

T-7-2

Primary Charging Assembly	
Method of charging	by corona
Method of cleaning	wire auto cleaning

T-7-3

Pre-Exposure system	
Method of exposure	by LED array

T-7-4

Mono Color Developing Assembly	
Diameter of developing cylinder	24.5 mm
Method of development	dry, 1-component
Toner	magnetic, negative
Toner level detection inside developing assembly	yes

Mono Color Developing Assembly

T-7-5

Color Developing Assembly	
Diameter of developing cylinder	20 mm
Method of development	dry, 2-component
Toner	non-magnetic, negative
Toner level detection inside developing assembly	no

T-7-6

Toner Cartridge	
Toner level detection (mono color)	by piezoelectric oscillator sensor
Toner level detection (color)	by optical sensor
Toner amount*	Y: 210g (approx.)
	M: 210g (approx.)
	C: 210g (approx.)
	Bk: 2000g (Bk)

*If color, indicates the amount of developer (toner + carrier).

T-7-7

Intermediate Transfer Assembly

Component	intermediate transfer belt (ITB)
Source of drive	by drum/ITB motor
Cleaning mechanism	by blade (in contact)

T-7-8

Feed speed	Mode	Paper type
276 mm/sec	mono color	plain paper, transparency
	color	plain paper
184 mm/sec	color	heavy paper 1 (105 to 163 g)
92 mm/sec	color	heavy paper 2 (163 g or more), transparency

T-7-9

Pre-Transfer Charging Assembly

Method of charging	by corona
Method of cleaning	wire auto cleaning

T-7-10

Image Stabilization Control

Item	Description
Dmax control	determines best developing bias
ATR control	determines toner supply amount
ATVC control	determines best transfer bias level
Potential control	determines best primary grid bias level
Dhalf control	determines best gradation control (printer)
PASCAL control	determines best gradation table (printer + reader)

7.1.2 Major Components

The following shows the major components associated with the machine' s image formation system:
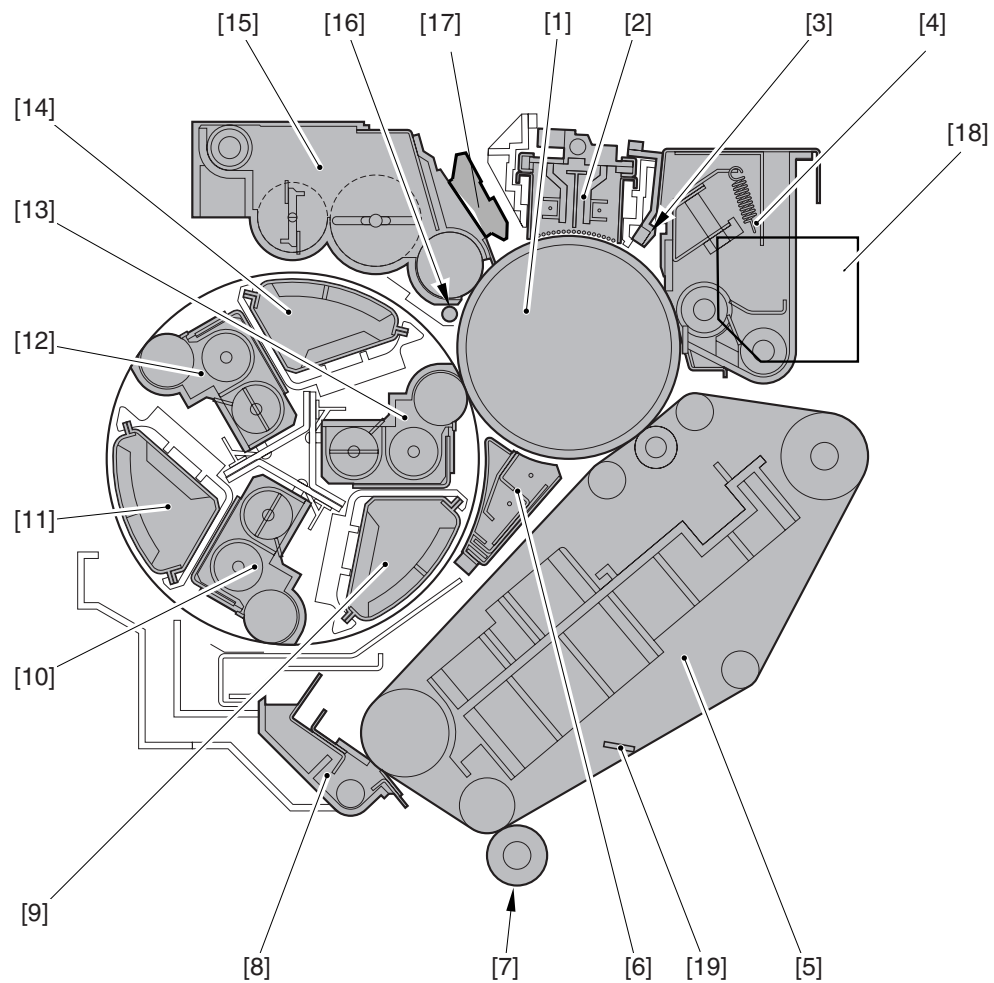
F-7-1

[1] Photosensitive drum

[2] Primary charging assembly

[3] Pre-exposure LED

[4] Drum cleaner assembly

[5] ITB unit

[6] Pre-transfer charging assembly

[7] Secondary transfer outsider roller

[8] ITB cleaner assembly

[9] Color toner cartridge (Y)

[10] Color developing assembly (Y)

[11] Color toner cartridge (C)

[12] Color developing assembly (C)

[13] Color developing assembly (M)

[14] Color toner cartridge (M)

[15] Black developing assembly

[16] Toner collection roller

[17] Potential sensor

[18] Black toner hopper

[19] ITB inside cleaner end scraper

7.1.3 Charging System

- Primary Charging Bias : method of charging: by corona
target of charging: primary charging wire
DC bias level: 6.5kV (1400yA)
- Grid Bias : method of charging: by corona
target of charging: grid wire
DC bias level: 800V
- Color Developing Bias : method of charging: by roller
target of charging: color developing cylinder
AC bias level: 1.8kV (Vp-p)   DC bias level: 300V
- Black Developing Bias : method of charging: by roller
target of charging: black developing cylinder
AC bias level: 1.7kV (p-p)   DC bias level: 290V
- Stray Toner Collection Roller Bias : method of charging: by roller
target of charging: toner collection roller
DC bias level: -1.0kV
- Pre-Transfer Charging Bias : method of charging: by corona
target of charging: pre-transfer charging wire
AC bias level: 8.3kV (Vp-p)   DC bias level: -1.8kV (-300yA)
- Primary Transfer Bias : method of charging: by corona
target of charging: primary transfer roller
DC bias level: 1.0kV
- Primary Transfer Static Eliminator Bias : method of charging: charging
target of charging: primary transfer static eliminator
DC bias level: -4.0kV
- Secondary Transfer Bias : method of charging: roller charging
target of charging: secondary transfer roller
DC bias level: 3.0kV (at time of cleaning, -3.0kV)
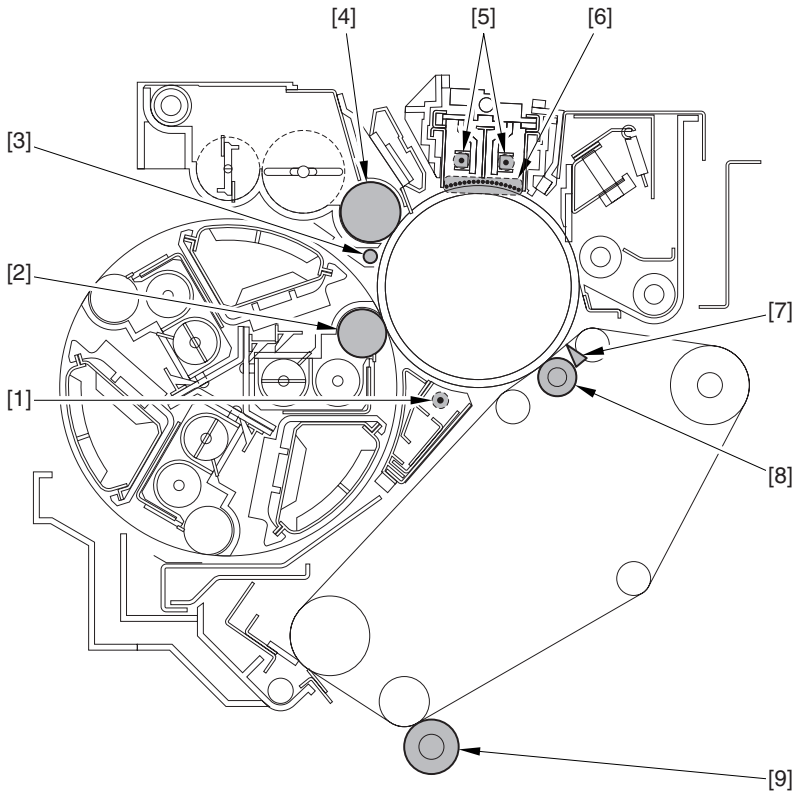
F-7-2
DC bias level: 3.0 kV
    (cleaning is -3.0kV)

[1] Pre-transfer charging wire	[4] Black developing cylinder	[7] Primary transfer static eliminator
[2] Color developing cylinder	[5] Primary charging wire	[8] Primary transfer roller
[3] Stray toner collection roller	[6] Grid wire	[9] Secondary transfer outside roller

7.2 Image Formation Process

7.2.1 Image Formation Process

1. Latent Static Image Formation Block

This block consists of 3 steps, at the end of which a latent static image is formed on the photosensitive drum.

- Step 1 (pre-exposure) [1]

In preparation for primary charging, the pre-exposure LED shines light on the surface of the photosensitive drum to remove the residual charges from the surface, thus preventing uneven density.

- Step 2 (primary charging) [2]

In preparation for laser exposure, the machine charges the surface of the photosensitive drum to an even, positive potential. The machine uses charging method in which charges are indirectly applied to the photosensitive drum by means of a charging wire.

- Step 3 (laser exposure) [3]

When the surface of the photosensitive drum is scanned by a laser beam, the charges in the "light" areas become neutralized, turning the areas into a latent static image. (The machine uses a system of laser exposure in which it exposes non-imaging areas with laser light.)

2. Development Block

- Step 4 (development) [4]

The machine deposits toner over the latent static image on the photosensitive drum, thus turning the latent image into a visible image. The machine' s black toner is a magnetic 1-component developer while its color toner is non-magnetic 2-component developer; development of both makes is based on toner projection.

3. Transfer Block

In this block, the toner image on the surface of the photosensitive drum is moved to print paper by way of the ITB.

- Step 5 (pre-transfer charging) [5]

In full color mode, toner is deposited for all 4 colors on the ITB, with a difference in toner potential if left unattended. A specific level of bias therefore is applied when black is developed for individual colors, thereby making sure that the toner layers on the ITB are of an identical potential, thus increasing the efficiency of primary transfer.

- Step 6 (primary transfer) [6]

A positive charge is applied from the back of the ITB to transfer the toner from the surface of the photosensitive drum to the ITB. This process is repeated for all color (M, Y, C, Bk) in sequence.

- Step 7 (secondary transfer) [7]

The toner on the ITB is moved to paper.

- Step 8 (separation) [8]

Paper is separated from the ITB.

4. Fixing Block

- Step 9 (fixing) [9]

The toner is permanently fused into the fibers of the paper by means of heat and pressure.

5. ITB Cleaning Block

- Step 10 (ITB cleaning) [10]

The residual toner is removed from the ITB by way of cleaning the ITB.

6. Photosensitive Drum Cleaning Block

- Step 11 (drum cleaning) [11]

The residual toner is removed from the photosensitive drum by way of cleaning the photosensitive drum.

1. Static Image Formation Block

[2]

[3]   [1]

2. Developing Block

Photosensitive
drum

[4]   [11]

6. Photosensitive
Drum Cleaning
Block

[5]

[6]

ITB

5. ITB Cleaning Block

[10]

[7]

Delivery   [9]   [8]   Registration   Pickup

4. Fixing Block   3. Transfer Block
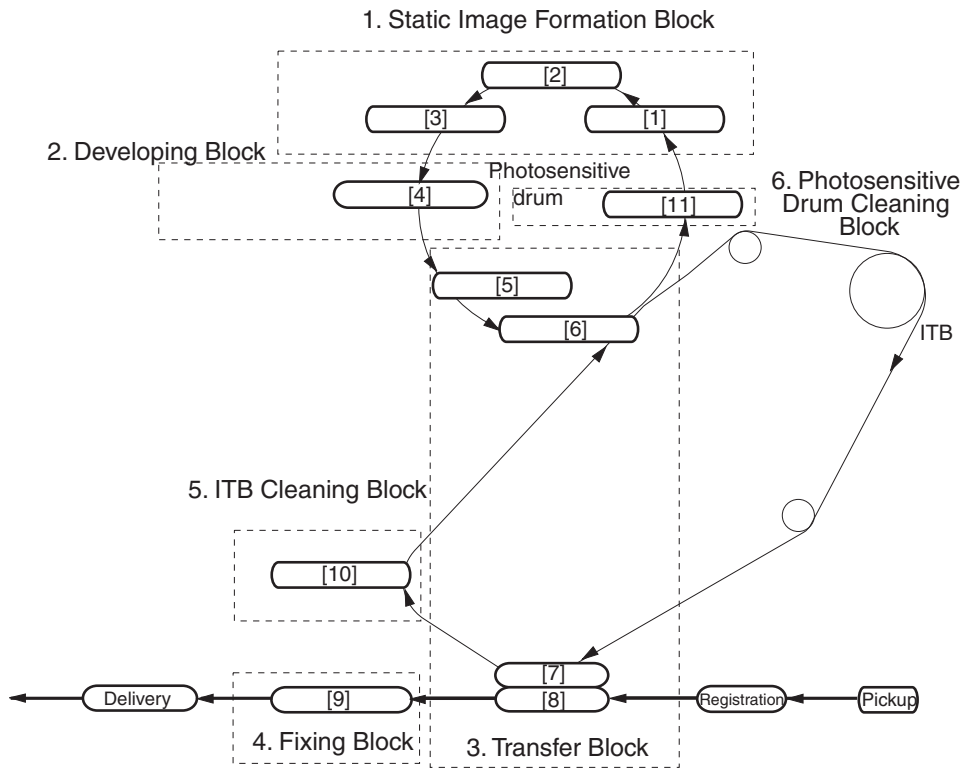
F-7-3

7.3 Basic Sequence

7.3.1 At Time of Power-On

The main power switch is turned on while the surface temperature of the fixing roller is lower than 100 deg C (i.e., the main power switch is turned on after the machine has been left alone for a long time, such as in the morning).

1. Characteristics
- Immediately before starting the sequence, the machine detects the home position of the developing rotary and removes static charges from the drum surface.
- It takes about 530 sec before the machine enters the standby state after its main power switch has been turned on.
- While warm-up rotation is taking place, the machine performs the following image stabilization control mechanisms: potential control, primary transfer ATVC control, secondary transfer ATVC control,D-max control, D-half control*1.
*1: When the power is tuned on with the color print counter reading 500 or higher.

	Main switch ON	WMUPR	CNTR		PSTBY
Drum/ITB motor (M2)					
Pre-exposure LED (LED1)					
Primary charging bias			Potential control		
Grid bias					
Developing rotary motor (M5)			Rotation, suspension during automatic adjustment		
Stray toner collection roller bias					
Black developing bias (DC)					
Black developing bias (AC)					
Black developing clutch (CL3)					
Color developing bias (DC)					
Color developing bias (AC)					
Color developing clutch (CL1)					
Pre-transfer charging bias			Primary transfer ATVC		
Primary transfer bias					
Secondary transfer outside roller shift motor (M20)					
Secondary transfer bias					
ITB cleaner shift motor (M21)					
Patch image sensor (PS2)				D-Max control	

F-7-4

2. if the main power switch is turned on with the surface temperature of the fixing roller is 100 deg C or higher

- It takes about 2 min or less before the machine enters the standby state after its main power switch has been turned on(i.e., the surface temperature of the fixing roller reaches 200 deg C).
- In principle, image stabilization control is not executed.

7.3.2 During Copying/Printing (normal speed)

Full-color, Plain paper, A4, 1 Copy/Print
1. Characteristics

- While an image is being formed on the intermediate transfer belt, the machine keeps the ITB cleaning blade and the secondary outside roller away from the belt.
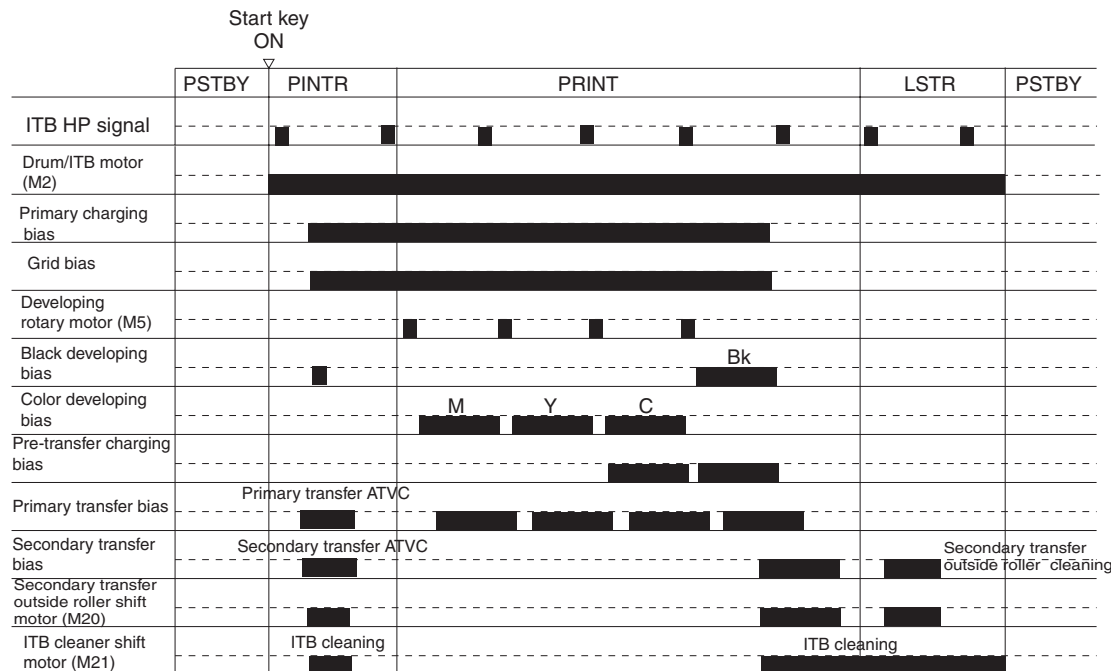
F-7-5

⚠
While making mono copies/prints, the machine keeps the ITB cleaning blade and the secondary toner outside roller in contact with the intermediate transfer belt at all times.

7.3.3 During Copying/Printing (2/3 speed, 1/3 speed)

Full-color, Heavy paper or OHP, A4, 1 Copy/Print

1. Characteristics
The machine uses 2/3 speed when it makes full-color prints or uses heavy paper (105 to 163 g). This sequence is basically the same as normal speed sequence, the difference being that the machine reduces the process speed after primary transfer to 2/3, thus increasing fixing on heavy paper.
The machine uses 1/3 speed when it makes full-color prints and uses heavy paper (163 g or more) or transparency. This sequence is also identical to normal speed sequence, the difference being that the machine reduces the process speed to 1/3 speed after primary transfer.

⚠
The machine uses 2/3 speed and 1/3 speed for full-color mode, not for mono color mode.

7.4 Image Stabilization Control

7.4.1 Overview of Image Stabilization Control

The machine is designed to execute the following control mechanisms to be sure of stable image production in the presence of changes in the site environment and deterioration of components associated with image formation over the product life.
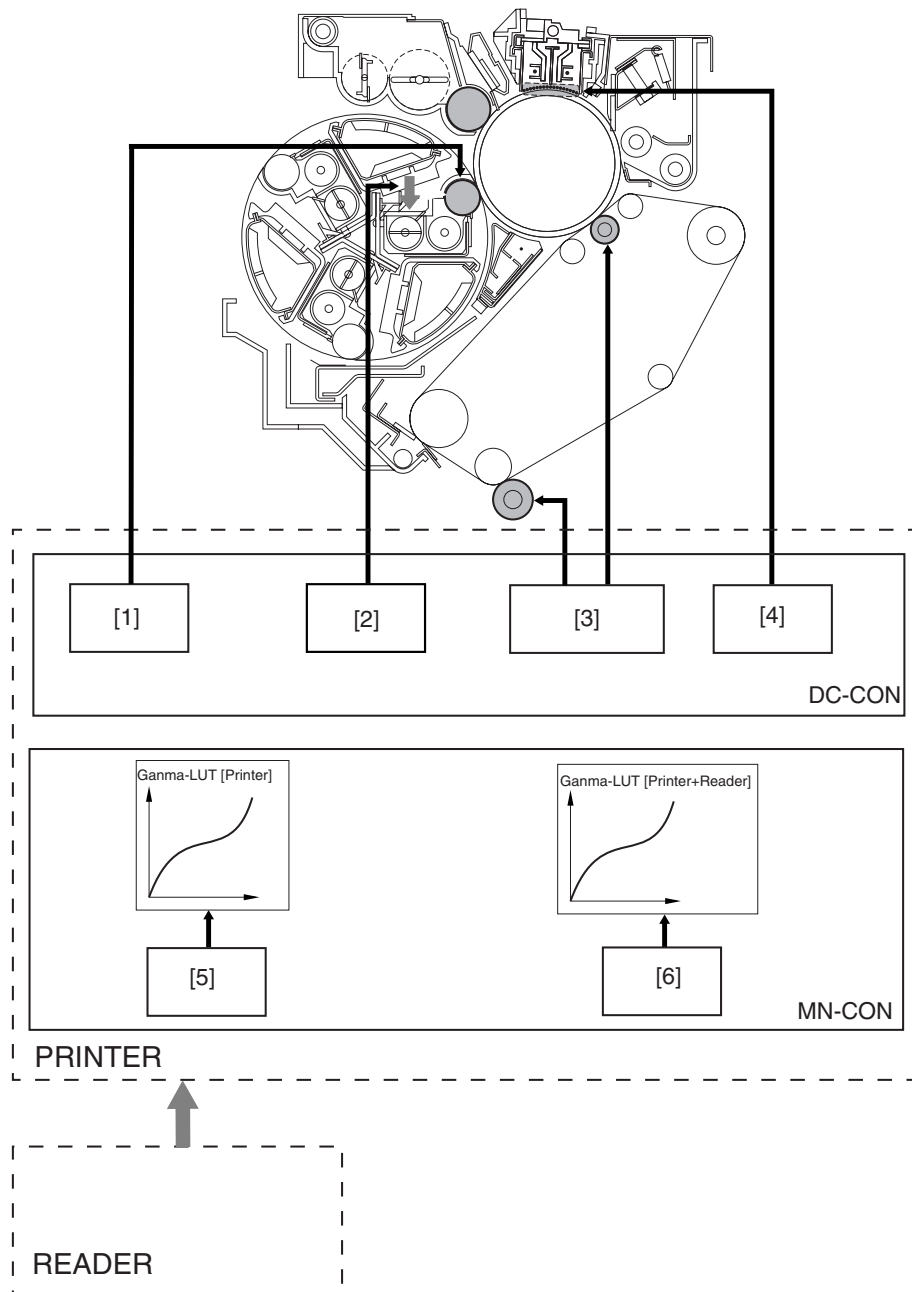
F-7-6

T-7-11

Item	Description
1 Dmax control	determines the best Color developing bias.
2 ATR control	determines toner supply amounts.
3 ATVC control	determines the best transfer bias level.
4 Potential control	determines the best transfer bias level.
5 Dhalf control	determines the best gradation table (printer).
6 PASCAL control	determines the best gradation table (printer + reader)

7.4.2 Timing of Image Stabilization Control

The machine uses different control mechanisms depending on the site environment; specifically, it executes the following as part of different sequences of operation:

1. At Power-On / Toner container replacement
The control lasts about 120 sec*1.
*1: The machine performs this control mechanism when the temperature of the fixing upper roller is less than 100 deg C.
*2: The machine performs this control mechanism in response to a history of making 500 or more color prints (with the temperature of the fixing upper roller being less than 100 deg C).

Main power switch ON

Toner container replacement

		WMUPR	STBY

Potential control

Primary transfer ATVC control

Secondary transfer ATVC control

D-max control
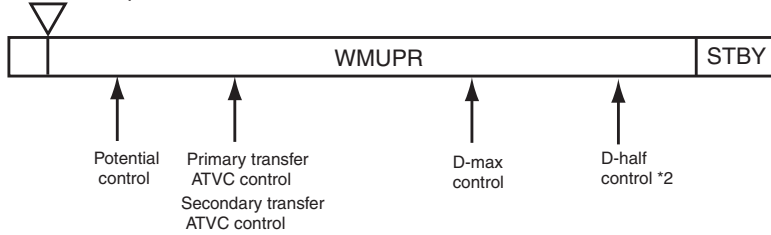
D-half control *2

F-7-7

*1: The machine performs the image stabilization control mechanism at power-on or toner container replacement only when the surface temperature of the fixing roller is less than 100 deg C.
*2: The machine performs D-half control when the power is turned on with its color print counter reading 500 or higher (and the temperature of the fixing upper roller being 100 deg C or lower).

2. In Response to a Press on the Start Key (mono color)
The control lasts about 6 sec.

Start key ON

STBY	INTR	PRINT	LSTR

Mono color print (for every 240 prints)

Primary transfer ATVC control

Secondary transfer ATVC control

Primary transfer ATVC control

Secondary transfer ATVC control
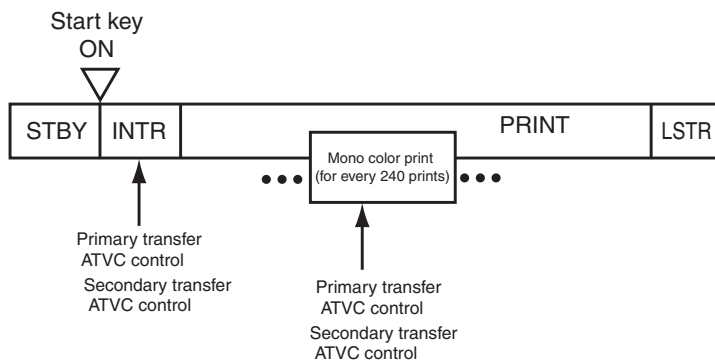
F-7-8

3. In response to a Press on the start Key (full color)
The control lasts a maximum of about 80 sec.

Start key ON

STBY	INTR	PRINT	LSTR

Full color print (for every 120 prints)

Primary transfer ATVC control

Secondary transfer ATVC control

Potential control

Primary transfer ATVC control

ATR control *1
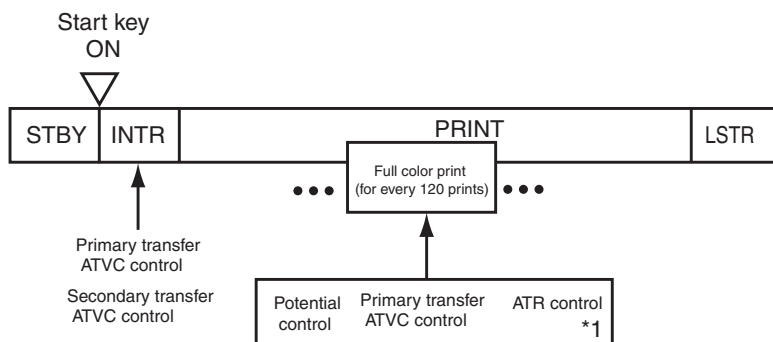
F-7-9

*1: The machine also performs this control mechanism in response to every incidence of an image ratio of 480% (as converted).

4. During Last Rotation

The control lasts about 100 sec.
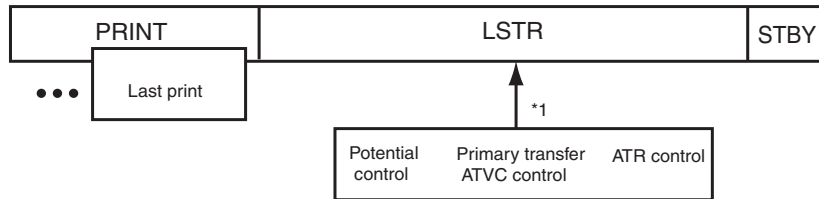
F-7-10

*1: The machine performs this control mechanism in response to every incidence of an image ratio of 200% or every 20 full-color prints.

5. Jam recovery

The control lasts a maximum of about 100 sec.
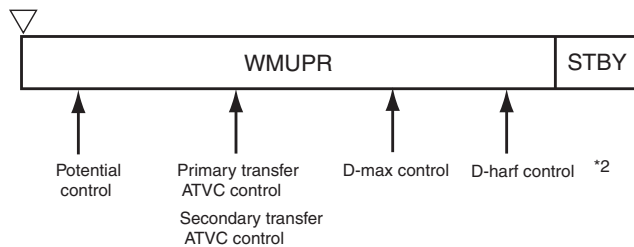
F-7-11

*1: The machine performs this control mechanism when the temperature of the fixing upper roller is less than 100 deg C.

*2: The machine performs this control mechanism in response to a history of making 500 or more color prints (with the temperature of the fixing upper roller being less than 100 deg C).

6. Return from sleep state

The control lasts a maximum of about 100 sec.
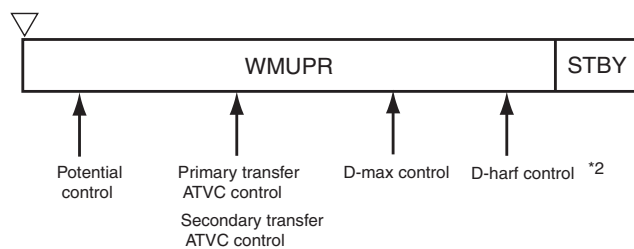
F-7-12

*1: The machine performs this control mechanism when the temperature of the fixing upper roller is less than 100 deg C.

*2: The machine performs this control mechanism in response to a history of making 500 or more color prints (with the temperature of the fixing upper roller being less than 100 deg C).

7.4.3 Potential Control

The machine is designed to perform potential control to be sure of stable printing in the presence of drops in the sensitivity of the photosensitive drum or changes in the environment.

1. Conditions of Execution
  - when the power is turned on/when the toner cartridge is replaced (with the temperature of the fixing upper roller being less than 100 deg C)
  - after jam recovery/after return from a sleep state (with the temperature of the fixing upper roller being less than 100 deg C)
  - every 120 full-color prints made continuously (stops printing for performance)
  - every 20 full-color prints or during last rotation in response to every incidence of an image ratio of 200% (as converted)
  - during performance of PASCAL control
  - in response to changes in the environment

2. Items of Control
  - Drum dark-area potential (VD) control
  - Drum light-area potential (VL) control
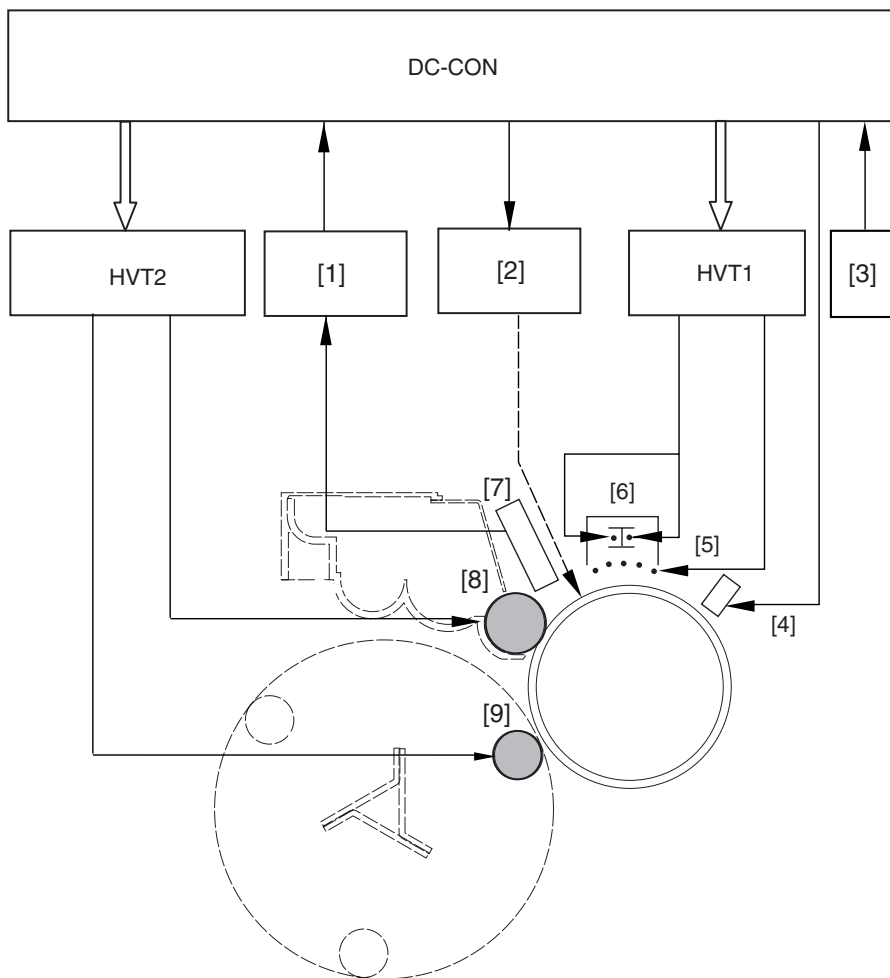
F-7-13
[1] Potential control PCB
[2] Laser driver PCB
[3] Environment sensor
[4] Pre-exposure LED
[5] Grid wire
[6] Primary charging wire
[7] Potential sensor
[8] Black developing cylinder
[9] Color developing cylinder

3. Particulars of Control

a. Drum Dark Area Potential Control (VD)

The machine decides on a grid bias (Vg) with the aim of obtaining the best dark area potential (VD) at various points of development (black developing cylinder position, color cylinder position) for the photosensitive drum.

T-7-12

Order	Item	Description
1	Application of Vg	applies Vg (Vg1 through Vg3) to the drum.
2	creation of the target Vd-Vg curve	measures the VD in response to the foregoing Vg (Vg1 through Vg3) using the potential sensor to create a VD-Vg curve.
3	determination of a target Vg	computes the target VD from the output of the environment sensor; then, decides on a target Vg from the target VD.

Reference:
* Vg1=650V,Vg2=700V,Vg3=750V
* Target VD(Bk)= approx. 490V
* Target VD(Color)= approx. 450V
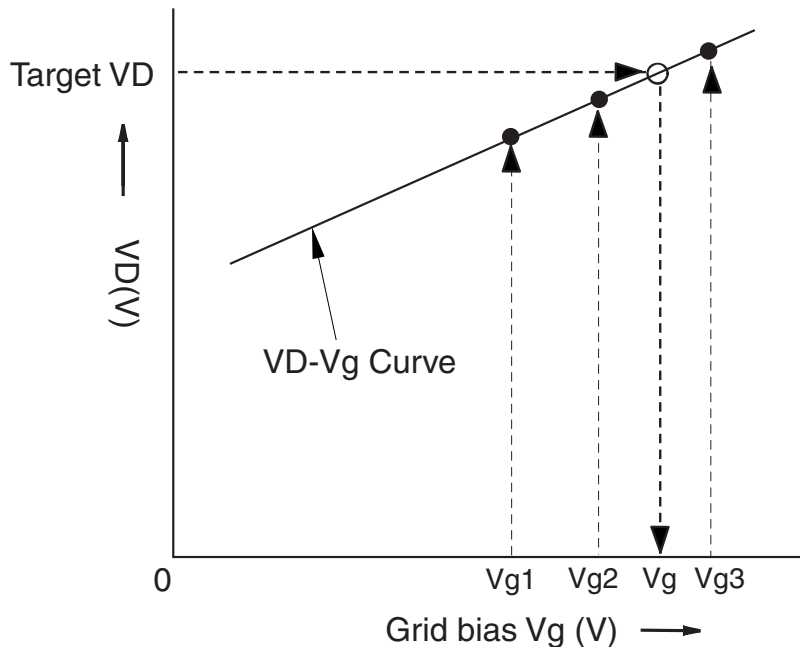
F-7-14

b. Drum Light Area Potential (VL) Control

The machine decides on a laser output level to obtain the best light area potential (VL) for various points of development (developing cylinder position, color cylinder position) for the photosensitive drum.

T-7-13

Order	Item	Description
1	activation of laser	shines laser light at a specific laser power level (LP1 thorough LP4) on the drum.
2	creation of a VL-LP curve (sensor position)	measures the VL against the aforementioned laser power level (LP1 through LP4) using the potential sensor, and creates a VL-LP curve for the sensor position.
3	creation of a VL-LP curve (points of black development/color development)	creates a VL-LP curve for points of black and color development based on the result of computation on the VL curve for the sensor position.
4	monitoring of the environment sensor	computes the target VL potential for individual colors based on the output of the environment sensor (target VL (Bk), target VL (color).
5	determination of laser output	determines the laser output that enables the target VL potential for individual colors based on the target VL-LP curve.

Reference:
The target VL values are for the normal environment (temperature of 23 deg C; humidity of 50%).
- Target VL (BK)= approx. 230V
- Target VL (Color)= approx. 150V

Control of No.1 to 3
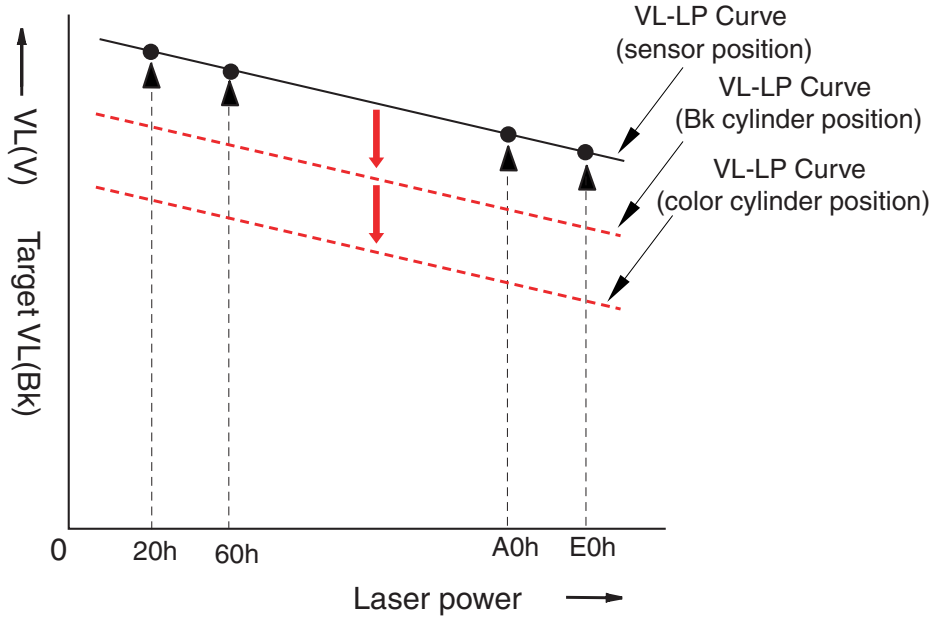
F-7-15

Control of No.4 to 5
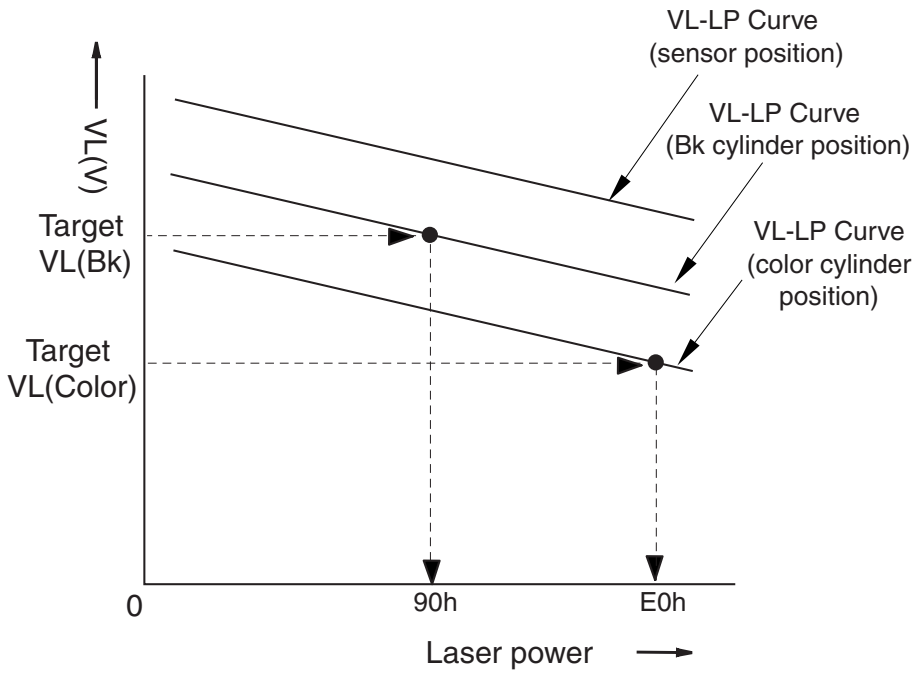
F-7-16

7.4.4 ATVC Control

The machine executes ATVC control to determine the best transfer voltage when transferring toner from the photosensitive drum to the ITB and from the ITB to paper. This control may be of 2 types: primary transfer ATVC and secondary transfer ATVC.
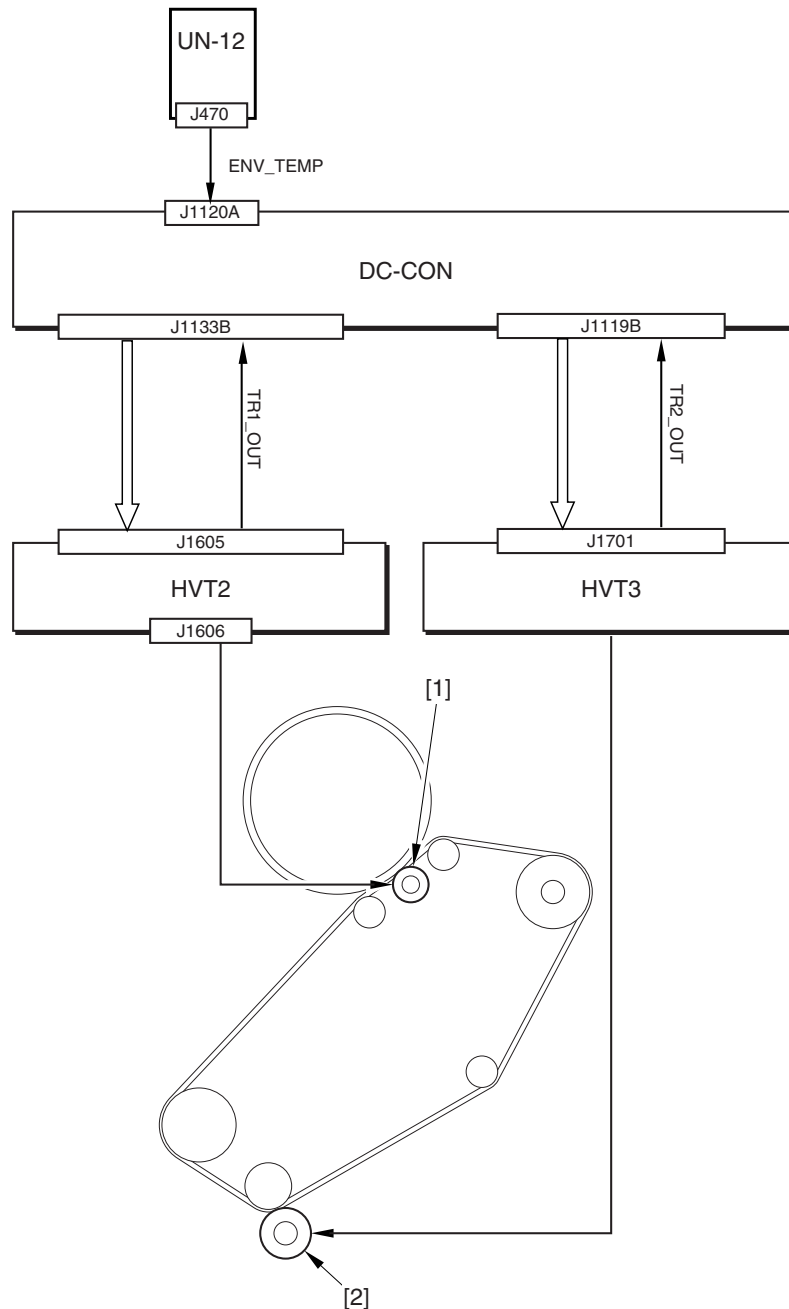
F-7-17
[1] Primary transfer roller
[2] Secondary transfer outside roller

DC-CON: DC controller
UN-12: environment sensor

1. Primary Transfer ATVC

In primary transfer ATVC, the machine determines the primary transfer voltage so the target transfer current may be obtained at time of transfer.

a. Conditions of Execution

- when the power is turned on/when the toner cartridge is replaced (with the temperature of the fixing upper roller being less than 100 deg C)
- after jam recovery/after return from a sleep state (with the temperature of the fixing upper roller being

less than 100 deg C)
- during initial rotation in response to a press on the Start key
- every 120 full-color prints made continuously (stops printing for performance)
- every 240 mono-color prints image continuously (stops printing for performance)
- during last rotation in response to every incidence of an image ratio of 200% or 20 full-color prints made continuously
- during performance of PASCAL
- in response to changes in the environment

b. Particulars of Control

T-7-14

Order	Item	Description
1	application of the primary transfer bias	applies a specific level of bias to the primary transfer roller; then, detects the level of current by HVT2 to feed the data back to the DC controller.
2	monitoring the environment sensor	uses the DC controller to compute the correction value from the output of the environment sensor and the printing information (paper type, color mode).
3	determination of the primary transfer bias	uses the DC controller to determine the best transfer bias while taking into account the correction value.

2. Secondary Transfer ATVC

In secondary transfer ATVC, the machine determines the secondary transfer voltage so that the target transfer current may be obtained at time of transfer.

a. Conditions of Execution

- when the power is turned on/when the toner cartridge is replaced (with the temperature of the fixing upper roller being less than 100 deg C)
- after jam recovery/after return from a sleep state (with the temperature of the fixing upper roller being less than 100 deg C)
- during initial rotation in response to a press on the Start key
- every 120 full-color prints made continuously (stops printing for performance)
- every 240 mono-color prints image continuously (stops printing for performance)
- during performance of PASCAL
- in response to changes in the environment

b. Particulars of Control

T-7-15

Order	Item	Description
1	application of secondary transfer bias	applies a specific level of bias to the secondary transfer roller; then, uses HVT3 to detect the level of current and feeds the data back to the DC controller.
2	monitoring of the environment sensor	uses the DC controller to compute the correction value from the output of the environment sensor and the printing information (paper type, 1st-side/2nd-side).
3	determination of the secondary transfer bias	uses the DC controller to determine the best secondary transfer bias while taking the correction value into account.

7.4.5 ATR Control

The machine executes ATR control to compute the amount of toner to supply to the color developing assembly based on the amount of toner it has used.

1. Particulars of Control
a. Computing the Amount of Toner to Supply

The machine computes the amount of toner to be supplied to individual color developing assemblies. The machine uses 3 types of data to make these computations.

- video count (performed for every color print)

    The machine uses the video count data to predict the amount of toner likely to be consumed, and computes the amount of toner consumed.

- result of detection by the patch image read sensor (in response to an image ratio of 480%, as converted or 60 color prints made continuously*1)

    The machine uses the patch image read sensor to measure the toner image created on the ITB, and adjust the amount of toner to be supplied so that the density will be identical to the target density.

- result of detection by the ATR sensor (performed for every 10 color prints)

    The machine uses the ATR sensor to measure the developer on the cylinder of each color developing assembly, and increases/decrease the toner supply target if the measurement is outside of the target density range.

*1: When this condition occurs, the machine stops the ongoing job and forms a patch on the intermediate transfer belt for detection by the patch image read sensor.
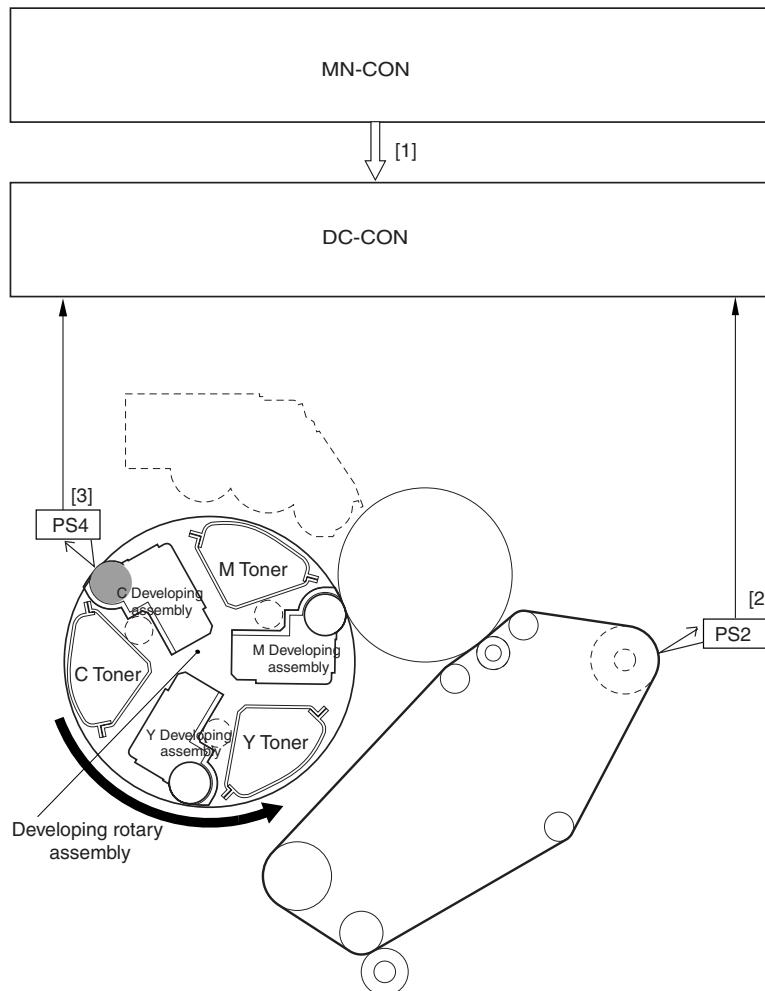
F-7-18

[1] Video count

[2] Result of detection by patch image read sensor

[3] Result of detection by ATR sensor

PS4: ATR sensor

PS2: patch image read sensor

DC-CON: DC controller

MN-CON: main controller

Error Code:
E020-xx10:
the SGNL value for INIT control is lower than 62.
E020-xx11:
the REF value for INIT control at time of initial setup is lower than 62.
E020-xx12:
the SGNL value for INIT control at time of initial setup is 960 or higher.
E020-xx13:
the REF value for INIT control at time of initial setup is 960 or higher.
E020-xx81:
the P-SENS-P value at time of reading the background (ITB surface) for patch detection is lower than 255.
E020-xx90:
the result of computation by patch reading for patch detection is lower than 16.
E020-xx91:
the result of computation by patch reading for patch detection is 1008 or higher.
E020-xx92:
the result of computation by patch reading for patch detection is lower than 42 for 3 times continuously.
E020-xx93:
the result of computation by patch reading for patch detection is 522 or higher for 3 times continuously.
E020-xxA0:
the SGNL value for ATR control is lower than 62.
E020-xxA1:
the REF value for ATR control is lower than 62.
E020-xxA2:
the SGNL value for ATR control is 960 or higher.
E020-xxA3:
the REF value for ATR control is 960 or higher.
E020-xxA8:
T/D ratio detected as a result of ATR control exceeds its upper limit (5%) 5 consecutive times.
E020-xxA9:
T/D ratio detected as a result of ATR control falls below its lower limit (-4%) three consecutive times.
E020-xxC0:
the variation among the SGNL values for ATR is 100 or higher.
E020-xxC1:
the variation among the REF values for ATR is 100 or higher.
E020-xxC2:
the variation among the SGNL values for patch detection is 400 or higher.
E020-xxD0:
the average of the SGNL values for INIT control at time of initial setup is 200 or lower.
E020-xxD1:
the average of the REF value for INIT control at time of initial setup is 200 or lower.
E020-xxD2:
the average of the patch detection (SGNL) values for INIT control at time of initial setup is 200 or lower.
E020-xxD4:
the average of the SGNL value for INIT control at time of initial setup is 800 or higher.
E020-xxD5:
the average of the REF values for INTI control at time of initial setup is 562 or higher.
E020-xxDA:
the variation among the REF values for INTI control at time of initial setup is 100 or higher.
E020-xxDB:
the variation among the REF values for INTI control at time of setup is 10 or higher.
E020-xxDC:
the variation among the patch detection (SGNL) values for INTI control at time of initial setup is 800 or higher.

The suffix xx of any of the foregoing error codes indicates the color developing assembly in question:
xx=00: no distinction by color
01=Y
02=M
03=C

7.4.6 ACR Control (Auto Carrier Refresh Control)

The machine's ACR control is designed to prolong the life of the color developing assemblies by feeding the developing assemblies with a fresh supply of toner (mix of resin dye and magnetic iron) while discharging deteriorating carrier from the assemblies.

A new supply of toner is sent to a color developing assembly from its buffer assembly when the feedscrew inside the buffer assembly rotates (the DC controller turns on the development motor (M3) and the color toner supply clutch (CL2) when a shortage of toner is expected.) Once inside the developing assembly, the toner is moved forward by the feedscrew inside it; the deteriorating carrier in the assembly, on the other hand, is discharged outside the assembly, falling on its own weight for collection in the waste toner case.
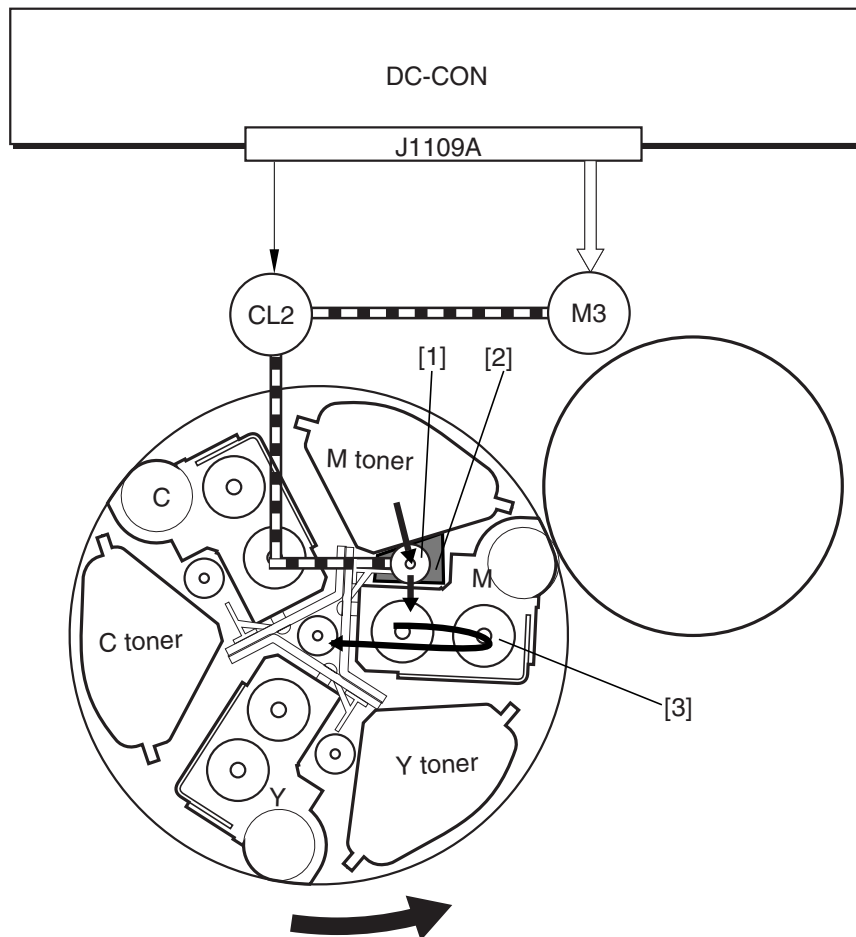
F-7-19
[1] Toner feedscrew
[2] Buffer assembly
[3] Color developing assembly

M3: development motor
CL2: toner supply clutch
DC-CON: DC controller

7.4.7 D-max Control

The machine executes D-max (image density correction) control so as to limit fluctuations in the image density caused by changes in the environment or deterioration of the photosensitive drum or of toner.
The machine uses the DC controller of the printer unit for the control. When specific conditions exist, the DC controller creates a patch pattern of individual colors (Y, M, C) on the ITB; then, it uses the patch image sensor (PS2) to measure the density of the patches to determine a developing bias that will bring about a desirable density for each color.

The machine executes D-max control for the following conditions:
- when the power is turned on/when the toner cartridge is replaced (with the temperature of the fixing upper roller being less than 100 deg C)
- after jam recovery/after return from a sleep state (with the temperature of the fixing upper roller being less than 100 deg C)
- during last rotation every 200 full-color prints*1
- during performance of PASCAL
- in response to changes in the environment

1: Perform this condition until it becomes 4000-page printing in total. And after 4000 pages is not performed.

1. Flow of Operations

The following shows the flow of operations executed under this control:
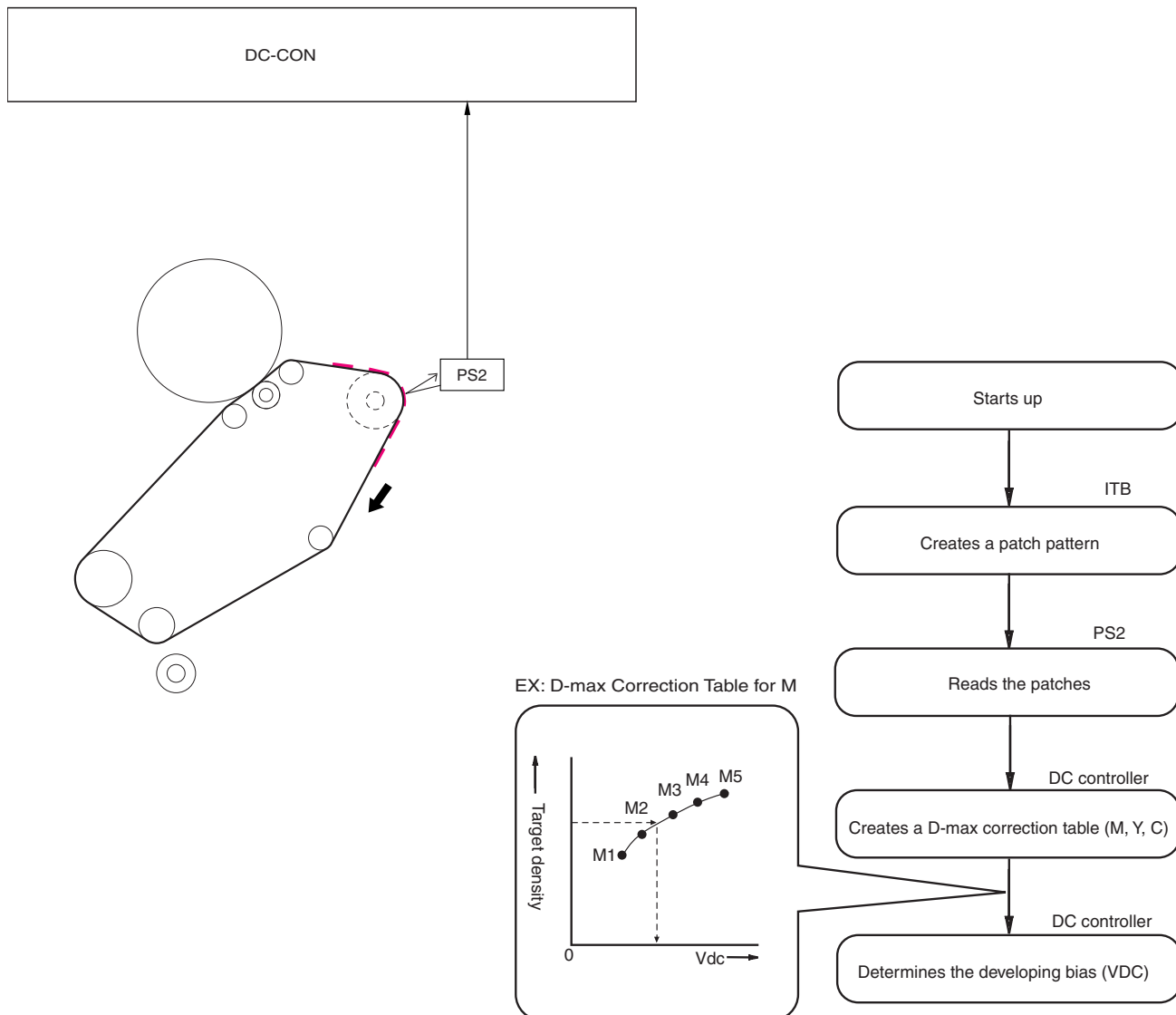
F-7-20
PS2: patch image sensor
DC-CON: DC controller

7.4.8 D-half Control

The machine executes D-half control (image gradation correction control) to bring about an ideal set of gradation characteristics.

When specific conditions exist, the main controller sends patch pattern data for individual colors (Y, M, C, Bk) to the DC controller, which in response forms patch patterns of individual colors (Y, M, C, Bk) on the ITB.

Thereafter, the DC controller measures the density of the patch pattern using the patch image read sensor (PS2), and sends the result to the main controller, where gradation correction is executed so that ideal half-tone images may be obtained.

The machine executes D-half control for the following:
- when the power is turned on/when the toner cartridge is replaced*1
- after jam recovery/after return from a sleep state*1
- in response to changes in the environment
- during performance of PASCAL

*1: if there is a history of 500 or more full-color prints with the temperature of the fixing upper roller being less than 100 deg C.
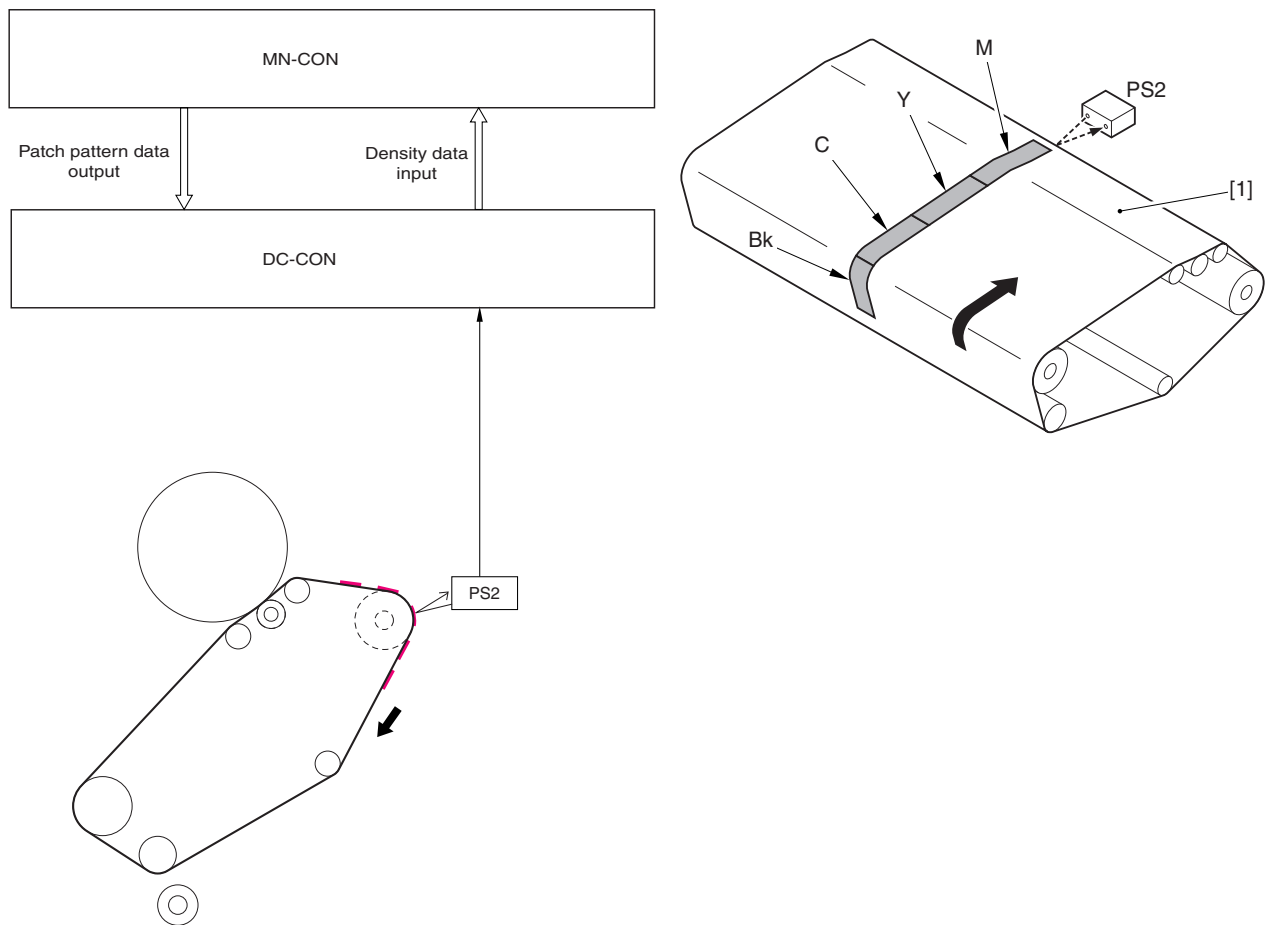
F-7-21
PS2: patch image read sensor
DC-CON: DC controller
MN-CON: main controller

1. Flow of Operation
The following shows the flow of operation that takes place during the control:
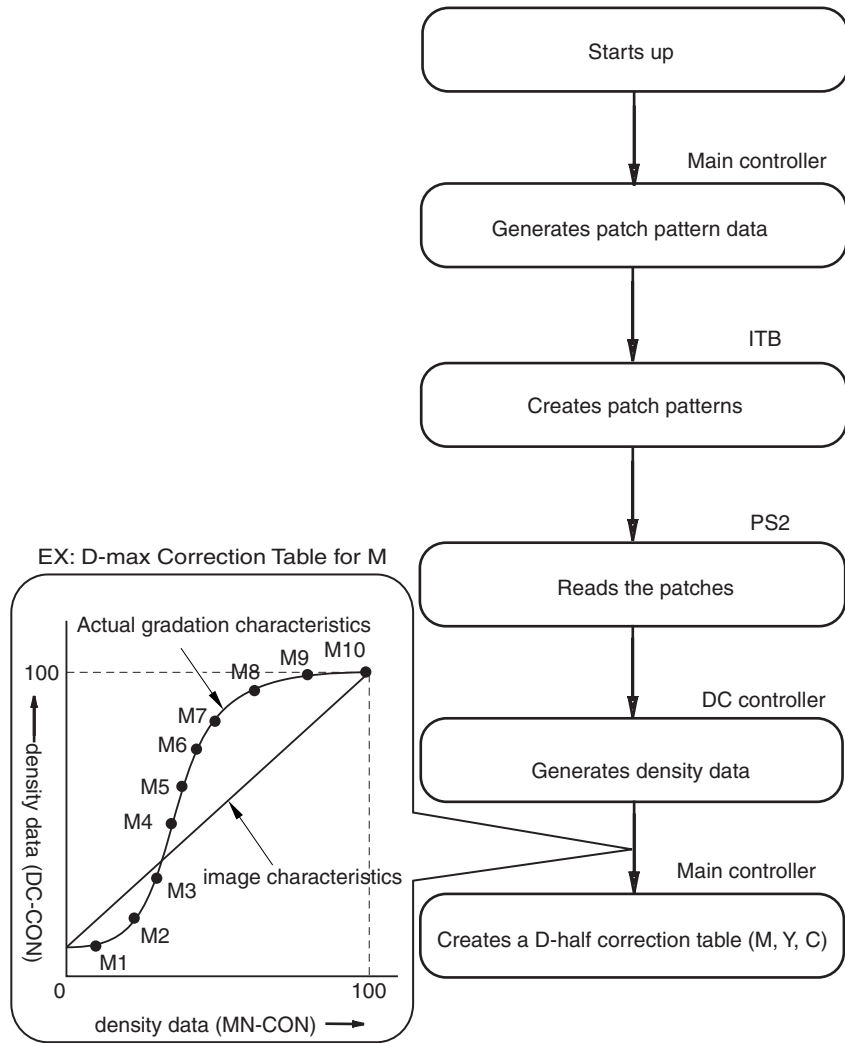
F-7-22

7.4.9 PASCAL control

The machine is designed to execute PASCAL control (image characteristics correction control) to enable the reproduction of ideal image characteristics, and the execution involves the reader unit mechanisms.

The machine uses the main controller of the printer unit for the control. The printer uses the data stored in the main controller to generate 3 types of test patterns ***1**; when the printouts of the test patterns are placed in the reader unit one after another, the machine reads them in sequence to enable the main controller to execute gradation correction that will lead to ideal image characteristics.

The machine executes PASCAL control for the following conditions:
  - in response to a command by the user

1. Flow of Operation

The following shows the flow of operation that takes place during the control:
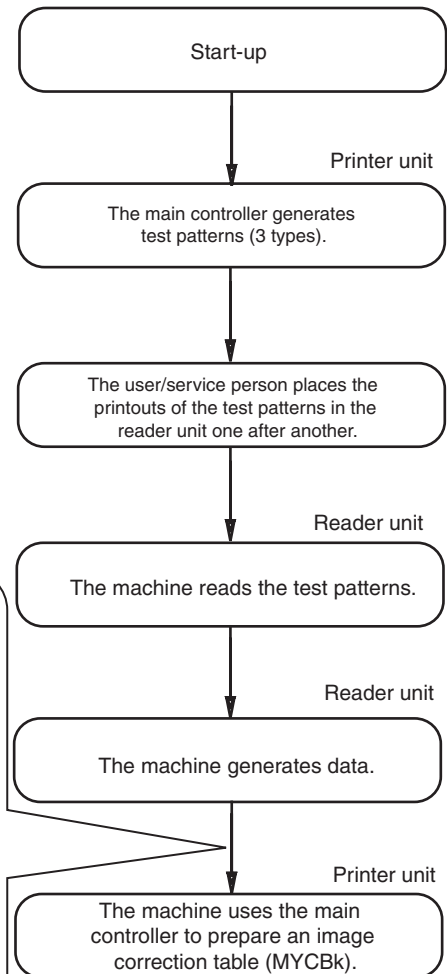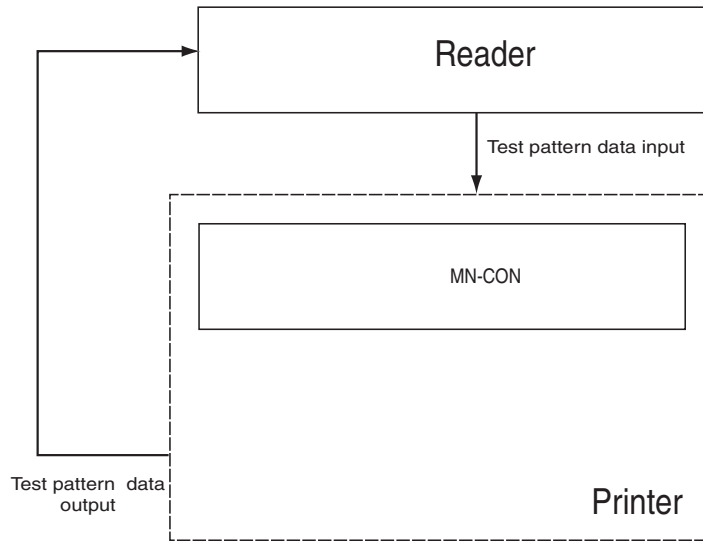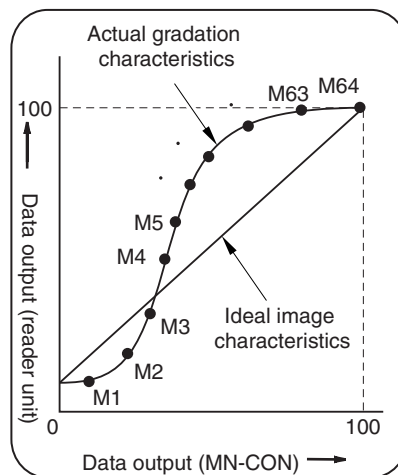
F-7-23
NM-CON: main controller

*1: Differences Among 3 Test Patterns
- Test Print 1
It shows 64 gradations expressed by means of error diffusion processing, which is not subject to moire and, therefore, used in text/photo/map, print photo, and text mode.
- Test Print 2
It shows 64 gradations expressed by means of screening with a low number of lines, which is suitable for the expression of gradation and, therefore, is used for print film photo mode and when priority is placed on PDL.
- Test Print 3
It shows 64 gradations expressed by means of screening with a high number of lines, which is suitable for the achievement of a high resolution and is, therefore, used when priority is placed on PDL resolution.
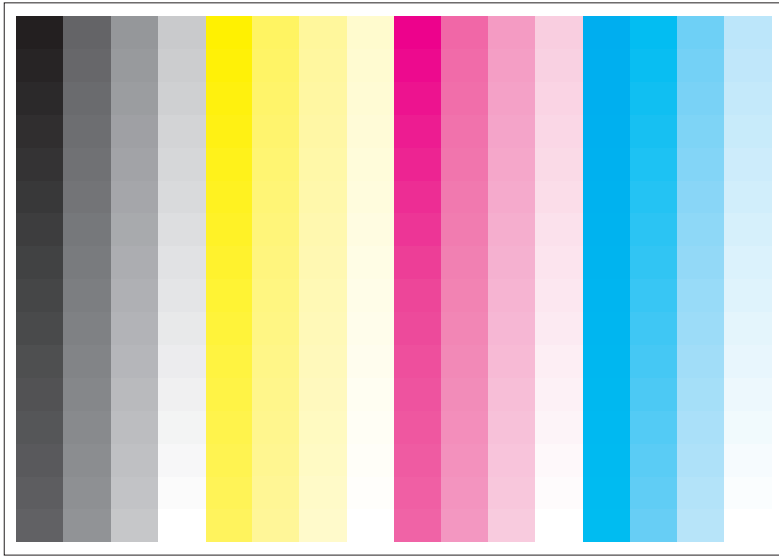
Test Print

F-7-24

7.5 Charging Meachanism

7.5.1 Controlling the Primary Charging Bias

The primary charging bias is used to charge the surface of the photosensitive drum to a positive potential by way of preparing it for image formation.
The primary charging bias may be either of 2 types of biases: primary charging DC bias, grid DC bias. The bias is generated by the high-voltage PCB 1 in response to a command from the DC controller, and is applied to the primary charging wire or the grid wire.
The level of the grid bias is determined based on the result of potential control.
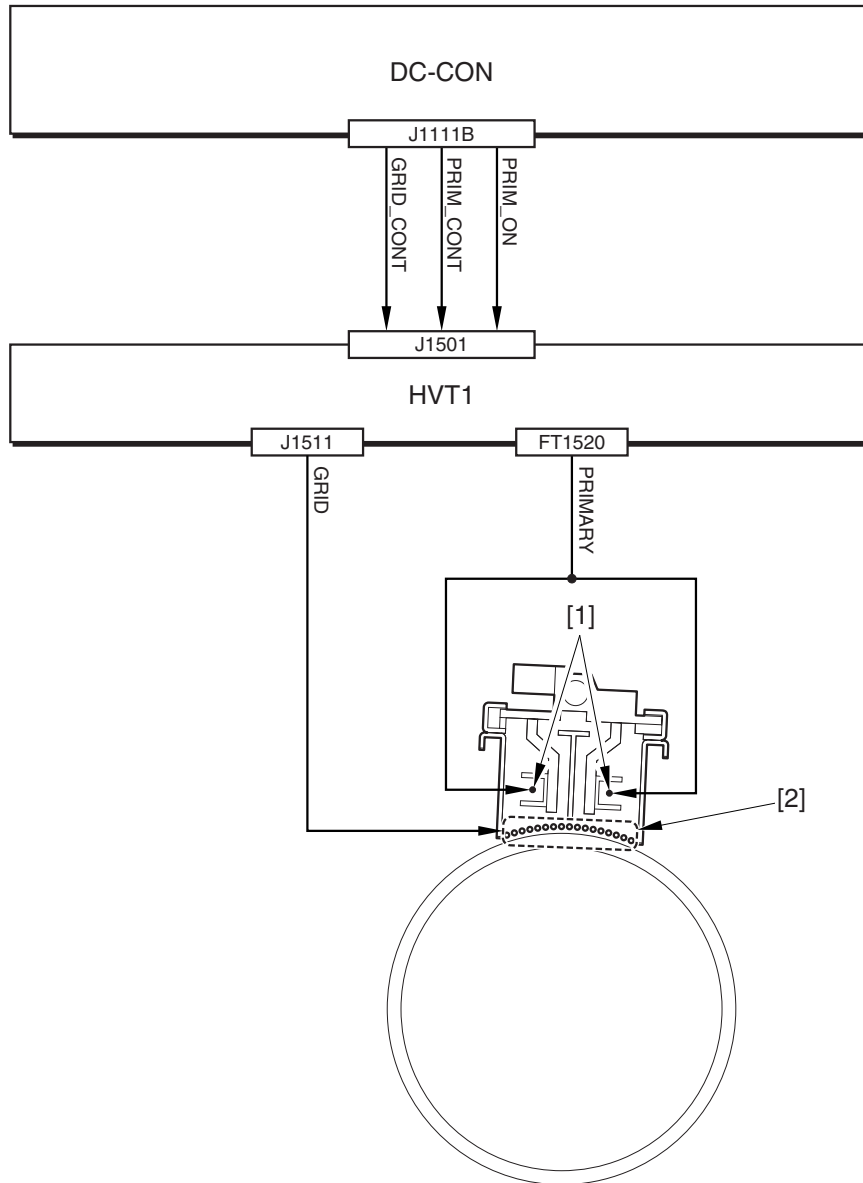
F-7-25
[1] Grid charging wire
[2] Grid wire

HVT1: high-voltage PCB 1
DC-CON: DC controller

7.5.2 Controlling the Primary Charging Assembly Cleaning Mechanism

The machine is equipped with a mechanism to clean the charging wire with the aim of preventing soiling of the wire inside the primary charging assembly.

The primary charging wire cleaner motor (M26) is rotated in normal and reverse directions to turn the cleaner screw, causing the wire cleaner to move to the front or the rear for cleaning of the charging wire.

The DC controller serves to drive the primary charging wire cleaner motor by generating 2 types of primary charging wire cleaner motor drive signals (PRIM_CLN_MTR0, PRIM_CLN_MTR1).

The relationship between the drive signals from the DC controller and the cleaning operation is as follows:
- when PRIM_CLN_MTR0 is '0', the wire cleaner moves to the rear.
- when PRIM_CLN_MTR0 is '1', the wire cleaner moves to the front.
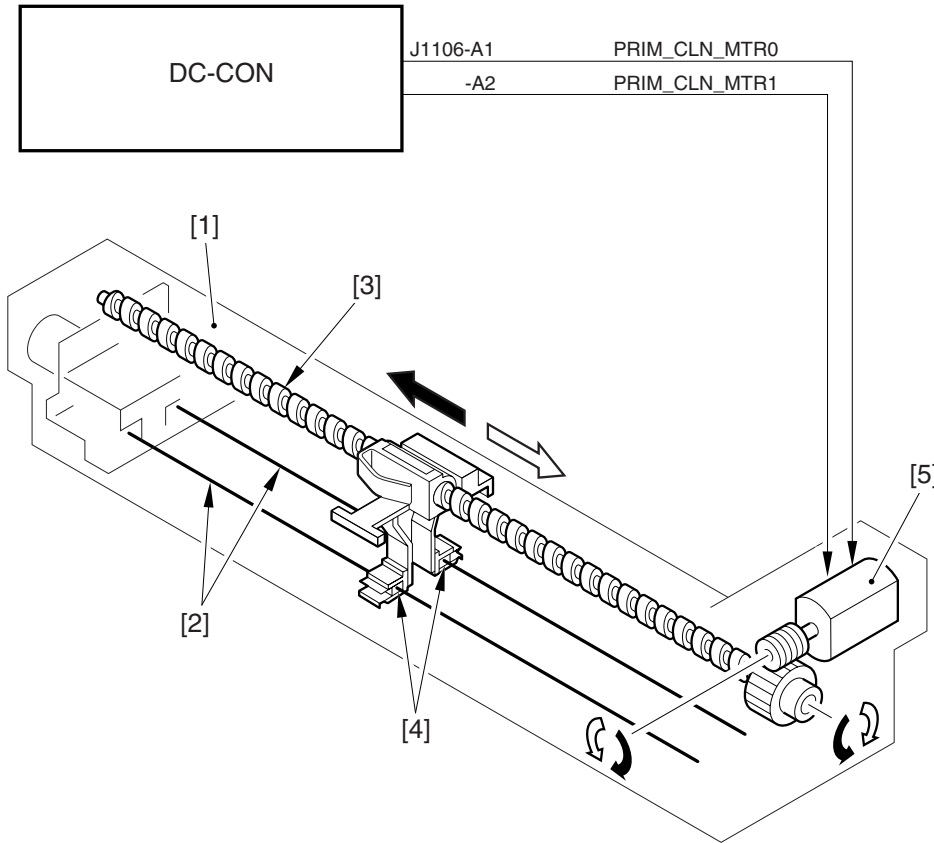
F-7-26
[1] Primary charging assembly
[2] Charging wire
[3] Cleaner screw
[4] Wire cleaner
[5] Primary charging wire cleaner motor

DC-CON: DC controller

The cleaning operation starts in response to the following:
- the temperature of the fixing roller is 10 deg C or less at time of power-on.
- wire cleaning is performed in user mode.
- as many as 2000 images have been processed (i.e., 2000 pages of mono color; 500 pages of full color)*1.

*1: the intervals at which cleaning takes place may be adjusted using the following service mode item:
- in a normal environment, COPIER>OPTION>BODY>W-CLN-P.
- in a high temperature/high humidity environment, COPIER>OPTION>BODY>W-CLN-PH.

7.5.3 Controlling the Pre-Transfer Charging Bias

The pre-transfer charging bias is used to even out the potential of the toner layers formed on the ITB, and it is applied to the toner on the photosensitive drum when black toner is developed.

The pre-transfer charging bias may be either of 2 types of biases: pre-transfer charging DC bias, pre-transfer charging AC bias. The bias is generated by the high-voltage PCB 1 in response to a command from the DC controller, and is applied to the pre-transfer charging wire.
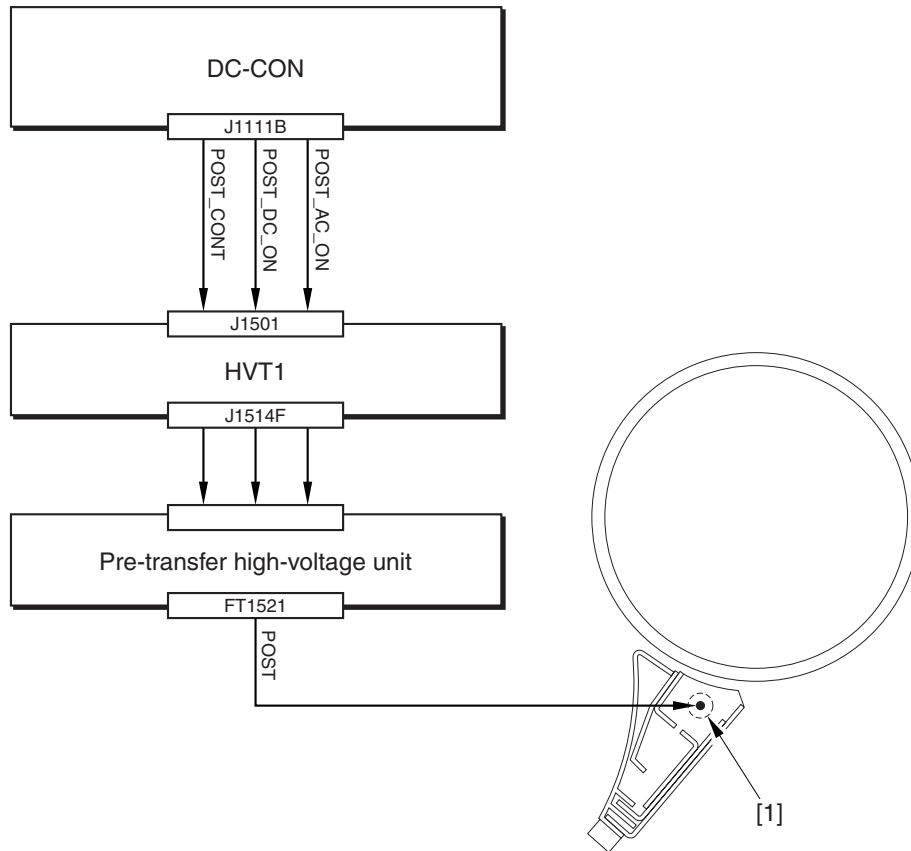
F-7-27
[1] Pre-transfer charging wire

HVT1: high-voltage PCB 1
DC-CON: DC controller

7.5.4 Controlling the Pre-Transfer Charging Assembly Cleaning Mechanism

The machine is equipped with a mechanism to clean the charging wire found inside the pre-transfer charging assembly, thus preventing soiling of the wire.

The pre-transfer charging wire cleaner motor (M27) rotates in normal and reverse directions to turn the cleaner screw; as a result, the wire cleaner moves to the front or the rear to clean the charging wire.

The DC controller controls the pre-transfer charging wire cleaner motor drive signal (POST_CLN_+MTR0, POST_CLN_MTR1) to drive the pre-transfer charging wire cleaner motor.

The relationship between the drive signal generated by the DC controller and the cleaning operation is as follows:

- when POST_CLN_MTR0 is '0', the wire cleaner moves to the rear.
- when POST_CLN_MTR0 is '1', the wire cleaner moves to the front.
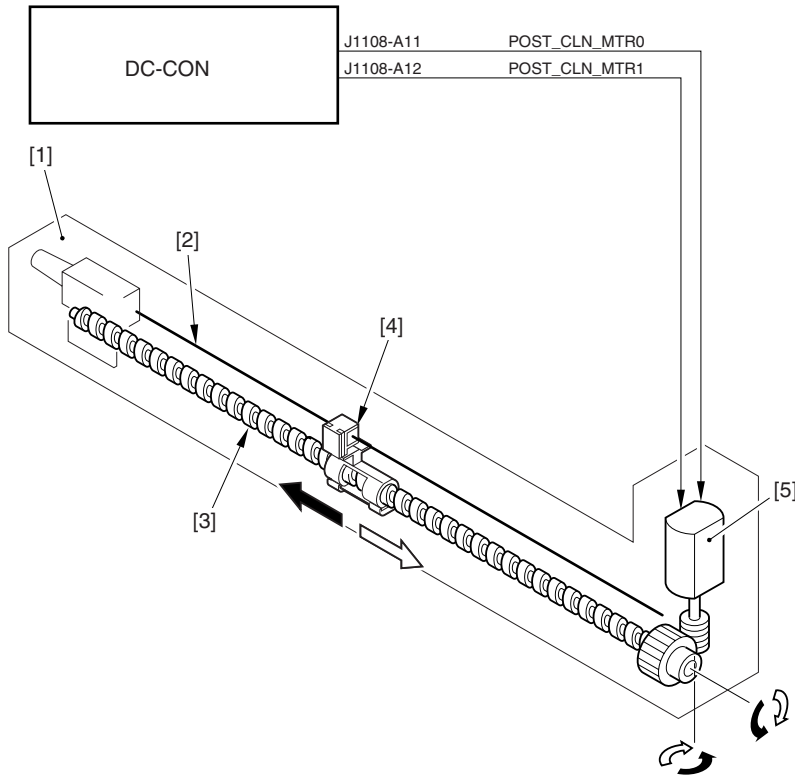
F-7-28
[1] Pre-transfer charging assembly
[2] Charging wire
[3] Cleaner screw
[4] Wire cleaner
[5] Pre-transfer charging wire cleaner motor
[6] rear
[7] front

DC-CON: DC controller

The cleaning operation takes place in response to the following:
- the temperature of the fixing roller is 100 deg C or less at power-on.
- wire cleaning is performed in user mode.
- as many as 2000 images have been made (copy count; if mono color, 2000 pages, if full color, 500 pages).*1

*1: the intervals at which cleaning takes place may be adjusted using the following service mode items:
- in a normal environment, COPIER>OPTION>BODY>W-CLN-P.
- in a high temperature/high humidity environment, COPIER>OPTION>BODY>W-CLN-PH.

7.5.5 Pre-Exposure LED

The machine uses a pre-exposure LED array to remove charges remaining on the photosensitive drum, thus preventing uneven density in prints.The pre-exposure LED array is arranged opposite the photosensitive drum, and the LEDs are turned on during printing to remove residual changes from the drum surface and forming stable images.
The DC controller controls the pre-exposure LED array drive signal (EXP_LED) to turn on and off the LED array.
The DC controller generates the following drive signal:
EXP_LED: if '0', the pre-exposure LED array goes on. if '1', the pre-exposure LED array goes off.

[1]

J1106-A7 EXP_LED

DC-CON

Drum
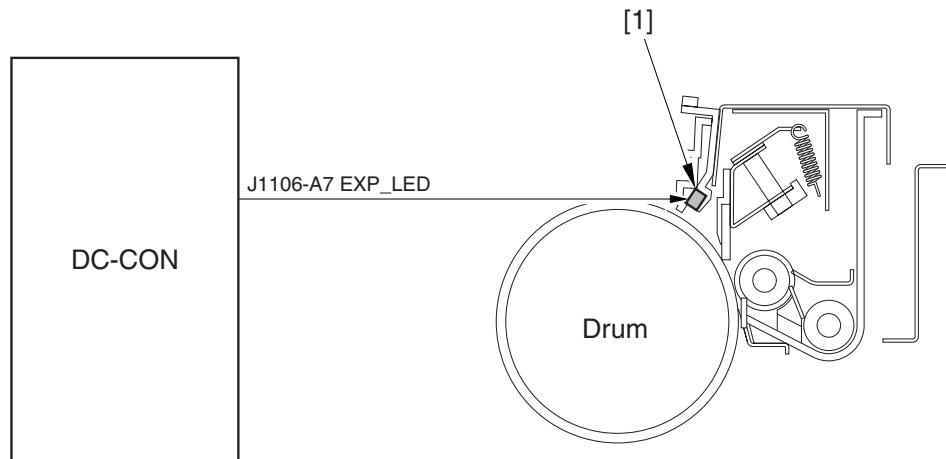
F-7-29
[1] Pre-exposure LED array

7.6 Developing Rotary

7.6.1 Overview of the Developing Rotary

The developing rotary serves to position a color developing assembly to a specific point.
Stored inside the rotary are 3 types of color developing assemblies (M, Y, C) and color toner cartridges (M, Y, C).
When printing occurs, the developing rotary motor (M5) rotates to turn the rotary counterclockwise so that one of the 3 color developing assemblies will come face to face with the photosensitive drum in sequence.
The rotary is locked in or out of place by the work of the developing rotary locking solenoid (SL10).
The rotary is equipped with 2 sensors (PS19, PS8), serving to detect the position of the rotary assembly and to turn on and off SL10.
The machine uses the DC controller to control these electrical loads: M5, SL10, PS19, PS8.
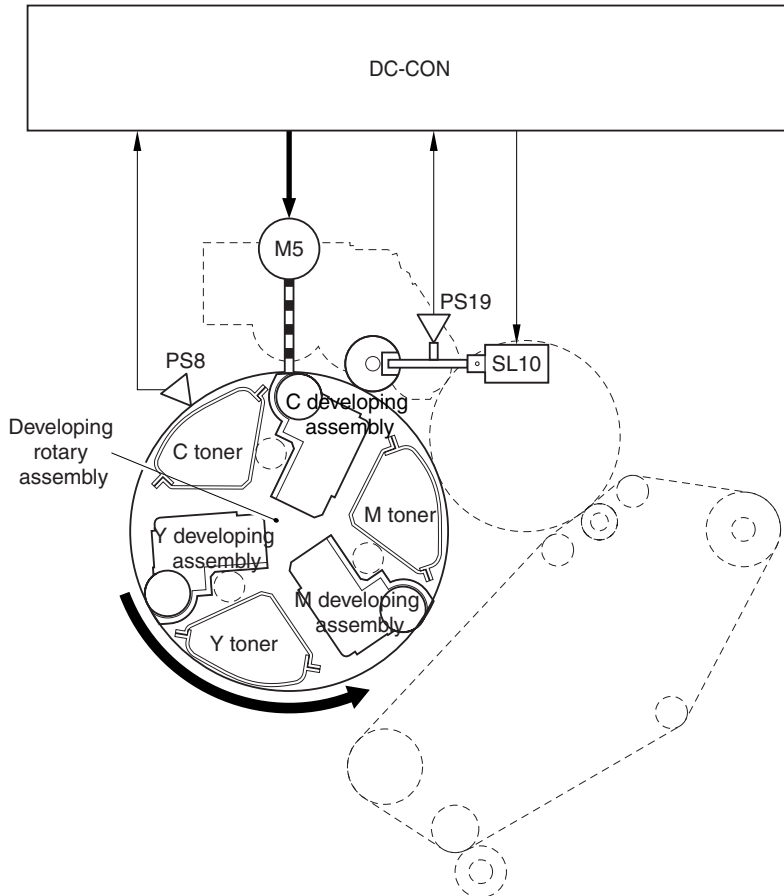
F-7-30
DC-CON: DC controller
M5: developing rotary motor
PS8: developing rotary solenoid sensor
PS19: developing rotary home position sensor
SL10: developing rotary fixing solenoid

7.6.2 Controlling the Developing Rotary

The machine moves the color developing assemblies (M, Y, C) and the color toner cartridges (M, Y, C) stored inside the developing rotary to a specific point at specific times. The DC controller uses the developing rotary home position sensor (PS19) to monitor the position of the rotary, turning on and off the developing rotary motor (M5) to move the rotary.

To rotate the rotary, the DC controller turns on the DC controller developing rotary locking solenoid so that the rotary is freed. On the other hand, to stop the rotary, the DC controller turns off the solenoid so that the rotary is attached. The DC controller monitors the state of PS19 to check on the position of the rotary. On the back of the rotary is the home position detecting flag, used to cause the DC controller to assume that the rotary is in home position when the flag moves past PS19.

The DC controller rotates the rotary with reference to the rotary home position, making sure that the rotary stops only at specific points.

There are as many as 6 points at which the rotary stops:
   - point of Y toner cartridge access (home position *1): 1 point
   - point of M, C toner cartridge access: 2 points
   - point of color toner development: 3 points
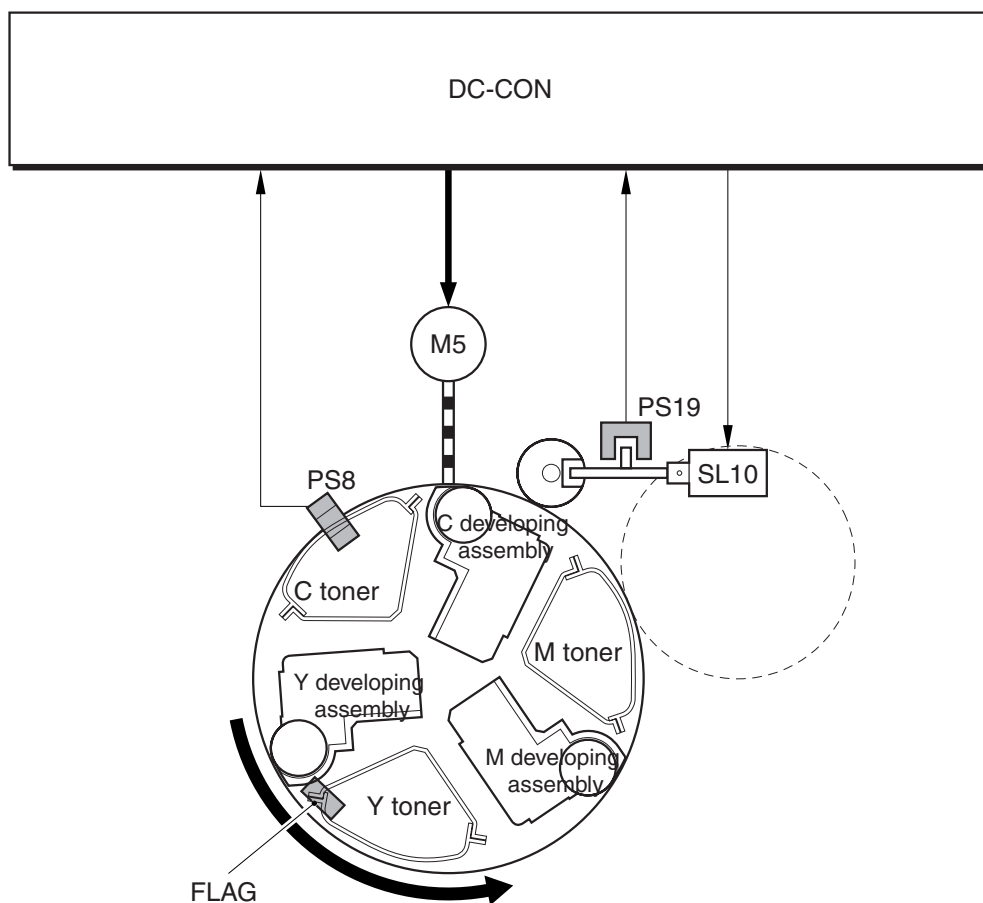
F-7-31
DC-CON: DC controller
M5: developing rotary motor
PS8: developing rotary solenoid sensor
PS19: developing rotary home position sensor
1: home position is also used for black development.

If a color developing cylinder was allowed to remain in contact with the sensitive drum at time of black development, the cylinder would disturb the black toner image. To prevent such disturbance, the machine moves the developing rotary to its home position so that a color developing cylinder will never be opposite the photosensitive drum.

The following shows the position of Y toner cartridge access and point of M development.

<Point of Y Toner Cartridge Access>

<Point of M Development>
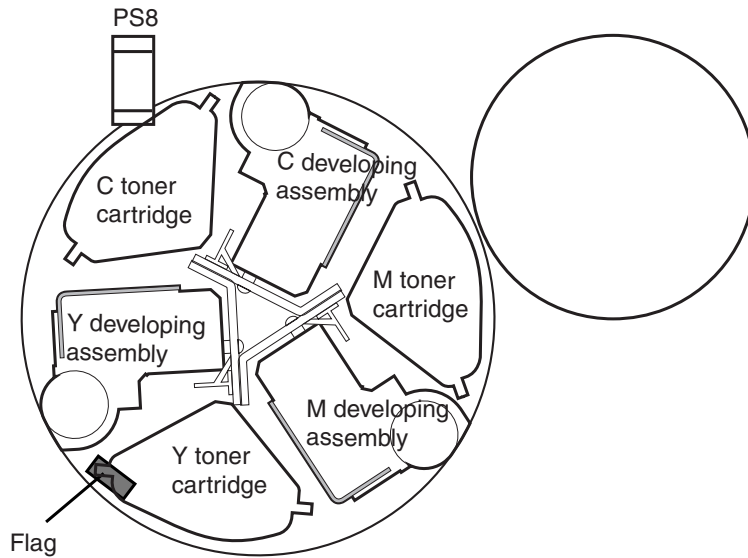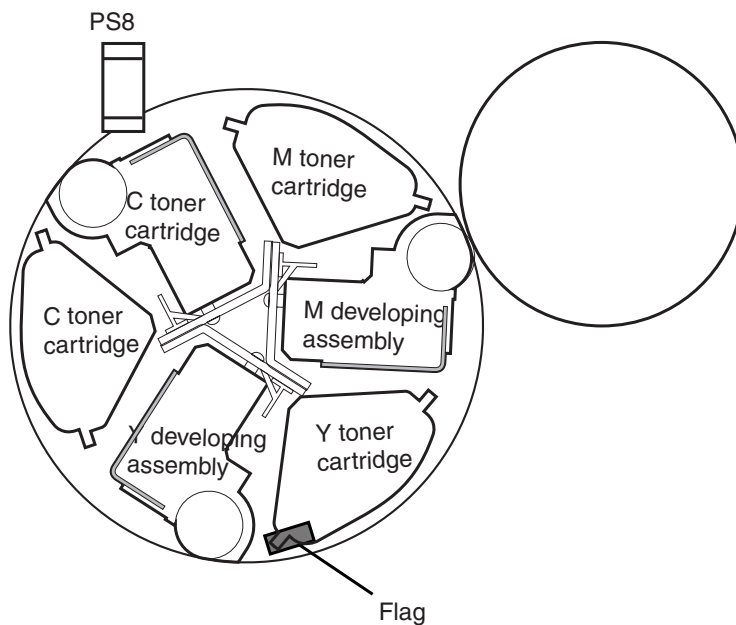
F-7-32

The following shows the sequence of operation of the developing rotary when printing takes place:
- Timing of Operation (developing rotary; full color)

	STBY	INTR	PRINT				LSTR
Developing rotary motor (M5)		[1]	[2]	[3]	[4]		
Rotary HP sensor (PS8)							
Developing rotary Solenoid (SL10)			M	Y	C	Bk	
Develpping rotary SL sensor (PS19)							

Start key ON
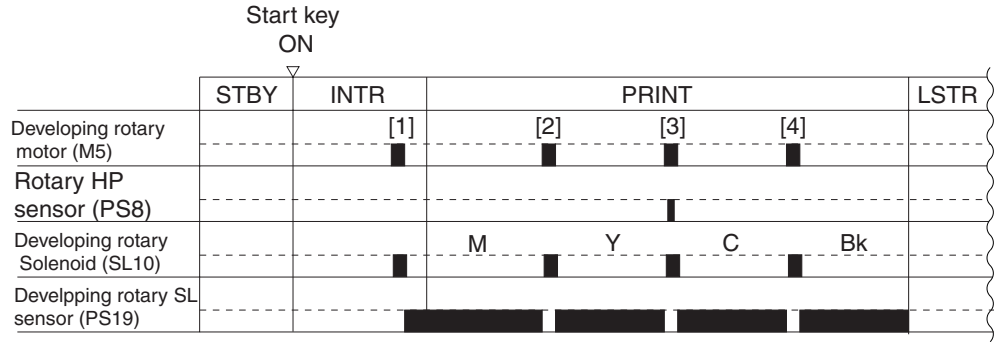
F-7-33

[1] moves from the rotary home position to the point of M development.
[2] moves from the point of M development to the point of Y development.
[3] moves from the point of Y development to the point of C development.
[4] moves from the point of C development to the rotary home position.
- Timing of Operation (developing rotary; mono color)

	STBY	INTR	PRINT	LSTR
Developing rotary motor (M5)				
Rotary HP sensor (PS8)				
Developing rotary Solenoid (SL10)				
Develpping rotary SL sensor (PS19)				

Start key ON
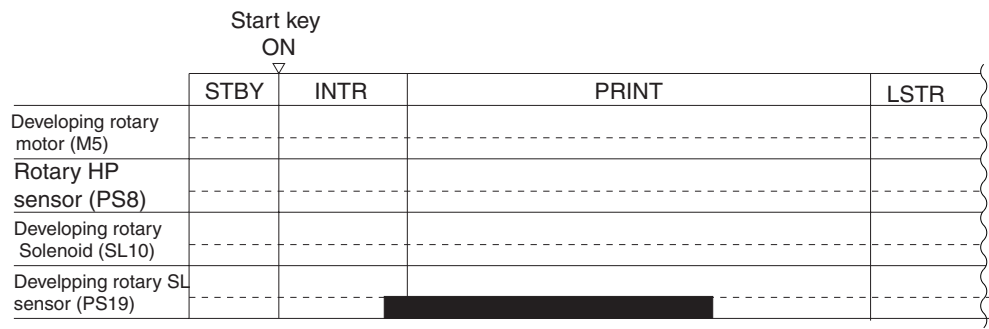
F-7-34

Error Code:
E021-0001 (developing rotary rotation error)
indicates that any of the following 2 conditions exits:
- the home position flag cannot be detected.
- an error occurred in the intervals at which the home position flag is detected while the developing rotary is rotating.

7.7 Developing Unit

7.7.1 Construction of the Color Developing Assembly

The machine uses 3 types of color developing assemblies (M, Y, C), all stored inside the developing rotary. These color developing assemblies are of the same construction, the only difference being the color of toner (dye) supplied by individual toner cartridges.
The following shows the construction and the functions of the color developing assemblies:

T-7-16

Item	Description
1 Developing cylinder	holds toner (toner/carrier).
2 Blade	forms an even layer of toner on the developing cylinder.
3 Developer stirring screw	stirs the toner and supplies it to the developing cylinder.
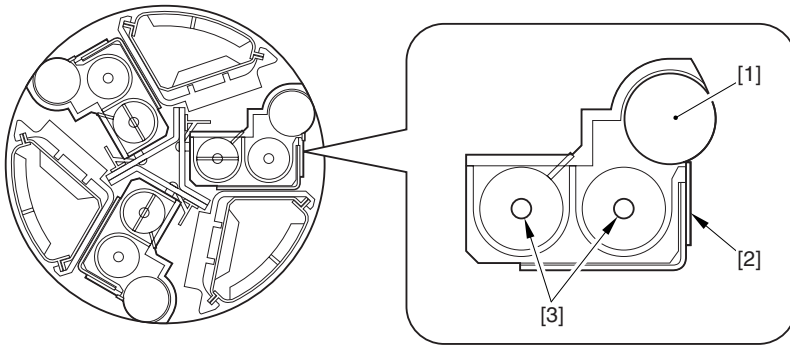
F-7-35

7.7.2 Controlling the Color Developing Assembly Drive Mechanism

The color developing assembly mainly consists of the developing cylinder, toner stirring screw A, and toner stirring screw B. These loads are driven when the color developing clutch (CL1) goes on, and are designed so that they go on only when development takes place.
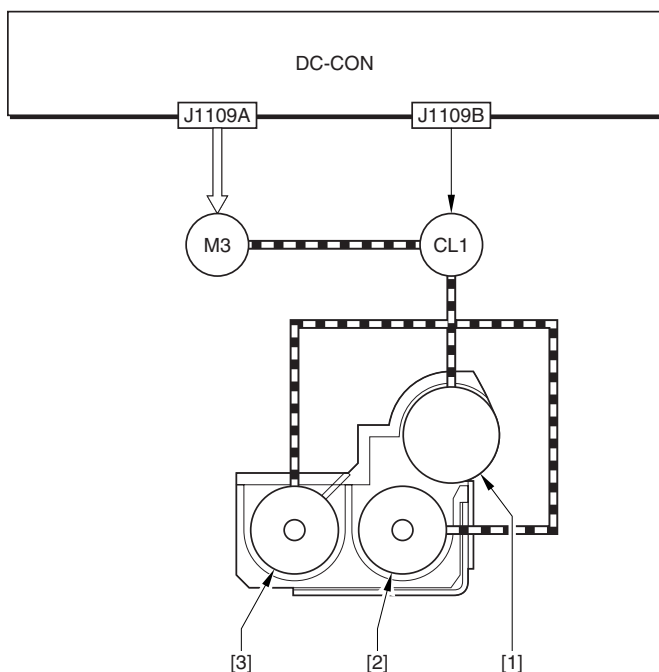
F-7-36

[1] Developing cylinder   M3: development motor
[2] Toner stirring screw A   CL1: color developing clutch
[3] Toner stirring screw B   DC-CON: DC controller

7.7.3 Controlling the Color Developing Bias

The color developing bias is generated to enable depositing of color toner over the latent static image on the surface of the photosensitive drum.

The color developing bias may be either of 2 types of biases: color developing DC bias, color developing AC bias. These biases are generated by the high-voltage PCB 2 in response to a command from the DC controller, and are applied to the color developing cylinder at specific timing. The level of the bias is determined based on the result of potential control.
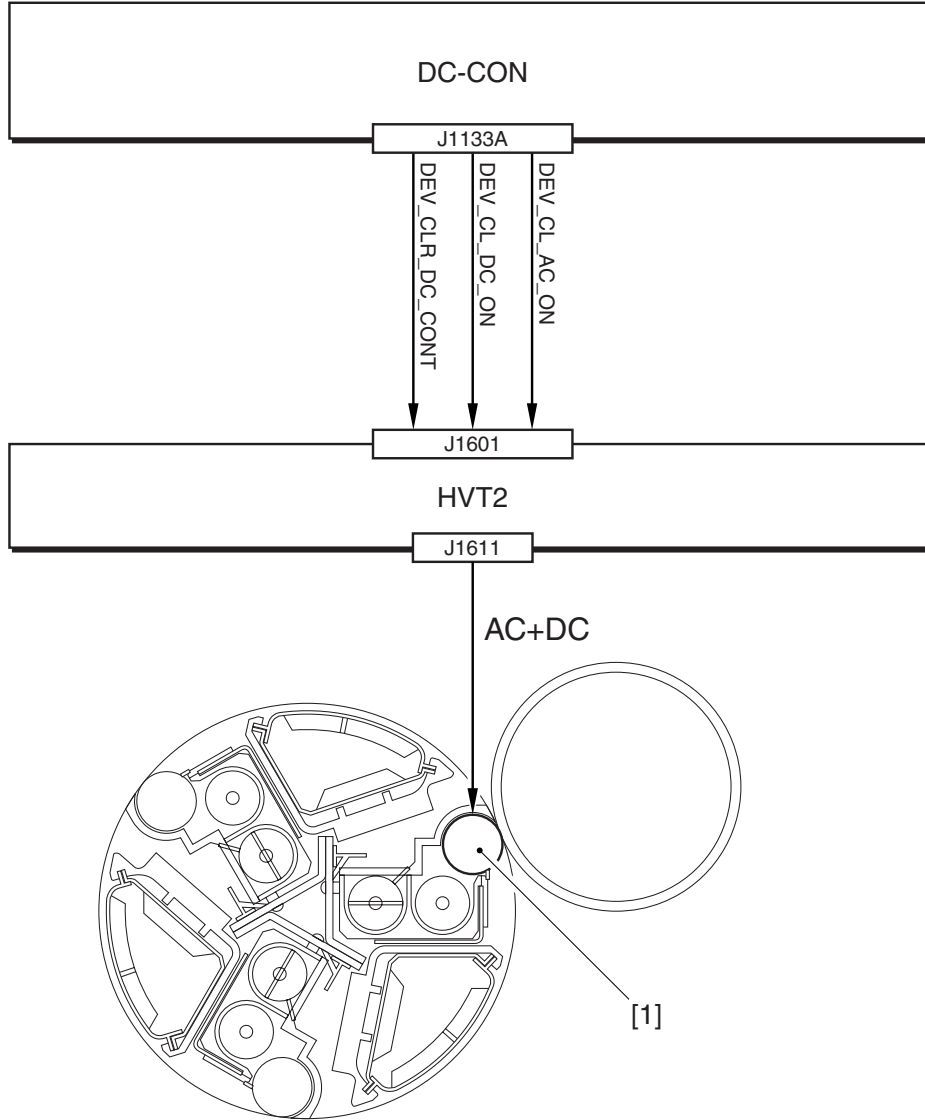
F-7-37
[1] Color developing cylinder
DC-CON: DC controller
HVT2: high-voltage PCB 2

7.7.4 Color Toner Supply

The color toner is sent to the color toner developing assembly from the color toner cartridge by way of the buffer assembly. The supply path consists of 2 segments: the path in the buffer assembly and the path to the color developing assembly. In the former, toner inside the color toner cartridge is moved to the buffer assembly of the developing rotary. The work is done by rotating the developing rotary so that toner inside the color toner cartridge falls on its own into the buffer assembly. The latter, on the other hand, is done when the toner feedscrew found inside the buffer assembly rotates; the feedscrew is controlled by the DC controller, which turns on the development motor (M3) and the color toner supply clutch (CL2) according to the amounts of toner needed as indicated by the result of ATR control.

The toner feedscrew inside the buffer assembly is driven to rotate for a specific period of time to supply the color developing assembly with the exact amount of toner from the toner buffer assembly.
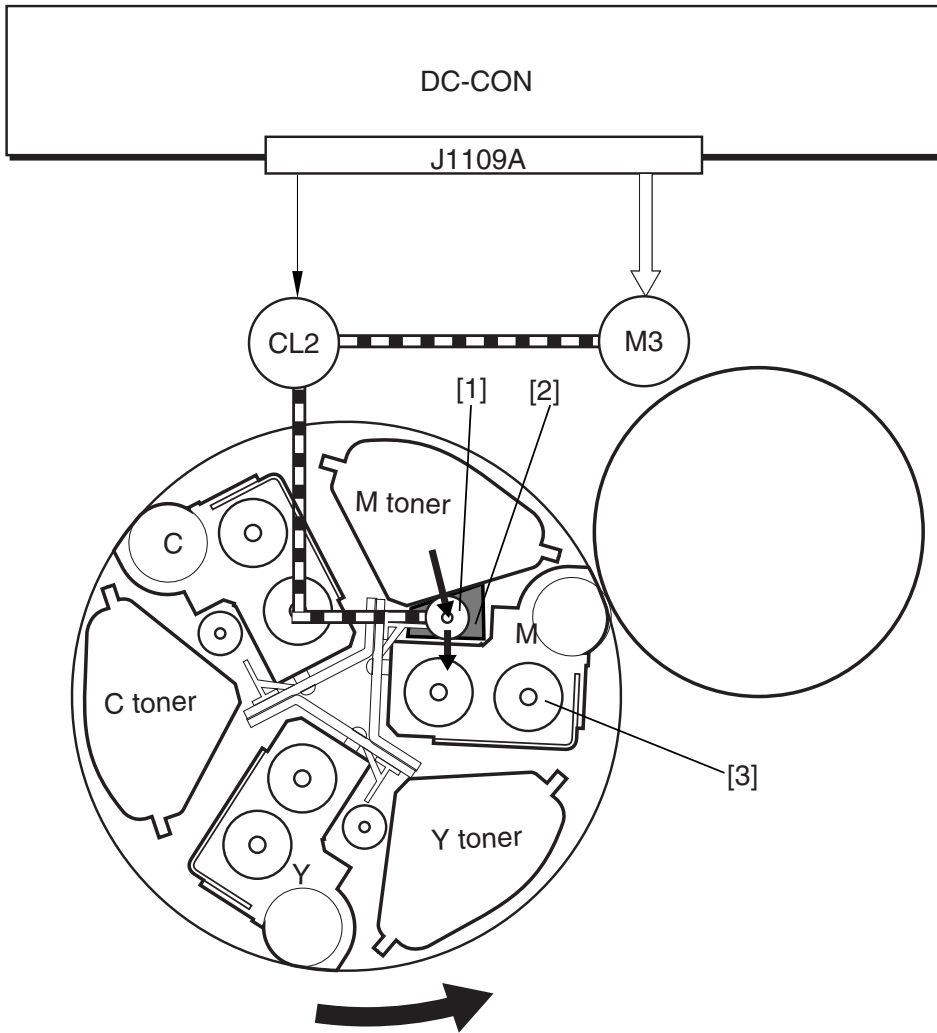
F-7-38
[1] Color toner feedscrew
[2] Buffer assembly
[3] Color developing assembly
M3: development motor
CL2: color toner supply clutch

7.7.5 Detecting the Level of Color Toner

The machine is equipped with 2 types of detection mechanism to monitor the level of color toner:
- based on the reading of the video counter
- based on the state of the scanner sensor

1. Detection by the Reading of the Video Counter

The machine computes the amount of toner consumption for individual colors based on the video data coming from the main controller, and uses the result to find out the level of toner remaining inside the color developing assembly. The machine runs a check for every color print, and keeps the result of detection in the memory of the DC controller.

The range of toner level is between 1% and 100% (in 1% increments).

MEMO:

When the color toner starts to run out, the machine indicates the user message "Toner Running Short," with the level of toner falling to 10%. (at time of shipment)

The timing of indicating the message may be changed in service mode (between toner levels of 5% and 10%): COPIER>OPTION>BODY>T-LW-LVL.

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2. Detention by the Optical Sensor

The machine uses a penetration type sensor (color toner level sensor; PS25) to check the presence/absence of color toner; specifically, the DC controller monitors the state of PS25, which consists of a light-emitting segment (LED) and a light-receiving segment (PD).

When printing starts, the DC controller generates the LED drive signal (CL_TNR_SNS_ON) to turn on the LED. The light from the light-emitting segment moves through the light guide attached to the cartridge to reach the inside of the toner cartridge. The light then moves through the toner cartridge and then along the light guide to reach the light-receiving segment, causing the color toner level detection signal (CL_TNR_REMAIN) to be sent to the DC controller.

The DC controller, in turn, detects the presence/absence of toner using the toner level detection signal occurring as the result of turning on the light-emitting segment of the sensor.

The following shows the timing of detection:
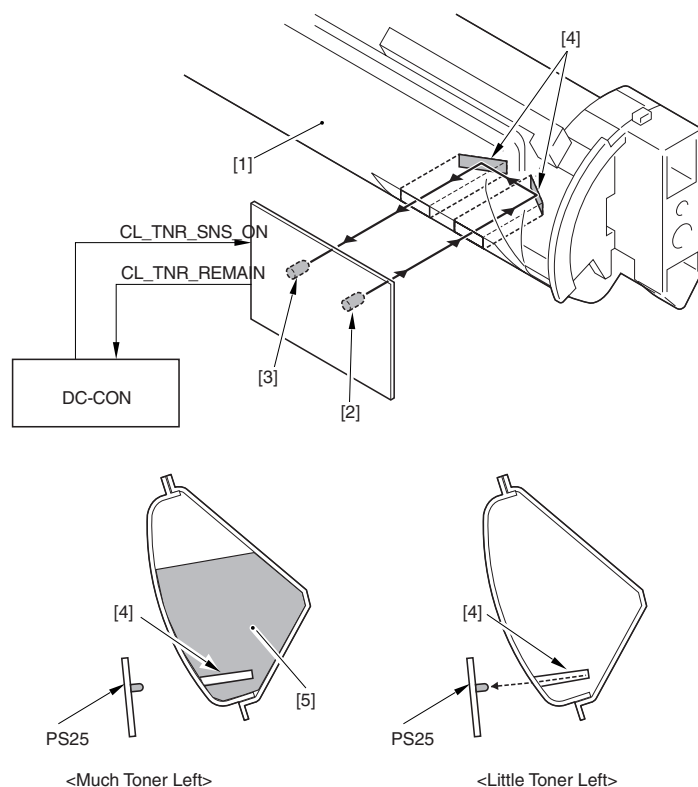
F-7-39

[1] Toner cartridge	[4] Light guide	PS25: color toner level sensor
[2] Light-emitting segment	[5] Toner	DC-CON: DC controller
[3] Light-receiving segment		

<Little Toner Left>

Detection starts

		1 cycle					1 cycle					• • • • • • • • • • • • •
PS25	Light emitting segent											
	Light receiving segent											
Counter1(*1)		1	1	1	1	0	1	1	1	1	0	• • • • • • • • • • • • •
Counter2(*2)			1						1			• • • • • • • • • • • • •

<Much Toner Left>

Detection starts

		1 cycle					1 cycle					• • • • • • • • • • •
PS25	Light emitting segent											
	Light receiving segent											
Counter1(*1)		1	0	0	0	0	0	0	1	0	0	• • • • • • • • • • •
Counter2(*2)			0						0			• • • • • • • • • • •
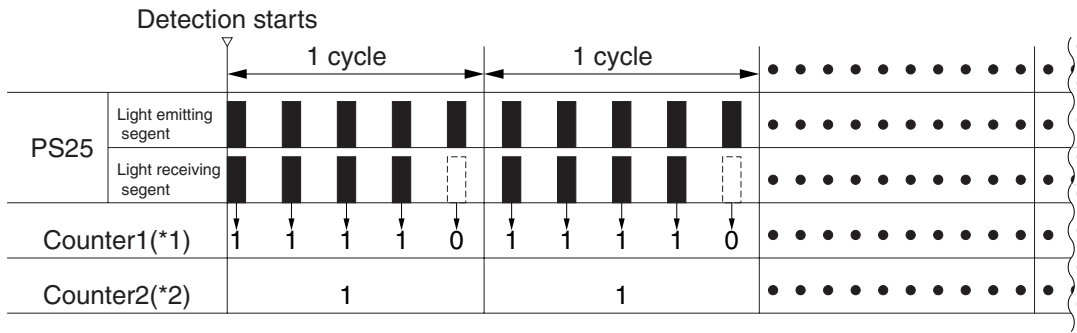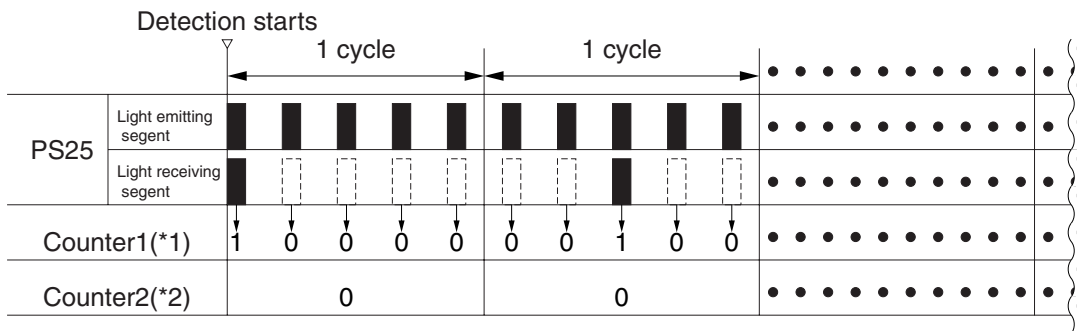
F-7-40

*1: if the light-receiving segment of PS25 receives light, '1'.

*2: if the state of counter 1 is '1' as many as 4 times during a single cycle (5 lighting operations), '1'.

MEMO:

If color toner is absent, the user message "Add Toner" is indicated and the printing is stopped.

7.7.6 Construction of the Black Developing Assembly

The black developing assembly is stored outside the developing rotary, and is held opposite the photosensitive drum at all times. The toner supplied to the black developing assembly is fed from the hopper assembly. The following shows the construction and the functions of the black developing assembly:
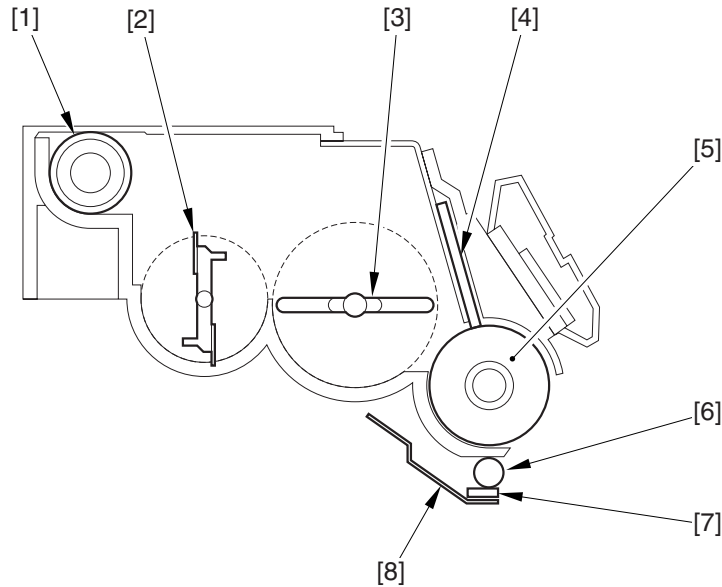
F-7-41

T-7-17

Item	Description
[1] Toner feedscrew	moves toner supplied by the hopper assembly to the inside of the developing unit.
[2] Toner stirring plate 1	supplies toner to the developing cylinder.
[3] Toner stirring plate 2	supplies toner to the developing cylinder.
[4] Blade	forms an even layer of toner on the developing cylinder.
[5] Developing cylinder	retains toner
[6] Toner colleting roller	attracts stray toner.
[7] Scraper	scrapes off stray toner from the toner collecting roller.
[8] Stray toner case.	collects stray toner in the toner case.

7.7.7 Controlling the Black Developing Assembly Drive Mechanism

The black developing assembly consists of 5 components in terms of drive loads, which are driven when the development motor (M3) and the black developing clutch (CL3) go on.
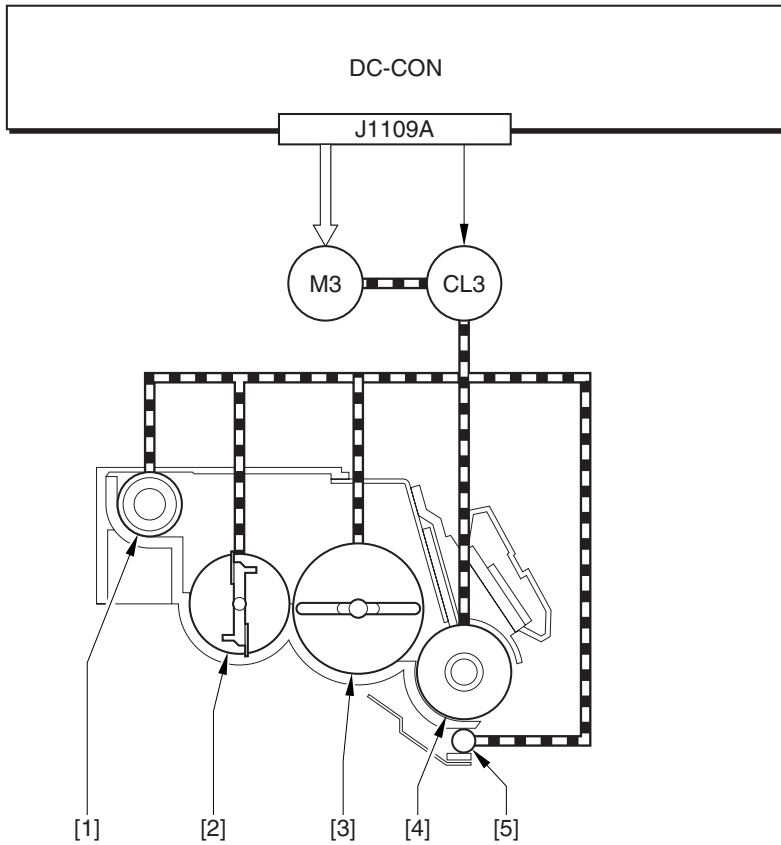
F-7-42
[1] Toner feedscrew
[2] Toner stirring plate 1
[3] Toner stirring plate 2
[4] Developing cylinder
[5] Toner colleting roller

M3: development motor
CL3: black developing clutch
DC-CON: DC controller

7.7.8 Black Toner Supply

Black toner is supplied to the black toner developing assembly from the black toner cartridge by way of the hopper assembly, which plays the major role in the supply path.

As many as 2 motors are associated with the hopper assembly: black toner supply motor (M25) and hopper stirring motor (M23), serving to adjust the amount of toner sent to the black developing assembly.

The DC controller monitors the output of the black toner level sensor (TS1) and the toner level sensor (TS2) found inside the hopper, determining the amount of toner to supply to the hopper assembly or to the black toner developing assembly. When the toner starts to run out, the DC controller drives M25 or M23 to make up for the shortage; if the level of toner is high, it keeps M23 and M25 still.
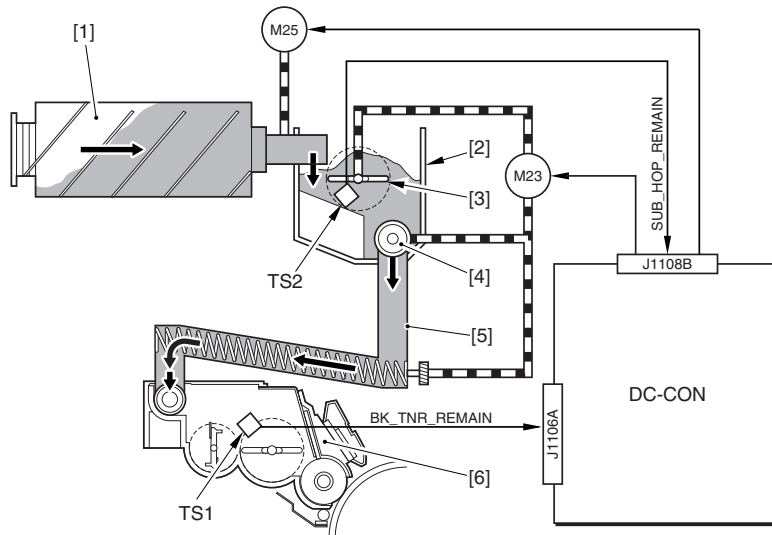
F-7-43

[1] Black toner bottle	M23: hopper stirring motor
[2] Hopper assembly	M25: black toner supply motor
[3] Toner stirring plate	TS1: black toner level sensor
[4] Toner feedscrew	TS22: hopper inside toner level sensor
[5] Toner feed pipe	DC-CON: DC controller
[6] Black developing assembly	

The machine uses the following sequence of operation to make up for any shortage of toner.
- If Toner Inside the Hopper Assembly
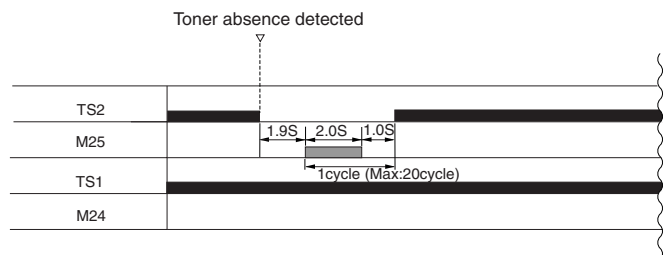
F-7-44
- If Toner Runs Out in the Black Developing Assembly
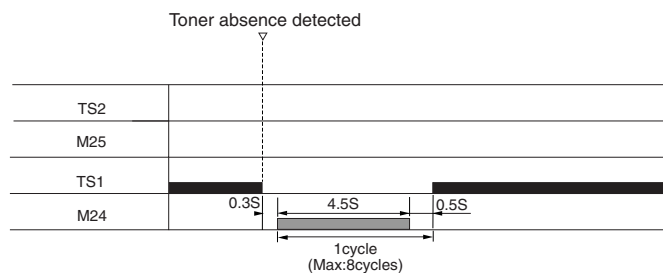
F-7-45

Error Code:
E020-00FF (hopper stirring motor error)
indicates that ITS1=0 continues when the hopper stirring motor has been driven for 8 cycles (ON for 4.5 sec, OFF for 0.5 sec x 8 times) after the presence of toner inside the hopper (TS2=1) and the absence of toner (TS1=0) inside the black toner assembly have been detected.

MEMO:
The following user messages are used in relation to black toner supply:
- Toner Running Short
  condition: TS2=0 exists 1 min after the black toner supply motor (M25) is started (no toner inside the hopper assembly).
  state of printer: ready to print
- Add Toner
  condition: TS1 and TS2=0 exists 20 sec after the hopper stirring motor (M23) is driven. (no toner inside the black developing assembly).
  state of printer: at rest

7.7.9 Controlling the Black Developing Bias

The black developing bias is used to enable depositing of black toner over the latent static image on the surface of the photosensitive drum, and there are 2 types of black developing biases: black developing DC bias and black developing AC bias. These biases are generated by the high-voltage PCB 2 in response to a command from the DC controller for application to the black developing cylinder.
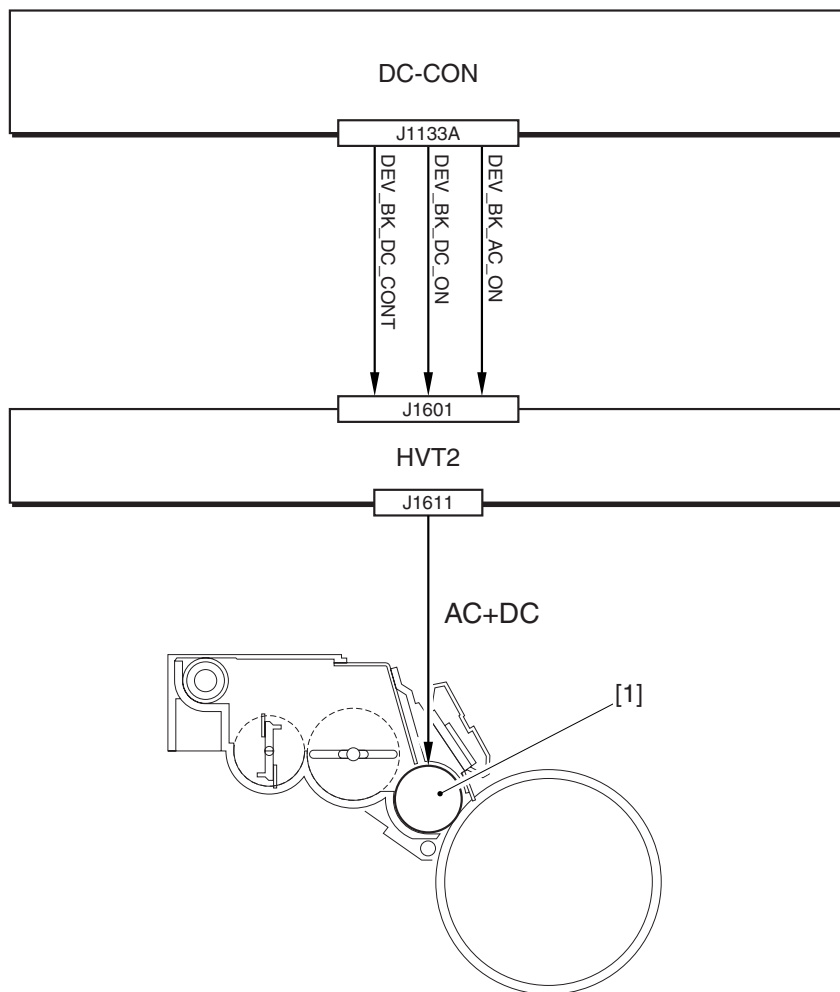
F-7-46
[1] Black developing cylinder

DC-CON: DC controller
HVT2: high-voltage PCB 2

7.8 Transfer Device

7.8.1 Overview of the Transfer Assembly

The transfer assembly is divided into the primary transfer assembly and the secondary transfer assembly. The primary transfer assembly serves to transfer the toner image of the photosensitive drum to the ITB, while the secondary transfer assembly moves the image transferred to it onto paper.
The major components of the transfer assembly include the following: ITB cleaning screw, ITB cleaning blade, ITB drive roller, ITB, primary transfer static eliminator, primary transfer roller, tension roller, ITB inside cleaner end scraper, secondary transfer outside roller.
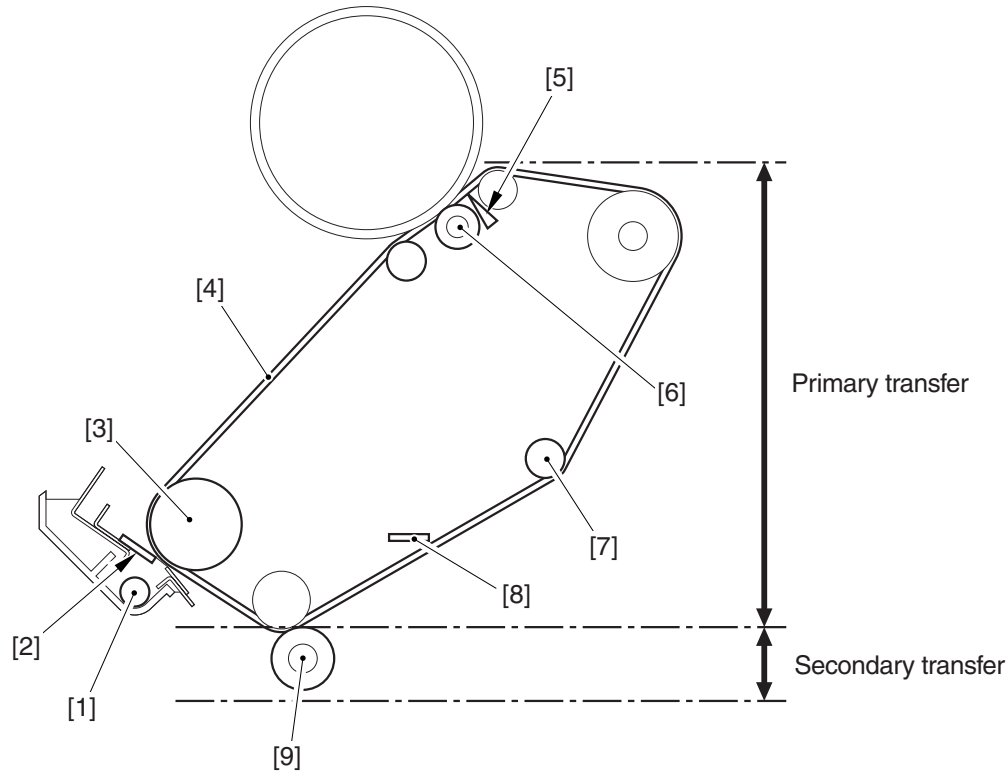
F-7-47
[1] ITB cleaning screw
[2] ITB cleaning blade
[3] ITB drive roller
[4] ITB
[5] Primary transfer static eliminator
[6] Primary transfer roller
[7] Tension roller
[8] ITB inside cleaner end scraper
[9] Secondary transfer outside roller

7.8.2 Controlling the Transfer Bias

The transfer bias may be the primary transfer bias used in the primary transfer assembly or the secondary transfer bias used in the secondary transfer assembly.

There are 3 types of primary transfer biases (primary transfer DC bias, primary transfer DC reverse bias, primary transfer static eliminator bias), while there are 2 types of secondary transfer biases (secondary DC bias, secondary transfer DC reverse bias). These biases are generated by the high-voltage PCBs 2 and 3 according to the instructions of the DC controller, and are applied to their respective loads (primary transfer roller, primary transfer static eliminator, secondary transfer outside roller).
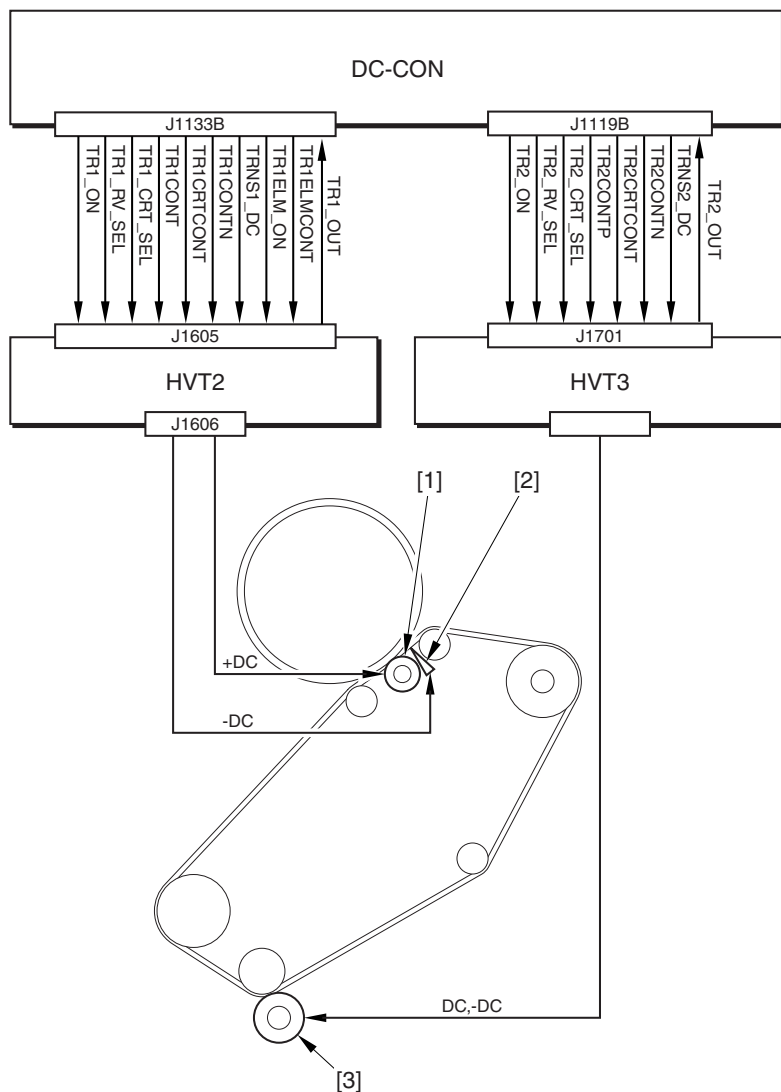
F-7-48
[1] Primary transfer roller
[2] Primary transfer static eliminator
[3] Secondary transfer outside roller

HVT2: high-voltage PCB 2
HVT3: high-voltage PCB 3

DC-CON: DC controller

What follows below is an additional explanation of the individual biases used in the transfer assemblies:
- Primary Transfer Bias (application bias: DC)
  The primary transfer bias is used to transfer the toner image on the photosensitive drum to the ITB, and is applied to the primary transfer roller.
- Primary Transfer Reverse Bias (application bias: -DC)
  This bias is used to clean (remove) the patch pattern formed on the ITB for image stabilization control (Dmax, Dhalf, ATR).

In the course of image stabilization control, this bias is applied so that the patch pattern (toner) is retuned from the ITB to the photosensitive drum for collection by the photosensitive drum cleaner.

- Primary Transfer Static Eliminator Bias (application bias: -DC)

The primary transfer static eliminator is arranged to the side of the primary transfer roller, serving to prevent the toner image from flying astray as the result of discharge between the ITB and the primary transfer downstream roller.

- Secondary Transfer Bias (application bias: DC, -DC)

The secondary transfer bias is used to transfer the toner image from the ITB to paper. There are 2 types of secondary transfer biases, and they are applied to the secondary transfer outside roller.

At time of printing, a DC bias is applied to the secondary transfer outside roller. The DC reverse bias is used to remove the residual toner from the secondary transfer roller; its application will cause the residual toner on the secondary transfer roller to be attracted to the ITB for collection to the waste toner bottle by the work of the ITB cleaner.

7.8.3 Overview of the Primary Transfer Assembly

The primary transfer assembly is driven by 2 motors, mainly serving to rotate major rollers and relocate the rollers.

The drum/ITB motor (M2) is used to rotate the ITB drive roller and the ITB cleaning screw; the ITB cleaner shift motor (M21), on the other hand, is used to move the ITB cleaner to and from the ITB belt.

The rollers are moved when the DC controller operates the 2 motors; the DC controller, also checks the home position of the ITB cleaner for use when it moves the ITB cleaner to and from the ITB.
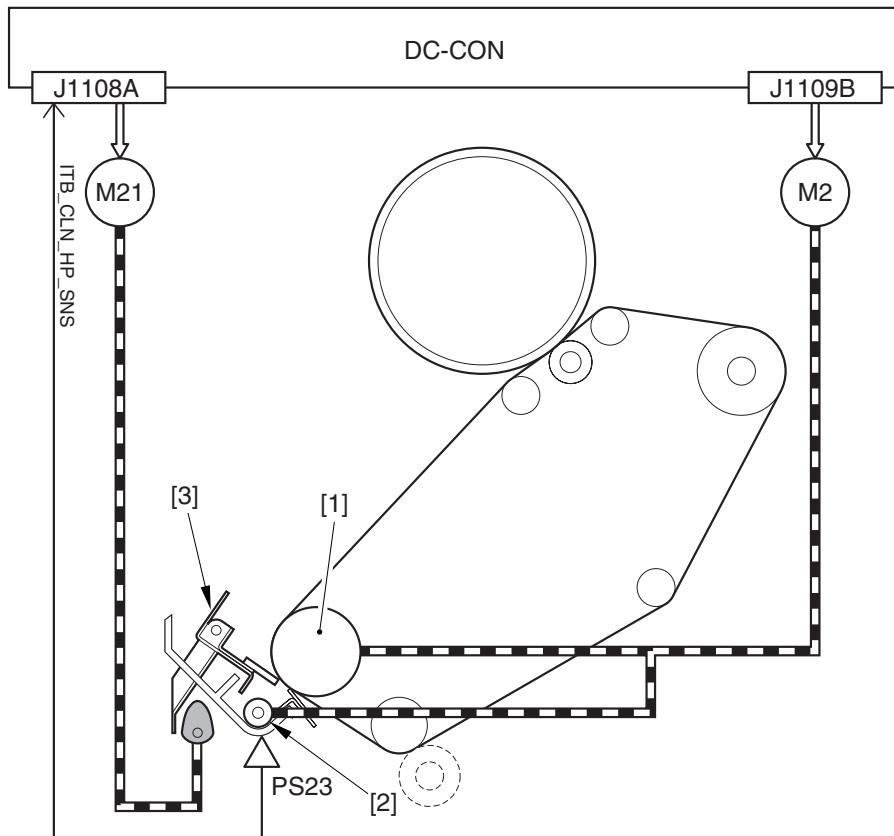
F-7-49
[1] ITB drive roller
[2] ITB cleaning screw
[3] ITB cleaner

PS23: ITB cleaning home position sensor
M2: drum/ITB motor
M21: ITB cleaner shift motor
DC-CON: DC controller

7.8.4 Controlling the ITB Cleaner Shifting Mechanism

The machine moves the ITB cleaner to and from the ITB for removal of toner remaining on the ITB. To bring the cleaner into contact with the belt, the DC controller drives the ITB cleaner shift motor (M21) at the following timing of operation:

- immediately after the start of secondary transfer, the DC controller generates the ITB cleaner shift motor drive signal so that M21 rotates clockwise for about 0.8 sec.
- the shift cam rotates clockwise, raising the shift arm (thereby locking the ITB cleaner in place against the ITB).
- when cleaning of the ITB is done, the DC controller generates the ITB center shift motor drive signal so that M21 rotates clockwise for about 0.8 sec.
- the shift cam rotates clockwise so that the shift arm lowers (thereby causing the ITB cleaner to move away from the ITB).
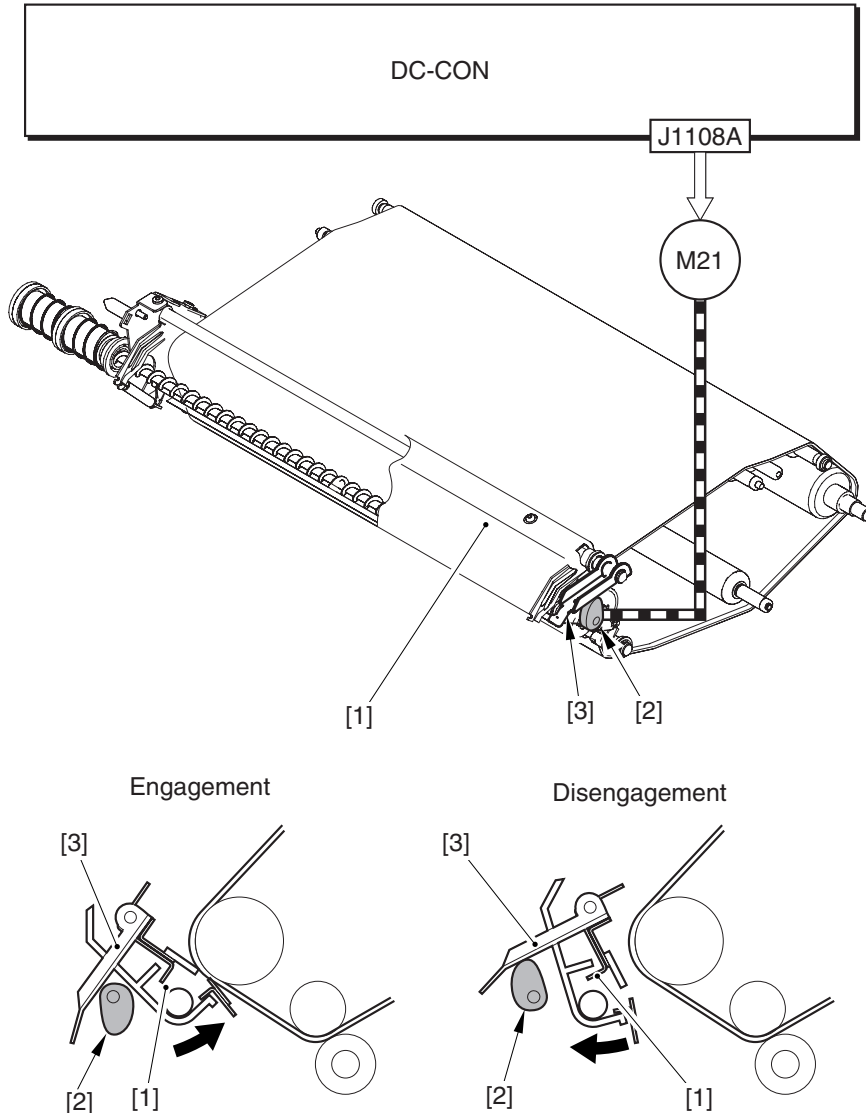
F-7-50
[1] ITB cleaner
[2] Shift cam
[3] Shift arm

M21: ITB cleaner shift motor
DC-CON: DC controller

7.8.5 Checking the ITB Cleaner Position

The machine runs a home position search to locate the ITB cleaner. The DC controller checks the location with reference to the output of the ITB cleaner home position sensor (PS23).
When the power is turned on or the front cover is opened/closed, the DC controller checks to find out if the home position flag attached to the drive shaft of the ITB cleaner shift motor (M21) blocks M23.
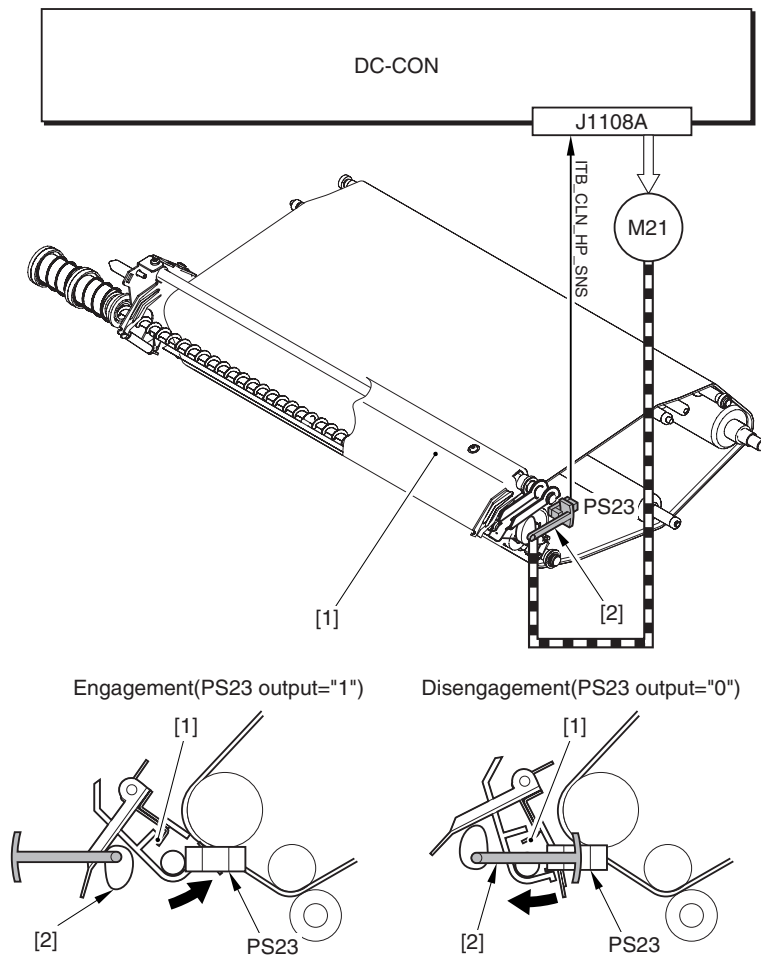
F-7-51
[1] ITB cleaner
[2] ITB cleaner home position flag

PS23: ITB cleaner home position sensor
M21: ITB cleaner shift motor
DC-CON: DC controller

Error Code:
E078-0001 (ITB cleaner shift motor error)
indicates that the ITB cleaner remains locked in position (PS23=1) 5 sec after the ITB cleaner shift motor (M21) is started.

7.8.6 Overview of the Secondary Transfer Assembly

The secondary transfer outside roller shift motor (M20) drives the secondary transfer outside roller to move it into contact with or away from the ITB inside the secondary transfer assembly. The DC controller controls the operation of M26 for the movement; it also runs a check on the secondary transfer outside roller for its location (i.e., to see if it is in contact with the belt).
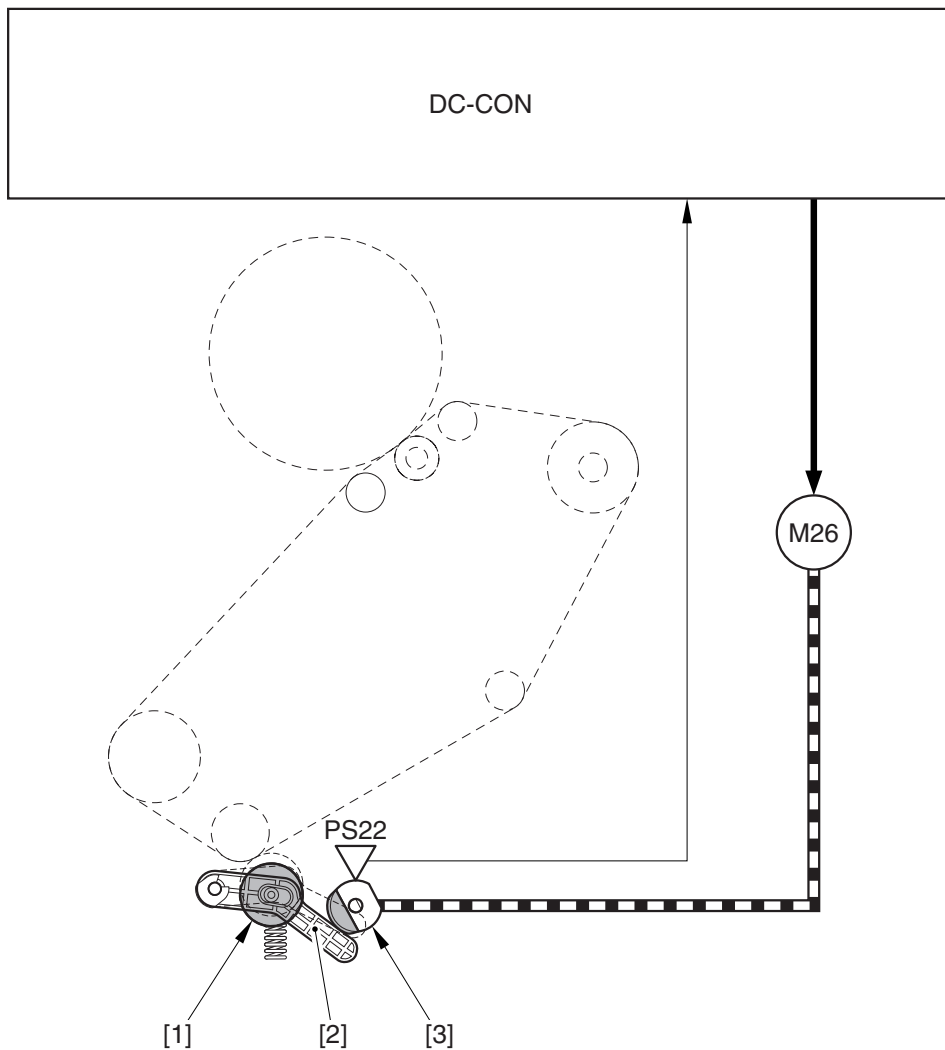
F-7-52
[1] Secondary transfer outside roller
[2] Shift arm
[3] Shift cam

PS22: secondary transfer outside roller home position sensor
M20: secondary transfer outside roller shift motor
DC-CON: DC controller

7.8.7 Controlling the Movement of the Secondary Transfer Roller

The machine moves the secondary transfer outside roller into contact with or away from the ITB for transfer of toner images from the ITB to paper. The DC controller drives the secondary transfer outside roller shift motor (M20) to move the roller at the following timing of operation:

- after primary transfer, the DC controller generates the secondary transfer roller shift motor drive signal so that M20 rotates clockwise for about 0.8 sec.
- the shift cam rotates clockwise to press down the shift arm (thereby locking the secondary transfer outside roller in place against the ITB).
- after secondary transfer, the DC controller generates the secondary transfer outside roller shift motor drive signal so that M20 rotates clockwise for about 0.8 sec.
- the shift cam rotates clockwise so that the contact arm is pressed up and the secondary transfer outside roller is moved away from the ITB.
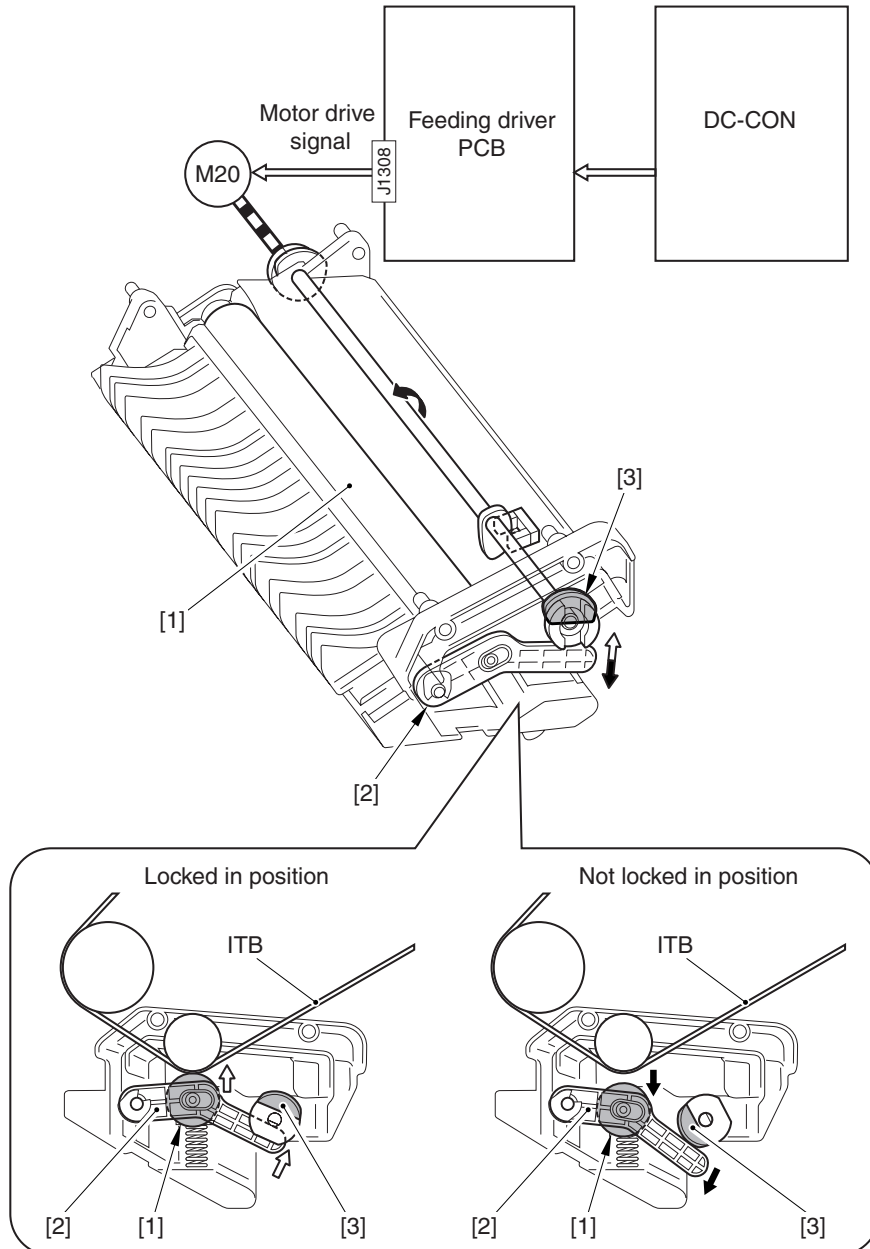
F-7-53
[1] Secondary transfer outside roller
[2] Shift arm
[3] Shift cam

M20: secondary transfer outside roller shift motor
DC-CON: DC controller

7.8.8 Checking the Location of the Secondary Transfer Roller

The machine runs a home position search to check the location of the secondary transfer outside roller, i.e., the DC controller checks on the output of the secondary transfer outside roller home position sensor (PS22).

When the power is turned on or the front cover is opened/closed, the DC controller checks the location of the secondary transfer outside roller with reference to whether the home position flag attached to the drive shaft of M20 is blocking PS22.
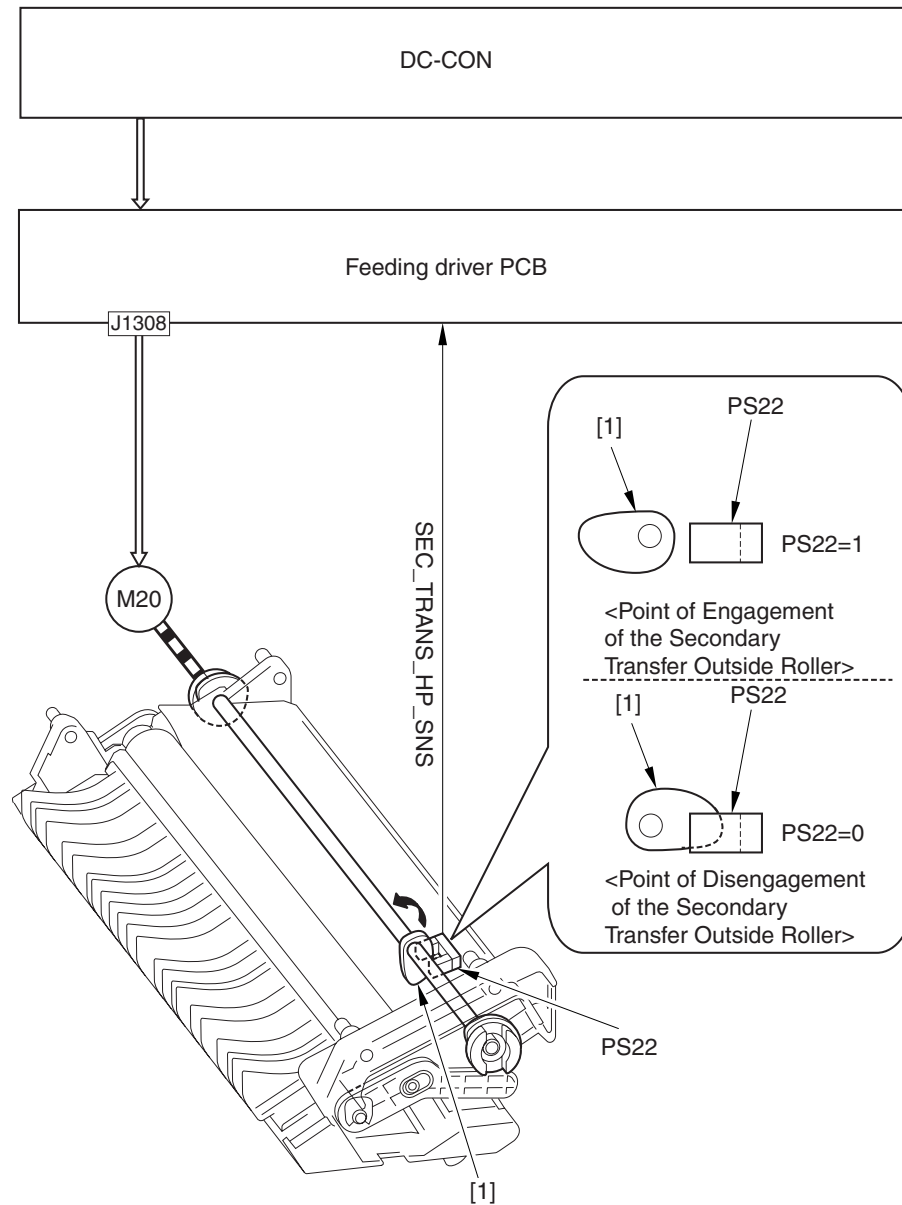
F-7-54
[1] Secondary transfer outside roller home position flag
PS22: secondary transfer outside roller home position sensor
M20: secondary transfer outside roller shift motor
DC-CON: DC controller

Error Code:
E077-0001 (secondary transfer outside roller shift motor error)
indicates that the secondary transfer roller remains locked in place (PS22=1) 5 sec after the secondary transfer outside roller motor (M20) is started.

7.8.9 Detecting the ITB Home Position

The machine is programmed to check the ITB home position to make sure that the image write start position is correct. It uses the ITB home position sensor (PS1, PS30) to check the home position detection surfaces (2 reflecting surfaces) found at the edge of the ITB using the following sequence of operation:

1) when a print command arrives, the DC controller rotates the ITB; upon detection of a reflecting surface, PS1 and PS30 send their respective home position detection signal to the DC controller (1_TOP_SNS_A, 1_TOP_SNS_B).

2) in response, the DC controller assumes that the detection signal that first arrives represents the home position (1_TOP1A; see MEMO); then, it increases its count each time the next reflecting surface is detected (I_TOP2A, I_TOP3A, I_TOP4A, and so on).

3) in the case of full color printing, the DC controller generates the sub scanning sync signal (PVREQ) as many as 4 times based on these signals, and sends them to the main controller. Thereafter, the DC controller receives video data of individual colors 4 times to form images of individual colors at specific points of the ITB.
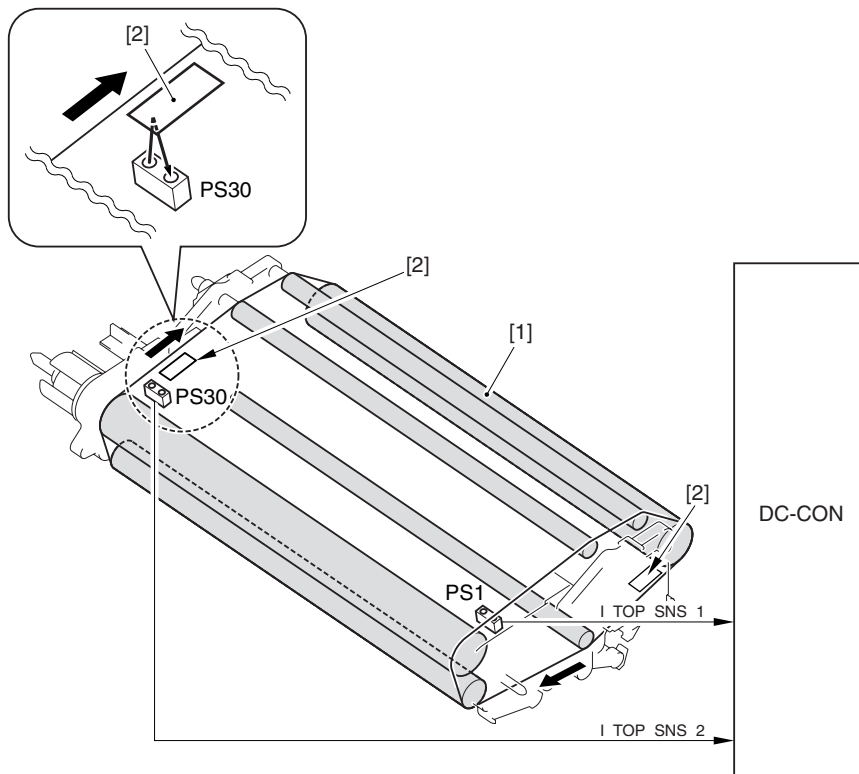
F-7-55
[1] ITB
[2] Reflecting surface

PS1: ITB home position sensor A
PS30: ITB home position sensor B
DC-CON: DC controller

MEMO:
The side A home position detection signal (I_TOP1A) is the signal used when forming an image for a single page at a time.
The side B home position detection signal (I_TOP1B) is the signal used when forming images for 2 sides at a time.
The DC controller uses the output of the sensor (PS1 or PS30) that detects the reflecting surface of the ITB first as indicating the home position for side A. It then assumes the point reached a specific period of time after side A home position to be side B home position.

The machine uses the following sequence of operation to form images in different printing modes:

1. Full Color, 1 Print

The machine generates the PVREQ (request) signal for individual colors with reference to the ITB home position detection signal (I_TOP1A) of side A, used for the formation of an image.
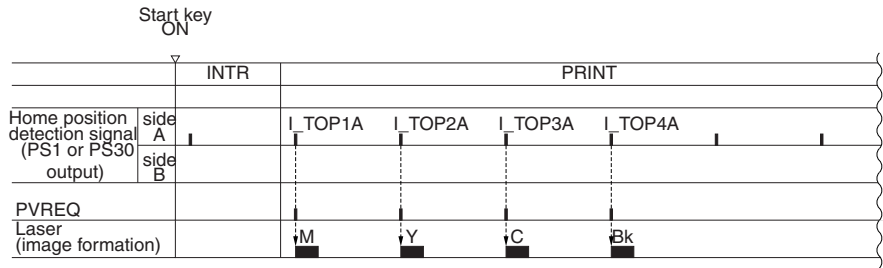
F-7-56

2. Full Color, 2 Prints, Continuous (2-page placement; see Note)

The machine generates the PVREQ (request) signal for individual colors based on the ITB home position detection signal (I_TOP1B) of side B and the home position detection signal (I_TOP1A) of side A, used for the formation of an image.

For the 1st side, the image is formed in sequence with reference to I_TOP1A; for the 2nd side, on the other hand, the images are made in sequence based on I_TOP1B.
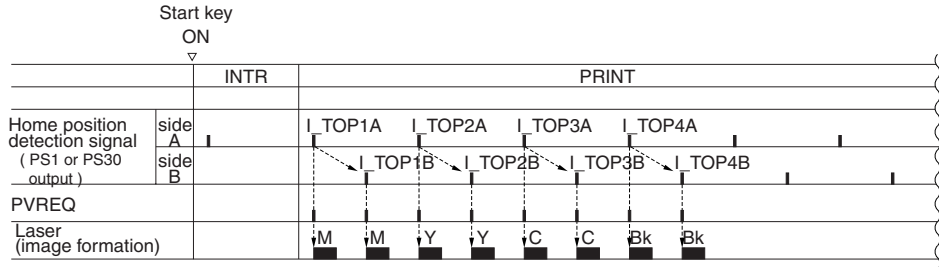
F-7-57

⚠

The term "2-paper placement" refers to printing in which images for 2 pages are formed on the ITB at the same time. It may be used for up to LTR size (sub scanning direction), limited by the interval between 2 home position detection signals.

3. Mono Color, Continuous

In mono color printing, a single color is used so that the point of image formation on the ITB may vary; the DC controller, therefore, does not run an ITB home position search as it would in the case of color printing.

The machine determines the home position based on the reading of the timer of the DC controller, and generates the PVREQ (requires) signal, used for the formation of an image.
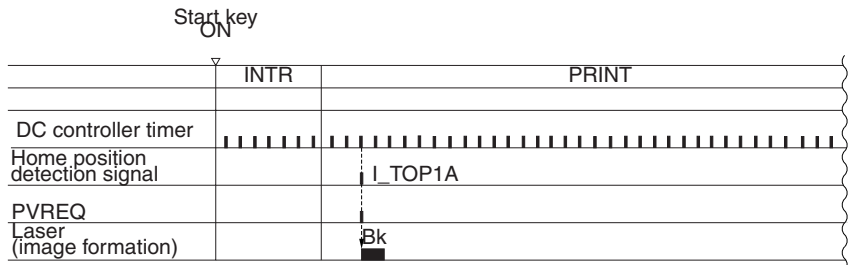
F-7-58

7.8.10 Separation

The machine uses the curvature separation method, in which the rigidity of paper is used for its separation form the ITB. To assist the separation, the machine uses the static eliminator to reduce the charge on the back of paper, thus weakening the static bonding between the paper and the ITB.
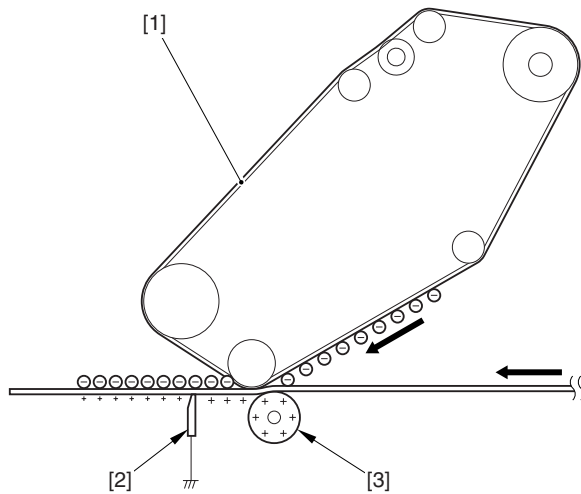
F-7-59
[1] ITB
[2] Separation static eliminator
[3] Secondary transfer outside roller

7.9 Photosensitive Drum Cleaning

7.9.1 Overview of the Drum Cleaning Unit

The drum cleaning unit is found next to the photosensitive drum inside the process unit, and it is equipped with the function of collecting residual toner from the photosensitive drum. The unit consists of 4 components, serving to clean the photosensitive drum in preparation for the next print cycle.
The residual toner collected by the unit is moved forward by the waste toner feedscrew for collection in the waste toner case fitted to the back of the machine.
The following shows the arrangement of the major components:
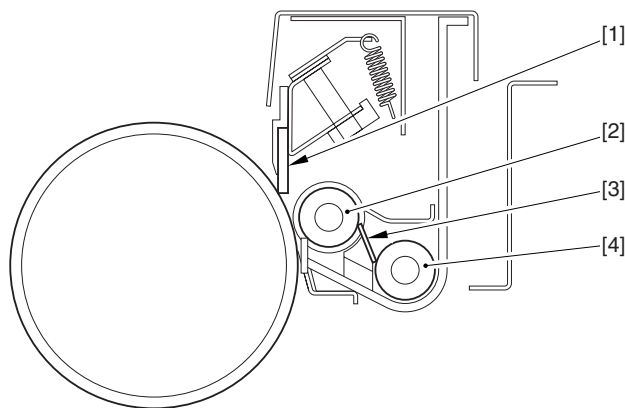
F-7-60
[1] Cleaning blade
[2] Magnet roller
[3] Waste toner layer guide blade
[4] Waste toner feedscrew

7.9.2 Controlling the Drum Cleaning Unit Drive Mechanism

The drum cleaning unit possesses 2 drive loads; they are controlled by the DC controller, and turned on when the ITB/drum motor (M2) turns on.
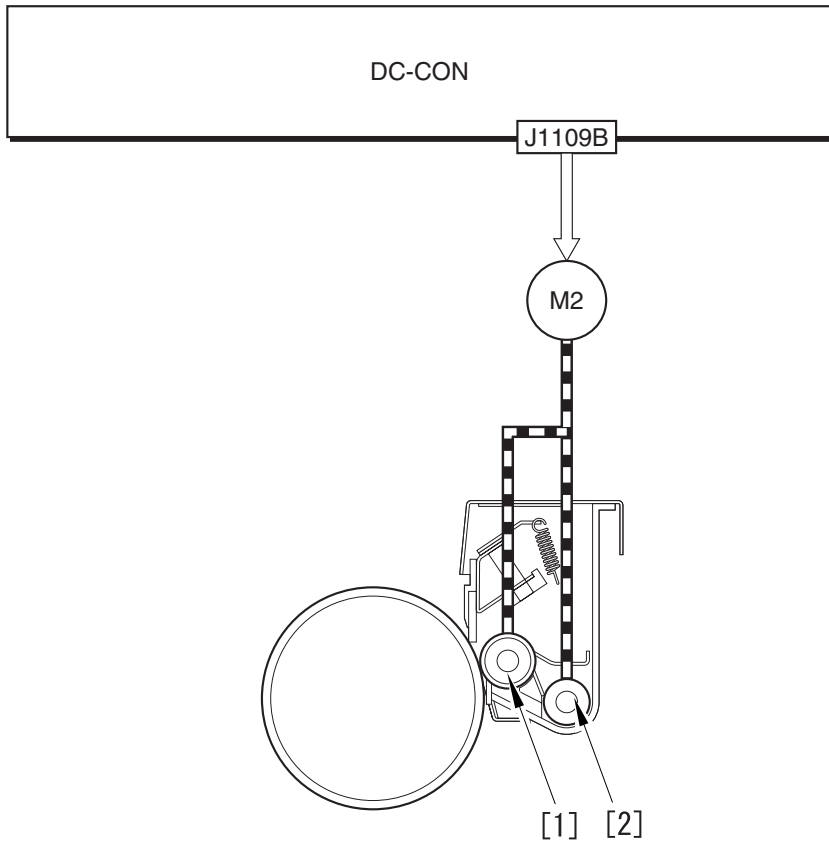
F-7-61
[1] Magnet roller
[2] Waste toner feedscrew

M2: ITB/drum motor
DC-CON: DC controller

7.10 Waste Toner Collection Mechanism

7.10.1 Collection of Waste Toner

The machine uses its waste toner bottle to collect waste toner from 3 imaging units (i.e., drum cleaning unit, color toner developing assembly, ITB cleaning unit). The mechanism of collection involves the DC controller, which drives the development motor (M3) to turn the screw inside the waste toner pipe.
The waste toner pipe is connected to the toner discharge outlet so that the rotation of M3 automatically moves the waste toner through the waste toner pipe to the waste toner bottle.

< Rear view>
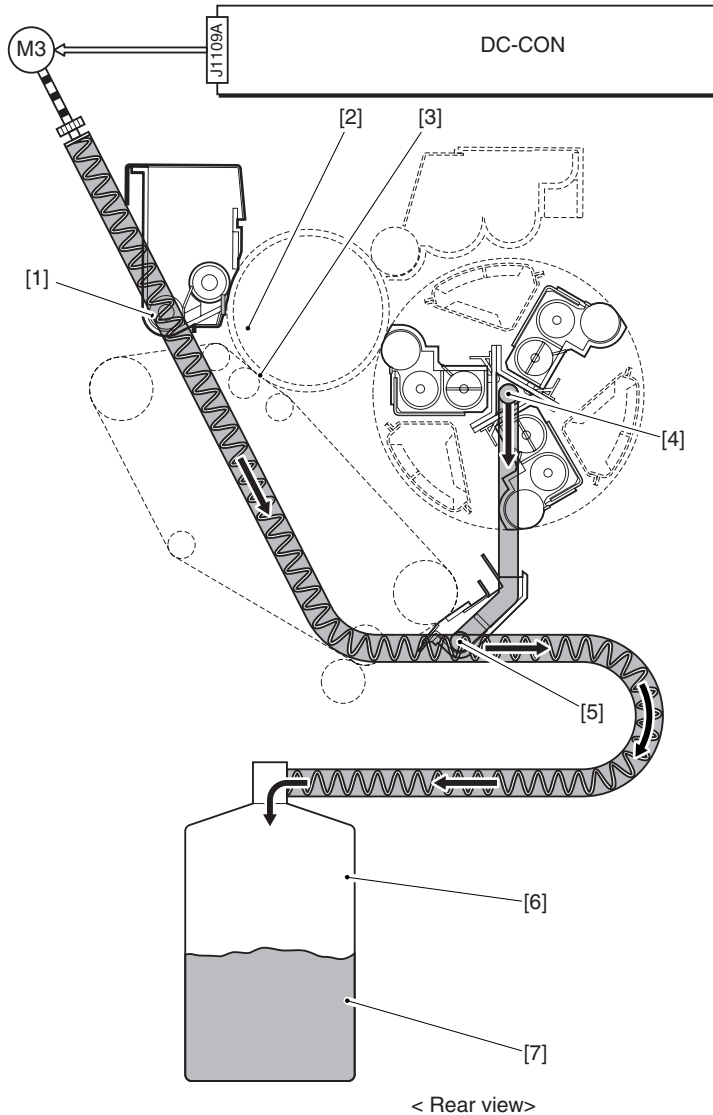
F-7-62
[1] Drum cleaning unit discharge opening
[2] Waste toner tube
[3] Waste toner feedscrew
[4] Color developing unit discharge opening
[5] ITB cleaning unit discharge opening
[6] Waste toner bottle
[7] Waste toner
[8] Waste toner feedscrew gear
M3: developing motor
SW1: waste toner lock detecting switch
DC-CON: DC controller

7.10.2 Detecting the State of the Waste Toner Bottle (full)

The machine checks the state of the waste toner bottle to see if it is full and thus to prevent overflowing of waste toner. The waste toner bottle collects waste toner from 3 image formation units (drum cleaning unit, color toner developing assembly, and ITB cleaning unit).

The amount of waste toner is computed with reference to the soft counter reading kept by the DC controller, and the soft counter reading is based on computations of the following data:

- paper size
- color mode (full or mono)
- image ratio

The DC controller monitors the soft counter at all times, and executes the following operation when the reading exceeds the following:

T-7-18

Counter reading	Detection	Printer operation
210000 or higher	waste toner full caution	continues to operate (indicating a user message)*1.
250000 or higher	waste toner full	stops (indicting a service error)*2

*1: the message will read "Waste Toner Bottle Full" on the control panel.
*2: for details, see MEMO.

< Rear view >
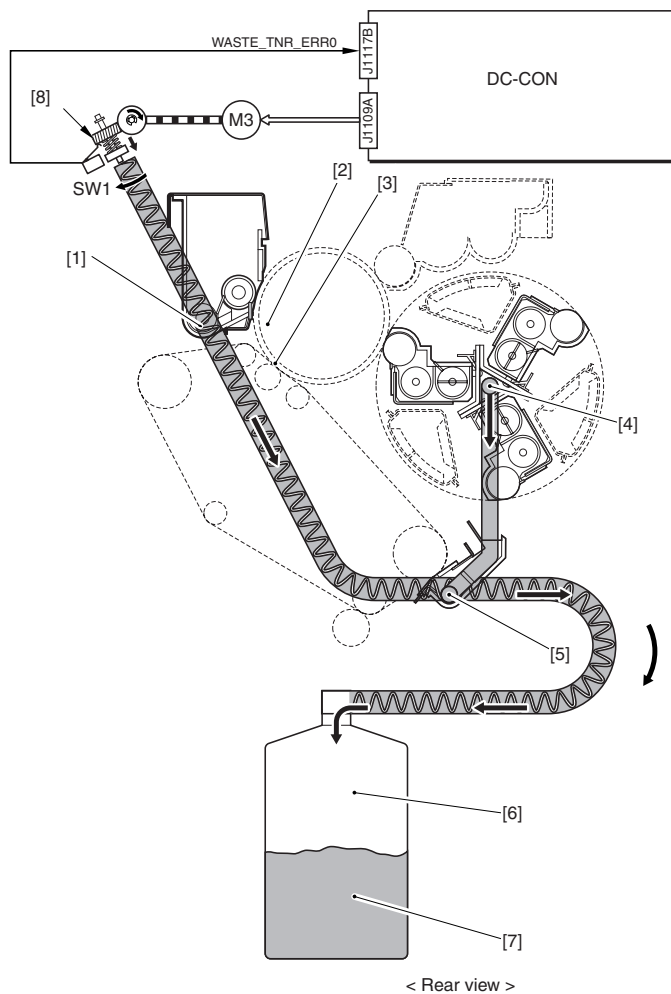
F-7-63

[1] Drum cleaning unit discharge opening   [7] Waste toner

[2] Waste toner tube   [8] Waste toner feedscrew gear

[3] Waste toner feedscrew   M3: developing motor

[4] Color developing unit discharge opening   SW1: waste toner lock detecting switch

[5] ITB cleaning unit discharge opening   DC-CON: DC controller

[6] Waste toner bottle

Error Code:
E013-0001 (waste toner full error)
indicates that the soft counter reading is 250000 or higher.

E013-0002 (waste toner feedscrew error)
indicates that the output of the waste toner lock detecting switch (SW1) is "1" for 1 sec or more. (If the waste toner feedscrew fails to rotate when the developing motor (M3) is driven, the waste toner feedscrew is pressed in the direction of the arrow, thus turning on SW1.)

⚠️
(1) The reading of the waste toner may be checked or reset using the following service mode item:
COPIER>COUNTER>MISC>WASTE-TNR
(2) The timing of messages (waste toner full pre-warning, waste toner full warning) may be changed using the following serve mode item:
(a) to change the timing of indicating the waste toner full pre-warning, COPIER>ADJUST>MISC>WT-FL-LM (at time of shipment, set to 210000).
(b) to change the timing of indicating the waste toner full error, COPIER>ADJUST>MISC>WT-ER-LV (at time of shipment, set to 40000).

7.11 Parts Replacement Procedure

7.11.1 Process Unit

7.11.1.1 Preparation for Removing the Process Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
2-1) Open the front cover.
2-2) While pulling on the grip [1], fully open the manual feed cover [2] to the front.
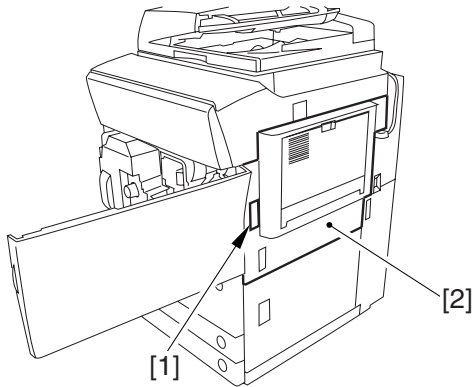
F-7-64

⚠️

If a side paper deck exists, remove the 2 screws [1] and the latch plate (front)[2].
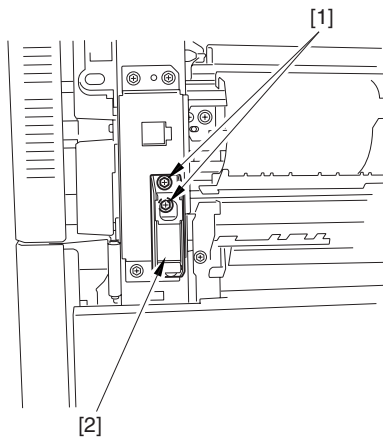
F-7-65

2-3) Slide out the fixing/feeding assembly.
2-4) Remove the process unit cover [2].
   - 2 screws [1]
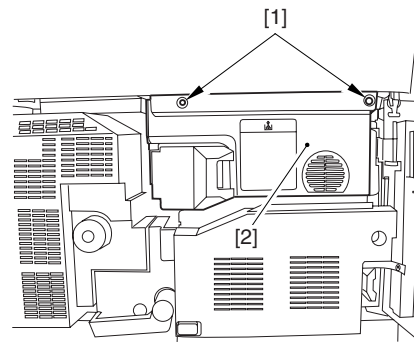
F-7-66

2-5) Push in the fixing/feeding assembly, and set the lever in place.
2-6) Press the release button [1] of the right deck, and slide out the right deck [2].
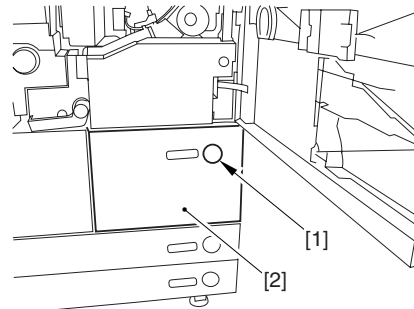
F-7-67

2-7) Remove the front cover strap [2].
   - screw [1] from lower right
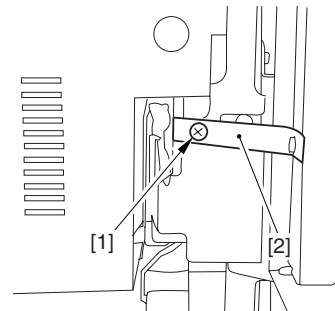
F-7-68

2-8) Fully open the front cover [2].
   - 2 screws [1] (binding) of the front cover hinge
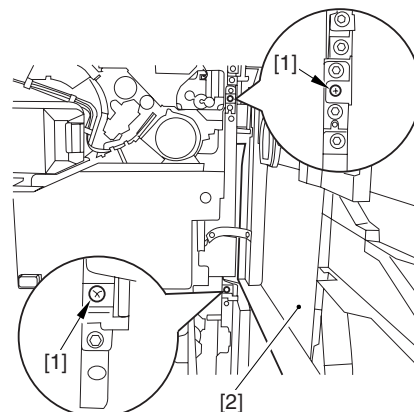
F-7-69

2-9) Close the right deck.

3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
5-1) Open the color toner supply mouth cover [1].
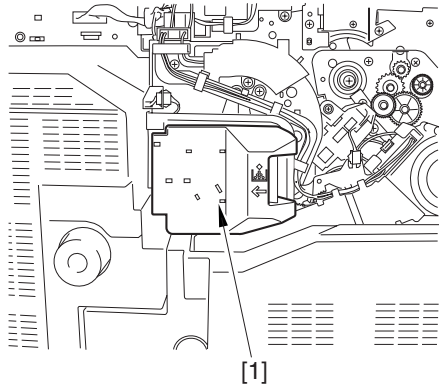
F-7-70

5-2) Remove the color toner supply cover [3].
- connector [1]
- screw [2]
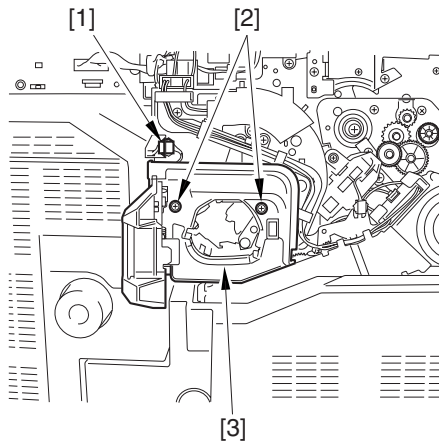
F-7-71

5-3) Slightly slide out the fixing/feeding assembly.
5-4) Remove the connector [1] to remove it from the wire guide[2].
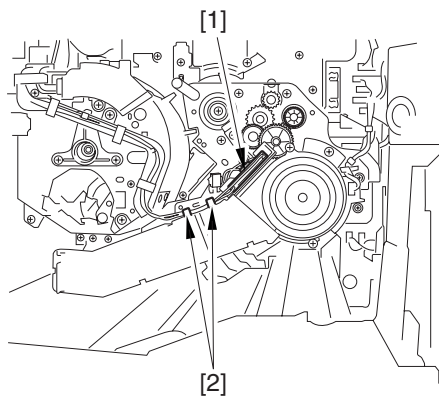
F-7-72

5-5) Shift down the locking plate [2].
- screw [1]
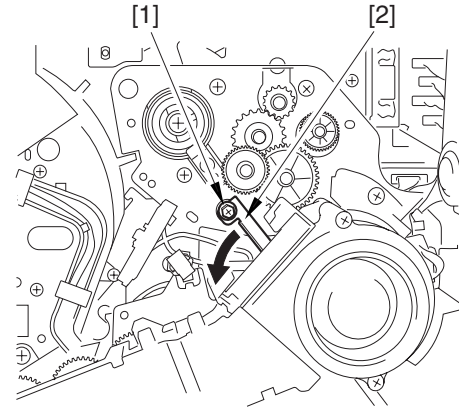
F-7-73

5-6) Remove the transfer cleaner driver assembly [3].
- connector [1]
- 5 screws [2]
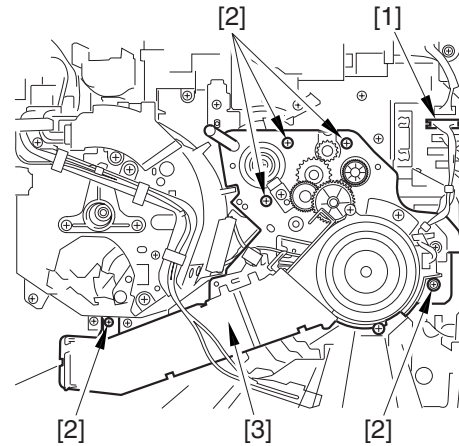
F-7-74

6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3

7.11.1.2 Removing the Process Unit

1) Remove the 2 connectors [1] found at the upper right.
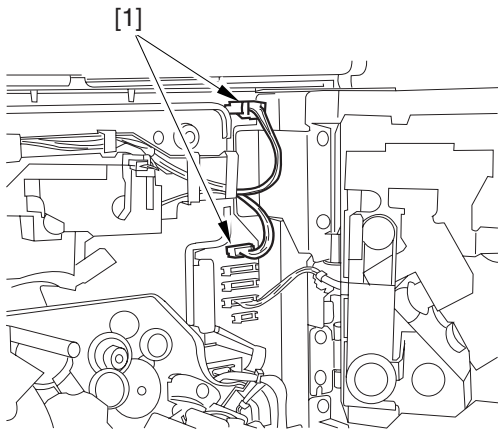
F-7-75

2) Remove the 5 connectors [1] found at the upper left.
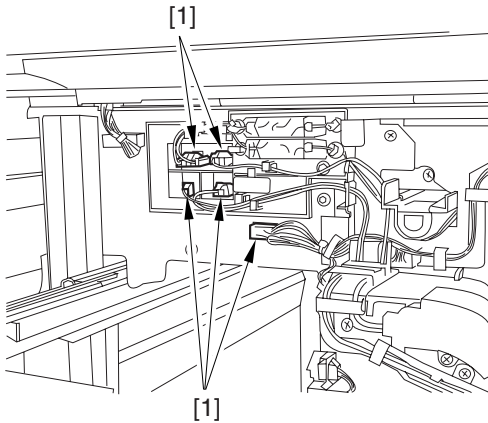
F-7-76

3) After removing the cable from the 2 wire saddles [2], fix the high-voltage connector cable [1] in place using the cable hook [3] to avoid trapping it during the work.
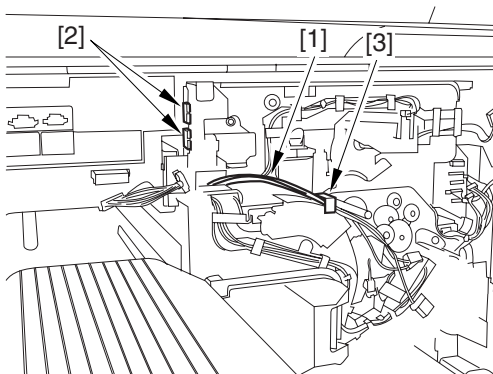
F-7-77

4) Remove the process unit cover [1] from the shipping box, and remove the drum stop tool [2] from its back.
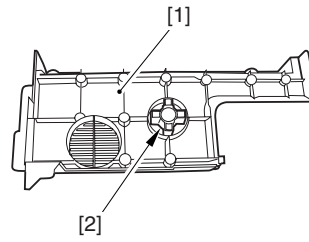
F-7-78

5) Hold the drum fixing member [1] in place using the drum stop tool [2]. Then, using a screwdriver, remove the drum fixing screw [3].

⚠

- As shown in the figure, be sure to remove the screw on the protrusion [4] of the drum stop only after matching it against the notch [5] in the drum flange.
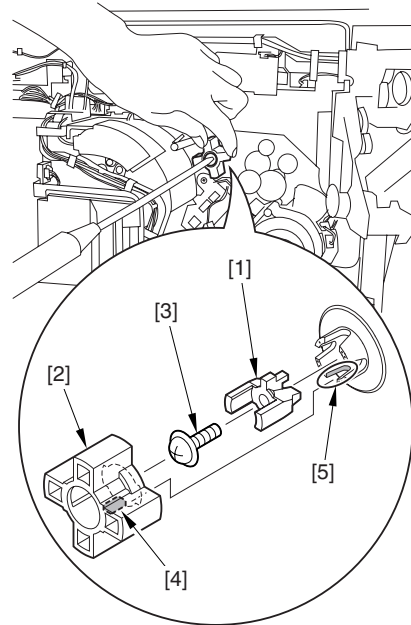
F-7-79

- When drawing out the process unit, check the position of the protrusion [1] of the drum fixing member in relation to the marking [2] on the drum flange.

  In the example in the figure, the marking [2] on the drum flange is at "." on the left and at ".." on the right in relation to the protrusion [2] of the drum fixing member.

  Moreover, when you close the process unit, it is important that the spatial relationship between the protrusion of the drum fixing member and the marking on the drum flange is as it was before you drew out the unit.

6) Using a pair of precision pliers, remove the drum fixing member [1].
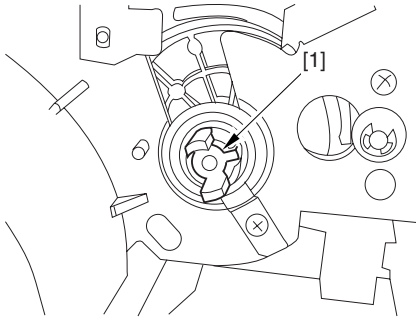
F-7-80

7) Remove the 2 binding screws [1].
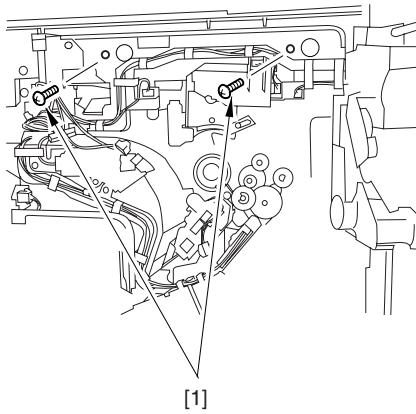
F-7-81

8) Shift down the fixing/feeding assembly releasing lever [1] in the direction of the arrow.
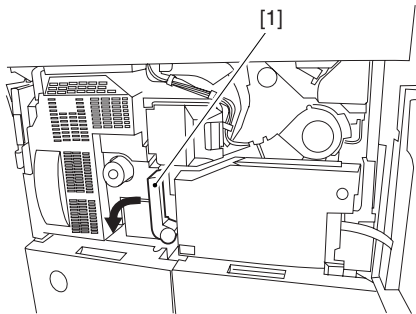
F-7-82

9) Slide out the fixing/feeding assembly [1] toward the front.
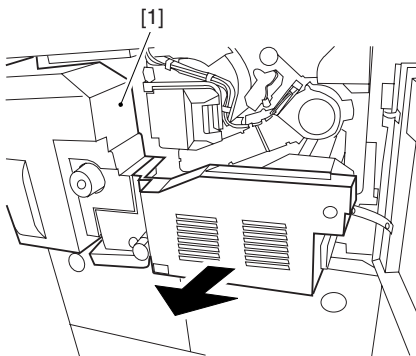
F-7-83

10) While pressing on the 2 drawer hooks [1] found on both sides of the fixing/feeding assembly, slide out the fixing/feeding assembly [2] fully.
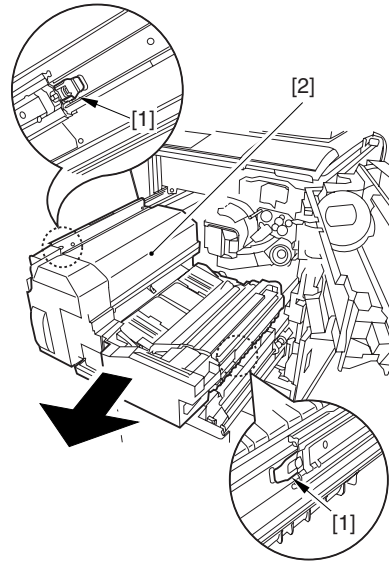
F-7-84

11) Lift both ends [1] of the process unit slightly, and fully pull out the process unit [2] toward the front.
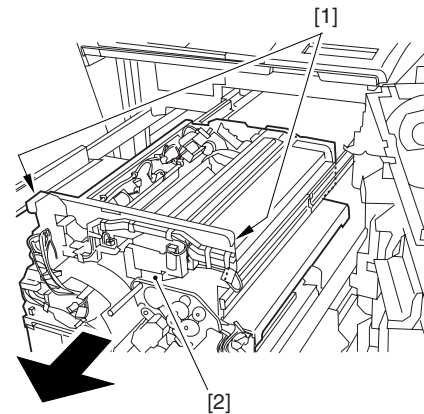
F-7-85

12) Lift the 2 locations [1] indicated in the diagram, and remove the process unit [2].
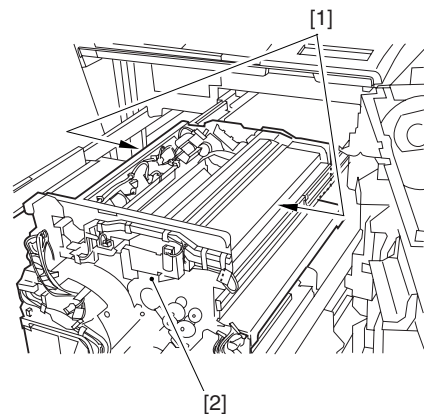
F-7-86

7.11.1.3 Points to Note When Attaching the Process Unit

⚠

When using the drum fixing screw, be sure always to use the drum stop tool. Otherwise, the photosensitive drum can rotate clockwise, causing the edge of the blade to bend over and, ultimately, leading to cleaning faults. Be sure also to hold the drum stop tool in place while removing the drum fixing screw.
The drum stop tool is attached to the back of the process unit cover.

7.11.2 Pre-exposure LED Array

7.11.2.1 Preparation for Removing the Pre-exposure LED Array

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Slide Out the Process Unit.
3-1) Remove the 5 connectors [1] found at the upper right.
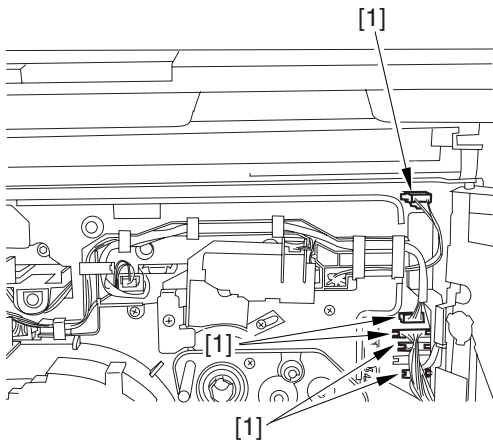
F-7-87

3-2) Remove the 5 connectors [1] found at the upper left.
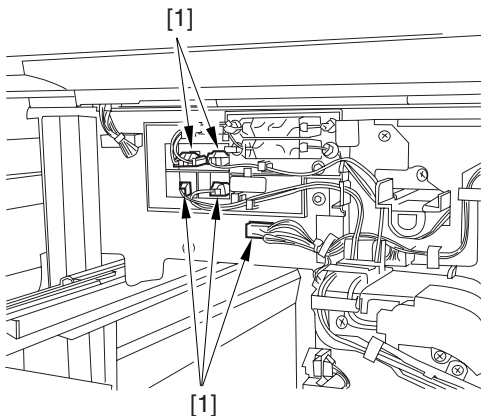
F-7-88

3-3) After removing the high-voltage connector cable [1] from the 2 wire saddles [2], fix the cable in place using the cable hook [3].
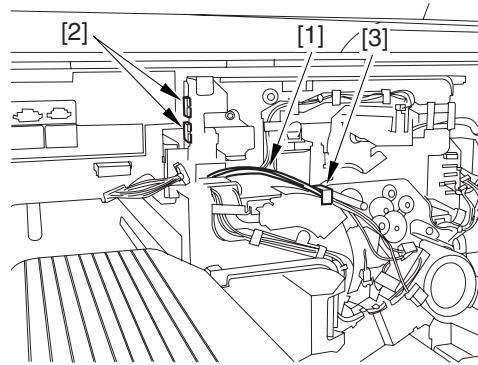
F-7-89

3-4) Remove the process unit cover [1] from the shipping box, and remove the drum stop tool [2] from the back of the cover.
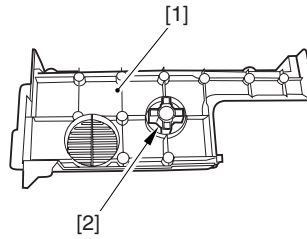
F-7-90

3-5) While forcing the drum stop tool [3] against the drum fixing member [2] of the drum shift [1], remove the fixing screw [4].

⚠

- Be sure to match the protrusion [5] of the drum fixing member and the protrusion [6] of the drum stop tool.
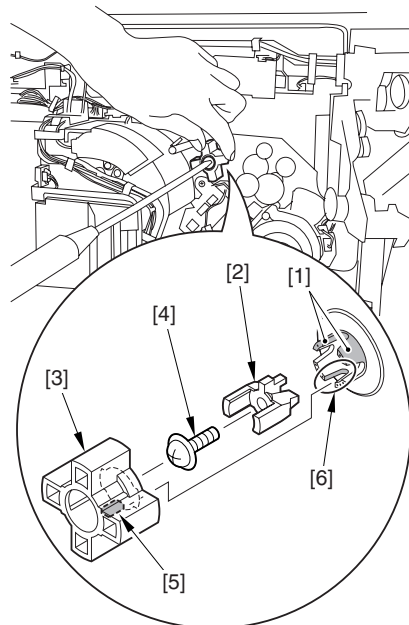
F-7-91

- When drawing out the process unit, check the position of the protrusion [1] of the drum fixing member in relation to the marking [2] on the drum flange.
  In the example in the figure, the marking [2] on the drum flange is at "." on the left and at ".." on the right in relation to the protrusion [2] of the drum fixing member.
  Moreover, when you close the process unit, it is important that the spatial relationship between the protrusion of the drum fixing member and the marking on the drum flange is as it was before you drew out the unit.
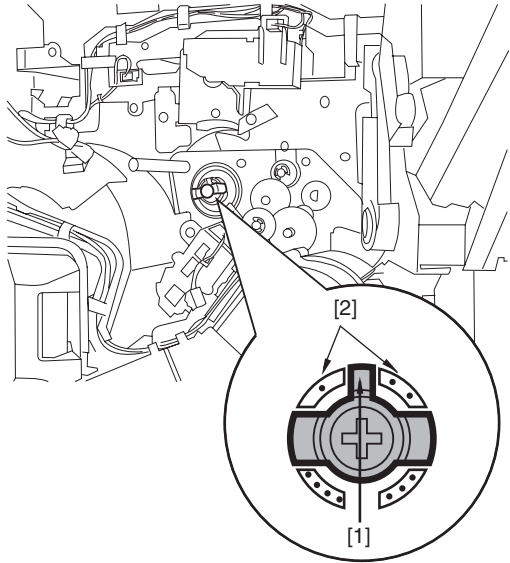
F-7-92

3-6) Using a pair of fine pliers, remove the drum fixing member [1].
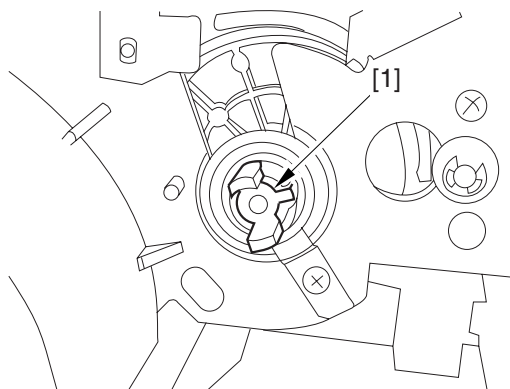
F-7-93

3-7) Remove the 3 binding screws (M4x8) [1].
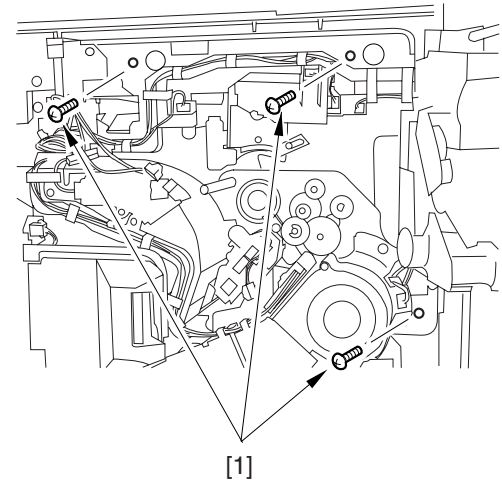
F-7-94

3-8) Shift down the fixing/feeding assembly releasing lever [1] in the direction of the arrow.
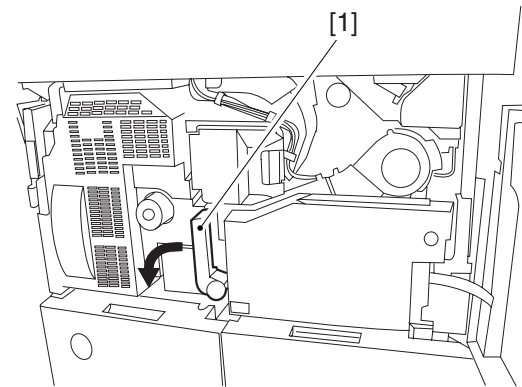
F-7-95

3-9) Slide out the fixing/feeding assembly [1] toward the front.
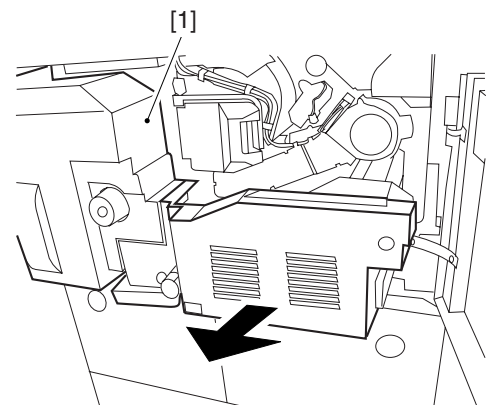
F-7-96

3-10) While pushing on the 2 hooks [1] found on both sides of the fixing/feeding assembly, fully slide out the fixing/feeding assembly [2].
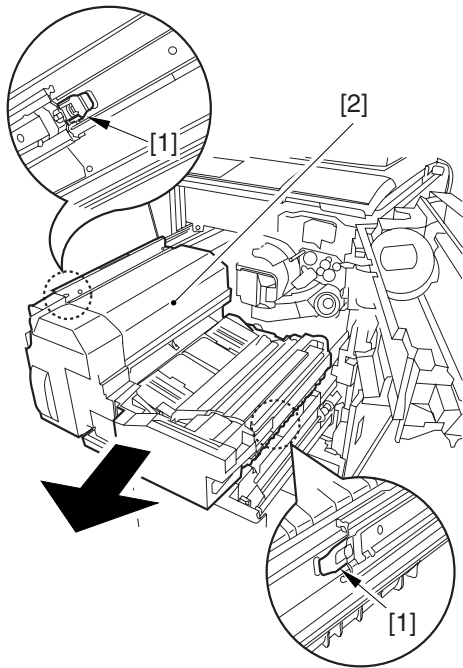
F-7-97

3-11) Slightly lift both ends [1] of the process unit, and fully slide out the process unit [2].
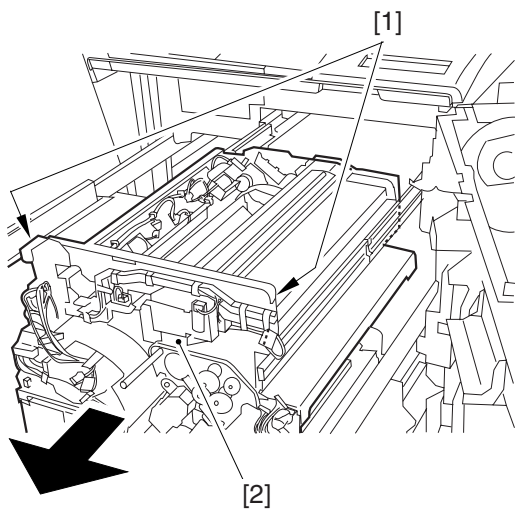
F-7-98

When you have slid out the process unit, check any of the following parts is soiled with toner before fitting it back in; if soiled, dry wipe the part:
   - entire surface of the deck top panel [1]
   - front bend of the deck top panel [2]
   - lower rear sheet (4 locations) of the fixing/feeding assembly [3].
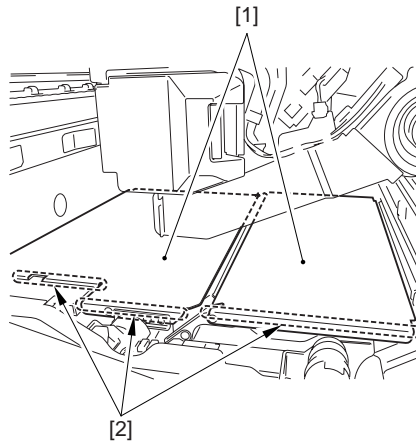
F-7-99
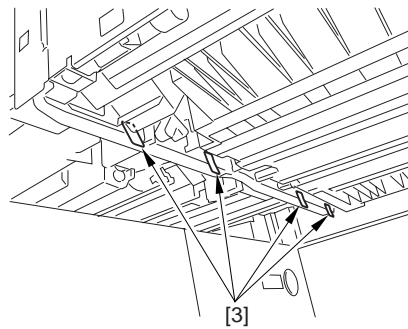
F-7-100

4) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
5) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3
6) Remove the Photosensitive Drum Cleaning.
-Refer to Procedure 7.11.7

7.11.2.2 Removing the Pre-Exposure LED Unit

1) Remove the pre-exposure LED unit.
   - 3 screws [1]
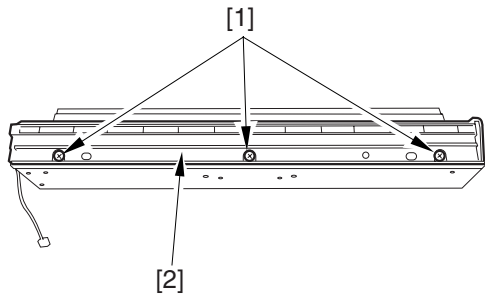
F-7-101

7.11.3 Primary Charging Assembly

7.11.3.1 Preparation for Removing the Parimary Charging Assembly

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14

7.11.3.2 Removing the Primary Charging Assembly

1) Remove the Primary Charging Assembly.
1-1) Remove the connector [1].
1-2) Loosen the screw [2], and move the primary charging assembly stopper [3] in the direction of the arrow; then, tighten the screw [2].
1-3) Remove the primary charging assembly [4] from the machine.
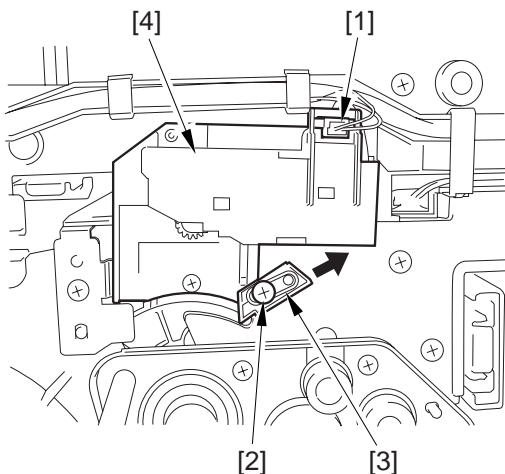
F-7-102

7.11.4 Primary Charging Assembly Cleaning Motor

7.11.4.1 Preparation for Removing the Primary Charging Wire Cleaning Motor

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3

7.11.4.2 Removing the Primary Charging Wire Cleaning Motor

1) Remove the motor cover [3].
   - 3 claws [1]
   - connector [2]
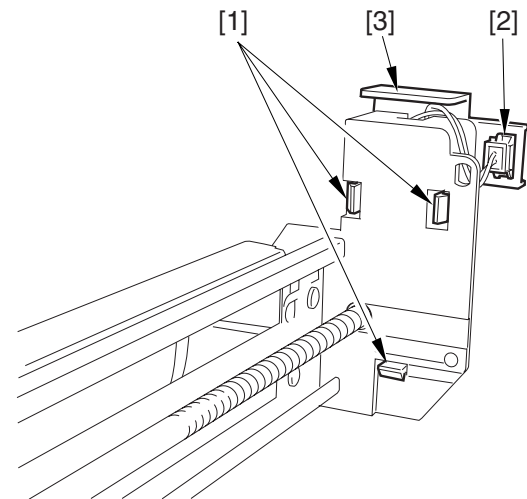
F-7-103

2) Turn over the motor cover, and remove the connector [1]; then, remove the primary charging wire cleaning motor [2].
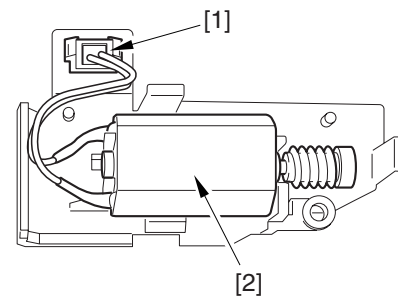
F-7-104

7.11.5 Pre-transfer Charging Assembly

7.11.5.1 Removing the Pre-Transfer Charging Assembly

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Remove the process unit cover [2].
   - 2 screws [1]
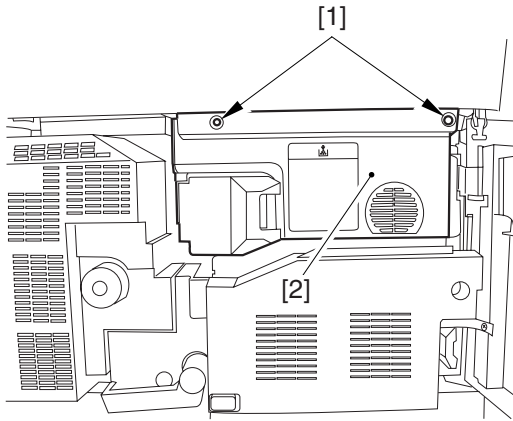
F-7-105

4) Remove the pre-transfer charging assembly [3] from the machine.
   - screw [1]
   - connector [2]
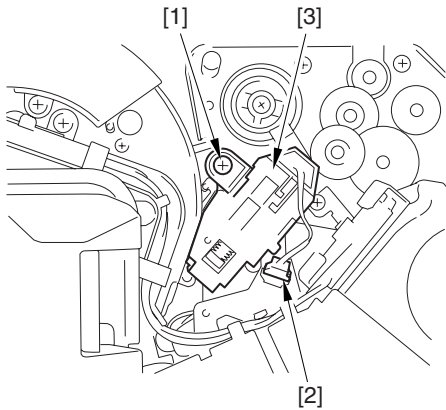
F-7-106

7.11.6 Pre-transfer Charging Assembly Cleaning Motor

7.11.6.1 Preparation for Removing the Pre-Transfer Charging Wire Cleaning Motor

1) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5

7.11.6.2 Removing the Pre-Transfer Charging Wire Cleaning Motor

1) Remove the motor cover [2].
   - 3 claws [1]
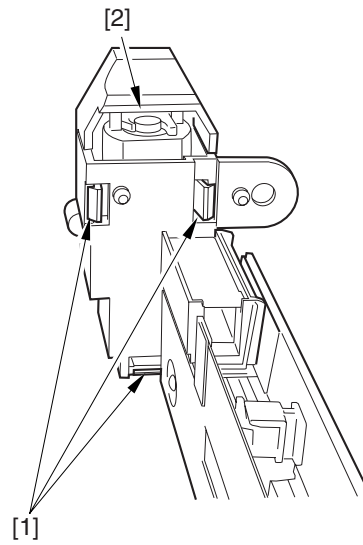
F-7-107

2) Turn over the motor cover, and remove the pre-transfer charging wire cleaning motor from the motor cover.
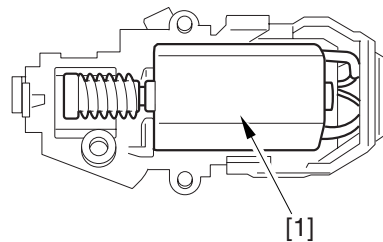
F-7-108

7.11.7 Photosensitive Drum Cleaning Unit

7.11.7.1 Preparation for Removing the Photosensitive Drum Cleaning Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3

7.11.7.2 Removing the Photosensitive Drum Cleaning Unit

1) Open the 2 cable clamps [1], and lead the harness [2] through the opening [3] in the process unit.
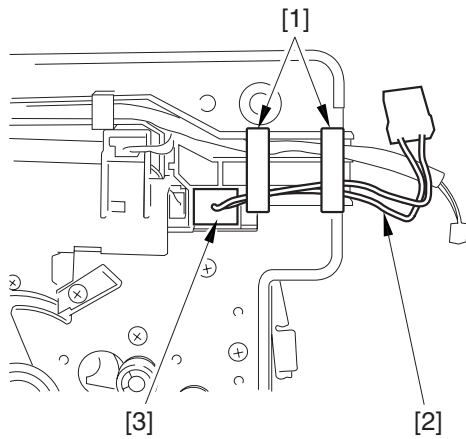
F-7-109

2) Open the 8 cable clamps [1], and move the harness [2] out of the way.
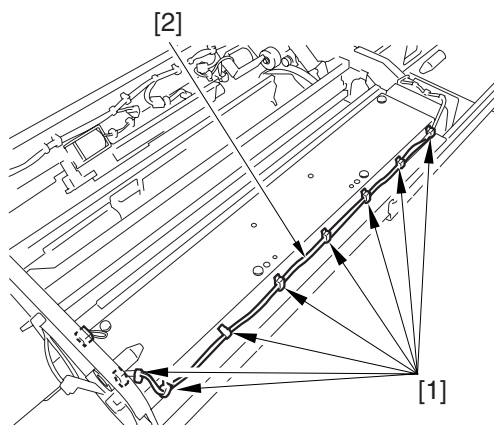
F-7-110

3) Remove the connector [1].
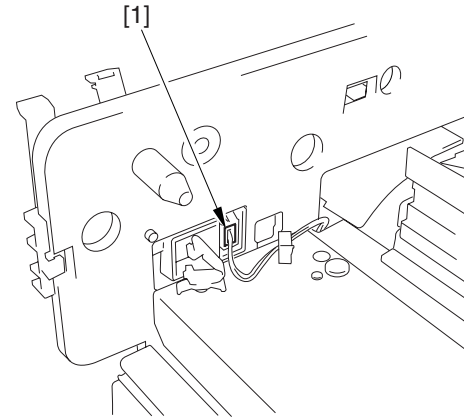
F-7-111

4) Remove the photosensitive drum cleaning unit [2].
   - 4 screws [1]
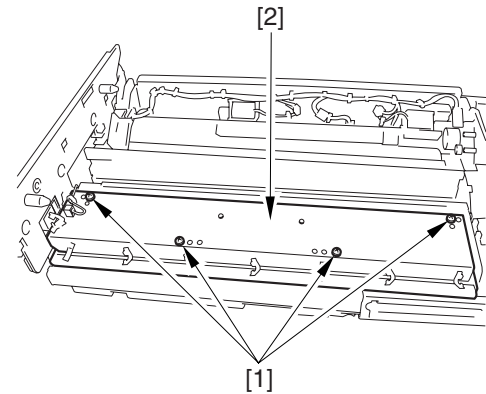
F-7-112

7.11.7.3 Points to Note When Attaching the Photosensitive Drum Cleaning Unit

⚠

When attaching the photosensitive drum cleaning unit, take care not to rotate it in reverse direction to prevent soiling by the scoop-up sheet. (The drum is designed to rotate counterclockwise.)

7.11.8 Photosensitive Drum

7.11.8.1 Preparation for Removing the Photosensitive Drum

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3

8) Slide Out the Process Unit.
Refer to Procedure 7.11.2
9) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3
10) Remove the Photosensitive Drum Cleaning Unit.
-Refer to Procedure 7.11.7
11) Remove the Black Development Unit.
-Refer to Procedure 7.11.18

7.11.8.2 Removing the Photosensitive Drum

1) Remove the charging assembly rail [2].
   - 2 screws [1]
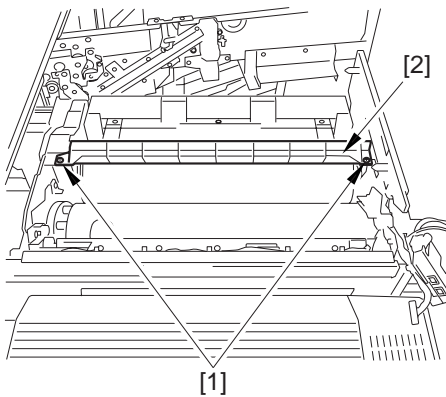
F-7-113

2) Remove the charging assembly rail fixing plate [2].
   - screw [1]
3) Remove the bearing stopper [4].
   - screw [3]
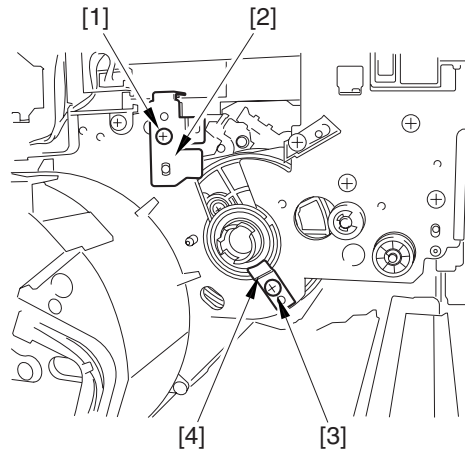
F-7-114

4) Pull the photosensitive drum [1] toward the front once, and then detach it.

F-7-115

⚠
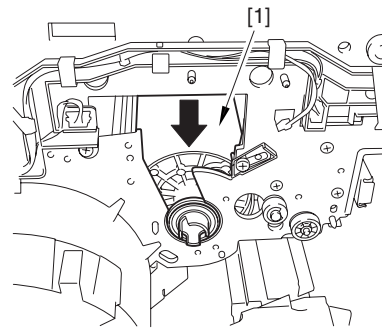
At the font, hold the photosensitive drum shaft [1], and lift the drum; then, place it on the level area of the heat process unit front plate. Thereafter, hold the drum flange [2] from behind the front side plate.
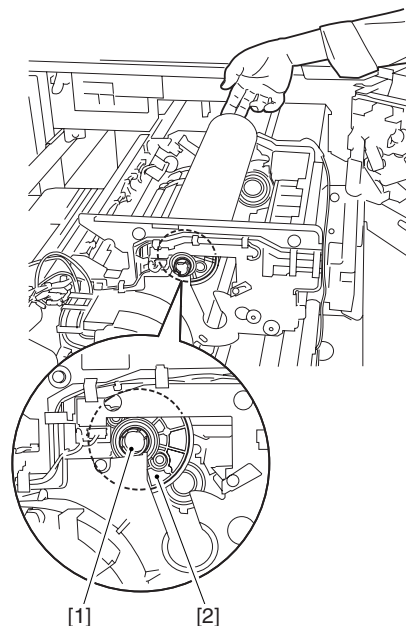
F-7-116

7.11.8.3 Replacing the Photosensitive Drum

If you have replaced the photosensitive drum, be sure to go through the following:
1) Remove the drum heater and the drum heater PCB; then, mount them to the new photosensitive drum.
2) Attach the photosensitive drum so that the lot number label [1] attached to its inner side is toward the front of the machine.

F-7-117

MEMO:
There is a light difference in the inside diameter of the photosensitive drum between its front and its rear. (The front and rear drum flanges are designed in relation to the photosensitive drum.) If you attach the photosensitive drum in the wrong orientation, the gap between the developing cylinder and the photosensitive drum will be uneven, possibly causing uneven density.

3) Replace the starter (3 types) of the color developing unit.

7.11.9 Drum Motor

7.11.9.1 Preparation for Removing the Drum Motor

1) Remove the Rear Cover (upper).
2) Remove the Rear Cover (lower).
3) Remove the Right Cover (upper rear).
4) Slide the DC Controller Box.
4-1) Remove the DC controller cover [2].
 - 9 screws [1]
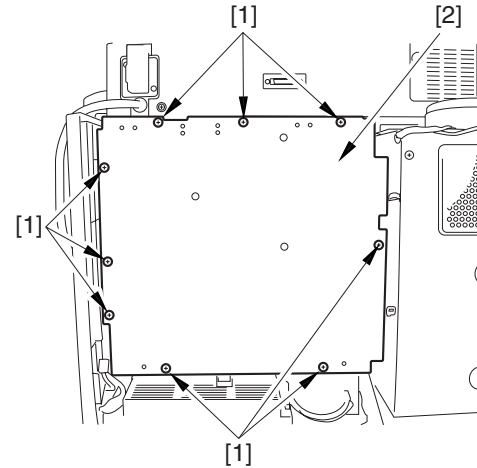
F-7-118
4-2) Move the DC controller box [2] to the left.
 - 6 screws [1]
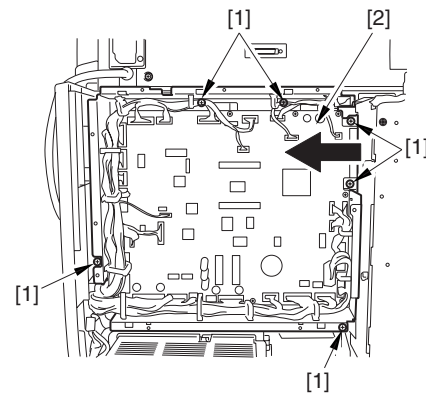
F-7-119
5) Remove the DC Controller Box.
5-1) Open the 3 cable guides [1], and remove the harness [2].
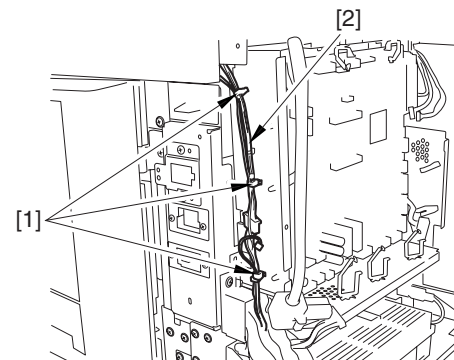
F-7-120

5-2) Open that 13 cable guides [2]; then, remove the harness [3].
- 33 connectors [1]
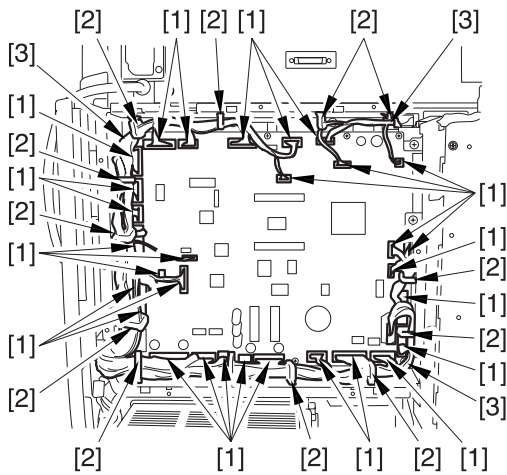
F-7-121

5-3) Lift the DC controller box [1] to remove.
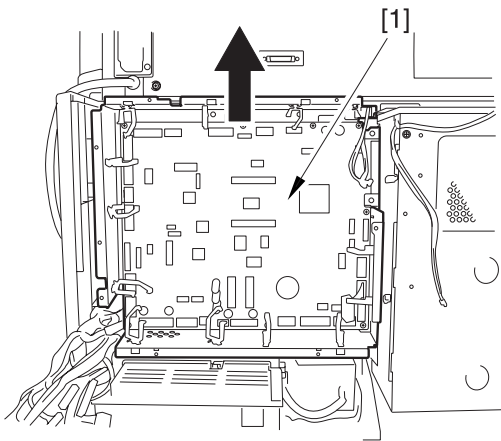
F-7-122

⚠

During assembly work, be sure to connect the harness to the DC controller PCB as follows:
1) Connect the connector of the harness [1] first, and then the other harness [2].
2) Attach the harnesses [1] [2] using the wire saddle [3] so that the harness [1] is on the left side of the harness [2].
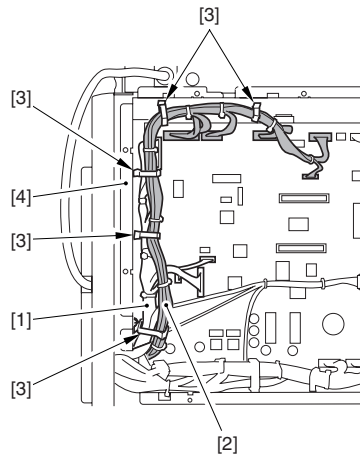
F-7-123

Reference:
If the harness [1] is away from the side plate [4] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur because of noise.

7.11.9.2 Removing the Drum Motor

1) Remove the fly wheel [2].
- 2 screws [1]
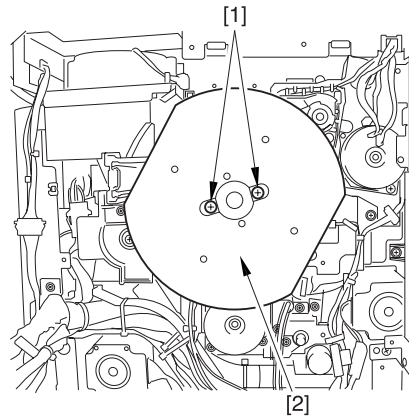
F-7-124

2) Remove the drum motor [3].
- 2 connectors [1]
- 3 screws [2]
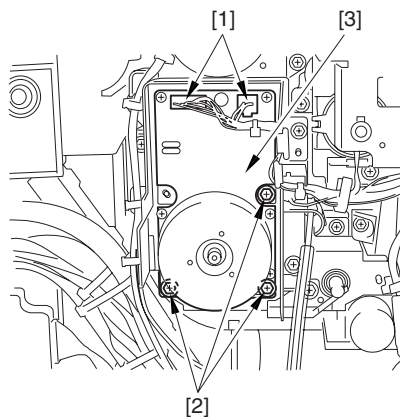
F-7-125

7.11.10 Drum Heater

7.11.10.1 Preparation for Removing the Drum Motor

1) Remove the Rear Cover (upper).
2) Remove the Rear Cover (lower).
3) Remove the Right Cover (upper rear).
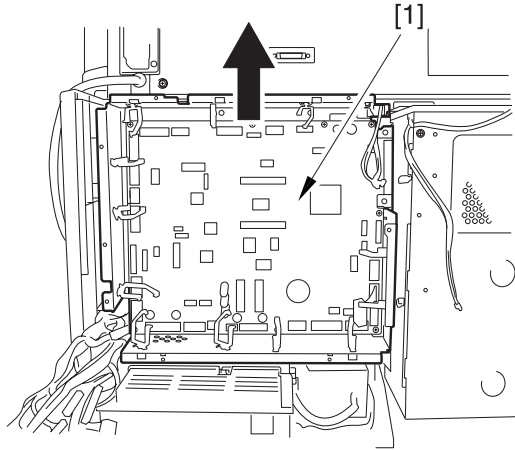
F-7-126

4) Slide the DC Controller Box.
-Refer to Procedure 7.11.9.1 #4)
5) Remove the DC Controller Box.
-Refer to Procedure 7.11.9.1 #5)

7.11.10.2 Points to Note When Replacing the Drum Heater

⚠

Drum memory can occur if the phase of the drum is changed, as when replacing the drum heater. Take full care not to change the phase of the drum during the work by making sure of the following:

1) When removing the drum flange, check the location of the marking [2] on the drum flange in relation to the lot No. label [1] found on the inner side of the drum. (In the case of the figure, the left of the marking is at ".." and the right is at "..." with the lot No. label facing upward.)
2) When attaching the drum flange, be sure to attach with a screw where it was found in step 1.
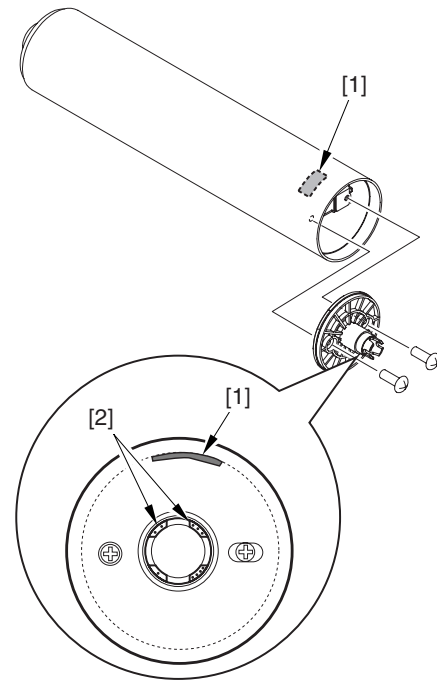
F-7-127

3) Check the drum phase label [1] attached behind the process unit cover.
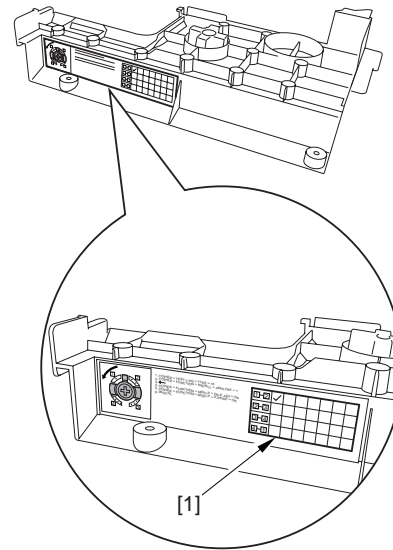
F-7-128

⚠️

See the following sample. The cell with a check mark [1] indicates the present drum phase location. In this case, the marking [3] is located in relation to the protrusion [2] of the drum fixing member with its left at ".." and right at "..." .
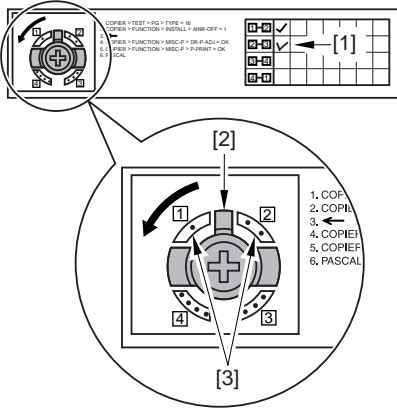
F-7-129

4) Be sure to attach the drum fixing member [1] to the drum flange [2] in correct relation to the phase location indicated on the drum phase label.
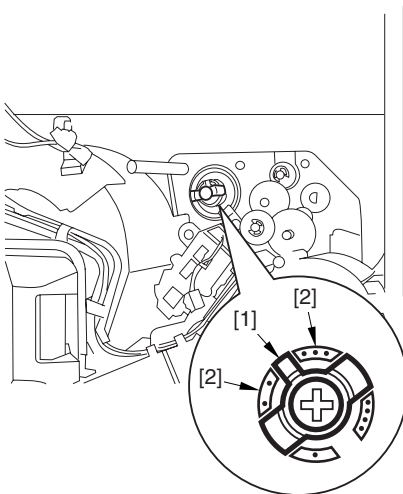
F-7-130

7.11.10.3 Removing the Drum Heater

1) Remove the flange found at the front [2].
   - 2 screws [1]
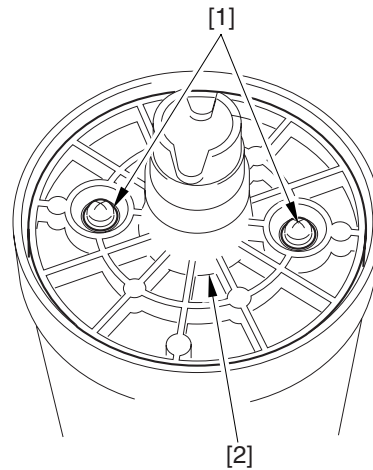
F-7-131

2) Remove the connector [1].
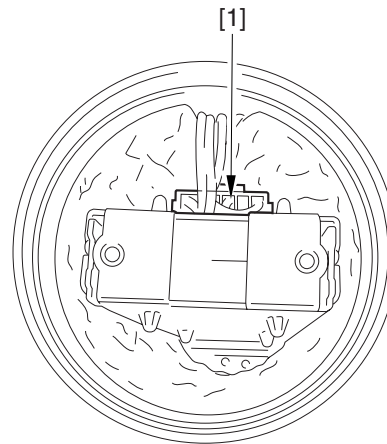
F-7-132

3) Lift the drum heater upright from the photosensitive drum; then, remove the drum heater.
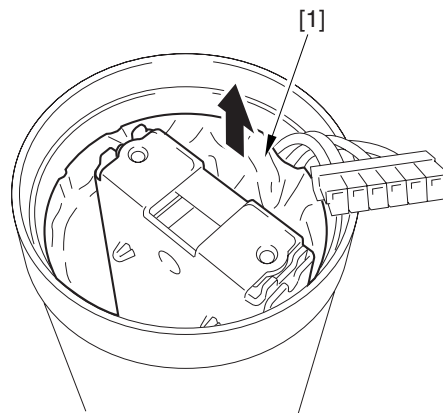
F-7-133

7.11.11 Drum Heater PCB

7.11.11.1 Preparation for Removing the Drum Heater PCB

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
9) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3
10) Remove the Photosensitive Drum Cleaning Unit.
-Refer to Procedure 7.11.7
11) Remove the Black Development Unit.
-Refer to Procedure 7.11.18
12) Remove the Photosensitive Drum.
-Refer to Procedure 7.11.8
13) Remove the Drum Heater.
-Refer to Procedure 7.11.10

7.11.11.2 Removing the Drum Heater PCB

1) Remove the drum heater PCB together with the flange.
   - 2 screws [1]
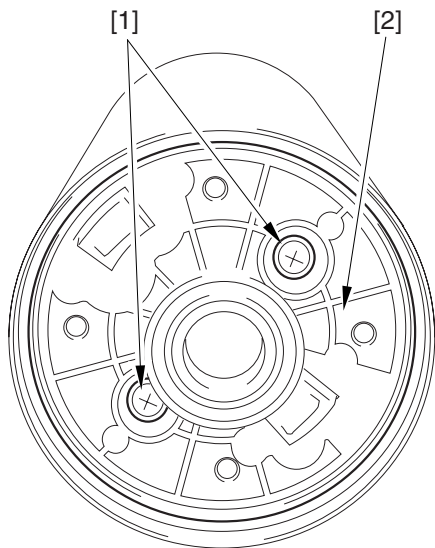
F-7-134

2) Remove the 2 connectors [1].
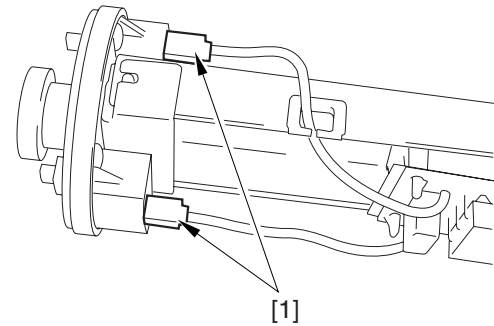
F-7-135

3) Remove the drum heater PCB [2].
   - 4 edge saddles [1]
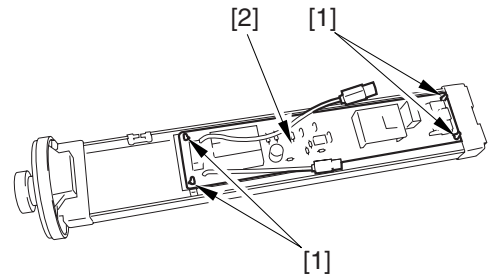
F-7-136

7.11.11.3 Points to Note When Replacing the Drum Heater PCB

⚠

Drum memory can occur if the phase of the drum is changed, as when replacing the drum heater PCB. Take full care not to change the phase of the drum during the work by making sure of the following:

1) When removing the drum flange, check the location of the marking [2] on the drum flange in relation to the lot No. label [1] found on the inner side of the drum. (In the case of the figure, the left of the marking is at ".." and the right is at "..." with the lot No. label facing upward.)
2) When attaching the drum flange, be sure to attach with a screw where it was found in step 1.
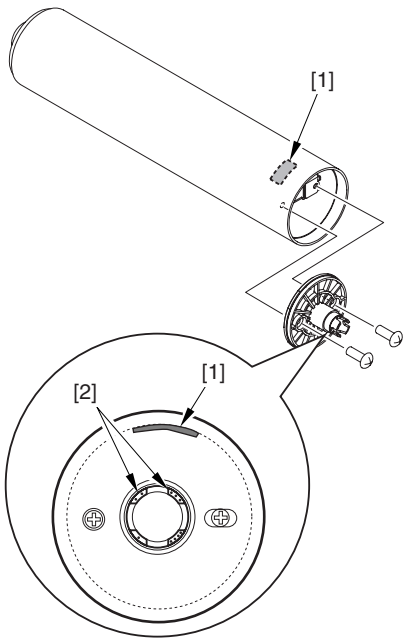
F-7-137

3) Check the drum phase label [1] attached behind the process unit cover.
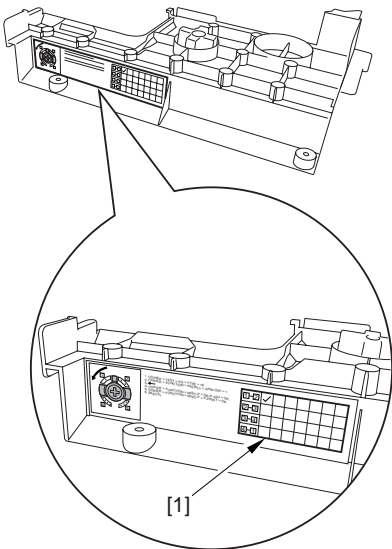
F-7-138

⚠️

See the following sample. The cell with a check mark [1] indicates the present drum phase location. In this case, the marking [3] is located in relation to the protrusion [2] of the drum fixing member with its left at ".." and right at "..." .
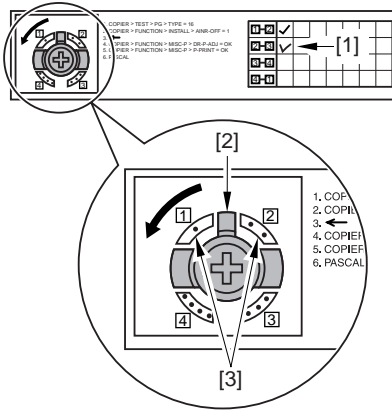
F-7-139

4) Be sure to attach the drum fixing member [1] to the drum flange [2] in correct relation to the phase location indicated on the drum phase label.
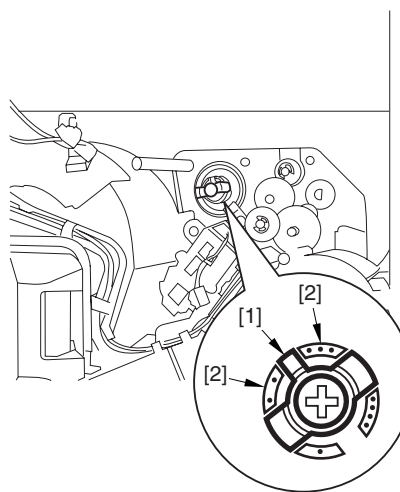
F-7-140

7.11.12 Photosensitive Drum Cleaning Blade

7.11.12.1 Preparation for Removing the Photosensitive Drum Cleaning Blade

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3
6) Remove the Photosensitive Drum Cleaning Unit.
-Refer to Procedure 7.11.7

7.11.12.2 Removing the Photosensitive Drum Cleaning Blade

1) Remove the locking spring [2].
   - E-ring [1]
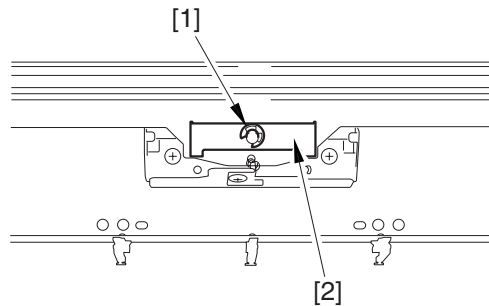
F-7-141

2) Remove the photosensitive drum cleaning blade.
   - 5 screws [1]
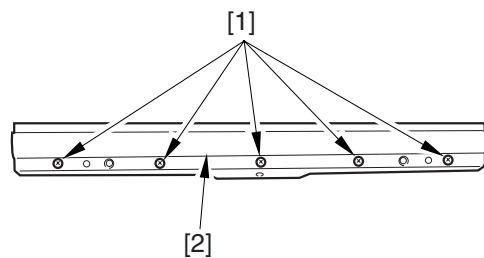
F-7-142

7.11.12.3 Points to Note When Replacing the Photosensitive Drum Cleaning Blade

Be sure of the following when attaching the photosensitive drum cleaning blade:
   - Do not turn over the cleaning blade. Replace it when one side has been used.
   - Clean the area [1] of the retainer plate coming into contact with the cleaning blade and the blade plate [2] using alcohol; then, dry wipe it to remove any toner.

⚠️

The fine particle of toner under the blade edge can put the blade out of alignment, allowing toner on the photosensitive drum to remain on the drum in the form of residual toner.
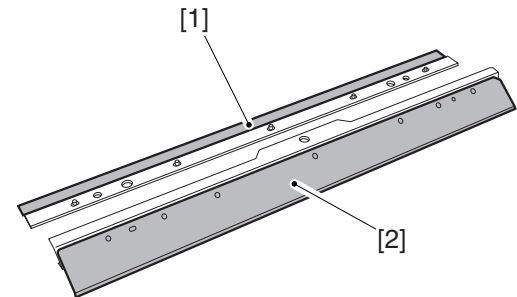
F-7-143
   - Be sure to attach the cleaning blade [1] so that the lot No. [2] faces the front and is upright.
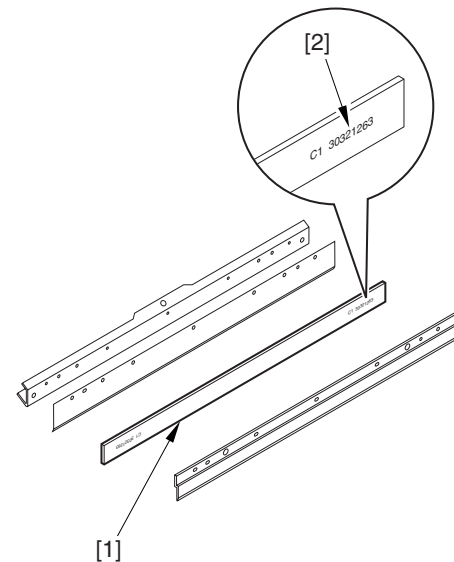
F-7-144

- Be sure to force the cleaning blade [1] firmly against the retaining plate [2], and check that there is no gap in the area [3] indicated in the figure.
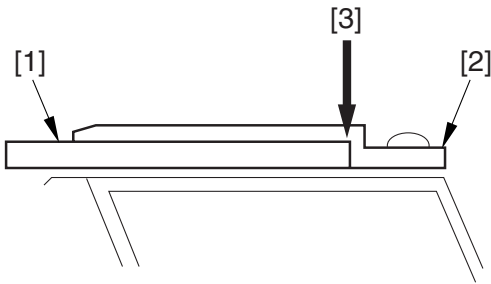
F-7-145

- Be sure to tighten the screws [1] on the cleaning blade in the order indicated in the figure.
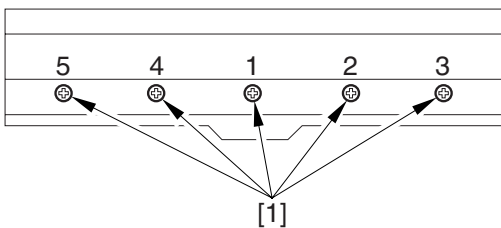
F-7-146

- Apply blade lubricant (TKN-0480) along the edge (shaded; coming into contact with the photosensitive drum) of the cleaning blade.
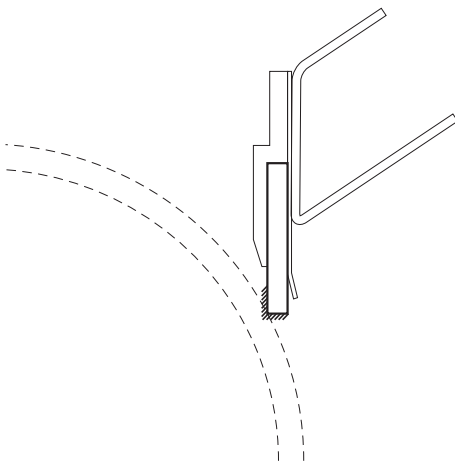
F-7-147

⚠

When you have replaced the photosensitive drum cleaning blade, be sure to execute the following service mode item.
Be sure that you execute service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>ITR-ROT.

7.11.13 Photosensitive Drum Cleaner Edge Scraper

7.11.13.1 Preparation for Removing the Photosensitive Drum Cleaner Edge Scraper

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Primary Charging Assembly.
-Refer to Procedure 7.11.3
6) Remove the Photosensitive Drum Cleaning Unit.
-Refer to Procedure 7.11.7

7.11.13.2 Removing the Photosensitive Drum Cleaner Edge Scraper

1) Remove the double-sided adhesive tape (2 strips) of the end scraper [2].
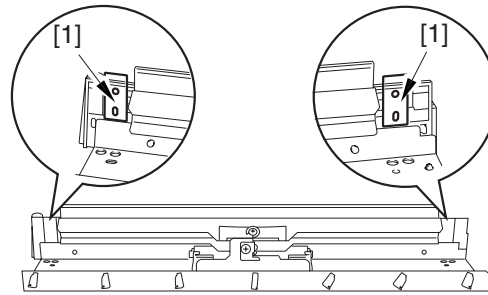
F-7-148

⚠ **Points to Note When Attaching the End Scraper**
Be sure to clean the surface from which the double-sided tape has been removed with alcohol so that it is free of adhesive.

7.11.14 Hopper Assembly

7.11.14.1 Preparation for Removing the Hopper Assembly

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
3-1) Open the black toner supply cover [1].
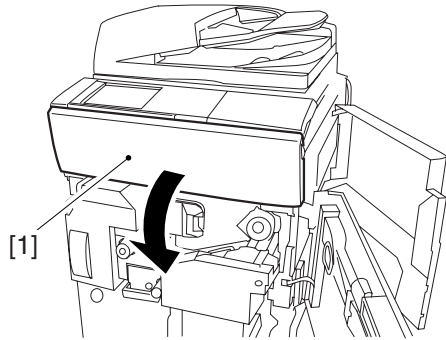
F-7-149

3-2) Shift down the lever [1], and remove the black toner bottle [2].
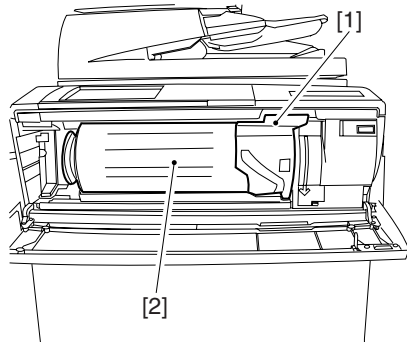
F-7-150

⚠

Once you have released the hopper assembly, toner can spill over the toner bottle supply mouth of the hopper assembly cover. Be sure to wipe off any such toner.
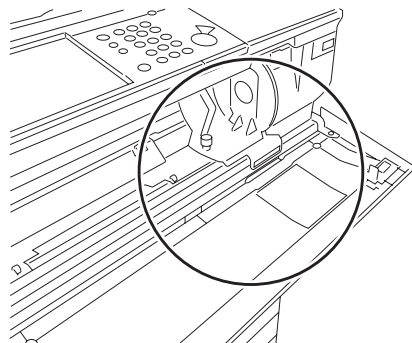
F-7-151

3-3) Remove the 3 screws [1].
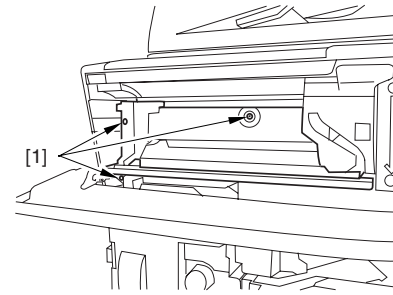
F-7-152

3-4) Close the black toner supply cover [1]; then, fully open the hopper assembly [2].
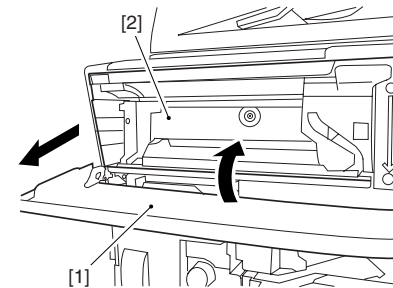
F-7-153

7.11.14.2 Removing the Hopper Assembly

1) Pick and remove the wire saddle [2].
   - connector [1]
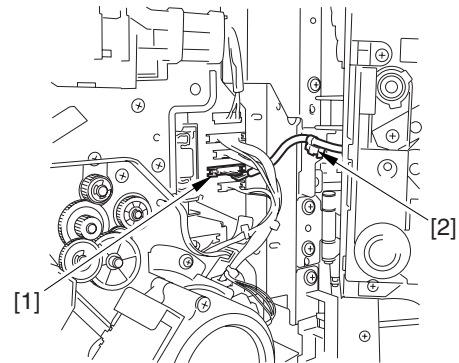
F-7-154

2) Close the hopper assembly.
3) Remove the E-ring [1].
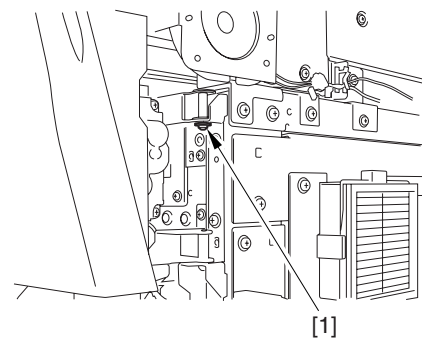
F-7-155

4) Open the hopper assembly, and lift it to remove.

7.11.15 Hopper Supply Motor

7.11.15.1 Preparation for Removing the Black Toner Supply Motor

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Hopper Assembly.
-Refer to Procedure 7.11.14

7.11.15.2 Removing the Black Toner Supply Motor

1) Open the black toner supply cover [1]; then, remove the 2 screws [2], and remove the hopper inside cover [3].
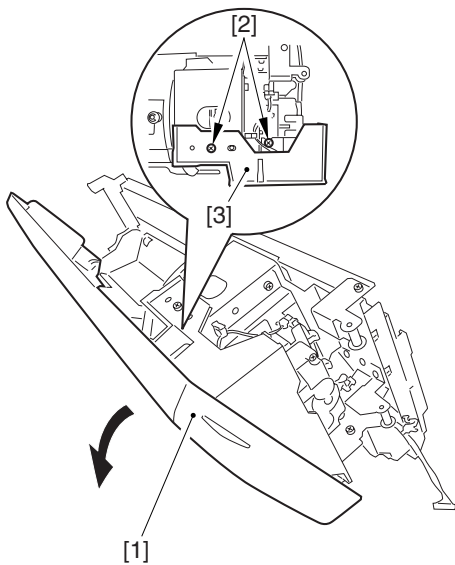
F-7-156

2) Remove the black toner supply motor [3].
   - 3 screws [1]
   - 2 connectors [2]
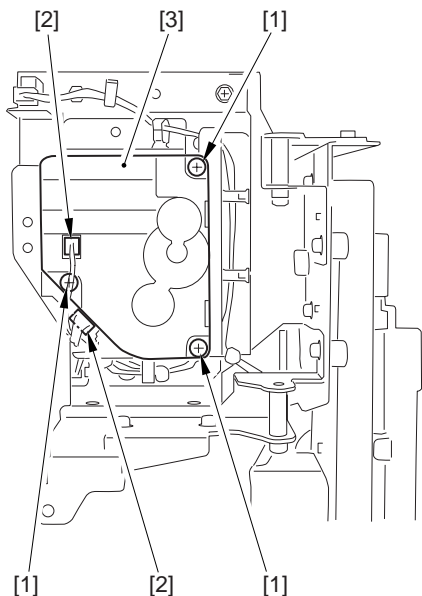
F-7-157

7.11.16 Hopper Strring Motor

7.11.16.1 Preparation for Removing the Hopper String Motor

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Hopper Assembly.
-Refer to Procedure 7.11.14

7.11.16.2 Removing the Hopper Stirring Motor

1) Remove the hopper stirring motor [3].
   - 3 screws [1]
   - connector [2]
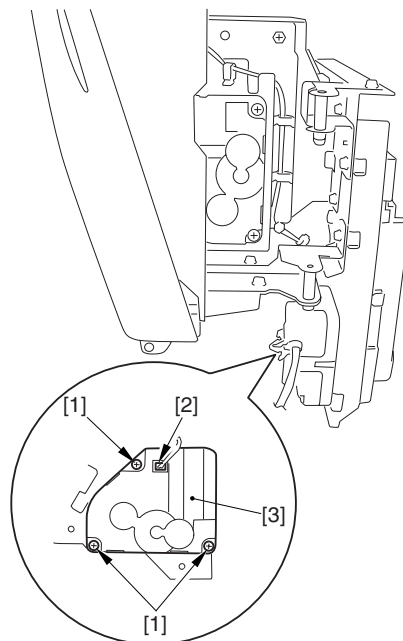
F-7-158

7.11.17 Color Developing Assembly

7.11.17.1 Preparation for Removing the Color Developing Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Black Development Unit.
-Refer to Procedure 7.11.18

7.11.17.2 Removing the Color Developing Unit

1) Open the color toner supply cover [1].
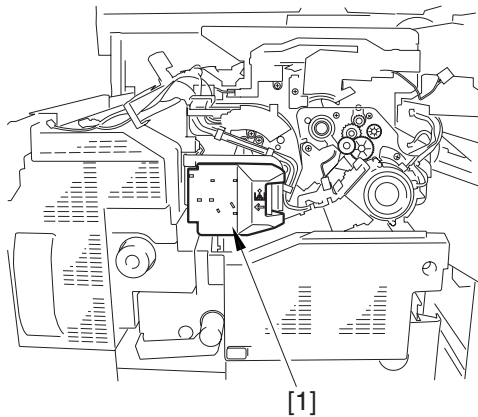
F-7-159

2) Loosen the screw [2] used to fix the torque limiter [1] of the developing rotary in place; then, move the limiter downward.
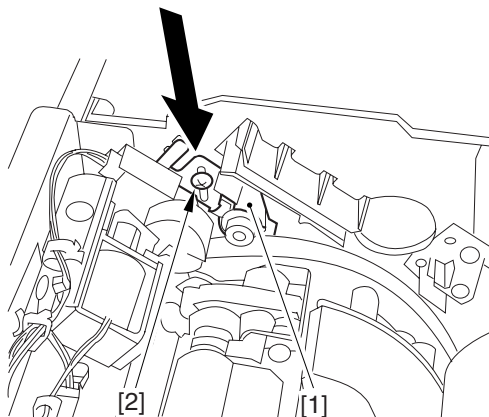
F-7-160

3) Attach the torque limiter [2] using a screw [1].

⚠

If you fail to attach the torque limiter, the rotary will lose balance when any of the color developing units is removed, possibly damaging the photosensitive drum or the color developing assembly.
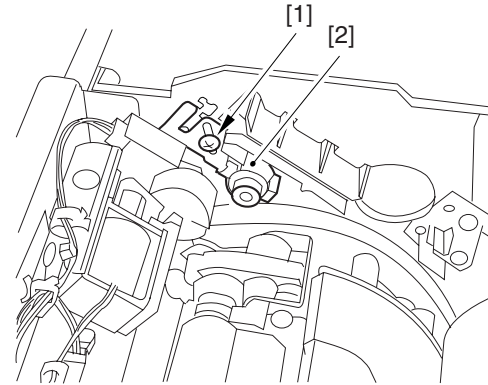
F-7-161

4) Push the lever [1] of the developing rotary solenoid once; then, rotate it counterclockwise by hand so that you have access to the color developing unit you are replacing.

⚠

If you rotate the developing rotary clockwise with a color developing assembly inside it, the anti-stray sheet attached to the sleeve of the color developing assembly can interfere with the photosensitive drum and become detached. Be sure always to rotate the developing rotary counterclockwise.
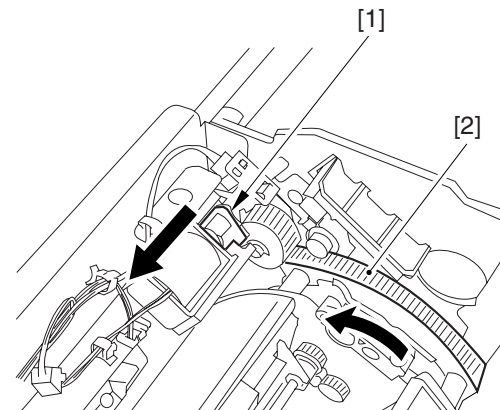
F-7-162

5) Rotate the developing rotary until the developing cylinder [1] of the color developing unit you are removing faces upward.
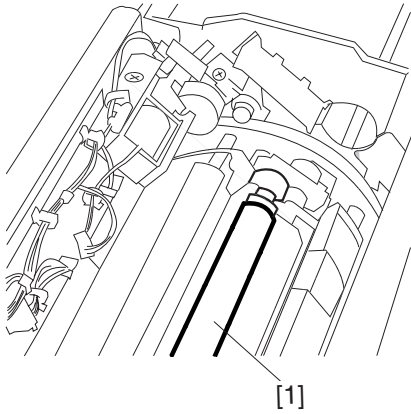
F-7-163

6) Open the developing assembly fixing arm [2].
   - 2 screws [1]
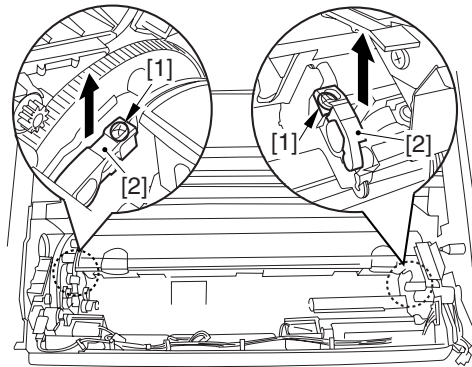
F-7-164

7) Hold the color developing assembly as shown in the figure; then, lift its rear to remove at an angle [2].

⚠

Once you have detached the color developing unit, be sure its supply mouth does NOT face down.
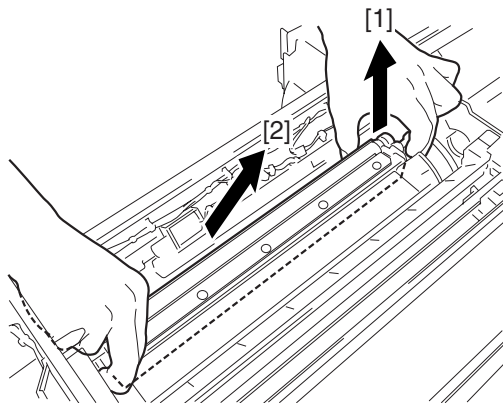
F-7-165

⚠

If you have to rotate the developing rotary farther, be sure to tape the toner supply mouth [1] to prevent spilling the toner.
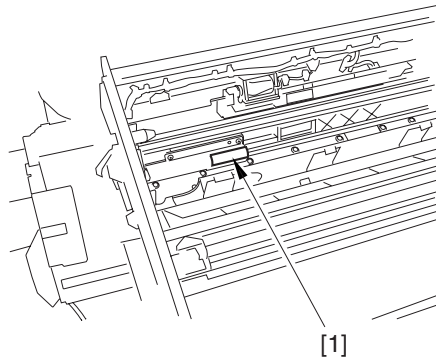
F-7-166

7.11.17.3 When Replacing the Color Developing Unit

1) Open the packing box, and take out the new color developing unit.
2) Remove the screw [1], and free the 4 hooks [2]; then, remove the developing assembly lid [3].
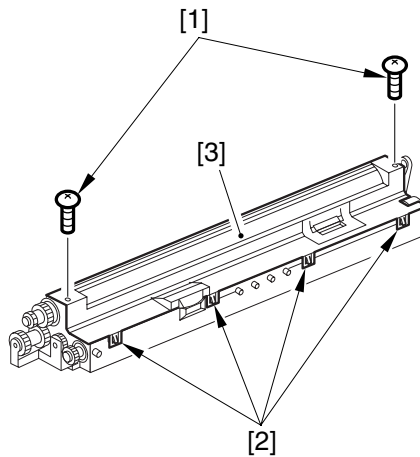
F-7-167

3) Even out the starter by shaking the container about 10 times.
4) Open the lid [2] of the starter bottle [1]; then, remove the middle lid [3], and close the lid.
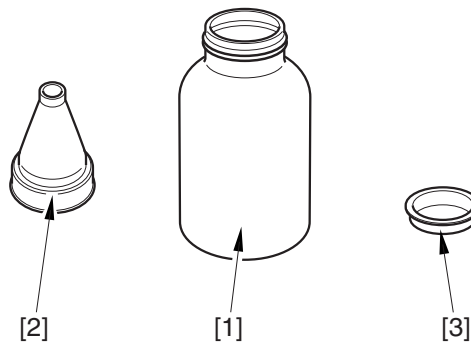
F-7-168

5) Supply half the starter so that it is even in the lengthwise direction around the stirring screw inside the color developing unit.
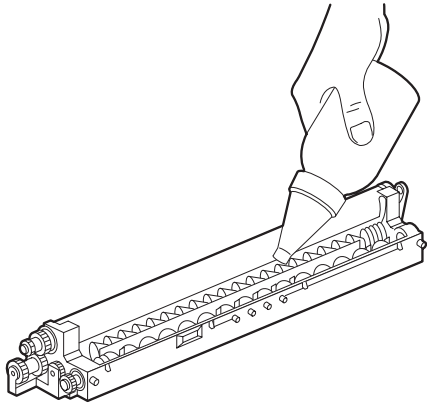
F-7-169

6) Turn the developing gear 5 to 6 times by hand in the direction indicated in the figure so that the starter will be even inside the unit.
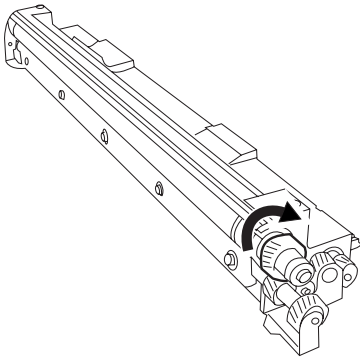
F-7-170

7) Supply the remaining half of the starter around the stirring screw inside the color developing unit.

8) Turn the developing gear 5 to 6 times once again so that the starter inside the unit is even.

9) Move the starter found on the inner side of the container wall off the wall.
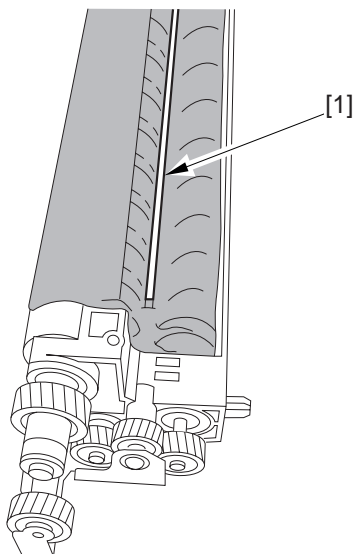
F-7-171

10) Fit the container lid you removed in step 2) back on in the direction indicated in the figure.
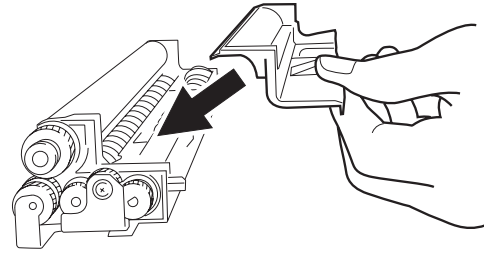
F-7-172

Thereafter, engage the 4 hooks [1]; then, fix the container lid [3] in place using the 2 screws [2] you removed in step 3).
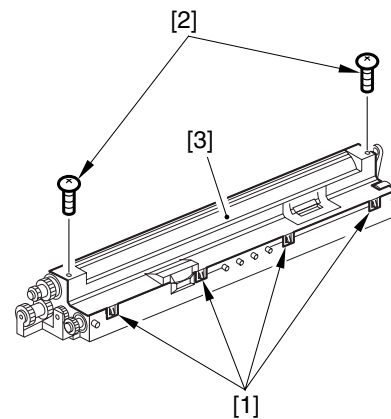
F-7-173

⚠ Force down the lid against the container so that the gap [1] indicated in the figure is small enough to prevent insertion of a transparency.
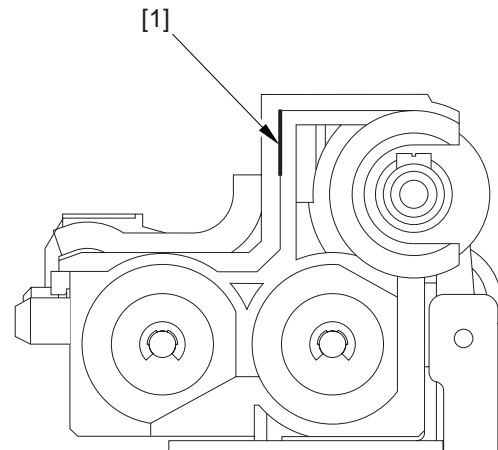
F-7-174

⚠ When tightening the screw, take full care so that no shavings caused by turning the screw into the lid of the developing assembly and the container will move into the container.

11) Cut off the appropriate tab [1]] to suit the color of the starter you have supplied. The tab A in the figure is an extra tab.

F-7-175

12) Fit the color developing unit by going through the steps used to detach it but in reverse.

13) Turn on the main power switch.

14) Make the following selections in service mode, and set '1', and press the OK key: COPIER>FUNCTION>INSTALL>AINR-OFF.

15) Select one of the following service mode items to suit the color of the starter you have supplied; then, press the OK key.

- if for the Y developing assembly, COPIER>FUNCTION>INSTALL>INISET-Y

- if for the M developing assembly, COPIER>FUNCTION>INSTALL>INISET-M

- if for the C developing assembly, COPIER>FUNCTION>INSTALL>INISET-C

- if for the CMY developing assemblies, COPIER>FUNCTION>INSTALL>INISET-3

⚠A countdown is shown on the screen while this mode item is under way. At the end, the screen will show "OK!".

This mode uses ATVC control, possibly taking a while depending on the site environment. The count on the screen, for this reason, may loop between 690 and 620.

16) Execute the following service mode item: COPIER>FUNCTION>MISC-P>P-PRINT.

Store away the generated printout in the service book case. (If there is a previous printout, dispose of it.)

17) End service mode, and start user mode; on the Auto Gradation Correction screen, follow the instructions to execute auto gradation correction (full).

7.11.17.4 Replacing the Starter of the Color Developing Unit

1) Remove the color developing unit.
2) Remove the developing unit lid [3].
   - screw [1]
   - 4 hooks [2]
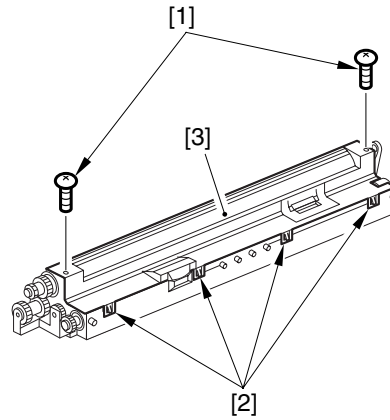
F-7-176

3) On A3 paper or in a vinyl bag, dispose of the contents of the unit by turning it over.
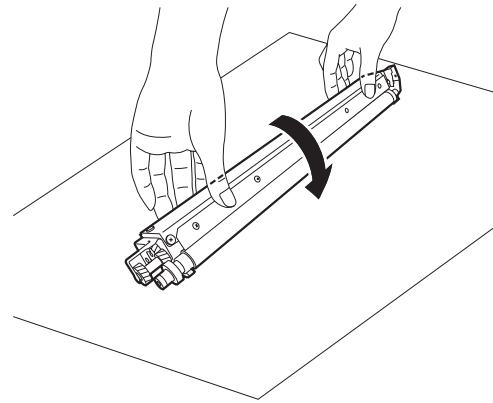
F-7-177

4) Turn back over the developing unit, and turn the developing gear in the direction in which the cylinder normally turns so that the agent will drop into the developing assembly.
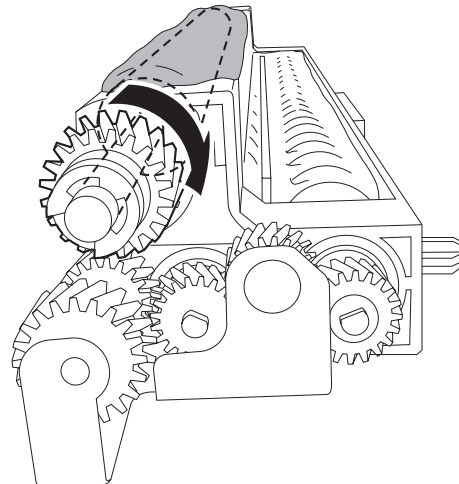
F-7-178

5) Dispose of the agent into a vinyl bag or on paper by turning over the developing unit.
6) Repeat steps 4) and 5) about 3 times (e.g., until no agent drops into the developing assembly).
7) Shake the container of the starter about 10 times.
8) Detach the funnel [2] of the starter bottle [1]; then, remove the middle lid [3], and put the funnel back on [2].
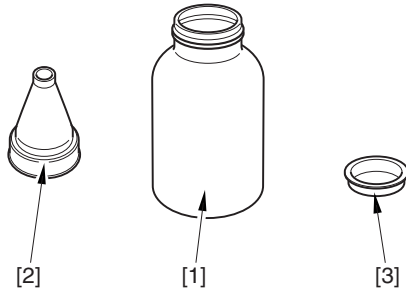
F-7-179

9) Pour the starter along the length of the stirring screw inside the color developing unit so that it is about half full.
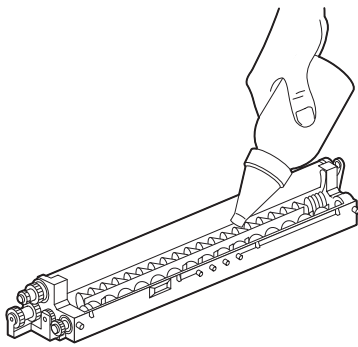
F-7-180

10) Turn the developing gear in its normal direction 5 to 6 by hand to even out the starter inside it.
11) Pour the rest of the starter around the string screw inside the color developing unit.
12) Turn the developing gear 5 to 6 times once again to even out the starter inside the unit.
13) Move the starter that may remain on the inner side of the unit wall [1] into the developing assembly.
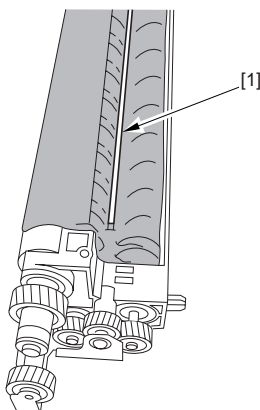
F-7-181

14) Attach the developing assembly lid you removed in step 2), making sure that the lid is oriented as shown.
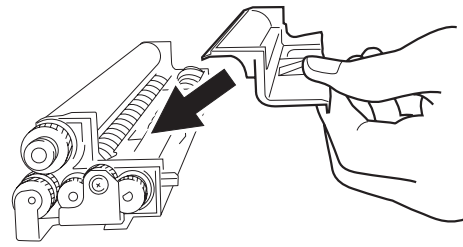
F-7-182

Engage the 4 hooks [1], and attach the developing assembly lid [3] using the 2 screws [2] you removed in step 2).
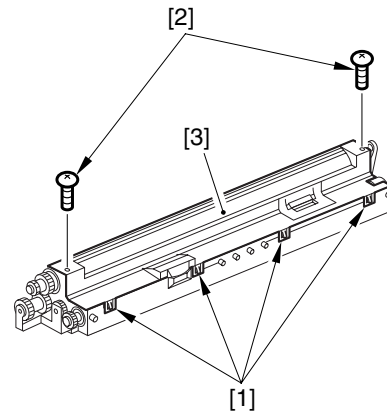
F-7-183

⚠️

Be sure to force the lid against the developing container so that no transparency will insert the gap [1] shown in the figure.

F-7-184

⚠️

When tightening the screw, take care so that the shavings from the developing unit or its lid will not enter the unit.

15) Attach the color developing unit using the steps you used to remove it but in reverse.
16) Turn on the main power switch.

17) Select the following in service mode; then, enter '1', and press the OK key: COPIER>FUNCTION>INSTALL>AINR-OFF.

18) Select the appropriate mode item from the following to suit the color of the starter you have used; then, press the OK key
if Y developing assembly,
COPIER>FUNCTION>INSTALL>INISET-Y.
if M developing assembly,
COPIER>FUNCTION>INSTALL>INISET-M.
if C developing assembly,
COPIER>FUNCTION>INSTALL>INISET-C.

⚠

A countdown is shown on the screen while this mode item is under way. At the end, the screen will show "OK!".
This mode uses ATVC control, possibly taking a while depending on the site environment. The count on the screen, for this reason, may loop between 690 and 620.

19) Perform the following in service mode: COPIER>FUNCTION>MISC-P>P-PRINT. Then, store the generated printout in the service book case. If there is any previous printout, dispose of it.

20) End service mode, and select 'auto gradation correction' in sure mode; perform auto gradation correction (full correction) by going through the instructions on the screen.

7.11.18 Black Developing Assembly

7.11.18.1 Preparation for Removing the Black Developing Assembly

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2

7.11.18.2 Removing the Black Developing Unit

⚠ **Points to Note About the Work**
- The machine's developing unit is not equipped with a developing cylinder protection cover. Take full care, therefore, not to damage the developing cylinder when you have removed the developing unit.
The waste toner collecting inside the machine can move into the fixing/feeding assembly through the outlet; be sure to place paper under the process unit for the work.
- The machine's black developing unit is attached with a potential sensor. Do not touch the sensor window [1] indicated in the figure. Moreover, take care not to drop the black developing assembly or otherwise subject it to impact so as to avoid damage to the potential sensor.

[1]
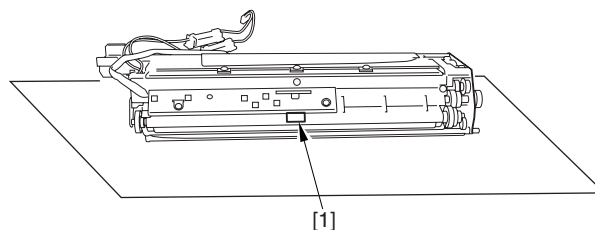
F-7-185

1) Open the harness guide used to fix the high-voltage cable [1] in place.

[2]   [1]   [2]
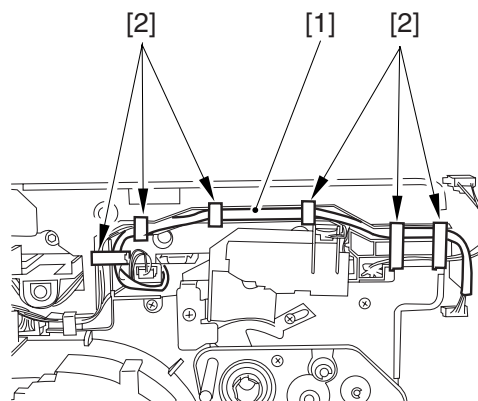
F-7-186

2) Remove black developing assembly locking plate [1].
   - screw [2]
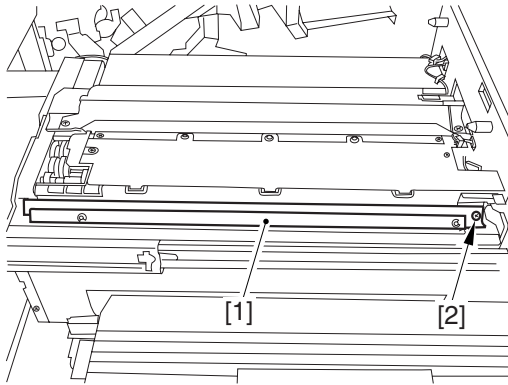
F-7-187

3) Remove the black developing assembly joint plate [1].
   - 2 screws [2]
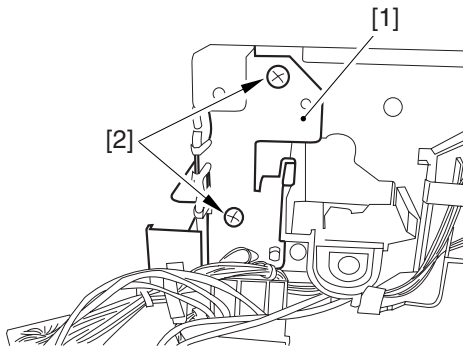
F-7-188

4) Remove the connector [1].
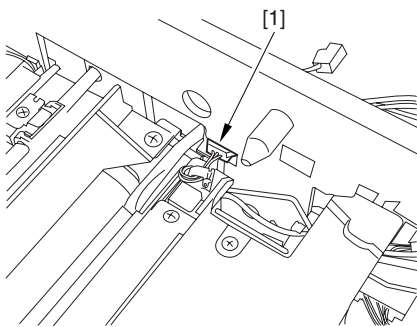
F-7-189

5) Push in the high-voltage cable [1] through the opening [2] indicated in the figure.
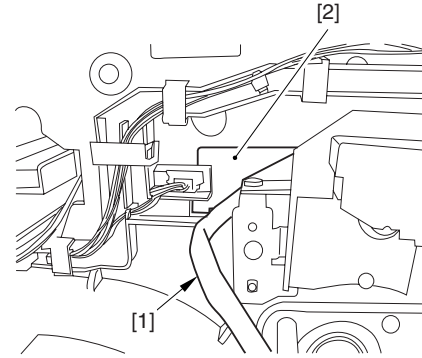
F-7-190

6) While holding the high-voltage cable [1] in place as shown, remove the black developing assembly [2] in upward direction.

⚠

When removing the black developing assembly, be sure to work with the high-voltage cable kept at the top of the assembly so that its connector will not damage the surface of the photosensitive drum.
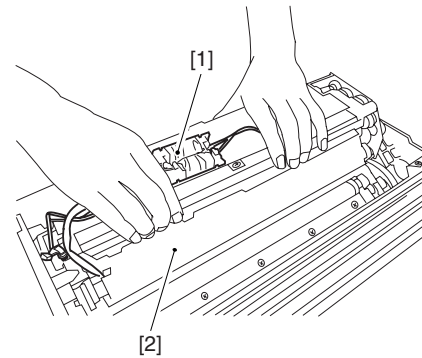
F-7-191

7.11.18.3 Points to Note About Replacing the Black Developing Unit

⚠

Do not touch the sensor window [1] shown in the figure during the work. Also, take care not to drop or otherwise subject the black developing unit to impact to avoid damage to the potential sensor
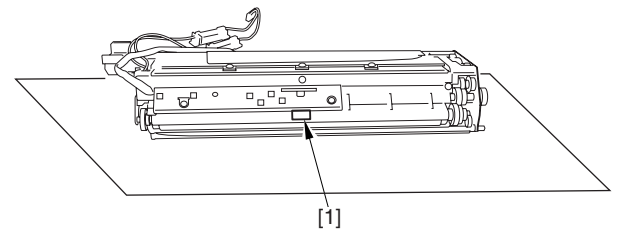
F-7-192

If you are replacing the black developing unit, you will have to remove the potential sensor from the old unit and attach it to the new one as follows:

1) Remove the potential sensor holder [2].
 - 2 screws [1]
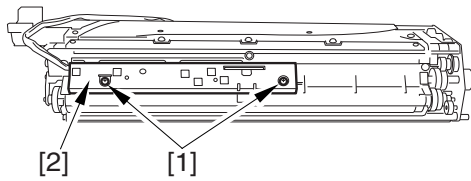
F-7-193

⚠

When setting the black developing unit in the machine, be sure of the following:
- The developing rotary must be rotated counterclockwise so that the developing cylinder of the color developing assembly is kept facing the direction indicated in the figure.

OK
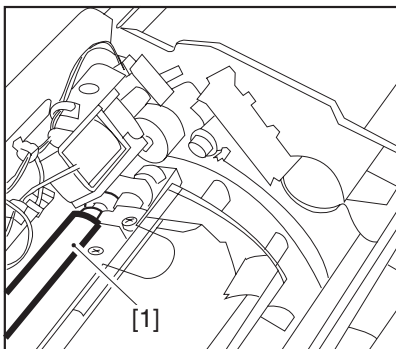
NG
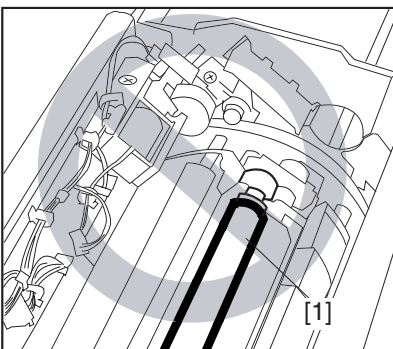
F-7-194

- If you put the high-voltage cable of the black developing assembly inside the machine when setting the assembly, you can trap the cable; to avoid trapping, be user to keep the high-voltage cable [1] on top of the black developing assembly as shown in the figure.
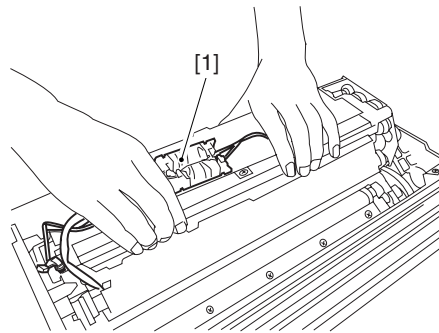
F-7-195

2) Hold the black developing assembly [1] by its ends as shown in the figure; then, while keeping it level, push it in at an angle to set. When doing so, be sure to match the boss [2] found at the rear of the developing assembly against the left guide [3] found at the rear of the machine. Be sure also to match the rib [4] found at the front of the developing assembly against the right guide [5] found at the front of the machine.
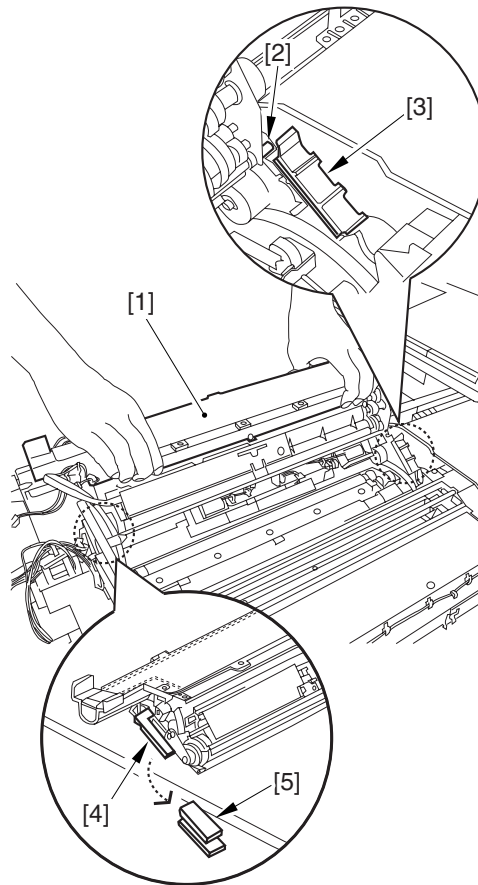
F-7-196

7.11.19 Black Developing Cylinder

7.11.19.1 Preparation for Removing the Black Developing Cylinder

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Black Developing Unit.
-Refer to Procedure 7.11.18

7.11.19.2 Removing the Black Developing Cylinder

⚠

When attaching the developing cylinder, take care not to touch the surface of the cylinder. Also, take full care not to damage the surface.
The machine's black developing unit is attached with a potential sensor. Do not touch the sensor window [1] shown in the figure. Also, take care not to drop or otherwise subject the black developing assembly to impact to avoid damage to the potential sensor.
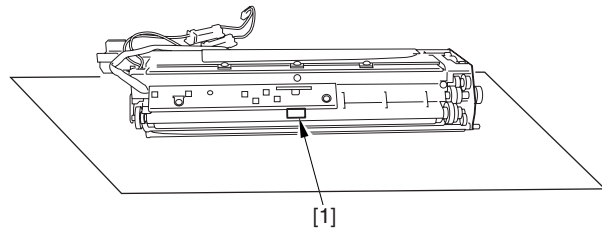
F-7-197

1) Remove the black developing assembly.
2) Remove the cylinder cover [2].
   - 3 screws [1]
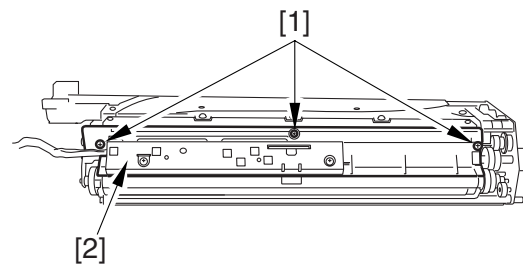
F-7-198

3) Remove the developing cartridge lid [2].
   - 5 screws [1]
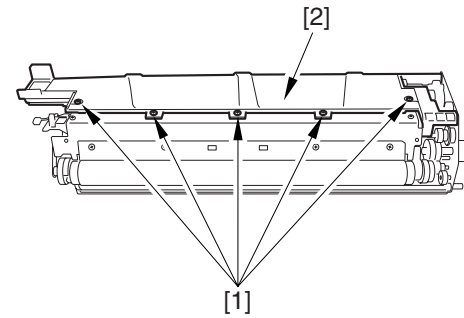
F-7-199

4) Remove the magnetic positioning plate [2].
   - screw [1]
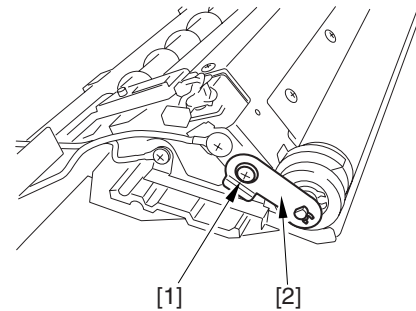
F-7-200

5) Remove the lower guide plate [2].
   - screw [1]
6) Pull out the gear box [4].
   - 3 screws [2]
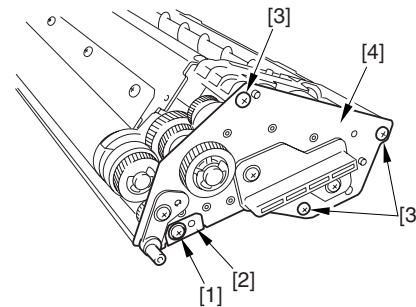
F-7-201

7) Remove the blade [2].
   - 2 screws [1]

⚠

The blade is adjusted at the factory to an extremely high level of accuracy. Be sure not to loosen the screw [3] indicated in the figure in the field.
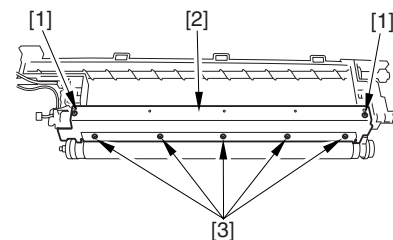
F-7-202

8) Remove the E-ring [1], gear [2], collar [3], and bearing [4] from the rear of the machine.
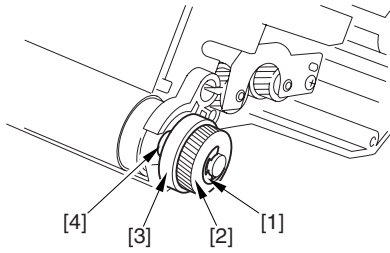
F-7-203

9) Remove the stop ring [1], collar [2], and bearing [3] from the front of the machine.
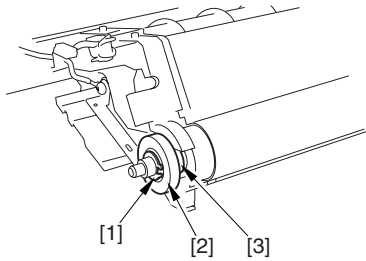
F-7-204

7.11.19.3 Points to Note When Handling the Black Developing Cylinder

⚠

The black developing cylinder need not be cleaned on a periodical basis. If you must clean the surface of the cylinder, be sure to dry wipe it with lint-free paper, NEVER using water or solvent.

7.11.19.4 Points to Note When Mounting the Polarity Positioning Plate

Go through the following steps in strict sequence when mounting the polarity positioning plate:
1) Let go of your hand so that the developing cylinder moves and stops on its own.
2) Shift the polarity positioning plate [1] counterclockwise as much as the length of the play of the D-cut notch [2]; then, read the index [4] of the marking found on the blade support base.
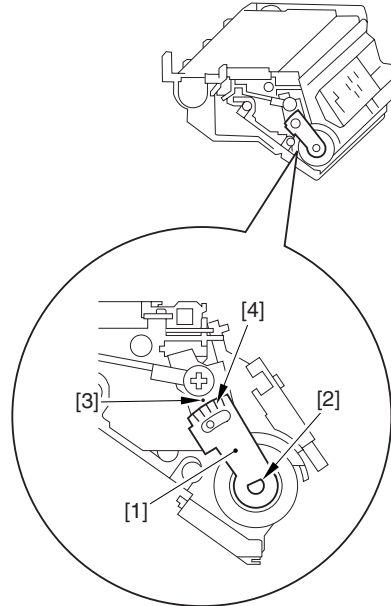
F-7-205

3) Turn the polarity positioning plate [1] counterclockwise by a single index (5 deg); then, tighten the screw [2] to fix it in place.
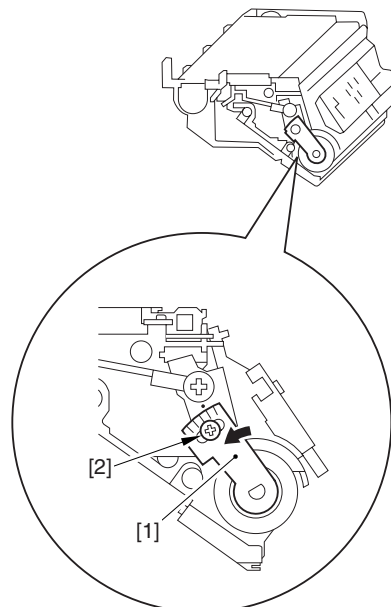
F-7-206

7.11.20 Black Developing Clutch

7.11.20.1 Preparation for Removing the Black Developing Clutch

1) Remove the Rear Cover (upper).
2) Remove the Right Cover (upper rear).
3) Move the DC Controller Box.
-Refer to Procedure 7.11.9.1 #4)
4) Remove the DC Controller Box.
-Refer to Procedure 7.11.9.1 #5)

7.11.20.2 Removing the Black Developing Clutch

1) Remove the fly wheel [2].
   - 2 screws [1]
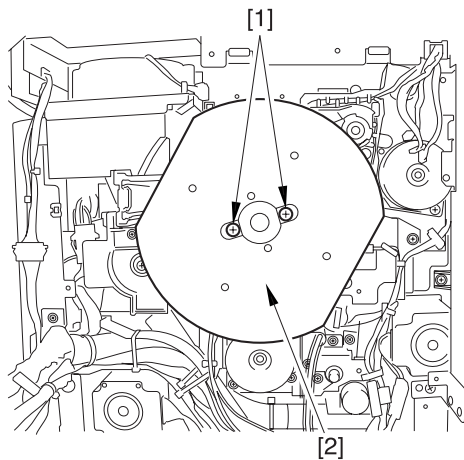
F-7-207
2) Loosen the screw [2]; then, turn the tensioner [3] counterclockwise.
   - screw [1]
3) Remove the timing belt [4].
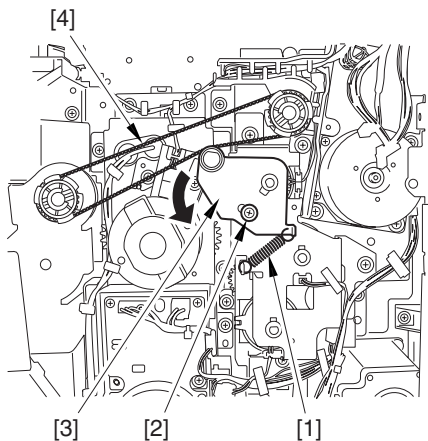
F-7-208
4) Remove the 3 harnesses [2] from the 6 cable guides [3].
   - 3 connectors [1]

5) Remove the side plate [5].
   - 3 screws [4]
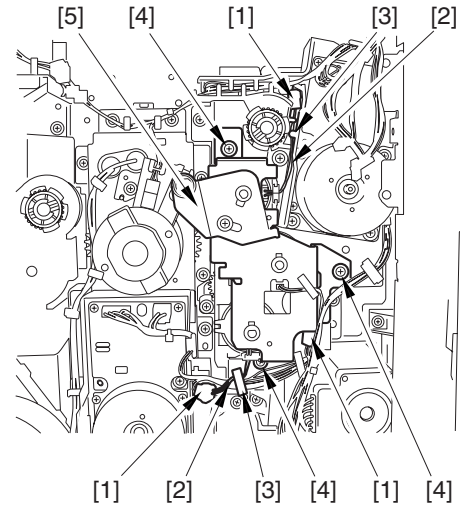
F-7-209
6) Remove the black developing cluch [1].
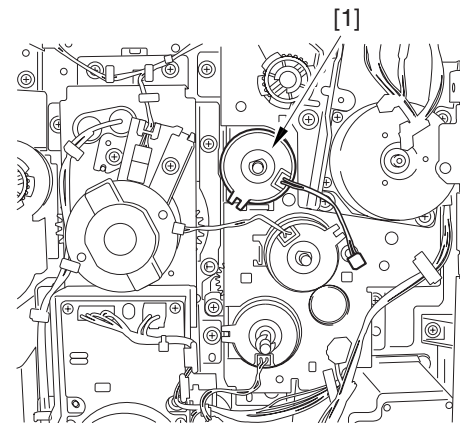
F-7-210

7.11.21 Color Toner Supply Clutch

7.11.21.1 Preparation for Removing the Color Toner Supply Clutch

1) Remove the Rear Cover (upper).
2) Remove the Right Cover (upper rear).
3) Move the DC Controller Box.
-Refer to Procedure 7.11.9.1 #4)
4) Remove the DC Controller Box.
-Refer to Procedure 7.11.9.1 #5)

7.11.21.2 Removing the Color Toner Supply Clutch

1) Remove the fly wheel [2].
2) Remove the spring [1], and loosen the screw [2]; then, turn the tensioner [3] clockwise.
3) Remove the timing belt [4].
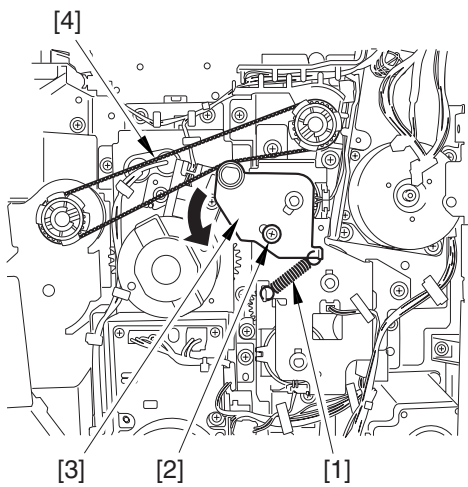
F-7-211

4) Free the 3 harnesses [2] from the 6 cable guides [3].
   - connector [1]
5) Remove the side plate [5].
   - 3 screws [4]
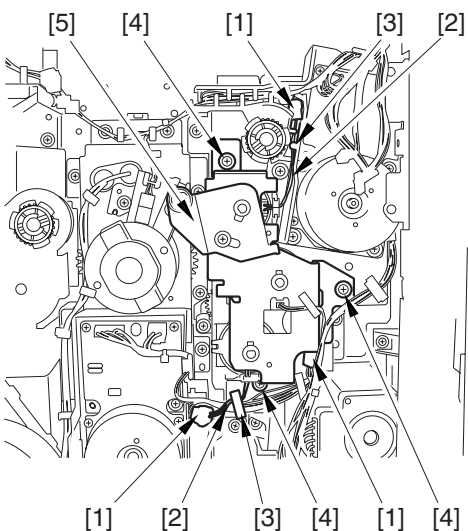
F-7-212

6) Remove the color toner supply clutch [1].
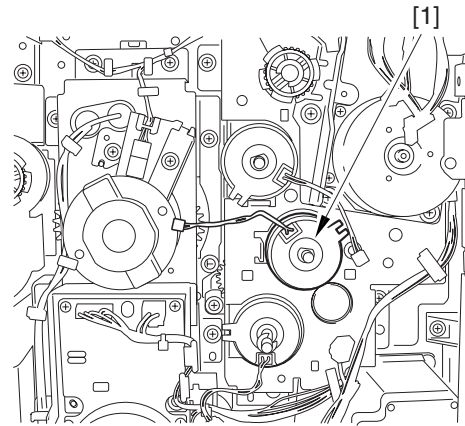
F-7-213

7.11.22 Color Developing Clutch

7.11.22.1 Preparation for Removing the Color Developing Clutch

1) Remove the Rear Cover (upper).
2) Remove the Right Cover (upper rear).
3) Move the DC Controller Box.
-Refer to Procedure 7.11.9.1 #4)
4) Remove the DC Controller Box.
-Refer to Procedure 7.11.9.1 #5)

7.11.22.2 Removing the Color Developing Clutch

1) Remove the fly wheel [2].
2) Loosen the screw [2]; then, turn the tensioner [3] clockwise.
   - spring [1]
3) Remove the timing belt [4].
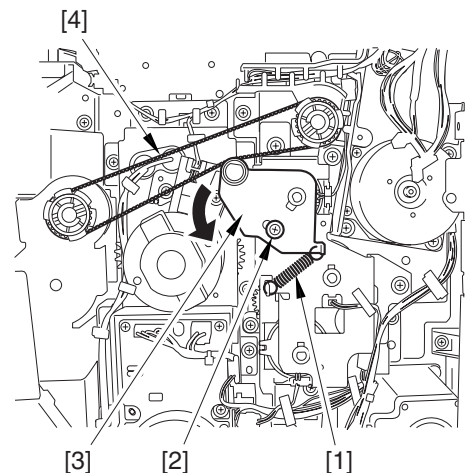
F-7-214

4) Free the 3 harnesses [2] from the 6 cable guides [3].
   - 3 connectors [1]

5) Remove the side plate [5].
  -3 screws [4]
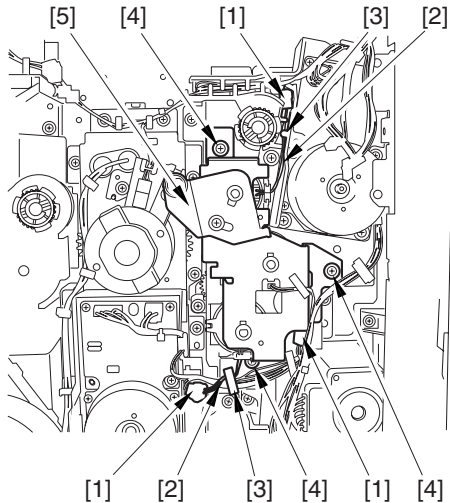
F-7-215

6) Remove the color developing clutch [2].
  - 2 E-rings [1]
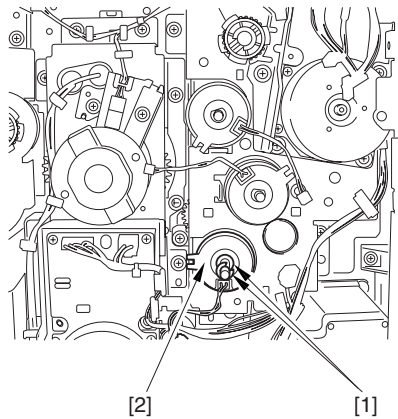
F-7-216

7.11.23 Cleaning Assembly Scoop-Up Sheet

7.11.23.1 Preparation for Removing the Photosensitive Drum Cleaning Scoop-Up Sheet

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Slide Out the Process Unit.
-Refer to Procedure 7.11.2

7.11.23.2 Removing the Photosensitive Drum Cleaning Scoop-Up Sheet

1) Remove the photosensitive drum cleaning scoop-up sheet [2] toward the rear to remove.
  - screw [1]
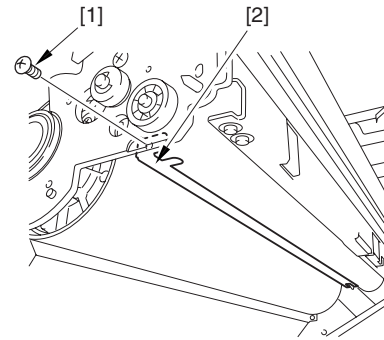
F-7-217

7.11.23.3 Attaching the Photosensitive Drum Cleaner Scoop-Up Sheet

1) Engage the hole found at the rear of the photosensitive drum scoop-up sheet [1] on the hook [2]: then, pull it toward the front and attach with a screw [3].
During the work, be sure that the tip of the scoop-up sheet is not bent between the cartridge and the photosensitive drum.
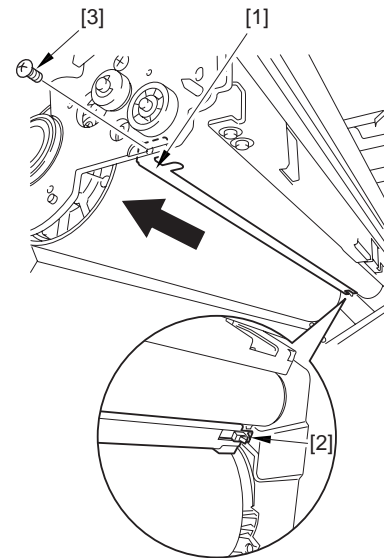
F-7-218

⚠ **Making Checks After Attaching the Photosensitive Drum Scoop-Up Sheet**
- Check that the scoop-up sheet is not bent or broken from below.
- Be sure that the photosensitive drum is rotated counterclockwise, NOT clockwise; failure to observe this will lead to bending or deformation of the scoop-up sheet.

7.11.24 Secondary Transfer Unit

7.11.24.1 Removing the Secondary Transfer Unit

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) While pressing the 2 hooks [1] frond on both sides of the fixing/feeding assembly, slide out the fixing/feeding assembly [2] fully.
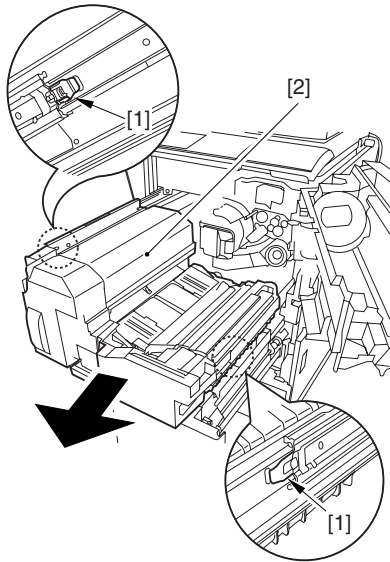
F-7-219

4) Remove the the connector cover [2].
   - screw [1]
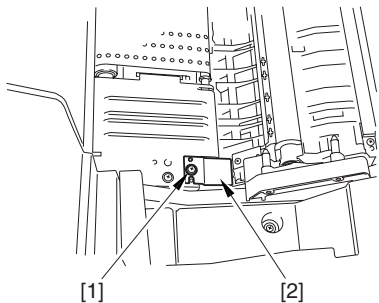
F-7-220

5) Remove the connector [1].

F-7-221

6) Remove the 2 stepped screws [1].
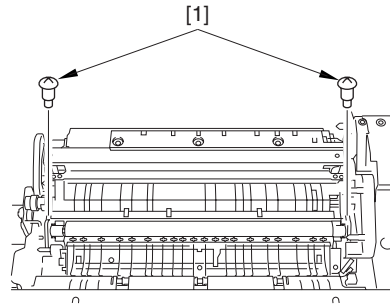
F-7-222

7) While moving the secondary transfer unit [1], remove the 2 connectors [2]; then, remove the secondary transfer unit.
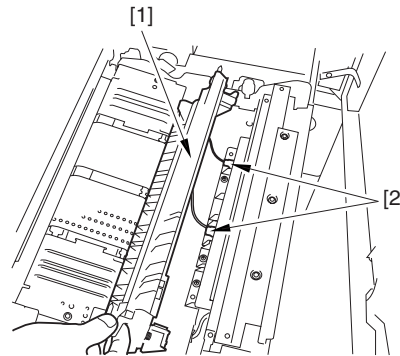
F-7-223

7.11.25 ITB Cleaning Unit

7.11.25.1 Preparation for Removing the ITB Cleaning Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3

7.11.25.2 Removing the ITB Cleaning Unit

1) Move the ITB cleaning unit [2] in the direction of the arrow to remove.
   - 2 screws [1]
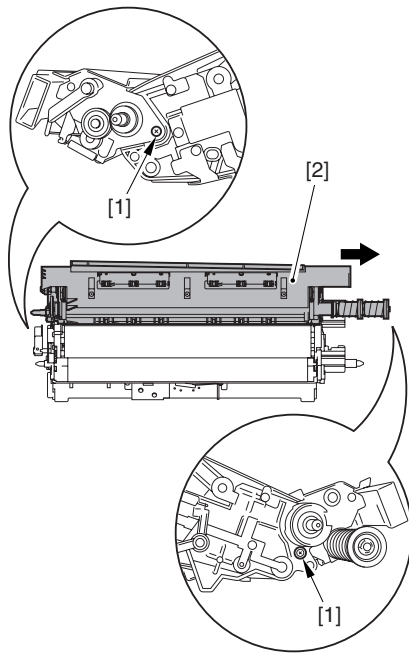
F-7-224

7.11.26 ITB Cleaner End Scraper

7.11.26.1 Preparation for Removing the ITB Cleaner End Scraper

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25

7.11.26.2 Removing the ITB Cleaner End Scraper

1) Remove the 2 end scrapers [1] by peeling off the 2 strips of double-sided tape.
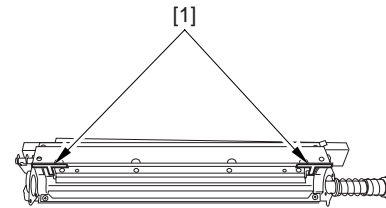
F-7-225

⚠ Points to Note When Attaching the End Scraper
Clean the area from where you have removed the end scraper with alcohol so that adhesive from the double-sided tape will not remain.

7.11.26.3 Attaching the ITB Cleaner End Scraper

Remove the 2 strips of double-sided tape from the end scraper [1]; then, attach the 2 end scrapers [1] by aligning their edges against the ends of the ITB cleaner plate.
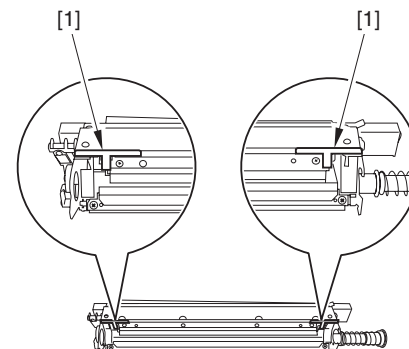
F-7-226

⚠ Points to Note When Attaching the End Scraper
Before starting the work, be sure to clean the area with alcohol so that no adhesive will remain.

7.11.27 Intermediate Transfer Unit

7.11.27.1 Preparation for Removing the Intermediate Transfer Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)

7.11.27.2 Removing the Intermediate Transfer Unit

1) Remove the 2 connectors [1].
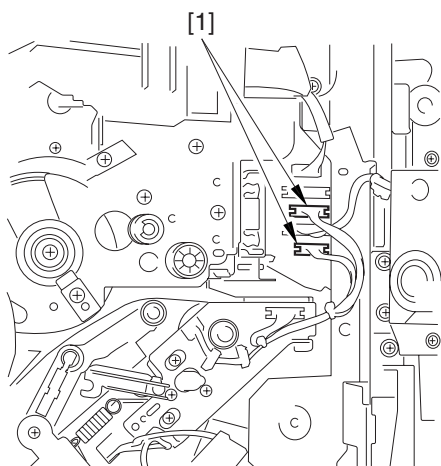
F-7-227

2) Fully slide out the fixing/feeding assembly.
3) Slide out the intermediate transfer assembly [1] to the front; when it stops, move it slightly to the upper right and then slide it farther out to remove.

⚠

Do not touch the surface of the ITB. Also, be sure to slide the intermediate transfer assembly straight out so as to prevent damage to the surface of the ITB.
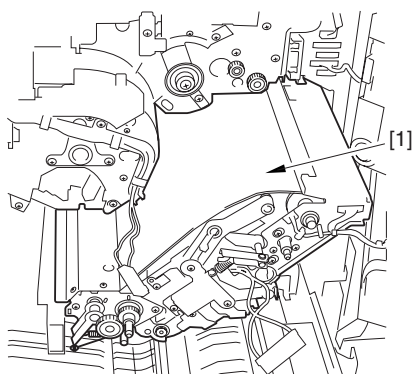
F-7-228

7.11.27.3 Cleaning the Surface of the Intermediate Transfer Unit

1) Place the ITB unit [1] on paper for protection.
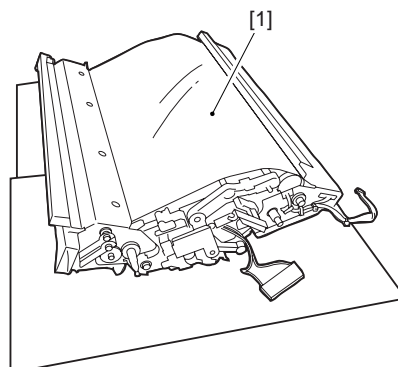
F-7-229

2) Turn the drive gear [1] by hand in the direction of the arrow to move the intermediate transfer belt [2] about 50 mm.
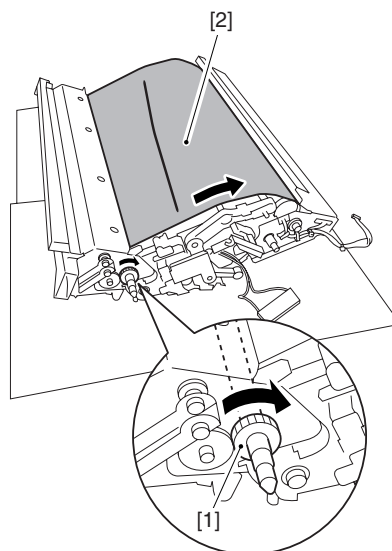
F-7-230

3) If there is any toner [3] on the surface of the intermediate transfer belt, dry wipe it with lint-free paper.
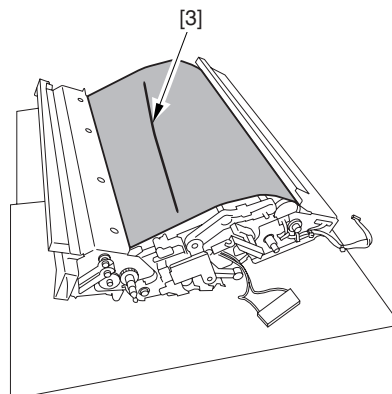
F-7-231

⚠

When you remove the transfer cleaner drive assembly, the ITB cleaning blade [1] is likely to come into contact with the intermediate transfer belt by the work of a spring, causing toner [2] to deposit on the belt surface in the form of lines. The toner can then be forced against the photosensitive drum by the primary transfer assembly, thus affecting the photosensitive drum cleaning blade [3].
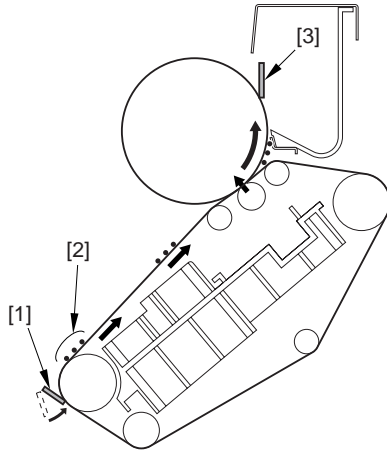
F-7-232

7.11.27.4 Points to Note When Replacing the Intermediate Transfer Unit

⚠

- When replacing the intermediate transfer unit, be sure to hold it by both its ends (10 mm from either edge), avoiding its imaging area. If its image area is soiled, be sure to clean the area using lint-free paper coated with a small amount of black toner.
- Be sure to keep a clean sheet of print paper under the intermediate transfer unit during the work.

7.11.28 Intermediate Transfer Belt

7.11.28.1 Preparation for Removing the Intermediate Transfer Belt

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaning Drive Assembly.
5-1) Open the color toner supply mouth cover [1].
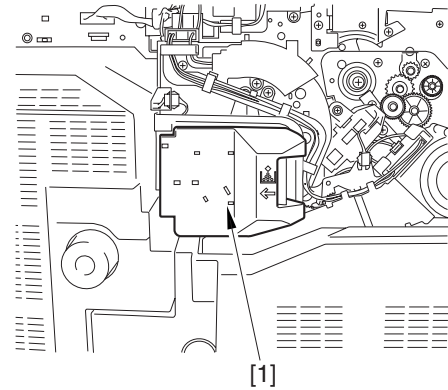
F-7-233

5-2) Remove the color toner supply cover [3].
   - connector [1]
   - screw [2]
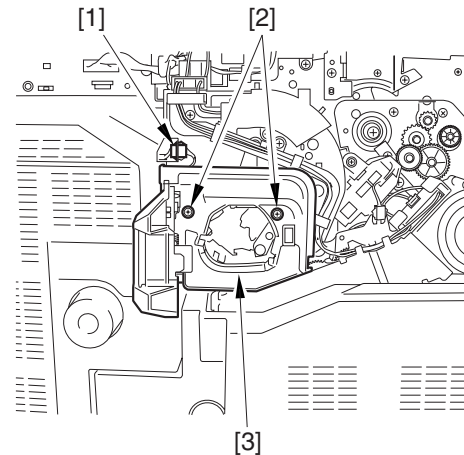
F-7-234

5-3) Slightly slide out the fixing/feeding assembly.

5-4) Remove the connector [1] to remove it from the wire guide[2].
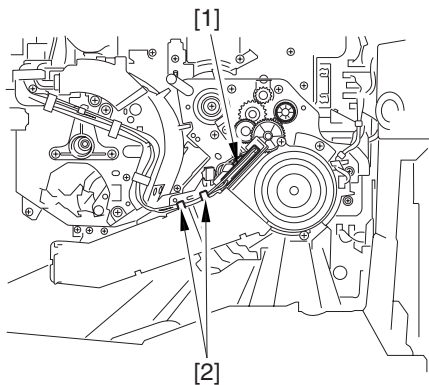
F-7-235

5-5) Shift down the locking plate [2].
  - screw [1]
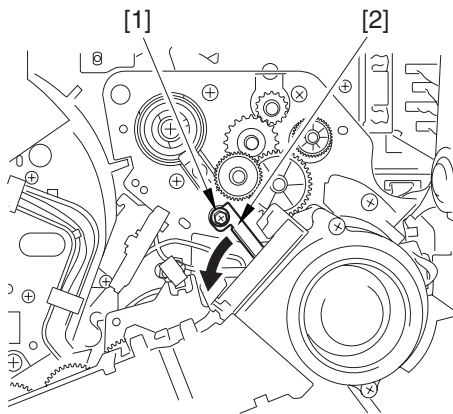
F-7-236

5-6) Remove the transfer cleaner driver assembly [3].
  - connector [1]
  - 5 screws [2]
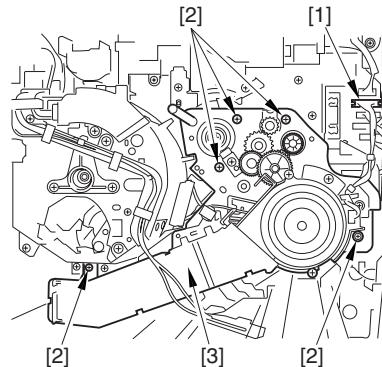
F-7-237

6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
8) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)
9) Remove the Idler Roller.
-Refer to Procedure 7.11.41

7.11.28.2 Removing the ITB

1) Holding the ITB [1] by the edge, lift it straight up to remove.
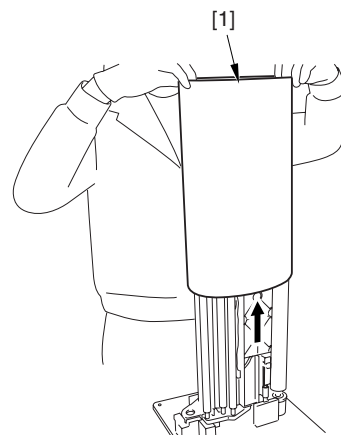
F-7-238

7.11.28.3 Points to Note When Attaching the ITB

⚠

When attaching the intermediate transfer belt, take full care so that the belt will not be upside down.

See that the red marking [1] is found on the edge of the intermediate transfer belt. Otherwise, you must remove the belt, turn it over, and then attach it.

To prevent reversed attachment of the intermediate transfer belt, there is a number marking (10-digit) [2] on its surface (edge) in addition to the foregoing marking.
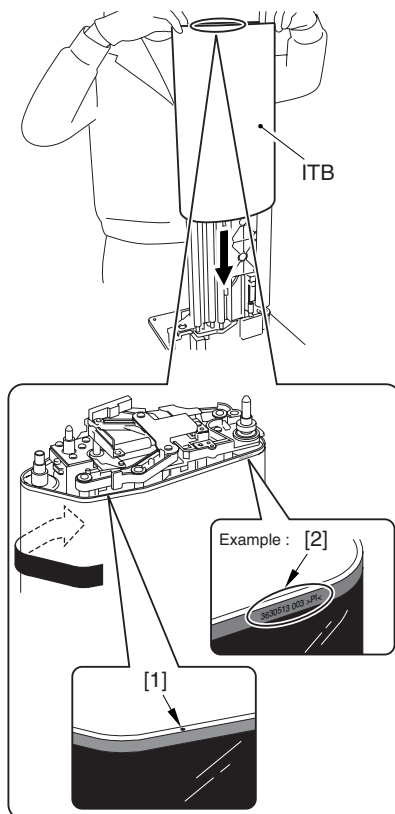
F-7-239

When you have replaced the ITB, be sure to perform the following service mode item.

Be sure that you perform service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>1TR-ROT

7.11.29 ITB Home Position Sensor PCB

7.11.29.1 Removing the ITB Home Position Sensor (right, left)

1) Remove the ITB.
2) Remove the ITB home position sensor (right) [3] and the other ITB home position sensor (left) [4].
   - screws [1] (2 pc. each)
   - connectors [2] (1 pc. each)
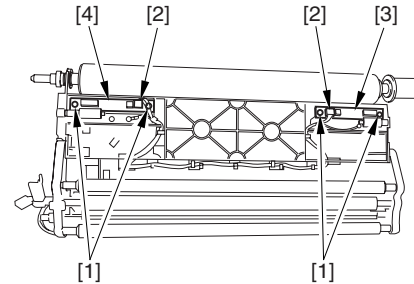
F-7-240

⚠

If you are replacing the ITB home position sensor (right, left), take care to avoid touching the sensor widow; otherwise, wrong detention can occur.

7.11.30 Secondary Transfer Roller Shift Motor

7.11.30.1 Removing the Secondary Transfer Roller Shift Motor

1) Fully slide out the fixing/feeding assembly.
2) Remove the secondary transfer cam assembly [3].
   - 4 screws [1]
   - connector [2]
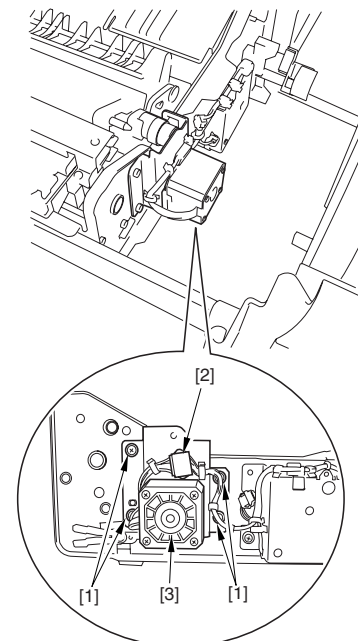
F-7-241

3) Remove the secondary roller shift motor [3] from the secondary transfer cam assembly [2].
  - 2 screws [1]
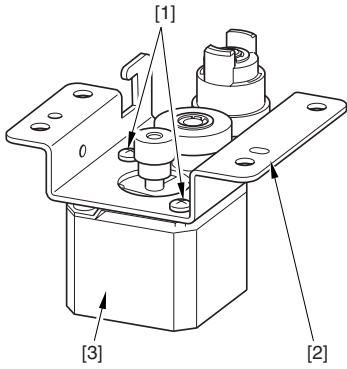
F-7-242

7.11.31 Primary Transfer Roller

7.11.31.1 Preparation for Removing the Primary Transfer Roller

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)
10) Remove the Idler Roller.
-Refer to Procedure 7.11.41
11) Remove the ITB.
11-1) Holding the ITB [1] by the edge, lift it straight up to remove.

F-7-243

7.11.31.2 Removing the Primary Transfer Roller

1) Shift the locking lever [1] in the direction of the arrows; then, lift the roller arm [2].
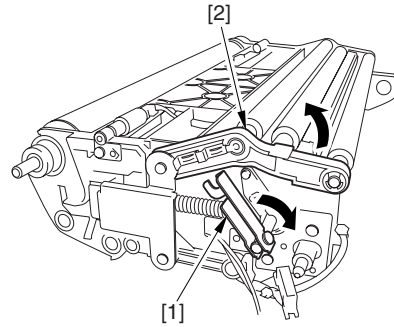
F-7-244

2) Pick the shaft [1] of the primary transfer roller [2], and remove the roller.
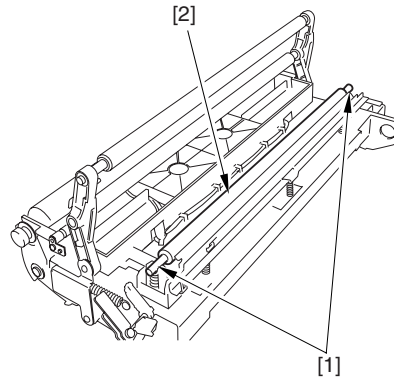
F-7-245

7.11.31.3 Points to Note When Replacing the Primary Transfer Roller

As the machine is used more and more, the shavings from the primary transfer roller can start to collect on the rollers behind the belt.

When you have replaced the primary transfer roller, be sure to clean the 6 rollers [1] and the scraper [2] indicated below.

⚠️

The idler roller (indicated by an arrow) is designed for attaching after fitting the intermediate transfer belt. Although the figure shows the roller, it is only for reference purposes, and the roller is not in its indicated position at this point in time.
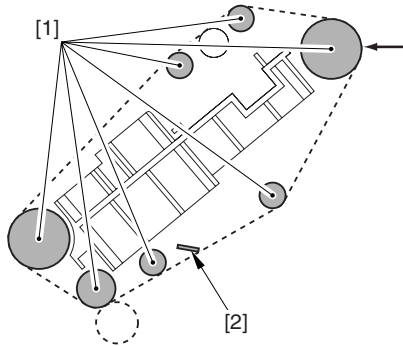
F-7-246

1. Cleaning Procedure

1) Place the ITB cleaner drive unit [1] with its cover facing down; then, stand the ITB unit [2].
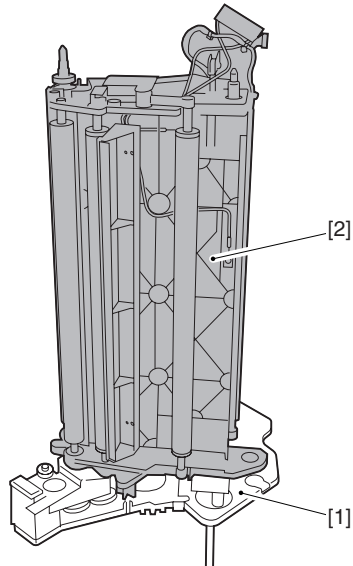
F-7-247

2) Clean the rollers [1] and the inside scraper [2] using alcohol.

[1]

[1]   [2]   [1]
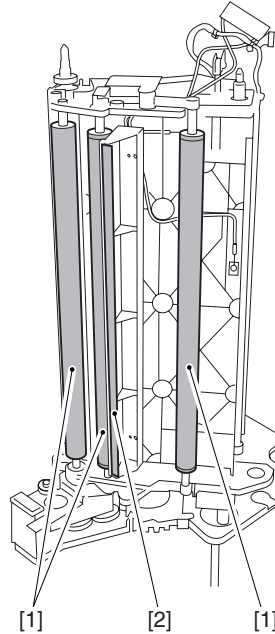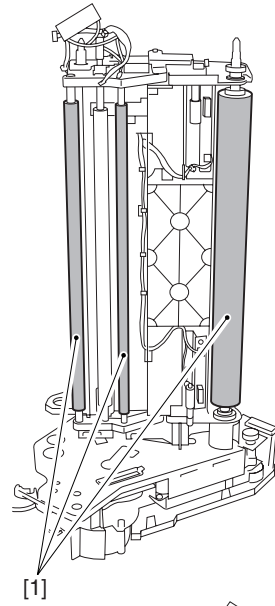
F-7-248
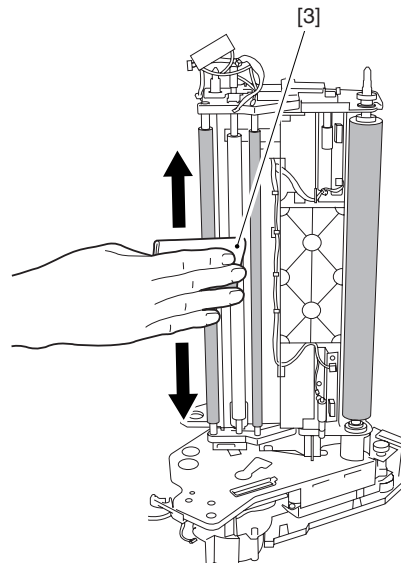
F-7-249

⚠

When you have replaced the primary transfer roller, be sure to perform the following service mode item.

Be sure that you perform service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>ITR-ROT.

7.11.32 Secondary Transfer Internal Roller

7.11.32.1 Preparation for Removing the Secondary Transfer Internal Roller

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)
10) Remove the Idler Roller.
-Refer to Procedure 7.11.41
11) Remove the ITB.
11-1) Holding the ITB [1] by the edge, lift it straight up to remove.

F-7-250

7.11.32.2 Removing the Secondary Transfer Inside Roller

1) Remove the 2 screws [1] found at the rear of the intermediate transfer unit; then, move the electrode [2] in counterclockwise direction.
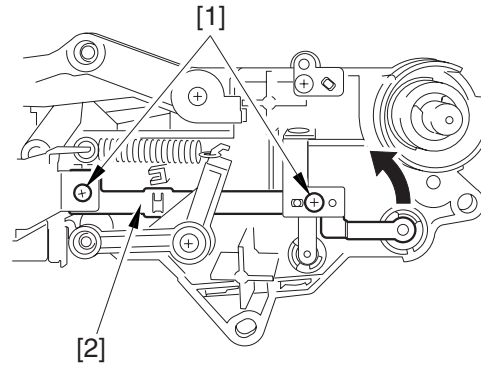
F-7-251

2) Remove the E-ring [1], washer [2], and bearing [3] from the front of the intermediate transfer unit.
3) Remove the E-ring [4] and the bearing [5] from the rear of the intermediate transfer unit.
4) Remove the secondary transfer inside roller [6].
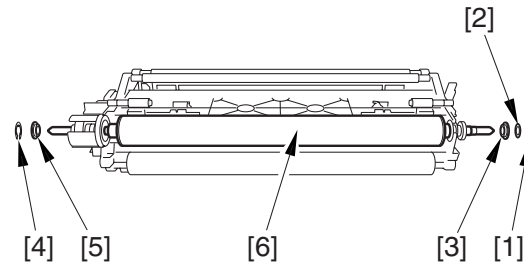
F-7-252

7.11.33 Secondary Transfer Roller

7.11.33.1 Preparation for Removing the Secondary Transfer Roller

1) Remove the Secondary Transfer Unit.
-Refer to Procedure 7.11.24
2) Remove the Secondary Transfer Static Eliminator Holder.
-Refer to Procedure 7.11.37.1

7.11.33.2 Removing the Secondary Transfer Roller

1) Remove the left roller arm [2] and the right roller arm [3].
   - 2 E-rings [1]
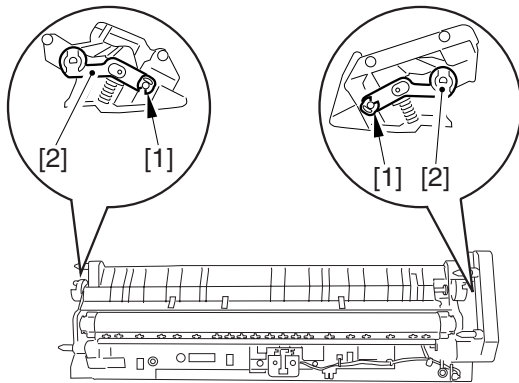
F-7-253

2) Pull out the 2 secondary roller bushing [1] in the direction of the arrow; then, remove the secondary transfer roller [2].
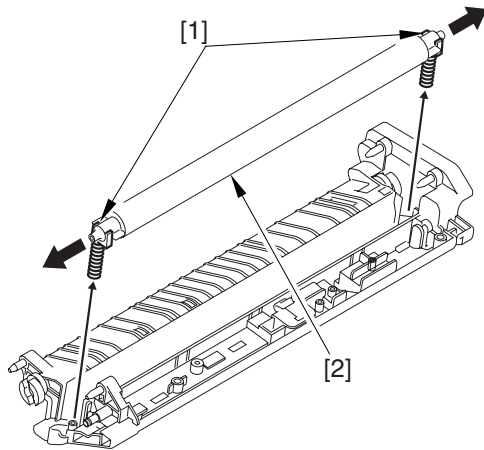
F-7-254

⚠

If you are replacing the secondary transfer roller, be sure to hold the roller shaft. Also, take care not to touch the surface of the roller and not to damage the roller.

7.11.34 ITB Cleaning Blade

7.11.34.1 Preparation for Removing the ITB Cleaning Blade

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25

7.11.34.2 Removing the ITB Cleaning Blade

1) Remove the ITB cleaner blade [2].
   - 4 screws [1]
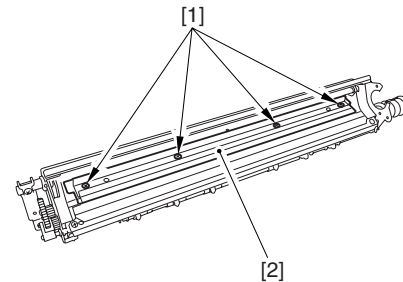
F-7-255

7.11.34.3 When Replacing the ITB Cleaning Blade

Whenever you need to replace the ITB cleaning blade, be sure to go though the following steps to apply blade lubricant (TKN-0480) to the edge of he blade.
1) Turn the primary transfer roller locking lever [1] in the direction of the arrow to engage the intermediate transfer belt.
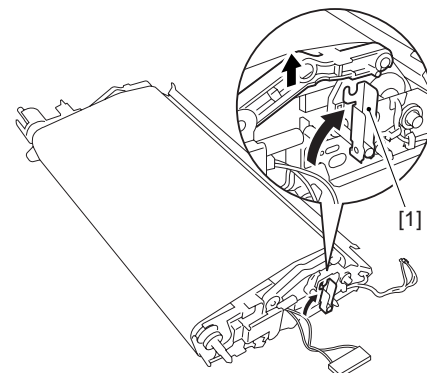
F-7-256

2) Apply an appropriate amount of blade lubricant [1] as if to sprinkle it over an area of the surface as shown.
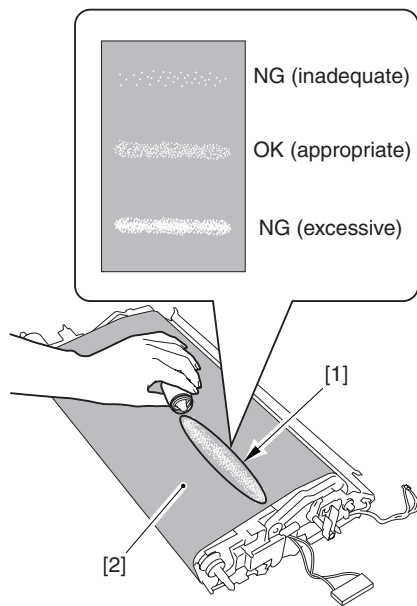
F-7-257

3) Spread the blade lubricant [1] using lint-free paper [2] as shown to cover an area of the belt about 10 cm wide.
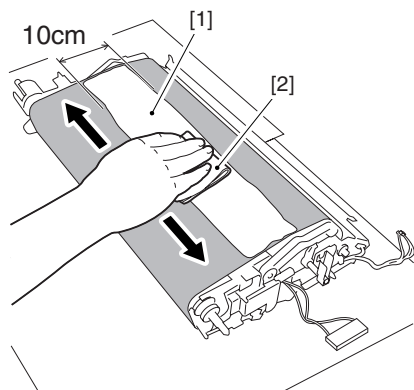
F-7-258

⚠

Take care so that the blade lubricant will not make its way behind the intermediate transfer belt. Otherwise, the presence of blade lubricant behind the intermediate transfer belt can cause the ITB home position sensor to make wrong detection.

4) Turn the drive gear [1] in he direction of the arrow so that the area of blade lubricant [2] is found as shown.
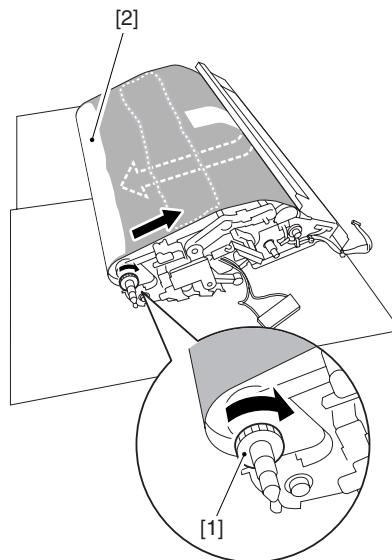
F-7-259

5) Attach the ITB cleaning unit [2] to the intermediate transfer unit [1]; then, fix it in place using 2 screws [3].
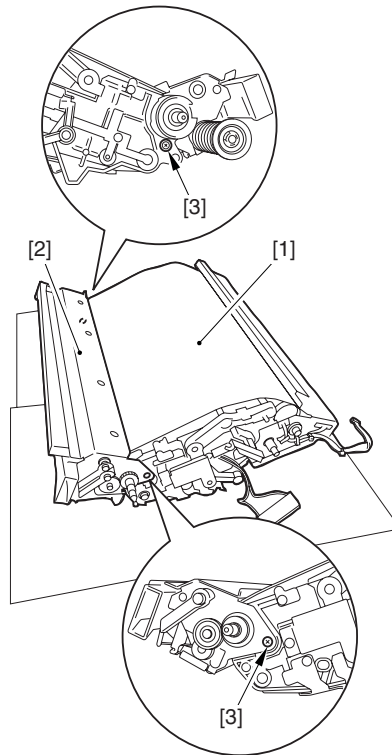
F-7-260

6) Turn the drive gear [3] until the area [2] of blade lubricant is no longer visible on the intermediate transfer belt [1].
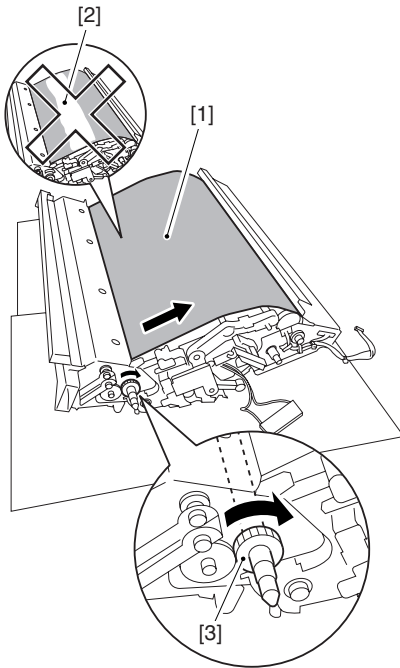
F-7-261

⚠️

If you have replaced the ITB cleaner blade, be sure to perform the following:
1) Perform the following service mode item (black band sequence): COPIER>FUNCTION>CLEANING>BK-BNDEX.

7.11.35 ITB Scoop-up Sheet

7.11.35.1 Preparation for Removing the Scoop-Up Sheet

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25

7.11.35.2 Removing the ITB Scoop-Up Sheet

1) Remove the ITB scoop-up sheet [2].
   - 2 screws [1]
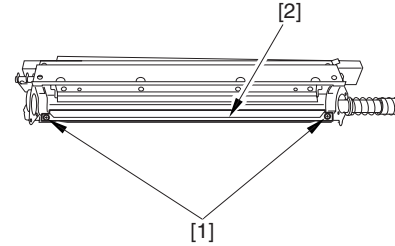
F-7-262

7.11.36 Intermediate Transfer Belt Static Eliminator

7.11.36.1 Preparation for Removing the Intermediate Transfer Belt Static Eliminator

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)
10) Remove the Idler Roller.
-Refer to Procedure 7.11.41
11) Remove the ITB.
11-1) Holding the ITB [1] by the edge, lift it straight up to remove.

F-7-263

7.11.36.2 Removing the ITB Static Eliminator

1) Shift down the lock lever [1] in the direction of the arrow; then, lift up the roller arm [2].
2) Remove the ITB static eliminator [4].
   - 2 claws [3]
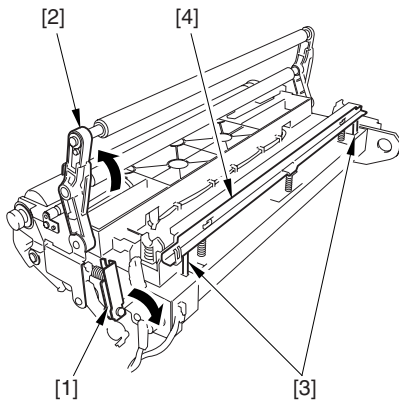
F-7-264

7.11.37 Secondary Transfer Static Eliminator

7.11.37.1 Removing the Secondary Transfer Static Eliminator Holder

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Remove the secondary transfer guide [2].
   - 2 screws [1]
4) Remove the secondary transfer static eliminator holder [3].
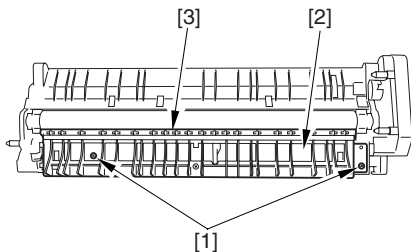
F-7-265

7.11.38 Potential Sensor Unit

7.11.38.1 Preparation for Removing the Potential Sensor

The potential sensor unit includes the following 4 parts:
   - potential control PCB
   - potential sensor
   - potential sensor relay harness (between relay connector and potential control PCB)
   - potential sensor harness (between potential sensor and relay connector)

⚠

Be sure that the potential sensor and the potential control PCB are always replaced at the same time.

1) Remove the Potential Control PCB.
1-1) Open the upper right cover.
1-2) Open the upper right cover [1] wider.
   - screw [1]
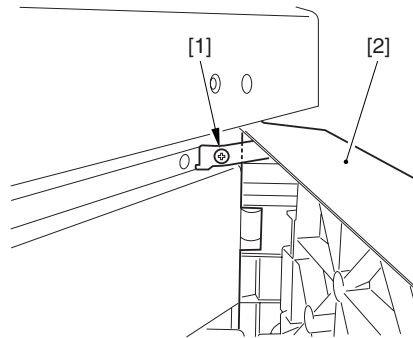
F-7-266

1-3) Remove the filter retainer [2] and the filter [3].
   - screw [1]
1-4) Remove the connector cover [4].
   - screws [4]
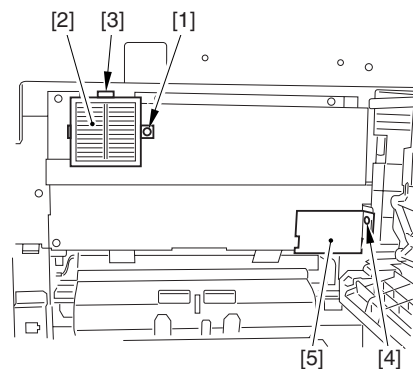
F-7-267

1-5) Remove the grounding wire [2].
- screw [1]
1-6) Remove the side plate [4].
- 5 screws [3]
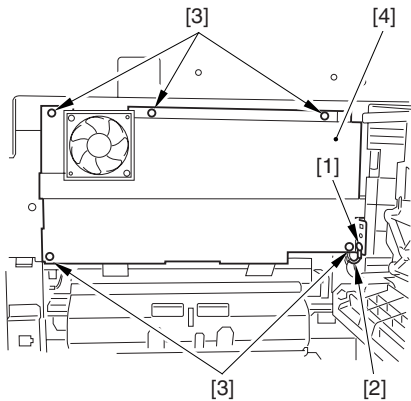
F-7-268

1-7) Remove the 2 connectors [1].
1-8) Remove the potential control PCB [3].
- 2 screws [2]
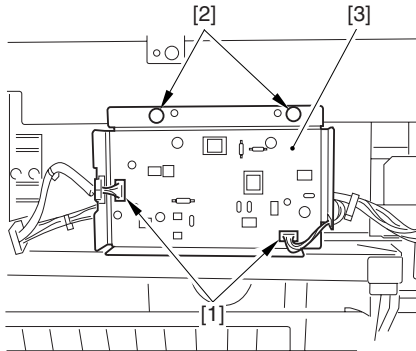
F-7-269

2) Remove the Right Cover (upper).
3) Release the Front Cover.
-Refer to Procedure 7.11.1
4) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
5) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
6) Remove the Black Developing Unit.
-Refer to Procedure 7.11.18

7.11.38.2 Removing the Potential Sensor

1) Remove the potential sensor together with developing cover[2].
- 3 screws [1]
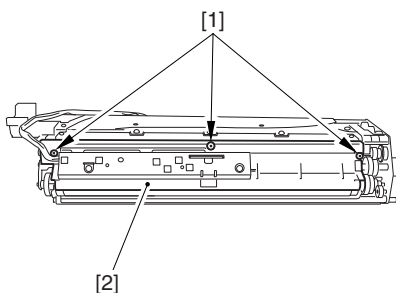
F-7-270

7.11.39 ATR Sensor Unit

7.11.39.1 Preparation for Removing the ATR Sensor Unit

1) Remove the Right Cover (upper).
2) Release the Front Cover.
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Slide Out the Process Unit.
-Refer to Procedure 7.11.2
5) Remove the Black Developing Unit.
-Refer to Procedure 7.11.18

7.11.39.2 Removing the ATR Sensor Unit

1) Remove the connector [1].
2) Open the clamp [2], and remove the harness for the wire guide [3].
3) Remove the 2 screws [4].
4) Remove the ATR sensor unit [6].
- 2 lock claws [5]
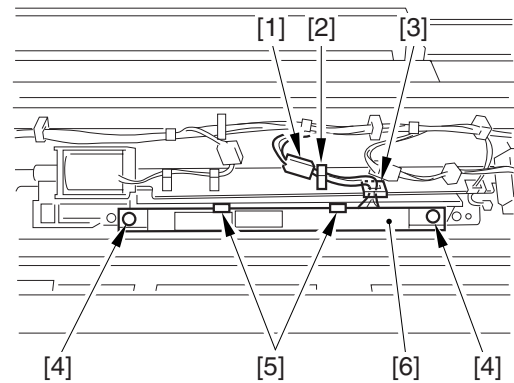
F-7-271

7.11.40 Patch Image Sensor

7.11.40.1 Preparation for Removing the Patch Image Sensor

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
9-1) Move the arm [1] shown in the figure to lock it in place; thus releasing the roller (both front and rear).
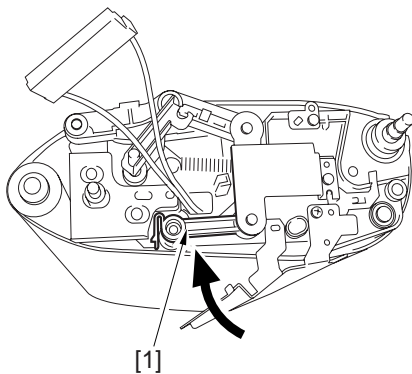
F-7-272

9-2) Stand the intermediate transfer unit by fitting its 2 pints [2] in the 2 holes of the fixing/feeding assembly.

⚠️

Check that the ITB cleaner unit has been already removed.
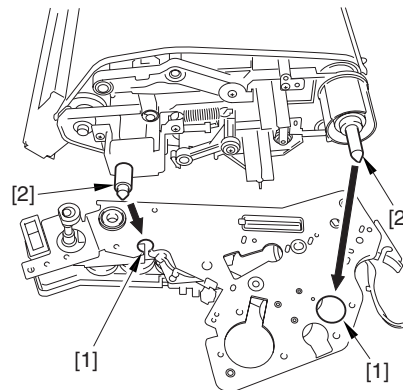
F-7-273

9-3) Free the cable [3] from the 3 cable clamps [2].
   - connector [1]
9-4) Remove the patch image reading unit [5].
   - 2 screws [4]
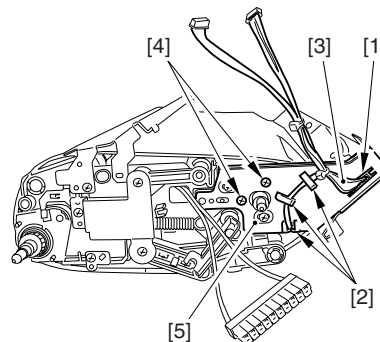
F-7-274

7.11.40.2 Removing the Patch Image Reading Sensor

1) Remove the pattern reader holder [2].
   - 2 screws [1]
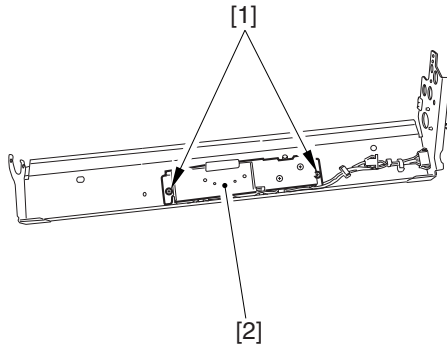
F-7-275

2) Remove the patch image reading sensor [3].
   - 2 screws [1]
   - connector [2]
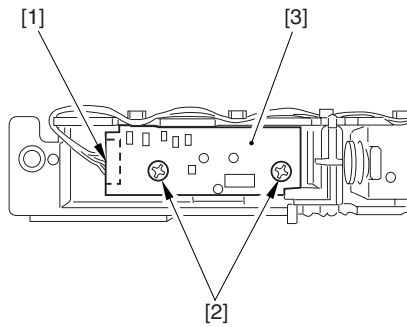
F-7-276

7.11.41 Idle Roller

7.11.41.1 Preparation for Removing the Idle Roller

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)

7.11.41.2 Removing the Idle Roller

1) Remove the pre-transfer guide [2].
   - screw [1]
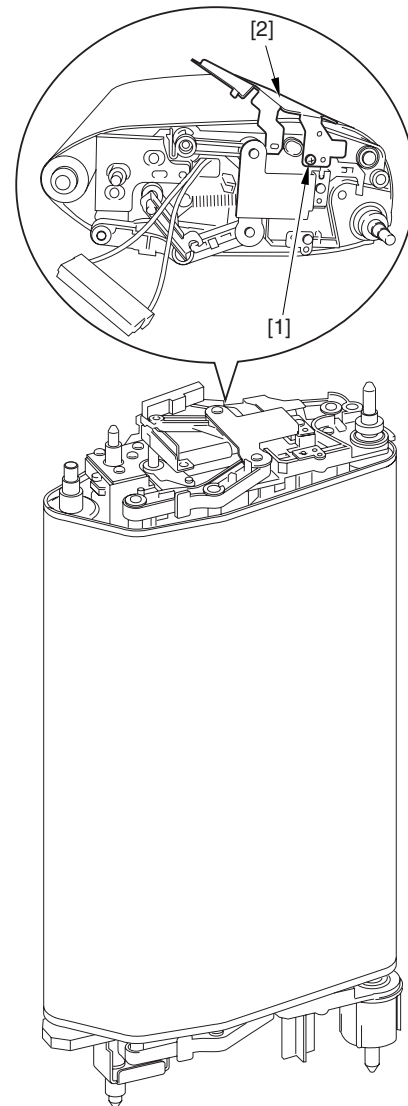
F-7-277

2) Holding the shaft of the idle roller [1], lift the roller[2] upright to remove.
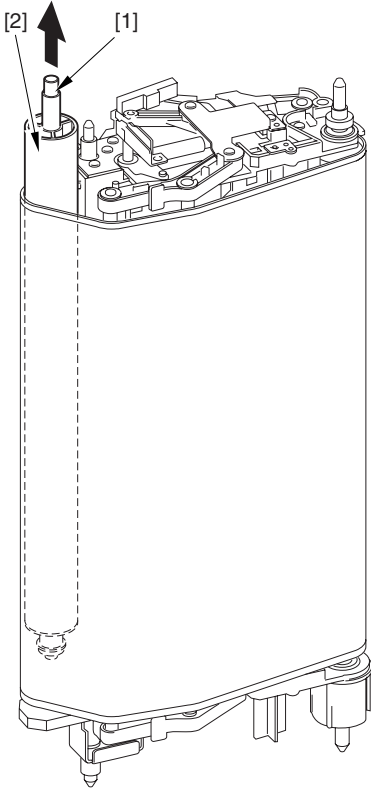
F-7-278

⚠

When removing the roller, take care not to damage the surface of the ITB by the roller.

7.11.41.3 Detaching the Idle Roller

1) Remove the 2 bushings [1], bearing [2], and E-ring[3] from the idle roller.
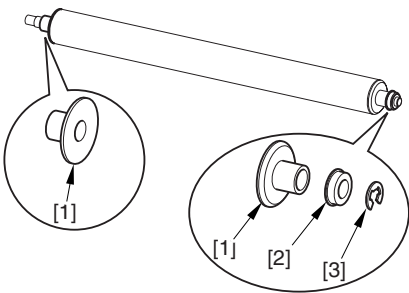
F-7-279

7.11.42 Patch Image Reading Sensor Shutter Solenoid

7.11.42.1 Preparation for Removing the Patch Image Reading Sensor Shutter Solenoid

1) Remove the Right Cover (upper).
2) Release the Front Cover.
-Refer to Procedure 7.11.1
3) Release the Hopper Assembly.
-Refer to Procedure 7.11.14
4) Remove the Pre-Transfer Charging Assembly.
-Refer to Procedure 7.11.5
5) Remove the Transfer Cleaner Drive Assembly.
-Refer to Procedure 7.11.1 #5)
6) Remove the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27
7) Clean the Surface of the Intermediate Transfer Unit.
-Refer to Procedure 7.11.27.3
8) Remove the ITB Cleaning Unit.
-Refer to Procedure 7.11.25
9) Remove the Patch Image Reading Unit.
-Refer to Procedure 7.11.40.1 #9)

7.11.42.2 Removing the Patch Image Reading Sensor Shutter Solenoid

1) Remove the 4 screws [1].
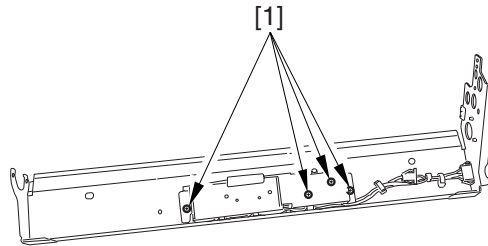
F-7-280

2) Remove the patch image reading sensor shutter solenoid [2].
   - connector [1]
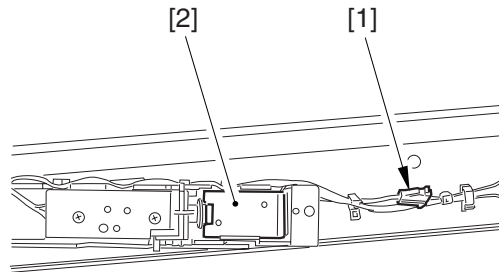
F-7-281

7.11.43 Charging Wire

7.11.43.1 Outline

Around the photosensitive drum are 2 charging writes used for primary and pre-transfer charging. These wires are brown wires 0.06 mm in diameter. Be sure not to use gold-plated writes in their place; otherwise, image faults may occur.
Be sure also to use a high-polish pad (blue) designed for a brown wire as the cleaning pad for the primary and pre-transfer charging assemblies.

7.11.43.2 Removing the Wire Cleaner of the Primary Charging Assembly

1) Pick the wire cleaner hook [1], and remove the wire cleaner [2] .
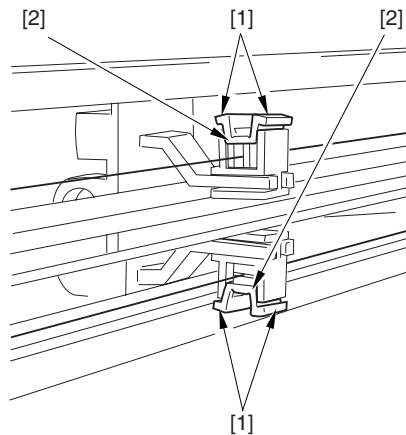
F-7-282

7.11.43.3 Stringing the Charging Wires

All charging wires (except the grid wire) may be strung in the same way, and the following shows how to string the charging wire of the primary charging assembly.

1) Remove the shield plates (left, right) of the charging assembly. Be sure to detach the left and right shield plates separately so as to prevent warping of the primary charging assembly.
At this time, be sure NOT to loosen both right and left mounting screws [1] at the same time on the left and right shield plates.
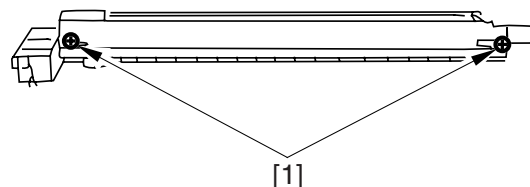
F-7-283

2) Remove the wire cleaner.

⚠

In the case of the pre-transfer charging assembly, remove the 2 lids.

3) Free a length of about 5 cm from a 0.06-mm-dia charging wire reel, and form a loop at its end about 2 mm in diameter.

Reference:
To form a lop, wind the charging wire around a hex key once, turn the key 3 to 4 times, and twist the wire.

4) Cut off the excess end of the charging wire with nippers.
5) Hook the loop on the stud.
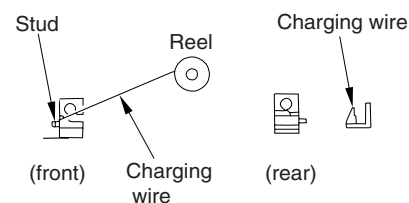
F-7-284

6) Hook the charging wire [2] on the charging wire positioner [1] at the rear; then, hook the charging wire on the hook [3] for tension.
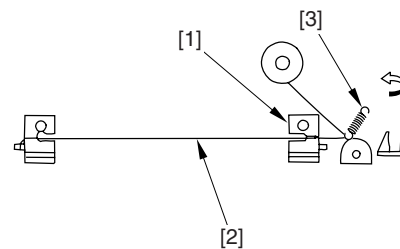
F-7-285

7) Cut the excess charging wire with nippers.
8) Pick the end [1] of the tension spring with tweezers, and hook it on the charging power supply terminal [2].
In the case of the pre-transfer charging assembly, hook the spring on the pin at the front.
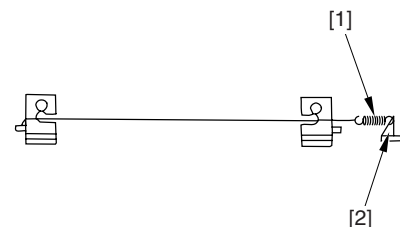
F-7-286

Make sure of the following:
  - the charging wire must not be bent or twisted.
  - the charging wire must be in the V-groove of
  the charging wire positioner.

(correct)   (wrong)

Grid side

(correct)   (wrong)
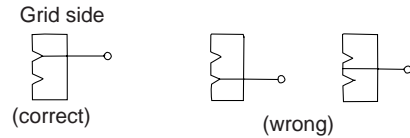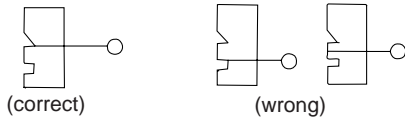
F-7-287

9) Attach the cushion at the front of the charging wire. (This does not apply to the primary charging assembly.)
10) Attach the left and right shield plates (or, 2 lids).
11) Attach the wire cleaner. At this time, be sure to pay attention to the orientation of the wire cleaner.
12) Wipe the charging wire with lint-free paper moistened with alcohol.

7.11.43.4 Stringing the Grid.

1) Loosen the 2 attaching screws [1] used to hold the left and right shield plates in place.
2) Loosen the 3 attaching screws [2] used to hold the motor unit at the front.
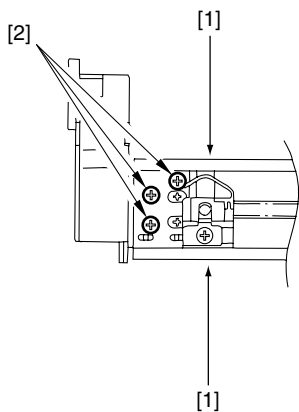
F-7-288

3) Loosen the screw [1], and move the block [2] in the direction of the arrow; then, attach it temporarily.
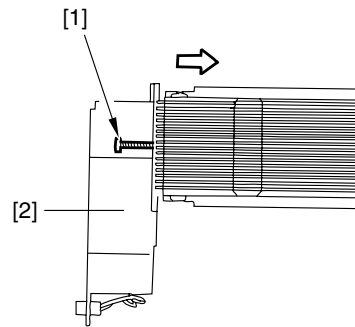
F-7-289

4) Free a length of about 5 cm form a 0.1-mm-dia charging wire reel, and form a loop of about 2 mm in diameter at its end.

Reference:
To form a loop, wind the charging wire around a hex key once, turn the key 3 to 4 times, and twist the charging wire.

5) Cut the excess of the charging wire with nippers.
6) When you have strung the charging wire on all studs, pass its end [2] between the motor unit and the washer found behind the charging assembly. Then, wind the charging wire around the attaching screw [3] once (clockwise), and attach it using the screw.
7) After routing the wire for stud, lead it through wire end [2], put it between the washer and the motor unit, and wind it once around the attaching screw(clockwise) [3] , and secure it in place with a attaching screw.
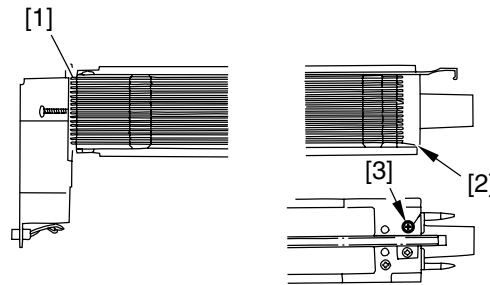
F-7-290

8) Cut the excess of the charging wire with nippers.
9) Tighten the attaching screw you loosened in step 3). (Be sure to tighten it until the tension of the gird wire is even and while making sure that the charging assembly is free of deformation.
10) Tighten the attaching screws you loosened in steps 1) and 2).
11) Wipe the grid wire with lint-free paper moistened with alcohol.

⚠

Check to be sure that the grid wire is free of bends and twists. Also, the lengths of the wire must be at equal intervals. (The grid wire must be in the groove of the block.)

7.11.43.5 Adjusting the Primary Charging Wire

If you have to replace the primary charging wire, check that the height of the changing wire is as indicated:
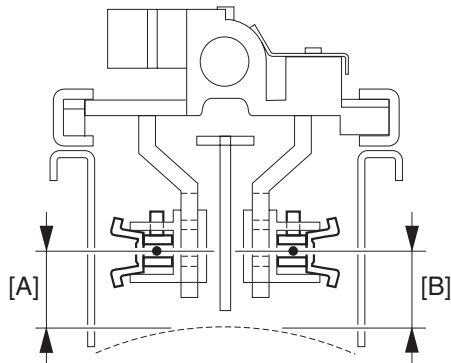
F-7-291

left (on the developing unit side) [A]: 7.5 +/-0.5 mm

right (on the photosensitive drum cleaning unit side) [B]: 8.0 +/-0.5 mm

If the height is not as indicated, make the necessary adjustments.

Reference:

The height of the primary charging wire may be adjusted by turning the screw found behind the charging assembly. A full turn will change the height by about 0.7 mm.

Pickup/Feeding Assembly

Contents

8.1 Construction

8.1.1 Specifications, Control Mechanisms, and Functions

The following shows the major specifications, control mechanisms, and functions of the pickup/feeding system:

T-8-1

Item	Description	Remarks
Method of paper accommodation	front loading	
Method of pickup	front deck (right, left)	separation retard
	cassette (3, 4)	separation retard
	manual feed tray	separation retard
reference of paper movement	center	
accommodation of paper	front deck (right, left)	1500 sheets (80 g/m2)
	cassette (3, 4)	550 sheets (80 g/m2)
	manual feed tray	100 sheets (80 g/m2)
Size of paper	front deck (left, right)	A4, B5, LTR
	cassette (3, 4)	A3, B4, A4, A4R, B5, B5R, A5R, 305X457mm, 320X450mm(SRA3), 330X483mm, 11X17, LGL, LTR, LTRR, STMTR, EXEC, 12X18, 12-5/8X17-11/16, 13X19
	manual feed tray	main scanning: 100 to 330 mm
		sub scanning: 148.5 to 482 mm
Weight of paper	front deck (left, right)	64 to 209g/m2
	cassette (3, 4)	64 to 209g/m2
	manual feed tray	64 to 250g/m2
	duplexing	mono color: 64 to 209 g/m2
		color: 64 to 163 g/m2
Switching paper sizes	front deck (left, right)	by service person
	cassette (3,4)	by user
	manual feed tray	by user
Method of duplexing	through path	

8.1.2 Major Divisions of the Machine
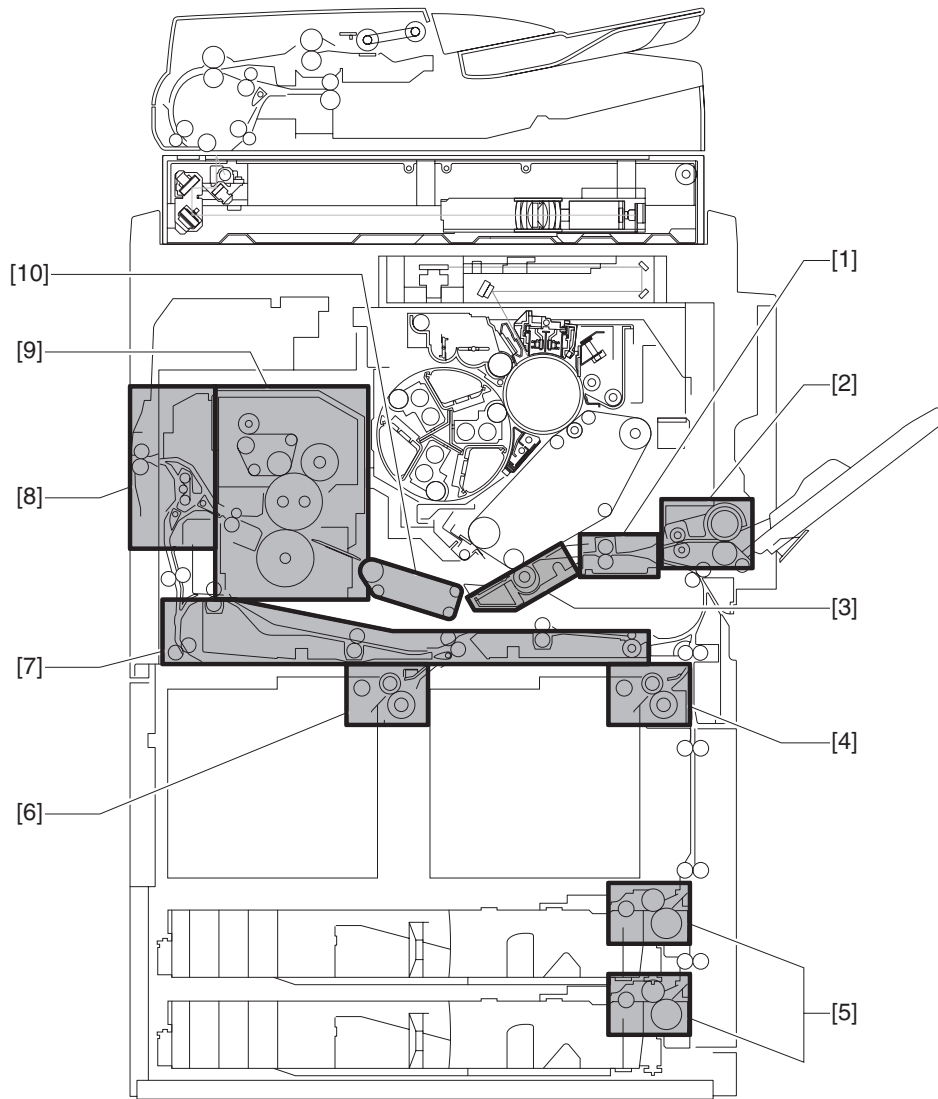
F-8-1

[1] Registration roller assembly   [5] Cassette pickup assembly   [8] Delivery assembly

[2] Manual feed pickup assembly [6] Left deck pickup assembly   [9] Fixing assembly

[3] Secondary transfer assembly   [7] Duplexing feeding assembly [10] Feeding assembly

[4] Right deck pickup assembly

8.1.3 Arrangement of Rollers

F-8-2
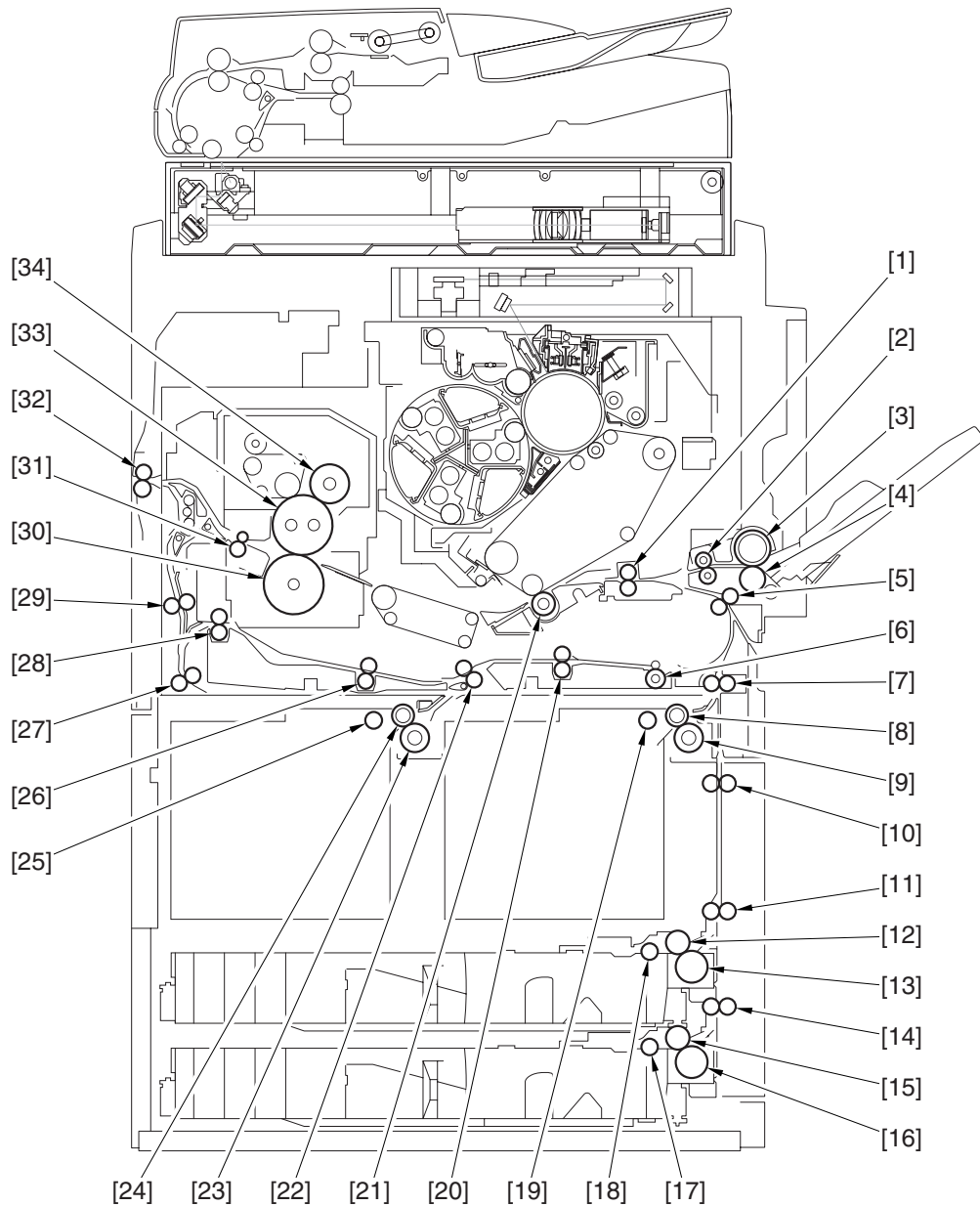
[1] Registration roller
[2] Manual feed pull-off roller
[3] Manual feed roller
[4] Manual feed separation roller
[5] Pre-registration roller
[6] Duplexing outlet roller
[7] Vertical path 1 roller
[8] Right deck feed roller
[9] Right deck separation roller
[10] Vertical path 2 roller
[11] Vertical path 3 roller
[12] Cassette 3 feed roller

[13] Cassette 3 separation roller
[14] Vertical path 4 roller
[15] Cassette 4 feed roller
[16] Cassette 4 separation roller
[17] Cassette 4 pickup roller
[18] Cassette 3 pickup roller
[19] Right deck pickup roller
[20] Duplexing right roller
[21] Secondary transfer roller
[22] Duplexing confluence roller
[23] Left deck separation roller

[24] Left deck feed roller
[25] Left deck pickup roller
[26] Duplexing left roller
[27] Reversing 2 roller
[28] Duplexing inlet roller
[29] Reversing 1 roller
[30] Pressure roller
[31] Inside paper roller
[32] Outside delivery roller
[33] Fixing roller
[34] Outside heat roller

8.1.4 Diagram of the Paper Path
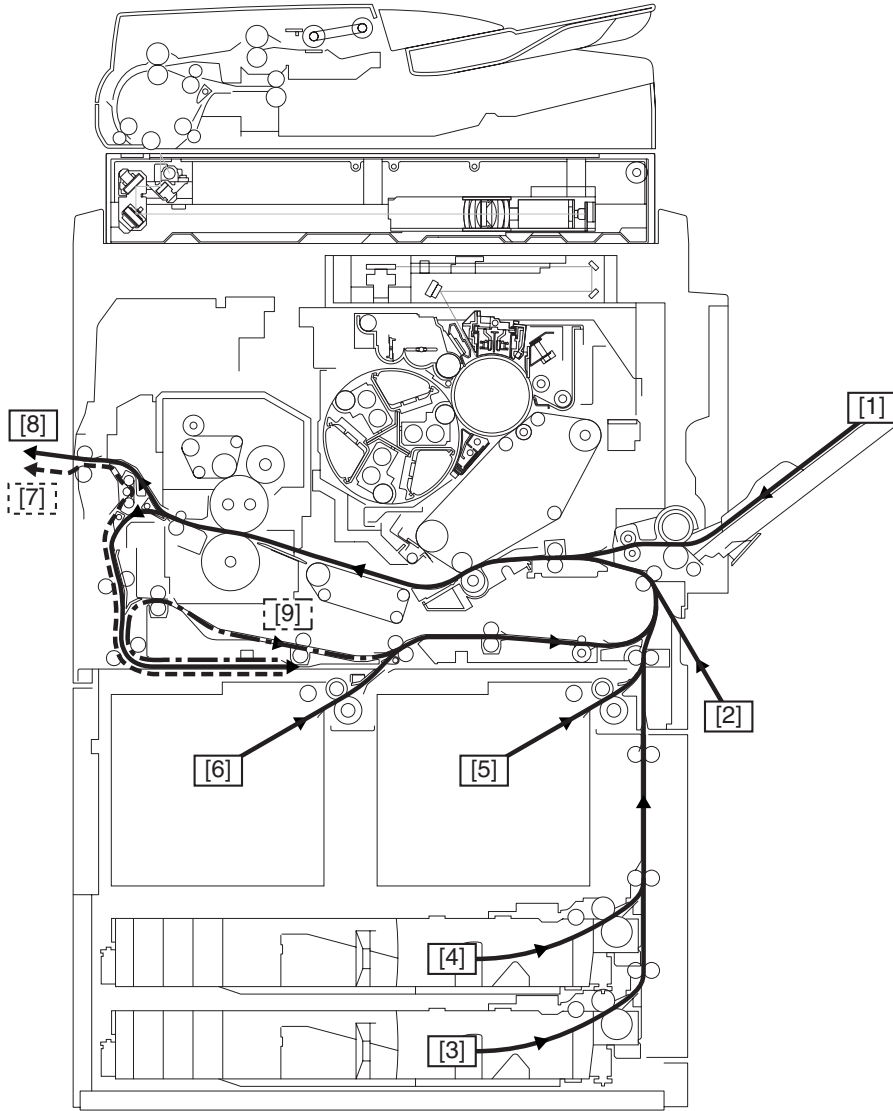
F-8-3

[1] Manual feed pickup   [4] Cassette 3 pickup   [7] Face-down delivery

[2] Side paper deck pickup   [5] Right deck pickup   [8] Face-up delivery

[3] Cassette 4 pickup   [6] Left deck pickup   [9] Duplexing re-pickup

8.1.5 Arrangement of Sensors

F-8-4
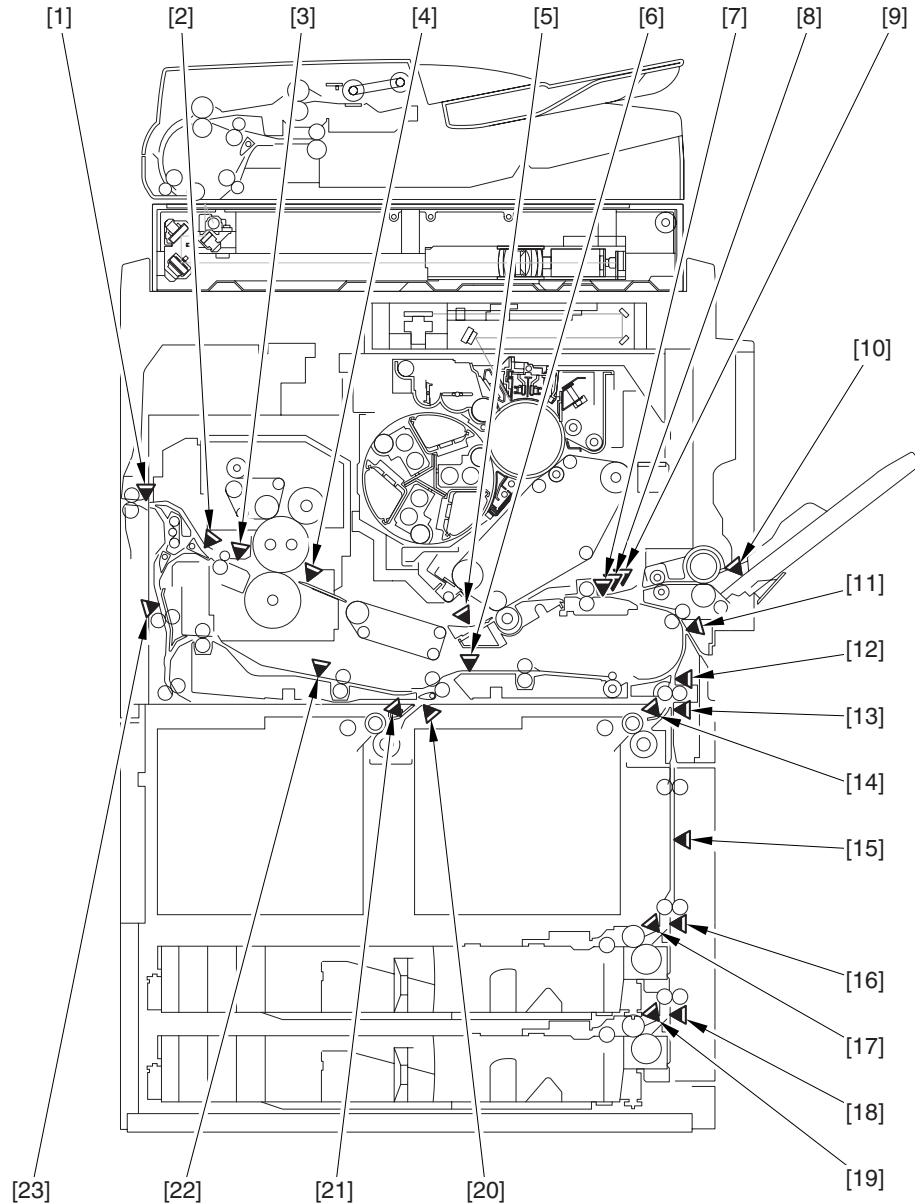
[1] External delivery sensor
[2] Reversal sensor
[3] Inside delivery sensor
[4] Fixing inlet sensor
[5] Post-transfer sensor
[6] Duplexing confluence sensor
[7] Transparency sensor (front; PS3)
[8] Registration sensor
[9] Transparency sensor (rear; PS29)
[10] Manual feed paper sensor
[11] Vertical path confluence sensor
[12] Vertical path 0 sensor

[13] Vertical path 1 sensor
[14] Right deck pickup sensor
[15] Vertical path 2 sensor
[16] Vertical path 3 sensor
[17] Cassette 3 pickup sensor
[18] Vertical path 4 sensor
[19] Cassette 4 pickup sensor
[20] Left deck stationary sensor
[21] Left deck pickup sensor
[22] Duplexing left sensor
[23] Reversal vertical path sensor

8.1.6 Arrangement of Solenoids
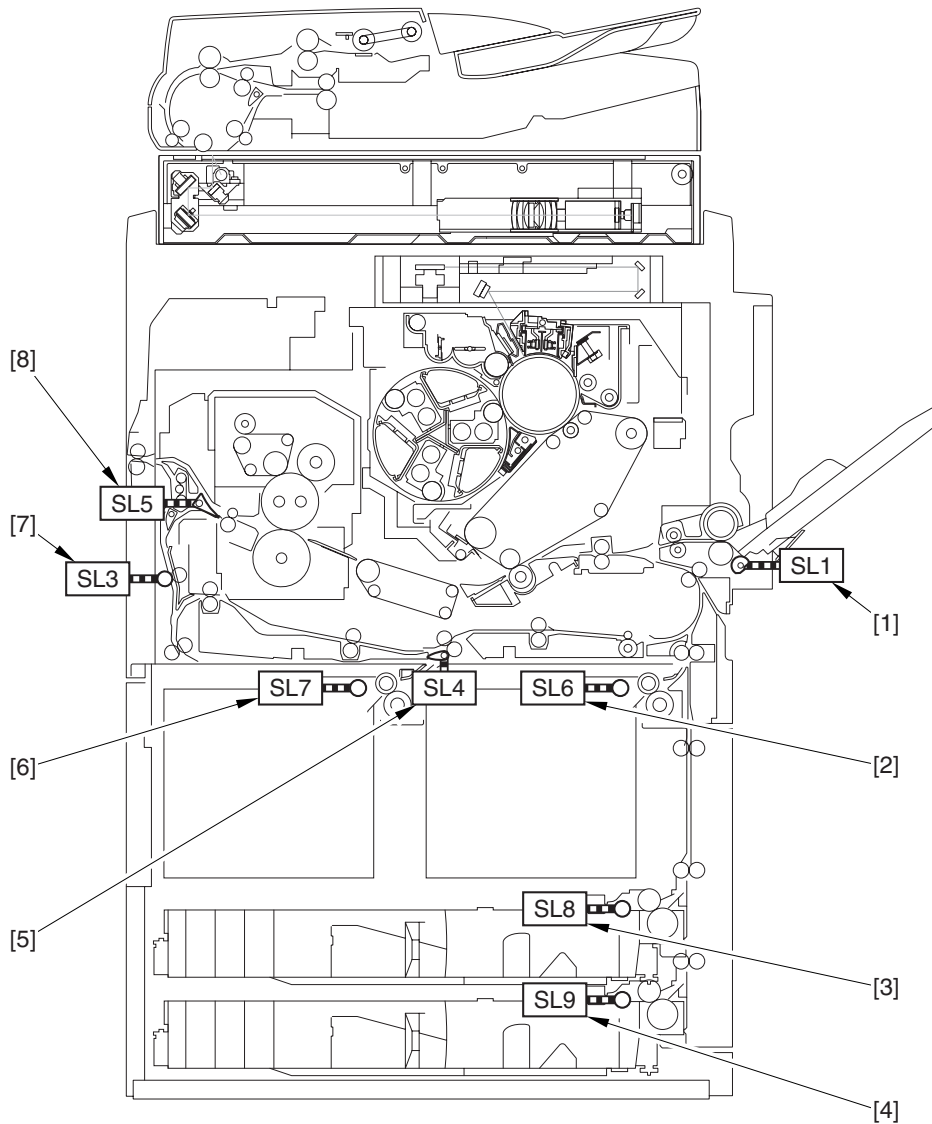
F-8-5

[1] Manual feed pickup solenoid
[2] Deck (right) pickup solenoid
[3] Cassette 3 pickup solenoid
[4] Cassette 4 pickup solenoid

[5] Left deck confluence solenoid
[6] Deck (left) pickup solenoid
[7] Reversal shifting solenoid
[8] Delivery solenoid

8.1.7 Arrangement of Drive Mechanisms
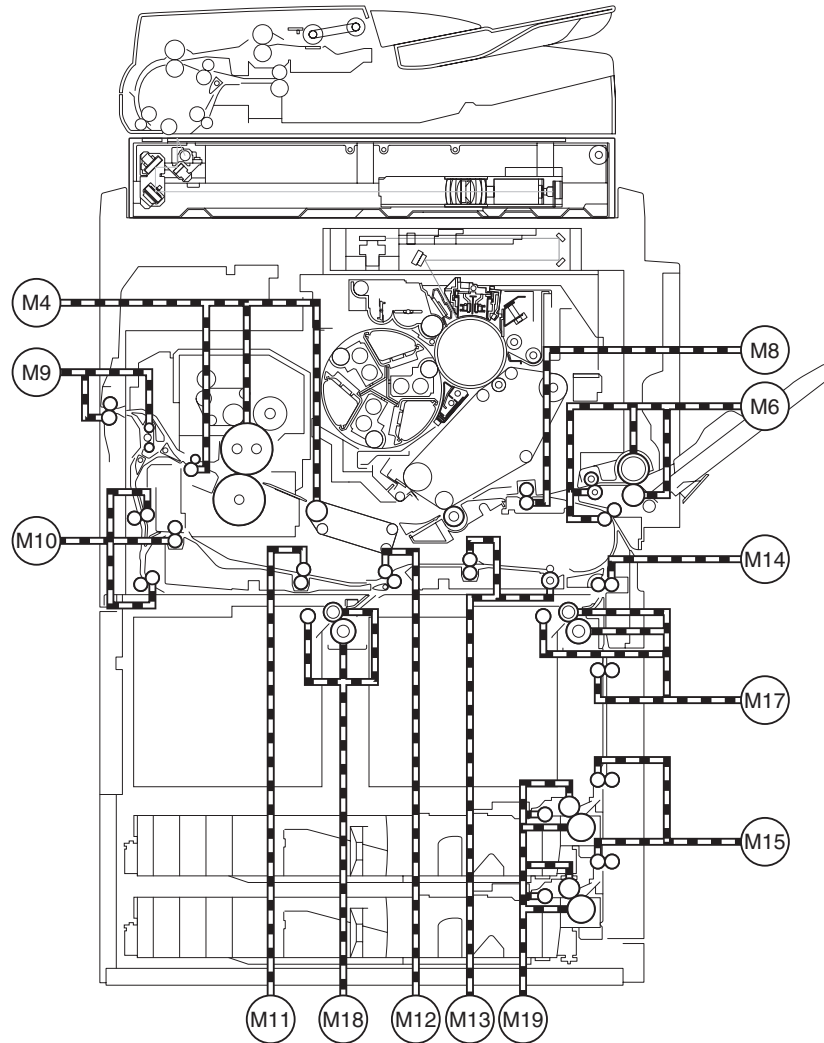
F-8-6

M4 Fixing motor

M6 Manual feed pre-registration motor

M8 Registration motor

M9 Outside delivery motor

M10 Duplexing reversal motor

M11 Duplexing left motor

M12 Duplexing middle motor

M13 Duplexing right motor

M14 Right deck pull-off motor

M15 Vertical path motor

M17 Right deck pickup motor

M18 Left deck pickup motor

M19 Cassette pickup motor

8.2 Basic Sequence

8.2.1 Basic Sequence of Operation (in response to a press on the Start key)

1. Right Deck

a. A4, plain, 2 sheets continuous, secondary transfer speed at normal, face-up delivery
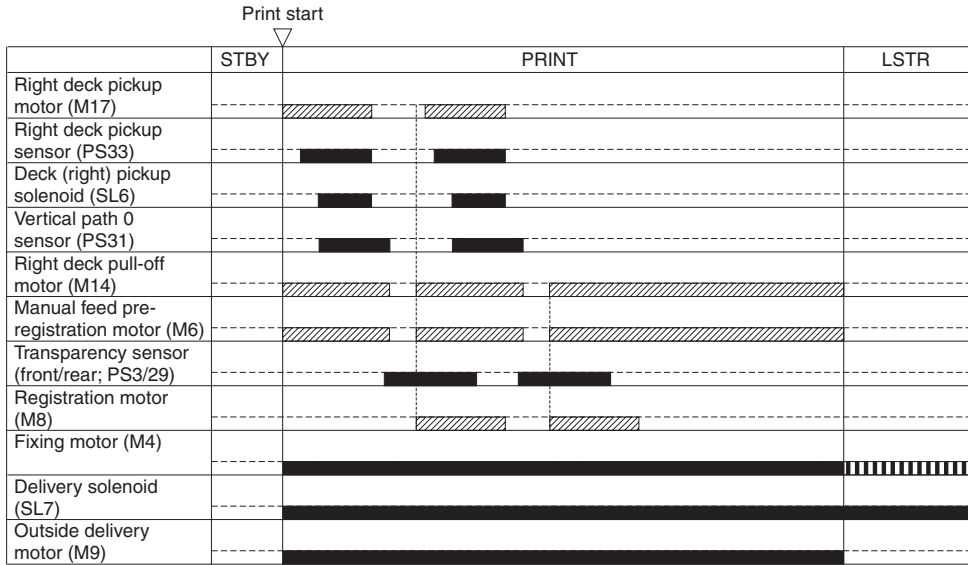
▭: acceleration control used.

▮: rotates at 1/3 speed (92 mm/sec).

F-8-7

b. A4, plain, 2 sheets continuous, secondary transfer speed at 2/3, face-up delivery
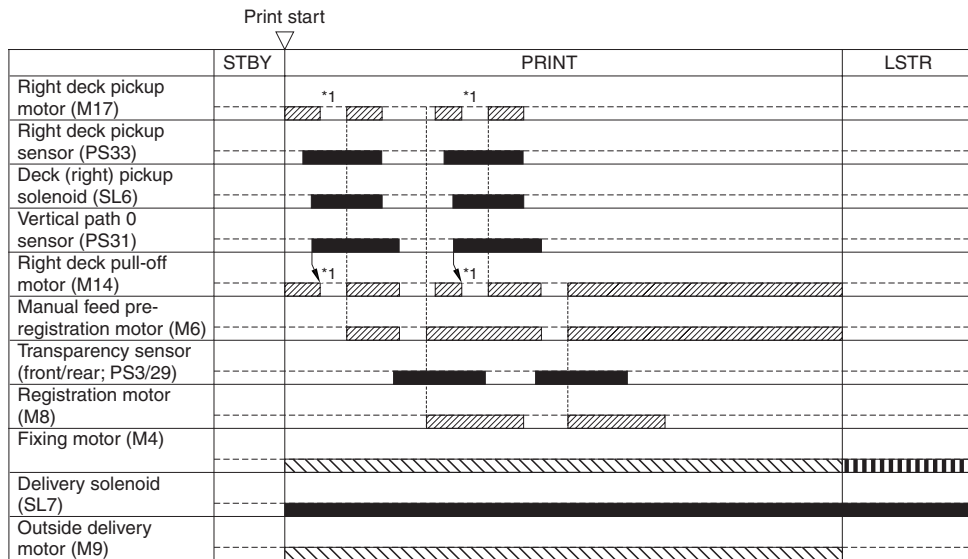
▭ : acceleration control used.

▨ : 2/3 rotates at 2/3 speed (184 mm/sec).

▮ : rotates at 1/3 speed (92 mm/sec).

*1 : pre-registration stop.

F-8-8

2. Cassette 3

a. A4, plain, 2 sheets continuous, secondary transfer speed at normal, face-up delivery

Print start

	STBY	PRINT	LSTR
Cassette 3 pickup motor (M19)			
Cassette 3 pickup sensor (PS48)			
Cassette 3 pickup solenoid (SL8)			
Vertical path 2 sensor (PS61)			
Vertical path motor (M15)			
Right deck pickup motor (M17)			
Right deck pull-off motor (M14)			
Manual feed pre-registration motor (M6)			
Transparency sensor (front/rear; PS3/29)			
Registration motor (M8)			
Fixing motor (M4)			
Delivery solenoid (SL7)			
Outside delivery motor (M9)			
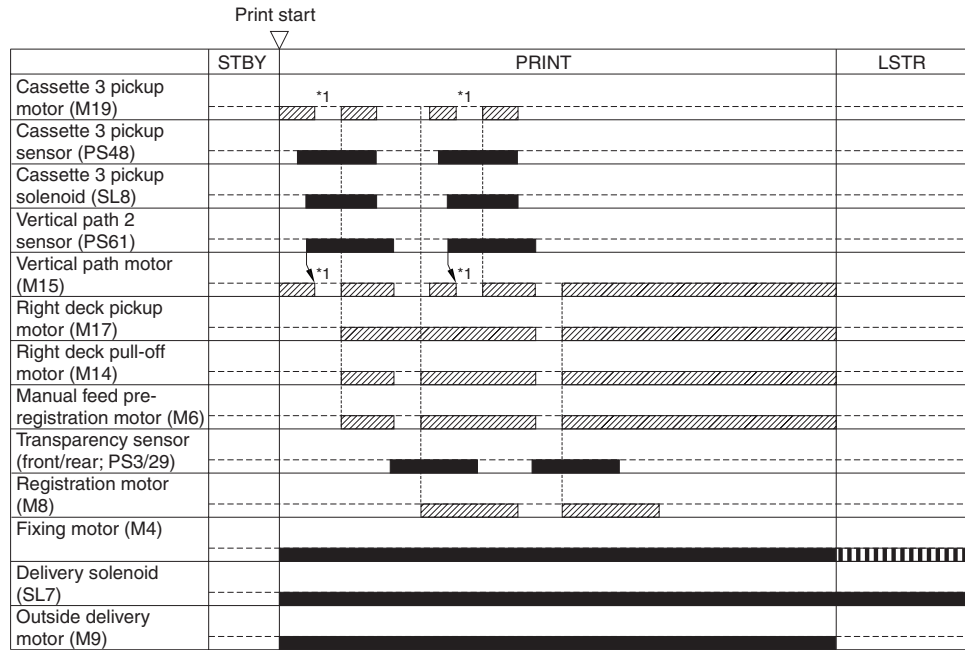
▨ : acceleration control used.

▥ : rotates at 1/3 speed (92 mm/sec).

*1 : pre-registration stop.

F-8-9

3. Manual Feeder

a. A4, plain, 2 sheets continuous, face-up delivery

Print start

	STBY	PRINT	LSTR
Manual pickup solenoid (SL1)			
Manual feed pre-registration motor (M6)			
Transparency sensor (front/rear; PS3/29)			
Registration motor (M8)			
Fixing motor (M4)			
Delivery solenoid (SL7)			
Outside delivery motor (M9)			
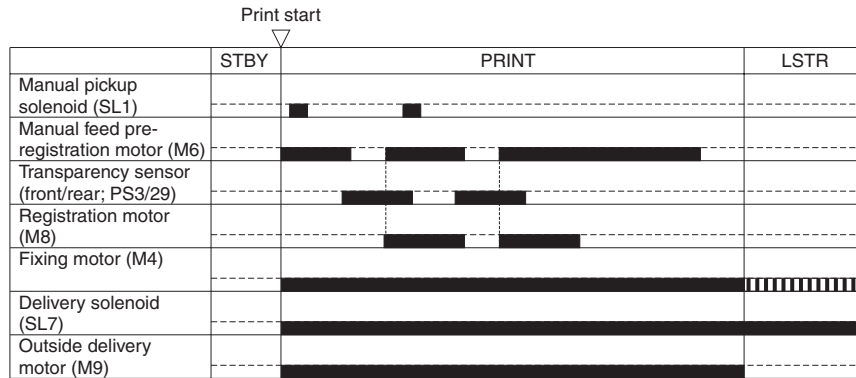
▥ : rotates at 1/3 speed (92 mm/sec).

F-8-10

8.2.2 Interval Acceleration

The machine provides 3 types of secondary transfer speed (normal, 2/3 speed, 1/3 speed) to suit the type of paper (material, weight) and the selected color mode. These speeds are in keeping with the image formation speed (276 mm/sec; if normal speed, 276 mm/sec; if 2/3 speed, 184 mm/sec; if 1/3 speed, 92 mm/sec).
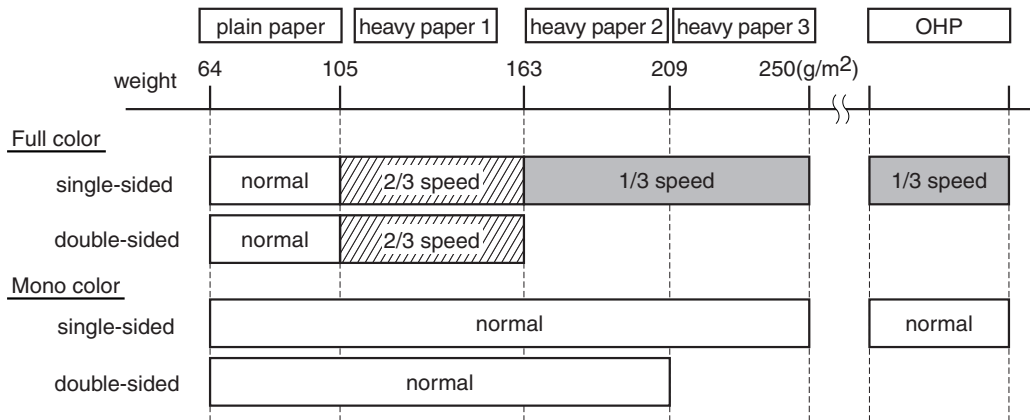
F-8-11

Instead of relying on electromagnetic clutches, the machine's feeding system makes use of a number of drive motors for finer control of interval acceleration, thus increasing the level of productivity. The rate of acceleration in response to transfer speed at respective intervals is as follows:

1. between pickup and secondary transfer roller

T-8-2

	Transfer speed	Normal (276 mm/sec)	2/3 speed (184 mm/sec)	1/3 speed (92 mm/sec)
	Interval	A to D	A to D	A to D
Feed speed	Right deck	1.8 times as fast (speed partly variable) *2	2.2 times as fast	2.7 times as fast
	left deck cassette 3/4 side deck (optional)	1.8 times as fast	2.2 times as fast	2.7 times as fast
	Manual feed	Equivalent to transfer speed	Equivalent to transfer speed	Equivalent to transfer speed
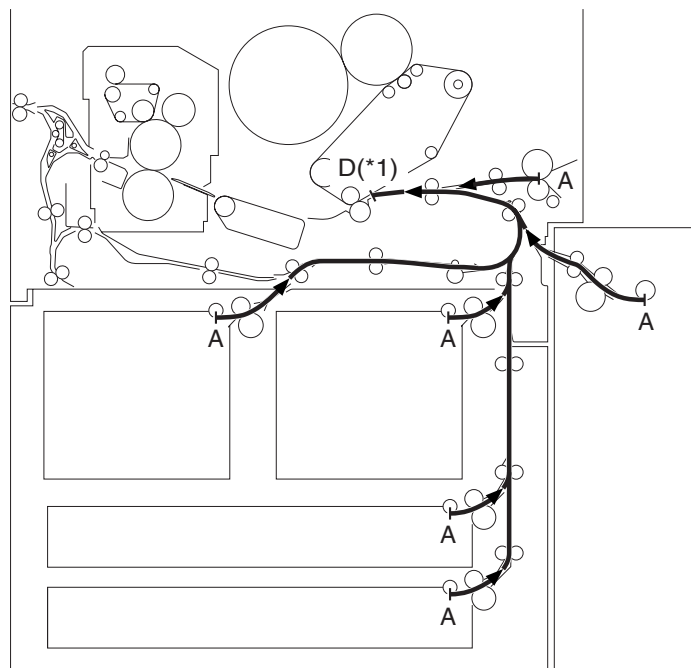
F-8-12

*1. Point 20 mm in front of secondary transfer.

*2. If the source of paper is the right deck and normal speed is used, the machine executes variable speed control (speed used between normal speed and x1.8 speed) in relation to the timing at which the paper reaches the vertical path 0 sensor (PS31) within interval B and C; this is to prevent interference between the trailing edge of the preceding paper and the leading edge of the following paper otherwise occurring if the speed was fixed to x1.8 (because of the short distance from the point of pickup to the point of registration).

T-8-3

	Transfer speed	Normal speed (276 mm/sec)		
	Interval	A to B	B to C	C to D
Feed speed	right deck	1.8 times speed	variable speed	1.8 times speed
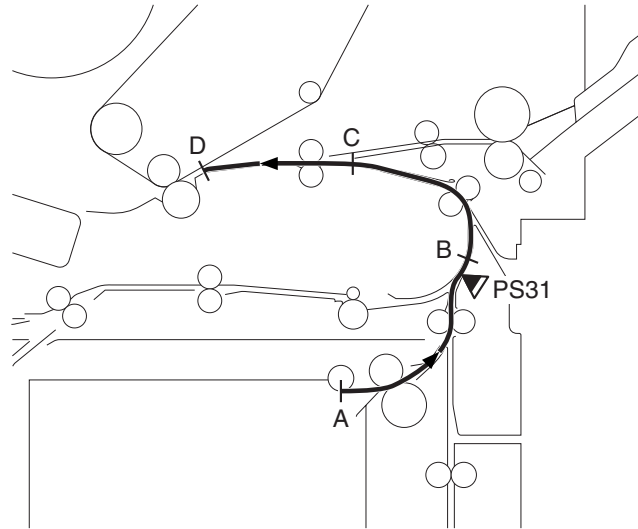
F-8-13

A: Point of pickup
B: Point of pre-registration
C: Point 36 mm in front of the registration sensor
D: Point 20 mm in front of secondary transfer

2. Secondary Transfer Roller to Outside Delivery

T-8-4

	Transfer speed	Normal speed (276 mm/sec)	2/3 speed (184 mm/sec)	1/3 Speed (92 mm/sec)
	Interval	E to F to H	E to F to H	E to F to H
Feed speed	face-up delivery	equivalent to transfer speed *3	equivalent to transfer speed	equivalent to transfer speed

T-8-5

	Transfer speed	Normal speed (276 mm/sec)		2/3 speed (184 mm/sc)		1/3 speed (92 mm/sec)	
	Interval	E to F	F to G to H	E to F	F to G to H	E to F	F to G to H
Feed speed	Face-down delivery	equivalent to transfer speed	2.3 as fast *4	equivalent to transfer speed	3.4 times as fast *4	equivalent to transfer speed	3.4 times as fast *4
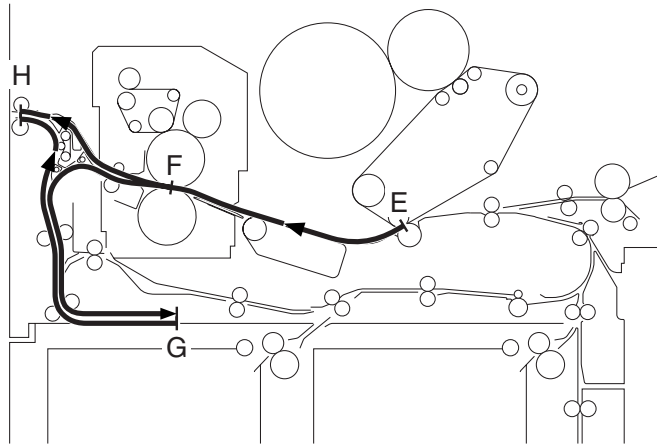
F-8-14

*3. If the paper is A4, B5, or LTR, the speed of movement will be 2.3 times as high between F and H. However, the normal speed may be selected in service mode for better stacking (COPIER>OPTION>BODY>DLV-SPSW).
*4. Acceleration occurs when the trailing edge of paper leaves the inside delivery sensor.

3. Secondary Transfer Roller to Duplexing Re-Pickup

T-8-6

	Transfer speed	Normal speed (276 mm/sec)			2/speed (184 mm/sec)		
	Interval	E to F	F to G to H	H to D	E to F	F to G to H	H to D
Feed speed	duplexing	equivalent to transfer speed	2.3 time as fast *5	1.8 times as fast	equivalent to transfer speed	3.4 times as fast *5	2.2 times as fast
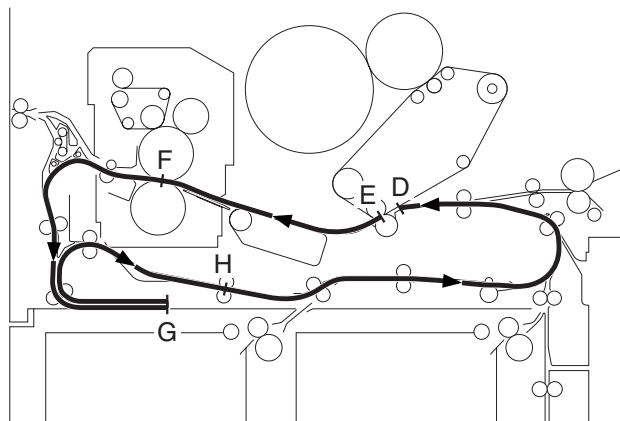
F-8-15

*5. Acceleration occurs when the trailing edge of paper leaves the fixing roller. In duplexing mode, 1/3 speed cannot occur at tune of transfer.

8.2.3 Stopping the Paper Before Registration

The machine stops the paper before registration to prevent interference between preceding paper and following paper (otherwise occurring as the result of changes in feed speed over certain intervals).
The paper is stopped at the following points (according to sources of paper). If the manual feed pickup unit is used as the source of paper or if the source of paper is the right deck and, at the same time, while the normal transfer speed is used (i.e., variable speed control is executed), paper will not be stopped before registration:

T-8-7

Source of paper		Point of stopping paper
Right deck	[1]	about 10 mm ahead of the vertical path 0 sensor (PS31)
Left deck	[2]	about 25 mm ahead of the duplexing confluence sensor (PS18)
Cassette 3	[3]	about 24 mm ahead of the vertical path 2 sensor (PS61)
Cassette 4	[4]	about 57 mm ahead of the vertical path 3 sensor (PS62)
Side deck	[5]	about 29 mm ahead of the deck feed sensor (PS106)
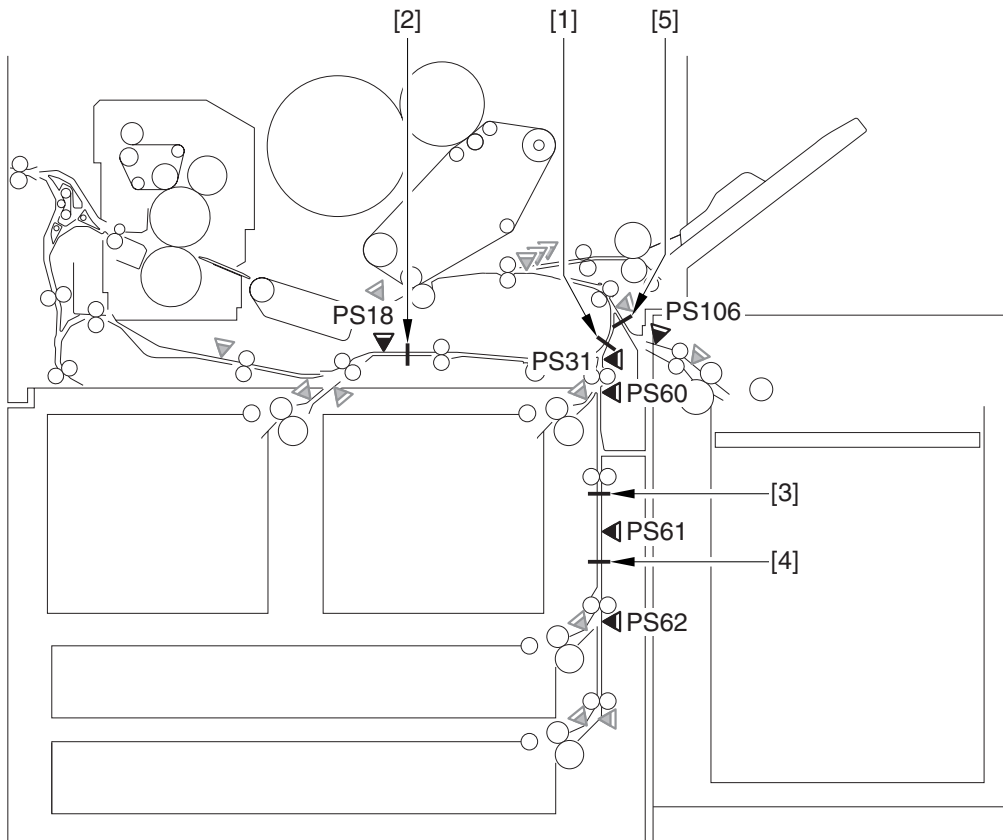
F-8-16

8.3 Detecting Jams

8.3.1 Delay Jams

8.3.1.1 Cassette/Deck Pickup Assembly (right deck, left deck, cassette 3/4)

The leading edge of paper does not reach the sensor in question within a specific period of time after the pickup motor goes on.

Start key ON or
print started

[1]:specific length of time (feed)
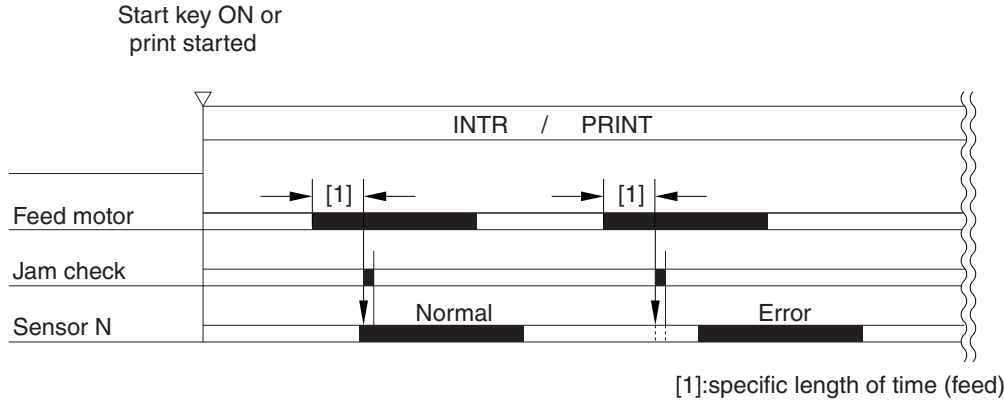
F-8-17

T-8-8

Source of paper	Motor	Sensor used
Right deck	right deck pickup motor (M17)	right deck pickup sensor (PS33)
Left deck	left deck pickup motor (M18)	left deck pickup sensor (PS40)
Cassette 3	cassette pickup motor (M19)	cassette 3 pickup sensor (PS48)
Cassette 4	cassette pickup motor (M19)	cassette 4 pickup sensor (PS54)

8.3.1.2 Delay Jam (source of paper other than cassette/deck)

The machine monitors the length of time between when paper leaves the sensor N-1 and when it reaches the sensor N (i.e., the sensor used for detection), and it will identify a delay jam if the sensor N does not go on within a specific period of time after the sensor N-1 has gone on.

Start key ON
or PRINT setting reached

[1]:specific period of time (feed)
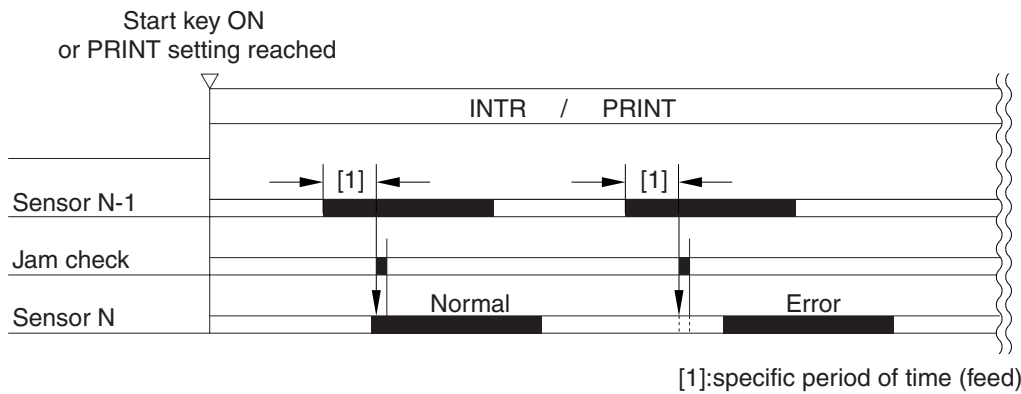
F-8-18

T-8-9

Sensor	Remarks
Vertical path confluence sensor (PS32)	
Vertical path 0 sensor (PS31)	
Vertical path 1 sensor (PS60)	
Vertical path 2 sensor (PS61)	
Vertical path 3 sensor (PS62)	
Vertical path 4 sensor (PS63)	
Transparency sensor (front; PS3)	if not transparency
Transparency sensor (rear; PS29)	if not transparency

Sensor	Remarks
Registration sensor (PS9)	if transparency
Post-transfer sensor (PS10)	
Inside delivery sensor (PS12)	
Reversal sensor (PS14)	
Outside delivery sensor (PS13)	
Reversal vertical path sensor (PS15)	
Duplexing left sensor (PS17)	
Duplexing confluence sensor (PS18)	

8.3.2 Stationary Jams

8.3.2.1 Common Stationary Jam

The sensor N does not go off within a specific period of time after it has gone on.

(L: paper length feed distance; A: specific feed length)
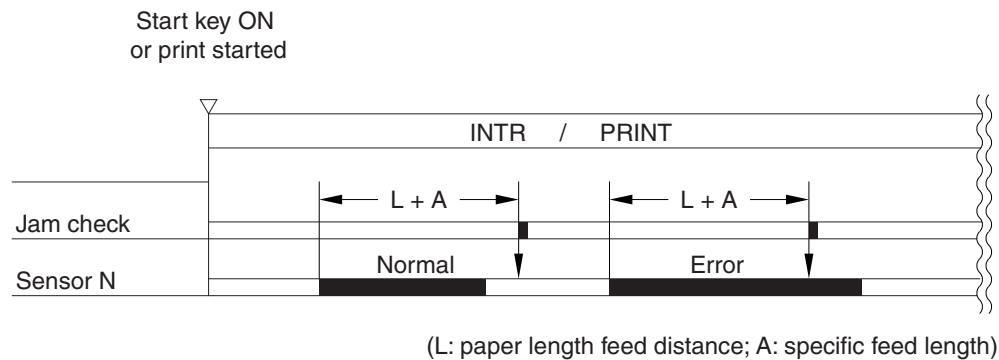
F-8-19

T-8-10

Sensor	Remarks
Vertical confluence sensor (PS32)	
Vertical path 0 sensor (PS31)	
Vertical path 1 sensor (PS60)	
Vertical path 2 sensor (PS61)	
Vertical path 3 sensor (PS62)	
Vertical path 4 sensor (PS63)	
Transparency sensor (front; PS3)	if not transparency
Transparency sensor (rear; PS29)	if not transparency
Registration sensor (PS9)	if transparency
Reversal sensor (PS14)	if face-down delivery
Outside delivery sensor (PS13)	
Reversal vertical path sensor (PS15)	
Duplexing left sensor (PS17)	
Duplexing confluence sensor (PS18)	

8.3.2.2 Stationary Jam at Power-On

Paper exists over the following sensor before the machine starts initial multiple rotation at power-on:

T-8-11

Sensor	Remarks
Vertical path confluence sensor (PS32)	
Vertical path 0 sensor (PS31)	
Vertical path 1 sensor (PS60)	
Vertical path 2 sensor (PS61)	
Vertical pith 3 sensor (PS62)	
Vertical path 4 sensor (PS63)	
Transparency sensor (front; PS3)	
Transparency sensor (rear; PS29)	
Registration sensor (PS9)	
Reversal sensor (PS14)	
Outside delivery sensor (PS13)	
Reversal vertical path sensor (PS15)	
Duplexing left sensor (PS17)	
Duplexing confluence sensor (PS18)	
Fixing inlet sensor (PS11)	
Left deck stationary sensor (PS47)	

8.3.3 Other Jams

8.3.3.1 Wrong Paper Size

The machine identifies a jam if it detects paper shorter than the specified size:

T-8-12

Sensor	Remarks
Transparency sensor (front; PS3)	if not transparency
Transparency sensor (rear; PS29)	if not transparency
Registration sensor (PS9)	if transparency

8.3.3.2 Wrong Material

The machine identifies a jam if it detects paper of a material not indicated by the transparency sensor.

T-8-13

Sensor
Ttansparency sensor (front: PS3)
Ttansparency sensor (rear: PS29)

8.4 Cassette

8.4.1 Overview

Paper is attach inside the cassette by means of the side guide plate and the rear guide plate.
The index special guide must be attached before using an index sheet.
The cassette is set to a specific paper size using the cassette size dial.
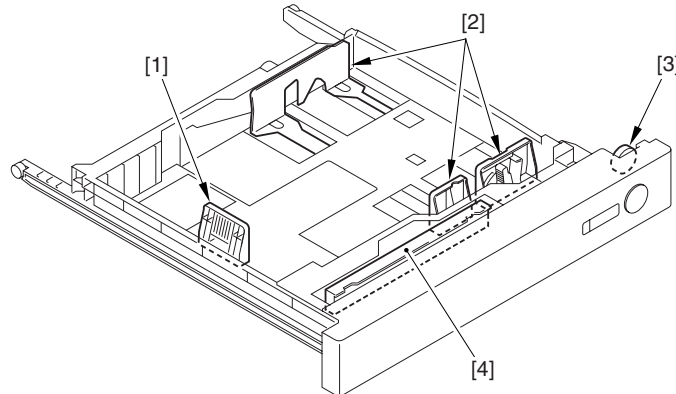
F-8-20

[1] Rear guide plate
[2] Side guide plate
[3] Cassette size dial
[4] Index special guide

8.4.2 Identifying Paper Sizes

The size of paper inside the cassette is identified by the cassette size dial, and the result is communicated to the cassette size detection PCB.
The array of 4 actuators on the cassette size detection PCB found on the machine indicates a specific state in keeping with the states (on/off) of the 4 actuators, enabling the identification of as many as 15 paper sizes.
If the cassette is absent, all 4 actuators are off, causing the machine to identify the absence of a cassette.
The cassette is set to AB-configuration or Inch-configuration by means of the switch mounted to the side of the dial. When the cassette is attached to the machine, the switch turns off or on to indicate that the cassette is of the AB or inch configuration.
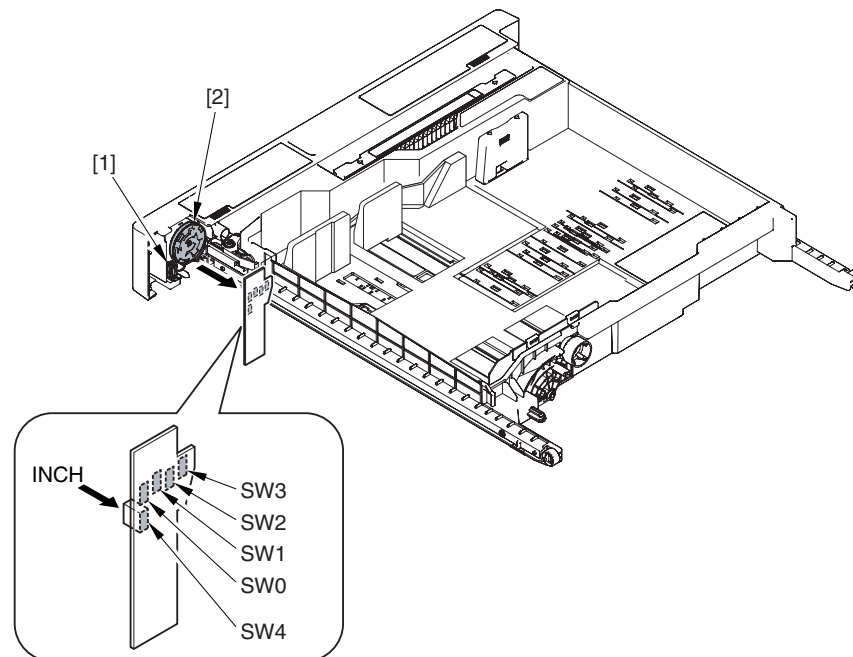
F-8-21

[1] AB/inch-configuration switch
[2] Cassette size dial

T-8-14

(AB-Configuration)

Size	SW0	SW1	SW2	SW3	SW4
(no cassette)	OFF	OFF	OFF	OFF	OFF
A5R	ON	OFF	ON	ON	OFF
A4	ON	ON	ON	ON	OFF
A4R	OFF	ON	ON	ON	OFF
A3	OFF	ON	OFF	ON	OFF
B5	ON	ON	OFF	ON	OFF
B5R	OFF	OFF	OFF	ON	OFF
B4	ON	OFF	OFF	ON	OFF
305x457mm	ON	ON	OFF	OFF	OFF
320x450mm(SRA3)	ON	ON	ON	OFF	OFF
330x483mm	OFF	OFF	ON	OFF	OFF
U1	OFF	ON	OFF	OFF	OFF
U2	OFF	ON	ON	OFF	OFF

T-8-15

(Inch-Configuration)

Size	SW0	SW1	SW2	SW3	SW4
(no cassette)	OFF	OFF	OFF	OFF	OFF
STMTR	ON	OFF	ON	ON	ON
LTR	ON	ON	ON	ON	ON
LTRR	OFF	ON	ON	ON	ON
LGL	OFF	ON	OFF	ON	ON
11 x 17	ON	ON	OFF	ON	ON
EXEC	OFF	OFF	OFF	ON	ON
12 x 18	ON	ON	OFF	OFF	ON
12-5/8 x 17-11/16	ON	ON	ON	OFF	ON
13 x 19	OFF	OFF	ON	OFF	ON
U3	OFF	ON	OFF	OFF	ON
U4	OFF	ON	ON	OFF	ON

If a combination not found in the foregoing table is found, the machine will assume the absence of a cassette, and will not move up the cassette lifter.
If the machine fails to identify a paper size (no indication of a paper size on the control panel), it will indicate the Add Paper message if the cassette in question is selected.

8.4.3 Setting the Universal Cassette

The following is a list of default sizes identified in relation to U1 through U4:

T-8-16

U1	G-LTR
U2	FLSC
U3	G-LGL
U4	A-LTR

In addition to the foregoing default sizes, the following may be assigned in service mode:
(Universal U1 thorough U4) size
FLSC, OFI, E-OFI, B-OFI, A-OFI, A-OFI, M-OFI, FOLI, A-FLS, G-LTR, G-LGL, A-LTR (LTR), A-LTRR (LTRR)

8.4.4 Checking the Level of Remaining Paper

The machine uses the following sensors to check the level of remaining paper:

T-8-17

Sensor	Cassette 3	Cassette 4
Paper level sensor A	PS52	PS58
Paper level sensor B	PS53	PS59
Paper sensor	PS50	SP56
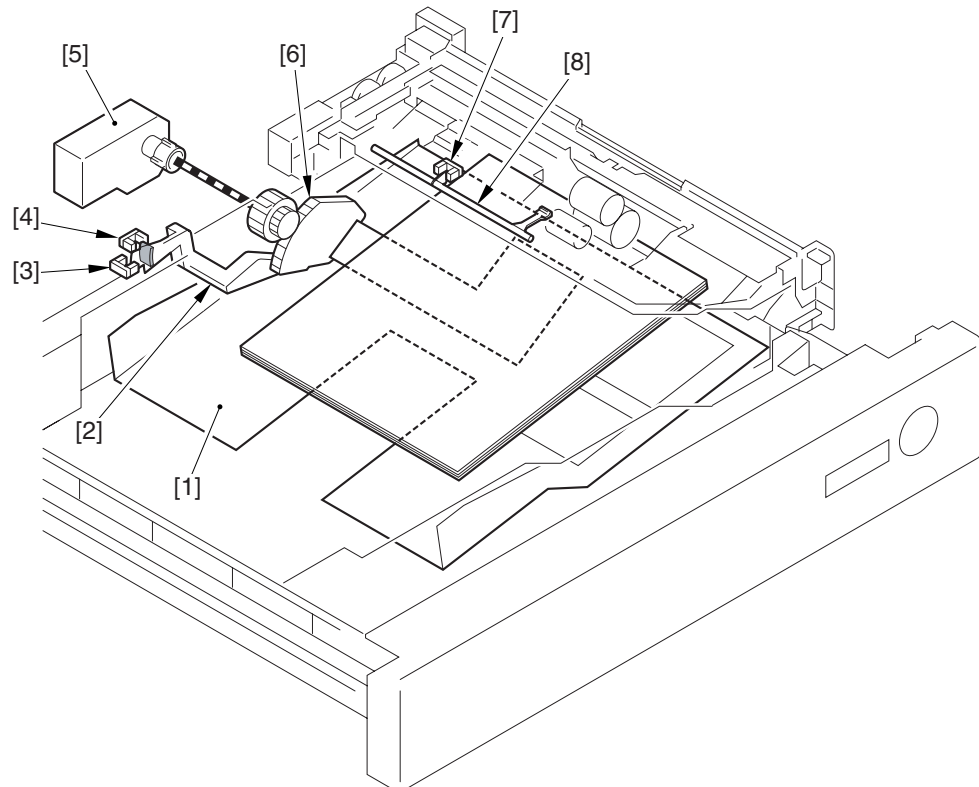
F-8-22

[1] Tray
[2] Paper level sensor flag
[3] Cassette paper level sensor A
[4] Cassette paper level sensor B
[5] Lifter motor
[6] Lifter gear
[7] Cassette paper sensor
[8] Flag

View Front the Front of the Machine

Full of paper

Cassette paper level sensor B Cassette paper level sensor A Paper

OFF OFF

Cassette paper level sensor B Cassette paper level sensor A Paper

OFF ON

Cassette paper level sensor B Cassette paper level sensor A Paper

ON ON

Empty of paper

Flag Cassette paper sensor

Paper tray
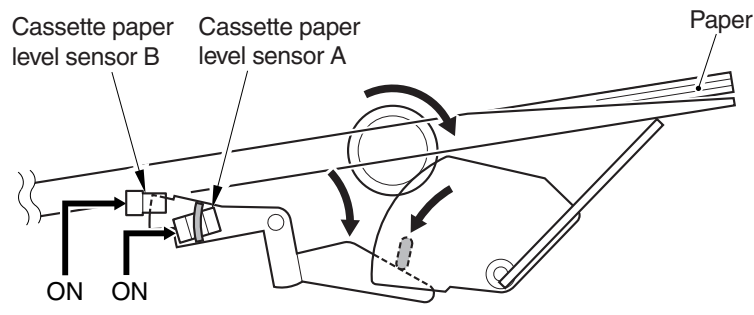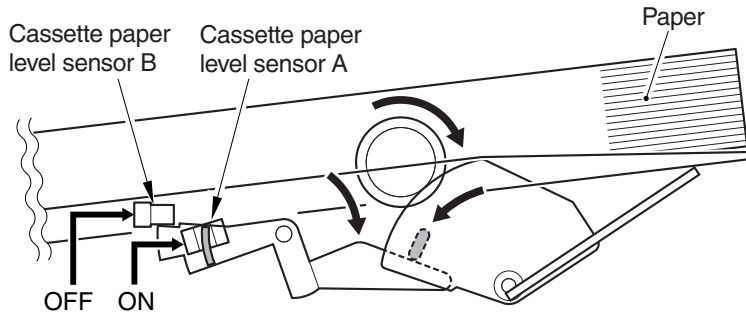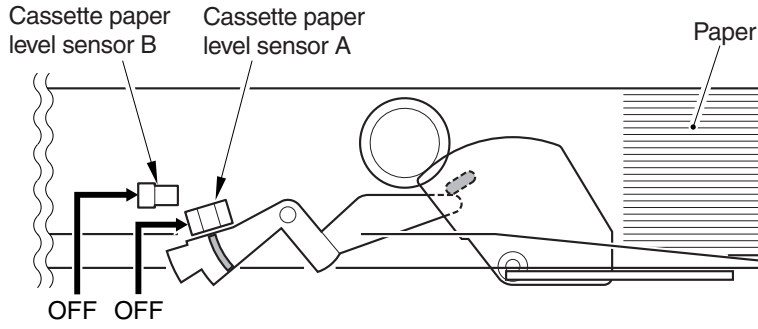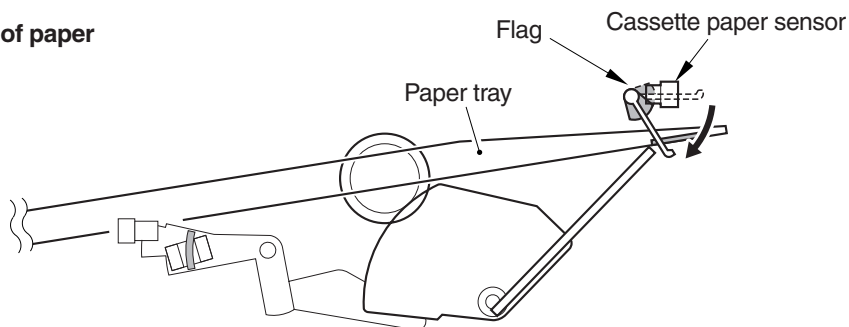
F-8-23
T-8-18

Paper level sensor A	Paper level sensor B	Paper sensor	Level of paper	Indication on control panel
OFF	OFF	OFF	from 100% to about 50% of capacity	目
ON	OFF	OFF	from about 50% to about 10% of capacity	目
ON	ON	OFF	about 10% or less of capacity	凵
--	--	ON	no paper	凵

8.5 Cassette Pick-Up Unit

8.5.1 Overview

The paper inside the cassette is held up by the lifter so that the paper remains in contact with the pickup roller.

When the cassette pickup motor turns on, the pickup roller starts to rotate to pick up paper.

When the cassette solenoid turns on, on the other hand, the pickup roller starts to leave the surface of paper. The feed roller and the separation roller make sure that only one sheet of paper is moved ahead to the feed path to reach the vertical path roller.

The pickup roller, feed roller, and separation roller of the cassette 3/4 are driven by the cassette pickup motor (M19), and its drive is switched from the cassette 3 pickup assembly to the cassette 4 pickup assembly by reversing the rotation of the cassette pickup motor.
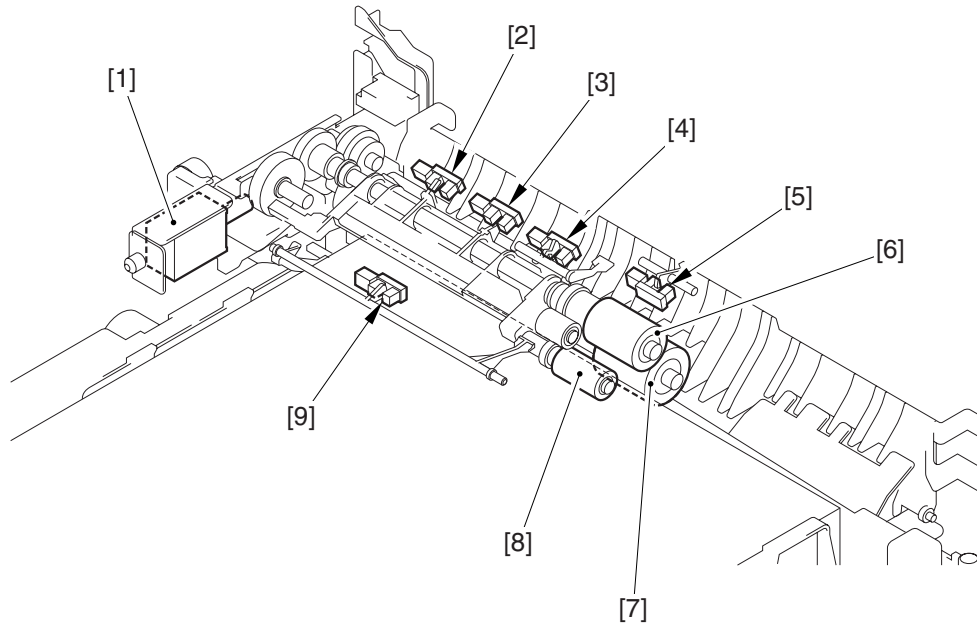
F-8-24

[1] Cassette 3/4 pickup solenoid (SL8/SL9)
[2] Cassette 3/4 limit sensor (PS49/PS55)
[3] Cassette 3/4 lifter sensor (PS51/PS57)
[4] Cassette 3/4 pickup sensor (PS48/PS54)
[5] Vertical path 3/4 sensor (PS62/PS63)
[6] Cassette 3/4 feed roller
[7] Cassette 3/4 separation roller
[8] Cassette 3/4 pickup roller
[9] Cassette 3/4 paper sensor

8.5.2 Basic Sequence

1. A4, plain, 2 sheets continuous, secondary transfer speed at normal, face-up delivery

Print start

	STBY	PRINT		LSTR
Cassette 3 pickup motor (M19)		*1	*1	
Cassette 3 pickup sensor (PS48)				
Cassette 3 pickup solenoid (SL8)				
Vertical path 2 sensor (PS61)				
Vertical path motor (M15)		*1	*1	
Right deck pickup motor (M17)				
Right deck pull-off motor (M14)				
Manual feed pre-registration motor (M6)				
Transparency sensor (front/rear; PS3/29)				
Registration motor (M8)				
Fixing motor (M4)				
Delivery solenoid (SL7)				
Outside delivery motor (M9)				

▨▨▨ : acceleration control used.

▐▐▐▐ : rotates at 1/3 speed (92 mm/sec).

*1 : pre-registration stop.

F-8-25

8.5.3 Movement of the Lifter

When the cassette is attached inside the machine, the pickup roller starts to move down and, at the same time, the sensor flag leaves the lifter sensor, thus turning on the cassette lifter motor to move up the lifter. When the lifter sensor detects the surface of paper, on the other hand, the lifter stops to move up. The limit sensor is used to prevent damage in the event that the lifter motor fails to stop.
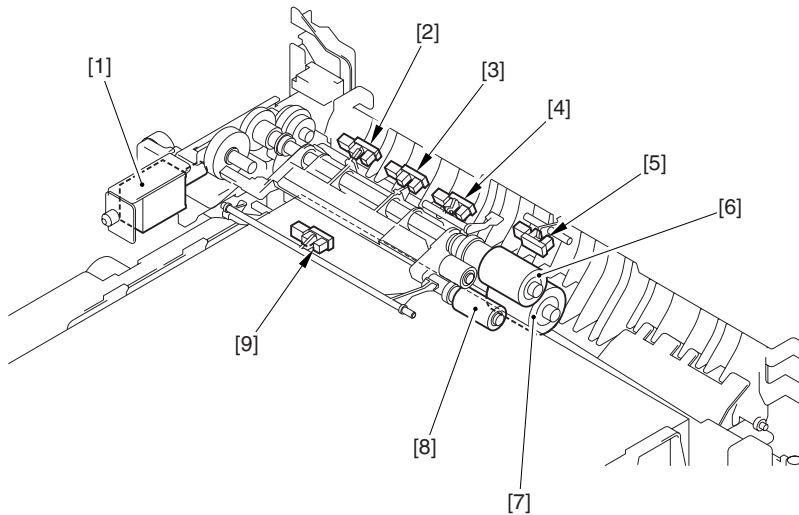
F-8-26

[1] Cassette 3/4 pickup solenoid (SL8/SL9)
[2] Cassette 3/4 limit sensor (PS49/PS55)
[3] Cassette 3/4 lifter sensor (PS51/PS57)
[4] Cassette 3/4 pickup sensor (PS48/PS54)
[5] Vertical path 3/4 sensor(PS62/PS63)
[6] Cassette 3/4 feed roller
[7] Cassette 3/4 separation roller
[8] Cassette 3/4 pickup roller
[9] Cassette 3/4 paper sensor (PS50/PS56)

8.6 Manual Feed Pickup Unit

8.6.1 Overview

When the manual feed pickup solenoid (SL1) goes on, the manual feed holding plate is moved up; as a result, the paper on the tray is forced against the manual feed pickup roller, causing a single sheet of paper to be picked up by the manual feed pick up tray and the separation roller.

The manual feed roller, manual feed separation roller, and manual feed pull-off roller are driven by the pre-registration motor.

The paper on the tray of the manual feed pickup unit is monitored using the manual feed paper sensor (PS6). The last sheet of the tray, on the other hand, is identified using the last paper sensor (PS7).
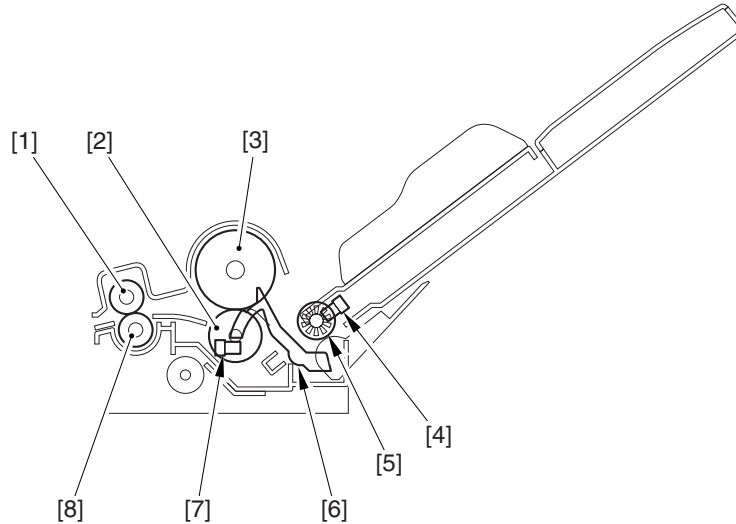
F-8-27
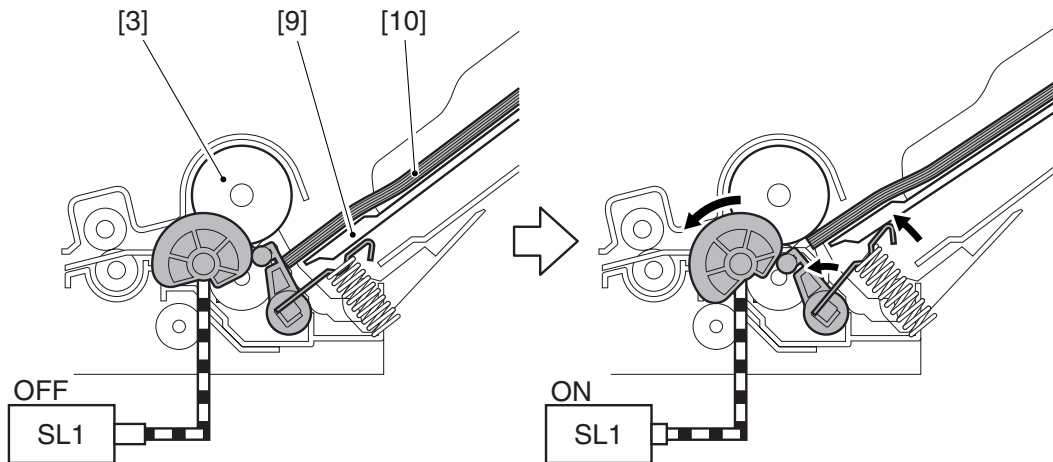
F-8-28

[1] Manual feed pull-off upper roller
[2] Manual feed separation roller
[3] Manual feed pickup roller
[4] Last paper sensor (PS7)
[5] Last paper detecting roll
[6] Paper sensor flag
[7] Manual feed paper sensor (PS6)
[8] Manual feed pull-off lower roller
[9] Manual feed holding plate
[10] Paper

8.6.2 Basic Sequence

1. A4, plain, 2 sheets continuous, face-up delivery

	STBY	PRINT		LSTR
Manual pickup solenoid (SL1)				
Manual feed pre-registration motor (M6)				
Transparency sensor (front/rear; PS3/29)				
Registration motor (M8)				
Fixing motor (M4)				
Delivery solenoid (SL7)				
Outside delivery motor (M9)				
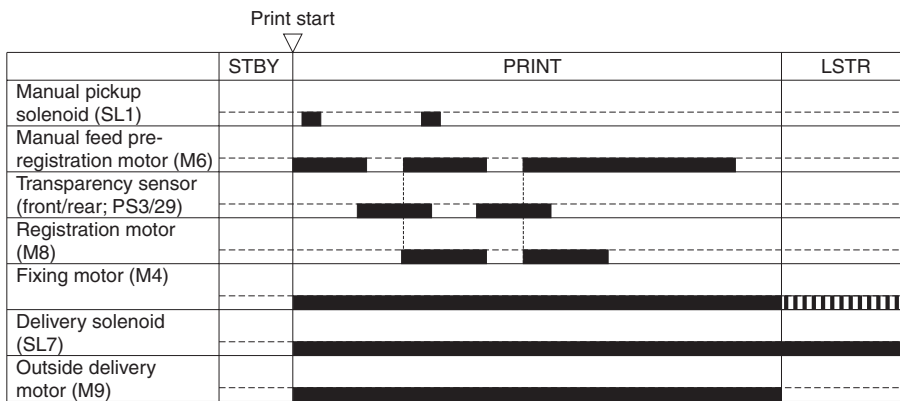
: rotates at 1/3 speed (92 mm/sec).

F-8-29

8.6.3 Identifying the Size of Paper

The machine identifies the width of paper with reference to the output of the variable resistor (SVR1) operating in keeping with the movement of the side guides. The width of the side guide on the manual feed tray is adjusted by the user by manually moving the guides.
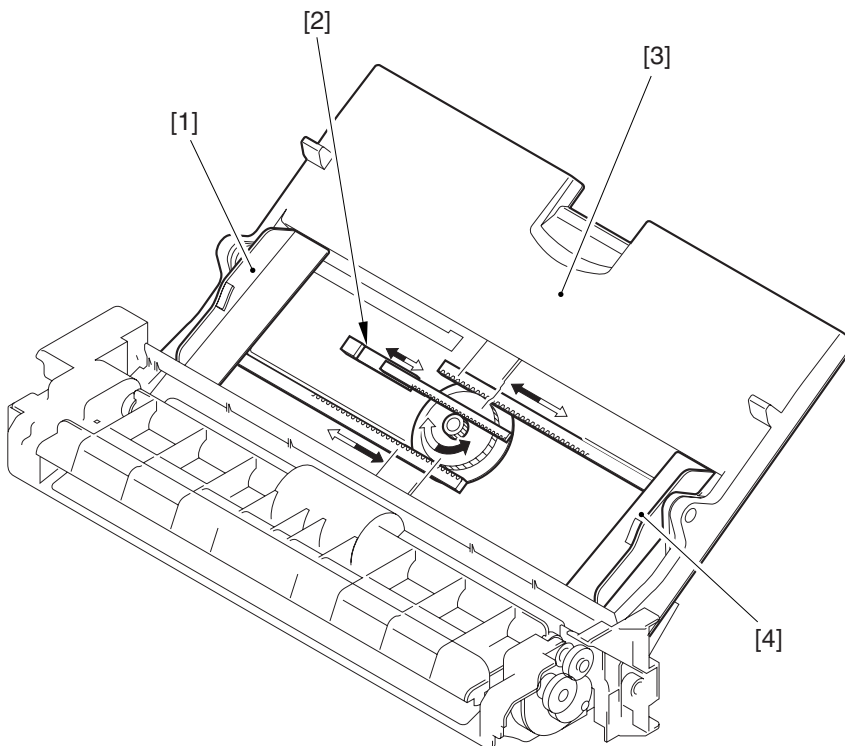
F-8-30

[1] Slide guide (rear)
[2] Variable resistor
[3] Manual feed tray
[4] Slid guide (front)

8.6.4 Identifying the Last Sheet

The machine uses a secondary transfer method, which requires it to identify the last sheet so that no image will be formed on the ITB in the absence of paper.
When the last paper pickup roll rotates, the slit cut into the roll causes the output of the last paper sensor (PS7) to take on a pulse wave form. The last paper pickup roller rotates only when the last sheet is picked up, and remains stationary at other times; if 4 or more output pulses are detected from the last paper sensor, therefore, the machine automatically assumes that the paper in question is the last sheet.

Last paper

Manual feed last paper sensor

Last paper detecting roll

Last sheet

If 4 or more output pulses are detected, the paper is identified as being the last sheet.

Manual feed last paper sensor

Last paper detecting roll
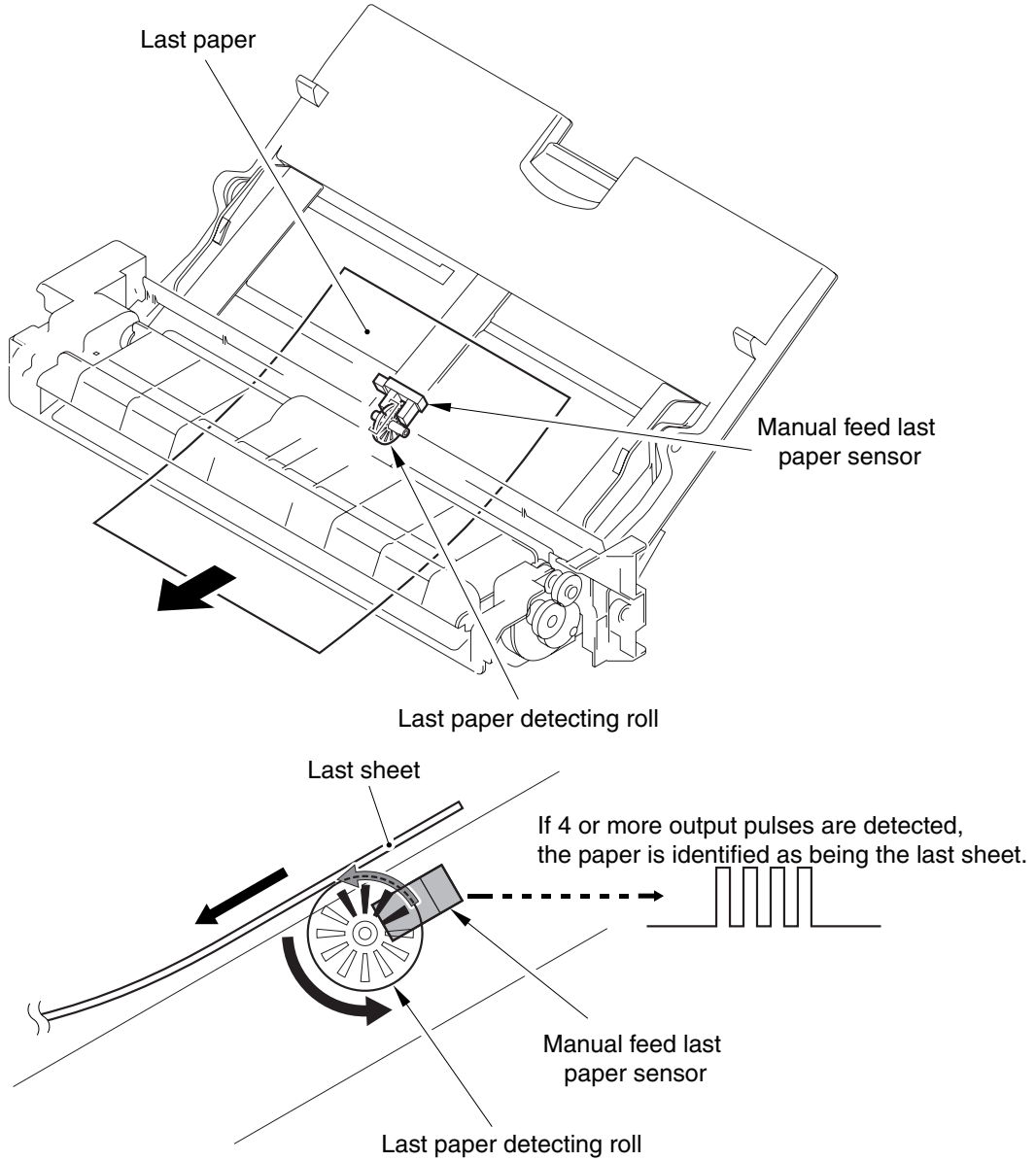
F-8-31

8.7 Deck

8.7.1 Overview

The paper inside the left/right front deck is held up by the work of the lifter so that the paper remains in contact with the pickup roller at all times. When the deck pickup motor turns on, the pickup roller starts to rotate to pick up paper.

The pickup roller leaves the paper when the deck pickup solenoid (SL6, SL7) turns on.

The feed roller and the separation roller serve to make sure that no more than a single sheet of paper is moved ahead to the paper path.

The pickup roller, feed roller, and separation roller are driven by the deck pickup motor (M17, M18).
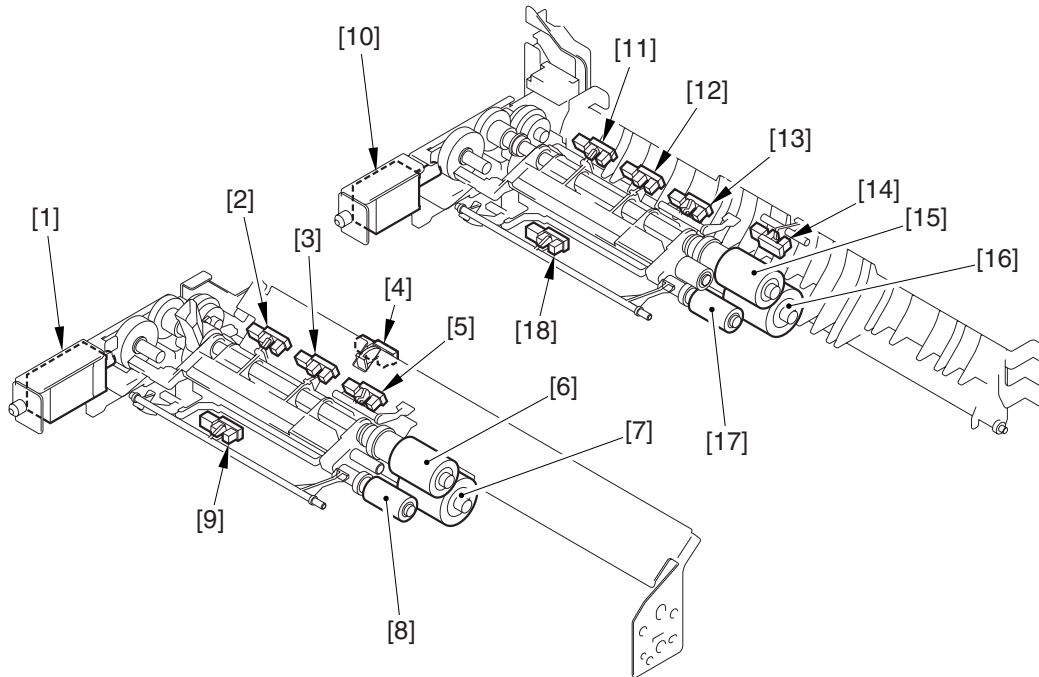
F-8-32
T-8-19

[1]	Left deck pickup solenoid	SL6	[10]	Right deck pickup solenoid	SL7
[2]	Left deck limit sensor	PS41	[11]	Right deck limit sensor	PS34
[3]	Left deck lifter sensor	PS43	[12]	Right deck lifter sensor	PS36
[4]	Left deck stationary sensor	PS47	[13]	Vertical path 1 sensor	PS60
[5]	Left deck pickup sensor	PS40	[14]	Right deck pickup sensor	PS33
[6]	Left deck feed roller		[15]	Right deck feed roller	
[7]	Left deck separation roller		[16]	Right deck separation roller	
[8]	Left deck pickup roller		[17]	Right deck pickup roller	
[9]	Left deck paper sensor	PS42	[18]	Right deck paper sensor	PS35

8.7.2 Basic Sequence

1. Right Deck, A4, plain, 2 sheets continuous, secondary transfer speed at normal, face-up delivery

☐☐☐: acceleration control used.

▮▮▮: rotates at 1/3 speed (92 mm/sec).

F-8-33

2. Right Deck, A4, plain, 2 sheets continuous, secondary transfer speed at 2/3, face-up delivery

☐☐☐ : acceleration control used.
☐☐☐ : 2/3 rotates at 2/3 speed (184 mm/sec).
▮▮▮ : rotates at 1/3 speed (92 mm/sec).
*1 : pre-registration stop.
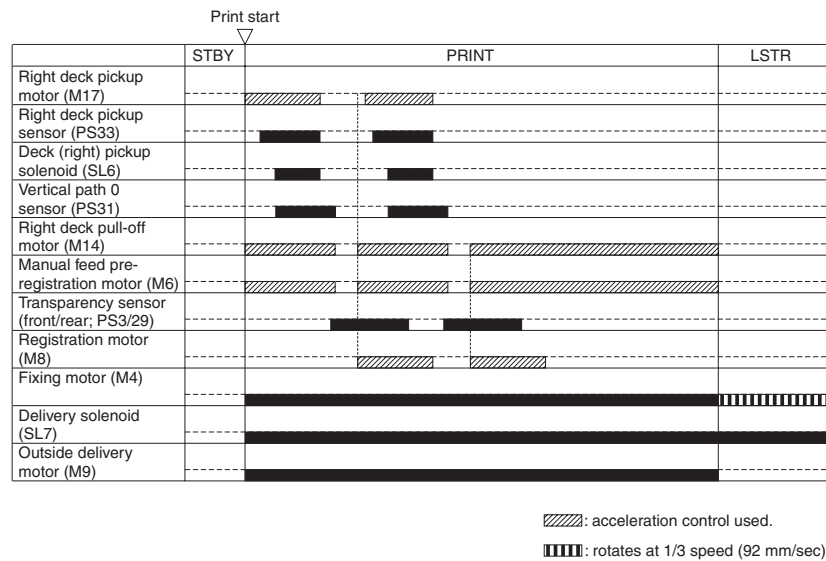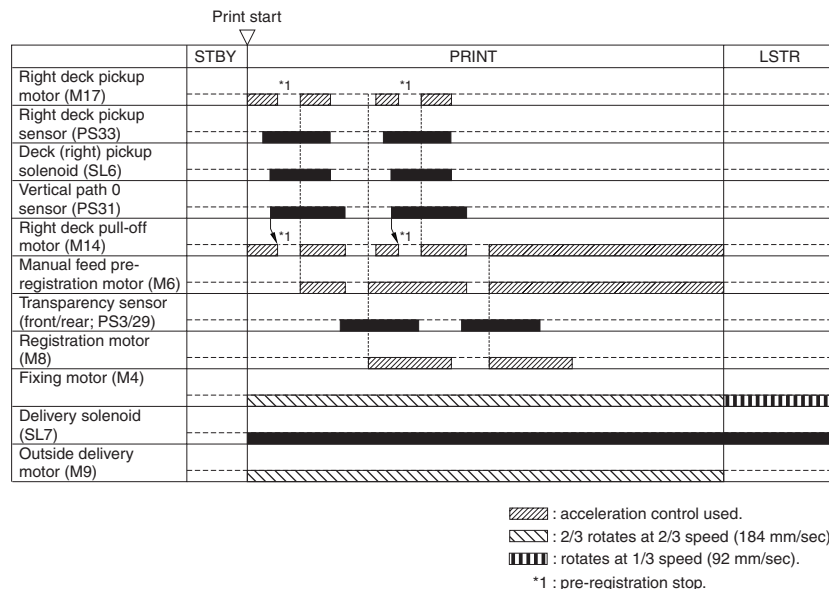
F-8-34

8.7.3 Identifying the Size of Paper

The left/right front deck is not equipped with a mechanism used to identify the size of paper, and its configuration is switched in service mode. The left and right front decks may be switched to A4, B5, or LTR as follows:
1) Change the position of the paper size guide plates of the deck.
2) Register the new paper size in service mode.

1. Service Mode
- COPIER>OPTION>CST>P-SZ-C1
Right deck paper size selection
setting:
0: A4 (default); 1: B5, 2: LTR

- COPIER>OPTION>CST-SZ-C2
Left deck paper size selection
setting:
0: A4 (default); 1: B5, 2: LTR

8.7.4 Checking the Level of Remaining Paper

The level of paper remaining in the left/right front deck is checked using the following sensors:

T-8-20

Sensor	Right deck	Left deck
Paper level sensor A	PS37	PS44
Paper level sensor B	PS38	PS45
Paper sensor	PS35	SP42
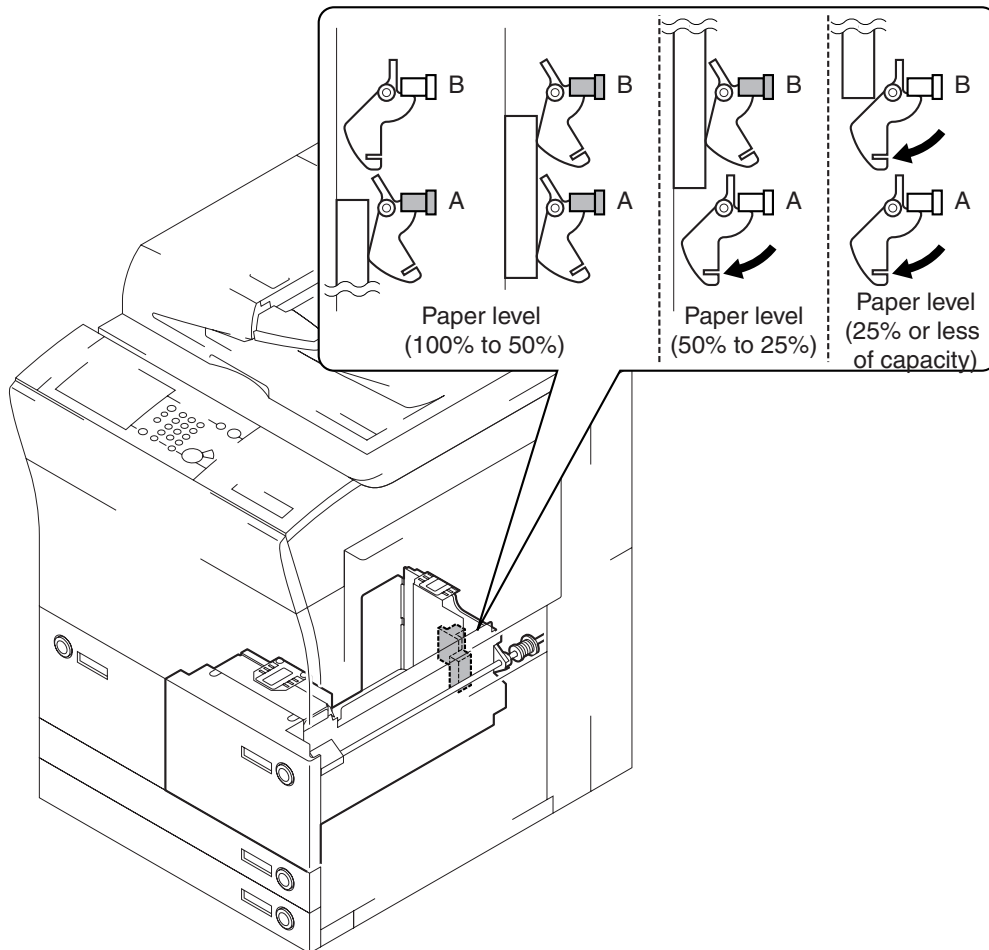
F-8-35

T-8-21

Paper level sensor A	Paper level sensor B	Paper sensor	Level of paper	Indication on control panel
ON	ON	OFF	from 100% to about 50% of capacity	☰
OFF	ON	OFF	from about 50% to about 25% of capacity	☱
OFF	OFF	OFF	about 25% or less of capacity	☐
--	--	ON	no paper	☐

8.8 Registration Unit

8.8.1 Overview

The registration roller is driven by the registration motor (M8), and is turned on and off to make sure that the paper will match the image on the intermediate transfer belt.

The registration assembly is equipped with 3 sensors: registration sensor (PS9), transparency sensor (front; PS3), and transparency sensor (rear; PS29).

When a transparency is used, the registration sensor (PS9) detects it. When the medium is not a transparency, the transparency sensor (front; PS3) and the transparency sensor (rear; PS29) detect it.

The transparency sensor (front) and the transparency sensor (rear) serve to find out whether the arriving medium is a transparency or not; if a plain paper is detected when the machine is in transparency mode or if a transparency is detected when the machine is in plain paper mode, the machine will identify the condition as indicating the presence of a jam and stop its operation.
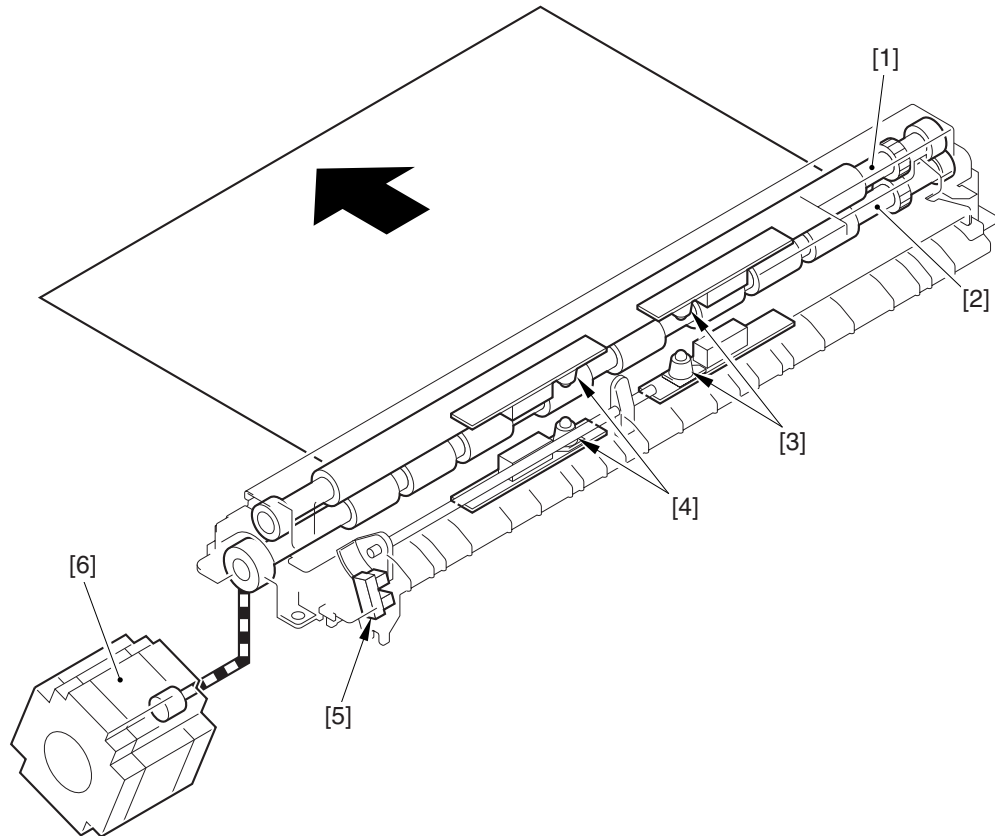
F-8-36

[1] Registration upper roller
[2] Registration lower roller
[3] Transparency sensor (rear; PS29)
[4] Transparency sensor (front; PS3)
[5] Registration sensor
[6] Registration motor

8.9 Duplex Feeding Unit

8.9.1 Overview

To move the 1st side of a double-sided print, the delivery reversal solenoid (SL5) remains off and the reversing flapper is shifted up. When the paper moves past the reversal vertical path sensor (PS15) and reaches a specific point, the duplexing reversal motor (M10) stops/rotates in reverse to move the paper to the duplexing left feeding assembly.

The paper is caused to arch in the duplexing left roller assembly for removal of any skew, all of which takes place at the same time as horizontal registration detection. Thereafter, the duplexing left motor (M11) turns on to move the paper to the re-pickup standby position, which starts at specific timing of operation to move the paper to the duplexing right feeding assembly and then to the registration roller assembly. The paper is never stopped in the duplexing right feeding assembly.
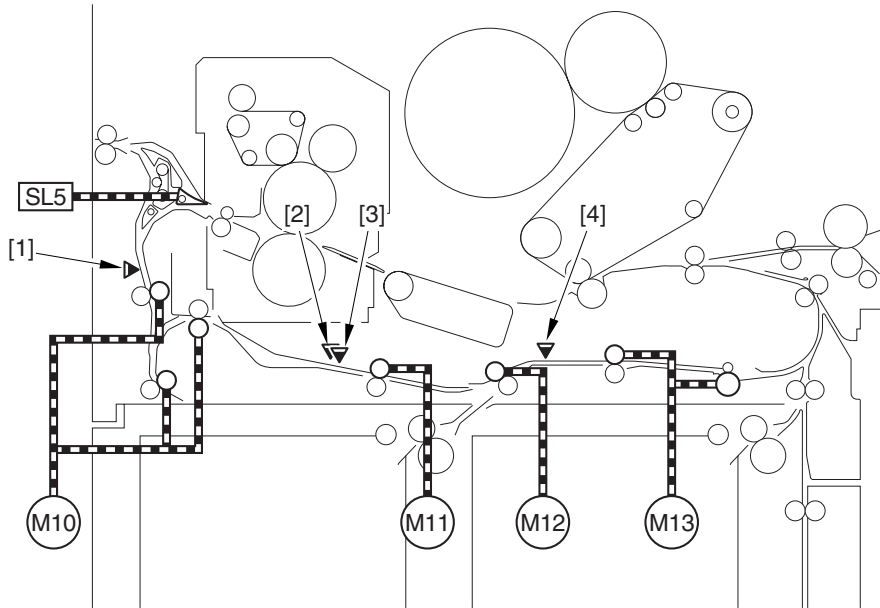
F-8-37

[1] Reversal vertical path sensor (PS15)
[2] Horizontal registration sensor (PS24)
[3] Duplexing left sensor (PS17)
[4] Duplexing confluence sensor (PS18)

1) With the delivery reversing solenoid (SL5) remaining off, the reversing flapper is in up position so that the paper moves to the reversal vertical path assembly.
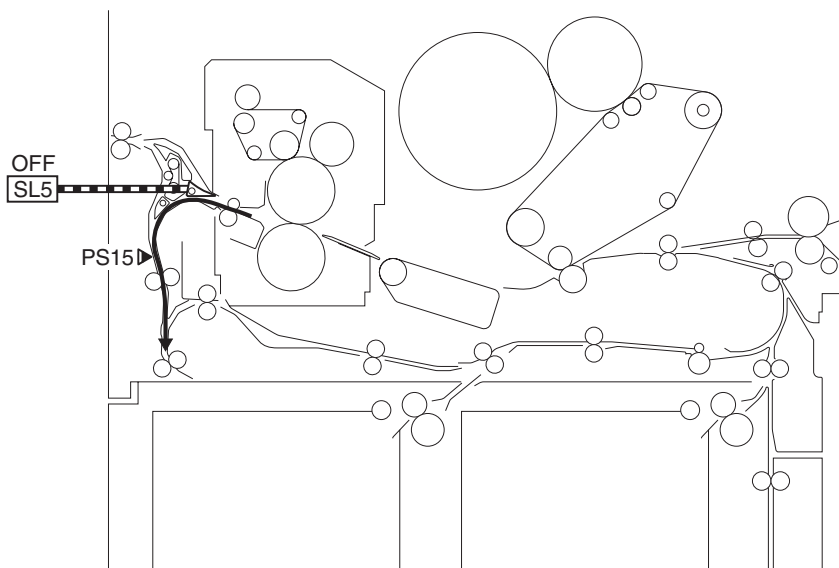
F-8-38

2) When the trailing edge of paper reaches a point about 20 mm from the reversing 2 roller, the duplexing reversal motor (M10) stops/rotates in reverse to move the paper to the duplexing left feeding assembly.
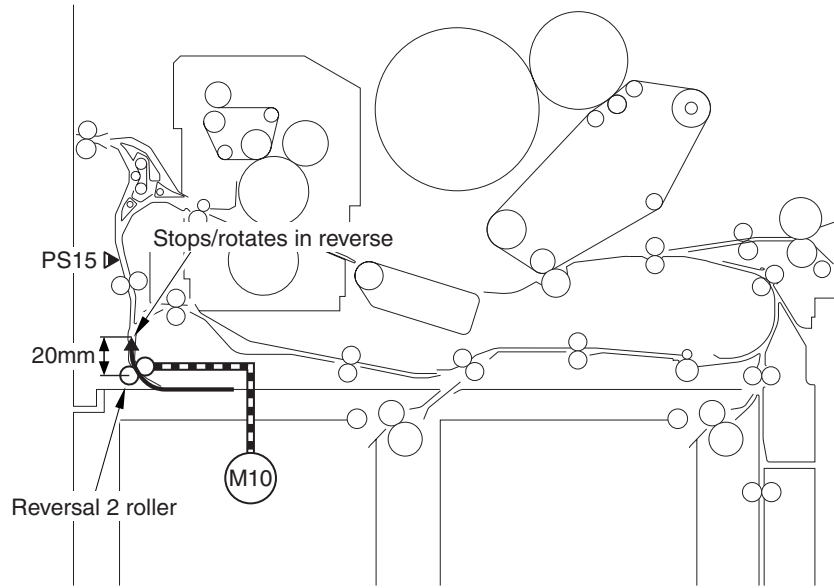
F-8-39

3) The paper moves to the duplexing left feeding assembly, and the horizontal registration sensor (PS24) checks the horizontal registration. The paper is also butted against the duplexing left roller so that it arches.
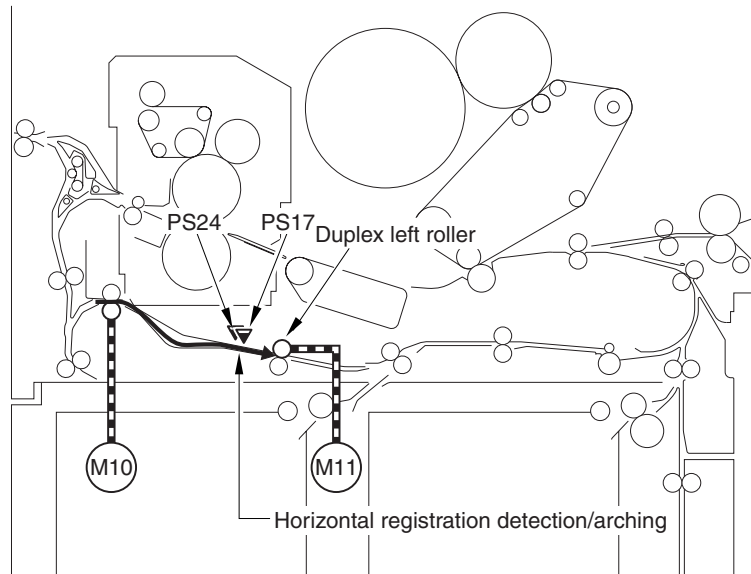
F-8-40

4) When the paper moves past the duplexing left roller, it stops when its leading edge reaches a point 35 mm from the duplexing left roller, remaining in wait for the next operation.
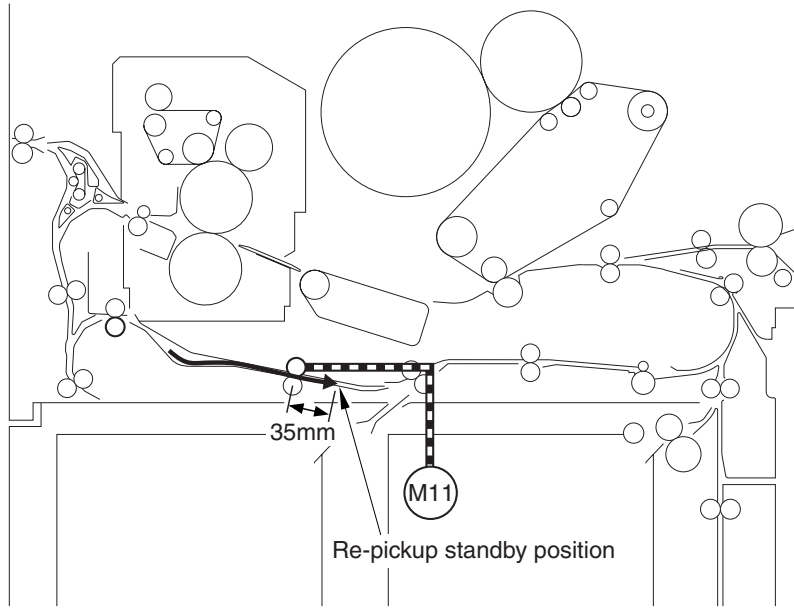
F-8-41

5) A specific period of time thereafter, the duplexing left motor rotates to move the paper to the duplexing right feeding assembly and then to the registration roller assembly. Paper will never stop in the duplexing right feeding assembly.
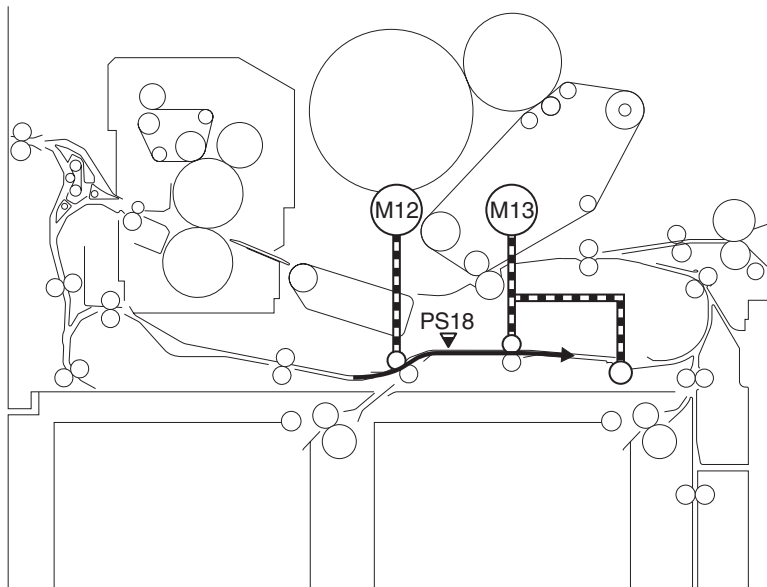
F-8-42

8.9.2 Detecting the Horizontal Registration Position

The machine executes a duplexing registration sensor home position search when the main power switch is turned on, front cover is opened/closed, manual feed unit is opened/closed, lower right cover is opened/closed, power save function is reset, or printing ends, causing the sensor to move to the point of 13x19 paper detection.

Inside the duplexing left feeding assembly, the paper reaches the duplexing left sensor (PS17); thereafter, the horizontal registration motor (M28) turns on, and the horizontal registration sensor (PS24) starts a search for the edge of the paper.

The search start position is set to a point of the paper edge (in the cassette of A4, 165 mm from the middle of the unit) with reference to the distance of the slide guides on the manual feed tray and the cassette/deck size at the start of copying operation.
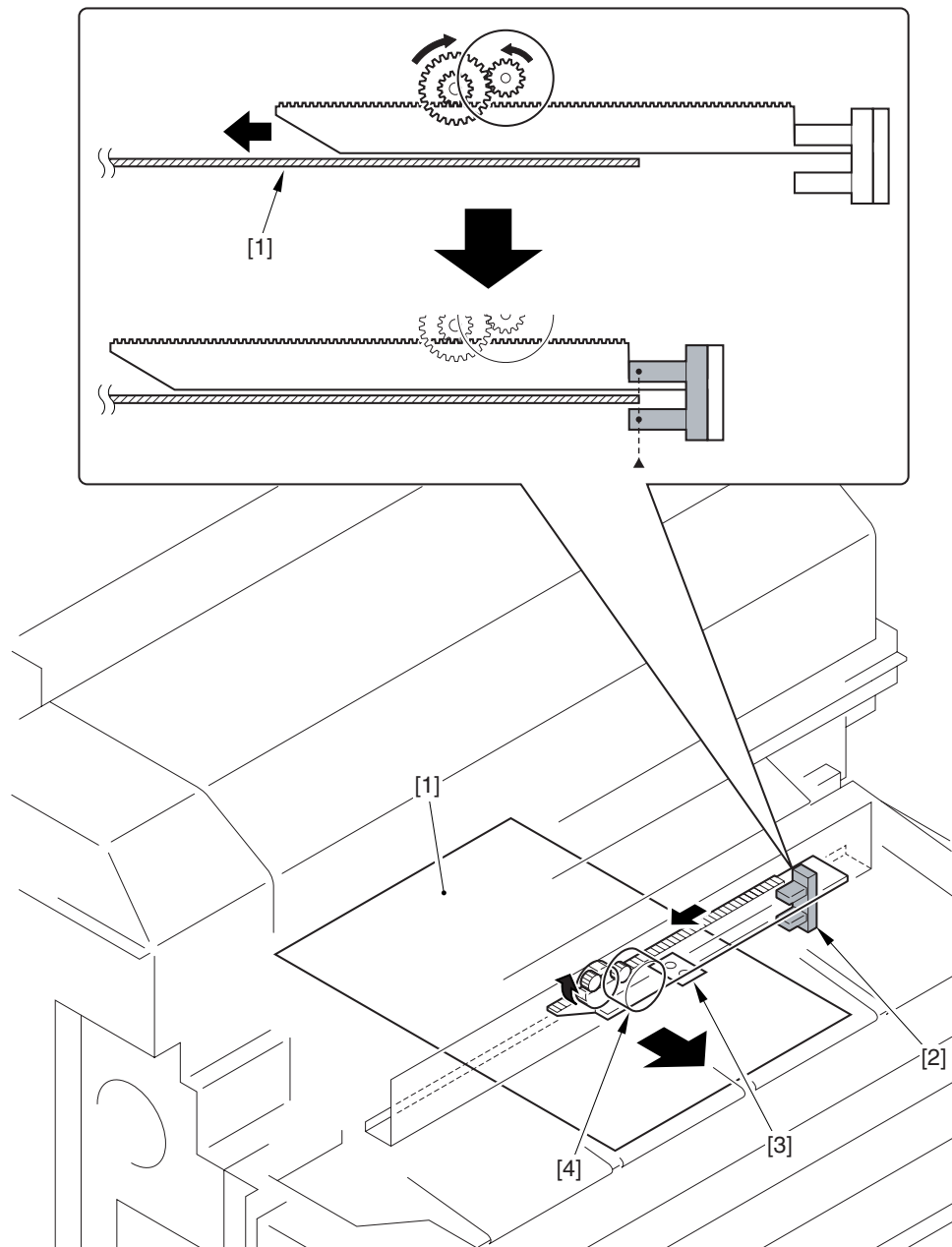
F-8-43

[1] Paper
[2] Horizontal registration sensor (PS24)
[3] Sensor plate
[4] Horizontal registration motor (M28)

1. Horizontal Registration Search

1) After a home position search*1, the horizontal registration sensor (PS24) moves to the 13x19 paper detection position *2.

   *1. Where the horizontal registration sensor detects the sensor plate (i.e., 61.5 mm toward the rear from the middle of the feeding assembly).

   *2. 165 mm toward the rear from the middle of the feeding assembly.

Center of the paper path (0mm)   Home position (61.5mm)   13X19 paper detection position (165mm)
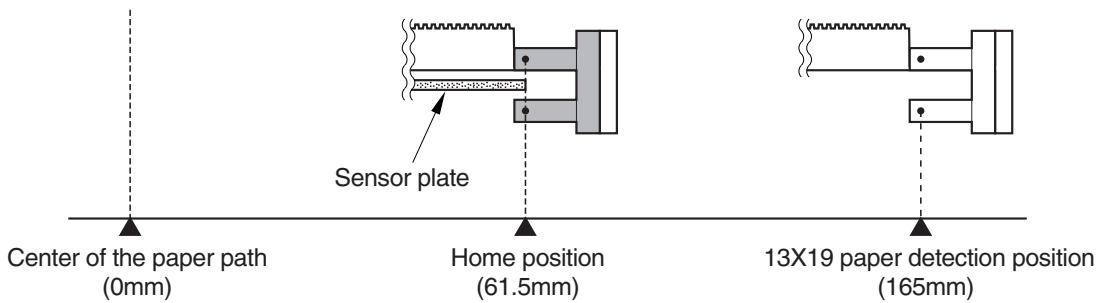
F-8-44

2) The horizontal registration sensor checks the presence/absence of paper.

2-1) If the presence of paper is identified in step 1., the horizontal registration sensor is moved away from the paper until it detects the absence of paper; after it has been moved 2 mm from the paper, it is then moved closer to the paper once again, identifying the point at which paper is detected as the edge of paper.

Paper   2mm
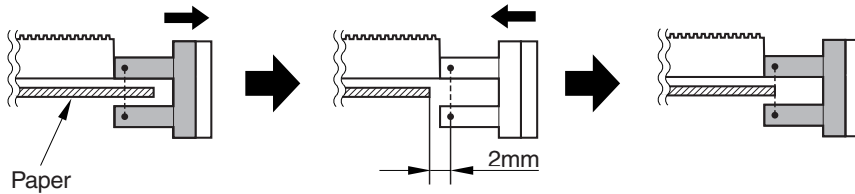
F-8-45

2-2) If the absence of paper is identified, the horizontal registration sensor is moved away by 2 mm from the paper and then back closer to the paper, identifying the point at which paper is detected as the edge of the paper.

Paper   A   A+2mm
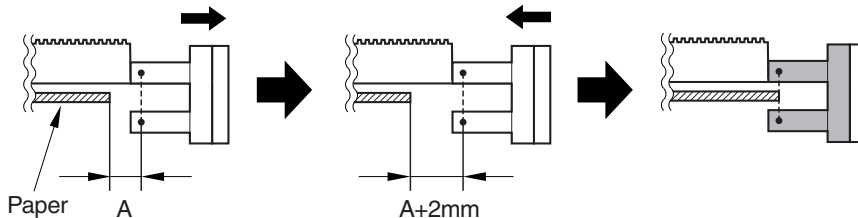
F-8-46

3) The machine computes the number of motor pulses generated when the horizontal registration sensor is moved in step 2-1 or 2-2 to find out the displacement of paper, thus determining the image write start position (for each single pulse, the sensor moves over a length of 0.157 mm).

8.9.3 A5, 5 Sheets in Circulation

(1)

(2)

(3)
Rotates in reverse

(4)
Re-pickup standby position

F-8-47

(5)

(6)

(7)

(8)

F-8-48

(9)

(10)

(11)

(12)
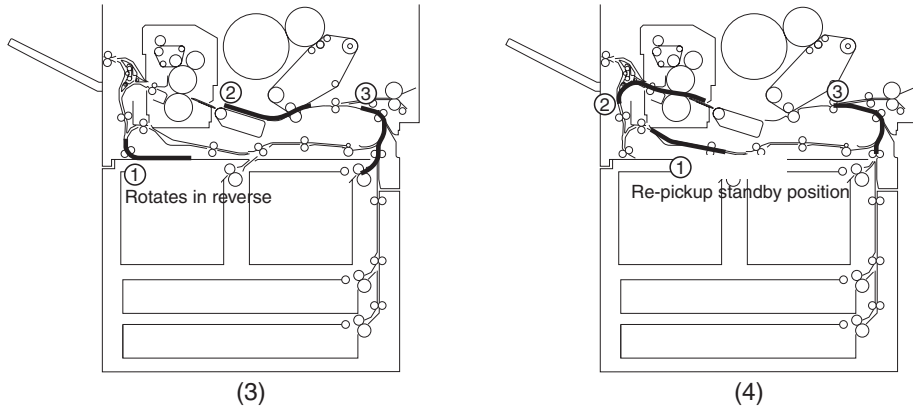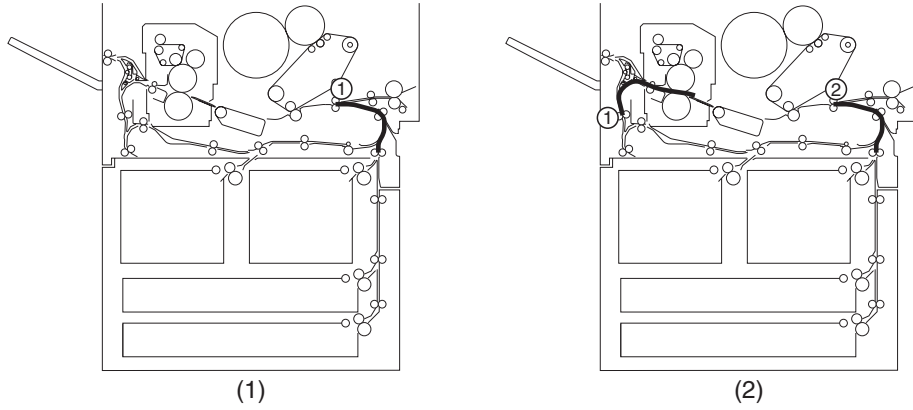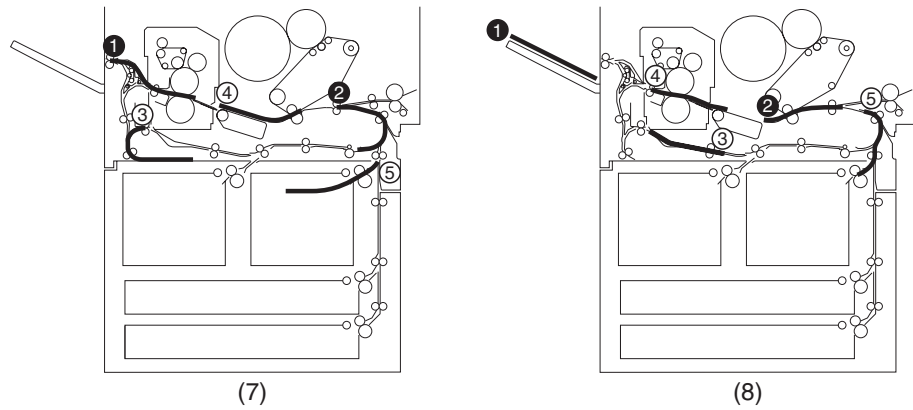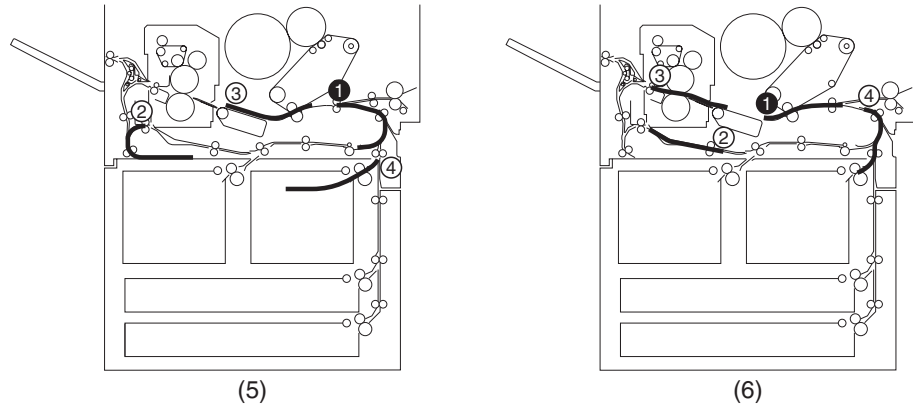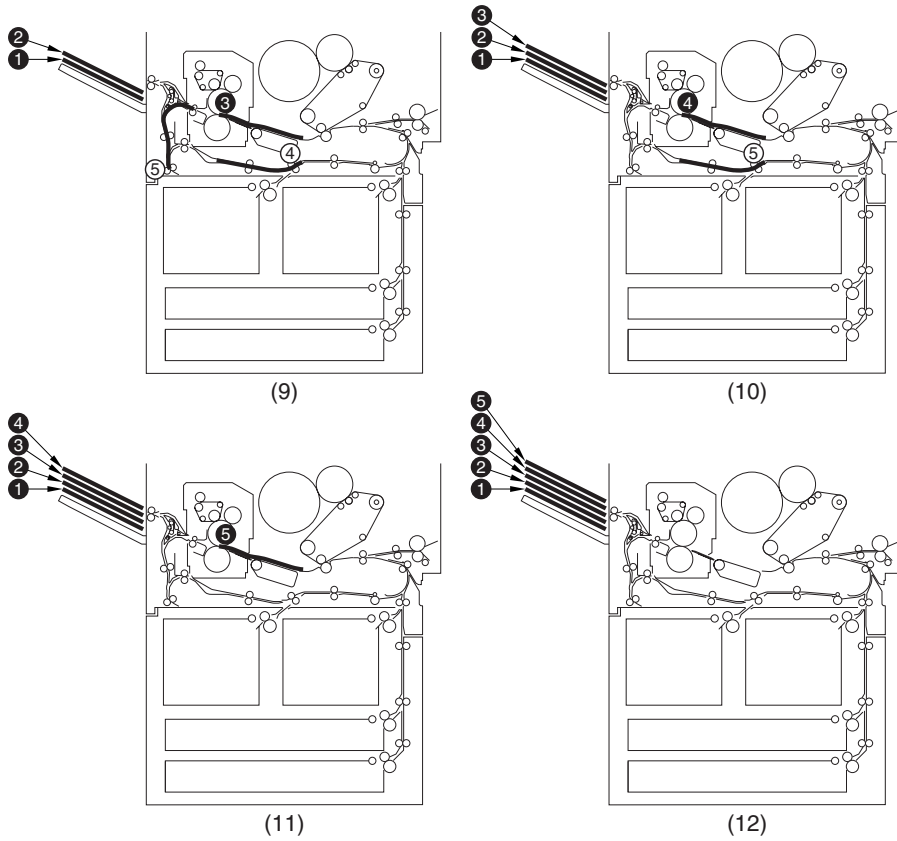
F-8-49

8.9.4 A3, 3 Sheets in Circulation

(1)

(2)

Rotates in reverse

(3)

Re-pickup standby position

(4)

F-8-50

(5)   (6)

(7)   (8)
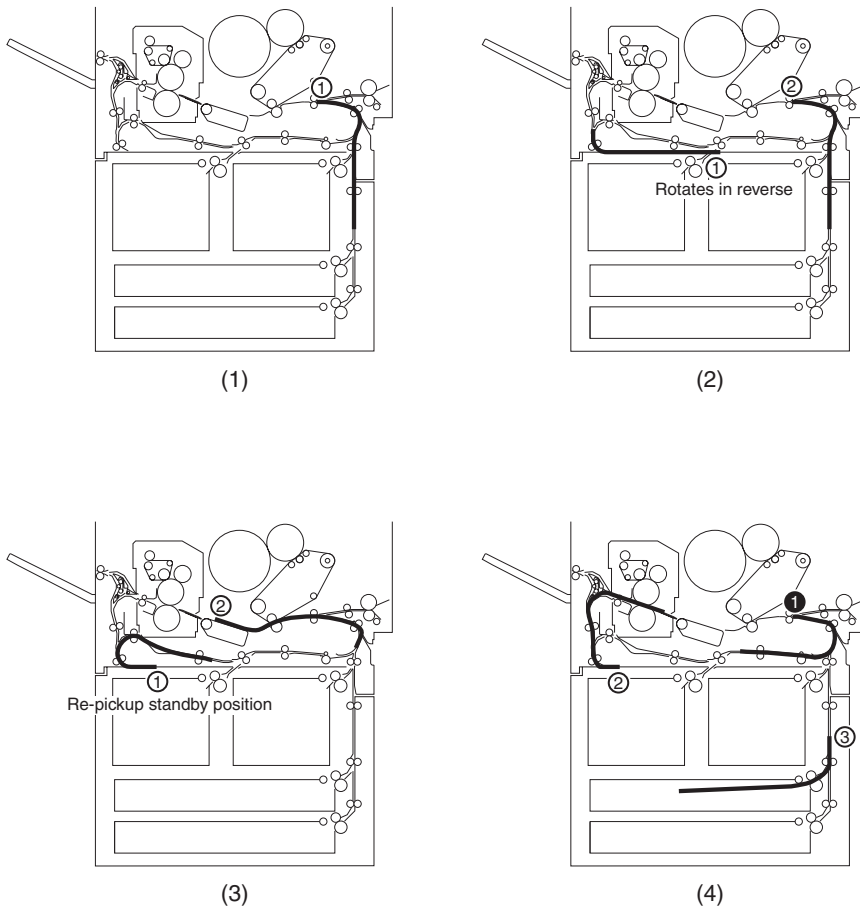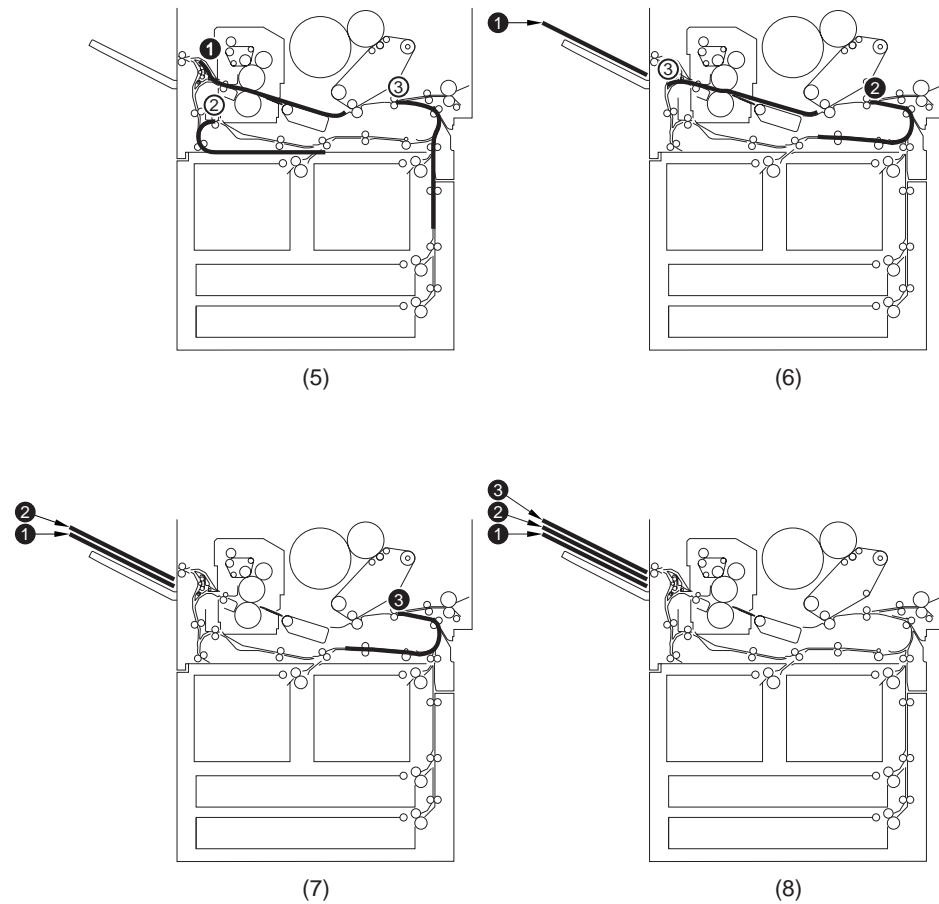
F-8-51

8.10 Delivery

8.10.1 Overview

The machine discharges paper either face-up or face-down:

T-8-22

Mode of delivery	Mode of operation
Face-up	- When making single print of a single original - When making multiple prints of a single original (however, face-down if a finisher is installed) - If heavy paper 3 is selected - If the source of paper is from the manual feed tray and the paper is not plain paper (default size)
Face-down	When the selected mode of operation is other than the above; however, face-down delivery may be selected for the above modes using the following service mode item: COPIER>OPERATION>BODY>FDW-DLV (valid only if no finisher is installed).

8.10.2 Face-Up Delivery

When the delivery solenoid (SL5) goes on, the flapper shifts down to move the paper to the delivery assembly.
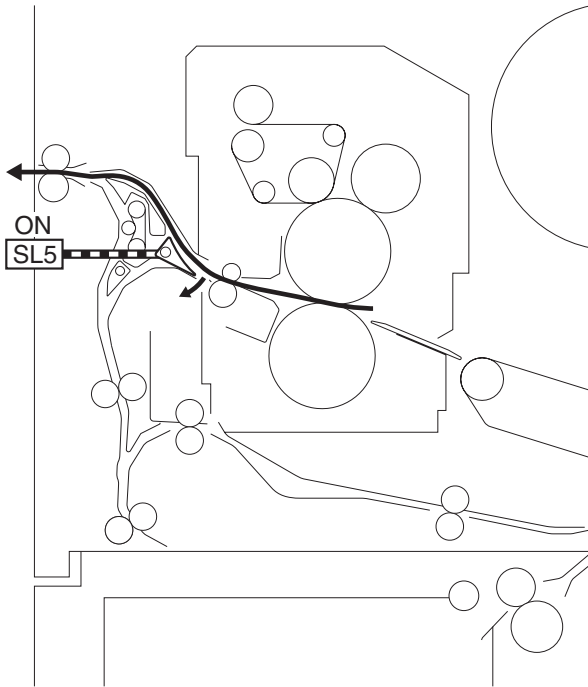
F-8-52

8.10.3 Face-Down Delivery

The machine operates as follows when in face-down delivery mode:

1) The delivery solenoid (SL5) is off, and the paper is moved in the direction of the duplexing feeding assembly.
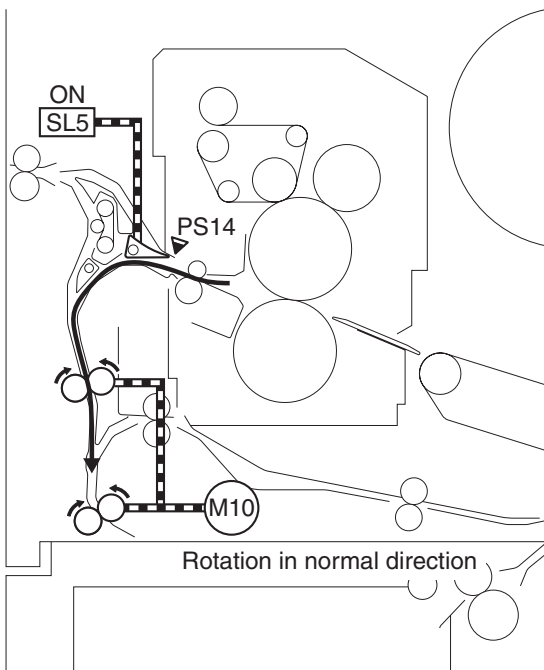
F-8-53

2) A specific period of time after the reversal sensor (PS14) goes on, the duplexing reversal motor (M10) rotates in normal direction; it then stops when the trailing edge of paper reaches the reversal stop position (15 mm farther down the reversal confluence point).
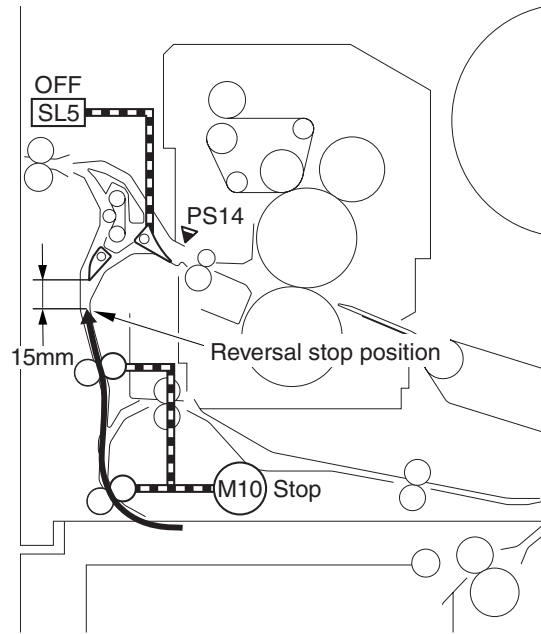
F-8-54

3) In 100 msec, the duplexing reversal motor (M10) rotates in reverse to move the paper with the trailing edge first in the direction of delivery.
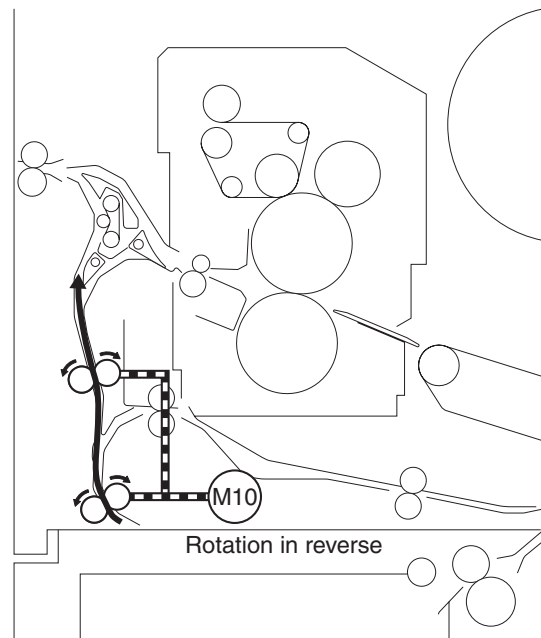
F-8-55

4) When the leading edge of preceding paper moves past the curl removing roller by 20 mm, the reversal shifting solenoid (SL3) goes on to move away the reversal 1 roller in preparation for the arrival of the following paper.
The duplexing reversal motor (M10) stops after the trailing edge of the paper has moved past the reversal 2 roller.
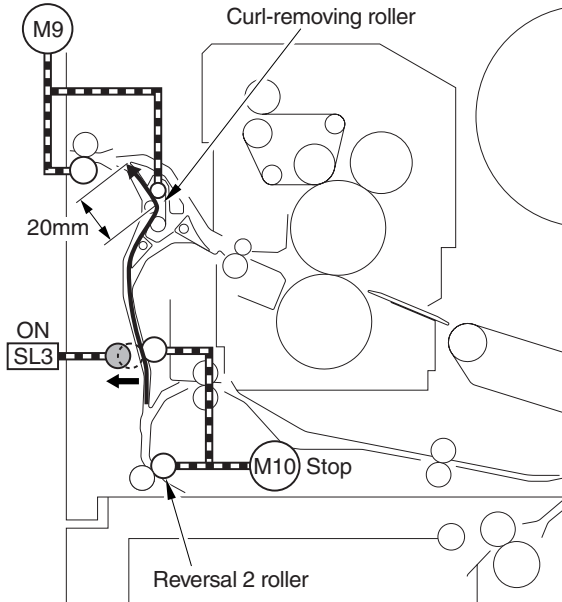
F-8-56

5) The length of overlap between the trailing edge of the preceding paper and the leading edge of the following paper is 42 mm at maximum.
*1. The length of overlap between the trailing edge of the preceding paper and the leading edge of the following paper is 42 mm at maximum.
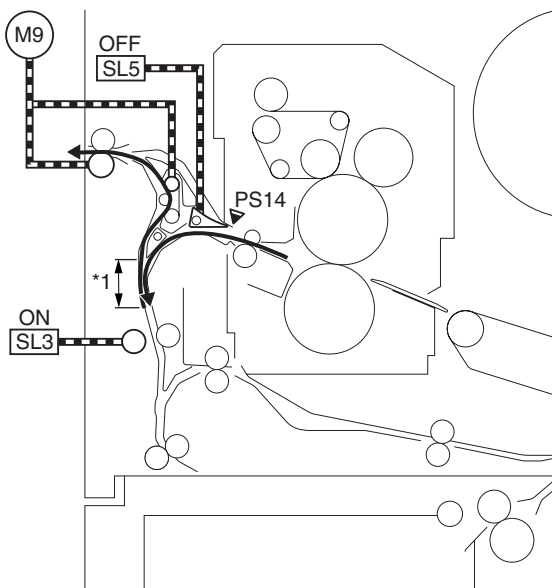
F-8-57

6) A specific period of time after the reversal sensor (PS14) goes on in response to the arrival of the following paper, the duplexing reversal motor (M10) starts to move in normal direction. When the leading edge of the following paper moves past the reversal 1 roller by about 20 mm, the reversal shifting solenoid (SL3) turns off so that the following paper is moved to the reversal stop position. Then, the machine repeats step 3) and thereafter.
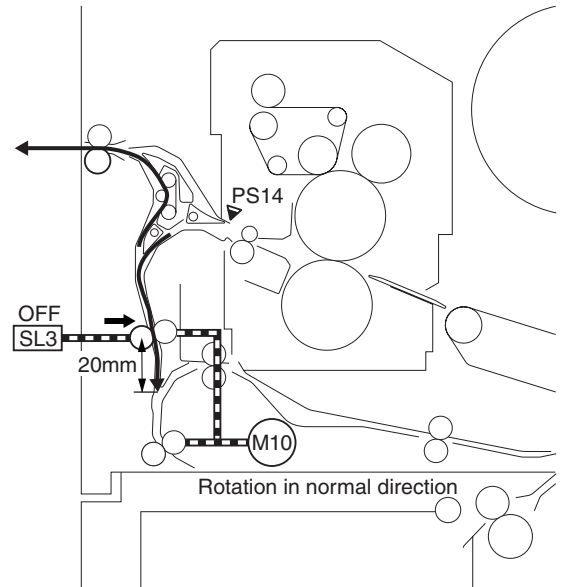
F-8-58

8.11 Parts Replacement Procedure

8.11.1 Cassette Pickup Unit

8.11.1.1 Removing the Cassette Pickup Unit

1) Slide out the cassette 3/4.
2) Remove the lower rear right cover.
3) Open the lower right cover.
4) Remove connector cover [2].
   - 2 screws [1]
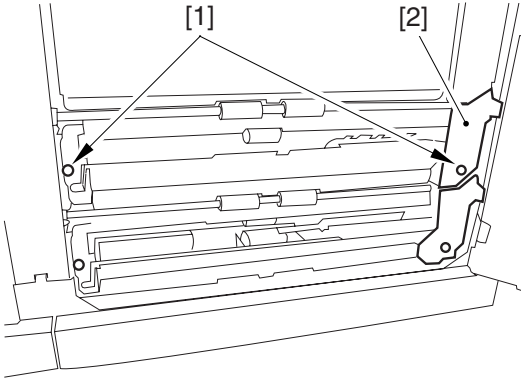
F-8-59

5) Remove the pickup unit (cassette 3/4) [2].
   - connector [1]
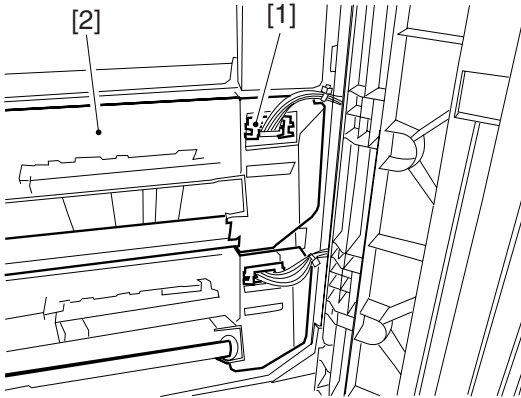
F-8-60

8.11.2 Cassette Pickup Motor

8.11.2.1 Preparation for Removing the Cassette Pick-up Motor

1) Remove the Right Cover (lower rear).
2) Remove the Rear Cover (lower).
3) Remove the Waste Toner Bottle Base.
3-1) Remove the waste toner bottle [1].
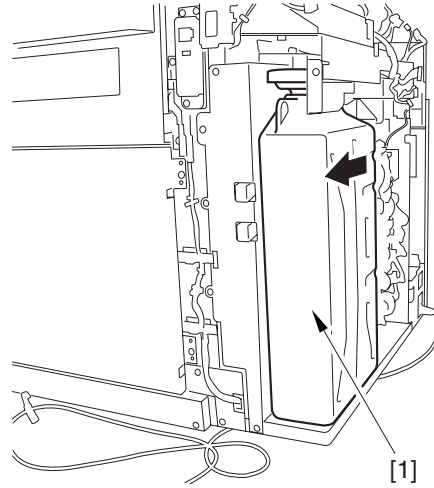
F-8-61

3-2) Lift the waste toner bottle base [2] to remove it in the direction of the arrow.
   - 7 screws [1]
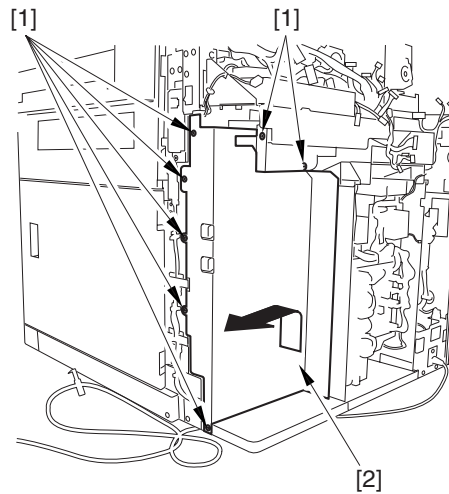
F-8-62

8.11.2.2 Removing the Cassette Pickup Motor

1) Remove the cassette pickup motor [3].
   - connector [1]
   - 2 screws [2]
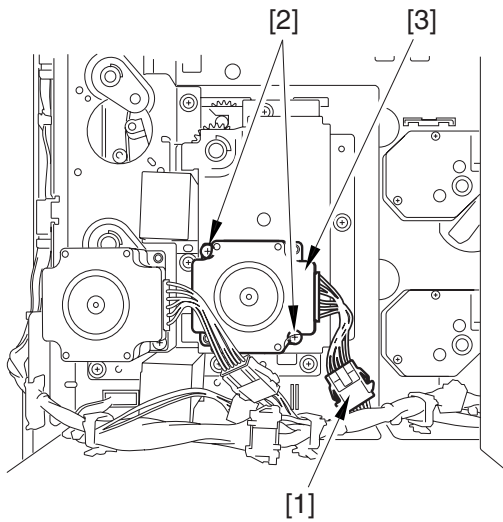
F-8-63

8.11.3 Cassette Lifter Motor

8.11.3.1 Preparation for Removing the Cassette Lifter Motor

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
2-1) Open the 2 wire saddles [1], and remove the harness [2].
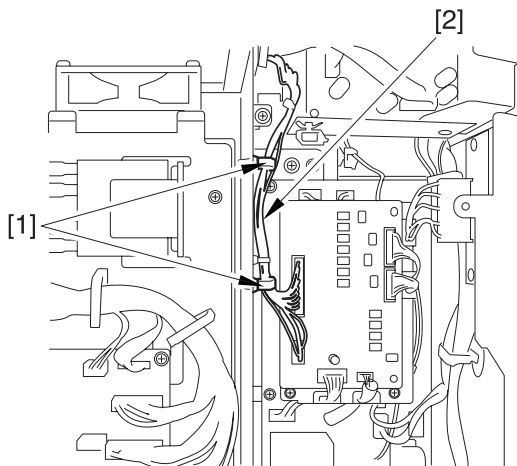
F-8-64

2-2) Open the 3 wire saddles [2] to remove the harness [3].
   - 16 connectors [1]
2-3) Remove the DC power supply unit [5].
   - 4 screws [4]
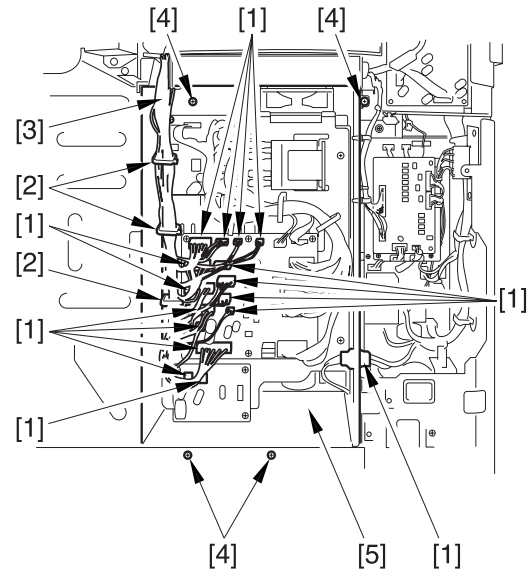
F-8-65

8.11.3.2 Removing the Cassette Lifter Motor

1) Slide out the cassette 3 or 4.
2) Remove the cassette lifter motor [3].
   - connector [1]
   - 3 screws [3]
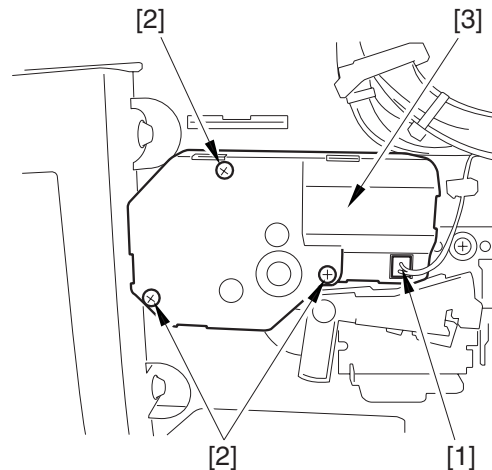
F-8-66

8.11.4 Left Deck Lifter Motor

8.11.4.1 Preparation for Removing the Lift Deck Lifter Motor

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
-Refer to Procedure 8.11.3.1 #2)

8.11.4.2 Removing the Left Deck Lifter Motor

1) Remove the left deck lift motor [3].
   - connector [1]
   - 3 screws [2]
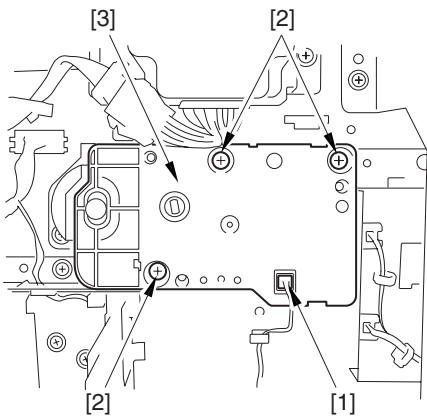
F-8-67

8.11.5 Right Deck Lifter Motor

8.11.5.1 Preparation for Removing the Right Deck Lifter Motor

1) Remove the Right Cover (lower rear).
2) Remove the Rear Cover (lower).
3) Remove the Waste Toner Bottle Base.
-Refer to Procedure 8.11.2.1 #3)

8.11.5.2 Removing the Right Deck Lifter Motor

1) Remove the right deck lifter motor [3].
   - connector [1]
   - 3 screws [2]
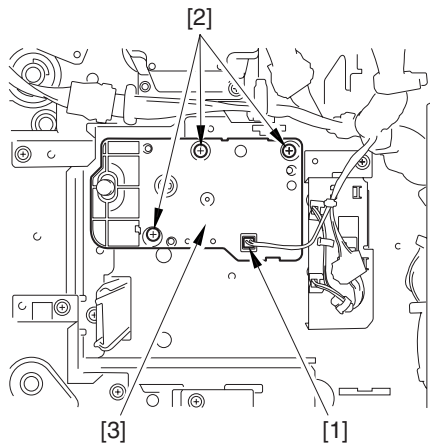
F-8-68

8.11.6 Left Deck Pickup Motor

8.11.6.1 Preparation for Removing the Left Deck Pickup Motor

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
-Refer to Procedure 8.11.3.1 #2)

8.11.6.2 Removing the Left Deck Pickup Motor

1) Remove the left deck pickup motor [3].
   - connector [1]
   - 2 screws [2]
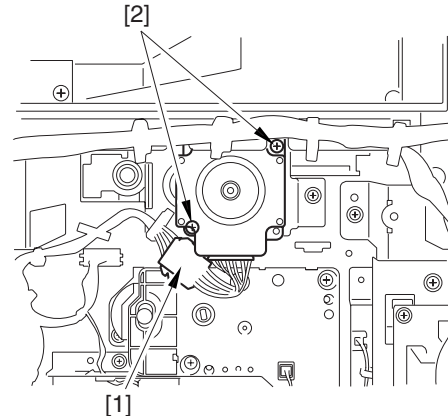
F-8-69

8.11.7 Right Deck Pickup Motor

8.11.7.1 Preparation for Removing the Right Deck Pickup Motor

1) Remove the Right Cover (lower rear).
2) Remove the Rear Cover (lower).
3) Remove the Waste Toner Bottle Base.
-Refer to Procedure 8.11.2.1 #3)

8.11.7.2 Removing the Right Deck Pickup Motor

1) Remove the right deck pickup motor [3].
   - connector [1]
   - 2 screws [2]
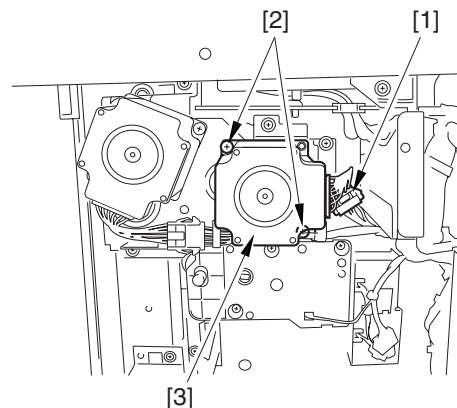
F-8-70

8.11.8 Vertical Path Motor

8.11.8.1 Preparation for Removing the Vertical Path Motor

1) Remove the Right Cover (lower rear).
2) Remove the Rear Cover (lower).
3) Remove the Waste Toner Bottle Base.
-Refer to Procedure 8.11.2.1 #3)

8.11.8.2 Removing the Vertical Path Motor

1) Remove the vertical path motor [3].
   - connector [1]
   - 2 screws [2]
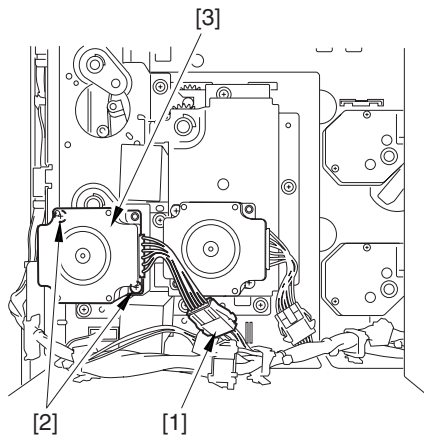
F-8-71

8.11.9 Right Deck Pull-Off Motor

8.11.9.1 Preparation for Removeing the Right Deck Pull-Off Motor

1) Remove the Right Cover (lower rear).
2) Remove the Rear Cover (lower).
3) Remove the Waste Toner Bottle Base.
-Refer to Procedure 8.11.2.1 #3)

8.11.9.2 Removing Right Deck Pull-Off Motor

1) Remove the right deck pull-off motor [3].
   - connector [1]
   - 2 screws [2]
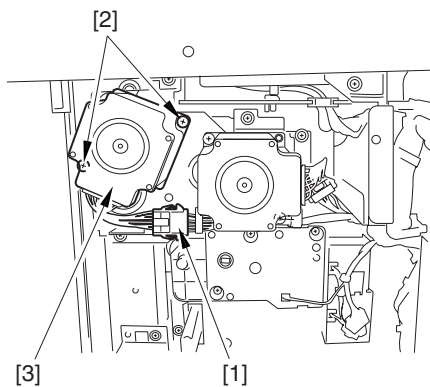
F-8-72

8.11.10 Cassette Paper Level Sensor (A/B)

8.11.10.1 Preparation for Removing the Cassette Paper Level Sensor (A/B)

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
-Refer to Procedure 8.11.3.1 #2)
3) Remove the Cassette Lifter Motor.
-Refer to Procedure 8.11.3

8.11.10.2 Removing the Cassette Paper Level Sensor (A/B)

1) Slide out the cassette 3/4.
2) Open the 2 wire saddles [2].
   - connector [1]
3) Remove the sensor base [4].
   - screw [3]
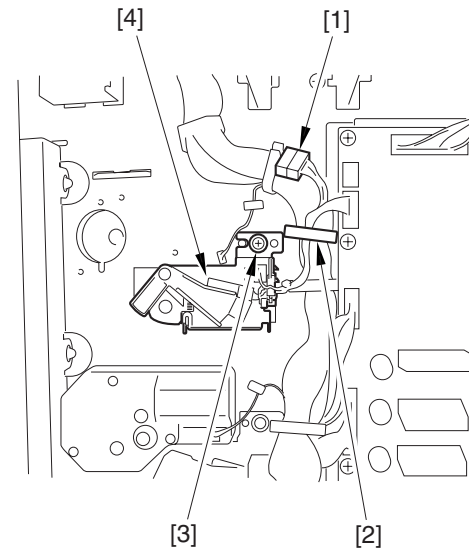
F-8-73
4) Remove the connector [2].
   - harness from the wire saddle [1]
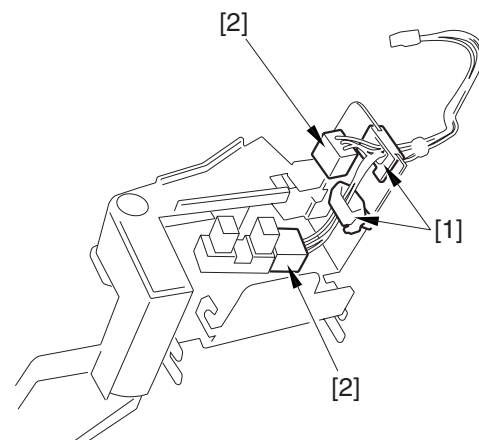
F-8-74

5) Release the hook [1], and remove the cassette power level sensor [2].
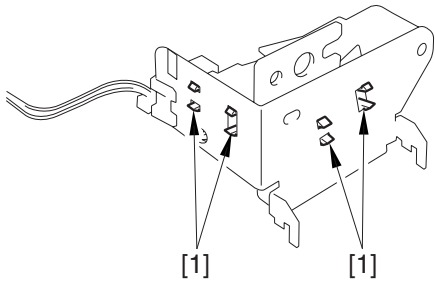
F-8-75

8.11.11 Left Deck Paper Level Sensor

8.11.11.1 Preparation for Removing the Left Deck Paper Level Sensor

1) Remove the Rear Cover (lower).
2) Remove the Left Cover (lower).
3) Remove the Power Cord Base.
3-1) Remove the 4 screws [1] from the left side.
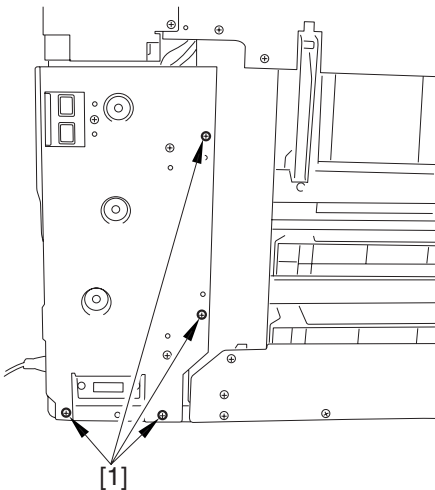
F-8-76

3-2) Open the 3 wire saddles [2].
  - 4 connectors [1]
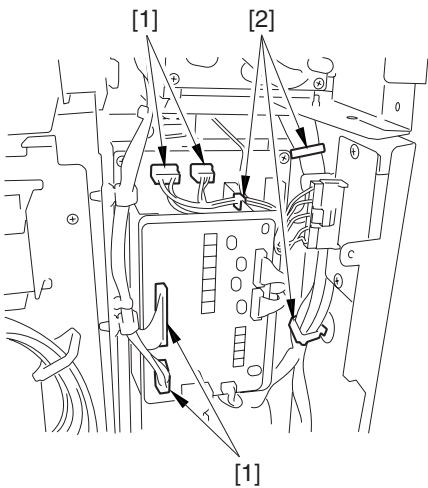
F-8-77

3-3) Open the wire saddle [2].
  - 8 connectors [1]
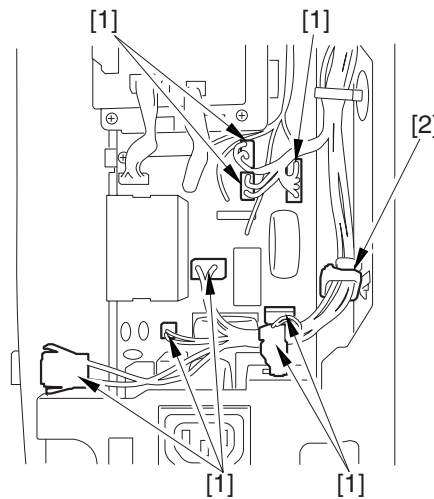
F-8-78

3-4) Remove the AC driver box [2].
  - 3 screws [1]
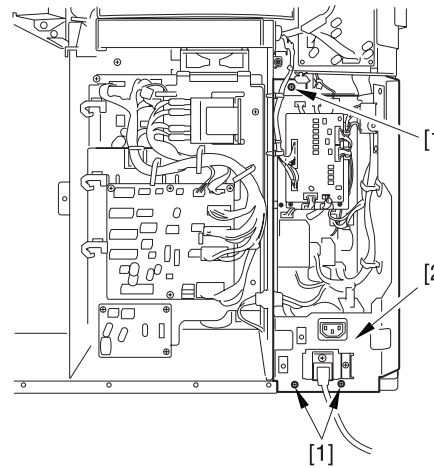
F-8-79

8.11.11.2 Removing the Left Deck Paper Level Sensor

1) Remove the sensor base [3].
   - connector [1]
   - screw [2]
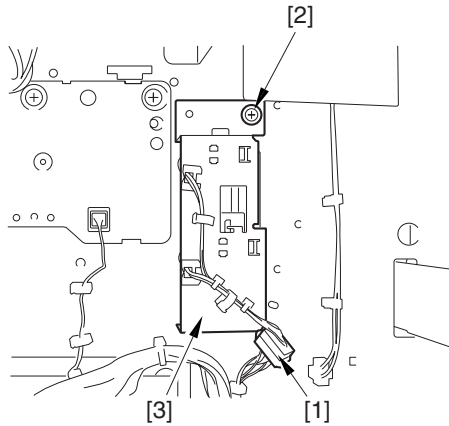
F-8-80

2) Remove the connector [1].
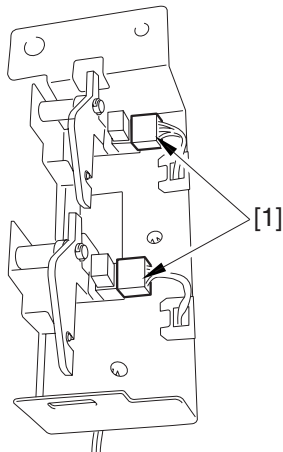
F-8-81

3) Release the hook [1], and remove the left deck paper level sensor.
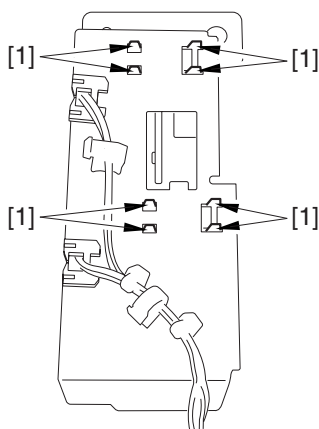
F-8-82

8.11.12 Right Deck Pickup Assembly

8.11.12.1 Removing the Right Deck Pickup Unit

1) Slide out the right deck.
2) Remove the upper rear right cover.
3) Open the lower right cover.
4) Open the manual feed unit.
5) Open the manual feed unit wide.
   - screw [1]
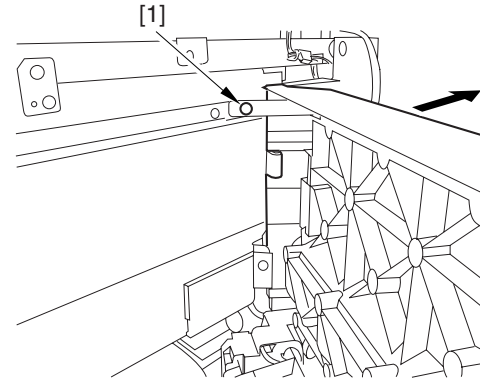
F-8-83

6) Remove the connector cover [2].
   - 2 screws [1]
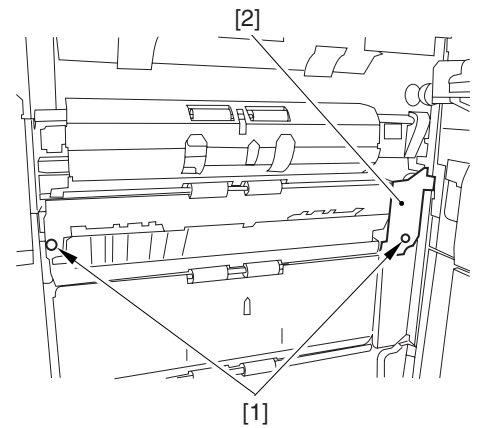
F-8-84

7) Remove the pickup unit (right deck) [1].
   - connector [1]
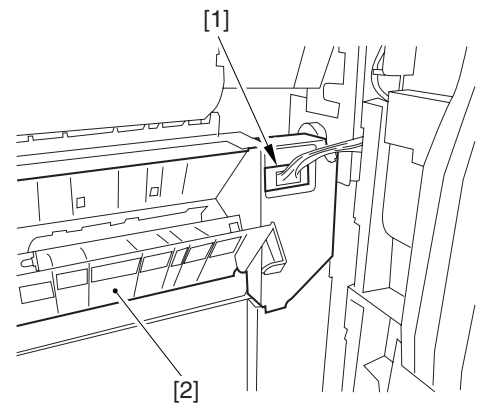
F-8-85

8.11.13 Left Deck Pickup Assembly

8.11.13.1 Removing the Left Deck Pickup Unit

1) Open the front door.
2) Slide out the left deck, and remove the 2 screws [1] from the left side of the compartment.
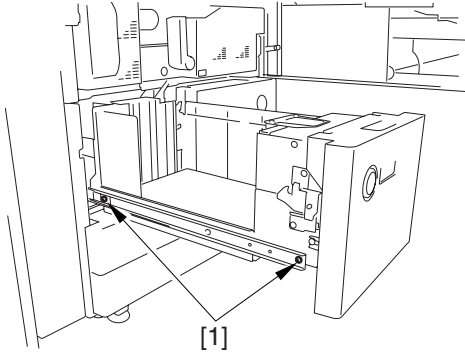
F-8-86

3) Remove the 2 screws [1] from the right side of the deck compartment.
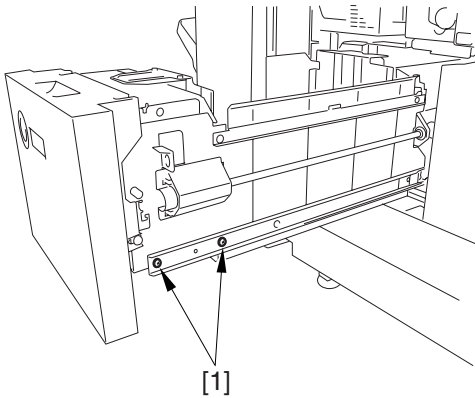
F-8-87

4) Lift the left deck compartment [1] to remove.
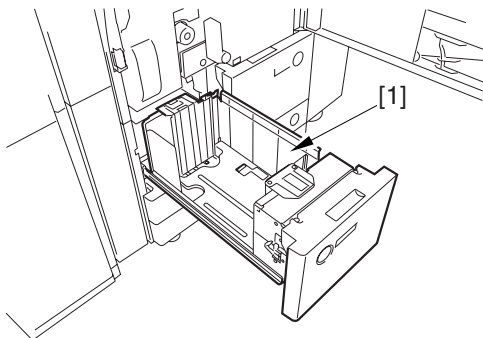
F-8-88

5) Put back the 2 rails [1] into the machine.
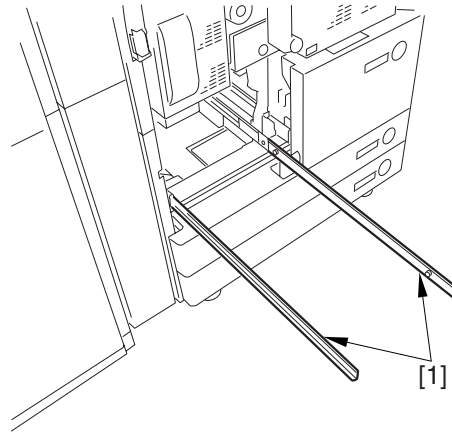
F-8-89

6) In the same way, remove the right deck compartment.
7) Remove the connector [2] found at the rear of the left deck pickup assembly [1].
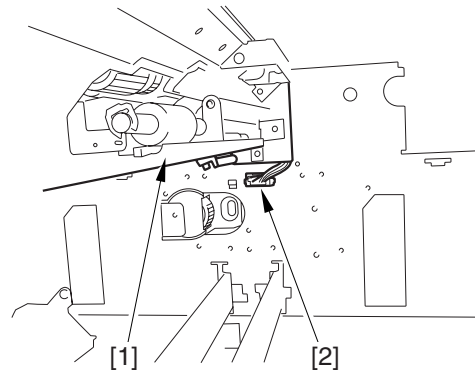
F-8-90

8) Slide out the fixing/freeing assembly.
9) Remove detach the pickup fixing plate [2].
   - 2 screws [1]
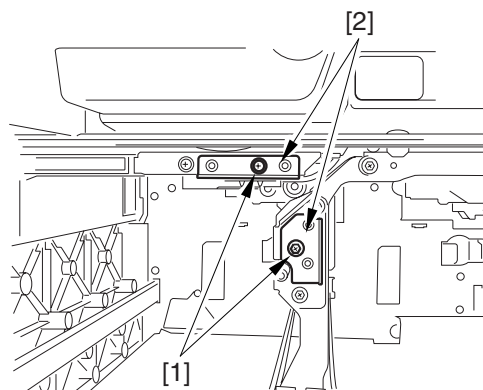
F-8-91

⚠️

When detaching the fixing plate, be sure to support the pickup assembly with you hand. (The pickup assembly may fall.)

10) While supporting the bottom of the left deck pickup assembly, slide out the pickup assembly [1] to remove.
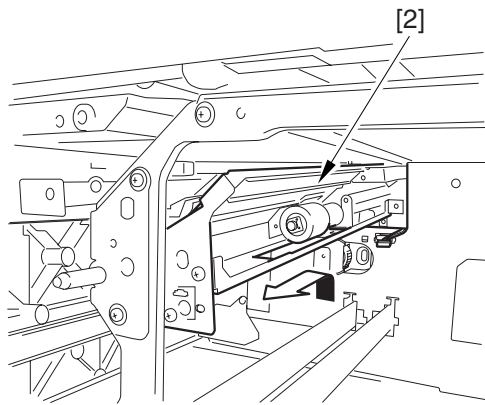
F-8-92

8.11.14 Right Deck Pickup/Feed/ Separation Roller

8.11.14.1 Removing the Right Deck Pickup, Feed, and Separation Rollers

1) Slide out the right deck.
2) From both sides of the deck compartment [1], remove the 2 screws each [2]; then, remove the deck compartment.
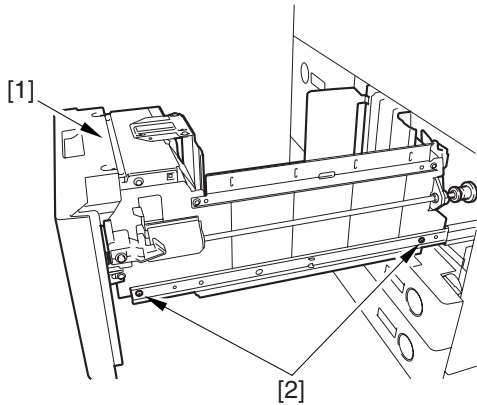
F-8-93
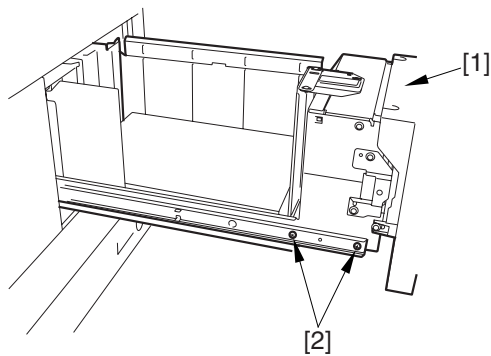
F-8-94

3) Push the 2 rails [1] into the machine.
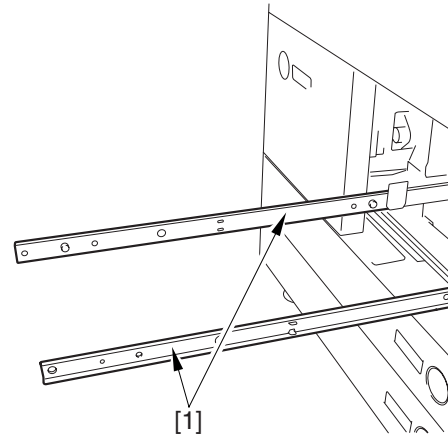
F-8-95

4) Pull out the pickup roller [2].
   - hook [1]
5) Pull out the feed roller [4].
   - resin ring [3]
6) Pull out the separation roller [6].
   - resin ring [5]
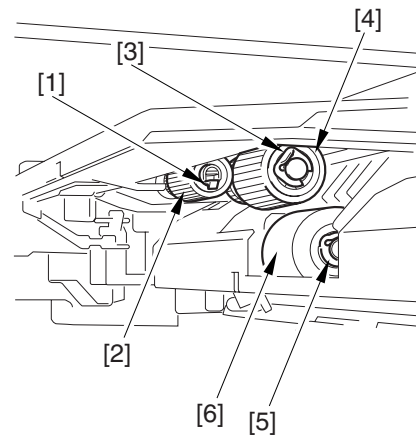
F-8-96

⚠
When attaching the pickup roller [1], be sure the protrusion [2] indicated in the diagram faces the rear.
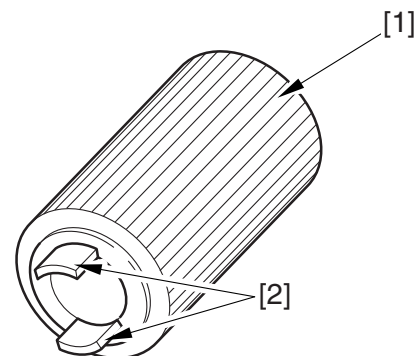
F-8-97

8.11.15 Left Deck Pickup/Feed/Separation Roller

8.11.15.1 Removing the Left Deck Pickup, Feed, and Separation Roller

1) Slide out the right deck.
2) Slide out the left deck.
3) Remove the left deck compartment.
   - 2 screws each [2] (from both sides of the left deck compartment [1])

F-8-98

F-8-99
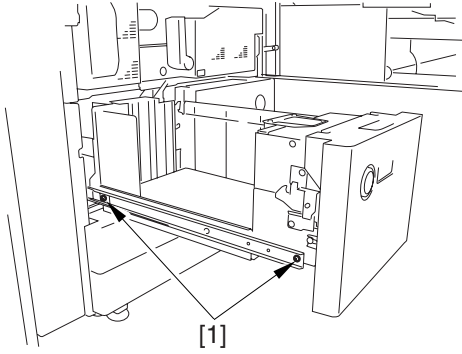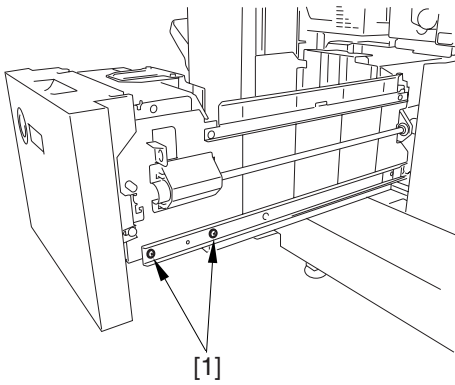
4) Push the 2 rails [1] into the machine.

F-8-100
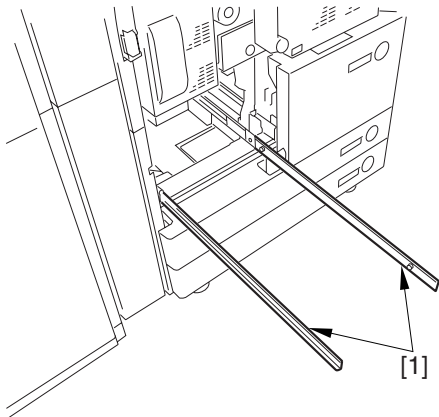
5) Pull out the pickup roller [2].
   - hook [1]
6) Pull out the feed roller [4].
   - resin ring [3]
7) Pull out the separation roller [6].
   - resin ring [5]
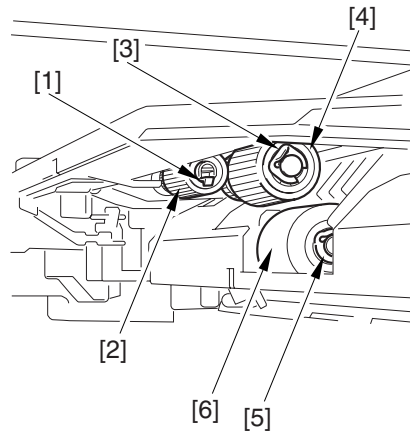
F-8-101

⚠
When attaching the pickup roller [1], be sure that the protrusion [2] indicated in the diagram faces the rear.
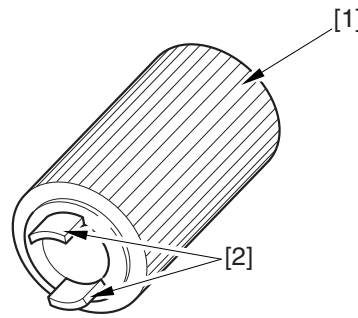
F-8-102

8.11.16 Cassette Pickup/Feed/Separation Roller

8.11.16.1 Removing the Cassette Pickup, Feed, and Separation Rollers

1) Slide out the cassette 3/4.
2) Pull out the pickup roller [2].
   - hook [1]
3) Pull out the feed roller [4].
   - resin ring [3]
4) Pull out the separation roller [67].
   - resin ring [5]
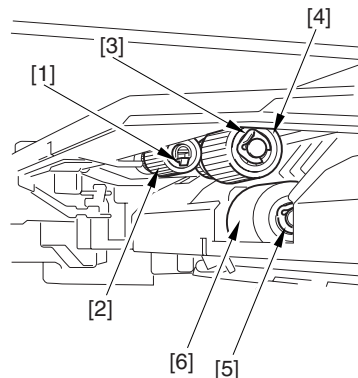
F-8-103

⚠

When attaching the pickup roller [1], be sure that the protrusion [2] indicated in the diagram faces the rear.
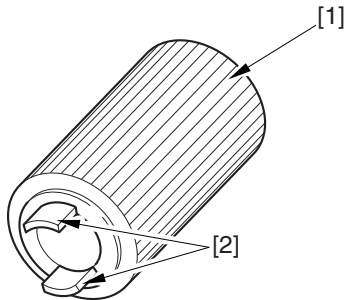
F-8-104

8.11.17 Manual Feed Unit

8.11.17.1 Removing the Manual Feed Unit

1) Open the manual feed unit.
2) Remove the cover [2].
   - 2 screws [1]
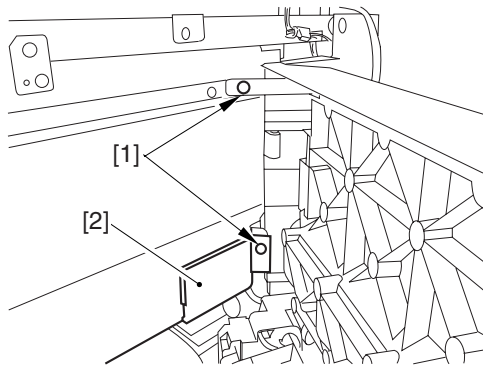
F-8-105

3) Remove the harness retainer [3].
   - screw [1] used to hold the grounding wire in place
   - connector [2]
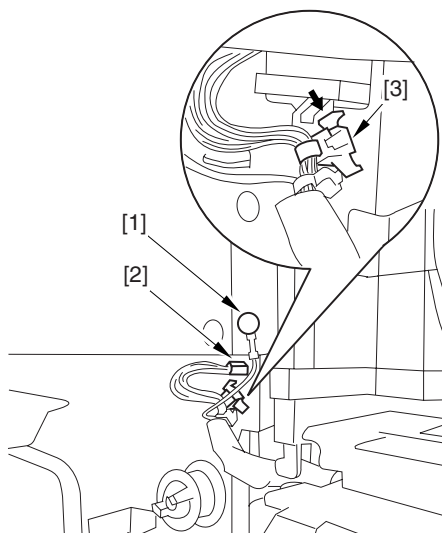
F-8-106

4) Lift the manual feed unit [1] to remove.
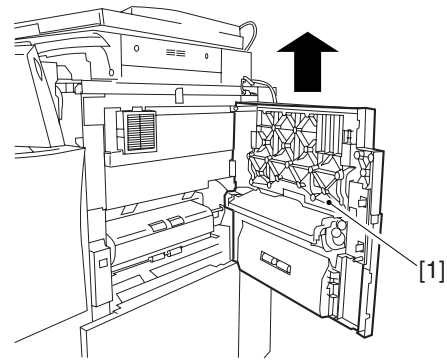
F-8-107

8.11.18 Manual Feed Roller

8.11.18.1 Removing the Manual Feed Roller

1) Open the manual feed unit.
2) Release the claw [1], and remove the gear [2] and the bushing [3].
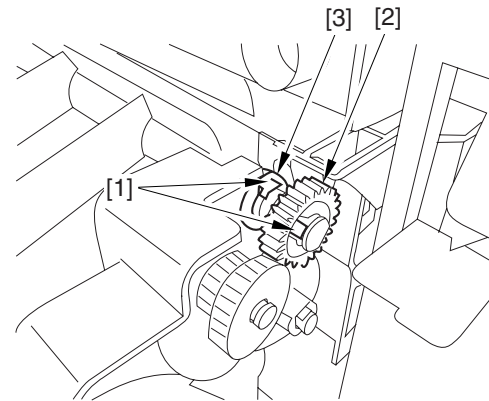
F-8-108

3) Remove the feeder upper cover [1].
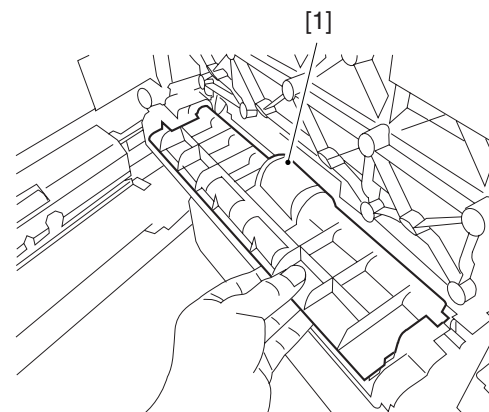
F-8-109

4) Pull out the feed roller [2] to the front.
- resin ring [1]
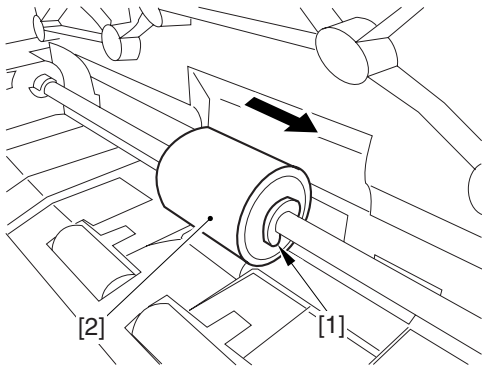
F-8-110

8.11.19 Manual Feed Separation Roller

8.11.19.1 Preparation for Removing the Manual Feed Separation Roller

1) Remove the Manual Feed Roller.
-Refer to Procedure 8.11.18

8.11.19.2 Removing the Manual Feed Separation Roller

1) Lift the paper guide to free the hook [1]; then, move it to free the claw [2], thereby removing the paper guide (front) [3] and the other paper guide (rear) [4].
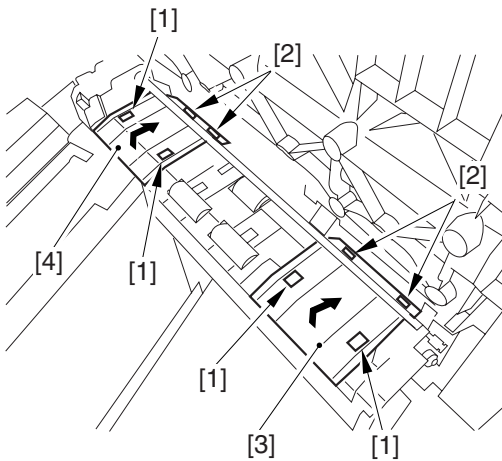
F-8-111

2) As in step 1), remove the paper guide (middle) [1].
Reference: When attaching the paper guide (middle), try pushing down on the separation roller shaft [2] to facilitate the work.
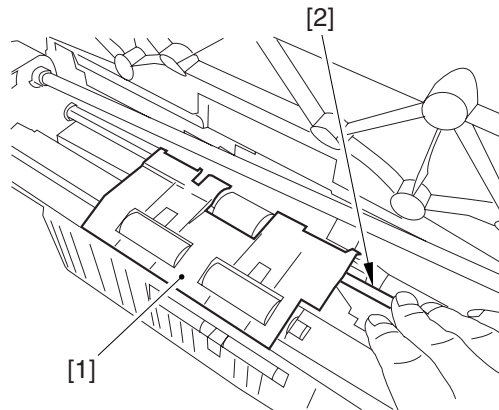
F-8-112

3) Pick its tab [1], and pull out the separation roller [2] toward the rear.
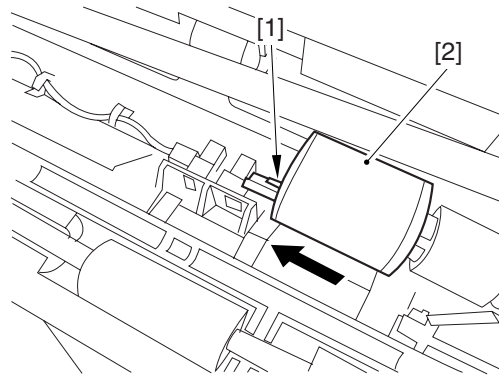
F-8-113

8.11.20 Manual Feed Pre-Regustration Motor

8.11.20.1 Preparation for Removing the Manual Feed Pre-Regustration Motor

1) Remove the Rear Cover (upper).
2) Remove the Right Cover (upper rear).
3) Remove the Rear Cover (lower).
4) Remove the Right Cover (lower rear).
5) Move the DC Controller Box.
5-1) Remove the DC controller cover [2].
   - 9 screws [1]
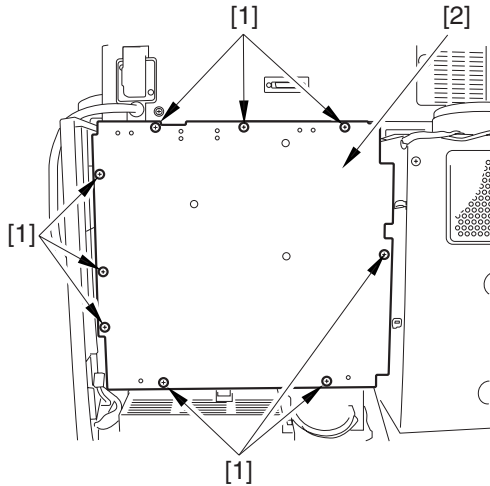
F-8-114

5-2) Move the DC controller box [2] to the left.
   - 6 screws [1]
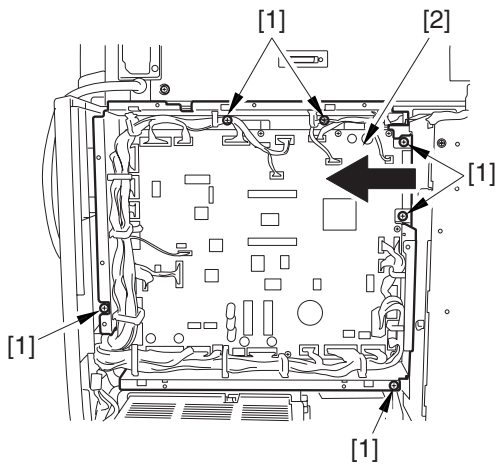
F-8-115

6) Remove the DC Controller Box.
6-1) Open the 3 cable guides [1], and remove the harness [2].
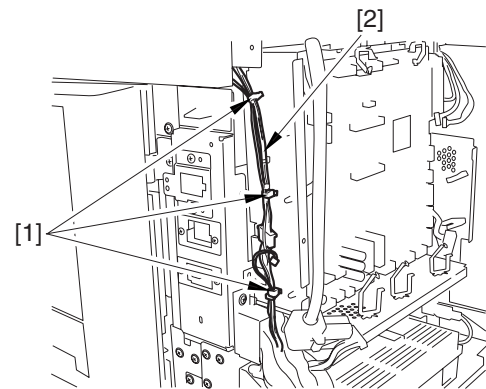
F-8-116

6-2) Open that 13 cable guides [2]; then, remove the harness [3].
   - 33 connectors [1]
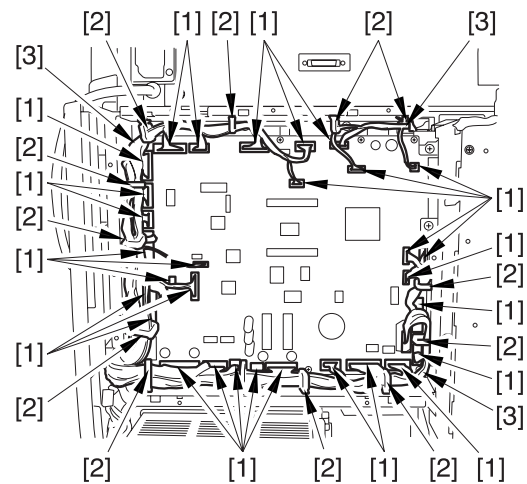
F-8-117

6-3) Lift the DC controller box [1] to remove.
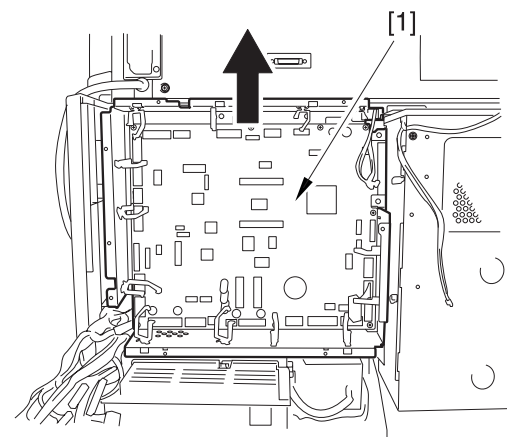
F-8-118

⚠️

During assembly work, be sure to connect the harness to the DC controller PCB as follows:
1) Connect the connector of the harness [1] first, and then the other harness [2].
2) Attach the harnesses [1] [2] using the wire saddle [3] so that the harness [1] is on the left side of the harness [2].
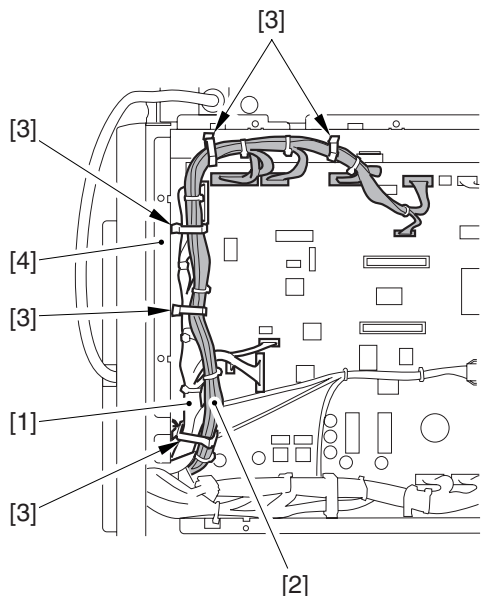
F-8-119

Reference:
If the harness [1] is away from the side plate [4] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur because of noise.

7) Remove the HV1 PCB.
7-1) Remove the HV1 transformer lid [2].
   - 2 hooks [1]
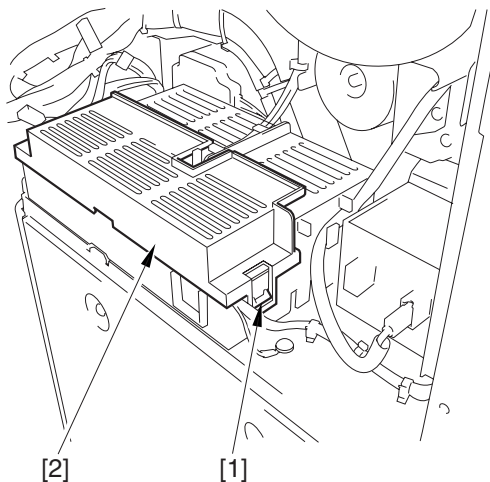
F-8-120
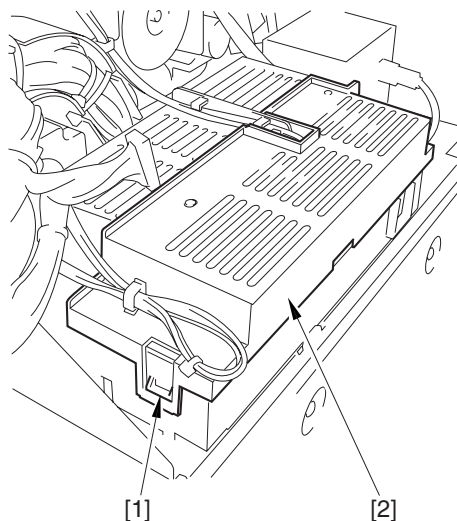
F-8-121
7-2) Remove the harness from the 6 cable guides [2].
   - 6 connectors [1]
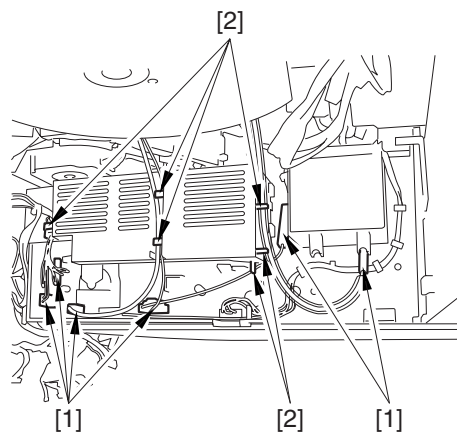
F-8-122
7-3) Remove the screw.
   - harness [1] (from the 2 cable guides [2])
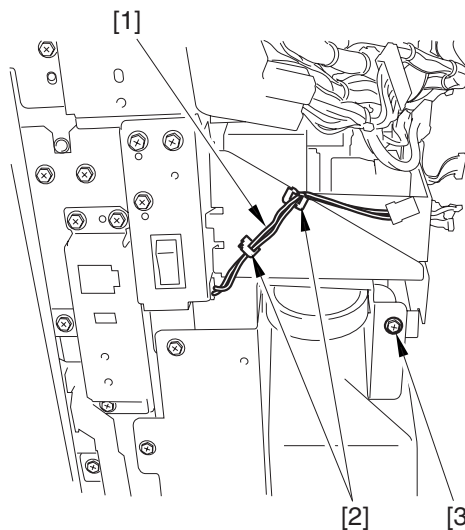
F-8-123

7-4) Lift the HV1 PCB [2] to remove.
   - 2 screws [1]
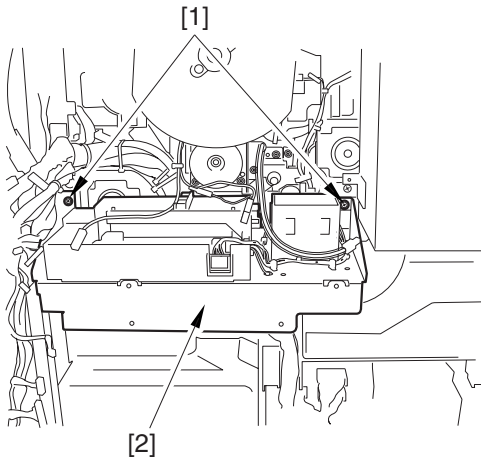
F-8-124

8.11.20.2 Manual Feed Pre-Registration Motor

1) Move the manual feed pre-registration motor [3] to the right to remove.
   - connector [1]
   - 2 screws [2]
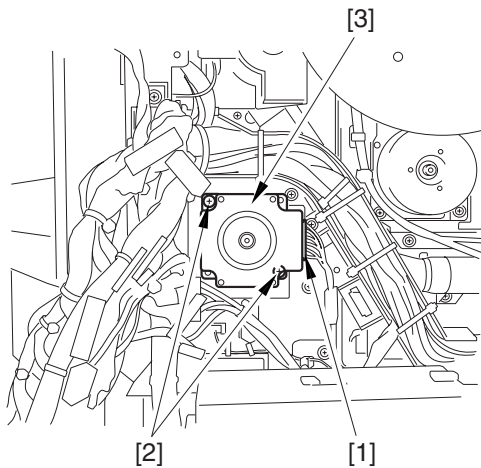
F-8-125

8.11.21 Horizontal Registration Assembly

8.11.21.1 Preparation for Removing the Horizontal Registration Unit

1) Remove the Fixing Assembly.
1-1) Open the front cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Push the leaf springs [1] found at the left and right to slide farther out the fixing/feeding assembly [2].
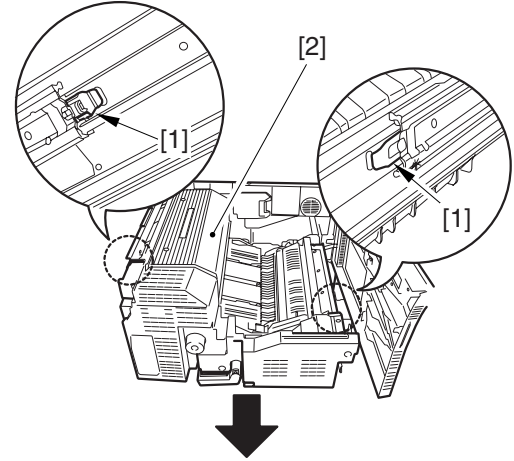
F-8-126

1-4) Open the reversal delivery cover [1] and the middle cover [2].
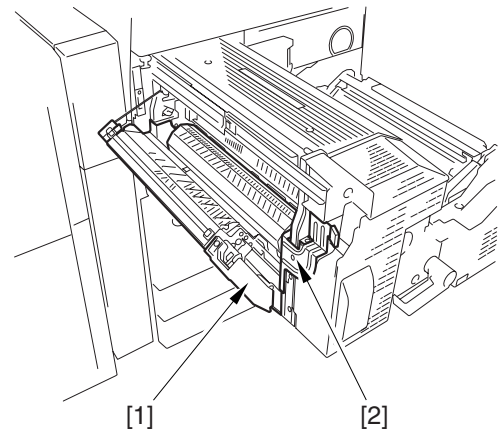
F-8-127

1-5) Remove the fixing front cover [3].
   - screw [1]
   - 2 screws [2]
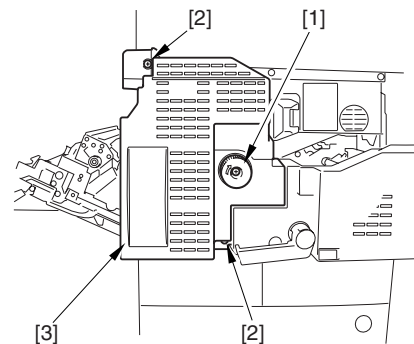
F-8-128

1-6) After shifting the timing belt [3] to the front, detach it together with the fixing motor base [4].
   - 3 screws [1]
   - 3 connectors [2]
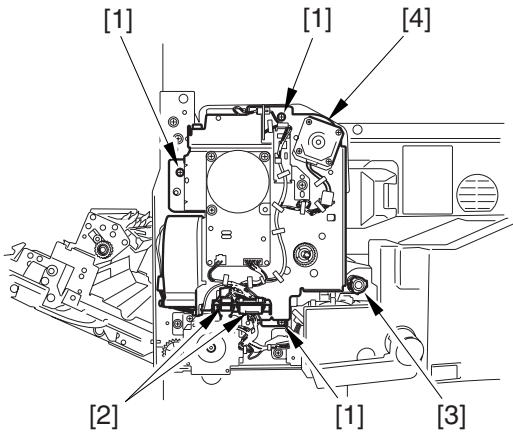
F-8-129

1-7) Remove the screw [2] found at the rear of the fixing assembly [1].
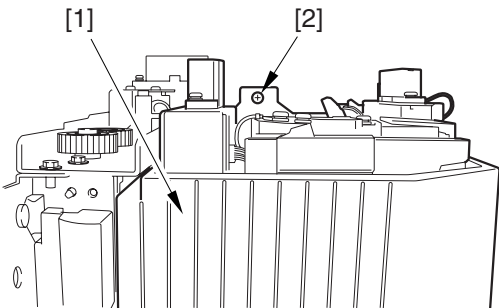
F-8-130

1-8) Holding the 2 grips [1], remove the fixing assembly [2].
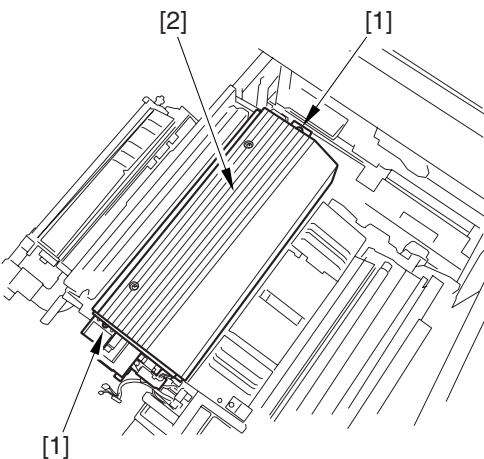
F-8-131

⚠

When lifting the fixing assembly, be sure to take care not to touch the web length detecting arm [1] so that the arm will be free of damage.
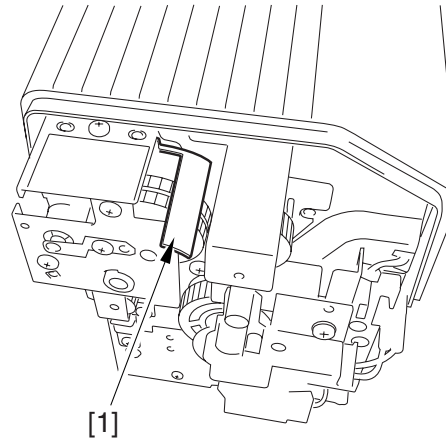
F-8-132

8.11.21.2 Removing the Horizontal Registration Unit

1) Remove the handle [2].
   - screw [1]
2) Remove the fixing/feeding front cover [4].
   - 2 screws [3]
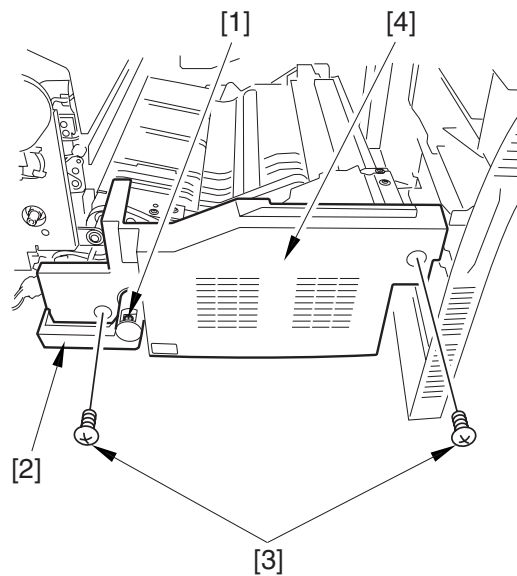
F-8-133

3) Remove the connector [1], and open the 3 wire saddles [2].
4) Remove the duplexing left motor [4] together with its base.
   - 2 screws [3]
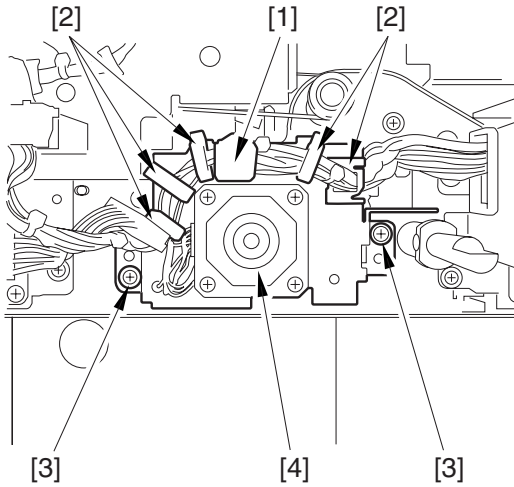
F-8-134

5) Remove the screw [1] from the front side.
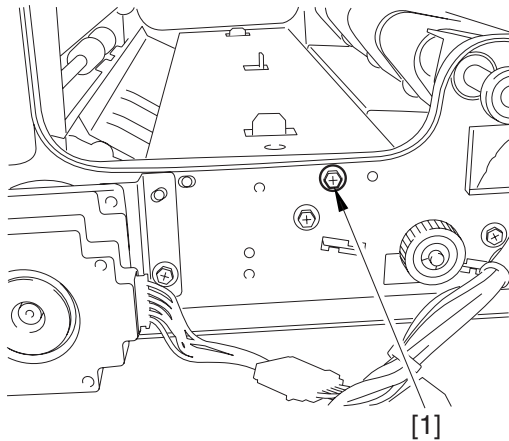
F-8-135

6) Remove the screw [1] from the rear.
7) Remove the side plate [2].
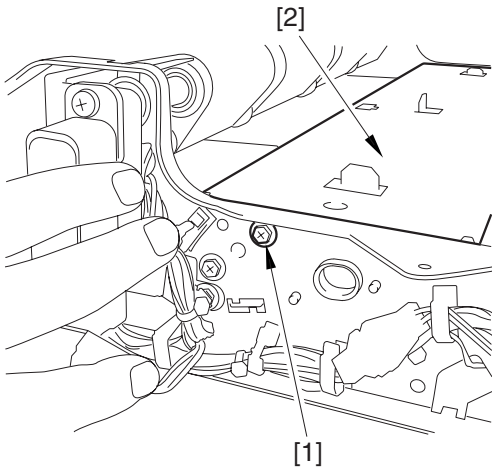
F-8-136

8) Remove the connector [1].
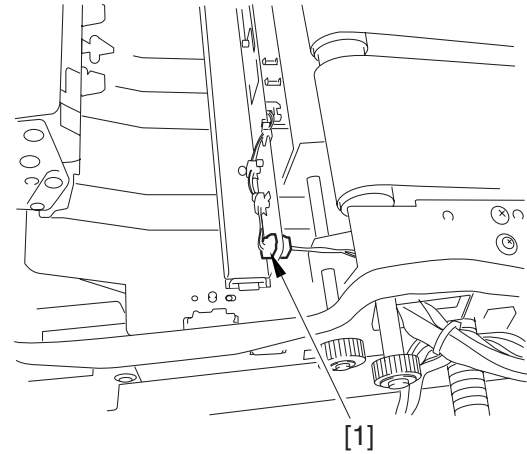
F-8-137

9) Remove the 2 connectors [1], and open the wire guide [2].
10) Move the horizontal registration unit [4] in the direction of the arrow to remove.
   - screw [3]
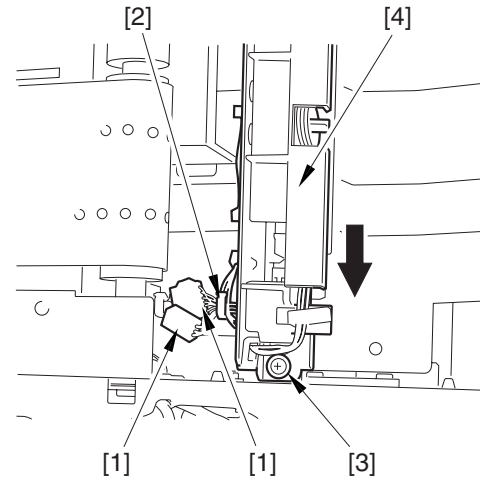
F-8-138

8.11.22 Registration Motor

8.11.22.1 Preparation for Removing the Registration Motor

1) Remove the Fixing/Feeding Driver PCB.
1-1) Open the front cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Remove the handle [2].
   - screw [1]
1-4) Remove the fixing/feeding front cover [4].
   - 2 screws [3]
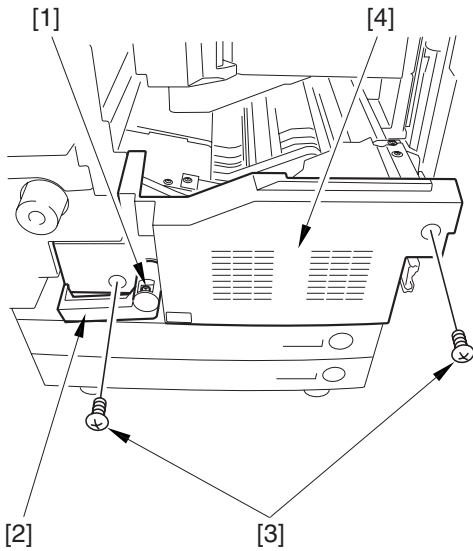
F-8-139

1-5) Remove the fixing/feeding upper cover [2].
   - 2 screws [1]
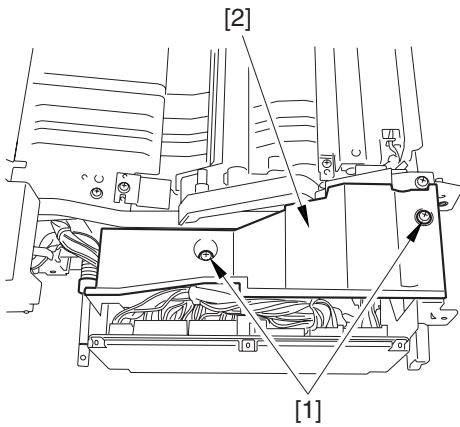
F-8-140

1-6) Open the 3 wire saddles [2].
   - 6 connectors [1]
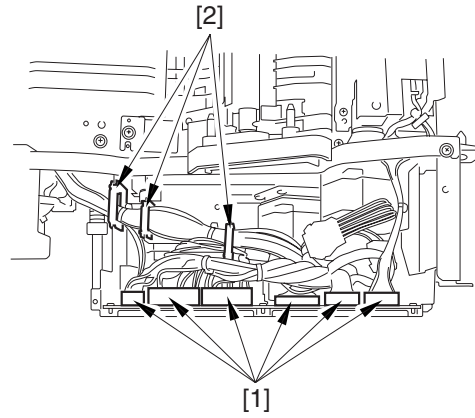
F-8-141
1-7) Remove the 3 screws [1].
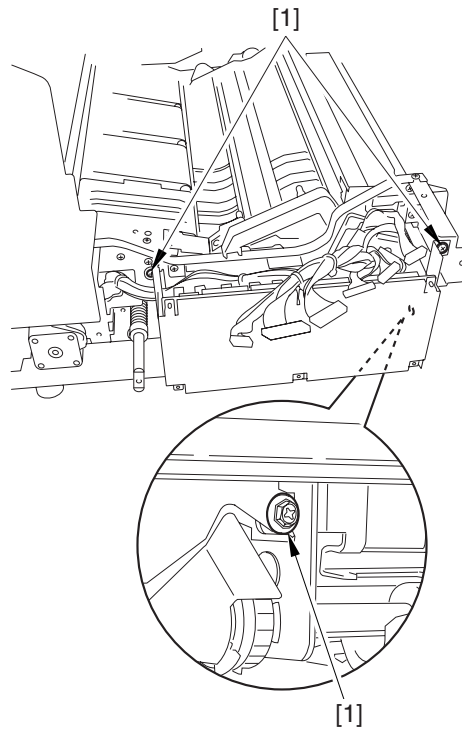
F-8-142

1-8) Move the fixing/feed driver base [1] in the direction of A to remove it from the hook [2]. Thereafter, lift the base [1] in the direction of B.
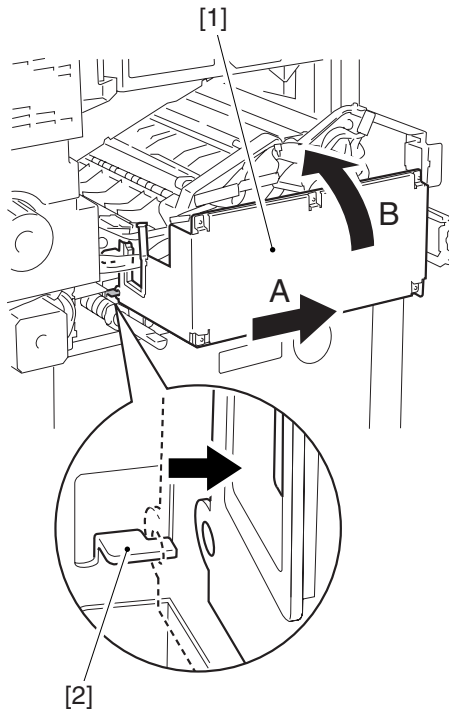
F-8-143

1-9) Remove the fixing/feed driver base [3].
- connector [1] (using a pair of precision pliers.)
- 2 connectors [2]
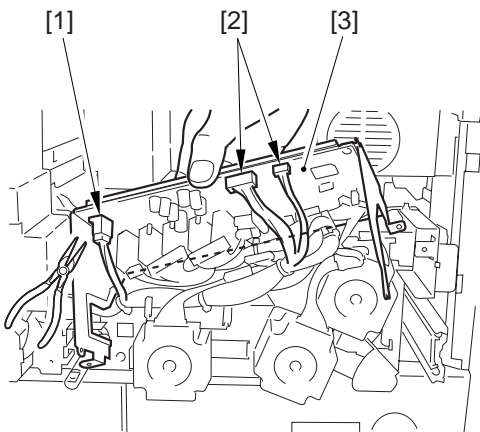
F-8-144

8.11.22.2 Removing the Registration Motor

1) Remove the registration motor [3].
- connector [1]
- 2 screws [2]
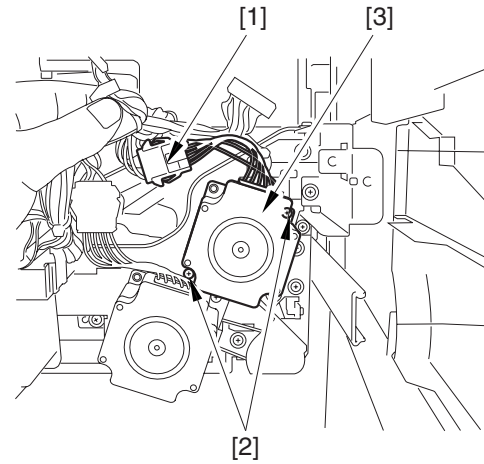
F-8-145

8.11.23 Horizontal Registration Motor

8.11.23.1 Preparation for Removing the Horizontal Registration Motor

1) Remove the Fixing Assembly.
-Refer to Procedure 8.11.21.1 #1)
2) Remove the Horizontal Registration Unit.
-Refer to Procedure 8.11.21

8.11.23.2 Removing the Horizontal Registration Motor

1) open the 2 wire guides [2] to remove the horizontal registration motor [3].
- 2 screws [1]
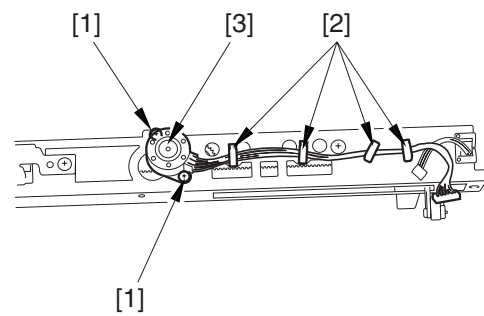
F-8-146

8.11.24 Duplex Reversal Motor

8.11.24.1 Preparation for Removing the Duplexing Reversal Motor

1) Remove the Fixing Front Cover.
1-1) Open the font cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Open the reversal delivery cover [1] and the middle cover [2].
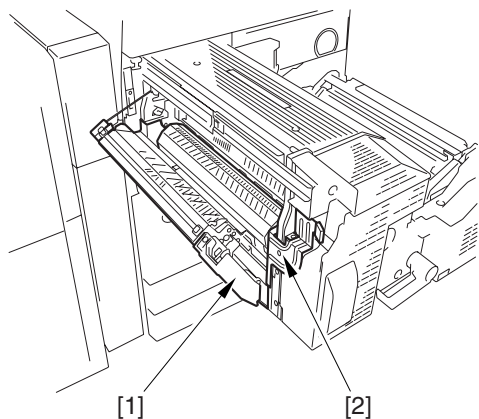
F-8-147

1-4) Remove the fixing front cover [3].
   - knob [1]
   - 2 screws [2]
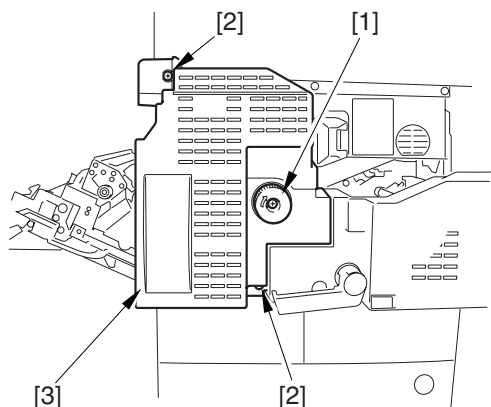
F-8-148

8.11.24.2 Removing the Duplexing Reversal Motor

1) Remove the duplexing reversal motor [3].
   - connector [1]
   - 2 screws [2]
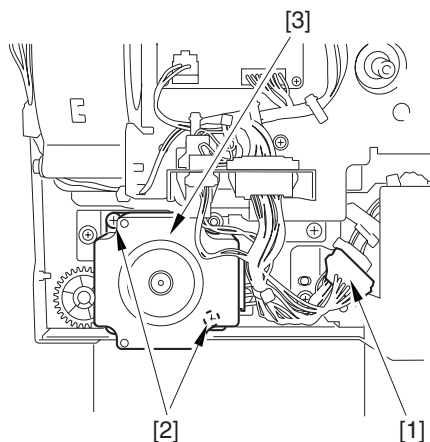
F-8-149

8.11.25 Duplex Left Motor

8.11.25.1 Preparation for Removing the Duplexing Left Motor

1) Remove the Fixing Front Cover.
-Refer to Procedure 8.11.24.1

8.11.25.2 Removing the Duplex Left Motor

1) Remove the handle [2].
   - screw [1]
2) Remove the fixing/feeding front cover [4].
   - 2 screws [3]
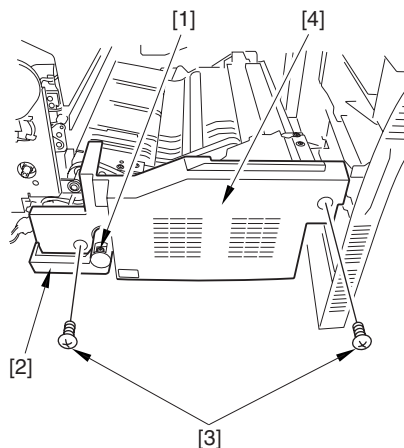
F-8-150

3) Remove the connector [1], and open the 3 wire saddles [2].

4) Remove the duplexing left motor [4] together with its base.
- 2 screws [3]
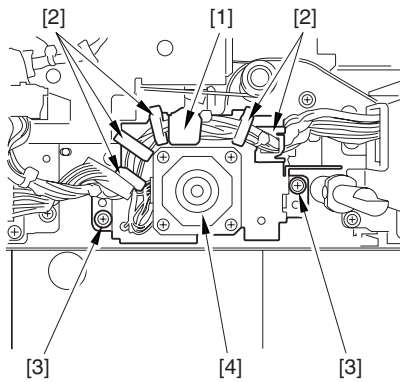
F-8-151

5) Remove the duplexing left motor [2].
- 2 screws [1]
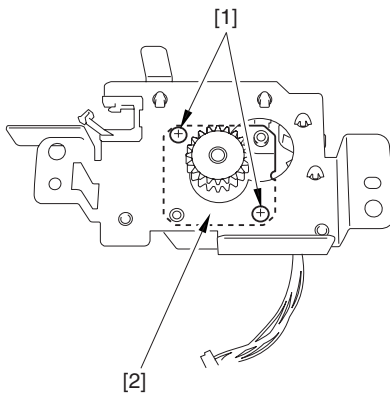
F-8-152

8.11.26 Duplex Middle Motor

8.11.26.1 Preparation for Removing the Duplexing Middle Motor

1) Remove the Fixing/Feeding Driver PCB.
-Refer to Procedure 8.11.22.1 #1)

8.11.26.2 Removing the Duplexing Middle Motor

1) Remove the duplexing middle motor [3].
- connector [1]
- 2 screws [2]
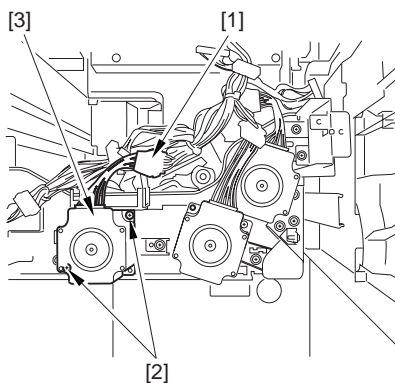
F-8-153

8.11.27 Duplex Right Motor

8.11.27.1 Preparation for Removing the Duplexing Right Motor

1) Remove the Fixing/Feeding Driver PCB.
-Refer to Procedure 8.11.22.1 #1)

8.11.27.2 Removing the Duplexing Right Motor

1) Remove the duplexing right motor [3].
- connector [1]
- 2 screws [2]

F-8-154

[1]

F-8-162

F-8-163

6-4) Move the main controller box [1] toward the delivery side to remove.

F-8-164

⚠️
During removal/attaching, be sure to take care not to damage the connector [2] found at the joint to the DC controller PCB.

F-8-165
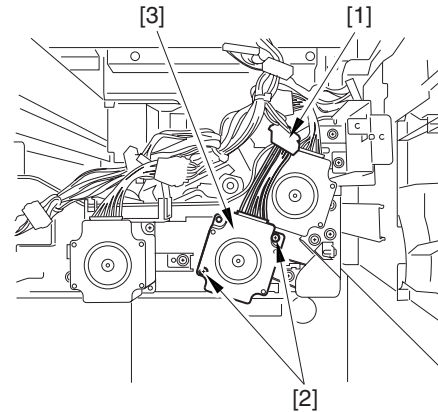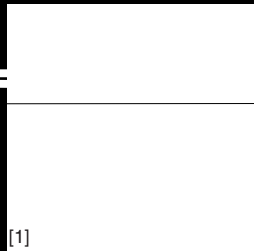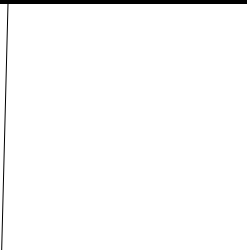
8.11.28.2 Removing the Outside Delivery Motor

1) Remove the outside delivery motor [3].
   - connector [1]
   - 2 screws [2]

F-8-166

Chapter 9
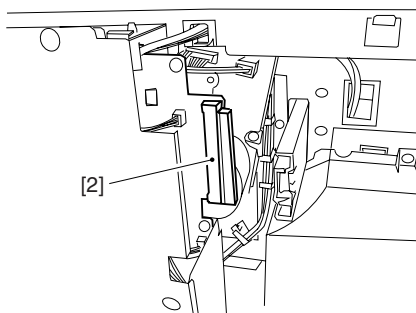
Fixing System

Contents

9.1 Construction

9.1.1 Specifications, Control Mechanisms, and Functions

The following shows the major functions of the fixing system:

T-9-1

Item	Description	
Method of fixing	by heating roller	
Fixing heater	on fixing roller side	2 pc. (main heater, sub heater)
	on pressure roller side	1 pc.
	on outside heating roller side	1 pc.
Control temperature	fixing roller	200 deg C (in standby)
	pressure roller	170 deg C (in standby)
	outside heating roller	225 deg C (in standby)
Fixing temperature detection	fixing roller	main thermistor THM1 (contact type; middle)
		sub thermistor THM4 (contact type; rear edge)
	pressure roller	main thermistor THM2 (contact type; middle)
		sub thermistor THM5 (contact type; rear edge)
	outside heating roller	main thermistor THM3 (contact type)
		sub thermistor THM6 (contact type; front edge)
Protective mechanism	The following mechanisms are used, and the power to the fixing heater is cut upon detection of a fault:	
	- monitoring of temperature by main/sub thermistor	
	- operation of thermal switch	
	fixing roller:	TP1 220 +/- 8 deg C
	pressure roller:	TP2 220 +/- 8 deg C
	outside heating roller:	TP3 250 +/- 10 deg C
	- detection of thermistor open circuit	
Separation claw	upper/lower separation claw (contact type)	
Cleaning mechanism	fixing roller	cleaning web
	pressure roller	none
	outside heating roller	none

9.1.2 Major Components

The following shows the major components of the fixing system:

T-9-2

Component		Notation	Description
Diameter of fixing roller			60 mm
Diameter of pressure roller			60 mm
Diameter of outside heating roller			36 mm
Fixing main heater		H1	halogen heater; 430 W (100 V), 450 W (120/230 V)
Fixing sub heater		H2	halogen heater; 400 W (100/120/230 W)
Pressure heater		H3	halogen heater; 400 W (100/120/230 W)
Outside heater		H4	halogen heater; 400 W (100 V), 500 W (120/230 V)
Main thermistor	fixing	THM1	contact type (thermal control, overheating detection)
	pressure	THM2	contact type (temperature control, overheating detection)
	outside heating	THM3	contact type (temperature control, overheating detection)
Sub thermistor	fixing	THM4	Contact type (overheating detection)
	pressure	THM5	Contact type (overheating detection)
	outside heating	THM6	Contact type (overheating detection)

Component		Notation	Description
Thermal switch	fixing	TP1	contact type (220 +/- 8 deg C)
	pressure	TP2	contact type (220 +/- 8 deg C)
	outside heating	TP3	contact type (250 +/- 10 deg C)
Cleaning web			driven by fixing web solenoid (SL2) - If large size paper (B4 or larger), goes on twice per sheet - If small size (smaller than B4), goes on once per sheet
Separation claw (upper)			contact type
separation claw (lower)			contact type
Fixing inlet sensor		PS11	residual jam detection
Inside delivery sensor		PS12	detects delay/residual jam
Web solenoid		SL2	takes up cleaning web
Fixing motor		M4	DC brushless motor
Outside heating roller shift motor		M22	stepping motor
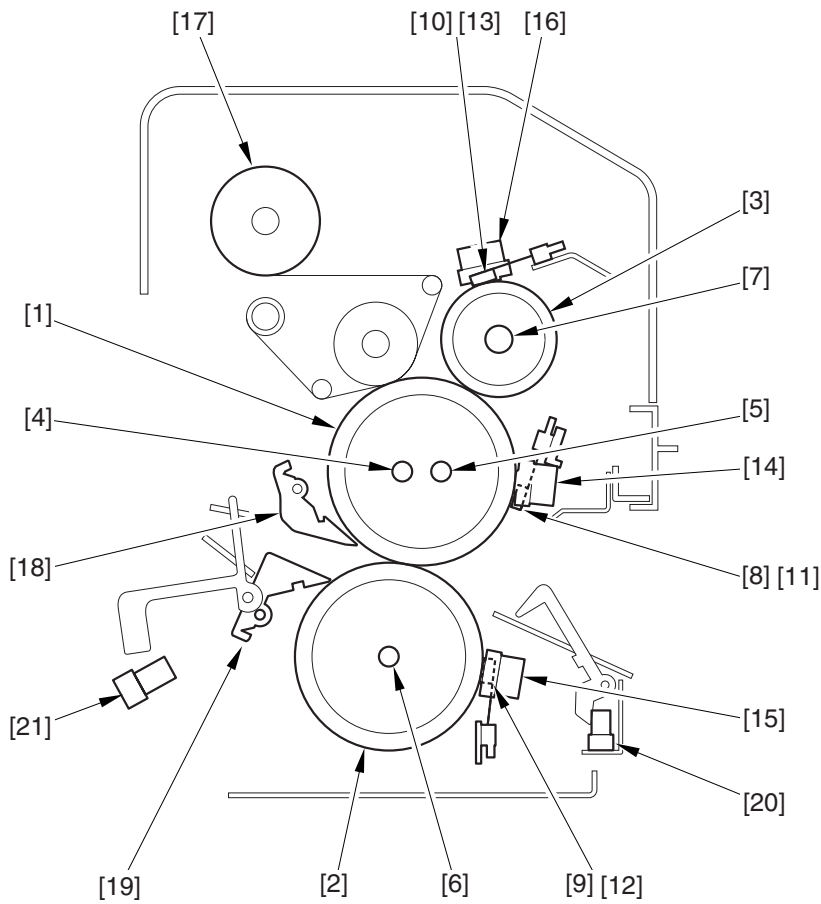
F-9-1
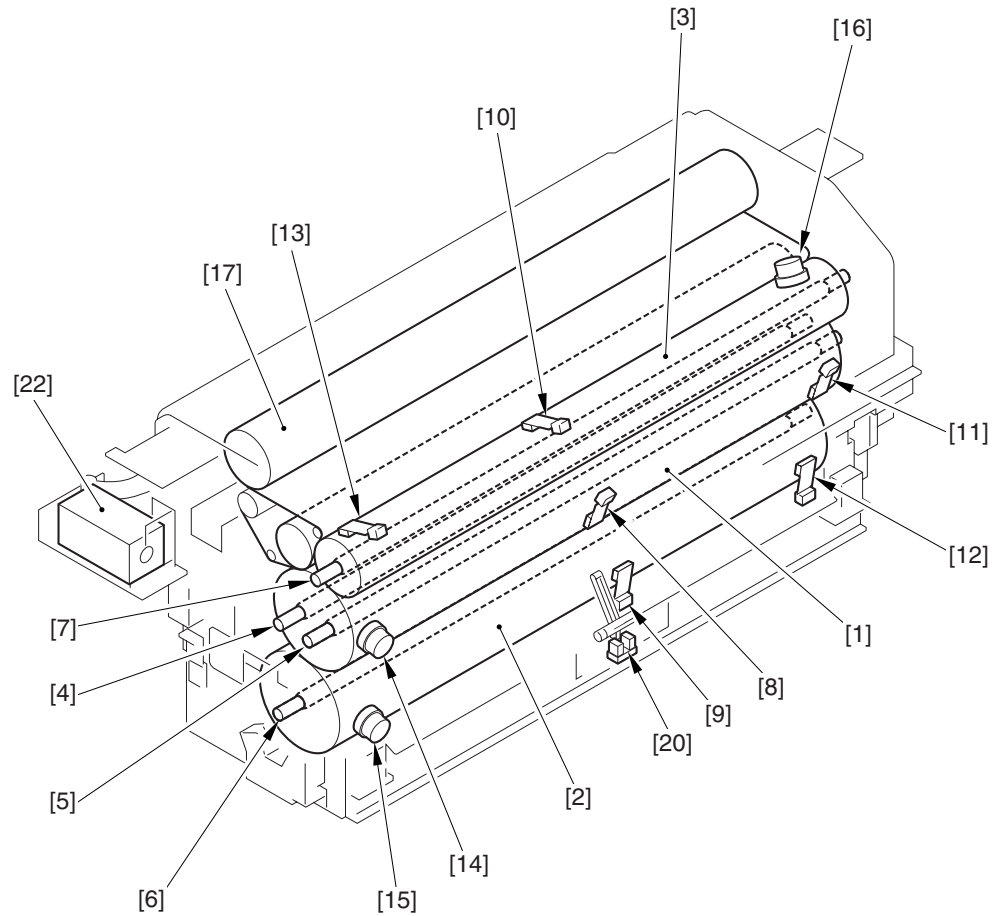
F-9-2
T-9-3

[1]	Fixing roller	[12]	Pressure sub thermistor
[2]	Pressure roller	[13]	Outside heating sub thermistor
[3]	Outside heater roller	[14]	Fixing thermal switch
[4]	Fixing main heater	[15]	Pressure thermal switch
[5]	Fixing sub heater	[16]	Outside heating thermal switch
[6]	Pressure heater	[17]	Cleaning web
[7]	Outside heating roller heater	[18]	Separation claw (upper)
[8]	Fixing main thermistor	[19]	Separation claw (lower)
[9]	Pressure main thermistor	[20]	Fixing inlet sensor
[10]	Outside heating main thermistor	[21]	Inside delivery sensor
[11]	Fixing sub thermistor	[22]	Web solenoid

9.1.3 Construction of the Control System

The following shows the major components of the fixing system:
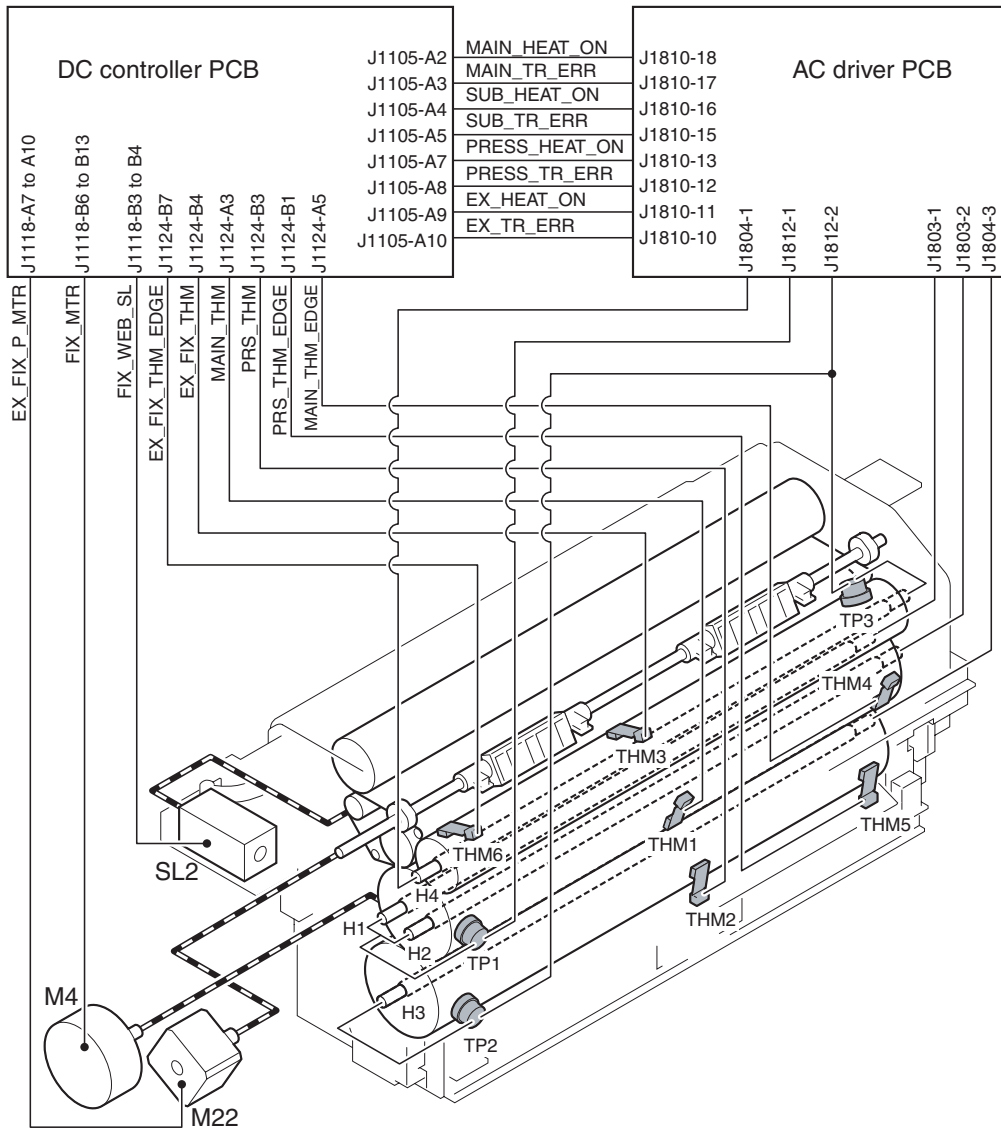
F-9-3

9.2 Basic Sequence

9.2.1 Sequence of Operation at Power-On

The machine starts WMUPR1 (fixing idle rotation) when the surface temperature of the outside heating roller reaches 190 deg C. It then starts WMUP2 (start-up sequence) when the fixing roller exceeds 200 deg C, the pressure roller exceeds 140 deg C, and the outside heating roller exceeds 225 deg C, at the end of which it enters the standby state.
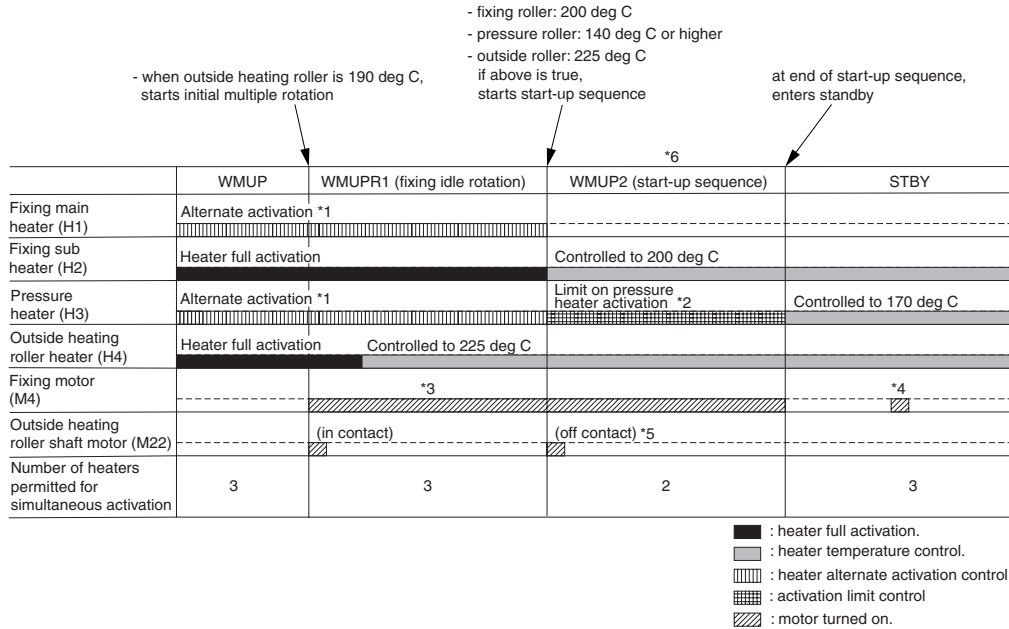
F-9-4

*1: As many as 3 heaters may simultaneously be turned on during the warm-up period (other than start-up sequence WMUP2). To start up individual rollers in the shortest time possible under the limit, the fixing main heater (H1) and the pressure heater (H34) are turned on alternately.
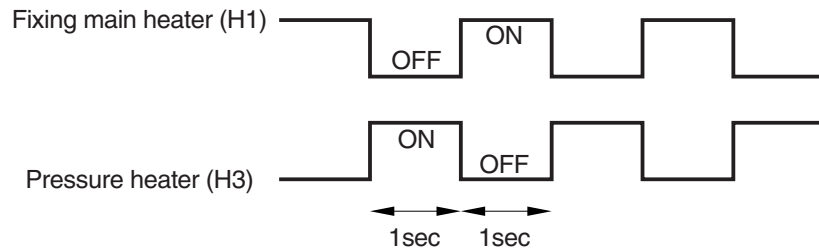
F-9-5

*2: As many as 2 heaters may simultaneously be turned on during WMUP2 (start-up sequence). In other words, during this period, the pressure heater (H3) may go on only when the fixing sub heater (HJ2) or the outside heating roller heater (H4) is off.

*3: Rotates at 1/3 speed (92 mm/sec).

*4: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.

*5: When the fixing roller reaches 200 deg C, the outside heating roller moves away from the fixing roller.

*6: During WMUP2 (start-up sequence), the machine performs drum surface potential control, primary transfer ATVC control, and D-MAX control.

9.2.2 Basic Sequence of Operation (printing)

1. Mono Color (Black), Single-Sided

- Fixing roller: 200 deg C
- pressure roller: 140 deg C or higher
- Outside heating roller: 225 edge C
When above is true, starts standby.

Stat key ON

	STBY	PRINT	LSTR	STBY
Fixing main heater (H1)				
Fixing sub heater (H2)	Controlled to 200 deg. C			Controlled to 200 deg. C
Pressure heater (H3)	Controlled to 170 deg. C	*4		Controlled to 170 deg. C
External heating heater (H3)	Controlled to 225 deg. C			
Fixing motor (M4)		*1	*2	*3
External fixing roller shift motor (M22)	(Engagement)			(Disengagement)

■ : heater full activation.
▨ : heater temperature control.
▥ : heater alternate activation control.
▧ : motor on.

F-9-6

*1: Rotates at normal speed (276 mm/sec).
*2: Rotates at 1/3 speed (92 mm/sec).
*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.
*4: In the case of the 120/230-V model, the 400-W pressure heater is turned on at 200-W equivalent during printing (by turning on and off the pressure heater very cycle of the power supply, using a control signal generated by the DC controller).

2. Mono Color (Black), Double-Sided

- Fixing roller: 200 deg C
- pressure roller: 140 deg C or higher
- Outside heating roller: 225 edge C
When above is true, starts standby.

Stat key ON

	STBY	PRINT	LSTR	STBY
Fixing main heater (H1)				
Fixing sub heater (H2)	Controlled to 200 deg. C			Controlled to 200 deg. C
Pressure heater (H3)	Controlled to 170 deg. C	*4		Controlled to 170 deg. C
External heating heater (H4)	Controlled to 225 deg. C			
Fixing motor (M4)		*1	*2	*3
External fixing roller shift motor (M22)	(Engagement)			(Disengagement)

■ : heater full activation.
▨ : heater temperature control.
▥ : heater alternate activation control.
▧ : motor on.

F-9-7

*1: Rotates at normal speed (276 mm/sec).
*2: Rotates at 1/3 speed (92 mm/sec).
*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.
*4: In the case of the 120/230-V model, the 400-W pressure heater is turned on at 200-W equivalent during printing (by turning on and off the pressure heater for every single cycle of the power supply using a control signal generated by the DC controller).

3. Full Color

- Fixing roller: 200 deg C
- pressure roller: 140 deg C or higher
- Outside heating roller: 225 edge C
When above is true, starts standby.

	STBY	PRINT	LSTR	STBY
Fixing main heater (H1)				
Fixing sub heater (H2)	Controlled to 200 deg. C			Controlled to 200 deg. C
Pressure heater (H3)	Controlled to 170 deg. C	*4		Controlled to 170 deg. C
External heating heater (H4)	Controlled to 225 deg. C			
Fixing motor (M4)		*1	*2	*3
External fixing roller shift motor (M22)	(Engagement)			(Disengagement)

■ : heater full activation.
▨ : heater temperature control.
▥ : heater alternate activation control.
▨ : motor on.

F-9-8

*1: In the case of plain paper (64 to 105 g/m2), rotates at normal speed (276 mm/sec); if heavy paper 1 (106 to 163 g/m2), rotates at 2/3 speed (184 mm/sec); if heavy paper 2 (64 to 209 g/m2), heavy paper 3 (164 to 250 g/m2) or transparency, rotates at 1/3 speed (92 mm/sec).

*2: Rotates at 1/3 speed (92 mm/sec).

*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.

*4: In the case of the 120/230-model, the 400-W pressure heater is turned on at 200-W during printing (by turning on and off the pressure heater for every single cycle of the power supply using a control signal generated by the DC controller.

9.3 Various Control Mechanisms

9.3.1 Controlling the Speed of the Fixing Roller

9.3.1.1 Controlling the Speed According to Paper Type

The machine controls the fixing roller to any of 3 speeds according to paper type.

T-9-4

	Paper type	Fixing speed
Mono color print	plain paper	normal speed (276 mm/sec)
	heavy paper, transparency, postcard	normal speed (276 mm/sec)
Color print	plain paper (64 to 105 g/m2)	normal speed (276 mm/sec)
	heavy paper (106 to 163 g/m2), postcard	2/3 speed (184 mm/sec)
	heavy paper 2 (164 to 209 g/m2), heavy paper 3 (210 to 250 g/m2), transparency	1/3 speed (92 mm/sec)

9.3.1.2 Controlling the Speed for Large Volume Printing (down-sequence)

If the main thermistor (THM1) of the machine's fixing roller identifies the surface temperature of the fixing roller as being any of the following, the machine starts down-sequence, in which distance between sheets is increased to decrease the speed of printing, thereby preventing poor fixing otherwise caused by drops in the roller temperature when continuous printing is under way.

The speed of printing is relatively low in color mode and, therefore, the temperature of the fixing roller rarely drops, thus not calling for down-sequence.

The following is a table of control mechanisms used for down-sequence prepared according to site environments and paper types; the notations within the table indicate the following:

    LV: down-sequence level
    deg C: temperature of the fixing roller triggering down-sequence
    PPM: printing speed

Toner fixing starts to fail when the temperature of the fixing roller drops to level 4 or below. The machine, therefore, stops (suspends) printing when it detects a level 4 condition; it then starts (resumes) printing using the speed it used at the start when the temperature of the fixing roller returns to the recovery level.

If the room temperature is less than 20 deg C and heavy paper or a transparency is used, the machine reduces its print speed (except when heavy paper 1 is used for the 120V or 230V model).

MEMO:

    If you changed the setting in service mode(*), the particulars of the down sequence table may not be as shown below: for instance, if '1' (priority on fixing) is selected, the down sequence start temperature tends to be slightly higher; on the other hand, if '2' is selected (priority on productivity), the temperature tends to be slightly lower.

    * The following applies:
Plan paper: COPIER>OPTION>BODY>FIX-TEMP
Heavy paper 1: COPIER>OPTION>BODY>T1-TEMP
Heavy paper 2: COPIER>OPTION>BODY>T2-TEMP
Heavy paper 3, transparency: COPIER>OPTION>BODY>OHP-TEMP

---

1. 100V Model, A4 Paper, Room Temperature of 20 deg C or Higher

T-9-5

Plain paper			Heavy paper 1			Heavy paper 2			Heavy paper 3/ transparency		
LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM
Initial		68	Initial		68	Initial		68	Initial		40
1	174	60	1	184	40	1	184	40	1	184	40
2	173	50	2	180	30	2	180	30	2	180	30
3	172	35	3	176	20	3	176	20	3	176	20
4	170	Stop	4	173	Stop	4	173	Stop	4	173	Stop
Recovery	185	68	Recovery	200	68	Recovery	200	68	Recovery	200	40

2. 100-V Model, A4 Paper, Room Temperature of Lower Than 20 deg C

T-9-6

Plain paper			Heavy paper 1			Heavy paper 2			Heavy paper 3/ transparency		
LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM
Initial		68	Initial			Initial			Initial		
1	174	60	1		30	1		30	1		30
2	173	50	2	188	20	2	188	20	2	188	20
3	172	35	3	184	15	3	184	15	3	184	15
4	170	Stop	4	182	Stop	4	182	Stop	4	182	Stop
Recovery	185	68	Recovery	200	30	Recovery	200	30	Recovery	200	30

3. 120/230-V Model, A4 Paper, Room Temperature of 20 deg C or Higher

T-9-7

Plain paper			Heavy paper 1			Heavy paper 2			Heavy paper 3/ transparency		
LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM
Initial		68	Initial		68	Initial		68	Initial		40
1	171	60	1	184	50	1	184	50	1	184	40
2	170	50	2	180	40	2	180	40	2	176	30
3	169	35	3	176	30	3	176	30	3	174	25
4	167	Stop	4	173	Stop	4	173	Stop	4	173	Stop
Recovery	185	68	Recovery	200	68	Recovery	200	68	Recovery	200	40

4. 120/230-V Model, A4 Paper, Room Temperature of Lower Than 20 deg C

T-9-8

Plain paper			Heavy paper 1			Heavy paper 2			Heavy paper 3/ transparency		
LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM	LV	deg C	PPM
Initial		68	Initial		68	Initial			Initial		
1	171	60	1	188	40	1		40	1		40
2	170	50	2	182	30	2	188	30	2	188	30
3	169	35	3	178	20	3	184	20	3	184	20
4	167	Stop	4	176	Stop	4	182	Stop	4	182	Stop
Recovery	185	68	Recovery	200	68	Recovery	200	40	Recovery	200	40

9.3.1.3 Interval Rotation

To prevent deformation that could otherwise occur on the fixing roller (nip) if the machine is left alone for a long time in a temperature control state, the fixing roller is rotated (interval rotation) at 92 mm/sec (1/3 speed) every 30 min while the machine is in standby.

The interval rotation is also performed in power save mode and low power mode, and the intervals of rotation may be changed in service mode: COPIER>OPTION>BODY>FX-CROT).

9.3.2 Controlling the Fixing Roller Temperature

9.3.2.1 Overview

Each of the heat rollers of the fixing assembly is controlled based on the output of the main thermistor mounted in contact with the center of the roller. The sub thermistor mounted in contact with the edge of the roller is used to detect overheating at the edge of the roller, which can occur when small-size paper (e.g., A4R) is move past continuously.
The mechanisms used to control these individual heat rollers are as follows:
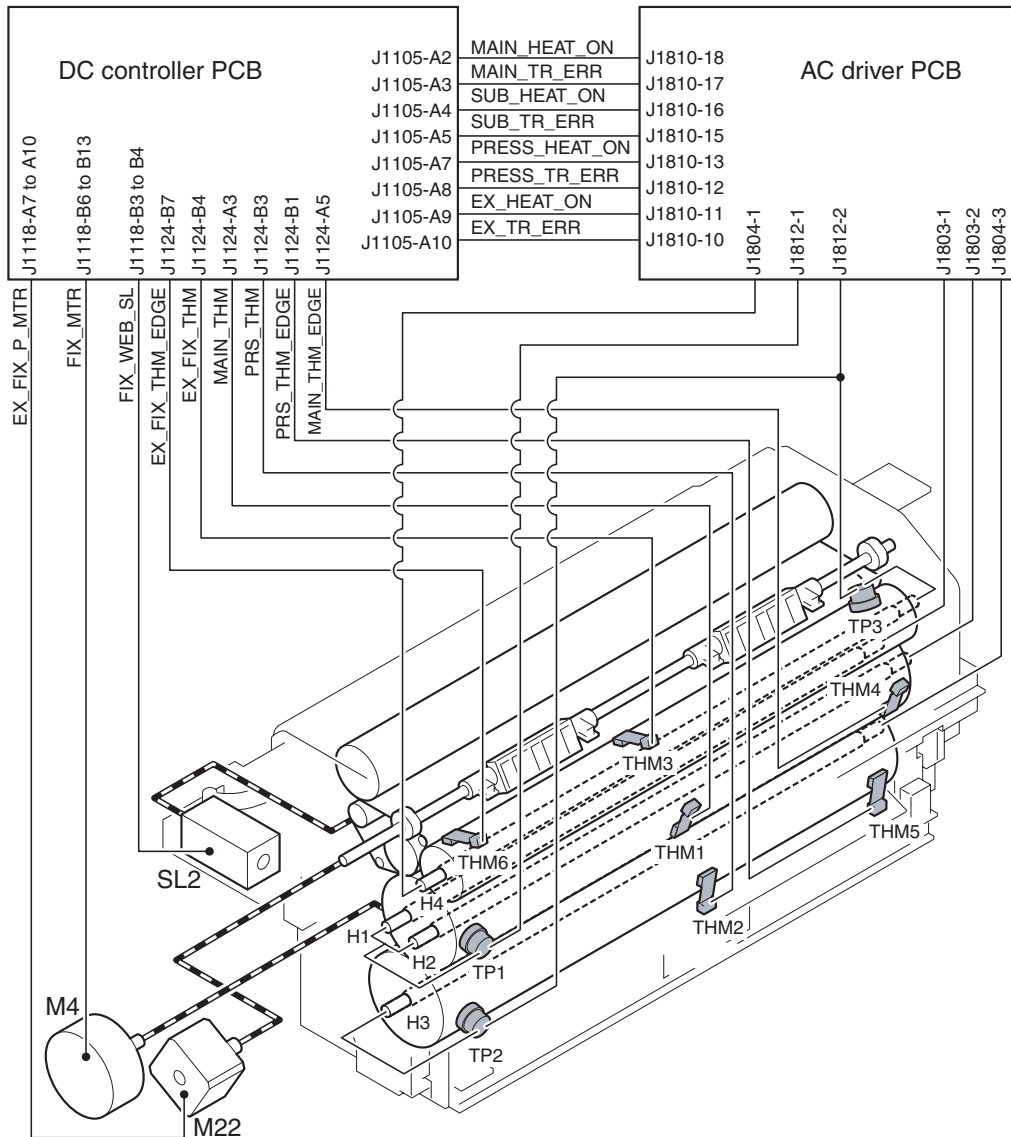
F-9-9

9.3.2.2 At Power-On

The fixing roller is heated by the fixing main heater (H1) and the fixing sub heater (H2), while the pressure roller is heated by the pressure heater (H3). The outside heating roller, on the other hand, is heated by the outside heating roller heater (H4).

During the warm-up period (other than start-up sequence), as many as 3 heaters may simultaneously be turned on. To start up each of the rollers in the shortest time possible, the fixing sub heater and the outside heating roller heater are turned on for full activation, while alternately turning on the fixing main heater and the pressure heater.

When the outside heating roller reaches 190 deg C, the outside pressure roller shift motor (M22) goes on to move the outside heating roller into contact with the fixing roller, thereby starting fixing idle rotation. The outside heating roller remaining in contact with the fixing roller helps increase the temperature of the fixing roller.

When the fixing roller reaches 200 deg C, the outside heating roller shift motor (M22) goes on so that the outside heating roller moves away from the fixing roller.

When the fixing roller reaches 200 deg C, the pressure roller reaches 140 deg C, and the outside heating roller reaches 225 deg C, the machine starts start-up sequence, causing the fixing main heater to go off. The outside heating roller heater is put under temperature control when the outside heating roller reaches 225 deg C; on the other hand, the fixing sub heater is put under temperature control when the fixing roller reaches 200 deg C.

As no more than 2 heaters may be turned on simultaneously while start-up sequence is under way, the pressure heater may be turned on only while either the outside heating roller heater or the fixing sub heater remains off. When the temperature of the pressure roller reaches 170 deg C, the pressure heater is put under temperature control.

The warm-up period ends when the start-up sequence ends, causing the machine to enter the standby state.
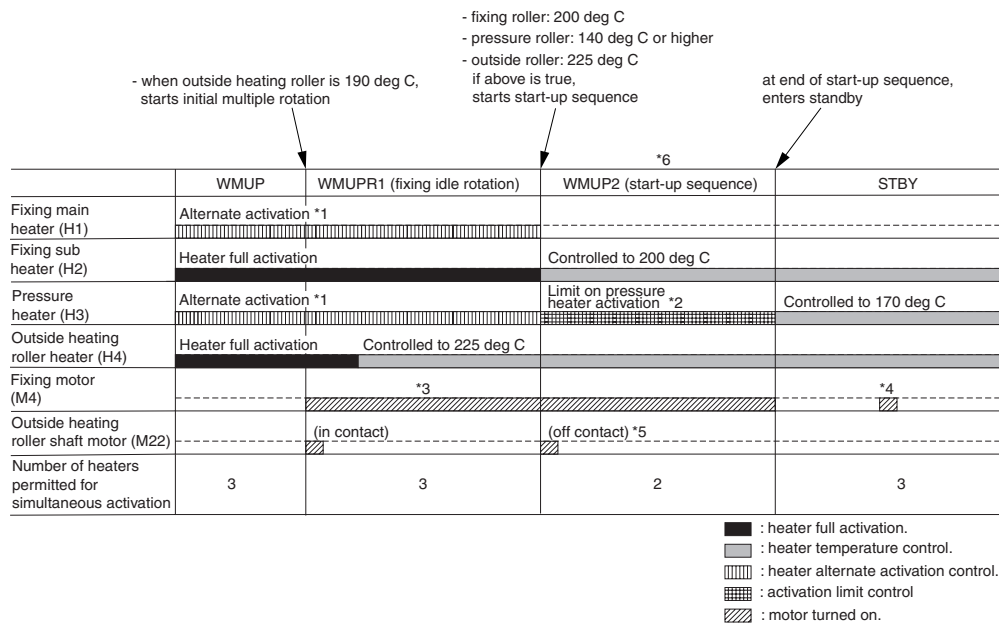
F-9-10

*1: As many as 3 heaters may be turned on at a time during warm-up (other than during start-up sequence WMUP2). To start up the rollers in the shortest time possible under this limit, the fixing heater (H1) and the pressure heater (H3) are turned on alternately.
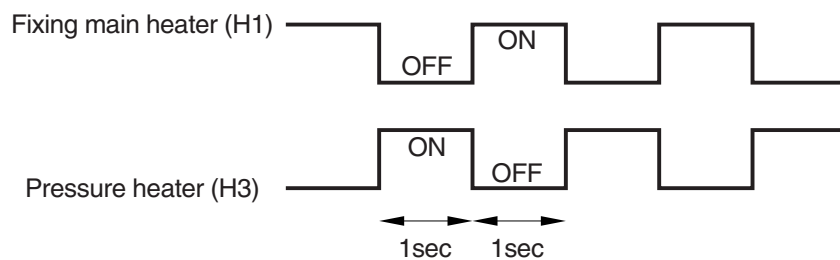
F-9-11

*2: As many as 2 heaters may be turned on at a time while start-up sequence (WMUP2) is under way; in other words, the pressure heater (H3) may be turned on only when either the fixing sub heater (H2) or the outside heating roller heater (H) is off.

*3: Rotates at 1/3 speed (92 mm/sec).

*4: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.

*5: The outside heating roller moves away from the fixing roller when the fixing roller reaches 200 edge C.

*6: While start-up sequence (WMUP2) is under way, the machine performs drum surface potential control, primary transfer ATVC control, and D-MAX control.

9.3.2.3 In Standby

When the machine is in standby, the fixing roller is controlled to 200 deg C, pressure roller to 170 deg C, and outside heating roller to 225 deg C.
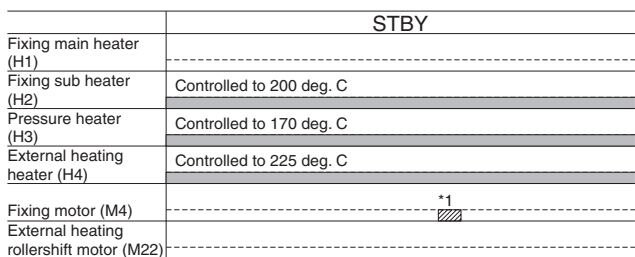
F-9-12

*1: Rotates idly for 1 sec at 1/3 speed every 3 min after the fixing roller stops.

9.3.2.4 When Producing Mono Color (Black) Single-Sided Prints

A roller tends to be deprived of heat as a result of contact with paper while the machine is making mono color single-sided prints (especially in continuous printing). The machine, therefore, uses the fixing main heater (H1), which has high output, and executes temperature control at 200 deg C. The outside heating roller is controlled to 225 deg C by the work of the outside heating roller heater.
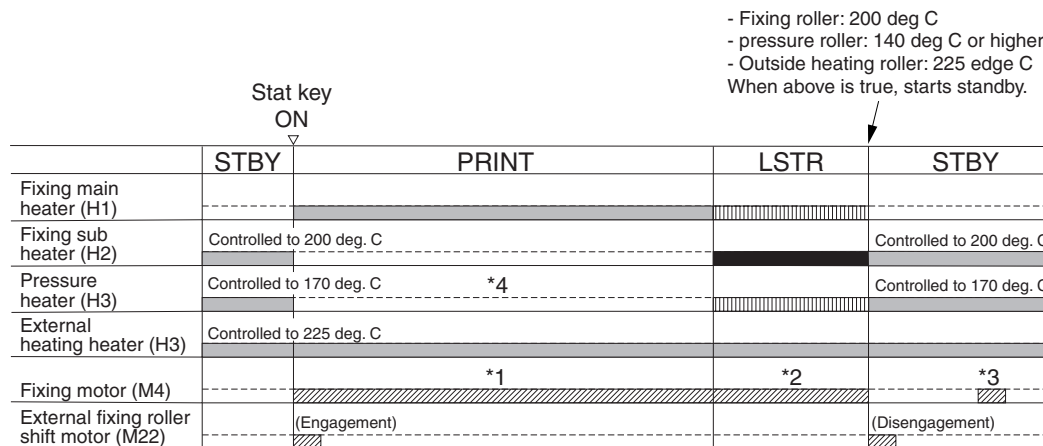
F-9-13

*1: Rotates at normal speed (276 mm/sec).

*2: Rotates at 1/3 speed (92 mm/sec).

*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.

*4: In the case of the 120/230-V model, the 400-W pressure heater is turned on at 200-W equivalent during printing (by turning on and off the pressure heater for every single cycle of the power supply using the control signal generated by the DC controller).

9.3.2.5 When Producing Mono Color (Black) Double-Sided Prints

The fixing roller is controlled to 200 deg C by the fixing sub heater (H2), and the outside heating roller heater is controlled to 225 deg C by the outside heating roller heater.
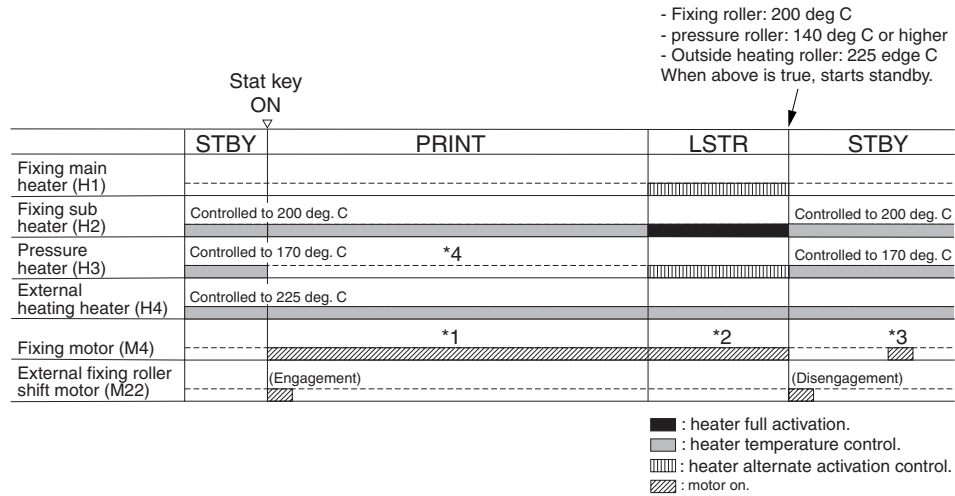
F-9-14

*1: Rotates at normal speed (276 mm /sec).
*2: Rotates at 1/3 speed (92 mm/sec).
*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.
*4: In the case of the 120/230-V model, the 400-W heater is turned on at 200-W equivalent during printing (by turning the pressure heater on and off for every single cycle of the power supply using the control signal generated by the DC controller).

9.3.2.6 When Producing Full Color Prints

The fixing roller is controlled to 200 deg C by the fixing sub heater (H2), and the outside heating roller is controlled to 225 deg C by the outside heating roller heater.
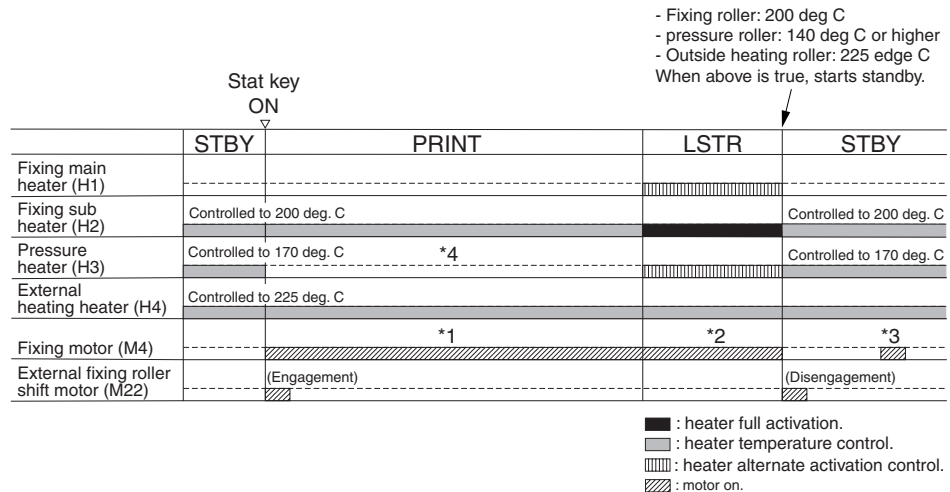
F-9-15

*1: In the case of plain paper (64 to 105 g/m2), rotates at normal speed (276 mm/sec); if heavy paper 1 (106 to 163 g/m2), at 2/3 speed (184 mm/sec); if heavy paper 2, heavy paper 3 (164 to 250 g/m2), or transparency, at 1/3 speed (92 mm/sec).
*2: Rotates at 1/3 speed (92 mm/sec).
*3: Rotates idly for 1 sec at 1/3 speed every 30 min after the fixing roller stops.
*4: In the case of the 120/230-V model, the 400-W pressure heater is turned on at 200-W equivalent during printing (by turning on and off the pressure heater for every single cycle of the power supply using a control signal generated by the DC controller).

9.3.2.7 With Power Save Mode Enabled

The following shows the temperature to which the individual rollers of the fixing assembly are controlled when the machine enters low power mode or power save mode, with the lengths of time between when the power save mode is disabled and when the machine enters the standby (STBY) state.
In sleep mode, all fixing heaters are off.

T-9-9

	STBY	Low power mode	Power save mode		
			-10%	-25%	-50%
Fixing roller	200 deg C	110 deg C	180 deg C	150 deg C	85 deg C
Pressure roller	170 deg C	110 deg C	170 deg C	150 deg C	85 deg C
Outside heating roller	225 deg C	110 deg C	200 deg C	150 deg C	85 deg C
Recovery time	--	about 240 sec	about 70 sec	about 150 sec	about 450 sec

9.3.2.8 Controlling the Overheating at the End of the Roller

If the end of the heat roller overheats as when small-size paper (e.g., A4R) is moved past continuously and, as a result, if the sub thermistor detects any of the following temperatures, the heater will be forced off to avoid damage to the heat roller.
The overheating control mechanism is executed when printing in mono color mode or at time of recovery, and is not executed in color mode, in which sheets are moved at longer intervals.

T-9-10

Heater (that is forced off)	Sub thermistor	Control temperature
Fixing main/sub heater (H1/H2)	THM4	215 deg C
Pressure heater (H3)	THM5	185 deg C
Outside heating roller heater (H4)	THM6	240 deg C

9.3.3 External Heat Roller Drive Control

9.3.3.1 Overview

The outside heating roller helps the temperature control mechanism for the fixing roller by remaining in contact with the fixing roller during warm-up, printing, and last rotation.

The outside heating roller is moved in contact with or away from the fixing roller by the drive of the outside heating roller shift motor (M22).

When the temperature of the fixing roller reaches 190 deg C during warm-up to start initial multiple rotation or when printing starts, the outside heating roller shift motor (M22) goes on (normal direction of rotation) to move the outside heating roller in contact with the fixing roller.

When the temperature of the fixing roller reaches 200 deg C during warm-up or when last rotation ends, the outside heating roller shift motor goes on (in reverse direction of rotation) to move the outside heating roller away from the fixing roller. When the paper jam also occurs, the outside heating roller shift motor goes on to move the outside heating roller away from the fixing roller.

The timing at which the outside heating roller is moved is monitored using the outside heating roller HP sensor (PS21) for the following:

- When the main power switch is turned on
- When the front cover, upper right cover, or lower right cover is opened/closed
- When the power save mechanism (power save mode, low power mode, sleep mode) is disabled
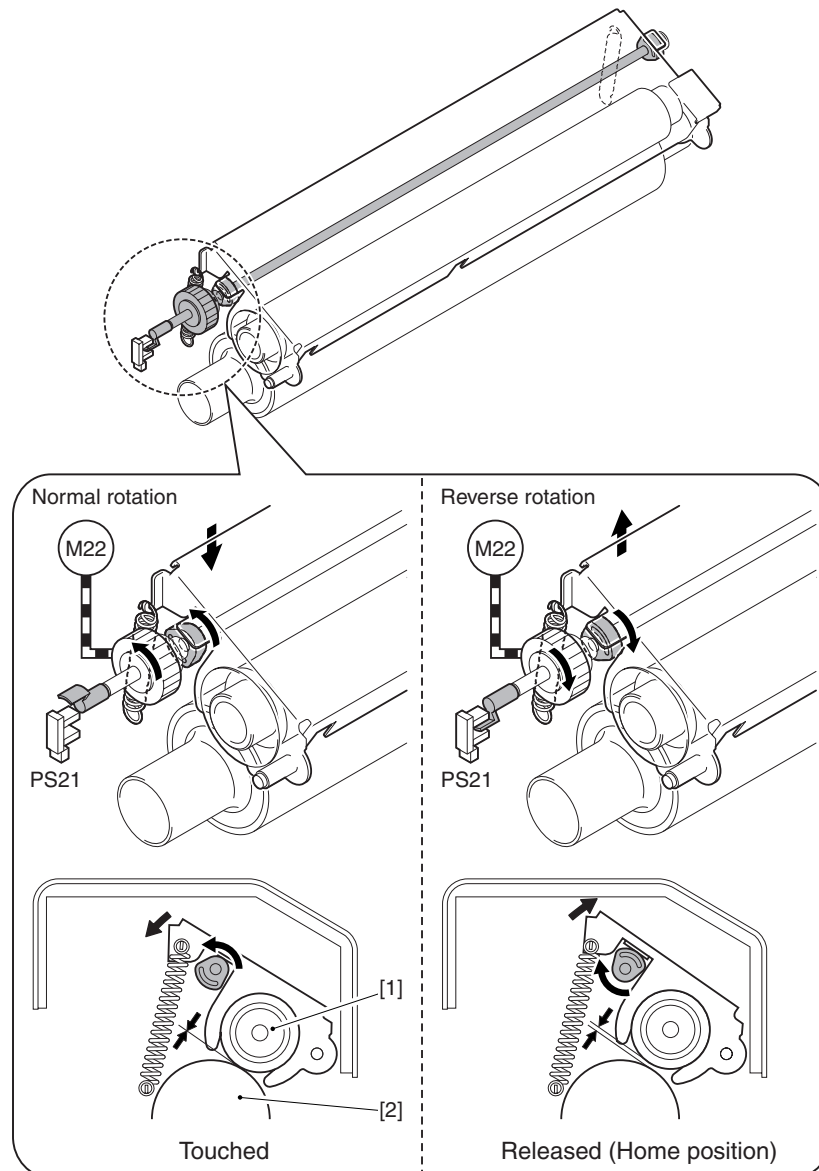
F-9-16

[1] Outside heating roller
[2] Fixing roller

9.4 Fixing Cleaning Web Mechanisms

9.4.1 Overview

The cleaning web used to clean the fixing upper roller is fed by means of a one-way clutch (fixing web solenoid SL2). The web is fed coinciding with the detection of the leading edge of paper by the registration sensor (PS9) while printing is under way. The remaining length of the web is checked by the following 2 ways:
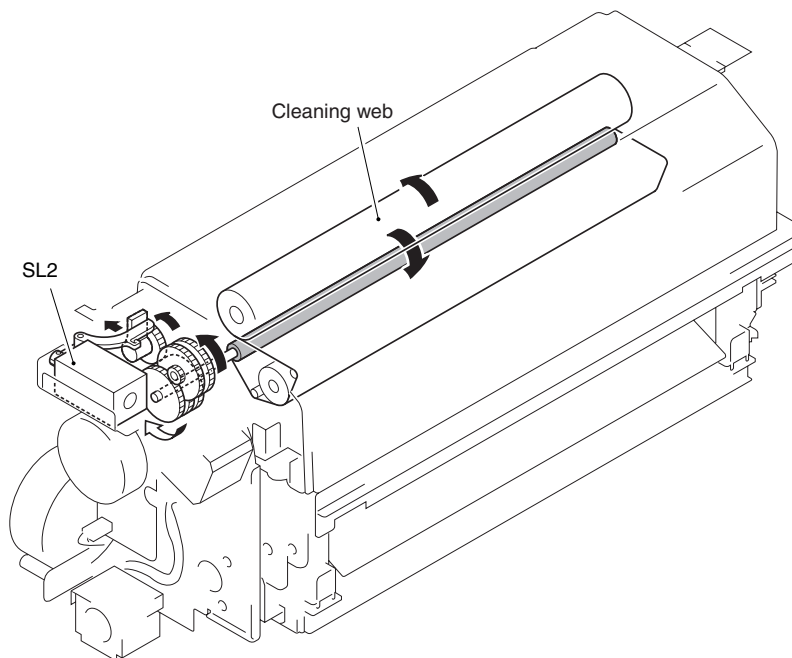
F-9-17

When the web detecting lever moves off the web at the cut-off, the lever that has been blocking the web length sensor (PS20) moves away from the sensor, thus causing the machine to indicate a pre-warning(*1) to alert the user that the web is running out. If the fixing web solenoid goes on 3,000 times(*2) without replacement of the web, the machine will then indicate 'E005' on its control panel.

*1: The alert indication may be disabled in service mode: COPIER>OPTION>USER>WEB-DISP.
*2: The count may be checked in service mode: COPIER>COUNTER>MISC>FIX-WEB.
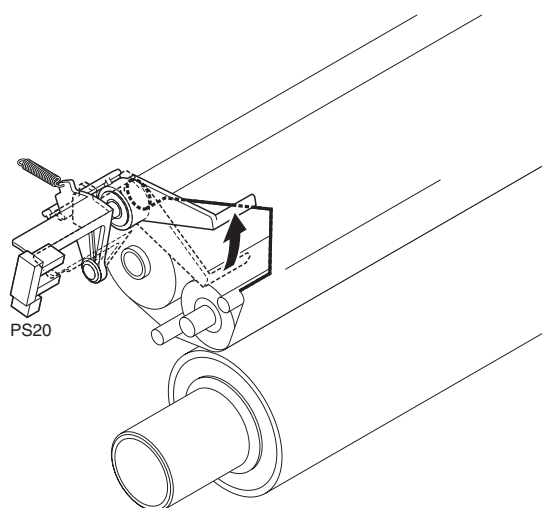
F-9-18

⚠

Whenever you have replaced the fixing web, be sure to reset the following service mode item to '0':
   COPIER>COUNTER>MISC>FIX-WEB
   COPIER>COUNTER>DRBL-1>FX-WEB

9.4.2 Web Retaining Mechanism

The web retaining pad is used to hold the web in place (i.e., to keep it from becoming slack) when the fixing roller is rotated in reverse, as when a paper jam is being removed.

The web retaining pad is attached to the shaft to which the cam used to move the outside heating roller to and from the fixing roller is attached; while the outside heating roller is in contact with the fixing roller, the pad is away from the web, coming into contact to hold the web in place when the outside roller moves away from the fixing roller.

⚠

The machine indicates the message "Printer is warming up..." on its LCD while it executes last rotation after printing. While the message is on the LCD, the fixing roller is under temperature control, and the outside heating roller is in contact with the fixing roller, i.e., the web retaining pad is away from the web. If you open the front cover and turn the fixing assembly release knob, the web will become slack and possibly displaced. Do not open the front door while the message is on the LCD. If you must, do not turn the fixing assembly releasing knob.

The web retainer is also away from the web when you force the front cover to open while printing or fixing idle rotation is under way during warm-up: be sure to keep this in mind during service work.

F-9-19

[1] Web retaining pad
[2] Cam
[3] Cleaning Web
[4] Outside heating roller
[5] Fixing roller

9.5 Protective Functions

9.5.1 Detecting Overheating Using Thermistors

The main thermistor and the sub thermistor of individual rollers may detect any of the following temperatures; in response, the DC controller issues signals to cut off the heater drive circuit, thereby depriving the heaters of power.

T-9-11

	Main (middle)	**Sub (end)**
Fixing roller	235 deg C	245 deg C
Pressure roller	200 deg C	210 deg C
External heating roller	245 deg C	247 deg C

9.5.2 Cutting Off the Power Using Thermal Switches

If the reading of the inside temperatures of the thermal switch of individual rollers indicates a temperature higher hand the following, the thermal switch goes off to stop the power to the fixing heater:

Fixing roller: 220 +/-8 deg C
Pressure roller: 220 +/-8 deg C
Outside roller: 250 +/-10 deg C

9.5.3 Errors

1. Related Error

E000 (inadequate rise in temperature of the fixing assembly at power-on)
The main thermistor (THM1, THM2, THM3) has an open circuit or poor contact. The thermal switch (TP1, TP2, TP3) has an open circuit. The heater (H1, H2, H3, H4) has an open circuit. The AC driver PCB is faulty. The DC controller PCB is faulty.
A check is made during initial multiple rotation.

E001 (overheating of the fixing assembly)
The main thermistor (THM1, THM2, THM3) has an open circuit or poor contact. The sub thermistor (THM4, THM5, THM6) has an open circuit or poor contact. The thermal switch (TP1, TP2, TP3) has an open circuit. The heater (H1, H2, H3, H4) has an open circuit. The AC driver PCB is faulty. The DC controller PCB is faulty.
A check is made at all times.

E002 (inadequate rise in temperature of the fixing assembly)
The main thermistor (THM1, THM2, THM3) has an open circuit or poor contact. The thermal switch (TP1, TP2, TP3) has an open circuit. The heater (H1, H2, H3, H4) has an open circuit. the AC rive PCB is faulty. The DC controller PCB is faulty.
A check is made during initial multiple rotation.

E003 (abnormal drop in temperature of the fixing assembly after standby)
The main thermistor (THM1, THM2, THM3) has an open circuit or poor contact. The thermal switch (TP1, TP2, TP3) has an open circuit. The heater (H1, H2, H3, H4) has an open circuit. The AC driver PCB is faulty. The DC controller PCB is faulty.
Detail code: 004X
A check is made during standby.
Detail code: 005X
A check is made during printing.

E004 (fixing assembly protection circuit error)
The main thermistor (THM1, THM2, THM3) has an open circuit or poor contact. The sub thermistor (THM4, THM5, THM6) has an open circuit or poor contact. The AC driver PCB is faulty. The DC controller PCB is faulty.
A check is made during initial multiple rotation.

E005 (web take-up error)
The fixing web has been taken up. The web length sensor (PS20) is faulty. The DC controller PCB is faulty. The fixing web solenoid is not connected.

E006 (fixing assembly connection error)
The fixing/feed unit is not fitted correctly (the fixing assembly is not detected even when the front cover is identified as being closed). The DC controller PCB is faulty.
A check is made at all times.

E008 (fixing roller end of life)
As many as 20,000 prints(*) have been counted after a message has been issued to prompt replacement of the fixing roller. The DC controller is faulty.
* May be changed in service mode: COPIER>OPTION>BODY>FXERRLVL.

E009 (outside heating roller shift error)
The outside heating roller shift motor (M22) is faulty. The outside heating roller HP sensor (PS21) is faulty. The DC controller PCB is faulty.
A check is made at all times.

9.6 Parts Replacement Procedure

9.6.1 Fixing Unit

9.6.1.1 Removing the Fixing Assembly

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Press the leaf springs [1] found at the left and right to slide farther out the fixing/feeding assembly [2].
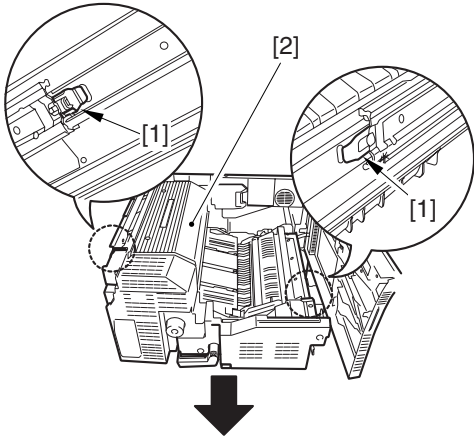
F-9-20

4) Open the reversal delivery cover [1] and the middle cover [2].
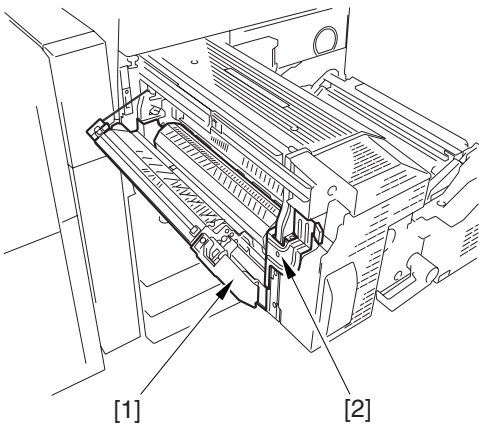
F-9-21

5) Remove the fixing front cover [3].
   - screw [1]
   - 2 screws [2]
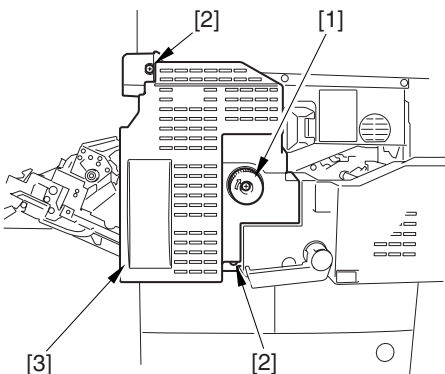
F-9-22

6) After moving the timing belt [3] to the front, remove it together with the fixing motor base [4].
   - 3 screws [1]
   - 3 connectors [2]
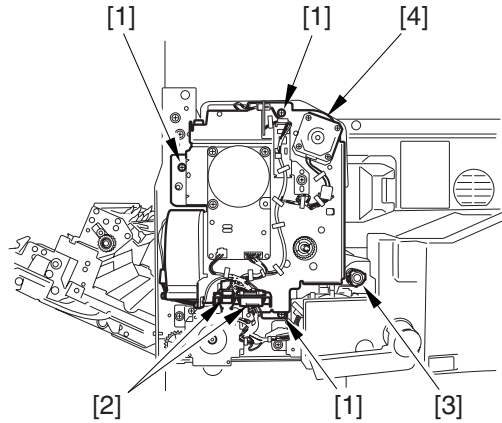
F-9-23

7) Remove the screw [2] found at the rear of the fixing assembly [1].
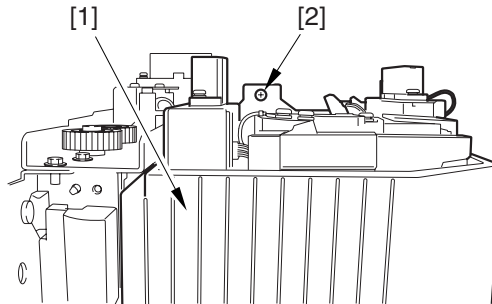
F-9-24

8) Holding the 2 grips [1], remove the fixing assembly [2].
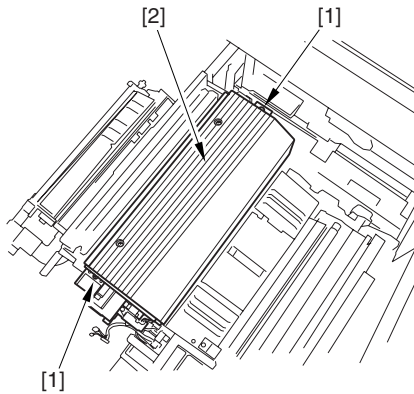
F-9-25

⚠

When lifting the fixing assembly, be sure to take care not to touch the web length detecting arm [1] so that the arm will be free of damage.

[1]
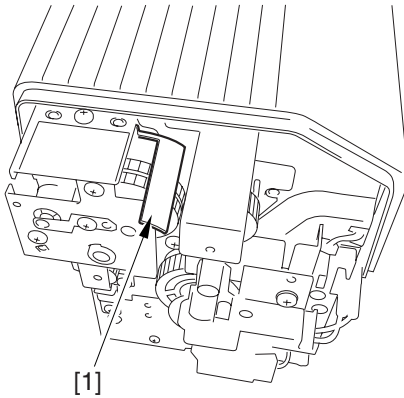
F-9-26

9.6.1.2 Points to Note When Mounting the Fixing Assembly

⚠ When fitting the fixing assembly into the fixing/feeding assembly, take full care not to damage the 2 sensors [1].
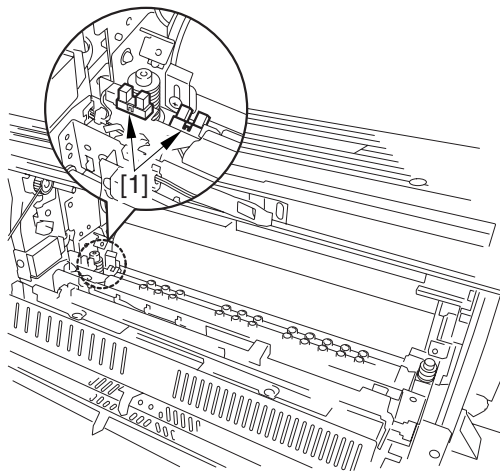
F-9-27

9.6.2 Fixing Roller

9.6.2.1 Preparation for Removing the Fixing Roller

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1
2) Remove the Fixing Upper Heater.
-Refer to Procedure 9.6.11

9.6.2.2 Removing the Fixing Roller

1) Remove the pin while pushing down on the fixing assembly.
   - screws [1]

[1]   [2]
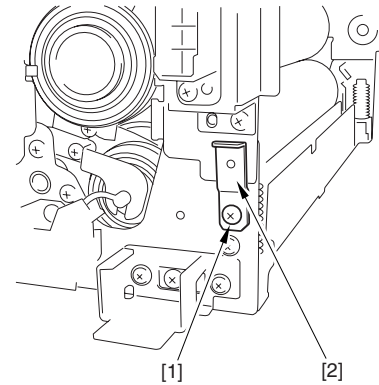
F-9-28

2) Open the fixing assembly.
   - screw [1]
   - pin [2]

[1]   [2]
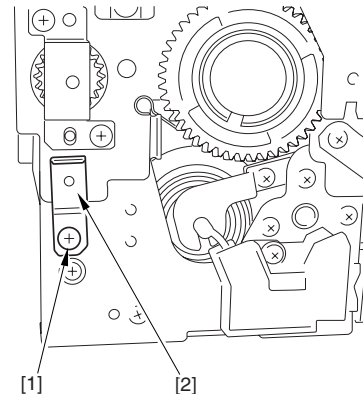
F-9-29

3) Remove the upper inlet guide [2].
   - 2 screws [1]

[1]   [2]
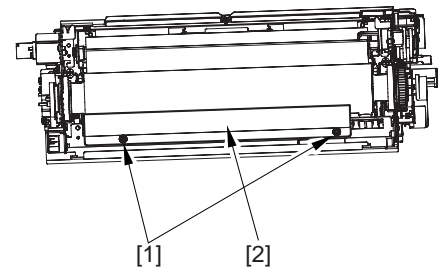
F-9-30

4) Remove the fixing roller [2] together with the gear and the bearing.
- 2 wires [1]
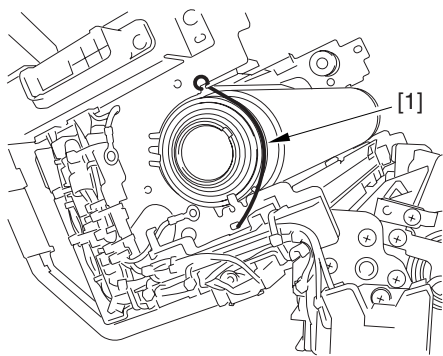
F-9-31
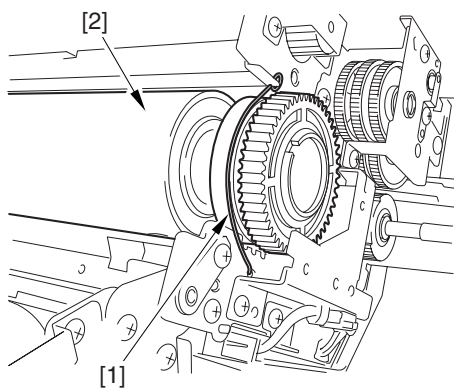
F-9-32

5) Remove the ring [1], gear [2], bush [3], and bearing [4] from the front in the order indicated.
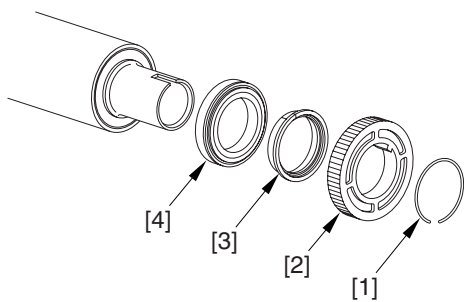
F-9-33

⚠

When attaching the gear you have removed previously, be sure that the protrusion [1] of the gear is toward the front of the machine.
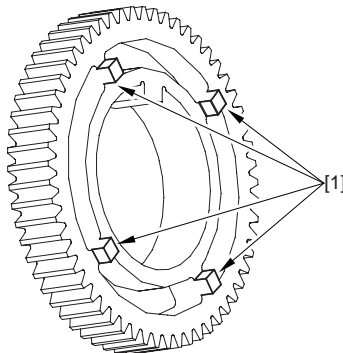
F-9-34

6) Remove the ring [2], spacer [3], bearing [4], and bush [5] from the rear.
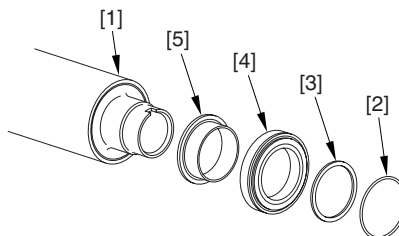
F-9-35

9.6.2.3 Points to Note When Removing the Fixing Roller

⚠

When attaching the inlet upper guide [1], be sure to place print paper [2] under the edge of the guide.

⚠

To remvoe the paper after the work, go thorough the following sequence: close the fixing assembly, while pushing the fixing assembly downward, insert 2 pins, tighten the screws, and then pull on the paper to remove.
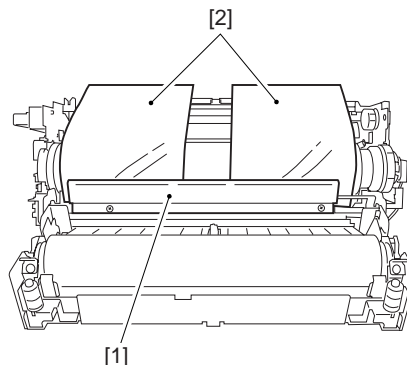
F-9-36

9.6.3 Pressure Roller

9.6.3.1 Preparation for Removing the Pressure Roller

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1
2) Remove the Fixing Lower Heater.
-Refer to Procedure 9.6.12

9.6.3.2 Removing the Pressure Roller

1) Remove the pin [2] while pressing down on the fixing assembly.
   - screw [1]
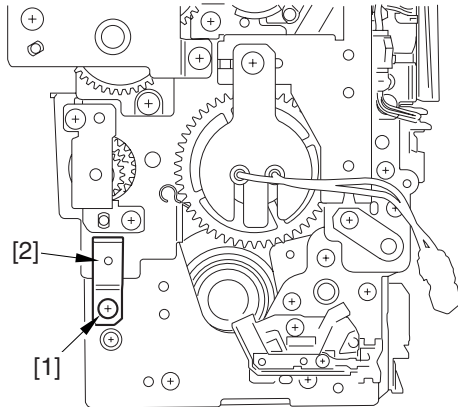
F-9-37

2) Open the fixing assembly.
   - screw [1]
   - pin [2]
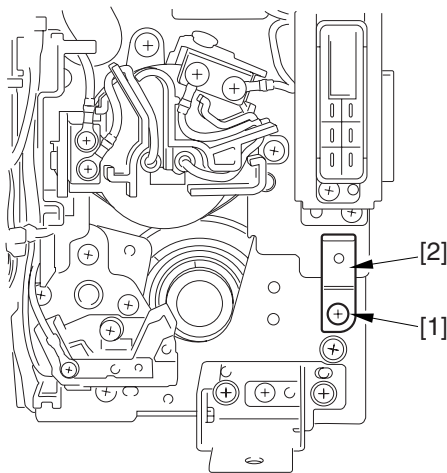
F-9-38

3) Lift the pressure roller [1] together with the bearing and the bush to remove.
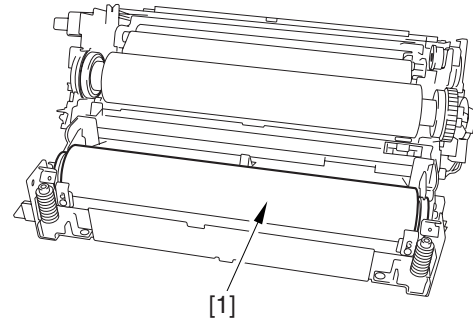
F-9-39

4) Remove the bearing [2] and the bush [3] from both ends of the pressure roller [1].
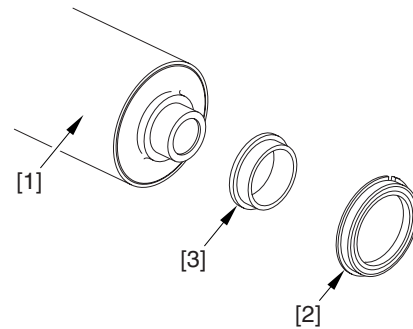
F-9-40

9.6.3.3 Points to Note When Mounting the Pressure Roller

Be sure to mount the pressure roller [1] so that the lot number [2] found on its edge is found toward the front of the machine.

Front
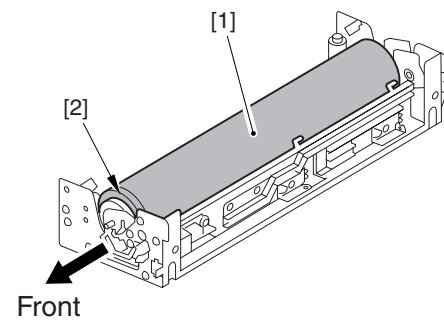
F-9-41

9.6.4 External Heat Roller

9.6.4.1 Preparation for Removing the Outside Heating Roller Heater

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1
2) Remove the Outside Heating Roller Heater.
2-1) Engage the ends of the 2 springs [1] on the hooks [2] of the side plate.
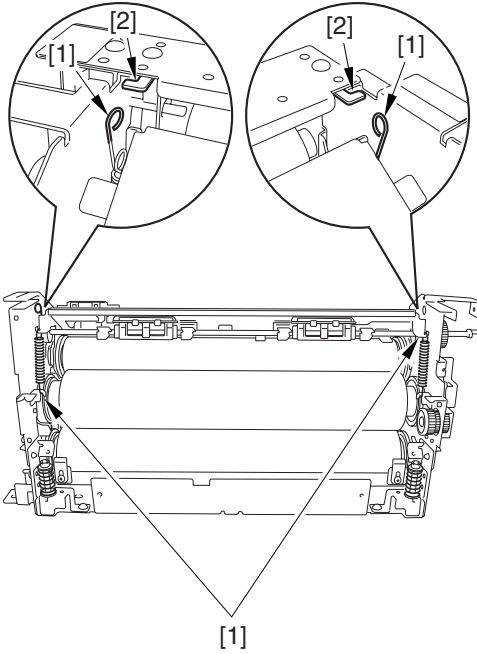
F-9-42

2-2) Remove the harness [2] from the 2 wire saddles [3].
    - connector [1]
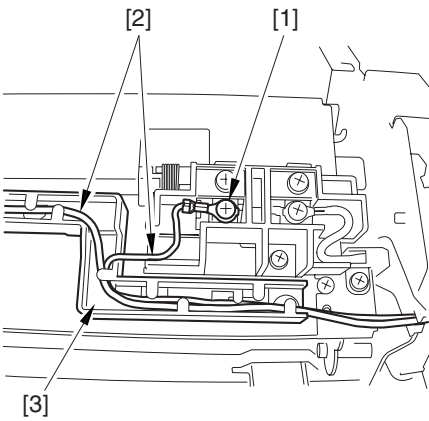
F-9-43

2-3) Remove the 2 heater harnesses [2] from the wire guide [3].
    - 2 screws [1]
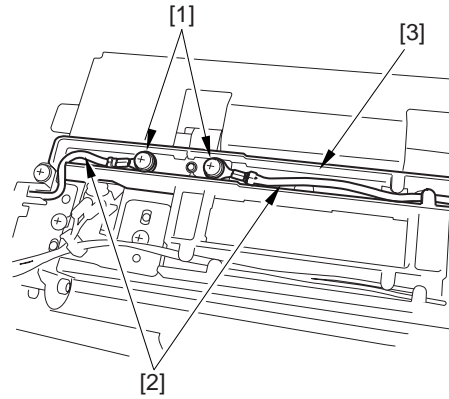
F-9-44

2-4) Pull out the outside heating roller [3].
    - screw [1]
    - pin [2]
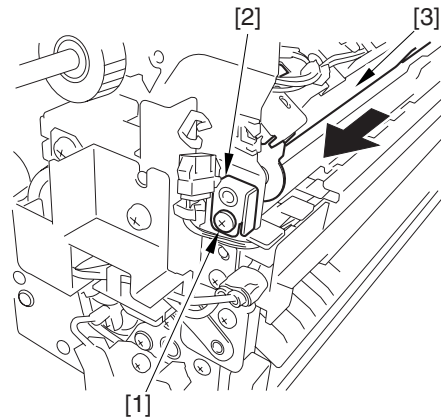
F-9-45

2-5) Remove the screw [1].
2-6) Remove the wire guide [3].
    - screw [2]
2-7) Remove the heater retainer [5].
    - screw [4]
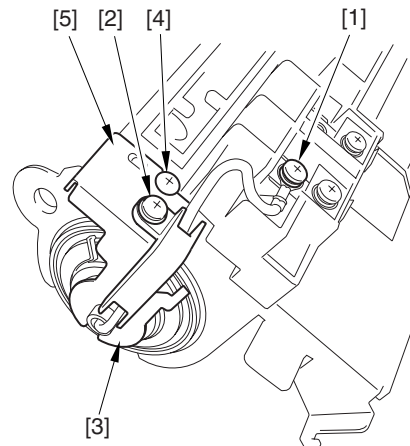
F-9-46

2-8) Remove the screw [1].
2-9) Remove the wire guide [3].
- screw [2]
2-10) Remove the heater retainer [5].
- screw [4]
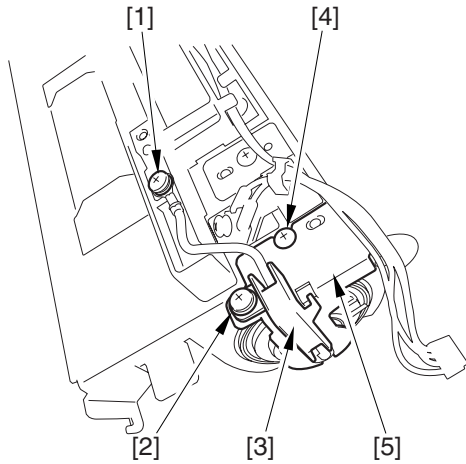
F-9-47

2-11) Remove the heater [2] out of the outside heating roller [1].
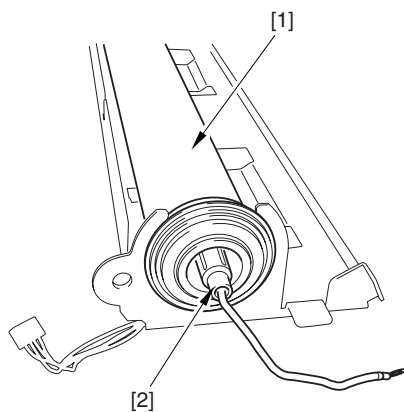
F-9-48

⚠

When attaching the outside heating roller heater, be sure that the length A of the heater cable [2] sticking out the heater holder [1] is no more than 4 mm.
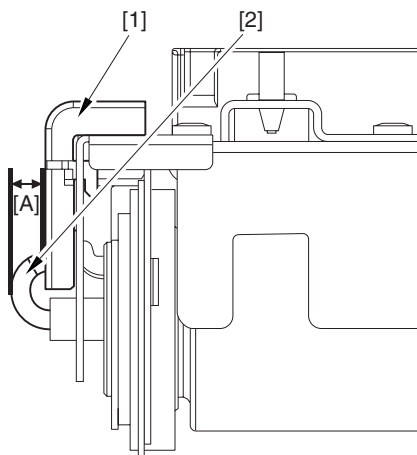
F-9-49

9.6.4.2 Removing the Outside Heating Roller

1) Remove the ring [1], bush [2], and bearing [4] from both ends of the outside heating roller [1]; then, remove the outside heating roller.
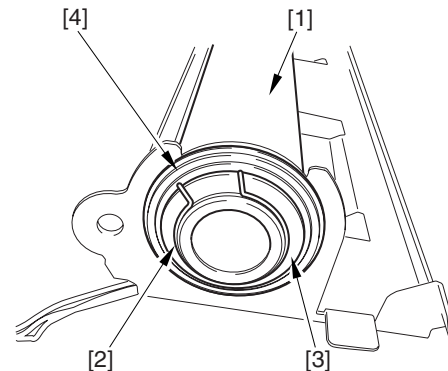
F-9-50

9.6.5 Fixing Thermistor (Upper)

9.6.5.1 Preparation for Removing the Fixing Upper Thermistor

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.5.2 Removing the Fixing Upper Thermistor

1) Remove the thermistor cover [2].
- screw [1]
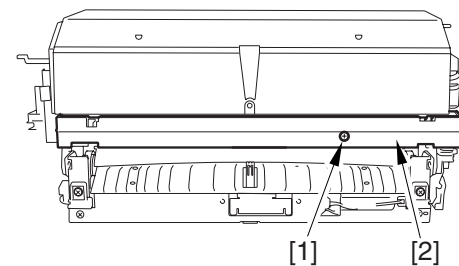
F-9-51

2) Move the harness out of the way, and remove thermistor [3] together with the holder.
- connector [1]
- 2 screws [2]
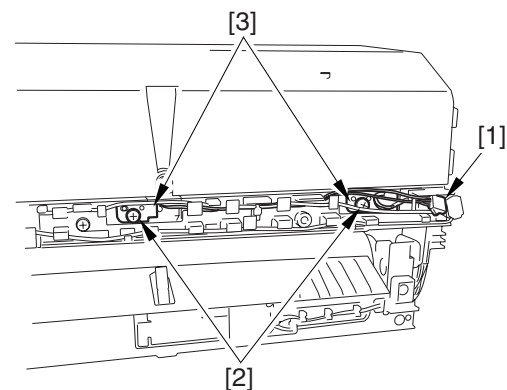
F-9-52

3) Remove the thermistor [2].
  - 2 screws [1]
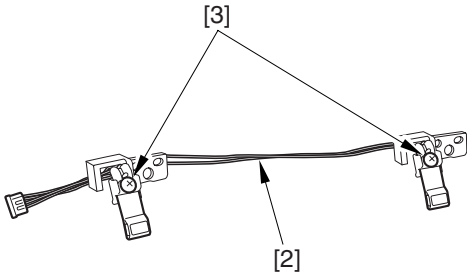
F-9-53

9.6.5.3 Points to Note When Mounting the Fixing Upper Thermistor

⚠After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
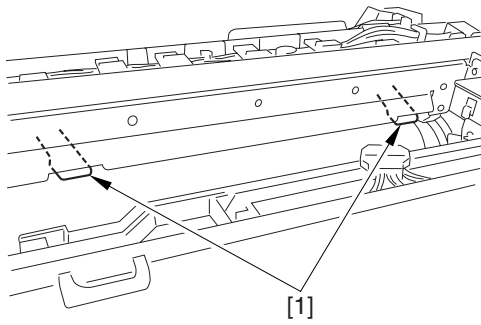
F-9-54
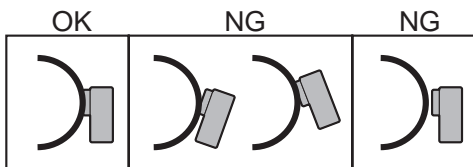
F-9-55

9.6.6 Fixing Thermistor (Lower)

9.6.6.1 Preparation for Removing the Fixing Lower Thermistor

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.6.2 Removing the Fixing Lower Thermistor

1) Remove the harness [2] from the 4 wire saddles [3].
  - connector [1]
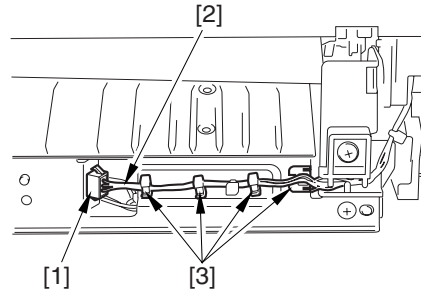
F-9-56

2) Remove the inlet guide [2].
  - 2 screws [1]
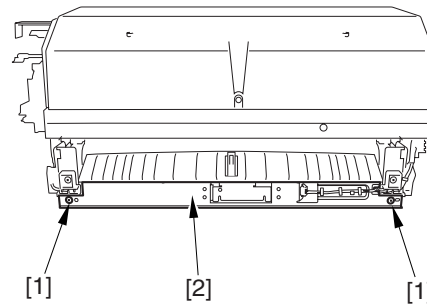
F-9-57

3) Remove the harness [2] from the 2 wire saddles [3].
  - connector [1]
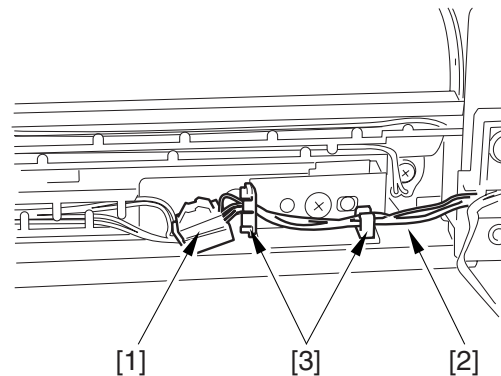
F-9-58

4) Remove the harness [1] from the wire saddle [2].
5) Remove the 2 holders [4].
 - 2 screws [3]
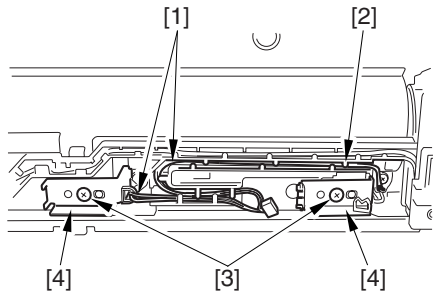
F-9-59

6) Remove the harness [2] from the 2 wire saddles [3].
 - 2 screws [1]
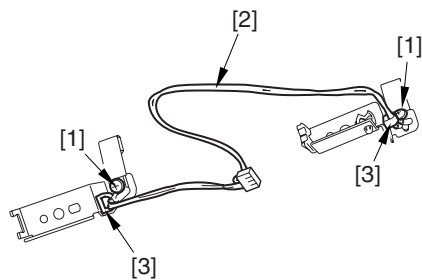
F-9-60

9.6.6.3 Points to Note When Mounting the Fixing Lower Thermistor

⚠After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.

F-9-61

OK   NG   NG
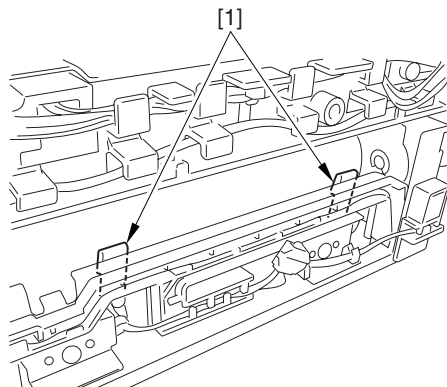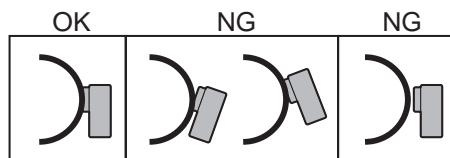
F-9-62

9.6.7 External Heat Thermistor

9.6.7.1 Preparation for Removing the Outside Heating Roller Thermistor

-Refer to Procedure 9.6.1

9.6.7.2 Removing the Outside Heating Roller Thermistor

1) Remove the fixing upper cover [2].
 - 2 screws [1]
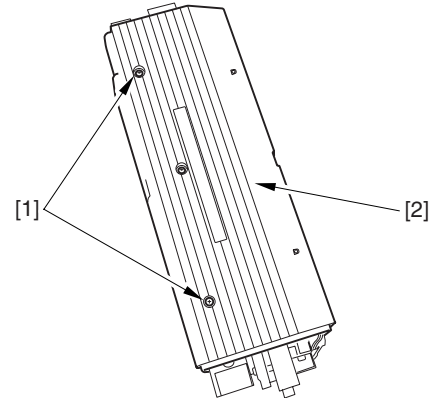
F-9-63

2) Remove the harness [2] from the wire saddle[3].
 - connector [1]
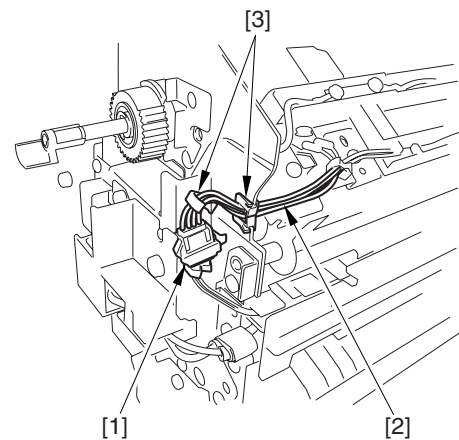
F-9-64

3) Remove the thermistor attaching plate [4].
 - harness [1] (From the wire saddle [2])
 - screw [3]
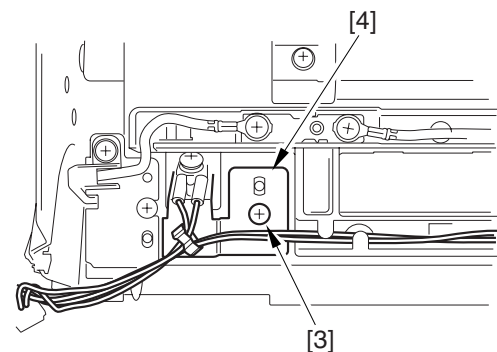
F-9-65

4) Remove the thermistor attaching plate [4].
   - harness [1] (From the wire saddle [2])
   - screw [3]
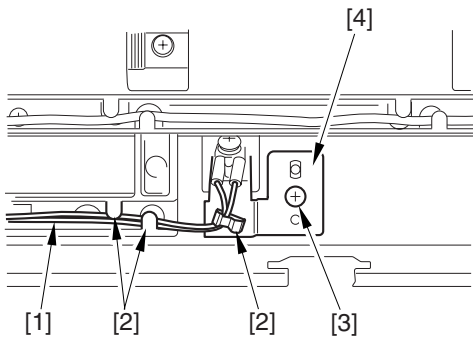
F-9-66

5) Remove thermistor [2] from the thermistor mounting plate [3].
   - 2 screws [1]
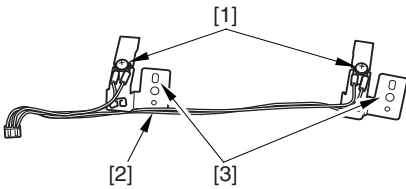
F-9-67

9.6.7.3 Points to Note When Mounting the External Heat Thermistor

⚠After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
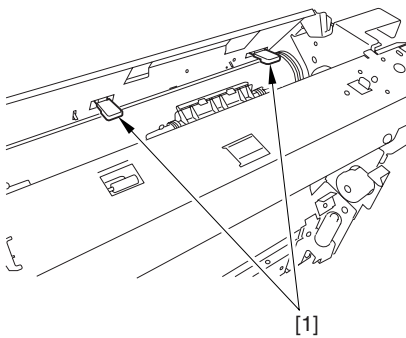
F-9-68
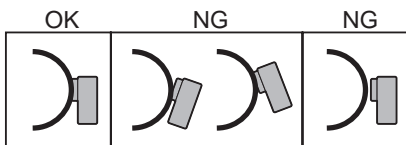
F-9-69

9.6.8 Fixing Thermal Switch

9.6.8.1 Preparation for Removing the Fixing Thermal Switch

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.8.2 Removing the Fixing Thermal Switch

1) Remove the thermistor cover [2].
   - screw [1]
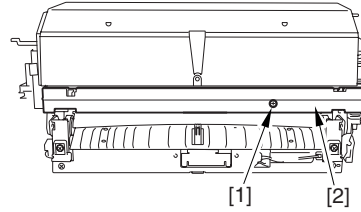
F-9-70

2) Remove the harness [2] from the wire guide [3].
   - connector [1]
3) Remove the 2 fastons [4].
4) Remove the thermal switch [6].
   - screw [5]
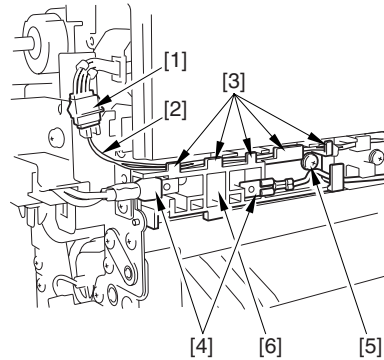
F-9-71

9.6.8.3 Points to Note When Mounting the Fixing Thermal Switch

⚠ After mounting the thermal switch, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
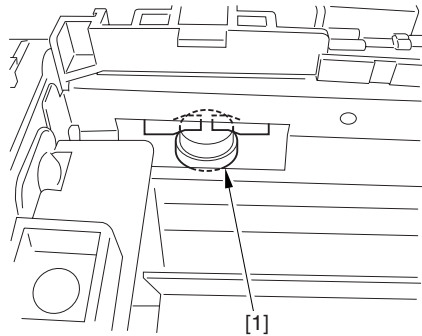
F-9-72
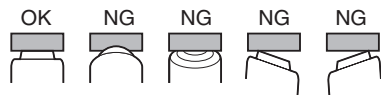
F-9-73

9.6.9 Fixing Locking Thermal Switch

9.6.9.1 Preparation for Removing the Fixing Pressure Thermal Switch

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.9.2 Removing the Fixing Pressure Thermal Switch

1) Remove the harness [2] from the 4 wire saddles [3].
   - connector [1]
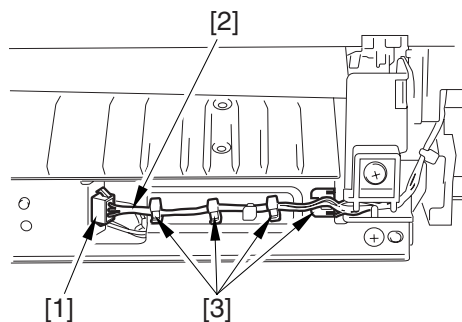
F-9-74

2) Remove the inlet unit [2].
   - 2 screws [1]
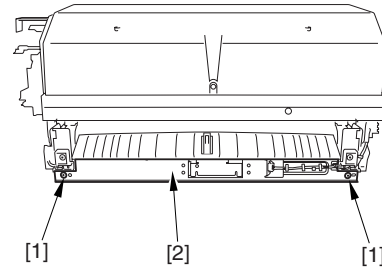
F-9-75

3) Remove the 2 heater harnesses [2] out of the way.
   - 2 screws [1]
4) Remove the thermal switch.
   - screw [3]
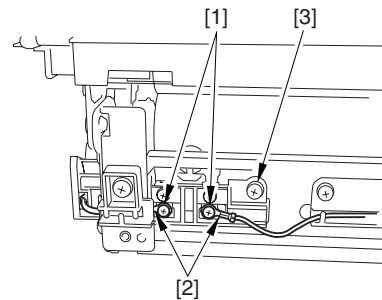
F-9-76

9.6.9.3 Points to Note When Mounting the Fixing Pressure Thermal Switch

⚠ After mounting the thermal switch (before mounting the inlet guide), check to make sure o the following:

The surface of the thermal switch [1] must be parallel to the pressure roller. (Be sure to check it by shining the thermal switch by a pen light.) if not, re-mount it.
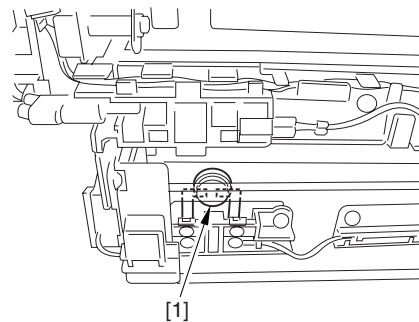
F-9-77
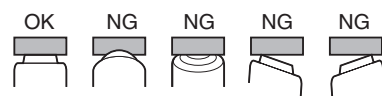
F-9-78

9.6.10 Thermal Switch

9.6.10.1 Preparation for Removing the Thermal Switch

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.10.2 Removing the Outside Heating Roller Thermal Switch

1) Remove the fixing upper cover [2].
   - 2 screws [1]
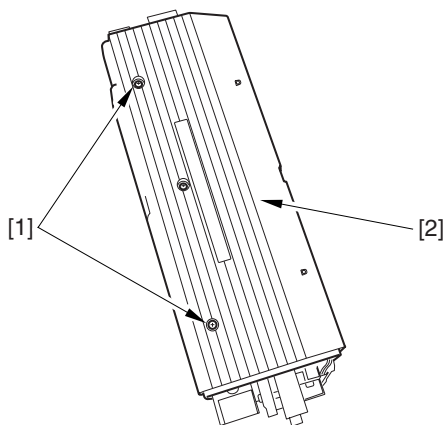
F-9-79

2) Remove the 2 heater harnesses [2].
   - 2 screws [1]
3) Remove the thermal switch.
   - screw [3]
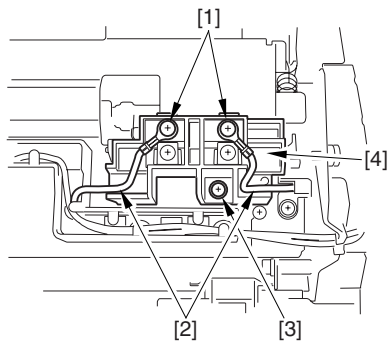
F-9-80

9.6.10.3 Points to Note When Mounting the Outside Heating Roller Thermal Switch

⚠ After mounting the thermal switch, check to be sure of the following:

The surface of the thermal switch [1] must be parallel to the outside heating roller. (Be sure to shine the thermal witch switch a pen light.) If not, re-mount it.
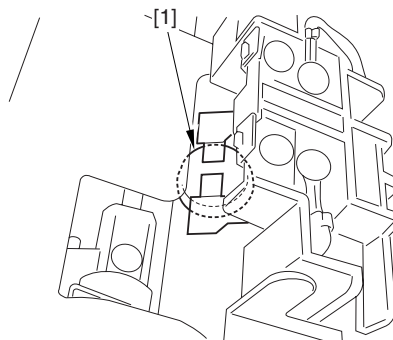
F-9-81
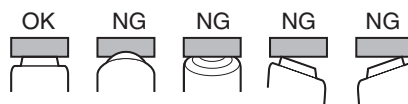
F-9-82

9.6.11 Upper Fixing Heater

9.6.11.1 Preparation for Removing the Fixing Upper Heater

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.11.2 Removing the Fixing Upper Heater

1) Move the thermistor cover [2] to remove.
   - screw [1]
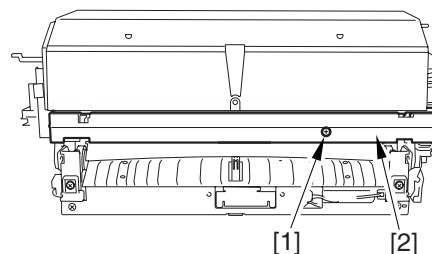
F-9-83

2) Remove the faston [1] of the heater.
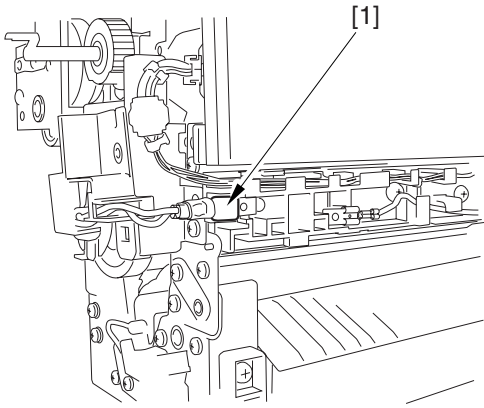
F-9-84

3) Remove the heater cover [2] while moving the heater harness [3] out of the way.
   - screw [1]
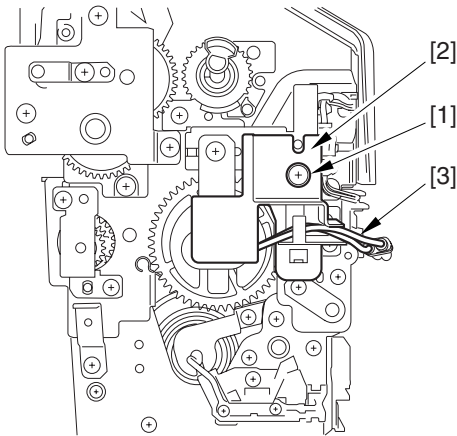
F-9-85

4) Remove the heater retainer [2].
   - screw [1]
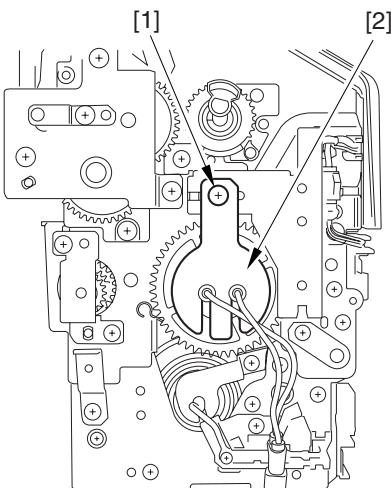
F-9-86

5) Remove the heater [5].
   - 4 screws [1] (remove heater harness [2])
   - 2 screws [3] (remove the heater cover [4])
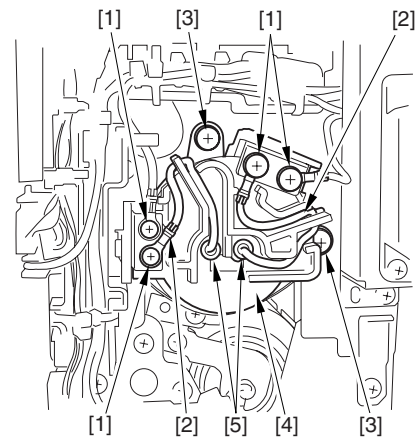
F-9-87

9.6.12 Lower Fixing Heater

9.6.12.1 Preparation for Removing the Fixing Lower Heater

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.12.2 Removing the Fixing Lower Heater

1) Remove the heater terminal cover [2].
   - screw [1]
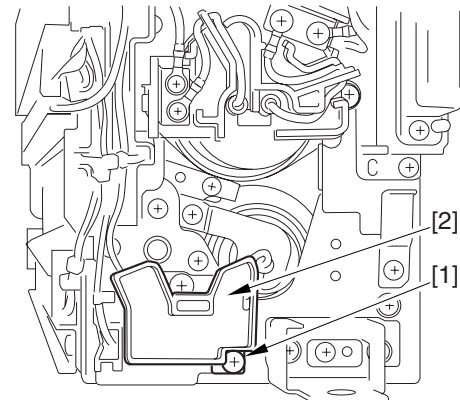
F-9-88

2) Remove the heater harness [2].
   - screw [1]
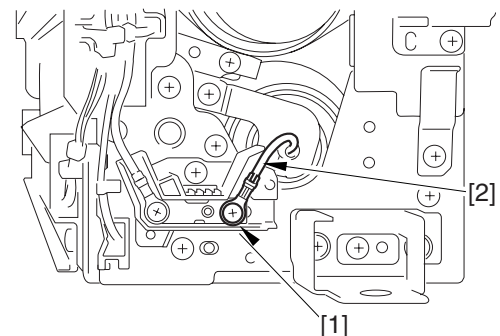
F-9-89

3) Remove the heater terminal cover [2].
- screw [1]
4) Remove the heater retainer [4].
- screw [3]
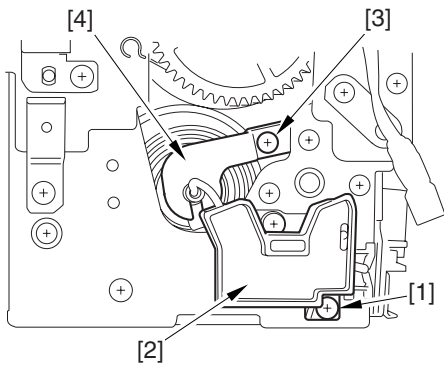
F-9-90

5) Remove the heater harness [2].
- screw [1]
6) Remove the heater [5].
- screw [3]
- heater retainer [4]
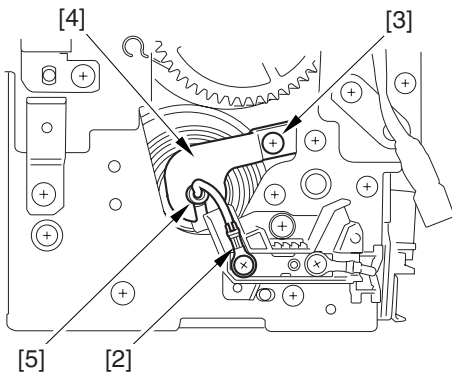
F-9-91

9.6.13 Fixing Locking Heater

9.6.13.1 Preparation for Removing the Outside Heating Roller Heater

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1

9.6.13.2 Removing the Outside Heating Roller Heater

1) Engage the ends of the 2 springs [1] on the hooks [2] of the side plate.
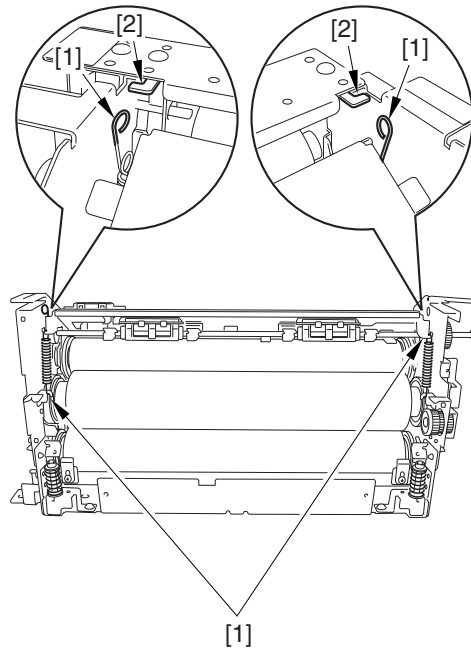
F-9-92

2) Remove the harness [2] from the 2 wire saddles [3].
- connector [1]
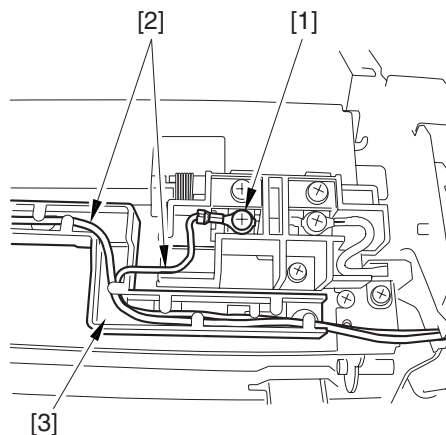
F-9-93

3) Remove the 2 heater harnesses [2] from the wire guide [3].
   - 2 screws [1]
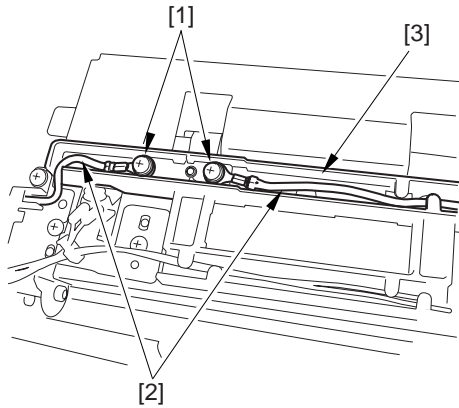
F-9-94

4) Pull out the outside heating roller [3].
   - screw [1]
   - pin [2]
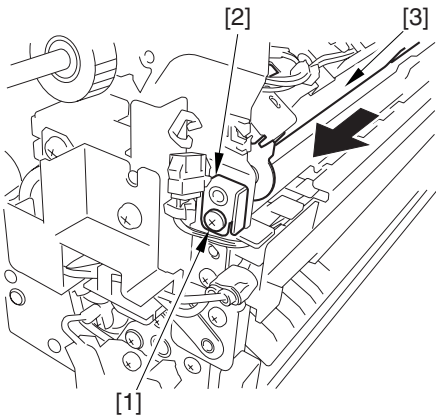
F-9-95

5) Remove the screw [1].
6) Remove the wire guide [3].
   - screw [2]
7) Remove the heater retainer [5].
   - screw [4]
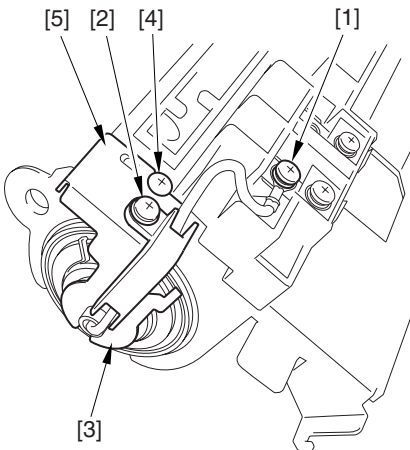
F-9-96

8) Remove the screw [1].
9) Remove the wire guide [3].
   - screw [2]
10) Remove the heater retainer [5].
   - screw [4]
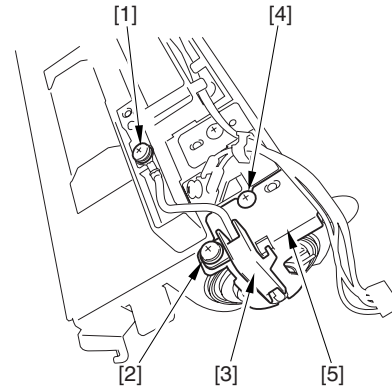
F-9-97

11) Remove the heater [2] out of the outside heating roller [1].
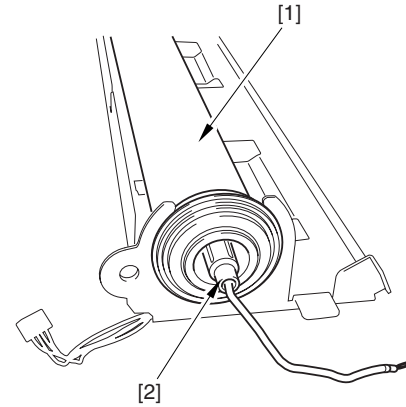
F-9-98

⚠️

When attaching the outside heating roller heater, be sure that the length A of the heater cable [2] sticking out the heater holder [1] is no more than 4 mm.
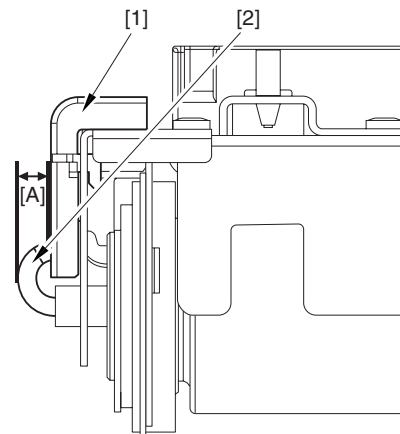
F-9-99

9.6.14 Fixing Web

9.6.14.1 Preparation for Removing the Fixing Web

1) Remove the Fixing Assembly.
-Refer to Procedure 9.6.1
2) Remove the Fixing Web Unit.
2-1) Remove the fixing upper cover [2].
    - 2 screws [1]
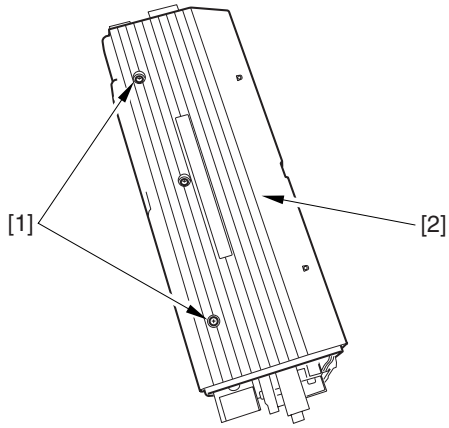
F-9-100

2-2) Remove the fixing web unit [2].
    - 2 screws [1]
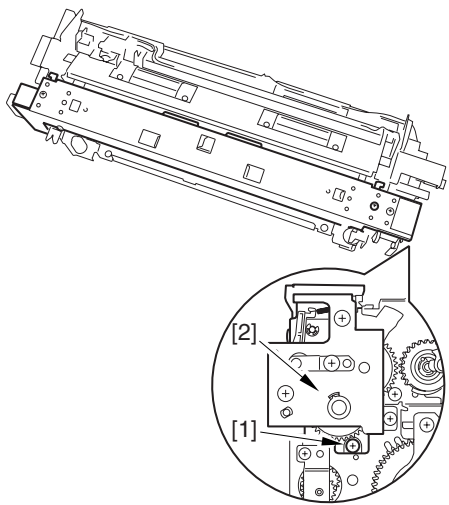
F-9-101

9.6.14.2 Removing the Fixing Web

1) Remove the fixing web [3].
    - 2 screws [1]
    - 2 fixings [2]
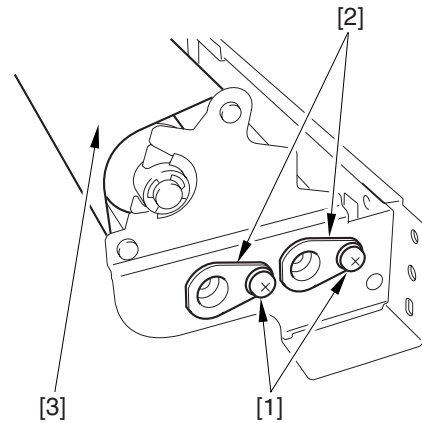
F-9-102

9.6.14.3 Attaching the Fixing Web

Attach the fixing web as shown:
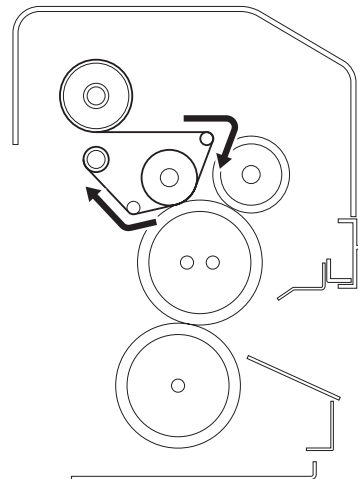
F-9-103

9.6.14.4 When Replacing the Fixing Web

1. After attaching the web, take up its slack so that there will be no slack when the web unit is fitted in the fixing assembly.
2. After replacing the web, reset the readings of the following service mode items:

COPIER>COUNTER>MISC>FIX-WEB
COPIER>COUNTER>DRBL-1>FX-WEB

9.6.15 Fixing Motor

9.6.15.1 Preparation for Removing the Fixing Motor

1) Remove the Fixing Front Cover.
1-1) Open the font cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Open the reversal delivery cover [1] and the middle cover [2].
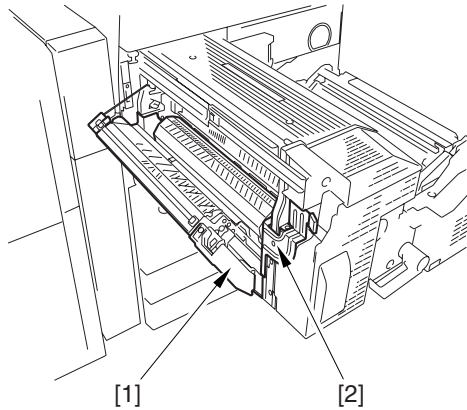
F-9-104

1-4) Remove the fixing front cover [3].
- knob [1]
- 2 screws [2]
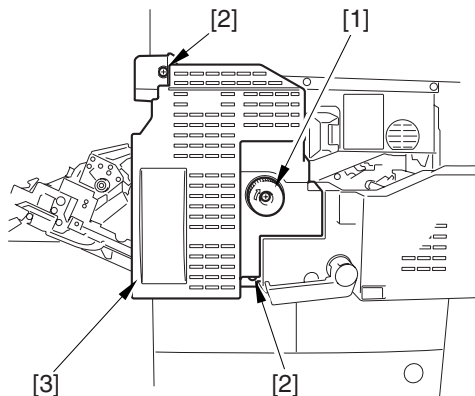
F-9-105

9.6.15.2 Removing the Fixing Motor

1) Remove the fixing motor [3].
- 2 connectors [1]
- 3 screws [2]
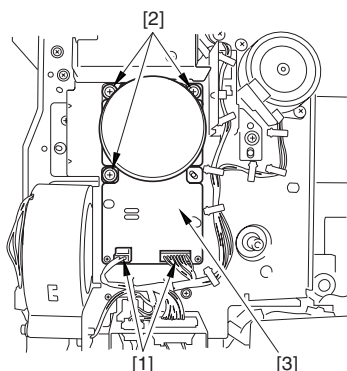
F-9-106

9.6.16 External Heater Shift Motor

9.6.16.1 Preparation for Removing the Outside Heating Shift Motor

1) Remove the Fixing Front Cover.
-Refer to Procedure 9.6.15.1 #1)

9.6.16.2 Removing the Outside Heating Roller Shift Motor

1) After moving the timing belt [3] to the front, remove it together with the fixing motor base [4].
- 3 screws [1]
- 3 connectors [2]
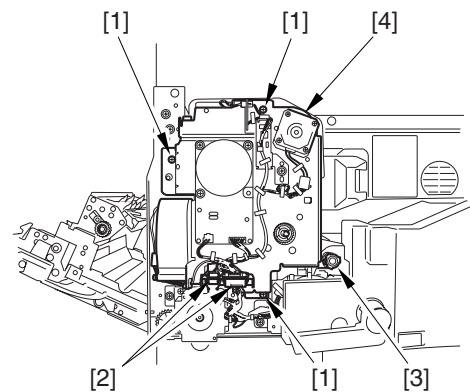
F-9-107

2) Remove the harness from the cable guide [1]; then, remove the connector [2].
3) Remove the outside heating roller shift motor [4].
- screw [3]
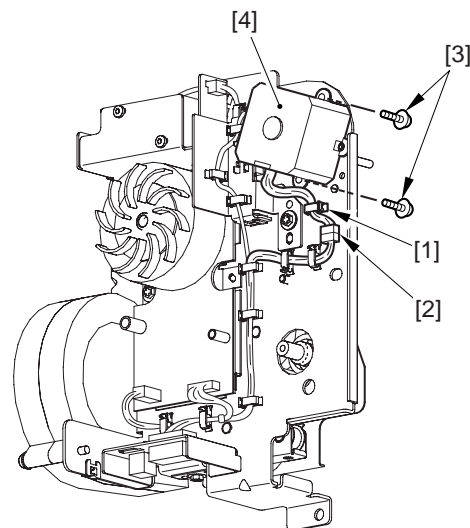
F-9-108

9.6.17 Upper Separation Claw

9.6.17.1 Removing the Delivery Upper Separation Claw

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Open the reversal delivery cover.
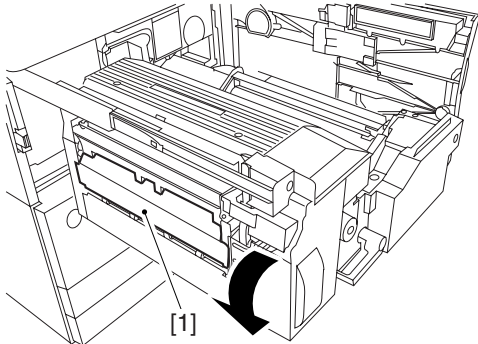
F-9-109

4) Open the middle cover.
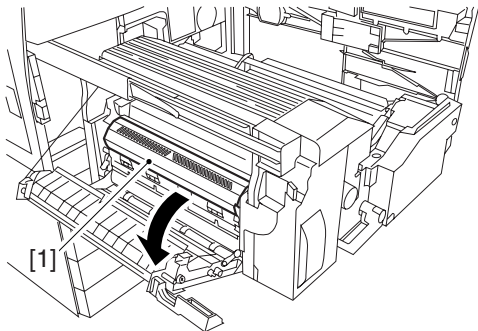
F-9-110

5) Remove the leaf spring [2].
   - screw [1]
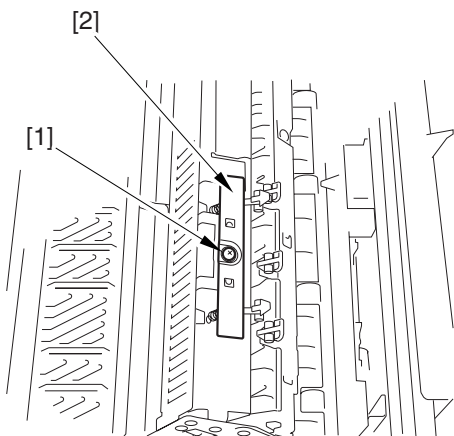
F-9-111

6) Turn the separation claw [1] in the direction of the arrow; then, remove the hook of the spring [2] to remove it in upward direction.
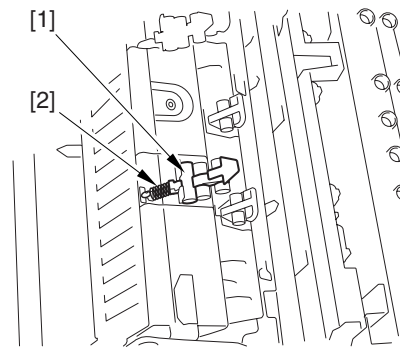
F-9-112

9.6.18 Lower Separation Claw

9.6.18.1 Removing the Delivery Lower Separation Claw

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Open the reversal delivery cover.
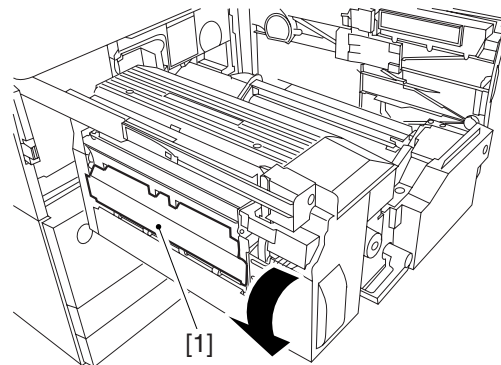
F-9-113

4) Open the middle cover.
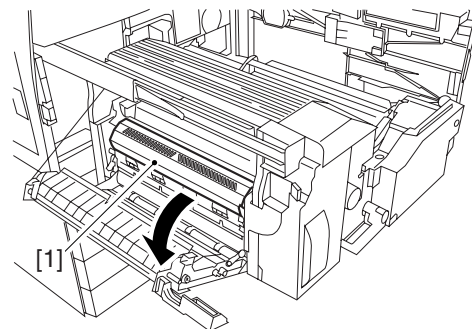
F-9-114

5) Remove the spring [1] from the rear of the delivery assembly.
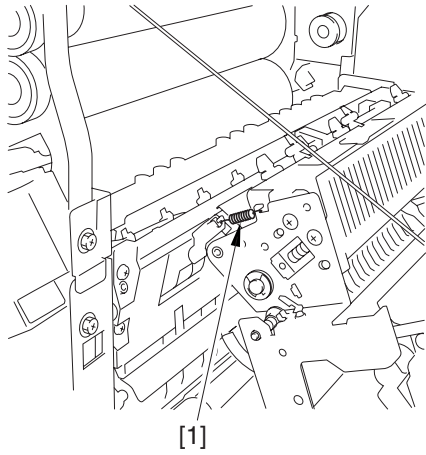
F-9-115

6) Remove the screw [1] from the front of the delivery assembly; then, remove the pin [2], and move the lower separation claw assembly [3] toward the front to remove.
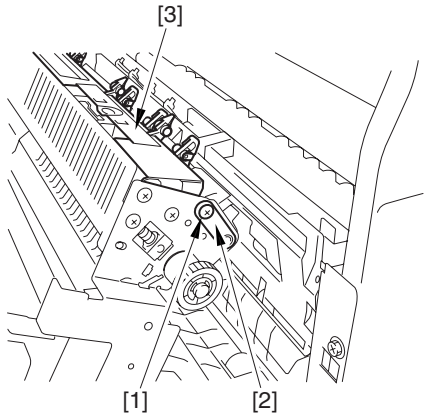
F-9-116

7) Remove the leaf spring [2].
   - screw [1]
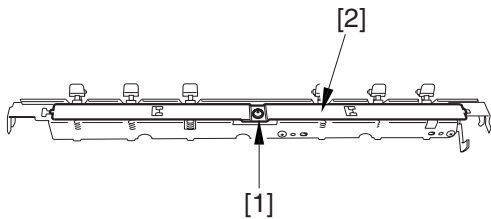
F-9-117

8) Remove the lower separation claw [2].
   - hook of the spring [1]
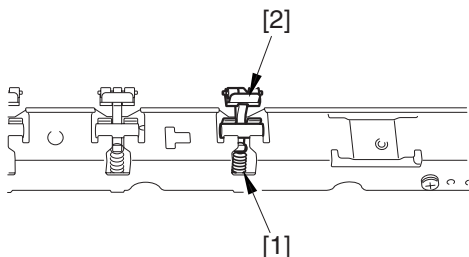
F-9-118

Externals and Controls

Contents

10.1 Control Panel

10.1.1 Overview

The machine' s control panel consists of PCBs, LCD, and touch panel as shown below, and its functions include the following:
- LCD display
- contrast adjustment
- touch switch input processing
- hard key input processing
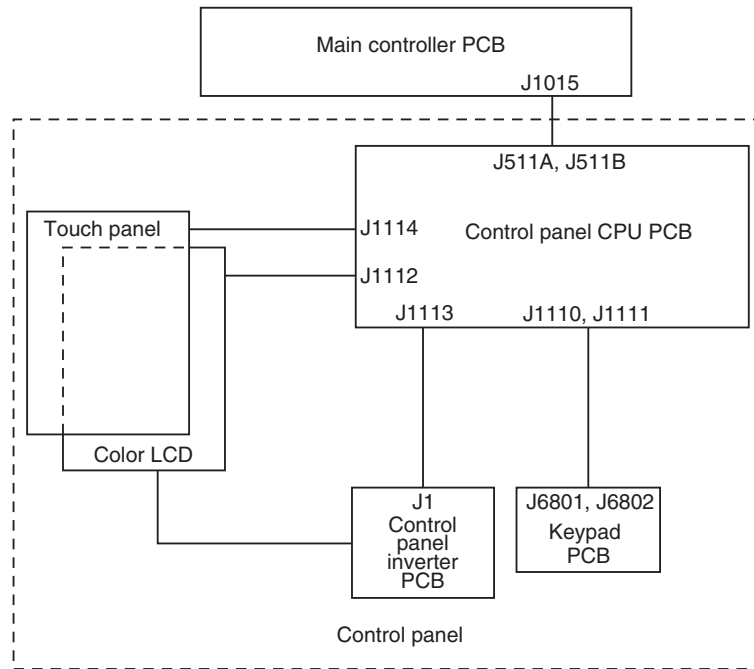
F-10-1

10.1.2 LCD Processing

The CPU on the main controller PCB sends data (display information) to the control panel CPU PCB according to the instructions at such times as programmed.
The data goes through the control panel CPU PCB for display on the color LCD.

10.1.3 LCD Contrast Adjustment

The machine' s keypad PCB is equipped with a contrast adjustment volume (VR6801) to enable the user to adjust the contrast of the LCD.

10.1.4 Control Panel CPU

- Monitoring Key Inputs
  communicates the inputs made on the keypad or function keys to the CPU on the main controller PCB.
- Monitoring Touch Panel Inputs
  communicates the inputs made on the touch panel to the CPU on the main controller PCB.
- Controlling the Buzzer Sound
- Controlling the Control Panel LED

MEMO:
The color LCD is driven by the main controller, and the control panel CPU PCB serves to relay the drive signals.

10.2 Counters

10.2.1 Overview

The machine is equipped with counters used to keep count of prints according to output functions; the counters are indicated on the control panel in response to a press on the Check key on the panel. The following shows the counters and the settings made at time of shipment from the factory:

T-10-1

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
100V *1 ***	total 1	total (black-and-white 1)	copy (full color + mono color 1)	print (full color + mono color 1)	not indicated**	not indicated**
	101	**108**	**232**	**324**	**000**	**000**

T-10-2

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
100V *1 ****	total 2	copy (full color + mono color 2)	total A (full color + mono color 2)	copy (black-and-white 1)	total A (black-and-white 2)	not indicated **
	102	**231**	**148**	**222**	**133**	**000**

T-10-3

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
120V TW *2	total 1	total (black-and-white 1)	copy + print (full color; large)	copy + print (full color; small)	total (mono color 1)	not indicated**
	101	**108**	**401**	**402**	**118**	**000**

T-10-4

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
120V UL *3	total 1	total (black-and-white 1)	copy (full color + mono color; large)	copy (full color + mono color; small)	print (full color + mono color: large)	print (full color + mono color; small)
	101	**108**	**229**	**230**	**321**	**322**

T-10-5

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
230V *4	total 1	total (black-and-white 1)	copy + print (full color; large)	copy + print (full color; small)	total (mono color 1)	total 1 (double-sided)
	101	**108**	**401**	**402**	**118**	**114**

T-10-6

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
240V UK *5	total 1	total (full color + mono color; large)	total (full color + mono color; small)	total (black-and-white; large)	total (black-and-white; small)	scan (total 1)
	101	**122**	**123**	**112**	**113**	**501**

T-10-7

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
240V CA *6	total 1	total (black-and-white 1)	copy (full color + mono color; large)	copy (full color + mono color; small)	print (full color + mono color; large)	print (full color + mono color; small)
	101	**108**	**229**	**230**	**321**	**322**

T-10-8

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
230V FRN *7	total 1	total (full color + mono color; large)	total (full color + mono color; small)	total (black-and-white; large)	total (black-and-white; small)	scan (total 1)
	101	**122**	**123**	**112**	**113**	**501**

T-10-9

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
230V GER *8	total 1	total (full color + mono color; large)	total (full color + mono color; small)	total (black-and-white; large)	total (black-and-white; small)	scan (total 1)
	101	**122**	**123**	**112**	**113**	**501**

T-10-10

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
230V AMS *9	total 1	total (full color + mono color; large)	total (full color + mono color; small)	total (black-and-white; large)	total (black-and-white; small)	scan (total 1))
	101	**122**	**123**	**112**	**113**	**501**

T-10-11

Model	Counter 1	Counter 2	Counter 3	Counter 4	Counter 5	Counter 6
230V ITA *10	total 1	total (full color + mono color; large)	total (full color + mono color; small)	total (black-and-white; large)	total (black-and-white; small)	scan (total 1)
	101	**122**	**123**	**112**	**113**	**501**

1. Notations

large: large-size paper (sheet in excess of 364 mm in length in paper feed direction; count increased by 1).
small: small-size paper (sheet 364 mm or shorter in length in paper feed direction).
total: all (copy + print); count increased by 1.
double-sided: in auto duplexing mode, count increased by 1.
  - the 3-digit notation in the Counter column shows the setting of the following service mode item: COPIER>OPTION>USER>COUNTER 1 through 6
  - counters 2 through 6 may be changed using the following service mode item: COPIER>OPTION>USER.

*1 :F14-4011/4012/4016/4017/4018/4019/7211/7212
*2 :F14-4001
*3 :F14-4031/4036/4038/7231
*4 :F14-4041/4042/4047/4049/4077/4061/4070/7241/7242/7261/7270
*5 :F14-4051/4054
*6 :F14-4061/4062/4066/4068/7261/7262
*7 :F14-4071/4072
*8 :F14-4081/4082
*9 :F14-4091/4092/4096/4097/4098/4099/7291/7292
*10 :F14-4021/4022
** : by default, not indicated; may be changed in serve mode.
*** : if '0' is set for the following: COPIER>OPTION>USER>CNT-SW.
****: if '1' is set for the following: COPIER>OPTION>USER>CNT-SW.

10.2.2 Increasing the Count

The machine increases the count based on the type of print (single-sided or double-sided) and the presence/absence of a finisher.

1. Single-Sided Print, 2nd Side of a Double-Sided Print
When making a single-sided print or the 2nd side of a double-sided print, the machine increases the count when the trailing edge of paper is discharged outside the machine (as indicated by the output of the following sensor).

T-10-12

Finisher	Sensor
present	outside delivery sensor (PS13)
absent	delivery sensor of the finisher

2. 1st Side of a Double-Sided Print
The machine assumes the end of printing on the 1st side of a double-sided print to be when the duplexing left sensor (PS17) turns on, thus increasing the count.

10.3 Fans

10.3.1 Overview

The following shows the names and functions of the fans used in the machine:

T-10-13

Notation	Name	Filter	2-speed control	Description	error
FM1	primary charging suction fan	yes	yes	draws air from outside the machine to the primary charging assembly.	E824-0000
FM2	primary charging exhaust fan	yes	yes	discharges exhaust from around the primary charging assembly.	E824-0001
FM3	feed fan 1	no	no	keeps paper on the feed belt.	
FM4	feed fan 2	no	no	keeps paper on the feed belt.	
FM11	feed fan 3	no	no	keeps paper on the feed belt.	
FM12	feed fan 4	no	no	keeps paper on the feed belt.	
FM5	fixing heat exhaust fan	no	yes	discharges heat generated by the fixing assembly.	E805-0003
FM6	delivery cooling fan 1	no	no	cools the delivery assembly.	
FM7	process unit cooling fan	no	yes	cools the process unit.	E804-0002
FM8	controller cooling fan	no	no	cools the controller.	E804-0004
FM9	power supply cooling fan	no	no	cools the power supply.	E804-0007
FM10	delivery cooling fan 2	no	yes	cools paper at time of delivery.	
FM13	reader cooling fan	no	no	cools reader unit	
FM14	DF feed motor cooling fan	no	no	cools DF feed motor	
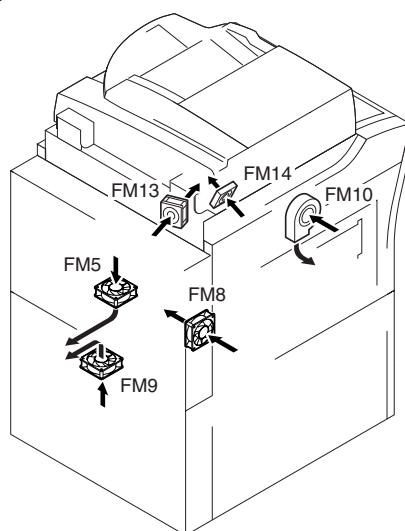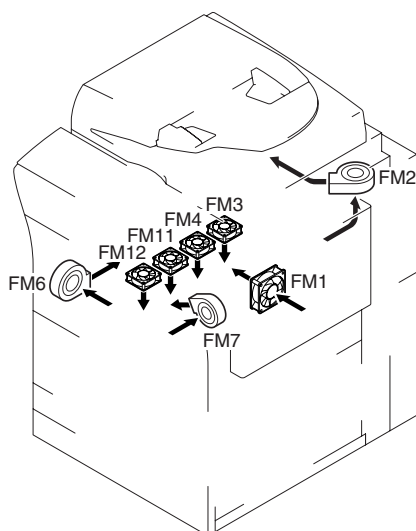
F-10-2

10.3.2 Sequence of Operations

The machine uses the following sequence of operation to turn on or off the fans:

	Warm-up	Initial multiple rotation	Printing	Last rotation	Standby	Jam	Power save mode	Sleep mode
Primary charging suction fan (FM1)			*1	*1	15 min *2	15 min *2		half-speed
Primary charging delivery fan (FM2)					15 min	15 min		
Feed fan 1 (FM3)			■					
Feeed fan 2 (FM4)			■					
Feeed fan 3 (FM11)			*3					
Feeed fan 4 (FM12)			*3					
Fixing heat discharge fan (FM5)	*4	*4						15 min
Delivery cooling fan 1 (FM6)			■					
Process unit cooling fan (FM7)	*4	*4						15 min
Controller cooling fan (FM8)								
Power supply cooling fan (FM9)			■					
Delivery cooling fan2 (FM10)			*5	*5				
Reader cooling fan (FM13)			*6					
DF feed motor cooling fan (FM14)			*7					

■ : full-speed rotation.

▨ : half-speed rotation

F-10-3

*1: if in a high temperature/humidity environment, half-speed rotation.
*2: if in a high temperature/humidity environment, full-speed rotation.
*3: rotates only if all following conditions exist: paper shorter than LTR (216 mm or less), heavy paper mode, full color duplexing mode.
*4: if the fixing temperature is 100 deg C or higher when the main power switch is tuned on, full-speed rotation; if lower than 100 deg C, stops. However, even when the fixing roller is lower than 100 deg C, half-speed rotation will be used if the temperature of th outside heating roller is 100 deg C or higher.
*5: if a finisher is installed, full-speed rotation at all times; if a delivery tray or a shift tray is installed, rotates only in mono color transparency mode. (for the US mode, full-speed rotation; for non-US models, half-speed rotation)
*6: rotates when the scanning lamp goes on.
*7: rotates when the DF feed motor is on.

10.4 Power Supply

10.4.1 Power Supply

10.4.1.1 Route of Power Supply Inside the Printer Unit

< iR C6800 / iR C5800 >

The machine's DC power supply is controlled by the printer power supply PCB. The power to accessories is also controlled by the printer power supply PCB.

The following shows the functions of PCBs associated with power supply:

T-10-14

Name	Description
Printer power supply PCB (DC power supply PCB + DC power supply relay PCB)	generates DC power (24 V, 13 V); supplies DC power to the controller power supply PCB, DC controller PCB, pickup driver PCB, fixing diver PCB, high-voltage power supply PCB, reader unit, finisher, side deck, fax board.
AC driver PCB	supplies AC power to the printer power supply PCB and the fixing heater drive.
Environment switch PCB	turns on and off the power to the drum heater, reader heater 1, cassette heater, and deck heater*1.
DC/DC converter PCB 1	supplies DC power to the main controller PCB and the DC controller PCB.
Main power switch	turns on and off the AC power to the printer power supply PCB.
Door switch	turns on and off the 3 VA.
Leakage breaker	cuts off power in the event of an error.

*1: in the case of the 100/230-V model, optional; in the case of the 120-V model, not available.
*2: in the case of the 100-V model, standard; in the case of the 120-V model, not available.

F-10-4
T-10-15

Operating mode		Main power switch	Sleep	Low power	Door open	Fixing error	Print*
Main power switch		**OFF**	**ON**	**ON**	**ON**	**ON**	**ON**
all-night	13VB	OFF	ON	ON	ON	ON	ON
non-all night	13VA	OFF	OFF	ON	ON	ON	ON
	24VA-1	OFF	OFF	OFF	ON	ON	ON
	24VA-2	OFF	OFF	OFF	ON	ON	ON
	24VA-3	OFF	OFF	OFF	OFF	ON	ON
	30VA-3	OFF	OFF	OFF	OFF	ON	ON
	DC relay	OFF	OFF	OFF	OFF	ON	ON
	AC relay	OFF	OFF	ON	OFF	OFF	ON

* same is true for standby, warm-up, and recovery.

10.4.1.2 Route of Power Supply Inside the Printer Unit

< iR C6870U / iR C5870U >

The machine's DC power supply is controlled by the printer power supply PCB. The power to accessories is also controlled by the printer power supply PCB.

The following shows the functions of PCBs associated with power supply:

T-10-16

Name	Description
Printer power supply PCB (DC power supply PCB + DC power supply relay PCB)	generates DC power (24 V, 13 V); supplies DC power to the controller power supply PCB, DC controller PCB, pickup driver PCB, fixing diver PCB, high-voltage power supply PCB, reader unit, finisher, side deck, fax board.
AC driver PCB	supplies AC power to the printer power supply PCB and the fixing heater drive.
Environment switch PCB	turns on and off the power to the drum heater, reader heater 1, cassette heater, and deck heater*1.
DC/DC converter PCB 1	supplies DC power to the main controller PCB and the DC controller PCB.
Main power switch	turns on and off the AC power to the printer power supply PCB.
Door switch	turns on and off the 3 VA.
Leakage breaker	cuts off power in the event of an error.

*1: in the case of the 100/230-V model, optional; in the case of the 120-V model, not available.
*2: in the case of the 100-V model, standard; in the case of the 120-V model, not available.

Interlock 13 VA; AC-Relay-ON

Drawer connector

AC driver

Power plug

Leakage breaker — Noise filter — AC relay — Fixing heater drive

100V,15A / 120V,20A / 230V,15A

430W — Fixing main heater(H1) — Thermal switch 230 deg C
400W — Fixing sub heater(H2)
400W — Locking heater(H3) — Thermal switch 200 deg C
400W — External extra-heat heater(H4) — Thermal switch 250 deg C

Environment switch

Main switch

Environment switch PCB
Fuse FU101
100V/120V: 2.5A
230V: 1.25A

Relay (Normal Close) — 13VA
Half-wave/full wave
On/Off

All night power supply PCB

Reader/lattice — Reader heater *1 — 100W x 2
Slip ring — Drum heater driver — Drum heater(H5) — 60W
Cassette heater switch — Outlet Inlet — Cassette heater(H7) *2 — 15W
Side deck heater *1 — 20W

Printer power supply PCB
Fuse101 100V/120V:15A 230V:6.3A

13VB — FAX

All night power supply PCB — 3VB — Main controller

DC/DC convertor PCB 1 — 5VA Main controller / 12VA Main controller / 3VA DC controller / 5VA DC controller

Non-all night system — Switch circuit — 13VA — DC controller

Fixing/feed driver
Fax
Finisher
Reader

AC relay, DC relay

Front cover open/close switch / Manual feed unit open/close switch / Fixing/feed unit open/close switch

Deck lattice — 24VA-1 — 3.5K side deck
24VA-1 — DC controller (fan, scanner motor)
24VA-1 — FAX, ASSIST, CoinROBO

Switch circuit
Over-current detection 5A
Over-current detection 7A
Over-current detection 5A

Reader lattice — 24VA-2 — Reader
Finisher lattice — 24VA-2 — Finisher

Over-current detection 5A — 24VA-1 — Pickup driver, Developing motor
Over-current detection 5A — 24VA-3 — 30VA-3 — DC/DC convertor PCB 2 — 30VA-3 — DC controller (rotation developing drive)
Over-current detection 5A — 24VA-3 — DC controller (rotation developing drive)
Over-current detection 7A — 24VA-3 — DC controller, HV1, HV2, HV3, Drum ITB motor
Over-current detection 7A — 24VA-3 — Fixing/feed driver
24VA-3 — Fixing motor

DC relay

Drawer connector

Interlock 13 VA; AC-Relay-ON

*1: 100V/230V: Option, 120V: None
*2: 100V: Standard, 230V: Option, 120V: None

F-10-5
T-10-17

Operating mode		Main power switch	Sleep	Low power	Door open	Fixing error	Print*
Main power switch		**OFF**	**ON**	**ON**	**ON**	**ON**	**ON**
all-night	13VB	OFF	ON	ON	ON	ON	ON
non-all night	13VA	OFF	OFF	ON	ON	ON	ON
	24VA-1	OFF	OFF	ON	ON	ON	ON
	24VA-2	OFF	OFF	ON	ON	ON	ON
	24VA-3	OFF	OFF	ON	OFF	ON	ON
	30VA-3	OFF	OFF	ON	OFF	ON	ON
	DC relay	OFF	OFF	ON	OFF	ON	ON
	AC relay	OFF	OFF	ON	OFF	OFF	ON

* same is true for standby, warm-up, and recovery.

10.4.1.3 Power to the Environment Heater

13VA: non-all night 13V

F-10-6
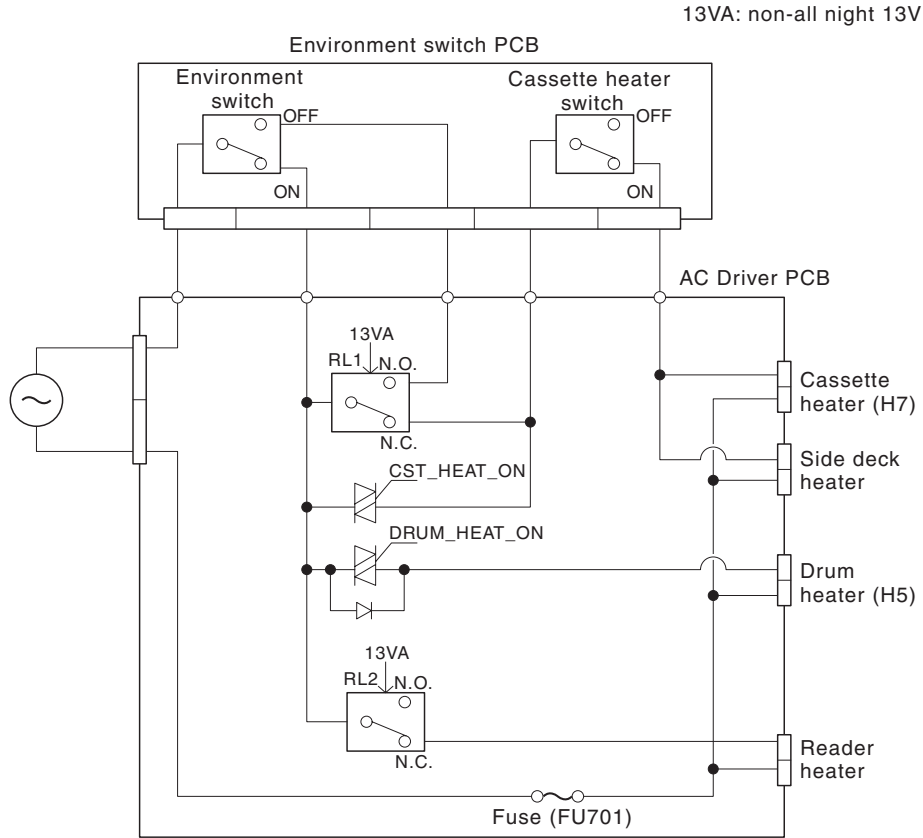
The following shows how the environment heater is supplied with power according to the machine's different modes:
(full-wave: full-wave control; half-wave: half-wave control)

1. Environment Switch OFF

T-10-18

Operating mode	Main power OFF		Sleep		Lower power		Standby		Printing	
Main power OFF	OFF		ON							
Cassette heater switch	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Drum Heater	OFF	OFF	OFF	OFF	full-wave	full-wave	full-wave	full-wave	half-wave	half-wave
Cassette Heater	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
Reader unit Heater	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

2. Environment Switch ON

T-10-19

Operating mode	Main power OFF		Sleep		Low power		Standby		Printing	
Main power OFF	OFF		ON							
Cassette heater switch	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Drum Heater	half-wave	half-wave	half-wave	half-wave	full-wave	full-wave	full-wave	full-wave	half-wave	half-wave
Casset teHeater	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
Reader unit Heater	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF

10.4.2 Rated Output of DC Power Supply PCB

10.4.2.1 Rated Output of the Printer Power Supply PCB

The following shows the ratings and the power supply tolerances of the printer power supply PCB (DC power supply PCB + DC power supply relay PCB):

T-10-20

Output	13VA	13VB	24VA-1	24VA-2	24VA-3
All-night /non-all night	non-all night	all-night	non-all night	non-all night	non-all night
Rated output	13.2V	13.2V	24V	24V	24V
Tolerance	+/- 3%	+/- 3%	+8%, -6%	+8%, -6%	+8%, -6%

10.4.2.2 Rated Output of the DC/DC Converter PCB 1

The following shows the ratings and the power supply tolerances of the DC/DC converter PCB 1:

T-10-21

Output	3VA	3VB	5VA	12VA
All-night /non-all night	non-all night	all-night	non-all night	non-all night
Rated output	3.4V	3.4V	5.1V	12V
Tolerances	+/- 4%	+/- 4%	+/- 3%	+5%, -6%

10.4.2.3 Rated Output of the DC/DC Converter PCB 2

The following shows the rating and the power supply tolerances of the DC/DC converter PCB:

T-10-22

Output	30VA-3
All-night/non-all night	non-all night
Rated output	30V
Tolerance	+/- 5%

10.4.3 Backup Battery

10.4.3.1 Backup Battery

The SRAM PCB and the DC controller PCB of the machine's main controller PCB are equipped with a lithium battery (1 pc. each) serving as a backup source of power in the event of a power shortage or when the power plug is removed.

T-10-23

SRAM PCB	manganese dioxide lithium battery (3 V, 100 mAh)
DC controller PCB	lithium battery (3 V, 6000 mAh)
Life	10 yr or more (true of both; with power plug removed)
Replacement	not possible in the field on its own.

⚠

LISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
Do not use a battery which is not of a type specifically indicated (same name, or equivalent).
Dispose of any used battery according to the instructions of its manufacturer.

10.4.4 Protection Function

10.4.4.1 Protection of the Power Supply PCB

The machine' s printer power supply PCB is equipped with a protective mechanism against the presence of excess current or voltage; i.e., if a short-circuit, for instance, occurs on any of the loads to cause over-current or over-voltage, the machine will automatically shut off the output voltage to protect the power supply circuit.
When the protective mechanism has gone on, turn off the main power switch of the printer unit, remove the cause of the activation, leave the machine alone for about 3 min or more, and then turn it back on to reset the protective circuit.

10.4.4.2 Protection by a Fuse

Some PCBs of the machine are equipped with a fuse to protect against over-current occurring in a load. The fuse will melt in the presence of over-current, thereby cutting off the output of the power line.

T-10-24

PCB	Fuse notation	Rating	Reference voltage	Load
DC controller PCB	FU1	2A/60V	13VDC	Primary charging suction fan (FM1), Fixing heat discharge fan (FM5), Process unit cooling fan (FM7); half-speed drive
	FU2	2A/60V	24VDC	Primary charging suction fan (FM1), Fixing heat discharge fan (FM5), Process unit cooling fan (FM7); full-speed drive
	FU3	7A/60V	30VDC	Developing rotary motor (phase A)
	FU4	7A/60V	30VDC	Developing rotary motor (phase B)
AC driver PCB (100 V)	FU701	2.5A/125V	100VAC	Cassette heater, Deck heater
AC driver PCB (200 V)	FU701	1.25A/250V	200VAC	Cassette heater, Deck heater
DC power supply PCB (100 V)	FU101	15A/250V	100VAC	DC power supply PCB
DC power supply PCB (200 V)	FU101	6.3A/250V	200VAC	DC power supply PCB
DC/DC converter PCB 1	FU500	5A/24V	13VDC	3.3V DC/DC convert pickup (on DC/DC convert PCB 1)
DC power supply relay PCB	FU801	2A/60V	12VDC	ATR sensor (through DC controller PCB)
	FU802	2A/60V	12VDC(-)	ATR sensor (through DC controller PCB)
Fixing/feed driver PCB	FU201	60V/1.5A	24VDC	Feed fan 3, 4 (FM11, FM12)
	FU202	60V/1.5A	24VDC	Feed fan 1, 2 (FM3, FM4)
	FU301	60V/1.5A	24VDC	Reversal shifting solenoid (SL3), Delivery solenoid (SL5)
	FU401	60V/1.5A	24VDC	Delivery cooling fan 1 (FM6)
	FU405	60V/3.15A	24VDC	Secondary transfer outside roller shift motor (M20)
	FU701	50V/800mA	13VDC	5V DC/DC converter circuit (on Fixing/feed driver PCB)
	FU702	50V/800mA	13VDC	3.3 DC/DC converter circuit (on Fixing/feed driver PCB)
Pickup driver PCB	FU1	60V/1.5A	24VDC	not used
	FU2	50V/1.0A	13VDC	5V DC/DC converter circuit (on Pickup drive PCB)

10.5 Parts Replacement Procedure

10.5.1 External Covers

10.5.1.1 Right Cover (Upper)

10.5.1.1.1 Removing the Right Cover (upper)

1) Remove the right cover (upper) [2].
   - 2 screws [1]
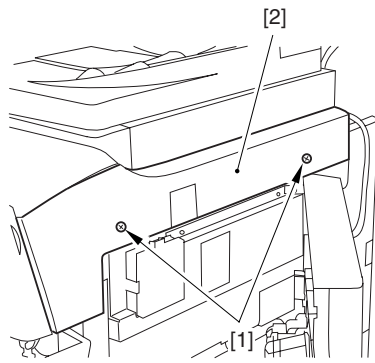
F-10-7

10.5.1.2 Right Cover (Upper Rear)

10.5.1.2.1 Removing the Right Cover (upper rear)

1) Remove the reader communications cable [1].
2) Remove the right cover (upper rear) [3].
   - 2 screws [2]
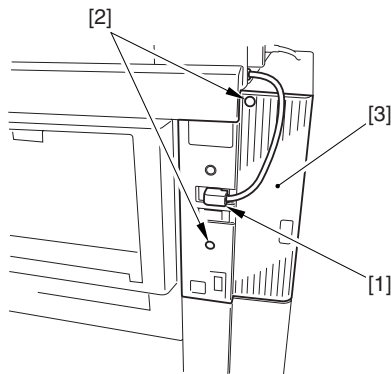
F-10-8

10.5.1.3 Right Cover (Lower Rear)

10.5.1.3.1 Removing the Right Cover (lower rear)

1) Remove the right cover (lower rear) [2].
   - 2 screws [1]
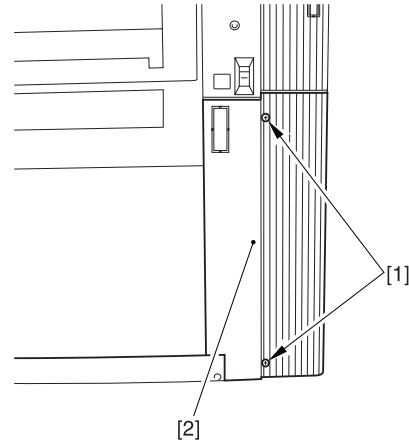
F-10-9

10.5.1.4 Right Cover (Lower Front)

10.5.1.4.1 Removing the Right Cover (lower front)

1) Remove the right cover (lower front).
   - screw [1]
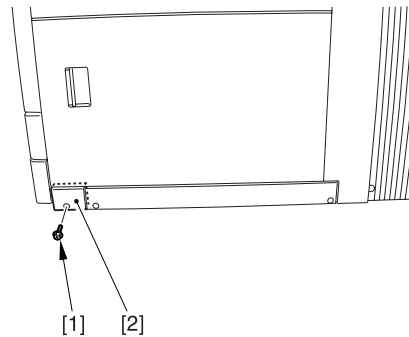
F-10-10

10.5.1.5 Right Cover (Lower Middle)

10.5.1.5.1 Removing the Right Cover (lower middle)

1) Remove the right cover (lower middle) [2].
   - 2 screws [1]
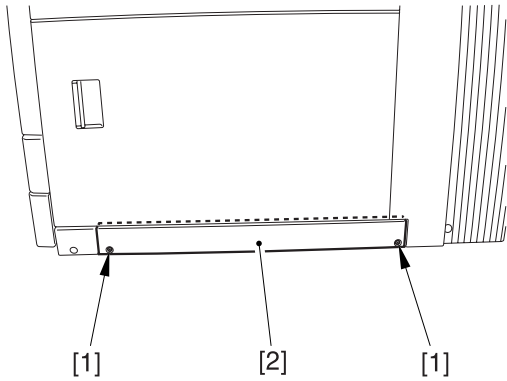
F-10-11

10.5.1.6 Left Cover (Upper)

10.5.1.6.1 Removing the Left Cover (upper)

Remove the left cover (upper) [2].
   - 3 screws [1]
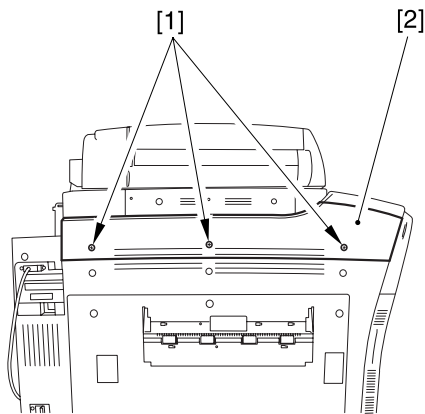
F-10-12

10.5.1.7 Left Cover (Lower)

10.5.1.7.1 Removing the Left Cover (lower)

1) Remove the 2 grip covers [1].
2) Remove the left cover (lower) [3].
   - 6 screws [2]
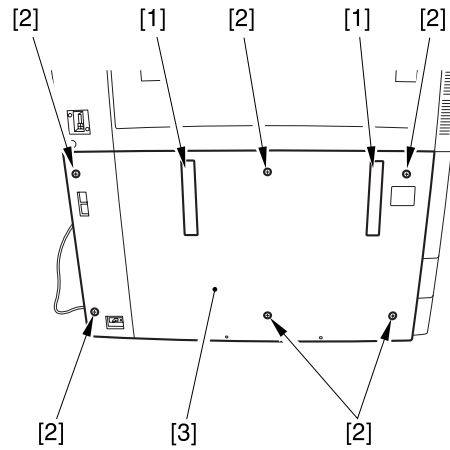
F-10-13

10.5.1.8 Left Cover (Middle)

10.5.1.8.1 Removing the Left Cover (middle)

1) Remove the connector [1].
2) Remove the left cover (middle) [3].
   - 5 screws [2]
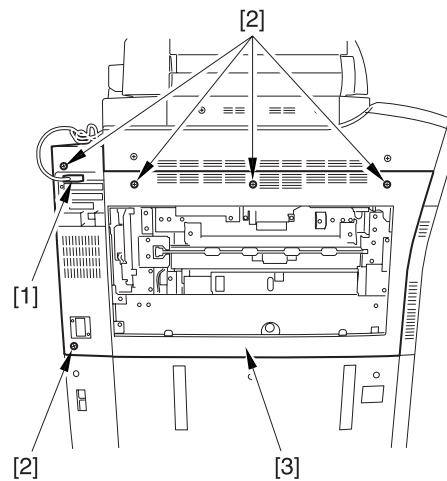
F-10-14

10.5.1.9 Rear Cover (Upper)

10.5.1.9.1 Removing the Rear Cover (upper)

1) Remove the cable [2] from the 2 cable clamps [1].
2) Remove the 2 screws [3].
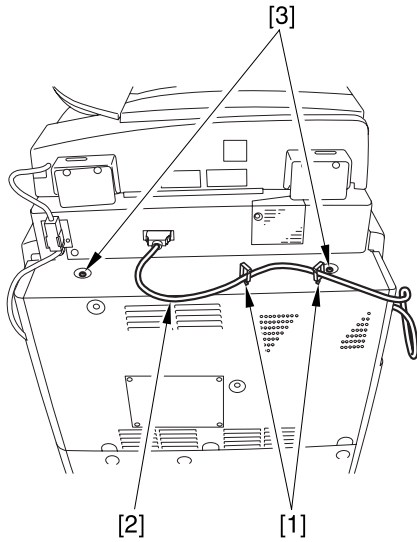
F-10-15

3) Remove the rear cover (upper) [2].
   - 5 screws [1]
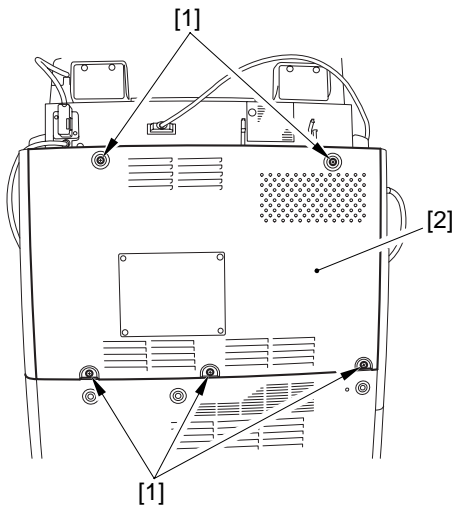
F-10-16

10.5.1.9.2 Removing the Rear Cover (upper)

1) Open four cable clamps [1] to release a reader communication cable [2].
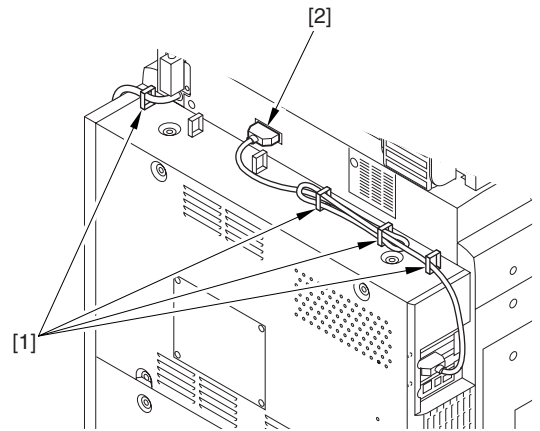
F-10-17

2) Unscrew 7 screws [1] and detach the rear cover (upper) [2].
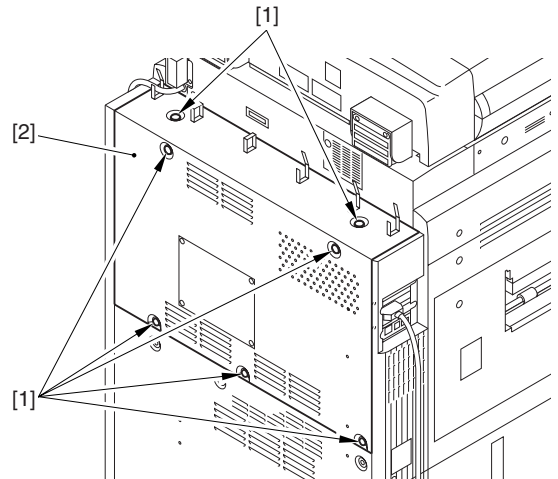
F-10-18

10.5.1.10 Rear Cover (Lower)

10.5.1.10.1 Removing the Rear Cover (lower)

1) Remove the rear cover (lower) [2].
   - 7 screws[1]
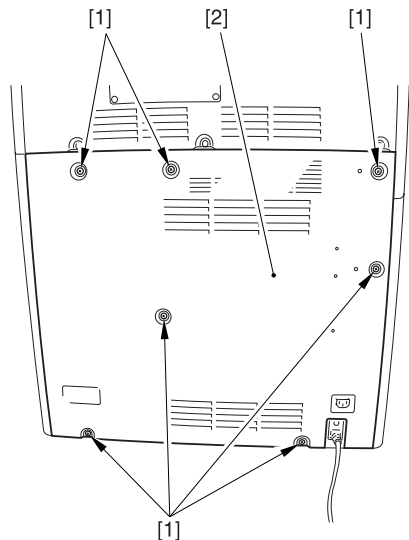
F-10-19

10.5.1.11 Reader Right Cover

10.5.1.11.1 Removing the Reader Right Cover

1) Remove the reader right cover [1].
   - 2 screws [1]
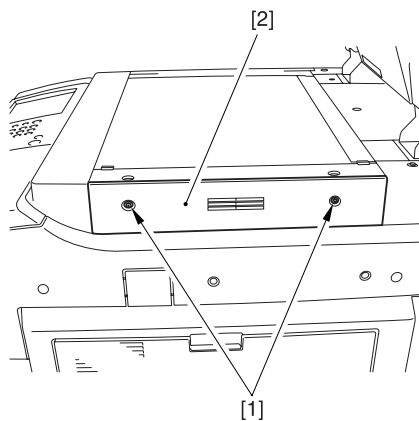
F-10-20

10.5.1.12 Reader Left Cover

10.5.1.12.1 Removing the Reader Left Cover

1) Remove the reader left cover [2].
   - 2 screw [1]
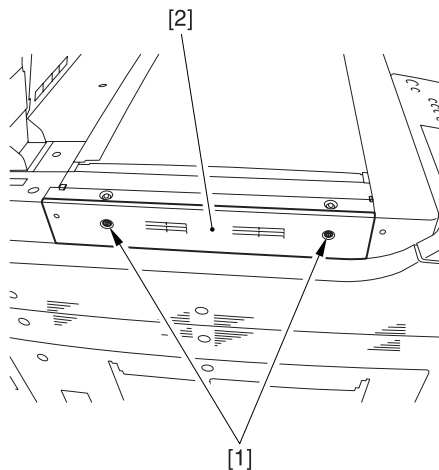
F-10-21

10.5.1.13 Reader Front Cover

10.5.1.13.1 Before Removing the Reader Front Cover

1) Remove the Copyboard Glass.
2) Remove the Right Cover (upper).
3) Remove the Reader Right Cover.
4) Remove the Left Cover (upper).
5) Remove the Reader Left Cover.

10.5.1.13.2 Removing the Reader Front Cover

1) Remove the screw [2] each from the left/right of the reader front cover [1].
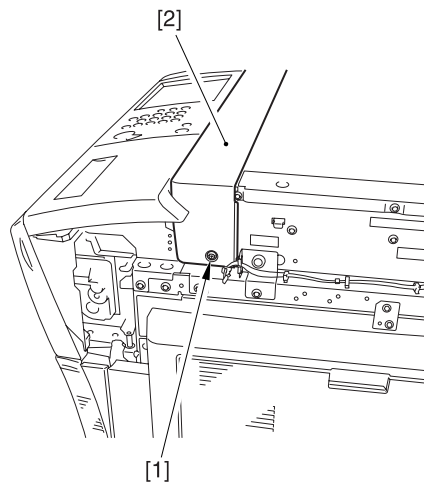
F-10-22

[2]
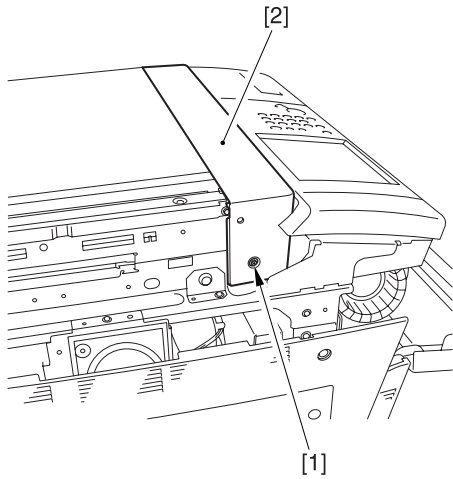
F-10-23

2) Remove the reader front cover [1] in upward direction.

[1]
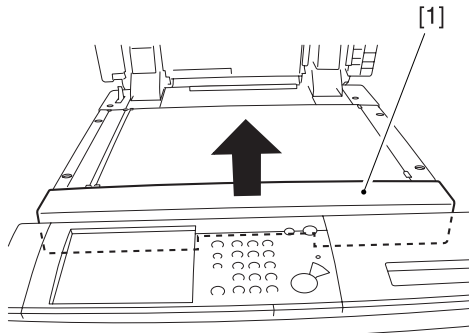
F-10-24

10.5.1.14 Reader Rear Cover

10.5.1.14.1 Removing the Reader Rear Cover

1) Remove the connector [1].

[1]
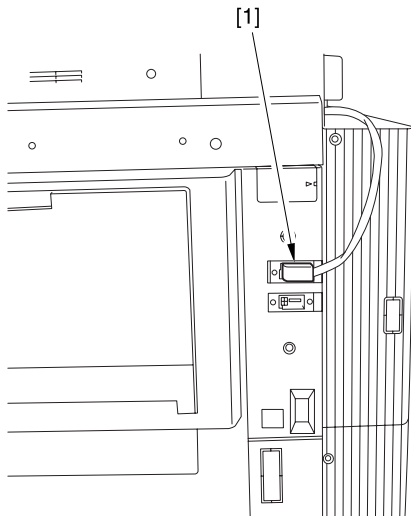
F-10-25

2) Remove the 2 connectors [1].
3) Remove the 2 screws [2].

[1]

[2]
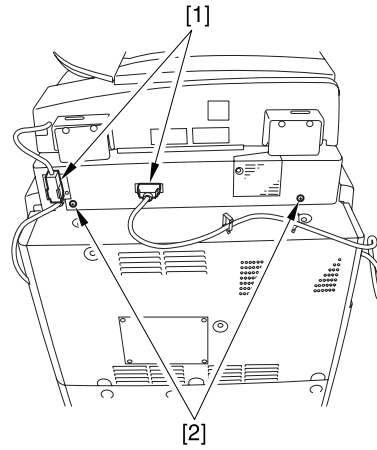
F-10-26

4) Turn over the edge of the rubber cover [1], and remove the 2 screws [2] each; then, remove the 2 angle guide plates [3].

[1]   [2]

[3]

F-10-27

[2]   [1]

[3]
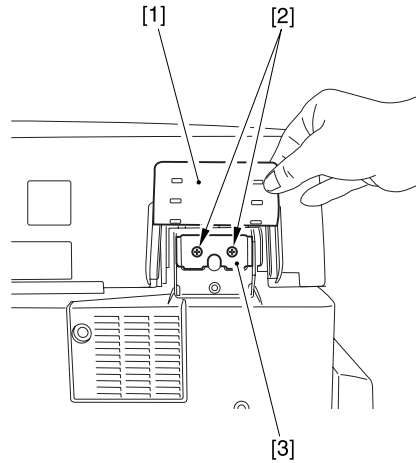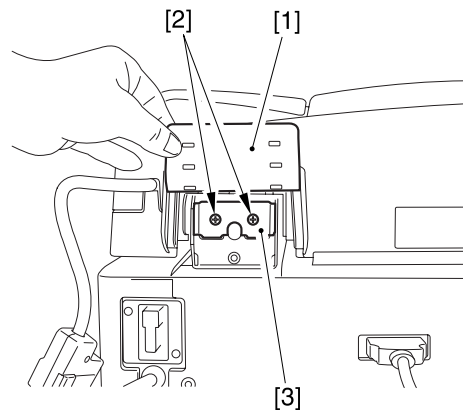
F-10-28

5) Fully open the ADF.
6) Remove the 3 screws [1], and move the reader rear cover [2] toward the rear to remove.

⚠

Take care not to damage the ADF open/closed sensor arm [3]
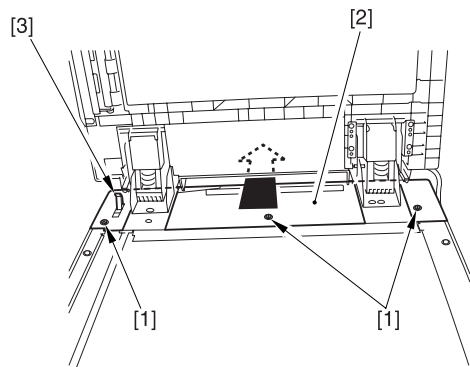
F-10-29

10.5.1.15 Delivery Cover

10.5.1.15.1 Removing the Delivery Cover

1) Remove the delivery cover [2].
   - 3 screws [1]
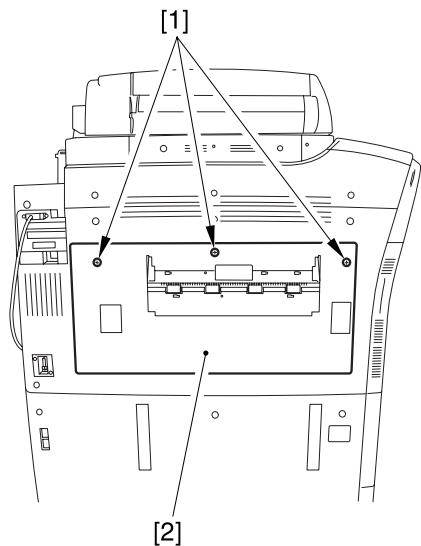
F-10-30

10.5.2 Hopper Drive Unit

10.5.2.1 Preparation for Removing the Hopper Drive Assembly

1) Remove the Right Cover (upper).
2) Release the Front Cover.
2-1) Open the front cover.
2-2) While pulling on the grip [1], fully open the manual feed cover [2] to the front.
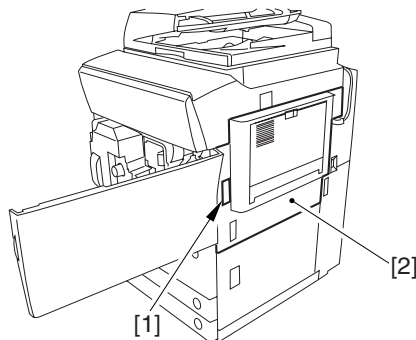
F-10-31

⚠

If a side paper deck exists, remove the 2 screws [1] and the latch plate (front).
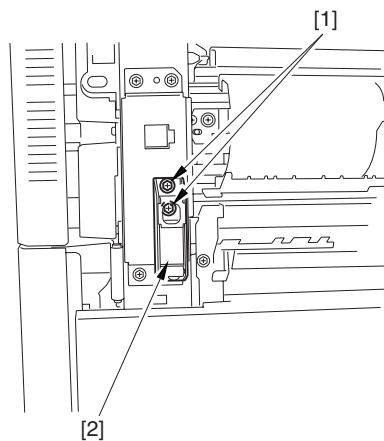
F-10-32

2-3) Slide out the fixing/feeding assembly.
2-4) Remove the process unit cover [2].
   - 2 screws [1]
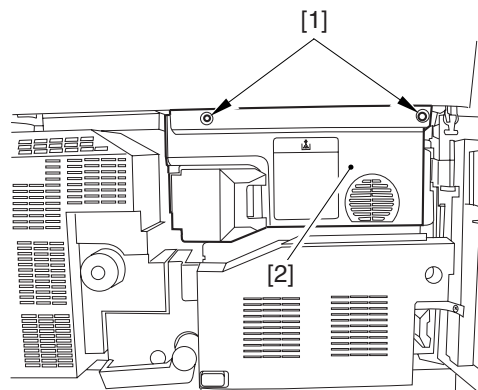
F-10-33

2-5) Push in the fixing/feeding assembly, and set the lever in place.

2-6) Press the release button [1] of the right deck, and slide out the right deck [2].
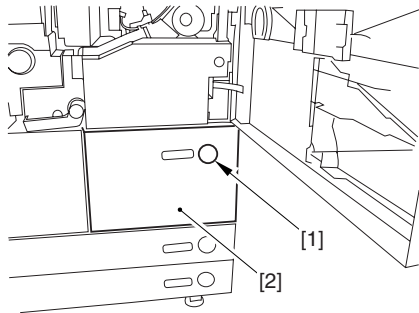
F-10-34

2-7) Remove the front cover strap [2].
 - screw [1] from lower right
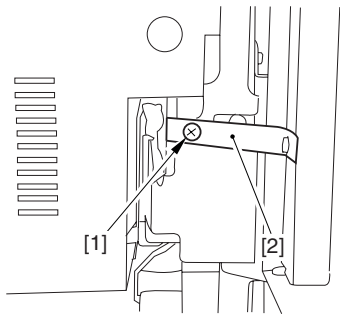
F-10-35

2-8) Fully open the front cover [2].
 - 2 screws [1] (binding) of the front cover hinge
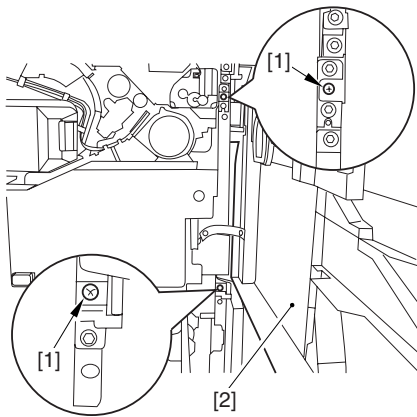
F-10-36

2-9) Close the right deck.

3) Release the Hopper Assembly.

3-1) Open the black toner supply cover [1].
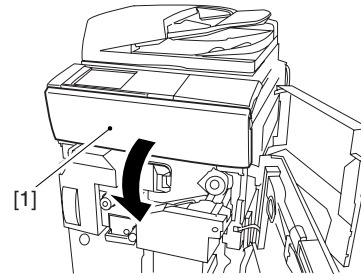
F-10-37

3-2) Shift down the lever [1], and remove the black toner bottle [2].
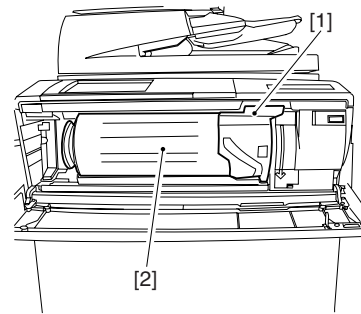
F-10-38

⚠

Once you have released the hopper assembly, toner can spill over the toner bottle supply mouth of the hopper assembly cover. Be sure to remove any such toner.
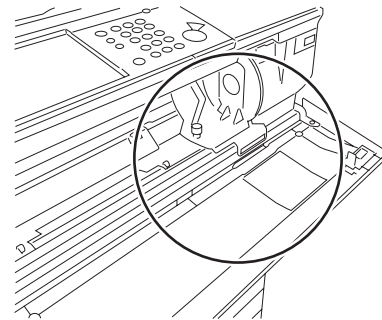
F-10-39

3-3) Remove the 3 screws [1].
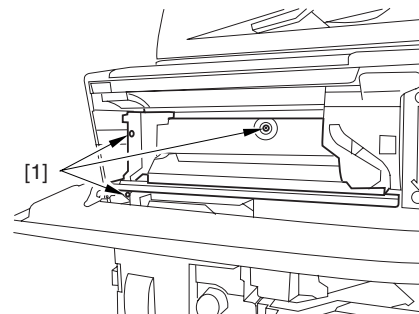
F-10-40

3-4) Close the black toner supply cover [1]; then, fully open the hopper assembly [2].
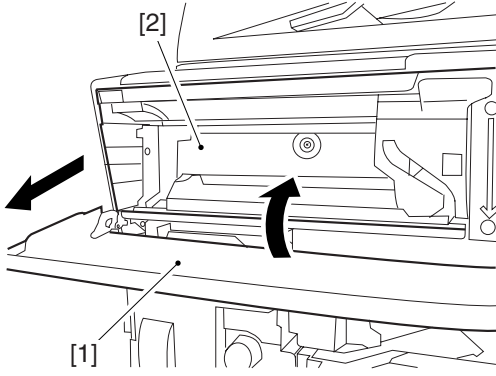
F-10-41

4) Remove the Hopper Assembly.
4-1) Pick and remove the wire saddle [2].
  - connector [1]
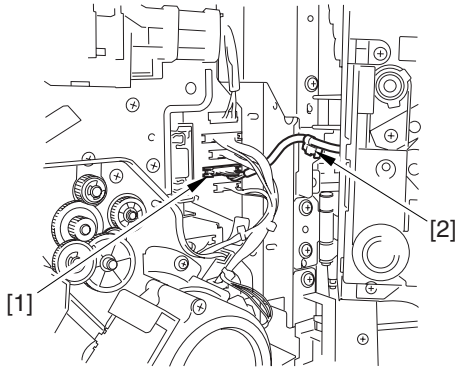
F-10-42

4-2) Close the hopper assembly.
4-3) Remove the E-ring [1].
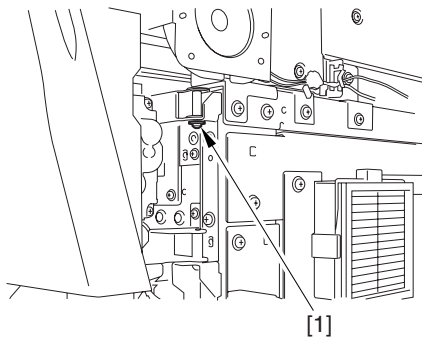
F-10-43

4-4) Open the hopper assembly, and lift it to remove.

10.5.2.2 Removing the Hopper Drive Assembly

1) Open the black toner supply cover [1], and remove the 2 screws [1]; then, remove the hopper inside cover [3].
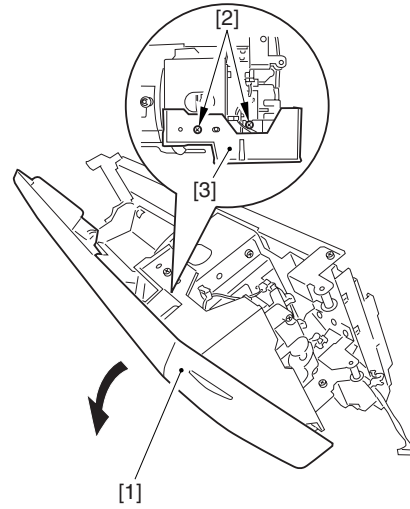
F-10-44

2) Remove pipe cover [2].
  - screw [1]
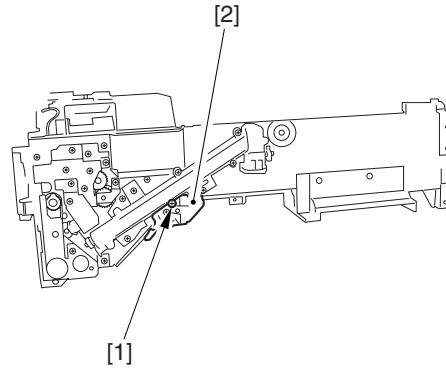
F-10-45

3) Remove the toner feed pipe [2].
  - 3 screws [1]
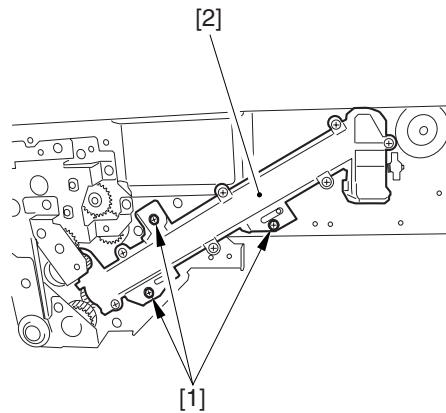
F-10-46

4) Remove the hopper drive assembly [2].
 - 6 screws [1]
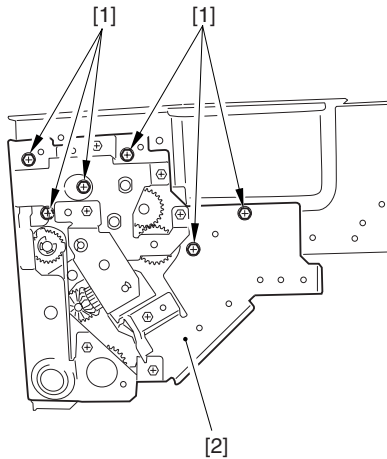
F-10-47

10.5.3 Power Cord Base

10.5.3.1 Preparation for Removing the Power Cord Base

1) Remove the Rear Cover (lower).
2) Remove the Left Cover (lower).

10.5.3.2 Removing the Power Cord Base

1) Remove the 4 screws [1] from the left side.
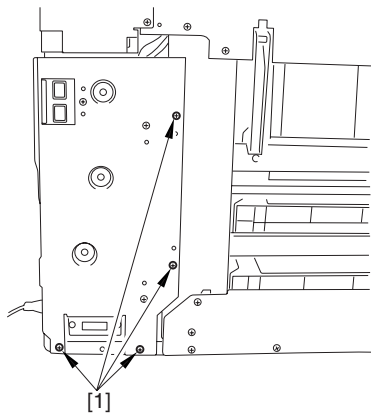
F-10-48

2) Open the 3 wire saddles [2].
 - 4 connectors [1]
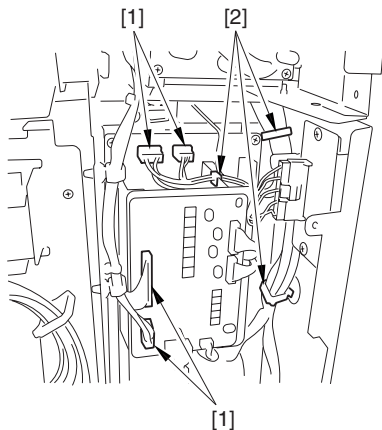
F-10-49

3) Open the wire saddle [2].
 - 8 connectors [1]
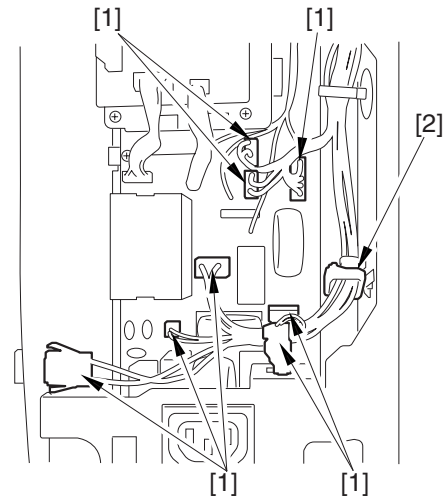
F-10-50

4) Remove the AC driver box [2].
 - 3 screws [1]
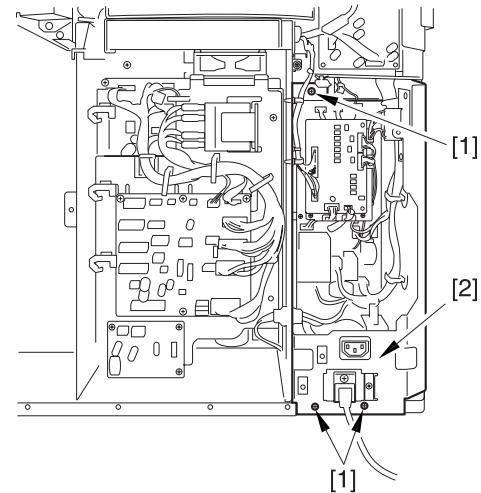
F-10-51

10.5.4 Control Panel

10.5.4.1 Preparation for Removing the Control Panel

1) Remove the Right Cover (upper).
2) Release the Hopper Assembly.
-Refer to Procedure 10.5.2.1 #3)
3) Remove the Reader Left Cover.

10.5.4.2 Removing the Reader Left Cover

1) Remove the 2 screws [1], and detach the reader left cover [2].
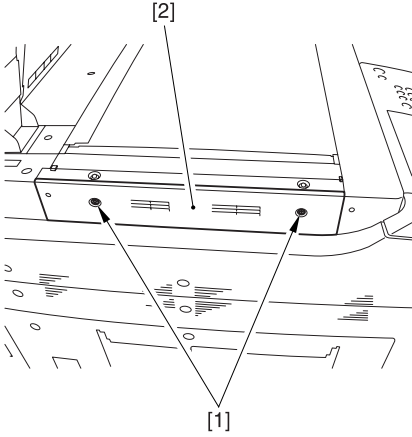
F-10-52

10.5.4.3 Removing the Control Panel

1) Remove the control panel inside cover [3].
   - 2 screws [1]
   - connector [1]
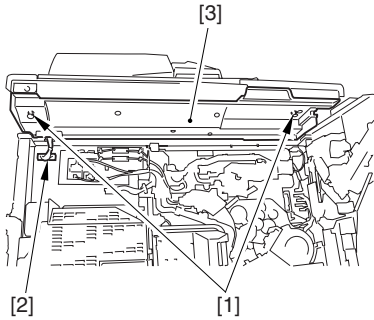
F-10-53
2) Remove the 4 screws [1].
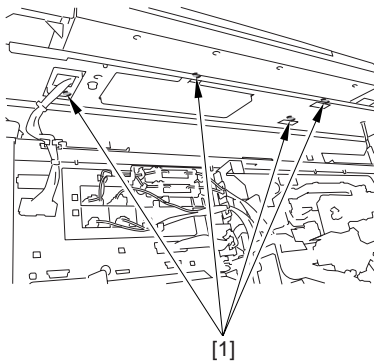
F-10-54

3) Move the control panel [1] in the direction of the arrow to remove.
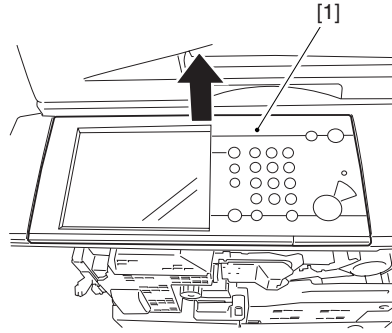
F-10-55

10.5.5 DC Controller PCB

10.5.5.1 Preparation for Removing the DC Controller PCB

1) Remove the Rear Cover (upper).
2) Move the DC Controller Box.
2-1) Remove the DC controller cover [2].
   - 9 screws [1]
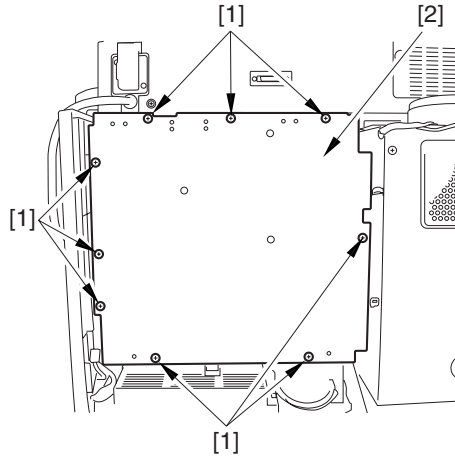
F-10-56
2-2) Move the DC controller box [2] to the left.
   - 6 screws [1]
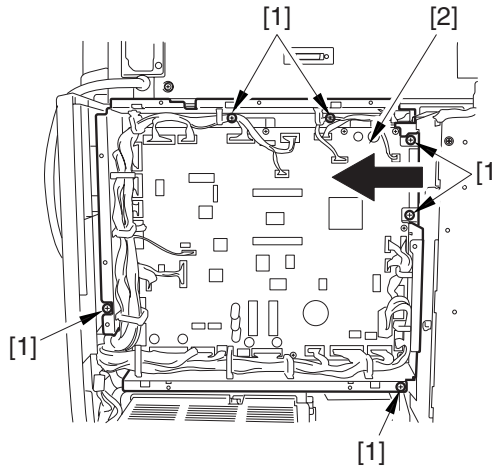
F-10-57

10.5.5.2 Removing the DC Controller PCB

1) Remove the 33 connectors [1], and remove the 10 screws [2]; then, as necessary, open the cable guide.
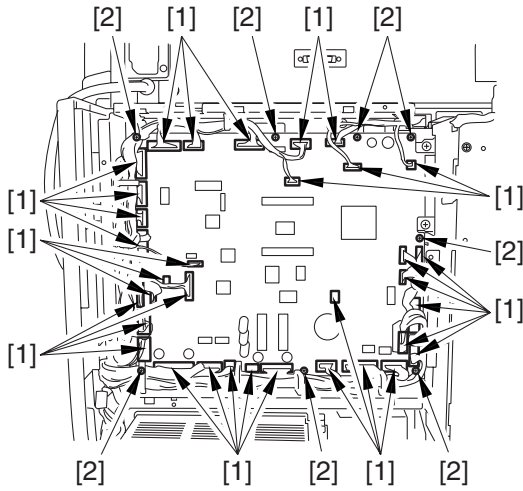
F-10-58

2) Remove the DC controller PCB.

10.5.5.3 Points to Note When Mounting the DC Controller PCB

⚠ During assembly work, be sure to connect the harness to the DC controller PCB as follows:
- Connect the connector of the harness [1] first, and then the other harness [2].
- Fix the harnesses [1] [2] in place using the wire saddle [3] so that the harness [1] is on the left side of the harness [2].
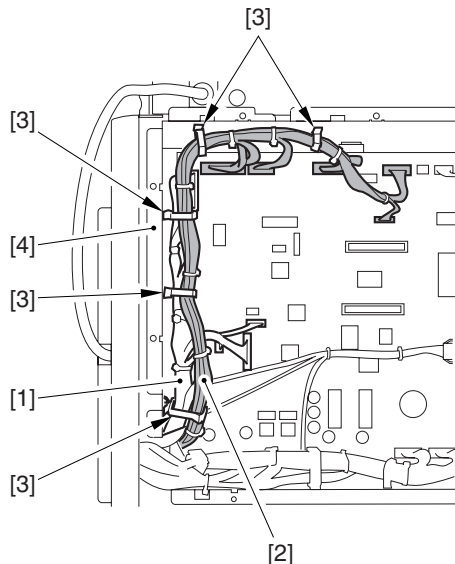
F-10-59

Supplementary Information:

If the harness [1] is away from the side plate [4] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur because of noise.

10.5.6 Printer Power Supply PCB

10.5.6.1 Preparation for Removing the DC Power Supply Unit

1) Remove the Rear Cover (lower).

10.5.6.2 Removing the DC Power Supply Unit

1) Open the 2 wire saddles [1], and remove the harness [2].
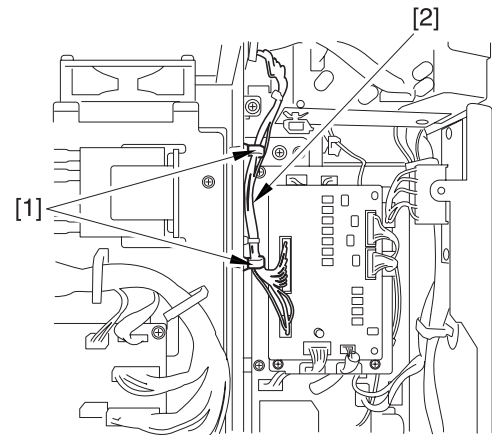
F-10-60

2) Open the 3 wire saddles [2] to remove the harness [3].
   - 16 connectors [1]
3) Remove the DC power supply unit [5].
   - 4 screws [4]
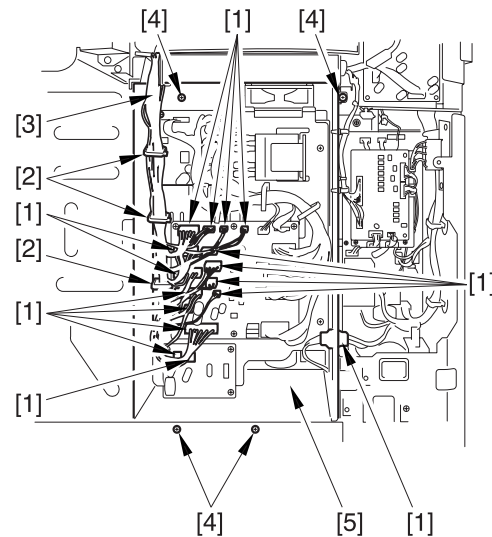
F-10-61

10.5.7 Leakage Breaker

10.5.7.1 Preparation for Removing the Leakage Breaker

1) Remove the Rear Cover (lower).
2) Remove the Left Cover (lower).
3) Remove the Power Cord Base.
-Refer to Procedure 10.5.3

10.5.7.2 Removing the Leakage Breaker

1) Remove the 4 fastons [1].
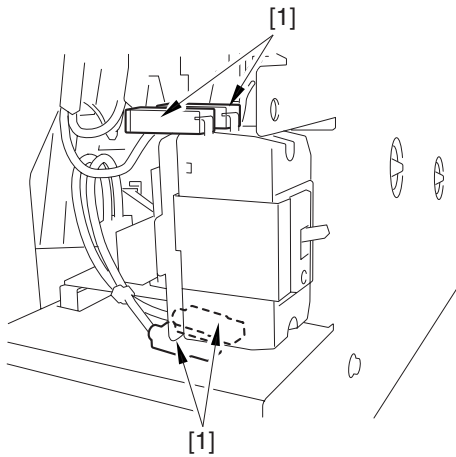
F-10-62
2) Remove the leakage breaker [2].
   - 2 screws [1]
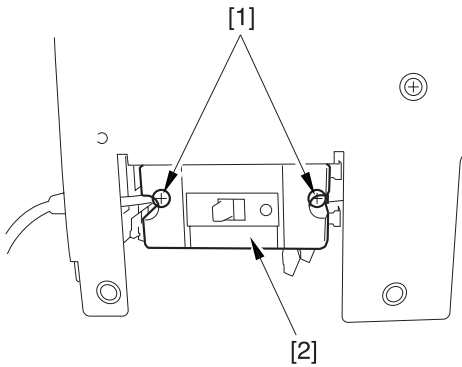
F-10-63

10.5.8 Fixing Relay

10.5.8.1 Preparation for Removing the DC/DC converter PCB2

1) Remove the Rear Cover (lower).

10.5.8.2 Removing the DC/DC converter PCB2

1) Remove the 2 connectors [1].
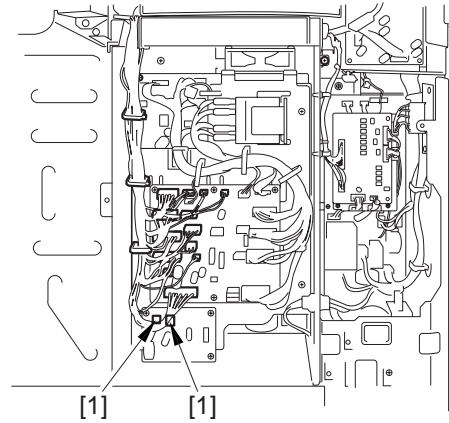
F-10-64
2) Remove the DC/DC converter PCB2 [2].
   - 4 screws [1]
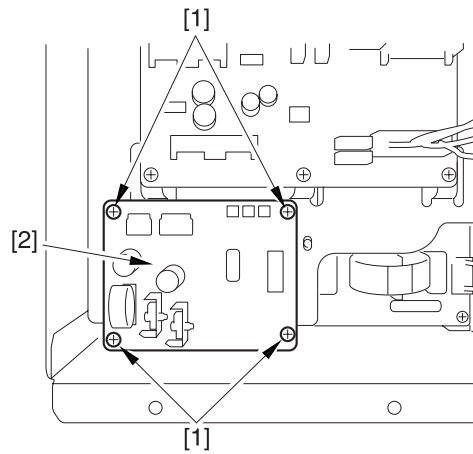
F-10-65

10.5.9 Relay PCB

10.5.9.1 Preparation for Removing the Relay PCB

1) Remove the Rear Cover (lower).

10.5.9.2 Removing the Relay PCB

1) Remove the relay PCB [3].
   - 20 connectors [1]
   - 6 screws [2]
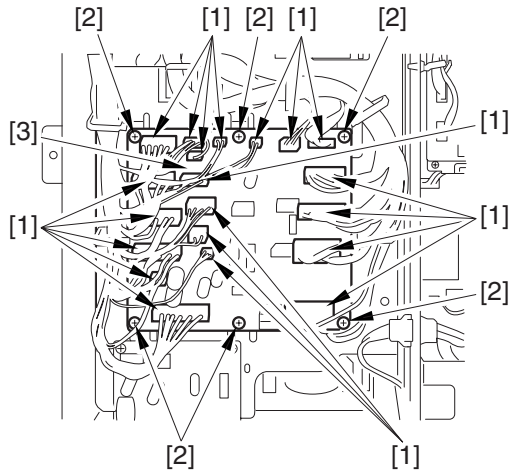
F-10-66

10.5.10 DC Relay

10.5.10.1 Preparation for Removing the DC Relay

1) Remove the Rear Cover (lower).

10.5.10.2 Removing the DC Relay

1) Remove the 8 fastons [1].
2) Pull the leaf spring [2] to the front, and remove the relay [3].
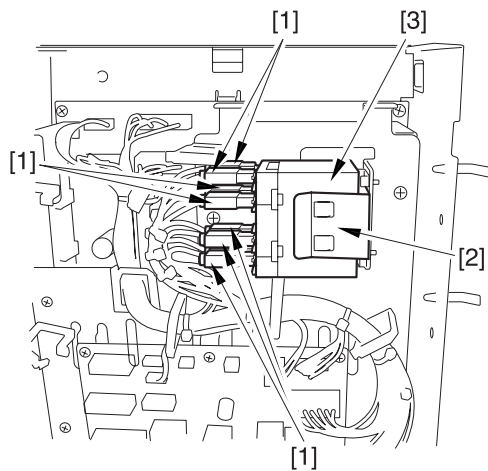
F-10-67

10.5.11 HV1 PCB

10.5.11.1 Preparation for Removing the HV1 PCB

1) Remove the Rear Cover (upper).
2) Remove the Rear Cover (lower).
3) Remove the Right Cover (upper rear).
4) Remove the Right Cover (lower rear).

10.5.11.2 Removing the HV1 PCB

1) Open the 3 wire saddles [1], and remove the 2 cables [2].
2) Remove the screw [3].
3) Release the hook [4].
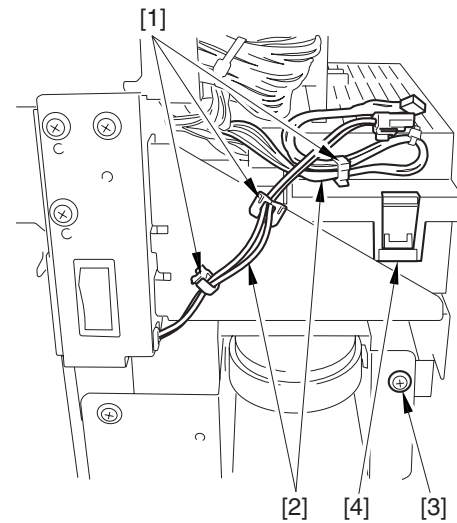
F-10-68

4) Remove the cable [3] from the cable guide [2].
   - 2 connectors [1]
5) Release the hook [3], and remove the lid [4].
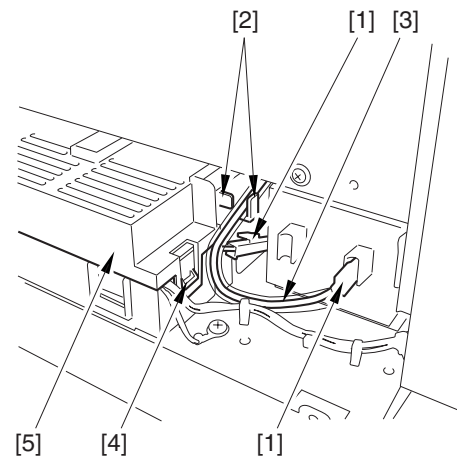
F-10-69

6) Remove the cable from the cable guide [2].
   - 5 connectors [1]
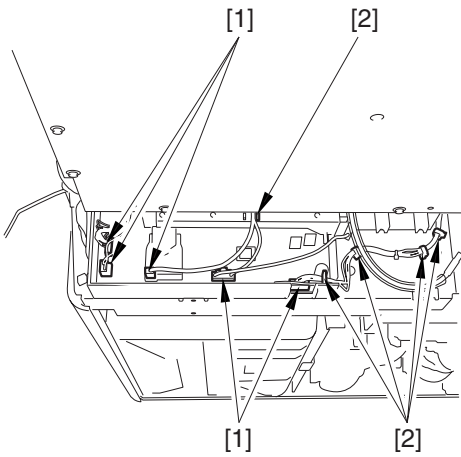
F-10-70

7) Lift the HV1 PCB [2] to remove.
   - 2 screws [1]
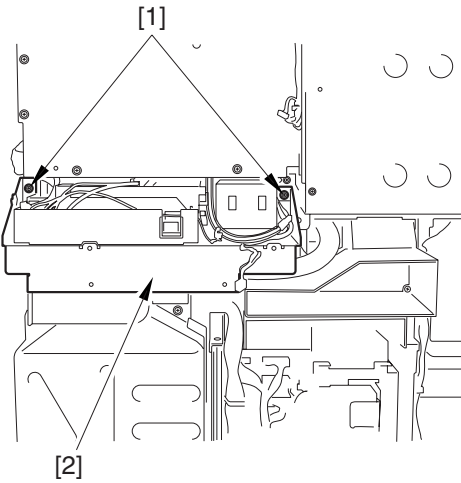
F-10-71

10.5.12 HV2 PCB

10.5.12.1 Preparation for Removing the HV2 PCB

1) Remove the Left Cover (upper).
2) Remove the Delivery cover.
3) Remove the Left Cover (middle).

10.5.12.2 Removing the HV2 PCB

1) Remove the harness [2] from the cable guide [3].
   - connector [1]
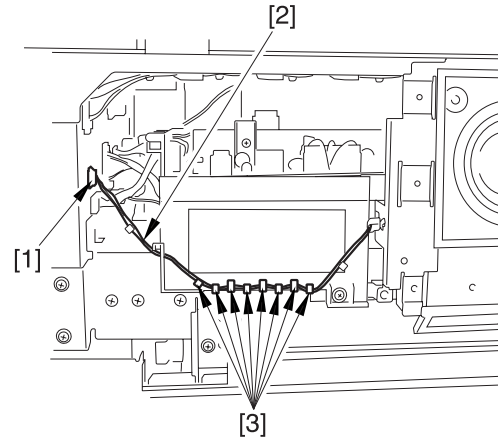
F-10-72

2) Remove the delivery cooling fan [2] together with its base.
   - 3 screws [1]
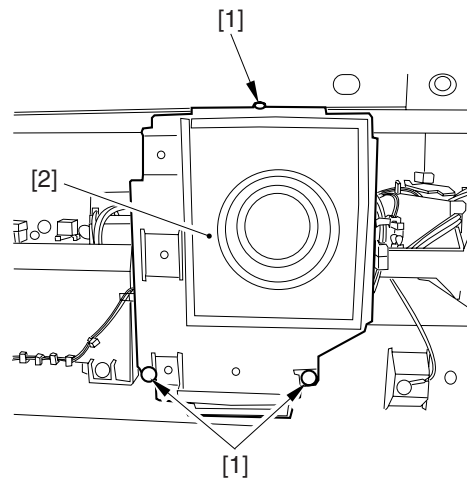
F-10-73

3) Remove the harness from the cable guide [3].
   - 5 connectors [1]

4) Remove the HV2 PCB [5].
  - 2 screws [4]
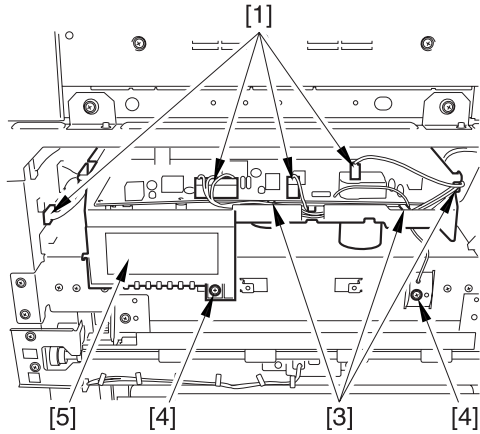
F-10-74

10.5.13 HV3 PCB

10.5.13.1 Preparation for Removing the HV3 PCB

1) Remove the Secondary Transfer Unit.
1-1) Open the front cover.
1-2) Slide out the fixing/feeding assembly.
1-3) While pressing the 2 hooks [1] frond on both sides of the fixing/feeding assembly, slide out the fixing/feeding assembly [2] fully.
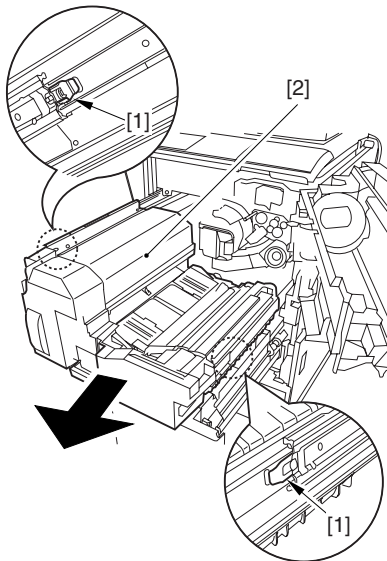
F-10-75

1-4) Remove the the connector cover [2].
   -screw [1]
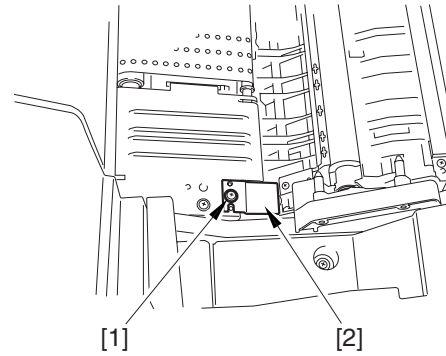
F-10-76

1-5) Remove the connector [1].
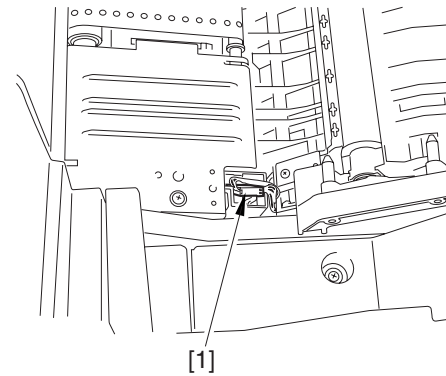
F-10-77

1-6) Remove the 2 stepped screws [1].
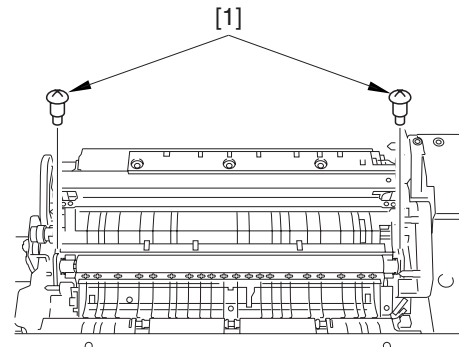
F-10-78

1-7) While moving the secondary transfer unit [1], remove the 2 connectors [2]; then, remove the secondary transfer unit.
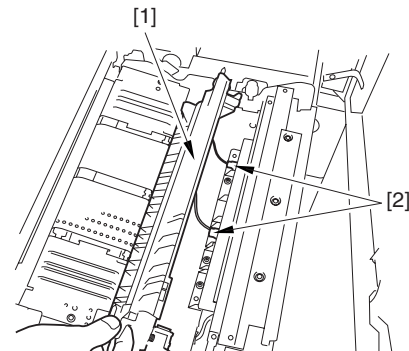
F-10-79

10.5.13.2 Removing the HV3 PCB

1) Remove the registration guide unit [3].
   - connector [1]
   - 4 screws [2]
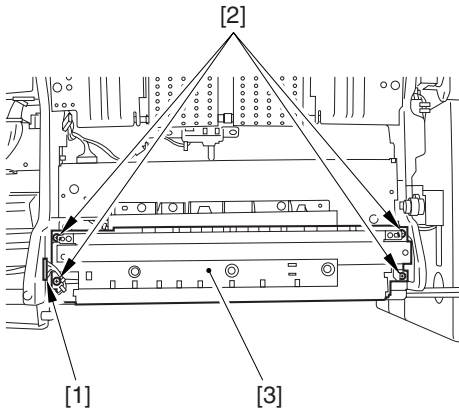
F-10-80

2) Remove the cover [2].
   - screw [1]
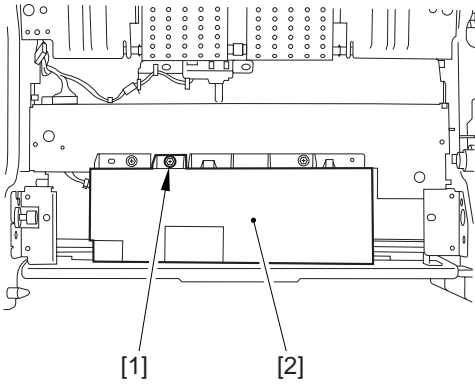
F-10-81

3) Remove the HV3 PCB [3].
   - 3 connectors [1]
   - 3 screws [2]
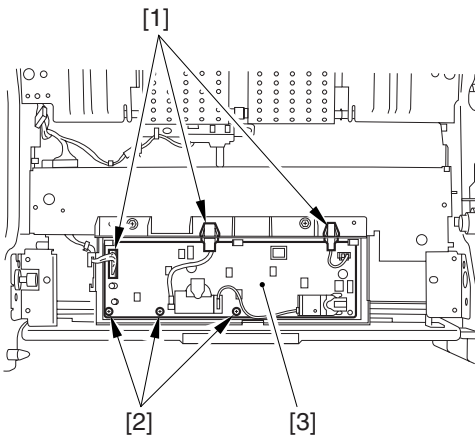
F-10-82

10.5.14 Fixing/Feed Driver PCB

10.5.14.1 Preparation for Removing the Fixing/Feed Driver PCB

1) Removing the Fixing/Feeding Driver PCB.
1-1) Open the front cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Remove the handle [2].
   - screw [1]
1-4) Remove the fixing/feeding front cover [4].
   - 2 screws [3]
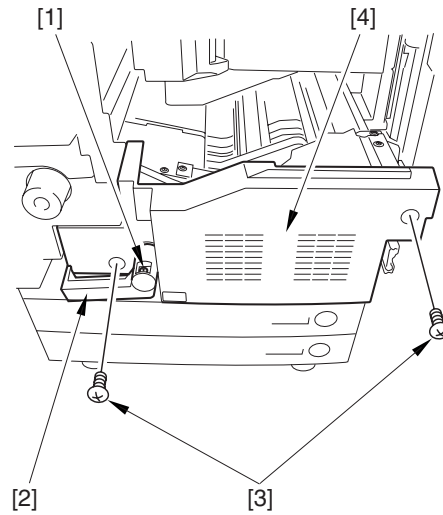
F-10-83

1-5) Remove the fixing/feeding upper cover [2].
   - 2 screws [1]
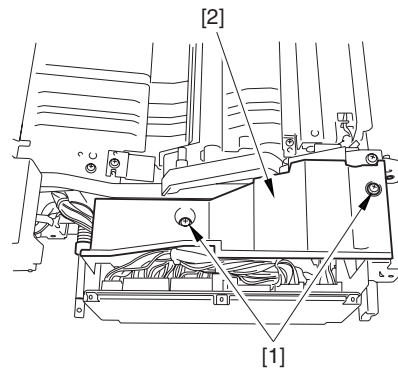
F-10-84

1-6) Open the 3 wire saddles [2].
   - 6 connectors [1]
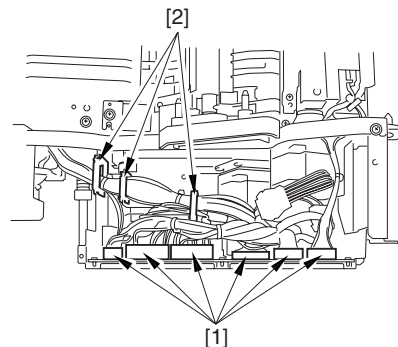
F-10-85

1-7) Remove the 3 screws [1].
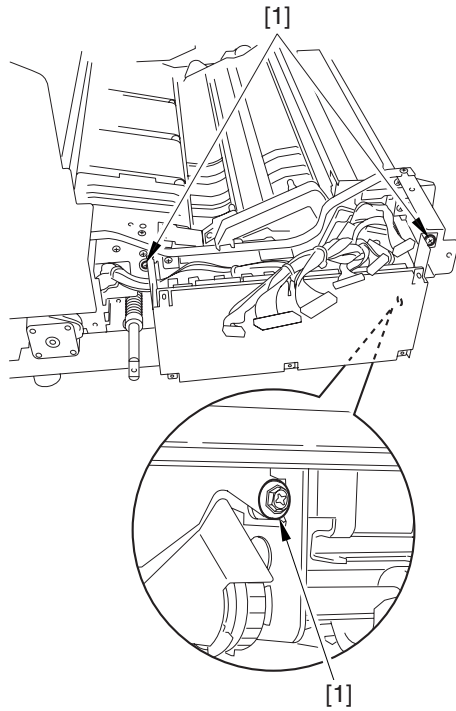
F-10-86

1-8) Move the fixing/feed driver base [1] in the direction of A to remove it from the hook [2]. Thereafter, lift the base [1] in the direction of B.
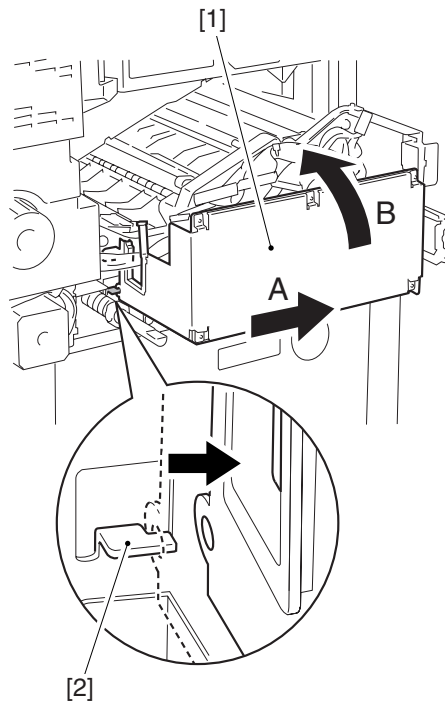
F-10-87

1-9) Remove the connector [1] using a pair of precision pliers. Thereafter, remove the 2 connectors [2], and remove the fixing/feed driver base [3].
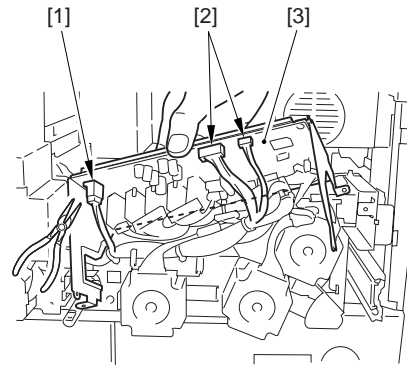
F-10-88

10.5.14.2 Removing the Fixing/Feeding Driver PCB

1) Remove the fixing/feeding driver PCB [2].
  - 4 screws [1]
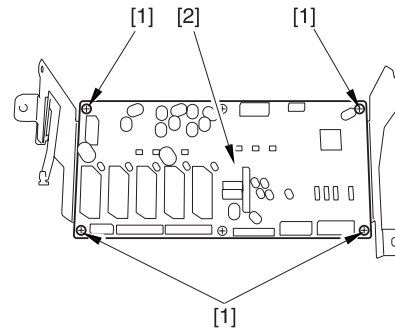
F-10-89

10.5.15 Pickup Driver PCB

10.5.15.1 Preparation for Removing the Pickup Driver PCB

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
-Refer to Procedure 10.5.6

10.5.15.2 Removing the Pickup Driver PCB

1) Free the PCB support [3]; then, remove the pickup drive PCB [4].
   - 7 connectors [1]
   - 5 screws [2]
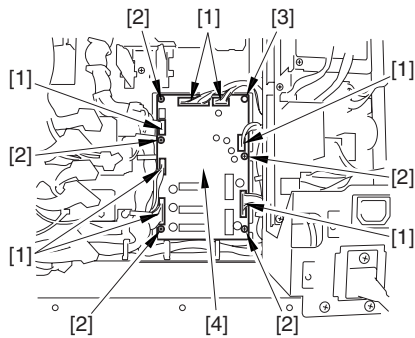
F-10-90

10.5.16 Switch PCB

10.5.16.1 Preparation for Removing the Switch PCB

1) Remove the Rear Cover (lower).
2) Remove the Left Cover (lower).

10.5.16.2 Removing the Switch PCB

1) Remove the connector [1].
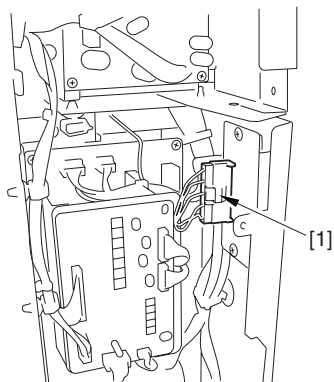
F-10-91
2) Remove the switch PCB [2].
   - screw [1]
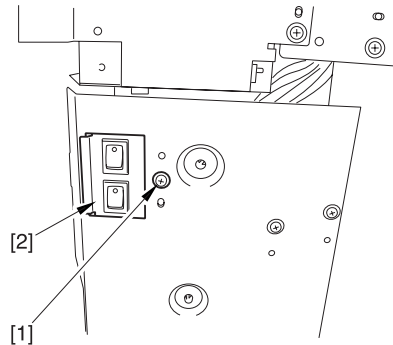
F-10-92

10.5.17 Primary Exhaust Fan

10.5.17.1 Preparation for Removing the Primary Exhaust Fan

1) Remove the Rear Cover (upper).
2) Remove the Right Cover (upper rear).
3) Move the DC Controller Box.
-Refer to Procedure 10.5.5.1 #2)
4) Remove the DC Controller Box.
4-1) Open the 3 cable guides [1], and remove the harness [2].
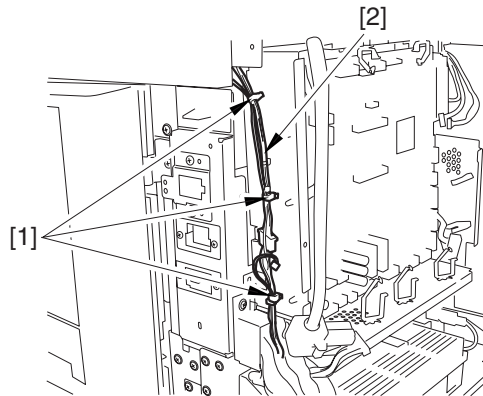
F-10-93
4-2) Open that 13 cable guides [2]; then, remove the harness [3].
   - 33 connectors [1]
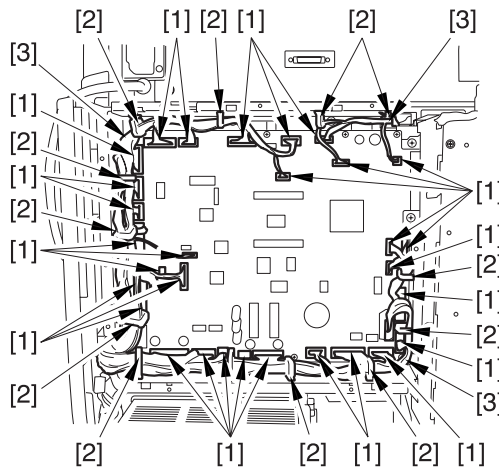
F-10-94

4-3) Lift the DC controller box [1] to remove.
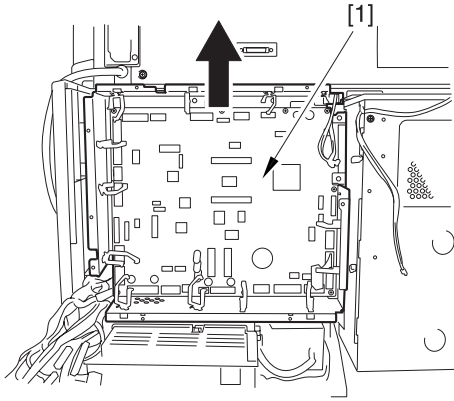
F-10-95

⚠

During assembly work, be sure to connect the harness to the DC controller PCB as follows:
1) Connect the connector of the harness [1] first, and then the other harness [2].
2) Attach the harnesses [1] [2] using the wire saddle [3] so that the harness [1] is on the left side of the harness [2].
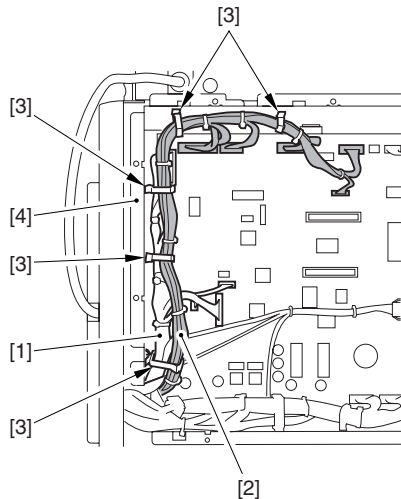
F-10-96

Reference:
If the harness [1] is away from the side plate [4] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur because of noise.

10.5.17.2 Removing the Primary Exhaust Fan

1) Open the 2 cable guides [2].
   - connector [1]
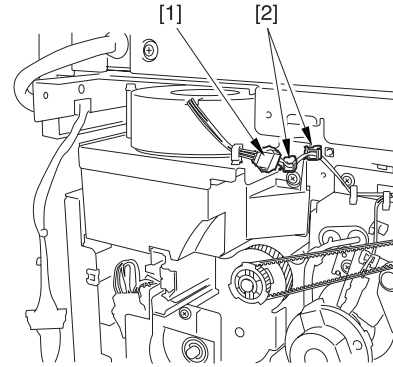
F-10-97

2) Remove the primary exhaust fan [2] together with the duct.
   - 3 screws [1]
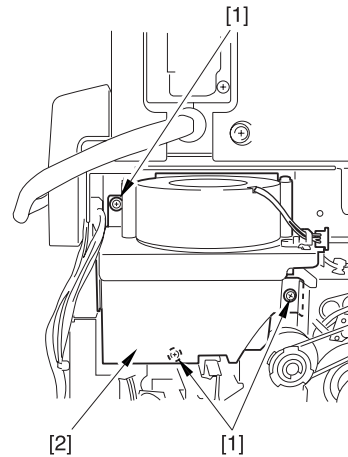
F-10-98

3) Open the cable guide [1], and remove the 2 screws [2]; then, remove the primary exhaust fan [3].
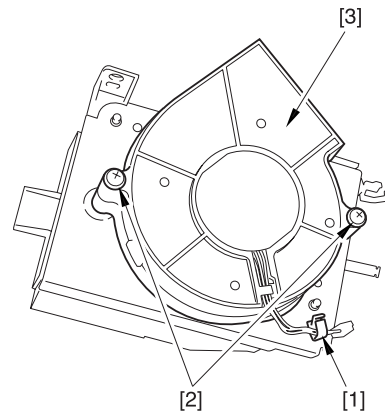
F-10-99

10.5.18 Fixing Heat Discharge Fan

10.5.18.1 Preparation for Removing the Fixing Heat Discharge Fan

1) Remove the Rear Cover (upper).
2) Remove the Rear Cover (lower).
3) Remove the Delivery Cover.
4) Remove the Left Cover (middle).
5) Remove the Controller Box Cover.
5-1) Remove the controller box cover [2].
-2 screws [1]
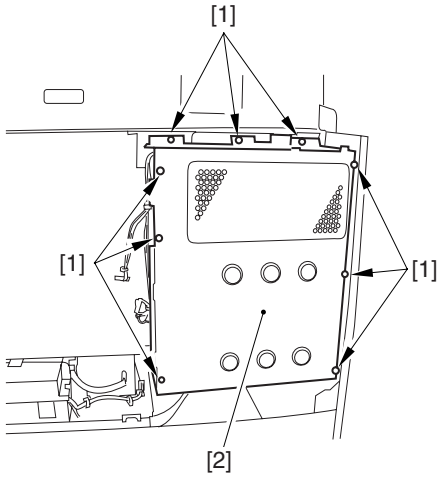
F-10-100
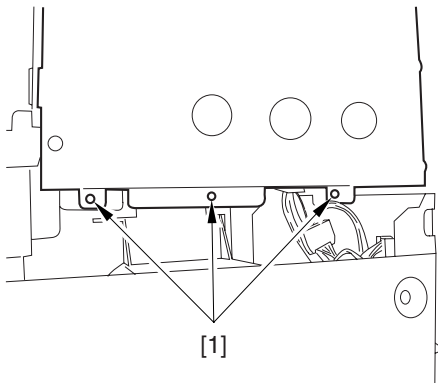
F-10-101

6) Remove the Controller Box.
6-1) Remove the 9 connectors [1].
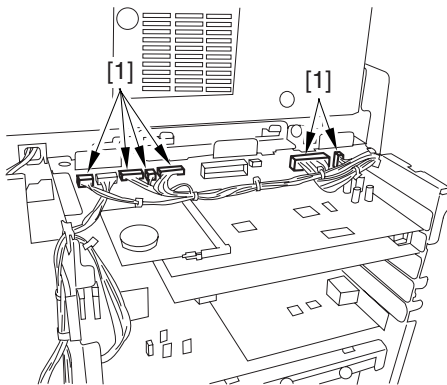
F-10-102
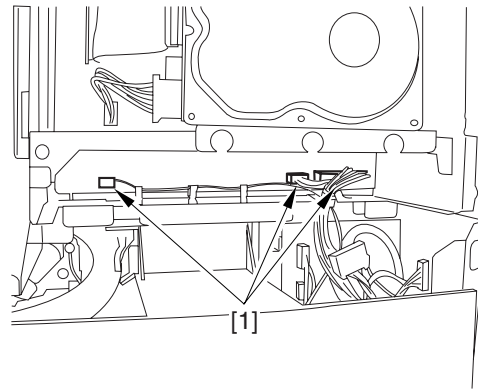
F-10-103

6-2) Remove the harness from the 3 harness retainers [1].
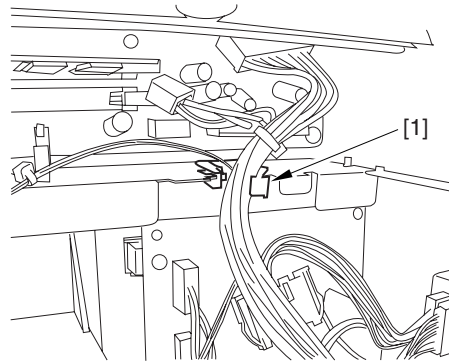
F-10-104
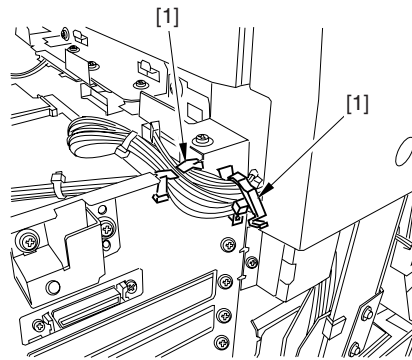
F-10-105

6-3) Remove the 9 screws [1] used to attach the main controller box.
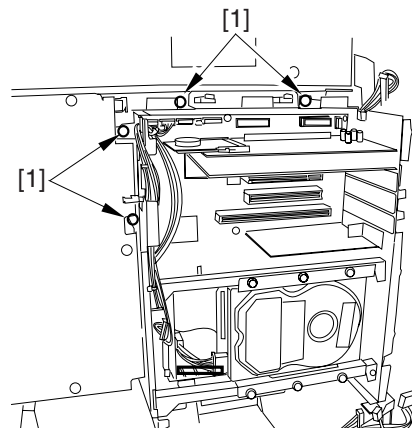
F-10-106
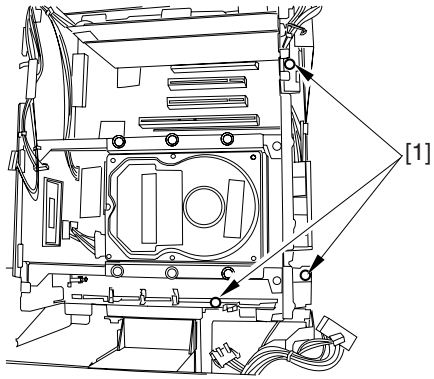
F-10-107
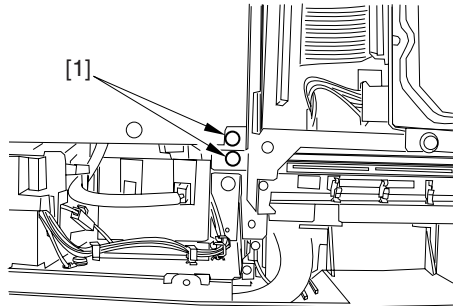
F-10-108

6-4) Move the main controller box [1] toward the delivery side to remove.
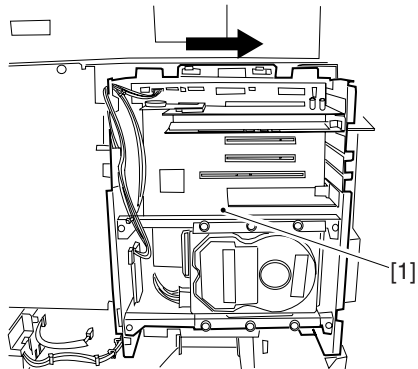
F-10-109

⚠️

During removal/attaching, be sure to take care not to damage the connector [2] found at the joint to the DC controller PCB.
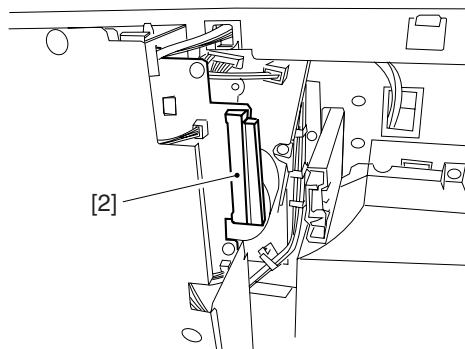
F-10-110

10.5.18.2 Removing the Fixing Heat Discharge Fan

1) Remove the fixing heat discharge ozonefilter [1].
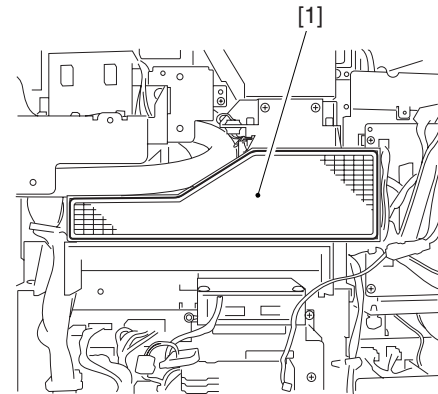
F-10-111

2) Remove the duct [3].
   - connector [1]
   - 5 screws [2]
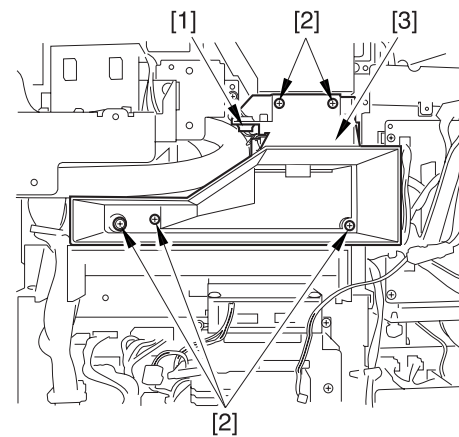
F-10-112

3) Remove the fixing heat discharge fan [3].
   - connector [1]
   - 2 screws [2]
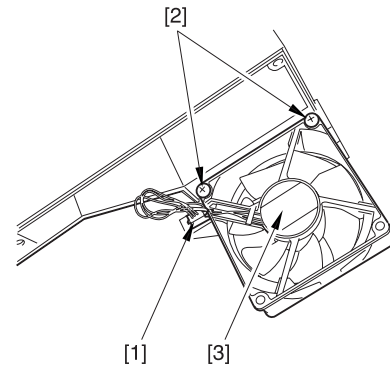
F-10-113

10.5.19 Power Supply Cooing Fan

10.5.19.1 Preparation for Removing the Power Supply Cooling Fan

1) Remove the Rear Cover (lower).
2) Remove the DC Power Supply Unit.
-Refer to Procedure 10.5.6

10.5.19.2 Removing the Power Supply Cooling Fan

1) Remove the power supply unit upper cover [2].
   - 2 screws [1]
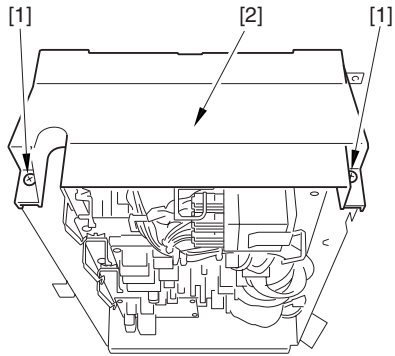
F-10-114

2) Remove the power supply cooling fan [3].
   - connector [1]
   - 2 screws [2]
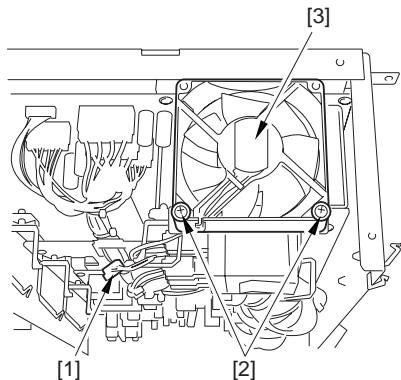
F-10-115

10.5.20 Delivery Cooling Fan 1

10.5.20.1 Preparation for Removing the Delivery Cooling Fan 1

1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).

10.5.20.2 Removing the Delivery Cooling Fan 1

1) Remove the harness [2] from the cable guide [3].
   - connector [1]
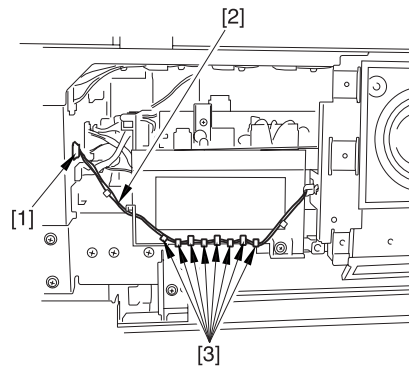
F-10-116

2) Remove the delivery cooling fan [2].
   - 3 screws [1]
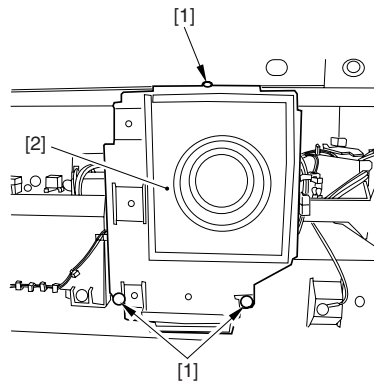
F-10-117

3) Remove the harness [2] from the cable guide [3].
   - connector [1]
4) Remove the delivery cooling fan 1.
   - 2 screws [4]
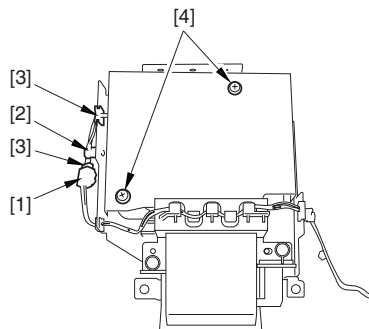
F-10-118

10.5.21 Delivery Cooling Fan 2

10.5.21.1 Preparation for Removing the Delivery Cooling Fan 2

1) Remove the Fixing Front Cover.
1-1) Open the font cover.
1-2) Slide out the fixing/feeding assembly.
1-3) Open the reversal delivery cover [1] and the middle cover [2].
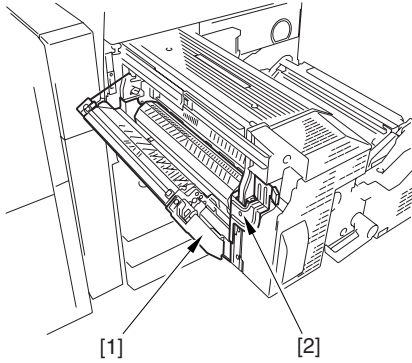
F-10-119

1-4) Remove the fixing front cover [3].
   - knob [1]
   - 2 screws [2]
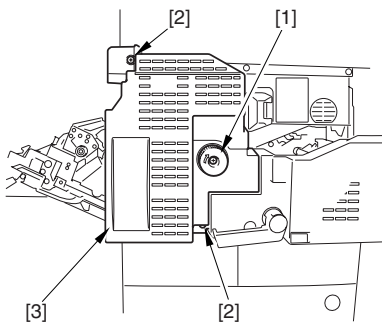
F-10-120

10.5.21.2 Removing the Delivery Cooling Fan 2

1) Remove the delivery cooling fan 2 [3].
   - connector [1]
   - 2 screws [2]
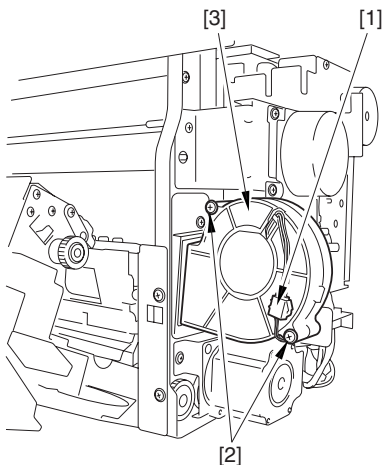
F-10-121

10.5.22 Ozone Filter

10.5.22.1 Removing the Ozone Filter

1) Remove the face cover [1] from the right cover (upper rear).
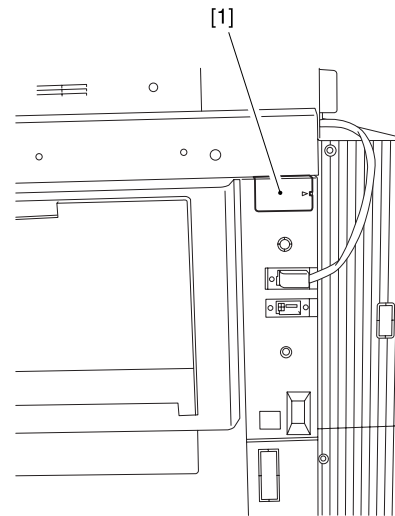
F-10-122

2) Pull out the filter holder [1].
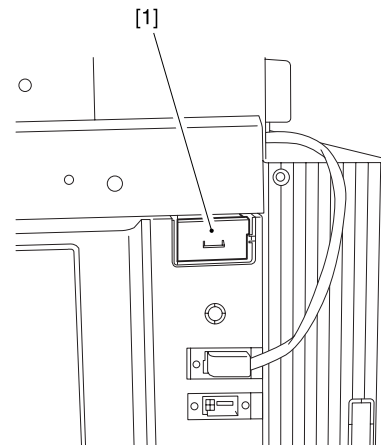
F-10-123

3) Remove the ozone filter [2] from the filter holder [1].
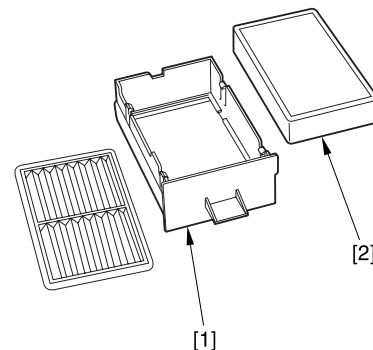
F-10-124

10.5.22.2 Removing the Fixing Heat Discharge Ozone Filter

1) Remove the rear cover (lower) [2].
   - 7 screws [1]
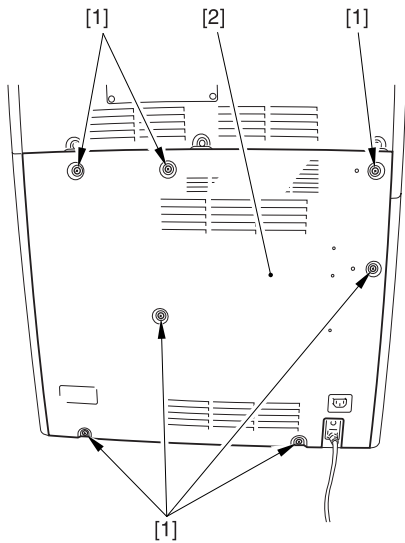
F-10-125

2) Remove the fixing heat discharge ozone filter [1].
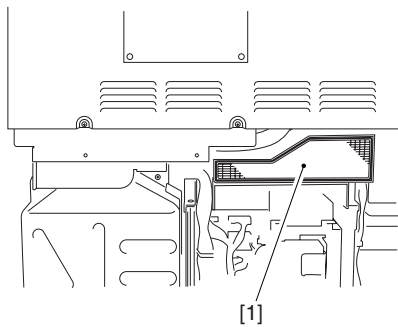
F-10-126

10.5.23 Toner Filter

10.5.23.1 Removing the Toner Filter

1) Remove the face cover [1] from the upper rear upper cover.
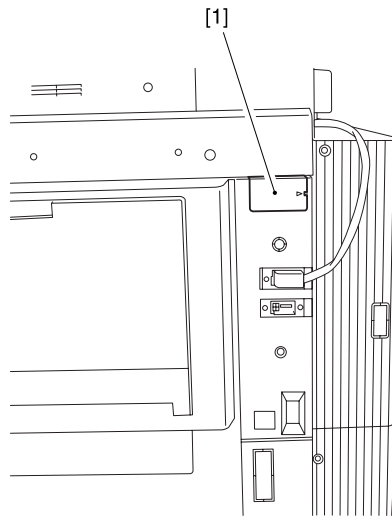
F-10-127

2) Pull out the filter holder [1].
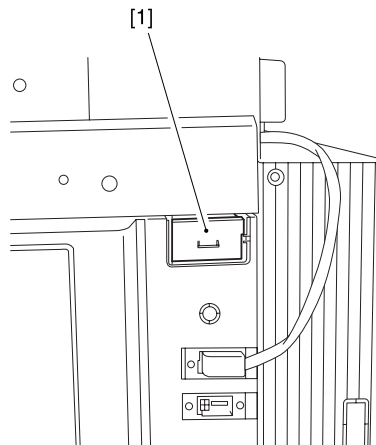
F-10-128

3) Remove the toner filter [2] from the filter holder [1].
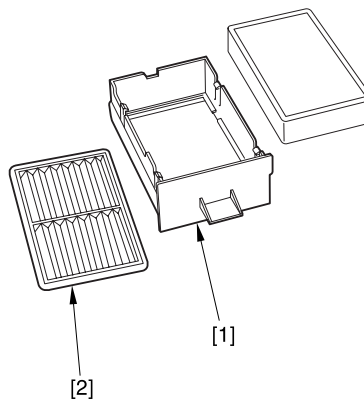
F-10-129

10.5.24 Sub Toner Filter

10.5.24.1 Preparation for Removing the Sub Toner Filter

1) Remove the Left Cover (upper).
2) Remove the Delivery Cover.
3) Remove the Left Cover (middle).
4) Remove the HV2 PCB.
-Referring to Procedure 10.5.12

10.5.24.2 Removing the Sub Toner Filter

1) Remove the sub toner filter [1].

[1]
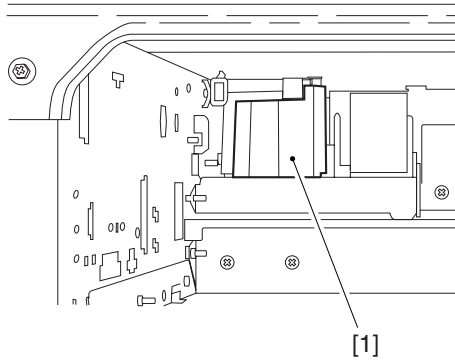
F-10-130

RDS
(for iRC6870U/iRC5870U)

Contents

11.1 RDS

11.1.1 Application operation mode

Serviceman selects the operation mode of OFF/ON by the setting in e-RDS setting screen of the service mode. (Menu Screen: E-RDS)
- OFF (default): e-RDS doesn't operate.
- ON: e-RDS operates every function.

11.1.2 Service Center URL and Port Specification

The URL and the port number of the equipment information destination can be specified as follows.
- Default (specified beforehand)
- Specified by the service mode. (Menu Screen: RGW-ADR, RGW-PORT)

11.1.3 Communication test

Serviceman can distinguish the communication status with the UGW by executing the communication test in the service mode (Menu Screen: COM-TEST), and referring to the communication log
Error information is displayed in the latest communication log at communication error.

11.1.4 Communication log

The list of the log of the communication error (proxy server error etc.)(For 30) can be displayed in display panel in the service mode. (Menu Screen: COM-LOG)

11.1.5 Detailed Communication log

Detailed information of the error in the communication log can be displayed in display panel. (Log List Screen: Each error)

11.1.6 SOAP communication function

The following processing is achieved by the SOAP communication (SSL client communication).
e-RDS does the host authentication by using the CA*1 certificate of the VeriSign Co..
When the host certificate or the CA certificate is expired, e-RDS doesn't connect to UGW.
*1: CA: Certificate Authority: Organization that issues electronic certificate used by electronic commerce etc

(1) Communication test:
   - Do the communication test
(2) Regularly collect the following data, and transmit it.
   - Copy Counter
   - Service mode counter
   - Parts counter
   - Mode Counter
   - ROM version
   - Scheduling information
   - Application log
(3) When jam or alarm/service call error is detected from the device, e-RDS transmits to UGW.
   - Transmission of alert code(Counter information is transmitted at the same time.)
   When the state of the device changes, e-RDS sends the alert code list.
   The main alert codes used are Toner LOW/OUT, Jam, and Door open.
   When recovering from an error, e-RDS transmits data that shows the recovering from an error again.
   - Transmission of Jam log (Counter information is transmitted at the same time.)
   - Transmission of Alarm log (Counter information is transmitted at the same time.)
   - Transmission of Service Call (Error code) log (Counter information is transmitted at the same time.)
(4) Change of the device scheduling information
   - Scheduling information can be changed by the instruction from UGW.

List of Transmissions:

Content of transmission	Transmission timing
Communication test	When Service mode of device is executed
Copy counter collection/ transmission	Every 6 hours
Service mode counter collection/ transmission	Every 6 hours
Mode counter collection/ transmission	Every 6 hours
Parts counter collection/ transmission	Every 6 hours
ROM version transmission	Every 6 hours
Application log	When the log file size exceeds 10kbytes
Transmission of alert code	When the state of the device is changed.
Jam	When Jam occurs
Alarm	When Alarm occurs
Error	When Error occurs
Confirmation whether there is processing that e-RDS executes	Every 6 hours

11.1.7 Resend at SOAP transmission error

When SOAP send error is generated by the trouble on UGW side etc. at the transmission of an alert code, the latest three batches of data that failed in the transmission are stored in HDD, and e-RDS resends it at prescribed intervals.

11.1.8 e-RDS setting screen

The e-RDS setting screen is in the service mode screen.
When the tab above is selected on any e-RDS setting screen, it changes to the mid item screen. Moreover, it returns to previous screen when reset key is pressed.

Menu Screen

| Display | I/O | Adjust | Function | Option | Test | Counter |

< INSTALL >   < 1/ 1 >   < READY >

TONER-S			
STRD-POS			
CARD	0	←(0)	{ 1 ~ 2001}
E-RDS	0	←(0)	{ 0 ~ 1}
RGW-PORT	443	←(443)	{ 1 ~ 65535}
COM-TEST			
COM-LOG			
RGW-ADR	https://a01.ugwdevice.net/ugw/agenti

← → +/- OK ↵

F-11-1

Setting screen of e-RDS. The form and the initial value of each setting item are as follows.

Item(meaning)	Explanation
E-RDS (Embedded-RDS)	Turning OFF/ON e-RDS. 0:OFF / 1:ON Counter information and error information are transmitted to the host at ON. Initial value: 0: OFF
RGW-ADR (RDS-Gateway ADDRESS)	URL of the host (When the input area is selected (touched), shift to the keyboard screen) Initial value: URL of an actual host. Length: 129 characters (NULL is contained)
RGW-PORT (RDS-Gateway PORT)	Port Number of the host Initial value: 443 Range of available number: 1-65535
COM-TEST (Communication Test)	Execution of Communication test Communication test starts when you select (touch) this and press the [OK] key. e-RDS tries the connection with the host, and displays the result by "OK!" or "NG!". (NG: No Good, the communication test is failed)
COM-LOG (Communication Log)	The result of communication test When this is selected (touched), and the blank rectangle on right side is selected, it switches to "Log list screen".

Log list screen

| Display | I/O | Adjust | Function | Option | Test | Counter |

<COM-TEST>   < 1/ 4 >   < READY >

No.	DATE	TIME	CODE	Information
01	2005 0129	1837	0500 0003	SUSPEND: Communicati
02	2005 0129	1836	0500 0003	SUSPEND: Communicati
03	2005 0129	1806	0500 0003	SUSPEND: Communicati
04	2005 0129	1805	0500 0003	SUSPEND: Communicati
05	2005 0129	1758	8000 2046	*Server certificate
06	2005 0129	1750	0500 0003	SUSPEND: Communicati
07	2005 0129	1743	0500 0003	SUSPEND: Communicati
08	2005 0129	1722	0500 0003	SUSPEND: Communicati

| ← | → | +/- | OK ↵ |

F-11-2

History list of communication test error (error generation date, error code and error information) is displayed.
When the each line is selected (touched), it shifts to "Log detailed screen".
It shifts to "Menu screen" by the [Function] > [INSTALL].
The list screen changes by a right arrow or a left arrow.
Maximum log number: 30
Notes: Only the first part of error information is displayed.

Log detailed screen

| Display | I/O | Adjust | Function | Option | Test | Counter |

```
      <COM-TEST>      <  5/30 >   < READY   >

No. DATE          TIME   CODE
05  2005 0129     1758   8000 2046


Information

  *Server certificate expired : getConfiguratio

  n
```

| ← | → | +/- | OK ↵ |

F-11-3

Detailed information of individual communication test error is displayed.
Refer to the displayed message to "Error message list".
It shifts to "Log list screen" by the [OK] button pressing.
Maximum length of error information: 128 characters (not include NULL)

11.1.9 Sleep operation

When there is a method that should be transmitted while e-RDS is operating (ON), e-RDS wakes from the state of sleep and begins transmitting.

11.1.10 Network Setting(Maintenance)

You should do the network setting of Device appropriately before the e-RDS setting.
A. Display the Additional Functions screen.
    - Press [Additional Functions (*)] key.
    - Input ID code.
B. Display the TCP/IP Settings screen.
    - Select (touch) [System Settings] > [Network Settings] > [TCP/IP Settings] on the Touch Panel Display.
C. Setting of items related to IP address
    - Select (touch) [IP Address Settings] => IP Address Settings screen is displayed.
    - Set each items such as IP Address, Subnet Mask, Gateway Addresses, and DHCP, etc.
    - Return to the TCP/IP Settings screen by pushing the [OK] button after the setting ends.
D. DNS Settings
    - Select (touch) [DNS Settings] => DNS Settings screen is displayed.
    - Set necessary items.
    - Return to the TCP/IP Settings screen by pushing the [OK] button after the setting ends.
E. Proxy Settings
    - Select (touch) [Proxy Settings] (Press Down arrow button until [Proxy Settings] is displayed on the TCP/IP Settings screen.) => Proxy Settings screen is displayed.
    - Set necessary items.
    - Return to the TCP/IP Settings screen by pushing the [OK] button after the setting ends.
F. Display the normal screen.
    - Press [Additional Functions (*)] key pressing or press [Done] button to a necessary frequency.

11.1.11 e-RDS Setting

A. Display the Menu screen of e-RDS from the service mode.
A-1. Shift to the service mode
    - Press [Additional Functions (*)] key.
    - Press 2 and 8 of the numeric keys at the same time.
    - Press [Additional Functions (*)] key. => SERVICE MODE LEVEL1
A-2. Initialize e-RDS
    - Select (touch) [COPIER] > [Function] > [CLEAR] > [ERDS-DAT] on the Touch Panel Display.
A-3. Display Menu screen of e-RDS
    - Select (touch) [COPIER] > [Function] > [INSTALL] => Menu screen

Display	I/O	Adjust	Function	Option	Test	Counter

<INSTALL >   < 1/ 1 >   < READY >

TONER-S			
STRD-POS			
CARD	0	←(0)	{ 1 ~ 2001}
E-RDS	0	←(0)	{ 0 ~ 1}
RGW-PORT	443	←(443)	{ 1 ~ 65535}
COM-TEST			
COM-LOG			
RGW-ADR	https://a01.ugwdevice.net/ugw/agenti		

⇐	⇒	+/-	OK ⏎
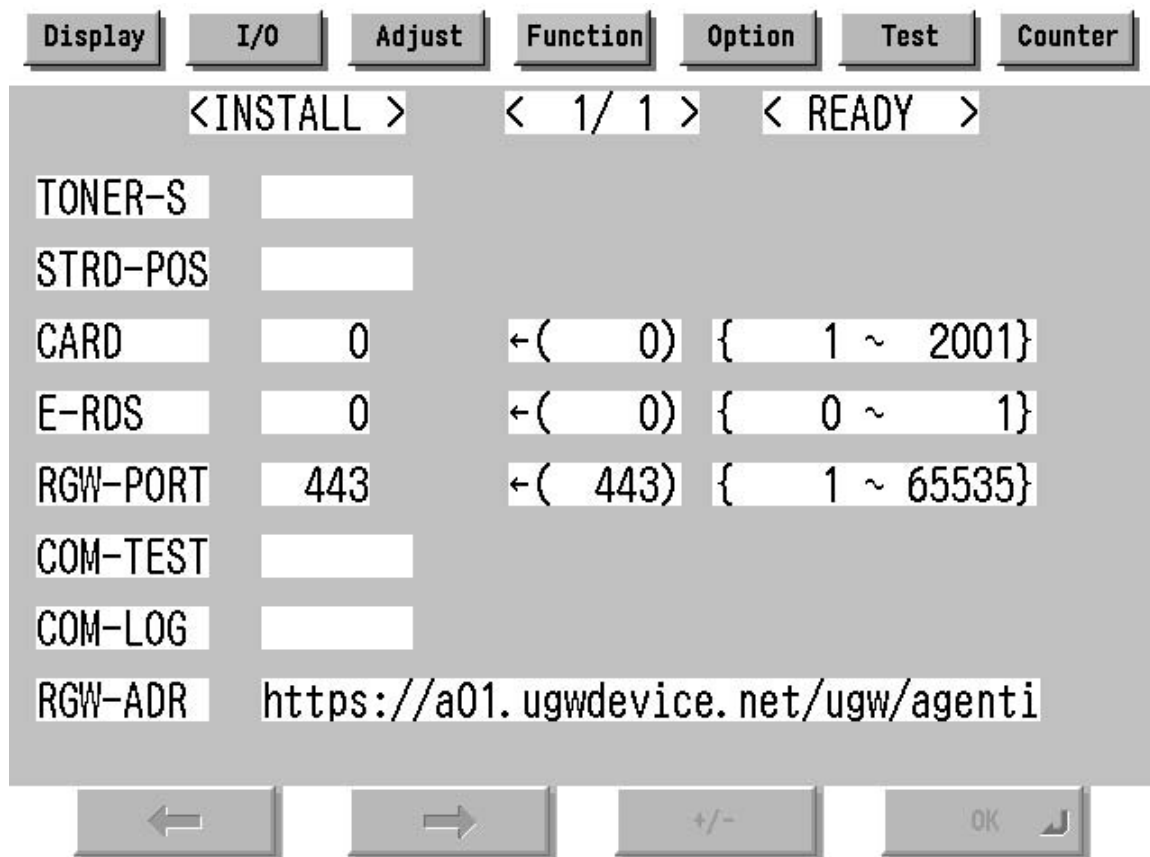
F-11-4

B. Set 1 in [E-RDS].
C. Input the URL of UGW in [RGW-ADR]. (Select the input area to shift to the keyboard screen, and Input URL.)
D. Input the port number of UGW in [RGW-PORT].
E. Select [COM-TEST] and push [OK] button to start the communication test with UGW.
F. While the result is "NG!", repeat to correct the setting and try [COM-TEST] until the result becomes "OK!". You need checking the setting of the network of the device and the connection of the network if necessary.
Notes: In the environment with the proxy server, you should set the proxy server. Refer to the proxy setting in the network guide of the device for details.

11.1.12 Trouble shoot

1-1
Q. There is no setting item.
A. Confirm the network setting.
Confirm the model
1-2
Q. The communication test fails.
A. Confirm the firmware version.
Confirm the network setting.
Confirm the communication test result.

11.1.13 Error message

Error information displayed in "Log list screen" or "Log detailed screen" is as follows.

Notes: Only the first part of error information is displayed in "Log list screen". Maximum length of error information in "Log detailed screen": 128 characters (not include NULL)

When the communication test is not completed end e-RDS is 1 (ON), following string is displayed: "SUSPEND: Communication test is not performed."

Moreover, when it fails in the event waiting in the device and either of a Jam notification, an Alarm notification, and a Service call notification or an Alert notification is specified, following string is displayed.

"Event Registration is Failed."

In other cases error information is displayed in the form of the following.

"[*] [Error string]: [Method name] [Server side detailed error]"

The enclosed character string by [] is replaced as follows.

[*]:
*(asterisk) is added to the head of the string only at the communication test.

[Error string]:
As for number 1 and 2 of the following Error string lists, only the Error string is displayed. Besides, it is displayed as "[*] [Error string]: [Method name] [Server side detailed error]". ([Server side detailed error] might not go out.)

	Error string	Cause	Counter Measure
1	SUSPEND: Communication test is not performed	The e-RDS is started (the device is rebooted) when e-RDS is ON and communication test isn't done.	Complete the communication test.
2	Event Registration is Failed.	The device failed event processing.	Turn OFF/ON of the device main switch. Or, replace the system software of the device (upgrade).
3	URL Scheme error (not https)	The header of registered URL of UGW is not https.	Change the header on URL of UGW to https
4	Server connection error	Communication failure of TCP/IP occurred. Or IP address of the device isn't set.	Check the network connection.
5	URL server specified is illegal	Illegal URL (other than UGW) is specified.	Correct URL.
6	Proxy connection error	The e-RDS cannot connect it with the proxy server.	Check and correct the proxy server address etc.
7	Proxy authentication error	The e-RDS fails the authentication to proxy.	Check and correct username and password to log in proxy.
8	Server certificate error	- The certificate is not installed in The device. - The certificate that The user is using is not registered in The device or The server.	Register the root certificate in the device or register the VeriSign certificate in the server.
9	Server certificate expired	- Expired certificate is registered in the device or the server. - The date of the device is outside the time limit of the certificate.	- Register the root certificate in expiration date in the device or register the VeriSign certificate in the server. - Set an accurate date to the device.
10	Unknown error	Other communication error occurs.	After waiting for a while, try again.
11	Server response error (NULL)	UGW returns the error but communication to UGW is succeeded. If (NULL) is displayed after the message, the error occurs in the HTTPS communication.	After waiting for a while, try again.

	Error string	Cause	Counter Measure
12	Server response error (Hexadecimal)	UGW returns the error but communication to UGW is succeeded. (Hexadecimal) displayed after the message is error code that UGW returns. [server side detailed error] is added at the end of error information only at this error.	After waiting for a while, try again.
13	Device internal error	Device internal error such as the memory cannot be taken occurs.	Turn OFF/ON of the device main switch. Or, replace the system software of the device (upgrade).
14	Server schedule is invalid	Illegal schedule transmission information is set in UGW. (Ex: Every 30 minutes were set to UGW but the right interval in e-RDS is 1 hour.)	Correct the schedule transmission information setting in UGW. (Ex: every 1 hour)
15	Server response time out	There was no reply from UGW in predetermined time. (The congestion of the network etc.) It is the timeout at HTTPS level.	After waiting for a while, try again.
16	Service not found	The URL of UGW is illegal, and UGW is inaccessible.	Check and correct the URL of UGW.
17	E-RDS switch is set OFF	You execute the communication test while the E-RDS switch is OFF.	Turn ON E-RDS switch, and execute the communication test.
18	Server schedule is not exist	The e-RDS receives empty schedule data from UGW.	Check setting file. (Call the help desk of UGW.)
19	Network is not ready, try later	You execute the communication when the connection to the network has not been established. (The network connection might not be established from the start-up of the device for 60 seconds.)	Confirm that the network connection has been established. Moreover, execute again after enough waiting.
20	URL error	Illegal URL (Syntax error etc.)	Correct URL.

[Method name]:   T-11-1

	Method name	Meaning
1	postServiceModeCount	Account counter acquisition phase
2	postModeCount	Mode counter acquisition phase
3	postPartsCount	Parts counter acquisition phase
4	postFirmwareInfo	ROM version acquisition phase
5	getOperationList	Check/acquisition phase whether the information file for me is in UGW.
6	postOperationOutcome	
7	postConfiguration	Phase in which E-RDS configuration is transmitted to UGW
8	postGlobalClickCount	Counter acquisition phase
9	postJamLog	Jam notification acquisition phase
10	postServiceCallLog	Error notification acquisition phase
11	postAlert	Alert notification acquisition phase
12	postDebugLog	Log acquisition phase
13	getConfiguration	Information acquisition phase (Schedule transmission etc.)
14	communicationTest	Communication test phase

[Server side detailed error]:
Detailed error information returned from UGW is displayed for "Server response error".
However, only the first 128 characters are displayed by the entire error information.
Nothing is displayed here at other errors.

Chapter 12

Maintenance and Inspection

Contents

12.1 Periodically Replaced Parts

12.1.1 Overview

 Some parts of the machine must be replaced on a periodical basis for the machine to maintain a specific level of performance. They must be replaced regardless of the presence/absence of external changes or damage, as the performance of the machine will be considerably affected once they fail.
If possible, plan any replacement to coincide with a scheduled visit.

⚠

The intervals indicated may vary depending on the site environment and user habit.

1. Checking the Timing of Replacement
The timing of replacement may be checked using the following service mode items:
  (1) Copier
  COPIER>COUNTER>PRDC-1
  (2) Accessory
  COPIER>COUNTER>PRDC-2

12.1.2 Reader Unit

The machine's reader unit does not have parts that must be replaced on a periodical basis.

12.1.3 Printer Unit

<iR C6800 / iR C5800 >

T-12-1

					as of March 2004
Ref.	Parts name	Parts No.	Q'ty	Interval	Remarks
1	Ozone filter	FC5-2486-000	1	250,000 images*	
2	Toner filter	FL2-0554-000	1	250,000 images*	
3	Primary charging wire	FB4-3687-000	AR	500,000 images*	
4	Charging wire cleaner 1	FL2-2427-000	1	500,000 images*	**
5	Charging wire cleaner 2	FL2-2428-000	1	500,000 images*	**
6	Pre-transfer charging wire	FB4-3687-000	AR	500,000 images*	
7	Pre-transfer charging assembly wire cleaner 1	FL2-2427-000	1	500,000 images*	
8	Pre-transfer charging assembly wire cleaner 2	FL2-2428-000	1	500,000 images*	
9	Primary grid wire	FY1-0883-000	1	500,000 images*	
10	Fixing thermistor	FK2-0013-000	1	500,000 prints	
11	Pressure thermistor	FK2-0013-000	1	500,000 prints	
12	Outside heating roller thermistor	FK2-0013-000	1	500,000 prints	
13	Primary charging assembly	FM2-0429-000	1	1,000,000 images*	
14	Pre-transfer charging assembly	FM2-0427-000	1	1,000,000 images*	
15	Fixing thermal switch	FM2-0497-000	1	1,000,000 prints	
16	Pressure thermal switch	FM2-0498-000	1	1,000,000 prints	
17	Outside heating thermal switch	FM2-0499-000	1	1,000,000 prints	

* In the case of a black mono color print: counted as 1,in the case of a full color print: counted as 4 images.
** iR C6800 : Under high humidity and high temperature condition, 100,000 images
   iR C5800 : Under high humidity and high temperature condition, 85,000 images

<iR C6870U / iR C5870U >

T-12-2

					as of September 2005
Ref.	**Parts name**	**Parts No.**	**Q'ty**	**Interval**	**Remarks**
1	Ozone filter	FC5-2486-000	1	250,000 images*	
2	Toner filter	FL2-0554-000	1	250,000 images*	
3	Primary charging wire	FB4-3687-000	AR	500,000 images*	***
4	Charging wire cleaner 1	FL2-2427-000	1	500,000 images*	**
5	Charging wire cleaner 2	FL2-2428-000	1	500,000 images*	**
6	Post-charging wire	FB4-3687-000	AR	500,000 images*	***
7	Post-charging assembly wire cleaner 1	FL2-2427-000	1	500,000 images*	
8	Post-charging assembly wire cleaner 2	FL2-2428-000	1	500,000 images*	
9	Primary grid wire	FY1-0883-000	1	500,000 images*	
10	Fixing thermistor	FK2-0013-000	1	500,000 prints*	****
11	Pressure thermistor	FK2-0013-000	1	500,000 prints*	****
12	Outside heating roller thermistor	FK2-0013-000	1	500,000 prints*	****
13	Primary charging assembly	FM2-0429-000	1	1,000,000 images*	
14	Post-charging assembly	FM2-0427-000	1	1,000,000 images*	
15	Fixing thermal switch	FM2-0497-000	1	1,000,000 prints	
16	Pressure thermal switch	FM2-0498-000	1	1,000,000 prints	
17	Outside heating thermal switch	FM2-0499-000	1	1,000,000 prints	

* In the case of a black mono color print: counted as 1,in the case of a full color print: counted as 4 images.
** Under high humidity and high temperature condition, 100,000 images
*** Offered as a service part on a reel basis.
**** May be either a main thermistor or a sub thermistor, and these 2 items are offered as a service part in the form of a set.

12.2 Durables and Consumables

12.2.1 Overview

Some parts of the machine may have to be replaced once or more over the period of machine warranty because of wear or damage. Replace them as needed by referring to the table of estimated lives (expressed in terms of the number of prints they make).

1. Making Checks When Replacing Durables
Use the following service mode items to find out when to replace parts:
  - Machine
   COPIER>COUNTER>DRBL-1
  - Accessory
   COPIER>COUNTER>DRBL-2

12.2.2 Reader Unit

The machine's reader unit does not have parts that are classified as durables.

12.2.3 Printer Unit

T-12-3

					as of March 2004
Ref.	Parts name	Parts No.	Q'ty	Interval	Remarks
[1]	Feed roller (manual feed)	FB1-8581-000	1	120,000 prints	
[2]	Separation roller (manual feed)	FB5-0873-000	1	120,000 prints	
[3]	ITB cleaner scoop-up sheet	FL2-0411-000	1	150,000 prints	
[4]	Secondary transfer static eliminator holder	FL2-0598-000	1	150,000 prints	
[5]	Fixing roller	FC5-6298-000	1	150,000 prints*	
[6]	Pressure roller	FC5-6299-000	1	150,000 prints*	
[7]	Outside heating roller	FC5-2285-000	1	150,000 prints*	
[8]	ITB cleaner blade	FC5-1662-000	1	195,000 images*2	lubricate fluorine graghite
[9]	Secondary transfer outside roller	FC5-2157-000	1	195,000 images*2	
[10]	Primary transfer roller	FC5-1660-000	1	195,000 images (165,000 images)	(**)/The values in parentheses represent the iRC5870U/iR C5800.
[11]	Cleaner blade	FC5-1788-000	1	195,000 images*2	one edge in use, lubricate fluorine graghite
[12]	Pickup roller (left/right paper deck)	FC5-2524-000	1 each	250,000 prints	
[13]	Feed roller (left/right paper deck)	FC5-2526-000	1 each	250,000 prints	
[14]	Separation roller (left/right paper deck)	FC5-2528-000	1 each	250,000 prints	
[15]	Pickup roller (cassette 3/4)	FC5-2524-000	1 each	250,000 prints	
[16]	Feed roller (cassette 3/4)	FC5-2526-000	1 each	250,000 prints	
[17]	Separation roller (cassette 3/4)	FC5-2528-000	1 each	250,000 prints	
[18]	Primary transfer static eliminator	FM2-0420-000	1	300,000 images*2	
[19]	ITB	FC5-1658-000	1	300,000 images*2	
[20]	Secondary transfer inside roller	FC5-1661-000	1	300,000 prints	
[21]	Cleaner scoop-up sheet	FL2-0422-000	1	390,000 images*2	
[22]	Edge scraper	FC5-5136-000	2	500,000 images*2	
[23]	Color developing assembly	FM2-0446-000	3	500,000 prints	
[24]	Fixing web	FC5-2286-000	1	500,000 prints	
[25]	Fixing heat insulating bush	FB5-3613-000	2	500,000 prints	
[26]	Delivery upper separation claw	FM2-1672-000	4	500,000 prints	
[27]	Delivery lower separation claw unit	FM2-0501-000	6	500,000 prints	
[28]	Pressure insulating bush	RB1-0325-000	2	500,000 prints	
[29]	Outside heat insulating bush	FC5-2582-000	2	500,000 prints	
[30]	ITB edge scraper	FC6-2843-000	2	600,000 images*2	
[31]	Fixing heat discharge ozone filter	FC5-6370-000	1	1,000,000 images*2	
[32]	Tner filter (inside)	FL2-0554-000	1	1,000,000 images*2	
[33]	Bk developing cylinder (black developing assembly)	FM2-0434-000	1	1,000,000 prints	
[34]	Developing roll (black developing assembly)	FC5-1863-000	2	1,000,000 prints	

*1: in the case of a color ratio of 10%; if 100%, 60,000 prints; if 0%, 180,000 prints.
*2: in the case of a black mono color print, counted as 1 image; in the case of a full color print, counted as 4 images.

12.3 Scheduled Servicing Basic Procedure

12.3.1 Scheduled Servicing Basic Procedure

⚠

- As a rule, perform scheduled servicing every 150,000 prints.
- Check with the Service Book before setting out for a scheduled service visit, and take parts for which replacement is expected.
- If the power plug is left connected for a long time in a place subject to dust, humidity, or oil smoke, a fire hazard is a possibility (i.e., the dust collecting around the plug can absorb moisture, resulting in insulating failure). Be sure to remove the power plug on a periodical basis, and wipe off the dust and dirt collecting around it.

1. Work Procedure
1) Report to the person in charge, and check the general condition.
2) Record the counter reading, and check the faulty prints.
3) Check following, and clean/adjust the items that are indicated:

T-12-4

Items		
Text copy	against image density standard	
	for soiling of back of paper	
	for clarity of characters	
	for margin	
	for fixing	misplaced registration, soiled back of paper
	for margin standards (single-sided print)	leading edge: 4.0+1.5/-1.0mm
		left edge: 2.5+/- 1.5mm
	(double-sided print)	leading edge: 4.0+1.5/-1.0mm
		left edge: 2.5+/- 2.0mm
Feeding system	registration upper/lower roller	
	for paper lint along front edge of registration assembly	

4) Check the waste toner case.
 If half full or more, dispose of the waste toner in a vinyl bag or the like for collection; or, replace the waste toner case.

⚠

- If you need to dispose of the waste toner, be sure to do so in strict accordance with the regulations imposed by the local authorities.
- Do not dispose of waste toner in a fire. Doing so may cause an explosion.

5) Clean the copyboard glass and the reading glass.
6) Make test copies.
7) Make sample copies.
8) Check the operation of the leakage breaker.
   With the power switch at ON, push the test switch of the leakage breaker to check that it operates normally (i.e., the breaker switch shifts to the OFF side to cut off the power).
   If the leakage beaker fails to operate normally, replace it, and run a check once again.

2. Resetting the Breaker
When you have made the check, turn off the main power switch, and turn on the breaker switch, and then turn the main power switch back on.
9) Put the sample copies in order, and clean up the area around the machine.
10) Record the final counter reading; at this time, be sure to fill out the blanks for 'FX-UP-RL' and 'DV-UNT-K' (service counters).
11) Fill out the Service Book, and report to the person in change. Be sure to update the history of checks on the leakage breaker in the Service Book.

12.3.2 Scheduled Servicing (reader unit)

⚠

Do not use solvents or oils other than those indicated herein.

T-12-5

Unit	Location	Work	Intervals	Remarks
Original exposure system	Face/back of the copyboard glass (large)	clean	195,000 images	clean the white plate on the back.
Original exposure system	Face/back of the copyboard glass (small)	clean	195,000 images	
Original exposure system	Scanner rail	clean/lubricate	as needed	
Original exposure system	Scanner mirror (No. 1 through No. 3 mirrors)	clean	195,000 images	
Original exposure system	Reflecting plate	clean	195,000 images	

⚠

The foreign values are estimates only, and are subject to change based on future data.
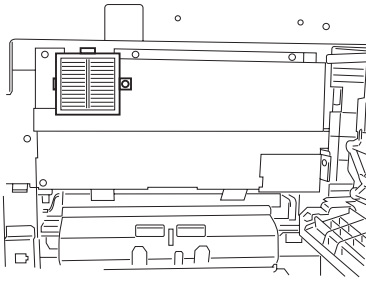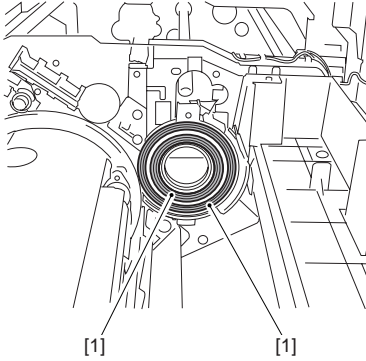
12.3.3 Scheduled Servicing (printer unit)

⚠
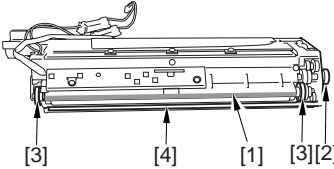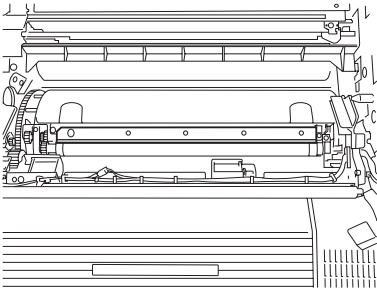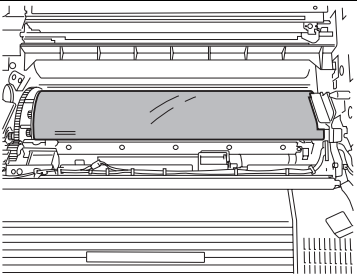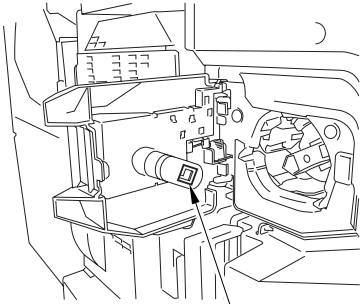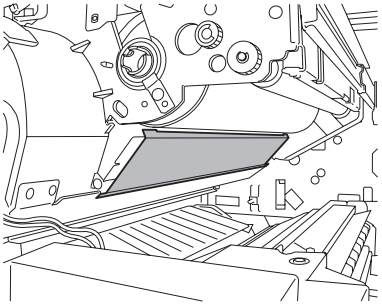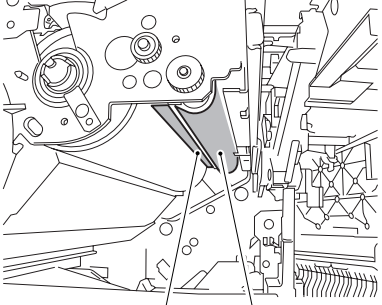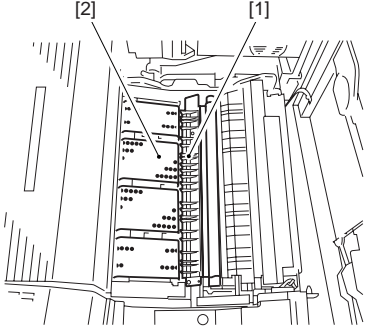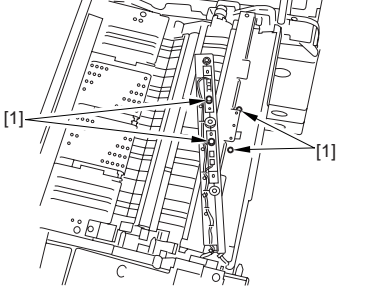
Do not use solvents or oils other than those permitted.

T-12-6

Unit	Location	Item	Interval	Remarks
Externals and controls	Ozone filter	replace	250,000 images	[1][2] [1]Toner filter [2]Ozone filter
Externals and controls	Toner filter	replace	250,000 images	

Unit	Location	Item	Interval	Remarks
Externals and controls	Dust-collecting filter (primary)	clean	250,000 prints	inside of the right upper cover
Laser exposure system	Dust-colleting glass	clean	250,000 prints	
Charging assembly	Primary charging assembly	replace	1,000,000 images	
Charging assembly	Primary charging wire	clean	upon installation	
		replace	500,000 images	
Charging assembly	Primary grid wire	clean	upon installation, 250,000 images	
		replace	500,000 images	
Charging assembly	Charging wire cleaner 1/2 (primary changing assembly)	replace	500,000 images	
Charging assembly	Pre-transfer charging assembly	replace	1,000,000 images	
Charging assembly	Pre-transfer charging wire	clean	upon installation	
		replace	500,000 images	
Charging assembly	Charging wire cleaner 1/2 (pre-transfer charging assembly)	replace	500,000 images	
Charging assembly	Charging assembly shielding plate	clean	upon installation, 250,000 images	
Photosensitive drum	Drum heater sliding area	clean/ lubricate	1,000,000 images	[1] [1] Clean the terminal [1] of the slip ring using alcohol; then, apply a small amount of lubricant (FY9-6008).
Photosensitive drum	Shifting the photosensitive drum phase	adjustment	250,000 imags	
Black developing assembly	Developing cylinder	check	upon installation	

Unit	Location	Item	Interval	Remarks
Black developing assembly	Developing stray toner-blocking sheet	clean	250,000 prints	[3]　　　　[4]　　　[1]　[3][2] [1]Developing stray toner-blocking sheet [2]Developing drive gear [3]Developing roll [4]Bias roller toner collection case
Black developing assembly	Developing drive gear	clean	250,000 prints	
Black developing assembly	Developing roll	clean	250,000 prints	
Black developing assembly	Bias roller toner collection case	clean	250,000 images	
Color developing assembly	Developing cylinder	check	upon installation	
Color developing assembly	Developing stray toner-blocking sheet	clean	250,000 prints	
Color developing assembly	ATR sensor window	clean	250,000 images	
Color developing assembly	Color toner cartridge level sensor window	clean	250,000 images	
Color developing assembly	Developing cylinder bushing	clean	250,000 images	
Color developing assembly	Bottle cover	clean	250,000 images	
Color developing assembly	Color toner cartridge placement sensor window	clean	250,000 images	[1] [1]Color toner cartridge placement sensor window
Intermediate transfer assembly	Patch image sensor window	clean	250,000 images	
Intermediate transfer assembly	ITB inside scraper/ roller(when replacing primary transfer roller)	clean	195,000 images	

Unit	Location	Item	Interval	Remarks
Intermediate transfer assembly area	Pre-transfer corona assembly rail, thereunder	clean	150,000 prints	
Intermediate transfer assembly area	Scoop-up sheet base, thereunder	clean	150,000 prints	
Intermediate transfer assembly area	Cleaner container, hereunder	clean	150,000 prints	[1]Scoop-up sheet base, thereunder [2]Cleaner container, hereunder
Secondary transfer assembly	Secondary transfer rear guide	clean	150,000 prints	
Feeding assembly	Feeding belt	clean	150,000 prints	[1] Secondary transfer rear guide [2] Feeding belt
Feeding assembly	OHP sensor	clean	250,000 prints	 [1]clean upper/lower OHP sensor using blow brush
Feeding assembly	Registration roller	clean	250,000 prints	
Feeding assembly	Registration guide	clean	250,000 prints	
Hopper assembly	Toner receptacle/ supply mouth	clean	250,000 prints	
Fixing assembly	Fixing web	check	upon installation	
Fixing assembly	Fixing thermistor	clean	150,000 prints	
		replace	500,000 prints	
Fixing assembly	Pressure thermistor	clean	150,000 prints	
		replace	500,000 prints	
Fixing assembly	Outside heating roller thermistor	clean	150,000 prints	
		replace	500,000 prints	

Unit	Location	Item	Interval	Remarks
Fixing assembly	Fixing thermal switch	clean	300,000 prints	
		replace	1,000,000 prints	
Fixing assembly	Pressure thermal switch	clean	150,000 prints	
		replace	1,000,000 prints	
Fixing assembly	Outside heating thermal switch	clean	150,000 prints	
		replace	1,000,000 prints	
Fixing assembly	Inlet guide	clean	150,000 prints	use lint-free with specified solvent.
Delivery assembly	Upper/lower separation claw	clean	150,000 prints	use lint-free paper with specified solvent.
Waste toner collection assembly	Waste toner box	inspect	250,000 images*	

*:
The black developing cylinder need not be cleaned on a periodical basis. If you must clean the surface of the cylinder, be sure to dry wipe it with lint-free paper, NEVER using water or solvent.
**:
The intervals are based on a color ratio of 10% and image ratio of 5%, and thus are subject to variation depending on the actual ratios.

⚠
The foregoing values are estimates only, and are subject to change based on future data.

12.3.4 Shifting the Photosensitive Drum Phase

The photosensitive drum can develop drum memory unless the image write start position is moved at specific intervals. Be sure to move the drum phase every so many copies/prints have been made as shown below.

1. Overview of the Work
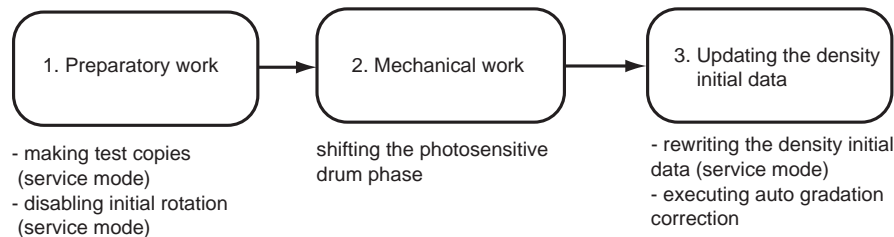
F-12-1

2. When to Perform the Work
    - every some copies or prints made continuously
    - when removing and attaching the drum (i.e., when the initial drum phase is lost) Here,3.
    "Mechanical Work" in the detailed instructions is not needed. To avoid the possible discrepancy in phase, however, be sure to perform 1. "Preparatory Work" and 3. "Updating the Density Initial Data."

3. Detailed Instructions
1) Preparatory Work
1-1) Turn off the main power switch, and wait until the machine has entered a ready state.
1-2) To stabilize the machine operation, generate 5 test pattern printouts (A3, double-sided) by executing the following in service mode: COPIER>TEST>PG>TYPE=16.

⚠
Be sure not to forget to select a cassette loaded with A3 paper and double-sided printing in service mode.
- to select a particular cassette in service mode, perform COPIER>TEST>PG>PG-PICK=3 or =4.
- to select double-sided printing in service mode, perform COPIER>TEST>PG>2-SIDE=1.

1-3) Set "1" to the following service mode to disable initial multiple rotation: COPIER>FUNCTION>INSTALL>AINR-OFF.
1-4) Turn off the main power switch.

2) Mechanical Work

2-1) Open the front cover.

2-2) Shift down the fixing/feeding release lever [1], and slide out the fixing/feeding assembly [2] to the front.
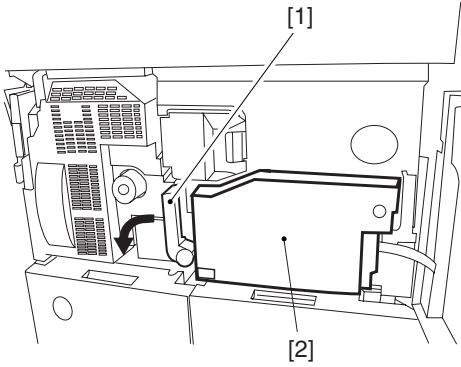
F-12-2

2-3) Open the color toner supply cover [1]. Remove the 2 screws [2], and remove the process cover [3].
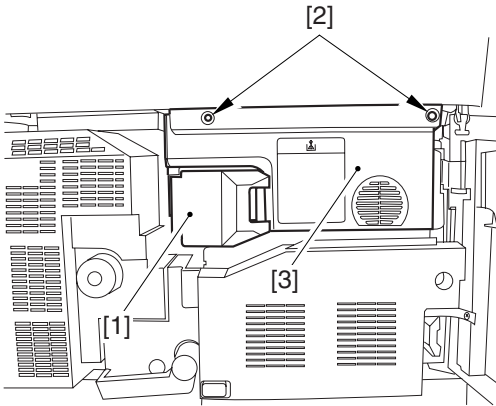
F-12-3

2-4) Remove the screw [1], and shift down the primary transfer roller locking lever [2] (so that the primary transfer roller is freed).
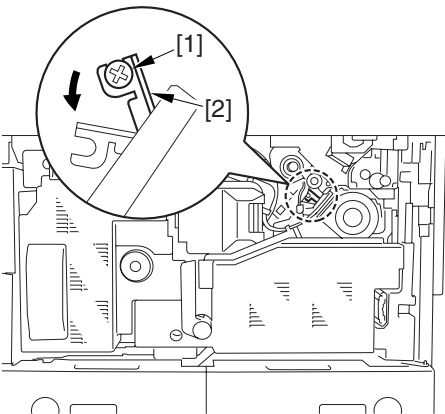
F-12-4

2-5) Check the position of the marking [2] on the drum flange in relation to the protrusion [1] of the drum fixing member. (checking the drum phase)

In the figure, the marking [2] on the drum flange is at "." on the left and ".." on the right in relation to the protrusion [1] of the drum fixing member.
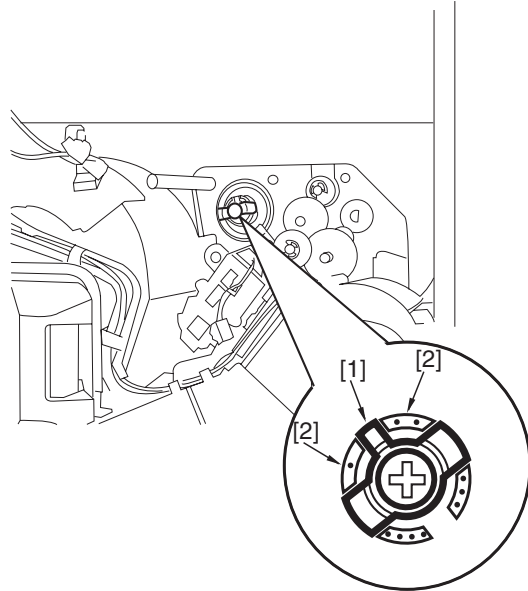
F-12-5

At this time, check the drum phase label [1] attached behind the process unit cover. If there is no check mark on the label indicating the present phase position, be sure to put a check mark.
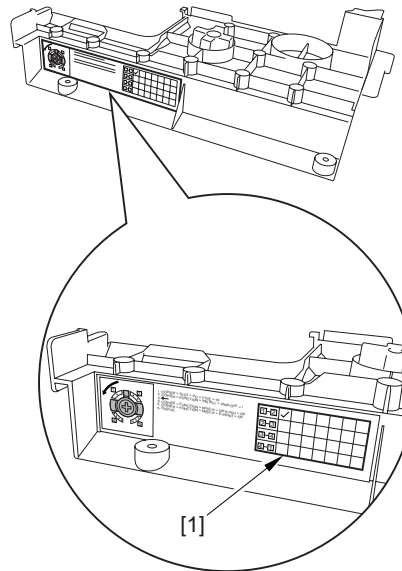
F-12-6
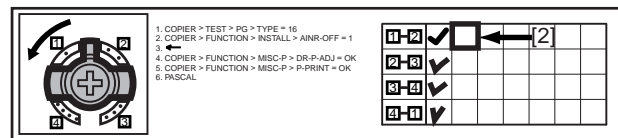
F-12-7

2-6) Hold down the drum fixing member [1] using the drum stop tool [2]: then, using a screwdriver, remove the drum fixing screw [3].

As shown, be sure to remove the screw only after matching the protrusion [4] of the drum stop tool against the cut-off [5] of the drum flange.
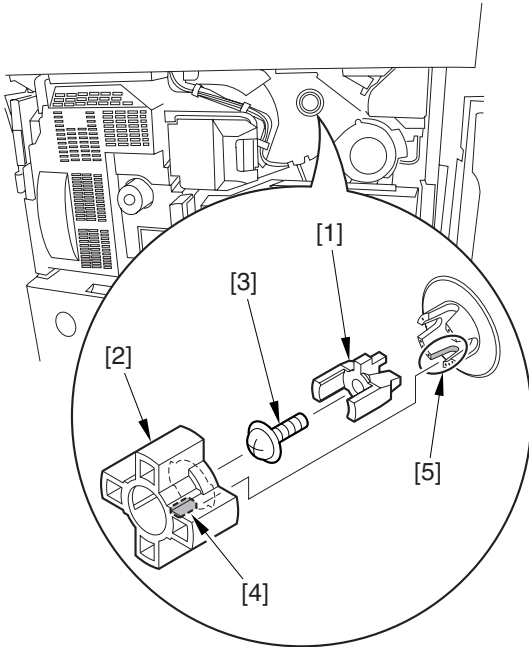
F-12-8

2-7) Attach the drum stop tool [1] in the drum flange [2]; then, turn the drum counterclockwise by 90 deg.
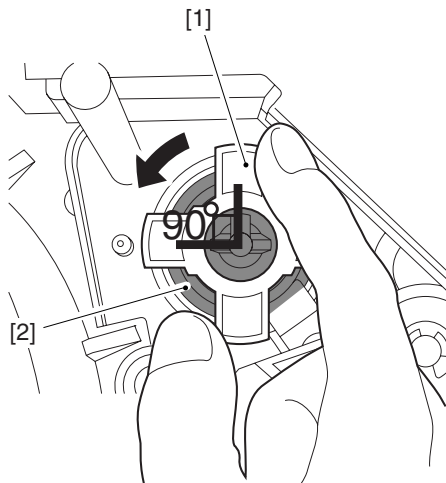
F-12-9

⚠

(1) When attaching the tool to the flange, be sure to turn the drum only after matching the protrusion [2] of the tool against the cut-off [1] of the drum flange.
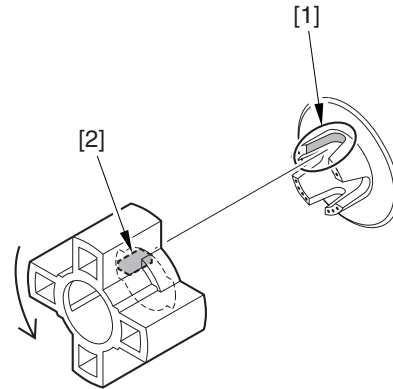
F-12-10

(2) The drum phase position is identified by means of a marking of 1 to 4 dots on the flange. At time of shipment from the factory, dent A in the drum shaft is between "." and "..".

The following figures show the position of the drum flange before an after a shift is introduced:

Position of the Flange Before the
Phase Is Shifted (at time of shipment)
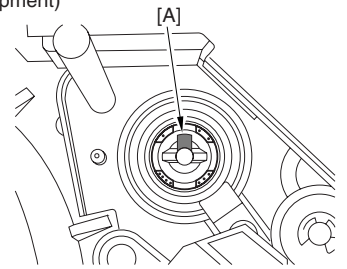
Position of the Flange After the
Phase Is Shifted (after the shift
work for the first time)
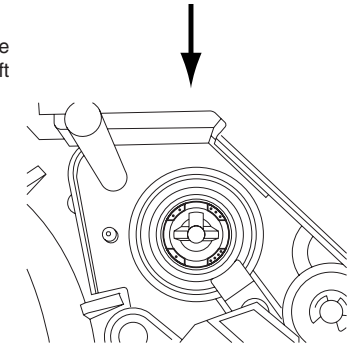
F-12-11

(3) Do not shift the drum phase as part of normal work involving drawing out of the process unit.

2-8) After attaching the drum fixing member [2] to the drum flange [1], hold it down from above using the drum stop tool [3]. Thereafter, tighten the drum fixing screw [4] with a screwdriver.

Be sure to fix the protrusion [5] of the drum stop tool in place with a screw after matching it

against the cut-off [6] of the drum flange.
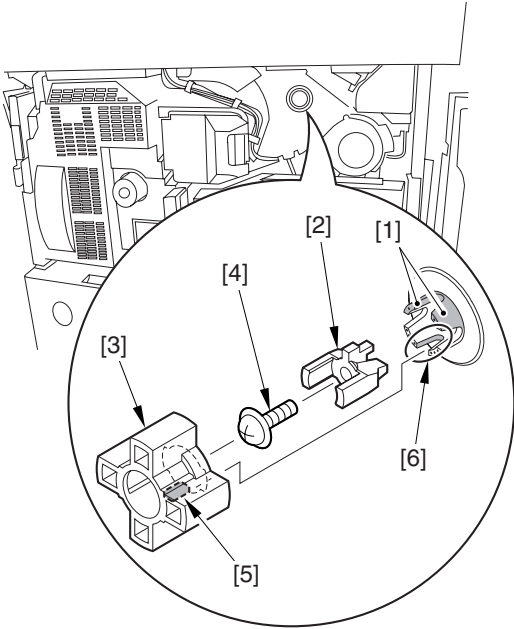
F-12-12

2-9) After checking the drum phase position, put a check mark on the drum phase label [1] attached behind the process cover.
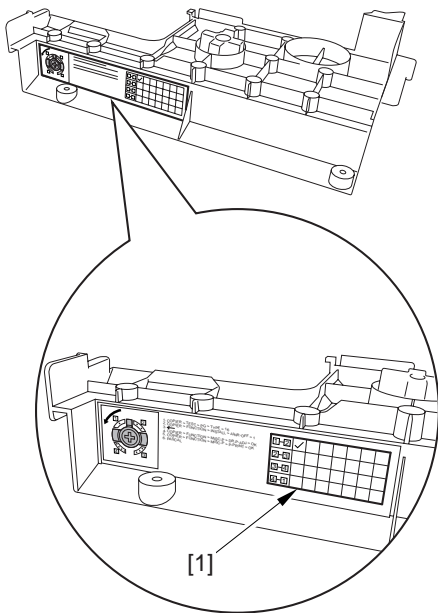
F-12-13

⚠
The following figure shows a label with a check mark indicating that the work has been performed.
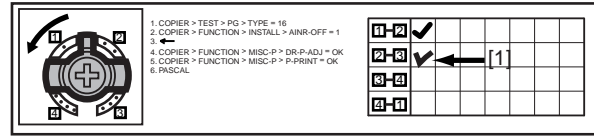
F-12-14

2-10) Attach the cover by performing step 2-1 through 2-4 in reverse.
3) Updating the Density Initial Data.
3-1) Turn on the main power switch, and wait until the machine has entered a ready state.
3-2) Perform the following in service mode: COPIER>FUNCTION>MISC-P>DR-P-ADJ

⚠
When the machine ends the service mode item normally, the setting (AINR-OFF) will automatically return to "0".

3-3) Perform the following in service mode: COPIER>FUNCTION>MISC-P>P-PRINT. Then, record the values of the following on the service label attached behind the front cover: COPIER>ADJT>DENS>P-SGNL-Y/M/C.

⚠
Store the output of P-PRINT in the service book case. If there is previous output in the case, replace it with the new output.

3-4) Perform auto gradation correction in user mode (adjust/cleaning>auto gradation correction>full correction).

⚠

Be sure to perform the foregoing steps to position the drum in phase whenever you are not sure whether the drum is in correct phase.

1. Related Service Mode Item

a. counter mode for phase shift work: COPIER>COUNTER>MISC>DRM-PHAS
Particulars
Use it to indicate the counter reading for determining the intervals of the work. (The denominator indicates the counter reading of the work intervals, while the numerator indicates the counter reading on an actual machine).
- Settings:
00000000 to 99999999
- At Time of Shipment
denominator of counter reading:
200,000 images (Japan); 100,000 images (outside Japan)
(numerator of counter reading):
0

b. message switchover mode associated with the foregoing counter: COPIER>OPTION>BODY>DRM-DISP
Particulars
Use it to enable/disable the indication of the foregoing count reading:
Settings:0 to 2
0: disable indication
1: indicate in service mode only (factory default)
2: indicate both on User screen and in service mode

c. confirmation mode for phase shift work: COPIER>DISPLAY>ALARM-2
A record of the work will be indicated in terms of the number of times the work has been performed.

12.4 Cleaning

12.4.1 Cleaning the Secondary Transfer Rear Guide

1) Open the front cover.
2) Slide out the fixing/feeding assembly.
3) Remove the ribs one by one by moving lint-free paper moistened with alcohol in the direction of the arrow in the figure.

⚠

- Do not dry wipe, as the ribs are likely to become charged.
- The ribs of the secondary transfer rear guide are located near the static eliminating brush [3]; do not move the lint-free paper in the wrong direction to avoid trapping and bending the static eliminator.
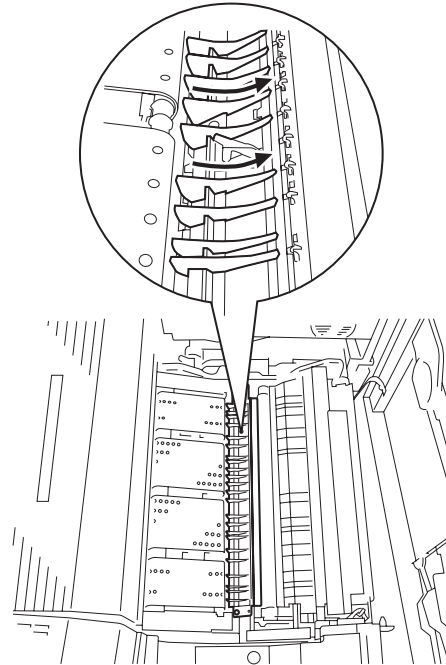
F-12-15

12.4.2 Cleaning the Registration Roller, Registration Guide, and Transparency Sensor

1) Slide out the fixing/feeding assembly.
2) Press the leaf springs on both sides, and slide the fixing/feeding assembly farther out.
3) Remove the 3 screws [1], and turn overt the transparency upper sensor unit [2].
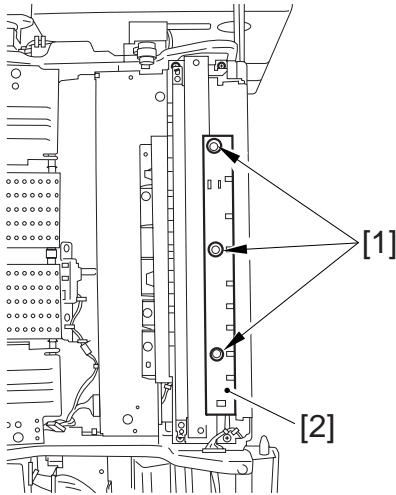
F-12-16

4) Remove the paper lint building up over the transparency sensor [1] using a blower brush.
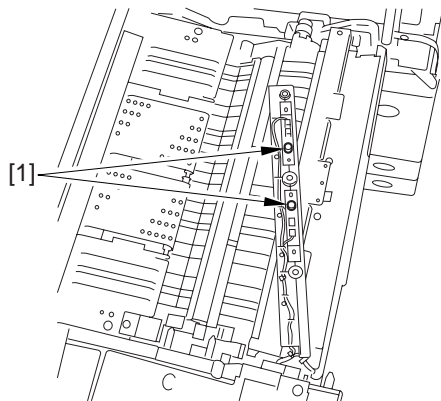
F-12-17

5) Remove the 2 screws [1], and remove the grounding spring [2].
6) Remove the screw [3].

F-12-18

12-14
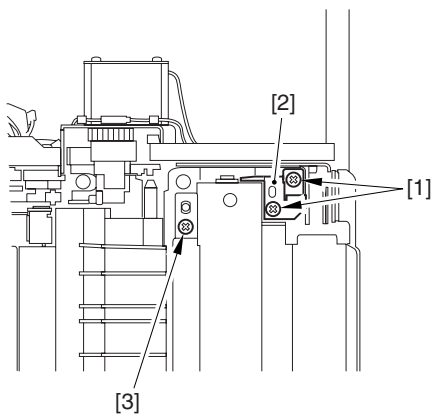
7) Remove the 3 screws [1], and remove the registration roller upper stay [3] together with the grounding spring [4] while removing the spring [2] off its hook.
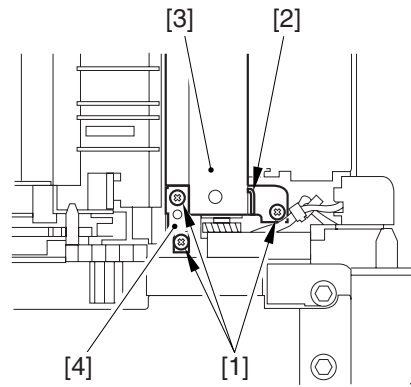
F-12-19

8) Open the registration upper guide [1], and clean the back [1] of the upper guide and the lower guide [2] using lint-free paper moistened with alcohol.
9) Remove the paper lint building up on the transparency sensor [3] using a blower brush.
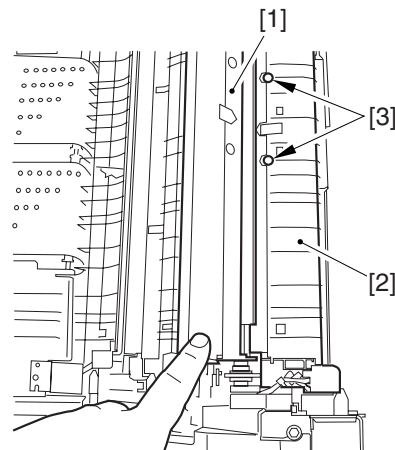
F-12-20

10) Turn the upper registration roller [1] and the lower registration roller [2] to clean them with lint-free paper moistened with alcohol.
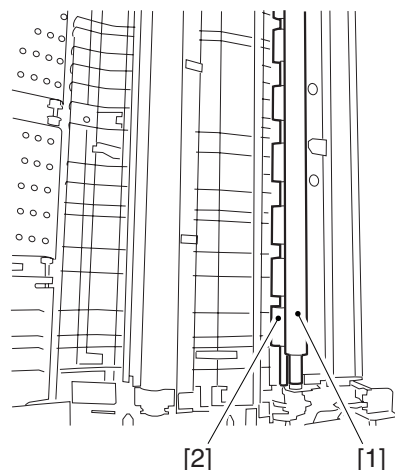
F-12-21

Standards and Adjustments

Contents

13.1 Image Adjustment Basic Procedure

13.1.1 Image Adjustment Basic Procedure 1

F-13-1

*1: Make a Bk mono copy. If the said fault is absent, make a full color copy. (Be sure not to make more than 5 full color copies.)

1. At the End of the Work

When done, go through he following so that the machine is ready to generate images of optimum quality.

1) Enable the potential control mechanism in service mode (set '1' to the following, and execute the item: COPIER>option>PO-CNT).

2) Perform image stabilization control in service mode (i.e., execute COPIER>FUNCTION>MISC-P>INTR-EX).

3) If the sure to perform full correction in user mode (under auto gradation correction) to ensure optimum density.

⚠

When done, be sure to set '1' to the service mode item (potential control function); otherwise, image faults can occur.

13.1.2 Image Adjustment Basic Procedure 2

<Check the Primary / Grid output>

```
┌─────────────────────────────────────┐
│  Image adjustment basic procedure 2  │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ Turn off the potential control       │
│ mechanism:                           │
│ COPIER>OPTION>BODY>P0-CNT '0'        │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ Measure the voltage PR-CNT at        │
│ J1111B-9 found on the DC controller  │
│ PCB during copying operation.        │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ Make the following selections in     │
│ service mode (primary current level  │
│ of the primary charging assembly):   │
│ COPIER>DISPLAY>HV-STS>PRIMARY.       │
│ Using the "Potential Control         │
│ Conversion Table," convert the       │
│ reading (in uA) indicated during     │
│ printing operation into a control    │
│ voltage. Refer to the result as      │
│ conversion value A.                  │
└─────────────────────────────────────┘
```

Is the difference between the actual measurement of PR-CNT and the foregoing value A within +/-10%?

— NO → Replace the DC controller PCB.

— YES →

```
┌─────────────────────────────────────┐
│ Measure the voltage GRID-CNT at      │
│ J111B-8 found on the DC controller   │
│ PCB during copying operation.        │
└─────────────────────────────────────┘
```

```
┌─────────────────────────────────────┐
│ Make the following selections in     │
│ service mode (grid voltage level of  │
│ the primary charging assembly):      │
│ COPIER>DISPLAY>HV-STS>GRID. Using    │
│ the "Potential Control Conversion    │
│ Table," convert the reading (unit V) │
│ indicated during printing operation  │
│ into a control voltage. Refer to     │
│ the result as conversion value B.    │
└─────────────────────────────────────┘
```

Is the difference between the actual measurement of GRID-CNT and the foregoing value B within +/-10%?

— NO → Replace the DC controller PCB.

— YES →

Try replacing HVT1. Is the fault corrected?

— YES → END

— NO →

Try replacing the photosensitive drum. Is the fault corrected?

— YES → END

— NO →

```
┌─────────────────────────────────────┐
│ To image adjustment basic            │
│ procedure 3                          │
└─────────────────────────────────────┘
```

F-13-2

13.1.3 Image Adjustment Basic Procedure 3

<Check the Laser output>

```
┌──────────────────────────────────────┐
│  Image adjustment basic procedure 3  │
└──────────────────────────────────────┘
                   │
┌──────────────────────────────────────┐
│ Turn on the potential control mechanism: │
│ COPIER>OPTION>BODY>P0-CNT '1'        │
└──────────────────────────────────────┘
                   │
┌──────────────────────────────────────┐     Unconditional execution
│ Make the following selections in service mode, │   of potential control mechanism
│ and set '1' :                        │
│ COPIER>FUNCTION>DPC>DPC. Thereafter, │
│ turn off and then on the main power switch. │
└──────────────────────────────────────┘
                   │
┌──────────────────────────────────────┐
│ Check the following service mode settings: │
│ COPIER>DISPLAY>DPOT>LPWR-Y           │
│ COPIER>DISPLAY>DPOT>LPWR-M           │
│ COPIER>DISPLAY>DPOT>LPWR-C           │
│ COPIER>DISPLAY>DPOT>LPWR-K           │
└──────────────────────────────────────┘
                   │
            ╱────────────╲        YES     ┌──────────────────────┐
           ╱ Is the reading ╲──────────────│ To image adjustment basic │
           ╲ between 00 and FF? ╱          │ procedure 4          │
            ╲────────────╱                 └──────────────────────┘
                   │ NO
┌──────────────────────────────────────┐
│ Check the voltage level of CP11 found on │
│ the DC controller PCB during black printing │
│ operation.                           │
└──────────────────────────────────────┘
                   │
            ╱────────────╲        NO      ┌──────────────────────┐
           ╱ Is the voltage level ╲────────│ To image adjustment basic │
           ╱ (laser output)      ╲         │ procedure 4          │
           ╲ of CP11 within the  ╱         └──────────────────────┘
            ╲ limit (2.0 V)?    ╱
             ╲────────────╱
                   │ YES
        ┌──────────────────────────┐
        │ Replace the laser scanner unit. │
        └──────────────────────────┘
```

F-13-3

13.1.4 Image Adjustment Basic Procedure 4

\<Check the Developing output\>

```
┌─────────────────────────────────┐
│ Image adjustment basic procedure 4 │
└─────────────────────────────────┘
```

Turn on the potential control mechanism:
COPIER>OPTION>BODY>P0-CNT '1'

Is the fault in
a color or in the black?   Color

Bk

| Measure the voltage DEV_DC_CONT at J1132A-11 found on the DC controller PCB during black printing operation. | Measure the voltage DEV_CL_DC_CONT at J1132A-9 found on the DC controller during full color printing operation. |

| Make the following selections in service mode (DC level of black developing bias): COPIER>DISPLAY>HV-STS>BIAS. Using the "Potential control Conversion Table," convert the reading (in V) indicated during black printing operation into a control voltage. Refer to the result as conversion value D. | Make the following selections in service mode (DC level of color developing bias) : COPIER>DISPLAY>HV-STS>BIAS. Using the "Potential control Conversion Table," convert the reading (in V) indicated during full color printing operation into a control voltage. Refer to the result as conversion value C. |

Is the difference between the actual measurement of DEV-DC-CNT and the foregoing value D within +/-10%?   NO

Is the difference between the actual measurement of DEV-DC-CNT and the foregoing value C within +/-10%?   NO

YES

Replace the DC controller PCB.

YES

To image adjustment basic procedure 5

F-13-4

13.1.5 Image Adjustment Basic Procedure 5

<Check the Primary transfer output>

```
            ┌─────────────────────────────────────┐
            │ Image adjustment basic procedure 5  │
            └─────────────────────────────────────┘
                              │
                              ▼
                    ╱ Is the toner image on ╲
                   ╱ the photosensitive drum ╲──── NO ──►  ┌─────────────────────────┐
                   ╲ before transfer normal? ╱             │ Replace the photosensitive │
                    ╲                       ╱              │ drum.                       │
                              │                            └─────────────────────────┘
                             YES
                              ▼
        ┌───────────────────────────────────────────┐
        │ Turn off the potential control mechanism:  │
        │ COPIER>OPTION>BODY>P0-CNT '0'              │
        └───────────────────────────────────────────┘
                              │
                              ▼
        ┌───────────────────────────────────────────┐
        │ Measure the voltage TR1CONT at J1132B-8 found on │
        │ the DC controller PCB during black printing operation. │
        └───────────────────────────────────────────┘
                              │
                              ▼
  ┌─────────────────────────────────────────────────────────┐
  │ Make the following selections in service mode (current level of │
  │ primary transfer): COPIER>DISPLAY>HV-STS>1TR-K1. Using │
  │ the "Potential Control Conversion Table," convert the reading │
  │ (in uA) indicated during black printing operation into a control │
  │ voltage. Refer to the result as conversion value E. │
  └─────────────────────────────────────────────────────────┘
                              │
                              ▼
                    ╱ Is the difference ╲
                   ╱ between the actual measurement ╲
                  ╱ of TR-CNT and the foregoing ╲──── NO ───┐
                   ╲ value E within +/-20%? ╱                │
                    ╲                      ╱                 ▼
                              │                    ┌─────────────────────┐
                             YES                   │ Replace the DC controller │
                              │                    │ PCB.                      │
                              ▼                    └─────────────────────┘
                    ╱ Try replacing HVT2. ╲
                   ╱ Is the fault corrected? ╲──── NO ───┐
                    ╲                        ╱            ▼
                              │                   ┌─────────────────────┐
                             YES                  │ To image adjustment basic │
                              ▼                   │ procedure 6               │
                      ╭───────────╮              └─────────────────────┘
                      │   END     │
                      ╰───────────╯
```

F-13-5

13.1.6 Image Adjustment Basic Procedure 6

<Check the Secondary output>

Image adjustment basic procedure 6

Turn off the potential control mechanism: COPIER>OPTION>BODY>P0-CNT '0'

Measure the voltage 2TRCONTP at J1119B-13 found on the DC control PCB during black printing operation.

Make the following selections in service mode (current level of secondary transfer): COPIER >DISPLAY>HV-STS>2TR. Using the "Potential control Conversion Table," convert the reading (in uA) indicated during black printing operation into a control voltage.

Is the difference between the actual measurement of TR-CNT and '2TR' as it is indicated in service mode between +/-20%?

NO → Replace the DC controller PCB.

YES

Try replacing HVT3. Is the fault corrected?

NO →
1. Try changing the setting of the following service mode item: COPIER>OPTION>BODY>FUZZY.
2. Try replacing the paper.

YES

END

F-13-6

13.1.7 Potential Control Conversion Table

Potential Control Conversion Table

T-13-1

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
1.031	1395.5	2.6	1.7	2	0	99.4
1.078	1388.9	6.8	4.1	5.8	0	98.9
1.125	1382.3	11.1	6.5	9.5	3	98.5
1.172	1375.7	15.3	8.8	13.3	3.6	98
1.219	1369.1	19.5	11.2	17	4.1	97.5
1.266	1362.6	23.8	13.5	20.8	4.7	97.1
1.313	1356	28	15.9	24.5	5.2	96.6
1.359	1349.4	32.2	18.2	28.3	5.8	96.1
1.406	1342.8	36.4	20.6	32.1	6.3	95.7
1.453	1336.3	40.7	22.9	35.8	6.9	95.2
1.5	1329.7	44.9	25.3	39.6	7.4	94.7
1.547	1323.1	49.1	27.6	43.3	8	94.3
1.594	1316.5	53.4	30	47.1	8.6	93.8
1.641	1310	57.6	32.3	50.8	9.1	93.3
1.688	1303.4	61.8	34.7	54.6	9.7	92.9
1.734	1296.8	66.1	37	58.3	10.2	92.4
1.781	1290.2	70.3	39.4	62.1	10.8	91.9
1.828	1283.7	74.5	41.7	65.9	11.3	91.5
1.875	1277.1	78.8	44.1	69.6	11.9	91
1.922	1270.5	83	46.4	73.4	12.4	90.5
1.969	1263.9	87.2	48.8	77.1	13	90
2.016	1257.3	91.5	51.1	80.9	13.5	89.6
2.063	1250.8	95.7	53.5	84.6	14.1	89.1
2.109	1244.2	99.9	55.8	88.4	14.7	88.6
2.156	1237.6	104.1	58.2	92.2	15.2	88.2
2.203	1231	108.4	60.6	95.9	15.8	87.7
2.25	1224.5	112.6	62.9	99.7	16.3	87.2
2.297	1217.9	116.8	65.3	103.4	16.9	86.8
2.344	1211.3	121.1	67.6	107.2	17.4	86.3
2.391	1204.7	125.3	70	110.9	18	85.8
2.438	1198.2	129.5	72.3	114.7	18.5	85.4
2.484	1191.6	133.8	74.7	118.5	19.1	84.9
2.531	1185	138	77	122.2	19.6	84.4
2.578	1178.4	142.2	79.4	126	20.2	84
2.625	1171.9	146.5	81.7	129.7	20.8	83.5
2.672	1165.3	150.7	84.1	133.5	21.3	83
2.719	1158.7	154.9	86.4	137.2	21.9	82.6
2.766	1152.1	159.2	88.8	141	22.4	82.1
2.813	1145.5	163.4	91.1	144.7	23	81.6
2.859	1139	167.6	93.5	148.5	23.5	81.2
2.906	1132.4	171.9	95.8	152.3	24.1	80.7
2.953	1125.8	176.1	98.2	156	24.6	80.2
3	1119.2	180.3	100.5	159.8	25.2	79.8
3.047	1112.7	184.5	102.9	163.5	25.7	79.3
3.094	1106.1	188.8	105.2	167.3	26.3	78.8
3.141	1099.5	193	107.6	171	26.9	78.4

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
3.188	1092.9	197.2	109.9	174.8	27.4	77.9
3.234	1086.4	201.5	112.3	178.6	28	77.4
3.281	1079.8	205.7	114.6	182.3	28.5	77
3.328	1073.2	209.9	117	186.1	29.1	76.5
3.375	1066.6	214.2	119.4	189.8	29.6	76
3.422	1060.1	218.4	121.7	193.6	30.2	75.6
3.469	1053.5	222.6	124.1	197.3	30.7	75.1
3.516	1046.9	226.9	126.4	201.1	31.3	74.6
3.563	1040.3	231.1	128.8	204.9	31.8	74.2
3.609	1033.7	235.3	131.1	208.6	32.4	73.7
3.656	1027.2	239.6	133.5	212.4	33	73.2
3.703	1020.6	243.8	135.8	216.1	33.5	72.8
3.75	1014	248	138.2	219.9	34.1	72.3
3.797	1007.4	252.2	140.5	223.6	34.6	71.8
3.844	1000.9	256.5	142.9	227.4	35.2	71.4
3.891	994.3	260.7	145.2	231.1	35.7	70.9
3.938	987.7	264.9	147.6	234.9	36.3	70.4
3.984	981.1	269.2	149.9	238.7	36.8	69.9
4.031	974.6	273.4	152.3	242.4	37.4	69.5
4.078	968	277.6	154.6	246.2	37.9	69
4.125	961.4	281.9	157	249.9	38.5	68.5
4.172	954.8	286.1	159.3	253.7	39.1	68.1
4.219	948.3	290.3	161.7	257.4	39.6	67.6
4.266	941.7	294.6	164	261.2	40.2	67.1
4.313	935.1	298.8	166.4	265	40.7	66.7
4.359	928.5	303	168.7	268.7	41.3	66.2
4.406	921.9	307.3	171.1	272.5	41.8	65.7
4.453	915.4	311.5	173.5	276.2	42.4	65.3
4.5	908.8	315.7	175.8	280	42.9	64.8
4.547	902.2	320	178.2	283.7	43.5	64.3
4.594	895.6	324.2	180.5	287.5	44	63.9
4.641	889.1	328.4	182.9	291.3	44.6	63.4
4.688	882.5	332.6	185.2	295	45.2	62.9
4.734	875.9	336.9	187.6	298.8	45.7	62.5
4.781	869.3	341.1	189.9	302.5	46.3	62
4.828	862.8	345.3	192.3	306.3	46.8	61.5
4.875	856.2	349.6	194.6	310	47.4	61.1
4.922	849.6	353.8	197	313.8	47.9	60.6
4.969	843	358	199.3	317.6	48.5	60.1
5.016	836.5	362.3	201.7	321.3	49	59.7
5.063	829.9	366.5	204	325.1	49.6	59.2
5.109	823.3	370.7	206.4	328.8	50.1	58.7
5.156	816.7	375	208.7	332.6	50.7	58.3
5.203	810.1	379.2	211.1	336.3	51.3	57.8
5.25	803.6	383.4	213.4	340.1	51.8	57.3
5.297	797	387.7	215.8	343.8	52.4	56.9
5.344	790.4	391.9	218.1	347.6	52.9	56.4
5.391	783.8	396.1	220.5	351.4	53.5	55.9
5.438	777.3	400.3	222.8	355.1	54	55.5
5.484	770.7	404.6	225.2	358.9	54.6	55

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
5.531	764.1	408.8	227.6	362.6	55.1	54.5
5.578	757.5	413	229.9	366.4	55.7	54.1
5.625	751	417.3	232.3	370.1	56.2	53.6
5.672	744.4	421.5	234.6	373.9	56.8	53.1
5.719	737.8	425.7	237	377.7	57.4	52.7
5.766	731.2	430	239.3	381.4	57.9	52.2
5.813	724.7	434.2	241.7	385.2	58.5	51.7
5.859	718.1	438.4	244	388.9	59	51.3
5.906	711.5	442.7	246.4	392.7	59.6	50.8
5.953	704.9	446.9	248.7	396.4	60.1	50.3
6	698.3	451.1	251.1	400.2	60.7	49.8
6.047	691.8	455.4	253.4	404	61.2	49.4
6.094	685.2	459.6	255.8	407.7	61.8	48.9
6.141	678.6	463.8	258.1	411.5	62.3	48.4
6.188	672	468.1	260.5	415.2	62.9	48
6.234	665.5	472.3	262.8	419	63.5	47.5
6.281	658.9	476.5	265.2	422.7	64	47
6.328	652.3	480.7	267.5	426.5	64.6	46.6
6.375	645.7	485	269.9	430.2	65.1	46.1
6.422	639.2	489.2	272.2	434	65.7	45.6
6.469	632.6	493.4	274.6	437.8	66.2	45.2
6.516	626	497.7	276.9	441.5	66.8	44.7
6.563	619.4	501.9	279.3	445.3	67.3	44.2
6.609	612.9	506.1	281.7	449	67.9	43.8
6.656	606.3	510.4	284	452.8	68.4	43.3
6.703	599.7	514.6	286.4	456.5	69	42.8
6.75	593.1	518.8	288.7	460.3	69.6	42.4
6.797	586.5	523.1	291.1	464.1	70.1	41.9
6.844	580	527.3	293.4	467.8	70.7	41.4
6.891	573.4	531.5	295.8	471.6	71.2	41
6.938	566.8	535.8	298.1	475.3	71.8	40.5
6.984	560.2	540	300.5	479.1	72.3	40
7.031	553.7	544.2	302.8	482.8	72.9	39.6
7.078	547.1	548.4	305.2	486.6	73.4	39.1
7.125	540.5	552.7	307.5	490.4	74	38.6
7.172	533.9	556.9	309.9	494.1	74.5	38.2
7.219	527.4	561.1	312.2	497.9	75.1	37.7
7.266	520.8	565.4	314.6	501.6	75.7	37.2
7.313	514.2	569.6	316.9	505.4	76.2	36.8
7.359	507.6	573.8	319.3	509.1	76.8	36.3
7.406	501.1	578.1	321.6	512.9	77.3	35.8
7.453	494.5	582.3	324	516.6	77.9	35.4
7.5	487.9	586.5	326.3	520.4	78.4	34.9
7.547	481.3	590.8	328.7	524.2	79	34.4
7.594	474.7	595	331	527.9	79.5	34
7.641	468.2	599.2	333.4	531.7	80.1	33.5
7.688	461.6	603.5	335.7	535.4	80.6	33
7.734	455	607.7	338.1	539.2	81.2	32.6
7.781	448.4	611.9	340.5	542.9	81.8	32.1
7.828	441.9	616.2	342.8	546.7	82.3	31.6

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
7.875	435.3	620.4	345.2	550.5	82.9	31.2
7.922	428.7	624.6	347.5	554.2	83.4	30.7
7.969	422.1	628.8	349.9	558	84	30.2
8.016	415.6	633.1	352.2	561.7	84.5	29.7
8.063	409	637.3	354.6	565.5	85.1	29.3
8.109	402.4	641.5	356.9	569.2	85.6	28.8
8.156	395.8	645.8	359.3	573	86.2	28.3
8.203	389.3	650	361.6	576.8	86.7	27.9
8.25	382.7	654.2	364	580.5	87.3	27.4
8.297	376.1	658.5	366.3	584.3	87.9	26.9
8.344	369.5	662.7	368.7	588	88.4	26.5
8.391	362.9	666.9	371	591.8	89	26
8.438	356.4	671.2	373.4	595.5	89.5	25.5
8.484	349.8	675.4	375.7	599.3	90.1	25.1
8.531	343.2	679.6	378.1	603	90.6	24.6
8.578	336.6	683.9	380.4	606.8	91.2	24.1
8.625	330.1	688.1	382.8	610.6	91.7	23.7
8.672	323.5	692.3	385.1	614.3	92.3	23.2
8.719	316.9	696.5	387.5	618.1	92.8	22.7
8.766	310.3	700.8	389.8	621.8	93.4	22.3
8.813	303.8	705	392.2	625.6	94	21.8
8.859	297.2	709.2	394.6	629.3	94.5	21.3
8.906	290.6	713.5	396.9	633.1	95.1	20.9
8.953	284	717.7	399.3	636.9	95.6	20.4
9	277.5	721.9	401.6	640.6	96.2	19.9
9.047	270.9	726.2	404.0	644.4	96.7	19.5
9.094	264.3	730.4	406.3	648.1	97.3	19
9.141	257.7	734.6	408.7	651.9	97.8	18.5
9.188	251.1	738.9	411.0	655.6	98.4	18.1
9.234	244.6	743.1	413.4	659.4	98.9	17.6
9.281	238	747.3	415.7	663.2	99.5	17.1
9.328	231.4	751.6	418.1	666.9	100.1	16.7
9.375	224.8	755.8	420.4	670.7	100.6	16.2
9.422	218.3	760	422.8	674.4	101.2	15.7
9.469	211.7	764.3	425.1	678.2	101.7	15.3
9.516	205.1	768.5	427.5	681.9	102.3	14.8
9.563	198.5	772.7	429.8	685.7	102.8	14.3
9.609	192	776.9	432.2	689.5	103.4	13.9
9.656	185.4	781.2	434.5	693.2	103.9	13.4
9.703	178.8	785.4	436.9	697	104.5	12.9
9.75	172.2	789.6	439.2	700.7	105	12.5
9.797	165.7	793.9	441.6	704.5	105.6	12
9.844	159.1	798.1	443.9	708.2	106.2	11.5
9.891	152.5	802.3	446.3	712	106.7	11.1
9.938	145.9	806.6	448.7	715.7	107.3	10.6
9.984	139.3	810.8	451.0	719.5	107.8	10.1
10.031	132.8	815	453.4	723.3	108.4	9.6
10.078	126.2	819.3	455.7	727	108.9	9.2
10.125	119.6	823.5	458.1	730.8	109.5	8.7
10.172	113	827.7	460.4	734.5	110	8.2

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
10.219	106.5	832	462.8	738.3	110.6	7.8
10.266	99.9	836.2	465.1	742	111.1	7.3
10.313	93.3	840.4	467.5	745.8	111.7	6.8
10.359	86.7	844.6	469.8	749.6	112.3	6.4
10.406	80.2	848.9	472.2	753.3	112.8	5.9
10.453	73.6	853.1	474.5	757.1	113.4	5.4
10.5	67	857.3	476.9	760.8	113.9	5
10.547	60.4	861.6	479.2	764.6	114.5	4.5
10.594	53.9	865.8	481.6	768.3	115	4
10.641	47.3	870	483.9	772.1	115.6	3.6
10.688	40.7	874.3	486.3	775.9	116.1	3.1
10.734	34.1	878.5	488.6	779.6	116.7	2.6
10.781	27.5	882.7	491.0	783.4	117.2	2.2
10.828	21	887	493.3	787.1	117.8	1.7
10.875	14.4	891.2	495.7	790.9	118.4	1.2
10.922	7.8	895.4	498.0	794.6	118.9	0.8
10.969	1.2	899.7	500.4	798.4	119.5	0.3
11.016	0	903.9	Outside of warranty	802.1	120	-0.2
11.063	0	Outside of warranty	Outside of warranty	Outside of warranty	120.6	-0.6
11.109	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	-1.1
11.156	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.203	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.25	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.297	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.344	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.391	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.438	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.484	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.531	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.578	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.625	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.672	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.719	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.766	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0

Control voltage (V)	Primary (uA)	Grid (V)	Color development (V)	Black development (V)	Primary transfer (uA)	Secondary transfer (uA)
11.813	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.859	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.906	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
11.953	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0
12	0	Outside of warranty	Outside of warranty	Outside of warranty	Outside of warranty	0

13.2 Image Adjustments

13.2.1 Image Position

The margin and the non-image width of a printout made at 100% magnification must be as follows:

- Leading Edge Margin

4.0+1.5/-1.0mm
[double-sided copy, 2nd side:4.0+1.5/-1.0mm]
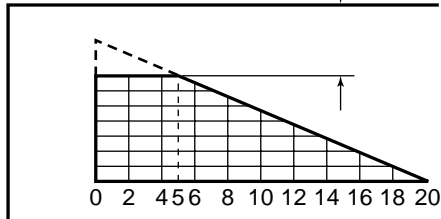
F-13-7

- Left/Right Margin

2.5+1.5mm/-1.5mm
(double-sided copy, 2nd side
:2.5+2.0mm/-2.0mm)
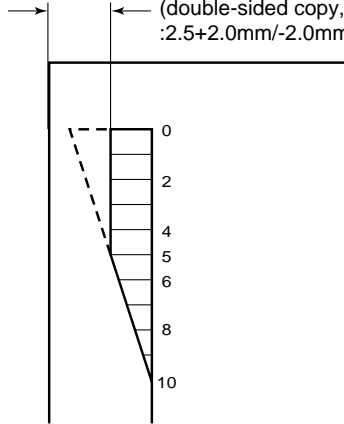
F-13-8

- Leading Edge Non-Image Width

4.0+1.5/-1.0mm
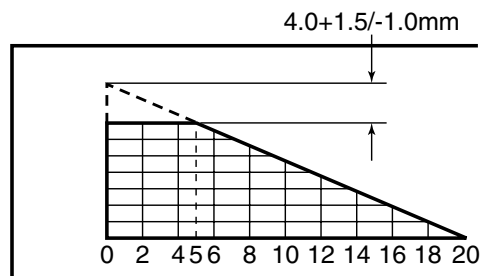
F-13-9

- Left/Right Non-Image Width

2.5+1.5mm/-1.5mm
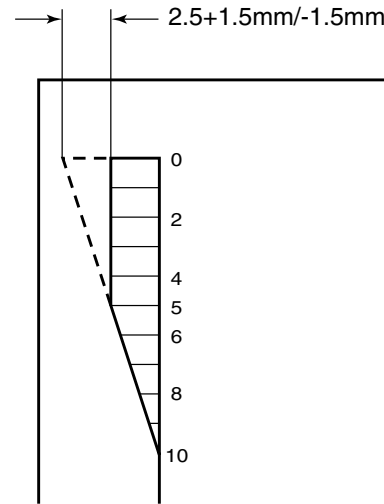
F-13-10

13.2.2 Checking the Image Position

Make 10 prints using the following as the source of paper; then, check to see if the margin and the non-image width are as indicated:
   - cassettes
   - manual feed tray
   - left/right front deck

If outside the standards, adjust the following:
1) Leading Edge Image Margin Adjustment (1st side)

Execute the following service mode to adjust the registration:

COPIER > ADJUST > FEED-ADJ > REGIST

decrease the setting of REGIST.
(an increase by 10 will decrease the margin by 1 mm)

Copy, 1st side:4.0+1.5/-1.0mm

Paper leading edge

Increase the setting of REGIST.
(an decrease by 10 will decrease the margin by 1 mm)
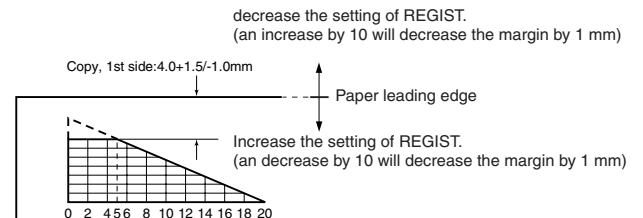
F-13-11

2) Left/Right Image Margin Adjustment

Adjust the horizontal registration mechanically.

3) Leading Edge Image Margin Adjustment (2nd side)

Execute the following service mode items to adjust the registration:

COPIER > ADJUST > FEED-ADJ > RG-REFE

decrease the setting of REGIST.
(an increase by 10 will decrease the margin by 1 mm)

double-sided copy, 2nd side:4.0+1.5/-1.0mm

Paper leading edge

Increase the setting of REGIST.
(an decrease by 10 will decrease the margin by 1 mm)

0 2 456 8 10121416 1820
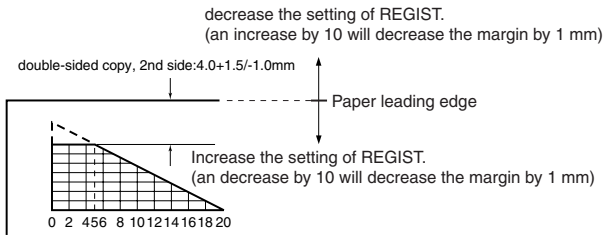
F-13-12

4) Leading Edge Non-Image Width Adjustment
Execute the following service mode item:
COPIER > ADJUST > ADJ-XY > ADJ-X

Decrease the setting of ADJ-X.
(a decrease by 10 will decrease the non-image width by 1 mm)

4.0+1.5/-1.0mm

Image edge

0 2 456 8 10121416 1820

Increase the setting of ADJ-X.
(an increase by 10 will increase the non-image width by 1 mm)
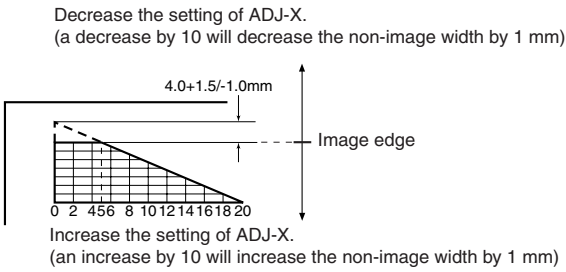
F-13-13

5) Left/Right Non-Image Width Adjustment
Execute the following service mode item:
COPIER > ADJUST > ADJ-XY > ADJ-Y

Image edge

Decrease the setting of ADJ-X.
(a decrease by 10 will decrease the non-image width by 1 mm)

Increase the setting of ADJ-Y.
(a decrease by 10 will increase the non-image width by 1 mm)

2.5+1.5mm/-1.5mm

0
2
4
5
6
8
10
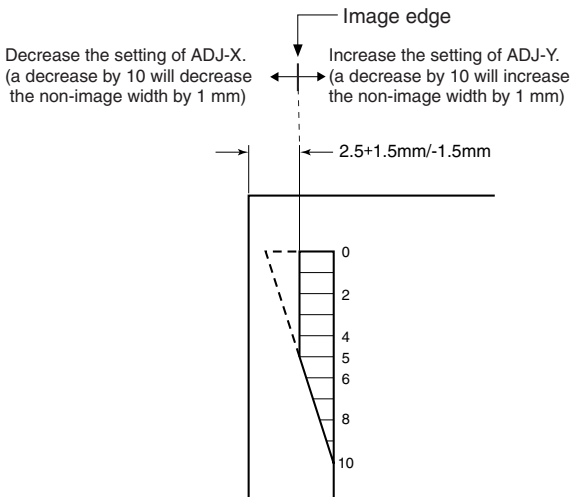
F-13-14

13.2.3 Cassette

Make prints using the cassettes 3 and 4 as the source of paper, and check that the left/right margin is as indicated.

If not as indicated, adjust the following:
1) Press the cassette release button, and slide out the cassette 3 or 4 to the front.

2) Open the upper right cover and the lower right cover.
3) Insert a screwdriver through the opening in the front right stay; then, loosen the screw [1], and adjust the position of the adjusting plate [2].
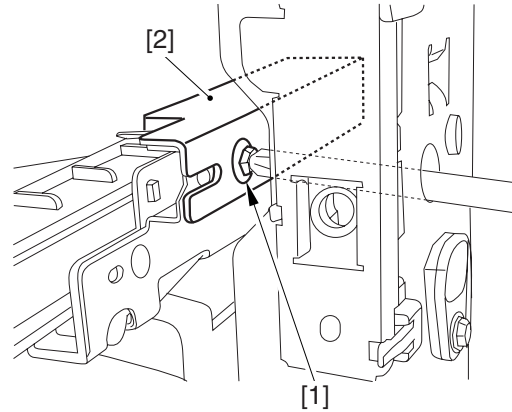
F-13-15

Move the adjusting plate toward the rear to decrease the left margin.
Move the adjusting plate toward the front to increase the left margin.
4) Tighten the screw.
5) Close the upper right cover and the lower right cover.
6) Attach the cassette 3 or 4 back in the machine.

13.2.4 Manual Feed Tray

Make copies using the manual feed tray as the source of paper, and check that the left/right margin is as indicated.

If not, adjust the following:
1) Loosen the screw [1], and move the position of the slide guide [2] to adjust the horizontal registration.
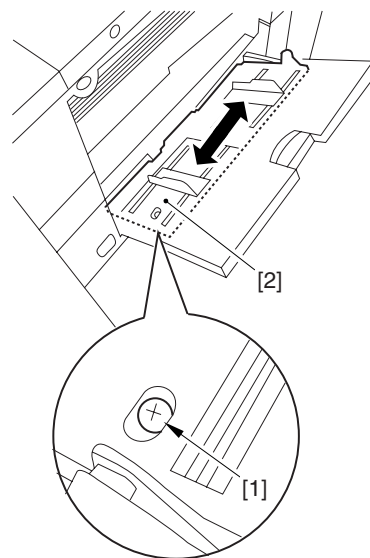
F-13-16

2) Check that the left/right margin of the prints is as indicated.
3) Tighten the screw.

13.2.5 Front Deck

Make prints using the right deck and left deck as the source of paper, and check that the left/right margin is as indicated:
If not, adjust the following:

1. Adjusting the Left/Right Margin for the Left Deck

1) Press the release button, and slide out the left deck.
2) Using a flat-bladed screwdriver, remove the left face cover [1].
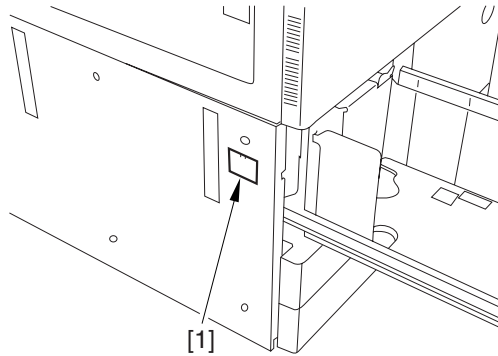
F-13-17

3) Loosen the 2 screws [1], and insert a screwdriver [2] through the opening of the left front stay; then, turn the adjusting screw to adjust the left/right margin.
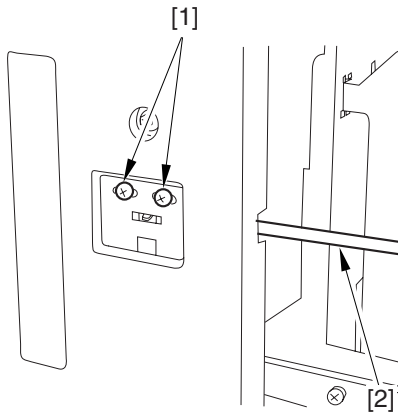
F-13-18

4) Check that the left/right margin of the printouts on paper from the left deck is as indicated.
5) As necessary, adjust the following:
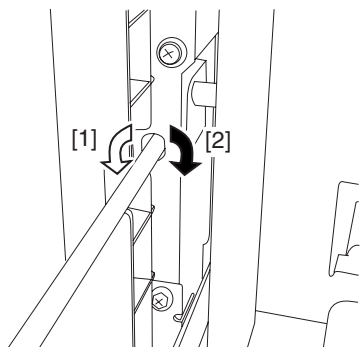
F-13-19

Reference:
Turn the screwdriver counterclockwise to decrease the left margin [1].
Turn the screwdriver clockwise to increase the left margin [2].
A full turn of the screwdriver will change the left margin by 1.0 mm.

6) Tighten the 2 screws you loosened in step 3).
7) Attach the left face cover you removed in step 2) back to the machine.
8) Close the left deck.

If the gap between the front cover/cassette 3 front cover and the left front cover is appreciable, perform the following:
9) Slide out the left deck, and loosen the 4 screws [1]; then, move the front left cover [2].
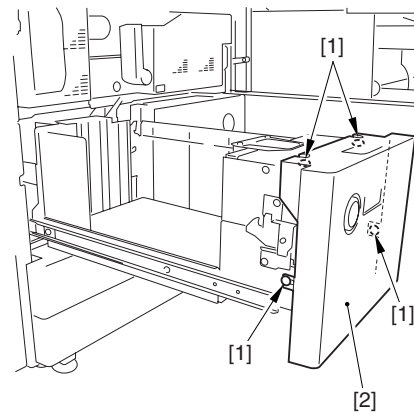
F-13-20

10) Close the left deck; when the gap is gone, slide out the left deck once again, and attach the 4 screws you loosened in step 9).
    If there still is a gap, go back to step 9).
11) Close the left deck.

2. Right Deck Left/Right Margin Adjustment

1) Press the release button, and slide out the right deck.
2) Open the upper right color and the lower right cover
3) Loosen the 2 screws [1]; then, insert a screwdriver [2] through the opening in the front right stay, and turn the adjusting screw to adjust the left/right margin.
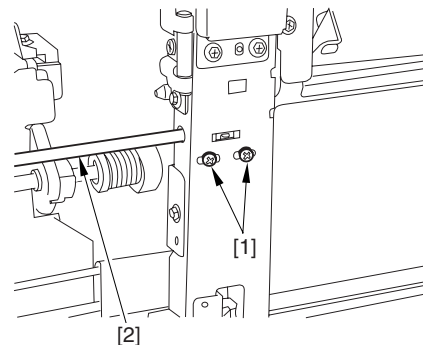
F-13-21

4) Check that the left/right margin of printouts made on paper from the right deck is as indicated.
5) As necessary, perform the following:
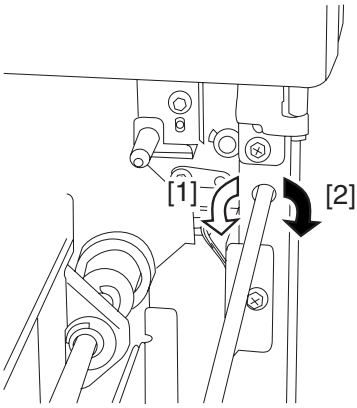
F-13-22

Reference:
Turn the screwdriver counterclockwise to decrease the left margin [1].
Turn the screwdriver clockwise to increase the left margin [1].
A full turn of the screwdriver changes the left margin by 1.0 mm.

6) Tighten the 2 screws you loosened in step 3).
7) Close the upper right cover and the lower right cover
8) Close the right deck.
If the gap between the front cover/cassette 3 front cover and the front right cover is appreciable, perform the following:
9) Slide out the right deck, and loosen the 4 screws, and move the front right cover [2].
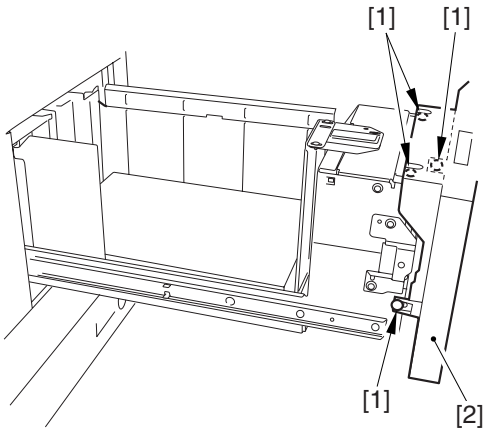
F-13-23
10) Close the right deck; when the gap is gone, slide out the right deck once again, and tighten the 4 screws you loosened in step 9).
If there still is a gap, go back to step 9).

13.3 Scanning System

13.3.1 After Replacing the CCD Unit

If you have replaced the CCD unit, be sure to enter the settings indicated on the label attached to the CCD unit:
COPIER>ADJUST>CCD>CCDU-RG
(to enter the correction value for CCD-dependent RG color displacement in sub scanning direction)
COPIER>ADJUST>CCD>CCDU-GB
(to enter the correction value for CCD-dependent GB color displacement in sub scanning direction)
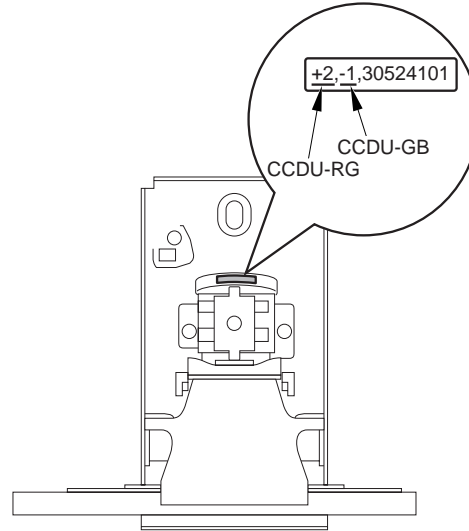
F-13-24
Moreover, be sure to update the settings indicated on the service label attached behind the reader unit front cover with the settings indicated on the label attached to the CCD unit.

13.3.2 After Replacing the Copyboard Glass

If you have replaced the copyboard glass, be sure to enter the bar code value indicated in the upper right of the copyboard glass using the following service mode items:

COPIER>ADJUST>CCD>W-PLT-X
COPIER>ADJUST>CCD>W-PLT-Y
COPIER>ADJUST>CCD>W-PLT-Z

(to enter the standard white plate white level data X, Y, Z)
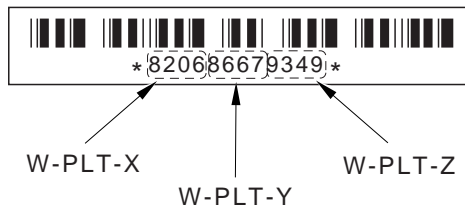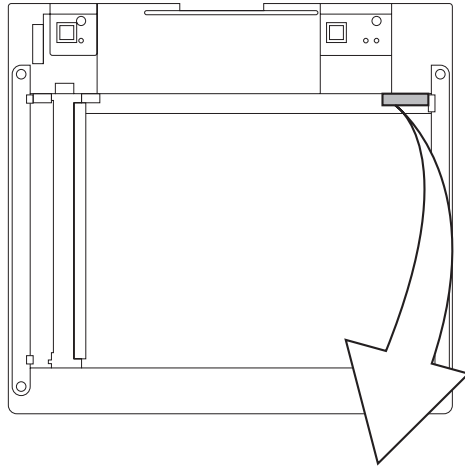
F-13-25

13.3.3 After Replacing the Reader Controller PCB or Initializing the RAM

⚠

-Be sure to generate the latest P-PRINT printout before replacing the reader controller PCB.
-If you are initializing the RAM of the reader controller without replacing the PCB, using the SST to upload the backup data of the reader controller. Then, after initializing the RAM, download the data to eliminate the need for the following adjustments:

1. Reader Unit-Related Adjustments
1) Using the SST, download the latest version of the system software (R-CON).
2) Select the following in service mode, and press the OK key to initialize the RAM:
   COPIER>FUNCTION>CLEAR>R-CON.
   Thereafter, turn off and then on the main power.
3) Enter the settings for the following items in service mode:

(1) standard white plate white level data
COPIER>ADJUST>CCD>W-PLT-X,Y,Z

F-13-26

(2) service label settings (label attached behind reader unit front cover)

(a) image read start position adjustment (x direction; for fixed reading)
COPIER>ADJUST>ADJ-XY>ADJ-X

(b) image read start position adjustment (Y direction; fixed reading)
COPIER>ADJUST>ADJ-XY>ADJ-Y

(c) shading position adjustment (for fixed reading)
COPIER>ADJUST>ADJ-XY>ADJ-S

(d) feeder mode main scanning position adjustment
COPIER>ADJUST>ADJ-XY>ADJ-Y-DF

(e) ADF stream reading CCD read position adjustment
COPIER>ADJUST>ADJ-XY>STRD-POS

(f) CCD unit-dependent RB/GB sub scanning direction color displacement correction value
COPIER>ADJUST>CCD>CCDU-RG/GB

(g) CCD unit-dependent RG/GB sub scanning direction color displacement value at shipment
COPIER>ADJUST>CCD>FCCDU-RG/GB

(h) auto gradation adjustment target value
COPIER>ADJUST>PASCAL>OFST-P-Y,M,C,K

2. ADF-Related Adjustments

⚠

The machine uses the RAM on its reader controller to store ADF-related service data; as such, you must make the appropriate adjustments for the ADF whenever you have replaced the reader controller or initialized the RAM.

1) Enter the settings indicated on the P-PRINT printout you have previously generated for the following items:
   (1) original stop position adjustment
   FEEDER>ADJSUT>DOCST
   (2) original feed speed (magnification) adjustment
   FEEDER>ADUST>LA-SPEED
2) Make adjustments using the following items:
   (1) ADF sensor sensitivity adjustment
   FEEDER>FUNCTION>SENS-INT
   (2) tray width adjustment
   (a) AB system: FEEDER>FUNCTION>TRY-A4 and FEEDER>FUNCTION>TRY-A5R
   (b) inch system: FEEDER>FUNCTION>TRY-LTR and FEEDER>FUNCTION>TRY-LTRR
   (3) white level adjustment
   COPIER>FUNCTION>CCD>DF-WLVL1
   COPIER>FUNCTION>CCD>DF-WLVL2

When done, store the P-PRINT printout [1] you have previously generated in the service book, disposing of the older printout, if any.

[1]

F-13-27

13.4 Laser Exposure System

13.4.1 After Replacing the Laser Scanner

1) Select the following in service mode, and press the OK key: COPIER>FUNCTION>DPC>DPC.
2) Turn off and then on the main power switch.

13.5 Image Formation System

13.5.1 After Replacing the Black Developing Unit

Be sure to perform the following whenever you have replaced the black developing assembly:
1) Make the following selections in service mode (black toner supply): FUNCTION>INSTALL>TONER-S.

13.5.2 Points to Note When Attaching the Polarity Positioning Plate

Go through the following steps in strict sequence when mounting the polarity positioning plate:
1) Let go of your hand so that the developing cylinder moves and stops on its own.
2) Shift the polarity positioning plate [1] counterclockwise as much as the length of the play of the D-cut notch [2]; then, read the index [4] of the marking found on the blade support base.

F-13-28

3) Turn the polarity positioning plate [1] counter-clockwise by a single index (5 deg); then, tighten the screw [2] to fix it in place.
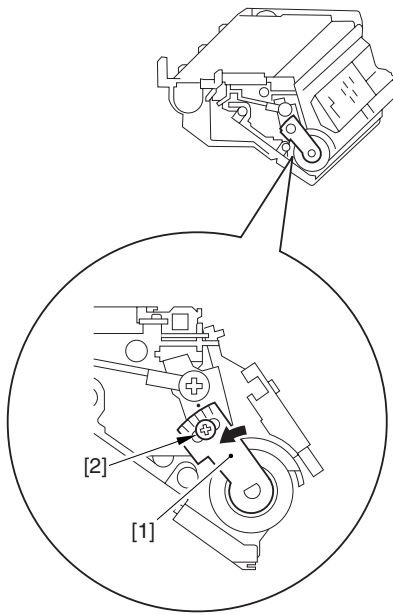
F-13-29

13.5.3 Replacing the Color Developing Unit

1) Open the packing box, and take out the new color developing unit.
2) Remove the screw [1], and free the 4 hooks [2]; then, remove the developing assembly lid [3].
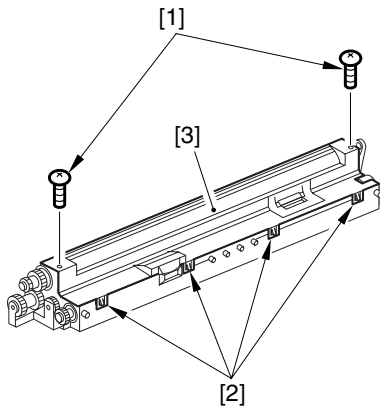
F-13-30

3) Even out the starter by shaking the container about 10 times.
4) Open the lid [2] of the starter bottle [1]; then, remove the middle lid [3], and close the lid.
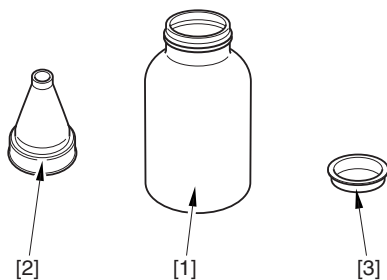
F-13-31

5) Supply half the starter so that it is even in the lengthwise direction around the stirring screw inside the color developing unit.
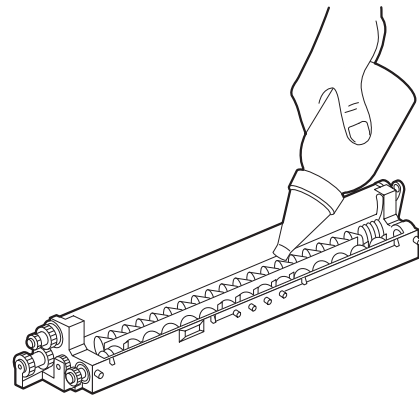
F-13-32

6) Turn the developing gear 5 to 6 times by hand in the direction indicated in the figure so that the starter will be even inside the unit.
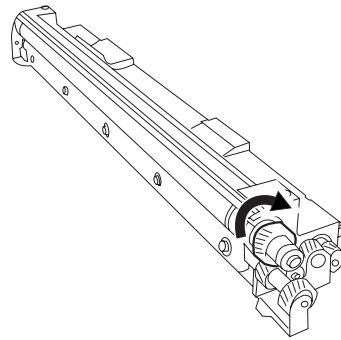
F-13-33

7) Supply the remaining half of the starter around the stirring screw inside the color developing unit.
8) Turn the developing gear 5 to 6 times once again so that the starter inside the unit is even.
9) Move the starter found on the inner side of the container wall off the wall.
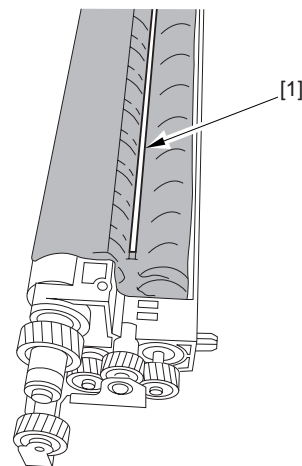
F-13-34

10) Fit the container lid you removed in step 2) back on in the direction indicated in the figure.
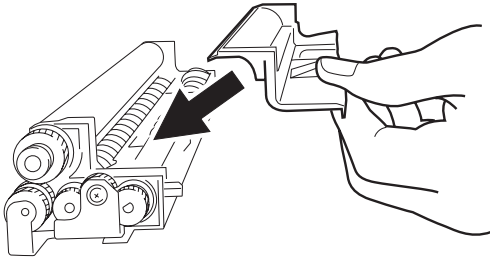
F-13-35

Thereafter, engage the 4 hooks [1]; then, fix the container lid [3] in place using the 2 screws [2] you removed in step 3).
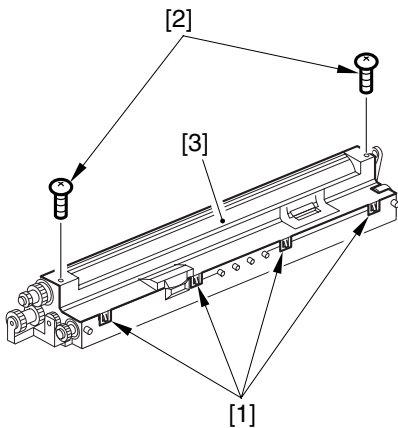
F-13-36

⚠ Force down the lid against the container so that the gap [1] indicated in the figure is small enough to prevent insertion of a transparency.
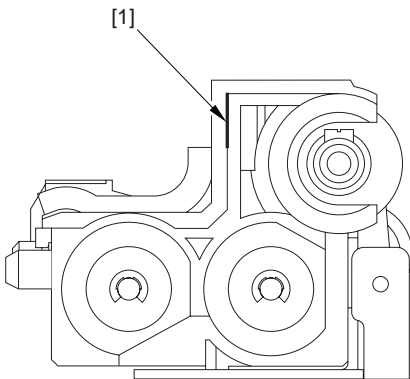
F-13-37

⚠ When tightening the screw, take full care so that no shavings caused by turning the screw into the lid of the developing assembly and the container will move into the container.

11) Cut off the appropriate tab [1]] to suit the color of the starter you have supplied. The tab A in the figure is an extra tab.

F-13-38

12) Fit the color developing unit by going through the steps used to detach it but in reverse.

13) Turn on the main power switch.

14) Make the following selections in service mode, and set '1', and press the OK key: COPIER>FUNCTION>INSTALL>AINR-OFF.

15) Select one of the following service mode items to suit the color of the starter you have supplied; then, press the OK key.

- if for the Y developing assembly, COPIER>FUNCTION>INSTALL>INISET-Y
- if for the M developing assembly, COPIER>FUNCTION>INSTALL>INISET-M
- if for the C developing assembly, COPIER>FUNCTION>INSTALL>INISET-C
- if for the CMY developing assemblies, COPIER>FUNCTION>INSTALL>INISET-3

⚠ A countdown is shown on the screen while this mode item is under way. At the end, the screen will show "OK!".

This mode uses ATVC control, possibly taking a while depending on the site environment. The count on the screen, for this reason, may loop between 690 and 620.

16) Execute the following service mode item: COPIER>FUNCTION>MISC-P>P-PRINT.

Store away the generated printout in the service book case. (If there is a previous printout, dispose of it.)

17) End service mode, and start user mode; on the Auto Gradation Correction screen, follow the instructions to execute auto gradation correction (full).

13.5.4 Replacing the Starter of the Color Developing Unit

1) Remove the color developing unit.
2) Remove the developing unit lid [3].
   - screw [1]
   - 4 hooks [2]
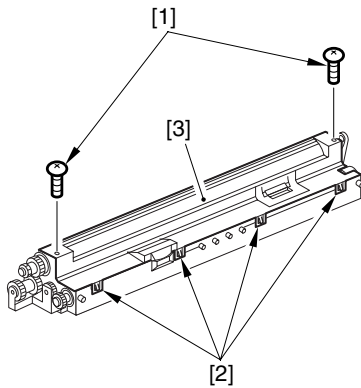
F-13-39

3) On A3 paper or in a vinyl bag, dispose of the contents of the unit by turning it over.
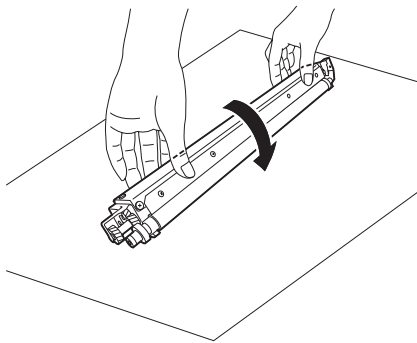
F-13-40

4) Turn back over the developing unit, and turn the developing gear in the direction in which the cylinder normally turns so that the agent will drop into the developing assembly.
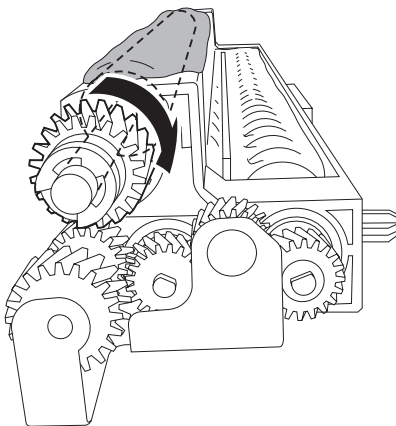
F-13-41

5) Dispose of the agent into a vinyl bag or on paper by turning over the developing unit.
6) Repeat steps 4) and 5) about 3 times (e.g., until no agent drops into the developing assembly).
7) Shake the container of the starter about 10 times.

8) Detach the funnel [2] of the starter bottle [1]; then, remove the middle lid [3], and put the funnel back on [2].
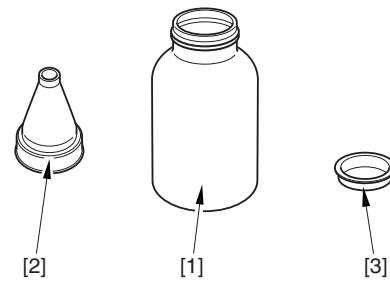
F-13-42

9) Pour the starter along the length of the stirring screw inside the color developing unit so that it is about half full.
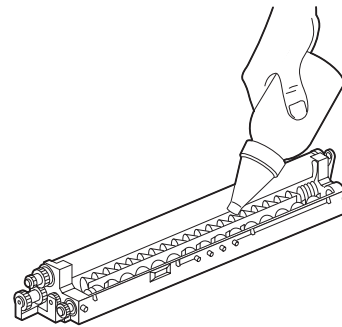
F-13-43

10) Turn the developing gear in its normal direction 5 to 6 by hand to even out the starter inside it.
11) Pour the rest of the starter around the string screw inside the color developing unit.
12) Turn the developing gear 5 to 6 times once again to even out the starter inside the unit.
13) Move the starter that may remain on the inner side of the unit wall [1] into the developing assembly.
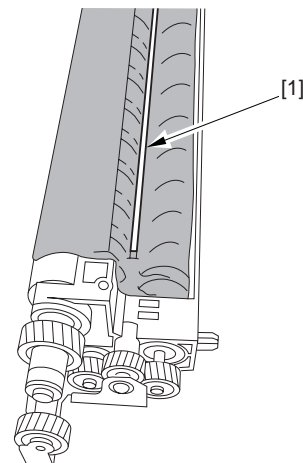
F-13-44

14) Attach the developing assembly lid you removed in step 2), making sure that the lid is oriented as shown.
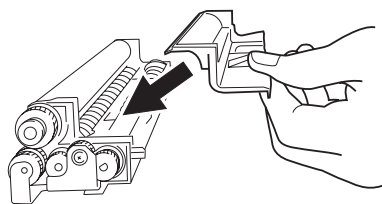
F-13-45

Engage the 4 hooks [1], and attach the developing assembly lid [3] using the 2 screws [2] you removed in step 2).
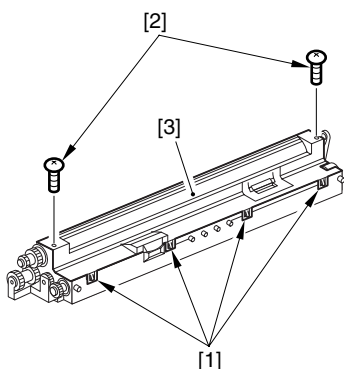
F-13-46

⚠

Be sure to force the lid against the developing container so that no transparency will insert the gap [1] shown in the figure.

F-13-47

⚠

When tightening the screw, take care so that the shavings from the developing unit or its lid will not enter the unit.

15) Attach the color developing unit using the steps you used to remove it but in reverse.
16) Turn on the main power switch.
17) Select the following in service mode; then, enter '1', and press the OK key: COPIER>FUNCTION>INSTALL>AINR-OFF.
18) Select the appropriate mode item from the following to suit the color of the starter you have used; then, press the OK key
if Y developing assembly, COPIER>FUNCTION>INSTALL>INISET-Y.
if M developing assembly, COPIER>FUNCTION>INSTALL>INISET-M.
if C developing assembly, COPIER>FUNCTION>INSTALL>INISET-C.

⚠

A countdown is shown on the screen while this mode item is under way. At the end, the screen will show "OK!".
This mode uses ATVC control, possibly taking a while depending on the site environment. The count on the screen, for this reason, may loop between 690 and 620.

19) Perform the following in service mode: COPIER>FUNCTION>MISC-P>P-PRINT.
Then, store the generated printout in the service book case. If there is any previous printout, dispose of it.
20) End service mode, and select 'auto gradation correction' in sure mode; perform auto gradation correction (full correction) by going through the instructions on the screen.

13.5.5 After Replacing the Primary Charging Assembly

If you have replaced the primary charging assembly, be sure to adjust the following:
1) Check the settings indicated on the primary charging assembly height adjustment label attached behind the front cover.
2) Adjust so that the charging wire height of the new charging assembly is as indicated.
3) Perform primary charging assembly cleaning in service mode: COPIER>FUNCTION>CLEANING>WIRE-CLN.
4) Select the following in service mode (potential control): COPIER>FUNCTION>DPC>DPC.
5) Turn off and then on the main power.

13.5.6 After Replacing the Primary Charging Wire

1) Clean the charging wire, grid wire, and shielding plates.
2) Perform the following in service mode (primary charging wire cleaning): COPIER>FUNCTION>CLEANING>WIRE-CLN.

13.5.7 After Replacing the Pre-Transfer Charging Wire

Perform the following in service mode (pre-transfer charging wire cleaning): COPIER>FUNCTION>CLEANING>WIRE-CLN.

13.5.8 After Replacing the Pre-Transfer Charging Wire

1) Clean the charging wire and the shielding plates.
2) Perform the following in service mode (pre-transfer charging wire cleaning): COPIER>FUNCTION>CLEANING>WIRE-CLN.

13.5.9 After Replacing the Waste Toner Box

1) Attach the new waste toner box in the machine.
2) Perform the following service mode, thereby resetting the waste toner counter reading to '0' (waste toner counter reset): COPIER>COUNTER>MISC>WASTE-TURN.

13.5.10 After Replacing the ITB Cleaning Blade

Whenever you need to replace the ITB cleaning blade, be sure to go though the following steps to apply blade lubricant (TKN-0480) to the edge of he blade.
1) Turn the primary transfer roller locking lever [1] in the direction of the arrow to engage the intermediate transfer belt.
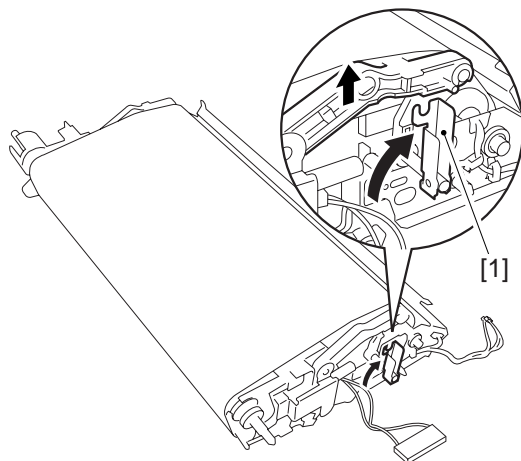
F-13-48

2) Apply an appropriate amount of blade lubricant [1] as if to sprinkle it over an area of the surface as shown.
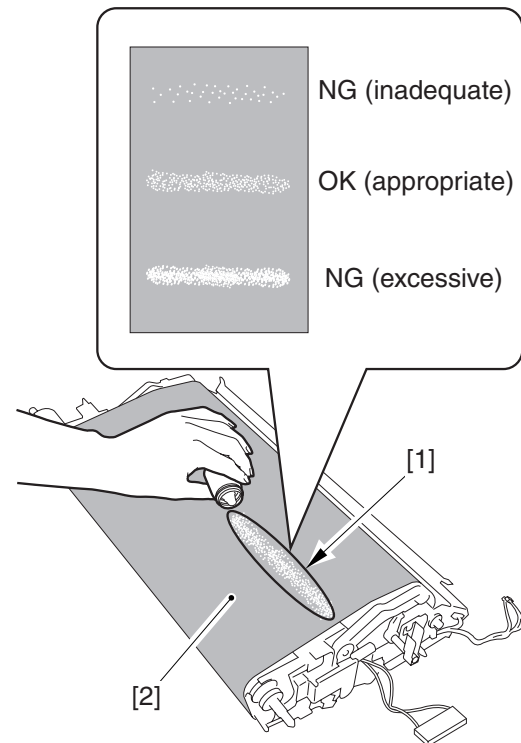
F-13-49

3) Spread the blade lubricant [1] using lint-free paper [2] as shown to cover an area of the belt about 10 cm wide.
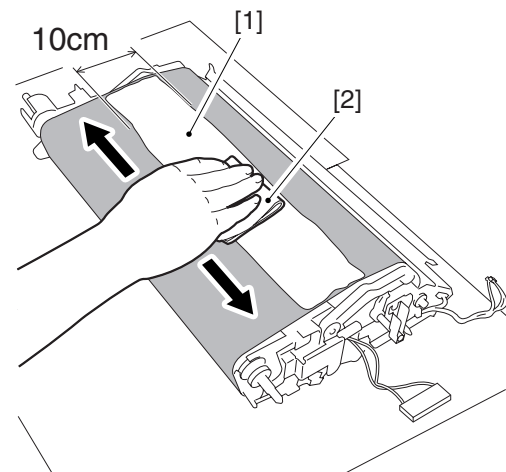
F-13-50

⚠️

Take care so that the blade lubricant will not make its way behind the intermediate transfer belt. Otherwise, the presence of blade lubricant behind the intermediate transfer belt can cause the ITB home position sensor to make wrong detection.

4) Turn the drive gear [1] in the direction of the arrow so that the area of blade lubricant [2] is found as shown.
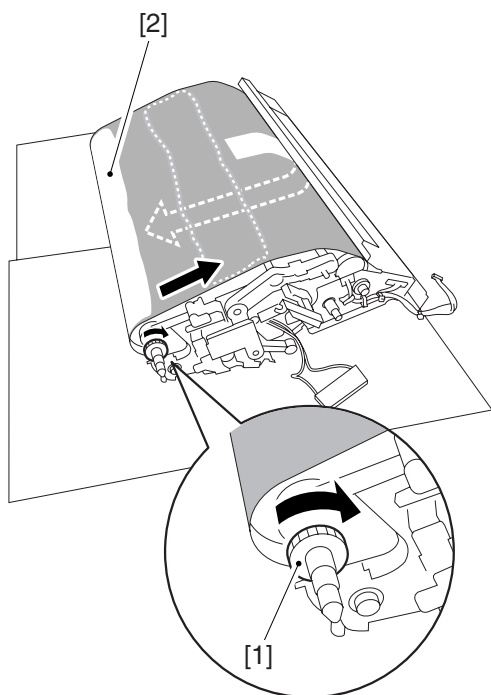
F-13-51

5) Attach the ITB cleaning unit [2] to the intermediate transfer unit [1]; then, attach it using 2 screws [3].
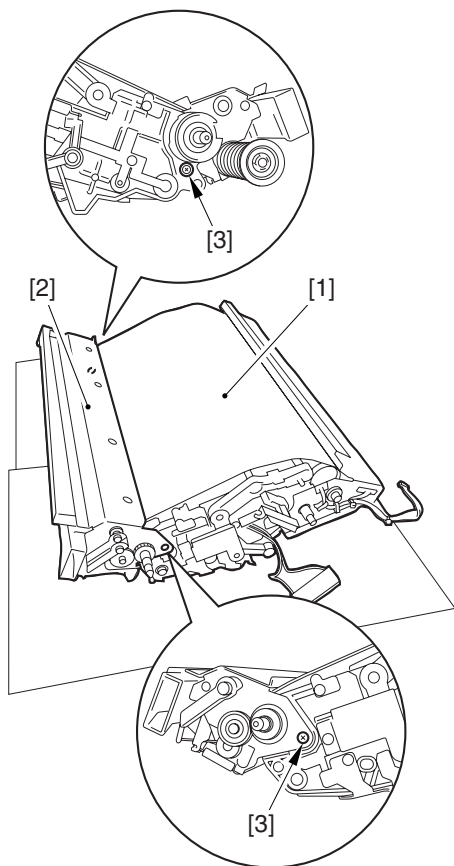
F-13-52

6) Turn the drive gear [3] until the area [2] of blade lubricant is no longer visible on the intermediate transfer belt [1].
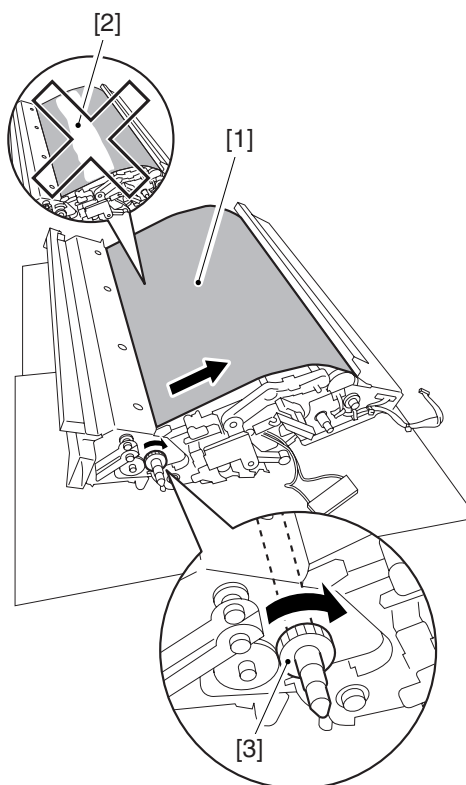
F-13-53

⚠

If you have replaced the ITB cleaner blade, be sure to perform the following:
1) Perform the following service mode item (black band sequence): COPIER>FUNCTION>CLEANING>BK-BNDEX.

13.5.11 After Repacking the Photosensitive Drum Cleaning Blade

Be sure of the following when attaching the photosensitive drum cleaning blade:
(1) Do not turn over the cleaning blade. Replace it when one side has been used.
(2) Clean the area [1] of the retainer plate coming into contact with the cleaning blade and the blade plate [2] using alcohol; then, dry wipe it to remove any toner.

⚠
The fine particle of toner under the blade edge can put the blade out of alignment, allowing toner on the photosensitive drum to remain on the drum in the form of residual toner.
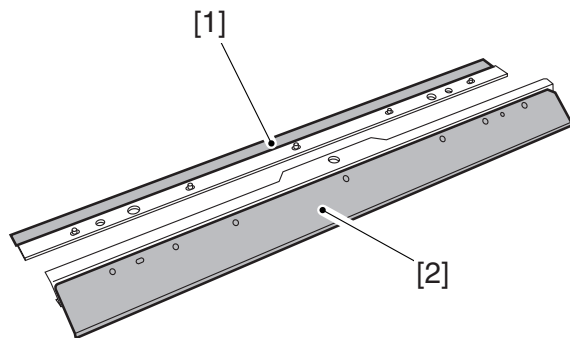
F-13-54

(3) Be sure to attach the cleaning blade [1] so that the lot No. [2] faces the front and is upright.
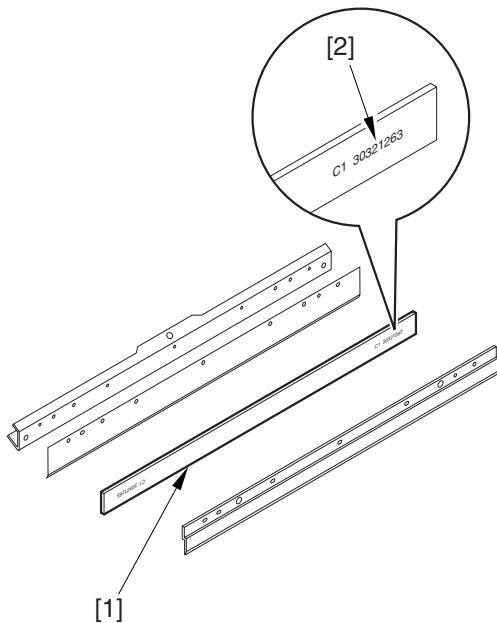
F-13-55

(4) Be sure to force the cleaning blade [1] firmly against the retaining plate [2], and check that there is no gap in the area [3] indicated in the figure.
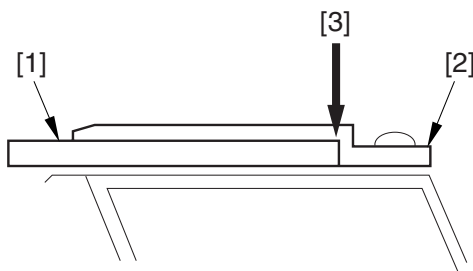
F-13-56

(5) Be sure to tighten the screws [1] on the cleaning blade in the order indicated in the figure.
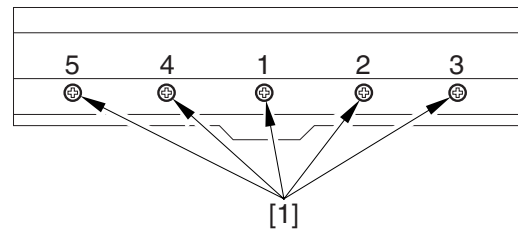
F-13-57

(6) Apply blade lubricant (TKN-0480) along the edge (shaded; coming into contact with the photosensitive drum) of the cleaning blade.
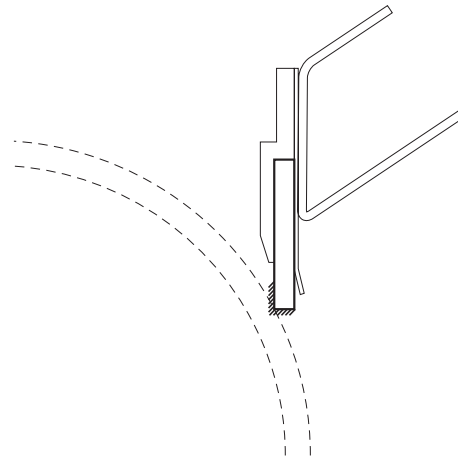
F-13-58

⚠
When you have replaced the photosensitive drum cleaning blade, be sure to perform the following service mode item.
Be sure that you perform service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>ITR-ROT.

13.5.12 Replace the Photosensitive Drum

If you have replaced the photosensitive drum, be sure to go through the following:

1) Remove the drum heater and the drum heater PCB; then, mount them to the new photosensitive drum.
2) Attach the photosensitive drum so that the lot number label [1] attached to its inner side is toward the front of the machine.

F-13-59

MEMO:
There is a light difference in the inside diameter of the photosensitive drum between its front and its rear. (The front and rear drum flanges are designed in relation to the photosensitive drum.) If you attach the photosensitive drum in the wrong orientation, the gap between the developing cylinder and the photosensitive drum will be uneven, possibly causing uneven density.

3) Replace the starter (3 types) of the color developing unit.

13.5.13 Points to Note When Replacing the Drum Heater

⚠

Drum memory can occur if the phase of the drum is changed, as when replacing the drum heater. Take full care not to change the phase of the drum during the work by making sure of the following:

1) When removing the drum flange, check the location of the marking [2] on the drum flange in relation to the lot No. label [1] found on the inner side of the drum. (In the case of the figure, the left of the marking is at ".." and the right is at "..." with the lot No. label facing upward.)
2) When attaching the drum flange, be sure to attach with a screw where it was found in step 1.
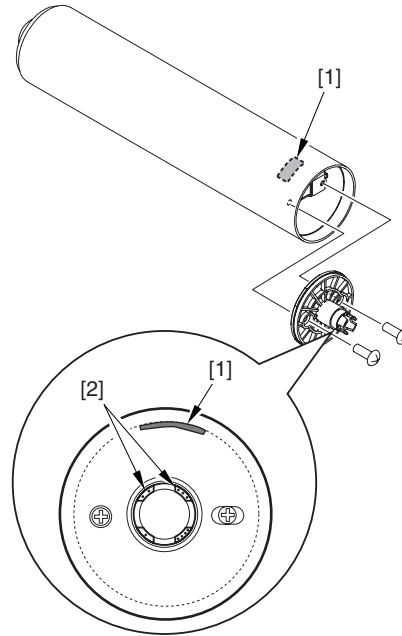
F-13-60

3) Check the drum phase label [1] attached behind the process unit cover.
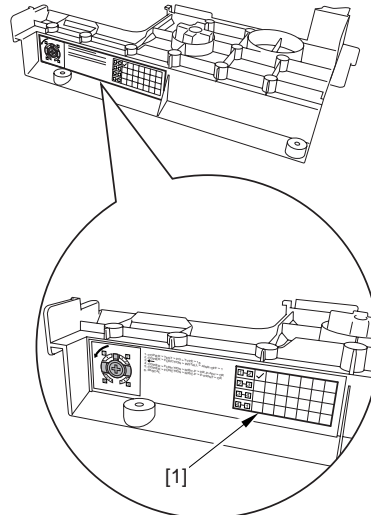
F-13-61

⚠

See the following sample. The cell with a check mark [1] indicates the present drum phase location. In this case, the marking [3] is located in relation to the protrusion [2] of the drum fixing member with its left at ".." and right at "..." .
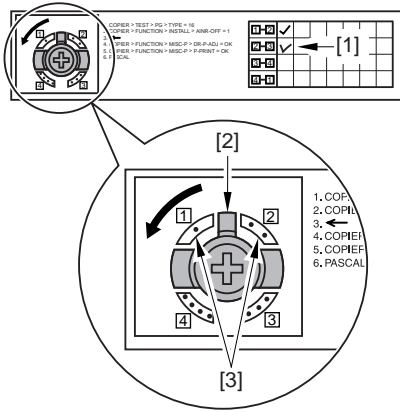
F-13-62

4) Be sure to attach the drum fixing member [1] to the drum flange [2] in correct relation to the phase location indicated on the drum phase label.
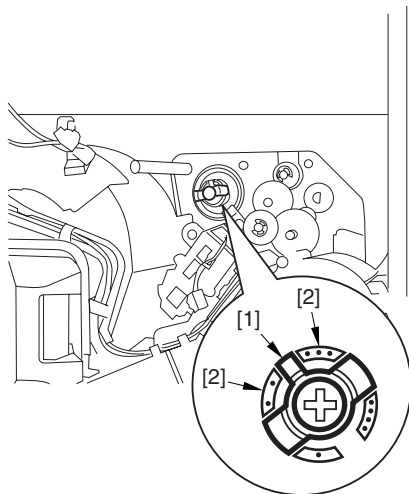
F-13-63

13.5.14 Points to Note When Replacing the Drum Heater PCB

⚠

Drum memory can occur if the phase of the drum is changed, as when replacing the drum heater PCB. Take full care not to change the phase of the drum during the work by making sure of the following:

1) When removing the drum flange, check the location of the marking [2] on the drum flange in relation to the lot No. label [1] found on the inner side of the drum. (In the case of the figure, the left of the marking is at ".." and the right is at "..." with the lot No. label facing upward.)
2) When attaching the drum flange, be sure to attach with a screw where it was found in step 1.
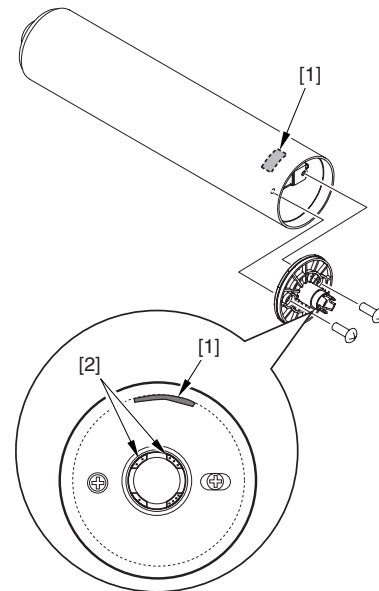
F-13-64

3) Check the drum phase label [1] attached behind the process unit cover.
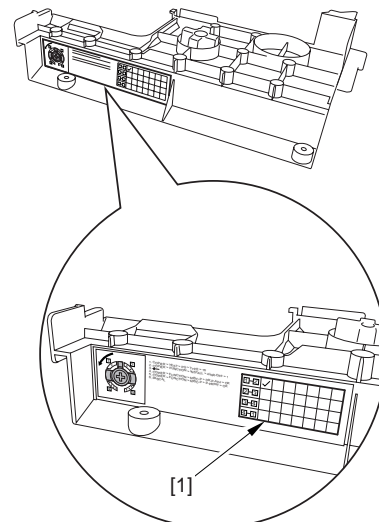
F-13-65

⚠️

See the following sample. The cell with a check mark [1] indicates the present drum phase location. In this case, the marking [3] is located in relation to the protrusion [2] of the drum fixing member with its left at ".." and right at "..." .
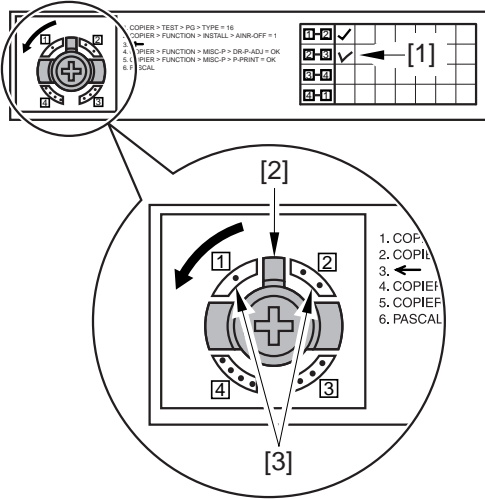
F-13-66

4) Be sure to attach the drum fixing member [1] to the drum flange [2] in correct relation to the phase location indicated on the drum phase label.
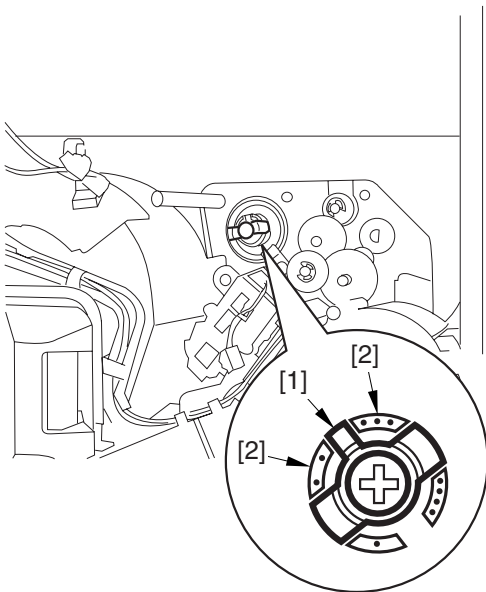
F-13-67

13.5.15 After Repacking the ITB

When you have replaced the ITB belt, be sure to perform the following service mode item.
Be sure that you perform service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>ITR-ROT.

13.5.16 After Replacing the Primary Transfer Roller

As the machine is used more and more, the shavings from the primary transfer roller can start to collect on the rollers behind the belt.
When you have replaced the primary transfer roller, be sure to clean the 6 rollers [1] and the scraper [2] indicated below.

⚠️

The idle roller (indicated by an arrow) is designed for mounting after fitting the intermediate transfer belt. Although the figure shows the roller, it is only for reference purposes, and the roller is not in its indicated position at this point in time.
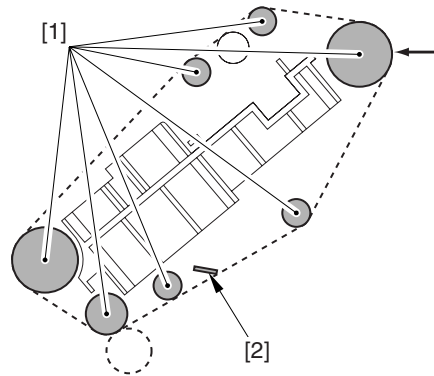
F-13-68

1. Cleaning Procedure
1) Place the ITB cleaner drive unit [1] with its cover facing down; then, stand the ITB unit [2].
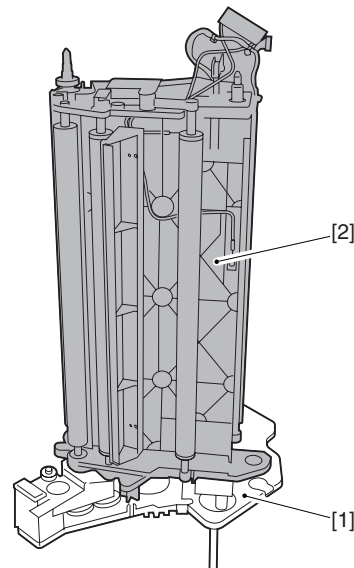
F-13-69

2) Clean the rollers [1] and the inside scraper [2] using alcohol.

[1]

[1]   [2]   [1]

F-13-70

[3]
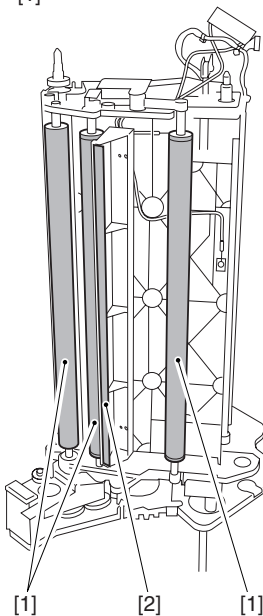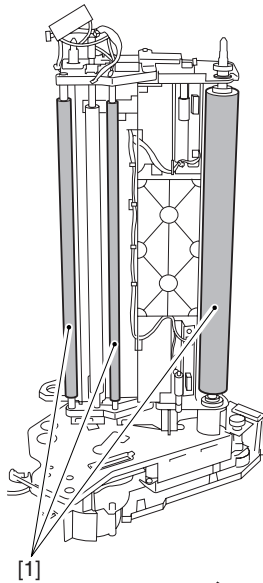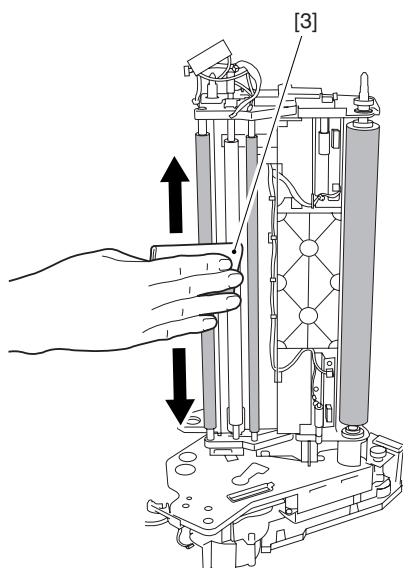
F-13-71

⚠

When you have replaced the primary transfer roller, be sure to perform the following service mode item.

Be sure that you perform service mode immediately after the control panel screen has appeared after turning on the main switch. : COPIER>FUNCTION>MISC-P>ITR-ROT.

13.6 Fixing System

13.6.1 Points to Note When Attaching the Fixing Assembly

⚠ When fitting the fixing assembly into the fixing/feeding assembly, take full care not to damage the 2 sensors [1].

[1]
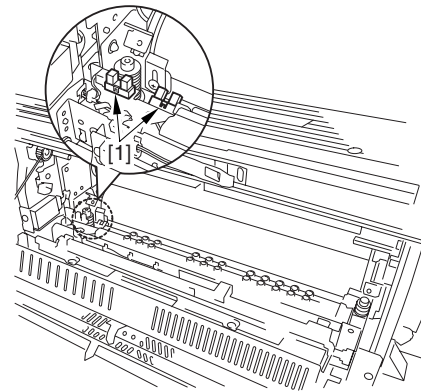
F-13-72

13.6.2 After Replacing the Fixing Roller

If you have replaced the fixing roller, be sure to execute the following service mode item to reset the counter reading:
COPIER>COUNTER>DRBL-1>FX-UP-RL

13.6.3 After Replacing the Fixing Web

1. After attaching the web, take up its slack so that there will be no slack when the web unit is fitted in the fixing assembly.
2. After replacing the web, reset the readings of the following service mode items:

COPIER>COUNTER>MISC>FIX-WEB
COPIER>COUNTER>DRBL-1>FX-WEB

13.6.4 Position of the Fixing inlet Guide

⚠

Do not loosen the screw on the inlet guide base [1], as you would have to adjust the position of the guide if you detached it. If you loosened it for some reason, be sure to perform the following:

1) Adjust the position of the inlet guide base [1] so that the height [A] at the center of the fixing inlet guide [2] is 60.7 +/-0.2 mm and the difference in height between the ribs [B] on both sides of the inlet guide is 0.5 or less.
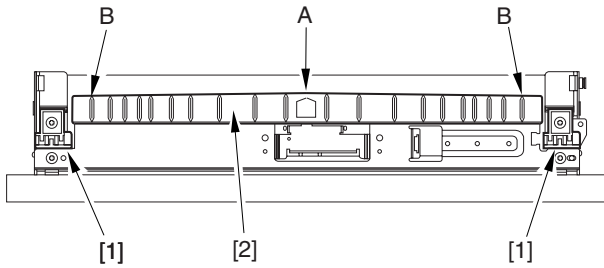
F-13-73
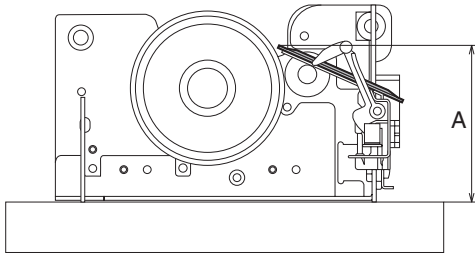
F-13-74

13.6.5 Points to Note When Attaching the Pressure Roller

Be sure to mount the pressure roller [1] so that the lot number [2] found on its edge is found toward the front of the machine.
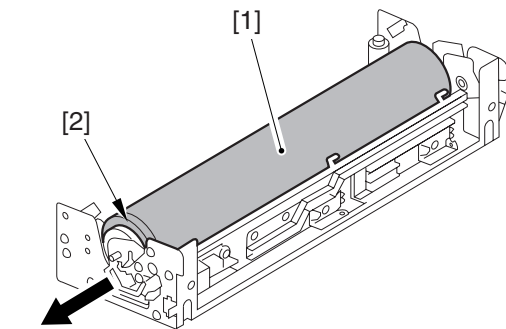
Front

F-13-75

13.6.6 Adjusting the Nip Pressure of the Pressure Roller

⚠

The nip is adjusted to a high degree of accuracy before the machine is shipped out of the factory, and it cannot be adjusted in the field. Do not turn the 2 hex bolts [1] found on the delivery side of the fixing assembly. If you turned it by mistake, be sure to turn it back to its initial position.
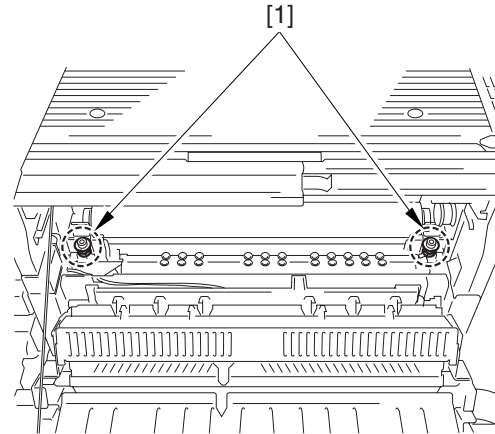
F-13-76

13.6.7 Adjusting the Position of the Feeding Web Solenoid (SL2)

Pull on the solenoid [1], and tighten the screw [4] while making sure that the lever [2] is in firm contact with the plate at a specific point [3].
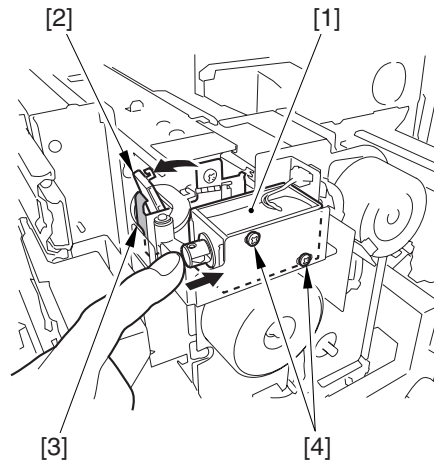
F-13-77

13.6.8 Points to Note About the Position of the Fixing Thermal Switch

⚠ After mounting the thermal switch, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
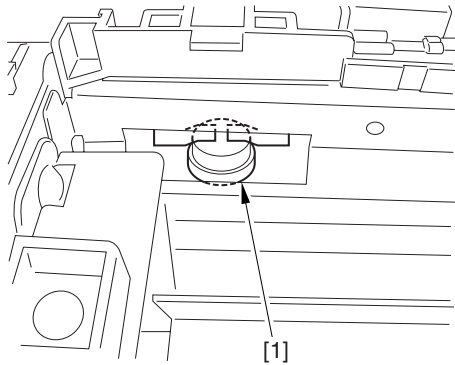
F-13-78
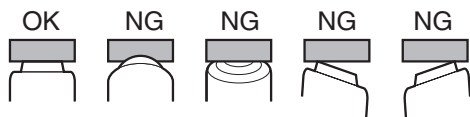
F-13-79

13.6.9 Points to Note When Mounting the Shift Thermal Switch

⚠ After mounting the thermal switch (before mounting the inlet guide), check to make sure o the following:

The surface of the thermal switch [1] must be parallel to the pressure roller. (Be sure to check it by shining the thermal switch by a pen light.) if not, re-mount it.
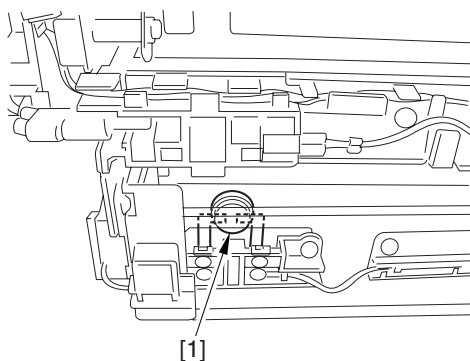
F-13-80

F-13-81

13.6.10 Points to Note When Mounting the Outside Heating Roller Thermal Switch

⚠ After mounting the thermal switch, check to be sure of the following:

The surface of the thermal switch [1] must be parallel to the outside heating roller. (Be sure to shine the thermal witch switch a pen light.) If not, re-mount it.
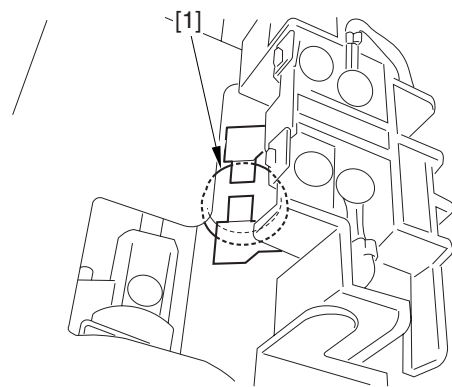
F-13-82
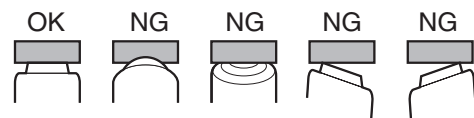
F-13-83

13.6.11 Points to Note When Mounting the Fixing Upper Thermistor

⚠ After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
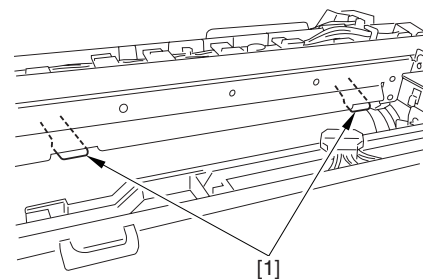
F-13-84
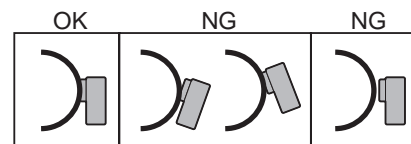
F-13-85

13.6.12 Points to Note When Mounting the Fixing Lower Thermistor

⚠️After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
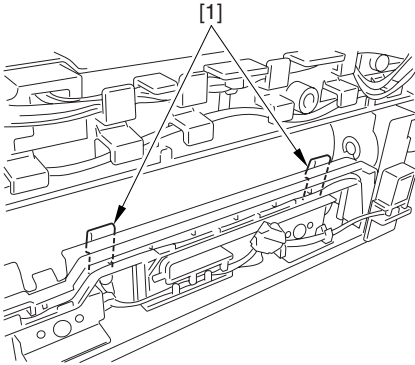
F-13-86
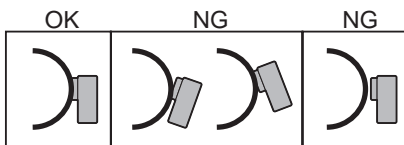
F-13-87

13.6.13 Points to Note When Mounting the External Heat Thermistor

⚠️After mounting the thermistor, make sure of the following:

The surface of the thermal switch [1] must be parallel to the fixing roller. (Check to be sure by shining the thermal switch with a pen light.) Otherwise, re-mount it.
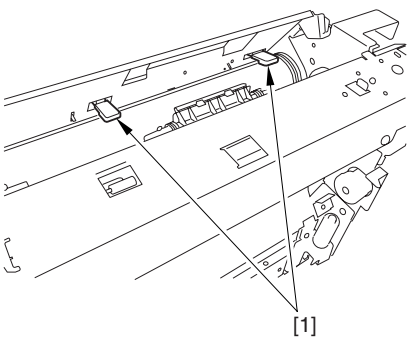
F-13-88
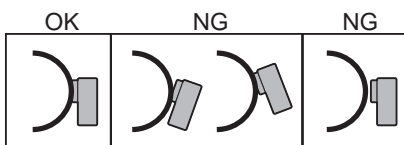
F-13-89

13.7 Electrical Components

13.7.1 When Replacing the Reader Controller PCB

⚠️
-Be sure to generate the latest P-PRINT printout before replacing the reader controller PCB.
-If you are initializing the RAM of the reader controller without replacing the PCB, using the SST to upload the backup data of the reader controller. Then, after initializing the RAM, download the data to eliminate the need for the following adjustments:

1. Reader Unit-Related Adjustments
1) Using the SST, download the latest version of the system software (R-CON).
2) Select the following in service mode, and press the OK key to initialize the RAM: COPIER>FUNCTION>CLEAR>R-CON.
   Thereafter, turn off and then on the main power.
3) Enter the settings for the following items in service mode:
   (1) standard white plate white level data
       COPIER>ADJUST>CCD>W-PLT-X,Y,Z

F-13-90

   (2) service label settings (label attached behind reader unit front cover)
       (a) image read start position adjustment (x direction; for fixed reading)
           COPIER>ADJUST>ADJ-XY>ADJ-X
       (b) image read start position adjustment (Y direction; fixed reading)
           COPIER>ADJUST>ADJ-XY>ADJ-Y
       (c) shading position adjustment (for fixed reading)
       COPIER>ADJUST>ADJ-XY>ADJ-S
       (d) feeder mode main scanning position

adjustment
COPIER>ADJUST>ADJ-XY>ADJ-Y-DF
(e) ADF stream reading CCD read position adjustment
COPIER>ADJUST>ADJ-XY>STRD-POS
(f) CCD unit-dependent RB/GB sub scanning direction color displacement correction value
COPIER>ADJUST>CCD>CCDU-RG/GB
(g) CCD unit-dependent RG/GB sub scanning direction color displacement value at shipment
COPIER>ADJUST>CCD>FCCDU-RG/GB
(h) auto gradation adjustment target value
COPIER>ADJUST>PASCAL>OFST-P-Y,M,C,K

2. ADF-Related Adjustments

⚠

The machine uses the RAM on its reader controller to store ADF-related service data; as such, you must make the appropriate adjustments for the ADF whenever you have replaced the reader controller or initialized the RAM.

1) Enter the settings indicated on the P-PRINT printout you have previously generated for the following items:
(1) original stop position adjustment
FEEDER>ADJSUT>DOCST
(2) original feed speed (magnification) adjustment
FEEDER>ADUST>LA-SPEED
2) Make adjustments using the following items:
(1) ADF sensor sensitivity adjustment
FEEDER>FUNCTION>SENS-INT
(2) tray width adjustment
(a) AB system: FEEDER>FUNCTION>TRY-A4 and FEEDER>FUNCTION>TRY-A5R
(b) inch system: FEEDER>FUNCTION>TRY-LTR and FEEDER>FUNCTION>TRY-LTRR
(3) white level adjustment
COPIER>FUNCTION>CCD>DF-WLVL1
COPIER>FUNCTION>CCD>DF-WLVL2
When done, store the P-PRINT printout [1] you have previously generated in the service book, disposing of the older printout, if any.

13.7.2 After Replacing the DC Controller PCB

1) Using the SST, upload 'SramDCON.bin' by selecting [Upload Backup Data].

MEMO:
For specific instructions on the uploading procedure, see the descriptions in the appropriate chapter of the Manual.

2) Replace the DC controller PCB. Then, using the SST, download the latest system software.
3) Make the following selections in service mode to initialize the RAM on the DC controller PCB: **COPIER>FUNCTION>CLEAR>DC-CON.**
4) Using the SST, download the previously uploaded file by selecting [Download Backup Data].

MEMO:
For specific instructions on the downloading procedure, see the descriptions in the appropriate chapter of the Manual.

5) Using the SST, download the previously uploaded file by selecting [Download Backup Data].
6) Perform the following in service mode (forced initial multiple rotation): **COPIER>FUNCTION>MISC-P>INTR-EX.**
7) Perform full auto gradation correction in user mode (image characteristics correction control).
8) Dispose of the waste toner that has collected in the waste toner bottle.

⚠

You cannot change the waste toner counter reading (COUNTER>MISC>WASTE-TNR) in service +mode. If you have replaced the DC controller PCB or initialized the RAM, you must make sure that the waste toner bottle is empty.

13.7.3 Points to Note When Mounting the DC Controller PCB/ DC Controller Box

⚠ During assembly work, be sure to connect the harness to the DC controller PCB as follows:
- Connect the connector of the harness [1] first, and then the other harness [2].
- Fix the harnesses [1] [2] in place using the wire saddle [3] so that the harness [1] is on the left side of the harness [2].
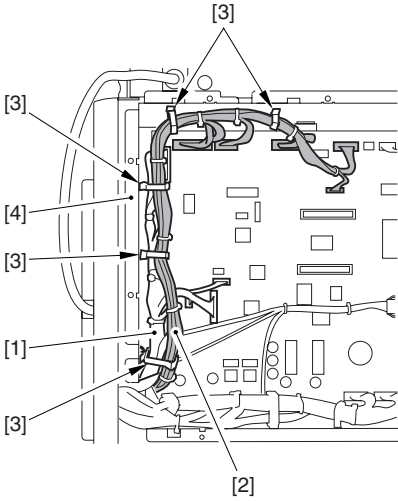
F-13-91
Supplementary Information:
If the harness [1] is away from the side plate [4] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur because of noise.

13.7.4 After Replacing the Main Controller PCB (main)

After attaching the main controller PCB (main), be sure to attach the PCBs you may have removed before replacing the main controller PCB:
[1] boot ROM
[2] image memory (SDRAM)
[3] expansion bus PCB
[4] main controller PCB (sub)
[5] UFR board (optional)
[6] Ethernet board
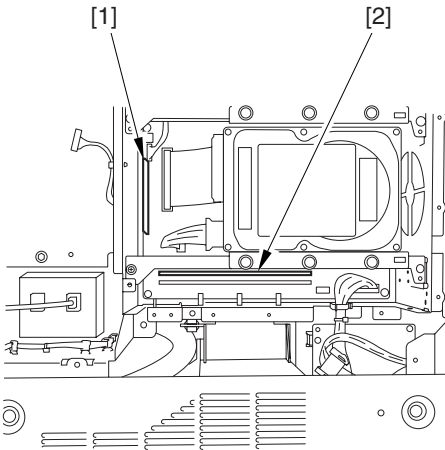
F-13-92
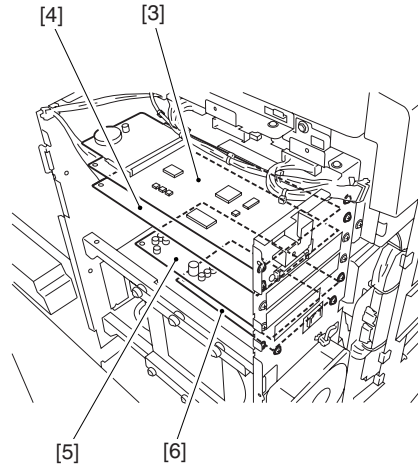
F-13-93

13.7.5 After Repacking the SRAM Board

⚠
(1) Be sure to inform the sure that replacing the SRAM board will lead to the loss of all image data held in Boxes, and obtain his/her consent before starting the work.
(2) If you are replacing the SRAM board, be sure to use a new one. The use of a used SRAM board (used in a different printer) will likely cause malfunction.

1) Replace the SRAM board, and turn on the main power (so that the machine will run an auto initialization session).
2) When the control panel indicates the message "Turn Off and Then On the Power Switch on the Left" on its control panel, turn off and then on the power.
3) Select the following selections in service mode, and press the OK key to initialize the RAM: COPIER>FUNCTION>CLEAR>MN-CON.

13.7.6 After Replacing the HDD

1. If NetSpot Accountant (NSA) Is Not Used
1) Format the HDD.
   Start in safe mode (i.e., turn on the main power while holding down the 2 and 8 keys).
   Using the SST's hard disk formatting function, format all partitions. (For instructions, see the chapter on upgrading.)
2) Download the system software.
   Using the SST, download the system, language, and RUI files. (It may take about 5 min for the machine to start up after a download session.)

2. If NetSpot Account (NSA) Is Used in Combination with a Card Reader

The HDD retains the card ID used by NSA. If you have replaced the HDD, you will have to download the card data from NSA once again for NSA to operate. As shown under A. "If NetSpot Accountant Is Not Used," format the HDD and download the system software, and then perform extra steps:

1) Format the HDD.
   Start up in safe mode (i.e., by turning on the main power while holding down the 2 and 8 keys).
   Using the SST's hard disk formatting function, format all partitions. (For instructions, see the chapter on upgrading.)

2) Download the system software.
   Using the SST, download the system, language, and RUI files. (It may take about 5 min for the machine to start up after a download session.)

3) Start service mode.
   Select the following in service mode: COPIER>FUNCTION>INSTALL>CARD.

4) Enter the appropriate card No.
   Enter the lowest of the numbers of the cards used for group control, and press the OK key (e.g., enter '1' if cards run from No. 1 to No. 1000).

5) Turn off and then on the main power.

6) Check the count control function.
   In sure mode, make the following selections, and check IDs between ID00000001 and ID00001000 have been created.

7) Set the address.
   Set 'IP address', 'gateway address', and 'sub net mask' in sure mode: system control setup>network setup>TCP/IP setup>IP address.

8) Enter the appropriate number in sure mode: system administrator info setup>system control group ID>system control ID No.

9) Turn off and then on the main power.

⚠

If you fail to set 'system control group ID' and 'system control ID No.', you will not be able to set 'register card to device' as part of the NetSpot Account setup work.

10) Download the card ID.
   While the machine is in a standby state, download the card ID from NSA.

11) Check the count control function.
   In sure mode, make the following selections, and check that only the ID data is indicated on the screen: system control setup>group ID control>count control.

12) Check that the machine operates normally.
   Make copies using a sure card that has been registered using NSA; then, check that the use of the card is properly indicated.

13.7.7 When Replacing the HV2 PCB

1) Enter the settings indicated on the PCB label [1] attached to the new HV2 for the following 6 service mode items:
   COPIER>ADJUST>HV-TR>1TR-GAIN
   COPIER>ADJUST>HV-TR>1TR-OFST
   COPIER>ADJUST>HV-TR>1TR-CGAI
   COPIER>ADJUST>HV-TR>1TR-COFS
   COPIER>ADJUST>HV-TR>1TR-GAI2
   COPIER>ADJUST>HV-TR>1TR-OFS2
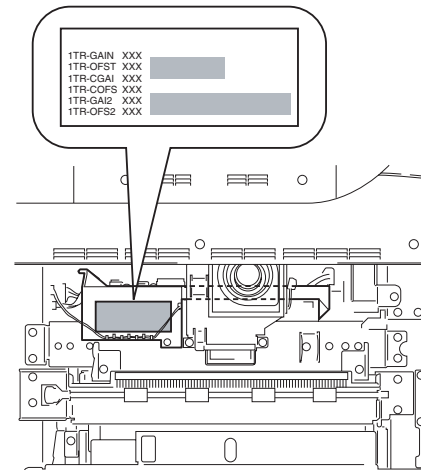
F-13-94

2) Generate a P-PRINT printout in service mode.

3) Store the generated P-PRINT printout [1] in the service book case, replacing any existing printout.
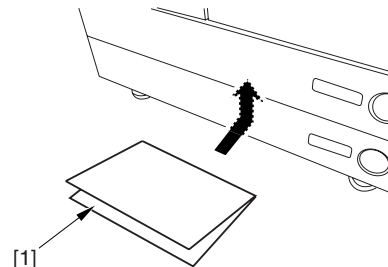
[1]

F-13-95

13.7.8 When Replacing the ATR Sensor/ Patch Image Read Sensor

If you have replaced the ATR sensor/patch image read sensor, be sure to perform the following:

1) Replace the contents of the color developing unit with starter (3 types).

13.8 Pickup/Feeding System

13.8.1 Adjusting the Horizontal Registration After Replacing the Pickup Cassette

Make prints using the cassettes 3 and 4 as the source of paper, and check that the left/right margin is as indicated.

If not as indicated, adjust the following:
1) Press the cassette release button, and slide out the cassette 3 or 4 to the front.
2) Open the upper right cover and the lower right cover.
3) Insert a screwdriver through the opening in the front right stay; then, loosen the screw [1], and adjust the position of the adjusting plate [2].
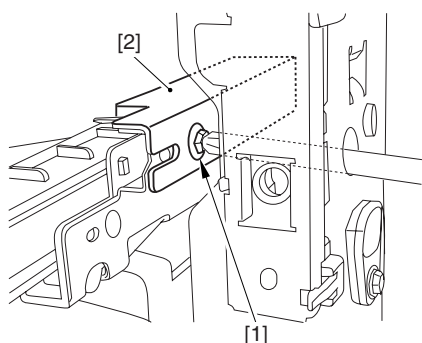
F-13-96

Move the adjusting plate toward the rear to decrease the left margin.
Move the adjusting plate toward the front to increase the left margin.
4) Tighten the screw.
5) Close the upper right cover and the lower right cover.
6) Attach the cassette 3 or 4 back in the machine.

13.8.2 Adjusting the Manual Feed Pickup Horizontal Registration

Make copies using the manual feed tray as the source of paper, and check that the left/right margin is as indicated.

If not, adjust the following:
1) Loosen the screw [1], and move the position of the slide guide [2] to adjust the horizontal registration.
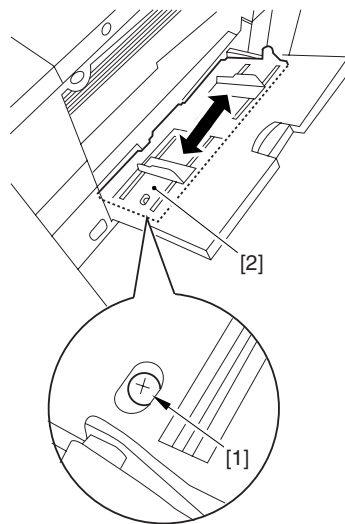
F-13-97

2) Check that the left/right margin of the prints is as indicated.
3) Tighten the screw.

13.8.3 Adjusting the Front Deck Pickup Horizontal Registration

Make prints using the right deck and left deck as the source of paper, and check that the left/right margin is as indicated:
If not, adjust the following:

1. Adjusting the Left/Right Margin for the Left Deck
1) Press the release button, and slide out the left deck.
2) Using a flat-bladed screwdriver, remove the left face cover [1].
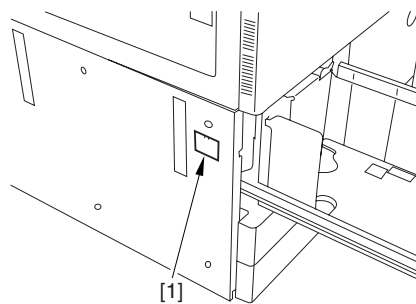
F-13-98

3) Loosen the 2 screws [1], and insert a screwdriver [2] through the opening of the left front stay; then, turn the adjusting screw to adjust the left/right margin.
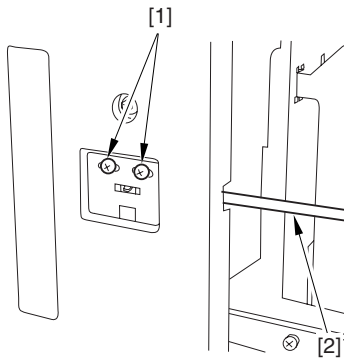
F-13-99

4) Check that the left/right margin of the printouts on paper from the left deck is as indicated.
5) As necessary, adjust the following:
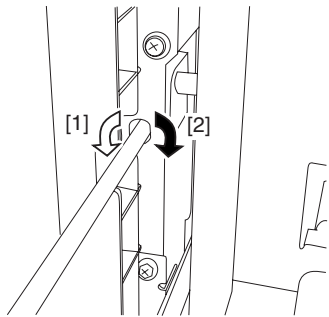
F-13-100

Reference:
Turn the screwdriver counterclockwise to decrease the left margin [1].
Turn the screwdriver clockwise to increase the left margin [2].
A full turn of the screwdriver will change the left margin by 1.0 mm.

6) Tighten the 2 screws you loosened in step 3).
7) Attach the left face cover you removed in step 2) back to the machine.
8) Close the left deck.

If the gap between the front cover/cassette 3 front cover and the left front cover is appreciable, perform the following:
9) Slide out the left deck, and loosen the 4 screws [1]; then, move the front left cover [2].
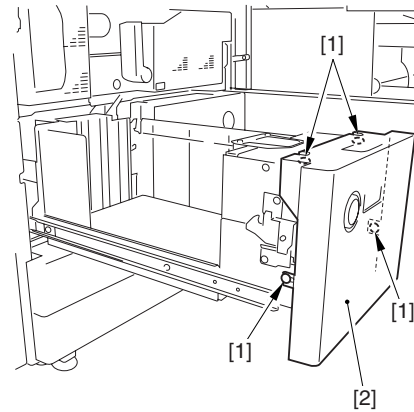
F-13-101

10) Close the left deck; when the gap is gone, slide out the left deck once again, and attach the 4 screws you loosened in step 9).
If there still is a gap, go back to step 9).
11) Close the left deck.

2. Right Deck Left/Right Margin Adjustment

1) Press the release button, and slide out the right deck.
2) Open the upper right color and the lower right cover
3) Loosen the 2 screws [1]; then, insert a screwdriver [2] through the opening in the front right stay, and turn the adjusting screw to adjust the left/right margin.
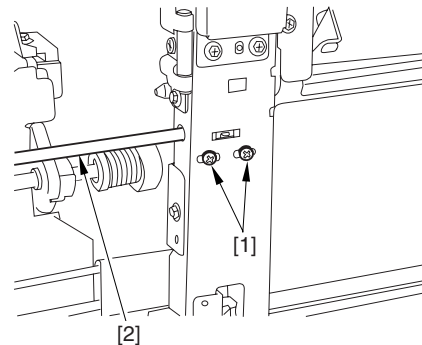
F-13-102

4) Check that the left/right margin of printouts made on paper from the right deck is as indicated.
5) As necessary, perform the following:
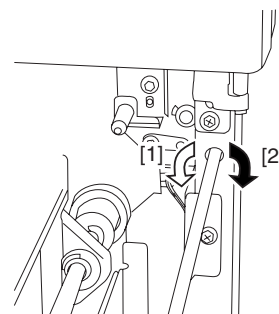
F-13-103

Reference:
Turn the screwdriver counterclockwise to decrease the left margin [1].
Turn the screwdriver clockwise to increase the left margin [1].
A full turn of the screwdriver changes the left margin by 1.0 mm.

6) Tighten the 2 screws you loosened in step 3).
7) Close the upper right cover and the lower right cover
8) Close the right deck.
If the gap between the front cover/cassette 3 front cover and the front right cover is appreciable, perform the following:
9) Slide out the right deck, and loosen the 4 screws, and move the front right cover [2].
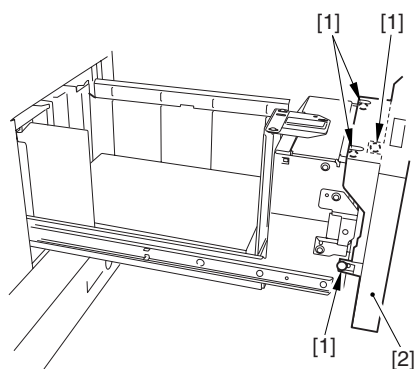
F-13-104
10) Close the right deck; when the gap is gone, slide out the right deck once again, and tighten the 4 screws you loosened in step 9).
If there still is a gap, go back to step 9).

13.8.4 Registering the Paper Width Basic Value

1) Turn on the main power switch.
2) Register the A4R paper width basic value as follows:
2-1) Set the manual feed side guide [1] to A4R.
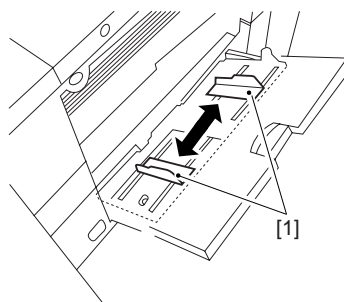
F-13-105
2-2) Start service mode, and select the following to register manual feed A4R width:
    CPOIER>FUNCTION>CST>MF-A4R
2-3) Press the OK key to store the new A4R width.
2-4) Record the A4R basic setting indicated on the control panel on the service label.
3) Register the A4 paper width basic value as follows:
3-1) Set the manual feed side guide to A4.
3-2) Select the following to register manual feed A4 width:
    CPOIER>FUNCTION>CST>MF-A4
3-3) Press the OK key to register the A4 width.
3-4) Record the A4 basic value indicated on the control panel on the service label.
4) Register the A6R paper with basic value as follows:
4-1) Set the manual feed side guide to A6R.
4-2) Select the following to register the A6R width:
    CPOIER>FUNCTION>CST>MF-A6R
4-3) Press the OK key to register the new A6R width.
4-4) Record the A6R basic value indicated on the control panel on the service label.
5) Press the Reset key twice to end service mode.
6) Turn off the control panel power switch.
7) Turn off the main power switch.

Correcting Faulty Images

Contents

14.1 Making Initial Checks

14.1.1 Checking the Site Environment

- The voltage of the source of power must be as indicated (+/-10%), and the power plug must remain connected day and night.
- The temperature and humidity of the site must be as indicated, and the site must be away from a water faucet, water boiler, humidifier; moreover, the machine must not be near a fire or subjected to dust.
- The site must be free of ammonium gas.
- The machine must not be subjected to the direct rays of the sun. As necessary, curtains must be furnished.
- The site must be well ventilated, and its floor must keep the machine level.
- The machine must remain connected to the wall outlet at all times.

14.1.2 Checking the Paper

- Check if the paper is of a type recommended by Canon.
- Check if the paper is dry. If moist, try paper fresh out of package.

14.1.3 Checking the Placement of Paper

- Check that the amount of paper placed in the cassette and the manual feed tray is as indicated.
- If transparencies are used, check to see if they are placed in the correct orientation.

14.1.4 Checking the Durables

Check the Durables Table, and replace those parts that have reached the end of the indicated lifetimes.

14.1.5 Checking the Periodically Replaced Parts

Check the Scheduled Servicing Chart and the Periodically Replaced Parts Table, and replace those parts that have reached the end of the indicated lifetimes.

14.1.6 Checking the Units and Functional Blocks

1. Reader Unit
  - Check the optical system (contact sensor, white plate, copyboard glass) for a scar, dirt, and foreign matter.
  - Check the contact sensor unit to see if it moves smoothly. Check its rail for dirt.
  - Check the contact sensor for flickering.
  - Check the scanner for condensation.

2. Process
  - Check the drum unit/developing unit to see if it is attached properly.
  - Check the photosensitive drum for a scar and dirt.
  - Check the patch image read sensor window for dirt.

3. Transfer
  - Check the secondary transfer outside roller for wear, scar, dirt, and deformation.
  - Check the blade of the cleaning unit for a tear, warping, deformation, and stray toner.

4. Fixing
  - Check the fixing roller/pressure roller for wear, scar, dirt, and deformation.
  - Check the fixing heater (main/sub) to see if it goes on when the power is turned on.
  - Check the fixing thermistor for an open circuit.
  - Check the thermal switch for electrical continuity.

5. Paper Movement
  - Check if there is foreign matter such as paper lint.
  - Check the pickup/feed/separation roller for a buildup of paper powder, wear, scar, dirt, and deformation.
  - Check the registration roller (middle, outside)/paper path roller for wear, scar, dirt, and deformation.
  - Check the feed guide for wear, scar, dirt, and deformation.
  - Check the paper for a bent leading edge, curling, waving, and moisture.
  - As necessary, try transparencies of a type recommended by Canon to see if the problem, if any, is corrected.

6. Machine
 - Check if an excess load is imposed on the drive system.
 - Check the gears for wear and chipping.

7. Cassette
 - Check if the cassettes are fitted properly. Check also to see that an appropriate paper size is selected. As necessary, try a normal cassette if the problem, if any, stops.
 - Check the movement of the cassette holding plate is smooth. Check also to see that the holding plate is free of deformation.
 - Check if the side guide plate/trailing edge plate inside the cassette are set correctly.
 - Check if the cassette heater switch is at the ON side (if a cassette heater is fitted).

8. Service Mode
 - Check that the various CCD adjustment values are as indicated on the service label.
   (COPIER>ADJUST>CCD>all items)
 - Check if registration adjustment is correct.
   (COPIER>ADJUST>FEED-ADJ>REGIST)
 - Check if the machine inside temperature/humidity is the correct reading.
   (COPIER>DISPLAY>ANALOG>TEMP/ABS-HUM)
 - Check the image read position adjustment is correct.
   (COPIER>ADJUST>ADJ-XY>ADJ-X/ADJ-Y)
 - Check if the value for ADJUST/OPTION is as indicated on the service label.
 - Check if error initialization has been executed.
   (COPIER>FUNCTION>CLEAR>ERR)

9. General
 - Check the power plug is connected properly.
 - Check there is the rated AC voltage at the power outlet.
 - Check the sensors, clutches, motors, and solenoids operate normally. Check the connectors for poor contact.
   (Be sure to check with the General Timing Chart for reference to power/signal routes.)
 - Check the leakage breaker/circuit breaker operates normally.
 - Check the wiring for trapping and loose screws.
 - Check the external cover are all fitted properly.
 - Check the main power switch/control panel power switch are at the ON side.
 - Check the power cable/signal cable to accessories are correctly routed.
 - Check the cover switch operates normally.
 - Check the fuses on the PCBs to see if they have blown.
 - Check the user knows how to use the machine correctly.

14.1.7 Others

If a machine is brought in from a cold to a warm place, its inside can develop condensation, which will lead to various problems.
   (1) condensation on the BD sensor can cause faults associated with E100.
   (2) condensation on the dust-blocking glass can cause the images in sub scanning direction to be too light.
   (3) condensation on the contact sensor of the reader unit or the copyboard glass can lead to light images.
   (4) condensation on the pickup/feed guide can cause faulty paper movement.

If (4) above is noted, be sure to dry wipe the units involved in the feed system.
The same is true of toner cartridges, developing units, and drum units, i.e., when they are unpacked after being brought in from a cold place. To prevent condensation, advise the user to leave the package alone (for about 1 to 2 hr) before opening it.

14.2 Test Print

14.2.1 Overview

The machine offers the following 6 types of test prints (TYPE), each designed for identification of a specific type of image fault. The data for these test prints is prepared by the main controller: if the output of a test print is free of the fault in question, suspect a fault on the PDL input or the reader unit.

14.2.2 Test Print TYPE

T-14-1

Type No.	Description
0	normal copy/print
1-3	-(for R&D)
4	16 gradations
5	full half-tone
6	grid
7-9	-(for R&D)
10	MCYBk horizontal stripe (sub scanning direction)
11	-(for R&D)
12	64 gradations
13	-(for R&D)
14	full color 16 gradations
15-100	-(for R&D)

14.2.3 Selecting Test Print TYPE

1) Set the copy count, paper size, and pickup mode (single-sided or double-sided).
2) Make the following selections in service mode: COPIER>TEST>PG.
3) Make the following selections: COPIER>TEST>PG>TYPE.
4) Enter the appropriate TYPE No. using the keypad, and press the OK key.
5) Select the appropriate color using COLOR-Y/M/C/K (output at 1).
6) Set the density using DENS-Y/M/C/K (valid only if TYPE=5).
7) Press the start key.

14.2.4 16-Gradation (TYPE=4)

Use this test print to check gradation, fogging, white line, and uneven density at the front/rear.

- Gradation
  If the 16-gradation[1] is not properly produced, suspect a fault in the drum unit or the laser exposure system.
- Fogging
  If fogging is found only in the white area[2], suspect a fault in the drum unit or the laser exposure system.
- White Line
  If a white line is found in the image, suspect a fault in the developing system.
- Uneven Density at the Front/Rear
  If uneven density is found at the front/rear, suspect a fault in the drum unit, laser exposure system, or transfer system.
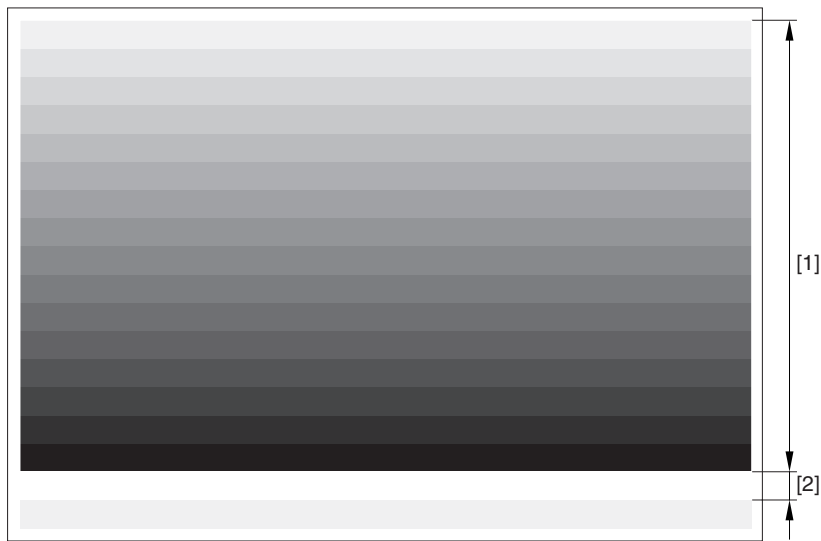
F-14-1

14.2.5 Full Page Halftone (TYPE=5)

Use this test print to check a transfer fault, black line, white line, and uneven density at specific intervals.

MEMO:
- You can print out test prints for individual colors by making the following selections in service mode: COPIER>TEST>PG and then COLOR-Y/M/C/K.
- You can also change the density of the test prints by making the following selections in service mode: TEST>PG>DENS>Y/M/C/K.

(1) Transfer Fault
If a transfer fault (white spot) occurs, suspect a fault in the ITB unit or the secondary transfer outside roller.
(2) Black Line
If a black line occurs, suspect a scratch in the photosensitive drum or dirt on the primary charging roller.
(3) White Line
If a white line occurs, suspect a fault in the ITB unit, secondary transfer outside roller, or laser exposure system.
(4) Uneven Density
If the density is uneven at specific intervals, suspect the following:
   (a) photosensitive drum (if at 194.7 mm)
   (b) developing cylinder (if at 37.6 mm)
(5) Uneven Density
If uneven density occurs, suspect dirt on the dust-blocking glass of the laser unit or deterioration of the ITB.

COLOR-M=1, COLOR-Y/C/K=0
F-14-2

14.2.6 Grid (TYPE=6)

Use this text print to check color displacement, right angles, and straight lines.
- Color Displacement
  If color displacement is found, suspect a scar in the ITB and a fault in the drum unit.
- Right Angle, Straight Lines
  If the right angles or straight lines are not correct, suspect a fault in the laser exposure system, a fault in the shape of the registration (middle/outside) roller, and a fault in the secondary transfer outside roller.
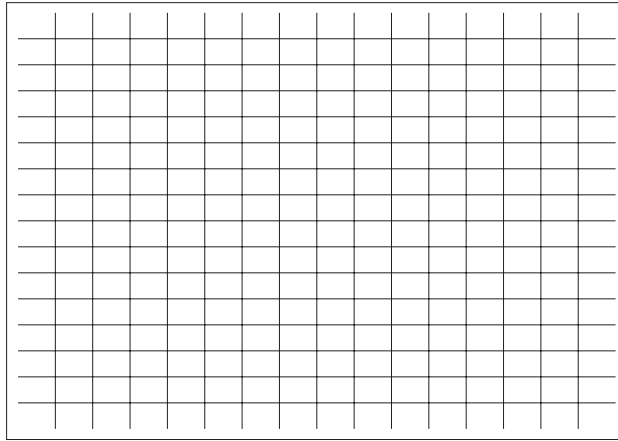
F-14-3

14.2.7 MCYBk Horizontal Stripes (TYPE=10)

Use this test print to check the density of dark areas of individual colors, balance among colors, and white lines associated with development.
  (1) Solid Density of Individual Colors and Balance Among Colors
    (a) the density must not be appreciably low (too light).
    (b) if the density of a specific color is too low (too light), suspect a fault in the developing system.
    (c) if the density of all colors is low (too light), suspect a fault in the laser exposure system and the transfer block.
  (2) While Line
    If a white line is found in a specific color, suspect a fault in the development system of that particular color.
  (3) Uneven Density at the Front/Rear
    If uneven density is found in a specific color, suspect a fault in the development system of that particular color. If it is found in all colors, suspect a fault in the drum unit, ITB unit, and laser exposure system.

2.5±1.5mm

2.5±1.5mm

F-14-4

14.2.8 64-Gradation (TYPE=12)

Use this test print to check the gradation of Y, M, C, and Bk at once.

F-14-5

14.2.9 Full Color 16-Gradation (TYPE=14)

Use this test print to check the gray balance, gradation of individual colors (YMCBk), and fogging.

- Gray Balance
  Check the grayscale area to see if the densities of all colors are even.
- Gradation
  Check the gradation of individual colors (YMCBk) and for any difference in color.
- Fogging
  If fogging is found in the white area, suspect a fault in the developing system, a fault in the drum unit, and poor adjustment of the laser exposure system.
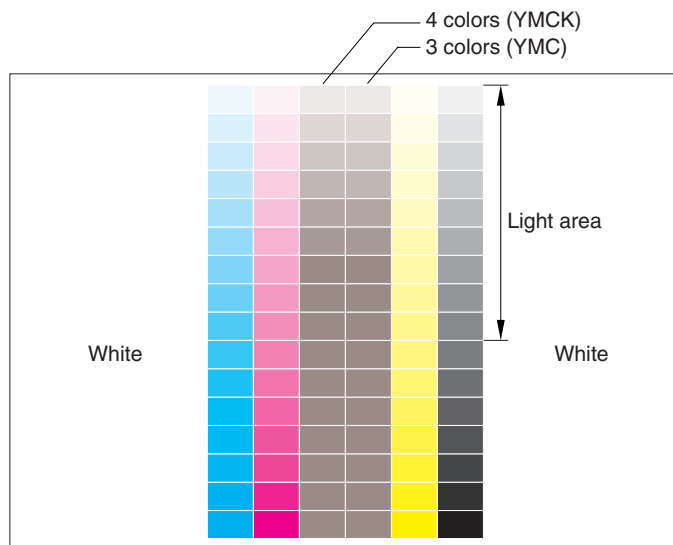
F-14-6

14.3 Troubleshooting

14.3.1 Symptoms

14.3.1.1 Symptoms

T-14-2

Item	Symptoms
Image fault	Solid black / Poor contact of connectors around process unit
	Overall light image on black area, uneven image
	Low density / Poor contact of connectors around process unit
	Uneven Density Along the Leading Edge in a Solid Color Image
	Uneven Density in the Form of a Feedscrew in Color Images
	Uneven Density in Halftone Images
	Colored Dots
	Uneven Density On Rough-Textured Paper
	Coarse Image in a Solid C Original
	Transfer Faults on Mono-Color Prints
	Color Displacement in Sub Scanning Direction
	Smeared of Colored Characters/Lines
	Vertical Lies in Halftone Images
	Image Fault Occurring at Specific Intervals
	Missing Color
	White Spots at 51mm Intervals
	Vertical Lines Caused by an ITB Cleaning Fault
	Vertical Lines
	Soiling of the Left/Right Margin on Double-Sided Prints (1st side)
	Oil Lines in Vertical Direction
	Stray Toner
	Soiling as Dots at Drum Intervals
	Horizontal Line Caused by Impact from the Developing Rotary
	Soiling in the Form of a Ring
	Ghost Caused by a Bend on the ITB Cleaning Blade
	Faulty Color Reproduction Caused by an Error in Primary Transfer ATVC
Paper feed fault	Wrapping Around the Pressure Roller / Oil Traces / Separation Claw Traces / Wrinkle Traces
Malfunction	Fixing Web Displacement / 0A15/020D Jam Code
	Abnormal Noise from the Rotating Rotary
	Frequent DF Reading Glass Cleaning Message
	Frequent DF reading Glass Cleaning Message (user requesting disabling of the message)
Jam (Main Unit)	0103/0104 Jam Code Neuissiedler large-size/RA3 pickup fault
Error code	E020/E021/E061/E070/E078/E820 Error Code / Poor contact of connectors around process unit
	E020-03A0/E020-01A2 Error Code
	E061-0001 Error Code
	E070-0102 Error Code
	E070-0101/E070-0102/E070-0201/E070-0202/E070-0302 Error Code
	E542-8001 Error Code

14.3.1.2 Maintenance Recommendations for Components Around the Photosensitive Drum/Intermediate Transfer Unit in the Event of an Image Fault

If any of the following image faults has occurred as the result of wear on any of the durable components around the photosensitive drum or the intermediate transfer unit, refer to the tables that follow for guidance; the tables have been prepared in view of frequency of servicing, length of servicing work, and parts cost:

For a detailed description of individual faults, field remedies, and image samples, see their respective symptoms.

1. Transfer Fault on 2nd Side (2nd color; as first in the morning)

a. Cause: Wear on Secondary Transfer Roller

T-14-3

	Parts name (work)	Servicing intervals	Field with high labor cost	Field with low labor cost
[1]	Photosensitive drum (dry wiping)	images with spots	-	-
[2]	Photosensitive drum cleaning blade	195,000 images	replace	replace
[3]	Photosensitive drum scoop-up sheet	390,000 images	-	-
[4]	Photosensitive drum cleaner scoop-up sheet	150,000 prints	clean	clean
[5]	Photosensitive drum cleaner assembly (lower)	150,000 prints	clean	clean
[6]	Pre-transfer charging assembly rail	150,000 prints	clean	clean
[7]	Primary transfer roller	195,000 images	replace	replace
[8]	Primary transfer static eliminator	300,000 images	-	-
[9]	ITB(replacement;)	300,000 images	-	-
	ITB(cleaning of outer surface)	unit replacement	clean	clean
[10]	Secondary transfer inside roller	300,000 prints	replace	-
[11]	Patch detection sensor (cleaning)	250,000 images	clean	clean
[12]	ITB inside roller, scraper (cleaning)	Primary transfer roller replacement	clean	clean
[13]	ITB cleaning blade	195,000 images	replace	replace
[14]	ITB cleaner scoop-up sheet	150,000 prints	replace	replace
[15]	Secondary transfer outside roller	195,000 images	replace *	replace *

* : required

2. Line/White Spot, Color Displacement at 51mm Intervals

a. Cause: Wear on Primary Transfer Roller, Soiling Inside ITB Unit

T-14-4

	Parts name (work)	Servicing intervals	Field with high labor cost	Field with low labor cost
[1]	Photosensitive drum (dry wiping)	images with spots	-	-
[2]	Photosensitive drum cleaning blade	195,000 images	replace	replace
[3]	Photosensitive drum scoop-up sheet	390,000 images	-	-
[4]	Photosensitive drum cleaner scoop-up sheet (lower)	150,000 prints	clean	clean
[5]	Photosensitive drum cleaner assembly (lower)	150,000 prints	clean	clean
[6]	Pre-transfer charging assembly rail	150,000 prints	clean	clean
[7]	Primary transfer roller	195,000 images	replace*	replace*
[8]	Primary transfer static eliminator	300,000 images	-	-
[9]	ITB(replacement;)	300,000 images	-	-
	ITB(cleaning of outer surface)	unit replacement	clean	clean
[10]	Secondary transfer inside roller	300,000 prints	replace	-
[11]	Patch detection sensor (cleaning)	250,000 images	clean	clean
[12]	ITB inside roller, scraper (cleaning)	Primary transfer roller replacement	clean*	clean*
[13]	ITB cleaning blade	195,000 images	replace	replace
[14]	ITB cleaner scoop-up sheet	150,000 prints	replace	replace
[15]	Secondary transfer outside roller	195,000 images	replace	replace

* : required

3. Soiling in Dots at Drum Intervals, Slippage Under Cleaner (ghost)

a. Cause: Wear on Photosensitive Drum Cleaning Blade/ITB Cleaning Blade

T-14-5

	Parts name (work)	Servicing intervals	Field with high labor cost	Field with low labor cost
[1]	Photosensitive drum (dry wiping)	images with spots	clean *	clean *
[2]	Photosensitive drum cleaning blade	195,000 images	replace *	replace *
[3]	Photosensitive drum scoop-up sheet	390,000 images	-	-
[4]	Photosensitive drum cleaner scoop-up sheet (lower)	150,000 prints	clean	clean
[5]	Photosensitive drum cleaner assembly (lower)	150,000 prints	clean	clean
[6]	Pre-transfer charging assembly rail	195,000 images	clean	clean
[7]	Primary transfer roller	150,000 prints	replace	replace
[8]	Primary transfer static eliminator	300,000 images	-	-
[9]	ITB(replacement;)	300,000 images	-	-
	ITB(cleaning of outer surface)	unit replacement	clean	clean
[10]	Secondary transfer inside roller	300,000 prints	replace	-
[11]	Patch detection sensor (cleaning)	250,000 images	clean	clean
[12]	ITB inside roller, scraper (cleaning)	Primary transfer roller replacement	clean	clean
[13]	ITB cleaning blade	195,000 images	replace*	replace*
[14]	ITB cleaner scoop-up sheet	150,000 prints	replace	replace
[15]	Secondary transfer outside roller	195,000 images	replace	replace

* : required

F-14-7

14.3.2 Image Faults

14.3.2.1 Solid Image

14.3.2.1.1 Solid black / Poor contact of connectors around process unit

For details of error codes, see the following:
E020-0080/E020-0180/E020-0280/E020-0380/E020-0090/E020-0190/E020-0290/E020-0091/E020-0191/E020-0291/E020-0092/E020-0192/E020-0292/E020-0392/E020-00A0/E020-01A0/E020-02A0/E020-03A0/E020-00A1/E020-01A1/E020-02A1/E020-03A1/E020-00A2/E020-01A2/E020-02A2/E020-03A2/E020-00A3/E020-01A3/E020-02A3/E020-03A3/E021-0001/E021-0002/E061-0005/E061-0007/E070-0000/E070-0001/E070-0002/E070-0003/E078-0001/E820-0020

Cause
When drawing out the Pkit as part of servicing work, you need to disconnect and then connect the connectors. When repeated, their internal pins can start to suffer from poor connection, resulting in wrong operation/detection.

Description
A break in the harness can occur when the harness is disconnected/connected about 30 times.
The following is a list of harnesses that are subject to a break with descriptions of symptoms expected when a break occurs.

T-14-6

Name (part No.)		
Pin No.	Connection load (notation)	Expected error condition (symptom in response to error)
[1]ITB cleaner harness (FM2-0946) connector: J214L		
1/2/3/4	ITB cleaner shift motor (M21)	E078-0001 The motor stops.
5/6/7	ITB cleaning HP sensor (PS23)	E078-0001 The sensor fails to operate
8/9/10	process unit cooling fan (FM7)	E820-0002 The fan stops. The machine fails to detect rotation.
11/12	post-charging assembly cleaning motor (M27)	image fault (vertical line) The motor stops.

[2]PKIT harness (FM2-0947) connector: J201LA/J201B		
1/2	primary charging wire cleaning motor (M26)	image fault (vertical line) The motor stops.
3/4/5	color toner cartridge sensor (PS26)	message calling for the bottle. The absence of a bottle is wrongly detected in the presence of a bottle.
		The presence of a bottle is wrongly detected in the absence of a bottle.
6/7	pre-exposure LED (LED1)	image fault (solid black) E061-0005 The LED fails to go on.
8/9/10/11	color toner level sensor (PS25)	message calling for replacement of toner The absence of toner is wrongly detected in the presence of toner.
		image fault (low density) E020-**92 The presence of toner is wrongly detected in the absence of toner.
12/13/14	black toner level sensor (TS1)	2-min supply error E020-00FF black developing assembly excess toner supply The absence of toner is wrongly detected in the presence of toner.
		black developing assembly without toner -> image fault (low density) The presence of toner is wrongly detected in the absence of toner.
15/16	NC	
1/2	developing rotary locking solenoid (SL10)	E021-0002 The solenoid fails to operate
3/4/5	developing rotary solenoid sensor (PS8)	E021-0002 The sensor fails to operate.
6/7/8	developing rotary HP sensor (PS19)	E021-0001 The sensor fails to operate.
9-14	ATR sensor (PS4)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 An error sensor value is detected
15/16	ATR sensor shutter solenoid (SL12)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 A sensor error value is detected.
[3]ITB harness (FM2-0949) connector: J261L/J267L		
1/2	patch image read sensor shutter solenoid (SL11)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
3-8	patch image read sensor (PS2)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
1/2/3	ITB HP sensor B (PS30)	E070-00** The sensor fails to operate.
4/5/6	ITB sensor A (PS1)	E070-00** The sensor fails to operate.
[4]Hopper harness (FM2-0950) connector: J301L		

1/2	hopper stirring motor (M23)	black developing assembly without toner -> image fault (low density) The motor stops.
3/4/5	hopper inside toner level sensor (TS2)	2-min supply error (reset by opening/closing the door) hopper excess toner supply The absence of toner is wrongly detected in the presence of toner.
		hopper without toner -> black developing assembly inside without toner The job stops. The presence of toner is wrongly detected in the absence of toner.
6/7	black toner supply motor (M25)	hopper without toner -> black developing assembly inside without toner The job stops. The hopper is without toner.
8/9/10	hopper open/closed sensor (PS28)	message calling for replacement of the bottle, not permitting recovery. remains closed.
		The black cartridge motor stops. remains closed
[5]Poteantial sensor harness (FL2-0986) connector: J407L		
1-6	potential sensor	E061-0007 An error potential level is detected.

F-14-8

F-14-9

Field Remedy

Replace the connector with the harness intact.

14.3.2.2 Light Image / Weak Density

14.3.2.2.1 Overall light image on black area, uneven image

[Inspected by Canon Inc.]
Cause
As a result of inspection, it was found that this symptom occurred for the following reasons: The black developing ass'y was not supplied with toner because the 3P connector of the toner level sensor inside the black developing ass'y was not securely fitted. Finally, the toner level became low and light image or uneven image occurred.
Field Remedy
1. Make sure that bit8 in service mode [COPIER> DC-CON> I/O> P009] shows "1", which means that the toner level sensor detects toner remaining.
2. Pull out the AP kit from the main unit and unplug/reinsert the 3P connector once again.
3. Check the service mode value in Step 1 once again. If bit8 shows "0", this symptom might have occurred because of poor contact of the 3P connector. In such a case, the toner level is low, so replenish the black developing ass'y with toner in service mode [COPIER> Function> INSTALL> TONER-S> OK].
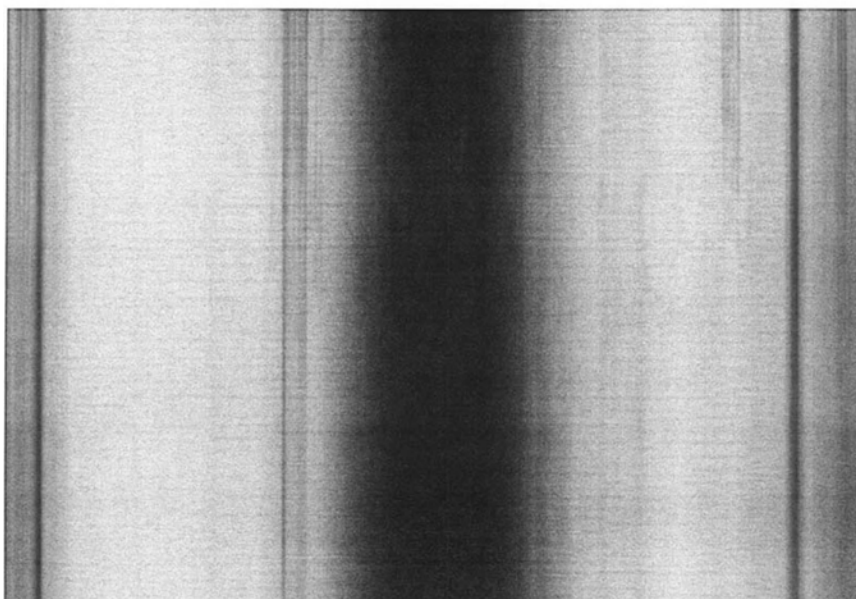
F-14-10

14.3.2.2.2 Solid color image is too light and texture is rough

[Inspected by Canon Inc.]
Description
It was pointed out from the field that the solid color density is too light and the texture is rough depending on what paper type is used (recycle paper particularly). Therefore, the actual print sample was inspected and it was found to be within specifications. However, the setting change below can increase the density. Follow the steps below to satisfy your customer demands.
Note: If the density becomes too dark, toner scattering might occur at the edge of solid area. Particularly, this symptom will be too visible on the second side of duplex copy, and on dry paper which has been left in low humidity environment for a long time. When you adjust the density, pay careful attention to the image so as not to induce toner scattering.
Field Remedy
a. For copy
1. In user mode [Adjustment/Cleaning> Auto Gradation Adjustment], perform [Full Adjustment]. If the symptom still recurs, go on to the step 2.
2. In service mode [COPIER> Adjust> COLOR> ADJ-Y / ADJ-M / ADJ-C], increase the set value by one step by step. For your reference, the maximum increase is three.
b. For print
In user mode [Printer Settings> Settings> Print Quality> Density], increase the set value of Yellow, Magenta, and Cyan by one step by step. For your reference, the maximum increase is three.

14.3.2.2.3 Swathes of voids / Light image on entire image: Occasionally occurs when making large-volume copies (more than 240 sheets)

[Inspected by Canon Inc.]
Field Remedy
Upgrade ROM of the DC Controller PCB to Ver.7.02 and later so that the ATVC that is executed at every 240 sheets when making large-volume copies has been optimized.
Description
In the field, light image occasionally occurred on the entire image of the both sides of paper after making large-volume Bk duplex copies, and swathes of voids occurred after the 2nd time ATVC control during making large-volume Bk copies. These symptoms do not occur with a job less than 240 sheets.

14.3.2.2.4 Light image when printing via UFR

[Inspected by Canon Inc.]
Field Remedy
In the UFR printer driver [Properties> Quality> Print Details> Toner Save], select "Off".
Description
The toner save mode in the printer driver is set to "Off" for PCL by default (factory initial setting), but to "Print Default" for UFR. Consequently, if this mode is set to "On" in user mode on the host machine, the output via UFR could be regarded as light by a user who does not know this setting.

14.3.2.2.5 Low density / Poor contact of connectors around process unit

For details of error codes, see the following:
E020-0080/E020-0180/E020-0280/E020-0380/E020-0090/E020-0190/E020-0290/E020-0091/E020-0191/E020-0291/E020-0092/E020-0192/E020-0292/E020-0392/E020-00A0/E020-01A0/E020-02A0/E020-03A0/E020-00A1/E020-01A1/E020-02A1/E020-03A1/E020-00A2/E020-01A2/E020-02A2/E020-03A2/E020-00A3/E020-01A3/E020-02A3/E020-03A3/E021-0001/E021-0002/E061-0005/E061-0007/E070-0000/E070-0001/E070-0002/E070-0003/E078-0001/E820-0020
Cause
When drawing out the Pkit as part of servicing work, you need to disconnect and then connect the connectors. When repeated, their internal pins can start to suffer from poor connection, resulting in wrong operation/detection.
Description
A break in the harness can occur when the harness is disconnected/connected about 30 times.
The following is a list of harnesses that are subject to a break with descriptions of symptoms expected when a break occurs.

T-14-7

Name (part No.)		
Pin No.	Connection load (notation)	Expected error condition (symptom in response to error)
[1]ITB cleaner harness (FM2-0946) connector: J214L		
1/2/3/4	ITB cleaner shift motor (M21)	E078-0001 The motor stops.
5/6/7	ITB cleaning HP sensor (PS23)	E078-0001 The sensor fails to operate
8/9/10	process unit cooling fan (FM7)	E820-0002 The fan stops. The machine fails to detect rotation.
11/12	post-charging assembly cleaning motor (M27)	image fault (vertical line) The motor stops.
[2]PKIT harness (FM2-0947) connector: J201LA/J201B		
1/2	primary charging wire cleaning motor (M26)	image fault (vertical line) The motor stops.
3/4/5	color toner cartridge sensor (PS26)	message calling for the bottle. The absence of a bottle is wrongly detected in the presence of a bottle.
		The presence of a bottle is wrongly detected in the absence of a bottle.

6/7	pre-exposure LED (LED1)	image fault (solid black) E061-0005 The LED fails to go on.
8/9/10/11	color toner level sensor (PS25)	message calling for replacement of toner The absence of toner is wrongly detected in the presence of toner.
		image fault (low density) E020-**92 The presence of toner is wrongly detected in the absence of toner.
12/13/14	black toner level sensor (TS1)	2-min supply error E020-00FF black developing assembly excess toner supply The absence of toner is wrongly detected in the presence of toner.
		black developing assembly without toner -> image fault (low density) The presence of toner is wrongly detected in the absence of toner.
15/16	NC	
1/2	developing rotary locking solenoid (SL10)	E021-0002 The solenoid fails to operate
3/4/5	developing rotary solenoid sensor (PS8)	E021-0002 The sensor fails to operate.
6/7/8	developing rotary HP sensor (PS19)	E021-0001 The sensor fails to operate.
9-14	ATR sensor (PS4)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 An error sensor value is detected
15/16	ATR sensor shutter solenoid (SL12)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 A sensor error value is detected.
[3]ITB harness (FM2-0949) connector: J261L/J267L		
1/2	patch image read sensor shutter solenoid (SL11)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
3-8	patch image read sensor (PS2)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
1/2/3	ITB HP sensor B (PS30)	E070-00** The sensor fails to operate.
4/5/6	ITB sensor A (PS1)	E070-00** The sensor fails to operate.
[4]Hopper harness (FM2-0950) connector: J301L		
1/2	hopper stirring motor (M23)	black developing assembly without toner -> image fault (low density) The motor stops.

3/4/5	hopper inside toner level sensor (TS2)	2-min supply error (reset by opening/closing the door) hopper excess toner supply The absence of toner is wrongly detected in the presence of toner.
		hopper without toner -> black developing assembly inside without toner The job stops. The presence of toner is wrongly detected in the absence of toner.
6/7	black toner supply motor (M25)	hopper without toner -> black developing assembly inside without toner The job stops. The hopper is without toner.
8/9/10	hopper open/closed sensor (PS28)	message calling for replacement of the bottle, not permitting recovery. remains closed.
		The black cartridge motor stops. remains closed
[5]Poteantial sensor harness (FL2-0986) connector: J407L		
1-6	potential sensor	E061-0007 An error potential level is detected.

F-14-11
Field Remedy
Replace the connector with the harness intact.

14.3.2.3 Foggy Image

14.3.2.3.1 Black fogging on copies upon installation

[Inspected by Canon Inc.]
Field Remedy
First of all, check whether a red round sticker is attached on the upper cover of the black developing ass'y (rear side). If not, wipe the developing cylinder with a dry cloth in the following procedure. Note that a green round sticker is attached on some of the developing ass'y; however, it is not related to this issue, so please disregard it.
1. Remove the black developing ass'y from the host machine.
2. Remove the potential sensor unit and the cylinder cover from the black developing ass'y.
3. Apply lint-free paper folded in four onto the cylinder along with the blade, and wipe the cylinder with a forefinger from the rear to the front up to two-thirds the full length of the cylinder (in order to prevent toner adhesion to the gears and the rollers on the cylinder end).
4. Turn the cylinder and repeat the step 3 for the overall surface.
Note: Change the side of the lint-free paper to a new one after three to four times of use.
5. Wipe the cylinder from the front to the rear in the same manner as in the step 3.
6. While turning the cylinder, visually inspect it to make sure of no unevenness of toner coating on the cylinder surface.
7. Reinstall the cylinder cover and the potential sensor unit that were removed in the step 2.
8. Install the developing ass'y into the host machine and then output an image for verification.
Note:
- Do not touch the cylinder with your bare hands.
- Do not deform the anti-scattering sheet.
- Be sure to use dry lint-free paper (Never use alcohol.)

14.3.2.3.2 Fogging (Y/M/C): After replacement of color Developing Ass'ys or developer, because of locking claw is not snapped in place

[Inspected by Canon Inc.]
Description
As a result of inspection, fogging appeared on the image or the inside of the machine was soiled by leakage of developer for the following reason:
After replacement of any of color developing ass'ys or developer, the locking claws of the lid of the developing ass'y were not securely snapped in place. Then, the developing ass'y was installed into the host machine. Consequently, the distance between the developing cylinder and the drum became too short.
When this symptom occurs, make sure that the lid of the developing ass'y is securely snapped in place. If any problem is found, perform the following steps.
Field Remedy
1. Remove the developing ass'ys and clean the inside of the machine.
2. Replace the developer.
3. Snap the lid of the developing ass'y in place, and then install the ass'ys. Make sure that fogging does not occur.

F-14-12
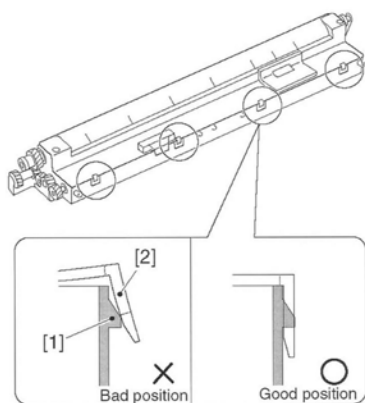
14.3.2.3.3 Wide fogging occurs only on colored image

[Inspected by Canon Inc.]
Field Remedy
As a result of inspection, it was found that wide Magenta fogging appeared on the image because the leaf spring for Magenta which applies developing bias in the developing rotary had poor contact. When such a symptom occurs with colors (except for black), inspect the leaf spring of the affected color viewing from the toner cartridge slot to see whether it becomes loose or deformed. In order to turn the developing rotary for inspection, execute the following service mode [COPIER> Function> MISC-P> DEV-DR-Y/M/C].

14.3.2.3.4 Is Newspaper mode available? / Background is fogged when making a copy of newspaper

[Case in the field]
Field Remedy
Newspaper mode is not available. Before making a copy of newspaper, adjust the background color as follows:
a. Adjustment of background color
Press [Special Features> Image Quality Adjustment> Remove Background> Fine Adjustment] to adjust the background color. Adjusting it in a minus direction lightens the color.
For your information, it will be easier to copy newspaper from now on if you save the adjustment result above in mode memory and furthermore save it as a standard key so that it will appear on the copy screen.
b. How to save it in mode memory
1. While the adjustment of background color is being effective, press Special Features> Mode Memory, select either of M1 through M9, and press Store to save the current state.
2. Press Register Name to register the name of the selected mode. Our recommendation is 'Newspaper'.
3. In user mode [Copy Settings> Standard Key 1 (or 2) Settings], select [Mode Memory] from Group and the applicable mode memory (e.g., Newspaper). As a result, 'Newspaper' button will appear in the bottom of the copy screen.

14.3.2.3.5 Poor reproducibility of photo when copying text-photo mixed original: Text / Photo / Map mode

[Case in the field]
Field Remedy
In the field, the symptom was improved by increasing the setting of the text-photo recognition level in service mode.
When the symptom occurs, select [COPIER > ADJUST >MISC > SEG-ADJ] and adjust the text-photo recognition level.
In order for the original to be recognized as a photo original: Increase the setting
In order for the original to be recognized as a text original: Decrease the setting
Available range of setting: -4 to +4.

14.3.2.3.6 Solid black image/soiled back upon installation

[Inspected by Canon Inc.]

Description

As a result of inspection, the following was found: When copying, the whole surface of the drum is covered with toner (of all four colors), causing solid black image and soiled back resulted from soiled secondary transfer outside roller. (E100 or E061 was not displayed.) This is because the DC Controller PCB is faulty. When the symptoms occur, replace the DC Controller PCB with a new one.
FM2-0857 DC Controller PCB Assembly (120V)
FM2-0858 DC Controller PCB Assembly (230V)
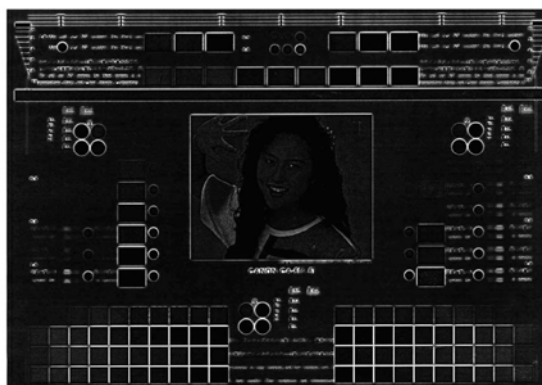
[BK Sample]   [Full Color Sample]

F-14-13

14.3.2.3.7 Extreme fogging due to poor connection of LED array for pre-conditioning unit/ Occasional E061-0003 Error Code

[Inspected by Canon Inc.]

escription

Extreme fogging occurred on images (including non-image area) because the connector [1] (J206) of the LED array inside the AP kit had poor connection. As a result of inspection it was also found that E061-0003 sometimes occurred and E061-0008 was recorded in the error history.

Field Remedy

When a symptom occurs, re-insert the connector on both the LED array and AP kit sides.
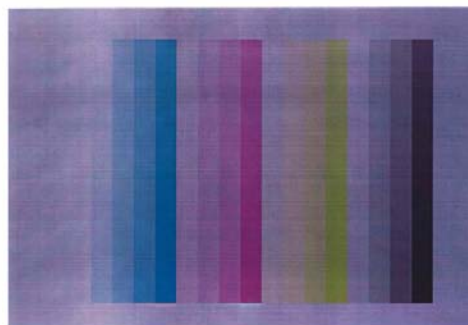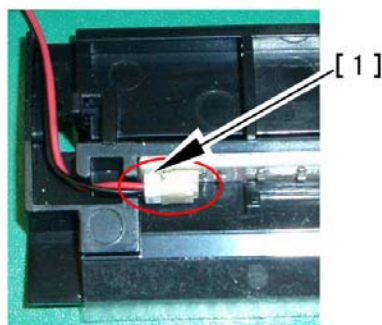
[Image Sample]

F-14-14
- E061-0003 can be displayed when a level of potential higher than the grid bias is sampled while the grid bias is being adjusted.
FK2-0005 LED Array
FM2-0428 Pre-conditioning Unit

14.3.2.4 Uneven Density

14.3.2.4.1 Uneven density at 40mm intervals in main scanning direction

[Case in the field]
  Description
  In the field, the symptom occurred because of electrical leakage from the pre-transfer corona assembly. When it occurs, try the field remedy below.
  Field Remedy
  1. Remove the pre-transfer corona assembly from the machine and copy an image.
  2. If the symptom disappears, clean up the pre-transfer corona assembly and check the symptom again.
  3. If the symptom still recurs, replace the pre-transfer corona assembly with a new one.
  FM2-0427 Pre-Transfer Corona Ass'y

14.3.2.4.2 Coarse/smeared image: Occurs because transfer clutch cam shaft comes off, the message "Correctly place the test print on the platen glass" is displayed during auto gradation correction

[Inspected by Canon Inc.]
  Description
  At inspection, coarse/smeared image occurred because the bushing that fixes the transfer clutch cam shaft came off as shown in the photo [1]. This is for your information, but there was a case where the message "Correctly place the test print on the platen glass" was displayed when the scanning of the third test print was started during the auto graduation correction.
  Field Remedy
  When the symptom occurs, check the transfer clutch cam shaft of the I.T.B positioning assembly. If it comes off, return it to its original position.
  FS1-1569 Bushing
  FC5-1728 Transfer Clutch Cam Shaft

14.3.2.4.3 Uneven Density Along the Leading Edge in a Solid Color Image

Cause
In a H/H environment, toner tends to become moist and have less bonding with carrier, at times sticking directly to the developing cylinder. As a result, the ratio of toner to carrier will increase, causing the leading edge of the image to become darker because of the extra toner from the developing cylinder (as when a solid color image is produced).
Field Remedy
Perform the following steps to decrease the toner-to-carrier ratio by 1%:
1) In service mode, decrease the patch target value of the color in question:

- in the case of Y, lower the setting by '50' in COPIER>ADJUST>DENS>P-SGNL-Y.
- in the case of M, lower the setting by '50' in COPIER>ADJUST>DENS>P-SGNL-M.
- in the case of C, lower the setting by '50' in COPIER>ADJUST>DENS>P-SGNL-C.

⚠️To change the setting, enter the value obtained by subtracting '50' from the present value (i.e., not '-50').
For instance, if the present value is '450', enter '400'.
2) When the machine has entered a ready state, make 2 prints of a full-page solid image of the color in question.
  COPIER>TEST>PG>TYPE: 5
  COPIER>TEST>PG>DENS-Y/M/C/K: for the color in question, '255'; for other colors, '0'
  COPIER>TEST>PG>TYPE>PG-PICK: select the source of paper loaded with paper (3: cassette 3; 4: cassette 4)
  COPIER>TEST>PG>TYPE>2-SIDE: 1
  COPIER>TEST>PG>TYPE>PG-QTY:2
3) Execute [P-PRINT]. (in service mode, COPIER>FUNCTION>MISC-P>P-PRINT)
4) Put the output in the service book case for storage. If the case contains previous output, replace it with the new output.
Note:
This symptom tends to be most conspicuous under the following conditions:
- high humidity environment
- 1st print after the machine has been left alone for a long time
- C mono solid image
- 37 mm or so from the leading edge of the image
Image Sample
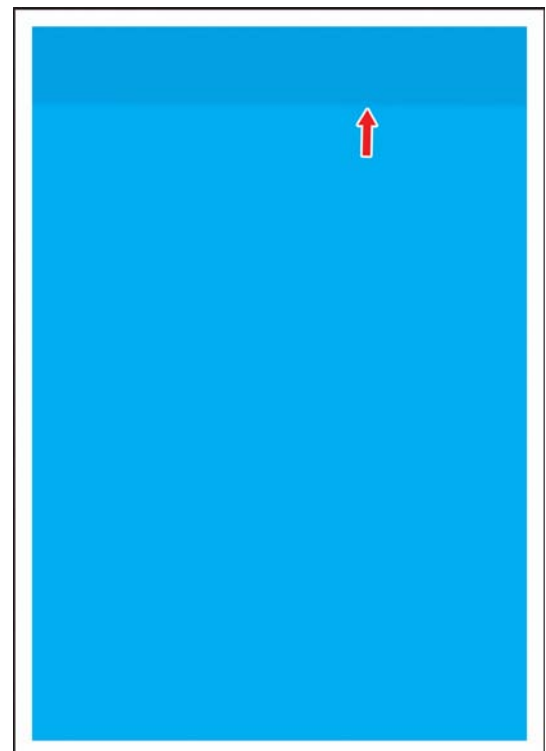
F-14-15

14.3.2.4.4 Uneven Density in the Form of a Feedscrew in Color Images

Cause
The developing assembly lid is not fitted correctly when a color toner is replaced.

Field Remedy
Take out the color developing assembly in question from the machine, and fit its lid so that there is no gap.

⚠

Be sure to force the lid against the developing assembly so that there is no gap in the area [1] indicated in the diagram, i.e., not permitting insertion of a transparency.
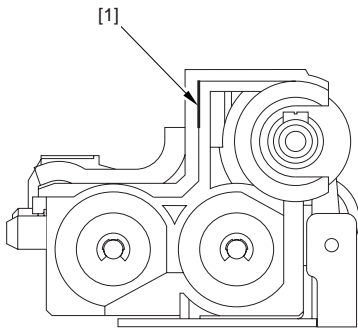
F-14-16

⚠

When tightening the screw, be sure to take care so that the shavings of the lid of the developing assembly or its lid will not enter the assembly (i.e., shavings occurring as a result of tightening the screw).

Image Sample
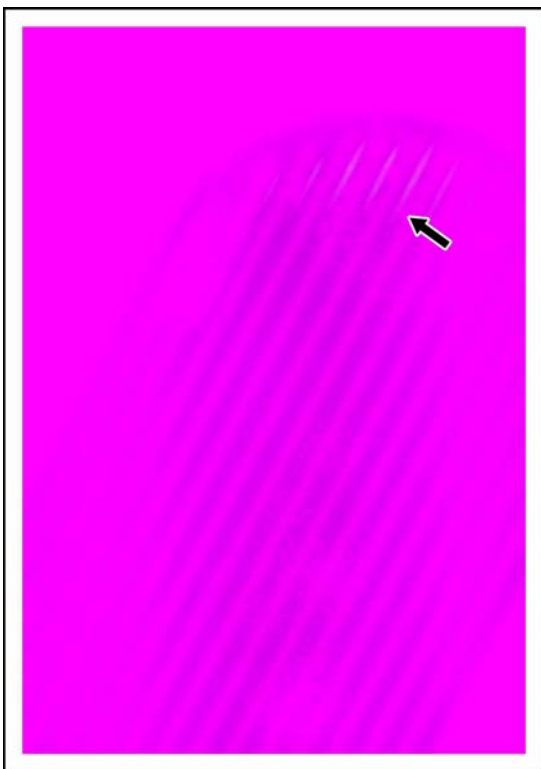
F-14-17

14.3.2.4.5 Uneven Density in Halftone Images

Description
In a high temperature/humidity environment, the symptom can start to occur relatively early (around 100,000 images) after replacement of the primary charging wire/cleaning pad.
The uneven density tends to be conspicuous in color half-tone images.
The uneven density tends to be found at the same area in all colors.

Cause
The symptom is caused by dirt on the primary charging wire or the dust-blocking glass.
In particular, the cleaning pad tends to start deteriorating early (about 100,000 images) in a high temperature/humidity environment.

Field Remedy
1) Clean the dust-blocking glass.
2) If the primary charging wire is approaching the end of its life, replace it. Be sure also to replace the cleaning pad at the same time.
3) If the area of friction of the cleaning pad is worn or deformed, replace th pad.
4) Execute the following in service mode to clean the charging wire: COPIER>FUNCTION>CLEANING>WIRE-CLN.

Memo:
The estimated life of the primary charging wire is 500,000 images: the cleaning pad is 500,000 images (however, in a high temperature/humidity environment, 100,000 images).
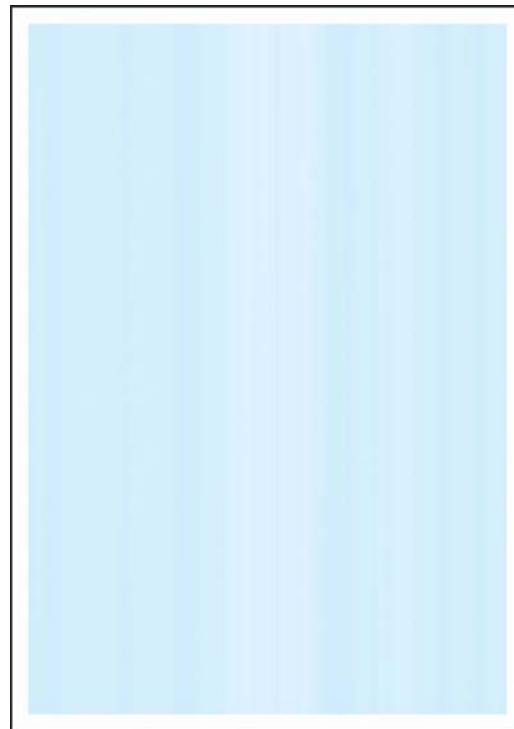
F-14-18

14.3.2.4.6 Colored Dots

Cause
When the 2nd and subsequent colors are developed in an M mono halftone area of full color printing, carrier can stick to the drum.
The presence of such carrier causes electrical discharge during primary transfer in the 2nd and subsequent colors, causing the polarity of the M toner on the intermediate transfer belt to reverse. As a result, some of the M toner on the intermediate belt is returned to the drum, causing the image to show dots.

Field Remedy
Execute the following service mode item to adjust the potential used to remove fogging caused by a developing bias:
COPIER>ADJUST>V-CONT>VBACK-Y, M, C; set all to '-5' and execute; if the results are not satisfactory, set all to '10'.

⚠
If you have made a change to the setting of the foregoing service mode item (adjustment of potential to remove fogging caused by developing bias), you must be sure to return it to the default setting ('0') when you replace the toner or the developing assembly of the color in question. If you fail to do so, the images may once again start to have fogging.

Description
This symptom can occur as a combination of various factors; in other words, although the variation among individual bias outputs and the variation among carrier production lots may be well within allowance, the combined variation can lead to colored dots in images. Improvements have been made and the symptom is now at a level not causing any practical problem; it, however, can prove to be relatively noticeable when certain types of originals are used (although only to a negligible level).

Image Sample
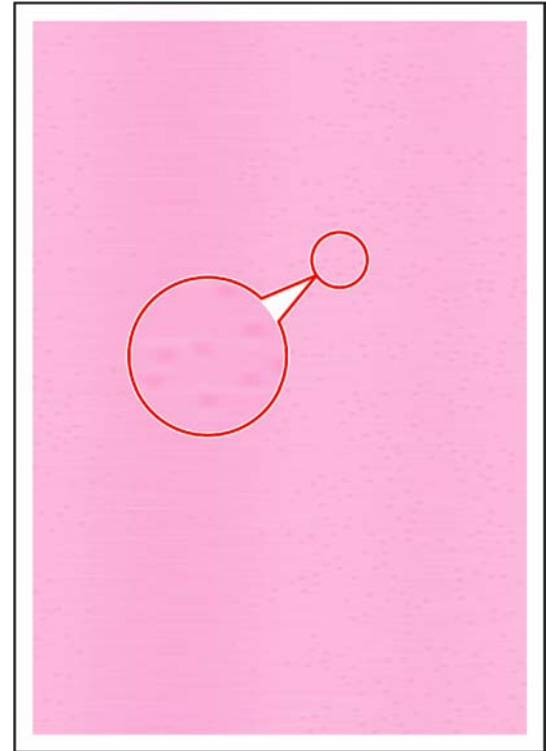
F-14-19

14.3.2.4.7 Uneven Density On Rough-Textured Paper

Cause
When a Bk solid image is copied on rough-textured paper (not of a recommended type), the ups and downs on the surface of the paper can cause a shortage of transfer current, causing white spots and uneven density in images.

Field Remedy
Execute the following service mode to decrease the pre-transfer charging bias:
COPIER>ADJUST>HV-TR>PRE-TR; set it to '250'.

Description
This symptom is most conspicuous when a Bk solid image is copied on rough-textured paper (not of a recommended type). Advise the user to avoid rough-textured paper.

Image Sample
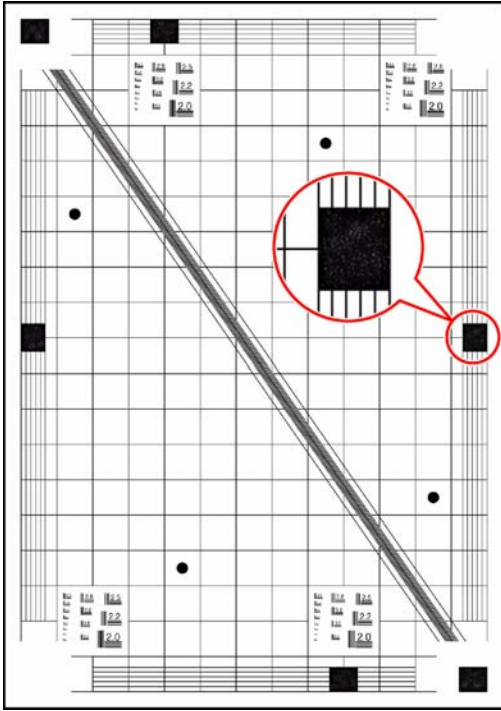
F-14-20

14.3.2.4.8 Coarse Image in a Solid C Original

Cause

When a solid C original is used, the machine will faithfully reproduce any uneven surface of the original communicated by its reader unit. Moreover, the machine's controller possesses characteristics that tend to amplify a minute difference in an area of high density, causing any change in an area of a solid C original to be amplified and its print to show a coarse image.
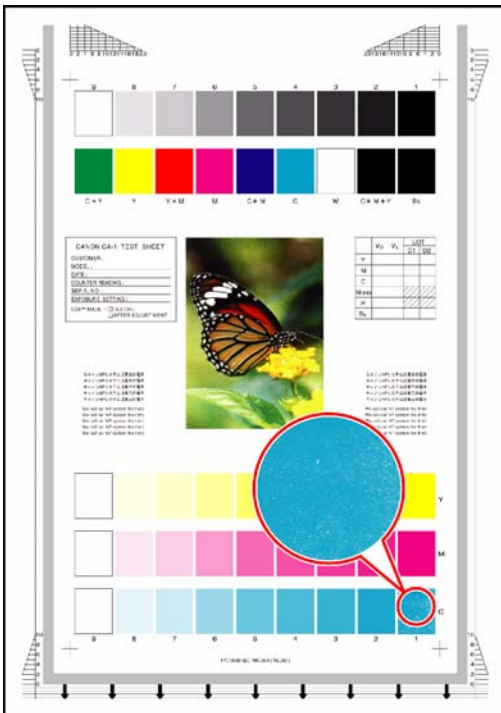
F-14-21

Field Remedy

If this symptom is noted, go through the following flow of work to correct it:
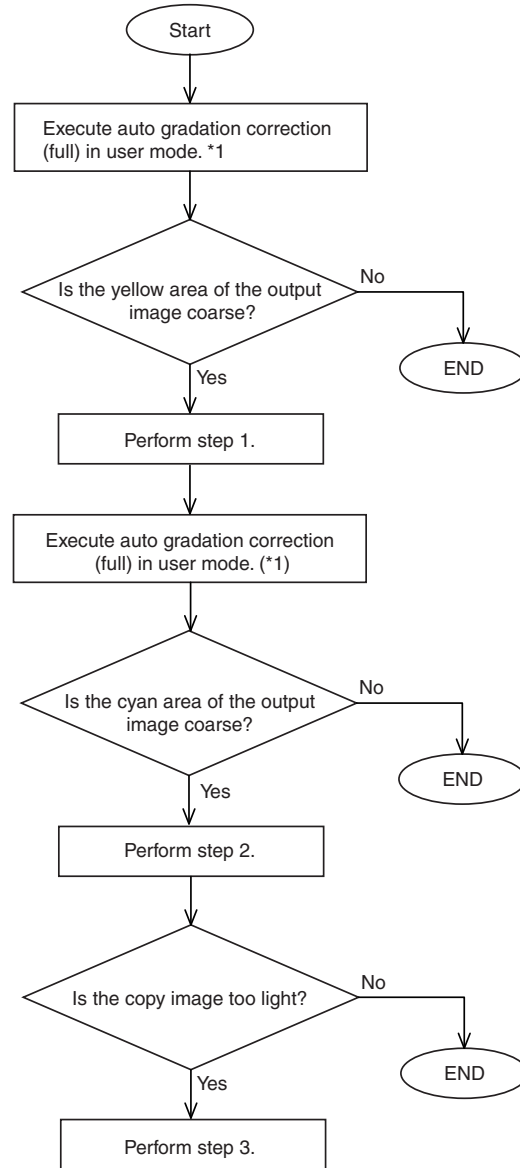
F-14-22

*1: Normally, as many as 3 copies are made in full mode of auto gradation correction. Here, however, stop full correction when the 1st copy has been made to save on work time.

<Step 1>

Adjust the gamma correction table of the controller as follows:

1) Set "3" to the following in service mode: COPIER>OPTION>BODY>GLUTLV-C.

2) Set "3" to the following in service mode: COPIER>OPTION>BODY>GLUTMX-C.

<Step 2>

1) Set "-3" or "-4" to the following in service mode: COPIER>ADJUST>COLOR>ADJ-C.

<Step 3>

1) Set "-1" or "-2" to the following in service mode: COPIER>ADJUST>COLOR>ADJ-C.

Description

This symptom does not occur while the printer

unit is used on its own.

This symptom tends to be most conspicuous when a C mono color image is copied. Although the CA-1 Text Chart, in particular, is subject to this symptom, the degree of the symptom is not serious enough to cause practical problems to the user.

14.3.2.4.9 Transfer Faults on Mono-Color Prints

Cause
The machine executes primary transfer ATVC control at specific intervals when making mono-color prints. When there is a change in the environment, however, the machine can at times fail to execute the control, resulting in transfer faults.

Field Remedy
Perform the following work:
Execute the service mode item used to change the intervals of executing primary transfer control: i.e., set "1" to the following: COPIER>OPTION>BODY>INTROT-1.

Description
In the case of color prints, the machine executes ATVC control for every job; as such, the output is of the symptom.

Image Sample
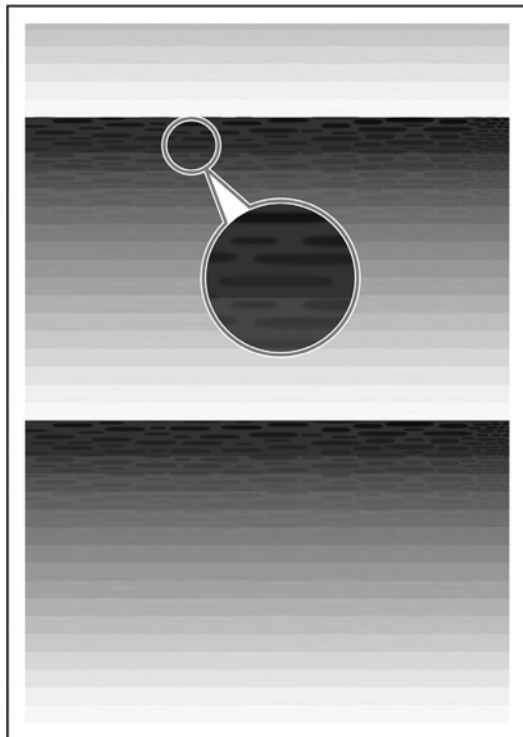
F-14-23

14.3.2.5 Out of Focus

14.3.2.5.1 Unfocused image / Smeared image / Abnormal sound from ITB: Because ITB sags

[Inspected by Canon Inc.]
Field Remedy
Pull out the Intermediate Transfer Unit and set the tension arms (front and rear) in position so that the ITB can be held under a tension by the ITB tension roller. After making sure of it, reinstall the Intermediate Transfer Unit into the host machine.

Description
In our inspection, unfocused image occurred concurrently with the abnormal sound because the ITB tension roller was not set into position and ITB sagged.

When the tension arms (front and rear) are released at the time of servicing the Intermediate Transfer Unit, the arms are locked at that position. So, be sure to put them back in position after servicing.

14.3.2.5.2 Color Displacement in Sub Scanning Direction

Cause
1. the shock occurring when the ITB cleaning blade goes on or off causes the transfer to the ITB to be displaced.
2. the shock occurring when the secondary transfer outside roller goes on or off causes the transfer to the ITB to be displaced.

Filed Remedy (cause 1)
The following 3 remedies are offered for the field:
1. adjustment of the wire start position in sub scanning direction
2. change to the primary transfer color-to-color current level

   <Adjustment>
   1. Adjusting the Wire Start Position in Sub Scanning Direction
   1) Print out a Rainbow Chart (by executing 31 in service mode: COPIER>TEST>PG>TYPE).
   2) Check the printed chart to find out which color is displaced. (The machine is designed as a C-base machine; use yellow to serve as the point of reference).
   3) Adjust the write start position of the displaced color in service mode.

   - if Y is displaced on the 1st side, execute the following in service mode:
       COPIER>ADJUST>IMAGE-REG>REG-V-Y
   - if M is displaced on the 1st side, execute the following in service mode:
   COPIER>ADJUST>IMAGE-REG>REG-V-M

- if K is displaced on the 1st side, execute the following in service mode:
  COPIER>ADJUST>IMAGE-REG>REG-V-K
- if Y is displaced on the 2nd side, execute the following in service mode:
  COPIER>ADJUST>IMAGE-REG>REG2-V-Y
- if M is displaced on the 2nd side, execute the following in service mode:
  COPIER>ADJUST>IMAGE-REG>REG2-V-M
- if K is displaced on the 2nd side, execute the following in service mode:
  COPIER>ADJUST>IMAGE-REG>REG2-V-K
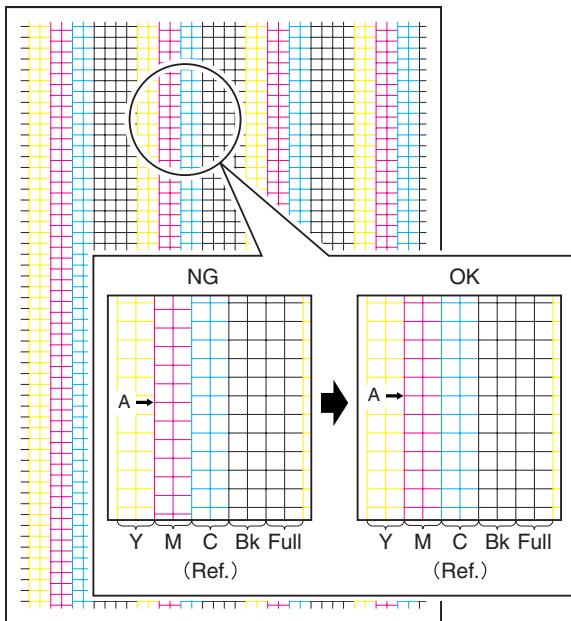
F-14-24

⚠

An increase of '1' made to the setting will move the write start position of the selected color by a single pixel (about 0.04 mm).
If you have initialized the DC controller PCB or if you have replaced the DC controller PCB, be sure to enter the values indicated on the service label

- range of adjustment: -10 to +10 (unit: pixel; at time of shipment: 0)
2. Changing the Primary Transfer Color-to-Color Current Level
Set '-2' to the following in service mode:
COPIER>ADJUST>HV-TR>1TR-STS1.
range of adjustment: -5 to 0 (unit: 2 yA; at time of shipment: 0)

Filed Remedy (cause 2)
1) Replace the primary transfer roller.
2) Dry wipe the rollers [1] and the scraper [2] shown in the following figure with lint-free paper.
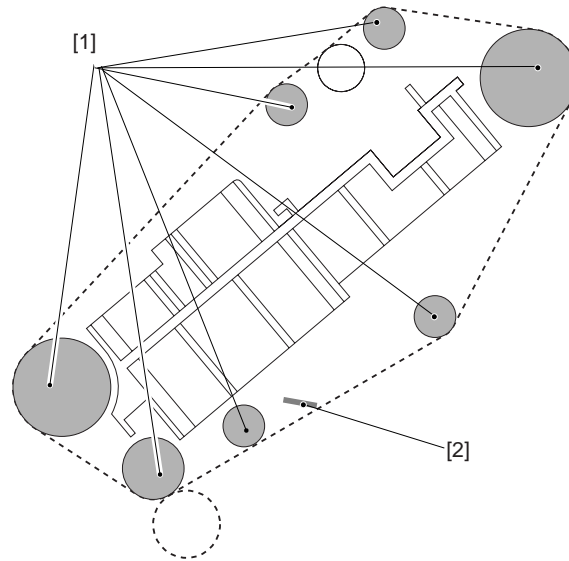
F-14-25
Memo:
When the primary transfer roller becomes worn, shavings from its surface will likely move on the intermediate transfer belt to reach all rollers inside the intermediate transfer unit. The presence of shavings between the belt and the rollers will hinder the movement of the belt, possibly causing displacement of color in sub scanning direction.
The shavings, in passing, have a high degree of viscosity, and tends to resist removal from the rollers.

14.3.2.5.3 Smeared of Colored Characters/ Lines

Cause
When 2-color (blue, green, red) is used to form an image of characters or lines, an excess of toner deposit can cause the layer of toner to grow too thick during the first transfer of the second color, thus leading to smears of toner (character edges) on the intermediate transfer belt because of separation discharges.
Field Remedy
Execute the following service mode item to decrease the amount of toner that is deposited for individual colors:

set '-3' to the following:
COPIER>ADJUST>COLOR>ADJ-Y
set '-3' to the following:
COPIER>ADJUST>COLOR>ADJ-M
set '-3' to the following:
COPIER>ADJUST>COLOR>ADJ-C
set '-3' to the following:
COPIER>ADJUST>COLOR>ADJ-K

Note:
If the images are too light after the change, set the item to '-1' to '-2'.
When you have executed these items, be sure to execute auto gradation correction (full; image characteristics corrective control) in user mode so as to maintain the optimum level of density.

Description
This symptom can also be caused by combined factors; in other words, the resistance of the intermediate transfer belt and the amount of deposited toner may well be within allowance individually, they can trigger the symptom when combined. Improvements have been made so that the level of the symptom is equal to that found in past machines; if the user points it out, however, provide the foregoing remedy. The fault, however, is of a negligible level.

Image Sample
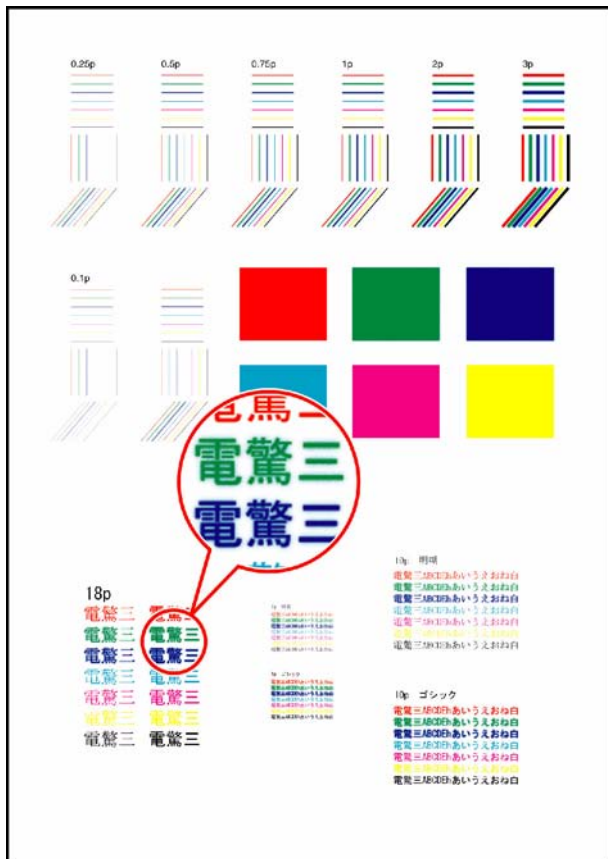
F-14-26

14.3.2.6 Partially Blank/Streaked

14.3.2.6.1 White streaks on image: When making copy (stream reading) of almost solid original

Description
In an actual failure case, when making a copy (stream reading) of an almost solid original, which is output using other manufacturer's printer, some white streaks appeared on the output. Note that this symptom does not occur when using the copyboard glass. Those streaks disappeared after cleaning the stream reading glass, but recurred after several sheet copy. As a result of inspection, it was found the symptom was induced by the following three conditions:
1. The dust detection feature is disabled in service mode.
2. The original is poor in fixing and toner peels off by rubbing the surface.
3. As the original has folds, toner-like power sticks to the folds together with paper dust.

Field Remedy
1. Clean the stream reading glass.
2. In service mode [COPIER> Option> BODY> DFDST-L1/DFDST-L2], check the set values. The default is "200".
3. Make sure that the original to be copied is in good fixing condition. If toner peels off, create the original using this machine and make a copy of it without being folded.

14.3.2.6.2 Lines appear on printed image in main scanning direction as if electrical noise occurred because of Ethernet PCB (SURF) failure, MS Word

Description
As a result of inspection, the following was found: Because of the Ethernet PCB (SURF) failure, the symptom occurs when outputting a file created on MS Word. For your information, copy images and test print images are normal. When the symptom occurs, remove and then put back the Ethernet PCB. If the symptom still recurs, replace the PCB with a new one.
FG3-2874 Ethernet PCB

14.3.2.6.3 Vertical Lies in Halftone Images

Description
This fault tends to occur in halftone images.
Cause
The scoop-up sheet of the photosensitive drum cleaner bends over at time of replacement, scraping the surface of the photosensitive drum in the form of lines.
Field Remedy
Clean the photosensitive drum, or replace it.
Replace the scoop-up sheet of the photosensitive drum.
Note:
Fit the scoop-up sheet of the photosensitive drum properly.
1) Engage the hole at the rear of the scoop-up sheet [1] of the photosensitive drum on the hook [2]; then, pull it toward the front, and fix it in position using the screw [3]. While doing so, be sure that the tip of the scoop-up sheet is not bent in the gap between the cartridge and the photosensitive drum.
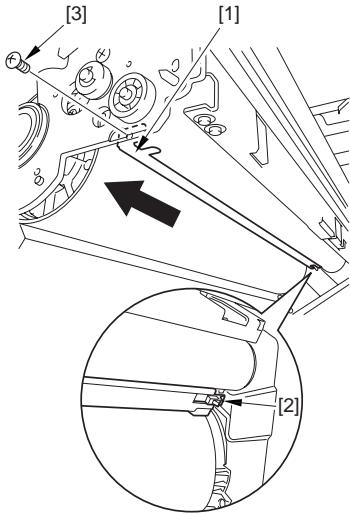
F-14-27

⚠️

Checks to Make After Fitting the Photosensitive Drum Scoop-Up Sheet

1. After mounting the photosensitive drum, check to make sure that the scoop-up sheet is not warping or bent from below.
2. If wrapped or bent, the scoop-up sheet of the photosensitive drum is likely to lead to deformation. The photosensitive drum must always be rotated in counterclockwise direction only, NEVER in clockwise direction.
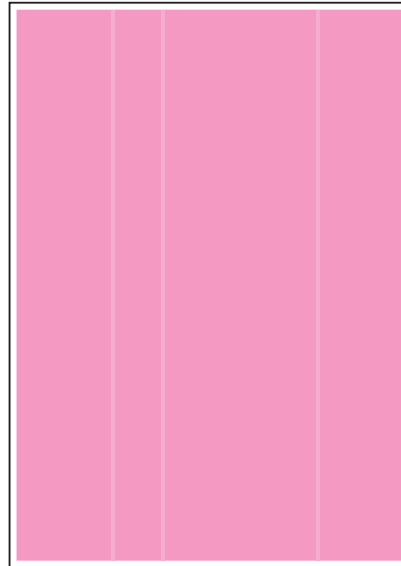
F-14-28

14.3.2.6.4 Image Fault Occurring at Specific Intervals

Description
This image fault occurs in main scanning direction.
Field Remedy
By referring to the following table of intervals, clean or replace the part identified:

T-14-8

Roller intervals (approx.)	Part
60 mm	black developing cylinder
37 mm	color developing cylinder
51 mm	primary transfer roller
63 mm	secondary transfer inside roller
75 mm	secondary transfer outside roller
168 mm	ITB
264 mm	photosensitive drum
188 mm	fixing roller
188 mm	pressure roller
113 mm	outside heating roller

14.3.2.6.5 Missing Color

Cause

When a double-sided print is made in a low humidity environment, the secondary transfer voltage tends to increase while processing the 2nd side, at times causing missing color because of an increase in the degree of discharge.

Field Remedy

If this symptom is noted, go through the following flow of work to correct it
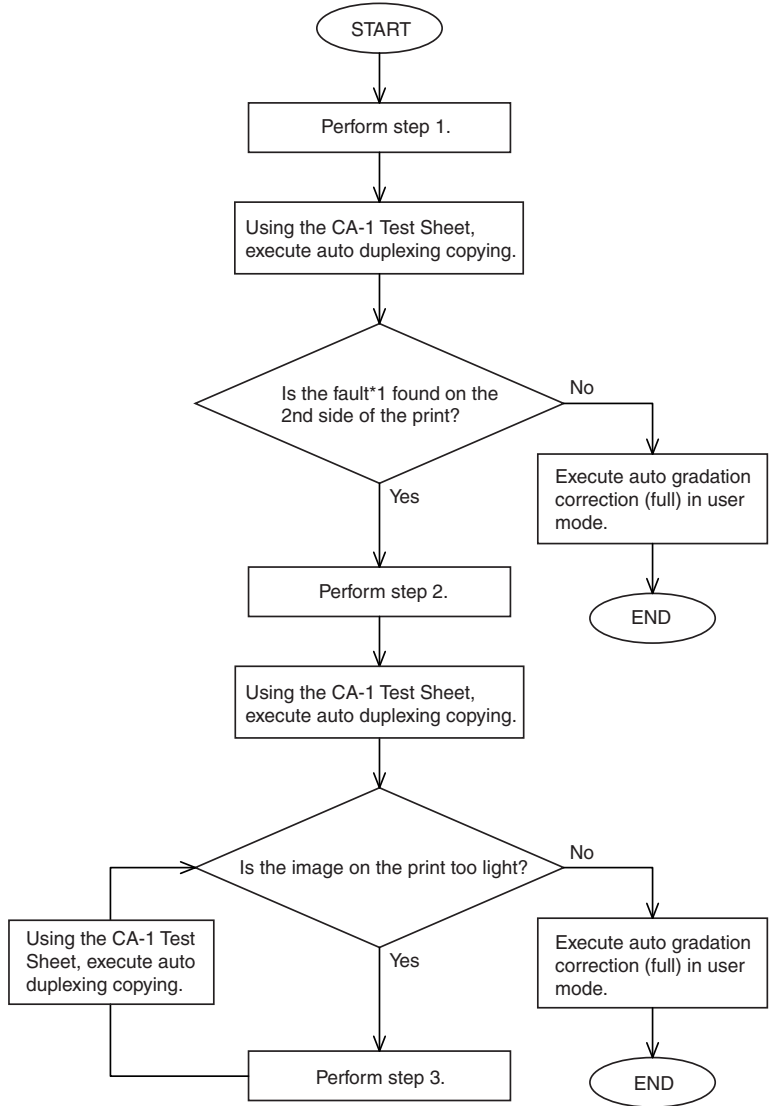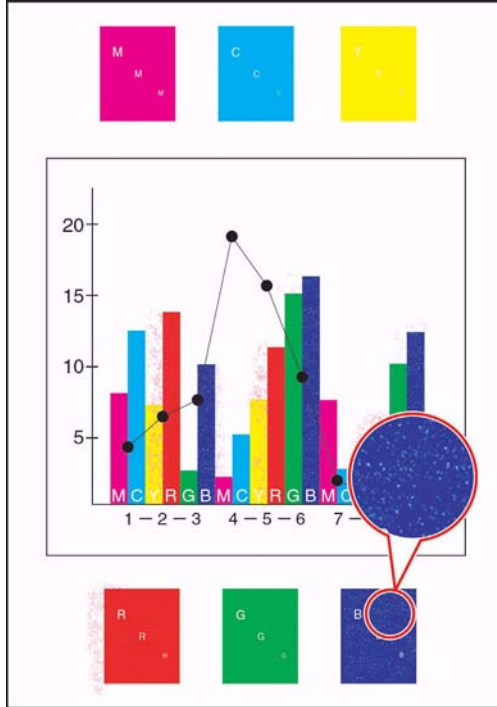
F-14-29

*1: It shows on prints as seen on the following image fault sample:

F-14-30
<Step 1>
Decrease the secondary transfer voltage for paper type, environment, and color mode using the following 6 service mode items:

1. Environment (TR-ENV1)
Set the environment in the following service mode item: COPIER>ADJUST>HV-TR>TR-ENV1. (1: low humidity; 2: normal humidity; 3: high humidity).

2. Paper Type (TR-PPR1)
Set the paper type in the following service mode item: COPIER>ADJUST>HV-TR>TR-PPR1. (1: plain paper; 2: recycled paper; 3: colored paper; 4: punch paper; 5: heavy paper 1; 6: heavy paper 2; 7: heavy paper 3; 8: transparency; 9: tracing paper; 10: postcard; 11: 2-pane postcard; 12: 4-pane postcard; 13: label sheet)

3. Color Mode (TR-CLR1)
Use the color mode in the following service mode item: COPIER>ADJUST>HV-TR>TR-CLR1. (1: Bk; 2: 4C)

4. Single-Side/Double-Sided (TR-DUP1)
Select either double-sided or single-sided in the following service mode item: COPIER>ADJUST>HV-TR>TR-DUP1. (1: single-sided; 2: auto double-sided; 3: manual double-sided)

5. Secondary Transfer ATVC Target Current Offset (2TR-TGT1)
Set '0' and execute the following service mode item: COPIER>ADJUST>HV-TR>2TR-TGT1. (range of setting: -10 to +10; in 5 yA)

6. Secondary Transfer ATVC Paper Voltage Offset (2TR-SHR1)
Set '-3' and execute the following service mode item: COPIER>ADJUST>HV-TR>2TR-SHR1. (range of settings: -10 to +10; in 100 V)

⚠

Be sure to go through the foregoing 6 service mode items before executing the following items; for instance, to decrease the transfer voltage by 300 V for low humidity, plain paper, 4C, auto duplexing:
COPIER> ADJUST> HT-TR> TR-ENV1 :1
COPIER> ADJUST> HT-TR> TR-PPR1 :1
COPIER> ADJUST> HT-TR> TR-CLR1 :2
COPIER> ADJUST> HT-TR> TR-DUP1 :2
COPIER> ADJUST> HT-TR> 2TR-TGT1 :0
COPIER> ADJUST> HT-TR> 2TR-SHR1 :-3
<Step 2>
Adjust the color balance using the following 4 service mode items, thus decreasing the density of individual colors:

1. Y Color Balance Adjustment
Set '-3' and execute the following service mode item: COPIER>ADJUST>COLOR>ADJ-Y. (range of settings: -8 to +8)

2. M Color Balance Adjustment
Set '-3' and execute the following service mode item: COPIER>ADJUST>COLOR>ADJ-M. (range of settings: -8 to +8)

3. C Color Balance Adjustment
Set '-3' and execute the following service mode item: COPIER>ADJUST>COLOR>ADJ-C. (range of settings: -8 to +8)

4. K Color Balance Adjustment
Set '-3' and execute the following service mode item: COPIER>ADJUST>COLOR>ADJ-K. (range of settings: -8 to +8)
<Step 3>
If the copy image is too light, set the service mode items (color balance adjustment) used in step 2 to '-1' or '-2'.

14.3.2.6.6 White Spots at 51mm Intervals

Cause

White spots can occur when wear starts on the primary transfer roller (i.e., an area of the roller is likely to become soft).

Field Remedy

1. Replace the primary transfer roller.
2. Clean the rollers inside the ITB unit and the scraper inside the intermediate transfer belt.

<Cleaning the Rollers Inside the ITB Unit and the Scraper Inside the Intermediate Transfer Belt>

1) Dry wipe the rollers [1] and the scraper [2] shown in the following figure with lint-free paper.
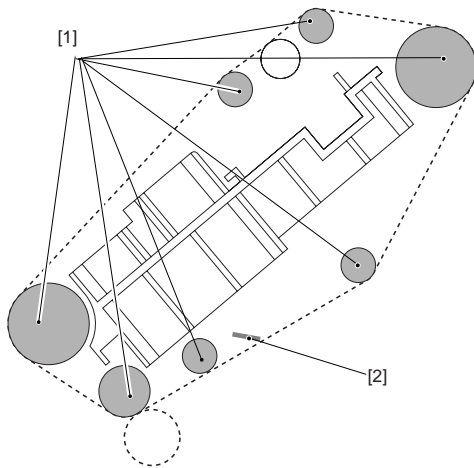
F-14-31

Description

The white spot in question tends to occur at intervals of about 51 mm.

Image Sample

F-14-32

14.3.2.6.7 Vertical Lines Caused by an ITB Cleaning Fault

Cause

When the ITB cleaning blade becomes worn, a part of it can become appreciably rigid and bend. Once this phenomenon occurs, the cleaning blade tends to fail to remove all residual toner from the belt, permitting some (additive) to remain and stick to the ITB, leading to white spots in images.

Field Remedy

Perform the following work:

- Execute "clean roller" in user mode. This mode item is designed to start black band sequence (Note) to increase the cleaning performance of the blade.

user mode>adjust/clean/clean roller

If executing the mode item fails to bring about good results, execute it once again.

Note:

In black band sequence, the machine will deposit black toner on the ITB in the form of a black belt and collect the toner using the cleaning blade.

Explanation

This symptom is noticeable in color prints of halftone images, but is absent in mono-color prints.

A service mode item is also offered as a remedy against this system.

This mode item has been designed considering users making color prints of halftone images immediately turning on the main power.

The machine may be set so that it executes black band sequence a specific number of times when the main power is turned on. To do so, use COPIER>OPTION>BODY>ITB-CLN. The settings are as follows:

0: do not execute (factory default)
1: execute once
2: execute twice
3: execute 3 times

Note:
It takes 60 sec for the machine to run this mode item. In other words, if the mode is set to "3", the machine's wait time will be longer by 180 sec. In this regard, it may be good idea to set it to "1", thereby reducing the wait time.

Image Sample
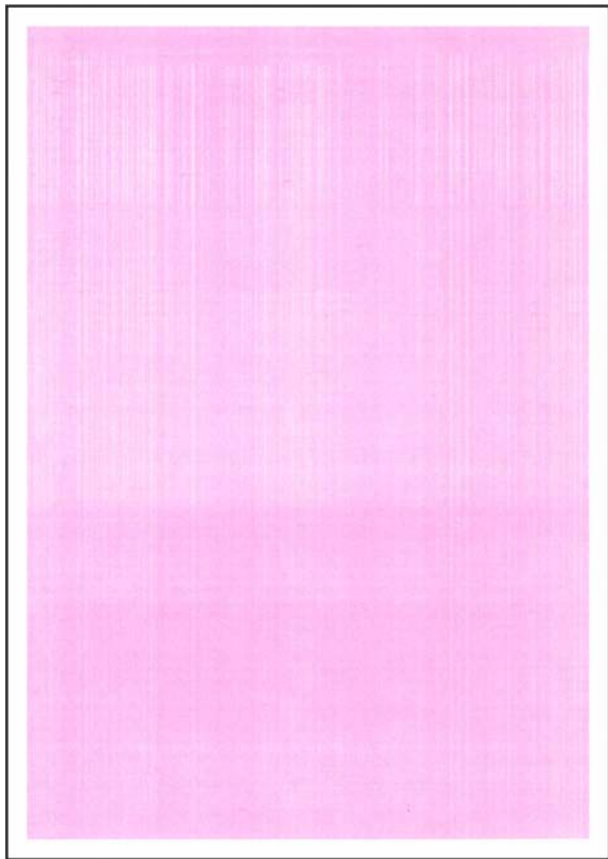
F-14-33

14.3.2.7 Smudged/Streaked

14.3.2.7.1 Edge of paper is soiled when making continuous copy from ADF / Black spots

[Inspected by Canon Inc.]
Field Remedy
Upgrade ROM of the Reader Controller PCB to Ver.8.01 and later so that the timing of outputting the image data has been modified.
Description
As a result of inspection, black spots appeared at the edge of paper (front and rear) because the timing of outputting the image data from the CCD unit was changed because of its temperature rising during making continuous copy of multiple-sheets of original from the ADF.
The upgraded Reader Controller PCB has been implemented into the following machines: JHS00251 / JHT01196 / JJM00777 / JKH00137 / JKL00011 / JXH00038 / JKP00251 / JKM00031

14.3.2.7.2 Black line on trailing edge of paper when staple mode is specified: Finisher-R1/Saddle Finisher-R2

[Inspected by Canon Inc.]
Cause
When scanning the original by using the ADF, the trailing edge of paper might appear as a black line. This line is invisible when the staple mode is not specified because it falls within the leading edge margin (4mm wide) on the output paper. However, when the staple mode is specified, the original image is rotated by 180 degrees and the line appears in the image area without falling within the trailing edge margin (2mm wide). As a result of inspection, this symptom was corrected by increasing the ADF scanning magnification.
Field Remedy
When this symptom is pointed out by your customer, make an adjustment to increase the ADF scanning magnification under an agreement with your customer.
1. Create a test chart with LTR paper as shown below.
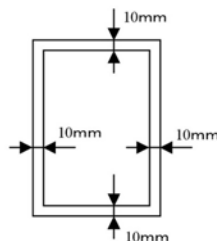
F-14-34

2. Place the test chart on the copyboard glass and make a copy under 100% magnification. [Copy A]
3. Place the test chart on the ADF and make a copy under 100% magnification. [Copy B]
4. Compare Copy A and Copy B, and calculate the difference ("d") of the image length in the paper delivery direction: [Copy B] - [Copy A] = "d"
5. If "d" is minus, it is possible that the root cause might be related to the ADF scanning magnification. So, increase it in the following service mode so as to fall "d" in the range of 0mm to 0.5mm. In service mode [FEEDER> Adjust> LA-SPEED], decrease the set value. For LTR paper, when the set value is decreased by 1, "d" will increase by 0.22mm.
6. Make sure that the symptom is corrected by the setting change.

14.3.2.7.3 Soiled image because of toner dropping from drum cleaning unit: Due to cleaning brush coming off

[Inspected by Canon Inc.]

    Description

In inspection, an output image was soiled with waste toner dropped from the drum cleaning unit. This was because the brush portion that is attached to the cleaning brush with a strip of two-sided tape came off and wound around the waste toner feedscrew. When the symptom occurs, follow the field remedy below to replace the cleaning brush with a new one. In the field, on the other hand, the brush portion wound around the waste toner feedscrew, and chipped the teeth of 24T gear and 54T/18T gear. Therefore, when replacing the cleaning brush, check those gears for chipping.

    Field Remedy

1. Remove the drum cleaning unit referring to the service manual [Parts Replacement Procedure > Image Processing system > Photosensitive Drum Cleaning Unit > Removing the photosensitive drum unit].
2. Remove the 3 screws [1] and then remove the magnet cover [2].
3. Remove the cleaning brush [3].
4. When attaching the cleaning brush again, follow the steps above in reverse.

Note: To prevent the symptom in advance, check the brush portion at the same time when replacing or removing the cleaner blade and the photosensitive drum [4]. If the portion is coming off, replace it with a new one. If it is difficult to make such a check due to severity of toner accumulation, insert an OHP sheet between the cleaning brush mount [5] and the brush portion [6] for check.
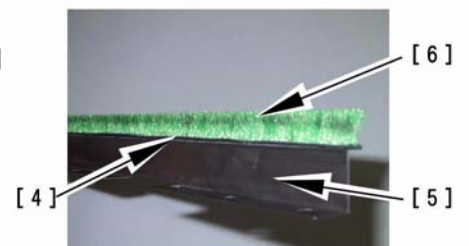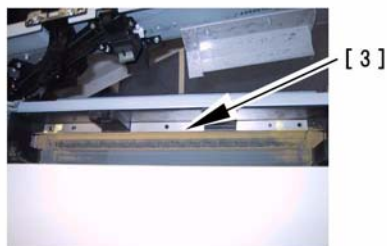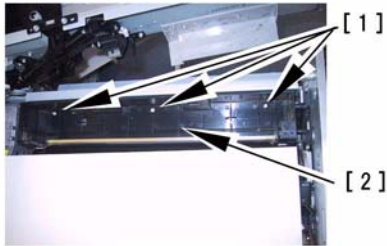
F-14-35
FL2-2473 Cleaning Brush
FS6-0124 24T Gear
FU5-0156 54T/18T Gear

14.3.2.7.4 Soiled image due to toner dropped from drum cleaning unit: Because brush portion of cleaning brush comes off and the 24T gear and 54T/18T gear are broken

[Inspected by Canon Inc.]
Description
In inspection, the tooth of the 24T gear and the 54T/18T gear were chipped because the waste toner feedscrew was rotating in a state where the brush portion of the cleaning brush came off and wound around it.
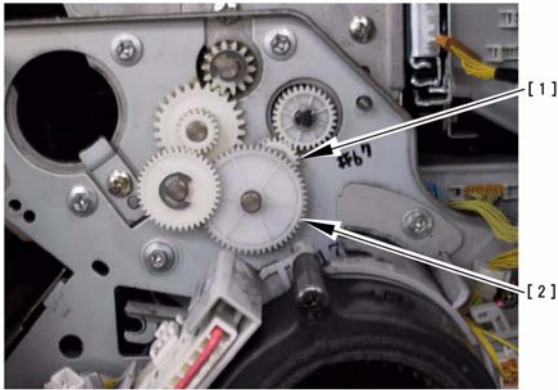
F-14-36
Field Remedy
When performing replacement of the cleaning brush, check both of the gears for breakage. If they are broken, replace them with a new one.
FS6-0124 24T Gear

14.3.2.7.5 Vertical Lines

Cause
The presence of dirt on the deflecting mirror inside the laser scanner unit can cause lines in vertical direction.
Field Remedy
Clean the deflecting mirror as follows:
1) Open the hopper assembly.
2) Hold the mirror cleaning tool [1] as shown, and fit it in the slit [2]. (mirror cleaning tool: FL2-2474)
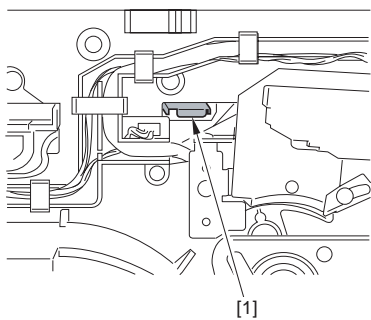
F-14-37

3) Slide out the fixing/feeding assembly.
4) Slide out the process unit.
5) Pull on the grip [1] found on the edge of the dust-blocking plate to detach the glass plate from the machine.
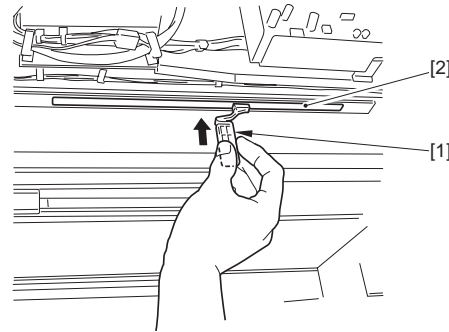
F-14-38
6) Turn the mirror cleaning tool [1] by 90 deg as shown. (step 1)
7) Move the mirror cleaning tool [1] to the front and to the rear as shown to clean the laser mirror. (step 2)
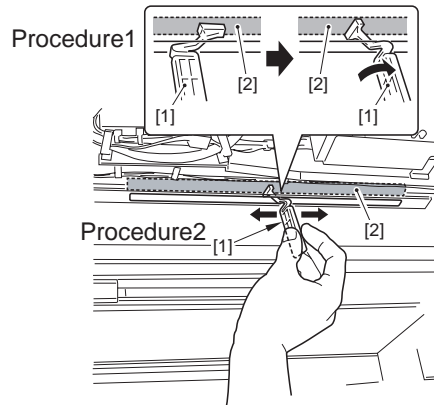
F-14-39
Description
The vertical lines tend to grow thicker as the machine is used longer.

14.3.2.7.6 Soiling of the Left/Right Margin on Double-Sided Prints (1st side)

Cause
The presence of dirt on the sheet found at the lower rear of the fixing/feed assembly can soil the left/right margin of double-side prints (1st side).
Field Remedy
Clean the sheet found at the lower rear of the fixing/feeding assembly. See the following figure [3].

Note:
Check to see if any of the following is soiled with toner; if soiled, dry wipe it:

- entire surface of the deck top plate [1]
- bend area of the deck top plate fan [2]
- sheet at fixing/feeding assembly (4 locations) [3]
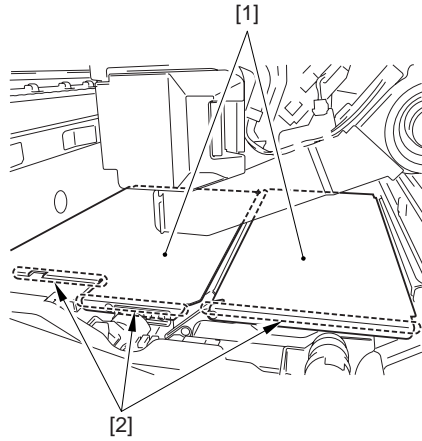
F-14-40
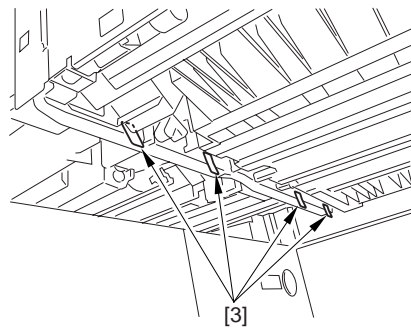
F-14-41

Description
This symptom does not occur if the paper is about 300 mm or less in width.

14.3.2.7.7 Stray Toner

<Cause>
When solid color double-sided prints are made in a low humidity environment, the inadequate secondary transfer current for the 2nd side can cause stray toner.
<Field Remedy>
Limit the amount of color toners by executing the following service mode items:
Set -3- to the following in service mode: COPIER>ADJUST>COLOR>ADJ-Y.
Set -3- to the following in service mode: COPIER>ADJUST>COLOR>ADJ-M.
Set -3- to the following in service mode: COPIER>ADJUST>COLOR>ADJ-C.
Set -3- to the following in service mode: COPIER>ADJUST>COLOR>ADJ-K.
<Caution>
If the image is too faint, increase the setting by using the foregoing service mode items. After performing this remedy, be sure to execute full

correction in user mode (under auto gradation correction) to ensure optimum density.
<Remarks>
This symptom can occur when printing on the 2nd side of dry paper while making a double-side print of solid color images in a low humidity environment.
Advise the user to avoid the use of paper that has been left alone for a long time whenever possible, recommending the use of paper fresh out of package.
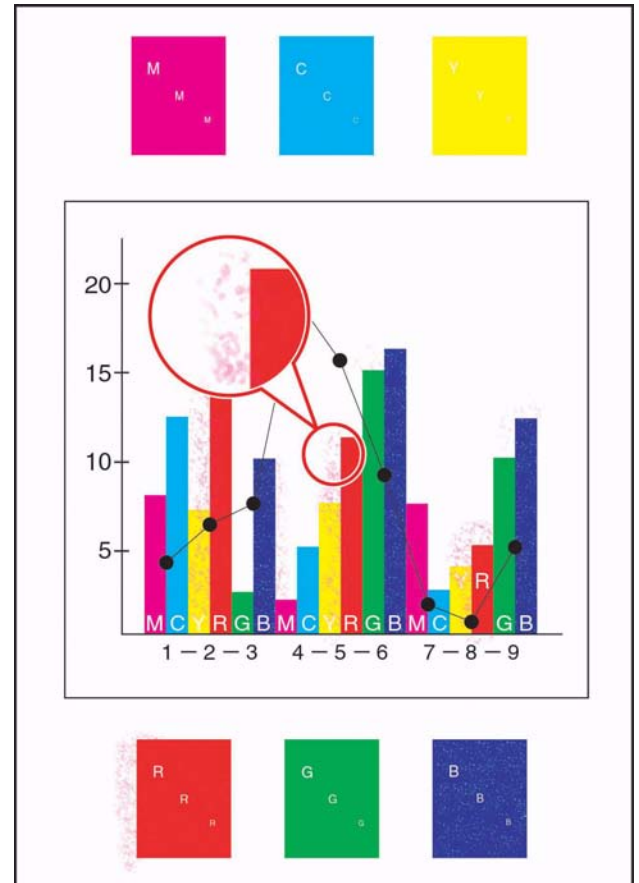
F-14-42

14.3.2.7.8 Oil Lines in Vertical Direction

Cause
When paper of the same size is used continuously, the area of the fixing roller coming into contact with the edge of paper tends to wear out, developing a dent. The dent in turn tends to collect oil from the belt, resulting in oil lines when paper of a larger size is used.
This symptom is most conspicuous on th 1st large size sheet, growing lighter and disappearing after several sheets. The symptom, on the other hand, tends to occur more readily when the fixing roller starts to deteriorate after long use (100,000 sheets or more).

EX: if A4 is used normally, and A3 extra-length paper is used as an exception:
Field Remedy
Replace the fixing roller/pressure roller.

14.3.2.7.9 Soiling as Dots at Drum Intervals

Cause
When the transfer cleaning drive assembly is removed, the force of the pressure spring causes the ITB cleaning blade to butt against the intermediate transfer belt. The contact in turn will cause the coating of the blade to stick to the belt. The coating will then be pressed against the photosensitive drum under the force of the primary transfer roller. When the photosensitive drum cleaning blade starts to wear, it can fail to collect the coating, and the coating will likely appear on the prints in the form of dots.

Field Remedy
If this symptom is noted, go through the following flow of work to correct it:
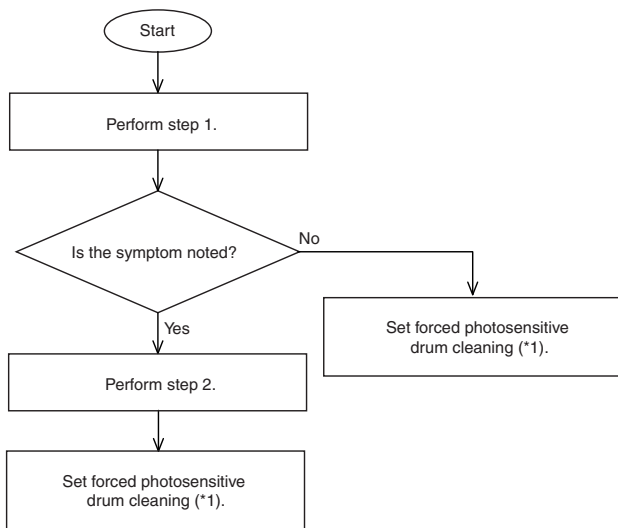
F-14-43

*1: To set forced photosensitive drum cleaning (at power-on), perform the following:
1) Set "1" the following service mode item: COPIER>OPTIONAL>BODY>D-CLN-TM.
2) Set "1" to the following service mode item: COPIER>OTPN>BODY>PAIR-FAN.

The machine executes the following in the course of this cleaning mode item:
- Stops drum idle rotation and magnet roller, and executes black band sequence.
- Eecutes full-speed rotation of the primary charging suction fan in an H/H environment.

Step 1
Clean the photosensitive drum as follows:
1) Draw out the process unit.
2) Take out the primary charging assembly.
3) Remove the 2 screws, and detach the charging assembly rail.
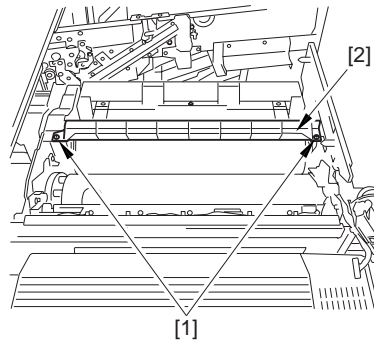
F-14-44

4) As shown in the figure, turn the photosensitive drum [1] counterclockwise while dry-wiping its surface with lint-free paper [2].
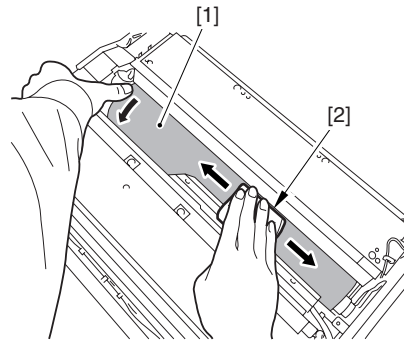
F-14-45

Step 2
Replace the ITB cleaning blade and the photosensitive drum cleaning blade.

Description
The coating on the photosensitive drum will appear white in response to light (e.g., form a pen light). Removing the coating from such an area will eliminate dots in the output.

Image Sample
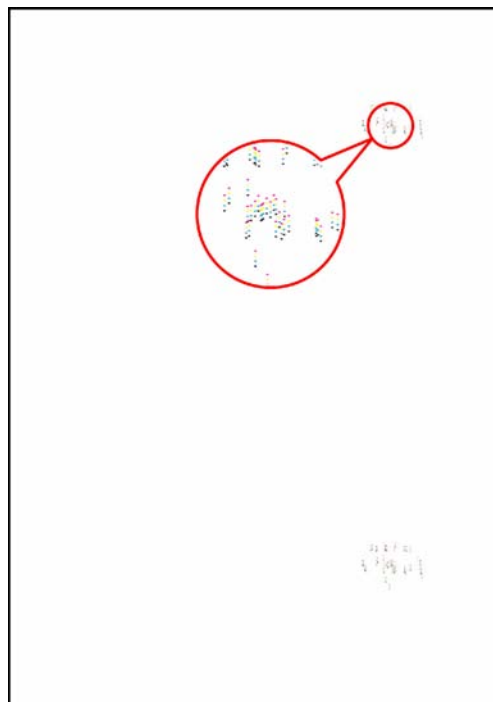
F-14-46

14.3.2.7.10 Horizontal Line Caused by Impact from the Developing Rotary

Cause
When a full color print is made, the vibration from the movement of the developing rotary affects the laser exposure mechanism, at times resulting in a horizontal line in the output.
Field Remedy
Perform the following to adjust the target contrast potential of individual colors:

1) Generate test prints (COPIER>TEST>PG>TYPE=1).
2) Decrease the target contrast of the color in which the line is conspicuous.
- change the setting to '-30' in service mode (COPIER>ADJUST>V-CONT>VCONT-Y).
- change the setting to '-30' in service mode (COPIER>ADJUST>V-CONT>VCONT-M).
- change the setting to '-30' in service mode (COPIER>ADJUST>V-CONT>VCONT-C).
3) Once again, generate test prints (COPIER>TEST>PG>TYPE=1); then, check the output against the output generated in step 1). If there is no improvement, go to step 4).
4) Decrease the target contrast potential of the color in question further in service mode:
- change the setting to '-50' in service mode (COPIER>ADJUST>V-CONT>VCONT-Y).
- change the setting to '-50' in service mode (COPIER>ADJUST>V-CONT>VCONT-M).
- change the setting to '-50' in service mode (COPIER>ADJUST>V-CONT>VCONT-C).
5) Once again, generate test prints (COPIER>TEST>PG>TYPE=1), and compare the output against the output generated in step 3), thereby making sure that improvement has been made.
Note:
Make copies using the CA-1 Test Chart and an appropriate original of the user. If the image contrast has adversely been affected, increase the setting using the foregoing service mode item (range of settings: -31 and -49).

After you have performed the foregoing remedy, be sure to execute auto gradation correction (full; image characteristic correction control) in user mode.
Description
This symptom tends to be conspicuous in M or C when making full color prints (halftone). In the case of M, the symptom tends to occur about 25 to 30 mm from the leading edge of the image; in the case of C, on the other hand, it tends to occur around 50 to 60 mm from the image leading edge.

Image Sample
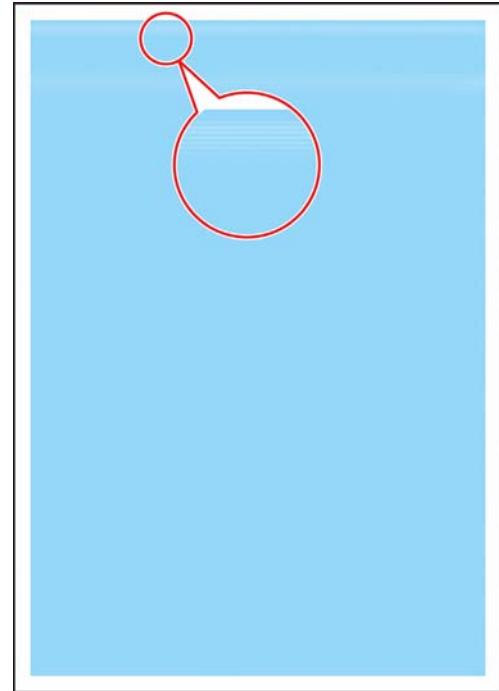
F-14-47

14.3.2.7.11 Soiling in the Form of a Ring

Cause
If, for some reason, fine particles (e.g., of oil) make their way inside a color developing assembly, electrical discharge is likely to occur between the metal particles on the surface of the developing cylinder and the photosensitive drum, causing soiling in the form of a ring.
Field Remedy
Shift SW1 SW2 (DIP switch) on the HV2 PCB to ON. (At time of shipment, these switches are kept to OFF.)

F-14-48

14-37
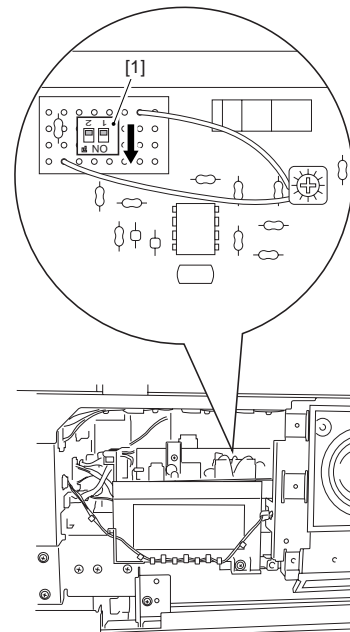
Description

If SW1 is OFF and SW2 is OFF, the AC component of the developing bias is 1,800 Vp-p (default).

If SW1 is ON and SW2 is ON, the AC component of the developing bias is 1,600 Vp-p.

A decrease in the AC component of the developing bias will limit the increase in potential occurring instantaneously between the metal particulars on the developing cylinder and the surface of the photosensitive drum, thus making electrical discharge less likely.

Image Sample
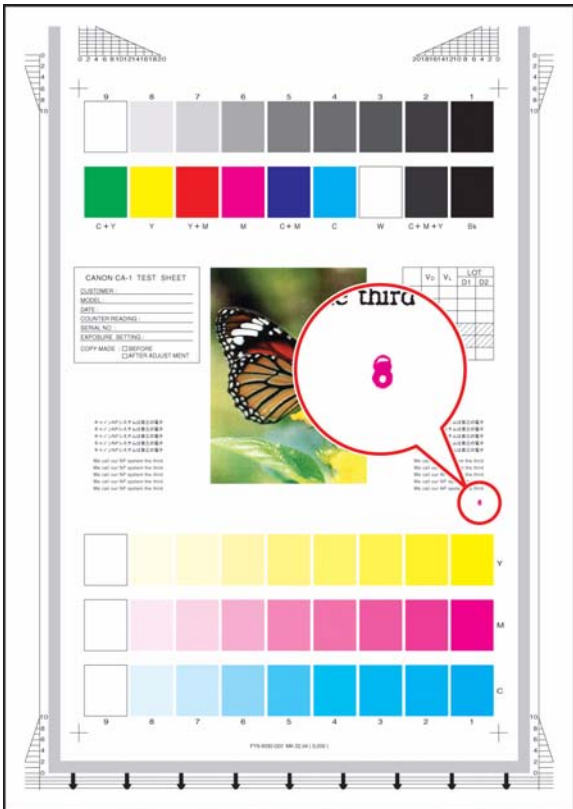
F-14-49

14.3.2.8 Ghost / Memory

14.3.2.8.1 Ghost Caused by a Bend on the ITB Cleaning Blade

Cause

The ITB cleaning blade can bend when used in a high humidity environment, causing a ghost image.

Field Remedy

Replace the ITB cleaning blade.

Description

This symptom tends to be conspicuous when an image with a high color ratio is copied.

Image Sample
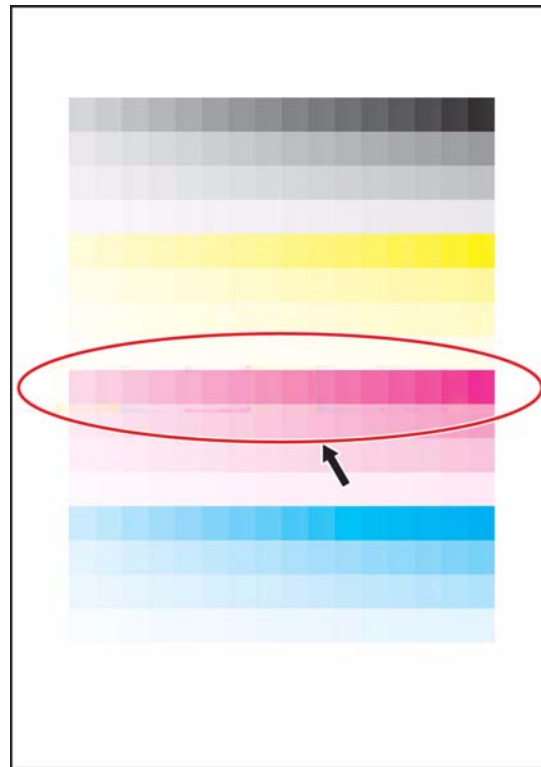
F-14-50

14.3.2.9 Faulty Color Reproduction

14.3.2.9.1 When printing cells filled in with blue by selecting from MS Excel standard color palette, they are printed with tinges of purple

Description

This symptom is the limitation of this product. However, either of the following setting changes "a" or "b" can slightly adjust the color balance.

Field Remedy

a. Adjustment via printer driver properties:

1. On the window of printer driver properties, click [Quality] tab> place a check mark on [Manual Color Settings]> press [Color Settings].

2. On [Matching] tab, select [Saturation] from [Matching Mode] pull-down menu. Then press OK to start printing.

b. Adjustment via user mode:

In user mode [Printer Settings> Settings> Print Quality> Density], change the set value of Magenta (M) to "-3" and Cyan © to "+3".

14.3.2.9.2 Faulty Color Reproduction Caused by an Error in Primary Transfer ATVC

Cause

If the process unit is left alone for a long time in a high humidity environment, the primary transfer ATVC control mechanism that goes on when the main power is turned on can cause electrical discharge between the primary transfer roller and the primary transfer static eliminator. The dis-

charge can cause the resistance of the primary transfer roller to fluctuate. Malfunction of the primary transfer ATVC control mechanism can lead to an error associated with E020 or can adversely affect color reproduction.

Field Remedy

Use the following service mode item to execute primary transfer ATVC controller mechanism after idle rotation of the primary transfer roller. Execute this service mode item immediately after the control panel screen comes on (i.e., when the main power is turned on).

COPIER>FUNCTION>MISC-P>ITR-ROT

Description

The symptom is either an error associated with E020 or faulty color reproduction. Details are as follows:

- E020 Error
E020-xx90
E020-xx91
E020-xxD2
E020-xxDC

⚠️

xx represents the color developing assembly suffering the error in question.
00= no specific color
01= Y
02= M
03= C
- Color Reproduction Fault
For instance, the faulty reproduction shows up as any of the following 3 types of image faults:

Image Sample
- image of a specific color is too light
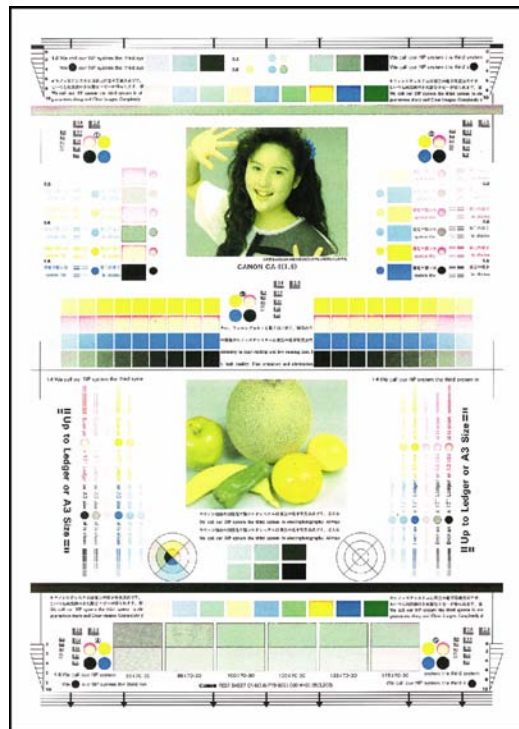
F-14-51

- image of a specific color is too dark
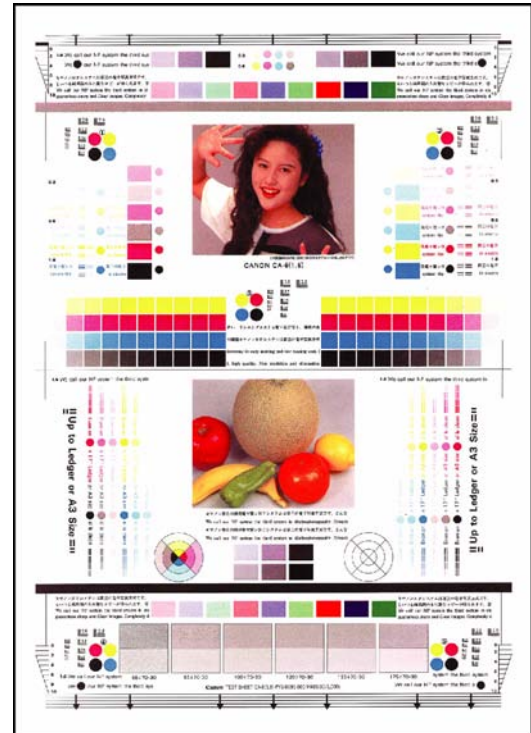
F-14-52
- image is too light overall

F-14-53

14.3.3 Faulty Feeding

14.3.3.1 Skew Feed

14.3.3.1.1 2mm-3mm misalignment in a batch when stapling: Finisher-R1/Saddle Finisher-R2

Description
The Operation Tray Ass'y of Finisher has three end guide plates that align the paper end before stapling. As a result of inspection, it was found that the end guide plate at the center (Part name: Center Tray Support Plate) is located closer to the paper output direction than the other plates at the front and the rear (Part name: Front/Rear Operation Tray Bin), causing 2mm-3mm misalignment in a batch.

Cause
Since the end guide plate at the center is located closer to the paper output direction than the front/rear plates, when paper comes into the Operation Tray Ass'y, the paper end touches the center plate and stacked on the skew.
The normal stacking condition is: when paper comes into the Ass'y, the paper end touches the front/rear plates and stacked as it is. It touches the center plate lightly or does not touch.
- As shown in the figure A below, if (R)=(C)=(F) is (0)=(0 or -0.5mm)=(0), no adjustment is required.
- As shown in the figures B and C below, if (R)=(C)=(F) is (0)=(0+)=(0), the center plate needs to be adjusted by referring to the procedure below.
(R): Rear plate, (C): Center plate, (F): Front plate
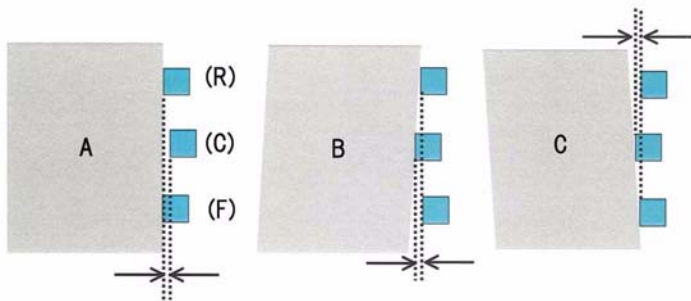
F-14-54

Checking to determine whether or not the adjustment is required:
1. Lift up the paper delivery guide [1] and turn the timing belt [2] at the center in a clockwise direction viewing from the front in order to move the back end assist plate on the timing belt as far as it will go.
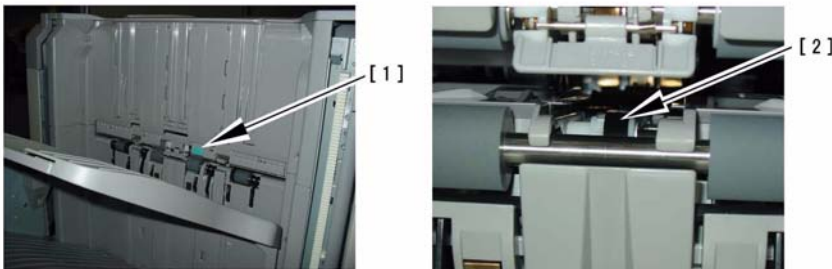
F-14-55

2. Insert a sheet of thick paper (A4 or A3) [3] from the paper output as shown below and push it against the rear plate and the center plate in this order.
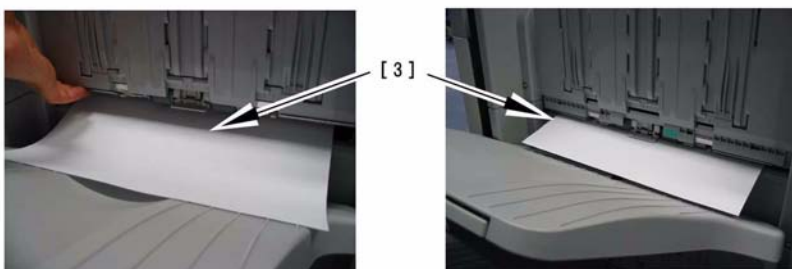
F-14-56

3. Open the front door of Finisher and move the staple unit as far as it will go. Check the paper position from the direction of [4]. If the clearance between the paper and the center plate [5] is 0mm to 0.5mm, no additional adjustment is required. If the paper touches the rear and the center plates, and there is a clearance between the paper and the front plate, adjust the position of the center plate by following the steps below.
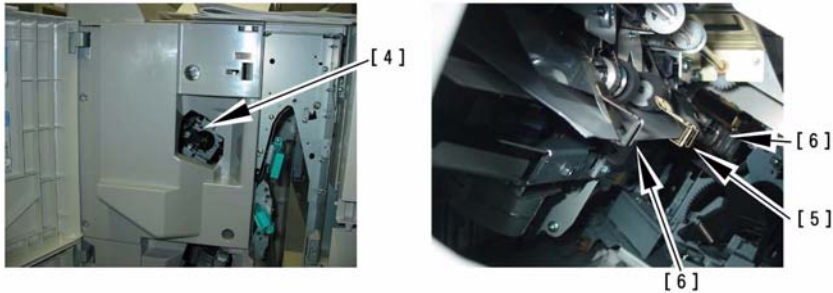
F-14-57

Field Remedy
1. By referring to Finisher Service Manual [Parts Replacement Procedure > Document Feeding System > Removing the Processing Tray], remove the Operation Tray Ass'y [7] from the main body. Remove the front/rear operation tray adjustment guides [8] by pulling upward and unsnap the hooks (2 locations) of the operation tray guides [9] to remove them.
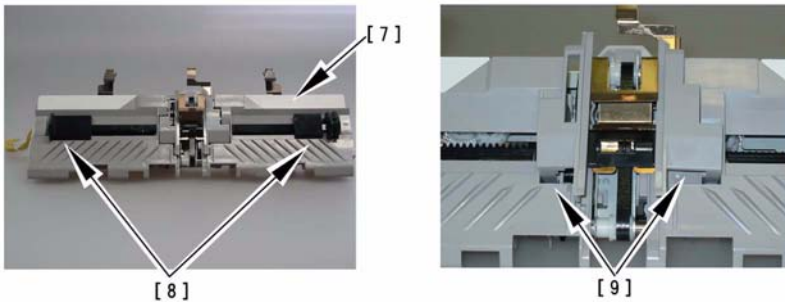
F-14-58

2. Unfasten the screw [10] (1pc.), remove the sensor mount plate, and disconnect the connectors [11] [12].
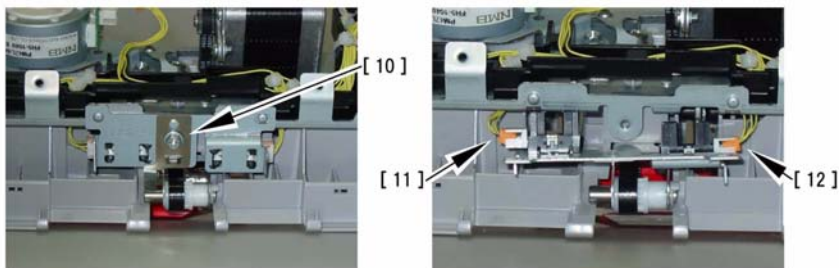
F-14-59

3. Unfasten the screws [13] (3pcs.) which fix the cable guide and the disconnect the connectors [14]. Then, remove the cable guide together with the cables.
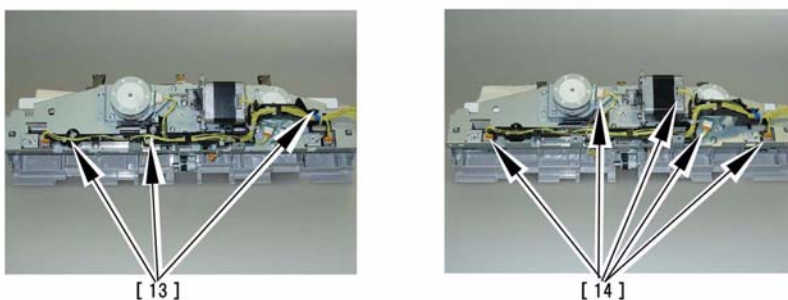
F-14-60

4. Unfasten the screws [15] (2pcs.) which fix the mount plate for the stepping motor M39, and the screw [16] (1pc.) of the operation tray cover.
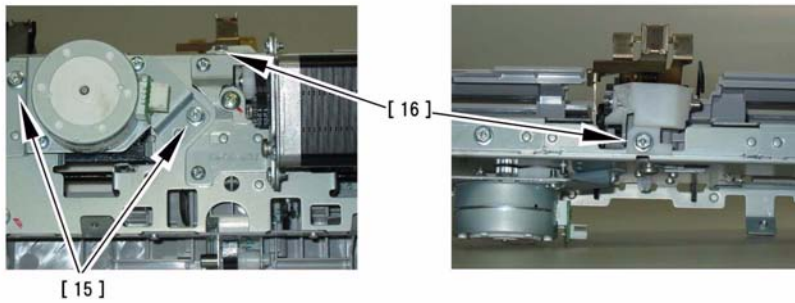
F-14-61

5. Remove the operation tray from the ass'y.
Note: When assembling the Operation Tray Ass'y once again, pay careful attention to the position of each sensor flag.
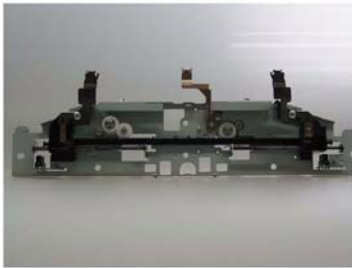
F-14-62

6. Place a sheet of paper on the Operation Tray Ass'y, loosen the screw [18], and adjust the center plate so that it should be located at 0mm to 0.5mm behind the front/rear plates.
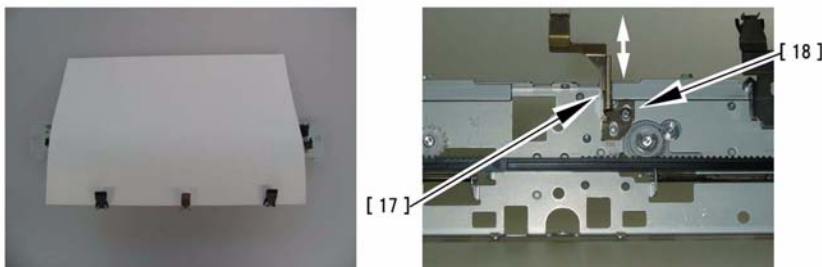
F-14-63

7. Assemble the Operation Tray Ass'y following the removal procedure Step 1 from Step 5 in reverse. At that time, make sure that all the connectors are to be inserted or of no pinched cable.
8. Make a copy in the staple mode in order to make sure that no misalignment in a batch.

14.3.3.1.2 Misalignment greater than 2mm in a batch when stapling: Finisher-R1/Saddle Finisher-R2

Cause
Because the Front/Rear Return Rollers exhibit variations in coefficient of friction when they are new, stapling misalignment in a batch occurred in early stage of usage. If your machine exhibits this symptom upon installation of the finisher or in early stage of usage, check the finisher serial number. If it agrees with the range of the serial numbers below, perform the procedure in Field Remedy.
Finisher Serial Numbers: JJF02348 and before, JJG01049 and before

Field Remedy
1. Remove the tray connector cover (only for R2) and the rear panel.
2. Set SW104 bits 1, 3, 5, 6, and 8 ON on the Finisher Controller PCB.
3. Hold up the swing guide with a hand and insert about 5 sheets of paper into the operation tray.
4. Turn the power ON and push SW103 on the Finisher Controller PCB to start the roller running-in operation. The swing guide starts ascending and the return rollers start turning counterclockwise for aging.
5. Leave the machine as it is for more than 20 minutes, and then push SW103 once again to stop the operation. (There will be no problem if the operation is performed longer.)
6. Turn the power OFF and set all bits of SW104 OFF.
7. Make sure that the misalignment has been improved.
8. Install the rear panel and the tray connector cover.
Note: Upon installation of finisher, the above procedure can be done concurrently with "TONER-S".

14.3.3.1.3 Stapling failure: Finisher-R1/Saddle Finisher-R2

Description
In the staple mode, when paper was drawn into the processing tray, it hit against the upper part of the return roller and was skewed. As a result, it did not reach the rear end assist guide and was not stapled.

Cause
As a result, it was found that this symptom occurred because a wrong engagement of the disks inside the electromagnetic clutch (stack ejection lower roller clutch CL32).

Field Remedy
When this symptom occurs, replace the electromagnetic clutch with a new one.
FH6-5101 Electromagnetic Clutch

14.3.3.1.4 Misalignment in staple/sort/group mode: Poor contact of grounding spring of swing guide: Finisher-R1/Saddle Finisher-R2

Description
As a result of inspection, the following was found: Since the grounding spring [1] does not come in contact with the swing guide plate [2] due to its positioning failure, paper becomes charged while passing over the swing guide ass'y and several sheets of paper attract each other during the aligning operation, resulting in a misalignment of the output paper.
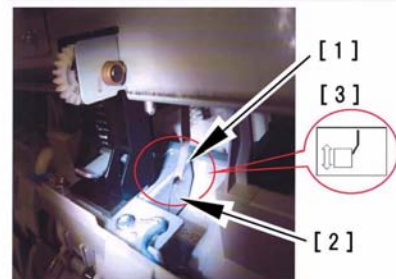
F-14-64

Field Remedy
Make sure that the grounding spring securely comes in contact with the swing guide plate. If not, loosen and fasten the screw to properly position the spring as shown in the figure [3].
FC5-5551 Grounding Spring

14.3.3.1.5 Troubleshooting for misalignment in staple/sort mode: Finisher-R1/Saddle Finisher-R2

Description

The following descriptions summarize our inspection results into misalignment problems caused by several factors when staple or sort mode is selected with Finisher-R1/Saddle Finisher-R2. When this symptom occurs, refer to the cases below and follow the steps described in Field Remedy. The cases below are listed in the order in which checking or steps seems easier, not in the order of frequency.
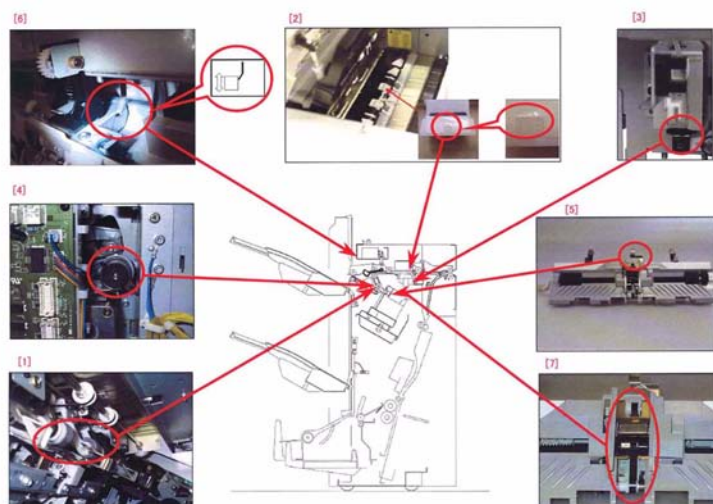
F-14-65

Cause [1]

Because the Front/Rear Return Rollers exhibit variations in coefficient of friction when they are new, stapling misalignment in a batch may occur in early stage of usage. If your machine exhibits this symptom upon installation of the finisher or in early stage of usage, check the finisher serial number. If it agrees with the range of the serial numbers below, perform the procedure in Field Remedy.

Finisher Serial Numbers: JJF02348 and before, JJG01049 and before

Field Remedy

1. Remove the tray connector cover (only for R2) and the rear panel.
2. Set SW104 bits 1, 3, 5, 6, and 8 ON on the Finisher Controller PCB.
3. Hold up the swing guide with a hand and insert about 5 sheets of paper into the operation tray.
4. Turn the power ON and push SW103 on the Finisher Controller PCB to start the roller running-in operation. The swing guide starts ascending and the return rollers start turning counterclockwise for aging.
5. Leave the machine as it is for more than 20 minutes, and then push SW103 once again to stop the operation. (There will be no problem if the operation is performed longer.)
6. Turn the power OFF and set all bits of SW104 OFF.
7. Make sure that the misalignment has been improved.
8. Install the rear panel and the tray connector cover.

Note: Upon installation of finisher, the above procedure can be done concurrently with "TONER-S".

Cause [2]

Since the buffer stopper sheet is not properly attached to the buffer stopper arm, paper may be caught at the stopper sheet depending on the paper condition and not be held by the arm securely. In the field, when a sheet cannot be held by the arm, it is pushed out by the next sheet to the delivery tray, or if it is held by the arm askew, it is delivered to the processing tray as it is and not stapled properly. In actual failure cases, this symptom occurs in the 2nd and later copies irregularly.

Field Remedy

Inspect the buffer stopper sheets attached to the center two rear end guides of the buffer stopper arm. If they are not properly attached, replace the stopper sheet or the stopper arm with a new one.

FL2-0807 Buffer Stopper Arm
FC5-4704 Buffer Stopper Sheet

Cause [3]

Since the Finisher Controller PCB is faulty, the buffer rear end holding solenoid (SL34) does not attract the plunger completely and the buffer guide is not opened. Consequently, the rear end of the first sheet is not held by the buffer guide, resulting in a paper jam. Also, if the solenoid does not attract the plunger at

all, the same jam may occur or misalignment of paper in a batch may otherwise occur.

Field Remedy

1. In order to determine whether or not the root cause is related to the host machine, detach the finisher from the host machine and make sure that no paper jam occurs in the host machine.
2. Connect the finisher to the host machine.
3. In service mode [COPIER> I/O> SORTER> P006], make sure that bit4 is changed from "0" to "1" when the sensor lever is actuated.
4. Remove the finisher front door.
5. Actuate the door switches (2 locations) and turn the power of the host machine ON.
6. While making a copy in staple mode, inspect the solenoid to attract its plunger. If the solenoid cannot attract the plunger only by one-third, the Finisher Controller PCB is likely to be faulty, so replace it with a new one.
FG3-2883 Finisher Controller PCB
FL2-0821 Solenoid

Cause [4]

Due to a wrong engagement of the disks inside the electromagnetic clutch (stack ejection lower roller clutch CL32), paper may hit against the upper part of the return roller and skewed, finally not reach the rear end assist guide and not stapled.

Field Remedy

When this symptom occurs, replace the electromagnetic clutch with a new one.
FH6-5101 Electromagnetic Clutch

Cause [5]

Since the end guide plate at the center (Part name: Center Tray Support Plate) in the operation tray ass'y is located closer to the paper output direction than the other plates at the front and the rear (Part name: Front/Rear Operation Tray Bin), causing 2mm-3mm misalignment in a batch.

Field Remedy

Adjust the position of the end guide plate at the center by retrieving and referring to the document titled "2mm-3mm misalignment in a batch when stapling: Finisher-R1/Saddle Finisher-R2".

Cause [6]

Since the grounding spring does not come in contact with the swing guide plate due to its positioning failure, paper becomes charged while passing over the swing guide ass'y and several sheets of paper attract each other during the aligning operation, resulting in a misalignment of the output paper.

Field Remedy

Make sure that the grounding spring securely comes in contact with the swing guide plate. If not, loosen and fasten the screw to properly position the spring.
FC5-5551 Grounding Spring

Cause [7]

Since the back end assist plate and the back end assist button of the operation tray assembly come off of the cogged timing belt, E514 is displayed or a misalignment attributed to a failure in the stack delivery operation occurs.

Field Remedy

As the cogged timing belt may be damaged, replace it with a new one, and then fit the back end assist plate and the back end assist button to the new belt.
FC5-3553 Cogged Timing Belt
FC5-3554 Back End Assist Plate
FC5-4715 Back End Assist Button

14.3.3.2 Fold/Rip

14.3.3.2.1 Fold at leading edge of paper when making single (1 to 1) copy: Because installation failure of inlet lower guide Finisher-R1 / Saddle Finisher-R2

Description

In the field, because the inlet lower guide [1] is installed over the entrance guide crossmember [2], paper hit against the guide when making 1-to-1 copy and was folded at the leading edge. No occurrence in continuous copy.

[3]: Normal installation state (the inlet lower guide is placed under the entrance guide crossmember.)

[4]: The inlet lower guide is installed over the entrance guide crossmember.

Note: In the case of 1-to-1 copy, paper is delivered in face-up and is curled downward, accordingly it is more likely to be caught at the guide rather than in the case of continuous copy.

Field Remedy

Place a sheet of paper exhibiting this symptom on the inlet lower guide. If the guide comes over the

crossmember at points where the folds occur, reinstall the guide once again.
FC5-3729 Inlet Lower Guide
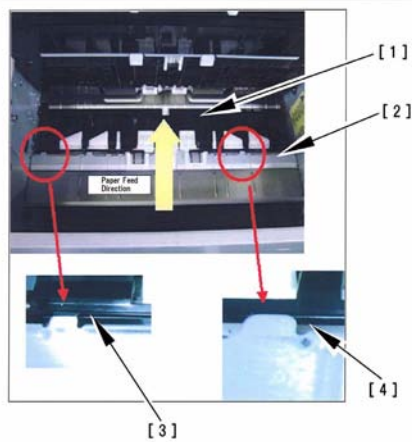
F-14-66

14.3.3.2.2 Stapling failure in 2nd and later copies when attempting to make multiple copies in staple mode: Because paper is not properly held in buffer unit,Finisher / Saddle Finisher

Description

In the 2nd and later copies when multiple copies are to be stapled, two or three sheets of paper are temporarily stored in the buffer unit (held by the buffer stopper arm) and delivered to the processing tray in a batch and then stapled. Since the buffer stopper sheet [2] is not properly attached to the buffer stopper arm [1], it is possible that paper might be caught at the stopper sheet depending on the paper condition and not be held by the arm securely. In the field, paper which was not held by the arm was pushed out by the next sheet to the delivery tray, or paper which was held by the arm askew was not stapled properly although it was delivered to the processing tray. In actual failure cases, this symptom occurs in the 2nd and later copies irregularly.

For your information, the buffer feature mechanism is: in order to prevent copy speed from being reduced, several sheets in the 2nd copy are stored in the buffer unit without waiting for the 1st copy to be stapled and ejected.

Field Remedy

Inspect the buffer stopper sheets attached to the center two rear end guides of the buffer stopper arm. If they are not properly attached, replace the stopper sheet or the stopper arm with a new one.
FL2-0807 Buffer Stopper Arm   FC5-4704 Buffer Stopper Sheet
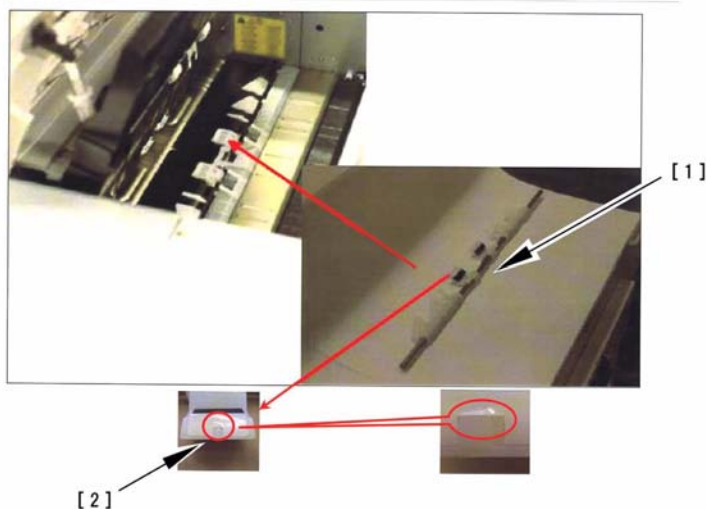
F-14-67

14.3.3.2.3 Fold at leading edge of paper when making single (1 to 1) copy: Because guide rollers in Return Roller Ass'y comes off Finisher-R1 / Saddle Finisher-R2

[Inspected by Canon Inc.]
Description
In the field, because some of the guide rollers in the return roller ass'y came off[1], paper was caught at the rollers when being delivered and thus the leading edge of the paper was folded. Especially in the case of 1-to-1 copy, paper is delivered in face-up and is curled downward, accordingly it is more likely to be caught at the roller. When this symptom occurs, inspect the guide roller and reinstall them if they comes off.
FC5-3454 Guide Roller
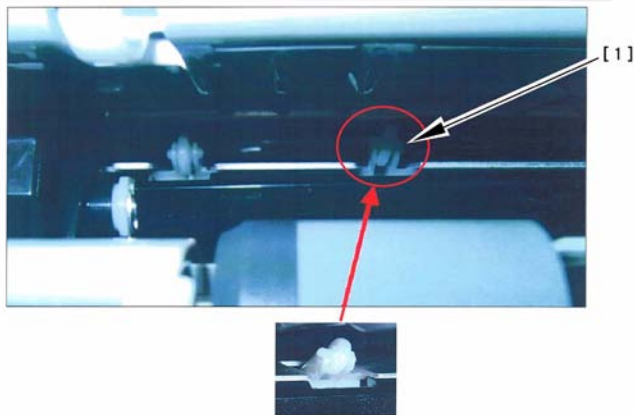
F-14-68

14.3.3.2.4 Fold at leading edge of paper when making single (1 to 1) copy: Troubleshooting, Finisher-R1 / Saddle Finisher-R2

Description
In inspection, the leading edge of paper was folded when making a 1-to-1 copy on machines with Finisher-R1 or Saddle Finisher-R2 installed. When this symptom occurs, refer to the cases below and follow the steps described in Field Remedy. (This information is as of August 30, 2004)
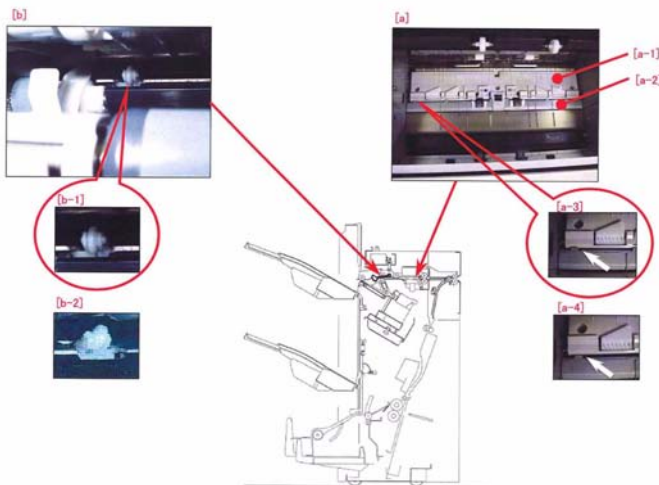
F-14-69

Cause [a]

Since the inlet lower guide [a-1] is installed over the entrance guide crossmember [a-2], paper may hit against the guide when making 1-to-1 copy and be folded at the leading edge. No occurrence in continuous copy. In the case of 1-to-1 copy, paper is delivered in face-up and is curled downward, accordingly it is more likely to be caught at the guide rather than in the case of continuous copy (face-down).

[a-3]: shows normal installation state (the inlet lower guide is placed under the entrance guide crossmember.).

[a-4]: shows that the inlet lower guide is installed over the entrance guide crossmember.

Field Remedy

Place a sheet of paper exhibiting this symptom on the inlet lower guide. If the guide comes over the crossmember at points where the folds occur, reinstall the guide once again.

FC5-3729 Inlet Lower Guide

Cause [b]

Since some of the guide rollers in the return roller ass'y come off as shown in [b-2], paper may be caught at the rollers when being delivered and thus the leading edge of the paper be folded. Especially in the case of 1-to-1 copy, paper is delivered in face-up and is curled downward, accordingly it is more likely to be caught at the roller.

[b-1]: shows normal installation state.

[b-2]: shows that the guide roller comes off.

Field Remedy

When this symptom occurs, inspect the guide roller and reinstall them if they come off.

FC5-3454 Guide Roller

14.3.3.3 Ripple/Curl

14.3.3.3.1 Output paper is rippled (accordion) when being delivered

Description

When A4/B5 paper was used, it was rippled [1] when being delivered because its leading edge was caught (not jammed) at the lower internal delivery guide [3] in the internal paper delivery ass'y [2]. As a result of inspection, it was found that the lower internal delivery guide was soiled with substances like coagulated adhesive. It is possible that labels other than the recommended types had been fed.

Field Remedy

1. When this symptom occurs, clean the lower internal delivery guide with alcohol.

2. Check the paper types in use, and if labels other than the recommended types are used, instruct your customer to use the recommended labels.

FC5-2345 Lower Internal Delivery Guide

F-14-70
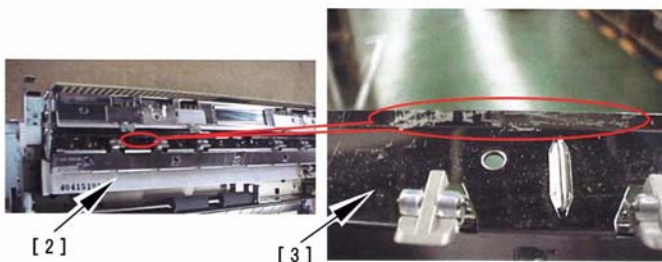
14.3.3.4 Wrap

14.3.3.4.1 Wrapping Around the Pressure Roller / Oil Traces / Separation Claw Traces / Wrinkle Traces

Description
- wrapping around the pressure roller occurs when fixing on the 2nd side of a double-sided print is under way
- difference in color caused by oil along the leading edge of the 1st side of a double-sided print (wavy, unevenness in gloss) [1]
- traces of separation claws along the leading edge of the 1st side of a double-sided print (lines opposite the separation claws) [2]
- traces of wrinkles of the pressure roller on the 1st side of a double-sided print [3]

However, of the foregoing, the symptom may not occur or may not be noticeable because of the degree of the cause.

The symptom tends to occur more readily for the following:
- paper of 80 g or less is used on a non-Japanese machine
- the fixing roller or the pressure roller has deteriorated (tending to occur more readily after 100,000 prints)
- a solid image (mono- or 2-color) is made (with the symptom being absent in the case of a mono solid image)
- double-sided prints are made

Cause
As the pressure roller is used more and more, the rubber layer starts to soften, gradually increasing the nip width and, as a result, causing the symptom to occur more readily.

Field Remedy
Change the setting of the following from '0' (default) to '1' or '2' in service mode: COPIER>OPTION>BODY>FXLW-TMP.

Memo:
1. The effects are greater when '2' is set; however, a drop in latitude in fixing will be a trade-off when heavy paper is used.
2: Be sure to return the setting to its initial value after replacing the fixing roller or the pressure roller. If the user seldom uses heavy paper and is likely to complain each time the roller starts to wear out, the setting need not be changed back to its initial value.
3. if the fixing roller or the pressure roller has been used for more than 150,000 prints, replacement of the roller is recommended.

Memo:
The pressure roller temperature control target is changed as follows to suit the setting selected in service mode:
1: 160 deg C

2: 150 deg C
Note 1:
The effects will be larger if it is set to '2'; however, a drop in latitude of fixing will be a trade-off when heavy paper is used.
Not 2:
Be sure to return the setting back to its initial value when you have replaced the fixing roller or the pressure roller. (If the user seldom uses heavy paper and is likely to complain each time the roller starts to wear out, the setting need not be changed back to its initial value.
Note 3:
If the fixing roller or the pressure roller has been used for more than 150,00 prints, replacement of the roller is recommended.
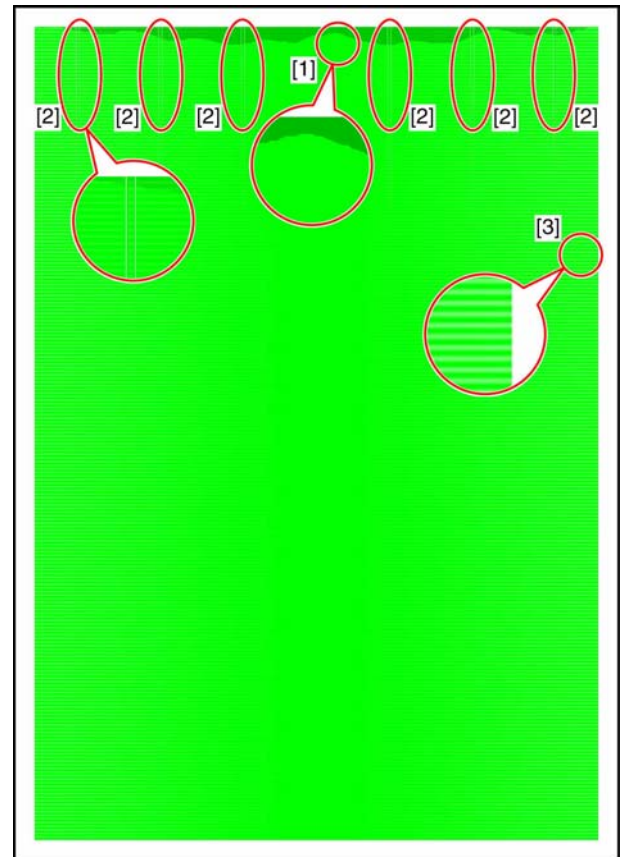
F-14-71

14.3.4 Malfunction

14.3.4.1 No Power

14.3.4.1.1 Power is suddenly shut down at power-on after installation of FAX board

Description
In the field, this symptom occurred because, after installation of the FAX board, the connector (4P, yellow cables) for the control card was wrongly inserted into J146 (4P) at the side of the FAX unit.
Field Remedy
Insert the appropriate connector (4P, orange and blue cables) for the FAX power supply into J146.
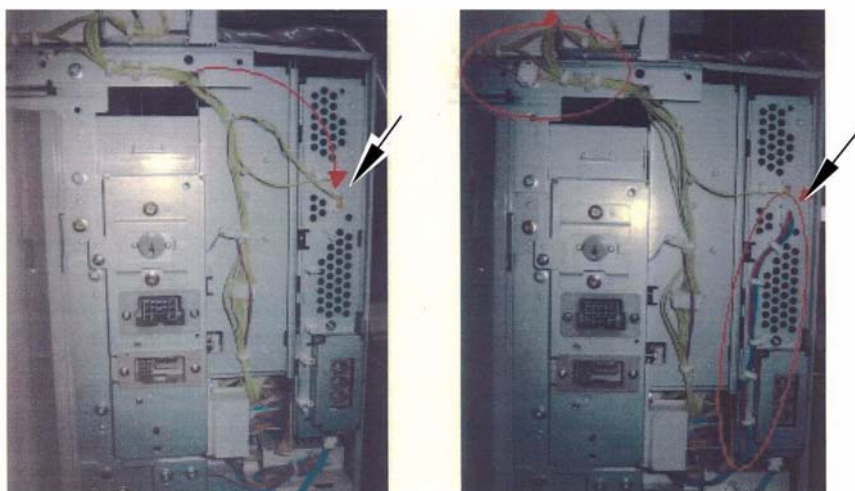
(X)   (O)

F-14-72

14.3.4.1.2 Host machine does not start up and repeat reboot, LCD does not come on, No power

Description
As a result of inspection, the following symptoms occurred because the Main Controller PCB was faulty:
1. After power-ON, when the progress bar reaches the interval 1 (Self-diagnostic program), the host machine repeats reboot and does not start up.
2. After power-ON, the main power indicator comes on; but the LCD does not. Initialization of the host machine and the finisher is done.
Field Remedy
1. In order to determine whether or not the root cause is related to the host machine, detach any optional products (finisher, etc. if being installed), and turn the power ON.
2. If the host machine does not start up, replace the Main Controller PCB with a new one.
FG3-2857 Main Controller PCB

14.3.4.1.3 After installation of FAX board, power is shut down immediately at power-on

Description
In the field, this symptom occurred because the connector (4pins, yellow cables) for the control card was wrongly inserted into J146 (4pins) at the side of the FAX unit as shown in [1].
Field Remedy
Insert the FAX unit power supply connector (4pins, orange and blue cables) into J146 as shown in [2].
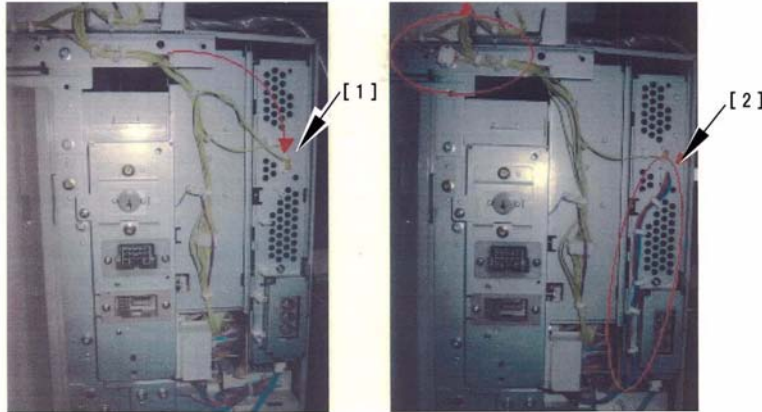
F-14-73

14.3.4.2 Control Panel-Related

14.3.4.2.1 Black toner cartridge cap does not close completely, causing black toner leakage

Description
As a result of inspection, it was found this symptom occurred because of the following reason. When the black toner cartridge in the Hopper Ass'y was removed from the host machine in order to pull out the process unit during service work, the lock lever was pushed down by pulling leftward forcibly and the locking mechanism did not work properly, causing the toner cartridge cap not to close completely and finally toner leakage. There is a possibility that toner leakage occurs if users do the similar operation. Thus, for a preventive purpose, ask your customer not to apply any unnecessary side-to-side force when operating the lock lever.

14.3.4.2.2 LDC does not come on at power-on: Because Main Controller PCB is faulty

Description
As a result of inspection, the following was found: Upon power-on, the LCD does not come on and even the control cooling fan (M8) does not rotate on account of the defective Main Controller PCB.
Field Remedy
1. Check the input voltage applied to the following points of J1201 and J1202 on the Main Controller PCB. If no voltage is applied, the DC power relay PCB is thought to be faulty.
- J1201: Pin1 to Pin3 = 3V, Pin2 to Pin4 = 3V, Pin5 to Pin7 = 3V, Pin6 to Pin8 = 3V, Pin9 to Pin10 = 12V
- J1202: Pin1 to Pin2 = 5V, Pin3 to Pin4 = 13V
2. If the voltage is applied, check the connection of all connectors that are from J1212 on the Main Controller PCB to J2118 on the control panel CPU PCB assembly.
3. If the symptom still occurs, replace the Main Controller PCB with a new one.
FG3-2857 Main Controller PCB Assembly
FM2-0843 DC Power Relay PCB Assembly

14.3.4.2.3 Control panel switch does not work

Description

As a result of inspection, it was found that the control panel switch did not work because a pin of the connector J2116, which connects the control panel to the Main Controller PCB, was bent (on the panel mount side), causing bad connection of the connector.

Field Remedy

When the symptom occurs, check all the connects (including J2117) between J1212 of the Main Controller PCB and J2118 of the control pale CPU PCB assembly. If a bent pin or bad connection is found, modify it.
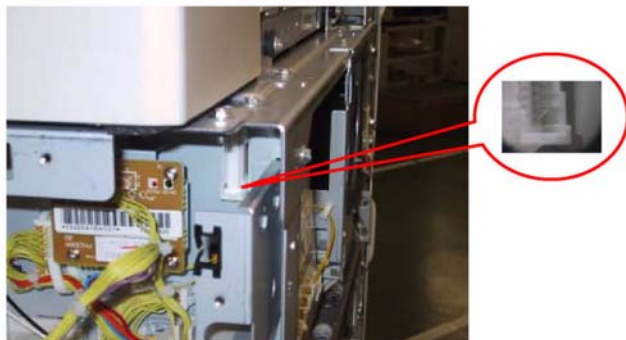
F-14-74

14.3.4.3 Counter Malfunction

14.3.4.3.1 Counters for Dept. ID Management does not increase after installation of Card Reader-D1: Card itself is recognized

Field Remedy

Change the set value in service mode [COPIER> Function> INSTALL> CARD (default: 0)] to the lowest number of the cards that are to be used. For example, when the cards from 100 through 300 are used, the number "100"should be entered. After making sure that the set value has been changed (it could take some time), turn the power OFF/ON.

Description

If the set value remains the default "0", the counters for the Dept. ID management will not increase because the host machine cannot understand which cards should be managed although the card itself is recognized and copy can be made. For your information, if you mistakenly enter "200" in the above case, the cards numbered "100" through "199" will not be recognized and copy cannot be made.

The card counter can be checked in user mode [System Management Settings> Department ID Management> Count Management].

14.3.4.4 Malfunction/Faulty Detection

14.3.4.4.1 Paper lifting plate in left front paper deck does not ascend upon installation

Cause
In the field, this symptom occurred because the left deck cable was trapped by the left deck locking plate when the plate was mounted upon installation.
Field Remedy
When mounting the plate, try lightly pushing down the cable with your left hand. For more details, refer to the service manual [Unpacking and Installation > Mounting the Pickup Assembly].
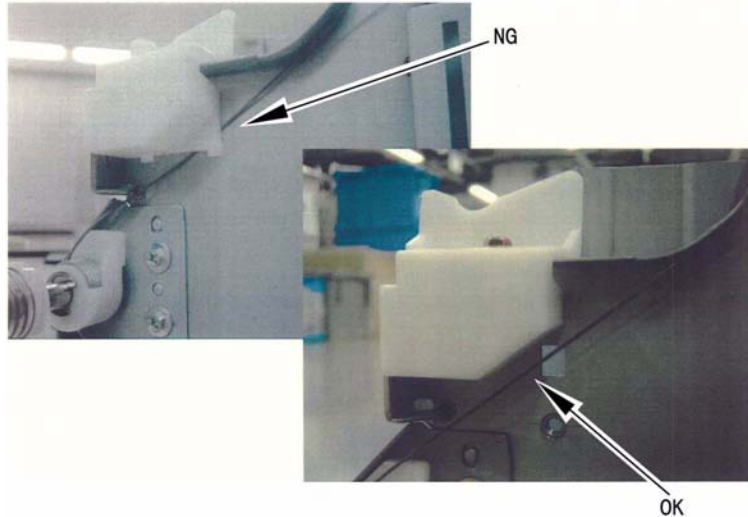
F-14-75

14.3.4.4.2 Black toner fails to be replenished although "Toner-S" is executed upon installation / Light image

Field Remedy
In the field, black toner replenishment was not properly completed although "Toner-S", which is a toner replenishment mode in service mode, was executed. Check which applies to your case among the following, and perform the appropriate action.
a. When "Toner-S" is executed, the indication of countdown reaches "0" but keeps displaying "10" and "0" by turns. In such a case, upgrade the ROM on the DC Controller PCB to Ver.5.04 and later. Afterward, execute "Toner-S" once again.
b. It will take approximately 7 minutes to complete "Toner-S" in normal circumstances. If "Toner-S" is executed while "WAITING" is being displayed at the right corner of the Service Mode screen, the indication will immediately display "OK". Be sure to execute "Toner-S" after "WAITING" is changed to "READY".
c. When "Toner-S" is executed, the indication displays "OK" after approximately 3 minutes and a half. This means toner replenishment has not been completed properly. If a light image problem occurs after the replenishment, it is possible that the connector of the toner sensor fails to be inserted or is not securely fitted because of its bent pins.
By referring to the procedure below, check the connection status of the connector for the toner sensor.
1. For the preventive measure against electrostatic discharge, touch the machine metal plate with your hand and test probes.
2. Disconnect the connector [1] from the female connector J209 [2] of the AP kit.
3. Using a tester (multimeter), make a measurement of resistance between the 1st pin (minus) and the 3rd pin (plus) of the female connector J209 [2]. The rightmost pin is the 1st pin. Touch the pins with the appropriate test probes. If not, the measurement results will not become stable. Set up the multimeter at the maximum (40M ohms).
- If the measurement result reads several M ohms to 20M ohms, the connector is securely fitted. It is possible that the toner sensor is faulty although there is no failure report from the field.
- If the measurement result reads infinite (Overlimit), it is possible that the connector fails to be inserted or some of the connector pins are bent. In such a case, pull out the AP kit from the host machine and visually inspect the pins at the back side of the connector J209 [2] and insert the connectors are securely fitted.
4. Execute "Toner-S" once again.Field Remedy

In the field, black toner replenishment was not properly completed although "Toner-S", which is a toner replenishment mode in service mode, was executed. Check which applies to your case among the following, and perform the appropriate action.

a. When "Toner-S" is executed, the indication of countdown reaches "0" but keeps displaying "10" and "0" by turns. In such a case, upgrade the ROM on the DC Controller PCB to Ver.5.04 and later. Afterward, execute "Toner-S" once again.

b. It will take approximately 7 minutes to complete "Toner-S" in normal circumstances. If "Toner-S" is executed while "WAITING" is being displayed at the right corner of the Service Mode screen, the indication will immediately display "OK". Be sure to execute "Toner-S" after "WAITING" is changed to "READY".

c. When "Toner-S" is executed, the indication displays "OK" after approximately 3 minutes and a half. This means toner replenishment has not been completed properly. If a light image problem occurs after the replenishment, it is possible that the connector of the toner sensor fails to be inserted or is not securely fitted because of its bent pins.

By referring to the procedure below, check the connection status of the connector for the toner sensor.

1. For the preventive measure against electrostatic discharge, touch the machine metal plate with your hand and test probes.

2. Disconnect the connector [1] from the female connector J209 [2] of the AP kit.

3. Using a tester (multimeter), make a measurement of resistance between the 1st pin (minus) and the 3rd pin (plus) of the female connector J209 [2]. The rightmost pin is the 1st pin. Touch the pins with the appropriate test probes. If not, the measurement results will not become stable. Set up the multimeter at the maximum (40M ohms).

F-14-76

- If the measurement result reads several M ohms to 20M ohms, the connector is securely fitted. It is possible that the toner sensor is faulty although there is no failure report from the field.

- If the measurement result reads infinite (Overlimit), it is possible that the connector fails to be inserted or some of the connector pins are bent. In such a case, pull out the AP kit from the host machine and visually inspect the pins at the back side of the connector J209 [2] and insert the connectors are securely fitted.
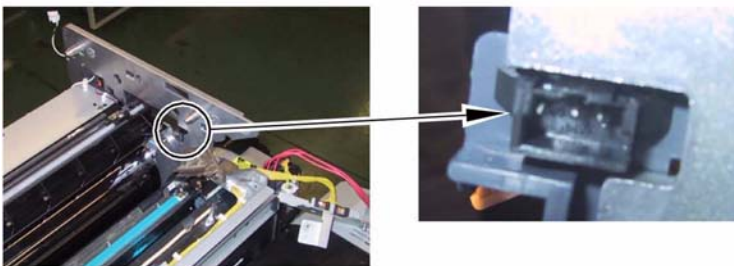
F-14-77

4. Execute "Toner-S" once again.

14.3.4.4.3 Initialization of color developing assemblies (INISET-3) is not completed; "OK" does not display

Description
In the field, initialization of the color developing assemblies (INISET-3) was executed upon installation, however, "OK" did not display even after the count has reached "0". Under the normal circumstance, it will be completed in approximately 14 minutes.
Cause
The cables of the connector of the potential control sensor were broken, causing INISET-3 to fail.
Field Remedy
1. Inspect the connector of the potential control sensor for poor contact or cable break.
2. After making sure of no problem in the step 1, execute the service mode [COPIER> Function> INSTALL> INISET-3] once again.
Note: It is possible that the cables were broken because the AP-kit was pulled out without disconnecting the connector. If you need to pull out the AP-kit for servicing, be sure to disconnect not only the potential control sensor connector but others.

14.3.4.4.4 Feature of Saddle Stitcher Staple Repositioning does not operate: Saddle Finisher-R2 User Mode

Field Remedy
Upgrade the ROM on the DC Controller PCB to Ver.8.02 and later.
Note: When upgrading, upgrade System to Ver.6.03 and later simultaneously.
Description
In the field, "Saddle Stitcher Staple Repositioning" under user mode [Adjustment/Cleaning], which should be executed after replacing the staple cartridge with a new one or clearing a staple jam, did not operate. As a result of inspection, the ROM on the DC Controller has been modified.
How to operate: In user mode [Adjustment/Cleaning> Saddle Stitcher Staple Repositioning], press the Start key.

14.3.4.4.5 Message "The specified size does not conform to the position of the slide guides." is displayed when setting A4R/B5R in Manual Feed Tray

Description
In the field, the following occurred: When paper is set in the manual feed tray and then the Next button is pressed (to go to the Paper Type selection screen), the message "The specified size does not conform to the position of the slide guides. Adjust the slide guides and specify the size again" is displayed. This is because of a poor adjustment of the size guide of the manual feed tray. When the message is displayed, follow the field remedy below.
Field Remedy
1. Place A4R size paper in the manual feed tray and set the size guide to the A4R width. Then, in service mode [COPIER > FUNCTION > CST > select MFA4R > OK].
2. Do the same thing as the step 1 for A6R size paper.
3. Do the same thing as the step 1 for A4 size paper.

14.3.4.4.6 Paper deck is not drawn out when cassette button is pressed if it is full loaded with paper: Occurs on both right and left paper decks

Description
As a result of inspection, it was found that the front paper deck, full loaded with paper, was not drawn out even when the cassette button was pressed because the spring pressure of the compression spring located deep inside the front paper decks was low. As a solution, the compression spring has been changed to a one with higher pressure. When this symptom occurs, replace the spring with a new one.
FU5-2176 Compression Spring

14.3.4.4.7 Upon power-on, Machine repeats rebooting and fails to start up at point where progressive bar fills a little

Description
In the field, the symptom occurred because the Boot ROM and the expansion RAM were not securely fitted.
Field Remedy
When the symptom occurs, remove and then insert the Boot ROM and the expansion RAM.

14.3.4.4.8 Machine displays "Processing" and locks up when printing: Because of Ethernet PCB (SURF) failure, PowerPoint

Description
As a result of inspection, the following was found: Because of the Ethernet PCB (SURF) failure, the machine displays "Processing" and locks up when printing a file created on PowerPoint. For your information, copy images and test print images are normal. When the symptom occurs, remove and then put back the Ethernet PCB. If the symptom still recurs, replace the PCB with a new one.
FG3-2874 Ethernet PCB

14.3.4.4.9 When stamp setting is ON and FAX message is sent, LCD hangs up with optical lamp staying ON

Description
As a result of inspection, the following was found: When the stamp setting is ON and a FAX message is sent, DF cover open jam occurs immediately before a stamp is placed on the original fed from the DF, causing the LCD to hang up with the optical lamp staying ON.
Field Remedy
When the symptom occurs, upgrade the software of the reader controller PCB to version 10.01. This version has the modified program to prevent the jam from occurring when a stamp setting is ON and a FAX message is sent.

14.3.4.4.10 Unable to format hard disk (HD)/Format error: Because hard disk drive (HDD) is changed

Description
From the machines with the following serial numbers, the new type hard disk drive (HDD) is being adopted. And the service part HDD was also replaced with the new type one. Additionally, the HD format file version 00.09 was released with this HDD change. When you format the new type HDD, download the HD format file version 00.09 or later to SST.
Starting serial number
iRC6800 (120V): JJM03898, iRC6800 (230V): JKL00019, iRC6800 (AU 230V): JXH00445, iRC6800 (EUR 230V): KH00998, iRC6800N (KOR 220V): JKQ00001, iRC6800N (230V): JKM00153, iRC6800N (EUR 230V): JKP02059, iRC5800 (120V): KEM00740, iRC5800 (230V): KEP00005, iRC5800 (AU 230V): KEQ00012, iRC5800 (EUR 230V): KEN00028, iRC5800N (230V): KET00011, iRC5800N (EUR 230V): KES00041
WM2-5222 HDD (HDS728040PLAT20)

14.3.4.4.11 Fixing Web Displacement / 0A15/020D Jam Code

Cause
If you open the front cover in any of the following conditions and turn the fixing jam removal knob, the web will likely become slack and displaced:

- during last rotation after output ("Printer is warming up..." is indicated.)
- during fixing idle rotation at time of warm-up
- during printing

When the slack starts to increase and the belt becomes trapped by the fixing roller, the following jam can occur:

- 0A15 (fixing inlet sensor power-on jam)
- 0200 (reversal sensor stationary jam)
Field Remedy
Take up the fixing web so that it is not slack.
Observe the following, and advise the user on points of importance:
Note:
- Web retaining pad is used to keep the web in place so that the web will not become slack when the fixing roller is rotated in reverse for jam removal.
The web retaining pad is mounted to the same shaft as the cam used to move the outside heating roller to and from the fixing roller: while the outside heating roller is in contact with the fixing roller, the pad is away from the web; on the other hand, when the outside heating roller is away from the fixing roller, the pad is used to keep the web in place.

⚠

The machine indicates the message "Printer is warming up..." on its LCD while it executes last rotation after printing. While the message is on the LCD, the fixing roller is under temperature control, and the outside heating roller is in contact with the fixing roller, i.e., the web retaining pad is away from the web. If you open the front cover and turn the fixing assembly release knob, the web will become slack and possibly displaced. Do not open the front door while the message is on the LCD. If you must, do not turn the fixing assembly releasing knob.

The web retainer is also away from the web when you force the front cover to open while printing or fixing idle rotation is under way during warm-up: be sure to keep this in mind during service work.

F-14-78

1 Web retaining pad
2 Cam
3 Cleaning web
4 Outside heating roller
5 Fixing roller

14.3.4.5 Noise

14.3.4.5.1 Abnormal buzzing sound from ITB unit

Field Remedy
Check whether your machine is earlier than the following serial numbers: JHS00176/JHT00861/
JHK00006/JJM00182/JXH00008/JKM00003
JKP00003. If so, perform the steps below.
Clean the internal scraper in the ITB unit and attach two pieces of commercial double-sided tape (20mm wide, 0.14-0.16mm thick) to the back side of the scraper holder as follows:
1. Remove the ITB unit from the host machine.
2. Remove the internal scraper from the ITB unit and clean it.
3. Attach the double-sided tape to two locations on the back side of the scraper holder: the center, and between the rear end and about 10mm behind from the screw hole. (The tape should be located where the ribs of the ITB unit frame come in contact.)
4. Remove the protective paper from the tape and install the scraper holder to the ITB unit.
5. Put the ITB unit back to the host machine.
6. Make a copy and check whether the abnormal buzzing sound has gone.
Description
It is possible that rubber residues of the secondary transfer roller are deposited to the edge of the internal scraper. In such a case, the sliding frictional resistance between the scraper and the ITB will become higher and the scraper holder will start vibrating, resulting in an abnormal buzzing sound. As a result of inspection, it was found that the double-sided tape can prevent the scraper holder from vibrating and finally an abnormal sound. Note that the machines whose serial numbers are greater or equal to the above have the double-sided tape to the scraper holder.
FL2-0398: Internal Scraper
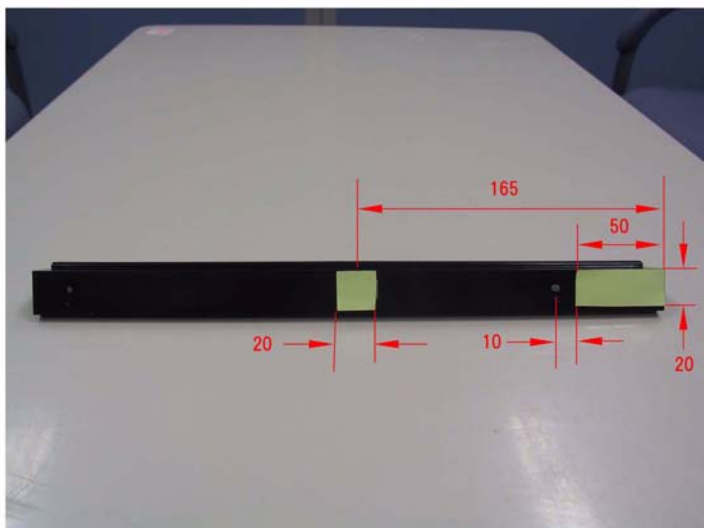
F-14-79

14.3.4.5.2 Abnormal whizzing sound from Fixing Ass'y

Field Remedy
As a result of inspection, abnormal sound was heard only during the rotation of the external heating roller because the stopper ring came off of the roller edge and the bearing also came off. When the symptom occurs, inspect the stopper ring.
FC5-2377 Stopper Ring

14.3.4.5.3 Frictional sound from Additional Finisher Tray-A1: When Finisher-R1/Saddle Finisher-R2 is initialized at power-ON and copy start, abnormal noise

Description
Since the tray of the Additional Finisher Tray-A1 was not snapped onto the front stay completely, the tray interfered with the upper height panel and caused a frictional sound while it was moving up and down for the finisher initialization.

Field Remedy

Inspect the tray of the Additional Finisher Tray-A1 from the upper for a gap between the upper height panel. If the tray comes in contact with the panel or the gap is too small, it is possible that the tray is not properly installed. In such a case, push the tray down until you hear it click.

14.3.4.5.4 Additional Finisher Tray-A1: Abnormal sound during up-and-down movement of tray / Tray comes off

Description

Upon installation of the additional finisher tray, the Tray 1 was detached from the finisher and reinstalled once again after attaching the necessary accessories, and then the additional tray was installed; however, because the Tray 1 was not level, the additional tray came in contact with upper height panel (rear side) during up-and-down movement of the tray, causing abnormal sound or the tray coming off. Normally, the clearance between the tray and the upper height panel (rear side) should be approximately 3mm.

Field Remedy

1. Detach the additional tray from the Tray 1.
2. Detach the Tray 1 from the finisher.
3. Install the Tray 1 from the top of the finisher horizontally so that the front and the rear gears of the Tray 1 do not misalign on the rails. Then, slide the guide shutter upward to cover the paper delivery gate flapper, and release the latch on the underside of the Tray 1 to move it down.
Note: If the Tray 1 is moved down without sliding the guide shutter upward, the flapper will come off.
4. In order to make sure that the Tray 1 is level, move it down to the guide shutter and check whether the distance between the projection on the tray and the top end of the guide shutter is equal between the front and the rear sides. If not, detach and reinstall the Tray 1 once again.

For the detailed installation procedures, refer to Additional Finisher Tray-A1 Service Manual (Installation Procedure).

14.3.4.5.5 Abnormal noise or color void sometimes occurs during rotation of Developing Rotary in color copy mode

Description

As a result of inspection, the following was found: Since the tension spring comes off of the developing drive swing arm [2] in the developing drive assembly, the gear in the swing arm poorly meshes with the gear of a color developing assembly, causing abnormal noise or color void.

Field Remedy

Slide out the fixing feeder assembly and the AP kit from the host machine and make sure that the tension spring is securely fitted.

FU5-2123 Tension Spring
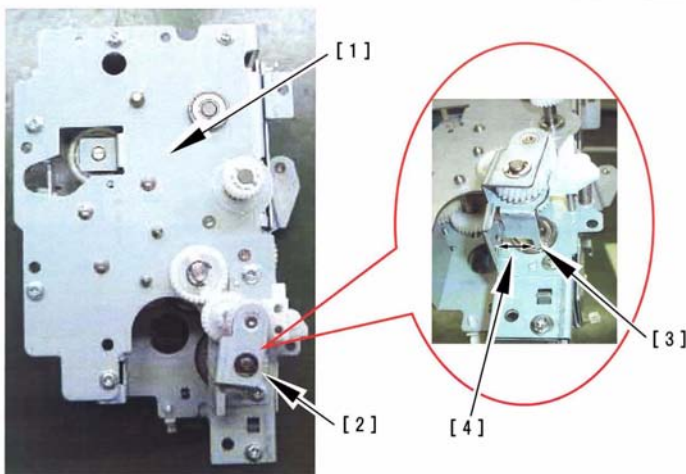
F-14-80
[3]:Tension Spring, [4]: The location where the tension spring is attached.

14.3.4.5.6 Abnormal noise (vibration noise) from Intermediate Transfer Belt (ITB) Ass'y: Because of shavings of rubber roller

Field Remedy
When the symptom occurs, check the machine serial number, and if it is earlier than those listed below replace the internal scraper with a new one.
FL2-0398 Internal Scraper
Description
When the shavings of the rubber portion of the secondary transfer roller adhere to the edge of the internal scraper inside the ITB ass'y, a frictional resistance is increased between the inner face of the ITB and the internal scraper to vibrate the scraper holder, causing the symptom.

The symptom had been improved by fixing the scraper holder with two-sided tape, however, it is still possible to occur depending on the severity of the rubber shavings. Therefore, the internal scraper was modified.

The following lists the starting serial numbers of the machine with the modified internal scraper:
- iRC6800 (120V): JJM03837
- iRC6800 (230V): JKL00099
- iRC6800N (230V): JKM00119
- iRC6800 EUR (230V): JKH00781
- iRC6800N EUR (230V): JKP01687
- iRC6800 AU (230V): JXH00339

14.3.4.5.7 Abnormal Noise from the Rotating Rotary

Cause
During assembly work after servicing the machine, the controller box plate [1] is likely to have been screwed toward the rear of the plate of the DC controller box [2], thus imposing pressure on the rotary motor.

Field Remedy
Correct the location at which the plates are screwed in place.
The figure shows the correct location.
top: controller box plate [1]
bottom: plate of the DC controller box [2]
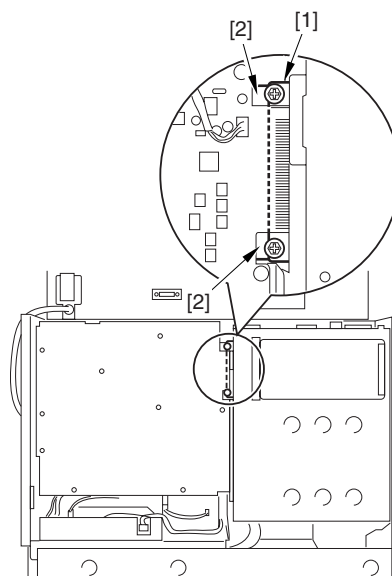
F-14-81

14.3.4.6 User Warning Message

14.3.4.6.1 Message [Check the network connection.] / Message [Check the TCP/IP.]

Field Remedy
If the host machine is not connected to network, follow the steps below:
Change the service mode setting so as not to display the network error messages.
In service mode (LEVEL 2) [COPIER> Option> BODY> NWERR-SW], change the set value from "1" to "0", and then turn the control panel switch off and turn the main power switch OFF/ON.
0: not display
1: display (value at time of factory shipment/value after RAM clear)

14.3.4.6.2 "Finisher cannot be used." is displayed

Field Remedy
Check the error log and perform appropriate corrective actions for the error. Then, clear the functional separation mode in service mode below so that the message will disappear.
How to clear:
In service mode [SORTER> Option> MD-SPRTN], change the set value from "1" to "0".
Description
If the "Limited Functions Mode " key appears on the LCD when an error occurs in the finisher, that means the host machine can shift to the "Limited Functions Mode" in which the finisher can output paper but neither staple or alignment. Press the key so that the message "Finisher cannot be used." is displayed on the LCD.

14.3.4.6.3 Window prompting to clean scanning glass frequently appears

Description
A window prompting to clean the scanning glass appeared frequently although the glass was not soiled. As a result of inspection, this symptom was solved by the adjustment of the ADF document tray position and the horizontal registration adjustment in service mode. When this symptom occurs, follow the steps in Field Remedy to fix the problem.

Cause
Because of a poor adjustment of the ADF horizontal registration, the edge of the platen roller is wrongly detected as dirt.

Field Remedy
a. Adjust the original document position relative to the platen roller when the original document passes over the roller:
1. Place A3 paper on the ADF tray and press the start key. While it is passing over the platen roller, open the ADF forcibly to stop the operation.
2. Measure the distance between the roller end and the document end at both the front and the rear sides. Repeat this three times or more. (Reference value is: Front = Rear = 3.5mm)
3. In order to equate these distances, adjust the slide guides' position of the ADF tray by referring to DADF-M1 service manual [Parts Replacement Procedure> Electrical System> Document Width Volume> Adjusting the Side Guide Plate].
b. Adjust the ADF horizontal registration in service mode:
1. Place a test chart on the ADF tray and make a direct copy. Overlay the copy on the chart. In service mode [COPIER> Adjust> ADJ-XY> ADJ-Y-DF], change the set value in order to fall the horizontal registration (both front and rear) within the specification "</= 1mm".
- The bigger the set value is, the wider the front is and the narrower the rear is.
- Increasing the set value by one corresponds with 0.1mm increase.
Refer to DADF-M1 service manual [Maintenance> Adjustment> Basic Adjustment> Horizontal Registration] for the horizontal registration adjustment.
Note: Do NOT set the value of ADJ-Y-DF smaller than 50.
2. Make a direct copy of the test chart in the same manner as in the step 1. Make sure that the horizontal registration falls within the specifications.
3. After the adjustment, overwrite the value in ADJ-Y-DF on the service label with the set value obtained in the step 1.

14.3.4.6.4 DADF-M1: Message "Original scanning area (thin glass strip) is dirty." / How to adjust white level

Field Remedy
In the field, the above message disappeared after making the ADF white level adjustment. Follow the steps below:
1. Clean the copyboard glass and the reading glass.
2. Place a sheet of paper which your customer is always using on the copyboard glass, and execute the following service mode [COPIER> Function> CCD> DF-WLVL1].
3. Move the paper from the copyboard glass to the document tray of the ADF, and execute the following service mode [COPIER> Function> CCD> DF-WLVL2].
Note: DF-WLVL1 and DF-WLVL2 must be executed simultaneously.

14.3.4.6.5 Detail codes in which Temporary Functional Limit mode for Finisher is effective

Description
The meaning of "Temporary Functional Limit" mode is: When the finisher becomes inoperative because of an error related to any finishing functions, this mode will isolate only the affected functions and make the finisher operate.
For example, when E590-8002 (Punch motor error) occurs, this mode will isolate the punching function and make the finisher operate.
The error codes related to the finisher are E500 through E593, and this mode is available with the codes whose detail code starts with "8".
Note: The following are conditions where the mode is effective.
1. When "1" is selected in service mode [SORTER> Option> MD-SPRTN].
2. When the user presses "Limited Functions Mode" key on the LCD after some error code is displayed.

14.3.4.6.6 Message "Insert toner cartridge. (Yellow)" keeps displaying: Upon installation

Description
A message "Insert toner cartridge. (Yellow)" does not disappear although the Yellow toner cartridge was inserted upon installation. Therefore, the Magenta and the Cyan cartridges were unable to be set. As a result of inspection, there found a deformation of a pin in the connector J212 (3 pin connector) for the color toner cartridge sensor (PS26).

Field Remedy
Inspect the connector J212 fixed on the front side of the AP kit to make sure of a secure connection or a pin deformation. If any problem is found, correct it.
FK2-0004 Photoreflector
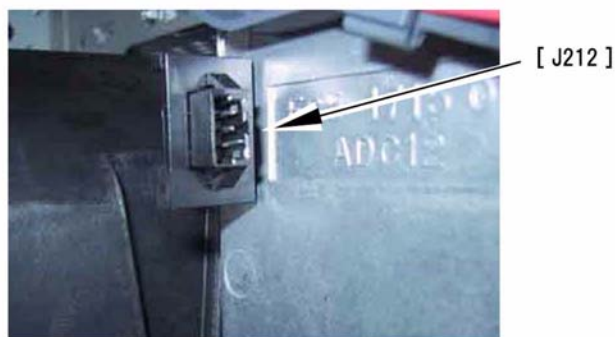
F-14-82

14.3.4.6.7 "Limited Functions Mode" key on service call message window with spanner

Field Remedy
1. Turn the power OFF/ON to check whether the service call message window will disappear. If not, go to step 2.
Note: If there are print data on standby when the power is turned OFF, they will be cleared.
2. If you want to output paper by temporarily limiting other functions, press "Limited Functions Mode" key, select "Yes" and turn the power OFF/ON so that the machine will start up in the limited functions mode (in other words, features "Offset" and "Staple" cannot be used). If you select "No", the machine will not operate until the error is cleared.
3. Check the error log in service mode [COPIER> Display> ERR], and perform appropriate corrective actions for the error.
4. If the "Limited Function Mode" key was pressed in step 2, select in user mode [Common Settings> Limited Functions Mode> Off] and turn the power OFF/ON so that the message "Finisher cannot be used." will disappear.

Description
The detail description of this symptom is: When a feature "Offset" or "Staple" was selected and the start key was pressed, the service call message window with a spanner appeared on the LCD because some malfunction has occurred in the finisher, and the machine was not able to make a copy any longer. If the "Limited Functions Mode" key appears on the same window, you can press it so that the finisher can only output paper by temporarily limiting other functions. After this mode is active, a message "Finisher cannot be used." appears at the left lower part of the LCD.

14.3.4.6.8 Message "The data of the Protect Key Device is invalid." is displayed upon installation, Unable to install security kit

Description
Upon installation of the driver, a message "The data of the Protect Key Device is invalid." was displayed and the security expansion failed. In the field, this symptom was solved by replacement of the protect key device. When this symptom occurs, replace the protect key device with a new one.
FH5-3364 Protect Key Device - Parallel
FH5-3398 Protect Key Device - USB

14.3.4.6.9 Message "The data of the Protect Key Device is invalid." is displayed upon installation, Unable to install SEND kit

Description
Upon installation of the driver, a message "The data of the Protect Key Device is invalid." was displayed and the SEND expansion failed. In the field, this symptom was solved by replacement of the protect key device. When this symptom occurs, replace the protect key device with a new one.
FH5-3420 Protect Key Device - Parallel
FH5-3422 Protect Key Device - USB

14.3.4.6.10 Message "Close the finisher's front cover" does not disappear because Main Controller PCB inside Finisher is faulty: Finisher-R1/Saddle Finisher-R2

Description
In inspection, there was a case where the message "Close the finisher's front cover" did not disappear because the Main Controller PCB inside the finisher was faulty.

Field Remedy
When the symptom occurs, follow the steps below.
1. Check if 24V is placed between the first and second pins of J701 on the Main Controller PCB using a tester. If it is placed, replace the PCB with a new one because the PCB may be faulty. If it is not placed, go to

the step2.

2. Check if 24V is placed between the first and second pins of J117 on the DC Power Relay PCB using a tester. If it is not placed, replace the PCB with a new one because the PCB may be faulty. If it is placed, go to the step3.

3. Check the cable between the machine and the finisher for poor connection.
FG3-2883 Main Controller PCB Assembly
FM2-0843 DC Power Relay PCB Assembly

14.3.4.6.11 Message "Close the finisher's front cover" does not disappear: Finisher-R1/Saddle Finisher-R2

Description
As a result of inspection, the following was found: The message "Close the finisher's front cover" does not disappear because J117 on the DC Power Relay PCB has poor connection, preventing 24V from being supplied from the machine to the finisher.

Field Remedy
When the symptom occurs, check J117 of the DC Power Relay PCB for poor connection.
FM2-0843 DC Power Relay PCB Assembly

14.3.4.6.12 Frequent DF Reading Glass Cleaning Message

The following is a list of causes and field remedies associated with the symptom:

Cause
A. dust or dirt on the reading glass; the reader unit detects dirt to issue the cleaning message, and it does not detect stray dust
B. dirt on the read roller, or dirt on the white plastic film
C. scratch on the reading glass: or dirt resisting cleaning
D. scratches in radial direction of the red roller, or dirt remaining after cleaning
E. dirt on the CCD
<Checking for Dirt on the CCD>
The presence of dirt on CCD cells will cause a line in the image in both stream reading and copyboard modes alike. If the particles are small, the reader unit will make up for their presence, removing lines from the output image.
Set '0' to the following service mode item, and check the output image for a line; thereafter, be sure to change the setting back to its initial value:
COPIER>OPTION>BODY>DFDST-L1 (level 1)

Field Remedy
A. Clean the reading glass using cleaning tissue or cleaning oil.
B. Dry wipe the read roller/white plastic film; or, use alcohol to clean them.

Memo:
If the machine is installed in a dusty place, cleaning it on a periodical basis is desirable.
C: Replace the reading glass.
D. Replace the read roller.

Memo:
If you have replaced the rear roller, be sure to perform the following:
- white level adjustment
- DF height adjustment
E. Replace the CCD unit.

14.3.4.6.13 Frequent DF reading Glass Cleaning Message (user requesting disabling of the message)

This message is not issued in response to the presence of dirt inside the machine (i.e., it is not used to alert the user to an error condition). Nevertheless, if the user requests disabling the message, go through the following:

Field Remedy
A. Change the level used to detect dust.
Decrease the level of detection (level 1) in service mode: COPIER>OPTION>BODY>DFDST-L in increments of '5'.

Memo:
A decrease in the level will decrease the level of correction executed for the presence of dust, possibly leaving a light black line in the output image. Setting it to '0' will disable dust detection all together.

B. Change the setting of the cleaning message in service mode:
COPIER>OPTIONAL>BODY>DFDST-L1 (level 1).

Memo:
The cleaning message may be disabled in service mode, but the machine will still check for dust; varying the read position according to the result of detection.

14.3.4.7 Other Defect

14.3.4.7.1 Processing unit cannot be inserted deep inside machine

[Manual-related]
Field Remedy
While the processing unit is drawn out from the host machine, slightly turn the developing rotary drive gear which is located deep inside the machine and then insert the processing unit once again.
Description
It is possible that the drive gear at the processing unit side (the large gear in the developing rotary) interferes with the one at the machine side, causing the processing unit to fail to be inserted.

14.3.4.7.2 Duplexing guide is not opened/ closed smoothly

Description

As a result of inspection, the following was found in the duplexing feeder assembly: When the assembly is opened/closed, the release button of the assembly catches on the rib of the duplexing guide (FL2-2479) and thereby preventing the guide to be opened/ closed smoothly. This is because the tension spring is twisted and fitted as it is to the tape mount (that is connected to the support tape) under the guide.

Field Remedy

When the symptom occurs, check the tension spring and re-attach it if it is twisted.
FU5-2153 Tension Spring
FC5-5167 Tape Mount
FC5-2119 Support Tape

14.3.4.7.3 Unable to change marking width for both side of crease for saddle stitching when selecting booklet mode for print job

Description

As a result of inspection, the following was found: Even if the marking width for both side of the crease for saddle stitching has been changed in service mode, the changed width is not reflected when selecting booklet mode as a special feature for a print job. However, upgrading system software to version 6.03 solves this symptom.

Field Remedy

When the symptom occurs, upgrade system software to version 6.03 and set the following service mode items.
a. Marking width
In service mode [SORTER > OPTION > BLNK-SW], set any of the following values:
0: w/o marking width
1: w/ marking width (Default)
b. Number of sheets that may be saddle-bounded
In service mode (Level2) [COPIER > OPTION > ACC >STPL-LMT], set any of the following values:
0: 5sh (w/o marking width)
1: 10sh (w/o marking width)
2: 10sh (w/ marking width)
3: 15sh (w/ marking width)
c. Combination patterns of service mode settings and results
ÅÀiRC36800_ID579

14.3.4.8 Part Breakage/Detachment

14.3.4.8.1 Message "Load Paper." is displayed: Swaged part comes off of lifting wire

Field Remedy

As a result of inspection, the message "Load Paper." was displayed because the swaged part came off of the tip of the lifting wire in the right paper deck and the paper lifting plate did not ascend. If the message is displayed although paper remains in the left or the right paper deck, inspect the lifting wire.
FC5-2603 Lifting Wire

14.3.4.8.2 Drum keeps rotating with message "Adjusting gradation." / E012-0001 Error Code

Field Remedy

It is possible that the drum HP sensor (PS65) is faulty or comes off. So, inspect it.

Description

In our inspection, the drum HP sensor came off and that caused a detection failure of the drum home position. Under this state, iRC6800 started the image stabilization control with a message "Adjusting gradation.". After 20 to 30 minutes passed, E012-0001 (Drum, ITB motor error) was displayed.
Note: The drum fly wheel is fixed with a 20mm-long screw. At the time of servicing, if it is mistakenly fixed with a longer one used at the front side of the drum (25mm long), it is possible that it hits against and damages the drum HP sensor. Be sure to use the correct one.ÅB

14.3.4.8.3 Additional Finisher Tray-A1 comes off / Option Slide Panel does not descend

Description

On some units of the Additional Finisher Tray-A1 whose serial number is JLE01605 and earlier, the option slide panel is warped and the sliding performance becomes poor. When the tray descends, the slide panel stops halfway without descending by its own weight. At worst, when the tray ascends, it jumps over the panel which stops halfway, and it comes off when it descends next time.

Field Remedy

When this symptom occurs, inspect the option slide panel. If it is warped, replace it with a new one and install the stop plate in order to prevent the panel from being warped. Additionally, in order to improve sliding performance of the panel, apply grease to the sliding portion of the panel. For the detail procedure, refer to Additional Finisher Tray-A1 Service Manual [Installation> Installation Procedure].
FC5-6994 Stop Plate
FC5-6991 Option Slide Panel

14.3.4.8.4 ITB belt is ripped or displaced after replacement: Points to note when mounting ITB unit

Description

The possible causes of the ripping or displacement of the ITB belt include the following:

a. Improper mounting of AP-Kit

b. Improper mounting of Intermediate transfer unit

c. Mishandling of ITB belt during replacement

To prevent the symptom, the points to note when mounting and handling the parts mentioned a. through c. above have been written up for your service works.

Field Remedy

14.3.4.8.5 Fixing roller is deformed: Because fixing drawer connector (AC driver cable) has poor connection

Description

As a result of inspection, it was found: When the fixing feeder assembly is set into the machine in state where the fixing drawer (J8) on the machine side loses smooth movement, the fixing drawer has poor connection with the drawer on the fixing feeder assembly side, causing improper fixing temperature control. In this case, if pressure is applied to the fixing roller, the roller is deformed.

Field Remedy

1. Turn the main power switch OFF and remove the power cable. Then remove the rear panels to detach the controller box.

2. Remove the fixing drawer and then remove the stepped screw of the drawer.

3. Apply grease (MOLYKOTE PG641) to the portion of the stepped screw where the washer (XD1-1104-135) moves, and then fit the stepped screw to the fixing drawer to make sure that the washer moves smoothly on the surface of the stepped screw.

Note: Be sure not to apply grease to the terminal of the fixing drawer.

4. Return the fixing drawer and the controller box to the original position.

5. Replace the fixing roller with a new one.

6. Connect the power cable and turn the main power switch ON.

7. When an error code E000/E001/E002/E003 is displayed, in service mode [COPIER > FUNCTION > CLEAR > ERROR], select [OK], and then turn the control panel switch OFF, and turn the main power switch OFF/ON.

8. Make sure that the fixing temperature is controlled normally in service mode [COPIER > ANALOG > FIX-UC/FIX-UE/FIX-LC/FIX-LE/FIX-EXC/FIX-EXL].

CK-0562 Grease (Molykote PG641)
FC5-6298 Fixing Roller
FM2-0921 AC Driver Cable (Fixing Drawer)

14.3.5 Printing/scanning

14.3.5.1 No Output

14.3.5.1.1 Paper cannot be delivered to Additional Finisher Tray-A1 (upper tray): Although upper tray is assigned for printer

Description

Even if the upper tray is assigned for Printer in user mode [Common Settings> Tray Designation], a print job using the features "Offset" (selectable with Collate and Group) and "Staple" cannot be delivered to the upper tray. This is a specification constraint. Accordingly, if a checkmark is placed on "Offset" or "Staple " is selected in printer driver properties [Finishing], paper will automatically be output to other trays than the upper one. In other words, a print job without the above features will be output to the upper tray; however, it is common to assign the upper tray for FAX, and the middle/lower trays for Copy and Printer.

14.3.5.1.2 Machine accepts print job but does not run it

Description

In the field, the following occurred: When the LAN cable is temporarily disconnected from a PC, since the machine is receiving a print job from the PC, it fails to run the job, and moreover, fails to run print jobs that are sent after reconnection of the LAN cable, even if it can accept such jobs.

Field Remedy

On the System Monitor screen, cancel the print job, of which transmission was not completed. This will allow the machine to run print jobs that were sent after reconnection of the LAN cable. In case that the causal job is not canceled, the machine cancels it 5 minutes later in accordance with the specifications and starts running the print jobs that are stopped by the causal job.

14.3.5.2 Installation Failure

14.3.5.2.1 Unable to install printer driver completely: Because UBS cable is connected before installing

Description
In USB connection, it is impossible to completely install the printer driver in a PC when a USB cable is connected between the machine and the PC beforehand. Wait for connecting the cable until the installer instructs you to do so.

Field Remedy
In the field, the symptom was solved retrying the installation after uninstalling the uncompleted printer driver and then rebooting the PC. In the PC [Start > Programs], if the Canon Printer Uninstaller is present, use it to uninstall the uncompleted printer driver.

14.3.5.3 Faulty Printing/Scanning Result

14.3.5.3.1 Pages are output in reverse order: MS Word

Description
In MS Word [Print dialog box > Option], if Reverse Print Order is checked, pages are output in reverse order. Uncheck it to collect the page order.

14.3.5.3.2 Scanned documents are always saved in PDF format although selecting "TIFF/PDF" as File Format: Push Scan

Field Remedy
If you want to save a scanned document in TIFF format, on the Send Screen, select [File Format > TIFF/PDF > Scan Settings > Black and White] before scanning. When any of the color modes is selected, scanned documents are always saved in PDF format.

14.3.5.3.3 Image sent to PC in TIFF/PDF format is reduced when printing from PC

Description
In the field, the following occurred: When printing a PDF file using Acrobat which has been sent from this machine, the output image is reduced because a check mark is placed on "Shrink oversized pages to paper size in ["Print" dialog box > Copies and Adjustments]. When the symptom occurs, uncheck it.

14.3.6 Network

14.3.6.1 Start-Up Failure

14.3.6.1.1 Utility software (e.g. Network ScanGear) cannot be used, no problem with other functions

Description
It is possible that "SNMP Settings" and "Enable Dedicated Port" are set to Off. If so, change them to On.
In user mode [System Settings> Network Settings> SNMP Settings> On]
In user mode [System Settings> Network Settings> Enable Dedicated Port> On]
SNMP Settings: If you want to set or browse each item of the machine with utility software that uses SNMP to obtain information, set it to On.
Enable Dedicated Port: If you want to set or browse detailed information of the machine with a Canon printer driver or utility software, set it to On.

14.3.6.2 Connection Problem

14.3.6.2.1 147 Error Code: When machine is started up in safe mode at time of downloading with SST

Description
In the field, the error code was displayed and formatting of the hard disk (HDD) was impossible when the machine was started up in safe mode (by turning the main power switch ON while pressing the "2" and "8" keys simultaneously) after a PC with SST was connected. This was because the IP address of the PC was "172.16.1.100".

Field Remedy
Open the Command Prompt screen on the PC making the following selection [Start > Programs > Accessories > Command Prompt], type "IPCONFIG" in [C:\ >], press the Enter key, and then, change the setting for "IP Address" and "Subnet Mask" to the following:
- IP Address: 172.16.1.160
- Subnet Mask: 255.255.255.0
Note: Never enter the following addresses in "IP Address".
- 172.16.1.0
- 172.16.1.100
- 172.16.1.255

14.3.7 Transmission/Fax-Related

14.3.7.1 Transmission Problem

14.3.7.1.1 FAX number is not entered partially (in the actual failure case, 2nd digit)

Description
If you enter a fax number using the numerical keys without pressing the "Fax" key immediately after switching to the "Send" screen (this is not a proper procedure), the machine has to start up the entry screen of the fax number and cannot accept any entry of the numerical keys in a fraction of a second because of software constraints. This is to prevent any operational error even if some key operations are done during transition of the screens. In this failure case, one digit of the fax number was not entered because the operator pressed the number during the affected period of time.

Field Remedy
According to the proper procedure, press the "Fax" key after switching to the "Send" screen, and then enter the fax number using the numerical keys. Or, enter the number slowly after making sure that the screen has been switched.
For more details, refer to Sending and Facsimile Guide [Basic Sending Methods> Specifying Destinations> Using the New Address Tab> Specifying a Fax Number].

14.3.7.1.2 FAX-transmitted image is too light: When sending carbon copy-like blue original document

Field Remedy
In user mode [Adjustment/Cleaning> Exposure Recalibration> "Send (B&W)" or "Send"], adjust the density and then send the affected document once again. The setting of the density adjustment will be saved.

Description
When sending a document with blue texts such as a carbon copy by FAX, the image at receiving side tends to be lighter as compared with a one with black texts.
Note: The following are the items which appear under "Exposure Recalibration" depending on which optional products are installed.
- "Send (B&W)" and "Send (Color)" appear if Color Universal Send Kit-D1, Super G3 Fax Board-P1, and Resolution Switching Board are installed.
- "Send" appears if Super G3 Fax Board-P1 and Resolution Switching Board are installed.

14.3.7.1.3 Want to disable broadcast feature: FAX transmission

Description
It is impossible to disable the broadcast function of this machine. On some black & white machines, a confirmation message is displayed before sending if multiple destinations are selected in order to prevent users from broadcasting unintentionally; however, this machine lists all the specified addresses on the LCD in sequence upon specification. This enables users to confirm all the addresses one by one while specifying. Please explain this to your customer.

14.3.7.1.4 Unable to send scanned image to file server: Because logon password entered from PC differs from address information of file server registered in machine #801

Description
In the field, the symptom occurred on a customer who regularly changes the log on password to the LAN with a PC for security. Because the customer forgot to reflect the new log on password in the address information of the file server after changing. When the symptom occurs, set the new password in User mode [Address Book Settings > select either "Register Address" or "One-touch Buttons" where the affected file server is registered > select the file server > press "Register/Edit" or "Edit" button].

14.3.7.1.5 How to register high scanning density as standard sending mode: FAX transmission

Field Remedy
In order to send a FAX message without adjusting the scanning density every FAX transmission, follow the steps below.
1. Send screen > Scan Settings > Option > change the scanning density > Register/Erase > Scanning Mode > select any of the three "Black & White" modes > Store > Overwrite > Yes > change name by pressing "Register Name" > Done.
2. User mode > Communications Settings > Common Settings > TX Settings > Edit Standard Send Settings > Scanning Mode > select the scanning mode registered in step1 > OK.

14.3.7.1.6 FAX-transmitted image becomes too light on receiving side: User mode adjustment is not effective, FAX transmission

Field Remedy
In the field, in addition to the adjustment in user mode [Adjustment/Cleaning > Exposure Recalibration > Send (B&W)], the symptom was improved by adjusting the density as follows: On Send screen, press [Scan Settings > Option > increase the density > OK]. Therefore, when the symptom occurs, perform the both adjustments before sending.

14.3.7.2 Reception Problem

14.3.7.2.1 FAX reception fails after host machine goes into sleep mode

Field Remedy
Upgrade the system software to Ver.5.03 and later so that defects related to memory control and communication control has been corrected. As a temporary measure, select "High" in user mode [Common Settings> Energy Consumption in Sleep Mode].

14.3.7.3 Other Operational Defect

14.3.7.3.1 FAX-transmitted image is reduced in sub scanning direction on receiving side when sending to particular destination

Description
In the filed, the symptom was solved by changing all of the following in service mode [FAX > SSSW].
1. Activate inch/mm conversion (text mode): Change bit1 of [SW05] from "0" to "1."
2. Activate inch/mm conversion (text/photo mode): Change bit2 of [SW05] from "0" to "1."
3. Set scanning direction for inch/mm conversion to "both main and sub scanning direction": Change bit2 of [SW14] from "0" to "1."

14.3.7.3.2 FAX-received document that consists of 2 pages or more is printed in duplex

Description
If FAX-received document consists of 2 pages or more, they are always printed in duplex when the following setting is "On"; In user mode [Communications Settings > RX Settings under Common Settings > Two-sided Print]. If you don't want to, change the setting to "Off".

14.3.7.3.3 FAX-transmitted image spreads across tow pages on receiving side when sending one page of image to particular destination

Field Remedy
In the field, the symptom occurred because the length of the transmitted image was increased in the sub scanning direction. However, it was solved by executing the following in service mode [FAX > SSSW].
1. Activate inch/mm conversion (text mode) function: Change bit1 of [SW05] from "0" to "1."
2. Activate inch/mm conversion (text/photo mode) function: Change bit2 of [SW05] from "0" to "1."
3. Set scanning direction for inch/mm conversion to "both main and sub scanning direction": Change bit2 of [SW14] from "0" to "1."

14.3.7.4 Setting/Registration Defect

14.3.7.4.1 How to lengthen time before iRC6800 starts call-receipt operation (Auto RX)

Field Remedy
In service mode [FAX> Ncu> Auto RX> 007], change the set value (default: 2) so that the time before iRC6800 starts call-receipt operation will be lengthened by changing the number of CI (the number of ringing calls).

14.3.7.4.2 Shared folder on PC cannot be registered in address book: Windows XP

Description
When attempting to register a shared folder on a PC (OS: Windows XP) in one of the address books as follows: in user mode [Address Book Settings> Register Address> Register New Address> File> select "Windows (SMB)" for Protocol> specify the PC> configure User and Password> designate the shared folder]; however, a message "Cannot find server." was displayed and the registration failed. When this symptom occurs, follow the steps below.
Field Remedy
1. Right-click on the shared folder on the PC, select [Properties> Sharing], and place a check mark on both of the following messages "Share this folder on the network." and "Allow other users to change my files.".
2. Register the folder in the address book once again in user mode.
For detail procedures of registration, refer to Sending and Facsimile Guide [Storing/Editing Address Book Settings> Storing New Addresses> File Server Addresses].

14.3.8 Jam (Main Unit)

14.3.8.1 1700 Jam Code: Explanation of 1700 Jam Code

Description

1700 Jam Code means a timeout jam and can be displayed when communication with the finisher is interrupted.

14.3.8.2 0103/0104 Jam Code Neuissiedler large-size/RA3 pickup fault

Cause

In a high temperature/humidity environment, Neuissiedler paper (13x19)/SRA3 paper tends to absorb moisture, thus causing pickup faults.

Field Remedy

Fit a pressure spring (service part; FC5-2525) to increase the pickup roller pressure.

Work Procedure

Fit the pressure spring [1] through the protrusion [2]; then, fit the spring in the groove [3] and hook it on the protrusion [4].
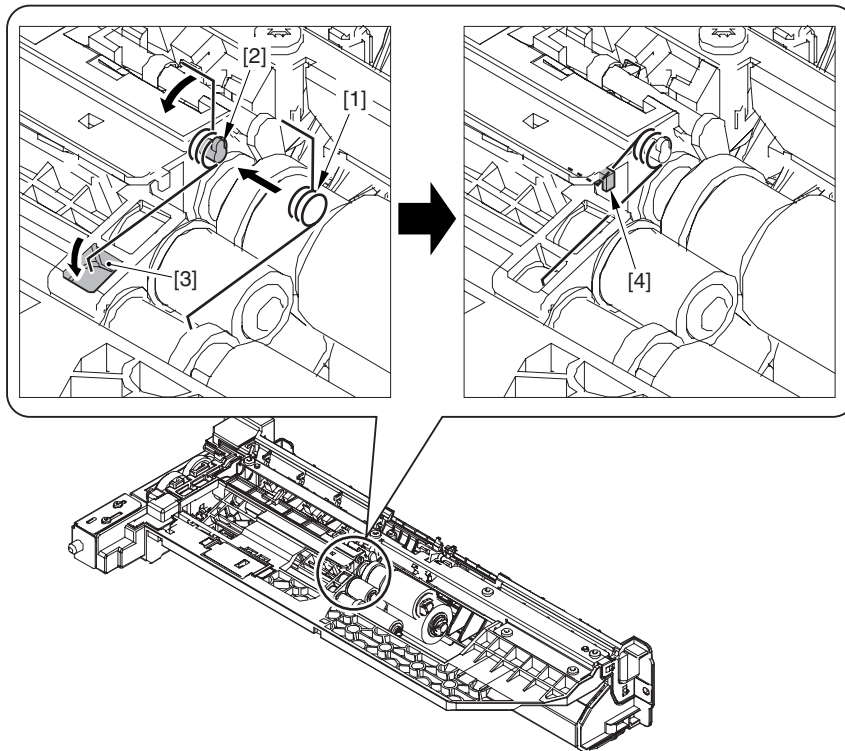
F-14-83

14.3.8.3 0101 Jam Code: Only occurs with right paper deck, upon installation

Description

This symptom occurred because the boss [1] of the support plate [2] for the separation roller was broken. As a result of inspection, it was found that the reason of the breakage is that the right door was opened without peeling off the shipping tag connected with the spacer for the separation roller and this applied an excessive force to the roller shaft.

Jam Code 0101 is a delay jam at the right deck pickup sensor PS33.

Field Remedy

Open the right door and inspect the boss (rear) of the support plate for the separation roller in the right paper pick-up ass'y for breakage. If it is broken, replace the right paper pick-up ass'y with a new one.

Note: Upon installation, be sure to peel off the three shipping tags before opening the right door. For your information, it is easier to remove the spacer if you push down the projection on it.

FM2-0540 Right Paper Pick-up Ass'y
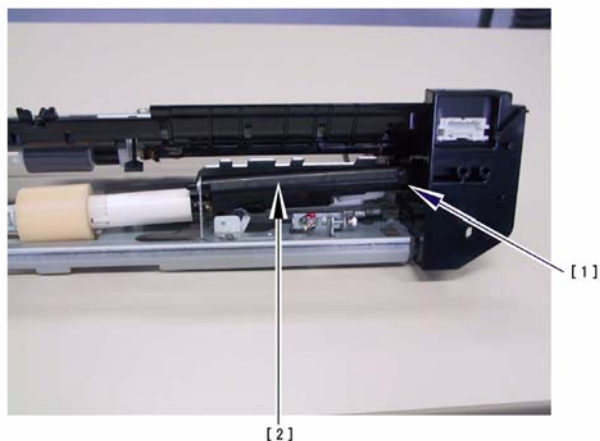
F-14-84

14.3.8.4 0109/0110 Jam Code: Vertical Path Roller does not rotate

Description

As a result of inspection, it was found these jam codes occurred because the right deck pull-off motor (M14) was faulty and the vertical path 1 roller did not rotate. They might occur during the delivery of the first sheet or during the next job just after a recovery from these jam codes.

- 0109 Jam Code: Delay jam at the vertical path confluence sensor (PS32)

- 0110 Jam Code: Delay jam at the vertical path 0 sensor (PS32)

Field Remedy

1. In service mode [COPIER> Function> PART-CHK], select MTR, enter "14" with the numeric keys and press the OK key. Then, select MTR-ON and press the OK key. If the motor M14 is normal, it will run about 10 sec and the status will display "START", "ACTIVE", and "OK!" in this order. For your information, in order to visually inspect the motor rotation, open the right upper cover when executing MTR-ON.

The status results in "NG" (does not run), go on to the Step 2. If it runs normally, go on to the Step 3 as the above paper detection sensors are faulty.

2. Manually rotate the vertical path 1 roller to check whether or not a mechanical excessive force is applied to it. If it is equal to the pre-registration roller's, replace the motor (M14) with a new one as the roller is normal.

3. In service mode [COPIER> I/O> DC-CON> P006], observe the bits described below will be changed from "0" to "1" while opening the right upper cover and moving the sensor levers. If they are not changed, replace the sensors with a new one after making sure of no poor contact of the connectors.

- bit0: PS32 (Vertical Path Confluence Sensor)
- bit1: PS31 (Vertical Path 0 Sensor)

FL2-0583 Stepping DC Motor
FK2-0149 Photo-Interrupter

14.3.8.5 0109 Jam Code: Occurs only during duplex copy/print

Field Remedy

The following was found as a result of inspection. Since the E ring in the duplexing outlet roller came off and the duplexing metal roller also came off. Accordingly, this jam code occurred frequently in duplex copy/print. When this symptom occurs during duplex copy/print, inspect the duplexing metal roller for installation condition.

Description

0109 Jam Code: Delay jam at vertical path confluence sensor (PS32)

FC5-2091

14.3.8.6 010A Jam Code: Occurs only with machines that are equipped with Side Paper Deck-D1

Description

As a result of inspection, it was found 010A jam occurred because of the following reason: Depending on how the Side Paper Deck-D1 is attached to the host machine, it could push the right door of the host machine inward, and thereby the adequate paper path is not maintained, resulting in 010A jam due to variations in the shape of the pre-registration guide 1. To prevent this, the pre-registration guide 1 has been modified so that the variations in shape is controlled. When this symptom occurs, replace the pre-registration guide 1 with a new one referring to the Field Remedy below.

Note that all of the pre-registration guide 1 in the service part inventory have already been changed to the new one and the machines starting from the following serial numbers have the new guide: JHT02142 / JHS00422 / JJM03790 / JKL00019 / JKM00155 / JXH00240 / JKP01225

- 010A Jam Code: Delay jam at the registration sensor

Field Remedy

1. Detach the Side Paper Deck-D1 from the host machine in reference to Service Manual of the Side Paper Deck-D1 [Parts Replacement Procedure > Detaching the Host Machine > Paper Deck].
2. Remove the two screws [1] and then detach the right rear panel [2].
3. Open the upper right door [3] and remove the screw [4] that fixes the support tape.

F-14-85

4. Remove the one screw [5] and then detach the cable cover [6] on the right paper pick-up assembly.
5. Remove the one screw [7] and detach the connector blanking panel [8].
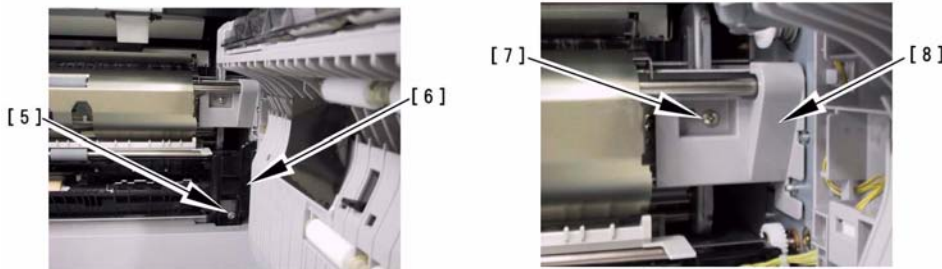
F-14-86

6. Remove the two screws [9] and detach the pre-registration guide 1 [10] and the pre-registration guide 2 [11] together.
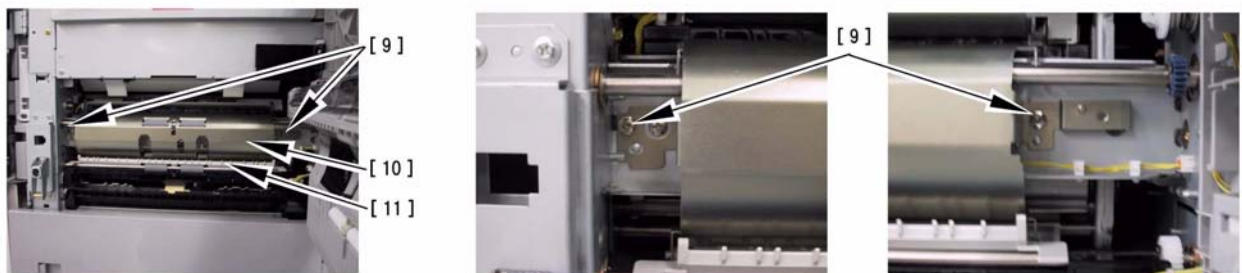
F-14-87

7. Detach the pre-registration guide 2 [11] from the registration guide 1 and then attach it to the new pre-registration guide 1.
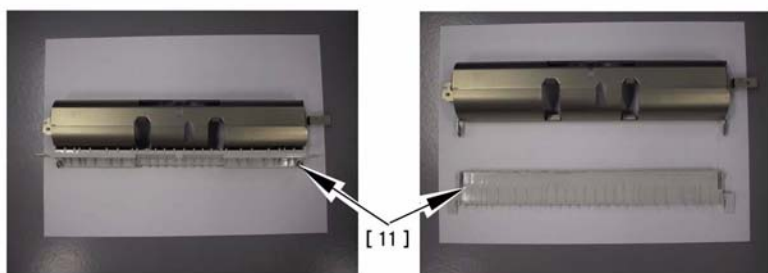
F-14-88

8. Assemble all the detached parts again in reverse order that you follow when detaching them.
9. Attach the Side Paper Deck-D1 to the host machine.
FC5-2111 Pre-registration Guide 1

14.3.8.7 010A Jam Code: Rotational failure of Manual feed pre-registration motor (M6) due to DC Controller PCB failure

Description

As a result of inspection, it was found that the error occurs because the manual feed pre-registration motor (M6) does not rotate on account of the DC Controller PCB failure. When the symptom occurs, follow the field remedy below.
- 010A Jam Code: Delay jam at the OHP sensors (PS3/PS29).

Field Remedy

1. In service mode, [COPIER > FUNCTION > PART-CHK > MTR > enter the motor number "6" using the numeric key > OK > MTR-ON > OK] and then check if the selected motor rotates. If not, the signal output from the DC Controller PCB to the motor may be faulty.
2. Unplug and insert all the connectors of the DC Controller PCB for prevention of poor connection and then check if the symptom is solved. If not, replace the DC Controller PCB with a new one.
FM2-0857 DC Controller PCB Assembly (120V)
FM2-0858 DC Controller PCB Assembly (230V)
FL2-0477 Stepping AC Motor (M6)

14.3.8.8 010C Jam Code: Occurs during feeding B5/STMT paper (small size), Due to rotational failure of paper feeder fan

Description

A paper jam occurred when B5 paper was fed from the front deck. The jam code "010C" and the alarm code "330014" were recoded in the logs respectively.
- 010C: Delay jam at the inside delivery sensor PS12
- 330014: Alarm for paper feeder fans 1/2 (FM3/FM4)

Cause

Since the Fixing Feed Driver PCB is faulty, the paper feeder fans (FM3/FM4) do not rotate and cannot keep the paper on the feed belt, causing a paper jam.

Field Remedy

1. Make sure that the alarm code "330014" was recorded in service mode [COPIER> Display> ALARM-2]. If TIME-2 (recovery time) indicates "FFFF", that means the alarm state is not cleared.
2. Pull out the fixing feeder unit from the host machine and unfasten a screw from the cable retaining plate (FC5-5169) located at the front side of the pre-fixing feeder unit. Then, make sure of secure connections of the connectors between the fans and the Fixing Feed Driver PCB (J1305). Afterwards, put the fixing feeder unit back into the host machine.
3. Turn the power OFF/ON, and make a copy (.any sized-paper is acceptable). Check ALARM-2 once again to make sure that TIME-2 of "330014" indicates the recovery time instead of "FFFF". If so, the root cause is related to poor connections of the connectors. If it still indicates "FFFF", go on to the Step 4.
4. The Fixing Feed Driver PCB is likely to be faulty, so replace it with a new one. If the symptom still recurs even after the replacement, make sure that the connector J1119 is securely fitted on the DC Controller PCB. If no connectivity problem is found, replace the DC Controller PCB with a new one.

5. After the replacement, turn the power OFF/ON and make a copy (any sized-paper is acceptable). Then, check ALARM-2 once again to make sure that TIME-2 indicates the recovery time.
FM2-0822 Fixing Feed Driver PCB
FL2-2477 Fan
FM2-0857 (120V), FM2-0858 (230V) DC Controller PCB

14.3.8.9 020E Jam Code: Cogged timing belt in Finisher-R1 is detached

Description
In the field, 020E jam code occurred because the cogged timing belt (XF9-0748) in the finisher, which drives the lower roller (FC5-3620), was detached, and paper did not reach the buffer roller. In actual failure cases, A3 or B4-sized paper was delivered without a paper jam. and A4 or B5-sized paper was jammed.
- 020E Jam Code: Stationary jam at the outside delivery sensor (PS13).
Field Remedy
Visually inspect the cogged timing belt to see whether it is properly positioned and the roller rotates. If the belt is detached, reinstall it.

14.3.8.10 0216 Jam Code: Malfunction of Registration Sensor Flag

Description
As a result of inspection, the following was found: Since the registration mount assembly has blurs on the location where the shaft of the registration sensor flag is fitted, the sensor flag does not move smoothly, consequently causing 0216 jam.
- 0216 Jam Code: Stationary jam at the registration sensor.
Field Remedy
1. Slide out the fixing feeder assembly from the host machine, and then detach the registration mount assembly [1] from the assembly.
2. Check whether the registration sensor flag moves smoothly. If not, visually inspect its shaft [3] for any abnormality.
FM2-0472 Registration Mount Assembly
FL2-0578 Registration Sensor Flag
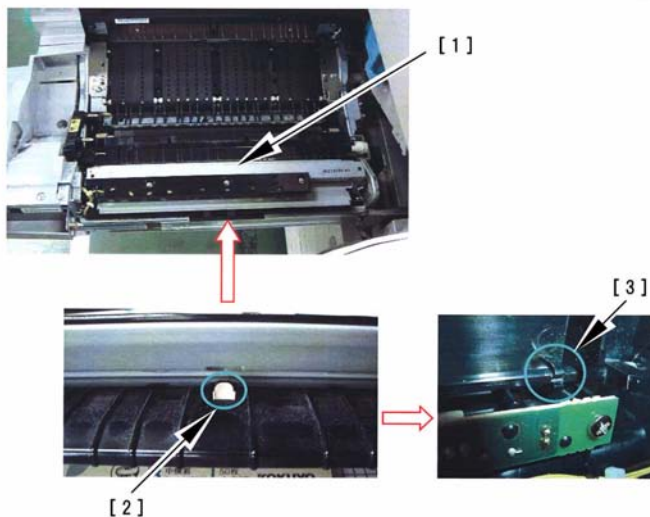
F-14-89

14.3.8.11 0A0A/020A Jam Code: Sometimes jam occurrence indication remains displaying

Cause

The following was found as a result of inspection. Since there was a backlash in the sensor flag for the registration sensor (PS9), the paper detection lever of the sensor flag interfered with the guide plate and this prevented the sensor flag from moving smoothly. Accordingly, the above jam codes frequently occurred or the jam occurrence indication remained displaying.

0A0A: Residual jam at registration sensor
020A: Stationary jam at registration sensor

Field Remedy

When the symptom described above occurs, or these jam codes are recorded in the jam history, inspect the paper detection lever to check whether it interferes with the guide plate. If so, remove the Registration Mount Ass'y and the sensor flag, and insert a washer into the shaft (front side).

Recommended washer size: 4.1mm (inner diameter) x 8mm (outer diameter) x 0.5 to 1mm (thick)

(Washer part number: XD1-1104-135 through XD1-1104-139

14.3.8.12 0A0C Jam Code: Stationary jam at power-on at Inside Delivery Sensor PS12

Description

In the field, 0A0C occurred at power-on because the sensor flag for the inside delivery sensor came off and blocked the sensor, which means that the host machine wrongly detects paper presence.

Field Remedy

Inspect the sensor flag for its installation state.

14.3.8.13 0A0C Jam Code: Stationary jam at Inside Delivery Sensor PS12,

Cause

When the fixing feeder unit was forcibly pressed inside the host machine while the reversal paper delivery door and the internal paper delivery unit were being opened, the internal paper delivery unit was deformed and thereby the position of the separation claw became misalignment, resulting in a paper jam.

Field Remedy

When the symptom frequently occurs, inspect the internal paper delivery unit. If any deformation is verified, replace it with a new one. Also, for the purpose of preventing any future incidents, explain your customer how to handle it.

FM2-0495 Internal Paper Delivery Ass'y

14.3.8.14 0A15 Jam Code: Stationary jam at power-on at Fixing Inlet Sensor PS11

Description

In the field, 0A15 occurred at power-on because the sensor flag for the fixing inlet sensor PS11 did not return to its initial position or the connector of the sensor was not securely fitted, causing the host machine to wrongly detect paper presence at power-on.

Field Remedy

1. Check whether the sensor flag moves smoothly. If not, remove and install it once again.
2. Disconnect and insert the connector of the sensor once again.

14.3.8.15 0A16 Jam Code: Stationary jam at power-on at Left Deck Stationary Sensor PS47

Description

In the field, a message "Pull out the paper deck and remove the jammed paper." was displayed after turning the power ON because the connector was not securely fitted between the host machine and the left deck paper pick-up unit.

Field Remedy

Pull out and remove the left front deck, and then unplug and reinsert the connector J517 that connects the host machine and the left deck paper pick-up unit.

14.3.9 Jam (Document Feeder)

14.3.9.1 Original feeding failure: How to set service mode items after clearing RAM, DADF-M1

Description

As this machine stores the ADF-related service data in the RAM on the Reader Controller PCB, follow the field remedy below after the Reader Controller PCB has been replaced with a new one or the RAM has been cleared.

Field Remedy

1. Find the setting values of the following service mode items from the P-PRINT that has been output and saved in place and enter the values in service mode.
- Original stop position:
[FEEDER > ADJUST > DOCST].
- Original feed speed (magnification):
[FEEDER > ADJUST > LA-SPEED].
2. Adjust the ADF sensor sensitivity in service mode.
- Tray width adjustment: [FEEDER > FUNCTION > TRY-LTR, TRY-LTRR]
- White level adjustment: [COPIER > FUNCTION > CCD > DF-WLV1, WLV2]
3. Upon performing step1 and 2 above,

output the P-PRINT and save it in place.
[Service mode > COPIER > FUNCTION > MISC-P > P-PRINT].

14.3.10 Jam (FIN)

14.3.10.1 1101 Jam Code: Because Finisher Controller PCB is faulty, Finisher-R1/Saddle Finisher-R2

Description
Jam Code 1101 is a feed stationary jam at the inlet path sensor PI33. As a result of inspection, this symptom occurred because of the following reason: Since the Finisher Controller PCB was faulty, the buffer rear end holding solenoid (SL34) did not attract the plunger completely and the buffer guide was not opened. Therefore, the rear end of the first sheet was not held by the buffer guide, resulting in a paper jam. Also, if the solenoid does not attract the plunger at all, the same jam might occur or misalignment of paper in a batch might otherwise occur. For the operation of the buffer guide, refer to Finisher Service Manual [Functions> Feed Drive System> Paper Delivery Path> Buffer/Processing Tray Path].
Field Remedy
1. In order to determine whether or not the root cause is related to the host machine, detach the finisher from the host machine and make sure that no paper jam occurs in the host machine.
2. Connect the finisher to the host machine.
3. In service mode [COPIER> I/O> SORTER> P006], make sure that bit4 is changed from "0" to "1" when the sensor lever is actuated.
4. Remove the finisher front door.
5. Actuate the door switches (2 locations) and turn the power of the host machine ON.
6. While making a copy in staple mode, inspect the solenoid to attract its plunger. If the solenoid cannot attract the plunger only by one-third, the Finisher Controller PCB is likely to be faulty, so replace it with a new one.
FG3-2883 Finisher Controller PCB
FL2-0821 Solenoid

14.3.10.2 1104 Jam Code: Because compression spring for 1st delivery roller comes off, Finisher-R1/Saddle Finisher-R2

Description
Jam Code 1104 is a stationary jam recorded when paper does not pass through the feed path sensor (PI34) even after a prescribed time (distance) has elapsed following paper detection by the sensor.
As a result of inspection, this symptom occurred because of the following reason: Since the compression spring for the 1st delivery roller came off, the first sheet entered the processing tray; but the second sheet was unable to, resulting in a paper jam. For the operation of the stack ejection roller, refer to Finisher Service Manual [Functions> Feed Drive System> Paper Delivery Path> Buffer/Processing Tray Path].
Field Remedy
1. In order to determine whether or not the root cause is related to the host machine, detach the finisher from the host machine and make sure that no paper jam occurs in the host machine.
2. Connect the finisher to the host machine.
3. In service mode [COPIER> I/O> SORTER> P011], make sure that bit4 is changed from "0" to "1" when the sensor lever is actuated.
4. Inspect the compression spring for the 1st delivery roller. If it comes off, install it.
FU5-2294 Compression Spring

14.3.10.3 1104/1101 Jam Code: Troubleshooting, Finisher-R1/Saddle Finisher-R2

Description

On Finisher-R1/Saddle Finisher-R2, jam code 1104 or 1101 (or both) occurs because of miscellaneous factors. The following describes the inspection results. When this symptom occurs, follow the steps below to determine the root cause (as of July 29, 2004).

- 1104 jam: When paper does not pass through the feed path sensor (PI34) after paper is delivered for a prescribed time (distance) following the sensor has detected paper.
- 1101 jam: When paper does not pass through the inlet sensor (PI33) after paper is delivered for a prescribed time (distance) following the sensor has detected paper.
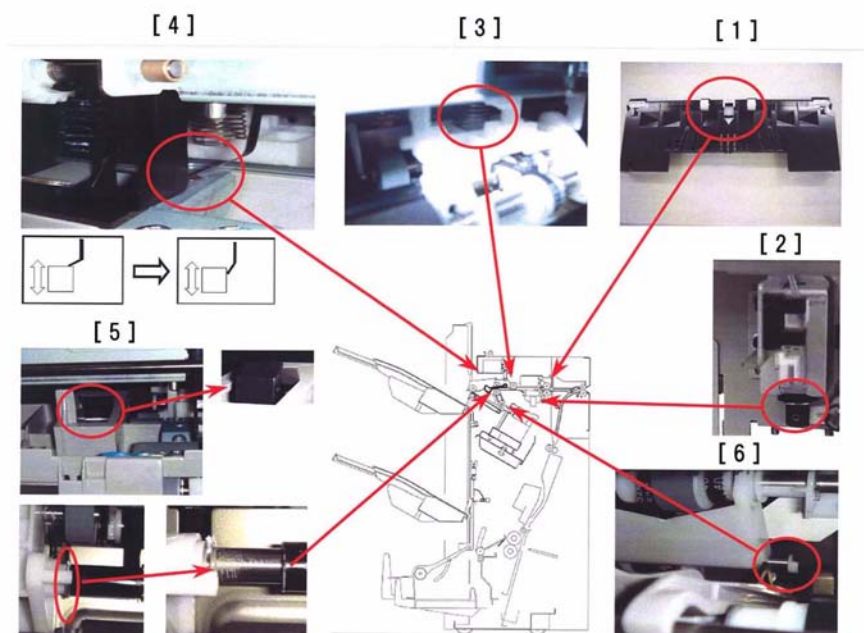
F-14-90

[1] Compression spring (FC5-3674) in the entrance upper guide unit is not properly installed.

Cause

Since the compression spring in the entrance upper guide unit was not properly installed, the inlet roller [1] was free from pressure and paper was not delivered properly, resulting in a paper jam.

Field Remedy

Lift up the entrance upper guide and push the inlet roller from the back side by hand to check whether the roller is returned to its original position by spring pressure. If not, the compression spring is likely to come off, so reinstall it.

[2] Finisher Controller PCB (FG3-2883) is faulty.

Cause

Since the Finisher Controller PCB was faulty, the buffer rear end holding solenoid (SL34) did not attract the plunger completely and the buffer guide was not opened completely. Therefore, the rear end of the first sheet was not held by the buffer guide, resulting in a paper jam. Also, if the solenoid does not attract the plunger at all, the same jam might occur or misalignment of paper in a batch might otherwise occur.

Field Remedy

Visually inspect the plunger of the solenoid. If the solenoid cannot attract the plunger only by half (or not at all), replace the Finisher Controller PCB with a new one.

[3] Compression spring (FU5-2294) for the 1st delivery roller comes off.

Cause

Since the compression spring for the 1st delivery roller came off, the first sheet entered the processing tray; but the second sheet was unable to, resulting in a paper jam.

Field Remedy

Visually inspect the compression spring for its installation state. If it comes off or is not installed properly, reinstall it.

[4] Grounding plate (FC5-5551) of swing guide unit is not properly positioned.
Cause
Since the grounding plate was positioned onto the metal plate of the swing guide, the plate blocked the movement of the swing guide, and paper was not delivered, resulting in a paper jam.
Field Remedy
Visually inspect the grounding plate and if it comes onto the metal plate correct it.
[5] Back end down lever (Rear: FC5-3574) moves together with the shaft for the buffer roller.
Cause
Since grease which has been applied to the rear buffer roller holder adhered to the back end down lever (Rear), the lever moved together with the buffer roller shaft and blocked paper delivery movement, resulting in a paper jam.
Field Remedy
Turn the buffer roller shaft by hand and check whether the back end down lever (Rear) moves together with it. In such a case, remove the E rings holding the lever and slide the lever to the backward, Clean the grease away from the shaft with alcohol, and put the lever back to its original position.
[6] E ring (FC5-4697) for the return roller (rear) comes off.
Cause
Since the return roller (rear) fell because the E ring came off, paper was not delivered, resulting in a paper jam.
Field Remedy
Lift up the swing guide unit from the finisher delivery tray side and check whether the E ring for the return roller comes off. If it comes off, reinstall it. After installation, make sure that it is securely installed by turning it.

14.3.10.4 1104/1101 Jam Code: Because compression spring for inlet roller is not properly installed, Finisher-R1 / Saddle Finisher-R2

Description
Since the compression spring in the entrance upper guide unit was not properly installed, the inlet roller [1] was free from pressure and paper was not delivered properly, resulting in a paper jam.
- 1104 jam: When paper does not pass through the feed path sensor (PI34) after paper is delivered for a prescribed time (distance) following the sensor has detected paper.
- 1101 jam: When paper does not pass through the inlet sensor (PI33) after paper is delivered for a prescribed time (distance) following the sensor has detected paper.
Field Remedy
Lift up the entrance upper guide and push the inlet roller from the back side by hand to check whether the roller is returned to its original position by spring pressure. If not, the compression spring is likely to come off, so reinstall it.
FC5-3674 Compression Spring
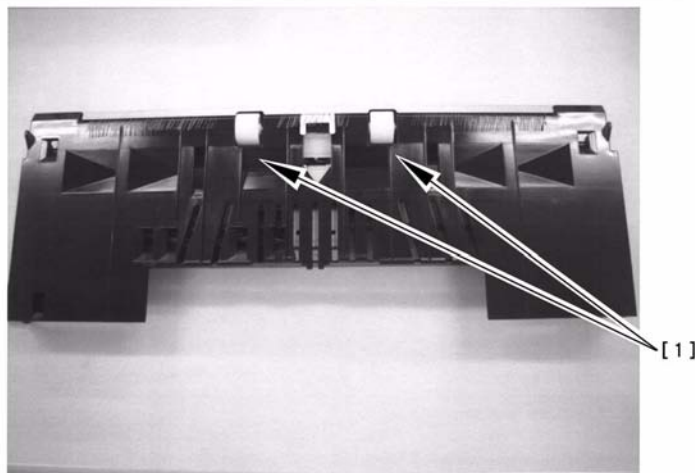
F-14-91

14.3.10.5 1104 Jam Code: Because grounding plate of swing guide unit is not properly positioned, Finisher-R1 / Saddle Finisher-R2

Description

In the field, since the grounding plate [1] was positioned onto the metal plate [3] of the swing guide [2] (the grounding plate should come into contact with the guide at its side), the plate blocked the movement of the swing guide, and paper was not delivered, resulting in a paper jam. When this symptom occurs, inspect the grounding plate, and if it comes onto the metal plate correct it.

- 1104 jam: When paper does not pass through the feed path sensor (PI34) after paper is delivered for a prescribed time (distance) following the sensor has detected paper.
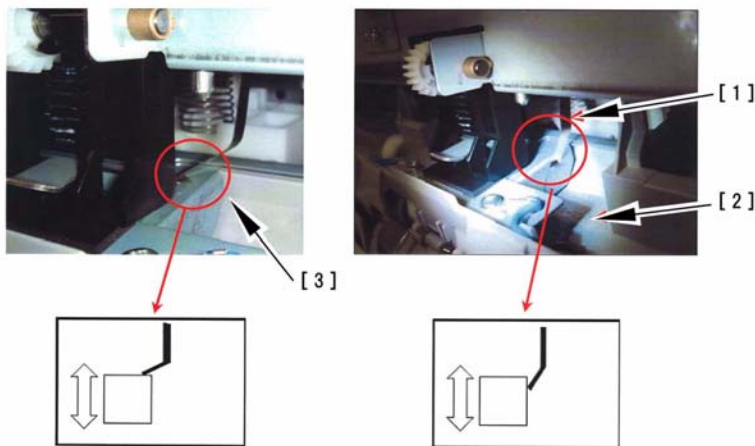
F-14-92

14.3.10.6 1200 Jam Code: Timing Jam due to soil of Inlet Path Sensor PI33

Description

In the field, the jam occurrence was displayed on the LCD because the host machine wrongly detected paper presence at the Inlet Path Sensor (PI33) of Finisher before it received a signal of paper delivery. This was because the sensor was soiled. When this symptom occurs or the jam code was recorded in the jam history, clean the Inlet Path Sensor.

14.3.11 Error Code

14.3.11.1 E001-0001/E001-0003 Error Code: When turning Energy Save Mode off

Field Remedy

Upgrade the ROM on the DC Controller PCB to Ver.6.01 and later. With this version, heat-control of the fixing heater will be turned OFF even when the energy save key is pressed immediately after the completion of a continuous print job.

Description

In the field, E001-0001 or E001-0003 was displayed after the following actions were performed: After the completion of a continuous print job, "Please wait a moment." was displayed because the heater temperature has become low. An operator pressed the energy save key within a few seconds through 1 minute and 20 seconds after the above message was displayed. After a while, other operator pressed the energy save key once again to resume the machine; however, the LCD on the control panel did not come on. Consequently, the operator turned the power OFF/ON. As a result, E001-0001 or E001-0003 was displayed.

Note: These error codes will not be displayed under the following conditions: If an operator presses the energy save key after 1 minute and 20 seconds have passed following the completion of a continuous print job. In addition, if the host machine automatically goes into the low-power mode or the auto sleep mode after a specific period of time designated in user mode [Timer Settings> Low-power Mode, or Auto Sleep Time].

14.3.11.2 E001-0001/E001-0002/E001-0003 Error Code: Because fixing drawer (AC Driver cable) has poor contact

Description

As a result of inspection, the following was found: When the fixing feeder assembly is set into the machine in state where the fixing drawer (J8) on the machine side loses smooth movement, the fixing drawer on the machine side has poor contact with that on the fixing feeder assembly side, causing E001-0001/E001-0002/E001-0003.

- E001 can be displayed when the rise in the temperature of the fixing assembly is excessive. (-0001: fixing roller, -0002: outside heating roller, -0003: pressure roller)

Cause

Since the fixing drawer had poor contact, the temperature detection sensor falsely detected that the temperature of the fixing assembly was lower than actual temperature. This caused the DC Controller PCB to increase the temperature of the assembly. However, the temperature detection sensor suddenly detected that the rise in the temperature of the assembly was excessive when the fixing drawer had good contact, consequently causing the symptom.

Field Remedy

1. Turn the control panel switch and main power switch OFF in sequence, and disconnect the power cable. Then remove the rear panels to detach the controller box.

2. Remove the fixing drawer and then remove the stepped screw of the drawer.

3. Apply grease (MOLYKOTE PG641) to the portion of the stepped screw where the washer (XD1-1104-135) moves, re-fit the stepped screw to the fixing drawer, and then make sure that the washer moves smoothly on the surface of the stepped screw.

Note: Be sure not to apply grease to the terminal of the fixing drawer.

4. Return the fixing drawer and the controller box to the original position.

5. Connect the power cable and then turn the main power switch ON.

CK-0562 Grease

FM2-0921 AC Driver Cable (Fixing Drawer)

14.3.11.3 E001-0002 Error Code: Abnormal (rumbling) sound occurs when fixing roller is rotating

Description

As a result of inspection, the following was found: When the fixing roller is rotating, an abnormal rumbling sound occurs and the outside heating roller vibrates to make the thermistor temporarily lose the appropriate contact with the outside heating roller, causing the machine to make a false detection of the fixing temperature. This is because the fixing roller is deformed after some period of use.

- E001-0002 can be displayed when the rise in the temperature of the outside heating roller is excessive.

Field Remedy

When the abnormal sound from the fixing roller or a false detection of the fixing temperature occurs, follow the procedure below.

1. Replace the fixing roller with a new one.

2. Check if the thermistor is attached in a way that its detection surface becomes parallel to the outside heating roller. If not, modify its position.

3. In service mode [COPIER > FUNCTION > CLEAR > ERR], press [OK] and turn the control panel switch OFF. And then turn the main power switch OFF/ON.

FC5-6298 Fixing Roller

FK2-0013 Thermistor Unit

14.3.11.4 E003-0041/E003-0042/E003-0043 Error Code: Because fixing drawer (AC Driver cable) has poor contact

Description

As a result of inspection, the following was found: When the fixing feeder assembly is set to the machine, the fixing drawer on the fixing feeder assembly side has poor contact with that on the machine side, causing E003-0041/E003-0042/E003-0043. This is because the fixing drawer (J8) on the machine side loses smooth movement.

- E003 can be displayed when the temperature of the fixing assembly drops abnormally after standby. (-0001: the temperature of the fixing roller drops below 150deg. C, -0002: the temperature of the outside heating roller drops below 190 deg. C, -0003: the temperature of the pressure roller drops below 120 deg. C)

Cause

Since the fixing drawer had poor contact, the DC controller PCB detected that the temperature of the fixing assembly detected with the thermistor stays at low level for more than 1 second.

Field Remedy

1. Turn the control panel switch and main power switch OFF in sequence, and disconnect the power cable. Then remove the rear panels to detach the controller box.

2. Remove the fixing drawer and then remove the stepped screw of the drawer.

3. Apply grease (MOLYKOTE PG641) to the portion of the stepped screw where the washer (XD1-1104-135) moves, re-fit the stepped screw to the fixing drawer, and then make sure that the washer moves smoothly on the surface of the stepped screw.

Note: Be sure not to apply grease to the terminal of the fixing drawer.

4. Return the fixing drawer and the controller box to their original position.

5. Connect the power cable and then turn the main power switch ON.

6. Make the following selections in service mode [COPIER > FUNCTION > CLEAR > ERR], and then press [OK]. Thereafter, turn the control panel switch OFF and turn the main power switch OFF/ON.

7. In service mode [COPIER > ANALOG > FIX-UC/FIX-UE/FIX-LC/FIX-LE/FIX-EXC/FIX-EXL], make sure that the temperature is controlled normally.

CK-0562 Grease

FM2-0921 AC Driver Cable (Fixing Drawer)

14.3.11.5 E004-0002 Error Code: Fixing Sub Heater is broken

Description

Because of breakage or poor installation of the fixing sub heater in the fixing unit, E004-0002 was displayed after paper was picked up following a press of the copy start key. Afterwards, checking the jam history in service mode revealed that 0A05/0A08/0A06 (the difference between them is paper source) were recorded.

Field Remedy

Inspect the fixing sub heater for breakage or poor installation. If any problem is found, replace or reinstall the fixing sub heater.

FK2-0049: 120V

FK2-0054: 230V

14.3.11.6 E005-0000 Error Code: How to clear error code

Field Remedy

When E005-0000 is displayed, replace the fixing web with a new one and then clear the count in the following two service modes.

1. In service mode [COPIER> Counter> MISC> FIX-WEB], press the "C" key to clear the counter.

2. In service mode [COPIER> Counter> DRBL1> FIX-WEB], press the "C" key to clear the counter.

3. Turn the power OFF/ON.

Description

E005 is an error code related to the fixing web. When the total count of the fixing web solenoid turning ON has reached 450 thousand, or when the web level detecting lever drops through the cut-out, a message "Fixing web is low." will be displayed. Then, if the fixing web continues to be used without replacement and the count has reached 3,000, E005-0000 will be displayed.

14.3.11.7 E006-0001 Error Code: Because fixing drawer (AC Driver cable) has poor contact

Description

As a result of inspection, the following was found: When the fixing feeder assembly is set into the machine in state where the fixing drawer (J8) on the machine side loses smooth movement, the fixing drawer on the machine side has poor contact with that on the fixing feeder assembly side, causing E006-0001.

- E006-0001 can be displayed when the fixing drawer has been identified as being disconnected.

Field Remedy

1. Turn the control panel switch and main power switch OFF in sequence, and disconnect the power cable. Then remove the rear panels to detach the controller box.

2. Remove the fixing drawer and then remove

the stepped screw of the drawer.

3. Apply grease (MOLYKOTE PG641) to the portion of the stepped screw where the washer (XD1-1104-135) moves, and then re-fit the stepped screw to the fixing drawer to make sure that the washer moves smoothly on the surface of the stepped screw.

Note: Be sure not to apply grease to the terminal of the fixing drawer.

4. Return the fixing drawer and the controller box to the original position.

5. Connect the power cable and then turn the main power switch ON.

CK-0562 Grease

FM2-0921 AC Driver Cable (Fixing Drawer)

14.3.11.8 E006-0001 Error Code: Due to deformation of fixing roller

Description

In the field, the error code was displayed although the front cover of the machine was closed (i.e., the fixing/feeder assembly was set properly). Since this was because the fixing roller was deformed, the roller was replaced with a new one.

- E006-0001 can be displayed when the fixing drawer has been identified as being disconnected.

Field Remedy

1. Slide out the fixing/feeder assembly from the machine and turn the knob on the fixing assembly to check if the assembly rotates smoothly. If it does not, check the following rollers for deformation: fixing roller, pressure roller, heating roller, and web cleaning roller.

2. Replace the deformed roller with a new one.

FC5-6298 Fixing Roller

FC5-6299 Pressure Roller

FC5-2285 Heating Roller

FC5-2287 Cleaning Roller

14.3.11.9 E008-0001 Error Code: Necessary steps upon indication

Description

E008-0001 can be displayed when the page count for the fixing roller exceeds the prescribed value.

Field Remedy

1. Replace the fixing roller with a new one.

2. In service mode [COPIER> Counter> DRBL-1> FX-UP-RL], press the current page count and clear it.

3. Turn the control panel switch OFF and turn the main power switch OFF/ON.

FC5-6298 Fixing Roller

14.3.11.10 E009-00FF Error Code: Because of broken 24T gear in fixing drive unit

Cause

The possible causes of the detail code "00FF" are: the heating estrangement motor (M22), the external heating HP sensor (PS21), or the DC Controller PCB is faulty. In actual failure cases, when the external heating roller came in contact with or moved away from the fixing roller, the 24T gear hit against the stopper, causing a breakage of the 24T gear after long use.

Field Remedy

When this symptom occurs, inspect the 24T gear and replace it with a new one if it is broken. Simultaneously, visually inspect the 16/42T gear that drives the 24T gear. If it is broken, replace it with a new one, too.

Note: When replacing the 24T gear, it is necessary to remove the heating roller sensor flag that is installed in the same shaft as the 24T gear. As the sensor flag is secured by snap-in claws, it is possible that the claws might be broken if being released too much. If it is broken, replace it with a new one.

Description

E009-00FF: To be displayed when it is detected that the external heating roller remains in contact with the fixing roller.

FU5-0178: 24T Gear

FU5-0214: 16/24T Gear

FC5-2358: External Heating Roller Sensor Flag

14.3.11.11 E514-8001/E514-8002 Error Code / Misalignment in staple/sort/group mode: Finisher-R1/Saddle Finisher-R2

Description

As a result of inspection, the following was found: The back end assist plate [2] and the back end assist button [3] of the operation tray assembly [1] come off of the cogged timing belt [4], and thereby E514 is displayed or a misalignment attributed to a failure in the stack delivery operation occurs.
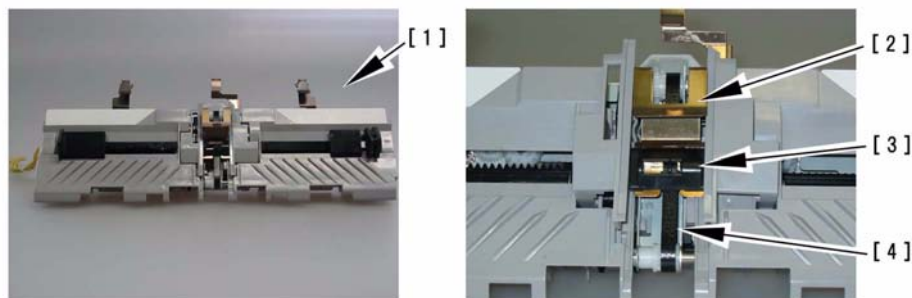
F-14-93

Field Remedy

As the cogged timing belt may be damaged, replace it with a new one, and then fit the back end assist plate and the back end assist button to the new belt.
FC5-3553 Cogged Timing Belt
FC5-3554 Back End Assist Plate
FC5-4715 Back End Assist Button

14.3.11.12 E013-0001 Error Code: How to clear waste toner full detection

Field Remedy

After replacing the waste toner case or removing the waste toner from the case, clear the toner counter in service mode as follows:
Select [COPIER> Counter> MISC> WST-TNR], press "C" (Clear key) to clear the counter, and turn the power OFF/ON.
Description
E013-0001 can be displayed when the waste toner case has become full.

14.3.11.13 E013-0001 Error Code: How to change the waste toner detection timing

Description

The waste toner detection timing is determined by the total page counts specified in service mode below:
1. Page counts until the warning message is indicated
2. Page counts between the warning message and E013 indication
Field Remedy
Follow the steps below if you want to change these page counts:
1. Page counts until the warning message is indicated
In service mode [COPIER> Adjust> MISC> WT-FL-LM], select any number from "0" through "4".
0: 80,000 / 1: 140,000 / 2: 210,000 (default) / 3: 320,000 / 4: 460,000
2. Page counts between the warning message and E013 indication
In service mode [COPIER> Adjust> MISC> WT-ER-LV], select any number from "0" though "3".
0: 1 / 1: 20,000 / 2: 40,000 (default) / 3: 60,000

14.3.11.14 E014-0001 Error Code/abnormal noise: Detachment of fixing roller occurs because C-ring (stop ring) is detached

Description

As a result of inspection, the following was found: When the fixing roller is rotating, friction resistance occurs between the C-ring and spacer on the rear side of the fixing roller. This resistance detaches the fixing roller, and applies a load to the fixing motor, consequently causing the symptom. To prevent this, a rib has been added to the bore of the spacer.

Field Remedy

Check the shape of the spacer on the rear side of the fixing roller. If the spacer has no rib, replace it with a new one having a rib.
Note: When the fixing roller is replaced with a new one or detached for a service work, check the shape

of the spacer. If it does not have the rib, replace it with a new one.
- E014-0001 can be displayed when a lock state is not identified for 1 sec or more after motor start-up.
FC5-2590 Fixing Spacer

14.3.11.15 E020-0XD2 Error Code: Claws of color developing assembly cover are not securely snapped into place

Field Remedy
As a result of inspection,
When the symptom occurs, inspect the affected color developing assembly cover by referring to the first two digits in the sub code (01: Y, 02: M, 03: C) to make sure that the claws are securely snapped into place.
Description
E020-0XD2 can be displayed when the average of the patch Sig values is 200 or lower as a result of INIT control (service mode INISET-x) upon initial setup. The suspect causes are: The patch sensor is damaged or has an
open circuit. The connector has poor contact. The primary transfer engagement is faulty. The mounting of the developing assembly is faulty.

14.3.11.16 E020-03A0 Error Code: When making continuous or intermittent copy of color image

Field Remedy
The symptom found in our inspection is as follows: When making continuous or intermittent copy of color image, a message "Adjusting gradation. Please wait a moment." appeared and then the error code was displayed. Although the host machine became ready after turning the power OFF/ON, the same symptom recurred. This is because the connector J1135 on the DC Controller PCB was disconnected and 12V was not supplied to the ATR sensor. For your information, there is no problem with the output images. And this symptom does not occur with black-and-white copy.
When the symptom occurs, inspect the connector J1135 for pin deformation or poor contact.
Description
E020-03A0 can be displayed when the Sig value is lower than 62 as a result of ATR control. The suspect causes are: The ATR sensor is damaged or has an open circuit. The connector has poor contact.

[J1135]
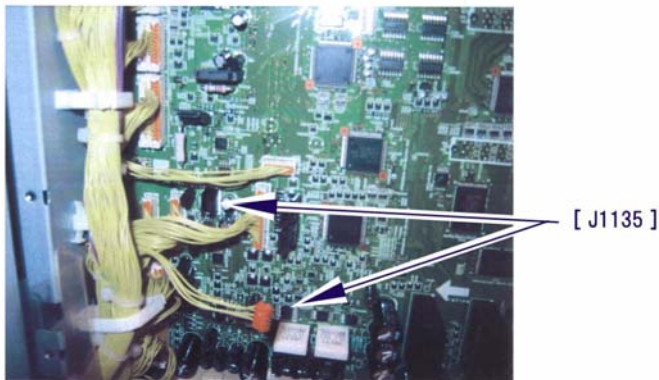
F-14-94

14.3.11.17 E020-0xA9/0xA0 Error Code: Troubleshooting

Description

E020-0xA9 can be displayed when the T/D ratio detected as a result of ATR control falls below its lower limit (-4%) three consecutive times.

E020-0xA0 can be displayed when the Sig value detected as a result of ATR control is lower than 62. The possible causes is that enough amount of toner has not been supplied because the ATR shutter does not open/close smoothly or the connectors of the shutter solenoid are not securely fitted (or pinched cables) or the toner cartridge is not properly installed. Follow the steps below to determine the root cause.

Field Remedy

1. Have the P-PRINT on hand which had been output immediately after executing "INISET" when the developing ass'y was last replaced.

2. Without turning the power OFF, record all the readings under service mode [COPIER> Adjust> DENS].

3. Compare the readings in step 1 and step 2, and if there are discrepancies, enter the readings of the P-PRINT to service mode [COPIER> Adjust> DENS].

4. Without turning the power OFF, record all the readings under service mode [COPIER> Display> DENS> DENS-Y/M/C, REF-Y/M/C, SGNL-Y/M/C].

Note: If the power is mistakenly turned OFF/ON, all the readings will be cleared. In such a case, make a color copy of ten or more sheets in A4 size, and compare the readings once again.

5. Turn the power OFF/ON to clear E020. Then, make a copy of CA1-chart or output a test print (PG TYPE=10).

6. If one or two colors of DENS-Y/M/C are smaller than -4.0% in step 4 and the output image in step 5 is light, go to step 7.

If all the three colors of DENS-Y/M/C are smaller than -4.0% in step 4 and the output image in step 5 is light, go to step 10.

If the output image in step 5 does not match the readings of DENS-Y/M/C in step 4, go to step 9.

7. If all the readings are identical in step 3, go to step 8. If not, output a test print (PG TYPE=6) of 20 sheets in A4 size and check the readings of DENS-Y/M/C. Continue this two to three times. If the readings increase, end this work and monitor the machine condition. If the readings do not change, go to step 8.

Note: If E020 occurs during outputting the test prints, turn the power OFF/ON and continue to print.

8. Visually inspect the developing cylinder surface of the affected color (whose DENS is smaller than -4.0%). If the cylinder surface looks like normal [1], go to step 9. If it is obviously black [2], toner has not been supplied to the developing ass'y. In this case, check the following and if any abnormality is found correct it.
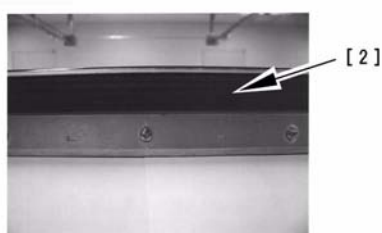
F-14-95

- Turn the shaft [3] of the toner feed screw by hand. Does the gear [4] rotate normally?
- Compare the shaft rotation of the affected developing unit with the normal one's. Isn't it too much heavy?
- Is the knob of the toner cartridge locked securely as shown in [5]?
- Has the protective sheet been peeled off from the toner supply mouth in the developing rotary as shown in [6]?

After correcting the defective situation, replace the affected developing unit or the developer with a new one. Then, execute "INISET" for the changed color.
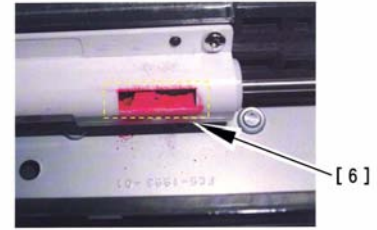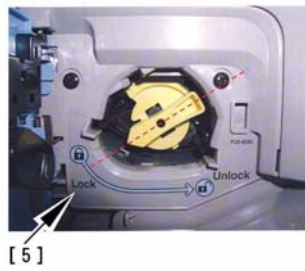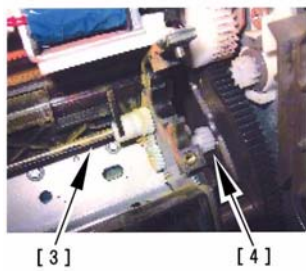
F-14-96

9. It is possible that the ATR shutter is not opened/closed properly. Pull the plunger of the shutter solenoid [7] to check whether the shutter is opened/closed smoothly. In addition, make sure that the connectors [8,9,10,11] of the ATR shutter cable are securely fitted and there is no pinched cable.
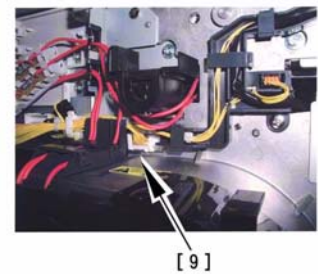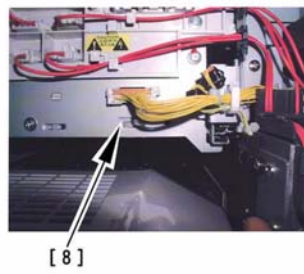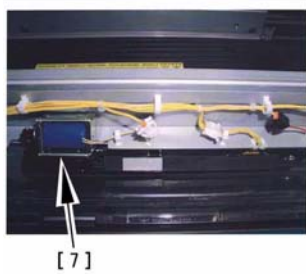
F-14-97
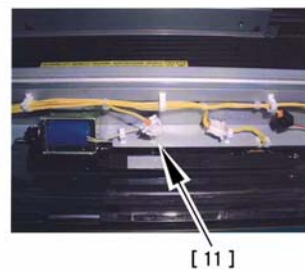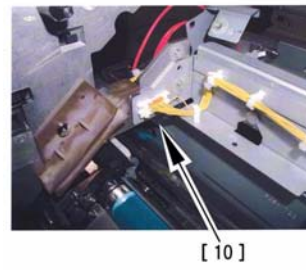
F-14-98

10. When E020-0xA0 is displayed, check if J1135 or J119 on the DC controller PCB has poor connection. If poor connection is not found, replace the DC controller PCB with a new one. When E020-0x9 is displayed, it is possible that the gear [12], which drives the toner feed screw and is installed at the rear side of the host machine, is broken. Check whether it rotates smoothly clockwise/counterclockwise. If it rotates smoothly, replace the DC Controller PCB with a new one.
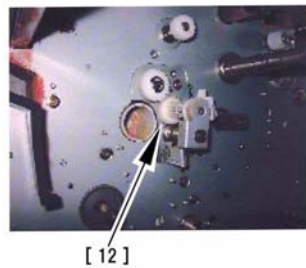
F-14-99

14.3.11.18 E020-0xA8/0xA2 Error Code: Troubleshooting

Description

E020-0xA8 can be displayed when the T/D ratio detected as a result of ATR control exceeds its upper limit (5%) three consecutive times.

E020-0xA2 can be displayed when the Sig value detected as a result of ATR control is higher than 960. The possible cause is an oversupply of toner. Follow the steps below to determine the root cause.

Field Remedy

1. Have the P-PRINT on hand which had been output immediately after executing "INISET" when the developing ass'y was last replaced.

2. Without turning the power OFF, record all the readings under service mode [COPIER> Adjust> DENS].

3. Compare the readings in step 1 and step 2, and if there are discrepancies, enter the readings of the P-PRINT to service mode [COPIER> Adjust> DENS].

4. Without turning the power OFF, record all the readings under service mode [COPIER> Display> DENS> DENS-Y/M/C, REF-Y/M/C, SGNL-Y/M/C].

Note: If the power is mistakenly turned OFF/ON, all the readings will be cleared. In such a case, make a color copy of ten or more sheets in A4 size, and compare the readings once again.

5. If one or two colors are +5.0% or higher in DENS-Y/M/C, go to step 6. If all the three colors are +5.0% or higher, go to step 9.

6. If all the readings are identical in step 3, go to step 7. If not, output a test print (PG TYPE=10) of 20 sheets in A4 size and check the readings of DENS-Y/M/C. Continue this two to three times. If the readings decrease, end this work and monitor the machine condition.

Note: If E020 occurs during outputting the test prints, turn the power OFF/ON and continue to print.

7. Visually inspect the developing cylinder surface of the affected color (whose DENS is +5.0 or higher). If the cylinder surface is exposed [1], go to step 8. If it is close to the toner color [2], it is possible that excessive amount of toner has been supplied. In this case, check the following:

- Turn the shaft [3] of the toner feed screw by hand. Does the gear [4] rotate normally?

- Compare the shaft rotation of the affected developing unit with the normal one's. Isn't it too much light?

- Visually inspect the toner supply valve [5] and the toner ejection valve [6] for any deformation or damage.

F-14-100
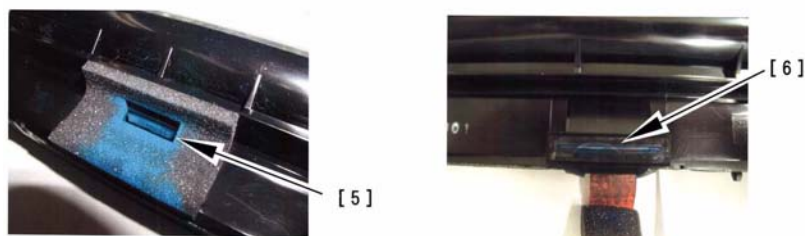
F-14-101

If no mechanical difference is confirmed, toner which had been oversupplied should be consumed. Output a test print (PG TYPE=5, DENS of the affected color=255, other colors=0) of 20 sheets in A4 size. Then, check whether the reading under service mode [COPIER> Display> DENS] decreases. If it decreases, end this work and monitor the machine condition.

8. As no developer is left, DENS-Y/M/C is detected higher wrongly. Replace the affected developing unit or the developer with a new one. Then, execute "INISET" for the changed color.

9. When E020-0xA2 is displayed, check if J1135 or J119 on the DC Controller PCB has poor connection. If poor connection is not confirmed, replace the DC Controller PCB with a new one.
When E020-0xA8 is displayed, it is possible that the gear [7], which drives the toner feed screw and is installed at the rear side of the host machine, is locked. Check whether it rotates smoothly clockwise/counterclockwise. If it rotates smoothly, replace the DC Controller PCB with a new one.
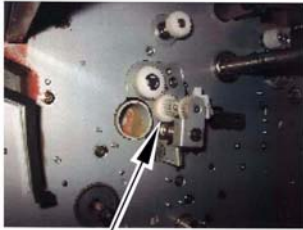
[7]

F-14-102

14.3.11.19 E020-0281 Error Code: When auto gradation adjustment is performed upon installation

Field Remedy
When the auto gradation adjustment was performed upon installation, the LCD displayed a message "Adjusting gradation. Please wait a moment." and the error code was displayed because the rightmost pin of the connector J261, which is located at the front plate and connects the cables for the patch detection sensor unit, was deformed. When the symptom occurs, inspect the connector pins for deformation. If they are deformed, correct them.
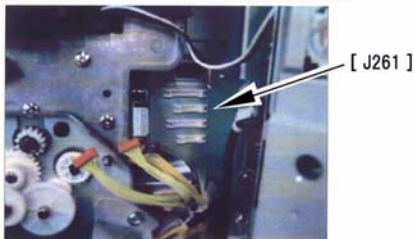
[J261]

F-14-103

Description
E020-0281 can be displayed when the P-SENS-P value at time of reading the background (intermediate transfer belt surface) for patch detection is lower than 255. The suspected causes are: The ATR sensor is damaged or has an open circuit. The connector has poor contact. The ITB cleaner is faulty.

14.3.11.20 E020-03A0/E020-03A1/E020-03A2/E020-03A3 Error Code: Because output voltage from DC Power Relay PCB is not enough

Description
When "INISET-3" was executed upon installation, it looked as if it had been completed normally; however, when checking the ATR output value on P-PRINT, the readings of SGNL and REF were abnormal for all YMC; SGNL was 1035 (normally 400 through 600) and REF was 380 (normally 510 through 520). If you keep using the host machine as it is, E020 might occur with the detail codes 03A0/03A1/03A2/03A3 (03xx is displayed because Cyan is first checked for the ATR control.).
Cause
The output voltage from the DC Power Relay PCB to the ATR sensor is not enough (only -8V is output although -12V should be under normal circumstances).
Field Remedy
1. In service mode [COPIER> Adjust> DENS> "SGNL" and "REF"], check the readings, and if an abnormal value is confirmed as described above, go to step 2.
2. Using a tester (multimeter), measure the 1st pin (GND) and the 2nd pin (-12V) of J119 on the DC Power Relay PCB, or the 4th pin (GND) and the 3rd pin (-12V) of J1135 on the DC Controller PCB. If the output is not -12V, replace the DC Power Relay PCB with a new one.
FM2-0843 DC Power Relay PCB

14.3.11.21 E020-03A0 Error Code: Displayed after replacement of DC Controller PCB

Description

In the field, the error code was displayed because all the values for [Service mode COPIER > ADJUST > DENS] were not entered after replacement of the DC Controller PCB. After replacement of the PCB or the RAM clear, enter the 12 items of [DENS] in service mode referring to the P-PRINT that has been kept in place.

14.3.11.22 E020-00FF Error Code: Because of DC Controller PCB failure

Description

As a result of inspection, it was found that the error occurs because the black toner supply motor (M25) and the hopper stirring motor (M23) fail to rotate on account of the DC controller PCB failure. When the symptom occurs, follow the field remedy below.

- E020-00FF shows there is no toner inside the black developing assembly and can be displayed;

1. When toner is not supplied to the developing assembly correctly.

2. When the hopper stirring motor does not rotate normally.

Field Remedy

1. In service mode, [COPIER > FUNCTION > PART-CHK > MTR > enter the motor number "23" or "25" using the numeric key > OK > MTR-ON > OK] and then check if the selected motor rotates. If not, the signal output from the DC Controller PCB to the motor may be faulty.

2. Unplug and insert all the connectors of the DC Controller PCB for prevention of poor connection and check if the symptom is solved, If not, replace the DC Controller PCB with a new one.

FM2-0857 DC Controller PCB Assembly (120V)

FM2-0858 DC Controller PCB Assembly (230V)

FK2-0015 DC 24V Motor (M23, M25)

14.3.11.23 E020-03A0 Error Code: Because J119 connector on DC power relay PCB is disconnected

Field Remedy

Check if the J119 connector of the DC Power Replay PCB and the J1135 connector of the DC Controller PCB are not disconnected.

Description

In the field, the error code occurred one week after the installation. At that time, it was recovered by turning the main power switch OFF/ON, however, it recurred about one month later. To be more precise, it occurred after making 10 sheets of color copy continuously, although it never occurred when making copies continuously in the monochrome mode. Executing "INIT-C" in service mode after replacement of the cyan developing assembly and developer solved the error code, however, the SIGNAL value was as low as "8" or "9" (usually around "510").

- E020-03A0 can be displayed when the Sig value detected as a result of ATR control is lower than 62.

Cause

- (minus) 12V that should be supplied for the ATR sensor from the DC Power Relay PCB via the DC Controller PCB was not supplied.

FM2-0843 DC Power Relay PCB Assembly

14.3.11.24 E020-00FF Error Code: Because hopper stirring motor (M23) causes rotation failure

Description

As a result of inspection, the following was found: The hopper stirring motor causes rotation failure and fails to supply Bk toner for the developing assembly, consequently causing the symptom. However, replacement of the motor corrects the symptom.

Field Remedy

1. In service mode [COPIER > FUNCTION > PART-CHK > MTR > enter the motor number "23" using the numeric keys > OK > MTR-ON > OK] and then check if the hopper stirring motor rotates. If it rotates, go to the step2 below. If it does not rotate, go to the step3 below.

2. It is thought that a toner level sensor is faulty. According to toner supply sequence, the toner supply motor drives to supply toner for the developing assembly when the sub hopper level sensor (TS2) detects the presence of toner and the black toner level sensor (TS1) detects the absence of toner. Therefore, there is possibility that the toner level is not detected correctly due to a defective sensor. Check the sensors for a problem, and replace them with a new one if necessary.

3. Since it is thought that the hopper stirring motor or the DC controller PCB is faulty, re-insert all the connectors of the DC controller PCB and the hopper stirring motor to correct poor connection. If the

symptom still occurs, replace the hopper stirring motor and then the DC Controller PCB with a new one.
- E020-00FF means the absence of toner in the Bk developing assembly and can be displayed under the following conditions;
a: when toner is not supplied correctly for the developing assembly
b. when the hopper stirring motor does not rotate normally
FK2-0015 Hopper Stirring Motor/Black Toner Supply Motor
FM2-0857 DC Controller PCB Assembly (120V)
FM2-0858 DC Controller PCB Assembly (230V)
FK2-0158 Toner Sensor (TS1/TS2)

14.3.11.25 E043-0001 Error Code: Abnormal noise from Paper Pick-up Ass'y of Side Paper Deck

Description
As a result of inspection, the following was found: Because of rotational failure of the deck main motor (M101), abnormal noise occurs from the side paper deck when feeding paper from the deck and then E043-0001 is displayed. When the symptom occurs, replace the deck main motor with a new one after making sure that mechanical load on the feeding system is not excessive.
- E043-0001 can be displayed when the rotation of the motor is not detected for 1 second or more after the motor starts up.
FK2-0118 DC Motor

14.3.11.26 E061-0007 Error Code: Because potential sensor connector is disconnected upon installation

Description
In the field, the error code occurred when "INSET" was performed for the color developing assembly upon installation, although "TONER-S" for the black developing assembly was performed normally. This was because the potential sensor cable connector (J407) was disconnected. When the symptom occurs, check the cable connector for disconnection or poor connection.
- E061-0007 can be displayed when the potential that is read is outside the +/- 30V range during adjustment of EPC offset.
FL2-0986 Potential Sensor Cable

14.3.11.27 E070-0001 Error Code: ITB Home Position detection error

Cause
In the field, this symptom occurred because the primary transfer roller locking lever failed to be fixed upon installation and this caused a rotational failure of the ITB belt, resulting in an error of the ITB home position detection.
Field Remedy
Lift the primary transfer roller locking lever up rightwad and fix it with a binging screw (M4x8).
Description
E070-0001 can be displayed when the ITB home position is not detected within a specific period of time (approximately 4 seconds).

14.3.11.28 E070-0001 Error Code: ITB home position cannot be detected after replacement of ITB

Description
As a result of inspection, the following was found: At the time of replacement of the ITB, the internal scraper peeled a white sticker for the ITB home position detection off the ITB, causing a home position detection error.
As a preventive measure, the internal scraper has been modified in order not to come in contact with the white sticker. The following are the starting serial numbers: JHS00161/JHT00164/JKH00006/JJM00004/JXH00004/JKM00002/JKP00001
Field Remedy
If you replace the ITB with a new one on a machine whose serial number is earlier than the above, replace the internal scraper simultaneously.
FL2-0398: Internal Scraper

14.3.11.29 E070-0003 Error Code: Because of poor contact of leaf spring of static-charge eliminator in ITB Transfer Ass'y, after replacement of primary transfer roller

Description

As a result of inspection, the above error code was displayed because the leaf spring of the static-charge eliminator in the ITB Transfer Ass'y came in contact with the auxiliary roller in the opposite direction [1]. Since a high voltage is applied to the static-charge eliminator, a leakage might occur from it if it is not positioned properly, resulting in the error code. The proper position is shown in [2].

Field Remedy

When this symptom occurs, inspect the leaf spring to check whether it contacts with the auxiliary roller in the proper position and correct it if it is improper. And, if it is deformed, replace it with a new one by referring to the procedure in the service manual [Image Formation> Parts Replacement Procedure> Intermediate Transfer Belt Static Eliminator].

Note: When putting back the roller arm which has been pulled up in order to replace the primary transfer roller, be sure not to position the leaf spring in the opposite direction against the auxiliary roller.

FL2-0408 Static-Charge Eliminator

[1]   [2]
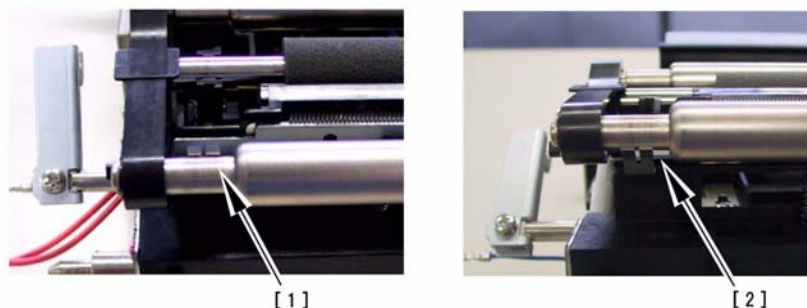
F-14-104

14.3.11.30 E070-0101 Error Code: Reflecting surface for ITB HP detection is soiled

Description

In the field, this error code was displayed because the reflecting surfaces backside of the ITB for ITB home position detection were soiled and was resolved by cleaning the surfaces. When this symptom occurs, clean the ITB belt, the reflecting surfaces and the sensor.

E070-0101: The period of time between the HP sensor (PS30) detects the ITB home position and detects next time is longer than specified.

14.3.11.31 E070 Error Code: Difference between sub codes 0001 and 0002 and their function

Description

E070 is an error code displayed when the ITB home position cannot be detected by the ITB HP sensors. The last two digits in the sub code "01" mean the rear home position sensor (PS30) and "02" mean the front one (PS1).

- E070-0001: ITB home position error detected by the rear sensor (PS30).
- E070-0002: ITB home position error detected by the front sensor (PS1).

This error code will be displayed when the ITB home position cannot be detected within a specific period of time (approximately 4 seconds) after the drum/ITB motor (M2) has started rotating. The signal from these sensors is used as a reference signal for write start position of full-colored image. For more details, refer to Service Manual [Image Formation > Transfer Device > Detecting the ITB Home Position].

14.3.11.32 E073-0001 Error Code: Because of deformation of release arm of Fixing Feeder Ass'y

Field Remedy

As a result of inspection, it was found this symptom occurred because of the following reasons: the Fixing Feeder Ass'y was forcibly pulled out without shifting down the release lever completely at the time of jam clearance or the front cover was forcibly closed without resetting the release lever after the jam clearance. Consequently, the release arm was deformed [1] and the Fixing Feeder Ass'y was not set deep inside the host machine, resulting in the error code. (The release arm indicated in [2] is normal.)
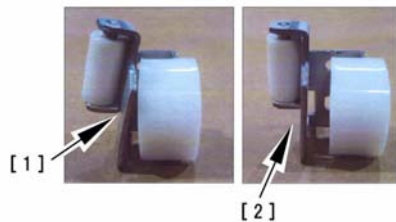
F-14-105

- E073-0001 can be displayed when the transfer drawer connector or the transfer frame drawer connector is not connected although the front cover is closed.

Field Remedy

When this symptom occurs, visually inspect the release arm, and replace it with a new one if it is deformed.

FL2-1160 Release Arm

14.3.11.33 E077-0001 Error Code: Secondary transfer outside roller shift motor (M20) does not run

Field Remedy

As a result of inspection, it was found that this error code was displayed because the fuse on the Fixing Feed Driver PCB was blown and the secondary transfer outside roller shift motor M20 did not run. When the symptom occurs, replace the Fixing Feed Driver PCB with a new one.

Description

E077-0001 can be displayed when the home position of the secondary transfer outside roller cannot be detected and the roller remains locked in place 5 seconds after the motor M20 is started.

FM2-0822 Fixing Feed Driver PCB

14.3.11.34 E077-0001 Error Code: Secondary Transfer Outside Roller repeats up-and-down movement upon power-on

Description

As a result of inspection, the following was found: Since the cables of the rear OHP sensor (the light receptor side) are pinched, the secondary transfer outside roller repeats the up-and-down movement several times upon power-on, and then E007-0001 occurs.

- E077-0001 can be displayed when the home position of the secondary transfer outside roller cannot be detected and the roller remains locked in place 5 seconds after the secondary transfer outside roller shift motor M20 is started.

Field Remedy

1. Slide out the fixing feeder assembly from the host machine, and then detach the registration mount assembly [1] from the assembly.

2. Turn the detached registration mount assembly upside down [3] and make sure that the OHP sensor cables [2] are not pinched. If the cables are pinched like the photo [4], replace the registration mount assembly with a new one.
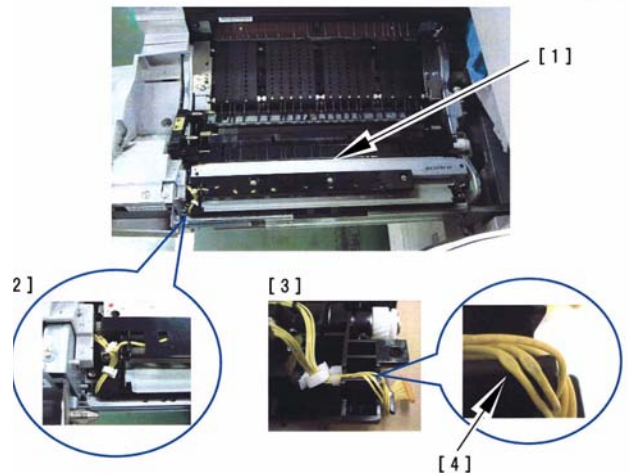
F-14-106

Note: When mounting the registration mount assembly on the fixing feeder assembly, make sure that the OHP sensor cables are routed along the cable guide of the registration mount assembly to prevent pinched cables.

FM2-0472 Registration Mount Assembly

14.3.11.35 E079/E009 Error Code: Because of broken 24T gear

Cause

When the external heating roller comes in contact with or moves away from the fixing roller, the 24T gear hits against the stopper. It is found by our inspection that the 24T gear was broken after a long use.

Field Remedy

When this symptom occurs, replace the 24T gear with a new one. Simultaneously, visually inspect the 16/42T gear that drives the 24T gear. If it is broken, replace it with a new one, too.

Note: When replacing the 24T gear, it is necessary to remove the heating roller sensor flag that is installed in the same shaft as the 24T gear. As the sensor flag is secured by snap-in claws, it is possible that the claws might be broken if being released too much. If it is broken, replace it with a new one.

Description

E079: To be displayed when the home position of the external heating roller cannot be detected, or an open circuit of the home position sensor is detected.

E009: To be displayed when it is detected that the external heating roller remains in contact with the fixing roller.

FU5-0178: 24T Gear
FU5-0214: 16/24T Gear
FC5-2358: External Heating Roller Sensor Flag

14.3.11.36 E020/E021/E061/E070/E078/E820 Error Code / Poor contact of connectors around process unit

For details of error codes, see the following:

E020-0080/E020-0180/E020-0280/E020-0380/E020-0090/E020-0190/E020-0290/E020-0091/E020-0191/E020-0291/E020-0092/E020-0192/E020-0292/E020-0392/E020-00A0/E020-01A0/E020-02A0/E020-03A0/E020-00A1/E020-01A1/E020-02A1/E020-03A1/E020-00A2/E020-01A2/E020-02A2/E020-03A2/E020-00A3/E020-01A3/E020-02A3/E020-03A3/E021-0001/E021-0002/E061-0005/E061-0007/E070-0000/E070-0001/E070-0002/E070-0003/E078-0001/E820-0020

Cause

When drawing out the Pkit as part of servicing work, you need to disconnect and then connect the connectors. When repeated, their internal pins can start to suffer from poor connection, resulting in wrong operation/detection.

Description

A break in the harness can occur when the harness is disconnected/connected about 30 times.

The following is a list of harnesses that are subject to a break with descriptions of symptoms expected when a break occurs.

T-14-9

Name (part No.)		
Pin No.	Connection load (notation)	Expected error condition (symptom in response to error)
[1]ITB cleaner harness (FM2-0946) connector: J214L		
1/2/3/4	ITB cleaner shift motor (M21)	E078-0001 The motor stops.
5/6/7	ITB cleaning HP sensor (PS23)	E078-0001 The sensor fails to operate
8/9/10	process unit cooling fan (FM7)	E820-0002 The fan stops. The machine fails to detect rotation.
11/12	post-charging assembly cleaning motor (M27)	image fault (vertical line) The motor stops.
[2]PKIT harness (FM2-0947) connector: J201LA/J201B		
1/2	primary charging wire cleaning motor (M26)	image fault (vertical line) The motor stops.
3/4/5	color toner cartridge sensor (PS26)	message calling for the bottle. The absence of a bottle is wrongly detected in the presence of a bottle.
		The presence of a bottle is wrongly detected in the absence of a bottle.

6/7	pre-exposure LED (LED1)	image fault (solid black) E061-0005 The LED fails to go on.
8/9/10/11	color toner level sensor (PS25)	message calling for replacement of toner The absence of toner is wrongly detected in the presence of toner.
		image fault (low density) E020-**92 The presence of toner is wrongly detected in the absence of toner.
12/13/14	black toner level sensor (TS1)	2-min supply error E020-00FF black developing assembly excess toner supply The absence of toner is wrongly detected in the presence of toner.
		black developing assembly without toner -> image fault (low density) The presence of toner is wrongly detected in the absence of toner.
15/16	NC	
1/2	developing rotary locking solenoid (SL10)	E021-0002 The solenoid fails to operate
3/4/5	developing rotary solenoid sensor (PS8)	E021-0002 The sensor fails to operate.
6/7/8	developing rotary HP sensor (PS19)	E021-0001 The sensor fails to operate.
9-14	ATR sensor (PS4)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 An error sensor value is detected
15/16	ATR sensor shutter solenoid (SL12)	E020-**A0 E020-**A1 E020-**A2 E020-**A3 A sensor error value is detected.
[3]ITB harness (FM2-0949) connector: J261L/J267L		
1/2	patch image read sensor shutter solenoid (SL11)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
3-8	patch image read sensor (PS2)	E020-**81 E020-**90 E020-**91 A sensor error value is detected
1/2/3	ITB HP sensor B (PS30)	E070-00** The sensor fails to operate.
4/5/6	ITB sensor A (PS1)	E070-00** The sensor fails to operate.
[4]Hopper harness (FM2-0950) connector: J301L		
1/2	hopper stirring motor (M23)	black developing assembly without toner -> image fault (low density) The motor stops.

3/4/5	hopper inside toner level sensor (TS2)	2-min supply error (reset by opening/closing the door) hopper excess toner supply The absence of toner is wrongly detected in the presence of toner.
		hopper without toner -> black developing assembly inside without toner The job stops. The presence of toner is wrongly detected in the absence of toner.
6/7	black toner supply motor (M25)	hopper without toner -> black developing assembly inside without toner The job stops. The hopper is without toner.
8/9/10	hopper open/closed sensor (PS28)	message calling for replacement of the bottle, not permitting recovery. remains closed.
		The black cartridge motor stops. remains closed
[5]Poteantial sensor harness (FL2-0986) connector: J407L		
1-6	potential sensor	E061-0007 An error potential level is detected.

F-14-107
Field Remedy
Replace the connector with the harness intact.

14.3.11.37 E020-03A0/E020-01A2 Error Code

Description

This symptom tends to occur when the connection has been disconnected and then connected a number of times (30 times or more).

Cause

The pins inside the connector tend to wear out when the connector [1] is disconnected and then connected a number of times (left of the process unit).
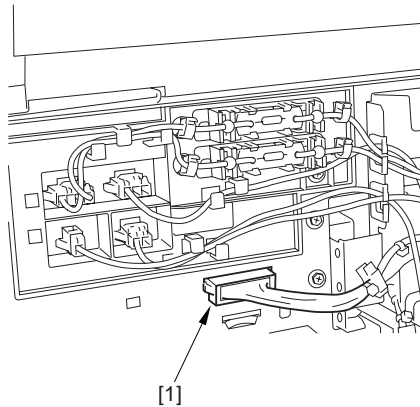
F-14-108

Field Remedy

Replace the connector together with its harness.

14.3.11.38 E061-0001 Error Code

Cause

The grounding wire [2] of HV1 [1] has poor contact.

Field Remedy

Connect the grounding wire correctly.
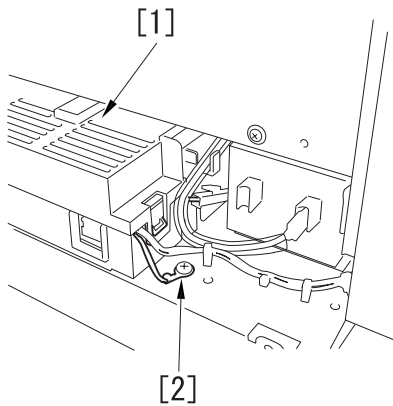
F-14-109

14.3.11.39 E070-0102 Error Code

Description

This symptom can occur when paper is placed in the manual feed tray in a low humidity environment and, as a result, the machine is subjected to static noise.

Cause

If the harness [1] connected to the DC controller PCB is away from the side plate [2] of the DC controller box, wrong detection (E070-0102) of the ITB home position tends to occur easily because of noise.

Field Remedy

When mounting the DC controller PCB or the DC controller box, be sure to connect the harness to the DC controller PCB as follows:

1) Connect the connector of the harness [1] first, then the other harness [3].

2) Fix the harnesses [1] [3] in place using the wire saddle [4] so that the harness [1] is on the left side of the other harness [3].
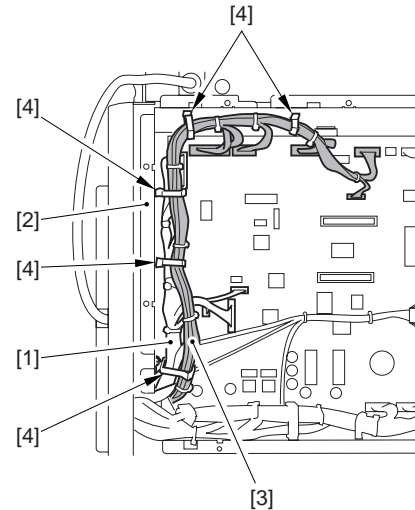
F-14-110

14.3.11.40 E070-0101/E070-0102/E070-0201/E070-0202/E070-0302 Error Code

Cause

If the grounding spring found inside the intermediate transfer assembly becomes deformed, the resulting static noise can cause the ITB home position sensor to malfunction.

The grounding spring may have become deformed when a part inside the intermediate transfer assembly was replaced.

Field Remedy

Check the following contacts of the grounding spring. If any of these contacts is deformed and, thus, the electrical conductivity is poor, correct the spring:

1 contact with the end of the primary transfer upstream roller
2 contact with the edge of the plate
3 contact with a plate around the secondary transfer assembly
4 contact with a plate around the secondary transfer assembly
5 contact with the secondary upstream roller
6 contact with the secondary transfer inside roller
7 contact with the primary transfer downstream roller
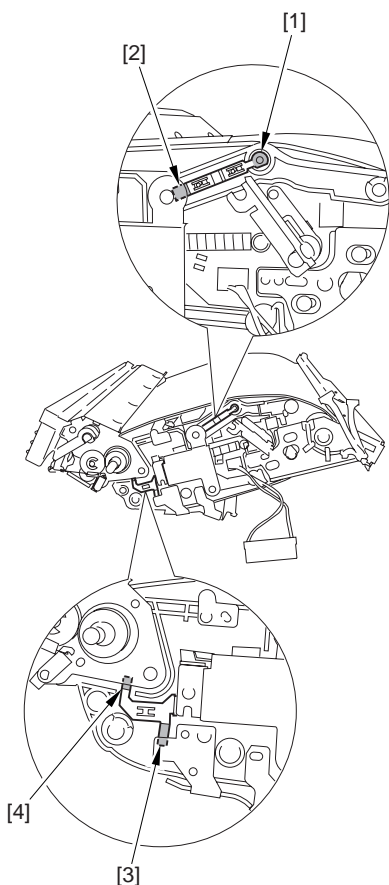
F-14-111
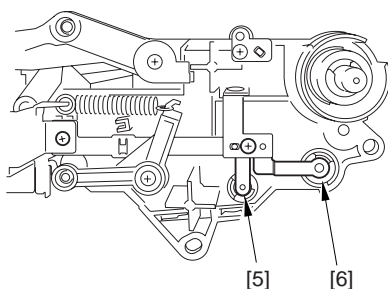
F-14-112
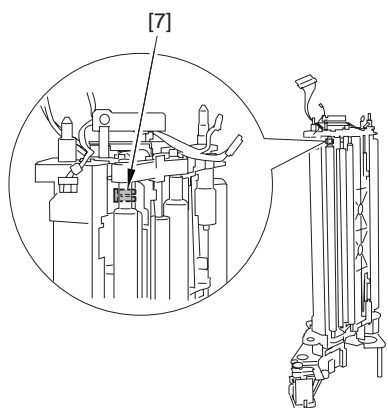
F-14-113

14.3.11.41 E542-8001 Error Code

Cause

If the saddle delivery tray door of the Saddle Finisher-R2 is not closed, the No. 2 tray will interfere with the door when it moves up/down, causing an error; particularly, the door fails to close at its rear.

Field Remedy

Close the saddle delivery tray door [1] (particularly, its rear) firmly. As necessary, advise the user on the importance of closing the door firmly.
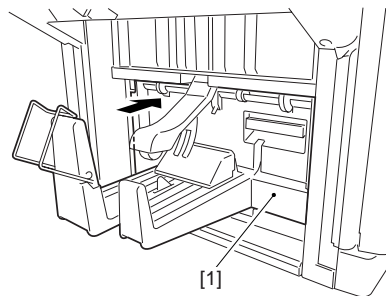
F-14-114

14.3.11.42 E100 Error Code: Because of deformation of laser shutter lever

Field Remedy

As a result of inspection, it was found that E100 was displayed because the laser shutter was not opened by the deformed laser shutter lever. When E100 is displayed, visually inspect the laser shutter lever and replace it with a new one if a deformation is verified.

Cause

It is possible that the laser shutter lever was deformed because the hopper unit was installed into the machine while being lifted up forcibly and the tip of the lever hit against the AP kit, causing its deformation.

FC5-1916: Laser Shutter Lever

14.3.11.43 E100-0002 Error Code: Fine lines appear on front side of image in sub scanning direction because laser scanner assembly is faulty

Description

In the field, fine lines appeared in the front side of copy/print images in the sub scanning direction. During inspection, additionally, E100-0002 was also displayed and was corrected by replacing the laser scanner assembly with a new one.

Field Remedy

When the symptom occurs, re-insert the connectors of the laser scanner assembly, DC Controller PCB, and Main Controller PCB. If the symptom still occurs, replace the laser scanner assembly with a new one.

- E100-0002 can be displayed when the BD signal is not detected while the polygonal scanner is rotating stably.

FM2-0394 Laser Scanner Assembly

14.3.11.44 0111 Jam Code: Occurs when copying in duplex mode

Description

As a result of inspection, the following was found: When paper is delivered to the position of the mylar attached to the rev. vert. path guide, it catches on the notches of the mylar, causing a jam. This is because the mylar is deformed.
- 0111 Jam Code: Delay jam at duplexing left sensor (PS17)

Field Remedy

When the jam code occurs, check the mylar attached to the rev. vert. path guide, and replace the rev. vert. path guide with a new one if the mylar is deformed.
FL2-0505 Rev. Vert. Path Guide

14.3.11.45 0111 Jam Code: Because tension spring of reverse driven roller comes off

Description

As a result of inspection, the following was found: The tension spring (rear) of the reverse driven roller comes off and prevents pressure to be applied to the roller. This allows the leading edge of paper to come into contact with the mylar on the reversing assembly when making B5 size paper in duplex mode, consequently causing 0111 jam.

Field Remedy

When the symptom occurs, check the tension springs that are fit on the reverse driven roller (FC5-2217) of the rev. paper delivery door assembly (FM2-0482). If the springs come off, return them to their original position. Or if the springs are deformed, replace them with a new one.
- 0111 Jam Code: Delay jam at the duplexing left sensor (PS17).
FU5-2139 Tension Spring
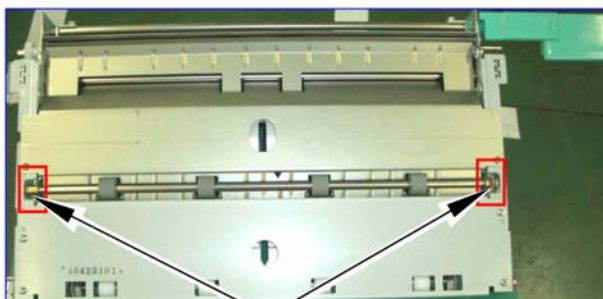
F-14-115

14.3.11.46 E197 Error Code: Release arm of Fixing Feeder Ass'y was deformed

Field Remedy

The release arm located deep inside the Fixing Feeder Ass'y was deformed, and this enabled the set lever for the Fixing Feeder Ass'y to be locked before the ass'y was not inserted completely. Consequently, there occurred poor contact at the drawer connector and finally E197 (communication error with the fixing feeder driver PCB) was displayed. When this error code is displayed, inspect the release arm, and replace it with a new one if it is deformed.
FL2-1160 Release Arm

14.3.11.47 E248-0000 Error Code: Upon installation

Description

As a result of inspection, E248-0000 was displayed simultaneously at power-on upon installation because the connector on the SRAM Board PCB was not securely fitted. When this symptom occurs, check the installation state of the SRAM Board PCB.
E248-0000 can be displayed when a check error occurs on the data of the SRAM Board PCB at time of start-up.
FG3-2860 SRAM Board PCB

14.3.11.48 E505 Error Code: Alignment/ staple position adjustment backup data error, Finisher-R1/Saddle Finisher-R2

Description

In the field, this error code was solved by replacement of the Finisher Controller PCB, not by turning the main power switch OFF/ON. Additionally, it was solved by adjusting the alignment or the staple position in our inspection. When the error occurs, try adjusting the alignment or the staple position before the replacement of the Finisher Controller PCB.
- E505 can be displayed when an error occurs with the checksum value on the Finisher Controller PCB upon power-on (Backup memory error).

14.3.11.49 E540-8003 Error Code: Occurs when Upper Tray ascends because of Back End Assist Plate coming off

Field Remedy

Since the Back End Assist Plate and the Back End Assist Button came off the Timing Belt in the Operation Tray Ass'y, there occurred a malfunction in paper stacking operation, and E540-8003 was displayed when the upper tray ascended. When this symptom occurs, it is possible that the timing belt has been damaged. Thus, replace the belt with a new one and attach the assist plate and the assist button once again.

FC5-3553 Timing Belt
FC5-3554 Back End Assist Plate
FC5-4715 Back End Assist Button

14.3.11.50 E540-8002/E540-8001 Error Code: Finisher-R1 / Saddle Finisher-R2

Description

Since a corrugated cardboard box was placed under the delivery tray of the finisher, the tray hit the box during ascent and descent and this put an electrical load to the Main Controller PCB of the finisher, leading to a breakage of the PCB.

Field Remedy

1. Make sure that there is no obstruction under the tray that could hamper its movement.
2. After removing the obstruction, and turn the main power OFF/ON to check whether the error code will disappear.
3. If the error code still recurs, the Main Controller PCB of the finisher is likely to be faulty, so replace it with a new one.
FG3-2883 Main Controller PCB

14.3.11.51 E602-0001 Error Code: Unable to enter Download mode because Main Controller PCB is faulty

Description

As a result of inspection, it was found that the machine displayed the error code "E602-0001" and failed to enter download mode because the main controller PCB was faulty.
- E602-0001 can be displayed when the hard disk is not recognized or when BOOTDEVE is not found at time of start-up.

Field Remedy

1. Turn the main power switch OFF and then ON to execute auto recovery sequence. If the symptom still occurs, go to the step2.
2. Turn the main power switch OFF, and turn it ON while holding down the numeric keys "2" and "8" on the control panel at the same time. Then, make sure that the machine enter "Download mode".
3. If the machine fails to enter the mode, go to the step4. If the machine succeeds in entering, the hard disk is thought to be faulty.

4. Check the input voltage applied to the following points of J1201 and J1202 on the Main Controller PCB. If the voltage is applied, replace the Main Controller PCB with a new one. If no voltage is applied, the DC power relay PCB is thought to be faulty.
- J1201: Pin1 to Pin3 = 3V, Pin2 to Pin4 = 3V, Pin5 to Pin7 = 3V, Pin6 to Pin8 = 3V, Pin9 to Pin10 = 12V
- J1202: Pin1 to Pin2 = 5V, Pin3 to Pin4 = 13V
FG3-2857 Main Controller PCB Assembly
FM2-0843 DC Power Relay PCB Assembly

14.3.11.52 E719-0011 Error Code: After clearing error code, "Enter the Dept. ID and Password using the numeric keys." appears, Card Reader-C1

Description

E719-0011 can be displayed when the card reader cannot be detected at power-on although it has been connected before power-off. In the field, this symptom occurred as follows: When the power was turned ON while the card reader was being disconnected for service work, the error code was displayed. Then, the error was cleared in service mode [COPIER> Function> CLEAR> ERR] and the message "Enter the Dept. ID and Password using the numeric keys." appeared.

Field Remedy

In service mode [COPIER> Function> CLEAR> PWD-CLR], press the OK key and then turn the power OFF/ON.
If you connect the card reader after the service work, be sure to change the set value in service mode [COPIER> Function> INSTALL> CARD] to the lowest number of the cards to be used. Then, turn the power OFF/ON.

14.3.11.53 E733-0001/E732-0001 Error Code: Occurs when progress bar is completed after power-on

Description

At the time of inspection, there were cases where E733-0001 or E732-0001 was displayed because the Main Controller PCB was faulty.
- E733-0001 can be displayed when a DDI-P communication error occurs.
- E732-0001 can be displayed when a DDI-S communication error occurs.

Field Remedy

When the symptom occurs, follow the steps below.
1. Check the connection of the following: the connectors of the DC Controller PCB and Main Controller PCB, and the connectors of the cable connecting the reader assembly to the printer assembly. If the symptom still occurs, go to the step 2.

2. Re-insert the RAM on the Main Controller PCB. If the symptom still occurs, go to the step 3.
3. Replace the Main Controller PCB with a new one.
FG3-2857 Main Controller PCB Assembly

14.3.11.54 E747-00FF Error Code

Description
It is conceivable that the error code may be caused because the SDRAM or the Main Controller PCB is faulty, however, the error code was solved in the field by re-connecting the interface cable between the Reader and Printer units. When the symptom occurs, turn the main power switch OFF, re-connect the interface cable, and then turn the main power switch ON again.
- E747 can be displayed when an error occurs in the ASIC for image processing or in the ASIC for memory control/communication control.

14.3.11.55 E800-0001 Error Code: Installation of Fixing Feeder Ass'y is not properly detected

Description
In the field, E800-0001 was displayed for the following reason. Because of a breakage of the actuator of SW15 to be used for detecting the Fixing Feeder Ass'y is set into position, the installation of the ass'y was not properly detected although the releasing lever was locked, resulting in E800.

Field Remedy
In service mode [COPIER> I/O> DC-CON> P001], check bit15 to see whether "1" is indicated. If so, open the rear upper panel and lock the releasing lever, and then check whether the sensor flag located deep inside the lever shaft pushes the actuator of SW15. If not, it is possible that the position of SW15 is not proper, the actuator is deformed or damaged. In such cases, correct the installation position or replace SW15 with a new one.

14.3.11.56 E800-0001 Error Code: Because of deformation of release arm of Fixing Feeder Ass'y

Description
As a result of inspection, it was found this symptom occurred because of the following reasons: the Fixing Feeder Ass'y was forcibly pulled out without shifting down the release lever completely at the time of jam clearance or the front cover was forcibly closed without resetting the release lever after the jam clearance. Consequently, the release arm was

deformed [1] and the interlock was not actuated although the Fixing Feeder Ass'y was put back, resulting in the error code. (The release arm indicated in [2] is normal.)
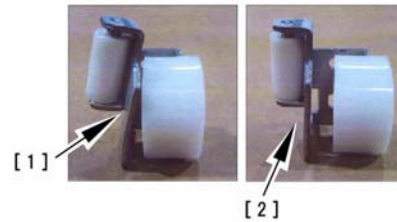
F-14-116
- E800-0001 can be displayed when the host machine detects the interlock of the Fixing Feeder Ass'y not being actuated.
Field Remedy
When this symptom occurs, visually inspect the release arm, and replace it with a new one if it is deformed. After replacement, be sure to check whether bit15 in service mode [COPIER> I/O> DC-CON> P001] alternates between "0" and "1" while releasing and resetting the release lever.
FL2-1160 Release Arm

14.3.11.57 E820-0002 Error Code: Because of rotational failure of process unit cooling fan (FM7)

Description
In the field, the error code occurred because the process unit cooling fan (FM7) caused a rotational failure.
- E820-0002 can be displayed when there is an error in the process unit cooling fan.
The conceivable causes of the rotational failure are as follows:
- The cooling fan itself is faulty.
- The DC Controller PCB fails to output 24V because the fuse (FU2) on it has an open-circuit.
Field Remedy
When the symptom occurs, follow the steps below.
1. Remove all the connectors of the DC Controller PCB and then check FU2 for electrical continuity.
2. If FU2 has electrical continuity, replace FM7 with a new one.
3. If FU2 has no electrical continuity, overcurrent might be fed continuously through the DC Controller PCB, consequently causing FU2 to have an open-circuit. Therefore, replace the PCB with a new one.
4. If the step 3 does not solve the error code, replace FM7 with a new one. In the field, there was one case where the error code was solved by replacing the DC Controller PCB

and FM7 simultaneously.
FL2-1185 FAN
FM2-0857 DC Controller PCB Assembly (120V)
FM2-0858 DC Controller PCB Assembly (230V)

14.3.11.58 E824-000 Error Code: Because of rotational failure of primary charging suction fan (FM1)

Description

In the field, the error code occurred because the primary charging suction fan (FM1) caused a rotational failure.
- E824-0000 can be displayed when there is an error in the primary charging suction fan. The causes of the rotational failure are as follows:
- The suction fan itself is faulty.
- The DC Controller PCB fails to output 24V because the fuse (FU2) on it has an open-circuit.

Field Remedy

When the symptom occurs, follow the steps below.
1. Remove all the connectors of the DC Controller PCB and then check FU2 for electrical continuity.
2. If FU2 has electrical continuity, replace FM1 with a new one.
3. If FU2 has no electrical continuity, overcurrent might be fed continuously through the DC Controller PCB, consequently causing FU2 to have an open-circuit. Therefore, replace the PCB with a new one.
4. If the step 3 does not solve the error code, replace FM1 with a new one. In the field, there was one case where the error code was solved by replacing the DC Controller PCB and FM1 simultaneously.
FK2-0103 FAN
FM2-0857 DC Controller PCB Assembly (120V)
FM2-0858 DC Controller PCB Assembly (230V)

14.3.11.59 1200/1104 Jam Code due to unintended rotation of shutter open/close clutch (CL31): Finisher-R1/Saddle Finisher-R2

Description

As a result of inspection, it was found that such jam codes were displayed because the shutter open/close clutch failed to disengage and caused an unintended rotation, thereby lifting up the shutter when paper was delivered during a print/copy run. The jam code displayed depends on the timing at which the shutter is lifted up.
-1200: When the clutch causes an unintended rotation immediately before paper is delivered.
- 1104: When the clutch causes an unintended rotation while paper is being delivered.

Field Remedy

When the jam codes are recorded as jam histories in service mode, replace the clutch (CL31) with a new.
FH6-5101 Electromagnetic Clutch

14.3.12 FAX # Code

14.3.12.1 #801 Error Code: Upon installation, machine can send data to shared folder on PC with Windows2000 but can't do so to shared folder on PC with WindowsXP

[Case in the field]

Description

In the field, the following occurred: Since a shared folder on a PC with WindowsXP can be browsed from the machine, the address of the folder is registered to the machine. However, the machine fails to send data to the folder and displays #801. This is because the detailed settings on sharing of the folder are not made in the PC side. When the symptom occurs, try the field remedy below.
- #801 can be displayed when the machine fails user authentication (no user, invalid password, or no access right).

Field Remedy

1. Right-click on the shared folder on the PC, select [Properties> Sharing], and place a check mark on both of the following messages "Share this folder on the network." and "Allow other users to change my files.".
2. Register the folder in the address book once again in user mode.
For detail procedures of registration, refer to Sending and Facsimile Guide [Storing/Editing Address Book Settings> Storing New Addresses> File Server Addresses].

14.3.13 Operability

14.3.13.1 Finger is pinched when setting Bk toner bottle

Description

If the lock lever [1] is forcibly lifted up after the Bk toner bottle is set into the hopper ass'y, it is possible that fingers are pinched as shown in [3] between the lock lever and the control panel lower cover [2]. In order to lessen the impact when being pinched, a protect cushion [4] has been added to the bottom of the control panel lower cover.
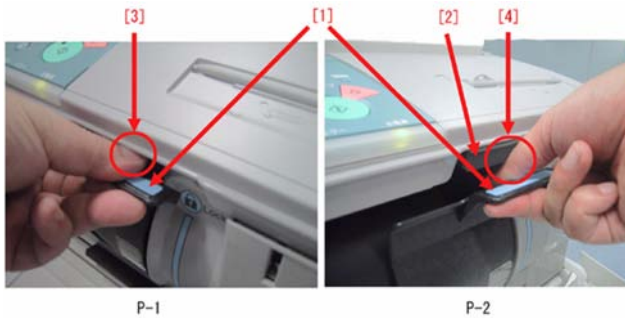
F-14-117

The following lists the starting serial numbers of the machines having the protect cushion.
iRC6800 120V: JJM03814
iRC6800 230V: JKL00019
iRC6800N 230V: JKM00118
iRC6800 EUR 230V: JKH00729
iRC6800N EUR 230V: JKP01607
iRC6800 AU 230V: JXH00298

Field Remedy

If your machine does not have the protect cushion, attach it by following the procedure below:
1. Open the hopper cover and slightly lower the lock lever.
2. Peel off the protective paper from the double-sided tape and attach the cushion to the bottom of the control panel lower cover while pushing it as far as it will go.

F-14-118
FC5-4770 Protect Cushion

14.3.14 Specifications-Related FAQ

14.3.14.1 FAQ on Main Unit Specifications

14.3.14.1.1 Effects on human eyes by scanning lamp (Xenon lamp)

Description

The mechanism of light emission from the Xenon lamp is that: ultraviolet rays which are generated inside the glass tube are radiated toward a fluorescent material applied to the inner surface and then emitted outside as a visible light. At that time, ultraviolet rays are absorbed by the glass tube and the insulating tube, and are hardly emitted outside.
The measurements of light level of the Xenon lamp and the fluorescent lamp show that there is hardly light emission in the range of ultra-violet. Accordingly, it is considered the Xenon lamp has a similar effect on human eyes as the fluorescent lamp does.
However, if you look at intensive light, persistence of its vision will remain, so be sure not to directly look at the Xenon lamp when it comes on.

14.3.14.1.2 Recovery time from "Energy Save Mode"

Description

The following lists the recovery time for each rating of the energy saver mode that is selectable in user mode [Common Settings> Energy Saver Mode].
-10%: approx. 70 sec.
-25%: approx. 150 sec.
-50%: approx. 450 sec.
None (no return time): 0 sec.
Note: The above numbers might vary depending on the length of the energy saver mode and the environmental conditions.

14.3.14.1.3 Function limitation when security key is not inserted

Description

At the time of shipment from the factory, printing/RX printing are possible even without inserting the security key. A change in user mode setting can disable all the functions.
In user mode [System Settings> Limit Functions with the Security Key Off], select [Partial Functions] (default) or [All Functions].
- Partial Functions: Printing/RX printing are possible; however, copying, Mailbox, report outputting (manual), TX, Remote UI, Remote scan are impossible.
- All Functions: All the functions are impossible.

14.3.14.1.4 How to set copy standard mode at "Black"

Field Remedy
Set the copy standard mode at "Black". Follow the steps below:
1. On the screen of [Copy], select [Black] from the list of color.
2. In user mode [Copy Settings> Standard Settings], press [Store].

14.3.14.1.5 Unable to select [Stack Bypass Settings] button

Field Remedy
If [Stack Bypass Standard Settings] is set at [On], the button [Stack Bypass Settings] does not work. In user mode [Common Settings> Stack Bypass Standard Settings], select [Off].

14.3.14.1.6 How to deactivate "Sleep Mode" and "Low Power Mode"

Description
"Sleep Mode" can be deactivated in service mode; however, "Low Power Mode" cannot be in accordance with Energy Star Program.
Accordingly, the host machine will automatically be shifted from standby state to sleep state after 4 hours at the longest.

14.3.14.1.7 How to print documents that have failed to be forwarded (forwarding errors)

Description
In user mode [Communications Settings> Common Settings> TX Settings> Handle Documents with Forwarding Errors> Always Print> OK].

14.3.14.1.8 DADF-M1: Can originals with different widths and lengths be fed at once? Different size originals function

Description
DADF-M1 can feed different size originals not only with same widths but with different widths. The different size originals in the following combinations are applicable: A3 and B4, B4 and A4R, A4 ad B5, B5 and A5
Be sure to align the top edge of the originals with the back edge of the feeder if you are placing originals with different widths.

14.3.14.1.9 Network settings (IP Address, Subnet mask) when using Service Support Tool (SST)

[Manual-related]
Description
It is unnecessary to enter any specific IP address and subnet mask into iRC6800 because the fixed IP address for servicing is assigned when you start up in normal mode (turning the power ON while pressing 1+7 simultaneously) or in safe more (turning the power ON while pressing 2+8 simultaneously).
On the other hand, configure the computer for SST as designated below and connect it to iRC6800.
IP address: 172.16.1.160
Subnet mask: 255.255.255.0

14.3.14.1.10 How to set "Different Size Originals" as Standard Send Settings for FAX transmission

Description
1. Select "Different Size Originals" mode:
On "Send" screen, press [Scan Settings> Option> Special Features> Different Size Originals> Same Width or Different Width> OK> Done> OK].
2. Register "Different Size Originals" mode as one of the scanning modes:
On "Send" screen, press [Scan Settings> Option> Store/Erase], select any item, press [Store], then a message "Do you wish to overwrite the previous setting?" appears, press [Yes] and register the name as necessary, and finally press [Done].
3. Set the registered scanning mode as "Standard Send Setting":
In user mode [Communications Settings> Common Settings> TX Settings> Edit Standard Send Settings], press "Scanning Mode" to select the scanning mode that has been registered in Step 2, and press [OK> Done].

14.3.14.1.11 Functions "Flaming" and "Blanking" are inoperative under [Special Features> Area Designation> Pen Entry] when using ADF

Description
This is a specification constraint of this product. When a document is placed on the ADF, "Flaming" and "Blanking" are inoperative under [Special Features> Area Designation> Pen Entry]. However, the following feature is available: [Special Features> Area Designation> Numeric Key Entry> Flaming or Blanking].

14.3.14.1.12 What is [Auto Online] feature?

Description
In order to use the network scan function, iRC6800 needs to be switched to online. If [Auto Online] is set to "On", the machine automatically goes online when you press [Scan] on the Basic Features screen.
How to set:
In user mode [System Settings> Auto Online/Offline> Auto Online], set it to "On".

14.3.14.1.13 What is [Auto Offline] feature?

Description
If [Auto Offline] is set to "On" in user mode, iRC6800 automatically goes offline after the network scan function is used.
How to Set:
In user mode [System Settings> Auto Online/Offline> Auto Offline], set it to "On".
The machine will go offline after the period of time specified in user mode [Timer Settings> Auto Clear Time] has lapsed. Note that if [Auto Clear Time] is set to "0" (none), the machine will go offline approximately 2 minutes later.

14.3.14.1.14 How to clear System Administrator Password

Field Remedy
In service mode [COPIER> Function> CLEAR> PWD-CLR], press OK and turn the power OFF/ON.

14.3.14.1.15 Number of copies that can be taken after "Remaining toner is low." message appears

Description
Black toner: approximately 4,000 sheets (6% image duty with A4 paper)
Color toner: approximately 800 sheets (5% image duty with A4 paper)

14.3.14.1.16 "Free Size" setting cannot be done when attempting to use stack bypass as paper source

Description
This is a specification constraint of this product. "Free Size" setting is not available with iRC6800. If you want to use nonstandard-sized paper from the stack bypass, press [Irreg. Size] button on the [Selecting the Paper Size] window and enter the paper size using the numeric keys. The applicable paper size is 100 x 148mm up to 330 x 483mm.
Note: If you select [Irreg. Size], you cannot use several copying functions such as Multi-Page Enlargement, Rotate Collate, Rotate Group.

14.3.14.1.17 Upgrading DCON/RCON/G3FAX

Description
When upgrading DCON, RCON, and G3FAX using the Service Support Tool, only the normal mode is available (simultaneous press of 1+7 and turning the power ON).
The network settings on a computer for the SST should be:
IP address: 172.16.1.160
Subnet mask: 255.255.255.0

14.3.14.1.18 How to disable display of message "Cleaning web is low."

Field Remedy
In service mode [COPIER> Option> USER> WEB-DISP], change the set value from "0" to "1".
Description
The message "Cleaning web is low." can be displayed when either of the following two conditions is met ahead of the other.
1. The total count of the web solenoid turning ON by software has reached 450 thousand. This count can be checked in service mode [COPIER> Counter> DRBL1> FIX-WEB].
2. The web level detecting lever has dropped through the cut-out of the fixing web.

14.3.14.1.19 Lubricant used upon replacement of cleaning blade for photosensitive drum

Field Remedy
At the time of replacement, apply lubricating oil TKN-0480 (Lubricant for Cleaning Assembly) designated as a service tool.
Description
Since the toner of iRC6800 is smaller in particle size and closer to spherical in shape as compared with the existing models', it is harder to be scraped off by the cleaning blade and the amount of toner adhesion to the blade edge is lesser. As the toner adhering to the blade edge also performs as a lubricant, the friction becomes higher between the blade and the drum surface.
After replacement of the cleaning blade, be sure to apply the designated lubricating oil to a new one in order to prevent the blade from being turned up due to friction.
Lubricant for Cleaning Assembly: TKN-0480

14.3.14.1.20 How to disable display of message "Prepare a new fixing unit."

Field Remedy
In service mode (Level 2) [COPIER> Option> BODY> FXMSG-SW], set it to "0" (0: disable display, 1: enable display [default]).
Description
The message "Prepare a new fixing unit." is displayed when the page count of the fixing roller has reached the one specified in service mode (Level 2) [COPIER> Option> BODY> FXWRN-LVL]. FXMSG-SW has to be set to "1" in normal circumstances. However, if you cannot replace the fixing unit until the next visit although you confirm the message, it can be set to "0" in order to prevent customers from feeling needless anxiety and prevent a further service call. After replacement of the fixing unit or the fixing roller, set the value back to "1" for safety's sake.

14.3.14.1.21 Horizontal registration failure: How to adjust horizontal registration for main cassettes and front decks

Field Remedy
a. Main Cassettes
1. Slide out the 3rd cassette or the 4th cassette, and open the upper right cover and the lower right cover.
2. Insert a screwdriver through the opening in the front right stay; then, loosen the screw that fixes the horizontal registration adjustment plate.
3. Slide the plate to the front side or the rear side to optimize the margin.
- To the rear side: Decreases the left margin.
- To the front side: Increases the left margin.
b. Left Front Deck
1. Slide out the left deck. Using a flat-bladed screwdriver, detach the left face cover.
2. Loosen the screws (2 pcs.) that fix the registration adjustment plate.
3. Insert a screwdriver through the opening in the left front stay; then turn the adjusting screw to optimize the margin. (1 rotation will change the margin by 1.0mm.)
- In a counterclockwise direction: Decreases the left margin.
- In a clockwise direction: Increases the left margin.
c. Right Front Deck
1. Slide out the right deck and open the upper right cover and the lower right cover.
2. Loosen the screws (2 pcs.) that fix the registration adjustment plate.
3. Insert a screwdriver through the opening in the right front stay; then turn the adjusting screw to optimize the margin. (1 rotation will change the margin by 1.0mm.)
- In a counterclockwise direction: Decreases the left margin.
- In a clockwise direction: Increases the left margin.

14.3.14.1.22 How to switch display of software counter items

Description
In service mode [COPIER> Option> USER> CNT-SW], change the set value from "0" to "1" so that you can change the display of the software counter items that can be checked in the LCD.
Additionally, if you want to change the items to display after switching [CNT-SW], enter the appropriate number for the software counter items in service mode [COPIER> Option> USER> COUNTER 2 through COUNTER 6 (COUNTER 1 cannot be changed)]. For the details of the software counter items, refer to Service Manual [Service Mode> OPTION (Machine Settings Mode)> USER> Software Counter Specifications].

14.3.14.1.23 How to disable function to automatically change paper source between cassettes: Drawer Eligibility for APS/ADS

Field Remedy
In user mode [Common Settings> Drawer Eligibility For APS/ADS], select the function modes (Copy, Printer, Mail Box, Receive/Fax, Other) and set any cassettes that you do not want to use as a paper source to "Off".
For more details, refer to Reference Guide [Customizing Settings> Specifying Common Settings> Auto Paper Selection/Auto Drawer Switching].

14.3.14.1.24 Message "Enter the Dept. ID and Password using the numeric keys." is displayed: On machine without Card Reader

Field Remedy
In service mode [COPIER> Function> CLEAR> PSW-CLR], press OK and then turn the power OFF/ON.
Description
Even on a machine without a Card Reader, an operator mistakenly selected "On" in user mode [System Settings> Dept. ID Management] and pressed OK. When the operator returned to the initial screen, a message "Enter the Dept. ID and Password using the numeric keys." was displayed.

14.3.14.1.25 Copy ratio cannot be changed when selecting "Long Strip Original" in special features

[Manual-related]
Description
In an actual case, in order to copy an original whose size is 257mm (main scanning length: B4) x 420mm (sub scanning length: A3) from the DF on B4 paper without image loss, the "Long Strip Original" key in the screen of Special Features was selected; however, the "Copy Ratio" key on the initial screen was not selectable. This is due to a specification constraint: the host machine cannot specify the long strip original and thus cannot properly determine the image scanning start position. Accordingly, when selecting "Long Strip Original", the copy ratio cannot be changed manually.
Field Remedy
As a result of inspection, the following measure was found in order to obtain a satisfactory output based on the above case. Try it if necessary.
1. On the initial copy screen, select Special Features > Area Designation > Numeric Key Entry > enter "420" for X2 and "257" for Y2 > select "Framing" > Next > select either of

"Shift Center" or "Do not shift center" > OK.
2. Select Copy Ratio > Auto > Paper Select > B4.
3. Position the document guides at A3 and align the top edge of original with the back edge of the feeder.
Note: If you position the guides at B4, the output image will not become a satisfactory one.
4. If the output image is satisfactory and if your customer needs to use this mode frequently, you can assign it in Mode Memory. (Exclusively when your customer always uses the same size long strip original.)

14.3.14.1.26 How to clear message "Remaining toner is low." / Message "Remaining toner is low." does not disappear even after replacement of yellow toner cartridge

Description
Since the above message prompts for customers only to prepare a new toner cartridge, it is impossible to replace the cartridge and clear the message at this time. It will disappear when the next message "Replace toner cartridge." is displayed and a new toner cartridge is installed. However, as far as the yellow toner cartridge is concerned, it can be replaced because of mechanical constraints of this machine. If the yellow toner cartridge has been replaced with the message "Remaining toner is low." and your customer wants to clear it, follow the steps below.
Field Remedy
1. In service mode (Level 2) [COPIER> Option> BODY> T-CRG-SW], set it to "1" and turn the power OFF/ON.
2. A button "Specified Toner Replacement" appears under user mode [Adjustment/ Cleaning]. Press it > select the color which has been changed (yellow in this case) > open the front door > open/close the toner supply port cover > close the front door.
3. After confirming the message disappear, reset the service mode setting in step 1 to "0".

14.3.14.1.27 How to replace toner cartridge by specifying color: When message "Remaining toner is low." is displayed

Description
If you want to replace the toner cartridge by specifying the color, follow the steps below.
Field Remedy
1. In service mode (Level 2) [COPIER> Option> BODY> T-CRG-SW], set it to "1" and turn the power OFF/ON.
2. A button "Specified Toner Replacement" appears under user mode [Adjustment/ Cleaning]. Press it and select the color you

want to change before replacement.
Note: Please do not change the service mode setting above unless a request from your customer is made (e.g. wants to replace the toner cartridge in advance in order to make a huge number of copy although the toner still remains.). In principle, avoid any replacement by specifying the color as much as possible because the remaining toner is wasted and a toner leakage might occur when the cartridge is removed.

14.3.14.1.28 Want to disable indication of message "Remaining toner is low."

Description
When the remaining toner amount becomes approximately 10%, a message "Remaining toner is low." will be displayed. It is impossible to disable an indication of this message. However, the indication timing can be changed by following the steps below:
Field Remedy
1. If you want to postpone the indication timing rather than the standard setting (i.e. to be displayed when lower than 10% is left.), in service mode (Level 2) [COPIER> Option> BODY> T-LW-LVL], change the set value to between "10" and "5" (unit: 1%).
2. Turn the control panel switch off and then turn the main power switch OFF/ON.
3. Instruct your customer to prepare a new toner cartridge as early as possible when the above message is displayed.
Note: If the indication timing is postponed, it is possible that toner could be depleted suddenly before the next message "Replace toner cartridge." is displayed.

14.3.14.1.29 Cautions upon indication of message "Remaining toner is low. (Yellow)"

Description
There are two different toner-related messages depending on the amount of remaining toner.
1. When the remaining toner is low: "Remaining toner is low."
2. When the toner has run out: "Replace toner cartridge."
The message 1) prompts users to prepare a new toner cartridge, so the users are not allowed to replace it with a new one. However, as far as the yellow cartridge is concerned, it comes to a position where it can be replaced due to a mechanical constraint of this machine. Be sure NOT to replace the yellow cartridge when the message 1) is displayed. Even if it is replaced, the message will not be cleared.
When the message 2) is displayed, replace the cartridge by referring to the procedure indicated on the touch panel display. The host machine recognizes a new toner cartridge installation and the message will be cleared.

14.3.14.1.30 How to output history print of JAM: JAM/ERR/ALARM-1, -2/SEND-ERR

Description
It is impossible to output the history print of "JAM" only. In service mode (Level 2) [COPIER> Function> MISC-P> HIST-PRT], press the OK key so that the history print including "ERR", "ALARM-1", "ALARM-2", "SEND-ERR".

14.3.14.1.31 Affect on cardiac pacemaker by copier

Description
The following warning is described in the Reference Guide [Important Safety Instructions> Other Warnings> For cardiac pacemaker users]. If you receive an inquiry about this from your customer, refer to it.
"This product generates a low level magnetic field. If you use a cardiac pacemaker and feel abnormalities, please move away from the product and consult your doctor."

14.3.14.1.32 Descriptions on how host machine controls color toner replenishment and cautions: E020 Error Code

Description
- Toner replenishment amount control:
The host machine determines how much amount of color toner should be replenished to the developing ass'y based on the following three data.
1. Video counters transmitted from the Main Controller PCB.
2. Density of patch image measured by the patch image sensor.
3. Toner density (T/D ratio) on the developing cylinder measured by the ATR sensor.
When INISET-3 is executed upon installation, the initial values of 2 and 3 above (hereafter called "A" and "B" respectively) will be stored in RAM. After awhile, the density of the patch images will be measured during copying, and the host machine determines the amount of toner replenishment to make the density closer to "A". Simultaneously, the host machine measures T/D ratio, adds the differentials from "B" to "A" and finally controls the toner replenishment amount.
- Cautions
1. If DC-CON clear (RAM clear) is executed when E020 is displayed, the initial values "A" and "B" will also be cleared and accordingly the host machine cannot control the toner replenishment amount properly, resulting in E020. Follow the procedures described in "After replacing the DC Controller PCB" when executing DC-CON clear.
2. Never execute the following service modes except upon replacement of the developing ass'y or the developer: [COPIER> Function> INSTALL> INISET-3 or INISET-Y/M/C]. Upon replacement, be sure to execute INISET and output P-PRINT. INISET must be executed for changed color(s).
3. INISET is a process to store the condition of the initial developing ass'y into RAM. If INISET is executed although the developer in the developing ass'y is not new, the condition at that time is stored as the initial state and the toner replenishment cannot be controlled, resulting in E020.

14.3.14.1.33 Is it possible to make black-and-white copy after either of color toner has been depleted?

Description
If black toner remains, black-and-white copy is possible. For more details, refer to Reference Guide [Routine Maintenance> Replacing the Toner Cartridge].

14.3.14.1.34 Is it possible to make black-and-white copy after either of color toner is depleted during continuous color copy?

Description
When either of color toner is depleted during continuous color copy and that job is suspended, black-and-white copy is impossible. To be more specific, during ten-sheet continuous color copy, an instruction on how to replace Magenta toner is displayed on the LCD at the 5th page and the job is suspended, black-and-color copy is impossible, but black-and-white print is possible. The suspended job will automatically be resumed after replacement of the color toner. For more details, refer to Reference Guide [Routine Maintenance> Replacing the Toner Cartridge].
Note: If you make black-and-white copy after either of color toner is has been depleted, do not remove the depleted toner cartridge.

14.3.14.1.35 Proper installation direction of photosensitive drum upon replacement: Should lot No. label be front or rear?

Description
Upon replacement of the photosensitive drum, install it so that the lot No. label attached to its inner is toward the front of the machine.

14.3.14.1.36 Is it possible to make black-and-white copy after either of color toner is depleted during continuous color printing?

Description
When either of color toner is depleted during continuous color printing and that job is suspended, black-and-white copy is possible. To be more specific, during ten-sheet continuous color printing, an instruction on how to replace Magenta toner is displayed on the LCD at the 5th page and the job is suspended, black-and-color copy is possible, but black-and-white print is impossible. The suspended job will automatically be resumed after replacement of the color toner. For more details, refer to Reference Guide [Routine Maintenance> Replacing the Toner Cartridge]. Note: If you make black-and-white copy after either of color toner is has been depleted, do not remove the depleted toner cartridge.

14.3.14.1.37 Card Reader-C1: Card cannot be recognized (Card No. 2500)

Description
According to the specification of the card reader, any number from "1" through "2001" can be entered as the smallest number of the card. Since 1000 cards starting with the entered number are acceptable, in order to make the card reader recognize the card "2500", enter any number from "1501" through "2001" as the smallest number.
Field Remedy
In service mode [COPIER> Function> INSTALL> CARD], enter any number from "1501" through "2001".

14.3.14.1.38 Remaining toner indication is not reset to 100% even after replacement of Bk toner cartridge before indication of "No toner."

Description
If the black toner cartridge is replaced with a new one although the indication "No toner." has not been displayed yet, the remaining toner indication is not reset to 100%. In such a case, put the original toner cartridge back into the host machine. Be sure to replace it with a new one after "No toner." indication is displayed.
For your information, the following describes the mechanism of black toner remaining detection.
- "Remaining toner is low. (Black)": As the sensor inside the hopper detects no toner, it makes the black toner supply motor run. However, the sensor cannot detect toner presence. This message is to prompt users to prepare a new toner cartridge, thus the remaining toner indication will not be reset to

100% at the time of this message indication.
- "No toner.": As the sensor inside the developing ass'y detects no toner, it makes the hopper stirring motor run. However, the sensor cannot detect toner presence. The remaining toner indication will be reset to 100% after replacement following this message indication.

14.3.14.1.39 Black is not displayed under "Specified Toner Replacement" which can enable users to replace toner cartridge when there still remains toner

Description
The black toner is not displayed under "Specified Toner Replacement" because this feature does not cover the black toner. Only the cyan, magenta, and yellow toner cartridges can be selected.
Be sure to replace the black toner cartridge with a new one after "No toner" message is displayed.

14.3.14.1.40 Want to erase all documents stored in Conf. Fax Inbox at once

Description
Documents stored in the Conf. Fax Inbox can be erased on a one-by-one basis only. In order to erase the documents in Conf. Fax Inbox or Memory RX Inbox, select the desired document and press [Erase].
Note: All the documents stored in User Inbox can be erased at once by pressing [Select All].

14.3.14.1.41 Flap of envelope is sealed after being delivered

Description
Envelope is out of specification of this machine. Available paper types of this machine are described in the Reference Guide [Basic Operations> Available Paper Stock].

14.3.14.1.42 How to activate AppleTalk settings

Field Remedy
In user mode [System Settings> Network Settings> AppleTalk Settings], press "On" for AppleTalk.

14.3.14.1.43 How to display message "Check the drum phase" on both User and Service Mode Screens

Description
With the default setting, the message "Check the drum phase" is displayed only on the service mode screen. However, following the procedure below enables you to display the message on both the user and the service mode screens.

Field Remedy
In service mode [COPIER > OPTION > DRM-DISP], change the setting from "1" (default) to "2".
- Setting "0": disable message
- Setting "1": display only on Service Mode screen (Default)
- Setting "2": display on both User and Service Mode screens

14.3.14.1.44 Massage "Check the drum phase" is displayed when entering service mode

Description
The message "Check the drum phase" is displayed when the drum reaches at the estimated life of 100,000 images (Default value). This is to urge you to shift the drum phase for prevention of drum memory.

Field Remedy
1. Shift the drum phase referring to Service manual [Maintenance and Inspection > Periodically Replaced Parts > Scheduled Service Basic Procedure > Shifting the Photosensitive Drum Phase].
2. In service mode [COPIER > FUNCTION > MISC-P > DR-P-ADJ], press OK. The counter "DRM-PHAS" will be automatically reset, and the message will disappear.

14.3.14.1.45 How to verify number of executions of drum phase shifting

Description
The number of executions of the drum phase shifting can be verified in service mode [COPIER > DISPLAY > ALARM-2]. In this screen, the lines, of which CODE and DTL columns show 000009 and 0005 respectively, indicate the drum phase shifting that has been executed so far.

14.3.14.1.46 Equation to calculate estimated remaining days before next replacement of consumable parts

Description
The remaining days before next replacement of consumable parts are calculated from the following equation: $(L \times D / C) - D$
D: Days between installation of the host machine (or part replacement) and to date, C: Counter, L: Limit (life of the parts)
Note that the remaining days are just reference because they are predicated on that the host machine will be continuously used at the same pace as before.

14.3.14.1.47 How to check RAM (memory) capacity

Field Remedy
The RAM capacity can be checked as follows:
In service mode [COPIER > DISPLAY > ACC-STS > RAM], if the value is 768MB (512MB + 256 MB), the correct RAM is mounted.

14.3.14.1.48 Reading of ENV-TR (Environmental zone) differs from that of other iRC machines

Description
"ENV-TR" (Environmental zone) in Service Mode has the following three definitions and is subject to the moisture containt (g) in the machine installation environment. The moisture content can be checked in service mode [COPIER > DISPLAY > ANALOG > ABS-HUM]. The three definitions differ depending on models. Therefore, even if this machine is installed in the same environment as others, the reading of ENV-TR may differ from each other. The following are the definitions of moisture content of this machine.
1: low humidity environment (up to 5.8g)
2: normal humidity environment (5.9g to 17.3g)
3: high humidity environment (17.4g and higher)

14.3.14.1.49 Methods to make stamping original mode effective

Description
There are two different methods to make the stamping original mode effective; "a" is to stamp originals whenever you want and "b" is to stamp originals at all times. If the method "b" is selected, "a" becomes ineffective.
Note: Originals can be stamped only when they are scanned with the document feeder.

Field Remedy
Make sure that the optional stamp unit is attached to the document feeder (DADF-M1). Then, in service mode [FEEDER> Option> STAMP-SW], change it to "1" from "0". Turn the control panel switch OFF and turn the main power switch OFF/ON. Select either of the methods "a" or "b".
a. To stamp originals whenever you want:
On the send screen, specify the destination> Send Settings> Stamp> press OK.
b. To stamp originals at all times:
In user mode [Communications Settings> TX Settings under Common Settings> Edit Standard Send Settings], press [Stamp] and OK. All send originals will be stamped.

14.3.14.1.50 Page count between message "Prepare a new fixing unit." and E008-0001 Error Code

Description
The page count between an indication of the message "Prepare a new fixing unit." and the E008 indication is 20,000. The page count is different depending on color mode and paper size:
Black and white / Small size: 1 count
Black and white / Large size: 2 counts
Full color / Small size: 3 counts
Full color / Large size: 6 counts

14.3.14.1.51 Output image size is different between when using "Zoom by Percentage" function and "Preset Zoom" function although same copy ratio is set

Description
In the "Zoom by Percentage" function, originals can be reduced or enlarged in an integer magnification which is set on the LCD. In the "Preset Zoom" function, on the other hand, all the preset buttons on the LCD show an integer: however, rescale of the original is done at the decimal level. This is the reason why the size of the output image differs between those functions. This is true for other models.

14.3.14.1.52 Six items under Service Mode COPIER > ADJUST (Level 2) > HV-TR

Description
Of the 14 items under Service mode (Level2) [COPIER > ADJUST > HV-TR], the following six items are used to add or change the conditions in which the machine performs the secondary transfer ATVC control. If faulty images occur because the machine is used under peculiar installation (job) environment, you can use those items so that the machine can perform the secondary transfer ATVC control that is suitable for the environment and can improve the image quality.
- 2TR-TGT (1 to 8): Set an offset value used in relation to the secondary transfer ATVC target current level.
- 2TR-SHR (1 to 8): Set an offset value used in relation to the secondary transfer ATVC paper separation voltage.
- TR-PPR (1 to 8): Set paper type
- TR-ENV (1 to 8): Set environment
- TR-CLR (1 to 8): Set color mode
- TR-DUP (1 to 8): Set simplex/duplex mode
As the items that have the same number work as a group, you can set up eight different patterns of conditions (1 to 8). The first two items are used to designate the offset value of the ATVC control and the last four are to

designate the operating mode which makes the two items effective.

This machine checks the present job conditions against those 8 patterns of conditions. If it finds out the compatible pattern, it performs the secondary transfer ATVC control in accordance with the pattern.
Note: Please refer to Service manual [Service mode > COPIER > ADJUST (Level2) > HV-TR] for detailed definitions and settings for each item.

14.3.14.1.53 How to change page count before message "Prepare a new fixing unit." is displayed

Description
The following service mode setting can change the page count before a message "Prepare a new fixing unit." is displayed.
Field Remedy
1. In service mode (Level 2) [COPIER> Option> BODY> FXWRNLVL], change the set value by selecting from the alternatives below:
"0": 180,000 (default), "1": 150,000, "2": 120,000
2. Turn the control panel switch OFF and turn the main power switch OFF/ON.

14.3.14.1.54 Convenient setting for always printing on particular irregular-size paper: How to register Stack Bypass Standard Settings and Custom Paper Size

Description
When you want to feed a particular irregular-size paper from the stack bypass every time you print on it, follow the procedure below, and you will omit to enter the size and type of the paper to both the machine and your PC.
1. In the machine: Register the paper in Stack Bypass Standard Settings.
2. In the PC: Register the paper in Custom Paper Size in the printer driver.
3. In the PC: Select the paper for Output Size in the printer driver.
The detailed procedure is explained below by taking the envelope case for an example.
Field Remedy
1. In the machine: Register the paper in Stack Bypass Standard Settings
In user mode, [Common Settings > Stack Bypass Standard Settings > ON > Register > Irreg. Size > enter the size of the envelope used > OK > Next > select the paper type > OK > OK], and then load the envelope on the stack bypass.
2. In the PC: Register the paper in Custom Paper Size in the printer driver

[Start > Settings > Printer > iRC6800 > Properties > General > Printing Preferences > Custom Paper Size > enter the name of the envelope (in this case, Envelope A) into Name of Custom Paper Size > enter the size of the envelope > Register > OK].
3. In the PC: Select the paper for Output Size in the printer driver
[Start > Settings >Printer > iRC6800 > Properties > General > Printing Preferences > Output Size > select Envelope A registered in step 2. > Apply > OK].
From the first launch of an application software after executing the procedure above, you can print on the paper without entering its size and type to the machine and your PC.
Note: When you set the Stack Bypass Standard Settings to ON, it will be impossible for you to either feed any sizes of paper other than the registered nor activate Stack Bypass Setting.

14.3.14.1.55 How to temporarily print standard-size heavy paper in heavy paper mode

Field Remedy
Follow the procedure below.
Set the heavy paper you want to use in the stack bypass or a paper cassette. You can't set it in the side paper deck.
a. When using the stack bypass
1. In machine: press [Paper Select > Stack Bypass > select the paper size > Next > select the paper type (Heavy) > OK]
2. In PC: [Print > iRC6800 > Properties > Paper Source tab > check the radio button "Paper Source " in "Select by" > select Stack Bypass from "Paper Source" > print]. The machine will start picking up the heavy paper from the stack bypass and print it in the heavy paper mode.
b. When using a paper cassette
1. In machine: [User mode > Common Settings > Register Paper Type > select the paper source (the cassette where the paper is set) > select the paper type (Heavy) > OK].
2. In PC: [Print > iRC6800 > Properties > Paper Source tab > check the radio button "Paper Source" in "Select by" > select the paper source (the cassette where the heavy paper is set.) from "Paper Source" > print]. The machine will start picking up the heavy paper from the cassette and print it in the heavy paper mode.

14.3.14.1.56 Image loss occurs when copying irregular size original (280 x 420 mm: double truck of magazine) by reducing ratio

Description
When making a copy of an irregular size original (in the actual failure case, 280 x 420mm: double truck of a magazine) to A4 paper, an image loss sometimes occurs.

Cause
Since the length of the original in the main scanning direction is between B4 and A3, it could be detected as B4 or A4 depending on the position where it is placed on the copyboard glass. If it is detected as B4, it is reduced at a copy ration of 81%, resulting in an image loss.

Field Remedy
Follow either of the following steps.
a. Place the original fitting on the top left corner of the copyboard glass > select A4R for Paper Size > set Copy Ratio at 70%.
b. Place the original aligning with the bottom left limit of A3 size paper > select A4 or A4R for Paper Size > press Auto Zoom button or set Copy Ratio at 70%.

14.3.14.1.57 How to make heavy paper available when printing: Registration of Heavy paper to Printer driver

Field Remedy
Follow the steps below:
1. In the machine, [User Mode > Common Settings > Register Paper Type > select the paper source (a cassette where you want to set heavy paper) > select heavy paper as the paper type > OK].
2. In the PC, [Start > Settings > Printer > iRC6800 > Properties > Device Settings > Get Device Status > Apply > OK].
Since this step adds the heavy paper to [Paper Type] of the printer driver as one of selection items, the heavy paper is selectable in the PC.

14.3.14.1.58 Message "Load paper" is displayed on LCD when printing: Because paper type selected in printer driver does not agree with machine's setting

Description
This message is displayed when the paper type selected in the printer driver is not registered in the machine. In the field, it was displayed because the setting of a cassette, which had been assigned for heavy paper, was changed to a different paper type and an operator selected heavy paper in the printer diver and sent a print job without noticing such a fact.
When sending a job from a PC to the machine, perform "Get Device Status" to

check the current settings of the machine. If any change has been made to the machine's setting, register the paper type if necessary. Please explain this to your customer.

Note: When the symptom occurs, the procedure below allows you to print the job instead of sending it again. Please also explain this to your customer.

[System Monitor > check the indicated paper type > "Recover Later" > Done > set the paper you want to use in a cassette > register it in user mode (Register Paper Type under Common Settings) > OK].

14.3.14.1.59 Description on message "Adjusting gradation. Please wait a moment."

Description

This message is displayed when the machine is executing the image stabilization control (such as the potential control, primary/secondary transfer ATVC control, and other ATR controls) in order to keep the most appropriate density and quality of copies. This control is performed at an interval of the predetermined number of copies. If it is performed during a continuous copying operation, the machine stops copying for 80 seconds at the maximum. Please explain this to your customer. In addition, please note that there is no function to disable this control.

14.3.14.1.60 How to reject print jobs sent from computers with unknown Department ID

Description

To reject print jobs sent from computers that do not correspond with a registered Department ID, follow the procedure below:

[User mode > System Settings > Dept. ID Management > set "Dept. ID Management" to ON > set "Accept Print Jobs with Unknown IDs" to OFF > OK].

14.3.14.1.61 How to make facedown delivery available when making copies by scanning from copyboard glass of machine without finisher

Description

In regard to the machine without the finisher, the procedure below will make the facedown delivery available when making two or more sets of copies by scanning originals from the copyboard glass.

In service mode (level2) [COPIER OPTION > BODY], set [FDW-DLV] to "1", then turn the control panel switch and the main power switch OFF in sequence, and then turn the main power switch ON again. Please note that the facedown deliver is not available when making one set of copies because of a specification constraint.

14.3.14.1.62 Condensation upon installation/faulty image/malfunction

Description

In the field, a faulty image or a malfunction occurred because of condensation caused on the machine. It is assumed that this condensation occurred because the machine was installed immediately after it was transferred from a cold place to a warm place.

Field Remedy

When the machine is transferred from a cold place to a warm place, leave it for more than 1 hour without unpacking to let it get to know the surrounding temperature.

14.3.14.2 FAQ on Send Specifications

14.3.14.2.1 Documents stored in Mail Box (Inbox) are lost

Description

Documents stored in the mail box (Inbox) will automatically be erased three days later by default. In order to prevent the documents from being erased, set "Time Until Doc. Auto Erase" to "0". In user mode [Mail Box Settings> User Inboxes Settings], select an Inbox to be changed and select any number at [Time Until Doc. Auto Erase].

14.3.14.2.2 How to send E-mail

Field Remedy

There are two different sending methods.

a. How to send an e-mail to a destination that is not registered in the address book:

1. Set the document to be sent.
2. Press [Send] tab> [E-mail] under New Address> [E-mail Address], type an e-mail address and press OK.
3. Press [Send Settings] and enter each item (Send Doc. Name, Subject, Message, Reply-to, Sender's Name).
4. Press [E-mail Priority] to select the priority, and [File Format] to select the format of the document to send. Then, press the Start key.

b. How to send an e-mail to a destination that is registered in the address book:

1. Set the document to be sent.
2. Press [Send] tab> [Address Book/Server], and select the desired destination.
3. Press [Send Settings] and enter each item (Send Doc. Name, Subject, Message, Reply-to, Sender's Name).
4. Press [E-mail Priority] to select the priority, and [File Format] to select the format of the document to send. Then, press the Start key.

For your information, the following describes how to register addresses:

In user mode [Address Book Settings> Register Address> Register New Address> E-mail], type

the name in the [Name] field and the e-mail address in the [E-mail Address] field. Then, press OK.

14.3.14.2.3 How to clear logs (job history, job record)

Description

In service mode [COPIER> Function> SYSTEM> CHK-TYPE], select "1" and press [OK] key. Then, select [HD-CLEAR] and press [OK] key. Turn the power OFF/ON so that the logs will be cleared. Note that the data stored in Inboxes will also be cleared at that time.
The log of FAX transmission/reception can be cleared in service mode [FAX> CLEAR].

14.3.14.2.4 How to make Send tab not display on LCD

Description

You can select in service mode whether or not the send functions are displayed on the LCD. In order not to display the [Send] tab, change the setting in service mode (LEVEL 2) [COPIER> Option> BODY> UI-SEND> 0].

14.3.14.2.5 How to send documents or images to designated folder in computer: Windows (SMB)

Field Remedy

a. Preparation on computer:
Create a new folder as a shared folder on your computer where you want to send documents (or images).
b. Settings on iRC6800:
Register the folder created in the above step in one of the address books on Send screen.
1. In user mode [Address Book Settings> Register Address> Register New Address> File].
2. Enter [Name] and select any address book from Address Book 1 through 10.
3. Select "Windows (SMB)" for [Protocol].
4. Configure [Host Name], [File Path], [User] and [Password].
Host Name: Enter the name of the file server on the network as the destination of the send job.
File Path: Specify a folder in the file server as the destination of the send job.
You can also specify [Host Name] and [File Path] by pressing [Browse] button. For more details, refer to Sending and Facsimile Guide [Basic Sending Methods> Specifying Destinations> Using the New Address Tab> Specifying a File Server> Using the Browse Key (Windows (SMB)).
How to send:
On [Send] tab, press [Address Book/Server], select the folder from the address book, and press [Start] so that the documents or images will be sent to the designated folder.

14.3.14.2.6 How to check whether SEND kit has been installed

Description

It can be checked in either way of the following.
1. Check whether the "Send" tab appears on the LCD. If so, the SEND kit has been installed. (Otherwise, only the "Fax" tab appears.)
2. Press "Counter Check Key" on the control panel, and "Device Configuration" key. If "Universal Send Kit" is displayed under "Option", the SEND kit has been installed.

14.3.14.2.7 How to cancel send jobs waiting to be processed or being sent (E-mail / IFAX / Sending to File Server / Storing in User Inbox)

Description

In order to cancel a send job while it is waiting to be processed, or while it is being sent, follow the steps below.

Field Remedy

Press [System Monitor> Send> Status> select the send job to be canceled> Cancel]. The message "Is it OK to cancel?" is displayed on the LCD, so press [Yes].
Note: The canceled send job is displayed as "NG" (No Good) on the Log screen. And, a send job while it is being sent might be sent depending on in what timing [Cancel] is pressed.

14.3.14.2.8 How to change Scanning Mode and File Format displayed on Send screen as standard

Field Remedy

In user mode [Communication Settings > TX Settings under Common Settings > Edit Standard Send Settings], select the scanning mode and file format you want to change from the Scanning Mode drop-down list and the File Format drop-down list, respectively and then press [OK].

14.3.14.2.9 Want to send originals with blank boarder (margin) around edge of scanned image: Push scan

Field Remedy

1. Set the original you want to send with a blank border on the feeder or the copyboard glass, and in the Send screen, press the drop-down list of [Scan Settings] > select a scan setting > [Option] > [Special Features] > [Frame Erase].
2. Press [Original Frame Erase] > enter the width of blank border > [Next] > select the original size > [OK] to return the Send screen. When entering the width, you can set the same width for all four borders (Adjust All At Once), or set the top, left, right, and

bottom widths independently (Adjust Each Dim).

3. Select the destination and press the Start key to send the image.

Description

Selecting the "Frame Erase" feature from the Scan Settings in the Send screen enables you to send originals with a blank boarder around the edge of scanned image. There are three kinds of Frame Erase functions: Original Frame Erase, Book Frame Erase, and Biding Erase. In the Original Frame Erase and the Book Frame Erase, "Adjust All At Once" function and "Adjust Each Dim" function are available.

14.3.14.2.10 Message "To send a file in [PDF (compct)] format, select a setting other than black and white and select 300 x 300 dpi." is displayed: FAX transmission

Description

As the file format [PDF (compct)] is enabled only when it is combined with any of the following scanning modes: [Color/grayscale 300 x 300dpi], [Full color 300 x 300 dpi], or [Grayscale 300 x 300 dpi], the message is displayed when other scanning mode is selected. When you want to set [PDF(compct)] as a standard sending setting, select one of those scanning modes. For your information, with the factory setting, if the file format is set to [PDF (compct)], [Color/ Grayscale 300 x 300dpi] is automatically set as the scanning mode.

14.3.14.3 FAQ on LIPS Specifications

14.3.14.3.1 Is it possible to superimpose form over document created using application when printing?: Overlay Printing

[Manual-related]

Description

It is possible to superimpose a form that is created in the PC side over a document created using an application.

Field Remedy

a. Creating a form file

a-1. Create a form file using an application installed in the PC, and save it as a new file.

a-2. Open the saved form file and then select [File > Print > Properties > Page Options > Overlay > Create a Form File > Browse > select "All Files" for "Save as type" and select the form file created in the step a-1 > delete an extension from the filename displayed in "File name" field if any > select "Form File (*.p5c)" for "Save as type" and save the form file as a new form file > make an entry for "Title" and "Sub-title" in the Overlay tab if necessary].

a-3. Continue pressing [OK] until the Print

dialog box is closed and then the saved form file appears on the screen.

b. Superimposing the saved form file over a document created using an application

b-1. Open a document over which you want to superimpose the created form.

b-2. Select [File > Print > Properties > Page Options > Overlay > Use Overlay Printing].

b-3. Select [Browse > select "All Files" for "Save as type" > Open > select the form file created in the step a-2. > Open].

b-4. Check the contents of "File Info" in the Overlay tab and select OK twice to start overlay printing.

Note: Overlay printing is unavailable when the paper size, orientation, resolution, and color mode are different between the form and the application document.

14.3.14.4 FAQ on UFR Specifications

14.3.14.4.1 USB Interface Board: Where to install it

Description

Install it at J1104 on the Main Controller PCB.

14.3.14.4.2 Cannot select Staple as finishing mode on PC: Device status is not obtained

[Case in the field]

Description

In the field, the following symptom occurred: In the printer driver [Properties > Finishing tab > Finishing], the radio button [Staple] is grayed out and unavailable for the user.

Field Remedy

To make the [Staple] button selectable, change the setting of the printer driver; [Start > Settings > Printers > The icon of iRC6800 > Properties > Device Settings > choose the Finisher connected to your machine from the pull-down menu of Output Options or click on [Get Device Status] to automatically collect the information on the Finisher > Apply > OK].

14.3.14.4.3 How to fix print color in black and white (monochrome)

[Manual-related]

Description

Even though "black and white printing" is specified on the printer driver, the image can be printed in color depending on application software in use.

In such a case, select in user mode [Printer Settings> Settings> Color Mode> Black and White].

14.3.14.4.4 How to restrict computers that can send data (print job, I-FAX)

Field Remedy
a. How to set permitted PCs:
a-1. In user mode [System Settings> Network Settings> TCP/IP Settings> IP Address Range Settings> Setting/Browsing Range> Permit IP Address(es)> Apply Settings> ON].
a-2. If a single address is to be set, press [Single Address] and enter the IP address and finally press [OK]. If multiple addresses are to be set, press [Multiple Addresses] and enter the IP addresses in [First Address] and [Last Address], and finally press [OK].
b. How to set rejected PCs:
b-1. In user mode [System Settings> Network Settings> TCP/IP Settings> IP Address Range Settings> Setting/Browsing Range> Reject IP Address(es)> Apply Settings> ON].
b-2. Do the same thing in step 2 above.

14.3.14.4.5 How to print 2nd side upside down in duplex printing

Field Remedy
In the printer driver properties, select Finishing tab and change Binding Location from "Long Edge (Left)" to "Short Edge (Top)".

14.3.14.4.6 Cannot select staple as finishing mode on PC: Because Custom Size Paper is selected

Description
In the printer driver, when Custom Paper Size is selected for Output Size, the radio button [Staple] is grayed out and unavailable for the user. To select Staple as the finishing mode, select any standard size paper for Output Size.

14.3.14.4.7 Correct imformation on paper type is not displayed on tooltips (message) displayed on illustration of printer driver

Description
In the field, the symptom occurred because the paper type was newly added in a PC by using [Start > Settings > Printers > iRC6800 > Properties > Device Settings > Form to Tray Assignment > Paper Type]. In order to make tooltips display correct paper type information, perform "Get Device Status" instead of "Form to Tray Assignment."
Note: Performing "Get Device Status" will clear all the paper types that has been added using "Form to Tray Assignment."

14.3.14.4.8 How to check type information (size, type, level of paper) of machine in printer driver properties

Description
Follow the steps below.
1. Start > Settings > Printers > iRC6800 > Properties > Device Settings > Get Device Status > Apply > OK.
2. "Print" dialogue box of a file > Properties > Paper Source tab > select "Paper Type" in "Select By"
3. In the Paper Source tab, move the mouse pointer over the illustration of this machine. The tooltip (message) pops up and displays the size, the type, and the level of paper set in such a paper source.

14.3.14.4.9 Do counters increase when printing job of Excel sheet including both monochrome and color pages?

Description
If the color mode is set to "Auto Detect" in the printer driver, the machine detects color mode of each page and increases each counter in accordance with the results of the detection.

14.3.14.5 FAQ on G3FAX Specifications

14.3.14.5.1 When receiving B5-sized document by FAX, A4 paper is used for output

Description
This symptom is due to a specification of G3FAX. When the sending side scans B5-sized document in landscape orientation (182mm wide), the machine declares the document to be A4. Consequently, the machine on the receiving side will receive and print it with A4 paper. This is because G3 standard regards a document narrower than 210mm (equivalent to A4R) to be 210mm.
In order to print it with B5 paper at the receiving side, it is necessary that the sending side scans B5 paper in portrait orientation (257mm wide).

14.3.14.5.2 Difference between # error and ## error: FAX error code

Description
When an error occurs during transmission or reception, the following error codes will be displayed on the LCD depending on what has happened.
- # error code: User error code which can be solved by users by themselves.
- ## error code: Service error code which needs any corrective action by a service engineer.
- STOP: Jobs which have been canceled during transmission or waiting for transmission.

14.3.14.5.3 There is no error code indication in Details although its log displays "NG"

Field Remedy
This job is the one which resulted in a service error (## error code). In order to prevent users from being confused, the host machine is configured at a time of factory shipment so that ## error code is not be displayed although # code is. In order to display ## error codes. in service mode [FAX> Sssw> SW01], set bit0 (rightmost) to "1" from "0".

14.3.14.5.4 How to display ## service error code

Field Remedy
In service mode [FAX> Sssw> SW01], set bit0 (rightmost) to "1". ## service error code will be displayed in reports and on the LCD.
Description
If you want to check jobs which resulted in a service error on the LCD, follow the steps below:
Press [System Monitor> Fax> Log], select a job with "NG" and press [Details]. If the selected job is a service error, ## code will be displayed in [Result].
Note: On the list of [Log], it is impossible to determine which job has resulted in a service error. You need to select a job with "NG" one by one.

14.3.14.5.5 "TX Report" and "FAX Error TX Report" (total 2 sheets) are output upon FAX transmission error

Description
When a FAX transmission error occurs, the following two different reports are to be output by default.
1. FAX Error TX Report: to be output upon a FAX transmission error
2. TX Report: to be output upon a FAX or SEND transmission error
If you want to output either of the reports, follow the steps below:
Field Remedy
a. If you want to output only "FAX Error TX Report" upon a FAX transmission error:
In user mode [Report Settings> Settings> Send> TX Report], press OFF.
Note: Even when a SEND transmission error occurs, no report will be output any longer.
b. If you want to output only "TX Report" upon a FAX transmission error:
In user mode [Report Settings> Settings> Fax> Fax TX Report], press OFF.
Note: How long it takes to complete the transmission (USAGE T) and its error code will not be indicated on the TX Report.

14.3.14.5.6 How to erase Fax forwarding settings

Field Remedy
In user mode [System Settings> Forwarding Settings> select the forwarding setting that you want to erase> Erase], press Yes so that the selected setting will be erased.
Note: If you want to make the setting invalid temporarily, in user mode [System Settings> Forwarding Settings], select the setting that you want to and press [Validate/Invalidate].

14.3.14.5.7 How to invalidate Fax forwarding setting temporarily

Field Remedy
In user mode [System Settings> Forwarding Settings, select the forwarding setting that you want to invalidate and press [Validate/ Invalidate]. In order to make it valid once again, press [Validate/Invalidate] again.

14.3.14.5.8 Multiple Communication Result Report

Description
The multiple communication result report is output after a sequential broadcast transmission. In this report, all the destinations are classified as follows according to the result of the FAX transmission:
- TX/RX INCOMPLETE: The FAX number of the destination of an incomplete transmission is indicated. (For example, the FAX number that does not exist is entered.)
- TRANSACTION OK: The FAX number of the destination of a completed transmission is indicated.
- ERROR: The FAX number of the destination of an error transmission is indicated.
For any column, if there is no applicable destination, "---" is printed.

14.3.14.5.9 Is it possible to move data from Address Book to One-Touch key?

Description
It is impossible to move the address data registered in the Address Book to the One-Touch key. Newly register the address data you want to a One-Touch key. The address data registered in a One-Touch key is reflected to the Address Book.

14.3.14.5.10 How to erase all destinations stored in Address Book and One-Touch buttons at once

Field Remedy

In service mode, [COPIER > FUNCTION > CLEAR > ADRS-BK], press OK, then turn the control panel power switch OFF and turn the main power switch OFF/ON.

14.3.14.5.11 Is FAX/TEL auto switching function available?

Description

The FAX/TEL auto switching function is not available in this machine. If you need it, install a device that has this function between telephone line and the machine (LINE).

14.3.14.5.12 How to print FAX Activity Report when necessary

Field Remedy

When you want to print the FAX Activity Report at a timing other than the specified times or every 40 transmissions,
select [Send screen > System Monitor > Fax > Log] and press "Print List."

14.3.14.5.13 How to make sender information smaller on receiving side: FAX Transmission

Description

In order to make the sender information smaller, choose either of the following two methods.
a. Select the fine mode (200 x 200dpi). In the normal mode (200 x 100dpi), the sender information becomes vertically long.
b. In service mode [FAX > NCU > SPECIAL-B > SW28], change the value of bit6 to "1" so that the sender information size in the normal mode can be the same as in the fine mode.

14.3.14.5.14 How to set memory reception ending sound: FAX reception

Description

In service mode, [FAX > NCU > SPECIALB > SW04 > set "1" for [bit1] > OK]. Next, turn the control panel switch and the main power switch OFF in sequence, and then, turn the main power switch ON again.

14.3.14.5.15 Wants to hide destination name printed at sender information area on receiving side when sending FAX message: FAX transmission

Description

The following procedure enables you to hide the destination name that is printed at the sender information area on the receiving side. This function is useful when you register destination names in the abbreviated form. However, please note that this function is not available for the iR3300 series machines.
In user mode [Communication Settings > TX Settings under Common Settings > TX Terminal ID > Display Destination Name], select [OFF].

14.3.14.6 FAQ on I-FAX Specifications

14.3.14.6.1 Difference between POP reception and SMTP reception: I-FAX reception

Description

A. POP reception
This reception mode requires a mail server. Even when FAX data are sent to the machine while the main power switch of the machine is being turned OFF, the mail server keeps such data, and allows the machine to receive the data after the main power switch is turned ON. In order to make this mode available, enter user mode [System Settings > Network Settings > E-mail/I-FAX], and then set [POP] to ON (Default).
B. SMTP reception
This reception mode enables the machine to receive FAX data without a mail server. When the main power switch of the machine is turned OFF, however, the sender's FAX machine repeats data transmission preset times and then results in error.
In order to make this mode available, enter user mode [System Settings > Network Settings > E-mail/I-Fax], and then set [SMTP Receipt] to ON.
Reference: This machine uses SMTP to send FAX data to the mail server or directly to other I-FAX products.

14.3.14.6.2 Is it required to issue POP when using I-FAX function?

Description

It is required to issue POP (server/Address) when using I-FAX function.
Field Remedy
Ask a network administrator for POP server and POP address and input such information entering User mode [System Settings > Network Settings > E-mail/I-Fax].

14.3.14.7 FAQ on Remote UI Specifications

14.3.14.7.1 Remote UI: Explanations about applicable functions of Remote UI

Description
a. How to access Remote UI
In user mode [System Settings> Remote UI> ON] and turn the power OFF/ON. Then, enter the host machine's IP address into your web browser, so the Remote UI's top page or main screen is displayed on your computer screen.
b. Applicable functions of Remote UI
1. Device Status and Information Display
2. Job Management (Copy/Send/Fax jobs)
3. Managing Inboxes (User Inboxes/Memory RX Inboxes/Confidential Fax Inboxes)
4. Printing PDF or PS Files Directly (Direct Print)
5. Managing the Address Book
6. Customizing System Settings
7. Specifying LDAP Server Settings
8. Specifying Forwarding Settings
9. Managing Department IDs
10. Device Custom Settings
11. Import/Export Function of Address Book and Device Settings

14.3.14.7.2 Remote UI: How to specify Department ID Management settings through Remote UI

Description
On the top page of the Remote UI, select [Add. Func.> Department ID Management] and configure the necessary settings.
For more details, refer to Remote UI Guide [Customizing Settings> Managing Department IDs].

14.3.14.7.3 Remote UI: How to back up (export) address book

Description
The Remote UI enables you to back up (export) the address book data to a computer or load (import) to the host machine.
How to back up (export):
[Remote UI> Add. Func.> Import/Export> Address Book> Export], select an address book to be saved and click 'Start Export'.
How to load (import):
[Remote UI> Add. Func.> Import/Export> Address Book> Import], select an address book to be loaded and click 'Start Import'.
For more details, refer to Remote UI Guide [Customizing Settings> Import/Export Function> Saving the Address Book].

14.3.14.7.4 Remote UI: How to restrict computers that can set or browse machine setting items using Remote UI

Description
a. How to permit computer(s) to set or browse:
1. In user mode [System Settings> Network Settings> TCP/IP Settings> IP Address Range Settings> Setting/Browsing Range> Permit IP Address(es)> Apply Settings> ON> Register].
2. If a single address is to be set, press [Single Address] and enter the IP address and finally press [OK]. If multiple addresses are to be set, press [Multiple Addresses] and enter the IP addresses in [First Address] and [Last Address], and finally press [OK].
b. How to prohibit computer(s) from setting or browsing:
1. In user mode [System Settings> Network Settings> TCP/IP Settings> IP Address Range Settings> Setting/Browsing Range> Reject IP Address(es)> Apply Settings> ON> Register].
2. If a single address is to be set, press [Single Address] and enter the IP address and finally press [OK]. If multiple addresses are to be set, press [Multiple Addresses] and enter the IP addresses in [First Address] and [Last Address], and finally press [OK].

14.3.14.7.5 How to review documents stored in Inbox from computer

Description
Documents (or images) stored in Inboxes can be reviewed through the Remote UI.
1. Start your web browser and enter the IP address of the host machine. The Remote UI top page will be displayed. (No additional software is required except for Web browser.)
2. Click [Mail Box] button and select any Inbox where the document (or the image) is stored.

14.3.14.7.6 Remote UI: Functions [Job Status] [Mail Box] [Address] [Add. Func.] do not work except for [Device], while prompting for User Name and Password

Description
When the host machine is equipped with the Card Reader-D1, or [Dept. ID Management] is activated in user mode, the functions related to print volume and billing cannot be viewed through the Remote UI.
For User Name and Password, use "System Manager ID" and "System Password" respectively that have been specified in user mode [System Settings> System Manager Settings], so that all the functions can be reviewed through the Remote UI.

14.3.14.7.7 Remote UI: How to back up forwarding settings

Description
The Remote UI enables you to back up (export) the forwarding settings to a computer or load (import) them back to the host machine.
How to back up (export):
[Remove UI> Add. Func.> Import/Export> Forwarding Settings> Export], click "Start Export".
How to load (import):
[Remove UI> Add. Func.> Import/Export> Forwarding Settings> Import], click "Start Import".
For more details, refer to Remote UI Guide [Customizing Settings> Import/Export Function> Saving Forwarding Settings in Files (Export)].

14.3.14.7.8 Remote UI: How to back up settings of additional functions (user mode)

Field Remedy
The Remote UI enables you to back up (export) the additional functions settings (user mode) to a computer or load (import) them back to the host machine.
How to back up (export):
[Remote UI> Add. Func.> Import/Export> Additional Functions> Export], click "Start Export".
How to load (import):
[Remote UI> Add. Func.> Import/Export> Additional Functions> Import], click "Start Import".
For more details, refer to Remote UI Guide [Customizing Settings> Import/Export Function> Saving Additional Functions Settings in Files (Export)].

14.3.14.7.9 Remote UI cannot be accessed with Mac

Field Remedy
Make sure of the following:
1. MacOS is Ver.8.6 or later, Web browser is IE5.0 or later.
2. On iRC6800, [On] is selected in user mode [System Settings> Remote UI].

14.3.14.7.10 Pop-up window cannot be closed after displaying message board on touch panel / How to display "Done" key: Remote UI

Description
There are two options for how to display the pop-up window on the machine's touch panel display.
1. If you select [All Times], the pop-up window cannot be closed on the touch panel display. While it is being displayed, a copy or fax operation is not acceptable.
2. If you select [On Auto Clear Time], "Done" key appears in the bottom of the pop-up window so you can close the window by pressing the key. Then, you can make a copy or fax operation. The window will be redisplayed after the Auto Clear mode initiates.
Field Remedy
In order to close the pop-up window on the machine's touch panel display so as to enable a copy or fax operation, select [On Auto Clear Time]. For more details, refer to the Remote UI Guide [Customizing Settings> Customizing System Settings> Customizing System Information].
Note: If there is no problem in clearing the message in the pop-up window, select in user mode [System Settings> Clear Message Board]. In this case, the message in the pop-up window and the status display will be cleared, so you have to enter the messages once again through the Remote UI.

14.4 Outline of Electrical Components

14.4.1 Motor

14.4.1.1 Motors
1. Reader Unit

T-14-10

Notation	Name		Description	
	Parts No.	I/O	PART-CHK	E code
M501	Scanner motor		drives the No. 1/No. 2 mirror base	
	FK2-0237			E202

T-14-11

Notation	Connector No.	
	I/F PCB	Reader controller PCB
M501	J306/307	J203

M501
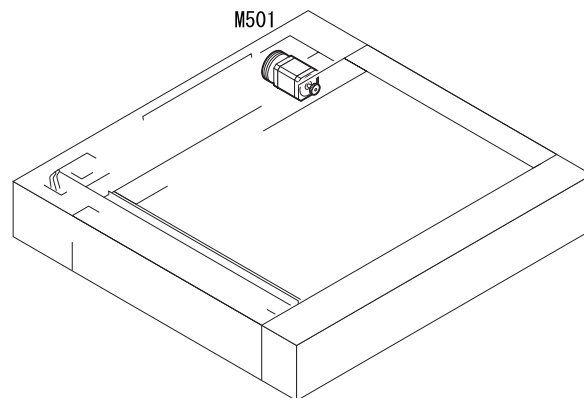
F-14-119

2. Printer Unit

T-14-12

Notation	Name		Description	
	Parts No.	I/O	PART-CHK	E code
M1	Polygon motor		drives the laser scanner	
	FM2-0394 (laser scanner assembly)		MTR>1	E110
M2	Drum/ITB motor		drives the photosensitive drum, photosensitive drum cleaner, intermediate transfer unit	
	FK2-0019		MTR>2	E012
M3	Developing motor		supplies color toner; drives the black/color developing assembly	
	FK2-0021		MTR>3	E023
M4	Fixing motor		drives the fixing assembly	
	FK2-0023		MTR>4	E014
M5	Developing rotary motor		drives the developing rotary	
	FK2-0025		MTR>5	E021
M6	Manual feed pre-registration motor		drives the manual feed pickup assembly, pre-registration front roller	
	FL2-0477		MTR>6	
M8	Registration motor		drives the registration roller	
	FL2-0476		MTR>8	
M9	Outside delivery motor		drives the outside delivery roller, curl-removing roller	
	FM2-1244		MTR>9	

Notation	Name		Description	
	Parts No.	I/O	PART-CHK	E code
M10	Duplexing reversal motor		drives the reversing 1/2 roller, duplexing inlet roller	
	FL2-0478		MTR>10	
M11	Duplexing left motor		drives the duplexing left roller	
	FK2-0032		MTR>11	
M12	Duplexing middle motor		drives the duplexing confluence roller	
	FL2-0479		MTR>12	
M13	Duplexing right motor		drives the duplexing right roller, duplexing outlet roller	
	FL2-0480		MTR>13	
M14	Right deck pull-off motor		drives the vertical path 1 roller	
	FL2-0583		MTR>14	
M15	Vertical path motor		drive the vertical path 3/4 roller	
	FL2-0583		MTR>15	
M17	Right deck pickup motor		Dives the right deck pickup assembly, vertical path roller 2	
	FL2-0582		MTR>17	
M18	Left deck pickup motor		drives the left deck pickup assembly	
	FL2-0581		MTR>18	
M19	Cassette pickup motor		drives the cassette 3/4 pickup assembly	
	FL2-0581		MTR>19	
M20	Secondary transfer outside roller shift motor		shifts the secondary transfer outside roller	
	FK2-0031		MTR>20	E077
M21	ITB cleaner shift motor		shifts the ITB cleaner	
	FK2-0155		MTR>21	E078
M22	Outside heating roller shift motor		shifts the outside heating roller	
	FK2-0153		MTR>22	E009/E079
M23	Hopper stirring motor		stirs toner (black) inside the hopper assembly	
	FK2-0015		MTR>23	E020
M25	Black toner supply motor		supplies toner from the black toner bottle	
	FK2-0015		MTR>25	E025
M26	Primary charging wire cleaning motor		drives the primary wire cleaner	
	FL2-0991		MTR>26	
M27	Pre-transfer charging wire cleaning motor		drives the pre-transfer wire cleaner	
	FL2-0991		MTR>27	
M28	Horizontal registration motor		drives the horizontal registration sensor	
	FM2-0163		MTR>28	E051
M29	Right deck lifter motor		drives the right deck lifter	
	FK2-0017			
M30	Left deck lifter motor		drives the left deck lifer	
	FK2-0017			
M31	Cassette 3 lifer motor		drives the upper cassette lifter	
	FK2-0016			
M32	Cassette 4 lifter motor		drives the lower cast lifter	
	FK2-0016			

T-14-13

Notation	Connector No.		
	Fixing/feeding assembly driver PCB	Pickup driver PCB	DC controller PCB
M1			J1104
M2			J1109
M3			J1109
M4			J1118
M5			J1127
M6			J1122
M8	J1311/1302		J1119
M9			J1122
M10	J1310/1302		J1119
M11	J1312/1302		J1119
M12	J1310/1302		J1119
M13	J1311/1302		J1119
M14		J1405/1402	J1115
M15		J1406/1402	J1115
M17		J1405/1402	J1115
M18		J1407/1402	J1115
M19		J1406/1402	J1115
M20	J1308/1302		J1115
M21			J1108
M22			J1118
M23			J1108
M25			J1108
M26			J1106
M27			J1108
M28	J1308/1302		J1119
M29		J1404/1403	J1116
M30		J1404/1403	J1116
M31		J1404/1403	J1116
M32		J1404/1403	J1116
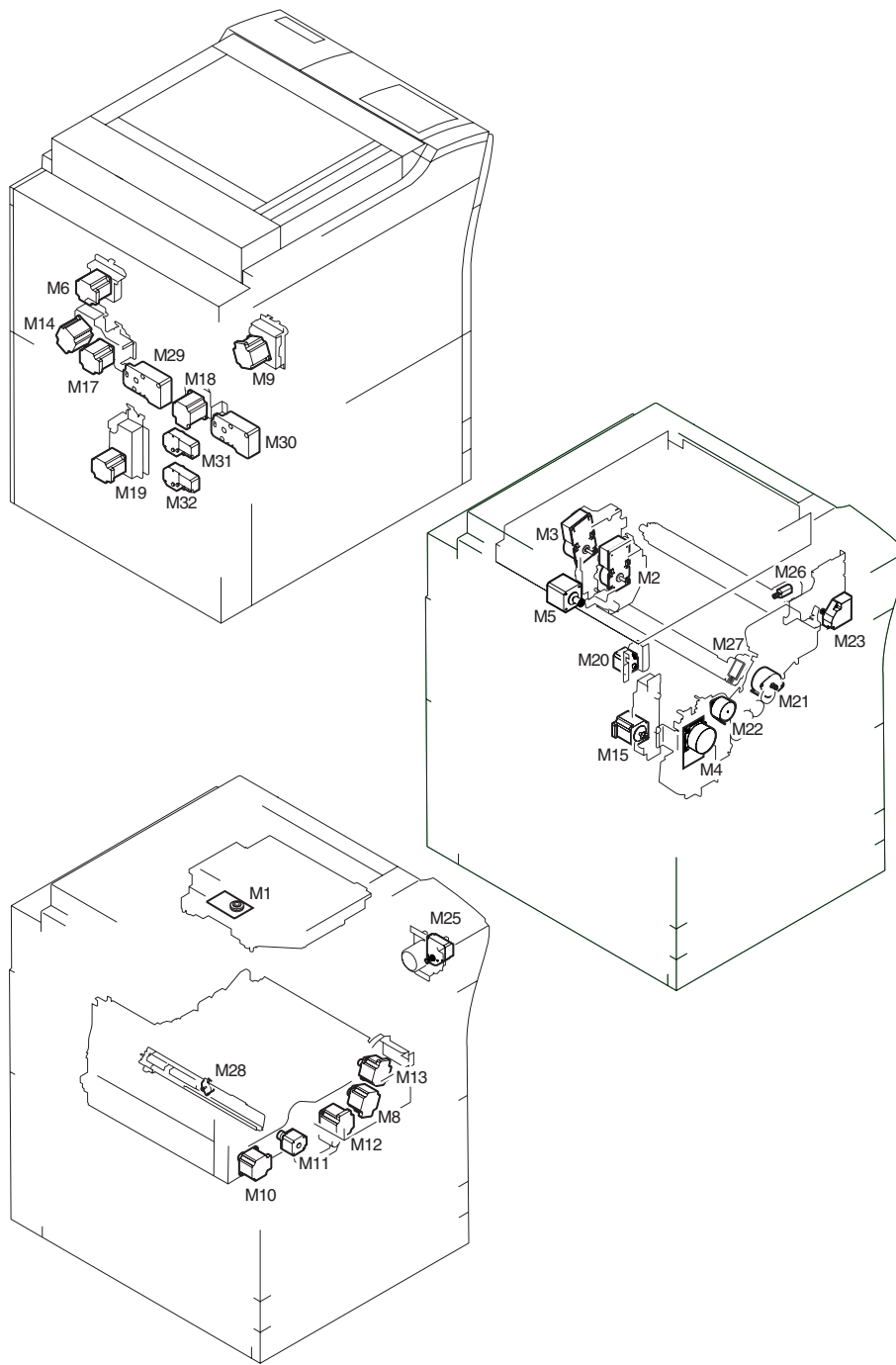
F-14-120

14.4.2 Clutch/Solenoid

14.4.2.1 Clutches and Solenoids

1. Reader Unit

The reader unit does not use clutches or solenoids.

2. Printer Unit

T-14-14

Notation	Name			Connector No	
	Parts No.	I/O	PART-CHK	Fixing/feeding driver PCB	DC controller PCB
CL1	Color developing assembly clutch				
	FK2-0033		CL>1		J1109
CL2	Color toner supply clutch				
	FK2-0033		CL>2		J1109
CL3	Black developing assembly clutch				
	FK2-0033		CL>3		J1109
SL1	Manual feed pickup solenoid				
	FK2-0115		SL>1		J1107
SL2	Fixing web solenoid				
	FK2-0037		SL>2		J1118
SL3	Reversal shift solenoid				
	FM2-0584		SL>3	J1307/1303	J1119
SL4	Left deck confluence solenoid				
	FK2-0035		SL>4	J1307/1303	J1119
SL5	Delivery solenoid				
	FM2-0488		SL>5	J1308/1303	J1119
SL6	Deck (right) pickup solenoid				
	FK2-0116		SL>6		J1113
SL7	Deck (left) pickup solenoid				
	FK2-0116		SL>7		J1113
SL8	Cassette 3 pickup solenoid				
	FK2-0116		SL>8		J1114
SL9	Cassette 4 pickup solenoid				
	FK2-0116		SL>9		J1114
SL10	Developing rotary locking solenoid				
	FK2-0117		SL>10		J1106
SL11	Patch image read sensor shutter solenoid				
	FK2-0100		SL>11		J1121
SL12	ATR sensor shutter solenoid				
	FK2-0100		SL>12		J1106
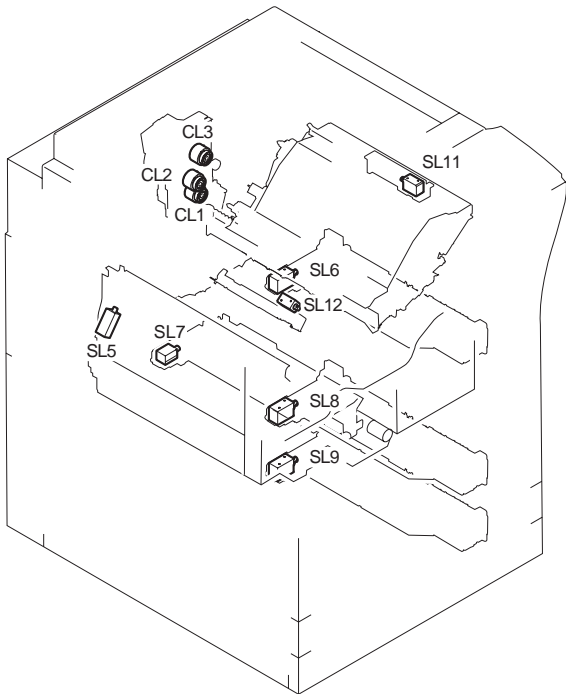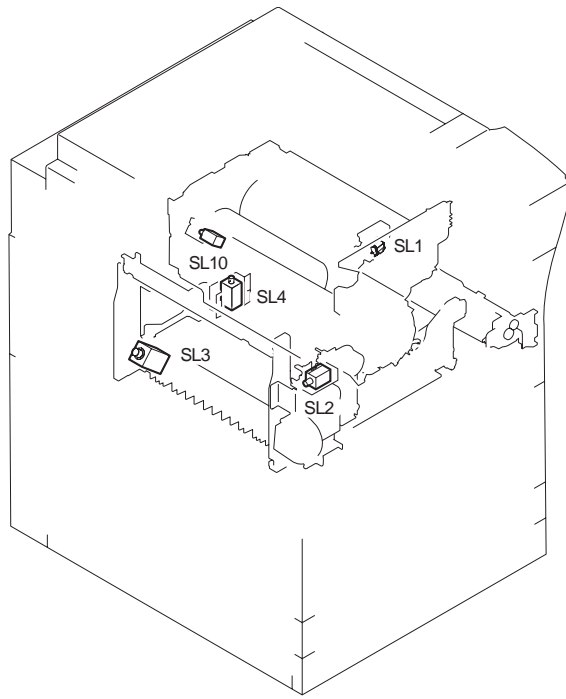
F-14-121

14.4.3 Fan

14.4.3.1 Fans
1. Reader Unit

T-14-15

Notation	Name		Function	
	Parts No.	I/O	PART-CHK	E code
FM13	Reader cooling fan		cools the reader assembly	
	FH5-1061			

T-14-16

Notation	Connector No.	
	Interface PCB	Reader controller PCB
FM13	J313/J308	J202
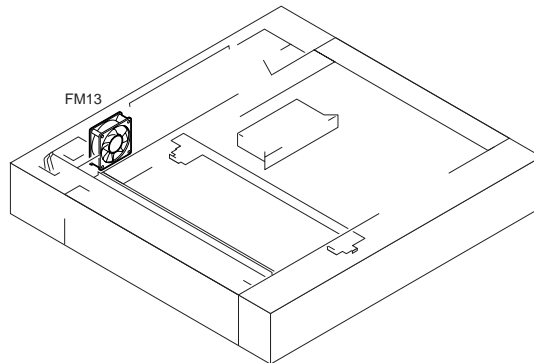
F-14-122

2. Printer Unit

T-14-17

Notation	Name		Description		
	Parts No.	I/O	PART-CHK	E alarm code	
FM1	primary charging suction fan		draws air from outside the machine to the primary charging assembly		
	FK2-0103		FAN-ON>1	E824-000	
FM2	Primary charging assembly exhaust fan		discharges air from around the primary charging assembly		
	FK2-0124		FAN-ON>2	E824-0001	
FM3	Feeding fan 1		keeps paper on the feed belt		
	FH5-1061		FAN-ON>4	330014	
FM4	Feeding fan 2		keeps paper on the feed belt		
	FH5-1061		FAN-ON>4	330014	
FM5	Fixing heat exhaust fan		discharges heat from the fixing assembly to the outside of the machine		
	FK2-0103		FAN-ON>5	E805-0003	
FM6	Delivery cooling fan 1		cools the delivery assembly		
	FK2-0124	P003-10 1:half speed	1:ON	FAN-ON>6	330001
FM7	Process unit cooling fan		cools the process unit		
	FL2-1185		FAN-ON>7	E820-0002	
FM8	Control cooling fan		cools the inside of the controller box		
	FH5-1033	MN-CONT>P001	1:ON		
FM9	Power supply cooling fan		cools the DC power supply PCB		
	FK2-0524		FAN-ON>9	E804-0007	
FM10	Delivery cooling fan 2		cools paper being delivered outside the machine (only if equipped with a finisher)		
	FK2-0124		FAN-ON>10	330007	

Notation	Name		Description	
	Parts No.	I/O	PART-CHK	E alarm code
FM11	Feeding fan 3	keeps paper on the feed belt		
	FH5-1061		FAN-ON>3	330015
FM12	Feeding fan 4	keeps paper on the feed belt		
	FH5-1061		FAN-ON>3	330015

T-14-18

Notation	Connector No.			
	Fixing/feeding driver PCB	DC power supply relay PCB	DC controller PCB	Main controller PCB (main)
FM1			J1117	
FM2			J1109	
FM3	J1305		J1119	
FM4	J1305		J1119	
FM5			J1110	
FM6	J1308		J1119	
FM7			J1108	
FM8				J1113
FM9		J124		
FM10			J1110	
FM11	J1308		J1119	
FM12	J1308		J1119	
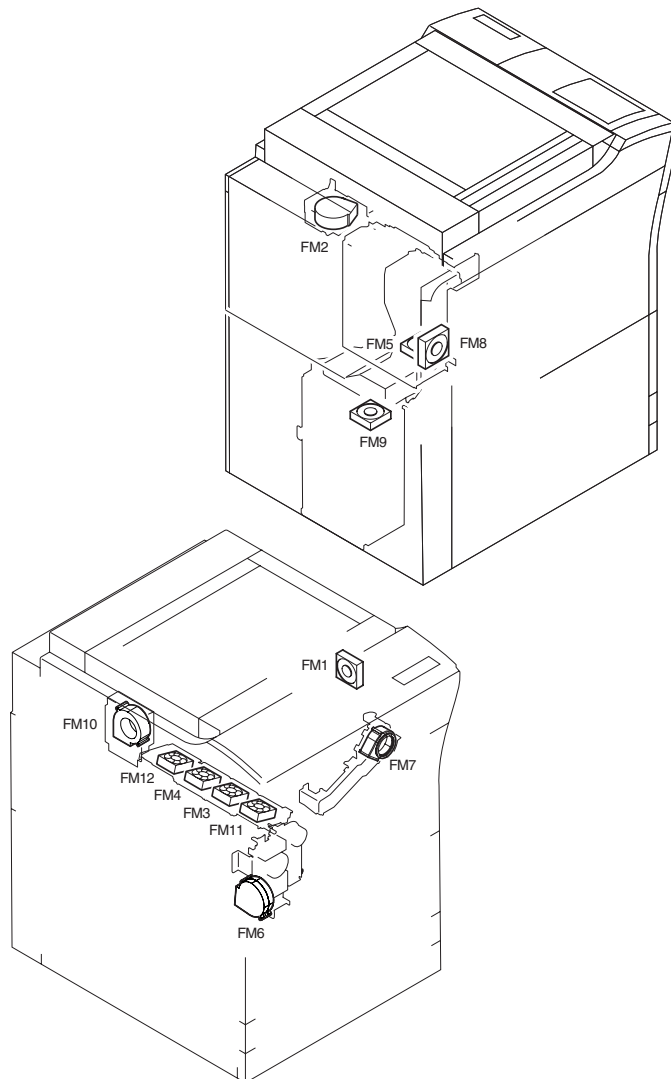
F-14-123

14.4.4 Sensor

14.4.4.1 Sensors

1. Reader Unit

T-14-19

| Notation | Name | | Description | | |
| | Parts No. | I/O | Connector No. | | Jam/E code |
			Interface PCB	Reader controller PCB	
PS501	Scanner HP sensor	detects scanner home position			
	FK2-0149		J310/J308	J202	
PS502	ADF open/closed sensor 1	detects the state (open/closed) of the ADF			
	FK2-0149		J310/J307	J203	
PS503	ADF open/closed sensor 2	detects the timing of original size detection			
	FK2-0149		J310/J308	J202	
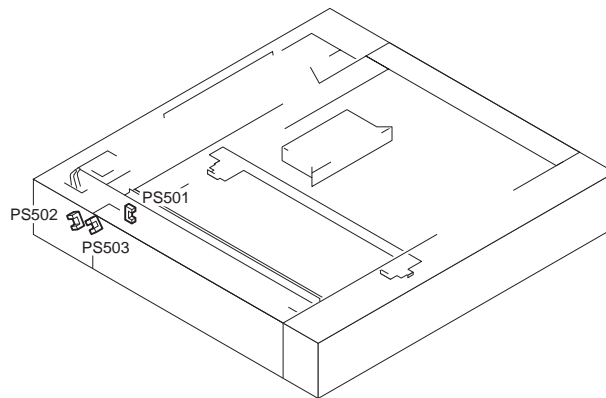
F-14-124

2. Printer Unit

T-14-20

| Notation | Name | | Description | | |
| | Parts No. | I/O | Connector No. | | Jam/E code |
			Feed driver PCB	DC controller PCB	
PS1	ITB HP sensor A	detects the ITB home position			
	FK2-0161	P004-10 1:HP		J1121	E070
PS2	Patch image read sensor	checks the density of the toner on the ITB			
	FH7-7601			J1121	
PS3	Transparency sensor (front)	detects registration paper (if not transparency); detects transparency (if transparency)			
	FM2-0850 FM2-0851		J1305/J1302	J1119	xx0A, 0D90, 0D91, 0D92, 0D93
PS4	ATR sensor	checks the density of toner on the developing cylinder			
	FM2-0422			J1106	E020
PS5	Upper right cover open/closed sensor	detects the state (open/closed) of the upper right cover			
	FK2-0149	P002-0 0:open		J1117	
PS6	Manual feed paper sensor	Detects the presence/absence of paper from the manual feeder			
	FK2-0149	P007-14 1:paper present		J1107	
PS7	Last sheet sensor	identifies the last sheet from the manual feeder			
	FK2-0149	P007-15 1:paper present		J1107	

Notation	Name		Description			
	Parts No.	I/O	Connector No.			Jam/E code
			Feed driver PCB	DC controller PCB		
PS8	Developing rotary solenoid sensor		detects the activation of the developing rotary solenoid			
	FK2-0149	P004-12 1:ON(rotary lock)		J1106		
PS9	Registration sensor		detects registration paper			
	FK2-0149		J1305/J1302	J1119		xx0A, 0D91
PS10	Post-transfer sensor		detects paper after transfer			
	FK2-0149		J1305/J1302	J1119		xx0B (except stationary)
PS11	Fixing inlet sensor		detects paper at the fixing inlet			
	FK2-0149	P006-6 1:paper present		J1124		xx15 (stationary only)
PS12	Inside delivery sensor		detects inside delivery paper			
	FK2-0149		J1307/J1303	J1119		xx0C (except stationary)
PS13	Outside delivery sensor		detects outside delivery paper			
	FK2-0149	P006-7 1:paper present		J1110		xx0E
PS14	Reversal sensor		detects reversed paper			
	FK2-0149		J1307/J1303	J1119		xx0D (face-down delivery only)
PS15	Reversal vertical path sensor		detects reversal vertical path paper			
	FK2-0149		J1307/J1303	J1119		xx0F
PS17	Duplexing left sensor		detects duplexing left paper			
	FK2-0149		J1307/J1303	J1119		xx11
PS18	Duplexing confluence sensor		detects duplexing confluence paper			
	FK2-0149		J1307/J1303	J1119		xx12
PS19	Developing rotary HP sensor		detects developing rotary home position			
	FK2-0149			J1106		E021
PS20	Web length sensor		detects the remaining length of the fixing cleaning web			
	FK2-0149	P009-2 1:web absent		J1118		
PS21	Outside heating roller HP sensor		detects the outside heating roller home position			
	FK2-0149	P004-9 1:HP		J1118		E079
PS22	Secondary transfer outside roller HP sensor		detects the secondary transfer outside roller home position			
	FK2-0149		J1305/1302	J1119		E077
PS23	ITB cleaning HP sensor		detects the ITB cleaner home position			
	FK2-0149	P004-8 1:HP		J1108		
PS24	Horizontal registration sensor		detects duplexing horizontal registration			
	FH7-7196		J1307/J1303	J1119		E051
PS25	Color toner level sensor		detects the remaining level of color toner			
	FK2-0003	P009-9 1:toner present		J1106		
PS26	Color toner cartridge sensor		detects the presence/absence of a color toner cartridge			
	FK2-0004	P009-12 1:set		J1106		
PS28	Hopper assembly open/closed sensor		detects the state (open/closed) of the hopper assembly			
	FK2-0149	P009-13 0:open		J1108		
PS29	Transparency sensor (rear)		detects registration paper (if not transparency), detects a transparency (if transparency)			
	FM2-0850 FM2-0851		J1305/J1302	J1119		xx0A, 0D90, 0D91, 0D92, 0D93

Notation	Name		Description		
	Parts No.	I/O	Connector No.		Jam/E code
			Feed driver PCB	DC controller PCB	
PS30	ITB HP sensor B		detects the ITB home position		
	FK2-0161	P004-11 1:HP		J1121	
PS31	Vertical path 0 sensor		detects paper in the vertical path 0		
	FK2-0149	P006-1 1:paper present		J1107	xx09 (only if from right deck)
PS32	Vertical path confluence sensor		detects paper at the pickup vertical path confluence		
	FK2-0149	P006-0 1:paper present		J1117	
PS33	Right deck pickup sensor		detects paper from the right deck		
	FK2-0149	P007-9 1:paper present		J1113	xx01 (except stationary)
PS34	Right deck limit sensor		detects the right deck limit		
	FK2-0149	P005-9 1:limit state		J1113	
PS35	Right deck paper sensor		detects the presence/absence of paper in the right deck		
	FK2-0149	P005-8 1:paper present		J1113	
PS36	Right deck lifter sensor		detects the right deck lifter		
	FK2-0149	P005-10 0:pickup state(paper present)		J1113	
PS37	Right deck paper level sensor A		detects the remaining level of paper in the right deck		
	FK2-0149	P005-11 1:50% or more of capacity		J1111	
PS38	Right deck paper level sensor B		detects the remaining level of paper in the right deck		
	FK2-0149	P005-12 1:50% to 25% of capacity		J1111	
PS39	Right deck sensor		detects the presence/absence of the right deck		
	FK2-0149			J1110	
PS40	Left deck pickup sensor		detects pickup from the left deck		
	FK2-0149	P007-8 1:paper present		J1113	xx02 (except stationary)
PS41	Left deck limit sensor		detects the left deck limit		
	FK2-0149	P004-1 1:limit state		J1113	
PS42	Left deck paper sensor		detects paper in the left deck		
	FK2-0149	P004-0 1:paper present		J1113	
PS43	Left deck lifter sensor		detects the left deck lifer		
	FK2-0149	P004-2 0:pickup state(paper prresent)		J1113	
PS44	Left deck paper level sensor A		detects the remaining level of paper in the left deck		
	FK2-0149	P004-3 1:50% or more of capacity		J1111	
PS45	Left deck paper level sensor B		detects the remaining level of paper in the left deck		
	FK2-0149	P004-4 1:50% to 25% of capacity		J1111	
PS46	Left deck paper sensor		detects paper in the left deck		
	FK2-0149			J1110	
PS47	Left deck stationary paper sensor		detects stationary paper in the left deck		
	FK2-0149	P007-12 1:paper present		J1113	
PS48	Cassette 3 pickup sensor		detects pickup from the cassette 3		
	FK2-0149	P007-11 1:paper present		J1114	xx03 (except stationary)
PS49	Cassette 3 limit sensor		detects the cassette 3 limit		
	FK2-0149	P005-1 1:limit state		J1114	

Notation	Name		Description		
	Parts No.	I/O	Connector No.		Jam/E code
			Feed driver PCB	DC controller PCB	
PS50	Cassette 3 paper sensor	detects paper in the cassette 3			
	FK2-0149	P005-0 1:paper present		J1114	
PS51	Cassette 3 lifter sensor	detects the cassette 3 lifter			
	FK2-0149	P005-2 1:pickup state(paper present)		J1114	
PS52	Cassette 3 paper level sensor A	detects the remaining level of paper in the cassette 3			
	FK2-0149	P005-3 1:50% or less of capacity		J1117	
PS53	Cassette 3 paper level sensor B	detects the remaining level of paper in the cassette 3			
	FK2-0149	P005-4 1:10% or less of capacity		J1117	
PS54	Cassette 4 pickup sensor	detects pickup from the cassette 4			
	FK2-0149	P007-11 1:paper present		J1114	xx04 (except stationary)
PS55	Cassette 4 limit sensor	detects the cassette 4 limit			
	FK2-0149	P006-9 1:limit state		J1114	
PS56	Cassette 4 paper sensor	detects paper in the cassette 4			
	FK2-0149	P006-8 1:paper present		J1114	
PS57	Cassette 4 lifter sensor	detects the cassette 4 lifter			
	FK2-0149	P006-10 0:pickup state(paper present)		J1114	
PS58	Cassette 4 paper level sensor A	detects the remaining level of paper in the cassette 4			
	FK2-0149	P006-11 0:50% or less of capacity		J1117	
PS59	Cassette 4 paper level sensor B	detects the remaining level of paper in the cassette 4			
	FK2-0149	P006-12 0:10% or less of capacity		J1117	
PS60	Vertical path 1 sensor	detects paper in the pickup vertical path 1			
	FK2-0149	P006-2 1:paper present		J1113	xx08 (except stationary)
PS61	Vertical path 2 sensor	detects paper in the pickup vertical path 2			
	FK2-0149	P006-3 1:paper present		J1112	xx04
PS62	Vertical path 3 sensor	detects paper in the pickup vertical path 3			
	FK2-0149	P006-4 1:paper present		J1114	xx06
PS63	Vertical path 4 sensor	detects paper in the pickup vertical path 4			
	FK2-0149	P006-5 1:paper present		J1114	xx05
PS64	Lower right cover open/closed sensor	detects the state (pen/closed) of the lower right cover			
	FK2-0149	P002-1 0:open		J1112	
PS65	Drum HP sensor	detects the home position of the photosensitive drum			
	FK2-0149			J1109	
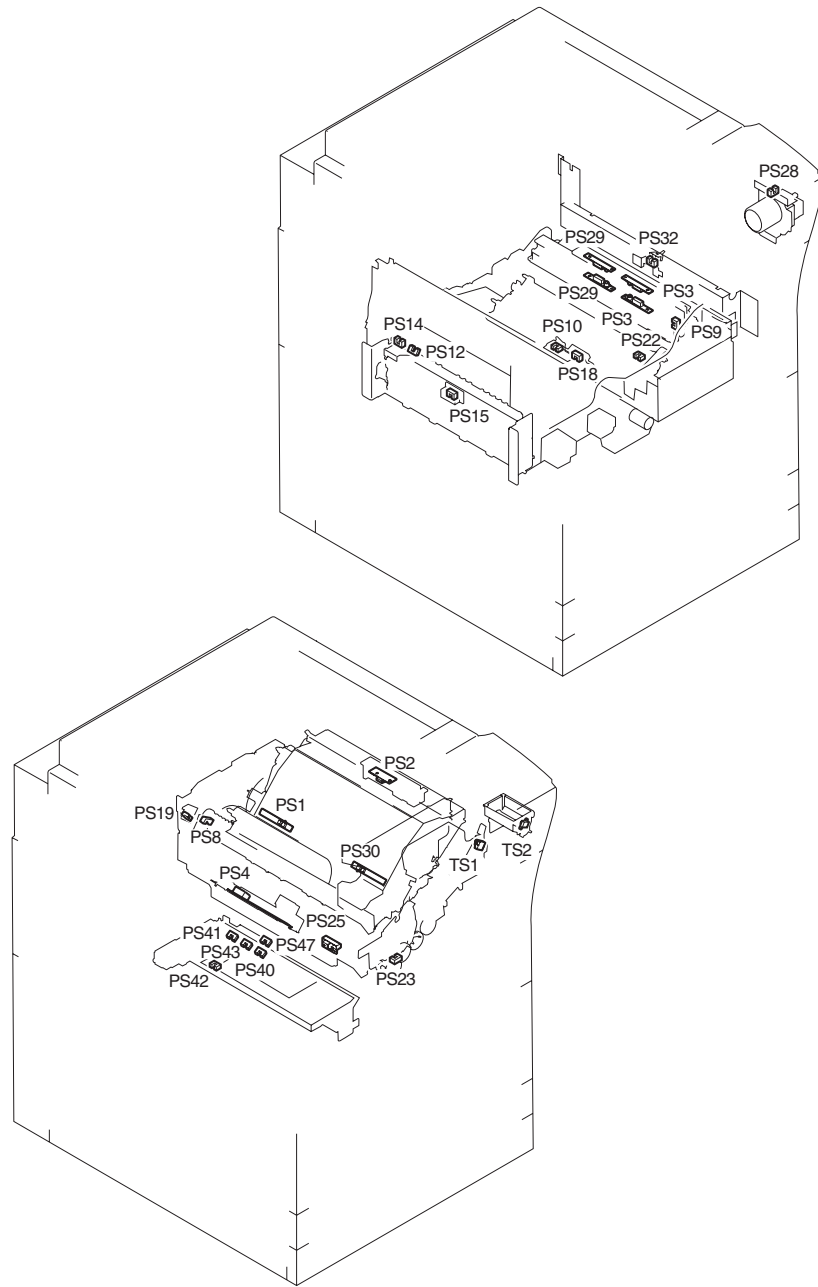
F-14-125
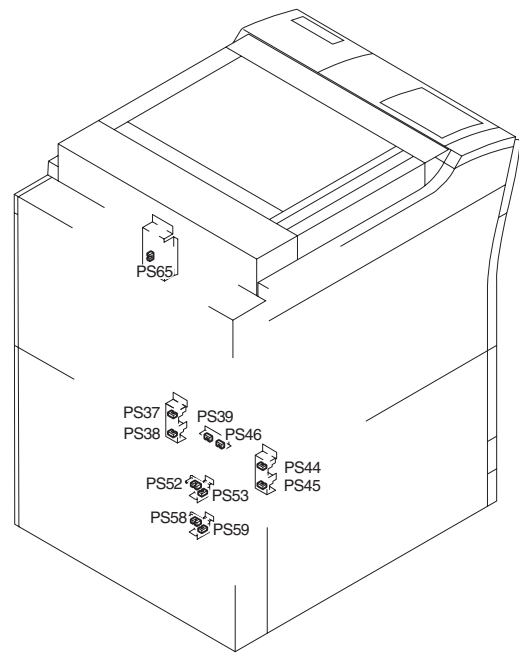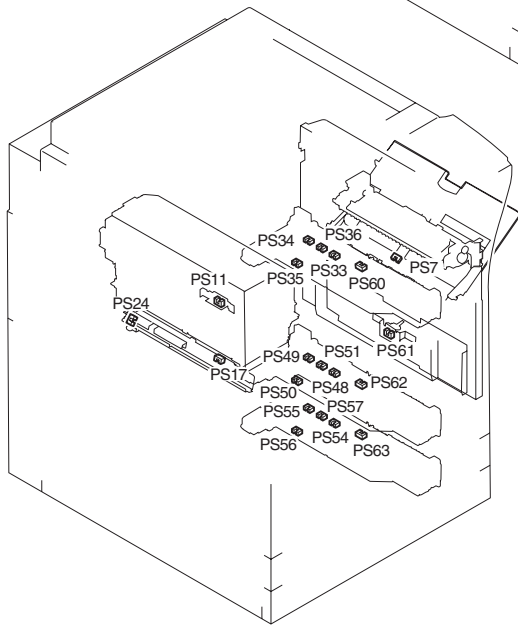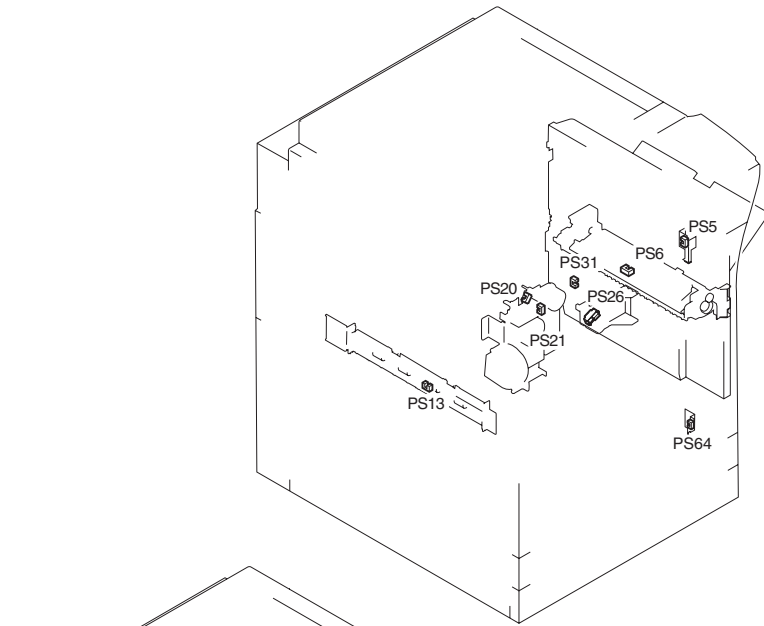
F-14-126
F-14-127

14.4.5 Switch

14.4.5.1 Switches

1. Reader Unit

The reader unit does not have any switch.

2. Printer Unit

T-14-21

Notation	Name		Description		
	Parts No.	I/O	COPIER>FUNCTION	Connector	E code
SW1	Main power switch		turns on/off the main power		
	FK2-0140				
SW2	Environment switch		turns on/off the drum heater, reader heater, cassette heater, deck heater		
	FM2-0844				
SW3	Cassette heater switch		turns on/off the cassette heater, deck heater		
	FM2-0844				
SW11	Upper right cover open/closed switch		detects the upper right cover		
	FM2-0960				
SW12	Front cover switch		detects the front cover		
	FM2-0398	P002-2 1:open			
SW13	Control key		control key		
	FG3-3004		INSTALL>KEY 0: do not recognize control key function 1: recognize control key function	J1208	
SW14	Waste toner lock detection switch		detects the state (locked/unlocked) of the waste toner screw		E013-0002
	WC4-0241				
SW15	Fixing/feeding lock switch		detects the state (locked/unlocked) of the feeder release lever		
	FC5-2496				
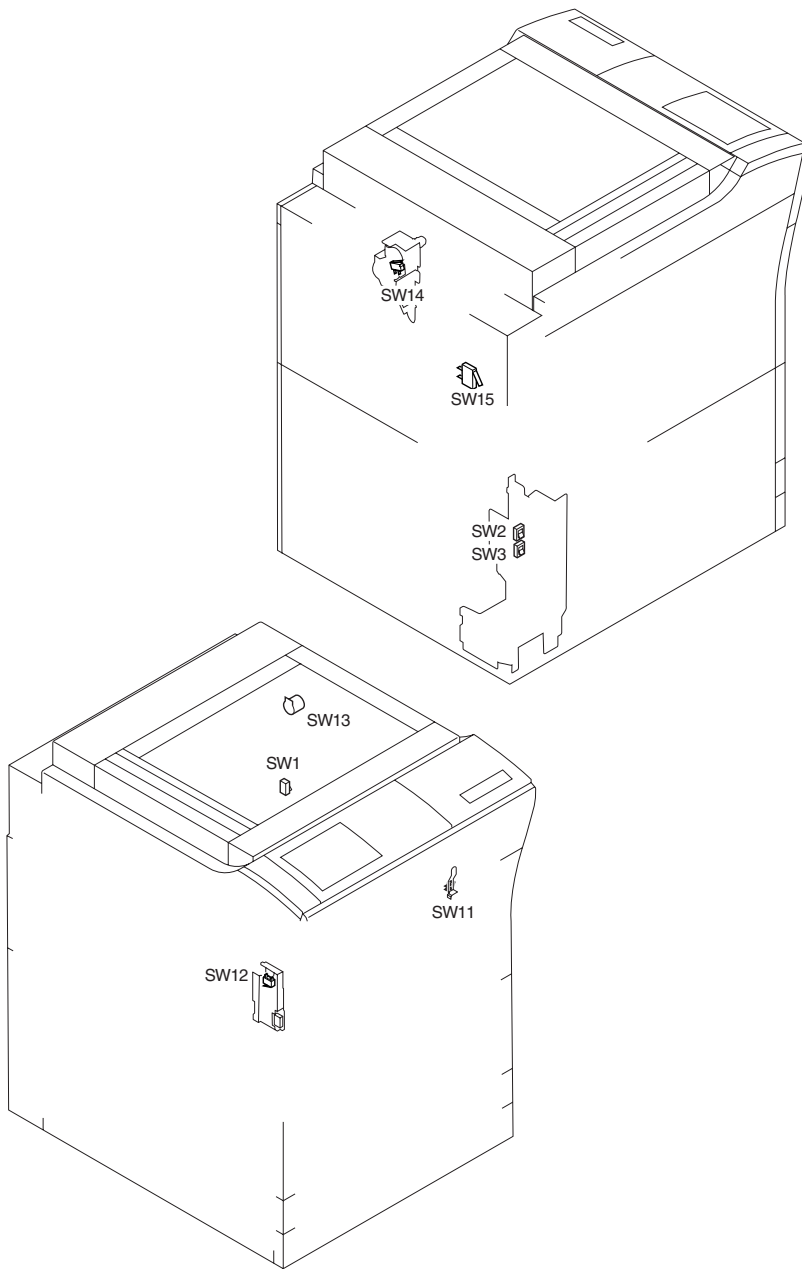
F-14-128

14.4.6 Lamps, Heaters, and Others

14.4.6.1 Heaters, Lamps, and Others
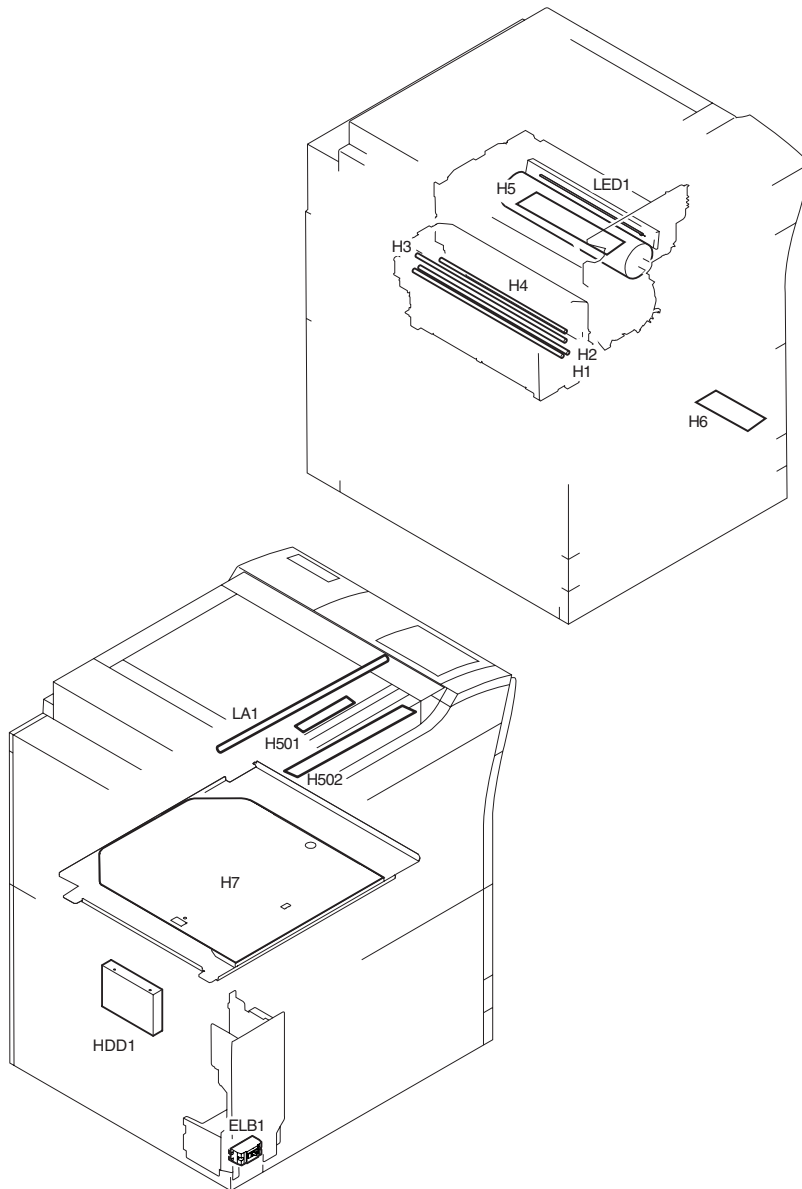
F-14-129

T-14-22

Notation	Name	Description	
	Parts No.	PART-CHK	E code
H1	Fixing main heater	main heater (controls the fixing roller temperature)	
	FK2-0043(100V)		E000,E001,E004
	FK2-0048(120V)		
	FK2-0053(230V)		
H2	Fixing sub heater	sub heater (controls the fixing roller temperature)	
	FK2-0044(100V)		E000,E001,E004
	FK2-0049(120V)		
	FK2-0054(230V)		
H3	Shift heater	shift heater (keeps the shift roller heated)	
	FK2-0045(100V)		E000,E001,E004
	FK2-0050(120V)		
	FK2-0055(230V)		

Notation	Name	Description	
	Parts No.	PART-CHK	E code
H4	Outside heating roller heater	fixing auxiliary heater (helps keep the fixing roller heated)	
	FK2-0047(100V)		E000,E001,E004
	FK2-0052(120V)		
	FK2-0057(230V)		
H5	Drum heater	prevents condensation on the drum	
	FL2-0419(100V)		
	FL2-0535(120V)		
	FL2-0536(230V)		
H7	Cassette heater	prevents absorption of moisture by paper inside the cassette	
	FH7-4740(100V)		
	FM2-0564(230V)		
H501	Lens heater	prevents condensation on the lens	
	FK2-0226(100V)		
	FK2-0229(230V)		
H502	Mirror heater	prevents condensation on the mirror	
	FK2-0227(100V)		
	FK2-0229(230V)		
ELCB1	Leakage breaker	leakage breaker	
	FK2-0151(100V)		
	FK2-0152(120V)		
	FK2-0150(230V)		
HDD1	Hard disk	holds programs, images	
	WM2-5208		E602,E606
LED1	Pre-exposure LED	removes residual charges from the photosensitive drum	
	FK2-0005		
LA1	scanning lamp	illuminates originals	
	FK2-0224	MISC-R>SCANLAMP	E225

T-14-23

Notation	Main controller PCB	Inverter PCB	Reader controller PCB	AC driver PCB	DC controller PCB
H1				J1803/1810	J1105
H2				J1803/1810	J1105
H3				J1804/1810	J1105
H4				J1804/1810	J1105
H5				J1805/1810	J1105
H7				J1806/1810	J1105
H501				J1807	-----
H502				J1807	-----
ELCB1				J1801	-----
HDD1	J2126/1204				
LED1					J1106
LA1		J602/601	J206		

14.4.7 PCBs

14.4.7.1 PCB

< iR C6870U / iR C5870U >

1. Reader Unit

T-14-24

Notation	Name	Parts No.	Description
[1]	Interface PCB	FM2-1102	communicates with the printer unit, ADF
[2]	Reader controller PCB	FM2-1101	controls the reader unit
[3]	CCD/AP PCB	FM2-0617 (CCD unit)	performs analog image processing
[4]	Inverter PCB	FK2-0225	drives the scanning lamp
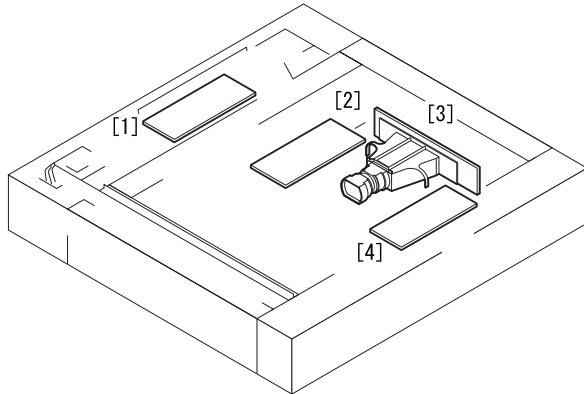
F-14-130

2. Printer Unit

T-14-25

Notation	Name	Parts No.	Description
[1]	BD PCB	FM2-0394(laser scanner)	generates the BD signal
[2]	Potential control PCB	FM2-0444(potential sensor unit)	converts the potential sensor output
[3]	Manual feed paper width PCB	FH7-7600	detects the width of paper from the manual feeder
[4]	Laser driver PCB	FM2-0394(laser scanner)	controls the drive of the laser unit
[5]	Potential sensor	FM2-0444(potential sensor unit)	measures the surface potential of the photosensitive drum
[6]	Drum heater PCB	FM2-0841(100/120V), 0842(230)	controls the drum heater
[7]	HVT2	FM2-0528	controls the developing (black, color), primary transfer, primary static eliminator bias
[8]	Keypad PCB	FM2-1250	controls the input information from the keypad
[9]	Control panel inverter PCB	FM2-1251	controls the back-light activation of the LCD
[10]	Control panel CPU PCB	FM2-1249	controls the panel
[11]	HVT3	FM2-0826	controls the secondary transfer bias
[12]	Fixing/feeding driver PCB	FM2-0822	controls the sensors, motors, fans, and solenoids of the fixing/feeding and duplexing assemblies
[13]	Environment sensor	FK2-0160	takes measurements of the environment
[14]	Cassette 3 paper size detection PCB	FM2-0849	detects the size of the cassette 3
[15]	Cassette 4 paper size detection PCB	FM2-0849	detects the size of the cassette 4

Notation	Name	Parts No.	Description
[16]	DC/DC converter PCB 1	FM2-6049	converts DC power supply
[17]	Main controller PCB (subR-A)	FM2-6038	color space conversion, rotation for electronic sort, binary processing for fax, resolution conversion for fax
[18]	Main controller PCB (subPE-A)	FM2-6037	image processing for printer output (color space compression, background removal, LGO conversion, direction mapping, color balance, zoom fine adjustment, gradation conversion, screen processing, framing, add-on)
[19]	Relay PCB (Gu-short)	FK2-1867	bus connection
[20]	Main controller PCB (sub SJ-A)	FM2-6036	scanner interface, scanner image processing (resolution conversion, image rotation, compression expansion)
[21]	Main controller PCB (sub LAN-bar-A)	FM2-6039	LAN connection, HDD controller, HDD power supply
[22]	HDD	WM2-5208	holds system software, image data
[23]	Environment switch PCB	FM2-5889(100), 0550(120), 0551(230) (power code terminal assembly)	switches the heater
[24]	AC drive PCB	FM2-5889(100), 0550(120), 0551(230) (power code terminal assembly)	controls AC drive
[25]	Pickup drive PCB	FM2-0823	controls the motor of the pickup assembly
[26]	DC/DC converter PCB 2	FM2-0848	converts DC power supply
[27]	DC power relay PCB	FM2-0843	turns on/off the DC power supply, protects against over-voltage/over-current
[28]	DC power supply PCB	FM2-0524(100/120), FM2-1229(230)	generates DC power
[29]	SDRAM	WA7-3573	temporarily holds image data
[30]	HVT1	FM2-0527	controls primary charging, grid, pre-transfer charging bias
[31]	Boot ROM		starts up the system
[32]	DC controller PCB	FM2-6055(100), FM2-6056(120), FM2-6057(230)	controls the printer unit/accessories
[33]	All night power supply PCB	FK2-0101(100/120) FK2-0111(230V)	non-interruptive power supply
[34]	Main controller PCB (main)	FM2-6035	image data processing for output to printer unit
[35]	SRAM PCB	FM2-6040	holds service mode settings/HDD control information
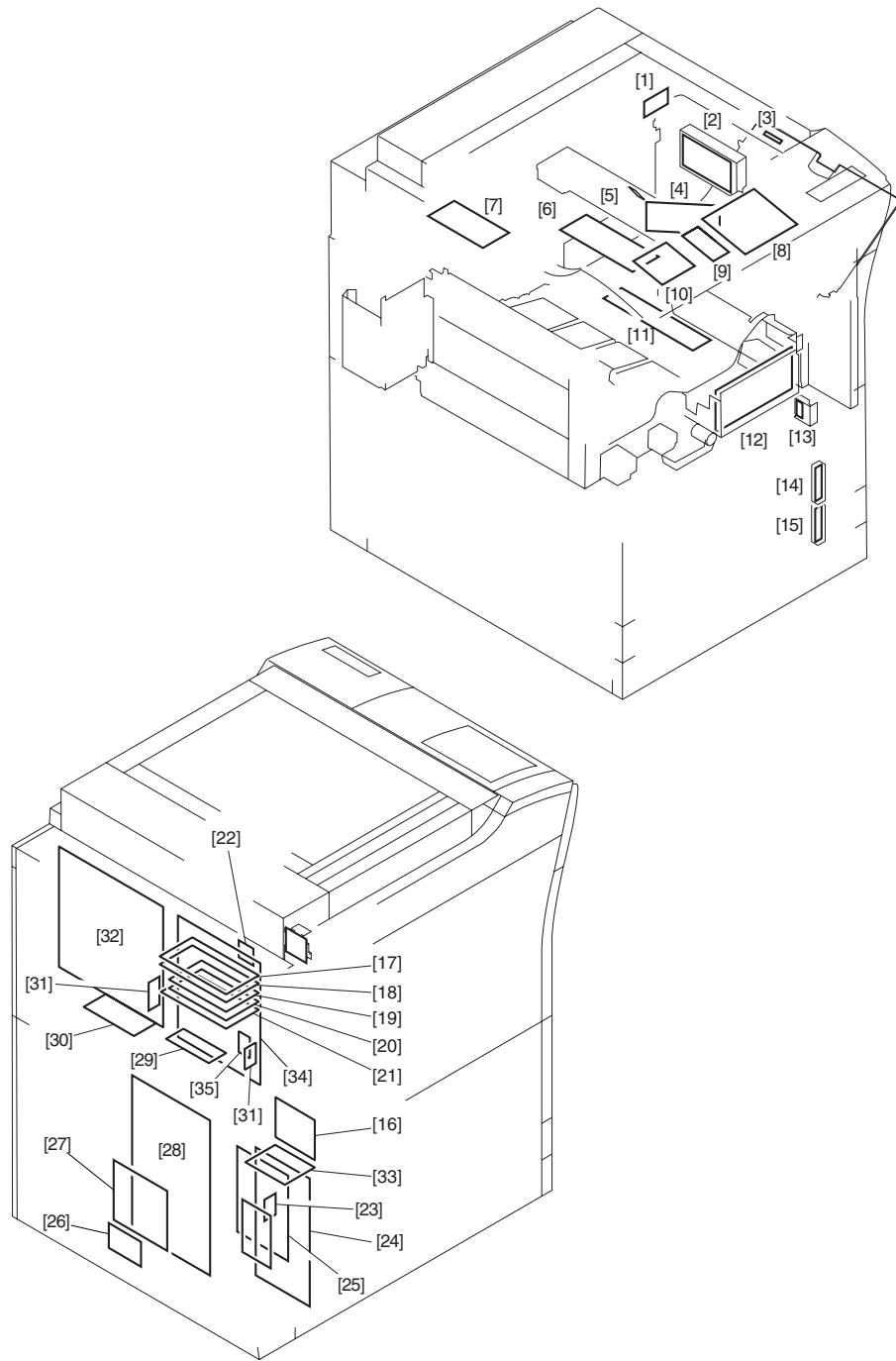
F-14-131

14.4.7.2 PCB

< iR C6800 / iR C5800 >

1. Reader Unit

T-14-26

Notation	Name	Parts No.	Description
[1]	Interface PCB	FM2-1102	communicates with the printer unit, ADF
[2]	Reader controller PCB	FM2-1101	controls the reader unit
[3]	CCD/AP PCB	FM2-0617 (CCD unit)	performs analog image processing
[4]	Inverter PCB	FK2-0225	drives the scanning lamp
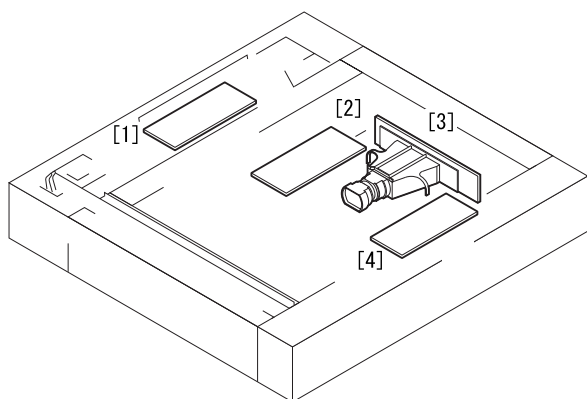
F-14-132

2. Printer Unit

T-14-27

Notation	Name	Parts No.	Description
[1]	BD PCB	FM2-0394(laser scanner)	generates the BD signal
[2]	Potential control PCB	FM2-0444(potential sensor unit)	converts the potential sensor output
[3]	Manual feed paper width PCB	FH7-7600	detects the width of paper from the manual feeder
[4]	Laser driver PCB	FM2-0394(laser scanner)	controls the drive of the laser unit
[5]	Potential sensor	FM2-0444(potential sensor unit)	measures the surface potential of the photosensitive drum
[6]	Drum heater PCB	FM2-0841(100/120), 0842(230)	controls the drum heater
[7]	HVT2	FM2-0528	controls the developing (black, color), primary transfer, primary static eliminator bias
[8]	Keypad PCB	FM2-1250	controls the input information from the keypad
[9]	Control panel inverter PCB	FM2-1251	controls the back-light activation of the LCD
[10]	Control panel CPU PCB	FM2-1249	controls the panel
[11]	HVT3	FM2-0826	controls the secondary transfer bias
[12]	Fixing/feeding driver PCB	FM2-0822	controls the sensors, motors, fans, and solenoids of the fixing/feeding and duplexing assemblies
[13]	Environment sensor	FK2-0160	takes measurements of the environment
[14]	Cassette 3 paper size detection PCB	FM2-0849	detects the size of the cassette 3
[15]	Cassette 4 paper size detection PCB	FM2-0849	detects the size of the cassette 4
[16]	DC/DC converter PCB 1	FM2-0832	converts DC power supply

Notation	Name	Parts No.	Description
[17]	SRAM PCB	FG3-2860	holds service mode settings/HDD control information
[18]	Expansion bus PCB	FM2-0536	controls the color LCD controller, card reader I/F
[19]	Main controller PCB (sub)	FM2-0535	connects the image signals from the reader units
[20]	Ethernet PCB	FG3-2865	connects to the network
[21]	Main controller PCB (main)	FG3-2857	processes image data for output to the printer unit
[22]	HDD	WM2-5208	holds system software, image data
[23]	Environment switch PCB	FM2-0523(100), 0550(120), 0551(230) (power code terminal assembly)	switches the heater
[24]	AC drive PCB	FM2-0523(100), 0550(120), 0551(230) (power code terminal assembly)	controls AC drive
[25]	Pickup drive PCB	FM2-0823	controls the motor of the pickup assembly
[26]	DC/DC converter PCB 2	FM2-0848	converts DC power supply
[27]	DC power relay PCB	FM2-0843	turns on/off the DC power supply, protects against over-voltage/over-current
[28]	DC power supply PCB	FM2-0524(100/120), 1229(230)	generates DC power
[29]	SDRAM	WA7-2922	temporarily holds image data
[30]	HVT1	FM2-0527	controls primary charging, grid, pre-transfer charging bias
[31]	Boot ROM		starts up the system
[32]	DC controller PCB	FM2-0821(100), 0857(120), 0858(230)	controls the printer unit/accessories
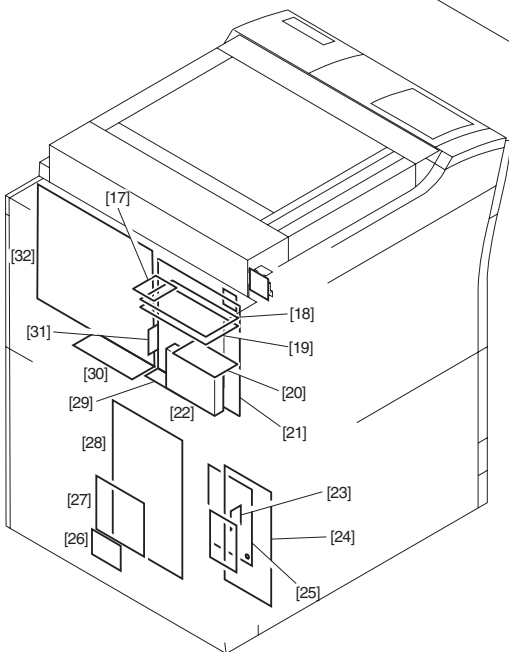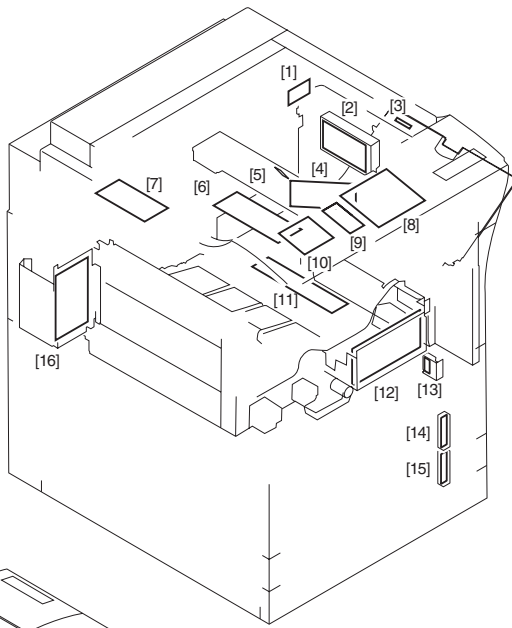
F-14-133

14.4.8 Variable Resistors (VR), Light-Emitting Diodes (LED), and Check Pins by PCB

14.4.8.1 Variable Resistors (VR), Light-Emiting Diodes (LED), and Check Pins by PCB

Of the variable resistors (VR), light-emitting diodes (LED), and check pins used in the machine those needed in the field are discussed.

⚠

- Although normal, some LEDs may emit dim light when they remain off becouse of leakege current.
- Keep the following symbols in mind;

⊘---VR that may be used in the field.

⊘---VR that must not be used in the field.

14.4.8.2 Points to Note About the Leakage Breaker

⚠ Points to Note When Checking the Output of the PCBs

Normally, an AC voltage is being applied to the terminals of the leakage beaker [1]. Take full care not to touch them when making a check.
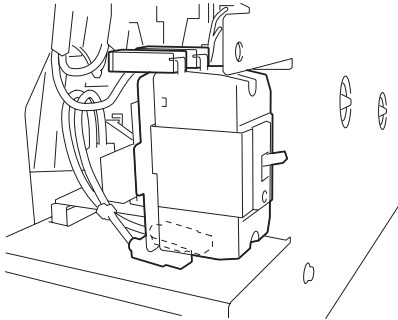
F-14-134

14.4.8.3 Main Controller PCB (main)
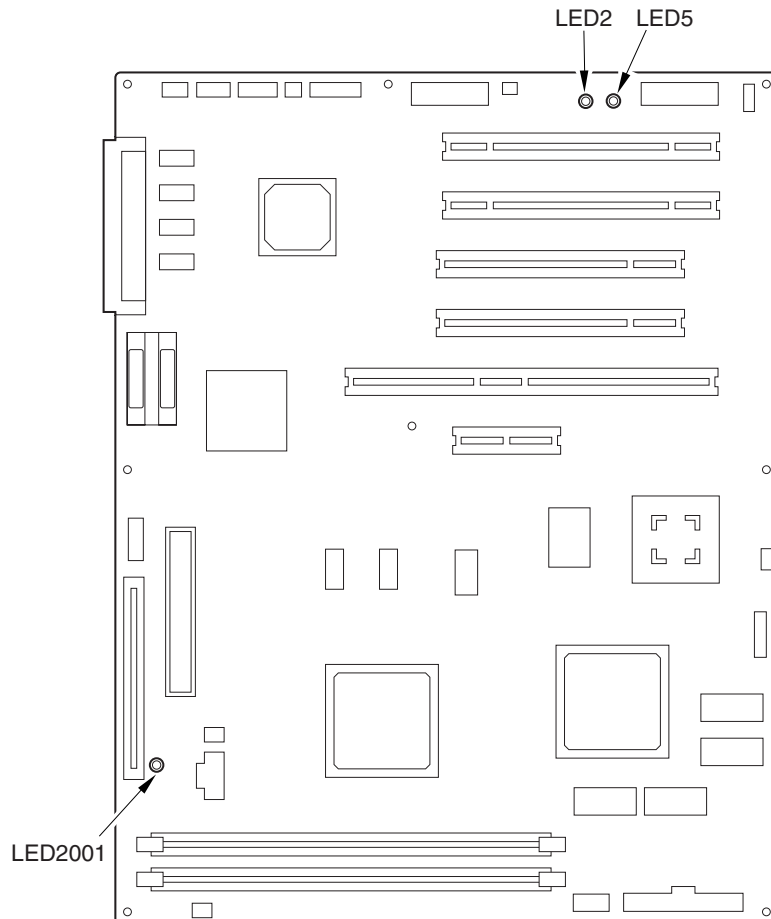
F-14-135

T-14-28

Notation	Description
LED2001	in operation
LED2	+3.3 V (all night) being supplied
LED5	+3.3 V (non-all night) being supplied

14.4.8.4 DC Controller PCB
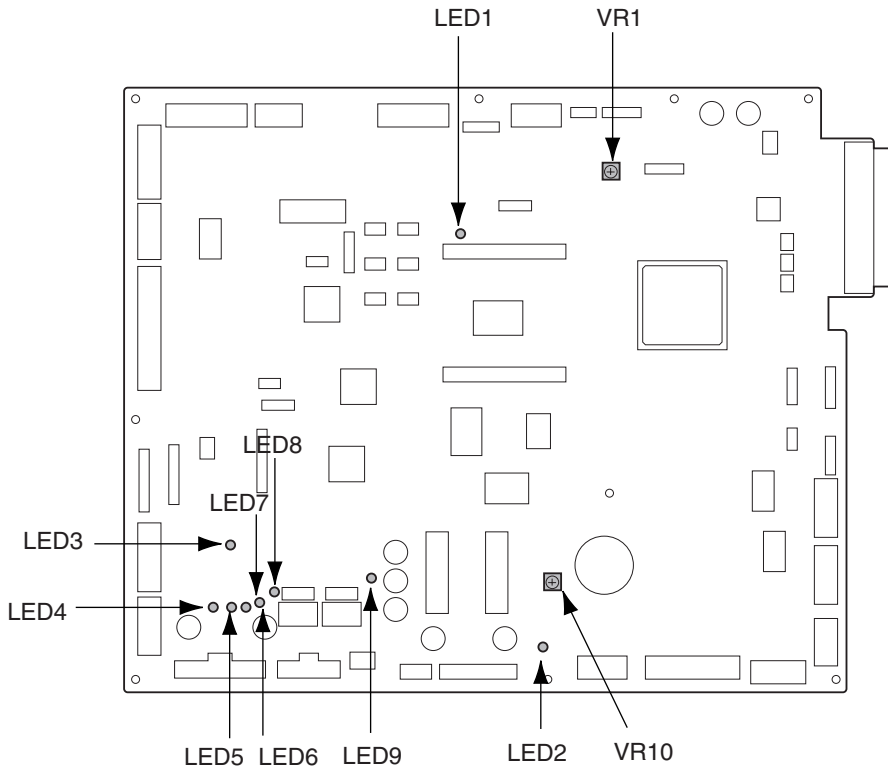
F-14-136

T-14-29

Notation	Description
VR1,VR10	for factory
LED1-9	in operation

14.4.8.5 HV1 PCB
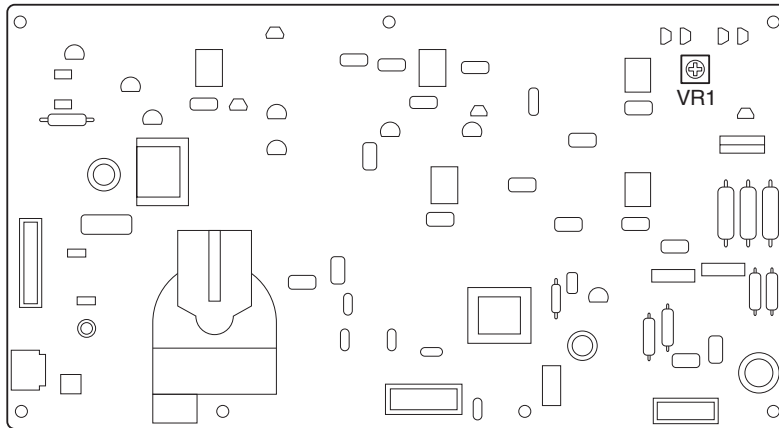
F-14-137
T-14-30

Notation	Description
VR1	for factory

14.4.8.6 HV2 PCB
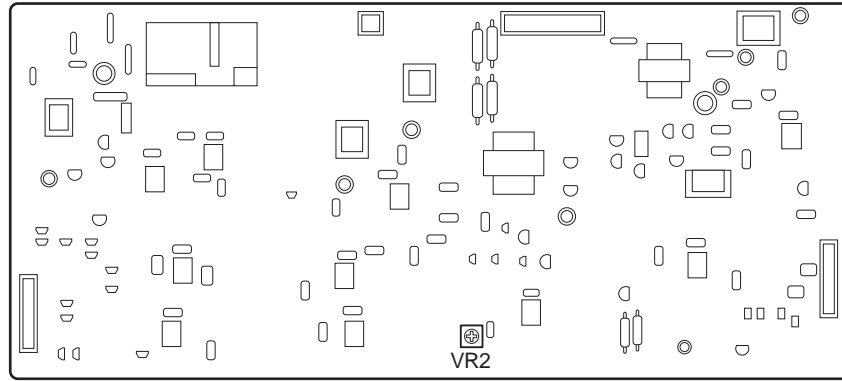
F-14-138
T-14-31

Notation	Description
VR2	for factory

14.4.8.7 HV3 PCB
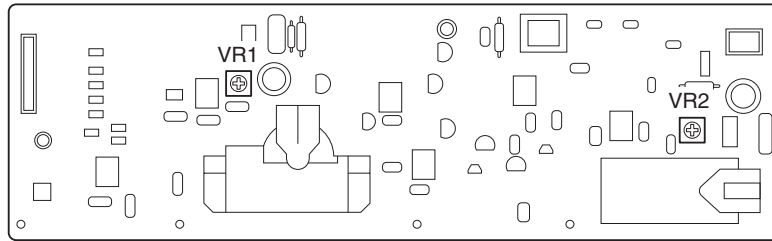
F-14-139
T-14-32

Notation	Description
VR1	for factory
VR2	for factory

Chapter 15

Self Diagnosis

Contents

15.1 Error Code Table

15.1.1 Error Code

The machine is equipped with a self diagnostic mechanism which runs a check on the machine (particularly, on sensor output) at such times as programmed in advance, indicating the nature of any error it may have come across.

The following is a compilation of error codes, with descriptions of how they are identified and possible causes.

The 4-digit code is indicated to offer details, and may be checked in service mode (COPIER>DISPLAY>ERR).

T-15-1

Code	Description
E000	at power-on, the temperature of the fixing assembly is not high enough
E001	the temperature of the fixing assembly is abnormally high
E002	the temperature of the fixing assembly is not high enough
E003	the temperature of the fixing assembly drops abnormally after standby
E004	there is an error in the fixing assembly protection circuit
E005	there is an error in the take-up of the web
E006	there is an error in the connection of the fixing assembly
E008	there is an error in relation to the life of the fixing assembly
E009	there is an error in the shift of the external heating roller
E012	there is an error in the drum/ITB motor
E013	there is clogging by waste toner
E014	there is an error in the fixing motor
E020	there is an ATR error
E021	there is an error in the rotation of the developing assembly
E023	the developing sleeve motor does not rotate normally
E025	there is an overcurrent in the toner feed motor or the cartridge motor
E032	the NE controller counter does not operate
E043	there is an error in the 3.5K paper deck pickup motor, causing an error signal
E051	the horizontal registration home position is not detected within a specific period of time
E061	during potential control, a specific level of potential is not obtained or the limiter goes on
E070	there is an error in the detection of ITB home position
E073	with the front door closed, the transfer drawer connector or the transfer frame drawer connector is not connected
E077	the home position of the secondary transfer roller (engagement) is not detected
E078	the home position of the transfer belt cleaner unit (engagement) is not detected
E079	the home position of the outside heating roller (engagement) is not detected
E100	the BD is not detected
E110	there is an error in the scanner motor
E197	there is an error in the communication with the fixing/feed PCB
E202	there is a home position error
E225	the lamp has blown
E227	there is an error in the power supply (24 V)
E240	there is a DDI-P communication error (error in the communication between master and slave 0)
E246	counter memory write error
E247	counter memory SRAM error
E248	there is an error in EEPROM
E315	codex error
E350	soft ID PCB/function fault
E351	there is an error in the main controller PCB (sub)
E354	serial No. mismatch
E355	serial No. mismatch

Code	Description
E400	there is a DF communication error
E413	there is an error in the DF shift motor
E490	the DF is of the wrong model
E500	there is a finisher communication error (common among finishers)
E503	there is an error within the finisher (finisher R1/R2)
E505	there is an error in the backup memory of the finisher (finisher R1/R2)
E514	there is an error in the trailing edge assist motor (finisher R1/R2)
E519	there is an error in the gear change motor (finisher R1/R2)
E530	there is an error in front alignment (finisher R1/R2)
E531	there is a stapling error (finisher R1/R2)
E532	there is an error in the shift of the stapler (finisher R1/R2)
E535	there is an error in the swing of the stapler (finisher R1/R2)
E537	there is an error in rear alignment (finisher R1/R2)
E540	there is an error in the up/down movement of the upper tray (finisher R1/R2)
E542	there is an error in the up/down movement of the lower tray (finisher R1/R2)
E584	there is an error in the shutter unit (finisher R1/R2)
E590	there is an error in the punch motor (punch unit)
E591	there is an error in the punch dust sensor (punch unit)
E592	there is an error in the punch horizontal sensor (punch unit)
E593	there is an error in the punch shift motor (punch unit)
E5F0	there is an error in saddle paper positioning
E5F1	there is an error in saddle paper folding
E5F2	there is an error in the saddle guide
E5F3	there is an error in saddle alignment
E5F4	there is an error in saddle rear stapling
E5F5	there is an error in saddle front stapling
E5F6	there is a saddle butting error
E5F8	there is an error in the saddle connector
E5F9	there is an error in saddle stitching
E602	there is a hard disk error
E604	there is a shortage of image memory (SDARM)
E605	there is an error in the image memory battery
E606	there is an error on the hard disk
E610	HDD encryption key fault
E674	there is a fax board error
E677	there is an external controller error
E710	there is an IPC initialization error
E711	there is an IPC communication error
E712	there is an error in the communication between ADF and reader
E713	there is a finisher communication error
E717	there is an error in the communication with the NE controller
E719	there is an error in the communication with the coin vendor/card reader
E730	there is a PDL error
E731	there is a UFR board error
E732	there is a reader communication error
E733	there is a printer communication error
E740	there is an Ethernet board error
E743	there is a DDI communication error
E744	there is a language file/boot ROM error
E745	there is TokenRing board error
E746	the accessories board is of the wrong type

Code	Description
E747	there is an error in the ASIC for image processing or memory control; or, there is an error in the ASIC for communication control
E748	CL2 board-dependent board error
E749	reboot command initiated by change in PDL configuration
E800	an interlock 24V off state has been identified for the fixing unit; with the door closed, the interlock 24V detection signal is off for 500 msec continuously
E804	there is a fan error (of any type)
E805	the fixing heat exhaust fan is identified as being closed; or, there is an error in the fan
E820	there is an error in the process unit cooling fan
E824	there is an error in the primary charging suction/exhaust fan

15.2 Error Code Details

15.2.1 Error Code in Detail

T-15-2

Code	Cause/Particulars of detection	Remarks
E000	At power-on, the rise in the temperature of the fixing assembly is not high enough. The main thermistor (THM1, THM2, THM3), thermal switch (TP1, TP2, TP3), or heater (H1, H2, H3, H4) has an open circuit or poor contact. The AC drive PCB or the DC controller PCB is faulty.	
0010	After power-on, the temperature does not reach 50 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0011	The temperature reaches 50 deg C, but does not reach 80 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0012	The temperature reaches 80 deg C, but does not reach 110 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0013	The temperature reaches 110 deg C, but does not reach 140 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0014	The temperature reaches 140 deg C, but does not reach 170 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0015	The temperature reaches 170 deg c, but does not reach 200 deg C within 300 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0020	After power-on, the temperature does not reach 50 deg C within 180 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0021	The temperature reaches 50 deg C, but does not reach 80 deg C within 180 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0022	The temperature reaches 80 deg C, but does not reach 110 deg C within 180 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0023	The temperature reaches 110 deg C, but doest not reach 140 deg C within 180 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0024	The temperature reaches 140 deg C, but does not reach 170 deg C within 180 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.

Code	Cause/Particulars of detection	Remarks
0025	The temperature reaches 170 deg C, but does not reach 200 deg C within 180 sec. If the outside heating roller is in contact, within 400 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0026	The temperature reaches 200 deg C, but does not reach 230 deg C within 180 sec. If the outside heating roller is in contact, within 400 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0030	After power-on, the temperature does not reach 50 deg C within 420 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0031	The temperature reaches 50 deg C, but does not reach 80 C deg in 420 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0032	The temperature reaches 80 deg C, but does not reach 110 deg C within 420 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0033	The temperature reaches 110 deg C, but does not reach 140 deg C within 420 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0034	The temperature reaches 140 deg C, but does not reach 170 deg C within 420 sec.	Check for an open circuit and poor contact in the main thermistor, thermal switch, and heater; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E001	The rise in the temperature of the fixing assembly is excessive. There is an open circuit or poor contact in the following: main thermistor (THM1, THM2, THM3), sub thermistor (THM4, THM5, THM6), or heater (H1, H2, H3, H4). The AC driver PCB or the DC controller PCB is faulty.	
0001	The rise in the temperature of the fixing roller is excessive.	Check the main thermistor, sub thermistor, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0002	The rise in the temperature of the outside heating roller is excessive.	Check the main thermistor, sub thermistor, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0003	The rise in the temperature of the pressure roller is excessive.	Check the main thermistor, sub thermistor, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
00FF	When the cause (Detailed code) cannot be found in the DC controller PCB input-port as DC controller PCB detects instantly an abnormal signal from the thermistor.	After releasing the error with the procedure of COPIER>FUNCTION>CLEAR>ERR, 1. Turn off the switch of control panel. 2. Turn off the switch of main power. 3. Turn on the switch of main power. a. When the machine returns, Check the interconnection between the DC controller PCB and the thermistor. b. When the machine does not return, Follow the instruction the error (Detailed) code shows on the control panel.
E002	The rise in the temperature of the fixing assembly is not enough. There is an open circuit or poor contact in the main thermistor (THM1, THM2, THM3), thermal switch (TP1, TP2, TP3), or heater (H1, H2, H3, H4). The AC driver PCB or the DC controller PCB has a fault.	
0010	The temperature of the fixing roller reaches 80 deg C, but drops below 50 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0020	The temperature of the outside heating roller reaches 80 deg C, but drops below 50 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.

Code	Cause/Particulars of detection	Remarks
0030	The temperature of the pressure roller reaches 80 deg C, but drops below 50 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E003	After standby, the drop in the temperature of the fixing assembly is excessive. There is an open circuit or poor contact in the main thermistor (THM1, THM2, THM3), thermal switch (TP1, TP2, TP3), or heater (H1, H2, H3, H4). The AC driver PCB or the DC controller PCB has a fault.	
0041	During standby, the temperature of the fixing roller drops below 150 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0042	During standby, the temperature of the outside heating roller drops below 190 dg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0043	During standby, the temperature of the pressure roller drops below 120 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0051	During copying, the temperature of the fixing roller drops below 150 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0052	During copying, the temperature of the outside heating roller drops below 190 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0053	During copying, the temperature of the pressure roller drops below 60 deg C.	Check the main thermistor, thermal switch, and heater for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E004	There is an error in the fixing assembly protection circuit. There is an open circuit or poor contact in the main thermistor (THM1, THM2, THM3) or sub thermistor (TH4, THM5, THM6). The AC driver PCB or the DC controller PCB has a fault.	
0001	There is an SSR error in the outside heating roller heater. There is an SSR error in the outside heating roller heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0002	There is an SSR error in the fixing sub heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0003	There is an SSR error in the outside heating roller heater or the fixing sub heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0004	There is an SSR error in the fixing main heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0005	There is an SSR error in the outside heating roller heater or the fixing main heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0006	There is an SSR error in the fixing sub heater or the fixing main heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0007	There is an SSR error in the outside heating roller heater, fixing sub heater, or fixing main heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0008	There is an SSR error in the pressure heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0009	There is an SSR error in the outside heating roller heater or the contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.

Code	Cause/Particulars of detection	Remarks
000A	There is an SSR error in the fixing sub heater or the contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
000B	There is an SSR error in the outside heating roller heater, fixing sub heater, or contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
000C	There is an error in the fixing main heater or the contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
000D	There is an SSR error in the outside heating roller heater, fixing main heater, or contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
000E	There is an error in the fixing sub heater, fixing main heater, or contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
000F	There is an SSR error in the outside heating roller heater, fixing sub heater, fixing main heater, or contact heater.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0010	The fixing roller thermistor has an open circuit.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0020	The outside heating roller thermistor has an open circuit.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0030	The pressure roller thermistor has an open circuit.	Check the main thermistor and the sub thermistor for an open circuit and poor contact; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E005	There is an error in the take-up mechanism of the web.	
0000	The web of the fixing assembly has been fully taken up. After the web sensor has detected an off state, the count has exceeded 3000. The web length sensor (PS20) is faulty. The DC controller PCB is faulty.	Reset in service mode: COPIER>FUNCTION>CLEAR>ERR. If you have replaced the web, reset the reading in the following, and turn off and then on the power: COPIER>COUNTER>DRBL-1>FIX-WEB.
0010	The drive solenoid of the fixing assembly is not connected.	Check the drive solenoid of the fixing web for disconnection; then, reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E006	The fixing assembly has a comparison error.	
0001	The fixing drawer has been identified as being disconnected.	Check the connector of the drive solenoid of the fixing web; then, turn off and then on the main power.
E008	There is an error in relation to the life of the fixing assembly.	
0001	The counter reading for the fixing roller has exceeded a specific count.	When you have replaced the fixing roller, reset in service mode, and turn off and then on the main power: COPIER>COUNTER>DRBL-1>FX-UP-RL.
E009	There is an outside heating roller shift error. The outside heating roller shift motor (M22) is faulty. The outside heating roller HP sensor (PS21) is faulty. The DC controller PCB is faulty.	
00FF	The outside heating roller remains in contact with the fixing roller.	Check the outside heating roller shift motor and the fixing motor; then, turn off and then on the main power.
E012	There is an error in the drum/ITB motor.	
0001	After motor start-up, a lock state is not identified for 1 sec or more.	Check the area around the photosensitive drum and the intermediate transfer belt; then, turn off and then on the main power.
E013	There is clogging by waste toner.	
0001	There is a waste toner full error. the soft counter reading is 250000 or higher.	Check the amount of waste toner; then, turn off and then on the main power.

Code	Cause/Particulars of detection	Remarks
0002	There is a waste toner feedscrew error. The output of the waste toner lock detecting switch (SW14) is '1' for more than 1 sec.	Check the developing motor; then, turn off and then on the main power.
E014	There is a fixing motor error.	
0001	After motor start-up, a lock state is not identified for 1 sec or more.	Check the fixing motor (fixing assembly); then, turn off and then on the main power.
E020	There is an ATR error. xx=01 for Y; xx=02 for M; xx=03 for C; xx=04 for without color distinction	
xx10	For INIT control (service mode INISET-*) at time of initial setup, the Sig value is lower than 62. The ATR sensor is damage or has an open circuit. The connector may have poor contact. The intermediate transfer belt may be soiled.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx11	For INIT control (service mode INISET-*) at time of initial setup, the Ref value is lower than 62. The ATR sensor is damaged or has an open circuit. The connector may have poor contact. The intermediate transfer belt may be soiled>	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx12	For INIT control (service mode INISET-*) at time of initial setup, the Sig value is 960 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The opening/closing of the shutter is faulty. The intermediate transfer belt is soiled.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx13	For INIT control (service mode INISET-*) at time of initial setup, the Ref value is 960 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The intermediate transfer belt is soiled.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx81	When the background (intermediate transfer belt) is read during patch detection, the P_base_adj value is lower than 255. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The ITB cleaner is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx90	The result (Sig D) of computation based on the reading of the patch during patch detection (analog)) is lower than 16.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx91	The result (Sig D) of computation based on the reading of the patch during patch detection (analog) is 1008 or higher. The patch sensor is damaged or has an open circuit. The connector has poor contact. The primary transfer pressure is faulty. The mounting of the developing assembly is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.

Code	Cause/Particulars of detection	Remarks
xx92	The value delta D obtained from the result (Sig D) of computation based on the reading of the patch during patch detection is -5.0% or more 3 times continuously. The patch sensor may be damaged or has an open circuit. The connector has poor contact. The primary transfer engagement is faulty. The mounting of the developing assembly is faulty. The amount of supply is low.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xx93	The value delta D obtained from the result (Sig D) of computation based on the reading of the patch during patch detection is +5.0% or lower 3 times continuously. The patch sensor is damaged or has an open circuit. The connector has poor contact. The primary transfer pressure is faulty. The mounting of the developing assembly is faulty. The amount of supply is low.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA0	For ATR control, the Sig value is lower than 62. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA1	For ATR control, the Ref value is lower than 62. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA2	For ATR control, the Sig value is 960 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The opening/closing of the shutter is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA3	For ATR control, the Ref value is 960 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA8	The T/D ratio identified for ATR control has exceeded the upper limit (12%) 3 times continuously. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The amount of supply is too high.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxA9	The T/D ratio identified for ATR control has exceeded the lower limit (3%) 3 times continuously. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The amount of supply is too low.	Turn off and then on the main power; then, execute the intermediate transfer belt.

Code	Cause/Particulars of detection	Remarks
xxC0	The variation among the 8 samplings of the light Sig value is 100 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The stirring of toner is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxC1	The variation among the 8 samplings of the light Ref value is 100 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxC2	The variation among the 8 samplings of the patch Sig value is 400 or higher. The patch sensor is damaged or has an open circuit. The connector has poor contact. The primary transfer engagement is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxD0	For INIT control (service mode INISET-*) at time of initial setup, the average of the light Sig values is 200 or lower. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The amount of supply is low.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxD1	For INIT control (service mode INISET-*) at time of initial setup, the average of the light Ref values is 462 or lower. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxD2	Fore INIT control (service mode INISET-*) at time of initial setup, the average of the patch Sig values is 200 or lower. The patch sensor is damaged or has an open circuit. the connector has poor contact. The primary transfer engagement is faulty. The mounting of the developing assembly is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxD4	For INTI control (service mode INISET-*) at time of initial setup, the average of the light Sig values is 800 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The amount of supply is too high.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxD5	For INTI control (service mode INISET-*) at time of initial setup, the average of the light Ref values is 562 or higher. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxDA	For INIT control (service mode INISET-*) at time of initial setup, the variation among the 72 night Sig value samplings is 100 or more. The ATR sensor is damaged or has an open circuit. The connector has poor contact. The stirring of toner is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.

Code	Cause/Particulars of detection	Remarks
xxDB	For INIT control (service mode INISET-*) at time of initial setup, the variation among the 72 light Ref samplings is 100 or more. The ATR sensor is damaged or has an open circuit. The connector has poor contact.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxDC	For INIT control (service mode INISET-*), the average of the patch Sig values is 800 or higher. The patch sensor is damaged or has an open circuit. The connector has poor contact. the primary transfer engagement if faulty. The mounting of the developing assembly is faulty. The amount of supply is too high.	Turn off and then on the main power; then, execute the intermediate transfer belt.
xxF1	The connector or the color toner supply clutch is not connected.	Turn off and then on the main power; then, execute ITB cleaning.
xxFF	There is no toner inside the Bk developing assembly. - the toner is not supplied to the developing assembly correctly. - the hopper stirring motor is not rotating normally. The hopper connector has poor contact. The black toner supply motor (M25) is faulty. The hopper stirring motor (M23) is faulty. The black toner level sensor is faulty. The DC controller is faulty.	Turn off and then on the main power; then, execute the intermediate transfer belt.
E021	There is an error in the rotation of the developing assembly.	
0001	The developing rotary home position is not detected. The motor rotates out of sync because of poor torque caused by any of the following: The developing rotary HP sensor is faulty; the wiring of the DC controller is faulty; there is an excess load on the developing assembly.	Turn off and then on the main power.
0002	The length of the flag detected during rotation is longer or shorter than the designed flag. The motor rotates out of sync because of poor torque caused by any of the following: the developing rotary HP sensor is faulty; the wiring of the DC controller PCB is faulty; there is an excessive load on the developing assembly.	Turn off and then on the main power.
E023	The developing motor (M3) does not rotate normally.	
0001	After motor start-up, a lock state is not detected for 1 sec or more.	Turn off and then on the main power.
E025	There is an over-current in the hopper stirring motor (M23)or the black toner supply motor (M25).	
0001	There is an overcurrent in the hopper stirring motor (M23).	Turn off and then on the main power.
0002	There is an over-current in the black toner supply motor (M25).	Turn off and then on the main power.

Code	Cause/Particulars of detection	Remarks
0410	The connector of the black toner supply motor (M25) is identified as being disconnected.	Turn off and then on the main power.
E032	The NE connector counter does not operate.	
0001	There is an open circuit in the line for the count pulse signal.	Turn off the main power, and check the cable for an open circuit; then, turn on the main power.
E043	There is an error in the 3.5K paper deck pickup motor, causing an error signal.	
0001	After motor start-up, a lock state is not detected for 1 sec or more. The mechanical load such as on the feeding system is excessive.	Turn off and then on the main power.
E051	The horizontal registration home position is not detected within a specific period of time. The horizontal registration position is faulty (0003).	
0001	The horizontal registration home position is not detected within a specific period of time.	Turn off and then on the main power.
0002	The ON edge of the SUS plate is not detected during a search for home position.	Turn off and then on the main power.
0003	The logical motor position differs between before and after the detection operation.	Turn off and then on the main power.
E061	At time of potential control, a specific level of potential is absent. Or, the limiter goes on.	
0001	When forming an image, the potential is 10 V or less during initial rotation.	Turn off and then on the main power.
0002	At time of potential control, the potential is 10 V or less during initial rotation.	Turn off and then on the main power.
0003	While the grid bias is being adjusted, a level of potential higher than the grid bias is sampled.	Turn off and then on the main power.
0005	The difference in potential between dark and light areas is less than 100 V.	Turn off and then on the main power.
0007	During adjustment of EPC offset, the potential that is read is outside the +/-30 V range.	Turn off and then on the main power.
0008	During dark area potential adjustment, the sampling value is too low.	Turn off and then on the main power.
0010	The sampling of the light area potential is faulty.	Turn off and then on the main power.
E070	There is an error in the detection of the ITB home position. xx=01: ITB home position sensor B, xx=02: ITB home position sensor A; only at ITB 1/1 speed; XX=00: no distinction	
00xx	The home position of the intermediate transfer belt is not detected within a specific period of time . The ITB HP sensor is faulty.	Turn off the main power, and check the DC controller PCB and the ITB HP sensor; then, turn on the main power.
01xx	The period of time between when the home position of the intermediate transfer belt is detected and the next home position is detected is longer than specified . The presence of a tear may have caused the sensor to wrongly identify it as indicating the home position.	Turn off the main power, and check the drive of the intermediate transfer belt; then, turn on the main power.

Code	Cause/Particulars of detection	Remarks
02xx	The period of time between when the home position of the intermediate transfer belt is detected and when the next home position is detected is shorter than specified . The intermediate transfer belt slips on the drive roller, causing a delay in the timing at which the home position is detected.	Turn off the main power, and check the surface of the intermediate transfer belt for a tear; then, turn on the main power.
03xx	The detection of the home position of the intermediate transfer belt has failed once. ITB home position sensor B and ITB home position sensor A must occur alternately; however, the same state has been detected continuously.	Turn off the main power, and check the DC controller PCB and the ITB HP sensor; then turn on the main power.
E073	With the front door closed, the transfer drawer connector or the transfer frame drawer connector is not connected.	
0001	The result of detecting the feed unit indicates the absence of the unit.	Turn off and then on the main power.
E077	The home position of the secondary transfer roller (engagement) is not detected.	
0001	The HP sensor does not go on within 5 sec after the start of a HP search.	Turn off and then on the main power.
E078	The home position of the transfer belt cleaner unit (engagement) is not detected.	
0001	The HP sensor does not turn on within 5 sec after the start of a HP search.	Turn off and then on the main power.
E079	The home position of the outside heating roller is not detected. The outside heating roller home position sensor does not go off.	
0001	The HP sensor does not turn on within 5 sec after the start of an HP search.	Turn off and then on the main power.
0002	If there is an open circuit in the home position sensor of the outside heating roller home position sensor, the state of the sensor will be identified as being ON. An error will be identified if the sensor fails to go off when it is at a point where it must normally go on and the outside heating roller shift motor is driven.	Turn off and then on the main power.
E100	The BD is not detected.	
0001	The BD signal is not detected when the polygon scanner has been driven for a specific period of time.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main power.
0002	The BD signal is not detected white the polygon scanner is rotating stably.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main power.
E110	There is a scanner motor error.	
0001	The FG signal is not detected within a specific period of time after the polygon scanner has been driven.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main power.
0002	The FG signal is not detected while the polygon scanner is rotating stably.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main power.
0003	The FG signal is not detected while the polygon scanner is rotating stably.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main power.
E197	There is an error in the communication with the fixing feed PCB.	
0002	In the course of initializing communication between the DC controller and the fixing/feeding unit, as many as 10 communication errors occur continuously.	Turn off the main power, and check the DC controller PCB wiring and the 24V system fuse; then, turn on the main power.

Code	Cause/Particulars of detection	Remarks
0003	Following the end of initialization of the communication between the DC controller and the fixing/feeding unit, as many as 10 communication errors occur continuously.	Turn off the main power, and check the DC controller PCB wiring and the 24V system fuse; then, turn on the main power.
0004	At the start of drum initial multiple rotation, there is no signal indicating the start of 24V in the fixing assembly in the communication between the DC controller and the fixing/feeding unit.	Turn off the main power, and check the DC controller PCB wiring and the 24V system fuse; then, turn on the main power.
E202	There is an HP error.	
0001	An error is found during the forward trip of the HP search. The scanner HP sensor is faulty. The scanner motor is faulty. The reader controller is faulty.	Check the harness connector for connection; then, as necessary, replace the faulty part.
0002	An error is found during the return trip of the HP search. The scanner HP sensor is faulty. The scanner motor is faulty. The reader controller PCB is faulty.	Check the harness connector for connection; then, as necessary, replace the faulty part.
E225	The lamp has blown.	
0001	The level of shading is lower than specified.	Check the harness connector for connection. Check the scanning lamp (xenon), inverter, and reader controller PCB.
E227	There is a power supply (24V) error.	
0001	At power-on, the 24V port is off.	Check the power supply harness connector for connection; then, as necessary, replace the power supply.
0002	At the start of a job, the 24V port is off.	Check the power supply harness connector for connection; then, as necessary, replace the power supply.
0003	At the end of a job, the 24V port is off.	Check the power supply harness connector for connection; then, as necessary, replace the power supply.
0004	While a load is being driven, the 24V port is off.	Check the power supply harness connector for connection; then, as necessary, replace the power supply.
E240	There is a DDI-P communication error.	
0000	There is a DDI-P communication error (error in communication between master and slave 0).	Turn off the main power, and check the wiring of the DC controller PCB and the 24V system fuse; then, turn on the main power.
E246	An error has occurred in the course of writing to the counter memory.	
0001	Normal access to the FRAM PCB is not possible. A value is written to a specific area for a check on connection to the FRAM PCB; when read back, however, it is not the value that has been written.	Turn off the main power, and check the connection of the counter PCB. If the remedy fails, replace the counter PCB.
0002	When the soft ID of FRAM is being repaired, FRAM is not in an initialized condition.	Replace the counter PCB.
0003	After an increase in the count, data is read into FRAM; when it is read back and compared, it is not the value that has been read into FRAM.	
0004	A second after repair (from SRAM to FRAM) brings out different SRAM and FRAM counter readings. An attempt at repair has failed.	Turn off the main power, and check the connector of the counter PCB. If repair fails, replace the counter PCB.
E247	Error in counter memory or SRAM	

Code	Cause/Particulars of detection	Remarks
0001	An error exists in the SRAM and FRAM counter readings.	Replace the counter PCB.
E248	There is an error in the EEPROM.	
0000	At time of start-up, a check error has occurred on the SRAM board.	Turn off the main power, and check the SRAM board; then, as necessary, replace the SRAM board, and turn on the main power.
0001	There is a power-on error.	Replace the reader controller PCB.
0002	There is a write error.	Replace the reader controller PCB.
0003	There is a wire/read error.	Replace the reader controller PCB.
E315	codex error	
000E	An error has occurred in the course of software decoding.	
E350	Fault in the soft ID PCB/function	
0000	An error exists in the add-on parity.	Reset in service mode, and replace the soft ID PCB.
0001	An error has occurred in the course of full data read operation on the soft ID PCB.	Turn off the main power, and check the connection of the soft ID PCB. If the remedy fails, replace the soft ID PCB.
0002	The value of the check sum area of all data read from the soft ID PCB and the result of checksum computation do not match.	Turn off the main power, and replace the soft ID PCB. If the remedy fails, replace the soft ID PCB.
0003	The values in the soft ID check sum area of FRAM, SRAM1, and SRAM2 and the result of a check sum computation differ.	Turn off the main power, and check the connection of the soft ID PCB. If the remedy fails, replace the soft ID PCB.
3000	While an E350 error is backed up, the value of the check sum area of all data read from the soft ID PCB and the result of check sum computation do not match.	Turn off the main power, and check the connection of the soft ID PCB. If the remedy fails, replace the soft ID PCB.
E351	There is an error in the main controller PCB (sub).	
0000	At start-up, there is an error in the communication between main controller PCB (sub) and the main controller PCB (main).	Turn off the main power, and replace the main controller PCB (sub). If the result is not good, replace the main controller PCB (main), and turn on the main power.
E354	Serial No. mismatch	
0001	All the values of the soft ID 8 digits of SEEPROM are 0x00 or 0xoff.	Replace the soft ID PCB.
0002	In the absence of an error, the soft ID PCB has been replaced with a new PCB and, in addition, the following conditions exist at the same time: - the soft IDs of the following pairs are not identical: SEEPROM and SRAM1, SEEPROM and SRAM2, SEEPROM and FRAM. - FRAM is not of the initialization pattern (i.e., the value of the check sum area is '1' but the result of computation of the counter area check sum is not '1'). - the soft IDs of the following are all identical: SRAM1, SRAM2, SRAM.	A mistake is likely to have been made in the course of counter PCB replacement; as a result, E355 is likely to have occurred thereafter, not permitting recovery despite an attempt to reset E355.
E355	Serial No. mismatch	

Code	Cause/Particulars of detection	Remarks
0001	The soft IDs of the following pairs are not identical and, in addition, any of the following conditions exist: SEEPROM and SRAM1, SEEPROM and SRAM2, SEEPROM and FRAM. - FRAM is of the initialization pattern (i.e., the value of the check sum area is '1', and the result of check sum computation of the counter area is '1'). - the soft ID of any of the following is not identical: SRAM1, SRAM2, FRAM.	Reset E355 (if the error occurs in the middle of repair operation). At times, E355 cannot be reset (intentionally designed in such a way to prevent illegal replacement in the field).
E400	There is a DF communication error.	
0001	There is a check sum error.	Disconnect and connect the harness connector; then, replace the reader controller PCB or the ADF DC controller.
0002	There is a reception status error.	Disconnect and connect the harness connector; then, replace the reader controller PCB or the ADF DC controller.
0003	There is a reception interrupt error.	Disconnect and connect the harness connector; then, replace the reader controller PCB or the ADF DC controller.
E413	There is an error in the DF shift motor.	
0001	The shift HP sensor is open.	Check the harness; then, as necessary, replace the sensor and motor. Check the attaching of the parts around the cam.
0002	The shift HP sensor is closed.	Check the harness; then, as necessary, replace the sensor and motor. Check the attaching of the parts around the cam.
E490	The DF is of the wrong model.	
0001	The installed DF is not of the correct type.	Replace the DF with one of an appropriate type.
E500	There is a finisher communication error.	
0001	There is an error in data communication. An error has been detected in terms of the number of errors or the duration of the error in the communication between copier and finisher.	Turn off the main power, and check the DC controller, wiring of the finisher PCB, and 24V system fuse; then, turn on the main power.
E503	There is an error in the communication within the finisher (finisher R1/R2).	
0002	There is a data communication error. finisher-to-saddle unit communication error	Check the connection between the saddle stitcher controller PCB and the finisher controller PCB.
0003	finisher-to-punch unit communication error	Check the connection between the Punch controller PCB and the finisher controller PCB.
E505	There is an error in the backup memory of the finisher (finer R1/R2).	
0001	There is an error in the data stored in the backup memory.	Turn off the main power, and check the DC control, wiring of the finisher PCB, and 24V system fuse; then, turn on the main power.
0002	There is a data error in the punch assembly EEPROM.	Turn off the main power, and check the wiring of the DC controller PCB and the puncher controller PCB: then, check the 24V system fuse, and turn back on the main power.
E514	There is an error in the trailing edge assist motor (finisher R1/R2).	
8001	The home position sensor does not go off when the trailing edge assist motor has been rotated for a specific period of time.	1) Check the trailing edge assist home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the trailing edge assist motor. Is the wiring normal? 3) Check the trailing edge assist mechanism. Is there a fault? 4) Try replacing the trailing edge assist motor. Is the problem corrected?

Code	Cause/Particulars of detection	Remarks
8002	The home position sensor does not go on when the trailing edge assist motor has been rotated for a specific period of time.	1) Check the trailing edge assist home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the trailing edge assist motor. Is the wiring normal? 3) Check the trailing edge assist mechanism. Is there a fault? 4) Try replacing the trailing edge assist motor. Is the problem corrected?
E519	There is an error in the gear change motor (finisher R1/R2).	
8001	The home position sensor does not go off within a specific period of time after the gear change motor has started to rotate.	1) Check the gear change home position sensor. Is the sensor normal? 2) Check the wiring between the fisher controller PCB and the gear change motor. Is the wiring normal? 3) Check the gear change mechanism. Is there a fault? 4) Try replacing the gear change motor. Is the problem corrected?
0002	The home position sensor does not go on within a specific period of time after the gear change motor has started to rotate.	1) Check the gear change home position sensor. Is the sensor normal? 2) Check the wiring between the fisher controller PCB and the gear change motor. Is the wiring normal? 3) Check the gear change mechanism. Is there a fault? 4) Try replacing the gear change motor. Is the problem corrected?
E530	There is an error in front alignment (finisher R1/R2).	
8001	Th alignment motor has started to rotate.e home position sensor does not go off within a specific period of time after the front	1) Check the pre-aligning plate home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the pre-aligning plate motor. Is the wiring normal? 3) Check the path of the aligning plate. Is there a mechanical obstacle? 4) Try replacing the pre-aligning plate motor. Is the problem corrected?
8002	The home position sensor does not go on within a specific period of time after the front alignment motor has started to rotate.	1) Check the pre-aligning plate home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the pre-aligning plate motor. Is the wiring normal? 3) Check the path of the aligning plate. Is there a mechanical obstacle? 4) Try replacing the pre-aligning plate motor. Is the problem corrected?
E531	There is an error in stapling (finisher R1/R2).	
0001	The home position sensor does not go off within a specific period of time after the stapler motor has started to rotate.	1) Check the wiring between the finisher controller PCB and the stapler. Is the wiring normal? 2) Try replacing the stapler. Is the problem corrected?
0002	The home position sensor does not go on within a specific period of time after the stapler motor has started to rotate.	1) Check the wiring between the finisher controller PCB and the stapler. Is the wiring normal? 2) Try replacing the stapler. Is the problem corrected?
E532	There is an error in the shift mechanism of the stapler. (finisher R1/R2)	
8001	The home position sensor does not go off within a specific period of time after the stapler shift motor has started to rotate.	1) Check the stapler shift home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the stapler shift motor. Is the wiring normal? 3) Check the path of the stapler shift base. Is there a mechanical obstacle? 4) Try replacing the stapler shift motor. Is the problem corrected?

Code	Cause/Particulars of detection	Remarks
8002	The home position sensor does not go on within a specific period of time after the stapler shift motor has started to rotate.	1) Check the stapler shift home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the stapler shift motor. Is the wiring normal? 3) Check the path of the stapler shift base. Is there a mechanical obstacle? 4) Try replacing the stapler shift motor. Is the problem corrected?
E535	There is an error in the staple swing mechanism. (finisher R1/R2)	
8001	The home position sensor does not go off even when the swing motor has rotated for a specific period of time.	1) Check the swing home position sensor. Is the sensor normal? 2) Check the writing between the finisher controller PCB and the swing motor. Is the wiring normal? 3) Check the swing mechanism. Is there a fault? 4) Try replacing the swing motor. Is the problem corrected?
8002	The home position sensor does not go on even when the swing motor has rotated for a specific period of time.	1) Check the swing home position sensor. Is the sensor normal? 2) Check the writing between the finisher controller PCB and the swing motor. Is the wiring normal? 3) Check the swing mechanism. Is there a fault? 4) Try replacing the swing motor. Is the problem corrected?
0003	There is an error in relation to an hazardous area..	1) Check the swing home position sensor. Is the sensor normal? 2) Check the writing between the finisher controller PCB and the swing motor. Is the wiring normal? 3) Check the swing mechanism. Is there a fault? 4) Try replacing the swing motor. Is the problem corrected?
E537	rear alignment error (Finisher-R1/R2)	
8001	The home position sensor does not go off even when the swing motor has rotated for a specific period of time.	1) Check the post-aligning plate home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the post-aligning plate motor. Is the wiring normal? 3) Check the path of the aligning plate. Is there a mechanical obstacle? 4) Try replacing the post-aligning plate motor. Is the problem corrected?
8002	The home position sensor does not go on even when the swing motor has rotated for a specific period of time.	1) Check the post-aligning plate home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the post-aligning plate motor. Is the wiring normal? 3) Check the path of the aligning plate. Is there a mechanical obstacle? 4) Try replacing the post-aligning plate motor. Is the problem corrected?
E540	upper tray ascent/descent error (Finisher-R1/R2)	
8001	upper tray ascent/descent motor clock error	1) Check the No. 1 tray area sensors 1 through 3. Are the sensors normal? 2) Check the wiring between finisher controller PCB and the No. 1 tray shift motor. Is the wiring normal? 3) Is there a fault in the ascent/descent mechanism of the tray? 4) Try replacing the No. 1 tray shift motor. Is the problem corrected?

Code	Cause/Particulars of detection	Remarks
8002	area error	1) Check the No. 1 tray area sensors 1 through 3. Are the sensors normal? 2) Check the wiring between finisher controller PCB and the No. 1 tray shift motor. Is the wiring normal? 3) Is there a fault in the ascent/descent mechanism of the tray? 4) Try replacing the No. 1 tray shift motor. Is the problem corrected?
8003	safety switch activation	1) Check the No. 1 tray area sensors 1 through 3. Are the sensors normal? 2) Check the wiring between finisher controller PCB and the No. 1 tray shift motor. Is the wiring normal? 3) Is there a fault in the ascent/descent mechanism of the tray? 4) Try replacing the No. 1 tray shift motor. Is the problem corrected?
E542	lower tray ascent/descent error (Finisher-R1/R2)	
8001	lower tray ascent/descent motor clock error	1) Check the No. 2 tray sensors 1 through 3. Are the sensors normal? 2) Check the wiring between the finer controller PCB and the No. 2 tray shift motor. Is the wiring normal? 3) Is there a fault in the tray ascent/descent mechanism? 4) Try replacing the No. 2 tray shift motor. Is the problem corrected?
8002	area error	1) Check the No. 2 tray sensors 1 through 3. Are the sensors normal? 2) Check the wiring between the finer controller PCB and the No. 2 tray shift motor. Is the wiring normal? 3) Is there a fault in the tray ascent/descent mechanism? 4) Try replacing the No. 2 tray shift motor. Is the problem corrected?
0003	safety switch activation	1) Check the No. 2 tray sensors 1 through 3. Are the sensors normal? 2) Check the wiring between the finer controller PCB and the No. 2 tray shift motor. Is the wiring normal? 3) Is there a fault in the tray ascent/descent mechanism? 4) Try replacing the No. 2 tray shift motor. Is the problem corrected?
E584	shutter unit error (Finisher-R1/R2)	
8001	The shutter open sensor does not go off (i.e., the shutter is not closed).	1) Check the shutter home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the stack edging motor and between the finisher controller PCB and the shutter open/close clutch. Is the wiring normal? 3) Is there a fault in the shutter mechanism? 4) Try replacing the stack edging motor or the shutter open/close clutch. Is the problem corrected?
0002	The shutter open/closed sensor does not go on (i.e., the shutter does not open).	1) Check the shutter home position sensor. Is the sensor normal? 2) Check the wiring between the finisher controller PCB and the stack edging motor and between the finisher controller PCB and the shutter open/close clutch. Is the wiring normal? 3) Is there a fault in the shutter mechanism? 4) Try replacing the stack edging motor or the shutter open/close clutch. Is the problem corrected?
E590	There is an error in the punch motor. (punch unit)	

Code	Cause/Particulars of detection	Remarks
8001	The punching home position sensor is not detected when the punch motor has been driven for 200 msec.	Check the punch home position sensor, horizontal registration motor, and punch driver PCB; then, turn off and then on the main power.
8002	The puncher does not detect the punching home position after the motor has stopped (initial operation).	Check the punch home position sensor, horizontal registration motor, and punch driver PCB; then, turn off and then on the main power.
E591	There is an error in the punch dust sensor. (punch unit)	
8001	There is an error in the light-receiving voltage with emission of light.	Turn off and then on the main power.
8002	There is an error in the light-receiving voltage without emission of light.	Turn off and then on the main power.
E592	There is an error in the punch horizontal registration sensor. (punch unit)	
8001	There is an error in the light-receiving voltage at time of light emission. (trailing edge sensor)	Turn off and then on the main power.
8002	There is an error in the light-receiving voltage without emission of light. (trailing edge sensor)	Turn off and then on the main power.
8003	There is an error in the light-receiving voltage with emission of light. (horizontal registration sensor 1)	Turn off and then on the main power.
8004	There is an error in the light-receiving voltage without emission of light. (horizontal registration sensor 1)	Turn off and then on the main power.
8005	There is an error in the light-receiving voltage with emission of light. (horizontal registration sensor 2)	Turn off and then on the main power.
8006	There is an error in the light-receiving voltage without emission of light. (horizontal registration sensor 2)	Turn off and then on the main power.
8007	There is an error in the light-receiving voltage it the presence of emission of light. (horizontal registration sensor 3)	Turn off and then on the main power.
8008	There is an error in the light-receiving voltage without emission of light. (horizontal registration sensor 3)	Turn off and then on the main power.
8009	There is an error in the light-receiving voltage with emission of light. (horizontal registration sensor 4)	Turn off and then on the main power.
800A	There is an error in the light-receiving voltage without emission of light. (horizontal registration sensor 4)	Turn off and then on the main power.
E593	There is an error in the punch shift motor. (punch unit)	
8001	The light-receiving voltage HP sensor does not go off at time of light emission.	Turn off and then on the main power.
8002	The light-receiving voltage HP sensor doest not go on without emission of light.	Turn off and then on the main power.
E5F0	There is an error in saddle paper positioning.	
0001	The paper positioning plate home position sensor does not turn on when the paper positioning plate motor has been driven for 1.33 sec. The paper positioning plate motor (M4S) or the paper positioning plate home position sensor (PI7S) is faulty.	Check the paper positioning plate motor (M4S) /paper positioning plate home position sensor (PI7S).

Code	Cause/Particulars of detection	Remarks
0002	The paper positioning plate home position sensor does not turn off when the paper positioning plate motor has been driven for 1 sec. The paper positioning plate motor (M4S) or the paper positioning plate home position sensor (PI7S) is faulty.	Check the paper positioning plate motor (M4S) /paper positioning plate home position sensor (PI7S).
E5F1	There is an error in saddle paper folding.	
0001	The number of detection pulses of the paper folding motor clock sensor is lower than specified. The paper folding home position sensor or the paper folding motor clock sensor (P14S) is faulty.	Check the paper folding motor (M2S) /paper folding motor clock sensor (PI4S).
0002	The state of the paper folding home position sensor does not change when the paper folding motor has been driven for 3 sec. The paper folding motor (M2S) or the paper folding motor clock sensor (P14S) is faulty.	Check the paper folding motor (M2S) /paper folding motor clock sensor (PI4S).
E5F2	There is an error in the saddle guide.	
0001	The guide home position sensor does not turn on when the guide motor has been driven for 0.45 sec. The guide motor (M3S) or the guide home position sensor (PI3S) is faulty.	Check the guide motor (M3S) /guide home position sensor (PI13S).
0002	The guide home position sensor doest not turn off when the guide motor has been driven for 1 sec. The guide motor (M3S) or the guide home position sensor (PI3S) is faulty.	Check the guide motor (M3S) /guide home position sensor (PI13S).
E5F3	There is an error in saddle alignment.	
0001	The aligning plate home position sensors does not turn on when the alignment motor has been driven for 05. sec (during initialization, 1.67 sec). The alignment motor (M5S) or the aligning plate home position sensor (PI5S) is faulty.	Check the alignment motor (M5S) /aligning plate home position sensor (PI5S).
0002	The alignment plate home position sensor does not turn off when the alignment motor has been driven for 1 sec. The alignment motor (M5S) for the alignment plate home position sensor (PI5S) is faulty.	Check the alignment motor (M5S) /aligning plate home position sensor (PI5S).
E5F4	There is an error in saddle rear sampling.	
0001	The stitching home position sensor does not turn on when the stapler motor (rear) is rotated in reverse for 0.5 sec or more. The switch motor (rear, M65) or the stitching home position sensor (rear, MS5S) is faulty.	Check he stitching motor (rear; M6S) /stitching home position sensor (rear; MS5S).

Code	Cause/Particulars of detection	Remarks
0002	The stitching home position sensor does not turn off when the switch motor (rear) is reverse for 0.5 sec or more. The switch motor (rear, M6S) or the stitching home position sensor (rear, MS5S) is faulty.	Check he stitching motor (rear; M6S) /stitching home position sensor (rear; MS5S).
E5F5	There is an error in saddle front stapling.	
0001	The stitching home position sensor does not turn on when the switch motor (front) is rotated in reverse for 0.5 sec or more. The stitch motor (front, M7S) or the stitching home position sensor (front, MS7S) is faulty.	Check the stitching motor (front; M7S) /stitching home position sensor (front; MS7S).
0002	The stitching home position sensor does not turn off when the switch motor (front) is rotated in normal direction for 0.5. The stitch motor (front, M7S) or the switching home position sensor (front, MS7S) is faulty.	Check the stitching motor (front; M7S) /stitching home position sensor (front; MS7S).
E5F6	There is an error in saddle butting.	
8001	The paper pushing plate home position sensor does not turn on when the paper pushing motor has been driven for 0.3 sec or more. The paper pushing plate motor (M8S) or the paper pushing plate home position sensor (PI4) is faulty.	The paper pushing plate motor (M8S) or the paper pushing plate home position sensor (PI4) is faulty.
8002	The paper pushing plate home position sensor does not turn off when paper pushing plate motor has been driven for 80 msec or more. The paper pushing plate motor (M8S) or the paper pushing plate home position sensor (PI4S) is faulty.	The paper pushing plate motor (M8S) or the paper pushing plate home position sensor (PI4S) is faulty.
8003	The number of detection pulses of the paper pushing plate motor clock sensor drops below a specific number. The paper pushing plate motor (M8S) or the paper pushing plate motor clock sensor (PI1S) is faulty.	The paper pushing plate motor (M8S) or the paper pushing plate motor clock sensor (PI1S) is faulty.
8004	The paper pushing plate sensor does not turn off when the paper pushing plate motor has been driven for 80 msec or more. The paper pushing plate motor (M8S) or the paper pushing plate leading edge position sensor (PI15S) is faulty.	The paper pushing plate motor (M8S) or the paper pushing plate leading edge position sensor (PI15S) is faulty.
8005	The paper pushing plate leading edge position sensor does not turn on when the paper pushing plate motor has been driven for 0.3 sec or more. The paper pushing plate motor (M8S) or the paper pushing plate leading edge position sensor (PI5S) is faulty.	The paper pushing plate motor (M8S) or the paper pushing plate leading edge position sensor (PI5S) is faulty.
E5F8	There is an error in the saddle connector.	

Code	Cause/Particulars of detection	Remarks
0001	The connector of the guide home position sensor is identified as being disconnected. The connector of the guide home position sensor (PI3S) is faulty.	Check the connectors of the guide home position sensor (PI13S). Check the connectors of the paper pushing plate home position sensor (PI4S).
0002	The connector of the paper pushing plate home position sensor is identified as being disconnected. The connector of the paper pushing plate home position sensor (PI14S) is faulty.	Check the connectors of the paper pushing plate leading edge position sensor (PI5S).
0003	The connector of the paper pushing plate leading edge position sensor is identified as being disconnected. The connector of the paper pushing plate leading edge sensor (PI15S) is faulty.	Check the connectors of the paper pushing plate leading edge position sensor (PI5S).
E5F9	There is an error in the saddle switch.	
0001	With any of the following sensor is identifying its respective cover a being closed, the inlet cover switch is identified as being open for 1 sec or more after the start of the initial rotation of the machine or the start of printing: - inlet cover sensor (PI9S) - front cover open/closed sensor (PI2S) - delivery cover sensor (PI3S) Or, the front cover switch (MS2S) or the delivery cover switch (MS3S) is open. The inlet cover switch (MS1S), front cover switch (MS2S), or delivery cover switch (MS3S) is faulty.	Check the inlet cover switch (MS1S)/front cover switch (MS2S)/delivery cover switch (MS3S).
0002	With any of the following sensor is identifying its respective cover as being closed, the front cove switch is identified as being open for 1 sec or more after the start of the initial rotation of the machine or the start of printing: - inlet cover sensor (PI9S) - front cover open/closed sensor (PI2S) - delivery cove sensor (PI3S) The front cove switch (MS2S) or the delivery cover switch (MS3S) is faulty.	Check the front cover switch (MS2S)/delivery cover switch (MS3S).
0003	With any of the following sensors identifying its respective cover as being closed, the delivery cover switch is identified as being open for 1 sec or more after the start of the initial rotation of the machine or the start of printing: - inlet cover sensor (PI9S) - front cover open/closed sensor (PI2S) - delivery cover sensor (PI3S) - delivery cover switch (MS3S)	Check the delivery cover switch (MS3S).
E602	There is a hard disk error.	
E604	There is a shortage of image memory (SDRAM).	
0000	The amount of memory required by the model in question is not recognized.	Set it to the size of memory suited to the model in question.
E609	E609 (Samsung HDD-related error code)	

Code	Cause/Particulars of detection	Remarks
0008	The HDD does not increase to a specific temperature level within a specific time when the power is turned on.	Replace the HDD.
0009	The HDD does not increase to a specific temperature level in relation to a sleep state.	Turn off and then on the power. If the return operation fails, replace the HDD.
E610	HDD encryption key fault	
0001	A fault exists in the HDD encryption key (hardware configuration error). The encryption board is missing.	Ask the user to check the configuration of the hardware.
0002	A fault exists in the HDD encryption key (hardware configuration error). The requirements for the memory configuration are not fully met.	Ask the user to check the configuration of the hardware.
0101	A fault exists in the HDD encryption key (initialization error). An attempt to initialize the key storage area has failed.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware.
0102	A fault exists in the HDD encryption key (initialization error). An attempt to initialize the encryption area has failed.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware.
0201	A fault exists in the HDD encryption key. An error exists in the encryption processing area.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware.
0202	A fault exists in the HDD encryption key. An error exists in the encryption processing area.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware.
0301	A fault exists in the HDD encryption key. (encryption key error) An attempt to create an encryption key has failed.	Turn off and on the power. If the remedy fails, suspect a fault in the hardware.
0302	A fault exists in the HDD encryption key. (encryption key error) A fault has been detected in the encryption key.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware (SRAM). The error resets the data on the HDD.
0303	A fault exists in the HDD encryption key. (encryption key error) A fault has been detected in the encryption key.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware (SRAM). The error resets the data on the HDD.
0401	A fault exists in the HDD encryption key. (encryption processing error) An error has been detected in the course of decoding.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware (encryption board).
0402	A fault exists in the HDD encryption key. (encryption processing error) An error has been detected in the course of decoding.	Turn off and then on the power. If the remedy fails, suspect a fault in the hardware (encryption board).
E674	There is an error in the fax board.	
0001	The fax board is detected, but communication is not possible.	Turn off the main power, and check the fax board and the main controller PCB; then, turn on the main power. If the machine fails to reset, replaced the fax board or the main controller PCB.
E677	There is an external controller error.	

Code	Cause/Particulars of detection	Remarks
0003	An error has been detected by a check on the configuration when the external controller is being started up.	Turn off the main power, and check the cable; then, turn on the main power. If the machine fails to start up, re-install the system software of the external controller.
0010	A controller for a non-Canon machine is connected.	Turn off the main power, and check the controller is an appropriate type, and check the cable; then turn on the main power. If the machine fails to reset, re-install the system software of the external controller.
0080	There is an error in the communication with the printer after the external controller has started up normally.	Turn off the main power, and check the cable; then, turn on the main power. If the machine fails to start up, re-install the system software of the external controller.
E710	There is an error in IPC initialization.	
0001	The machine fails to become ready within 3 sec after the IPC chip has started up.	Turn off the main power, and check the cable; then, turn on the main power.
E711	There is an IPC communication error.	
0002	An error has been detected 4 times or more within 1.5 sec after the communication has been interrupted between the finisher and the printer, and the machine does not reset.	Turn off the main power, and check the cable; then, turn on the main power. If the machine fails to reset, check the connector between the finisher and the copier for poor contact; as necessary, replace the finisher controller/DC controller.
E713	There is a finisher communication error.	
0001	There is an error in the IC used for communication by the sorter.	Turn off the main power switch, and check the wiring of the DC controller PCB and the finisher controller PCB, and check the 24V system fuse: then, turn on the main power switch. If the machine does not reset, replace the DC controller PCB/ finisher controller PCB.
E717	There is an error in the communication with the NE controller.	
0001	The NE controller that was connected before the power is turned off is not recognized after the power is turned on.	Check the cable, and reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0002	An IPC open circuit or an IPC communication error is not reset.	Check the cable, and reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E719	error in communication with coin vendor/card reader	
0001	The coin vendor that is connected before the power is turned off is not recognized when the paper is turned on.	Check the cable, and reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0002	- The IPC cable to the coin vendor is broken and the IPC communication cannot be recovered. - There is an open circuit in the pickup delivery signal line. - An improper connection is detected (short circuit between Tx and Rx of IPC).	Check the cable; thereafter, reset by making the following selections: COPIER>FUNCTION>CLEAR>ERROR.
0011	The card reader that is connected before the power is turned off is not recognized when the paper is turned on.	Check the cable, and reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
0012	There is an IPC cable open circuit or an IPC communication error in relation to the card reader that cannot be reset.	Check the cable, and reset in service mode: COPIER>FUNCTION>CLEAR>ERR.
E730	There is a PDL error.	
1001	At the start of a job, an initialization error has occurred. There is a fault in the PDL software.	Perform PDL resetting, or turn off and then on the main power.

Code	Cause/Particulars of detection	Remarks
100A	A system error (e.g., failed initialization) has occurred during job processing. The PDL software has a fault.	Perform PDL resetting, or turn off and then on the main power.
100B	At start-up, a mismatch occurs between the version number indicated in the master font management file of / BOOTDEV and the bootable version. There is no master font management file in /BOOTDEV. There is an error in the PDL master font.	Perform PDL resetting, or turn off and then on the main power. If the machine fails to reset, re-install the font file or fully format and re-install the system software.
9004	There is an error in the PAI communication with the external controller. There is an OPEN/IF communication error.	Turn off the main power, and check the open I/F board and the cable; then, turn on the main power. If the machine fails to reset, replace the external controller, open I/F PCB, or the main controller PCB.
9005	There is an error it the connection of the video cable connected to the external controller.	Turn off the main power, and check the open I/F board and the cable; then turn on the main power. If the machine fails to reset, replace the eternal controller, open I/F PCB, or main controller PCB.
A006	PDL does not response, subootable is out of order or does not exist. There is a PDL communication error.	Perform PDL resetting, or turn off the main power, and check the connector of the UFR board; then, turn on the main power. If the machine fails to reset, re-install the firmware or replace the main control PCB.
A007	At time of start-up, a mismatch occurs between the version of the machine control software and the version of the PDL control software. The PDL version is wrong.	Perform PDL resetting, or turn off and then on the main power. If the machine fails to reset, fully format and re-install the system software.
B013	The font data is found to be damaged at start-up. PDL	There is an error in the built-in font. If the error is not reset when the main power has been turned off and then on, perform full system formatting and installation sessions.
E731	There is a UFR board error.	
3000	There is a UFR board error. At start-up, the UFR board is not recognized.	Turn off the main power, and check the connection of the UFR board; then, turn on the main power. If the machine does not reset, replace the UFR board or the main controller PCB.
3001	At start-up, initialization of the UFR fails.	Turn off the main power, and check the connection of the UFR board; then, turn on the main power. If the machine fails to ret, replace the UFR board or the main control PCB.
3002	Initialization of Rambus fails.	
3015	While a job is being processed, there is no video data in the chip of the main controller PCB (main) although the software is operating without a problem.	Turn off and then on the main power. If the machine fails to start up, replace the main controller PCB.
E732	There is an error in reader communication.	
0001	There is an error in reader communication.	Turn off the main power, and check the connectors to the reader, and check the power supply of the reader; then, turn on the main power.
9999	Although a printer model, the machine is identified as a reader unit at start-up. (A copier model is started up as a printer model when the RAM is initialized.)	Turn off and then on the main power.
E733	There is a printer communication error.	

Code	Cause/Particulars of detection	Remarks
0000	There is a printer communication error. At start-up, the printer is not detected.	Turn off the main power, and check the connectors to the DC controller PCB and the main controller PCB, and check the power supply of the printer; then, turn on the main power.
0001	There is a DDI-P communication error.	Turn off the main power, and check the connectors to the DC control PCB and the main controller PCB, and check the power supply of the printer; then, turn on the main power.
E740	There is an Ethernet board error.	
0002	At time of start-up, the MAC address is found to be illegal. A non-Canon MAC address is detected.	Turn off the main power, and replace the NIC; then, turn on the main power.
E743	There is a DDI communication error.	
0000	There is an SCI error. The reception data is faulty. A reception time-out condition has occurred. An SEQ time-out error has occurred. An SEQ time-out error has occurred.	Disconnect and connect the DDI-S cable connector; then, as necessary, replace the reader controller PCB or the main controller PCB.
E744	There is a language file/boot ROM error.	
0001	The version of the language file on the HDD is different from the version of bootable.	Download the appropriate language fields of the correct version using the Service Support Tool.
0002	The size of the language file on the HDD is too large.	Download the appropriate language fields of the correct version using the Service Support Tool.
0003	There is no language to use in Config.txt on the HDD. Or, none of the languages on the HDD is appropriate for use.	Download the appropriate language fields of the correct version using the Service Support Tool.
	A switchover cannot be made to a language file on the HDD.	Download the appropriate language fields of the correct version using the Service Support Tool.
0004	A switchover cannot be made to a language file on the HDD.	Download the appropriate language fields of the correct version using the Service Support Tool.
1000	There is a boot ROM project error. The installed boot ROM is of the wrong type.	Turn off the main power, and replace the boot ROM with one of the correct type; then, turn on the main power.
3000	There is a mismatch in respect of the version of the boot ROM module. The installed boot ROM dose not permit normal start-up operation.	Upgrade the boot ROM, or replace it.
E745	There is a TokenRing error.	
0001	When the TokeRing driver is initialized, the attempt in PCI has failed.	When the TokeRing driver is initialized, the attempt in PCI has failed.
0002	When the TokeRing driver is being initialized, the MAC address is found to be faulty.	Turn off the main power switch; as necessary, replace the TokenRing board, and turn on the main power.
0003	While the TokeRing driver is being initialized, board information cannot be obtained, or the settings are wrong. The board information cannot be obtained.	Turn off the main power; as necessary, replace the TokenRing board, and turn on the main power.
0004	When starting up the TokenRing driver, a connection error occurs.	Turn off the main power, and check the connection of the cable, and check the power supply of MAU; then, turn on the main power.
E746	The accessories board is of the wrong type.	
0003	At time of start-up, the UFR board is found to be of the wrong type. (A query is made to find out if the type is correct with reference to the engine ID.)	Replace it with a UFR board of the correct type.

Code	Cause/Particulars of detection	Remarks
0004	At time of start-up, the scanner board is found to be of the wrong type. (A query is made to find out if the type is correct with reference to the engine ID.)	Replace it with a scanner board of the correct type.
E747	There is an error in the ASIC for image processing or in the ASIC for memory control/communication control.	
---	There is an error in IC1015 (ASIC for image processing) or in IC1012 (for memory control/communication control) on the main controller PCB. (e.g., image data transfer error)	Turn off the main power, and check the main controller PCB; then, turn on the main controller PCB.
E748	CL2 board-dependent board error	
4000	A packet timeout condition has occurred in the G-chip loopback.	1. Disconnect and then connect 4 to 5 G-chip boards several times. 2. Replace the G-chip board. 3. Replace the main controller PCB.
4020	An abnormal board has been detected. (TBD)	Remove the invalid board.
4021	The /SERROR signal of PCI has been detected.	Disconnect and then connect the PCI board. If the fault persists, replace it or the main controller PCB.
4030	An error has occurred as a result of a check on access to BARSAC.	Replace the main controller PCB.
4031	BARSAC is identified as being locked.	Replace the main controller PCB. Replace the LAN-BAR board.
4040	An error has occurred in the course of I2C write operation.	
4041	An error has occurred during access to FRAM.	1. Disconnect and then connect the counter board. 2. Replace the counter board. 3. Replace the main controller PCB.
4042	A DDR-SDRAM size error has occurred.	The size is not 512 MB or more and 1.5 GB or less. 1. Disconnect and then connect DDR. 2. Replace DDR. 3. Replace the main board.
4043	A MAC address read error has occurred.	1. Replace the LAN board. 2. Replace the main controller PCB.
4044	An ECOROM access error has occurred.	1. Disconnect and then connect ECOROM. 2. Replace ECOROM. 3. Replace the main controller PCB.
4045	An RTC access error has occurred.	1. Disconnect and then connect SRAM/RTC board. 2. Replace the SRAM/RTC board. 3. Replace the main controller PCB.
4050	An error has occurred during a check on access to the LANC board.	1. Replace the LAN board. 2. Replace the main controller PCB.
4150	The battery has been identified as being exhausted. (condition resets after error output)	The RTCRAM board has a short-circuit, or the battery is exhausted. 1. If the error occurs no more than once in the course of disconnection and connection, leave it unattended. 2. If it occurs multiple times, replace the SRAM/RTC board.
4160	An access error has occurred.	Replace the main controller PCB.
4170	An access error has occurred.	1. Replace the LAN/USB board. 2. Replace the main controller PCB.
4180	An access error has occurred.	1. Replace the LAN/USB board. 2. Replace the main controller PCB.
4190	An access error has occurred.	Replace the main controller PCB.
4220	The nature of SPD of the RAM (slot 0) is illegal, or cannot be read.	1. Disconnect and connect DDR-SDRAM of the slot in question. 2. Replace DDR-SDRAM of the slot in question.

Code	Cause/Particulars of detection	Remarks
4221	The nature of SPD of the RAM (slot 1) is illegal, or cannot be read.	1. Disconnect and then connect DDR-SDRAM of the slot in question. 2. Replace DDR-SDRAM of the slot in question.
4230	An access error has occurred.	Replace the main controller PCB.
4260	A write error has occurred in the course of upgrading the boot ROM.	The boot ROM is damaged. Replace it with a service part.
4310	A board that is older than the main4 board has been detected.	Use a board more recent than the main4 board, or provide retrofit work.
4901	A drop in 3.3 V (for emergency use) has been detected in the course of operation.	Replace the power supply, and then replace the main controller PCB.
4910	A board not compatible with the machine has been detected.	Replace the main controller PCB.
E749	Reboot instruction initiated by change in PDL configuration	
0001	A change has occurred that calls for turning off and then on the power.	Turn off and then on the power.
E800	The interlock 24V mechanism of the fixing unit is identified as being off. With the door closed, the interlock 24V mechanism remains off for 500 msec.	
0001		Turn off the main switch, and check the wiring of the DC controller PCB, check the fixing unit interlock, and check the 24V system fuse; then, turn on the interlock main switch.
E804	There is any of the various types of fan errors.	
0004	There is an error in the controller cooling fan.	Turn off the main switch, and check the wiring of the DC controller PCB and the 24V system fuse; then, turn on the main switch.
0007	There is an error in the power supply cooling fan.	Turn off the main switch, and check the DC controller PCB and the 24V system fuse; then, turn on the main switch.
E805	The fixing heat exhaust fan is identified as having stopped or having an error.	
0003	There is an error in the fixing heat exhaust fan.	Turn off the main power, and check the supply of power to the fan; then, as necessary, replace the fan, and turn on the main power.
E820	There is an error in the process unit cooling fan.	
0002	There is an error in the process unit fan.	Turn off the main switch, and check the wiring of the DC controller PCB and the 24V system fuse; then, turn on the main switch.
E824	There is an error in the primary charging suction/primary charging exhaust fan.	
0000	There is an error in the primary charging suction mechanism.	Turn off the main power, and check the DC controller PCB and the 24V system fuse; then, turn on the main switch.
0001	There is an error in the primary exhaust fan.	Turn off the main switch, and check the wiring of the DC controller PCB and 2V system fuse; then, turn on the main switch.

1. E602 in Detail

If the machine indicates 'E602-xxyy', take the appropriate action according to the instructions indicated by the detail code.

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If 'E602-xxyy' is indicated, be sure always to turn off and then on the main power (so that auto recovery sequence is performed).

T-15-3

xx	Partition	yy	Description
00	HDD full	01	The machine cannot recognize the HDD. The machine cannot find BOOTDEV at time of start-up.
			Remedy:
			Turn off the main power, and check the connection of the 2 cables from the HDD (power, SIDE); then, turn on the main power.
			At that time, check if the HDD rotates and power is supplied. [F] —NG→ [D]
		02	The machine cannot find the system software or the main controller (main PCB) in BOOTDEV.
			Remedy: [E] —NG→ [F]
		03	The machine detects a faulty sector while it is reading data from BOOTDEV.
			Remedy: [H] —NG→ [E] —NG→ [F]
		06	The machine cannot find the system software for the main controller (sub) CPU in BOOTDEV.
			Remedy: [E] —NG→ [F]
		07	The machine cannot find appropriate ICCProfile in BOOTDEV/PDLDEV.
			Remedy: [E] —NG→ [F]

T-15-4

xx	Partition	yy	Description
01	DOSDEV	01, 02	There is a read error or a file system error at time of start-up.
02	FSTDEV		
03	DOSDEV2		
04	FSTPDEV		
05	DOSDEV3		
06	PDLDEV		
07	DOSDEV4		
08	BOOTDEV		
09	DOSDEV5		
FF	IMPOSSIBLE TO SPECIFY		
			Remedy: [I] —NG→ [B] —NG→ [F]
			- if xxyy = 0701, 0702,
			Remedy:
			Ask the user to collect address book data, transfer settings, and user mode data using the remote UI. [J] —NG→ [C] —NG→ [F]
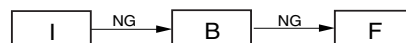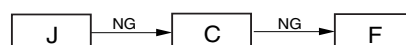
xx	Partition	yy	Description

- if xxyy = 0801, 0802,

Remedy:

J	—NG→	E	—NG→	F
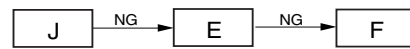
- if xxyy = FF01, FF02,

Remedy:

A	—NG→	E	—NG→	F

03   There is an HDD contact fault or an opening system error.

Remedy:
Turn off the main power, and check the connection of the 2 cables (power, IDE) from the HDD; then, turn on the main power.
At that time, check if the HDD is rotating and power is supplied.

E	—NG→	F	—NG→	D

11, 21   There is an HDD contact faulty.

Remedy:
Turn off the main power, and check the connection of the 2 cables (power, IDE) from the HDD; then, turn on the main power.
At that time, check to see if the HDD rotates and power is supplied.

F	—NG→	D
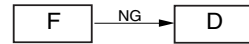
13, 25   There is a read error.

Remedy:

I	—NG→	B	—NG→	F
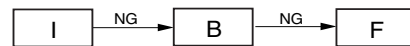
- if xxyy = 0713, 0725,

Remedy:

I	—NG→	C	—NG→	F
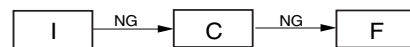
- if xxyy= 0813, 0825,

Remedy:

I	—NG→	E	—NG→	F

10, 12, 14, 22, 23, 24   There is a system error or a packet data error.

Remedy:

E	—NG→	F
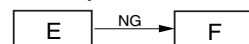
A:
1) Set '0' to the following: COPIER>FUNCTION>SYSTEM>CHK-TYPE.
2) Make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>HD-CHECK*.
3) When the execution is over, turn off and then on the main power.
B:
1) While referring to "Formatting the HDD" enter the appropriate CHK-TYPE for the following: COPIER>FUNCTION>SYSTEM.
2) Make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>HD-CLEAR.
3) When execution is over, turn off and then on the main power.
C:
1) ** Start up the machine in normal mode (i.e., by turning on the main power while pressing the 1 and 7 keys); then, make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>DOWNLOAD.
2) Perform DOSDEV4 using the Service Support Tool.
3) When the execution is over, turn off and then on the main power.
D:
1) Replace the main controller (main) board.

2) Move the image memory (SDRAM) and the boot ROM from the old board to the new board.

E:

1) ** Start up the machine in safe mode (i.e., by turning on the main power while pressing the 2 and 8 keys).

2) Perform HDD formatting (ALL) and download the system software (SYSTEM, LANG, RUI) using the Service Support Tool.

3) When the execution is over, turn off and then on the main power.

F:

1) ** Replace the HDD, and start up the machine in safe mode (i.e., by turning on the main power while pressing the 2 and 8 keys).

2) Perform HDD formatting (ALL) and download the system software (SYSTEM, LANG, RUI) using the Service Support Tool.

3) When the execution is over, turn off and then on the main power.

G:

1) Set '1' to the following: COPIER>FUNCTION>SYSTEM>CHK-TYPE.

2) Make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>HD-CLEAR.

3) When the execution is over, turn off and then on the main power.

H:

1) Turn off the main power, and turn on the power while pressing the 1 and 9 keys so that the machine will automatically start its recovery program* and turns its control panel solid black.

2) When the execution is over (i.e., when the screen is solid white), turn off and then on the main power.

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If the machine does not start its recovery program in response to the foregoing operation, go to E.

I:

1) By referring to "Formattingthe HDD," enter the appropriate CHK-TYPE in the following: COPIER>FUNCTION>SYSTEM.

2) Make the following selections, and press the OK key.

3) When the execution is over, turn off and then on the main power.

J:

1) Enter '4 to the following: COPIER>FUNCTION>SYSTEM>CHK-TYPE.

2) Make the following selections, and press the OK key: COPIER>FUNCTION>SYSTEM>HD-CHECK (1 to 5 min).

3) When the execution is over, turn off and then on the main power.

* Takes about 30 to 50 min.

** As necessary, ask the user to collect the address book data, transfer settings, and user mode data before starting the work.

T-15-5

Formatting the HDD

Partition	CHK-TYPE	Typical data that will be deleted
DOSDEV	1	all that relate to images (i.e., reservation, box, fax)
FSTDEV	1	mode memory, routine task button
DOSDEV2	1	
FSTPDEV	1	
DOSDEV3	2	PDL spool
PDLDEV	3	PDL-related file (front, registration form, ICCProfile)
DOSDEV4	4	user data (address book, transfer settings); system software
BOOTDEV	4	
DOSDEV5	5	-
NOT TO SPECIFY	0	-

15.3 Error Codes (SEND)

15.3.1 Self-Diagnostic Display

T-15-6

Cause	Remedy
Scanning has stopped because the size of the data for the scanned original exceeds the limit. Scanning may be possible if [Data Cmprssn] is set to [High Ratio], Resolution is lowered, or [Sharpness] is reduced.	
Scanning was stopped because the data size of the scanned original exceeded the maximum data size that the machine could handle.	By selecting [High Ratio] for Data Compression Ratio, lowering the Resolution, and lowering the Sharpness setting, scanning may become possible.
Out of resources. Wait for a moment, then perform operation again.	
You cannot browse the network. There is a lack of TCP/IP resources because documents have just been continuously sent or are being continuously sent through FTP or Windows (SMB).	Wait for a while, and try browsing again.
Set the IP Address.	
This machine is not set with an IP address.	Specify the IP Address Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen), then turn the machine's main power OFF and back ON again.
No response from the server. Check the settings.	
The specified server settings are incorrect, or the server is not turned ON. Alternatively, the machine's TCP/IP resources may be low.	Wait for a while, and try browsing again. If there is still no response from the server, try selecting another server.
NetWare is in use. Wait for a moment, then perform operation again.	
You cannot browse the network because NetWare is printing through a Pserver or NDS PServer.	Wait until printing is complete, then try browsing again.
There are too many subdirectories.	
You have exceeded the maximum number of subdirectory levels allowed.	Specify a different destination because the directory level that you are trying to access cannot be specified.
No response.	
The server was not running when you tried to send.	Make sure that the server is ON, and check the destination.
The network connection was lost when you tried to send. (Either you could not connect to the destination, or the connection was lost before the job could be completed.)	Check the status of the network.
You tried to send through NetWare, but the Tree name was not entered.	Enter the Tree name.
A TCP/IP error occurred when you tried to send an e-mail message or an I-fax.	Check that the network cables and connectors are properly connected.
Check the TCP/IP.	
The machine's TCP/IP connection is not operating.	Check the IP Address Settings (IP Address, DHCP, RARP, BOOTP) in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).
Cannot find the selected server. Check the settings.	
The IP address that the machine should connect to cannot be determined.	1) Check the DNS Server Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen). 2) Check whether the DNS server's DNS settings are correct.
If Login Information in Register LDAP Server in System Settings (from the Additional Functions screen) is set to 'Use (security auth.)' for the LDAP server, the machine will not be able to determine the host name.	Check the DNS Server Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).
Cannot connect to the selected server. Check the settings.	

Cause	Remedy
The machine cannot connect to the specified IP address/port.	1) Check the Gateway Address setting in IP Address Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen). 2) Check the Server Address and Port Number in Register LDAP Server in System Settings (from the Additional Functions screen). 3) Check whether the LDAP server is operating normally. 4) If Login Information in Register LDAP Server in System Settings (from the Additional Functions screen) is set to 'Use (security auth.)' for the LDAP server, check whether UDP (User Datagram Protocol) packages are blocked by the filter.
Check the user name and password or check settings.	
When setting Login Information for the LDAP server to 'Use' or 'Use (security auth.)', the user name or password is incorrect.	Check the User and Password settings when Login Information in Register LDAP Server in System Settings (from the Additional Functions screen) is set to 'Use' or 'Use (security auth.)'.
When setting Login Information for the LDAP server to 'Use (security auth.)', the domain name is incorrect.	Check the Domain Name setting when Login Information in Register LDAP Server in System Settings (from the Additional Functions screen) is set to 'Use (security auth.)'.
Cannot complete searching due to timeout. Check the settings.	
The search could not be completed within the time specified under <Search Timeout>.	Increase the time setting for Search Timeout in Register LDAP Server in System Settings (from the Additional Functions screen).
The number of search results has exceeded limits. Change search conditions and try again.	
The number of addresses that meet the search criteria exceeds the specified maximum number of addresses to search.	1) Narrow down the search criteria, and then search again. 2) Increase the maximum number of addresses to search.
Search condition includes characters that cannot be used with the selected server.	
"/" is used in the search criterion.	Remove "/" from the search criterion, and search again.
The combination of characters used in the search criterion does not constitute an acceptable search criterion. There is an unequal number of "(" and ")". "*" is not placed within "( )".	Make sure that the characters for the search criterion are combined properly, and search again.
If <Server LDAP version and character code> is set to 'ver.2 (JIS)', characters other than ASCII Code (0x20-0x7E) are being used.	Omit characters that cannot be used, and search again.
Cannot start searching because the version setting for the server is incorrect. Check the settings.	
Although 'ver. 3' is set as the server LDAP version number in Register LDAP Server in System Settings (from the Additional Functions screen), the LDAP server is running on version 2.	Set Server LDAP version and character code in Register LDAP Server in System Settings (from the Additional Functions screen) to 'ver. 2'.

15.3.2 List of Error Codes without Messages

T-15-7

Cause	Remedy
# 001	
Paper or originals are jammed.	Remove any jammed paper or originals.
# 003	
Communications that take longer than the preset time (64 minutes) caused the error.	1) Reduce the resolution, and try sending the document again. 2) When receiving a document, ask the remote party to either reduce the resolution at which the document is scanned, or divide the document into two or more parts before sending it.
# 005	
The other party did not answer within 35 seconds.	Check that the remote machine is able to communicate, and try again.
The receiving machine is not a G3 fax.	Check the type of receiving machine with the receiving party.
# 009	
There is no paper.	Load paper.
The paper drawer is not correctly inserted into the machine.	Insert the paper drawer properly.
# 011	
The document that you are sending is not placed correctly.	Place the document properly in the feeder or on the platen glass, and repeat the whole procedure from the beginning.
# 012	
The document could not be sent because the receiving fax machine was out of paper.	Ask the receiving party to load paper into their fax machine.
# 018	
The receiving machine did not respond when your machine redialed.	Check that the receiving machine is able to communicate, and try again.
The documents could not be sent because the receiving machine was engaged.	Check that the receiving machine is able to communicate, and try again.
The settings on your machine do not match the settings on the receiving machine.	Check that the receiving machine is able to communicate, and try again.
# 022	
Forwarding could not be performed because all of the addresses stored under the specified Group destination have been deleted, or User Inboxes are specified as the Group destination.	Re-enter the forwarding address and try sending again.
Transmission could not be performed because the specified destination was deleted while the documents were waiting to be sent.	Re-enter the address in the address book and try sending again.
# 037	
Documents could not be received because there was insufficient memory available.	Erase unwanted documents and documents with errors from memory to increase the amount of available memory.
# 081	
A password is not set in the remote machine.	Check the password of the remote machine, and try again.
# 099	
Sending was interrupted.	Try sending again.
# 102	
The subaddress and/or password do not match.	Check the subaddress and/or password of the remote machine, and try again.
# 107	
The document could not be sent because there was insufficient memory available.	1) Resend the document in a lower resolution. 2) Erase unwanted documents to make memory available. 3) If this problem occurs frequently, contact your local authorized Canon dealer.

Cause	Remedy
# 701	
The specified Department ID does not exist, or the password has changed.	Enter the correct Department ID or password using 0-9 (numeric keys) on the control panel, and try sending again.
# 702	
The document could not be sent because the memory is full.	1) Wait a few moments, and try again after the other send jobs are complete. 2) Do not send the document to too many recipients at the same time. Send the document to a smaller number of recipients each time.
# 703	
The memory for the image data is full.	1) Wait a few moments, and try again after the other send jobs are complete. 2) Erase documents stored in inboxes. If the machine still does not operate normally, turn the main power OFF, and then back ON again.
# 704	
An error occurred while reading address information from the Address Book.	Check the address settings. If the machine still does not operate normally, turn the main power OFF, and then back ON again.
# 705	
The send operation was interrupted because the size of the image data is larger than the Maximum Data Size for Sending set in E-mail/I-Fax Settings in Communications Settings in System Settings (from the Additional Functions screen).	Change the Maximum Data Size for Sending setting in E-mail/I-Fax Settings in Communications Settings in System Settings (from the Additional Functions screen). Select a lower resolution, or if you are using I-fax, decrease the number of pages containing images that you are sending each time, so that you do not exceed the Maximum Data Size for Sending limit.
# 706	
The Address Book is being imported or exported from the Remote UI, or it is being used by another sending component.	Wait until the Address Book import/export function from the Remote UI or the other sending component is complete, and try sending again.
# 711	
The inbox memory is full.	Erase the unnecessary documents stored in the inbox.
# 712	
The maximum number of documents is already stored in the inbox.	Erase the unnecessary documents stored in the inbox.
# 751	
The server is not functioning. The network is down (the server is unable to connect to the network or was disconnected).	Check the recipient's address. Check that the network is up.
# 752	
The SMTP server name for e-mail or I-fax is not correct, or the server is not functioning. The domain name or e-mail address may not be set. The network is down.	Check the SMTP Server name and E-mail Address in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). Check that the SMTP server is operating properly. Check the network status.
# 753	
A TCP/IP error occurred while sending an e-mail message. (Socket, Select error, etc.)	Check the network cables and connectors. If the machine still does not operate normally, turn the main power OFF, and then back ON again.
# 754	
The server is not functioning or the network is down. The destination setting is not correct.	Check the server and network. Check the destination's address settings.
# 755	
You cannot send jobs because TCP/IP is not functioning correctly.	Check TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).

Cause	Remedy
The IP address is not set.	Check TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).
When the machine was turned ON, an IP address was not assigned to the machine by the DHCP, RARP, or BOOTP server.	Check TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).
# 756	
NetWare in NetWare Settings in Network Settings in System Settings (from the Additional Functions screen) is set to 'Off'.	Turn NetWare to 'On'.
# 801	
A timeout error occurred while the machine was communicating with the SMTP server to send an e-mail message or send/receive an I-fax.	1) Check that the SMTP server is functioning normally. 2) Check the network status.
The SMTP server returned an error while trying to connect. The destination is not correct. An error occurred on the server side during transmission to a file server.	1) Check that the SMTP server is functioning normally. 2) Check the network status. 3) Check the destination setting. 4) Check the status and setting of the file server.
You are sending a file to a destination to which you have no write permission.	Check the destination setting.
When the machine tried to send a file to the server, a file with the same name already exists on the FTP server and that file cannot be overwritten.	Change the setting on the file server to enable the file to be overwritten.
When the machine tried to send a file to the server, either the folder name is incorrectly specified or the password is incorrect.	Check the destination setting.
# 802	
The name of the SMTP Server in E-mail/I-Fax settings in Network Settings in System Settings (from the Additional Functions screen) is incorrect. The DNS server name in DNS Server Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen) is incorrect. Connection to the DNS server failed.	Check the name of the SMTP Server in E-mail/I-Fax and DNS Server Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen). Check that the DNS server is functioning normally.
# 803	
The connection was interrupted due to reasons on the recipient's side before all of the pages could be sent.	Try sending again.
# 804	
Unable to match the specified directory name when sending data to a file server.	Check the destination.
You have no permission to access the folder.	Change the setting on the server to enable access to the folder.
# 806	
An incorrect user name or password was specified for the sending of a file to a file server.	Change the user name or password.
An incorrect destination was specified for the sending of an e-mail message or I-fax.	Check the e-mail or I-fax address.
# 810	
A POP (Post Office Protocol) server connection error occurred while receiving an I-fax.	Check the POP Server name in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). Check that the POP server is functioning normally. Check the network status.

Cause	Remedy
The POP server returned an error during the connection.	Check the POP Server name in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). Check that the POP server is functioning normally. Check the network status.
A timeout error occurred on the server while connecting to the POP server.	Check the POP Server name in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). Check that the POP server is functioning normally. Check the network status.
# 815	
You cannot log on to the file server because the machine is printing a document sent to that server. Simultaneous connections are not possible.	Wait for a few moments before trying to send the data again, or change the NetWare server to which you are sending your documents. Alternatively, stop the Pserver.
# 818	
The received data is not in a printable file format.	Ask the sender to change the file format and resend the data.
# 819	
You have received data that cannot be processed (MIME information is incorrect).	Check the settings, and ask the sender to resend the data.
# 820	
You have received data that cannot be processed (BASE 64 or uuencode is incorrect).	Check the settings, and ask the sender to resend the data.
# 821	
You have received data that cannot be processed (TIFF analysis error).	Check the settings, and ask the sender to resend the data.
# 822	
You have received data that cannot be processed (image data cannot be decoded).	Check the settings, and ask the sender to resend the data.
# 827	
You have received data that cannot be processed (contains MIME information that is not supported).	Check the settings, and ask the sender to resend the data.
# 828	
You have received HTML data.	Ask the sender to use a file format other than HTML, and resend the data.
# 829	
Data that contains more than 1,000 pages is received.	This machine can print or store up to 999 pages of data in memory, but will delete any data that exceeds this limit. Ask the sender to resend the remaining pages.
# 830	
A DSN (Delivery Status Notification) error notification is received because of an incorrect I-fax address or destination setting, or the data size of the sent documents exceeds the mail server capacity.	1)Check the I-fax address or destination setting. 2) Set Maximum Data Size for Sending in E-mail/I-Fax Settings in Communication Settings in System Settings (from the Additional Functions screen) so that it is less than the mail server capability. 3) Check the status of the mail server, DNS server, and network.
# 831	
An I-fax document could not be received using SMTP because of the RX/Print Range setting in IP Address Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).	Reset the RX/Print Range setting in IP Address Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).
# 832	

Cause	Remedy
DSN (Delivery Status Notification) mail was not sent because TCP/IP Settings or E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen) have not been set, or trouble has occurred in the mail server.	1) Check the DNS Server Settings and IP Address Settings in TCP/IP Settings, and E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). 2) Check the status of the mail server and DNS server.
# 833	
MDN (Mail Delivery Notification) mail was not sent because TCP/IP Settings or E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen) have not been set, or trouble has occurred in the mail server.	1) Check the DNS Server Settings and IP Address Settings in TCP/IP Settings, and E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen). 2) Check the status of the mail server and DNS server.
# 834	
An MDN error notification is received because of an incorrect I-fax address or destination setting, or trouble has occurred in the network or mail server. Alternatively, the memory of the receiving machine is full.	Check the I-fax address and destination settings.
# 835	
The maximum number of text lines for receiving an I-fax has been exceeded.	Ask the sender to reduce the amount of text data in the body of the document, and resend the data.
# 837	
A connection request was received from a host whose connection is restricted by IP Address Settings, which can be set in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen).	Check the settings in IP Address Settings in TCP/IP Settings in Network Settings in System Settings (from the Additional Functions screen). Make sure that the connection request is made from an authorized host.
# 839	
The user name or password for the SMTP authentication (SMTP AUTH) in Authent./Encryption in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen) is incorrect.	Check the user name and password for SMTP Authentication (SMTP AUTH) in Authent./Encryption in E-mail/I-Fax in Network Settings in System Settings (from the Additional Functions screen).
# 841	
The encryption algorithm that matches the mail server does not exist for sending e-mail or I-fax.	1) Set Allow SSL in Network Settings in System Settings (from the Additional Functions screen) to 'Off'. 2) Add the same encryption algorithm as the mail server in the mail server settings.
# 842	
Authentication using the client certificate was requested by the mail server for sending e-mail or I-fax.	1) Set Allow SSL in Network Settings in System Settings (from the Additional Functions screen) to 'Off'. 2) Change the mail server settings so that the client certificate is not requested.
# 843	
There is large difference between the current time set in the KDC (Key Distribution Center) server and the one set in the machine.	1) Change the current date and time in Date & Time Settings in Timer Settings (from the Additional Functions screen). 2) Change the current time set in the KDC (Key Distribution Center) server.
# 851	
There is insufficient memory remaining in the system.	Check the system's available memory, and delete unwanted documents in the inboxes.
The scanned document cannot be stored because there are more than 100 documents in the specified inbox.	Delete unnecessary documents from the specified inbox.
# 852	
An error occurred because the main power switch was turned OFF while a job was being processed.	Check to see if the main power switch is turned ON. Try processing the job again, if necessary.

Cause	Remedy
# 899	
The e-mail message or I-fax has been successfully sent, but reception may be incomplete because the transmission was relayed via multiple servers.	1) Check whether reception was complete. 2) Check if you received an error notification.
# 995	
Reserved communication jobs were cleared.	Reserve the jobs again, if necessary.

15.4 Jam Codes

15.4.1 Jam Code (printer unit)

Type of Jam Code

T-15-8

Code	Type of Jam Code
01xx	delay jam
02xx	stationary jam
0Axx	residual jam
0B00	door open jam
0B01	door open jam (detection by software)
0D91	size error (sheet shorter than specified)
0D92	material error (paper used instead of transparency
0D93	material (transparency used instead of paper)

Jam Code (printer unit)

T-15-9

Code	Sensor	Notation	Remarks
xx01	right deck pickup sensor	PS33	does not detect stationary jam
xx02	left deck pickup sensor	PS40	does not detect stationary jam
xx03	cassette 3 pickup sensor	PS48	does not detect stationary jam
xx04	cassette 4 pickup sensor	PS54	does not detect stationary jam
xx05	vertical path 4 sensor	PS63	
xx06	vertical path 3 sensor	PS62	
xx07	vertical path 2 sensor	PS61	
xx08	vertical path 1 sensor	PS60	
xx09	vertical path confluence sensor	PS32	
xx10	vertical path 0 sensor	PS31	
xx0A	transparency sensor (front, rear)	PS3, PS29	other than in transparency mode
xx0A	registration sensor	PS9	in transparency mode
xx0B	post-transfer sensor	PS10	does not detect stationary jam
xx0C	internal delivery paper sensor	PS12	does not detect stationary jam
xx0D	reversal sensor	PS14	At Time of Face-Down Delivery
xx0E	external delivery sensor	PS13	
xx0F	reversal vertical path sensor	PS15	
xx11	duplex left sensor	PS17	
xx12	duplex confluence sensor	PS18	
xx13	side paper deck pickup sensor	PS101	does not detect stationary jam
xx14	side paper deck feed sensor	PS106	
xx15	fixing inlet sensor	PS11	detects residual jam only
xx16	left deck stationary sensor	PS47	detects residual jam only
0D91	transparency sensor (front/rear)	PS3, PS29	other than in transparency mode
0D92	plain paper detected by transparency sensor when transparency is selected as medium	PS3, PS29	

Code	Sensor	Notation	Remarks
0D93	transparency detected by transparency sensor when a medium other than transparency is selected	PS3, PS29	

15.4.2 Jam Code (finisher-related)

T-15-10

Code	Sensor	Notation
1011	delivery sensor feed delay jam	SR1(finisher-P1)
1101	delivery sensor feed stationary jam	
1500	stapler staple jam	
1300	power-on jam	
1400	door open jam	

T-15-11

Code	Sensor	Notation
1001	inlet path sensor feed delay jam	P13
1002	punch path sensor (punch registration sensor) feed delay jam	LED5/PTR5
1004	delivery path sensor feed delay jam	P14
1101	inlet path sensor feed stationary jam	P13
1102	punch path sensor (punch registration sensor) feed stationary jam	LED5/PTR5
1104	delivery path sensor feed stationary jam	P14
1200	timing jam	P13
1500	stapler staple jam	STP
1300	power-on jam	P13,P14
1400	door open jam	DOOR
1644	punch jam	LED5/PTR5
1645	punch power-on jam	LED5/PTR5
1791	saddle feed sensor feed delay jam	P18S,PI19S,PI20S
1792	saddle delivery sensor feed delay jam	PI11S
1793	saddle inlet sensor feed delay jam	PI22S
17A1	saddle feed sensor feed stationary jam	P18S,PI19S,PI20S
17A2	saddle delivery sensor feed stationary jam	PI11S,PI17S
17A3	saddle inlet sensor feed stationary jam	PI22S
1786	saddle stapler staple jam	S STP
1787	saddle power-on jam	PI11S,PI18S,PI19S,PI20S,PI22S
1788	saddle door open jam	DOOR

15.4.3 Jam Code (ADF-related)

T-15-12

Code	Sensor	Sensor	Description
0001	post-separation sensor	PI7	The post separation sensor does not detect paper even when paper has been fed 452 mm after the start of separation.
0002	post-separation sensor	PI7	- the separation sensor detects paper after paper has been fed 50 mm (if extra length, +200 mm) -45.5 mm following registration pickup. - the sensor goes on (paper with hole) before paper has been fed 12 mm after the detection of the trailing edge; the separation sensor detects paper after paper has been fed 50 mm from when the separation senor has gone on.
0003	registration sensor	PI1	the registration sensor does not detect paper even when paper has been fed 134.8 mm after the post-separation sensor has gone on.
0004	registration sensor	PI1	the read sensor goes off before the registration sensor goes off.
0005	read sensor	PI8	- the read sensor does not detect paper when paper has been fed 364.2 mm (182.1 x 2) after the point of registration. - the read sensor does not detect paper even when paper has been fed 157.4 mm (78.7 x 2) from the point of No. 2 registration.
0006	read sensor	PI8	- the read sensor detects paper when paper has been fed 500 mm (if extra length, +200 mm) from the start of feed following a temporary stop before reading. - in the course of LTRR/LGL identification in mix mode, the read sensor detects paper when paper has been fed 514 mm beginning at the advance edging standby position.
0007	delivery reversal sensor	PI9	- at time of switchback, the delivery sensor does not detect paper when paper has been fed 50 mm from the start of feed. - at time of switch-back, the delivery sensor does not detect paper after paper has been fed 50 mm from the start of feed.
0008	delivery reversal sensor	PI9	delivery reversal sensor the delivery sensor detects paper after paper has been fed 161.9 mm from the end of reading the trailing edge.
0042	post-separation sensor	PI7	a jam (1st sheet) is detected by the post-separation sensor.
0043	registration sensor	PI1	paper (1st sheet) fails to reach the registration sensor.
0044	registration sensor	PI1	a stationary jam (1st sheets) is detected by the registration sensor.
0045	read sensor	PI8	paper (1st sheet) fails to reach the read sensor.
0046	read sensor	PI8	a stationary jam (1st sheet) is detected by the read sensor.
0047	delivery reversal sensor	PI9	paper (1st sheet) fails to reach the delivery sensor.
0048	delivery reversal sensor	PI9	a stationary jam (1st sheet) is detected by the delivery sensor.
0071	timing fault	-	timing of software operation is faulty.
0073	timing fault	-	the shift motor has a fault.
0090	ADF open/closed sensor 1	PS502	the ADF is opened while the machine is in operation.
0091	ADF open/closed sensor 1	PS502	the ADF is opened while the machine is in operation (waiting for paper).
0092	DF cover open/closed sensor	PI6	the cover is opened while the machine is in operation (drive system in operation).
0093	DF cover open/closed sensor	PI6	the cover is opened while the machine is in operation (waiting for paper).
0094	registration sensor, separation sensor, feed sensor, delivery reversal sensor	PI1,PI7,PI8,PI9	paper is detected within the path during pickup of the 1st sheet.
0095	original placement sensor, DF cover open/closed sensor, ADF open/closed sensor 1	PI5,PI6,PS502	there is no paper in the tray, or the pickup start signal is received with the machine being in an open state.

15.5 Alarm Codes

15.5.1 Alarm Code

T-15-13

location code	detail code	
02 scanner system	0002	indicates soling of the glass in stream reading mode
	0020	line correction alarm (i.e., dust is detected on the stream reading glass during detection at the end of a job)
04 pickup/feed system	0001	cassette 1 lifter error
	0002	cassette 2 lifter sensor
	0003	cassette 3 lifter error
	0004	cassette 4 lifter error
	0008	optional deck lifter error
	0009	horizontal registration home position detection error
06 fixing system	0002	fixing upper roller end of life
09 drum	0005	History of work on drum phase shifting
11 waste toner collection system	0001	waste toner cassette full
32 potential control system	0001	potential control VD alarm
	0002	potential control VL alarm
33 fan	0001	delivery cooling fan 1 alarm
	0006	developing fan alarm
	0010	reader cooing fan alarm
	0011	fixing heat discharge fan alarm
	0012	primary charging suction fan alarm
	0013	primary charging exhaust fan alarm
	0014	feed fan 1 alarm
	0015	feed fan 2 alarm
50 ADF	0010	original separation alarm (1st original pickup fault) has occurred 3 times in succession.
	0007	Insufficient light intensity of the post-separation sensor
	0008	Insufficient light intensity of the read sensor
	0009	Insufficient light intensity of the delivery reversal sensor
	0010	The separation alarm is continuously given.
60 shift tray	0001	shift tray alarm
61 finisher	0001	staple absent
62 saddle stitcher	0001	staple absent
65 puncher	0001	punch waste paper case full

location code	detail code	
72 Surf	0001	register access error
	0002	memory data transfer error
	0003	rendering error (ECI module)
	0004	rendering error (EM module)
	0005	rendering error (IE module)
	0006	rendering error (IDM module)
	0007	rendering error (LAM module)
	0008	rendering error (MI module)
	0009	rendering error (PCM module)
	0010	rendering error (PGM module)
	0011	rendering error (VII module)
	0012	rendering error (VOI module)
	0013	compression image storage error
	0014	rendering error (rendering time-out)
73 LIPS	0002	work memory shortage
	0004	work memory overflow for translator
	0006	configuration acquisition/management error
	0007	memory management error
	0008	file management error
	0009	reception data management error
	0010	page control error
	0011	macro management error
	0012	color management error
	0013	layout control error
	0014	font management error
	0015	character draw error
	0016	graphic draw error
	0017	image draw error
	0018	LCD display error
	0019	text mode command layer error
	0020	vector mode command layer error
	0021	utility execution control error
	0022	data base management error
	0023	menu control error
	0024	boot error
	0025	graphics memory shortage

Chapter 16

Service Mode

Contents

16.1 Outline

16.1.1 Construction of Service Mode

The machine's service mode has a 3-layer screen construction: Initial screen, Level 1/2 screen, and Level 3 screen. Its mode items are grouped into those used in regular maintenance work (Level 1 items) and those used in response to faults (Level 2 items).
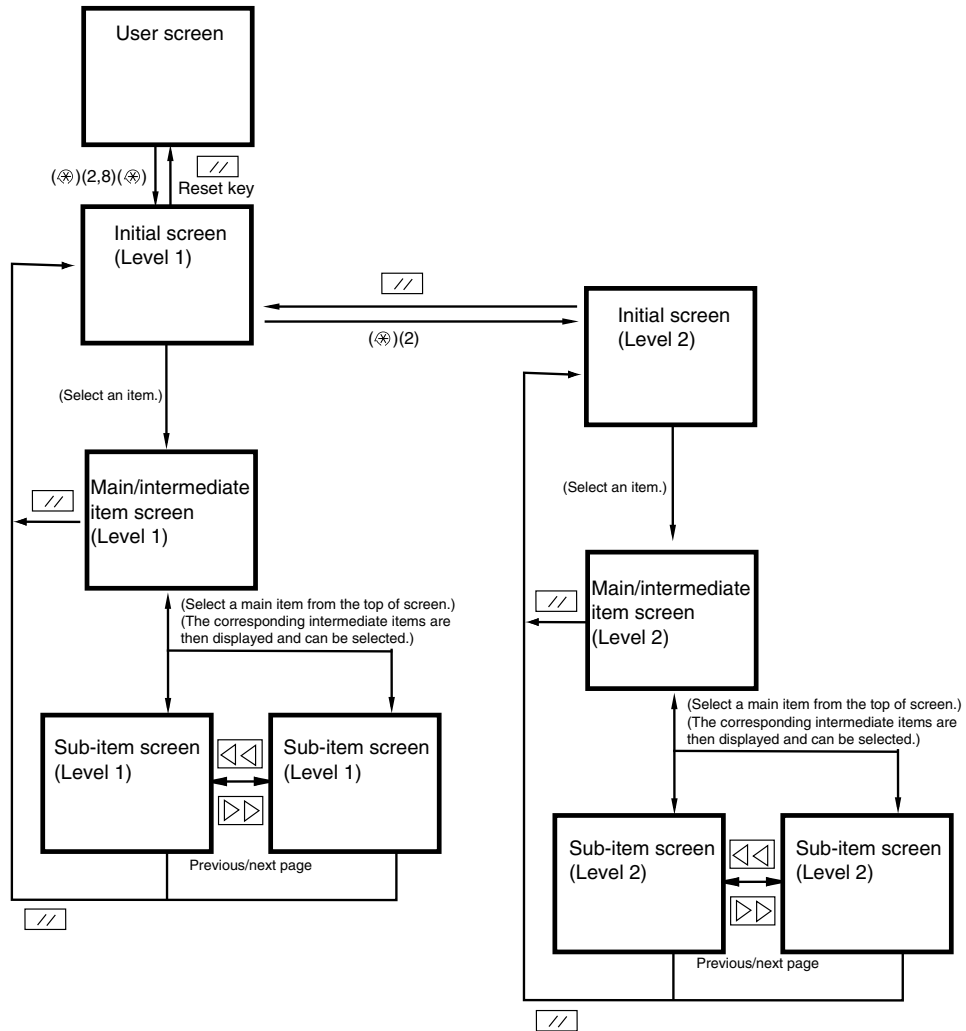
F-16-1

The machine's service mode is divided into the following 7 types:
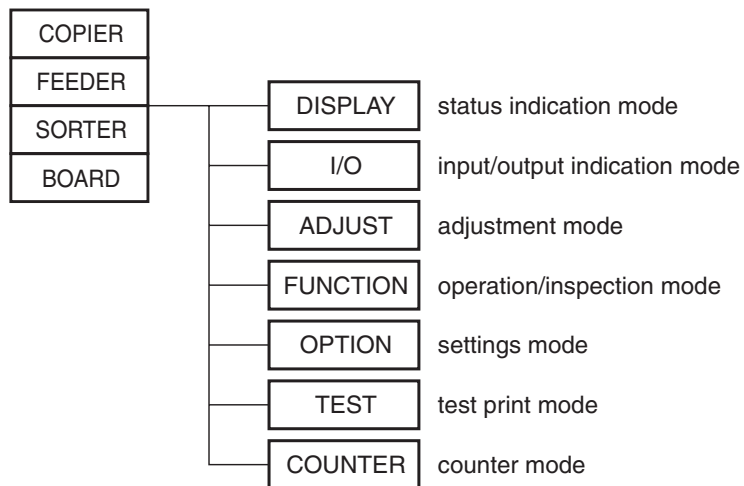
F-16-2

16.1.2 Entering or selecting service modes

⚠

If you want to execute a machine operation using a service mode item, be sure to disconnect all cables from an external controller or a network before starting service mode. Particularly, if you are using a FUNCTION (operation/inspection) mode item, the arrival of a print job from an external source can cause the machine to malfunction, leading to damage.

1) Press the asterisk key "✳" on the control panel.
2) Press the 2 and 8 keys of the keypad at the same time.

3) Press the asterisk key "✳" on the control panel.

In response to the foregoing key operations, the machine will bring up the following Initial screen:
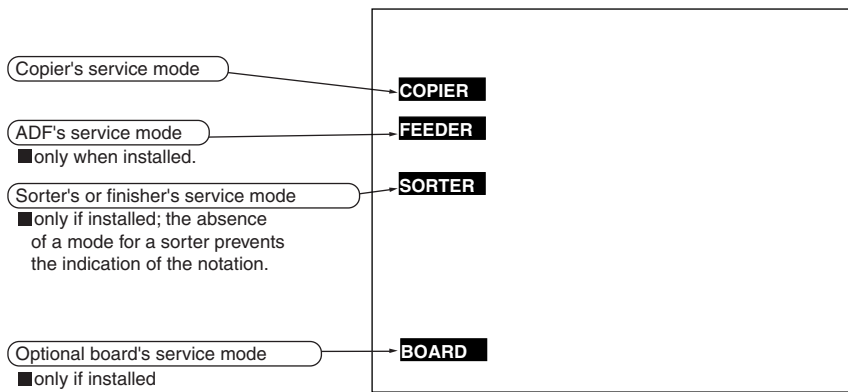
F-16-3

16.1.3 Exiting service modes

A press on the Reset key will bring back the Service Mode Initial screen.
Another press on the Reset key will end service mode, and bring back the User screen (standard screen).

⚠

If you used service mode (ADJUST, FUNCTION, OPTION), be sure to turn off and then on the main power switch after ending service mode.

16.1.4 Back-Up

At time of shipment from the factory, all machines are adjusted individually, and adjustment values are recorded in their respective service labels.
If you have replaced the reader controller PCB or the DC controller PCB, or if you have initialized the RAM, the adjustment values (for ADJUST and OPTION) will return to their default settings. If there has been any change in a service mode item, be sure to update its setting indicated on the service label. As necessary, make use of the space in the service label (as when recording an item not found on the label).

- Service Label for the Reader Controller PCB (behind the front cover [1] of the reader unit)
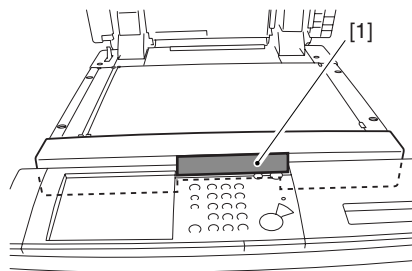
F-16-4

- Service Label [1] for the Main Controller PCB/DC controller PCB (behind the front cover of the printer unit)

[1]
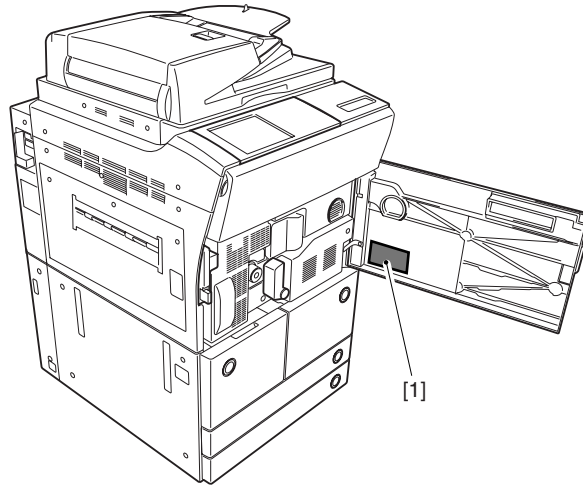
F-16-5

16.1.5 Initial Screen

Initial item

Touch to select an item.

COPIER
FEEDER

SORTER

FAX
BOARD
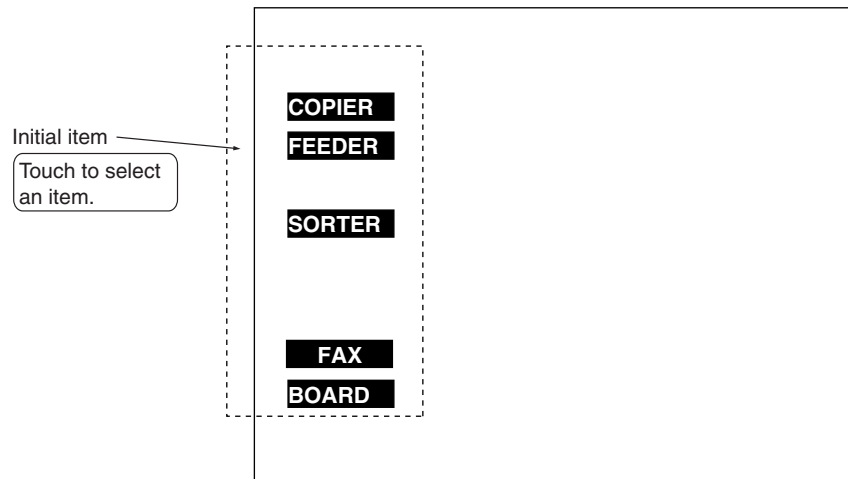
F-16-6

16.1.6 Main/intermediate Item Screen

Display	I/O	Adjust	Function	Option	Test	Counter

Main items

Touch an item to select it.

VERSION
USER
ACC-STS
ANALOG
CST-STS
JAM
ERR

Intermediate items

Touch an item to select it.
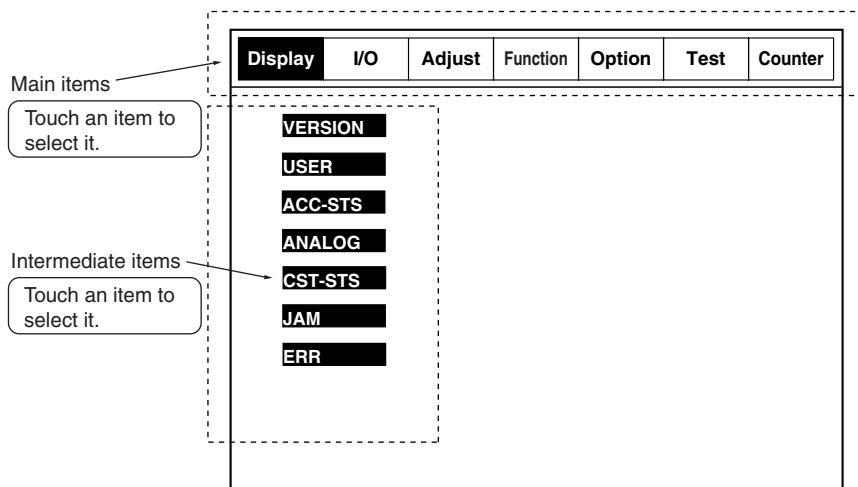
F-16-7

16.1.7 Sub- Item Screen

Number of pages

| Display | I/O | Adjust | Function | Option | Test | Counter |

<VERSION>   **< 1/3 >**   **< READY >**

Selected intermediate item

Copier status display

DC-CON

IP

PANEL

ANAPRO

POWER

Sub-items

READY:	Ready to receive service/copy operation.
JAM:	Paper jam
SERVICE:	Executing service mode.
WAITING:	Performing warmup or similar operation.
DOOR:	Cover open
COPYING:	Copying
ERROR:	Error
NO-TONER:	No toner
WTNR-FUL:	Waste toner full
NO-PAPER:	No paper
ALERM:	Alarm

◁ PREV   NEXT ▷   +/-   OK

Returns to previous page.

Advances to next page.

F-16-8

| Display | I/O | Adjust | Function | Option | Test | Counter |

<ADJ-XY>   **< 1/3 >**   **< READY >**

ADJ-X   **xxxxx** ← (yyyyy) {aaaaa to bbbbb}

Pressing an item displays it in reverse.

ADJ-X

Value before change

Entered value

Range of values that can be entered

◁ PREV   NEXT ▷   +/-   OK

Sets entered value.

Toggles value's sign (±).

| Stop | key: Stops running operations. |

| Clear | key: Clears value. |

| Start | key: Starts copying without exiting service mode. |

F-16-9

16.2 DISPLAY (Status Display Mode)

16.2.1 COPIER

16.2.1.1 COPIER List for iR C6800 / iR C5800

1. VERSION <iR C6800 / iR C5800>

T-16-1

COPIER>DISPLAY>VERSION (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
Use it to indicate the ROM version of various PCBs (copier, accessories). - The format of display is as follows: if R-CON XX.YY>, XX: version; YY: R&D control number. - If no PCB is installed, the display will be as follows: <-:->.		
DC-CON	Use it to indicate the ROM version of the DC controller PCB.	1
R-CON	Use it to indicate the ROM version of the reader controller PCB.	1
PANEL	Use it to check the ROM version of the control panel controller PCB.	1
ECO	Use it to indicate the ROM version of the ECO PCB.	1
FEEDER	Use it to indicate the ROM version of the DADF controller PCB.	1
SORTER	Use it to indicate the ROM version of the finisher controller PCB.	1
FAX	Use it to indicate the ROM version of the FAX board.	1
NIB	Use it to indicate the Rom version of the network interface PCB	1
PS/PCL	Use it to check the Version of Printer board (PS/PCL function)	1
LIPS	Use it to check the version of the UFR board (LIPS).	1
SDL-STCH	Use it to check the ROM version of the saddle stitcher controller PCB.	1
OP-CONT	Use it to indicate the ROM version of the option controller PCB.	1
BOOT-ROM	Use it to indicate the boot ROM version of the main controller PCB. - if copier model/GDI-UFR model, xx.yyC - if LIPS model, xx.yyL - if PS/PCL model, xx.yy.N	1
MN-CONT	Use it to check the ROM version of the main controller PCB.	1
DIAG-DVC	Use it to indicate the ROM version of the self diagnosis device.	1
RUI	Use it to indicate the version of the remote UI.	1
PUNCH	Use it to indicate the version of the punch unit.	1
LANG-EN	Use it to check the version of an English language file.	1
LANG-FR	Use it to indicate the version of the French language file.	1
LANG-DE	Use it to indicate the version of the German language file.	1
LANG-IT	Use it to indicate the version of the Italian language file.	1
LANG-JP	Use it to indicate the Japanese language file.	1
GDI-UFR	Use it to indicate the version of the UFR board (GDI-UFR function).	1
LANG-CS	Use it to indicate the version of the Czech language file.	2
LANG-DA	Use it to indicate version of the Danish language file.	2
LANG-EL	Use it to indicate the version of the Greek language file.	2
LANG-ES	Use it to indicate the version of the Spanish language file.	2
LANG-ET	Use it to indicate the version of the Estonian language file.	2
LANG-FI	Use is to indicate the version of the Finnish language file.	2
LANG-HU	Use it to indicate the version of the Hungarian language file.	2
LANG-KO	Use it to indicate the version of the Korean language file.	2
LANG-NL	Use it to indicate the version of the Dutch language file.	2
LANG-NO	Use it to indicate the version of the Norwegian language file.	2
LANG-PL	Use it to indicate the version of the Polish language file.	2
LANG-PT	Use it to indicate the version of the Portuguese language file.	2
LANG-RU	Use it to indicate the version of the Russian language file.	2
LANG-SL	Use it to indicate the version of the Slovenian language file.	2
LANG-SV	Use it to indicate the version of the Swedish language file.	2

COPIER>DISPLAY>VERSION （ iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
LANG-TW	Use it to indicate the version of the Chinese (traditional) language file	2
LANG-ZH	Use it to indicate the version of the Chinese (simplified) language file.	2
ECO-ID	Use it to indicate the version of the ECO-ID number.	2
LANG-BU	Use it to indicate the version of the Bulgarian language file.	2
LANG-CR	Use it to indicate the version of the Croatian language file.	2
LANG-RM	Use it to indicate the version of the Romanian language file.	2
LANG-SK	Use it to indicate the version of the Slovakian language file.	2
LANG-TK	Use it to indicate the version of the Turkish language file.	2

2. ACC-STS <iR C6800 / iR C5800>

T-16-2

COPIER>DISPLAY>ACC-STS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
FEEDER	Use it to indicate the presence of a DADF. 0: not connected. 1: connected.	1
SORTER	Use it to indicate the presence of a finisher or a punch unit. X: Connection status of Finisher Y: Connection status of Punch unit X: 0: No connection 1: Finisher 2: Saddle finisher 3: Saddle finisher + Inserter 4: Saddle finisher + Paper folding unit 5: Saddle finisher + Inserter + Paperfolding unit 6: 3K Stacker 7: Inner finisher 8: External small finisher Y: 0: No connection 1: 2-hole 2: 2/3-hole 3: 4-hole (FRN) 4: 4-hole (SWDN)	1
DECK	Use it to check the presence of a paper deck. 0: not connected. 1: connected.	1
CARD	Use it to check the state of connection of a card reader: 0: card reader connected but card not inserted. 1: card reader not connected; or, card reader connected and card inserted (indicates '1' if ready for copying; indicates '0' if not ready for copying)	1
DATA-CON	Use it to indicate the presence of a copier data controller. 0: not connected. 1: connected.	1
RAM	Use it to check the size of the memory mounted on the main controller PCB. RAM: xx[MB]	1
COINROBO	Uses it to indicate the state of connection of a coin vendor. 0: not connected. 1: connected.	1
NIB	Use it to check the state of connection of a network board. 0: not connected. 1: Ethernet board connected. 2: TokenRing board connected. 3: Ethernet board and TokeRing board connected.	1

COPIER>DISPLAY>ACC-STS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
NETWARE	Use it to check the state of installation of network firmware. 0: not installed. 1: installed.	1
SEND	Use it to check the presence of the SEND function. 0: SEND function absent. 1: SEND function present.	1
PDL-FNC1	Available PDL is displayed (1)b19 to 16: Reserve (To be used when PDL is newly added	1
PDL-FNC2	Available PDL is displayed (2)	1
HDD	HDD type is displayed (less than 30 characters).	1
PCI1	Board name connected to PCI1 is displayed (less than 30 characters).If no board is connected, '-' (hyphen) is displayed. - Voice board: Voice Board - Encryption board: 3DES Board - GIGA Ethernet board: 1Gbit-Board	1
USBH-SPD	Use it to indicate the connection speed of a USB device. Indicates the connection speed of the 8 USB devices connected to the USB host chip. - OFF - LOW - FLL - HGH	2

3. ANALOG <iR C6800 / iR C5800>

T-16-3

COPIER>DISPLAY>ANALOG (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
TEMP	Use it to check the machine inside temperature (environment sensor; in deg C).	1
HUM	Use it to check the machine inside humidity (environment sensor; in %RH).	1
ABS-HUM	Use it to check moisture content (environment sensor; in g).	1
FIX-UC	Use it to check the surface temperature of the middle of the fixing upper roller (as detected by the main thermistor; in deg C)	1
FIX-UE	Use it to check the surface temperature at the edge of the fixing upper roller (as detected by the sub thermistor; in deg C)	1
FIX-LC	Use it to indicate the temperature of the center of the fixing lower roller. unit: deg C	1
FIX-LE	Use it to indicate the temperature of the edge of the fixing lower roller. unit: deg C	1
FIX-EXC	Use it to indicate the temperature of the center of the outside heating roller. unit: deg C	1
FIX-EXE	Use it to indicate the temperature of the edge of the outside heating roller unit: deg C	1

4. CST-STS <iR C6800 / iR C5800>

T-16-4

COPIER>DISPLAY>CST-STS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
WIDTH-MF	Use it to check the width of paper in the manual feed tray (in mm).	2

5. JAM <iR C6800 / iR C5800>

F-16-10

Touch any Jam Indication screen to go to the detailed screen of that particular type of jam.

[1] press to go to the previous page.

[2] press to go to the next page.

[3] indicates the order of occurrence of the jam in question.

[4] indicates the type of jam.

[5] Sensor in question

[6] press to go to the previous Jam Indication screen.

[7] press it to go to the next Jam Indication screen.

(a) Jam Screen Indication Items

- <No.> Indicates the order of occurrence of the jam in question.1 through 50 (the higher the number, the older the jam)

- <DATE>Indicates the date of the jam in question.

- <TIME1> Indicates the time of the jam in question.

- <TIME2> Indicates the jam recovery time.

- <L> Use it to indicate the location of jams.

T-16-5

Cord	Location/classification
0	copier (Printer unit)
1	feeder
2	finisher

- <CODE> Use it to indicate jam codes (Refer to Jam code list described later).
- <P> Use it to indicate the source of paper.

T-16-6

Code	cassette 1
1	cassette 1
2	cassette 2
3	cassette 3
4	cassette 4
5	side paper deck
6	manual feed tray (Multi-feeder)
7	duplexing assembly

- <CNTR> Indicates the reading of the soft counter for the source of paper.
- <SIZE> Indicates the size of paper.

(b) Jam code list (jam type) <iR C6800 / iR C5800>

T-16-7

Code	Type of jam
01xx	delay jam
02xx	stationary jam
0Axx	residnal jam
0B00	door open jam
0B01	door open jam (detection by software)
0D91	size mismatch (paper shorter than specified size)
0D92	medium mismatch (paper instead of transparency)
0D93	medium mismatch (transparency instead of paper)

(c) Jam code list (printer unit) <iR C6800 / iR C5800>

T-16-8

Code	Sensor type	Sensor number	Remarks
xx01	right deck pickup sensor	PS33	does not detect a stationary jam
xx02	left deck pickup sensor	PS40	does not detect a stationary jam
xx03	cassette 3 pickup sensor	PS48	does not detect a stationary jam
xx04	cassette 4 pickup sensor	PS54	does not detect a stationary jam
xx05	vertical path 4 sensor	PS63	
xx06	vertical path 3 sensor	PS62	
xx07	vertical path 2 sensor	PS61	
xx08	vertical path 1 sensor	PS60	
xx09	vertical path confluence sensor	PS32	when the source of paper is NOT the right deck
xx0A	transparency sensor (front, rear)	PS3, PS29	when the mode is not transparency mode
xx0A	registration sensor	PS9	when the mode is transparency mode
xx0B	post-transfer sensor	PS10	does not detect a stationary jam
xx0C	inside delivery sensor	PS12	does not detect a stationary jam
xx0D	reversal sensor	PS14	when in face-down delivery mode
xx0E	outside delivery sensor	PS13	
xx0F	reversal vertical path sensor	PS15	
xx10	vertical path 0 sensor	PS31	when the source of paper is the right deck

Code	Sensor type	Sensor number	Remarks
xx11	duplex left sensor	PS17	
xx12	duplex confluence sensor	PS18	
xx13	side paper deck pickup sensor	PS101	does not detect a stationary jam
xx14	side paper deck feed sensor	PS106	
xx15	fixing inlet sensor	PS11	detects a residual jam only
xx16	left deck stationary sensor	PS47	detects a residual jam only
0D90	transparency sensor (front, rear)	PS3, PS29	when the mode is transparency mode
0D91	transparency sensor (front, rear)	PS3, PS29	when the mode is not transparency mode
0D91	registration sensor	PS9	when the mode is transparency mode
0D92	transparency sensor (front, rear)	PS3, PS29	
0D93	transparency sensor (front, rear)	PS3, PS29	

(d) Jam code list (finisher-related) <iR C6800 / iR C5800>

T-16-9

Code	Sensor type	Sensor notation
1001	inlet path sensor feed delay jam	PI33
1002	punch path sensor (punch registration sensor) feed delay jam	LED5/PTR5
1004	delivery path sensor feed delay jam	PI34
1101	inlet path sensor feed stationary jam	PI33
1102	inlet path sensor feed stationary jam punch path sensor (Punch registration sensor) feed stationary jam	LED5/PTR5
1104	delivery path sensor feed stationary jam	PI34
1200	timing jam	PI33
1500	stapler staple jam	STP
1300	power-on jam	PI33,PI34
1400	door open jam	DOOR
1644	punch jam	LED5/PTR5
1645	punch power-on jam	LED5/PTR5
1791	saddle feed sensor feed delay jam	PI18,PI19,PI20
1792	saddle delivery sensor feed delay jam	PI11
1793	saddle inlet sensor feed delay jam	PI22
17A1	saddle feed sensor feed stationary jam	PI18,PI19,PI20
17A2	saddle delivery sensor feed stationary jam	PI11,PI17
17A3	saddle inlet sensor feed stationary jam	PI22
1786	saddle stapler staple jam	S STP
1787	saddle power-on jam	PI11,PI18,PI19,PI20,PI22
1788	saddle door open jam	DOOR

(e) Jam code list (Feeder-specific) <iR C6800 / iR C5800>

T-16-10

Code	Sensor type	Sensor notation	Description
0001	post-separation sensor	PI7	the post-separation sensor does not detect paper when a feed of 452 mm has been made after the start of separation.
0002	post-separation sensor	PI7	- the separation sensor detects paper after a feed of "500 mm (if extra length, +200 mm) - 45.5 mm" has been made. - the sensor goes on within a feed of 12 mm after detection of the trailing edge (holed paper); the post-separation sensor detects paper when a feed of 50 m has been made after the separation sensor goes on.

Code	Sensor type	Sensor notation	Description
0003	registration sensor	PI1	the registration sensor does not detect paper when a feed of 134.8 mm has been made after the post-separation sensor goes on.
0004	registration sensor	PI1	the read sensor goes off before the registration sensor goes off.
0005	feed sensor	PI8	- read sensor does not detect paper when a feed of 364.2 mm (182.1 x 2) has been made from the point of registration. - the read sensor does not detect paper when a feed of 157.4 mm (78.7 x 2) has been made from the point of No. 2 registration.
0006	feed sensor	PI8	- the read sensor detects paper when a feed of 500 mm (if extra-length, +200 mm) has been made from the start of feed after a temporary stop at point of reading. - the read sensor detects paper when a feed of 514 mm has been made after the start of feed from the standby point in mix mode (LTRR/LGL identified).
0007	delivery reversal sensor	PI9	- if not in high-speed duplex mode, the delivery sensor does not detect when a feed of 132.1 mm has been made after paper has reached the leading edge downstream roller with respect to the activation of the read sensor. - the delivery sensor does not detect paper when a feed of 50 mm has been made after the start of feed during a switch-back operation.
0008	delivery reversal sensor	PI9	the delivery sensor detects paper when a feed of 161.9 mm has been made from the end of reading the trailing edge.
0042	post-separation sensor	PI7	1st; stationary jam at the post-separation sensor
0043	registration sensor	PI1	1st; not reaching the registration sensor
0044	registration sensor	PI1	1st; stationary at the registration sensor
0045	feed sensor	PI8	1st; not reaching the read sensor
0046	feed sensor	PI8	1st; stationary at the read sensor
0047	delivery reversal sensor	PI9	1st; not reaching heat delivery sensor
0048	delivery reversal sensor	PI9	1st; stationary sensor at the delivery sensor
0071	wrong timing	-	error software timing
0073	wrong timing	-	the shift motor is faulty
0090	ADF open/closed sensor 1	PS502	the ADF is opened during operation
0091	ADF open/closed sensor 1	PS502	the ADF is opened during operation (while paper is in wait)
0092	DF cover open/closed sensor	PI6	A cover is opened during operation (while a drive mechanism is in operation).
0093	DF cover pen/closed sensor	PI6	A cover is opened during operation (in wait for paper).
0094	registration sensor, separation sensor, feed sensor, delivery reversal sensor	PI1,PI7,PI8 ,PI9	Paper is detected in the path while the 1st sheet is being picked up.
0095	original placement sensor, DF cover open/closed sensor, ADF open/closed sensor 1	PI5,PI6,PS 502	A signal arrives indicating the start of pickup in the absence of an original in the tray or while the machine is in an OPEN state.

Indicates the source of paper used.

6. ERR <iR C6800 / iR C5800>

F-16-11

- <No.> Indicates the order of occurrence of the error in question.1 to 50 (the higher the number, the older the error)
- <DATE> Indicates the date of the error in question.
- <TIME1> Indicates the date of the error in question.
- <TIME2> Indicates the error return time.
- <CODE> Indicates the cover of the error in question.
- <DTL> Indicates the detail code of the error in question. (if not, '0000')
- <L> Location of occurrence

T-16-11

Location Classification

0: main controller

1: Feeder

2: finisher

3: not used

4: reader unit

5: printer unit

6: PDL board (any of)

7: fax board

- <P> not used

7. HV-STS <iR C6800 / iR C5800>

T-16-12

COPIER>DISPLAY>HV-STS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
PRI-GRID	Use it to indicate the level of current of the primary grid bias. unit: A	1
PRE-TR	Use it to indicate the level of current of Pre-transfer corona assembly. unit: A	1
BIAS	Use it to indicate the developing bias DC level. unit: V	1
1EL	Use it to indicate the primary transfer static eliminator bias level. Display range: -4000 to 0 reference: -4000 (unit: V)	2
2EL	Use it to indicate the secondary transfer static eliminator bias level. Display range: -4000 to 0 reference: 0 (unit: yA)	2
PRE-TR-Y/M/C	Display the output level of current at pre-transfer charger (Y) Display range: -650 to 0	2

8. CCD <iR C6800 / iR C5800>

T-16-13

	COPIER>DISPLAY>CCD (iR C6800/iR C5800)	
Subheading	**Contents**	**Level**
TARGET-B	Use it to check the shading target value for B.	2
TARGET-G	Use it to check the shading target value for G.	2
TARGET-R	Use it to check the shading target value for R.	2
GAIN-OB	Use it to indicate the gain level adjustment value (for color) of odd-numbered blue bits of the CCD.	2
GAIN-OG	Use it to indicate the gain level adjustment value (for color) of odd-numbered green bits of the CCD.	2
GAIN-OR	Use it to indicate the gain level adjustment (for color) of odd-numbered red bits of the CCD.	2
GAIN-EB	Use it to indicate the gain level adjustment value (for color) of even-numbered blue bits of the CCD.	2
GAIN-EG	Use it to indicate the gain level adjustment (for color) of even-numbered green bits of the CCD.	2
GAIN-ER	Use it to indicate the gain level adjustment value (for color) of even-numbered red bits of the CCD.	2

9. DPOT <iR C6800 / iR C5800>

T-16-14

	COPIER>DISPLAY>DPOT (iR C6800/iR C5800)	
Subheading	**Contents**	**Level**
DPOT-K	Use it to indicate the surface potential of the photosensitive drum. unit: V	1
VDM	Use it to indicate the dark-area potential (VD) for copying. unit: V	1
1TR-DC4K	Output setting value of Primary transfer DC (Bk of 4C) (Unit: V) 400 to 3000[V]	1
VCONT-Y/M/C/K	Use it to indicate the present value of the target contrast potential (Y/M/C/K) (Unit: V).	2
VBACK-Y/M/C/K	Use it to indicate the current value of the fogging removal potential (Y/M/C/K) (Unit: V).	2
2TR-PPR	Use it to indicate the output level of the paper voltage of the secondary transfer DC voltage generated mot recently.	2
2TR-BASE	Use it to indicate the output level of the reference voltage of the secondary transfer DC voltage generated most recently.	2
1TR-DC-Y/M/C/K	Use it to indicate the output level of the primary transfer DC voltage (Y/M/C/K) generated most recently.	2
VDT-SNS	Use it to indicate target value of the dark-area potential (VD) of the potential sensor position. (unit: V; optimum value: 504 V)	2
VDT-BK	Use it to indicate the target value of the dark-are potential (VD) of the point of black development. (unit: V; optimum value: about 490 V)	2
VDT-YMC	Use it to indicate the target value of the dark-area potential of the point of color development. (unit: V; optimum value: about 450 V)	2
LPWR-Y/M/C/K	Use it to indicate the laser power level of Y/M/C/K used as the VL target potential. (optimum value: 00 to FF in hexadecimal notation)	2

10. DENS <iR C6800 / iR C5800>

T-16-15

COPIER>DISPLAY>DENS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DENS-Y/M/C	Use it to indicate the result of computation made on the density of the patch image (YMCK) formed on the photosensitive drum (indicating the difference from the target value in %). The value is updated when the machine performs toner supply operation after the main power switch is turned on. Optimum value: -25 to +25	1
REF-Y/M/C	Use it to indicate the standard value (YMC) for toner on the developing cylinder. The value is updated when the machine performs toner supply operation after the main power switch is turned on. Optimum value: 464 to 560	1
SGNL-Y/M/C	Use it to indicate the measurement of the toner on the developing cylinder (YMC). The value is updated when the machine performs toner supply operation after the main paper switch is turned on. Optimum value: 225 to 863	1
P-SENS-P	Indicates the result of background detection (P wave component) executed as part of analog patch detection. The currently valid value will be indicated only upon execution of analog patch detection after the power is turned on.	1
DENS-S-Y/M/C	Use it to indicate the measurement (YMC) of the density of the sample image formed during ATR control.	2
D-Y/M/C - TRGT	Use it to indicate the target value (YMC) for toner.	2
DEV-DC-Y/M/C/K	Use it to indicate the output level of the developing DC voltage (YMCB) generated most recently.	2
D-CRNT-P/S	Use it to indicate the measurement (P wave, S wave) of the dark current at time of ATR control.	2
P-SENS-S	Use it to indicate the measurement of the intensity of light (S wave) of the background (drum) at time of ATR control.	2
DENS-Y/M/C-H	Use it to indicate the history of ATR sensor measurements (YMC; latest 8).	2
DS-S-Y/M/C/-H	Use it to indicate the history of the results of patch image detection (YMC; latest 8).	2
P-LED-DA	Use it to indicate the D/A settings for the patch image sensor.	2
SPL-LG-Y/M/C	Display supply history (Y-color, Latest 8 times) Display supply history (M-color, Latest 8 times) Display supply history (C-color, Latest 8 times)	2
PSENSP-S	Use it to indicate the measurement of the background at time of analog patch operation (S wave component).	2
PSENSP-P	Use it to indicate the measurement of the background at time of analog patch operation (P wave component).	2

11. MISC <iR C6800 / iR C5800>

T-16-16

COPIER>DISPLAY>MISC (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
ENV-TR	Display the environmental ranges Dsiplay the environmental ranges for transfer controlling according to the environment (temprature and humidity) inside the printer.	
	Range of value 1: Low humidity (to 5.8 g) 2: Normal humidity (5.9 to 17.3 g) 3: High humidity (from 17.4 g) Factory default value: The value adjusted at the factory/The value after RAM cleared: 2	1
LPOWER	Use it indicate the laser intensity in real time.	2

12. ALARM-1 <iR C6800 / iR C5800>

T-16-17

COPIER>DISPLAY>ALARM-1 (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
IMG-DT-Y/M/C/K	Average value of image proportions created with Y/M/C/K.	1
LST-DY-Y/M/C	Use it to indicate the image duty for Y/M/C generated most recently. range of display: 0 to 100 (%)	2

13. ALARM-2 <iR C6800 / iR C5800>

F-16-12
T-16-18

Item	Description
No.	Indicates the order of occurrence of alarms (1 to 50; the highest number indicating the oldest)
DATE	Indicates the date of occurrence of alarms
TIME1	Indicates the time of occurrence of alarms
TIME2	Indicates the time of occurrence of alarms
CODE	Indicates the location f occurrence of alarms
DTL	Indicates alarm codes.
CNTR	Indicates the reading of the total counter at time of alarm.

14. ENVRNT <iR C6800 / iR C5800>
Use it to indicate the environment log.
The machine shows a log of changes taking place as indicated by the readings of the environment sensor and the output of the fixing thermistor: machine inside temperature in deg C, humidity in %, fixing roller surface temperature (center) in deg C.

Remarks:
The intervals at which data is colleted may be changed in the following service mode item: COPIER>OP-TION>BODY>ENVP-IN.

F-16-13
T-16-19

Item	Description
No.	order of data collection (highest number indicating oldest data)
DATE	date of data collection
TIME	time of data collection
D+deg C	machine inside temperature
E+%	machine inside Humidity
F+deg C	fixing roller surface (center) temperature

16.2.1.2 COPIER List for iR C6870U / iR C5870U

1. VERSION <iR C6870U/iR C5870U>

T-16-20

COPIER>DISPLAY>VERSION (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
Use it to indicate the ROM version of various PCBs (copier, accessories). - The format of display is as follows: if R-CON XX.YY>, XX: version; YY: R&D control number. - If no PCB is installed, the display will be as follows: <-:->.		
DC-CON	Use it to indicate the ROM version of the DC controller PCB.	1
R-CON	Use it to indicate the ROM version of the reader controller PCB.	1
PANEL	Use it to check the ROM version of the control panel controller PCB.	1
ECO	Use it to indicate the ROM version of the ECO PCB.	1
FEEDER	Use it to indicate the ROM version of the DADF controller PCB.	1
SORTER	Use it to indicate the ROM version of the finisher controller PCB.	1
FAX	Use it to indicate the ROM version of the FAX board.	1
NIB	Use it to indicate the Rom version of the network interface PCB	1
PS/PCL	Use it to check the Version of Printer board (PS/PCL function)	1
SDL-STCH	Use it to check the ROM version of the saddle stitcher controller PCB.	1
OP-CONT	Use it to indicate the ROM version of the option controller PCB.	1
MN-CONT	Use it to check the ROM version of the main controller PCB.	1
DIAG-DVC	Use it to indicate the ROM version of the self diagnosis device.	1
RUI	Use it to indicate the version of the remote UI.	1
PUNCH	Use it to indicate the version of the punch unit.	1
LANG-EN	Use it to check the version of an English language file.	1
LANG-FR	Use it to indicate the version of the French language file.	1
LANG-DE	Use it to indicate the version of the German language file.	1
LANG-IT	Use it to indicate the version of the Italian language file.	1
LANG-JP	Use it to indicate the Japanese language file.	1
GDI-UFR	Use it to indicate the version of the UFR board (GDI-UFR function).	1
MEAP	Use it to indicate the Version of MEAP contents	1
OCR-CN	Use it to indicate the OCR version of Chinese (Simplified characters)	1
OCR-JP	Use it to indicate the OCR version of Japanese	1
OCR-KR	Use it to indicate the OCR version of Korean	1
OCR-TW	Use it to indicate the OCR version of Chinese (Traditional characters)	1
BOOT ROM	Use it to indicate the BOOT ROM version	1
TTS-JA	Use it to indicate the Version of Japanese voice dictionary	1
TTS-EN	Use it to indicate the Version of English voice dictionary	1
WEB-BRWS	Use it to indicate the Web browser version	1
LANG-CS	Use it to indicate the version of the Czech language file.	2
LANG-DA	Use it to indicate version of the Danish language file.	2
LANG-EL	Use it to indicate the version of the Greek language file.	2
LANG-ES	Use it to indicate the version of the Spanish language file.	2
LANG-ET	Use it to indicate the version of the Estonian language file.	2
LANG-FI	Use is to indicate the version of the Finnish language file.	2
LANG-HU	Use it to indicate the version of the Hungarian language file.	2
LANG-KO	Use it to indicate the version of the Korean language file.	2
LANG-NL	Use it to indicate the version of the Dutch language file.	2
LANG-NO	Use it to indicate the version of the Norwegian language file.	2
LANG-PL	Use it to indicate the version of the Polish language file.	2
LANG-PT	Use it to indicate the version of the Portuguese language file.	2
LANG-RU	Use it to indicate the version of the Russian language file.	2
LANG-SL	Use it to indicate the version of the Slovenian language file.	2

COPIER>DISPLAY>VERSION (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
LANG-SV	Use it to indicate the version of the Swedish language file.	2
LANG-TW	Use it to indicate the version of the Chinese (traditional) language file	2
LANG-ZH	Use it to indicate the version of the Chinese (simplified) language file.	2
ECO-ID	Use it to indicate the version of the ECO-ID number.	2
LANG-BU	Use it to indicate the version of the Bulgarian language file.	2
LANG-CR	Use it to indicate the version of the Croatian language file.	2
LANG-RM	Use it to indicate the version of the Romanian language file.	2
LANG-SK	Use it to indicate the version of the Slovakian language file.	2
LANG-TK	Use it to indicate the version of the Turkish language file.	2

2. ACC-STS <iR C6870U/5870U>

T-16-21

COPIER>DISPLAY>ACC-STS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FEEDER	Use it to indicate the presence of a DADF. 0: not connected. 1: connected.	1
SORTER	Use it to indicate the presence of a finisher or a punch unit. X: Connection status of Finisher Y: Connection status of Punch unit X: 0: No connection 1: Finisher 2: Saddle finisher 3: Saddle finisher + Inserter 4: Saddle finisher + Paper folding unit 5: Saddle finisher + Inserter + Paperfolding unit 6: 3K Stacker 7: Inner finisher 8: External small finisher Y: 0: No connection 1: 2-hole 2: 2/3-hole 3: 4-hole (FRN) 4: 4-hole (SWDN)	1
DECK	Use it to check the presence of a paper deck. 0: not connected. 1: connected.	1
CARD	Use it to check the state of connection of a card reader: 0: card reader connected but card not inserted. 1: card reader not connected; or, card reader connected and card inserted (indicates '1' if ready for copying; indicates '0' if not ready for copying)	1
DATA-CON	Use it to indicate the presence of a copier data controller. 0: not connected. 1: connected.	1
RAM	Use it to check the size of the memory mounted on the main controller PCB. RAM: xx[MB]	1
COINROBO	Uses it to indicate the state of connection of a coin vendor. 0: not connected. 1: connected.	1
NIB	Use it to check the state of connection of a network board. 0: not connected. 1: Ethernet board connected. 2: TokenRing board connected. 3: Ethernet board and TokeRing board connected.	1

COPIER>DISPLAY>ACC-STS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
NETWARE	Use it to check the state of installation of network firmware. 0: not installed. 1: installed.	1
SEND	Use it to check the presence of the SEND function. 0: SEND function absent. 1: SEND function present.	1
PDL-FNC1	Available PDL is displayed (1)b19 to 16: Reserve (To be used when PDL is newly added	1
PDL-FNC2	Available PDL is displayed (2)	1
HDD	HDD type is displayed (less than 30 characters).	1
PCI1	Board name connected to PCI1 is displayed (less than 30 characters).If no board is connected, '-' (hyphen) is displayed. - Voice board: Voice Board - Encryption board: 3DES Board - GIGA Ethernet board: 1Gbit-Board	1
USBH-SPD	Use it to indicate the connection speed of a USB device. Indicates the connection speed of the 8 USB devices connected to the USB host chip. - OFF - LOW - FLL - HGH	2

3. ANALOG <iR C6870U/5870U>

T-16-22

COPIER>DISPLAY>ANALOG (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TEMP	Use it to check the machine inside temperature (environment sensor; in deg C).	1
HUM	Use it to check the machine inside humidity (environment sensor; in %RH).	1
ABS-HUM	Use it to check moisture content (environment sensor; in g).	1
FIX-UC	Use it to check the surface temperature of the middle of the fixing upper roller (as detected by the main thermistor; in deg C)	1
FIX-UE	Use it to check the surface temperature at the edge of the fixing upper roller (as detected by the sub thermistor; in deg C)	1
FIX-LC	Use it to indicate the temperature of the center of the fixing lower roller. unit: deg C	1
FIX-LE	Use it to indicate the temperature of the edge of the fixing lower roller. unit: deg C	1
FIX-EXC	Use it to indicate the temperature of the center of the outside heating roller. unit: deg C	1
FIX-EXE	Use it to indicate the temperature of the edge of the outside heating roller unit: deg C	1

4. CST-STS <iR C6870U/5870U>

T-16-23

COPIER>DISPLAY>CST-STS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
WIDTH-MF	Use it to check the width of paper in the manual feed tray (in mm).	2

5. JAM <iR C6870U/5870U>

F-16-14

Touch any Jam Indication screen to go to the detailed screen of that particular type of jam.

[1] press to go to the previous page.
[2] press to go to the next page.
[3] indicates the order of occurrence of the jam in question.
[4] indicates the type of jam.
[5] Sensor in question
[6] press to go to the previous Jam Indication screen.
[7] press it to go to the next Jam Indication screen.

(a) Jam Screen Indication Items
- <No.> Indicates the order of occurrence of the jam in question.1 through 50 (the higher the number, the older the jam)
- <DATE>Indicates the date of the jam in question.
- <TIME1> Indicates the time of the jam in question.
- <TIME2> Indicates the jam recovery time.
- <L> Use it to indicate the location of jams.

T-16-24

Cord	Location/classification
0	copier (Printer unit)
1	feeder
2	finisher

- <CODE> Use it to indicate jam codes (Refer to Jam code list described later).
- <P> Use it to indicate the source of paper.

T-16-25

Code	cassette 1
1	cassette 1
2	cassette 2
3	cassette 3
4	cassette 4
5	side paper deck
6	manual feed tray (Multi-feeder)
7	duplexing assembly

- <CNTR> Indicates the reading of the soft counter for the source of paper.
- <SIZE> Indicates the size of paper.

(b) Jam code list (jam type) <iR C6870U/5870U>

T-16-26

Code	Type of jam
01xx	delay jam
02xx	stationary jam
0Axx	residnal jam
0B00	door open jam
0B01	door open jam (detection by software)
0D91	size mismatch (paper shorter than specified size)
0D92	medium mismatch (paper instead of transparency)
0D93	medium mismatch (transparency instead of paper)

(c) Jam code list (printer unit) <iR C6870U/5870U>

T-16-27

Code	Sensor type	Sensor number	Remarks
xx01	right deck pickup sensor	PS33	does not detect a stationary jam
xx02	left deck pickup sensor	PS40	does not detect a stationary jam
xx03	cassette 3 pickup sensor	PS48	does not detect a stationary jam
xx04	cassette 4 pickup sensor	PS54	does not detect a stationary jam
xx05	vertical path 4 sensor	PS63	
xx06	vertical path 3 sensor	PS62	
xx07	vertical path 2 sensor	PS61	
xx08	vertical path 1 sensor	PS60	
xx09	vertical path confluence sensor	PS32	when the source of paper is NOT the right deck
xx0A	transparency sensor (front, rear)	PS3, PS29	when the mode is not transparency mode
xx0A	registration sensor	PS9	when the mode is transparency mode
xx0B	post-transfer sensor	PS10	does not detect a stationary jam
xx0C	inside delivery sensor	PS12	does not detect a stationary jam
xx0D	reversal sensor	PS14	when in face-down delivery mode
xx0E	outside delivery sensor	PS13	
xx0F	reversal vertical path sensor	PS15	
xx10	vertical path 0 sensor	PS31	when the source of paper is the right deck

Code	Sensor type	Sensor number	Remarks
xx11	duplex left sensor	PS17	
xx12	duplex confluence sensor	PS18	
xx13	side paper deck pickup sensor	PS101	does not detect a stationary jam
xx14	side paper deck feed sensor	PS106	
xx15	fixing inlet sensor	PS11	detects a residual jam only
xx16	left deck stationary sensor	PS47	detects a residual jam only
0D90	transparency sensor (front, rear)	PS3, PS29	when the mode is transparency mode
0D91	transparency sensor (front, rear)	PS3, PS29	when the mode is not transparency mode
0D91	registration sensor	PS9	when the mode is transparency mode
0D92	transparency sensor (front, rear)	PS3, PS29	
0D93	transparency sensor (front, rear)	PS3, PS29	

(d) Jam code list (finisher-related) <iR C6870U/5870U>

T-16-28

Code	Sensor type	Sensor notation
1001	inlet path sensor feed delay jam	PI33
1002	punch path sensor (punch registration sensor) feed delay jam	LED5/PTR5
1004	delivery path sensor feed delay jam	PI34
1101	inlet path sensor feed stationary jam	PI33
1102	inlet path sensor feed stationary jam punch path sensor (Punch registration sensor) feed stationary jam	LED5/PTR5
1104	delivery path sensor feed stationary jam	PI34
1200	timing jam	PI33
1500	stapler staple jam	STP
1300	power-on jam	PI33,PI34
1400	door open jam	DOOR
1644	punch jam	LED5/PTR5
1645	punch power-on jam	LED5/PTR5
1791	saddle feed sensor feed delay jam	PI18,PI19,PI20
1792	saddle delivery sensor feed delay jam	PI11
1793	saddle inlet sensor feed delay jam	PI22
17A1	saddle feed sensor feed stationary jam	PI18,PI19,PI20
17A2	saddle delivery sensor feed stationary jam	PI11,PI17
17A3	saddle inlet sensor feed stationary jam	PI22
1786	saddle stapler staple jam	S STP
1787	saddle power-on jam	PI11,PI18,PI19,PI20,PI22
1788	saddle door open jam	DOOR

(e) Jam code list (Feeder-specific) <iR C6870U/5870U>

T-16-29

Code	Sensor type	Sensor notation	Description
0001	post-separation sensor	PI7	the post-separation sensor does not detect paper when a feed of 452 mm has been made after the start of separation.
0002	post-separation sensor	PI7	- the separation sensor detects paper after a feed of "500 mm (if extra length, +200 mm) - 45.5 mm" has been made. - the sensor goes on within a feed of 12 mm after detection of the trailing edge (holed paper); the post-separation sensor detects paper when a feed of 50 m has been made after the separation sensor goes on.

Code	Sensor type	Sensor notation	Description
0003	registration sensor	PI1	the registration sensor does not detect paper when a feed of 134.8 mm has been made after the post-separation sensor goes on.
0004	registration sensor	PI1	the read sensor goes off before the registration sensor goes off.
0005	feed sensor	PI8	- read sensor does not detect paper when a feed of 364.2 mm (182.1 x 2) has been made from the point of registration. - the read sensor does not detect paper when a feed of 157.4 mm (78.7 x 2) has been made from the point of No. 2 registration.
0006	feed sensor	PI8	- the read sensor detects paper when a feed of 500 mm (if extra-length, +200 mm) has been made from the start of feed after a temporary stop at point of reading. - the read sensor detects paper when a feed of 514 mm has been made after the start of feed from the standby point in mix mode (LTRR/LGL identified).
0007	delivery reversal sensor	PI9	- if not in high-speed duplex mode, the delivery sensor does not detect when a feed of 132.1 mm has been made after paper has reached the leading edge downstream roller with respect to the activation of the read sensor. - the delivery sensor does not detect paper when a feed of 50 mm has been made after the start of feed during a switch-back operation.
0008	delivery reversal sensor	PI9	the delivery sensor detects paper when a feed of 161.9 mm has been made from the end of reading the trailing edge.
0042	post-separation sensor	PI7	1st; stationary jam at the post-separation sensor
0043	registration sensor	PI1	1st; not reaching the registration sensor
0044	registration sensor	PI1	1st; stationary at the registration sensor
0045	feed sensor	PI8	1st; not reaching the read sensor
0046	feed sensor	PI8	1st; stationary at the read sensor
0047	delivery reversal sensor	PI9	1st; not reaching heat delivery sensor
0048	delivery reversal sensor	PI9	1st; stationary sensor at the delivery sensor
0071	wrong timing	-	error software timing
0073	wrong timing	-	the shift motor is faulty
0090	ADF open/closed sensor 1	PS502	the ADF is opened during operation
0091	ADF open/closed sensor 1	PS502	the ADF is opened during operation (while paper is in wait)
0092	DF cover open/closed sensor	PI6	A cover is opened during operation (while a drive mechanism is in operation).
0093	DF cover pen/closed sensor	PI6	A cover is opened during operation (in wait for paper).
0094	registration sensor, separation sensor, feed sensor, delivery reversal sensor	PI1,PI7,PI8,PI9	Paper is detected in the path while the 1st sheet is being picked up.
0095	original placement sensor, DF cover open/closed sensor, ADF open/closed sensor 1	PI5,PI6,PS502	A signal arrives indicating the start of pickup in the absence of an original in the tray or while the machine is in an OPEN state.

Indicates the source of paper used.

6. ERR <iR C6870U/5870U>

F-16-15

- <No.> Indicates the order of occurrence of the error in question.1 to 50 (the higher the number, the older the error)
- <DATE> Indicates the date of the error in question.
- <TIME1> Indicates the date of the error in question.
- <TIME2> Indicates the error return time.
- <CODE> Indicates the cover of the error in question.
- <DTL> Indicates the detail code of the error in question. (if not, '0000')
- <L> Location of occurrence

T-16-30

Location Classification

0: main controller

1: Feeder

2: finisher

3: not used

4: reader unit

5: printer unit

6: PDL board (any of)

7: fax board

- <P> not used

7. HV-STS <iR C6870U/5870U>

T-16-31

COPIER>DISPLAY>HV-STS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PRI-GRID	Use it to indicate the level of current of the primary grid bias. unit: A	1
PRE-TR	Use it to indicate the level of current of Pre-transfer corona assembly. unit: A	1
BIAS	Use it to indicate the developing bias DC level. unit: V	1
1EL	Use it to indicate the primary transfer static eliminator bias level. Display range: -4000 to 0 reference: -4000 (unit: V)	2
2EL	Use it to indicate the secondary transfer static eliminator bias level. Display range: -4000 to 0 reference: 0 (unit: yA)	2
PRE-TR-Y/M/C	Display the output level of current at pre-transfer charger (Y) Display range: -650 to 0	2

8. CCD <iR C6870U/5870U>

T-16-32

	COPIER>DISPLAY>CCD（iR C6870U/iR C5870U）	
Subheading	**Contents**	**Level**
TARGET-B	Use it to check the shading target value for B.	2
TARGET-G	Use it to check the shading target value for G.	2
TARGET-R	Use it to check the shading target value for R.	2
GAIN-OB	Use it to indicate the gain level adjustment value (for color) of odd-numbered blue bits of the CCD.	2
GAIN-OG	Use it to indicate the gain level adjustment value (for color) of odd-numbered green bits of the CCD.	2
GAIN-OR	Use it to indicate the gain level adjustment (for color) of odd-numbered red bits of the CCD.	2
GAIN-EB	Use it to indicate the gain level adjustment value (for color) of even-numbered blue bits of the CCD.	2
GAIN-EG	Use it to indicate the gain level adjustment (for color) of even-numbered green bits of the CCD.	2
GAIN-ER	Use it to indicate the gain level adjustment value (for color) of even-numbered red bits of the CCD.	2

9. DPOT <iR C6870U/5870U>

T-16-33

	COPIER>DISPLAY>DPOT（iR C6870U/iR C5870U）	
Subheading	**Contents**	**Level**
DPOT-K	Use it to indicate the surface potential of the photosensitive drum. unit: V	1
VDM	Use it to indicate the dark-area potential (VD) for copying. unit: V	1
1TR-DC4K	Output setting value of Primary transfer DC (Bk of 4C) (Unit: V) 400 to 3000[V]	1
VCONT-Y/M/C/K	Use it to indicate the present value of the target contrast potential (Y/M/C/K) (Unit: V).	2
VBACK-Y/M/C/K	Use it to indicate the current value of the fogging removal potential (Y/M/C/K) (Unit: V).	2
2TR-PPR	Use it to indicate the output level of the paper voltage of the secondary transfer DC voltage generated mot recently.	2
2TR-BASE	Use it to indicate the output level of the reference voltage of the secondary transfer DC voltage generated most recently.	2
1TR-DC-Y/M/C/K	Use it to indicate the output level of the primary transfer DC voltage (Y/M/C/K) generated most recently.	2
VDT-SNS	Use it to indicate target value of the dark-area potential (VD) of the potential sensor position. (unit: V; optimum value: 504 V)	2
VDT-BK	Use it to indicate the target value of the dark-are potential (VD) of the point of black development. (unit: V; optimum value: about 490 V)	2
VDT-YMC	Use it to indicate the target value of the dark-area potential of the point of color development. (unit: V; optimum value: about 450 V)	2
LPWR-Y/M/C/K	Use it to indicate the laser power level of Y/M/C/K used as the VL target potential. (optimum value: 00 to FF in hexadecimal notation)	2

10. DENS <iR C6870U/5870U>

T-16-34

COPIER>DISPLAY>DENS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DENS-Y/M/C	Use it to indicate the result of computation made on the density of the patch image (YMCK) formed on the photosensitive drum (indicating the difference from the target value in %). The value is updated when the machine performs toner supply operation after the main power switch is turned on. Optimum value: -25 to +25	1
REF-Y/M/C	Use it to indicate the standard value (YMC) for toner on the developing cylinder. The value is updated when the machine performs toner supply operation after the main power switch is turned on. Optimum value: 464 to 560	1
SGNL-Y/M/C	Use it to indicate the measurement of the toner on the developing cylinder (YMC). The value is updated when the machine performs toner supply operation after the main paper switch is turned on. Optimum value: 225 to 863	1
P-SENS-P	Indicates the result of background detection (P wave component) executed as part of analog patch detection. The currently valid value will be indicated only upon execution of analog patch detection after the power is turned on.	1
DENS-S-Y/M/C	Use it to indicate the measurement (YMC) of the density of the sample image formed during ATR control.	2
D-Y/M/C -TRGT	Use it to indicate the target value (YMC) for toner.	2
DEV-DC-Y/M/ C/K	Use it to indicate the output level of the developing DC voltage (YMCB) generated most recently.	2
D-CRNT-P/S	Use it to indicate the measurement (P wave, S wave) of the dark current at time of ATR control.	2
P-SENS-S	Use it to indicate the measurement of the intensity of light (S wave) of the background (drum) at time of ATR control.	2
DENS-Y/M/C-H	Use it to indicate the history of ATR sensor measurements (YMC; latest 8).	2
DS-S-Y/M/C/-H	Use it to indicate the history of the results of patch image detection (YMC; latest 8).	2
P-LED-DA	Use it to indicate the D/A settings for the patch image sensor.	2
SPL-LG-Y/M/C	Display supply history (Y-color, Latest 8 times) Display supply history (M-color, Latest 8 times) Display supply history (C-color, Latest 8 times)	2
PSENSP-S	Use it to indicate the measurement of the background at time of analog patch operation (S wave component).	2
PSENSP-P	Use it to indicate the measurement of the background at time of analog patch operation (P wave component).	2

11. MISC <iR C6870U/5870U>

T-16-35

COPIER>DISPLAY>MISC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ENV-TR	Display the environmental ranges Dsiplay the environmental ranges for transfer controlling according to the environment (temprature and humidity) inside the printer.	1
	Range of value 1: Low humidity (to 5.8 g) 2: Normal humidity (5.9 to 17.3 g) 3: High humidity (from 17.4 g) Factory default value: The value adjusted at the factory/The value after RAM cleared: 2	
LPOWER	Use it indicate the laser intensity in real time.	2

12. ALARM-1 <iR C6870U/5870U>

T-16-36

COPIER>DISPLAY>ALARM-1 (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
IMG-DT-Y/M/C/K	Average value of image proportions created with Y/M/C/K.	1
LST-DY-Y/M/C	Use it to indicate the image duty for Y/M/C generated most recently. range of display: 0 to 100 (%)	2

13. ALARM-2 <iR C6870U/5870U>

F-16-16
T-16-37

Item	Description
No.	Indicates the order of occurrence of alarms (1 to 50; the highest number indicating the oldest)
DATE	Indicates the date of occurrence of alarms
TIME1	Indicates the time of occurrence of alarms
TIME2	Indicates the time of occurrence of alarms
CODE	Indicates the location f occurrence of alarms
DTL	Indicates alarm codes.
CNTR	Indicates the reading of the total counter at time of alarm.

14. ENVRNT <iR C6870U/5870U>

Use it to indicate the environment log.

The machine shows a log of changes taking place as indicated by the readings of the environment sensor and the output of the fixing thermistor: machine inside temperature in deg C, humidity in %, fixing roller surface temperature (center) in deg C.

Remarks:

The intervals at which data is colleted may be changed in the following service mode item: COPIER>OPTION>BODY>ENVP-IN.

F-16-17
T-16-38

Item	Description
No.	order of data collection (highest number indicating oldest data)
DATE	date of data collection
TIME	time of data collection
D+deg C	machine inside temperature
E+%	machine inside Humidity
F+deg C	fixing roller surface (center) temperature

16.2.2 FEEDER <iR C6800/C5800/C6870U/5870U>

16.2.2.1 FEEDER List <iR C6800/C5800/C6870U/5870U>

T-16-39

<table>
<tr><td colspan="3" align="center">FEEDER>DISPLAY</td></tr>
<tr><td align="center">Subheading</td><td align="center">Contents</td><td align="center">Level</td></tr>
<tr><td>FEEDSIZE</td><td>The size of the original detected by the feeder will be indicated</td><td align="center">1</td></tr>
<tr><td>TRY-WIDE</td><td>Indicates the length of the original width detection slide (paper width detention; 0.1 mm).
Indicates the length of the slide used to detect the width of the original in the DF' s original pickup tray (distance between 2 points).</td><td align="center">1</td></tr>
<tr><td>SPSN-LMN</td><td>Use it to indicate the manual adjustment value (light-emission voltage) of the post-separation sensor.

Optimum range
179 or less</td><td align="center">1</td></tr>
<tr><td>SPSN-RCV</td><td>Use it to indicate the manual adjustment value (light reception voltage) of the post-separation sensor.

Optimum range
paper present: 154 or less
paper absent: 179 or more</td><td align="center">1</td></tr>
<tr><td>RDSN-LMN</td><td>Use it to indicate manual adjustment value (light emission voltage of the reader sensor.

Optimum range
179 or less</td><td align="center">1</td></tr>
<tr><td>RDSN-RCV</td><td>Use it to indicate the manual adjustment value (light reception voltage) of the read sensor.

Optimum range
paper present: 154 or less
paper absent: 179 or more</td><td align="center">1</td></tr>
<tr><td>DRSN-LMN</td><td>Intensity of Light Emitted by the Delivery Reversal Sensor
The manually adjusted value (emission voltage) of the delivery reversal sensor will be indicated.

Optimum range
905 or less</td><td align="center">1</td></tr>
<tr><td>DRSN-RCV</td><td>Intensity of Light received by the Delivery Reversal Sensor
The intensity of light received by the delivery reversal sensor after manual adjustment will be indicated

Optimum range
paper present: 154 or less
paper absent: 179 or more</td><td align="center">1</td></tr>
</table>

16.3 I/O (I/O Display Mode)

16.3.1 Overview

The following appears in response to COPIER>I/O; descriptions of the items (limited to those needed in the field) area given on the pages that follow:

Display	I/O	Adjust	Function	Option	Test	Counter

DC-CON
R-CON

FEEDER
SORTER

MN-CONT

Display	I/O	Adjust	Function	Option	Test	Counter

<DC-CON>   < 1/3 >   < READY >

P001   xxxxxxxx
P002   xxxxxxxx
P003   xxxxxxxx
P004   xxxxxxxx
P005   xxxxxxxx
P006   xxxxxxxx
P007   xxxxxxxx
P008   xxxxxxxx

←   →

Bit0
Bit7
Address
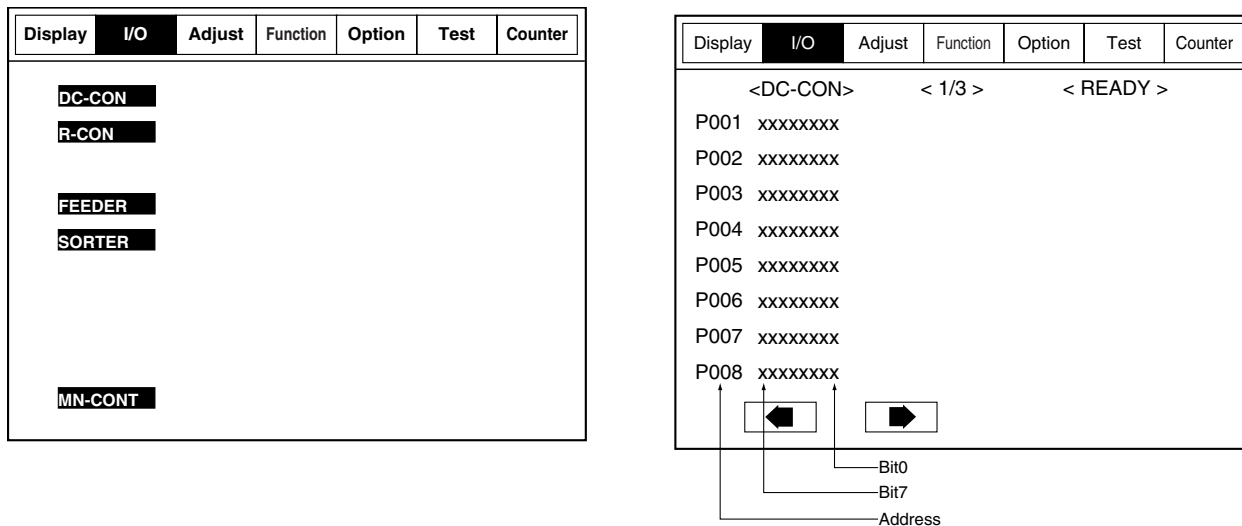
F-16-18

16.3.2 DC-CON <iR C6800/iR C5800>

T-16-40

Address	bit	Item	Remarks
P001	0	main thermistor (overheating)	0: error
	1	main thermistor (open circuit)	0: error
	2	shift thermistor (overheating)	0: error
	3	shift thermistor (open circuit)	0: error
	4	outside heating roller thermistor (overheating)	0: error
	5	outside heating roller thermistor (open circuit)	0: error
	6	thermistor-related hard latch signal	0: error
	7	reserved	not used
	8-9	for check	1: blown fuse
	10-12	DDI general input	not used
	13	DDI power	0: POWER ON
	14	not used	
	15	interlock 24 V (detected)	0: 24 V detected

Address	bit	Item	Remarks
P002	0	Upper right cover open/closed sensor (PS5)	0: door open
	1	Lower right cover open/closed sensor (PS64)	0: door open
	2	Front cover switch (SW12)	1: door open
	3	Black toner supply motor connection (M25)	0: connected (valid only if motor at rest)
	4	fixing unit (detected)	0: unit installed
	5	feeder unit (detected)	0: unit installed
	6	right deck presence/absence (detected)	1: ON
	7	left deck presence/absence (detected)	1: ON
	8	Drum/ITB motor (M2) lock (detected)	0: lock (sync rotation)
	9	developing motor (M3) lock (detected)	0: lock (sync rotation)
	10	fixing motor (M4) lock (detected)	0: lock (sync rotation)
	11	primary charging suction fan (FM1) lock (detected)	0: lock (sync rotation)
	12	Primary charging assembly exhaust fan (FM2) lock (detected)	0: lock (sync rotation)
	13	Fixing heat exhaust fan (FM5) lock (detected)	0: lock (sync rotation)
	14	power supply motor lock (detected)	0: lock (sync rotation)
	15	Delivery cooling fan 2 (fm10)	0: lock (sync rotation)
P003	0	port 0	
	1	port 1	
	2	port 2	
	3	port 3	
	4	port 4	
	5	port 5	
	6	port 6	
	7	port 7	
	8	hard counter	1: ON
	9	hard counter	1: ON
	10	Delivery cooling fan 1 (fm6)	1: ON
	11-14	not used	
	15	black developing roller bias ON signal	0: ON
P004	0	Left deck paper sensor (PS42)	1: paper present
	1	Left deck limit sensor (PS41)	1: limit state
	2	Left deck lifter sensor (PS43)	L: pickup state
	3	Left deck paper level sensor A (PS44)	1: paper present
	4	Left deck paper level sensor B (PS5)	1: paper present
	5-7	factory mode switch	
	8	ITB cleaning HP sensor (PS23)	1: sensor ON
	9	Outside heating roller HP sensor (PS21)	1: sensor ON
	10	ITB HP sensor A (PS1)	0: sensor ON
	11	ITB HP sensor B (PS30)	0: sensor ON
	12	Developing rotary solenoid sensor(PS8)	1: rotary lock (lock state: solenoid FF)
	13	Drum HP sensor (PS65)	check
	14-15	not used	not used

Address	bit	Item	Remarks
P005	0	Cassette 3 paper sensor (PS50)	1: paper prevent
	1	Cassette 3 limit sensor (PS49)	1: limit state
	2	Cassette 3 lifter sensor (PS51)	L: pickup state
	3	Cassette 3 paper level sensor A (PS52)	0: full
	4	Cassette 3 paper level sensor B (PS53)	0: full
	5-7	not used	not used
	8	Right deck paper sensor (PS35)	1: paper present
	9	Right deck limit sensor (PS34)	1: limit state
	10	Right deck lifter sensor (PS36)	L: pickup state
	11	Right deck paper level sensor A (PS37)	1: paper present
	12	Right deck paper level sensor B (PS38)	1: paper present
	13-15	not used	not used
P006	0	Duplexing confluence sensor (PS18)	H: ON
	1	vertical path 0 sensor	H: ON
	2	Vertical path 1 sensor (PS60)	H: ON
	3	Vertical path 2 sensor (PS61)	H: ON
	4	Vertical path 3 sensor (PS62)	H: ON
	5	Vertical path 4 sensor (PS63)	H: ON
	6	Fixing inlet sensor (PS11)	H: ON
	7	Outside delivery sensor (PS13)	H: ON
	8	Cassette 4 paper sensor (PS56)	1: paper present
	9	Cassette 4 limit sensor (PS55)	1: limit state
	10	Cassette 4 lifter sensor (PS57)	L: pickup state
	11	Cassette 4 paper level sensor A (PS58)	0: full
	12	Cassette 4 paper level sensor B (PS59)	0: full
	13-15	not used	not used
P007	0	upper cassette size detection 0	0: active
	1	upper cassette size detection 1	0: active
	2	upper cassette size detection 2	0: active
	3	upper cassette size detection 3	0: active
	4	upper cassette size detection 4	0: active
	5	not used	
	6	fixing web solenoid connection detection	0: connected (valid only if solenoid at rest)
	7	color toner supply clutch connection detection	0: connected (valid only if solenoid at rest)
	8	Left deck pickup sensor (PS40)	1: ON
	9	Right deck pickup sensor (PS33)	1: ON
	10	Cassette 4 pickup sensor (PS54)	1: ON
	11	Cassette 3 pickup sensor (PS48)	1: ON
	12	Left deck limit sensor (PS41)	1: ON
	13	not used	
	14	Manual feed paper sensor (PS6)	1: ON
	15	Last sheet sensor (PS7)	1: ON

Address	bit	Item	Remarks
P008	0	shift tray connection detection	1: connected
	1	HP sensor (rear) (ps102)	1: HP detection
	2	HP sensor (front) (ps101)	1: HP detection
	3	Tray paper sensor (PS103)	0: paper present
	4	Limit sensor (front) (PS105)	0: full
	5-7	for R&D	
	8	lower cassette size detection 0	0: active
	9	lower cassette size detection 1	0: active
	10	lower cassette size detection 2	0: active
	11	lower cassette size detection 3	0: active
	12	lower cassette size detection 4	0: active
	13-15	for R&D	
P009	0	waste toner error detection	
	1	not used	
	2	Web length sensor (PS20)	1: web absent
	3-5	for R&D	
	6	Process unit cooling fan(FM7) lock detection	1: locked (sync rotation)
	7	motor cooling fan detection	not used
	8	black toner level sensor (TS1)	1: toner present
	9	Color toner level sensor (ps25)	1: toner present
	10	sub hopper level sensor (TS2)	1: toner present
	11	not used	
	12	Transparency sensor (rear) (ps29)	1: set
	13	Hopper assembly open/closed sensor (ps28)	0: open
	14-15	not used	
P012	0	DDI serial transmission data	
	1	soft IPC serial transmission data	
	2	DDI serial reception data	
	3	soft IPC serial reception data	
	4	DDI serial	
	5	DDI serial	
	6-7	not used	
P013	0-7	for R&D	
P014	0	data on transmission to PC	
	1	data on reception for PC	
	2	flow control on communication with PC	
	3	flow control on communication with PC	
	4-7	not used	
P015	0-1	for R&D	
	2	DDI ready	
	3	DDI ready	
	4	ITOP_A sensor	
	5	ITOP interrupt	
	6	registration ON interrupt	
	7	rotary HP interrupt	
P016	0-2	not used	
	3-7	for R&D	

Address	bit	Item	Remarks
P017	0	FIN_RESET	
	1	FIN_DOWNLOAD	
	2	FIN_MODE	
	3	LWR*	
	4	HWR*	
	5	RD*	
	6	for R&D	
	7	CLK20	
P018	0	LED_ON	LED
	1	CS3*	CS for PIO [0],[1]
	2	CS2*	CS for RAM
	3	CS1*	CS for ASIC
	4	CS0*	CS for ROM
	5-7	not used	
P019	0-7	not used	
P020	0-7	not used	
P021	0-7	not used	
P022	0-7	not used	
P023	0-7	not used	
P024	0-7	not used	
P025	0-7	not used	
P026	0-7	not used	
P027	0-7	not used	
P028	0-7	not used	
P029	0-7	not used	

16.3.3 DC-CON <iR C6870U/iR C5870U>

T-16-41

Address	bit	Item	Remarks
P001	0	main thermistor (overheating)	0: error
	1	main thermistor (open circuit)	0: error
	2	shift thermistor (overheating)	0: error
	3	shift thermistor (open circuit)	0: error
	4	outside heating roller thermistor (overheating)	0: error
	5	outside heating roller thermistor (open circuit)	0: error
	6	thermistor-related hard latch signal	0: error
	7	reserved	not used
	8-9	for check	1: blown fuse
	10-12	DDI general input	not used
	13	DDI power	0: POWER ON
	14	not used	
	15	interlock 24 V (detected)	0: 24 V detected
P002	0	Upper right cover open/closed sensor (PS5)	0: door open
	1	Lower right cover open/closed sensor (PS64)	0: door open
	2	Front cover switch (SW12)	1: door open
	3	Black toner supply motor connection (M25)	0: connected (valid only if motor at rest)
	4	fixing unit (detected)	0: unit installed
	5	feeder unit (detected)	0: unit installed
	6	right deck presence/absence (detected)	1: ON
	7	left deck presence/absence (detected)	1: ON
	8	Drum/ITB motor (M2) lock (detected)	0: lock (sync rotation)
	9	developing motor (M3) lock (detected)	0: lock (sync rotation)
	10	fixing motor (M4) lock (detected)	0: lock (sync rotation)
	11	primary charging suction fan (FM1) lock (detected)	0: lock (sync rotation)
	12	Primary charging assembly exhaust fan (FM2) lock (detected)	0: lock (sync rotation)
	13	Fixing heat exhaust fan (FM5) lock (detected)	0: lock (sync rotation)
	14	power supply motor lock (detected)	0: lock (sync rotation)
	15	Delivery cooling fan 2 (fm10)	0: lock (sync rotation)
P003	0	port 0	
	1	port 1	
	2	port 2	
	3	port 3	
	4	port 4	
	5	port 5	
	6	port 6	
	7	port 7	
	8	hard counter	1: ON
	9	hard counter	1: ON
	10	Delivery cooling fan 1 (fm6)	1: ON
	11-14	not used	
	15	black developing roller bias ON signal	0: ON

Address	bit	Item	Remarks
P004	0	Left deck paper sensor (PS42)	1: paper present
	1	Left deck limit sensor (PS41)	1: limit state
	2	Left deck lifter sensor (PS43)	L: pickup state
	3	Left deck paper level sensor A (PS44)	1: paper present
	4	Left deck paper level sensor B (PS5)	1: paper present
	5-7	factory mode switch	
	8	ITB cleaning HP sensor (PS23)	1: sensor ON
	9	Outside heating roller HP sensor (PS21)	1: sensor ON
	10	ITB HP sensor A (PS1)	0: sensor ON
	11	ITB HP sensor B (PS30)	0: sensor ON
	12	Developing rotary solenoid sensor(PS8)	1: rotary lock (lock state: solenoid FF)
	13	Drum HP sensor (PS65)	check
	14-15	not used	not used
P005	0	Cassette 3 paper sensor (PS50)	1: paper prevent
	1	Cassette 3 limit sensor (PS49)	1: limit state
	2	Cassette 3 lifter sensor (PS51)	L: pickup state
	3	Cassette 3 paper level sensor A (PS52)	0: full
	4	Cassette 3 paper level sensor B (PS53)	0: full
	5-7	not used	not used
	8	Right deck paper sensor (PS35)	1: paper present
	9	Right deck limit sensor (PS34)	1: limit state
	10	Right deck lifter sensor (PS36)	L: pickup state
	11	Right deck paper level sensor A (PS37)	1: paper present
	12	Right deck paper level sensor B (PS38)	1: paper present
	13-15	not used	not used
P006	0	Duplexing confluence sensor (PS18)	H: ON
	1	vertical path 0 sensor	H: ON
	2	Vertical path 1 sensor (PS60)	H: ON
	3	Vertical path 2 sensor (PS61)	H: ON
	4	Vertical path 3 sensor (PS62)	H: ON
	5	Vertical path 4 sensor (PS63)	H: ON
	6	Fixing inlet sensor (PS11)	H: ON
	7	Outside delivery sensor (PS13)	H: ON
	8	Cassette 4 paper sensor (PS56)	1: paper present
	9	Cassette 4 limit sensor (PS55)	1: limit state
	10	Cassette 4 lifter sensor (PS57)	L: pickup state
	11	Cassette 4 paper level sensor A (PS58)	0: full
	12	Cassette 4 paper level sensor B (PS59)	0: full
	13-15	not used	not used

Address	bit	Item	Remarks
P007	0	upper cassette size detection 0	0: active
	1	upper cassette size detection 1	0: active
	2	upper cassette size detection 2	0: active
	3	upper cassette size detection 3	0: active
	4	upper cassette size detection 4	0: active
	5	not used	
	6	fixing web solenoid connection detection	0: connected (valid only if solenoid at rest)
	7	color toner supply clutch connection detection	0: connected (valid only if solenoid at rest)
	8	Left deck pickup sensor (PS40)	1: ON
	9	Right deck pickup sensor (PS33)	1: ON
	10	Cassette 4 pickup sensor (PS54)	1: ON
	11	Cassette 3 pickup sensor (PS48)	1: ON
	12	Left deck limit sensor (PS41)	1: ON
	13	not used	
	14	Manual feed paper sensor (PS6)	1: ON
	15	Last sheet sensor (PS7)	1: ON
P008	0	shift tray connection detection	1: connected
	1	HP sensor (rear) (ps102)	1: HP detection
	2	HP sensor (front) (ps101)	1: HP detection
	3	Tray paper sensor (PS103)	0: paper present
	4	Limit sensor (front) (PS105)	0: full
	5-7	for R&D	
	8	lower cassette size detection 0	0: active
	9	lower cassette size detection 1	0: active
	10	lower cassette size detection 2	0: active
	11	lower cassette size detection 3	0: active
	12	lower cassette size detection 4	0: active
	13-15	for R&D	
P009	0	waste toner error detection	
	1	not used	
	2	Web length sensor (PS20)	1: web absent
	3-5	for R&D	
	6	Process unit cooling fan(FM7) lock detection	1: locked (sync rotation)
	7	motor cooling fan detection	not used
	8	black toner level sensor (TS1)	1: toner present
	9	Color toner level sensor (ps25)	1: toner present
	10	sub hopper level sensor (TS2)	1: toner present
	11	not used	
	12	Transparency sensor (rear) (ps29)	1: set
	13	Hopper assembly open/closed sensor (ps28)	0: open
	14-15	not used	
P012	0	DDI serial transmission data	
	1	soft IPC serial transmission data	
	2	DDI serial reception data	
	3	soft IPC serial reception data	
	4	DDI serial	
	5	DDI serial	
	6-7	not used	
P013	0-7	for R&D	

Address	bit	Item	Remarks
P014	0	data on transmission to PC	
	1	data on reception for PC	
	2	flow control on communication with PC	
	3	flow control on communication with PC	
	4-7	not used	
P015	0-1	for R&D	
	2	DDI ready	
	3	DDI ready	
	4	ITOP_A sensor	
	5	ITOP interrupt	
	6	registration ON interrupt	
	7	rotary HP interrupt	
P016	0-2	not used	
	3-7	for R&D	
P017	0	FIN_RESET	
	1	FIN_DOWNLOAD	
	2	FIN_MODE	
	3	LWR*	
	4	HWR*	
	5	RD*	
	6	for R&D	
	7	CLK20	
P018	0	LED_ON	LED
	1	CS3*	CS for PIO [0],[1]
	2	CS2*	CS for RAM
	3	CS1*	CS for ASIC
	4	CS0*	CS for ROM
	5-7	not used	
P019	0-7	not used	
P020	0-7	not used	
P021	0-7	not used	
P022	0-7	not used	
P023	0-7	not used	
P024	0-7	not used	
P025	0-7	not used	
P026	0-7	not used	
P027	0-7	not used	
P028	0-7	not used	

16.3.4 R-CON <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-42

Indication	bit	Item	Remarks
P001	0	delivery reversal motor CLK	
	1	DDIS IF (OPTO0-)	0: operation prohibited
	2	DDIS IF (SPRDY)	0: operation permitted
	3	DDIS IF (OPTI0)	0: active
	4	ADF pickup motor CLK	
	5	fan power ON signal	1: ON
	6	ADF read motor CLK	
	7	size senor ON	1: ON
P002	0	shift motor CLK	
	1	24V power supply monitor	0: normal
	2-3	not used	
	4	scanner motor CLK	
	5	13V power supply monitor	0: normal
	6	Use it to switch between notations to suit the local needs.	0: others (OEM) 1: Canon
	7	DDIS IF (SCPRDY)	0: operation ready
P003	0	DDIS serial communication (TxD)	-
	1	ADF serial communication (TxD)	-
	2	DDIS serial communication (RxD)	-
	3	ADF serial communication (RxD)	-
	4	LED control	1: ON
	5	ADF serial communication (SCK)	-
	6-7	not used	
P004	0	original size detection 0	0: original present
	1	original size detection 1	0: original present
	2	original size detection 2	0: original present
	3	original size detection 3	0: original present
	4	DF connection detection	-
	5	DDIS IF (SRTS)	0: reception ready
	6	scanner motor Vref output	-
	7	not used	-
P005	0	PC connection IF (TxD)	-
	1	PC connecting IF (RxD)	-
	2	fan lock detection signal	0: enabled
	3	DDIS IF (SCTS)	0: reception ready
	4-7	not used	
P006	0	not used	-
	1	PCB check terminal	1: normal
	2	DDIS IF (OPTI1)	0: active
	3	DDIS IF (OPTO1)	0: active
	4	ADF sensor interrupt input	0: active
	5	copyboard open/closed sensor interrupt input 0	1: copyboard cover closed
	6	HP sensor interrupt input	1: HP
	7	not used	-

Indication	bit	Item	Remarks
P007	0	address bus 16	-
	1	address bus 17	-
	2	address bus 18	-
	3-4	not used	-
	5	ADF pickup motor lock interrupt input	
	6	ADF pickup motor lock interrupt input	
	7	ADF delivery reversal motor lock interrupt input	
P008	0	lamp ON signal	1: on
	1	CCD drive ON signal	1: on
	2	wait signal	0: wait
	3	L light signal	0: active
	4	H light signal	0: active
	5	read signal	0: active
	6	ADF serial communication (LOAD)	0: enabled
	7	CPU clock output	-
P009	0	not used	
	1	shading RAM chip select	0: selected
	2	work RAM chip select	0: selected
	3	ASIC registration chip select	0: selected
	4	ROM chip select	0: selected
	5-7	not used	

16.3.5 FEEDER <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-43

Address	bit	Indication	Remarks
P001	0	read sensor	0: paper present
	1	registration sensor	1: paper present
	2	delivery reversal sensor	0: paper present
	3	ADF open/closed sensor	0: ADF open
	4-7	not used	
P002	0	delivery reversal motor current setting 1	
	1	delivery reversal motor current setting 2	
	2	release motor current setting 1	
	3	release motor current setting 2	
	4	stamp solenoid drive	1: ON
	5	clutch drive	1: ON
	6	original detection LED	1: ON
	7	fan motor drive	1: ON
P003	0	pickup motor current setting CUT	
	1	read motor current setting CUT	
	2	shift motor current setting	
	3	read motor mode setting	
	4	read motor current setting 1	
	5	read motor current setting 2	
	6	pickup motor current setting 1	
	7	pickup motor current setting 2	
P004	0	feeder cover open/closed sensor	0: feeder cover open
	1-6	not used	
	7	stamp	0: stamp present

Address	bit	Indication	Remarks
P005	0	not used	
	1	release HP sensor	1: released
	2	delivery reversal sensor	0: paper present
	3	post-separation sensor	0: paper present
	4	LGL sensor	1: paper present
	5	A4R/LTRR identification sensor	1: AB
	6	not used	
	7	original placement sensor	0: paper present
P006	0-7	for R&D	
P007	0-7	for R&D	
P008	0-7	for R&D	
P009	0-7	for R&D	
P010	0-7	for R&D	
P011	0-7	for R&D	

16.3.6 SORTER <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-44

Address	Controller	Bit	Indication	Remarks
P001	STACKER	0	inlet feed motor A	
		1	inlet feed motor B	
		2	inlet feed motor A	
		3	inlet feed motor B	
		4	inlet feed motor switch 0	0: ON
		5	inlet feed motor switch 1	0: ON
		6	inlet feed/stack delivery motor standby signal	1: ON
		7	common solenoid ON signal	0: ON
P002	STACKER	0	punch feed motor A	
		1	punch feed motor A	
		2	punch feed motor B	
		3	punch feed motor B	
		4	punch feed motor current switch 0	1: ON
		5	punch feed motor current switch 1	1: ON
		6	tray 2 motor clock	
		7	tray 1 motor clock	
P003	STACKER	0-7	for R&D	
P004	STACKER	0	saddle connection detention signal	0: ON
		1	not used	
		2	swing HP sensor	1: ON
		3	upper cover open/closed sensor	0: ON
		4	front cover open/closed sensor	0: ON
		5	front cover interlock sensor	1: ON
		6	gear change HP sensor	1: ON
		7	not used	
P005	STACKER	0-1	for R&D	
		2	punch transmission request signal	0: ON
		3	saddle 13V ON signal	1: ON
		4-7	not used	

Address	Controller	Bit	Indication	Remarks
P006	STACKER	0	punch connection detection	0: ON
		1-2	not used	
		3	punch motor standby	1: ON
		4	inlet sensor (IRQ0)	1: ON
		5	paper trailing edge sensor (IRQ1)	1: ON
		6	punch communication input (IRQ2)	0: ON
		7	not used	
P007	STACKER	0	tray approach sensor	0: ON
		1	tray 2 area sensor 1	0: ON
		2	tray 2 area sensor 2	0: ON
		3	tray 2 paper sensor 3	0: ON
		4	tray 2 paper sensor	1: ON
		5	tray paper surface sensor	1: ON
		6	inlet motor clock input	
		7	stack edging clock input	
P008	STACKER	0	tray 3 paper sensor	1: ON
		1	tray 3 connection detection	0: ON
		2	upper paper surface sensor	1: ON
		3	tray 1 interlock sensor	1: ON
		4	tray 1 area sensor 1	0: ON
		5	tray 1 area sensor 2	0: ON
		6	tray 1 area sensor 3	0: ON
		7	tray 1 paper sensor	1: ON
P009	STACKER	0	tray 1 shift motor CW	0: ON
		1	tray 1 shift motor enable	1: ON
		2	tray 1 shift motor power supply switch 0	0: ON
		3	tray 1 shift motor power supply switch 1	0: ON
		4	tray 2 shift motor CW	0: ON
		5	tray 2 shift motor enable	1: ON
		6	tray 2 shift motor power supply switch 0	0: ON
		7	tray 2 shift motor power supply switch 1	0: ON
P010	STACKER	0	not used	
		1	swing shift motor power supply switch 0	0: ON
		2	swing shift motor phase A pulse output	
		3	swing motor phase B pulse output	
		4-7	not used	
P011	STACKER	0	inlet roller shift solenoid	1: ON
		1-2	for R&D	
		3	buffer roller shift solenoid	1: ON
		4	feed path sensor	1: ON
		5-7	not used	
P012	STACKER	0	gear change phase A	
		1	gear change phase B	
		2	gear change motor current switch 0	0: ON
		3	gear change motor current switch 1	0: ON
		4	not used	
		5-7	for R&D	

Address	Controller	Bit	Indication	Remarks
P013	STACKER	0	for R&D	
		1	front alignment HP sensor	1: ON
		2	front alignment HP sensor	1: ON
		3	handling tray paper sensor	1: ON
		4	trailing edge assist HP sensor	1: ON
		5-7	not used	
P014	STACKER	0	rear alignment motor phase A	
		2	rear alignment motor phase B	
		3	rear alignment motor current switch 0	0: ON
		4-7	not used	
P015	STACKER	0	front alignment phase A	
		1	front alignment phase B	
		2	front alignment motor current swing 0	0: ON
		3-7	not used	

T-16-45

Address	Controller	Bit	Indication	Remarks
P016	STACKER	0	not used	
		1-4	for R&D	
		5	CIS power supply ON signal	1: ON
		6	for R&D	
		7	size sensor drive signal	1: ON
P017	STACKER	0	not used	
		1	24V power supply monitor signal	0: normal
		2	scanner motor drive signal	1: forward 0: reverse
		3-4	for R&D	
		5	13V power supply monitor signal	0: normal
		6	not used	
		7	for R&D	
P018	STACKER	0-3	for R&D	
		4	LED control signal	1: ON
		5-7	for R&D	
P019	STACKER	0-1	not used	
		2	original size detention 2	0: original present
		3-4	not used	
		5-7	for R&D	
P020	STACKER	0	for R&D	
		1-7	not used	
P021	STACKER	0	not used	
		1-3	for R&D	
		4	ADF sensor interrupt input	0: ON
		5	copyboard cover open/closed sensor interrupt input 0	1: cover open
		6	HP sensor interrupt input	1: HP
		7	copyboard open/closed sensor interrupt input 1	1: cover open

Address	Controller	Bit	Indication	Remarks
P022	STACKER	0-3	for R&D	
		4	scanner motor driver power save	0: ON
		5	ADF pickup motor clock interrupt input	0/1, alternating
		6	ADF pickup motor clock interrupt input	0/1, alternating
		7	not used	
P023	STACKER	0	lamp ON signal	1: ON
		1	CIS drive ON signal	1: ON
		2-7	for R&D	
P024	SADDLE	0	for R&D	
		1-7	not used	
P025	SADDLE	0-7	not used	
P026	SADDLE	0-7	not used	
P027	SADDLE	0-7	not used	
P028	SADDLE	0-7	not used	
P029	SADDLE	0-7	not used	
P030	SADDLE	0-7	not used	

T-16-46

Address	Controller	Bit	Indication	Remarks
P031	SADDLE	0	saddle tray paper sensor	0: ON
		1	paper positioning area paper sensor	0: ON
		2	crescent roller HP sensor	0: ON
		3	saddle delivery path sensor	0: ON
		4	saddle path (upstream) sensor	1: ON
		5	saddle path (middle) sensor	1: ON
		6	saddle path (downstream) sensor	1: ON
		7	saddle path sensor	1: ON
P032	SADDLE	0	butting motor enable signal	1: ON
		1	butting motor normal direction signal	1: ON
		2	butting motor reverse direction signal	1: ON
		3	folding roller HP sensor	1: ON
		4	front door open sensor	0: ON
		5	delivery over open detention (photo sensor)	0: ON
		6	saddle alignment HP sensor	0: ON
		7	delivery cover open 24 V down detection	1: ON
P033	SADDLE	0	inlet flapper solenoid	1: ON
		1	saddle path switch flapper 1	1: ON
		2	saddle path switch flapper 2	1: ON
		3	intermediate feed solenoid	1: ON
		4-5	not used	
		6	inlet path sensor	1: ON
		7	not used	
P034	SADDLE	0	rear staple motor normal direction	0: ON
		1	rear staple motor reverse direction	0: ON
		2	front staple motor normal direction	0: ON
		3	not used	
		4	folding roller HP connector open detection	0: ON
		5-7	not used	

Address	Controller	Bit	Indication	Remarks
P035	SADDLE	0	DIPSW_1	0: ON
		1	DIPSW_2	0: ON
		2	DIPSW_3	0: ON
		3	DIPSW_4	0: ON
		4	DIPSW_5	0: ON
		5	DIPSW_6	0: ON
		6	DIPSW_7	0: ON
		7	DIPSW_8	0: ON
P036	SADDLE	0-1	not used	
		2	push switch 1	0: ON
		3	5V detection signal	0: ON
		4	24V detection signal	0: ON
		5-7	not used	
P037	SADDLE	0	POWER_ON	1: ON
		1	LED1	1: ON
		2	LED2	1: ON
		3	LED3	1: ON
		4	LEDY	0: ON
		5	TRAY_MTR_CUR	0: ON
		6	TRAY_MTR_B	0: ON
		7	TRAY_MTR_A	0: ON
P038	PUNCHER	0	DIPSW1	0: ON
		1	DIPSW2	0: ON
		2	DIPSW3	0: ON
		3	not used	
		4	PCH-OUT	
		5	trailing edge sensor	1: ON
		6	punch encoder clock	
		7	punch HP sensor	0: ON
P039	PUNCHER	0-2	for R&D	
		3-7	not used	
P040	PUNCHER	0-3	for R&D	
		4	horizontal registration HP sensor	1: ON
		5	horizontal registration motor STB	0: ON
		6	punch motor CCW	0: ON
		7	punch motor CW	0: ON
P041	PUNCHER	0-3	not used	
		4	DIPSW4	0: ON
		5	horizontal registration motor CUR	0: ON
		6	for R&D	
		7	not used	
P042	PUNCHER	0	LED1	0: ON
		1-2	for R&D	
		3	LED2	0: ON
		4	front cover sensor	0: ON
		5	for R&D	
		6	PUSHSW2	0: ON
		7	PUSHSW1	0: ON
P043	PUNCHER	0-4	not used	
		5	upper cover sensor	0: ON
		6-7	not used	

16.3.7 MN-CONT   <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-47

Address	bit	Indication	Remarks
P001	0	PWR1	1: normal use
	1	PWR2	1: normal use
	2	Watchdog Timer Clear	from 1 to 0 every 50 msec
	3	Clock Enable	1: normal use
	4	cooling fan ON	cooling fan control
	5	LED1008	For operation check
	6	Watchdog Enable	1: Watchdog enable
	7	DDI DOWNLOAD	0: At the time of normal operation
P002	0-7	not used	
	8	open I/F control	0: Ready; 1: not ready
	9	open I/F setting	Model 0
	10	open I/F setting	Model 1
	11-12	for R&D	
	13-15	not used	
P003	0	IP TEST	0:normal 1: Test
	1	Sync_Mask	0: Mask 1: normal
	2	SRAM Mask	0: permit; 1: prohibit
	3	SUB Clock stop	0: stop 1: run
	4	PCI(PDL,HDD) soft reset	0: Reset 1: Normal
	5	serial EEPROM CS	
	6	serial EEPROM SCK	
	7	serial EEPROM DIN	0: IPC 1: Gchip Serial
	8	coin robot serial select	0: Normal 1: Livewake
	9	DDI live wake	0: off 1: on
	10	pickup count (for coin robot assist)	
	11	delivery count (for coin robot assist)	
	12	LCD backlight control	1: ON
	13	jail SROM access	0: access permitted; 1: access prohibited
	14	parallel EEPROM write protect	0: Write 1: Protect
	15	fax SSB forced reset	0: Reset 1: Normal
P004	0	SRAM board detection	0: yes; 1: no
	1	parallel EEPROM R/B#	0: Busy; 1: Ready
	2	not used	
	3	operation enable (key SCREW)	0: permitted; 1: prohibited
	4	operation enable (CC-W)	0: permitted; 1: prohibited
	5	operation enable (coin robot)	0: permitted; 1: prohibited
	6	serial EEPROM DO	
	7	not used	
P005	0-7	not used	
P006	0-7	for R&D	
	8	open I/F control (PRDY signal)	
	9	open I/F signal	Model 0
	10	open I/F setting	Model 1
	11-13	not used	
	14	open I/F board detection	0: present; 1: absent
	15	open I/F board control (CARD) 0: ready; 1: not ready	

P007	1-15	for R&D	
	16	FAX OPTION	0: connected; 1: not connected
	17-23	for R&D	
P008	0-2	not used	
	3	PSCNST	Scanner drive signal
	4	Printer Power Ready	0: Ready; 1: not ready
	5-7	not used	
	8	SPRTST signal	printer start-up signal
	9	not used	
P009	0-2	for R&D	
	3	PPRTST signal	
	4	printer power-on	printer start-up signal
	5	not used	
	6-8	for R&D	
	9	SSCNST signal	Scanner drive signal
	10	Scanner Power ON	
	11	Controller Power Ready	0: Ready; 1: not ready

16.4 ADJUST (Adjustment Mode)

16.4.1 COPIER

16.4.1.1 COPIER List <iR C6800/iR C5800>
1. ADJ-XY <iR C6800/iR C5800>

T-16-48

COPIER>ADJUST>ADJ-XY (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
ADJ-X	Use it to adjust the scanner image leading edge position (i.e., image read start position in sub scanning direction). Method of adjustment - if the non-image width is larger than indicated, decrease the setting. - if an area outside the original is copied, increase the setting. - an increase by '1' will move the image read start position toward the trailing edge by 0.1 mm (i.e., move the image read area toward the trailing edge). - if you have initialized the RAM of the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 1 to 100 at time of shipment: factory adjustment value upon RAM initialization: 20 Attention If you have changed the setting, be sure to record the new setting on the service label.	
ADJ-Y	Use it to adjust the read start cell position of the CCD (i.e., image read start position in main scanning direction). Method of Adjustment - if the non-image width is larger than indicated, decrease the setting. - if an area outside the original is copied, increase the setting. - an increase by '1' will move the image read start position toward the front by 0.1 mm (i.e., move the image read area toward the front). - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 47 to 131 at time of shipment: factory adjustment value upon RAM initialization: 90 Attention If you have changed the setting, be sure to record the new setting on the service label.	
ADJ-S	Use it when entering the adjustment value for the scanner shading measurement position. Method of Adjustment - a decrease by '1' will move the shading measurement position toward the leading edge by 0.1 mm. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 30 to 50 at time of shipment: factory adjustment value upon RAM initialization: 50 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>ADJ-XY (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
ADJ-Y-DF	Use it to adjust the main scanning points for DF SRAM reading mode. Method of Adjustment - an increase by '1' will move the image read start position to the front by 0.1 mm. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 21 to 106 at time of shipment: factory adjustment value upon RAM initialization: 53 Attention If you have changed the setting, be sure to record the new setting on the service label.	
STRD-POS	Use it to adjust the CCD read position for DF stream reading mode. Method of Adjustment - an increase by '1' will move the image read position to the left by 1 mm. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 1 to 200 at time of shipment: factory adjustment value upon RAM initialization: 110 Attention If you have changed the setting, be sure to record the new setting on the service label.	

2. CCD <iR C6800/iR C5800>

T-16-49

COPIER>ADJUST>CCD (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
W-PLT-X/Y/Z	Use it when entering the white label data indicated on the standard white plate. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label. - if you have replaced the copyboard glass, enter the value indicated on the copyboard glass. (See the figure below)	1
	Range of Adjustment: 1 to 9999 at time of shipment: factory measurement value upon RAM initialization: W-PLT-X=8271: W-PLT-Y=8735: W-PLT-Z=9418 Attention If you have changed the setting, be sure to record the new setting on the service label.	
CCDU-RG	Use it to correct color displacement in sub scanning direction between RG associated with the CCD unit. Method of Adjustment - if you have initialized the RAM on the reader controller or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>CCD (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
CCDU-GB	Use it to correct color displacement in sub scanning direction between GB associated with the CCD unit.	1
	Method of Adjustment - if you have initialized the RAM on the reader controller or replaced the reader controller PCB, enter the value indicated on the service label.	
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0	
FCCDU-RG	Use it to correct color displacement in sub scanning direction between R and G associated with the CCD unit at time of shipment.	1
	Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
FCCDU-GB	Use it to correct color displacement in sub scanning direction between GB associated with the CCD unit at time of shipment.	1
	Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50-RG	Use it to indicate the degree of offset (color displacement; RG) for book mode at 50% reading.	1
	Method of Adjustment - if you have initialized the RAM on the rear controller or replaced the reader controller PCB, enter the value indicated on the service label.	
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50-GB	Use it to indicate the degree of offset (color displacement; GB) for book mode at 50% reading.	1
	Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>CCD (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
100-RG	Use it to indicate the degree of offset (color displacement; RG) for book mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
100-GB	Use it to indicate the degree of offset (color displacement; GB) for book mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50DF-RG	Use it to indicate the degree of offset (color displacement RG) for ADF mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50DF-GB	Use it to indicate the degree of offset (color displacement; GB) for ADF mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
100DF-RG	Use it to indicate the degree of offset (color displacement; RG) for ADF mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>CCD（iR C6800/iR C5800）		
Subheading	**Contents**	**Level**
100DF-GB	Use it to indicate the degree of offset (color displacement; GB) for ADF mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention:If you have changed the setting, be sure to record the new setting on the service label.	
DFTAR-R	Use it when entering the shading target value (red) for use when the DF is used (i.e., normal original read position). Method of Adjustment - COPIER>FUNCTION>CC>WLVL1/DF-WLVL2 if the image has a fault when the foregoing service mode item has been executed (e.g., as caused by soiling of the chart), enter the factory measurement using this mode item. - if you have initialize the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1159 Attention:If you have changed the setting, be sure to record the new setting on the service label.	
DFTAR-G	Use it when entering the shading target (green) for the DF (normal original reading position). Method of Adjustment - COPIER>FUNCTION>CD>DF-WLVL1/DF-WLVL2 if the image starts to develop a fault after executing the foregoing service mode item (e.g., as caused by soiling of the chart), enter the factory measurement using this mode. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1189 Attention:If you have changed the setting, be sure to record the new setting on the service label.	
DFTAR-B	Use it to enter the shading target value (blue) for the DF (normal original read position). Method of Adjustment - COPIER>FUNCTION>CCD>DF-WLVL1/DF-WLVL2 if the image starts to develop a fault after executing the foregoing service mode item, enter the factory measurement using this mode item. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1209 Attention:If you have changed the setting, be sure to record the new setting on the service label.	

value of W-PLATE-X
value of W-PLATE-Y
value of W-PLATE-Z

F-16-19

3. LASER <iR C6800/iR C5800>

T-16-50

COPIER>ADJUST>LASER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
PVE-OFST	Use it to adjust the degree of offset (point of laser illumination) from the center of the laser beam.	1
	Settings range: -600 to 600 at time of shipment: factory adjustment value upon RAM initialization: 0	
POWER	Use it to adjust the laser output (max). - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 0 to 255 at time of shipment: factory measurement value upon RAM initialization: 112	
LPWR-YMC	Use it to set the laser power for when potential control is off (Y/M/C). Method of Adjustment - set the laser power for Y/M/C with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory measurement value upon RAM initialization: 112	
LPWR-3	Use it to set the laser power for when potential control is off (feed speed at 1/3). Method of Adjustment - set the laser power (at feed speed 1/3) with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 37	
LPWR-2	Use it to set the laser power for when potential control is off (at feed speed 1/3). Method of Adjustment - set the laser power (at feed speed 1/3) with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 74	

4. IMG-REG <iR C6800/iR C5800>

T-16-51

COPIER>ADJUST>IMG-REG (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
REG-V-Y/K	Use it to make rough adjustment of the write start position in sub scanning direction for Y/K. Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PC or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel) at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG2-V-Y/K	Use it to make rough adjustment of the write start position in sub scanning direction for Y/K (2nd side in 2-sheet placement). Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel) at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG-V-M	Use it to make rough adjustment of the write start position in main scanning direction for M Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG2-V-M	Use it to make rough adjustment of the write start position in sub scanning direction for M (2nd side in 2-sheet placement). Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	

5. DENS <iR C6800/iR C5800>

T-16-52

COPIER>ADJUST>DENS (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
SGNL-Y/M/C	Use it to enter the toner density initial value (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 200 to 800 at time of shipment/upon RAM initialization: 512	
REF-Y/M/C	Use it to enter the toner density reference signal (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 462 to 562 at time of shipment/upon RAM initialization: 512	
PTOFST-Y/M/C	Use it to enter the correction value of the Y/M/C laser output for ATR control. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 48 to 48 at time of shipment/upon RAM initialization: 0	
P-SGNL-Y/M/C	Use it to adjust the density of toner on the intermediate transfer belt for INIT execution (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 200 to 800 at time of shipment/upon RAM initialization: 500	
HLMT-PTY/M/C	Use it to set an upper limit to patch target density correction (Y/M/C).	2
	range of adjustment: -20 to 20 (unit: 0.1%) at time of shipment/upon RAM initialization: 0 If possible, do not use it as long as machine operation is normal.	
LLMT-PTY/M/C	Use it to set a lower limit to patch target density correction (Y/M/C).	2
	range of adjustment: -20 to 20 (unit: 0.1%) at time of shipment/upon RAM initialization: 0 If possible, do not use it as long as machine operation is normal.	
DMAX-Y/M/C	Use it to set an offset value for the Y/M/C density control target value. Method of Adjustment Set an offset value for the Y density control target value while in 2D-MAX control.	2
	range of settings: -8 to 8 at time of shipment/upon RAM initialization: 0	
P-TG-Y/M/C	Use it to set an offset value for the ATR control target value (Y/M/C). Method of Adjustment Set an offset value for the target value of the Y toner while in ATR control.	2
	range of settings: -108 to 108 at time of shipment/upon RAM initialization: 0	

6. BLANK <iR C6800/iR C5800>

T-16-53

COPIER>ADJUST>BLANK (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
BLANK-T	Use it when entering the adjustment value for the non-image width (leading edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +94	
BLANK-L	Use it to enter the adjustment value for the non-image width (left edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +59	
BLANK-R	Use it to enter the adjustment value for the non-image width (right edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +59	
BLANK-B	Use it to enter the adjustment value for the non-image width (trailing edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +47	
BLANK-C1 to 4	Use it to set the leading edge margin for the right deck. Method of Adjustment The value herein will be used to affect the value of BLANK-T.	1
	Range of Adjustment: -35 to 35 (unit: 0.1 mm) at time of shipment: factory measurement /upon RAM initialization: 0	
BLANK-PD	Use it to set the leading edge margin for the optional deck. Method of Adjustment The value herein will be used to affect the value of BLANK-T.	1
	Range of Adjustment: -35 to 35 (unit: 0.1 mm) at time of shipment: factory measurement /upon RAM initialization: 0	

7. V-CONT <iR C6800/iR C5800>

T-16-54

	COPIER>ADJUST>V-CONT (iR C6800/iR C5800)	
Subheading	**Contents**	**Level**
EPOTOEST	Set it to adjust the potential offset value.	
	Range of Adjustment-300 to 300 (unit: 0.1 V) at time of shipment/upon RAM initialization: 0	1
VCONT-Y/M/C/K	Use it to adjust the target contrast potential (Y/M/C/K). Method of Adjustment - a higher setting will make the image darker.	2
	Range of Adjustment: Y/M/C: -50 to +50(unit: 10 V) 　　　K: -5 to +5 at time of shipment/upon RAM initialization: 0 Attention If possible, do not use it as long as machine operation is normal.	
VBACK-Y/M/C/K	Use it to adjust the fogging potential (Y/M/C/K). Method of Adjustment - a higher setting will serve to reduce following.	2
	Range of Adjustment: Y/M/C: -30 to +30 (unit: 5V) K: -5 to +5 at time of shipment/upon RAM initialization: 0 Attention If possible, do not use it as long as machine operation is normal.	

8. PASCAL <iR C6800/iR C5800>

T-16-55

	COPIER>ADJUST>PASCAL (iR C6800/iR C5800)	
Subhead	**Contents**	**Level**
OFST-P-Y/M/C/K	Use it to apply offset adjustment on the test print reading signal (Y) for PASCAL control at time of auto gradation correction (full). Method of Adjustment - a higher setting will make the image darker after auto gradation correction (full).	1
	Range of Adjustment: -128 to +128 at time of shipment/upon RAM initialization: 0	

9. COLOR <iR C6800/iR C5800>

T-16-56

	COPIER>ADJUST>COLOR (iR C6800/iR C5800)	
Subheading	**Contents**	**Level**
ADJ-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K; for the user). Method of Adjustment - a higher setting will make the image darker. - a lower setting will make the image lighter.	1
	Range of Adjustment: -8 to +8 at time of shipment/upon RAM initialization: 0	
OFST-Y/M/C/K	Use it to adjust the color balance and the density of the light area (Y/M/C/K). Method of Adjustment - a lower setting will reduce fogging.	1
	Range of Adjustment: -32 to +32 at time of shipment/upon RAM initialization: 0	
LD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of low density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do unit use it as long as machine operation is normal.	

COPIER>ADJUST>COLOR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
MD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of medium density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do not use it as long as machine operation is normal.	
HD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of high density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do not use it as long as machine operation is normal.	

10. HV-PRI <iR C6800/C5800>

T-16-57

COPIER>ADJUST>HV-PRI (iR C6800/C5800)		
Subheading	**Contents**	**Level**
PRIMARY	Use it to adjust the primary charging current.	1
	Range of Adjustment: 0 to 1400V (unit: yA) at time of shipment: factory adjustment value upon RAM initialization: 1099	
GRID	Use it to adjust the primary charging assembly grid bias.	1
	Settings range: 0 to 900 (unit: V) at time of shipment: factory adjustment value upon RAM initialization: 752	
GRID-2	Use it to adjust the gain of the primary charging current measurement value. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have recycled the high-voltage PCB, enter the value indicated on the label attached to the PCB.	2
	Range of Adjustment: 0 to 900 at time of shipment: factory adjustment value upon RAM initialization: 498 Reference - This item is for use at the factory, and must NOT be used in the field.	
GRID-3	Use it to adjust the offset for the primary charging current measurement value. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have recycled the high-voltage PCB, enter the value indicated on the label attached to the PCB.	2
	Range of Adjustment: 0 to 900 at time of shipment: factory adjustment value upon RAM initialization: 498 Reference - This item is for use at the factory, and must NOT be used in the field.	
HVRATE-3	Use it to adjust the parameter settings for primary charging bias/laser power (at feed speed 1/3). Method of Adjustment - adjust the parameter setting for the primary charging bias/laser power for when 1/3 feed speed is used.	2
	Range of Adjustment: 0 to 100 (in increments of 1) at time of shipment/upon RAM initialization: 33	

<table>
<tr><td colspan="3" align="center">COPIER>ADJUST>HV-PRI (iR C6800/C5800)</td></tr>
<tr><td>Subheading</td><td align="center">Contents</td><td>Level</td></tr>
<tr><td>HVRATE-2</td><td>Use it to adjust the parameter setting for primary charging bias/laser power (at feed speed 2/3).

Method of Adjustment
- adjust the parameter setting for the primary charging bias/laser power for when 2/3 feed speed is in use.</td><td rowspan="2">2</td></tr>
<tr><td></td><td>Range of Adjustment: 0 to 100 (in increments of 1)
at time of shipment/upon RAM initialization: 33</td></tr>
</table>

11. HV-TR <iR C6800/iR C5800>

T-16-58

<table>
<tr><td colspan="3" align="center">COPIER>ADJUST>HV-TR (iR C6800/iR C5800)</td></tr>
<tr><td>Subheading</td><td align="center">Contents</td><td>Level</td></tr>
<tr><td>PRE-TR</td><td>Use it to adjust the current for the pre-transfer charging assembly.</td><td rowspan="2">1</td></tr>
<tr><td></td><td>Range of Adjustment: -200 to 200 (unit: 5.0 yA)
at time of shipment: factory adjustment value
upon RAM initialization: 0</td></tr>
<tr><td>1TR-GAIN</td><td>Use it to adjust the gain for the primary transfer current measurement.
Method of Adjustment
- if you have initialized the RAM of the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.</td><td rowspan="2">1</td></tr>
<tr><td></td><td>Range of Adjustment: 0 to 1000
at time of shipment: factory adjustment value /upon RAM initialization: 492
Reference
This item is for use at the factory only, and must NOT be used in the field.</td></tr>
<tr><td>1TR-OFST</td><td>Use it to adjust the offset value of the primary transfer current measurement.
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.</td><td rowspan="2">1</td></tr>
<tr><td></td><td>Range of Adjustment: -1000 to 0
at time of shipment: factory adjustment value
upon RAM initialization: -442
Reference
This item is for use at the factory only, and must NOT be used in the field.</td></tr>
<tr><td>1TR-CGAI</td><td>Use it to correct the constant current for the primary transfer high-voltage PCB. (slope)
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.</td><td rowspan="2">1</td></tr>
<tr><td></td><td>Range of Adjustment: 0 to 200
at time of shipment: factory measurement /upon RAM initialization: 118</td></tr>
<tr><td>1TR-COFS</td><td>Use it to correct the constant current for the primary transfer high-voltage PCB. (intercept)
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.</td><td rowspan="2">1</td></tr>
<tr><td></td><td>Range of Adjustment: -200 to 0 (unit: 0.1 yA)
at time of shipment: factory measurement /upon RAM initialization: -102</td></tr>
</table>

COPIER>ADJUST>HV-TR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
1TR-GAI2	Use it to correct the constant voltage output for the transfer high-voltage PCB. 2 (slope) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label.	1
	Range of Adjustment: 0 to 1000 at time of shipment: factory adjustment value upon RAM initialization: 492	
1TR-OFS2	Use it to correct the constant voltage output for the primary transfer high-voltage PCB 2. (intercept) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached on the PCB.	1
	Range of Adjustment: 1000 to 0 (unit: V) at time of shipment: factory adjustment value upon RAM initialization: -442	
2TR-TGT1 to 8	Use it to set the offset value in relation to the secondary transfer ATVC target current level. Method of Adjustment - the secondary transfer ATVC target current level will be offset in relation to the setting herein when the operation mode of the machine matches the setting made in the following: TR-ENV, TR-PAPER, TR-CLR, TR-DUP.	2
	Range of Adjustment: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0 Reference The following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
2TR-SHR1 to 8	Use it to set the offset value for the paper voltage for secondary ATVC. Method of Adjustment - when the setting under TR-ENV, TR-PAPER, TR-CLR, and TR-DUP match the machine operation mode, the offset value set using this item will be applied to the paper voltage for secondary transfer ATVC.	2
	Range of Adjustment: -10 to 10(unit: 100 V) at time of shipment/upon RAM initialization: 0 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
TR-PPR1 to 8	Use it to enter an offset value against the secondary transfer ATVC setting if necessary in response to a complaint from the user.	2
	selection of paper type for cassette 1 Settings: 1, plain paper; 2, recycled paper; 3, colored paper; 4, punched paper; 5, heavy paper 1; 6, heavy paper 2; 7, heavy paper 3; 8, transparency; 9, tracing paper; 10, postcard; 11, 2-pane postcard; 12, 4-pane postcard; 13, label sheet at time of shipment/upon RAM initialization: 1 Reference: The following 6 items make up a single set: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP	

COPIER>ADJUST>HV-TR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
TR-ENV1 to 8	Use it to select the environment for the secondary ATVC setting.	2
	Settings range 1: low humidity; 2: normal humidity; 3: high humidity at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
TR-CLR1 to 8	Use it to set the color mode for the secondary ATVC setting.	2
	1: Bk; 2: C at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
TR-DUP1 to 8	Use it to select the signal/double-side pickup mode for the secondary ATVC setting.	2
	Settings range 1: single-sided; 2: auto double-sided; 3: manual double-sided at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
1TR-TGY/M/C	Use it to adjust the primary transfer ATVC target current offset value (Y/M/C).	2
	Range of Adjustment: -10 to 10(unit: 0.5 yA) at time of shipment/upon RAM initialization: 0	
1TR-TGK1	Use it to adjust the primary transfer ATVC target current offset value (Bk, mono).	2
	Range of Adjustment-10 to 10 (unit: 0.5 yA) at time of shipment: factory adjustment value upon RAM initialization: 0	
1TR-TGK4	Use it to adjust the primary transfer ATVC target current offset value (Bk, 4C).	2
	Range of Adjustment-10 to 10 (unit: 0.5 yA) at time of shipment: factory adjustment value upon RAM initialization: 0	
1EL	Use it to set the primary transfer static eliminator bias level.	2
	Settings range: -4000 to 0 (unit: V) at time of shipment/upon RAM initialization: 0	
2EL	Use it to set the primary transfer static eliminator bias. Range of Adjustment - check the bias level using DISPLAY>HV-STS>2EL; then, set the appropriate bias level.	2
	Settings range: -4000 to 0 (unit: V) at time of shipment/upon RAM initialization: 0	
1TR-STS1	Use it to set the offset value (normal speed) for the primary sheet-to-sheet target current.)	2
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	
1TR-STS2	Use it to set the offset value (1/3 speed) for the primary sheet-to-sheet target current.	2
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	
1TR-STS3	Use it to set the offset value (2/3 speed) for the primary transfer sheet-to-sheet target value.	2
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	
PRE-TR-Y/M/C	Use it to adjust the current (Y/M/C) for the pre-transfer charging assembly.	2
	Settings range: 200 to 200 (in increments of 1) at time of shipment/upon RAM initialization; 0	

COPIER>ADJUST>HV-TR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
POSTSW-Y/M/C/K	turn on or off the switch (Y/M/C/K) for the Y pre-transfer charging assembly to enable or disable the color Y for the pre-transfer charging assembly.	2
	Settings 0: disable; 1: enable at time of shipment/upon RAM initialization: Y/M:0,C/K:1	

12. FEED-ADJ <iR C6800/iR C5800>

T-16-59

COPIER>ADJUST>FEED-ADJ (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
REGIST	Use it to adjust the timing at which the registration roller clutch goes on. Method of Adjustment - an increase of '1' will move the image in the direction of the leading edge of the sheet by 0.1 mm. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -50 to 50- (unit: 0.1 m) at time of shipment: factory adjustment value/RAM initialization: 0	
ADJ-REFE	Use it to adjust the horizontal adjustment for duplexing (for factory use). Method of Adjustment - an increase of '1' will move the image on the 2nd side to move toward the rear by 0.1 mm.	1
	Range of Adjustment: -100 to 100 at time of shipment: factory adjustment value upon RAM initialization: 0	
BLK-SML2	Use it to adjust the left/right margin on the 2nd side for small size. - an increase of '1' will make the left-right margin on the 2nd side longer by 0.1 mm.	1
	Range of Adjustment: -50 to +50 (unit: 0.1 mm) at time of shipment: factory adjustment value upon RAM initialization: -15	
RVS-FD1	Use it to adjust the print of reversal.	2
	Range of Adjustment: -10 to +10 (unit: 1 mm) at time of shipment: factory adjustment value upon RAM initialization: 0	
RVS-DUP	Use it to adjust the point of duplexing reversal.	2
	Range of Adjustment: -10 to 10 at time of shipment: factory adjustment value upon RAM initialization: 0	
LOOP-T2	Use it to adjust the arching at the registration roller for heavy paper. Particulars of Adjustment A lower setting (arching at the registration roller) will serve to limit noise; however, too low a setting can affect the margin or can cause skew movement of paper.	2
	Range of Adjustment: -10 to +10 (mm) at time of shipment/upon RAM initialization: 0	

13. CST-ADJ <iR C6800/C5800>

T-16-60

<table>
<tr><th colspan="3">COPIER>ADJUST>CST-ADJ (iR C6800/C5800)</th></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr>
<td>MF-A4R</td>
<td>Use it to enter the paper width basic value for the manual feed tray (A4R).
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.<hr>Range of Adjustment: 0 to 255
at time of shipment: factory adjustment value
upon RAM initialization: 141</td>
<td>1</td>
</tr>
<tr>
<td>MF-A6R</td>
<td>Use it to enter the paper width basic value for the manual feed tray (A6R).
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.<hr>Range of Adjustment: 0 to 255
at time of shipment: factory adjustment value
upon RAM initialization: 193</td>
<td>1</td>
</tr>
<tr>
<td>MF-A4</td>
<td>Use it to enter the paper width basic value for the manual feed tray (A4).
Method of Adjustment
- if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.
- if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.<hr>Range of Adjustment: 0 to 255
at time of shipment: factory adjustment value
upon RAM initialization: 42</td>
<td>1</td>
</tr>
</table>

14. MISC <iR C6800/C5800>

T-16-61

<table>
<tr><th colspan="3">COPIER>ADJUST>MISC (iR C6800/C5800)</th></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr>
<td>SEG-ADJ</td>
<td>Use it to adjust the separation between text and photo in text/photo/map modes.
Method of Adjustment
- if you want the identification to be more on the photo side, increase the setting.
- if you want the identification to be more on the text side, decrease the setting.<hr>Range of Adjustment: -4 to 4
at time of shipment/upon initialization of RAM: 0</td>
<td>1</td>
</tr>
<tr>
<td>K-ADJ</td>
<td>Use it to adjust the black recognition level for black character processing.
Method of adjustment
- If you want the machine to identify a character as a black character, increase the setting.<hr>Range of Adjustment: -3 to 3
at time of shipment/upon initialization of RAM: 0</td>
<td>1</td>
</tr>
<tr>
<td>ATM</td>
<td>Use it to set the environment in respect of atmospheric pressure.<hr>Settings
0 to 2
at time of shipment/upon RAM initialization: 0</td>
<td>1</td>
</tr>
<tr>
<td>ACS-ADJ</td>
<td>Use it to adjust the level of color identification for ACS mode.
Method of Adjustment
- if you want the identification to be on the black-and-white side, increase the setting.
- if you want the identification to be on the color side, decrease the setting.<hr>Range of Adjustment: -3 to 3
at time of shipment/upon RAM initialization: 0</td>
<td>1</td>
</tr>
</table>

COPIER>ADJUST>MISC (iR C6800/C5800)		
Subheading	**Contents**	**Level**
WT-ER-LV	Use it to set a threshold for issuing an alert when the waste toner box is becoming full. Use it to set a threshold for detection of a waste toner box error.	1
	Settings (prints) 0: 1 prints 1: 20,000 prints 2: 40,000 prints 3: 60,000 prints estimates at a color ratio of 10% and image duty of 5%. varies depending on the color ratio/image duty. at time of shipment: factory adjustment value upon RAM initialization: 2	
WT-FL-LM	Use it to set a threshold for issuing an alert when the waste toner box is becoming full. Use it to set a threshold for detection of a waste toner box error.	1
	Settings (prints) 0: 80,000 prints 1: 140,000 prints 2: 210,000 prints 3: 320,000 prints 4: 460,000 prints estimates at a color ratio of 10% and image duty of 5%. varies depending on the color ratio/image duty. at time of shipment: factory adjustment value upon RAM initialization: 2	
ACS-EN	Use it to adjust the ACS identification area.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 1	
ACS-CNT	Use it to set the ACS identification chrome count area.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 0	
ACS-EN2	Use it to adjust the ACS identification area (for stream reading). Method of Adjustment - a higher setting will increase the area of identification.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 1	
ACS-CNT2	Use it to adjust the count area for the chrome identification pixels for ACS identification (for stream reading mode). Method of Adjustment - a higher setting will increase the area of identification.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 0	

15. EXP-LED <iR C6800/iR C5800>

T-16-62

COPIER>ADJUST>EXP-LED（iR C6800/iR C5800）		
Subheading	**Contents**	**Level**
PR-EXP	Use it to set the pre-exposure LED current level for when potential control is off (feed speed at 1/1)	2
	Settings range: 31 to 58 at time of shipment/upon RAM initialization: 44	
EXP-ROT	Use it to set the length of time for pre-exposure at time of last rotation.	2
	Range of Settings 0: forced pre-exposure last rotation disabled 1: 30 sec 2: 1 min 3: 1 min 30 sec 4: 2 min at time of shipment/upon RAM initialization: 1	

16.4.1.2 COPIER List <iR C6870U/iR C5870U>

1. ADJ-XY <iR C6870U/iR C5870U>

T-16-63

<table>
<tr><td colspan="3" align="center">COPIER>ADJUST>ADJ-XY (iR C6870U/iR C5870U)</td></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr><td>ADJ-X</td><td>Use it to adjust the scanner image leading edge position (i.e., image read start position in sub scanning direction).

Method of adjustment
- if the non-image width is larger than indicated, decrease the setting.
- if an area outside the original is copied, increase the setting.
- an increase by '1' will move the image read start position toward the trailing edge by 0.1 mm (i.e., move the image read area toward the trailing edge).
- if you have initialized the RAM of the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.</td><td rowspan="2">1</td></tr>
<tr><td>Range of Adjustment 1 to 100
at time of shipment: factory adjustment value
upon RAM initialization: 20
Attention
If you have changed the setting, be sure to record the new setting on the service label.</td></tr>
<tr><td>ADJ-Y</td><td>Use it to adjust the read start cell position of the CCD (i.e., image read start position in main scanning direction).

Method of Adjustment
- if the non-image width is larger than indicated, decrease the setting.
- if an area outside the original is copied, increase the setting.
- an increase by '1' will move the image read start position toward the front by 0.1 mm (i.e., move the image read area toward the front).
- if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.</td><td rowspan="2">1</td></tr>
<tr><td>Range of Adjustment 47 to 131
at time of shipment: factory adjustment value
upon RAM initialization: 90
Attention
If you have changed the setting, be sure to record the new setting on the service label.</td></tr>
<tr><td>ADJ-S</td><td>Use it when entering the adjustment value for the scanner shading measurement position.

Method of Adjustment
- a decrease by '1' will move the shading measurement position toward the leading edge by 0.1 mm.
- if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.</td><td rowspan="2">1</td></tr>
<tr><td>Range of Adjustment 30 to 50
at time of shipment: factory adjustment value
upon RAM initialization: 50
Attention
If you have changed the setting, be sure to record the new setting on the service label.</td></tr>
<tr><td>ADJ-Y-DF</td><td>Use it to adjust the main scanning points for DF SRAM reading mode.

Method of Adjustment
- an increase by '1' will move the image read start position to the front by 0.1 mm.
- if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.</td><td rowspan="2">1</td></tr>
<tr><td>Range of Adjustment 21 to 106
at time of shipment: factory adjustment value
upon RAM initialization: 53
Attention
If you have changed the setting, be sure to record the new setting on the service label.</td></tr>
</table>

COPIER>ADJUST>ADJ-XY（iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
STRD-POS	Use it to adjust the CCD read position for DF stream reading mode. Method of Adjustment - an increase by '1' will move the image read position to the left by 1 mm. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment 1 to 200 at time of shipment: factory adjustment value upon RAM initialization: 110 Attention If you have changed the setting, be sure to record the new setting on the service label.	

2. CCD <iR C6870U/iR C5870U>

T-16-64

COPIER>ADJUST>CCD（iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
W-PLT-X/Y/Z	Use it when entering the white label data indicated on the standard white plate. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label. - if you have replaced the copyboard glass, enter the value indicated on the copyboard glass. (See the figure below)	1
	Range of Adjustment: 1 to 9999 at time of shipment: factory measurement value upon RAM initialization: W-PLT-X=8271: W-PLT-Y=8735: W-PLT-Z=9418 Attention If you have changed the setting, be sure to record the new setting on the service label.	
CCDU-RG	Use it to correct color displacement in sub scanning direction between RG associated with the CCD unit. Method of Adjustment - if you have initialized the RAM on the reader controller or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
CCDU-GB	Use it to correct color displacement in sub scanning direction between GB associated with the CCD unit. Method of Adjustment - if you have initialized the RAM on the reader controller or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0	

COPIER>ADJUST>CCD（iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
FCCDU-RG	Use it to correct color displacement in sub scanning direction between R and G associated with the CCD unit at time of shipment. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
FCCDU-GB	Use it to correct color displacement in sub scanning direction between GB associated with the CCD unit at time of shipment. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -9 to 9 at time of shipment: factory measurement value upon RAM initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50-RG	Use it to indicate the degree of offset (color displacement; RG) for book mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the rear controller or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50-GB	Use it to indicate the degree of offset (color displacement; GB) for book mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
100-RG	Use it to indicate the degree of offset (color displacement; RG) for book mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>CCD（iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
100-GB	Use it to indicate the degree of offset (color displacement; GB) for book mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50DF-RG	Use it to indicate the degree of offset (color displacement RG) for ADF mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
50DF-GB	Use it to indicate the degree of offset (color displacement; GB) for ADF mode at 50% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
100DF-RG	Use it to indicate the degree of offset (color displacement; RG) for ADF mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	
100DF-GB	Use it to indicate the degree of offset (color displacement; GB) for ADF mode at 100% reading. Method of Adjustment - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -256 to 256 at time of shipment: factory measurement value upon initialization: 0 Attention If you have changed the setting, be sure to record the new setting on the service label.	

COPIER>ADJUST>CCD (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DFTAR-R	Use it when entering the shading target value (red) for use when the DF is used (i.e., normal original read position). Method of Adjustment - COPIER>FUNCTION>CC>WLVL1/DF-WLVL2 if the image has a fault when the foregoing service mode item has been executed (e.g., as caused by soiling of the chart), enter the factory measurement using this mode item. - if you have initialize the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1159 Attention If you have changed the setting, be sure to record the new setting on the service label.	
DFTAR-G	Use it when entering the shading target (green) for the DF (normal original reading position). Method of Adjustment - COPIER>FUNCTION>CD>DF-WLVL1/DF-WLVL2 if the image starts to develop a fault after executing the foregoing service mode item (e.g., as caused by soiling of the chart), enter the factory measurement using this mode. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1189 Attention If you have changed the setting, be sure to record the new setting on the service label.	
DFTAR-B	Use it to enter the shading target value (blue) for the DF (normal original read position). Method of Adjustment - COPIER>FUNCTION>CCD>DF-WLVL1/DF-WLVL2 if the image starts to develop a fault after executing the foregoing service mode item, enter the factory measurement using this mode item. - if you have initialized the RAM on the reader controller PCB or replaced the reader controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 1 to 2047 at time of shipment: factory measurement value upon RAM initialization: 1209 Attention If you have changed the setting, be sure to record the new setting on the service label.	

value of W-PLATE-X
value of W-PLATE-Y
value of W-PLATE-Z

F-16-20

3. LASER <iR C6870U/iR C5870U>

T-16-65

COPIER>ADJUST>LASER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PVE-OFST	Use it to adjust the degree of offset (point of laser illumination) from the center of the laser beam.	1
	Settings range: -600 to 600 at time of shipment: factory adjustment value upon RAM initialization: 0	
POWER	Use it to adjust the laser output (max). - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 0 to 255 at time of shipment: factory measurement value upon RAM initialization: 112	
LPWR-YMC	Use it to set the laser power for when potential control is off (Y/M/C). Method of Adjustment - set the laser power for Y/M/C with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory measurement value upon RAM initialization: 112	
LPWR-3	Use it to set the laser power for when potential control is off (feed speed at 1/3). Method of Adjustment - set the laser power (at feed speed 1/3) with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 37	
LPWR-2	Use it to set the laser power for when potential control is off (at feed speed 1/3). Method of Adjustment - set the laser power (at feed speed 1/3) with potential control off.	2
	Settings range: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 74	

4. IMG-REG <iR C6870U/iR C5870U>

T-16-66

COPIER>ADJUST>IMG-REG (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
REG-V-Y/K	Use it to make rough adjustment of the write start position in sub scanning direction for Y/K. Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PC or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel) at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG2-V-Y/K	Use it to make rough adjustment of the write start position in sub scanning direction for Y/K (2nd side in 2-sheet placement). Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel) at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG-V-M	Use it to make rough adjustment of the write start position in main scanning direction for M Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	
REG2-V-M	Use it to make rough adjustment of the write start position in sub scanning direction for M (2nd side in 2-sheet placement). Method of Adjustment - a higher setting will move the pattern toward the trailing edge. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller, enter the value indicated on the service label.	1
	Range of Adjustment: -10 to 10 (unit: pixel at time of shipment: factory measurement value upon RAM initialization: 0 Reference This item is for use at the factory only, and must NOT be used in the field.	

5. DENS <iR C6870U/iR C5870U>

T-16-67

COPIER>ADJUST>DENS (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SGNL-Y/M/C	Use it to enter the toner density initial value (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 200 to 800 at time of shipment/upon RAM initialization: 512	
REF-Y/M/C	Use it to enter the toner density reference signal (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 462 to 562 at time of shipment/upon RAM initialization: 512	
PTOFST-Y/M/C	Use it to enter the correction value of the Y/M/C laser output for ATR control. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 48 to 48 at time of shipment/upon RAM initialization: 0	
P-SGNL-Y/M/C	Use it to adjust the density of toner on the intermediate transfer belt for INIT execution (Y/M/C). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Settings range: 200 to 800 at time of shipment/upon RAM initialization: 500	
HLMT-PTY/M/C	Use it to set an upper limit to patch target density correction (Y/M/C).	2
	range of adjustment: -20 to 20 (unit: 0.1%) at time of shipment/upon RAM initialization: 0 If possible, do not use it as long as machine operation is normal.	
LLMT-PTY/M/C	Use it to set a lower limit to patch target density correction (Y/M/C).	2
	range of adjustment: -20 to 20 (unit: 0.1%) at time of shipment/upon RAM initialization: 0 If possible, do not use it as long as machine operation is normal.	
DMAX-Y/M/C	Use it to set an offset value for the Y/M/C density control target value. Method of Adjustment Set an offset value for the Y density control target value while in 2D-MAX control.	2
	range of settings: -8 to 8 at time of shipment/upon RAM initialization: 0	
P-TG-Y/M/C	Use it to set an offset value for the ATR control target value (Y/M/C). Method of Adjustment Set an offset value for the target value of the Y toner while in ATR control.	2
	range of settings: -108 to 108 at time of shipment/upon RAM initialization: 0	

6. BLANK <iR C6870U/iR C5870U>

T-16-68

COPIER>ADJUST>BLANK (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
BLANK-T	Use it when entering the adjustment value for the non-image width (leading edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +94	
BLANK-L	Use it to enter the adjustment value for the non-image width (left edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +59	
BLANK-R	Use it to enter the adjustment value for the non-image width (right edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +59	
BLANK-B	Use it to enter the adjustment value for the non-image width (trailing edge). Method of Adjustment - if you have initialized the RAM on the main controller PCB or replaced the SRAM PCB, enter the value indicated on the service label.	1
	Range of Adjustment: 0 to 1000 at time of shipment factory measurement value upon RAM initialization: +47	

7. V-CONT <iR C6870U/iR C5870U>

T-16-69

COPIER>ADJUST>V-CONT (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
EPOTOEST	Set it to adjust the potential offset value.	1
	Range of Adjustment-300 to 300 (unit: 0.1 V) at time of shipment/upon RAM initialization: 0	
VCONT-Y/M/C/K	Use it to adjust the target contrast potential (Y/M/C/K). Method of Adjustment - a higher setting will make the image darker.	2
	Range of Adjustment: Y/M/C: -50 to +50(unit: 10 V) K: -5 to +5 at time of shipment/upon RAM initialization: 0 Attention If possible, do not use it as long as machine operation is normal.	

COPIER>ADJUST>V-CONT (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
VBACK-Y/M/C/K	Use it to adjust the fogging potential (Y/M/C/K). Method of Adjustment - a higher setting will serve to reduce following.	2
	Range of Adjustment: Y/M/C: -30 to +30 (unit: 5V) K: -5 to +5 at time of shipment/upon RAM initialization: 0 Attention If possible, do not use it as long as machine operation is normal.	

8. PASCAL <iR C6870U/iR C5870U>

T-16-70

COPIER>ADJUST>PASCAL (iR C6870U/iR C5870U)		
Subhead	**Contents**	**Level**
OFST-P-Y/M/C/K	Use it to apply offset adjustment on the test print reading signal (Y) for PASCAL control at time of auto gradation correction (full). Method of Adjustment - a higher setting will make the image darker after auto gradation correction (full).	1
	Range of Adjustment: -128 to +128 at time of shipment/upon RAM initialization: 0	

9. COLOR <iR C6870U/iR C5870U>

T-16-71

COPIER>ADJUST>COLOR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ADJ-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K; for the user). Method of Adjustment - a higher setting will make the image darker. - a lower setting will make the image lighter.	1
	Range of Adjustment: -8 to +8 at time of shipment/upon RAM initialization: 0	
OFST-Y/M/C/K	Use it to adjust the color balance and the density of the light area (Y/M/C/K). Method of Adjustment - a lower setting will reduce fogging.	1
	Range of Adjustment: -32 to +32 at time of shipment/upon RAM initialization: 0	
LD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of low density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do unit use it as long as machine operation is normal.	
MD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of medium density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do not use it as long as machine operation is normal.	
HD-OFS-Y/M/C/K	Use it to adjust the color balance (Y/M/C/K) of high density areas.	2
	range of adjustment: -8 to +8 (at time of shipment/upon RAM initialization: 0) - if possible, do not use it as long as machine operation is normal.	

10. HV-PRI <iR C6870U/iR C5870U>

T-16-72

COPIER>ADJUST>HV-PRI (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PRIMARY	Use it to adjust the primary charging current.	1
	Range of Adjustment: 0 to 1400V (unit: yA) at time of shipment: factory adjustment value upon RAM initialization: 1099	
GRID	Use it to adjust the primary charging assembly grid bias.	1
	Settings range: 0 to 900 (unit: V) at time of shipment: factory adjustment value upon RAM initialization: 752	
GRID-2	Use it to adjust the gain of the primary charging current measurement value. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have recycled the high-voltage PCB, enter the value indicated on the label attached to the PCB.	2
	Range of Adjustment: 0 to 900 at time of shipment: factory adjustment value upon RAM initialization: 498 Reference - This item is for use at the factory, and must NOT be used in the field.	
GRID-3	Use it to adjust the offset for the primary charging current measurement value. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have recycled the high-voltage PCB, enter the value indicated on the label attached to the PCB.	2
	Range of Adjustment: 0 to 900 at time of shipment: factory adjustment value upon RAM initialization: 498 Reference - This item is for use at the factory, and must NOT be used in the field.	
HVRATE-3	Use it to adjust the parameter settings for primary charging bias/laser power (at feed speed 1/3). Method of Adjustment - adjust the parameter setting for the primary charging bias/laser power for when 1/3 feed speed is used.	2
	Range of Adjustment: 0 to 100 (in increments of 1) at time of shipment/upon RAM initialization: 33	
HVRATE-2	Use it to adjust the parameter setting for primary charging bias/laser power (at feed speed 2/3). Method of Adjustment - adjust the parameter setting for the primary charging bias/laser power for when 2/3 feed speed is in use.	2
	Range of Adjustment: 0 to 100 (in increments of 1) at time of shipment/upon RAM initialization: 33	

11. HV-TR <iR C6870U/iR C5870U>

T-16-73

COPIER>ADJUST>HV-TR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PRE-TR	Use it to adjust the current for the pre-transfer charging assembly.	1
	Range of Adjustment: -200 to 200 (unit: 5.0 yA) at time of shipment: factory adjustment value upon RAM initialization: 0	
1TR-GAIN	Use it to adjust the gain for the primary transfer current measurement. Method of Adjustment - if you have initialized the RAM of the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.	1
	Range of Adjustment: 0 to 1000 at time of shipment: factory adjustment value /upon RAM initialization: 492 Reference This item is for use at the factory only, and must NOT be used in the field.	
1TR-OFST	Use it to adjust the offset value of the primary transfer current measurement. Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.	1
	Range of Adjustment: -1000 to 0 at time of shipment: factory adjustment value upon RAM initialization: -442 Reference This item is for use at the factory only, and must NOT be used in the field.	
1TR-CGAI	Use it to correct the constant current for the primary transfer high-voltage PCB. (slope) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.	1
	Range of Adjustment: 0 to 200 at time of shipment: factory measurement /upon RAM initialization: 118	
1TR-COFS	Use it to correct the constant current for the primary transfer high-voltage PCB. (intercept) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached to the PCB.	1
	Range of Adjustment: -200 to 0 (unit: 0.1 yA) at time of shipment: factory measurement /upon RAM initialization: -102	
1TR-GAI2	Use it to correct the constant voltage output for the transfer high-voltage PCB. 2 (slope) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label.	1
	Range of Adjustment: 0 to 1000 at time of shipment: factory adjustment value upon RAM initialization: 492	

COPIER>ADJUST>HV-TR （iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
1TR-OFS2	Use it to correct the constant voltage output for the primary transfer high-voltage PCB 2. (intercept) Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you have replaced the high-voltage PCB, enter the value indicated on the label attached on the PCB.	1
	Range of Adjustment: 1000 to 0 (unit: V) at time of shipment: factory adjustment value upon RAM initialization: -442	
2TR-TGT1 to 8	Use it to set the offset value in relation to the secondary transfer ATVC target current level. Method of Adjustment - the secondary transfer ATVC target current level will be offset in relation to the setting herein when the operation mode of the machine matches the setting made in the following: TR-ENV, TR-PAPER, TR-CLR, TR-DUP.	2
	Range of Adjustment: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0 Reference The following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
2TR-SHR1 to 8	Use it to set the offset value for the paper voltage for secondary ATVC. Method of Adjustment - when the setting under TR-ENV, TR-PAPER, TR-CLR, and TR-DUP match the machine operation mode, the offset value set using this item will be applied to the paper voltage for secondary transfer ATVC.	2
	Range of Adjustment: -10 to 10(unit: 100 V) at time of shipment/upon RAM initialization: 0 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
TR-PPR1 to 8	Use it to enter an offset value against the secondary transfer ATVC setting if necessary in response to a complaint from the user.	2
	selection of paper type for cassette 1 Settings: 1, plain paper; 2, recycled paper; 3, colored paper; 4, punched paper; 5, heavy paper 1; 6, heavy paper 2; 7, heavy paper 3; 8, transparency; 9, tracing paper; 10, postcard; 11, 2-pane postcard; 12, 4-pane postcard; 13, label sheet at time of shipment/upon RAM initialization: 1 Reference: The following 6 items make up a single set: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP	
TR-ENV1 to 8	Use it to select the environment for the secondary ATVC setting.	2
	Settings range 1: low humidity; 2: normal humidity; 3: high humidity at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	
TR-CLR1 to 8	Use it to set the color mode for the secondary ATVC setting.	2
	1: Bk; 2: C at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	

COPIER>ADJUST>HV-TR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TR-DUP1 to 8	Use it to select the signal/double-side pickup mode for the secondary ATVC setting.	
	Settings range 1: single-sided; 2: auto double-sided; 3: manual double-sided at time of shipment/upon RAM initialization: 1 Reference - the following 6 items make up a single set of items: 2TR-TGT, 2TR-SHR, TR-PAPER, TR-ENV, TR-CLR, TR-DUP.	2
1TR-TGY/M/C	Use it to adjust the primary transfer ATVC target current offset value (Y/M/C).	
	Range of Adjustment: -10 to 10(unit: 0.5 yA) at time of shipment/upon RAM initialization: 0	2
1TR-TGK1	Use it to adjust the primary transfer ATVC target current offset value (Bk, mono).	
	Range of Adjustment-10 to 10 (unit: 0.5 yA) at time of shipment: factory adjustment value upon RAM initialization: 0	2
1TR-TGK4	Use it to adjust the primary transfer ATVC target current offset value (Bk, 4C).	
	Range of Adjustment-10 to 10 (unit: 0.5 yA) at time of shipment: factory adjustment value upon RAM initialization: 0	2
1EL	Use it to set the primary transfer static eliminator bias level.	
	Settings range: -4000 to 0 (unit: V) at time of shipment/upon RAM initialization: 0	2
2EL	Use it to set the primary transfer static eliminator bias. Range of Adjustment - check the bias level using DISPLAY>HV-STS>2EL; then, set the appropriate bias level.	
	Settings range: -4000 to 0 (unit: V) at time of shipment/upon RAM initialization: 0	2
1TR-STS1	Use it to set the offset value (normal speed) for the primary sheet-to-sheet target current.)	
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	2
1TR-STS2	Use it to set the offset value (1/3 speed) for the primary sheet-to-sheet target current.	
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	2
1TR-STS3	Use it to set the offset value (2/3 speed) for the primary transfer sheet-to-sheet target value.	
	Settings range: -10 to 10 (unit: 2 yA) at time of shipment/upon RAM initialization: 0	2
PRE-TR-Y/M/C	Use it to adjust the current (Y/M/C) for the pre-transfer charging assembly.	
	Settings range: 200 to 200 (in increments of 1) at time of shipment/upon RAM initialization; 0	2
POSTSW-Y/M/C/K	turn on or off the switch (Y/M/C/K) for the Y pre-transfer charging assembly to enable or disable the color Y for the pre-transfer charging assembly.	
	Settings 0: disable; 1: enable at time of shipment/upon RAM initialization: Y/M:0,C/K:1	2

12. FEED-ADJ <iR C6870U/iR C5870U>

T-16-74

COPIER>ADJUST>FEED-ADJ (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
REGIST	Use it to adjust the timing at which the registration roller clutch goes on. Method of Adjustment - an increase of '1' will move the image in the direction of the leading edge of the sheet by 0.1 mm. - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label.	1
	Range of Adjustment: -50 to 50- (unit: 0.1 m) at time of shipment: factory adjustment value/RAM initialization: 0	
ADJ-REFE	Use it to adjust the horizontal adjustment for duplexing (for factory use). Method of Adjustment - an increase of '1' will move the image on the 2nd side to move toward the rear by 0.1 mm.	1
	Range of Adjustment: -100 to 100 at time of shipment: factory adjustment value upon RAM initialization: 0	
BLK-SML2	Use it to adjust the left/right margin on the 2nd side for small size. - an increase of '1' will make the left-right margin on the 2nd side longer by 0.1 mm.	1
	Range of Adjustment: -50 to +50 (unit: 0.1 mm) at time of shipment: factory adjustment value upon RAM initialization: -15	
RVS-FD1	Use it to adjust the print of reversal.	2
	Range of Adjustment: -10 to +10 (unit: 1 mm) at time of shipment: factory adjustment value upon RAM initialization: 0	
RVS-DUP	Use it to adjust the point of duplexing reversal.	2
	Range of Adjustment: -10 to 10 at time of shipment: factory adjustment value upon RAM initialization: 0	
LOOP-T2	Use it to adjust the arching at the registration roller for heavy paper. Particulars of Adjustment A lower setting (arching at the registration roller) will serve to limit noise; however, too low a setting can affect the margin or can cause skew movement of paper.	2
	Range of Adjustment: -10 to +10 (mm) at time of shipment/upon RAM initialization: 0	

13. CST-ADJ

T-16-75

COPIER>ADJUST>CST-ADJ (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MF-A4R	Use it to enter the paper width basic value for the manual feed tray (A4R). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.	1
	Range of Adjustment: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 141	
MF-A6R	Use it to enter the paper width basic value for the manual feed tray (A6R). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.	1
	Range of Adjustment: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 193	
MF-A4	Use it to enter the paper width basic value for the manual feed tray (A4). Method of Adjustment - if you have initialized the RAM on the DC controller PCB or replaced the DC controller PCB, enter the value indicated on the service label. - if you are entering a value after replacing the paper width detecting VR or newly, be sure to execute the following service mode item: FUNCTION>CST.	1
	Range of Adjustment: 0 to 255 at time of shipment: factory adjustment value upon RAM initialization: 42	

14. MISC

T-16-76

COPIER>ADJUST>MISC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SEG-ADJ	Use it to adjust the separation between text and photo in text/photo/map modes. Method of Adjustment - if you want the identification to be more on the photo side, increase the setting. - if you want the identification to be more on the text side, decrease the setting.	1
	Range of Adjustment: -4 to 4 at time of shipment/upon initialization of RAM: 0	
K-ADJ	Use it to adjust the black recognition level for black character processing. Method of adjustment - If you want the machine to identify a character as a black character, increase the setting.	1
	Range of Adjustment: -3 to 3 at time of shipment/upon initialization of RAM: 0	
ATM	Use it to set the environment in respect of atmospheric pressure.	1
	Settings 0 to 2 at time of shipment/upon RAM initialization: 0	
ACS-ADJ	Use it to adjust the level of color identification for ACS mode. Method of Adjustment - if you want the identification to be on the black-and-white side, increase the setting. - if you want the identification to be on the color side, decrease the setting.	1
	Range of Adjustment: -3 to 3 at time of shipment/upon RAM initialization: 0	

COPIER>ADJUST>MISC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
WT-ER-LV	Use it to set a threshold for issuing an alert when the waste toner box is becoming full. Use it to set a threshold for detection of a waste toner box error.	1
	Settings (prints) 0: 1 prints 1: 20,000 prints 2: 40,000 prints 3: 60,000 prints estimates at a color ratio of 10% and image duty of 5%. varies depending on the color ratio/image duty. at time of shipment: factory adjustment value upon RAM initialization: 2	
WT-FL-LM	Use it to set a threshold for issuing an alert when the waste toner box is becoming full. Use it to set a threshold for detection of a waste toner box error.	1
	Settings (prints) 0: 80,000 prints 1: 140,000 prints 2: 210,000 prints 3: 320,000 prints 4: 460,000 prints estimates at a color ratio of 10% and image duty of 5%. varies depending on the color ratio/image duty. at time of shipment: factory adjustment value upon RAM initialization: 2	
ACS-EN	Use it to adjust the ACS identification area.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 1	
ACS-CNT	Use it to set the ACS identification chrome count area.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 0	
ACS-EN2	Use it to adjust the ACS identification area (for stream reading). Method of Adjustment - a higher setting will increase the area of identification.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 1	
ACS-CNT2	Use it to adjust the count area for the chrome identification pixels for ACS identification (for stream reading mode). Method of Adjustment - a higher setting will increase the area of identification.	2
	Settings range -2 to +2 at time of shipment/upon RAM initialization: 0	

15. EXP-LED <iR C6870U/iR C5870U>

T-16-77

<table>
<tr><th colspan="4">COPIER>ADJUST>EXP-LED (iR C6870U/iR C5870U)</th></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr><td>PR-EXP</td><td>Use it to set the pre-exposure LED current level for when potential control is off (feed speed at 1/1)</td><td rowspan="2">2</td></tr>
<tr><td>Settings range: 31 to 58
at time of shipment/upon RAM initialization: 44</td></tr>
<tr><td>EXP-ROT</td><td>Use it to set the length of time for pre-exposure at time of last rotation.</td><td rowspan="2">2</td></tr>
<tr><td>Range of Settings
0: forced pre-exposure last rotation disabled
1: 30 sec
2: 1 min
3: 1 min 30 sec
4: 2 min
at time of shipment/upon RAM initialization: 1</td></tr>
</table>

16.4.2 FEEDER

16.4.2.1 FEEDER List <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-78

<table>
<tr><th colspan="3">FEEDER>ADJSUT</th></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr><td>DOCST</td><td>Adjusting the Original Image Leading Edge
Method of adjustment
A higher setting will delay the image leading edge timing.</td><td rowspan="2">1</td></tr>
<tr><td>Range of adjustment
-50 to 50 (unit: 0.1mm)
[at time of shipment/after RAM initialization: 0]</td></tr>
<tr><td>LA-SPEED</td><td>Adjusting the document feeding speed at the time of stream reading from the feeder
The speed becomes faster (image is reduced) by increasing setting value.</td><td rowspan="2">1</td></tr>
<tr><td>Range of adjustment: -30 to 30 (unit: 0.1%)
[at time of shipment: factory adjustment value/after RAM initialization: 0]</td></tr>
</table>

16.4.3 SORTER

16.4.3.1 SORTER List <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-79

<table>
<tr><th colspan="3">SORTER>ADJUDT</th></tr>
<tr><th>Subheading</th><th>Contents</th><th>Level</th></tr>
<tr><td>PNCH-HLE</td><td>Use it to adjust the distance from the paper edge to the punch hole.</td><td rowspan="2">1</td></tr>
<tr><td>Range of adjustment:
-4to 2
at time of shipment/upon RAM initialization: 0</td></tr>
</table>

16.5 FUNCTION (Operation/Inspection Mode)

16.5.1 COPIER

16.5.1.1 COPIER List <iR C6800/C5800>
1. INSTALL <iR C6800/C5800>

T-16-80

COPIER>FUNCTION>INSTALL (iR C6800/C5800)		
Subheading	**Contents**	**Level**
TONER-S	Use it to stir the toner inside the developing assembly at time of installation. Method of Operation 1) Select the item to highlight, and press the OK key. - the machine starts operation. - the machine begins a countdown. 2) See that 'OK' has appeared, indicating that the operation is over.	1
STIR-Y/M/C	Use it to stir the toner inside the toner cartridge (Y/M/C). Select the item to highlight, and press the OK key to start operation.	1
INIT-Y/M/C	Use it to cause the machine to read the initial value of the toner density signal (SGNL, REF) of Y/M/C. Select the item to highlight, and press the OK key to start the operation.	1
INIT-3	Use it to cause the machine to read the initial value of the toner density signals (SGNL, REF) of 3 colors (YMC). Select the item to highlight, and press the OK key to start the operation.	1
SPLY-H-Y/M/C	Use to supply toner from the toner cartridge (Y/M/C) to the toner buffer assembly for the first time. Select the item to highlight, and press the OK key to start operation.	1
CARD	Use it to set up a card reader. 1 to 2001 (at time of shipment/upon RAM initialization: 0) Enter a number for the cards, and press the OK key. (As many as 1000 cards each given a number starting with the one you entered will be enabled for use.) At this time, the card control information (group ID and ID No.) is initialized.	1
KEY	Use it to set the control key function. 0: do not recognize control key function (as selected at time of shipment/upon RAM initialization) 1: recognize control key function 1) Select the following, and enter '1': COPIER>INSTALL>KEY. 2) Turn off and then on the main power switch (so that the control key function will be recognized).	1
INISET-Y/M/C	Use it to set up the Y/M/C color developing assemblies for the first time. The series of operations needed to initialize the Y/M/C color developing assembly will be performed at a time: Method of Operation 1) Select the item to highlight, and press the OK key. - the machine will start operation. - the machine will start a countdown. 2) See that 'OK' appears, indicating that the operation is over.	1
INISET-3	Use it to set up the 3 (YMC) developing assemblies. The series of operations needed to initialize the 3 color (YMC) developing assemblies will be performed at a time. 1) Select the item to highlight, and press the OK key. - the machine will start operation. - the machine will make a countdown. 2) See that 'OK' appears, indicting that the operation is over.	1
STIR-3	Use it to supply toner from the toner cartridge (HY/MC) to the toner buffer assembly.	1

COPIER>FUNCTION>INSTALL (iR C6800/C5800)		
Subheading	**Contents**	**Level**
SPLY-H-3	Use it to supply toner from the toner cartridge (HY/MC) to the toner buffer assembly. 1) Select the item to highlight, and press the OK key to start operation. - the machine will start operation. - the machine will start a countdown. 2) See that 'OK' appears, indicating that the operation is over.	1
AINR-OFF	Use it to enable or disable initial multiple rotation used for installation You can disable initial multiple rotation if you are concerned about the image formation sequence (i.e., forming a patch or executing Dmax/Dhalf), which can soil or wear out internal components during installation work). If the color toner set-up run (FUNCTION>INSTALL>INSET-3) ends fully normally, the setting herein will automatically be cancelled (to prevent faults that otherwise could occur if the function is not manually switched back); if the run failed to end, however, the initial multiple rotation function will remain disabled. Settings range 0: enable initial multiple rotation 1: disable initial multiple rotation (item under DC controller) at time of shipment: factory adjustment value upon RAM initialization: 0	1
E-RDS	Use it to select whether to use E-RDS. Selects whether to use E-RDS (Embedded-RDS) to send device counter/fault/consumable information to a sales company's server by SOAP protocol. Setting value 0: Do not use E-RDS. 1: Use E-RDS. [Factory setting / After RAM clear: 0]	1
RGW-PORT	Use it to specify a port number for the sales company's server used for E-RDS. Setting range 1 to 65535 [Factory setting / After RAM clear: 443]	1
COM-TEST	Use it to check a connection to the sales company's server used for E-RDS. Attempts to make a connection to the sales company's server used for E-RDS. Result: OK: Can be connected NG: Cannot be connected	1
COM-LOG	Use it to display the detail results of a communication test with the sales company's server used for E-RDS. Switches the screen to display information of a connection error with the sales company's server. Displays a date, time, error code, and error information for the error. Maximum number of logs: 30 Error information: 128 characters maximum (NULL is not included.)	1
RGW-ADR	Use it to specify a URL for the sales company's server used for E-RDS. [Factory setting / After RAM clear: https://a01.ugwdevice.net/ugw/agentif010]	1

2. CCD <iR C6800/iR C5800>

T-16-81

COPIER>FUNCTION>CCD (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DF-WLVL1/2	Use it to adjust the ADF white level. Method of Operation 1) Place the type of original most often used by the user on the copyboard glass, and perform the following service mode item: COPIER>FUNCTION>CCD>DF-WLVL1. (In response, the machine will read the white level for book mode, checking the transmission quality of the glass for book mode). 2) Place the type of original most often used by the user in the DF, and perform the following service mode item: COPIER>FUNCTION>CCD>DF-WLVL2. (In response, the machine will read the white level for DF mode (stream reading mode), checking the transmission quality of the reading glass by reading both sides of the original.) face reading: computes DFTAR-R/G/B back reading: computes DFTAR2-R/G/B Be sure to execute this item in combination with item 2.	1

3. LASER <iR C6800/iR C5800>

T-16-82

COPIER>FUNCTION>LASER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
POWER	Use it to turn on the laser for adjustment of the laser power. 1) Select the item to highlight. 2) Press the OK key. To stop, press the Stop key.	1

4. DPC <iR C6800/iR C5800>

T-16-83

COPIER>FUNCTION>DPC (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DPC	Use it to execute potential control. Select the item to highlight, and press the OK key to perform the operation. (The operation will stop automatically.).	1
OFST	Use it to adjust the offset value of the potential measurement circuit. Select the item to highlight, and press the OK key to start operation. (The operation will stop automatically.)	1

5. CST <iR C6800/iR C5800>

T-16-84

COPIER>FUNCTION>CST (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
MF-A4R,MF-A6R,MF-A4	Use it to register the paper width basic value for the manual feeder. A4R width: 210 mm, A6R width: 105 mm, A4 width: 297 mm To make fine adjustments after registering the basic value, use the following service mode item: COPIER>ADJUS'T>CST-ADJ>MF-A4, RMF-A6R, MF-A4. Method of Operation 1) Place A4R paper in the manual feeder, and adjust the side guide to the A4R width. 2) Using this service mode, select 'MF-A4R' to highlight, and press the OK key so that the value will be registered after auto adjustment. 3) Likewise, perform steps 1) and 2) above to register basic values for A6R and A4.	1

6. CLEANING <iR C6800/iR C5800>

T-16-85

COPIER>FUNCTION>CLEANING (iR C6800/iR C5800)
Subheading	**Contents**	**Level**
TBLT-CLN	Use it to clean the intermediate transfer belt. By removing foreign matter (e.g., fingerprints, oils, paper lint) from the intermediate transfer belt, a number of image faults may be prevented. Method of Operation Select the item to highlight, and press the OK key to start the operation. (The operation will stop automatically.) Cleaning continues for about 80 sec, and will stop automatically.	1
WIRE-CLN	Use it to cause cleaning of all charging wires at the same time 5 times continuously. Operation 1) Select the item, and press the OK key. - The notation changes to 'ACTIVE', and the machine starts wire cleaning. 2) Press the OK key once again to stop rotation.	1
WIRE-EX	Use it to clean the primary charging wire/pre-transfer charging wire (a single round trip). The primary charging wire/pre-transfer charging wire may be cleaned for a signal round trip. Normally, the wire is cleaned by 5 round trips (about 3 min); on the other hand, the single trip in this mode will take no more than about 40 sec.) Method of Operation WIRE-EX 1) Select the item, and press the OK key. - The notation changes to 'ACTIVE', and the machine starts wire cleaning. 2) Stop the OK key once again to stop the rotation.	1
BK-BNDEX	Use it to perform the black band sequence. - a sequence of operations will be performed to clean the intermediate transfer belt to prevent image faults (white spots) after filed servicing. The operation will take about 15 sec. Method of Operation 1) Select the item, and press the OK key. - The notation will change to 'ACTIVE', and the wire will be cleaned. 2) To end the operation, press the OK key once again.	2

7. FIXING <iR C6800/iR C5800>

T-16-86

COPIER>FUNCTION>FIXING (iR C6800/iR C5800)
Subheading	**Contents**	**Level**
NIP-CHK	Checking the Fixing Nip Width	
	Operation 1) Register 'plain paper' or 'recycled paper' as the type of paper to use in the manual feed tray (in user mode, common settings>paper type). 2) Place A4/LTR plain paper or recycled paper in the manual feed tray. 3) Select this mode, and press the OK key (so that the paper will be picked from the manual feed tray). 4) See that the paper stops temporarily between the fixing rollers and then is delivered in about 10 sec. 5) Check to see that the delivered paper shows a nip width that is within the standards. 6) If the nip width is not as indicated, adjust the following; 6-1) Loosen the screw on the side where the nip is smaller, and tighten the screw on the other side as much. 7) When done, generate a test print (COPIER>TEST>PG>TYPE 6; grid).	1

⚠

- Standards

   The difference between a and b must be 0.5 mm or less.
- Be sure to measure a and b at a point 15 to 20 mm from the edge of the paper.
- The arrow in the figure indicates the direction of paper movement.

⚠

NIP-CHK is a service mode item used to check the nip width of the fixing roller. The nip is adjusted to a high degree of accuracy before the machine is shipped out of the factory, and it cannot be adjusted in the field. Do not turn the 2 hex bolts [1] found on the delivery side of the fixing assembly. If you turned it by mistake, be sure to turn it back to its initial position.

F-16-21

8. PANEL <iR C6800/iR C5800>

T-16-87

COPIER>FUNCTION>PANEL（iR C6800/iR C5800）		
Subheading	**Contents**	**Level**
LCD-CHK	Check the LCD for missing dots. Method of Operation 1) Select the item, and press the OK key to start the operation. In response, the front of the touch panel goes on as follows: white, black, red, green, blue. 2) Press the Stop key to stop the operation. (If a printer model, press the Clear key.)	1
LED-CHK	Checking the LEDs on the control panel Method of Operation 1) Select the item, and press the OK key to start the operation. See that the LEDs go on in turn. 2) Press 'LED-OFF' to stop the operation.	1
LED-OFF	Use it to check the LCD for missing dots. Method of Operation 1) Select the item to stop the check under 'LED-CHK'.	1
KEY-CHK	Use it to check the key inputs. Method of Operation 1) Select 'KEY-CHK' so that the numbers/names of the input keys will be indicated. 2) Press any key to check; if normal, the touch panel will show its corresponding character. (See the table below.) 3) Select 'KEY-CHK' to end the operation.	1
TOUCHCHK	Use it to adjust the coordinates of the analog touch panel. Method of Operation - use it to match the points of press on the touch panel and the coordinates of the LCD. - perform this service mode if you have replaced the LCD. 1) Select 'TOUCH CHK' to highlight, and press the OK key. 2) Press the symbol '+' appearing on the touch panel in sequence (9 points) to end the adjustment.	1

- Numbers and Names of the Input Keys

T-16-88

Key	Indication on the screen
0 to 9, #, *	0 to 9, #, *
Reset	RESET
Stop	STOP
User mode	USER
Start	START
Power save	STAND BY
Clear	CLEAR
ID	ID
Help	?
Counter Check	BILL

9. PART-CHK <iR C6800/C5800>

T-16-89

COPIER>FUNCTION>PART-CHK (iR C6800/C5800)		
Subheading	**Contents**	**Level**
CL	Use it to select the clutch whose operation you want to check. (between 1 and 10; 4 through 10 are spares) Method of Operation 1) Select the item. 2) Enter the code of the clutch you want using the keypad. 1: color developing clutch 2: color toner supply clutch 3: black developing clutch 8: deck feed clutch 9: deck pickup clutch 4 to 7,10: spare 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1
CL-ON	Use it to start checking the clutch operation. Method of Operation 1) Select the item, and presses the OK key so that the clutch goes on and off as follows: ON for 0.5 sec>OFF for 10 sec>ON for 0.5 sec>OFF for 10 sec>ON for 0.5 sec>OFF	1
FAN	Use it to select the clutch whose operation you want to check. (between 1 and 10; 4 through 10 are spares) Method of Operation 1) Select the item. 2) Enter the code of the clutch you want to check using the keypad. 1: primary charging suction fan (FM1) 2: primary charging exhaust fan (FM2) 3: feed fan 3 (FM11), feed fan 4 (FM12) 4: feed fan 1 (FM3); feed fan 2 (FM4) 5: fixing heat exhaust fan (FM5) 6: delivery cooling fan 1 (FM6) 7: process unit cooling fan (FM7) 8: spare 9: power supply cooling fan (FM9) 10: delivery cooling fan 2 (FM10) 4 through 10: spare 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1

COPIER>FUNCTION>PART-CHK (iR C6800/C5800)		
Subheading	**Contents**	**Level**
FAN-ON	Use it to start the operation of the fan Method of Operation 1) Select the item, and press the OK key to start the following: in the case of FAN= 1,2,5,7,10 for 10 sec, ON at full speed>for 10 sec, ON at half-speed>standby Copier Heat Exhaust Fan, Delivery Cooling Fan, Manual Feed Cooling Fan in the case of FAN= 3,4,6,9 for 10 sec, ON at full speed>standby	1
MTR	Use it to select the clutch whose operation you want to check. between 1 and 32; the following are spares: 16, 24, 29, 30, 31, 32 Method of Operation 1) Select the item. 2) Enter the code of the clutch using the keypad. 1: polygon motor (M1) 2: drum/ITB motor (M2) 3: developing motor (M3) 4: fixing motor (M4) 5: developing rotary motor (M5) 6: manual feed pre-registration motor (M6) 7: spare 8: registration motor (M8) 9: external delivery motor (M9) 10: duplex reversal motor (M10) 11: duplex left motor (M11) 12: duplex middle motor (M12) 13: duplex right motor (M13) 14: right deck pull-off motor (M14) 15: vertical path motor (M15) 16: spare 17: right deck pickup motor (M17) 18: left deck pickup motor (M18) 19: cassette pickup motor (M19) 20: secondary transfer outside roller shift motor (M20) 21: ITB cleaner shift motor (M21) 22: outside heating roller shift motor (M22) 23: hopper stirring motor (M23) 24: spare 25: black goner supply motor (M25) 26: primary charging wire cleaning motor (M26) 27: pre-transfer charging wire cleaning motor (M27) 28: horizontal registration motor (M28) 35: deck main motor(M101) 36: shift motor 29 to 34: Reserve 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1
MTR-ON	Use it to start the operation of the motor. Method of Operation 1) Select the item, and press the OK key. 2) - in the case of MTR=1 through 4, 6, 8 through 15, 17 through 19, 23, 25 through 28, for 10 sec, ON>end - in the case of MTR=20 through 22, for 5 sec, ON>end - in the case of MTR=5, HP search start>end	1

COPIER>FUNCTION>PART-CHK (iR C6800/C5800)		
Subheading	**Contents**	**Level**
SL	Use it to select the solenoid whose operation you want to check. between 1 and 15 Method of Operation 1) Select the item. 2) Enter the code of the solenoid using the keypad. 1: manual feed pickup solenoid (SL1) 2: fixing web solenoid (SL2) 3: reversal shift solenoid (SL3) 4: left deck confluence solenoid (SL4) 5: delivery solenoid (SL5) 6: deck (right) pickup solenoid (SL6) 7: deck (left) pickup solenoid (SL7) 8: cassette 3 pickup solenoid (SL8) 9: cassette 4 pickup solenoid (SL9) 10: developing rotary fixing solenoid (SL10) 11: patch image read sensor shutter solenoid (SL1C) 12: ATR sensor shutter solenoid (SL2C) 14: deck pickup roller release solenoid(SL101) 15: deck open solenoid 13 : spare 3) Press the OK key. 4) Press 'SL-ON' to check the operation.	1
SL-ON	Use it to start the operation of the solenoid. Method of Operation 1) Select the item, and press the OK key so that the solenoid goes on and off as follows: for 0.5 sec, ON>for 0 sec, OFF>for 0.5 sec, ON>for 10 sec, OFF>for 0.5 sec, ON>OFF	1

10. CLEAR <iR C6800/iR C5800>

T-16-90

COPIER>FUNCTION>CLEAR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
ERR	Use it to clear an error code (E000, E001, E002, E003). Method of Operation 1) Select the item, and press the OK key. 2) Turn off and then on the main power.	1
DC-CON	Use this item to reset the RAM on the DC controller PCB. The RAM will not actually be reset until the main power switch has been turned off and then on. Method of Operation print out the service mode settings using the following service mode item: COPIER>FUNCTION>MISC-P>P-PRINT. 2) Select the item, and press the OK key. 3) Turn off and then on the main power switch. 4) As necessary, enter the settings that have been printed out using 'P-PRINT'.	1
R-CON	Use it to reset the RAM on the reader controller PCB. Method of Operation The RAM will not be cleared until the main power switch has been turned off and then on again. 2) Select the item, and press the OK key. 3) Turn off and then on the main power. 4) As necessary, enter the settings printed out using 'PRINT'.	1
JAM-HIST	Use it to reset the jam history. The jam history will not be reset until the OK key is pressed. Method of Operation 1) Select the time, and press the OK key.	1

COPIER>FUNCTION>CLEAR (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
ERR-HIST	Use it to reset the error history. The error history will not be cleared until the OK key is pressed. Method of Operation 1) Select the item, and press the OK key.	1
PWD-CLR	Use it to initialize the password of the system administrator. The password will not be initialized until the OK key is pressed. Method of Operation 1)Select the item, and press the OK key.	1
ADRS-BK	Use it to reset the address book data. The address book data will not be reset until the main power switch has been turned off and then on. 1) Select the item, and press the OK key. 2) Turn off and then on the main power switch.	1
CNT-MCON	Use it to reset the counter readings controlled by the main controller PCB (main) for service work. (For the counters whose readings will be reset, see the list under COUNTER mode.) The counter readings will not be reset until the OK key is pressed.	1
CNT-DCON	Use it to reset the readings of the following counters controlled by the DC controller PCB: - COPIER> COUNTER> DRBL- 2> SORT - COPIER> COUNTER> DRBL- 2> FIN-STPR - COPIER> COUNTER> DRBL- 2> FIN-PDDL - COPIER> COUNTER> DRBL- 2> SADDLE - COPIER> COUNTER> DRBL- 2> SDL-STPL The counter readings will not be initialized until the OK key is pressed. 1) Select the item, and press the OK key.	1
OPTION	Use it to reset the service mode settings (OPTION) back to their default settings (as when initializing the RAM). The settings will not be reset until the OK key is pressed. The data that will be reset is data on the main controller, DC controller, and reader controller. Method of Operation 1) Print out the settings using the following service mode item: COPIER>FUNCTION>MISC-P>P-RING. 2) Select the item, and press the OK key.	1
MMI	Use it to reset the following settings in user mode. - backup data (user settings) used to back up the copier control panel - backup data (user settings) on common settings - backup data (user settings) of various type expect on fax The settings will not be reset until the main power switch has been turned off and then on. Method of Operation 1) Select the item, and press the OK key. 2) Turn off and then on the main power.	1
MN-CON	Use it to initialize the RAM on the main controller board SRAM board. - The contents of the RAM will not be initialized until the main power switch has been turned off and then on. - Performing this item will initialize all data on the SRAM board. In other words, the file management information for the hard disk will also be initialized, making reading of images from the hard disk impossible. If you need to perform this mode, be sure that the user is well aware of this fact. Method of Operation 1) Print out the service mode settings using the following service mode settings: COPIER>FUNCTION>MISC-P>P-PRINT. 2) Select the item, and press the OK key. In response, the machine will automatically start up and prompt you to turn off and then on the main power switch. 3) Turn off and then on the main power switch.	1

COPIER>FUNCTION>CLEAR （iR C6800/iR C5800）		
Subheading	**Contents**	**Level**
CARD	Use it to reset card ID-related data (group). The card ID-related data will not be cleared until the main power switch has been turned off and then on. Method of Operation 1) Select the item, and press the OK. 2) Turn off and then on the main power switch.	1
W-TN-CLR	Use it to reset a waste toner box full alert/error. If you have replaced the waste toner box, execute this item to reset the alert/error and initialize the counter used for the waste toner box detection mechanism.	1
LANG-ERR	Use it to clear language-related errors. Recovers from an error and makes the language setting back to the default setting when a language-related error occurs after the language is changed to a different language.	1
SND-STUP	Use it to initialize the setting for the transmission reading. (Execute this item when you switch language settings.)	2
CA-KEY	Use it to delete all the CA certificates and key pairs at once. Deletes all the CA certificates and key pairs at once when a serviceman replaces or discards a device. A CA certificate is used for the MEAP application that uses E-RDS and SSL client. A key pair is used for IPP, RUI, and MEAP SSL function. ⚠️ - If this operation is not performed when a device is replaced or discarded, the CA certificate and key pair additionally registered by a user are left in the HDD, which is a problem in terms of security. A serviceman should therefore perform this operation. - Be sure to make sure that "OK" is displayed after performing this operation. If "NG" is displayed, the data may not be correctly deleted, and it is necessary to surely delete the CA certificate and key pair by initializing the HDD, etc. - This operation should not be carelessly executed because it deletes the SSL server certificate and key pair additionally registered by a user. When the data is deleted by mistake, a user needs to reinstall the SSL server certificate. When no data is additionally installed by a user, this operation places the machine in the same status as factory setting and gives no affect to the user. Operation procedure 1) Select this item and press the OK key. 2) When the data is normally cleared, "OK" is displayed. 3) Turn the main power OFF/ON. **Reference:** Turning the power OFF/ON extracts the CA certificate and key pair, registered at factory setting, from an archived file (/BOOTDEV/KCMNG) so that they can be used for the above functions (E-RDS/SSL functions).	2

11. MISC-R <iR C6800/C5800>

T-16-91

COPIER>FUNCTION>MISC-R （iR C6800/C5800）		
Subheading	**Contents**	**Level**
SCANLAMP	Use it to check the activation of the scanning lamp. Method of Operation 1) Select the item. 2) Press the OK key so that the scanning lamp will go on and remain on for 3 sec.	1

12. MISC-P <iR C6800/iR C5800>

T-16-92

COPIER>FUNCTION>MISC-P (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
P-PRINT	Use it to print out the service mode settings. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 15 sec.	1
KEY-HIST	Use it to print out the control panel key input history. 1) Select the item. 2) Press the item to print out the history.	1
HIST-PRT	Use it to print out the jam history and the error history. 1) Select the item. 2) Press the OK key to print out the histories.	1
TRS-DATA	Use it to move data received in memory to a data Box. 1) Select the item. 2) Press the OK key to move the data.	1
USER-PRT	Use it to print out a list of user mode settings. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 3 sec.	1
LBL-PRNT	Use it to print out the service label. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 15 sec.	1
PRE-EXP	Use it to check the activation of the pre-exposure lamp (LED). Operation 1)Press the item to highlight. 2)Press the OK key so that the individual operations are performed for several seconds and the execution stops automatically (full activation). 3)Press the OK key to generate a printout. Reference If a fault is noted on the photosensitive drum as the result of activating the pre-exposure lamp, rotate the drum.	1
DEV-DR-Y/M/C	Use it to move the developing rotary to the point of toner cartridge (Y/M/C) replacement. Method of Operation 1) Select the item. 2) Press the OK key so that the developing rotary will move to the point of toner cartridge (Y) replacement. The machine is set in such a way that the user will not be able to remove a toner cartridge if it still contains toner. The cartridge may be removed by moving the developing rotary to the point of access only when the cartridge has run out of toner. The use of this service mode item enables the user to move the developing rotary to the point of access so that the Y toner cartridge may be removed regardless of the presence/absence of toner inside it.	1
D-PRINT	D-PRINT Use it to generate printouts in service mode (DISPLAY). This mode is applicable to items indicated under DISPLAY for output of printouts (excluding those generated by P-PRINT/LBL-PRINT/HIST-PRINT and ALARM).	1

COPIER>FUNCTION>MISC-P (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
1ATVC-EX	Use it to force primary ATVC. If you have replaced the intermediate transfer belt, perform this item. Method of Operation 1) Select the item,. 2) Press the OK key to start the operation. (The operation will end in about 1 min.)	1
ENV-PRT	Use it to print out a log on the changes that may have taken place in machine inside temperature/humidity and fixing temperature. The log shows changes in machine inside temperature/humidity and fixing temperature (middle) as colleted from the output of the environment sensor and non-contact thermistor.	1
1TR-ROT	Use it to execute idle rotation of the primary transfer roller. Use it to force idle rotation of the primary transfer roller while applying a primary transfer bias so as to prevent a fault in primary transfer ATVC otherwise caused by changes in the environment.	1
DR-P-ADJ	Use it to adjust the phase shift of the photoactive drum. Method of Operation Use it to execute the adjustment sequence for a phase shift of the photosensitive drum. Operation 1)Select the item to highlight, and press the OK key. In response, the adjustment will start and the indication will change to 'ACTIVE'. At the end, the indication will change to 'OK!'.	1
MAIN-DRV	Use it to drive the intermediate transfer medium and the photosensitive drum for a specific period of time. 1) Select the item to highlight. 2) Press the OK key, and turn off and then on the power to start the operation. The operation will end in a specific period of time.	2
ITB-ROT	Use it to start idle rotation of the secondary transfer roller/intermediate transfer belt. Perform idle rotation of the secondary roller and the intermediate transfer belt to prevent the intermediate belt from turning into a particular shape. 1) Select the item to highlight, and press the OK key to start the operation.	2
ATR-EX	Force ATR control. Use it to force ATR control if the correction value for ATR control is lost, as after E020 (field servicing) or after replacing the DC controller PCB.	2
INTR-EX	Use it to force initial rotation, as the first thing in the morning. You can force the various image stabilization control mechanisms (usually performed first thing in the morning during initial rotation) consisting of the following: rotation control single rotation ATVC patch detection Dmax The operation takes about 1 min.	2

13. SENS-ADJ <iR C6800/iR C5800>

T-16-93

COPIER>FUNCTION>SENS-ADJ (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
STCK-LMT	Adjusting the Position of the Shift Tray Full Sensor The notation will be 'ON' when detecting the full condition; otherwise, 'OFF'.	1

- Adjusting the Shift Tray Full Sensor Position

1) Loosen the screws [1], and temporarily fix both full sensors in place farthest from the paper.

F-16-22

2) Place a stack of sheet about 60 mm high over the point of detection of either full sensor on the shift tray.

60mm
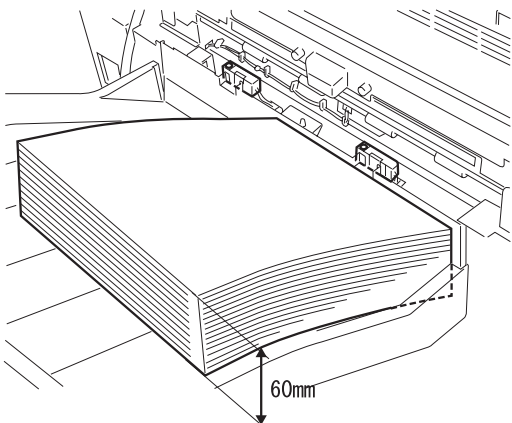
F-16-23

3) Select the item, and press the OK key.
4) While referring to the indication, move the sensor closer to the paper, and attach it where 'ON' goes on.
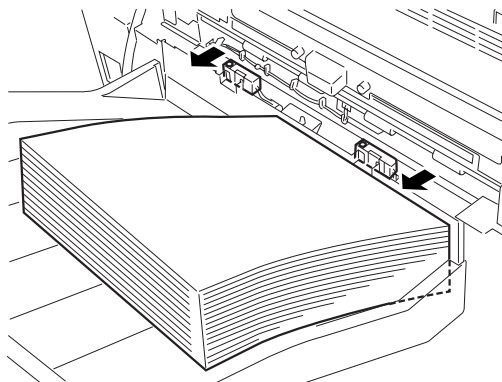
F-16-24

Memo:
If 'ON' is not indicated when the full sensor is moved closest to the paper, keep adding a sheet of paper until 'ON' is indicated.

[1]
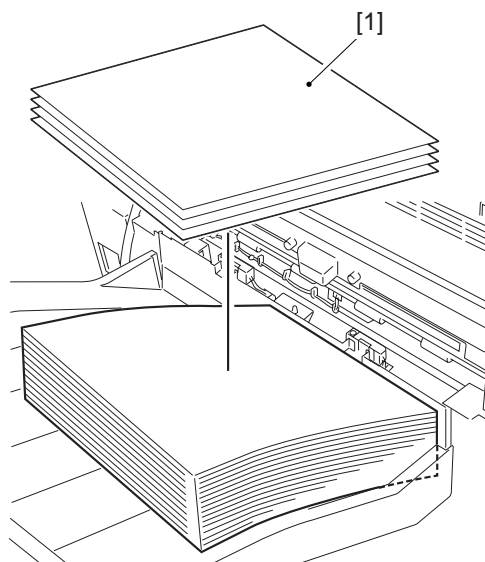
F-16-25

5) Move the other full sensor to the position of detection.
6) Perform step 4) on the other full sensor.
7) When done, press the Stop key.

14. SYSTEM <iR C6800/iR C5800>

T-16-94

COPIER>FUNCTION>SYSTEM (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DOWNLOAD	Use it to switch to download mode. Method of Operation 1) Select the item. 2) Press the OK key so that the machine will enter download mode and wait for a command (connection). (At his time, 'STAND-BY' or 'STANDBY' will appear next to the Level 3 item of DOWNLOAD.) 3) Perform download work using the service support tool (The indication will read 'CONNECTED' while a communication is under way with the PC.) 4) See that the notation has changed to 'HOLD' to indicate that the communication is over. (You may turn off the power when the indication is 'HOLD'.)	1
CHK-TYPE	Use it to select a partition number for execution of HD-CHECK. Method of Operation 1) Select the item. 2) Select a partition number using the keypad. 0: check on and recovery of entire HDD 1: image storage area 2: general-purpose file storage area 3: PDL-related file storage area 4: firmware storage area A general-purpose file refers to a file containing such management data as user settings data, log data, PDL spool data, image data. 3) Press the OK key.	1
HD-CHECK	Use it to check the partition selected by CHK-TYPE and to repair a fault. Method of Operation 1) Select the item. 2) Press the OK key. 3) Check the result. (1: OK, 2: NG (hardware), 3: NG (software), recovery sector/alternate sector).	1
HD-CLEAR	Use it to select the partition selected by CHK-TYPE. - if 0 or 4 is selected, the selection will be invalid. - if 1 is selected, the image management data stored in the SRAM area and the general-purpose file area will also be initialized. Method of Operation 1) Select the item. 2) Press the OK key. If '1: image storage area' or '3: PDL-related file storage area' is selected under 'CHK-TYPE' and <HD-CLEAR> is performed, the initialization will take place only when the power has been turned off and then on again. The initialization will take about 5 min, during which the progress bar will grow longer gradually. You must never turn off the power while the progress bar is indicated.	1

16.5.1.2 COPIER List <iR C6870U/iR C5870U>

1. INSTALL   <iR C6870U/iR C5870U>

T-16-95

COPIER>FUNCTION>INSTALL (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TONER-S	Use it to stir the toner inside the developing assembly at time of installation. Method of Operation 1) Select the item to highlight, and press the OK key. - the machine starts operation. - the machine begins a countdown. 2) See that 'OK' has appeared, indicating that the operation is over.	1
STIR-Y/M/C	Use it to stir the toner inside the toner cartridge (Y/M/C). Select the item to highlight, and press the OK key to start operation.	1
INIT-Y/M/C	Use it to cause the machine to read the initial value of the toner density signal (SGNL, REF) of Y/M/C. Select the item to highlight, and press the OK key to start the operation.	1
INIT-3	Use it to cause the machine to read the initial value of the toner density signals (SGNL, REF) of 3 colors (YMC). Select the item to highlight, and press the OK key to start the operation.	1
SPLY-H-Y/M/C	Use to supply toner from the toner cartridge (Y/M/C) to the toner buffer assembly for the first time. Select the item to highlight, and press the OK key to start operation.	1
CARD	Use it to set up a card reader. 1 to 2001 (at time of shipment/upon RAM initialization: 0) Enter a number for the cards, and press the OK key. (As many as 1000 cards each given a number starting with the one you entered will be enabled for use.) At this time, the card control information (group ID and ID No.) is initialized.	1
KEY	Use it to set the control key function. 0: do not recognize control key function (as selected at time of shipment/upon RAM initialization) 1: recognize control key function 1) Select the following, and enter '1': COPIER>INSTALL>KEY. 2) Turn off and then on the main power switch (so that the control key function will be recognized).	1
INISET-Y/M/C	Use it to set up the Y/M/C color developing assemblies for the first time. The series of operations needed to initialize the Y/M/C color developing assembly will be performed at a time: Method of Operation 1) Select the item to highlight, and press the OK key. - the machine will start operation. - the machine will start a countdown. 2) See that 'OK' appears, indicating that the operation is over.	1
INISET-3	Use it to set up the 3 (YMC) developing assemblies. The series of operations needed to initialize the 3 color (YMC) developing assemblies will be performed at a time. 1) Select the item to highlight, and press the OK key. - the machine will start operation. - the machine will make a countdown. 2) See that 'OK' appears, indicting that the operation is over.	1
STIR-3	Use it to supply toner from the toner cartridge (HY/MC) to the toner buffer assembly.	1
SPLY-H-3	Use it to supply toner from the toner cartridge (HY/MC) to the toner buffer assembly. 1) Select the item to highlight, and press the OK key to start operation. - the machine will start operation. - the machine will start a countdown. 2) See that 'OK' appears, indicating that the operation is over.	1

COPIER>FUNCTION>INSTALL (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
AINR-OFF	Use it to enable or disable initial multiple rotation used for installation You can disable initial multiple rotation if you are concerned about the image formation sequence (i.e., forming a patch or executing Dmax/Dhalf), which can soil or wear out internal components during installation work). If the color toner set-up run (FUNCTION>INSTALL>INSET-3) ends fully normally, the setting herein will automatically be cancelled (to prevent faults that otherwise could occur if the function is not manually switched back); if the run failed to end, however, the initial multiple rotation function will remain disabled. Settings range 0: enable initial multiple rotation 1: disable initial multiple rotation (item under DC controller) at time of shipment: factory adjustment value upon RAM initialization: 0	1
E-RDS	Use it to select whether to use E-RDS. Selects whether to use E-RDS (Embedded-RDS) to send device counter/fault/consumable information to a sales company's server by SOAP protocol. Setting value 0: Do not use E-RDS. 1: Use E-RDS. [Factory setting / After RAM clear: 0]	1
RGW-PORT	Use it to specify a port number for the sales company's server used for E-RDS. Setting range 1 to 65535 [Factory setting / After RAM clear: 443]	1
COM-TEST	Use it to check a connection to the sales company's server used for E-RDS. Attempts to make a connection to the sales company's server used for E-RDS. Result: OK: Can be connected NG: Cannot be connected	1
COM-LOG	Use it to display the detail results of a communication test with the sales company's server used for E-RDS. Switches the screen to display information of a connection error with the sales company's server. Displays a date, time, error code, and error information for the error. Maximum number of logs: 30 Error information: 128 characters maximum (NULL is not included.)	1
RGW-ADR	Use it to specify a URL for the sales company's server used for E-RDS. [Factory setting / After RAM clear: https://a01.ugwdevice.net/ugw/agentif010]	1

2. CCD <iR C6870U/iR C5870U>

T-16-96

COPIER>FUNCTION>CCD (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DF-WLVL1/2	Use it to adjust the ADF white level. Method of Operation 1) Place the type of original most often used by the user on the copyboard glass, and perform the following service mode item: COPIER>FUNCTION>CCD>DF-WLVL1. (In response, the machine will read the white level for book mode, checking the transmission quality of the glass for book mode). 2) Place the type of original most often used by the user in the DF, and perform the following service mode item: COPIER>FUNCTION>CCD>DF-WLVL2. (In response, the machine will read the white level for DF mode (stream reading mode), checking the transmission quality of the reading glass by reading both sides of the original.) face reading: computes DFTAR-R/G/B back reading: computes DFTAR2-R/G/B Be sure to execute this item in combination with item 2.	1

3. LASER <iR C6870U/iR C5870U>

T-16-97

COPIER>FUNCTION>LASER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
POWER	Use it to turn on the laser for adjustment of the laser power. 1) Select the item to highlight. 2) Press the OK key. To stop, press the Stop key.	1

4. DPC <iR C6870U/iR C5870U>

T-16-98

COPIER>FUNCTION>DPC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DPC	Use it to execute potential control. Select the item to highlight, and press the OK key to perform the operation. (The operation will stop automatically.).	1
OFST	Use it to adjust the offset value of the potential measurement circuit. Select the item to highlight, and press the OK key to start operation. (The operation will stop automatically.)	1

5. CST <iR C6870U/iR C5870U>

T-16-99

COPIER>FUNCTION>CST (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MF-A4R,MF-A6R,MF-A4	Use it to register the paper width basic value for the manual feeder. A4R width: 210 mm, A6R width: 105 mm, A4 width: 297 mm To make fine adjustments after registering the basic value, use the following service mode item: COPIER>ADJUS'T>CST-ADJ>MF-A4, RMF-A6R, MF-A4. Method of Operation 1) Place A4R paper in the manual feeder, and adjust the side guide to the A4R width. 2) Using this service mode, select 'MF-A4R' to highlight, and press the OK key so that the value will be registered after auto adjustment. 3) Likewise, perform steps 1) and 2) above to register basic values for A6R and A4.	1

6. CLEANING <iR C6870U/iR C5870U>

T-16-100

COPIER>FUNCTION>CLEANING (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TBLT-CLN	Use it to clean the intermediate transfer belt. By removing foreign matter (e.g., fingerprints, oils, paper lint) from the intermediate transfer belt, a number of image faults may be prevented. Method of Operation Select the item to highlight, and press the OK key to start the operation. (The operation will stop automatically.) Cleaning continues for about 80 sec, and will stop automatically.	1
WIRE-CLN	Use it to cause cleaning of all charging wires at the same time 5 times continuously. Operation 1) Select the item, and press the OK key. - The notation changes to 'ACTIVE', and the machine starts wire cleaning. 2) Press the OK key once again to stop rotation.	1
WIRE-EX	Use it to clean the primary charging wire/pre-transfer charging wire (a single round trip). The primary charging wire/pre-transfer charging wire may be cleaned for a signal round trip. Normally, the wire is cleaned by 5 round trips (about 3 min); on the other hand, the single trip in this mode will take no more than about 40 sec.) Method of Operation WIRE-EX 1) Select the item, and press the OK key. - The notation changes to 'ACTIVE', and the machine starts wire cleaning. 2) Stop the OK key once again to stop the rotation.	1
BK-BNDEX	Use it to perform the black band sequence. - a sequence of operations will be performed to clean the intermediate transfer belt to prevent image faults (white spots) after filed servicing. The operation will take about 15 sec. Method of Operation 1) Select the item, and press the OK key. - The notation will change to 'ACTIVE', and the wire will be cleaned. 2) To end the operation, press the OK key once again.	2

7. FIXING <iR C6870U/iR C5870U>

T-16-101

COPIER>FUNCTION>FIXING (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
NIP-CHK	Checking the Fixing Nip Width	
	Operation 1) Register 'plain paper' or 'recycled paper' as the type of paper to use in the manual feed tray (in user mode, common settings>paper type). 2) Place A4/LTR plain paper or recycled paper in the manual feed tray. 3) Select this mode, and press the OK key (so that the paper will be picked from the manual feed tray). 4) See that the paper stops temporarily between the fixing rollers and then is delivered in about 10 sec. 5) Check to see that the delivered paper shows a nip width that is within the standards. 6) If the nip width is not as indicated, adjust the following; 6-1) Loosen the screw on the side where the nip is smaller, and tighten the screw on the other side as much. 7) When done, generate a test print (COPIER>TEST>PG>TYPE 6; grid).	1

⚠

- Standards

   The difference between a and b must be 0.5 mm or less.
- Be sure to measure a and b at a point 15 to 20 mm from the edge of the paper.
- The arrow in the figure indicates the direction of paper movement.

⚠
NIP-CHK is a service mode item used to check the nip width of the fixing roller. The nip is adjusted to a high degree of accuracy before the machine is shipped out of the factory, and it cannot be adjusted in the field. Do not turn the 2 hex bolts [1] found on the delivery side of the fixing assembly. If you turned it by mistake, be sure to turn it back to its initial position.

F-16-26

8. PANEL <iR C6870U/iR C5870U>

T-16-102

COPIER>FUNCTION>PANEL（iR C6870U/iR C5870U）		
Subheading	**Contents**	**Level**
LCD-CHK	Check the LCD for missing dots. Method of Operation 1) Select the item, and press the OK key to start the operation. In response, the front of the touch panel goes on as follows: white, black, red, green, blue. 2) Press the Stop key to stop the operation. (If a printer model, press the Clear key.)	1
LED-CHK	Checking the LEDs on the control panel Method of Operation 1) Select the item, and press the OK key to start the operation. See that the LEDs go on in turn. 2) Press 'LED-OFF' to stop the operation.	1
LED-OFF	Use it to check the LCD for missing dots. Method of Operation 1) Select the item to stop the check under 'LED-CHK'.	1
KEY-CHK	Use it to check the key inputs. Method of Operation 1) Select 'KEY-CHK' so that the numbers/names of the input keys will be indicated. 2) Press any key to check; if normal, the touch panel will show its corresponding character. (See the table below.) 3) Select 'KEY-CHK' to end the operation.	1
TOUCHCHK	Use it to adjust the coordinates of the analog touch panel. Method of Operation - use it to match the points of press on the touch panel and the coordinates of the LCD. - perform this service mode if you have replaced the LCD. 1) Select 'TOUCH CHK' to highlight, and press the OK key. 2) Press the symbol '+' appearing on the touch panel in sequence (9 points) to end the adjustment.	1

- Numbers and Names of the Input Keys

T-16-103

Key	Indication on the screen
0 to 9, #, *	0 to 9, #, *
Reset	RESET
Stop	STOP
User mode	USER
Start	START
Power save	STAND BY
Clear	CLEAR
ID	ID
Help	?
Counter Check	BILL

9. PART-CHK   <iR C6870U/iR C5870U>

T-16-104

COPIER>FUNCTION>PART-CHK (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CL	Use it to select the clutch whose operation you want to check. (between 1 and 10; 4 through 10 are spares) Method of Operation 1) Select the item. 2) Enter the code of the clutch you want using the keypad. 1: color developing clutch 2: color toner supply clutch 3: black developing clutch 8: deck feed clutch 9: deck pickup clutch 4 to 7,10: spare 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1
CL-ON	Use it to start checking the clutch operation. Method of Operation 1) Select the item, and presses the OK key so that the clutch goes on and off as follows: ON for 0.5 sec>OFF for 10 sec>ON for 0.5 sec>OFF for 10 sec>ON for 0.5 sec>OFF	1
FAN	Use it to select the clutch whose operation you want to check. (between 1 and 10; 4 through 10 are spares) Method of Operation 1) Select the item. 2) Enter the code of the clutch you want to check using the keypad. 1: primary charging suction fan (FM1) 2: primary charging exhaust fan (FM2) 3: feed fan 3 (FM11), feed fan 4 (FM12) 4: feed fan 1 (FM3); feed fan 2 (FM4) 5: fixing heat exhaust fan (FM5) 6: delivery cooling fan 1 (FM6) 7: process unit cooling fan (FM7) 8: spare 9: power supply cooling fan (FM9) 10: delivery cooling fan 2 (FM10) 4 through 10: spare 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1

COPIER>FUNCTION>PART-CHK (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FAN-ON	Use it to start the operation of the fan Method of Operation 1) Select the item, and press the OK key to start the following: in the case of FAN= 1,2,5,7,10 for 10 sec, ON at full speed>for 10 sec, ON at half-speed>standby Copier Heat Exhaust Fan, Delivery Cooling Fan, Manual Feed Cooling Fan in the case of FAN= 3,4,6,9 for 10 sec, ON at full speed>standby	1
MTR	Use it to select the clutch whose operation you want to check. between 1 and 32; the following are spares: 16, 24, 29, 30, 31, 32 Method of Operation 1) Select the item. 2) Enter the code of the clutch using the keypad. 1: polygon motor (M1) 2: drum/ITB motor (M2) 3: developing motor (M3) 4: fixing motor (M4) 5: developing rotary motor (M5) 6: manual feed pre-registration motor (M6) 7: spare 8: registration motor (M8) 9: external delivery motor (M9) 10: duplex reversal motor (M10) 11: duplex left motor (M11) 12: duplex middle motor (M12) 13: duplex right motor (M13) 14: right deck pull-off motor (M14) 15: vertical path motor (M15) 16: spare 17: right deck pickup motor (M17) 18: left deck pickup motor (M18) 19: cassette pickup motor (M19) 20: secondary transfer outside roller shift motor (M20) 21: ITB cleaner shift motor (M21) 22: outside heating roller shift motor (M22) 23: hopper stirring motor (M23) 24: spare 25: black goner supply motor (M25) 26: primary charging wire cleaning motor (M26) 27: pre-transfer charging wire cleaning motor (M27) 28: horizontal registration motor (M28) 35: deck main motor(M101) 36: shift motor 29 to 34: Reserve 3) Press the OK key. 4) Press 'CL-ON' to check the operation.	1
MTR-ON	Use it to start the operation of the motor. Method of Operation 1) Select the item, and press the OK key. 2) - in the case of MTR=1 through 4, 6, 8 through 15, 17 through 19, 23, 25 through 28, for 10 sec, ON>end - in the case of MTR=20 through 22, for 5 sec, ON>end - in the case of MTR=5, HP search start>end	1

COPIER>FUNCTION>PART-CHK (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SL	Use it to select the solenoid whose operation you want to check. between 1 and 15 Method of Operation 1) Select the item. 2) Enter the code of the solenoid using the keypad. 1: manual feed pickup solenoid (SL1) 2: fixing web solenoid (SL2) 3: reversal shift solenoid (SL3) 4: left deck confluence solenoid (SL4) 5: delivery solenoid (SL5) 6: deck (right) pickup solenoid (SL6) 7: deck (left) pickup solenoid (SL7) 8: cassette 3 pickup solenoid (SL8) 9: cassette 4 pickup solenoid (SL9) 10: developing rotary fixing solenoid (SL10) 11: patch image read sensor shutter solenoid (SL1C) 12: ATR sensor shutter solenoid (SL2C) 14: deck pickup roller release solenoid(SL101) 15: deck open solenoid 13 : spare 3) Press the OK key. 4) Press 'SL-ON' to check the operation.	1
SL-ON	Use it to start the operation of the solenoid. Method of Operation 1) Select the item, and press the OK key so that the solenoid goes on and off as follows: for 0.5 sec, ON>for 0 sec, OFF>for 0.5 sec, ON>for 10 sec, OFF>for 0.5 sec, ON>OFF	1

10. CLEAR <iR C6870U/iR C5870U>

T-16-105

COPIER>FUNCTION>CLEAR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ERR	Use it to clear an error code (E000, E001, E002, E003). Method of Operation 1) Select the item, and press the OK key. 2) Turn off and then on the main power.	1
DC-CON	Use this item to reset the RAM on the DC controller PCB. The RAM will not actually be reset until the main power switch has been turned off and then on. Method of Operation print out the service mode settings using the following service mode item: COPIER>FUNCTION>MISC-P>P-PRINT. 2) Select the item, and press the OK key. 3) Turn off and then on the main power switch. 4) As necessary, enter the settings that have been printed out using 'P-PRINT'.	1
R-CON	Use it to reset the RAM on the reader controller PCB. Method of Operation The RAM will not be cleared until the main power switch has been turned off and then on again. 2) Select the item, and press the OK key. 3) Turn off and then on the main power. 4) As necessary, enter the settings printed out using 'PRINT'.	1
JAM-HIST	Use it to reset the jam history. The jam history will not be reset until the OK key is pressed. Method of Operation 1) Select the time, and press the OK key.	1

COPIER>FUNCTION>CLEAR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ERR-HIST	Use it to reset the error history. The error history will not be cleared until the OK key is pressed. Method of Operation 1) Select the item, and press the OK key.	1
PWD-CLR	Use it to initialize the password of the system administrator. The password will not be initialized until the OK key is pressed. Method of Operation 1)Select the item, and press the OK key.	1
ADRS-BK	Use it to reset the address book data. The address book data will not be reset until the main power switch has been turned off and then on. 1) Select the item, and press the OK key. 2) Turn off and then on the main power switch.	1
CNT-MCON	Use it to reset the counter readings controlled by the main controller PCB (main) for service work. (For the counters whose readings will be reset, see the list under COUNTER mode.) The counter readings will not be reset until the OK key is pressed.	1
CNT-DCON	Use it to reset the readings of the following counters controlled by the DC controller PCB: - COPIER> COUNTER> DRBL- 2> SORT - COPIER> COUNTER> DRBL- 2> FIN-STPR - COPIER> COUNTER> DRBL- 2> FIN-PDDL - COPIER> COUNTER> DRBL- 2> SADDLE - COPIER> COUNTER> DRBL- 2> SDL-STPL The counter readings will not be initialized until the OK key is pressed. 1) Select the item, and press the OK key.	1
OPTION	Use it to reset the service mode settings (OPTION) back to their default settings (as when initializing the RAM). The settings will not be reset until the OK key is pressed. The data that will be reset is data on the main controller, DC controller, and reader controller. Method of Operation 1) Print out the settings using the following service mode item: COPIER>FUNCTION>MISC-P>P-RING. 2) Select the item, and press the OK key.	1
MMI	Use it to reset the following settings in user mode. - backup data (user settings) used to back up the copier control panel - backup data (user settings) on common settings - backup data (user settings) of various type expect on fax The settings will not be reset until the main power switch has been turned off and then on. Method of Operation 1) Select the item, and press the OK key. 2) Turn off and then on the main power.	1
MN-CON	Use it to initialize the RAM on the main controller board SRAM board. - The contents of the RAM will not be initialized until the main power switch has been turned off and then on. - Performing this item will initialize all data on the SRAM board. In other words, the file management information for the hard disk will also be initialized, making reading of images from the hard disk impossible. If you need to perform this mode, be sure that the user is well aware of this fact. Method of Operation 1) Print out the service mode settings using the following service mode settings: COPIER>FUNCTION>MISC-P>P-PRINT. 2) Select the item, and press the OK key. In response, the machine will automatically start up and prompt you to turn off and then on the main power switch. 3) Turn off and then on the main power switch.	1

COPIER>FUNCTION>CLEAR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CARD	Use it to reset card ID-related data (group). The card ID-related data will not be cleared until the main power switch has been turned off and then on. Method of Operation 1) Select the item, and press the OK. 2) Turn off and then on the main power switch.	1
W-TN-CLR	Use it to reset a waste toner box full alert/error. If you have replaced the waste toner box, execute this item to reset the alert/error and initialize the counter used for the waste toner box detection mechanism.	1
LANG-ERR	Use it to clear language-related errors. Recovers from an error and makes the language setting back to the default setting when a language-related error occurs after the language is changed to a different language.	1
ERDS-DAT	Use it to clear SRAM data of E-RDS. Sets the SCM value stored in the SRAM for E-RDS back to the factory setting value. ⚠ SRAM data is cleared after the OK key is pressed. Operation procedure 1) Select this item and press the OK key. 2) When the data is normally cleared, "OK" is displayed. Reference - Be sure to use this to perform a bootable version update in the environment where E-RDS is used. The usage of SRAM for E-RDS differs depending on the version. Data mismatch occurs if SRAM is not cleared. - E-RDS related data stored in SRAM are "ON/OFF of E-RDS, a port number of the server, SOAP URL of the server, and a communication schedule with the server (How often does the machine obtain the data?), etc. Clears the value set in the following items. - COPIER>FUNCTION>INSTALL>E-RDS - COPIER>FUNCTION>INSTALL>RGW-PORT - COPIER>FUNCTION>INSTALL>RGW-ADR - COPIER>FUNCTION>INSTALL>COM-LOG	1
SND-STUP	Use it to initialize the setting for the transmission reading. (Execute this item when you switch language settings.)	2
CA-KEY	Use it to delete all the CA certificates and key pairs at once. Deletes all the CA certificates and key pairs at once when a serviceman replaces or discards a device. A CA certificate is used for the MEAP application that uses E-RDS and SSL client. A key pair is used for IPP, RUI, and MEAP SSL function. ⚠- If this operation is not performed when a device is replaced or discarded, the CA certificate and key pair additionally registered by a user are left in the HDD, which is a problem in terms of security. A serviceman should therefore perform this operation. - Be sure to make sure that "OK" is displayed after performing this operation. If "NG" is displayed, the data may not be correctly deleted, and it is necessary to surely delete the CA certificate and key pair by initializing the HDD, etc. - This operation should not be carelessly executed because it deletes the SSL server certificate and key pair additionally registered by a user. When the data is deleted by mistake, a user needs to reinstall the SSL server certificate. When no data is additionally installed by a user, this operation places the machine in the same status as factory setting and gives no affect to the user. Operation procedure 1) Select this item and press the OK key. 2) When the data is normally cleared, "OK" is displayed. 3) Turn the main power OFF/ON. **Reference:** Turning the power OFF/ON extracts the CA certificate and key pair, registered at factory setting, from an archived file (/BOOTDEV/KCMNG) so that they can be used for the above functions (E-RDS/SSL functions).	2

11. MISC-R <iR C6870U/iR C5870U>

T-16-106

COPIER>FUNCTION>MISC-R (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SCANLAMP	Use it to check the activation of the scanning lamp. Method of Operation 1) Select the item. 2) Press the OK key so that the scanning lamp will go on and remain on for 3 sec.	1

12. MISC-P <iR C6870U/iR C5870U>

T-16-107

COPIER>FUNCTION>MISC-P (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
P-PRINT	Use it to print out the service mode settings. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 15 sec.	1
KEY-HIST	Use it to print out the control panel key input history. 1) Select the item. 2) Press the item to print out the history.	1
HIST-PRT	Use it to print out the jam history and the error history. 1) Select the item. 2) Press the OK key to print out the histories.	1
TRS-DATA	Use it to move data received in memory to a data Box. 1) Select the item. 2) Press the OK key to move the data.	1
USER-PRT	Use it to print out a list of user mode settings. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 3 sec.	1
LBL-PRNT	Use it to print out the service label. Method of Operation 1) Select the item. 2) Press the OK key to print out the service mode settings. Printing will start in about 15 sec.	1
PRE-EXP	Use it to check the activation of the pre-exposure lamp (LED). Operation 1)Press the item to highlight. 2)Press the OK key so that the individual operations are performed for several seconds and the execution stops automatically (full activation). 3)Press the OK key to generate a printout. Reference If a fault is noted on the photosensitive drum as the result of activating the pre-exposure lamp, rotate the drum.	1
DEV-DR-Y/M/C	Use it to move the developing rotary to the point of toner cartridge (Y/M/C) replacement. Method of Operation 1) Select the item. 2) Press the OK key so that the developing rotary will move to the point of toner cartridge (Y) replacement. The machine is set in such a way that the user will not be able to remove a toner cartridge if it still contains toner. The cartridge may be removed by moving the developing rotary to the point of access only when the cartridge has run out of toner. The use of this service mode item enables the user to move the developing rotary to the point of access so that the Y toner cartridge may be removed regardless of the presence/absence of toner inside it.	1

COPIER>FUNCTION>MISC-P (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
D-PRINT	D-PRINT Use it to generate printouts in service mode (DISPLAY). This mode is applicable to items indicated under DISPLAY for output of printouts (excluding those generated by P-PRINT/LBL-PRINT/HIST-PRINT and ALARM).	1
1ATVC-EX	Use it to force primary ATVC. If you have replaced the intermediate transfer belt, perform this item. Method of Operation 1) Select the item,. 2) Press the OK key to start the operation. (The operation will end in about 1 min.)	1
ENV-PRT	Use it to print out a log on the changes that may have taken place in machine inside temperature/humidity and fixing temperature. The log shows changes in machine inside temperature/humidity and fixing temperature (middle) as colleted from the output of the environment sensor and non-contact thermistor.	1
1TR-ROT	Use it to execute idle rotation of the primary transfer roller. Use it to force idle rotation of the primary transfer roller while applying a primary transfer bias so as to prevent a fault in primary transfer ATVC otherwise caused by changes in the environment.	1
DR-P-ADJ	Use it to adjust the phase shift of the photoactive drum. Method of Operation Use it to execute the adjustment sequence for a phase shift of the photosensitive drum. Operation 1)Select the item to highlight, and press the OK key. In response, the adjustment will start and the indication will change to 'ACTIVE'. At the end, the indication will change to 'OK!'.	1
MAIN-DRV	Use it to drive the intermediate transfer medium and the photosensitive drum for a specific period of time. 1) Select the item to highlight. 2) Press the OK key, and turn off and then on the power to start the operation. The operation will end in a specific period of time.	2
ITB-ROT	Use it to start idle rotation of the secondary transfer roller/intermediate transfer belt. Perform idle rotation of the secondary roller and the intermediate transfer belt to prevent the intermediate belt from turning into a particular shape. 1) Select the item to highlight, and press the OK key to start the operation.	2
ATR-EX	Force ATR control. Use it to force ATR control if the correction value for ATR control is lost, as after E020 (field servicing) or after replacing the DC controller PCB.	2
INTR-EX	Use it to force initial rotation, as the first thing in the morning. You can force the various image stabilization control mechanisms (usually performed first thing in the morning during initial rotation) consisting of the following: rotation control single rotation ATVC patch detection Dmax The operation takes about 1 min.	2

13. SENS-ADJ <iR C6870U/iR C5870U>

T-16-108

COPIER>FUNCTION>SENS-ADJ (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
STCK-LMT	Adjusting the Position of the Shift Tray Full Sensor The notation will be 'ON' when detecting the full condition; otherwise, 'OFF'.	1

- Adjusting the Shift Tray Full Sensor Position

1) Loosen the screws [1], and temporarily fix both full sensors in place farthest from the paper.

F-16-27

2) Place a stack of sheet about 60 mm high over the point of detection of either full sensor on the shift tray.

60mm
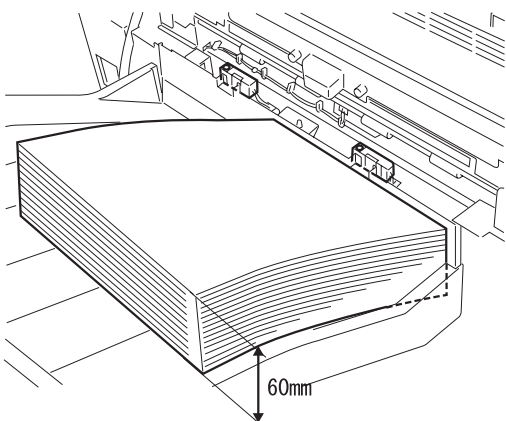
F-16-28

3) Select the item, and press the OK key.
4) While referring to the indication, move the sensor closer to the paper, and attach it where 'ON' goes on.
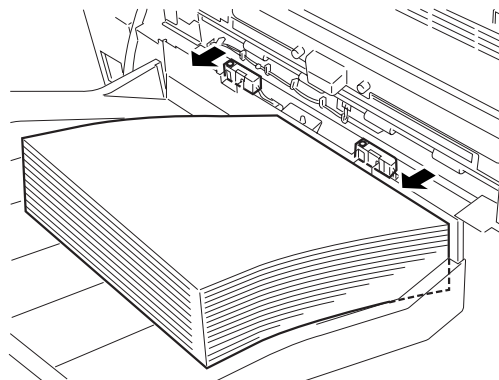
F-16-29

Memo:
If 'ON' is not indicated when the full sensor is moved closest to the paper, keep adding a sheet of paper until 'ON' is indicated.

[1]
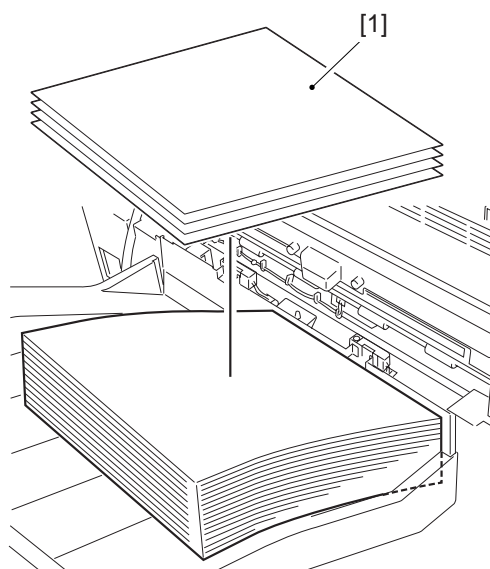
F-16-30

5) Move the other full sensor to the position of detection.
6) Perform step 4) on the other full sensor.
7) When done, press the Stop key.

14. SYSTEM <iR C6870U/iR C5870U>

T-16-109

COPIER>FUNCTION>SYSTEM (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DOWNLOAD	Use it to switch to download mode. Method of Operation 1) Select the item. 2) Press the OK key so that the machine will enter download mode and wait for a command (connection). (At his time, 'STAND-BY' or 'STANDBY' will appear next to the Level 3 item of DOWNLOAD.) 3) Perform download work using the service support tool (The indication will read 'CONNECTED' while a communication is under way with the PC.) 4) See that the notation has changed to 'HOLD' to indicate that the communication is over. (You may turn off the power when the indication is 'HOLD'.)	1
CHK-TYPE	Use it to select a partition number for execution of HD-CHECK. Method of Operation 1) Select the item. 2) Select a partition number using the keypad. 0: check on and recovery of entire HDD 1: image storage area 2: general-purpose file storage area 3: PDL-related file storage area 4: firmware storage area A general-purpose file refers to a file containing such management data as user settings data, log data, PDL spool data, image data. 3) Press the OK key.	1
HD-CHECK	Use it to check the partition selected by CHK-TYPE and to repair a fault. Method of Operation 1) Select the item. 2) Press the OK key. 3) Check the result. (1: OK, 2: NG (hardware), 3: NG (software), recovery sector/alternate sector).	1
HD-CLEAR	Use it to select the partition selected by CHK-TYPE. - if 0 or 4 is selected, the selection will be invalid. - if 1 is selected, the image management data stored in the SRAM area and the general-purpose file area will also be initialized. Method of Operation 1) Select the item. 2) Press the OK key. If '1: image storage area' or '3: PDL-related file storage area' is selected under 'CHK-TYPE' and <HD-CLEAR> is performed, the initialization will take place only when the power has been turned off and then on again. The initialization will take about 5 min, during which the progress bar will grow longer gradually. You must never turn off the power while the progress bar is indicated.	1

16.5.2 FEEDER

16.5.2.1 FEEDER List <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-110

	FEEDER>FUNCTION (iR C6870U/iR C5870U)	
Subheading	**Contents**	**Level**
SENS-INT	Use it to adjust the sensitivity of the individual sensors of the feeder. Select the item, and press the OK key to start feeder sensor initialization, turning the screen indication to 'ACT'. The operation will end automatically, turning the indication to 'OK'.	1
MTR-CHK	Use it to check the motor and the like of the ADF on its own. Operation 1) Press [MOTOR-CHK] to highlight. 2) Enter the number of the component using the keypad. 3) Press the OK key. 4) Press [MOTOR-ON[to start checking the operation. Settings 0: pickup motor 1: feed motor 2: delivery reversal motor 3: lock motor at time of shipment: factory default upon RAM initialization: 0	1
TRY-A4	Use it to execute automatic adjustment (A4 Width) for DF original paper width detection.	1
TRY-A5R	Use it to execute automatic adjustment (A5R width) for DF original paper width detection.	1
TRY-LTR	Use it to execute automatic adjustment (LTR width) for DF original paper width detection.	1
TRY-LTRR	Use it to execute automatic adjustment (LTR-R width) for DF original paper width detention.	1
FEED-CHK	Use it to check paper movement in the ADF on its own. Operation 1) Press [FEED-CHK] to highlight. 2) Enter the number of the component using the keypad. 3) Press the OK key. 4) Press [FEED-ON] to start checking the operation. Feed Mode 0: single-sided operation 1: double-side operation 2: single-sided operation w/ stamp 3: double-sided operation w/ stamp at time of shipment: factory default upon RAM initialization: 0	1
CL-CHK	Use it to check the DF fan on its own. 0:DF fan Method of Operation 1)Press [FAN-CHK] (to highlight). 2)Enter the code of the part you want to check using the keypad. 3)Press the OK key. 4)Press [FAN-ON] to start checking the operation.	1

FEEDER>FUNCTION (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CL-ON	Use it to start the operation of the selected clutch. Press [CL-ON] and then press the OK key to start the operation of the clutch. Another press on the key will stop the operation. (The operation will stop in 200 msec; however, unless you press the OK key once again, the indication will not change to 'STOP.)	1
FAN-CHK	Use it to check the DF cooling fan. Perform using FAN-ON. 1) Press [FAN-CHK] to highlight. 2) Enter the number of the component using the keypad. 3) Press the OK key. 4) Press [FAN-ON] to start checking the operation. Component Number 0: cooling fan	1
FAN-ON	Use it to start the operation of the selected fan. Method of Operation Press [FAN-ON], and press the OK key to start the operation of the fan. Another press on the OK key will stop the operation. (The operation will automatically stop in 5 sec; hover, unless you press the OK key once again, the indication will not turn 'STOP'.)	1
SL-CHK	Use it to check the ADF solenoid on its own. Operation 1) Press [SL-CHK] to highlight 2) Enter the number of the component using the keypad. 3) Press the OK key. 4) Press [SL-ON] to start checking the operation. Number of Component 0: lock solenoid 1: stamp solenoid at time of shipment: factory default upon RAM initialization: 0	1
SL-ON	Use it to start the operation of the selected solenoid. Operation The operation varies from model to model. 1) Press [SL] to highlight; then, press the OK key to start motor operation. 2) Press the OK key once again to stop the ongoing operation. (The operation will stop automatically in 5 sec; however, the indication will not change to [STOP] unless the OK key is pressed once again.)	1
MTR-ON	Use it to start motor operation. Operation The operation varies from model to model. 1) Press [MTR-ON] to highlight; then, press the OK key to start motor operation. 2) Press the OK key once again to stop the motor. (The operation will stop automatically in 5 sec; however, the indication will not change to [STOP] unless the OK key is pressed once again.)	1

FEEDER>FUNCTION (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ROLL-CLN	Use it to clean the ADF roller. In this mode item, the roller is rotated by the work of its motor; it is cleaned by lint-free paper (moistened with alcohol) forced against it while it rotates. Operation 1) Press [ROLL-CLN] to highlight. 2) While the roller is rotating, clean it by forcing lint-free paper (moistened with alcohol) against it. 3) Press [ROLL-CLN] to highlight, and press the OK key to stop the rotation of the roller.	1
FEED-ON	Use it to check the movement of paper in the ADF on its own. Operation 1) Press [FEED-ON], and then press the OK key so that the ADF starts to move paper according to the operation mode selected using [FEED-CHK].	1

16.6 OPTION (Machine Settings Mode)

16.6.1 COPIER

16.6.1.1 COPIER List   <iR C6800/C5800>

1. BODY <iR C6800/C5800>

T-16-111

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
PO-CNT	for factory adjustment	1
MODEL-SZ	Use it to set the default magnification indication and ADF size detection.	
	Settings 0: AB (6R5E) 1: INCH (5R4E) 2: A (3R3E) 3: AB/INCH (6R5E) at time of shipment/upon RAM replacement: 0	1
FIX-TEMP	Use it to change the plain paper down sequence.	
	settings range 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	1
PASCAL	Use it to enable/disable the use of contrast potential obtained from auto gradation correction (full) and the use of gradation correction data.	
	settings range 0: do not use 1: use 2: reserved (same as 1) 3: reserved (same as 0) at time of shipment/upon RAM initialization: 1	1
CONFIG	Use it to select multiple pieces of firmware stored on the hard disk to change the country, language, model, and paper size configuration. Method of Adjustment 1) Select the item to change, and press the +/- key. 2) See that each press on the +/- key changes the particulars. 3) When all particulars are indicated for all items, press the OK key. 4) Turn off and then on the main power switch.	1
	XXYYZZAA xx: country (e.g., JP for Japan) YY: language (e.g., ja for Japanese) ZZ: model (e.g., 00 for Canon) AA: paper size configuration (e.g., 00 for AB)	

COPIER>OPTION>BODY （iR C6800/C5800）		
Subheading	**Contents**	**Level**
TEMP-TBL	Use it to adjust the control temperature of the fixing assembly. When this mode is activated, there will be an increase of 5 deg C in the following: standby temperature (both types); copying temperature; post-standby rotation temperature; extra-length sheet-to-sheet control temperature there will not be an increase of 5 deg C in the following: post-job rotation temperature; power save mode temperature; error detection temperature Adjustments are made to the normally used temperature control table. A change will be made to the fixing temperature control table in the event of low-temperature offset or paper blister caused by the characteristics of paper being used. In the case of low-temperature offset, select +5 deg C; in the case of a paper blister, on the other hand, select -5 deg C. The setting will not be valid unit the main power switch has been turned off and then on again.	1
	Settings 0: OFF 1: +5 deg C 2: -5 deg C at time of shipment/upon RAM replacement: 0	
W/SCNR	Use it to specify the presence/absence of a reader unit (as for the copier model).	1
	Settings 0: printer model 1: model with reader unit at time of shipment: 1 upon RAM initialization: 0	
RUI-DSP	Use it to set the copier function optional settings for the RUI screen.	1
	Settings 0: do not display copy screen for RUI 1: display copy screen for RUI at time of shipment/upon RAM initialization: 0	
NW-SPEED	Use it to select a data transfer speed for connection to a service network.	1
	Settings 0: Auto 1: 100Base-TX 2: 10Base-T at time of shipment/upon RAM initialization: 0	
ADJ-LVL	Use it to select an operation mode for patch detection. Of the automatic adjusting sequences used, decreasing/increasing the frequency of potential control/primary transfer ATVC will lead to decrease/increase productivity. Method of Adjustment A higher setting will increase the adjustment intervals and, thus, increase the productivity; it, however, will also increase color fluctuation.	1
	Settings 0 to 4 at time of shipment/upon RAM initialization: 0	
INTROT-1	intervals of executing ATVC during initial multiple rotation (number of prints) Increase the setting if soiling in the form of dots occurs in keeping with drum rotation (i.e., by increasing the intervals of ATVC control). Decrease the setting if transfer faults occurs (i.e., by decreasing the intervals of ATVC control).	1
	Settings 0 to 240 at time of shipment/upon RAM initialization: 90	

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
INTROT-2	Use it to set intervals (in terms of the number of sheets) for process auto adjustment (full, at time of initial/last rotation) performed at specific intervals.	1
	range of settings: 50 to 1000 (in terms of A4) at time of shipment/upon RAM initialization: 200	
DEVL-PTH	Setting threshold level (number of sheets) that the toner discharge sequence starts to operate.	1
	Settings 0: Does not operate 1: Approx. 100 sheets 2: Approx. 200 sheets [Factory default/After RAM is cleared] 3: Approx. 500 sheets Reference Threshold level of density can be set from the following service mode. COPIER>OPTION>BODY>DEVL-VTH Use this mode when symptom such as coarse image occurs while copying/printing low-density Duty image continuously.	
AUTO-DH	Use it to enable/disable auto gradation correction for standby. The auto gradation correction mechanism is started in response to changes in the environment or when the machine is left alone in standby for a specific period of time. The new setting will not be valid until the power switch has been turned off and then on.	1
	Settings 0: prohibit 1: permit (default) at time of shipment/upon RAM initialization: 1	
DFDST-L1	A higher setting will increase the level of dust detection (i.e., the machine will be more sensitive in detecting dust, which if left behind will cause thin lines in the images).	1
	settings range 0 to 255 at time of shipment/upon RAM initialization: 200	
DFDST-L2	A higher setting will increase the level of dust detection (i.e., the machine will be more sensitive in detecting dust, which if left behind will cause thin lines in the images).	1
	settings range 0 to 255 at time of shipment/upon RAM initialization: 200	
ENVP-INT	Use it to set the intervals at which logs are collected of machine internal temperature and fixing temperature, i.e., in relation to COPIER>FUNCTION>MISC-P>ENV-PRINT and COPIER>DISPLAY>ENVRNT.	1
	settings range 0 to 480 (min) at time of shipment/upon RAM initialization: 60	
T1-TEMP	Use it to switch over the heavy paper 1 down sequence tables.	1
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	
T2-TEMP	Use it to switch over the heavy paper 2 down sequence tables.	1
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
BLNK-THP	Use it to switch over leading edge margins for heavy paper 1/2 (color only; remedy against horizontal lines along leading edge).	1
	settings 0: default margin 1: 7 mm (leading edge margin median value) at time of shipment/upon RAM initialization: 0	
CD-IDL-T	Use it to adjust the duration of idle rotation for IDL-T (color developing assembly YMC; otherwise executed first in the morning in a high humidity environment). - a setting toward '-' will reduce the downtime associated with initial multiple rotation, but will not compensate fully for changes in density. - a setting toward '+' will fully compensate for changes in density, but will increase downtime associated with initial multiple rotation.	1
	settings range -3 to +6 (unit: 5 sec) at time of shipment/upon RAM initialization; 0	
OHP-SPED	Use it to switch over the cpm for value BK OHT (remedy against adhesion upon delivery).	1
	settings 0: 40 cpm if w/ finisher; 20 cpm if w/o finisher 1: 20 cpm 2: 10 cpm at time of shipment/upon RAM initialization: 0	
FX-CROT	Use it to change the intervals at which the fixing roller is rotated idly (remedy against deformation of the roller). The fixing roller is rotated idly for 1 sec once every 30 min (default) to prevent it from suffering deformation while the machine remains in standby.	1
	settings range 0: 30 min 1: 20 min 2: 10 min 3: 5 min at time of shipment/upon RAM initialization: 0	
LPW-TIME	Use it to set time for automatic switching to the low-power mode in the 24-hour power distribution mode. Sets time to perform automatic switching and recovery of low-power mode in the 24-hour power distribution mode and execute an adjustment in the printer engine.	1
	Setting range 00:00 to 23:59 (24 hours, Unit: minute) [Factory setting / After RAM clear: 03:00] Reference: - For the machines operating in the 24-hour power distribution mode (the operation is not switched to the power saving mode such as power save, low electricity, or sleep.) at a convenience store, etc., the machine does not perform the adjustment that is made only when recovering from the power saving mode in the printer engine. Use <LPW-TIME> to cover such a case. - You can judge whether the machine operates in the 24-hour power distribution mode or not by checking that "COPIER/OPTION/ACC/COIN" is set to "1" (self-copy). When other numbers than "1" is set, this function does not work. - When the machine automatically switches the operation to the low electricity mode, the control panel screen is turned off for a moment, which is a feature included in the specifications.	
BASE-SW	Use it to switch the operation to the base model from the full MEAP model. Sets the device operation back to the base model after it was switched to the full model.	1
	Setting value 0: OFF (base model) 1: ON (full model)	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
DRM-DISP	Use it to enable/disable the message for drum phase shifting. If the photopositive drum is used with its home position unchanged in relation to the drum shaft, uneven density at drum intervals or lines can occur in output images. To limit the symptom, the phase of the photosensitive drum is shifted by 90 deg every specific number of prints. The machine does not shift the phase on its own, and requires the work of the service person. When needed, the machine issues a message to prompt the work on the User screen and the Service Mode screen. Use this mode item to enable/disable the message.	1
	Settings 0: disable message 1: indicate only in service mode (default) 2: indicate on both User and Service Mode screens The message will go off automatically when the following is executed: COPIER>FUNCTION>MISC-P>DR-P-ADJ. at time of shipment/upon RAM initialization: 1 - To change the number of prints after which the message is indicated for COPIER>OPTION>BODY>DRM-DISP, change the denominator in COPIER>COUNTER>MISC>DRM-PHAS.	
SC-L-CNT	Use it to select the threshold value for the paper size (large/small) at the scanning counter. Selects whether to count B4-size paper as a large size or small size.	1
	Setting value 0: Count B4-size paper as a small size 1: Count B4-size paper as a large size [Factory setting / After RAM clear: 0] Reference When "1" is set to count B4-size paper as a large size, LTR-size paper is counted as a small size.	
REPORT-Z	Use it to switch the attribution flag to be added when printing a report.	1
	Setting value 0: PDL character mode 1: PDL photo mode 2: SCAN character mode 3: SCAN photo mode [Factory setting / After RAM clear: 0]	
IFXEML-Z	Use it to switch the attribution flag to be added when printing an image received by ColoriFAX,E_mail.	1
	settings 0: SCAN photo mode 1: PDL photo mode 2: SCAN text mode 3: PDL text mode [at time of shipment/RAM initialization: 0]	

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
BMLNKS-Z	Use it to switch the attribution flag to be added when printing an image received by BMLinkS.	1
	Setting value 0: SCAN photo mode 1: PDL photo mode 2: SCAN character mode 3: PDL character mode [Factory setting / After RAM clear: 0] Reference 0: SCAN photo mode The black character consists of 4 black colors. Errors are diffused. The color tint is brighter than 2. 1: PDL photo mode The black character consists of 4 black colors. Screening is executed to the image. 2: SCAN character mode The black character consists of a single black color. The color tint in the photo is different from the color printed in 0. (It may be difficult for amateurs to recognize the difference.) Errors are diffused. 3: PDL character mode The black character consists of a single black color. Screening is executed to the image.	
LDAP-ADD	Use it to select the condition for LDAP search to be added. Decides whether to add "ObjectClass" and "SrchNameRow" in the pull-down list of the current searching condition (name, organization, organization unit, fax, email).	1
	⚠ Only destinations for fax and email can be searched. Setting value 0: Do not add the searching condition. 1: Add the searching condition. [Factory setting / After RAM clear: 0]	
W-CLN-P	Use it to set the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned in a normal environment in terms of the number of copies. The new setting will not be valid until the main power switch has been turned off and then back on.	2
	Range of settings 100p to 2000 at time of shipment/RAM initialization: 2000	
PRI-FAN	Use it to select a primary fan drive mode. Use it to prevent soiling in the form of dots occurring in keeping with drum rotation. The temperature of the cleaning blade may be decreased so that the machine will better be able to remove the ingredients of the black toner sticking to the drum.	2
	Settings 0: in high temperature/humidity environment, half-speed 1: in high temperature/humidity environment, full-speed at time of shipment/upon RAM initialization 0	
SCANSLCT	Enable/disable the function used to compute the area of scanning based on the selected paper size.	2
	settings 0: OFF (area determined based on original detection) 1: ON (area determined based on paper size) at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
OHP-TEMP	Use it to switch over transparency down-sequence tables.	
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	2
DH-SW	Use it to perform Dhalf.	
	Settings 0: do not perform Dhalf control 1: perform Dhalf control at time of shipment/upon RAM initialization: 1	2
DM-MODE	Use it to enable/disable image density correction control as part of auto gradation correction (PASCAL)	
	Settings 0: do not perform 1: perform at time of shipment/upon RAM initialization: 0	2
SENS-CNF	Use it to set the original sensor.	
	Settings 0: AB configuration 1: inch configuration at time of shipment/upon RAM initialization: 0	2
DM-SW	Use it to enable/disable image gradation correction and image density correction after making a specific number of prints.	
	Settings 0: do not perform (default) 1: perform every 200 prints up to initial 2000 2: perform every 200 prints up to initial 4000 3: perform at all times (every 200 prints) 4: reserved To change the intervals (200 prints at default), use COPIER>OPTIONAL>BODY>INTROT2. at time of shipment/upon RAM initialization: 3	2
RAW-DATA	Use it to specify whether or not to print out received data as it is. If the received image has a fault, use this mode to find out whether the fault is in the data or in the image processing.	
	Settings 0: normal operation 1: print as is at time of shipment/upon RAM initialization: 0	2
BK-BND	Use it to increase the black belt in 4C mode. Use it to prevent photosensitive drum cleaning faults in an N/L environment.	
	Settings 0: increase by 100% 1: increase by 150% 2: increase by 20% at time of shipment/upon RAM initialization: 0	2
RMT-LANG	Use it to switch the language of the remote UI used through the Web. Method of Adjustment Use the +/- key to select the appropriate language code.	2

COPIER>OPTION>BODY （iR C6800/C5800）		
Subheading	**Contents**	**Level**
IFAX-LIM	Use it to limit the number of output lines for when a large volume of data is received over i-fax.	2
	settings range 0: no limit 0 to 999 at time of shipment/upon RAM initialization: 500	
TR-CLN	Use it to perform the cleaning sequence designed to avoid soiling on the back of paper caused by the secondary transfer roller. 77-mm back soiling preventive mode	2
	Settings: 0: perform only in H/H environment 1: disable in all environments 2: enable in all environments at time of shipment/upon RAM initialization: 0	
SMTPTXPN	Use it to change the number of the SMTP transmission port.	2
	settings range 0 to 65535 (in increments of 1) at time of shipment/upon RAM initialization: 25	
SMTPRXPN	Use it to change the number of the SMTP reception port.	2
	settings range 0 through 65535 (in increments of 1) at time of shipment/upon RAM initialization: 25	
POP3PN	Use it to change the number of the POP reception port.	2
	settings range 0 through 65535 (in increments of 1) at time of shipment/upon RAM initialization: 110	
ORG-LGL	Use it to set a special paper size not recognized by the DF size detection mechanism.	2
	settings 0: LEGAL 1: FOOLSCAP 2: A-FOOLSCAP 3: FORIO 4: G-LEGAL 5: OFFICIO 6: E-OFFICIO 7: A-OFFICIO 8: B-OFFICIO 9: A-LEAGAL 10: M-OFFICIO at time of shipment/upon RAM initialization: 0	
ORG-LTR	Use it to set a special paper size not recognized by the DF size detection mechanism.	2
	settings 0: LTR 1: G-LTR 2: A-LTR 3: EXECTIVE at time of shipment/upon RAM initialization: 0	
ORG-LTRR	Use it to set a special paper size not recognized by the DF size detection mechanism. 0: LTR (at time of shipment/upon RAM initialization)	2
	settings 0: LTR-R (default) 1: G-LTR-R 2: A-LTR-R 3: EXECTIVE-R at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
ORG-LDR	Use it to set a size that cannot be recognized by DH. Use it when A-LTR is recognized as LDR by mistake.	2
	Setting value 0: LDR 1: A-LTR 2 or larger: LDR [Factory setting / After RAM clear: 0]	
ORG-B5	Use it to set a special paper size not recognized by the DF size detection mechanism. 0: B5 (at time of shipment/upon RAM initialization)	2
	settings 0: B5 1: K-LEAGAL at time of shipment/upon RAM initialization: 0	
UI-BOX	Use it to enable/disable display of the control panel Box scan.	2
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	
UI-SEND	Use it to enable/disable display of the control panel Transmission screen.	2
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	
UI-FAX	Use it to enable/disable display of the control panel Fax screen.	2
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	
UI-EXT	Use it to enable/disable display of the control pane Extension screen.	2
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	
SCR-SLCT	Use it to select halftone processing for film/photo mode. Method of Adjustment If moire is found in the output image or the dots make the image appear too coarse while the default (1: use screen with fewer lines) is selected, change the setting as follows: - if moire is noted, change to '0' (use error diffusion); this setting is suited to the reproduction of text. - if the image appears too coarse because of the dots, change to '2' (use screen with more lines).	2
	settings 0: use error diffusion 1: use low-number screen (at time of shipment/upon RAM initialization) 2: use high-number screen at time of shipment/upon RAM initialization: 1	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
TMC-SLCT	Use it to switch over coefficients used for error diffusion processing. If the output image has started to show uneven density or rough texture as more and more prints are made, change the setting for better dot stabilization so that the fault may be less noticeable.	2
	settings 0: standby 1: decrease sensitivity to grain/low stability 2: increase sensitivity to grain/high stability at time of shipment/upon RAM initialization: 0	
D-CLN-TM	Use it to change the length of drum idle rotation. Use it to prevent soiling in the form of dots occurring in keeping with drum rotation. The machine executes idle rotation when it is turned on to remove residual matter from the drum.	2
	Settings 0: do not execute idle rotation 1: execute idle rotation for 30 sec 2: execute idle rotation for 60 sec at time of shipment/upon RAM initialization: 0 Settings 3 through 6 are reserved (currently invalid).	
DEVL-VTH	Use it to set a threshold for image density over which the machine will execute discharge sequence (designed as a remedy against rough image texture on copies of low-density images made in continuous printing). If possible, do not use it as long as machine operation is normal.	2
	settings range 1 to 5 (unit: %) at time of shipment/upon RAM initialization: 2)	
FTPTXPN	Use it to select the port number (FTP) as the target of SEND transmission.	2
	settings range 0 to 65535 (16-bit; at time of shipment/upon RAM initialization: 21)	
PRN-FLG	Selecting an Image Area Flag (for PDL images) In the event that the controller fails to compress a PDL image at a specific rate of compression, image processing will be performed according to the image area flag selected in this mode item.	2
	settings 0: use high-number screen, gray compensation LUT 1: use error diffusion, gray compensation LUT 2: use high-number screen, normal LUT at time of shipment/upon RAM initialization: 0	
SCN-FLG	Use it to select an image area flag (for copy image). If compression at a specific rate fails on the controller over a scan image, image processing will be executed according to the image flag selected in this mode.	2
	settings 0: text 1: screened photo image 2: printed photo image at time of shipment/upon RAM initialization: 0	
T-LW-LVL	Use it to change the setting at which an alert message is issued for the level of toner. The threshold (%) of the level of toner over which the message is issued to indicate that toner is running short may be changed. A delay, however, can also result in the absence of toner immediately after the alert message.	2
	settings range 5 to 100 at time of shipment/upon RAM initialization: 10	

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
NWERR-SW	Use it to enable/disable the indication of a network-related error message. This switch is used to disable error messages related to networking when the model is not connected to a network even though it is equipped with a network board as standard. An NADA machine is equipped with networking functions, and is by default set for use on a network; however, take advantage of the switch where the machine is not connected to a network (as in the case of installation in a Lawson shop).	2
	settings 0: do not indicate 1: indicate (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	
FX-SPD	Use it to adjust the speed of the fixing roller. If the arching of paper between the secondary transfer roller and the fixing roller is too great, the trailing edge of the paper tends to come into contact with the intermediate transfer belt, causing traces by friction. A change to the speed of fixing will also change the speed of the delivery vertical path roller (fine-adjustment) accordingly. A higher setting will increase the speed.	2
	settings range -3 to 3 at time of shipment/upon RAM initialization: 0	
STS-PORT	Enabling/Disabling the TOT Synchronous Command Communication Port Use it to enable or disable the inquiry/response (synchronous) command communication port for TUIF over TCP/IP.	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 0	
CMD-PORT	Enabling/Disabling the TOT Asynchronous Status Communication Port Use it to enable or disable the asynchronous status communication port for TUIF over TCP/IP.	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 0	
MODELSZ2	Global Support for Copyboard Original Size Detection (mix of AB/Inch) When the setting is '1' , the machine will support global mode (AB/Inch) regardless of the setting of the swing flag MODEL-SZ (AB, Inch).	2
	Settings 0: normal 1: AB/inch mix detection at time of shipment/upon RAM initialization: 0	
SZDT-SW	Use it to enable/disable the switch-over from CCD size detection to photo size detection for copyboard original size detection.	2
	Settings 0: disable photo size detection 1: enable photo size detection at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
UISW-DSP	Indication of the User Screen Switch Use it to enable or disable the indication of the switch used to switch between the Standard Specifications screen and Simple Specifications screen (Lawson type). - type equipped with functions equivalent to those of standard machines - type equipped with limited functions, e.g., those machines installed in Lawson shops. Use it to enable or disable the indication of the switch used by the user (shop administrator) to switch between screens to meet individual needs. (The switch is offered to authorized users only.)	2
	Settings 0: do not display (at time of shipment/upon RAM initialization) 1: display at time of shipment/upon RAM initialization: 0	
ITB-CLN	Use it to execute the ITB black band sequence at time of initial multiple rotation automatic adjustment.	2
	Settings: 0: disable 1: force execution once 2 and 3: reserved (input invalid) at time of shipment/upon RAM initialization: 0	
NS-CMD5	Use it when imposing limits to the use of CRAM-MD5 certification for SMTP (NoSasl challenge response authentication mechanism; MD5 message digest algorithm).	2
	Use it to set CRAM-MD5 certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	
NS-GSAPI	Use it when imposing limits to the use of GSSAPI certification for SMTP (NoSasl generic security service application program interface).	2
	Use it to set GSSAPI certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	
NS-NTLM	Use it when imposing limits to the use of NTML certification for SMTP (NoSasl-windows NTLAN Manager).	2
	Use it to set NTLM certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	
NS-PLNWS	Use it when imposing limits to the use of PLAIN/LOGIN certification (plain language certification for SMTP) where NS-PLNWS communication packets are encrypted for SMTP (NoSasl plain with transport layer security).	2
	Use it to set PLAIN.LOGIN certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	
NS-PLN	Use it when imposing limits to PLAIN/LOGIN certification (plain language certification) where communication packets sure encrypted for SMTP.	2
	Use it to set PLAIN.LOGIN certification for SMTP certification. (environment in which computation packet encryption is not used) 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	
NS-LGN	Use it when imposing limits to LOGIN certification for SMTP (NoSasl LoGiN).	2
	Use it to set LOGIN certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
T-CRG-SW	Use it to permit or not to permit replacement of the toner cartridge by the user when there still is toner in the cartridge.	
	Settings 0: do not permit replacement by user (When the toner runs out (in the case of black toner, is running low), a button will appear to permit replacement of the toner cartridge: i.e., system status/stop>recovery procedure indication). 1: permit replacement by user (A button will appear to permit replacement; i.e., user mode>adjust/cleaning.) at time of shipment/upon RAM initialization: 0	2
TNR-DWN	Use it to set the amount of toner to be deposited. You can decrease the amount of toner, as when stray toner tends to occur in full color mode or when paper tends to wrap around the fixing roller.	
	Settings 0: standard amount (default) 1: decrease for both single-sided and double-sided modes 2: standard for single-sided mode but decrease in double-sided mode for both 1st and 2nd sides (reserved) at time of shipment/upon RAM initialization: 0 An update has been made to do away with setting 2 as a result of recent findings (i.e., the expected operation does not take place in some PDL or copy jobs; although the setting exists in service mode, it behaves like 0).	2
TMIC-BK	Use it to set the correction along the trailing edge for BkLUT and BkLUT for PDL (Tmic).	
	Settings 0: PDL BK_LUT end correction ON; copy Bk_LUT end correction OFF 1: PDL BK_LUT end correction OFF; copy Bk_LUT end correction OFF 2: PDL BK_LUT end correction ON; copy Bk_LUT end correction ON (default) 3: PDL BK_LUT end correction OFF; copy Bk_LUT end correction ON at time of shipment/upon RAM initialization: 2	2
SVMD-ENT	Switching the method of entering the Service Mode.	
	Setting Values 0: [User Mode key] -> Press [2] and [8] simultaneously -> [User Mode key] [Initial setting upon shipment/value after RAM clear] 1: [User Mode key] -> Press [4] and [9] simultaneously -> [User Mode key] Reference Information Support for Siemens	2
DH-MODE	Patch Data (high density side) Used in D-half Except in Full Correction Change the default setting so that the readout collected from D-half at time of full correction will be substituted for the patch on the high density side at time of D-half (other than in full correction).	
	Settings 0: use patch image read data of full correction (at time of shipment/upon RAM initialization) 1: do not use patch image read data of full correction at time of shipment/upon RAM initialization: 0	2
W-CLN-PH	Use it to set the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned. If an image fault (e.g., vertical lines) occurs in a high temperature/humidity environment, the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned may be changed. Note: In a normal environment, be sure to use W-CLN-P to set the intervals used to automatically clean the primary charging wire.	
	Range of settings 100 to 1000 at time of shipment/upon RAM initialization: 1000	2

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
B-SPL-SW	Use it to set the environment table for black toner supply.	
	settings range 0: variable 1: fixed at time of shipment/upon RAM initialization: 0	2
B-CNT-SW	Use it to set the environment table for black development contrast.	
	settings range 0: variable 1: fixed at time of shipment/upon RAM initialization: 0	2
1ROT-CR	Use it to change the retention current for primary transfer retention current idle rotation. If the user disconnects the power plug at night and thus the drum heater goes off, the temperature of the primary transfer roller is not likely to match that of the drum when the power is turned on the next morning; and the resulting temporary change in the resistance of the primary transfer roller at times prevents proper performance of ATVC. If the level of current set by default is not high enough, use this item to increase it.	
	Settings 0: refer to environment sensor 1: 60uA 2: 70uA 3: 80uA 4: 90uA 5: 100uA 6: 110uA 7: 120uA at time of shipment/upon RAM initialization: 0	2
1ROT-TIM	Use it to change the duration of primary transfer power retention current idle rotation.	
	Settings 0: refer to environment sensor 1: 40sec 2: 60sec 3: 120sec 4: 180sec 5: 300sec 6: 420sec 7: 600sec at time of shipment/upon RAM initialization: 0	2
2ROT-TIM	Use it to change the secondary transfer power retention idle rotation.	
	Settings 0: refer to environment sensor 1: 40sec 2: 60sec 3: 120sec 4: 180sec 5: 300sec 6: 420sec 7: 600sec at time of shipment/upon RAM initialization: 0	2
DEV-K-TM	Use it to set the duration of toner discharge executed as part of the ITB black band cleaning sequence.	
	Use it to set the duration of toner discharge executed as part of the ITB black band cleaning sequence. Settings 1: 10 2: 20 at time of shipment/upon RAM initialization: 1	2

COPIER>OPTION>BODY (iR C6800/C5800)		
Subheading	**Contents**	**Level**
CDEV-IDL	Use it to enable/disable power-on idle rotation of the color developing assembly (YMC). Use it to adjust the intervals of patch ATR for the No. 1 limit. A higher limit will increase the execution intervals, but will affect the density. On the other hand, although a lower limit will decrease the intervals, the density will be more stable. - the number of prints (CNT) reset upon execution of patch detection - cumulative video count CNT) Timing - perform patch detection during last rotation of the ongoing job when the No. 1 limit (20 prints) is exceeded. - force patch detection by interrupting the job as soon as the No. 2 limit is exceeded. - force patch execution as soon as the cumulative VC exceeds 300% (in terms of A4). 1 print = 3 images (YMC only); for image count, 1 for small and 2 for large)	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 1	
PCHINT-1	Use it to change the intervals of 1-patch detection (No. 1 limit) in terms of the number of prints. Use it to change the intervals of patch ATR for the No. 1 limit. A higher limit will increase the downtime intervals, but will affect the density. On the other hand, although a lower limit may decrease the downtime intervals, the density will be more stable. The following triggers are used to initiate patch detection: - when the 1st limit (20 prints) is exceeded, execute patch detection during the last rotation of the ongoing job. - when the 2nd limit is exceed, stop the ongoing job and force patch detection. (1 print = 3 images (YMC only); for image count, 1 for small and 2 for large) The above No. 1 limit may be changes. A higher limit will increase downtime intervals, but will affect density. On the other hand, although a lower limit will decrease downtime intervals, the density will be more stable. By default, the No. 1 limit is 20 prints (60 images), variable between -10 and + 10 (offset).	2
	Use it to change the intervals of 1-patch detection (No. 1 limit) in terms of the number of prints. settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	
PCHINT-2	Use it to adjust the intervals of patch detection (No. 2 limit). Use it to change the patch ATR intervals for the No. 2 limit. For the triggers used to initiate patch detection, see the list for PCHINT-1.	2
	Settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	
PCHINT-V	Use it to adjust the intervals of patch detection (video counter cumulative count). Use it to adjust the intervals of patch ATR in relation to the video counter cumulative count.	2
	Settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	
POT-OFTM	Use it to adjust the length of time for the detection of a disconnected connector or to adjust the potential sensor offset. By default, the machine executes idle rotation of the fixing roller for 1 seconce every 30 min to prevent deformation of the roller while in standby.	2
	Settings range: 5 to 50 (unit: sec) at time of shipment/upon RAM initialization: 5	

COPIER>OPTION>BODY （iR C6800/C5800)		
Subheading	**Contents**	**Level**
FXWRNLVL	Use it to set the fixing upper roller alert level. Use it to change the alert level in relation to the fixing counter reading. If you have replaced the fixing roller or the fixing unit with a modified type (with a longer life), use this mode to set the level to suit the new type: i.e., change the setting of the following service mode item to '1' or '2': COPIER>OPTION>BODY>FXRWNLVL. Then, decrease the following setting slightly: COPIER>COUNTER>MISC>FX-UP-RL. Make copies to see that the appropriate alert is issued when the counter reaches a specific setting.	2
	Settings range 0: 180,000 1: 150,000 2: 120,000 at time of shipment/upon RAM initialization: 0	
FXERRLVL	Use it to change the fixing roller error level setting. Use it to change the error level of the fixing counter count. If you have replaced the fixing roller or the fixing unit with a modified type (with a longer life), change the setting to suit the new type. The threshold of the fixing error level will be in relation to the setting made using the following service mode (offset by the level you set here): COPIER>OPTION>BODY>FXWRNLVL.	2
	Settings 0: +20,000 1: +40,000 2: +60,000 3: no error (alert retained) at time of shipment/upon RAM initialization: 0	
PCHINTV2	Use it to change the intervals of post rotation patch detection (video counter count). Use it to change the intervals of patch ATR in relation to the cumulative video count. When a specific video count is exceeded, ATR patch detection is executed during last rotation at the end of the ongoing job, and the limit of the cumulative video count may be changed. A higher limit will increase the downtime intervals, but will affect the density. On the other hand, although a lower limit will decease the downtime intervals, the density will be more stable.	2
	Settings range: -10 to +10 (level: 10% duty/A4) default: 200% duty (A4, 5% duty x 40 prints) at time of shipment/RAM initialization: 0	
DLV-SPSW	Use it to change the delivery speed.	2
	Settings 0: delivery speed with priority on FCOT (about.635 mm/sec) 1: delivery speed with priority on paper edge damage avoidance (about.276 mm/sec) at time of shipment/upon RAM initialization: 0	
DA-CNCT	Use it to select whether to use DA. Selects whether to use DA (software).	2

	Setting value
	0: Do not use DA.
	1: Use DA.
	[Factory setting / After RAM clear: 0]
	
	⚠️
	
	- "1 (DA disabled)" should be set to use DA. When DA (hardware) is installed in the main unit but "1" is not set, it cannot be used.
	- When "1" is set to COPIER>OPTION>BODY>DA-CNCT, "ON" is set to the following items.
	COPIER>OPTION>BODY>STS-PORT
	             >CMD-PORT
	             >SSH-SW
	             >DA-PORT	

COPIER>OPTION>BODY（iR C6800/C5800）		
Subheading	**Contents**	**Level**
FXMSG-SW	Use it to enable/disable the message that prompts replacement of the fixing assembly. Use it to enable/disable the message on the control panel indication the need for the replacement of the fixing assembly. Normally, the setting is enabled; however, you can disable the message if there is no need for replacement (so that the user will not feel unnecessarily concerned and place a service call). If replacement is necessary, be sure to replace it and enable the setting.	2
	Settings 0: do not indicate 1: indicate a time of shipment/upon RAM initialization: 1	
G-LUT-SW	Use it to change the gamma LUT auto correction function. Use it to adjust the control on image formation in relation to the state (on/off) of the gamma LUT auto correction function.	2
	Settings range 0: off (do not apply gamma LUT auto correction) 1: copy T-mic (apply gamma LUT auto correction) 2: copy PDL T-mic (apply gamma LUT auto correction) 3: all (apply gamma a LUT auto correction) at time of shipment/upon RAM initialization; 1	
G-LUT-MX	Use it to change the gamma LUT auto correction function (maximum correction slope). Use it to set the maximum correction slope used to determine the final correction point for gamma LUT auto correction function.	2
	Settings 0: 2.4 1: 2.2 2: 2.0 3: 1.8 4: 1.6 at time of shipment/upon RAM initialization: 2	
G-LUT-SZ	Use it to set the gamma LUT auto correction function (smoothing intervals). Use it to set the intervals of smoothing executed as part of the gamma LUT auto correction function.	2
	Settings 0: 30 1: 35 2: 40 3: 45 4: 50 at time of shipment/upon RAM initialization: 0	
TR-BKBND	Use it to set the black band used to prevent bending/slipping of the transfer cleaning blade. The machine is designed to deposit a black band to prevent bending/shipping of the transfer charging cleaning blade before cleaning the photosensitive drum immediately after patch detection or before application of the secondary transfer reverse bias.	2
	Settings 0: off (default) 1: on only if H/H 2: on at all times at time of shipment/upon RAM initialization: 0	
1TR-ATVC	Use it to enable/disable the primary transfer ATVC retry function for initial multiple rotation. Use it to enable/disable the primary transfer ATVC retry function for initial multiple rotation to suit the site of installation.	2
	Settings 0: off at all times (spare) 1: on only if H/H (default) 2: on normally at time of shipment/upon RAM initialization: 1	

COPIER>OPTION>BODY （iR C6800/C5800）		
Subheading	**Contents**	**Level**
FXLW-TMP	Use it to change the control temperature for the pressure roller.	2
	Settings 0: 170 deg C(default) 1: 160 deg C 2: 150 deg C at time of shipment/upon RAM initialization: 0	
GLUTLV-Y/ M/K	for study by design dpt	2
GLUTLV-C	Use it to adjust the slope as part of the gamma LUT auto correction mechanism of the controller when improvement is needed to correct coarseness of images read of a cyan solid original.	2
	Settings 0: 2.4 1: 2.0 2: 1.6 3: 1.2 4: 0 at time of shipment/upon RAM initialization: 0	
GLUTMX-Y/ M/C/K	Use it to adjust the maximum correction slope as part of the gamma LUT auto correction mechanism of the controller when improvement is needed to correct coarseness of images read of a cyan solid original.	2
	Settings 0: 2.4 1: 2.2 2: 2.0 3: 1.8 4: 1.6 at time of shipment/upon RAM initialization: 2	
GLUTOF-Y/ M/C/K	for study by design dpt	2
HDD-TMP	Use it to set a level of temperature to serve as a reference for detecting a low temperature error.	2
	Settings 0 to 30 deg C at time of shipment/upon RAM initialization: 2	
HDD-TIM	Use it to set the time interval allowed before a low temperature error is identified	2
	Settings 0 to 200 min at time of shipment/upon RAM initialization: 10	
HDD-SW	Use it to enable/disable E code indication of a low temperature error	2
	Settings 0: indicate 1: do not indicate at time of shipment/upon RAM initialization: 0	
BG-CTR	Controlling correction of coarse image on solid area Controlling image formation to be corrected as well as ON/OFF of the function to correct coarse image on solid area	2
	Settings 0: OFF (Coarse image on solid area is not corrected.) [Factory default/After RAM is cleared] 1: Copy T-mic (Coarse image on solid are is corrected.) 2: Copy PDL T-mic (Coarse image on solid are is corrected.) 3: ON (Coarse image on solid are is corrected on the whole.)	

COPIER>OPTION>BODY （iR C6800/C5800）		
Subheading	**Contents**	**Level**
BG-SET	Settings of coarse image correction on solid area	
	Settings 0: Rougher than standard 1: A little rougher than standard 2: Standard [Factory default/After RAM is cleared] 3: A little finer than standard 4: Finer than standard	2
CKT-LANG	Switching Step1/Step2 of CL1 series (destined for China, Korea, Taiwan)	
	Settings 0: Step1 1: Step2 Reference Step 1: English descriptions partially remain. Step 2: Descriptions are entirely destined for China/Korea/Taiwan. Since the existing CL1 series are all Step1, use this mode to switch the setting to Step 2.	2

2. USER <iR C6800/iR C5800>

T-16-112

COPIER>OPTION>USER （iR C6800/iR C5800）		
Subheading	**Contents**	**Level**
COPY-LIM	Use it to change the upper limit on the copy count.	
	Settings range 1 to 9999 (prints) at time of shipment/upon RAM initialization: 9999	1
SLEEP	Use it to enable/disable the sleep function.	
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 1 Use 'timer setup' of user mode to set the sleep function.	1
COUNTER 1	Use it to set soft counter 1 appearing on the User Mode screen.	
	101: total 1 at time of shipment/upon RAM initialization: 1 (fixed and cannot be changed)	1
COUNTER 2	Use it to have the counter type of soft counter 2 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 108	1
COUNTER 3	Use it to change the counter type of soft counter 3 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 232	1
COUNTER 4	Use it to change the counter type of soft counter 4 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars my be changed to suit the needs of the user or the dealer.	
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 324	1

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
COUNTER 5	Use it to change the counter type of soft counter 5 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 0	
COUNTER 6	Use it to change the counter type of soft counter 6 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 0	

Software Counter Specifications
000s: remote copy
100s: total
200s: copy
300s: print
400s: copy + print
500s: scan
600s: box
700s: reception print
800s: report print

Guide to the Table
yes: counter valid on the machine
4C: full color
mono: mono color (YMC/RGB; ageing effect mono)
Bk: black mono
L: large-size (larger than B4)
S: small-size (B4 and smaller)
counter particular 1, 2: indicates the count of large-size sheets; B4 may be counted as large-size if so set in service mode: COPIER>OPTION>USER>BR_L_CONT).
copy: local copy + remote copy
copy A: local copy + remote copy + box print
print: PDL print + report print + box print
print A: PDL port + report print
scan: black-and-white scan + color scan

T-16-113

Sport	**No.**	**Counter particulars**
	000	no indication
yes	002	remote copy (full color 1)
yes	003	remote copy (full color o2)
yes	004	remote copy (mono color 1)
yes	005	remote copy (mono color 2)
yes	006	remote copy (black-and-white 1)
yes	007	remote copy (black-and-white 2)
yes	008	remote copy (full color; large)
yes	009	remote copy (full color; small)
yes	010	remote copy (mono color; large)
yes	011	remote copy (mono color; small)
yes	012	remote copy (black-and-white; large)
yes	013	remote copy (black-and-white; small)
yes	014	remote copy (full color + mono color; large)
yes	015	remote copy (full color + mono color; small)

Sport	No.	Counter particulars
yes	016	remote copy (full color + mono color 2)
yes	017	remote copy (full color + mono color 1)
yes	018	remote copy (full color; large; double-sided)
yes	019	remote copy (full color; small; double sided)
yes	020	remote copy (mono color; large; double-sided
yes	021	remote copy (mono color; small; double-sided)
yes	022	remote copy (black-and-white; large; double-sided)
yes	023	remote copy (black-and-white; small; doubles-sided)

T-16-114

Sport	No.	Counter particulars
yes	101	total 1
yes	102	total 2
yes	103	total (large)
yes	104	total (small)
yes	105	total (full color 1)
yes	106	total (full color 2)
yes	108	total (black-and-white 1)
yes	109	total (black-and-white 2)
yes	110	total (mono color; lag)
yes	111	total (mono color; small)
yes	112	total (black-and-white; large)
yes	113	total (black-and-white; small)
yes	114	total 1 (double-sided)
yes	115	total 2 (double-sided)
yes	116	large-size (double-sided)
yes	117	Small-size (double-sided)
yes	118	total (mono color 1)
yes	119	total (mono color 2)
yes	120	total (full color; large)
yes	121	total (full color; small)
yes	122	total (full color + mono color; large)
yes	123	total (full color + mono color; small)
yes	124	total (full color + mono color 2)
yes	125	total (full color + mono color 1)

T-16-115

Sport	Sport	Counter particulars
yes	201	copy (total 1)
yes	202	copy (total 2)
yes	203	copy (large)
yes	204	copy (small)
yes	205	copy A (total 1)
yes	206	copy A (total 2)
yes	207	copy A large)
yes	208	copy A (small)
yes	209	local copy (total 1)
yes	210	local copy (total 2)
yes	211	local copy (large)
yes	212	local copy (small)
yes	213	remote copy (total 1)
yes	214	remote copy (total 2)
yes	215	remote copy (large)

Sport	Sport	Counter particulars
yes	216	remove copy (small)
yes	217	copy (full color 1)
yes	218	copy (full color 2)
yes	219	copy (mono color 1)
yes	220	copy (mono color 2)
yes	221	copy (black-and-white 1)
yes	222	copy (black-and-white 2)
yes	223	copy (full color; large)
yes	224	copy (full color; small)
yes	225	copy (mono color; large)
yes	226	copy (mono color; small)
yes	227	copy (black-and-white; large)
yes	228	copy (black-and-white; small)
yes	229	copy (full color + mono color; large)
yes	230	copy (full color + mono color; small)
yes	231	copy (full color + mono color; 2)
yes	232	copy (full color mono color; 1)
yes	233	copy (full color; large; double-sided)
yes	234	copy (full color; small; double-sided)
yes	235	copy (mono color; large; double-sided)
yes	236	copy (mono color; small; double-sided)
yes	237	copy (black-and-white; large; double-sided)
yes	238	copy (black-and-white; small; double-sided)
yes	245	copy A (full color 1)
yes	246	copy A (full color 2)
yes	247	copy A (mono color 1)
yes	248	copy A (mono color 2)
yes	249	copy A (black-and-white 1)
yes	250	copy A (back-and-white 2)
yes	251	copy A (full color; large)
yes	252	copy A (full color; small)
yes	253	copy A (mono color; large)
yes	254	co A (mono color; small)
yes	255	copy A (black-and-white; large)
yes	256	copy A (black-and-white; small)
yes	257	copy A (full color + mono color; lag)
yes	258	copy A (full color + mono color; small)
yes	259	copy A (full color + mono color; color 2)
yes	260	copy A (full color + mono color 1)
yes	261	copy A (full color; large; double-sided)
yes	262	copy A (full color; small; double-sided)
yes	263	copy A (mono color; laser; double-sided)
yes	264	copy A (mono color; small; double-sided)
yes	265	copy A (black-and-while; large; double-sided)
yes	266	copy A (black-and-white; small; double-sided)
yes	273	local copy (full color 1)
yes	274	local copy (full color 2)
yes	275	local copy (mono color 1)
yes	276	local copy (mono color 2)
yes	277	local copy (black-and-white 1)
yes	278	local copy (black-and-white 2)
yes	279	local copy (full color; large)

Sport	Sport	Counter particulars
yes	280	local copy (full color; small)
yes	281	local copy (mono color; large)
yes	282	local copy (mono color; small)
yes	283	local copy (black-and-white; large)
yes	284	local copy (black-and-white; small)
yes	285	local copy (full color + mono color; small)
yes	286	local copy (full color + mono color; small)
yes	287	local copy (full color +mono color 2)
yes	288	local copy (full color + mono color 1)
yes	289	local copy (full color; large; double-sided)
yes	290	local copy (full color; small; double-sided)
yes	291	local copy (mono color; large; double-sided)
yes	292	local copy (mono color; small; double-sided)
yes	293	local copy (black-and-white; large; double-sided)
yes	294	local copy (black-and-white; small; double-sided)

T-16-116

Sport	No.	Counter particulars
yes	301	print (total 1)
yes	302	print (total 2)
yes	303	print (large)
yes	304	print (small)
yes	305	print A (total 1)
yes	306	print A (total 2)
yes	307	print A (laser)
yes	308	pint A (small)
yes	309	print full color 1)
yes	310	print (full color 2)
yes	311	print (mono color 1)
yes	312	print (mono color 2)
yes	313	print (black-and-white 1)
yes	314	print (black-and-white 2))
yes	315	print (full color; large)
yes	316	print (full color small)
yes	317	print (mono color; large)
yes	318	print (mono color; large)
yes	319	print (black-and-white; large)
yes	320	print (black-and-white; small)
yes	321	print (full color + mono color; large)
yes	322	print (full color + mono color; small)
yes	323	print (full color + mono color/2)
yes	324	front (full color + mono color/1)
yes	325	print (full color; large; double-sided)
yes	326	front (full color; small; double-sided)
yes	327	front (mono color; large; double-sided)
yes	328	print (mono color; small; double-sided)
yes	329	print (black-and-while; large; double-sided)
yes	330	print (black-and-white; small; sided-sided)
yes	331	PDL print (total 1)
yes	332	PDL print (total 2)
yes	333	PDL print (large)
yes	334	PDL print (small)

Sport	No.	Counter particulars
yes	335	PDL print (full color 1)
yes	336	PDL print (full color)
yes	339	PDL print (black-and-white 1)
yes	340	PDL print (black-and-white 2)
yes	341	PDL print (full color; large)
yes	342	PDL print (full color; small)
yes	345	PDL print (black-and-white; large)
yes	346	PDL print (black-and-while; small)
yes	351	PDL print (full color; large; double-sided)
yes	352	PDL print (full color; small; double-sided)
yes	355	PDL print (black-and-white; large; double-sided)
yes	356	PDL print (black-and-white; small; double-sided)

T-16-117

Sport	No.	Counter particulars
yes	401	copy + print (full color; large)
yes	402	copy + print full color; small)
yes	403	copy + print (black-and-white; large)
yes	404	copy + print (black-and-white; small)
yes	405	copy + print (black-and-white 2)
yes	406	copy + print (black-and-white 1)
yes	407	copy print (full color + mono color; large)
yes	408	copy + print (full color + mono color; small)
yes	409	copy + print (full color + mono color/2)
yes	410	copy + print (full color + mono color/1)
yes	411	copy + print (large)
yes	412	copy + print (small)
yes	413	copy + print (2)
yes	414	copy + print (1)
yes	415	copy + print (mono color; large)
yes	416	copy + print (mono color; small)
yes	417	copy + print (full color; large; double-sided)
yes	418	copy + print (full color; small; double-sided)
yes	419	copy + print (mono color; large; double-side)
yes	420	copy + print (mono color; small; double-sided)
yes	421	copy + print (black-and-white; large; double-sided)
yes	422	copy + print (black-and-white; small double-sided)

T-16-118

Sport	No.	Counter particulars
yes	501	scan (total 1)
-	502	scan (total 2)
-	503	scan A(large)
-	504	scan (large)
yes	505	black-and-white scan (total 1)
-	506	black-and-white scan (total 2)
-	507	black-and-white scan (large)
-	508	black-and-white scan (small)
yes	509	color scan (total 1)
-	510	color scan (total 2)
-	511	color scan (large)
-	512	color scan (small)

T-16-119

Sport	No.	Counter particulars
yes	601	box print (total 1)
yes	602	box print (total 2)
yes	603	box print (large)
yes	604	box print (small)
yes	605	box print (full color 1)
yes	606	box print (full color 2)
yes	607	box print (mono color 1)
yes	608	box print (mono color 2)
yes	609	box print (black-and-white 1)
yes	610	box print (black and-white 2)
yes	611	box print (full color; large)
yes	612	box print (full color; small)
yes	613	box print (mono color; large)
yes	614	box print (mono color; small)
yes	615	box print (lack-and-white; large)
yes	616	box print (black-and-white; small)
yes	617	box print (full color + color; large)
yes	618	box print (full color + mono color; small)
yes	619	box print (full color + mono color 2)
yes	620	box print (full color + mono color 1)
yes	621	box print (full color; large; double-sided)
yes	622	box print (full color; small; double-sided)
yes	623	box print (mono color; large; double-sided)
yes	624	box print (mono color; small; double-sided)
yes	625	box print (black-and-white; large; double-sided)
yes	626	box print (black-and-white; small; double-sided)

T-16-120

Sport	No.	Counter particulars
yes	701	reception print (total 1)
yes	702	reception print (total 2)
yes	703	reception print (large)
yes	704	reception print (small)
-	705	reception print (full color 1)
-	706	reception print (full color 2)
-	707	reception print (grayscale 1)
-	708	reception print (grayscale 2)
yes	709	reception print (black-and-white 1)
yes	710	reception print (black-and-white 2)
-	711	reception print (full color; large)
-	712	reception print (full color; small)
-	713	reception print (grayscale; large)
-	714	reception print (grayscale; small)
yes	715	reception print (black-and-white; large)
yes	716	reception print (black-and-white; small)
-	717	reception print (full color + grayscale; large)
-	718	reception print (full color + grayscale; small)
-	719	reception print (full color + grayscale 2)
-	720	reception print (full color + grayscale 1)
-	721	reception print (full color; large; double-sided)
-	722	reception print (full color; small; double-sided)

Sport	No.	Counter particulars
-	723	reception print (grayscale; large: double-sided)
-	724	reception print (grayscale; small; double-side)
yes	725	reception print (black-and-white; large; double-sided)
yes	726	reception print (black-and-white; small; double-sided)

T-16-121

Sport	No.	Counter particulars
yes	801	report print (total 1)
yes	802	report print (total 2)
yes	803	report print (large)
yes	804	report print (small)
-	805	report point (full color 1)
-	806	report print (full color 2)
-	807	report print (grayscale 1)
-	808	report print (grayscale 2)
yes	809	report print (lack-and-white 1)
yes	810	report print (black-and-white 2)
-	811	report print (full color large)
-	812	report print (full color; small)
-	813	report print (grayscale; large)
-	814	report print (grayscale; small)
yes	815	report print (black-and-white; large)
yes	816	report print (black-and-white; small)
-	817	report print (full color + grayscale; large)
-	818	report print (full color + grayscale; small)
-	819	report print (full color + grayscale 2)
-	820	report print (full color + grayscale 1)
-	821	report print (full color; large; double-sided)
-	822	report print (full color; small; double-sided)
-	823	report print (grayscale; large; double-sided)
-	824	report print (grayscale: small; double-sided)
yes	825	report print (black-and-white; large; double-sided)
yes	826	report print (black-and-white; small; double-sided)

T-16-122

Sport	No.	Counter particulars
-	901	copy scan total 1 (color)
-	902	copy scan total 1 (black-and-white)
-	903	copy scan total 2 (color)
-	904	copy scan total 2 (black-and-white)
-	905	copy scan total 3 (color)
-	906	copy scan total 3 (black-and-white)
-	907	copy scan total 4 (color)
-	908	copy scan total 4 (black-and-while)
-	909	local copy scan (black-and-white)
-	910	local copy scan (black-and-while)
-	911	remote copy scan (color)
-	912	remote copy scan (black-and-white)
-	913	transmission scan total 1 (color)
-	914	transmission scan total 1 (black-and-white)
yes	915	transmission scan total 2 (color)
yes	916	transmission scan total 2 (black-and-white)

Sport	No.	Counter particulars
yes	917	transmission scan total 3 (color)
yes	918	transmission scan total 3 (black-and-white)
-	919	transmission scan total 4 (color)
-	920	transmission scan total 4 (black-and-white)
yes	921	transmission scan total 5 (color)
yes	922	transmission scan total 6 (black-and-white
yes	929	transmission scan total 6 (color)
yes	930	transmission scan total 6 (black-and-white)
-	931	transmission scan total 7 (color)
-	932	transmission scan total 7 (black-and-white)
-	933	transmission scan total 8 (color)
-	934	transmission scan total 8 (black-and-white)
-	935	universal transmission scan total (color)
-	936	universal transmission scan total (black-and-while)
yes	937	box scan (color)
yes	938	box scan (black-and-while)
yes	939	remote scan (color)
yes	940	remote scan (black-and-white)
-	941	transmission scan/fax (color)
-	942	transmission scan/fax (black-and-white)
-	943	transmission scan/i-fax (color)
-	944	transmission scan/i fax (black-and-white)
yes	945	transmission scan/e-mail (color)
yes	946	transmission scan/e-mail (black-and-white)
-	947	transmission scan/FTP (color)
-	948	transmission scan/FTP (black-and-white)
-	949	transmission scan/SMB (color)
-	950	transmission scan/SMB (black-and-white)
-	951	transmission scan/IPX (color)
-	952	transmission scan/IPX (black-and-while)
-	953	transmission scan/detach base (color)
-	954	transmission scan/detach base (black-and-white)
-	955	transmission scan/local print (color)
-	956	transmission scan/local print (black-and-white)
-	957	transmission scan/box (color)
-	958	transmission scan/box (black-and-white)

T-16-123

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
CONTROL	Use it to impose a limit on the use of a control card for a PDL job.	1
	Settings 0: do not limit 1: limit at time of shipment/upon RAM initialization: 0	
B4-L-CNT	For soft counters 1 through 6, use it to specify whether B4 should be counted as large-size or small-size.	1
	Settings 0: small-size 1: large-size at time of shipment/upon RAM initialization: 0	
COPY-JOB	Disabling Copy Job Reservation When the Card Reader/Coin Vendor Is in Use Use it when it is necessary to prevent multiple jobs as when the CCX or coin robot is in use.	1
	Settings 0: permit copy job reservation 1: prohibit copy job reservation at time of shipment/upon RAM initialization: 0	
TAB-ROT	Use it to enable/disable 180-deg rotation of a landscape image for a tab sheet.	1
	Settings 0: do not rotate 1: rotate at time of shipment/upon RAM initialization: 0	
IDPRN-SW	Use it to switch over job types for the group control counter.	1
	Settings 0: count in PRINT category: box print, report print, SEND local print PDL print 1: count in PRINT category: report print, end local print, PDL print at time of shipment/upon RAM initialization: 0	
CPRT-DSP	Use it to enable/disable indication of the count button on the Sales Counter Check screen.	1
	Settings 0: do not indicate 1: indicate at time of shipment/upon RAM initialization: 1	
CNT-SW	Use it to switch over counter indication items. Counters in Question	1
	At the time of the setting value 0 101 total 1 108 total (black-and-white 1) 232 copy (full color + mono color; 1) 324 print (full color + mono color; 1) At the time of the setting value 1 102 total 2 231 copy (full color + mono color; 2) 148 total A (full color + mono color; 2) 222 copy (black-and-white 2) at time of shipment/upon RAM initialization: 0	
BCONT-AST	Use it to switch over counter indication items. Counters in Question	1
	Settings 0: count box print job as PDL job 1: count box print job as copy job at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DFLT-CPY	Use it to set the default color mode of COPY.	1
	Settings 0: ACS 1: full color 2: black-and-white JPN (at time of shipment/upon RAM initialization: 2) UL (at time of shipment/upon RAM initialization: 0) EUR (at time of shipment/upon RAM initialization: 2) other (at time of shipment/upon RAM initialization: 2)	
DFLT-BOX	Use it to set the default color mode for BOX.	1
	Settings 0: ACS 1: full color 2: black-and-white JPN (at time of shipment/upon RAM initialization: 2) UL (at time of shipment/upon RAM initialization: 0) EUR (at time of shipment/upon RAM initialization: 2) others (at time of shipment/upon RAM initialization: 2)	
DOC-REM	Use it to set the message promoting for the removal of originals.	1
	Settings 0: do not indicate 1: indicate at time of shipment/upon RAM initialization: 0	
LDAP-SW	Use it to select the searching condition for LDAP search. Sets the matching condition to retrieve email addresses or fax numbers from the LDAP server.	1
	Setting value 0: Includes the following condition 1: Does not include the following condition 2: Is equal to the following condition 3: Is not equal to the following condition 4: Starts with the following condition 5: Ends with the following condition [Factory setting / After RAM clear: 4] Reference When the LDAP (Lightweight Directory Access Protocol) server is registered, email addresses or fax numbers can be retrieved from the LADP server. The email addresses or fax numbers obtained can be registered in the address/number list, etc	
FROM-OF	Use it to select whether to delete "from-address" used for email sending.	1
	Setting value 0: Do not delete "from-address". 1: Delete "from-address". [Factory setting / After RAM clear: 0]	

COPIER>OPTION>USER （ iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
FILE-OF	Use it to select whether to prohibit transmission to file addresses. Selects whether to prohibit transmission to file addresses by prohibiting input of file addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to file addresses. 1: Prohibit transmission to file addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when a file address is registered, it is desirable to manually delete the file address. (Otherwise, the file address can be used.) - When "1" is set, it is not allowed to import (register) a file address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" for the file exported by RUI or equipment information distribution.	
MAIL-OF	Use it to select whether to prohibit transmission to email addresses. Selects whether to prohibit email transmission by prohibiting input of email addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to email addresses. 1: Prohibit transmission to email addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when an email address is registered, it is desirable to manually delete the email address. (Otherwise, the email address can be used.) - When "1" is set, it is not allowed to import (register) an email address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" by RUI or equipment information distribution.	
IFAX-OF	Use it to select whether to prohibit transmission to I Fax addresses. Selects whether to prohibit transmission to I Fax addresses by prohibiting input of I Fax addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to I Fax addresses. 1: Prohibit transmission to I Fax addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when an I Fax address is registered, it is desirable to manually delete the I Fax address. (Otherwise, the I Fax address can be used.) - When "1" is set, it is not allowed to import (register) an I Fax address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" by RUI or equipment information distribution.	
SIZE-DET	Use it to enable/disable the original size detection function.	2
	Settings 0: off (the scanner will not go on when the copyboard cover is opened/closed thus not blinding the user) 1: on (at time of shipment/upon RAM initialization)	
DATE-DSP	Use it to change the date notation.	2
	Settings 0: YYMM/DD 1: DD/MM'YY 2: MM/DD/YY	

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
MB-CCV	Use it to limit access to the mail box function (control card).	
	Settings 0: do not limit 1: limit at time of shipment/upon RAM initialization: 0	2
TRY-STP	Use it to enable/disable output when the tray becomes full.	
	Settings 0: normal mode (interrupted when the finisher tray becomes full) 1: interrupt in relation to stack height at time of shipment/upon RAM initialization: 0	2
MF-LG-ST	Use it to enable/disable the indication of the Extra length mode.	
	Settings 0: normal 1: indicate key on extension mode screen at time of shipment/upon RAM initialization: 0	2
CNT-DISP	Use it to enable/disable the indication of the serial number in response to a press on the Counter Check key.	
	Settings 0: indicate serial number 1: do not indicate serial number at time of shipment/upon RAM initialization: 0	2
NW-SCAN	Use it to enable/disable the network scan function.	
	Settings 0: no not permit 1: permit (invalid in the absence of a UFR or open I/F board) at time of shipment/upon RAM initialization: 0	2
HDCR-DSP	Use it to enable/disable the indication of HDD initialization mode (user mode).	
	Settings 0: do not indicate and do not initialize 1: initialize once using 0s 2: initialize once using random data 3: initialize 3 times using random data at time of shipment/upon RAM initialization: 0	2
JOB-INVL	Use it to set the intervals of interrupt jobs.	
	Settings 0: standard (permit the next job) 1: permit output of next job after delivery of last page of interrupt job 2: permit output of next job after delivery of last page of all jobs at time of shipment/upon RAM initialization: 0	2
LGSW-DSP	Use it to enable/disable indication of 'log display on/off' on the User Mode screen.	
	Settings 0: do not indicate 'log display on/off'. 1: indicate 'log display on/off' at time of shipment/upon RAM initialization: 0	2
PCL-COPY	Use it to set the PCL command COPIES (Meru/Pinatubo/Hood compatibility mode).	
	Setting mode 0: control page by page according to COPIES command setting on pages 1: Meru/Pinatubo/Hood compatible mode 2 to 65535: space at time of shipment/upon RAM initialization: 0	2
PRJOB-CP	Use it to set the CCV count pulse for reception/report output.	
	Settings 0: do not generate count pulse 1: generate count pulse at time of shipment/upon RAM initialization: 0	2

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
DPT-ID-7	Registering a department ID and inputting a 7-digit code for authentication.	2
	Setting Values 0: As before [Initial setting upon shipment/value after RAM clear] 1: Inputting a 7-digit code Reference Information Support for Siemens	
RUI-RJT	Disconnecting the HTTP port when three authentication failures from RUI are recognized.	2
	Setting Values 0: Invalid [Initial setting upon shipment/value after RAM clear] 1: Valid Reference Information Support for Siemens	
SND-RATE	Use it to set the rate of compression when SEND-RATE is set to 'high'	2
	Settings 0: 1/16 1: 1/20 2: 1/24 A higher rate of compression will lower the image quality. at time of shipment/upon RAM initialization: 0	
CTM-S06	Use it to remove the password from an export file (file transmission address).	2
	range of settings 0:do not remove password from export file 1:remove password from export file. at time of shipment/upon RAM initialization: 0	
CTM-S07	Use it to remove the source indication of the transmission password on the Edit screen (RUI address indication). Use it to remove the source indication of the transmission password on the Edit screen (RUI address indication).	2
	range of settings 0:do not remove source indication of transmission password on Edit screen 1:remove source indication of transmission password on Edit screen at time of shipment/upon RAM initialization: 0	
FXEX-CNT	Use it to set the temperature control hysterisis width for the outside heating roller. The outside heating roller of the machine has a low heating capacity and tends to go on and off frequently; this mode is offered to prevent flickering.	2
	Settings range 0: hysterisis width = -/+1 deg C (225 deg C -/+1 deg C) efault) 1: hysterisis width = -/+2 deg C (224 deg C -/+2 deg C) 2: hysterisis width = -/+3.5 deg C (222.5 deg C -/+3.5 deg C) 3: hysterisis width = -/+4.5 deg C (221.5 deg C -/+4.5 deg C) [at time of shipment/upon RAM initialization: 0]	
PAS-RGST	Character entry settings on the password registration screen	2
	Settings 0: Entered characters are displayed in plain text form [Factory default/After RAM is cleared] 1: Entered characters are in encrypted form (****)	

COPIER>OPTION>USER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
CN-CT	Connection Serialization Switch Use it to enable/disable the connection serialization function.	
	0:off (disables connection serialization function) 1:on (enables connection serialization function) Remarks: Connection Serialization Function It has been designed to support the job grouping function of Version 1.0 of imageWARE Output Manager Select Edition. The iR Series of machines (MFPs) are capable of assigning connections, and it is important that there be a mechanism preventing multiple connections on the part of the device for the job grouping function to operate correctly. Specifically, once the job data of a connection is received, that of another will not be accepted (received) until the end of the ongoing reception (so as to prevent reordering of jobs). The term "connection" refers to a connection established with multiple hosts (e.g., PCs) on a network. Job Grouping Function It has been designed as a function of Version 1.0 of imageWARE Output Manager Select Edition, and serves to prevent a job coming from another PC in a group job (in which multiple jobs are transmitted within a single session).	2
DOM-ADD	Use it to select whether to add the destination domain name for email transmission. Selects whether to add the domain name (ex. @canon.co.jp), which was set by the user mode, to the account input for email transmission.	
	Setting value 0: Do not add the domain name. 1: Add the domain name. [Factory setting / After RAM clear: 0] <When you send email to xxx@canon.co.jp> Set "canon.co.jp" as the domain name by the user mode, and set "1" to <DOM-ADD>. When you input xxx, the registered domain name is added for email transmission.	2

3. CST <iR C6800/iR C5800>

T-16-124

COPIER>OPTION>CST (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
P-SZ-C1	Use it to select and register paper size for the cassette 1.	
	Settings 0: A4 1: B5 2: LTR at time of shipment/upon RAM initialization: 0	1
P-SZ-C2	Use it to select and register paper size for the cassette 2.	
	Settings 0: A4 1: B5 2: LTR at time of shipment/upon RAM initialization: 0	1
U1-NAME to U4-NAME	Use it to enable/disable the indication of the paper name identified with a paper size group (U1 through U4).	
	Settings 0: indication on touch panel as U1, U2, U3, U4. 1: indicate name of paper set in service mode (CST-U1, U2, U3, U4) at time of shipment/upon RAM initialization: 0	2

COPIER>OPTION>CST (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
CST-U1/U2/ U3/U4	Use it to select the names of paper sizes to be used in paper size groups. By registering a special size for U1, U2, U3, or U4, you can cause the machine to treat the paper in question as special size paper.	2
	24: Foolscap (CST-U2; default) 25: Australian Foolscap 26: Officio 27: Ecuadorian Officio 28: Bolivian Officio 29: Argentine Letter (U4; default) 30: Argentine Letter-R 31: Government Letter (U1: default) 32: Government Letter-R 34: Government Legal (U3: default) 35: Folio 36: Argentine Officio 37: Mexico Officio 38: Executive	

4. ACC <iR C6800/iR C5800>

T-16-125

COPIER>OPTION>ACC (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
COIN	Use it set up the coin vendor mechanism. Use it to permit/not permit access to coin vendor mode.	1
	Settings 0: coin vendor not used (control card permitted; no charging) 1: coin vendor (charging used) 2: remote counter (charging used) at time of shipment/upon RAM initialization: 0	
DK-P	Use it to set the size of paper used in the paper deck (optional).	1
	Settings 0: A4 1: not supported 2: LTR at time of shipment/upon RAM initialization: 0	
CARD-SW	Use it to set the UI screen when switching the coin vendor mechanism.	1
	Settings 0: coin 1: card 2: coin and card at time of shipment/upon RAM initialization: 0	
STPL-LMT	Use it to put a limit to the number of sheets for saddle binding.	2
	Settings 0: 5 sheets (w/o white band) 1: 10 sheets (w/o white band) 2: 10 sheets (w/ white band) 3: 15 sheets (w/ white band) at time of shipment/upon RAM initialization: 3	
SC-TYPE	Use it to change the type of machine (self copy/coin vendor machine). This mode is effective only when the machine soft ID is "Lawson." Use it to switch between a Lawson model and a self copy model.	2
	Settings 0: Lawson model 1: general self copy model at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>ACC (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
CC-SPSW	Use it to set the control card (CC IV/CCV) I/F support level.	2
	Settings 0: do not support 1: support (priority on speed) 2: support (priority on upper limit) at time of shipment/upon RAM initialization: 0 - if set to '1' , priority on the maintenance of the engine performance; as such, the upper limit may not be properly imposed. - if set to '2' , on the other hand, the upper limit may properly be imposed, but the engine performance may decrease depending on the source of paper.	

5. INT-FACE <iR C6800/iR C5800>

T-16-126

COPIER>OPTION>INT-FACE (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
IMG-CONT	Use it to set up EFI controller connection.	1
	Settings 0: normal operation 1: not used 2: not used 3: EFI controller 4: not used 5: not used	

If '1' is selected, the following user mode items will be reset to their default settings:
  - system control setup>network setup>TCP/IP setup>IP address setup>IP address
  - system management setup>network setup>TCP/IP setup>IP address setup>sub net mask
  - system management setup>network setup>TCP/IP setup>IP address setup>gateway address
  - system management setup>network setup>TCP/IP setup>Ethernet driver setup/commutation method
  - system management setup>network setup>TCP/IP setup>Ethernet driver setup>Ethernet type
  - system management setup>network setup>TCP/IP setup>start-up time

Moreover, the settings of the following user mode items will be OFF:
  - system management setup>network setup>TCP/IP setup>IP address setup>DHCP use
  - system management setup>network setup>TCP/IP setup>IP address setup>RARP use
  - system management setup>network setup>TCP/IP setup>IP address setup>BOOTP use
  - system management setup>network setup>TCP/IP setup>Ethernet driver setup>auto detection
  - system management setup>network setup>spool function use

If the setting is '3' or 4', the following items will be OFF in addition to the foregoing:
  - system management setup>network setup>TCP/IP setup>RW setup
  - system management setup>network setup>TCP/IP setup>LPD setup
  - system management setup>network setup>TCP/IP setup>IPP print
  - system management setup>network setup>SMB setup

The foregoing items will not be reset when set to '0: normal mode'; be sure to re-set them as necessary.

T-16-127

COPIER>OPTION>INT-FACE (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
AP-OPT	Use it to permit or not permit printing from PrintMe (application installed to the PS print server unit).	2
	Settings 0: enable if for specific account 1: enable for all accounts 2: reject printing (print only from specific group ID) at time of shipment/upon RAM initialization: 1	
AP-ACCNT	Use it to set group ID for print jobs (CPCA) from PrintMe (application installed on PS print server unit).	2
	Settings 0 to 9999999 (at time of shipment/upon RAM initialization: 0)	
AP-CODE	Use it to set a pass code for print jobs (CPCA) for PrintMe (application installed on PS print sever unit).	2
	Code settings 0 to 9999999 (at time of shipment/upon RAM initialization)	

16.6.1.2 COPIER List <iR C6870U/iR C5870U>

1. BODY <iR C6870U/iR C5870U>

T-16-128

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PO-CNT	for factory adjustment	1
MODEL-SZ	Use it to set the default magnification indication and ADF size detection.	1
	Settings 0: AB (6R5E) 1: INCH (5R4E) 2: A (3R3E) 3: AB/INCH (6R5E) at time of shipment/upon RAM replacement: 0	
FIX-TEMP	Use it to change the plain paper down sequence.	1
	settings range 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	
PASCAL	Use it to enable/disable the use of contrast potential obtained from auto gradation correction (full) and the use of gradation correction data.	1
	settings range 0: do not use 1: use 2: reserved (same as 1) 3: reserved (same as 0) at time of shipment/upon RAM initialization: 1	
CONFIG	Use it to select multiple pieces of firmware stored on the hard disk to change the country, language, model, and paper size configuration. Method of Adjustment 1) Select the item to change, and press the +/- key. 2) See that each press on the +/- key changes the particulars. 3) When all particulars are indicated for all items, press the OK key. 4) Turn off and then on the main power switch.	1
	XXYYZZAA xx: country (e.g., JP for Japan) YY: language (e.g., ja for Japanese) ZZ: model (e.g., 00 for Canon) AA: paper size configuration (e.g., 00 for AB)	
TEMP-TBL	Use it to adjust the control temperature of the fixing assembly. When this mode is activated, there will be an increase of 5 deg C in the following: standby temperature (both types); copying temperature; post-standby rotation temperature; extra-length sheet-to-sheet control temperature there will not be an increase of 5 deg C in the following: post-job rotation temperature; power save mode temperature; error detection temperature Adjustments are made to the normally used temperature control table. A change will be made to the fixing temperature control table in the event of low-temperature offset or paper blister caused by the characteristics of paper being used. In the case of low-temperature offset, select +5 deg C; in the case of a paper blister, on the other hand, select -5 deg C. The setting will not be valid unit the main power switch has been turned off and then on again.	1
	Settings 0: OFF 1: +5 deg C 2: -5 deg C at time of shipment/upon RAM replacement: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
W/SCNR	Use it to specify the presence/absence of a reader unit (as for the copier model).	1
	Settings 0: printer model 1: model with reader unit at time of shipment: 1 upon RAM initialization: 0	
RUI-DSP	Use it to set the copier function optional settings for the RUI screen.	1
	Settings 0: do not display copy screen for RUI 1: display copy screen for RUI at time of shipment/upon RAM initialization: 0	
ADJ-LVL	Use it to select an operation mode for patch detection. Of the automatic adjusting sequences used, decreasing/increasing the frequency of potential control/primary transfer ATVC will lead to decrease/increase productivity. Method of Adjustment A higher setting will increase the adjustment intervals and, thus, increase the productivity; it, however, will also increase color fluctuation.	1
	Settings 0 to 4 at time of shipment/upon RAM initialization: 0	
INTROT-1	intervals of executing ATVC during initial multiple rotation (number of prints) Increase the setting if soiling in the form of dots occurs in keeping with drum rotation (i.e., by increasing the intervals of ATVC control). Decrease the setting if transfer faults occurs (i.e., by decreasing the intervals of ATVC control).	1
	Settings 0 to 240 at time of shipment/upon RAM initialization: 90	
INTROT-2	Use it to set intervals (in terms of the number of sheets) for process auto adjustment (full, at time of initial/last rotation) performed at specific intervals.	1
	range of settings: 50 to 1000 (in terms of A4) at time of shipment/upon RAM initialization: 200	
DEVL-PTH	Setting threshold level (number of sheets) that the toner discharge sequence starts to operate.	1
	Settings 0: Does not operate 1: Approx. 100 sheets 2: Approx. 200 sheets [Factory default/After RAM is cleared] 3: Approx. 500 sheets Reference Threshold level of density can be set from the following service mode. COPIER>OPTION>BODY>DEVL-VTH Use this mode when symptom such as coarse image occurs while copying/printing low-density Duty image continuously.	
AUTO-DH	Use it to enable/disable auto gradation correction for standby. The auto gradation correction mechanism is started in response to changes in the environment or when the machine is left alone in standby for a specific period of time. The new setting will not be valid until the power switch has been turned off and then on.	1
	Settings 0: prohibit 1: permit (default) at time of shipment/upon RAM initialization: 1	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DFDST-L1	A higher setting will increase the level of dust detection (i.e., the machine will be more sensitive in detecting dust, which if left behind will cause thin lines in the images).	1
	settings range 0 to 255 at time of shipment/upon RAM initialization: 200	
DFDST-L2	A higher setting will increase the level of dust detection (i.e., the machine will be more sensitive in detecting dust, which if left behind will cause thin lines in the images).	1
	settings range 0 to 255 at time of shipment/upon RAM initialization: 200	
ENVP-INT	Use it to set the intervals at which logs are collected of machine internal temperature and fixing temperature, i.e., in relation to COPIER>FUNCTION>MISC-P>ENV-PRINT and COPIER>DISPLAY>ENVRNT.	1
	settings range 0 to 480 (min) at time of shipment/upon RAM initialization: 60	
T1-TEMP	Use it to switch over the heavy paper 1 down sequence tables.	1
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	
T2-TEMP	Use it to switch over the heavy paper 2 down sequence tables.	1
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	
BLNK-THP	Use it to switch over leading edge margins for heavy paper 1/2 (color only; remedy against horizontal lines along leading edge).	1
	settings 0: default margin 1: 7 mm (leading edge margin median value) at time of shipment/upon RAM initialization: 0	
CD-IDL-T	Use it to adjust the duration of idle rotation for IDL-T (color developing assembly YMC; otherwise executed first in the morning in a high humidity environment). - a setting toward '-' will reduce the downtime associated with initial multiple rotation, but will not compensate fully for changes in density. - a setting toward '+' will fully compensate for changes in density, but will increase downtime associated with initial multiple rotation.	1
	settings range -3 to +6 (unit: 5 sec) at time of shipment/upon RAM initialization; 0	
OHP-SPED	Use it to switch over the cpm for value BK OHT (remedy against adhesion upon delivery).	1
	settings 0: 40 cpm if w/ finisher; 20 cpm if w/o finisher 1: 20 cpm 2: 10 cpm at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FX-CROT	Use it to change the intervals at which the fixing roller is rotated idly (remedy against deformation of the roller). The fixing roller is rotated idly for 1 sec once every 30 min (default) to prevent it from suffering deformation while the machine remains in standby.	1
	settings range 0: 30 min 1: 20 min 2: 10 min 3: 5 min at time of shipment/upon RAM initialization: 0	
LPW-TIME	Use it to set time for automatic switching to the low-power mode in the 24-hour power distribution mode. Sets time to perform automatic switching and recovery of low-power mode in the 24-hour power distribution mode and execute an adjustment in the printer engine.	1
	Setting range 00:00 to 23:59 (24 hours, Unit: minute) [Factory setting / After RAM clear: 03:00] Reference: - For the machines operating in the 24-hour power distribution mode (the operation is not switched to the power saving mode such as power save, low electricity, or sleep.) at a convenience store, etc., the machine does not perform the adjustment that is made only when recovering from the power saving mode in the printer engine. Use <LPW-TIME> to cover such a case. - You can judge whether the machine operates in the 24-hour power distribution mode or not by checking that "COPIER/OPTION/ACC/COIN" is set to "1" (self-copy). When other numbers than "1" is set, this function does not work. - When the machine automatically switches the operation to the low electricity mode, the control panel screen is turned off for a moment, which is a feature included in the specifications.	
BASE-SW	Use it to switch the operation to the base model from the full MEAP model. Sets the device operation back to the base model after it was switched to the full model.	1
	Setting value 0: OFF (base model) 1: ON (full model)	
DRM-DISP	Use it to enable/disable the message for drum phase shifting. If the photopositive drum is used with its home position unchanged in relation to the drum shaft, uneven density at drum intervals or lines can occur in output images. To limit the symptom, the phase of the photosensitive drum is shifted by 90 deg every specific number of prints. The machine does not shift the phase on its own, and requires the work of the service person. When needed, the machine issues a message to prompt the work on the User screen and the Service Mode screen. Use this mode item to enable/disable the message.	1
	Settings 0: disable message 1: indicate only in service mode (default) 2: indicate on both User and Service Mode screens The message will go off automatically when the following is executed: COPIER>FUNCTION>MISC-P>DR-P-ADJ. at time of shipment/upon RAM initialization: 1 - To change the number of prints after which the message is indicated for COPIER>OPTION>BODY>DRM-DISP, change the denominator in COPIER>COUNTER>MISC>DRM-PHAS.	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SC-L-CNT	Use it to select the threshold value for the paper size (large/small) at the scanning counter. Selects whether to count B4-size paper as a large size or small size.	1
	Setting value 0: Count B4-size paper as a small size 1: Count B4-size paper as a large size [Factory setting / After RAM clear: 0] Reference When "1" is set to count B4-size paper as a large size, LTR-size paper is counted as a small size.	
REPORT-Z	Use it to switch the attribution flag to be added when printing a report.	1
	Setting value 0: PDL character mode 1: PDL photo mode 2: SCAN character mode 3: SCAN photo mode [Factory setting / After RAM clear: 0]	
IFXEML-Z	Use it to switch the attribution flag to be added when printing an image received by ColoriFAX,E_mail.	1
	settings 0: SCAN photo mode 1: PDL photo mode 2: SCAN text mode 3: PDL text mode [at time of shipment/RAM initialization: 0]	
BMLNKS-Z	Use it to switch the attribution flag to be added when printing an image received by BMLinkS.	1
	Setting value 0: SCAN photo mode 1: PDL photo mode 2: SCAN character mode 3: PDL character mode [Factory setting / After RAM clear: 0] Reference 0: SCAN photo mode The black character consists of 4 black colors. Errors are diffused. The color tint is brighter than 2. 1: PDL photo mode The black character consists of 4 black colors. Screening is executed to the image. 2: SCAN character mode The black character consists of a single black color. The color tint in the photo is different from the color printed in 0. (It may be difficult for amateurs to recognize the difference.) Errors are diffused. 3: PDL character mode The black character consists of a single black color. Screening is executed to the image.	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
LDAP-ADD	Use it to select the condition for LDAP search to be added. Decides whether to add "ObjectClass" and "SrchNameRow" in the pull-down list of the current searching condition (name, organization, organization unit, fax, email). ⚠ Only destinations for fax and email can be searched. Setting value 0: Do not add the searching condition. 1: Add the searching condition. [Factory setting / After RAM clear: 0]	1
W-CLN-P	Use it to set the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned in a normal environment in terms of the number of copies. The new setting will not be valid until the main power switch has been turned off and then back on.	2
	Range of settings 100p to 2000 at time of shipment/RAM initialization: 2000	
PRI-FAN	Use it to select a primary fan drive mode. Use it to prevent soiling in the form of dots occurring in keeping with drum rotation. The temperature of the cleaning blade may be decreased so that the machine will better be able to remove the ingredients of the black toner sticking to the drum.	2
	Settings 0: in high temperature/humidity environment, half-speed 1: in high temperature/humidity environment, full-speed at time of shipment/upon RAM initialization 0	
SCANSLCT	Enable/disable the function used to compute the area of scanning based on the selected paper size.	2
	settings 0: OFF (area determined based on original detection) 1: ON (area determined based on paper size) at time of shipment/upon RAM initialization: 0	
OHP-TEMP	Use it to switch over transparency down-sequence tables.	2
	settings 0: default 1: priority on fixing 2: priority on productivity at time of shipment/upon RAM initialization: 0	
DH-SW	Use it to perform Dhalf.	2
	Settings 0: do not perform Dhalf control 1: perform Dhalf control at time of shipment/upon RAM initialization: 1	
DM-MODE	Use it to enable/disable image density correction control as part of auto gradation correction (PASCAL)	2
	Settings 0: do not perform 1: perform at time of shipment/upon RAM initialization: 0	
SENS-CNF	Use it to set the original sensor.	2
	Settings 0: AB configuration 1: inch configuration at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DM-SW	Use it to enable/disable image gradation correction and image density correction after making a specific number of prints.	2
	Settings 0: do not perform (default) 1: perform every 200 prints up to initial 2000 2: perform every 200 prints up to initial 4000 3: perform at all times (every 200 prints) 4: reserved To change the intervals (200 prints at default), use COPIER>OPTIONAL>BODY>INTROT2. at time of shipment/upon RAM initialization: 3	
RAW-DATA	Use it to specify whether or not to print out received data as it is. If the received image has a fault, use this mode to find out whether the fault is in the data or in the image processing.	2
	Settings 0: normal operation 1: print as is at time of shipment/upon RAM initialization: 0	
BK-BND	Use it to increase the black belt in 4C mode. Use it to prevent photosensitive drum cleaning faults in an N/L environment.	2
	Settings 0: increase by 100% 1: increase by 150% 2: increase by 20% at time of shipment/upon RAM initialization: 0	
RMT-LANG	Use it to switch the language of the remote UI used through the Web. Method of Adjustment Use the +/- key to select the appropriate language code.	2
IFAX-LIM	Use it to limit the number of output lines for when a large volume of data is received over i-fax.	2
	settings range 0: no limit 0 to 999 at time of shipment/upon RAM initialization: 500	
TR-CLN	Use it to perform the cleaning sequence designed to avoid soiling on the back of paper caused by the secondary transfer roller. 77-mm back soiling preventive mode	2
	Settings: 0: perform only in H/H environment 1: disable in all environments 2: enable in all environments at time of shipment/upon RAM initialization: 0	
SMTPTXPN	Use it to change the number of the SMTP transmission port.	2
	settings range 0 to 65535 (in increments of 1) at time of shipment/upon RAM initialization: 25	
SMTPRXPN	Use it to change the number of the SMTP reception port.	2
	settings range 0 through 65535 (in increments of 1) at time of shipment/upon RAM initialization: 25	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
POP3PN	Use it to change the number of the POP reception port.	
	settings range 0 through 65535 (in increments of 1) at time of shipment/upon RAM initialization: 110	2
ORG-LGL	Use it to set a special paper size not recognized by the DF size detection mechanism.	
	settings 0: LEGAL 1: FOOLSCAP 2: A-FOOLSCAP 3: FORIO 4: G-LEGAL 5: OFFICIO 6: E-OFFICIO 7: A-OFFICIO 8: B-OFFICIO 9: A-LEAGAL 10: M-OFFICIO at time of shipment/upon RAM initialization: 0	2
ORG-LTR	Use it to set a special paper size not recognized by the DF size detection mechanism.	
	settings 0: LTR 1: G-LTR 2: A-LTR 3: EXECTIVE at time of shipment/upon RAM initialization: 0	2
ORG-LTRR	Use it to set a special paper size not recognized by the DF size detection mechanism. 0: LTR (at time of shipment/upon RAM initialization)	
	settings 0: LTR-R (default) 1: G-LTR-R 2: A-LTR-R 3: EXECTIVE-R at time of shipment/upon RAM initialization: 0	2
ORG-LDR	Use it to set a size that cannot be recognized by DH. Use it when A-LTR is recognized as LDR by mistake.	
	Setting value 0: LDR 1: A-LTR 2 or larger: LDR [Factory setting / After RAM clear: 0]	2
ORG-B5	Use it to set a special paper size not recognized by the DF size detection mechanism. 0: B5 (at time of shipment/upon RAM initialization)	
	settings 0: B5 1: K-LEAGAL at time of shipment/upon RAM initialization: 0	2
UI-COPY	Use it to select whether to display the copy screen in the control panel.	
	Setting value 0: Do not display the copy screen. 1: Display the copy screen. [Factory setting / After RAM clear: 1]	2
UI-BOX	Use it to enable/disable display of the control panel Box scan.	
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	2

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
UI-SEND	Use it to enable/disable display of the control panel Transmission screen.	
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	2
UI-FAX	Use it to enable/disable display of the control panel Fax screen.	
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	2
UI-EXT	Use it to enable/disable display of the control pane Extension screen.	
	settings 0: do not display 1: display (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	2
SCR-SLCT	Use it to select halftone processing for film/photo mode. Method of Adjustment If moire is found in the output image or the dots make the image appear too coarse while the default (1: use screen with fewer lines) is selected, change the setting as follows: - if moire is noted, change to '0' (use error diffusion); this setting is suited to the reproduction of text. - if the image appears too coarse because of the dots, change to '2' (use screen with more lines).	2
	settings 0: use error diffusion 1: use low-number screen (at time of shipment/upon RAM initialization) 2: use high-number screen at time of shipment/upon RAM initialization: 1	
TMC-SLCT	Use it to switch over coefficients used for error diffusion processing. If the output image has started to show uneven density or rough texture as more and more prints are made, change the setting for better dot stabilization so that the fault may be less noticeable.	2
	settings 0: standby 1: decrease sensitivity to grain/low stability 2: increase sensitivity to grain/high stability at time of shipment/upon RAM initialization: 0	
D-CLN-TM	Use it to change the length of drum idle rotation. Use it to prevent soiling in the form of dots occurring in keeping with drum rotation. The machine executes idle rotation when it is turned on to remove residual matter from the drum.	2
	Settings 0: do not execute idle rotation 1: execute idle rotation for 30 sec 2: execute idle rotation for 60 sec at time of shipment/upon RAM initialization: 0 Settings 3 through 6 are reserved (currently invalid).	
DEVL-VTH	Use it to set a threshold for image density over which the machine will execute discharge sequence (designed as a remedy against rough image texture on copies of low-density images made in continuous printing). If possible, do not use it as long as machine operation is normal.	2
	settings range 1 to 5 (unit: %) at time of shipment/upon RAM initialization: 2)	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FTPTXPN	Use it to select the port number (FTP) as the target of SEND transmission.	2
	settings range 0 to 65535 (16-bit; at time of shipment/upon RAM initialization: 21)	
INTPPR-1	Use it to set an interval for execution of automatic image adjustment 1 (simple). Sets an interval for automatic paper interval adjustment (analog patch sequence, etc.), which is performed for a certain number of sheets to correct the image density change in a job for printing large number of pages. The unit is for a size equivalent to A4.	2
	Setting range 0 (Do not execute the function.), 50 to 1000 [Factory setting / After RAM clear: 100] ⚠️ No larger number of sheets than the number specified by "setting of an interval for execution of automatic image adjustment 2 (full)". When the automatic image adjustment 2 is executed, the machine recognizes that the automatic image adjustment 1 has been already executed. Therefore, the next automatic image adjustment 1 is executed after the machine prints the number of sheets specified by this item.	
PRN-FLG	Selecting an Image Area Flag (for PDL images) In the event that the controller fails to compress a PDL image at a specific rate of compression, image processing will be performed according to the image area flag selected in this mode item.	2
	settings 0: use high-number screen, gray compensation LUT 1: use error diffusion, gray compensation LUT 2: use high-number screen, normal LUT at time of shipment/upon RAM initialization: 0	
SCN-FLG	Use it to select an image area flag (for copy image). If compression at a specific rate fails on the controller over a scan image, image processing will be executed according to the image flag selected in this mode.	2
	settings 0: text 1: screened photo image 2: printed photo image at time of shipment/upon RAM initialization: 0	
T-LW-LVL	Use it to change the setting at which an alert message is issued for the level of toner. The threshold (%) of the level of toner over which the message is issued to indicate that toner is running short may be changed. A delay, however, can also result in the absence of toner immediately after the alert message.	2
	settings range 5 to 100 at time of shipment/upon RAM initialization: 10	
NWERR-SW	Use it to enable/disable the indication of a network-related error message. This switch is used to disable error messages related to networking when the model is not connected to a network even though it is equipped with a network board as standard. An NADA machine is equipped with networking functions, and is by default set for use on a network; however, take advantage of the switch where the machine is not connected to a network (as in the case of installation in a Lawson shop).	2
	settings 0: do not indicate 1: indicate (at time of shipment/upon RAM initialization) at time of shipment/upon RAM initialization: 1	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FX-SPD	Use it to adjust the speed of the fixing roller. If the arching of paper between the secondary transfer roller and the fixing roller is too great, the trailing edge of the paper tends to come into contact with the intermediate transfer belt, causing traces by friction. A change to the speed of fixing will also change the speed of the delivery vertical path roller (fine-adjustment) accordingly. A higher setting will increase the speed.	2
	settings range -3 to 3 at time of shipment/upon RAM initialization: 0	
STS-PORT	Enabling/Disabling the TOT Synchronous Command Communication Port Use it to enable or disable the inquiry/response (synchronous) command communication port for TUIF over TCP/IP.	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 0	
CMD-PORT	Enabling/Disabling the TOT Asynchronous Status Communication Port Use it to enable or disable the asynchronous status communication port for TUIF over TCP/IP.	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 0	
MODELSZ2	Global Support for Copyboard Original Size Detection (mix of AB/Inch) When the setting is '1' , the machine will support global mode (AB/Inch) regardless of the setting of the swing flag MODEL-SZ (AB, Inch).	2
	Settings 0: normal 1: AB/inch mix detection at time of shipment/upon RAM initialization: 0	
SZDT-SW	Use it to enable/disable the switch-over from CCD size detection to photo size detection for copyboard original size detection.	2
	Settings 0: disable photo size detection 1: enable photo size detection at time of shipment/upon RAM initialization: 0	
UISW-DSP	Indication of the User Screen Switch Use it to enable or disable the indication of the switch used to switch between the Standard Specifications screen and Simple Specifications screen (Lawson type). - type equipped with functions equivalent to those of standard machines - type equipped with limited functions, e.g., those machines installed in Lawson shops. Use it to enable or disable the indication of the switch used by the user (shop administrator) to switch between screens to meet individual needs. (The switch is offered to authorized users only.)	2
	Settings 0: do not display (at time of shipment/upon RAM initialization) 1: display at time of shipment/upon RAM initialization: 0	
ITB-CLN	Use it to execute the ITB black band sequence at time of initial multiple rotation automatic adjustment.	2
	Settings: 0: disable 1: force execution once 2 and 3: reserved (input invalid) at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
NS-CMD5	Use it when imposing limits to the use of CRAM-MD5 certification for SMTP (NoSasl challenge response authentication mechanism; MD5 message digest algorithm).	
	Use it to set CRAM-MD5 certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
NS-GSAPI	Use it when imposing limits to the use of GSSAPI certification for SMTP (NoSasl generic security service application program interface).	
	Use it to set GSSAPI certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
NS-NTLM	Use it when imposing limits to the use of NTML certification for SMTP (NoSasl-windows NTLAN Manager).	
	Use it to set NTLM certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
NS-PLNWS	Use it when imposing limits to the use of PLAIN/LOGIN certification (plain language certification for SMTP) where NS-PLNWS communication packets are encrypted for SMTP (NoSasl plain with transport layer security).	
	Use it to set PLAIN.LOGIN certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
NS-PLN	Use it when imposing limits to PLAIN/LOGIN certification (plain language certification) where communication packets sure encrypted for SMTP.	
	Use it to set PLAIN.LOGIN certification for SMTP certification. (environment in which computation packet encryption is not used) 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
NS-LGN	Use it when imposing limits to LOGIN certification for SMTP (NoSasl LoGiN).	
	Use it to set LOGIN certification for SMTP certification. 0: refer to SMTP server 1: do not use at time of shipment/upon RAM initialization: 0	2
T-CRG-SW	Use it to permit or not to permit replacement of the toner cartridge by the user when there still is toner in the cartridge.	
	Settings 0: do not permit replacement by user (When the toner runs out (in the case of black toner, is running low), a button will appear to permit replacement of the toner cartridge: i.e., system status/stop>recovery procedure indication). 1: permit replacement by user (A button will appear to permit replacement; i.e., user mode>adjust/cleaning.) at time of shipment/upon RAM initialization: 0	2
MEAP-PN	Use it to set a port number for the HTTP server to be used by the MEAP application.	
	Setting range 0 to 65535 [Factory setting / After RAM clear: 8000] ⚠ When using the port for MEAP, be sure not to use the numbers 1 through 1023 except 80, because these numbers are used by an ordinary server.	2

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TNR-DWN	Use it to set the amount of toner to be deposited. You can decrease the amount of toner, as when stray toner tends to occur in full color mode or when paper tends to wrap around the fixing roller.	2
	Settings 0: standard amount (default) 1: decrease for both single-sided and double-sided modes 2: standard for single-sided mode but decrease in double-sided mode for both 1st and 2nd sides (reserved) at time of shipment/upon RAM initialization: 0 An update has been made to do away with setting 2 as a result of recent findings (i.e., the expected operation does not take place in some PDL or copy jobs; although the setting exists in service mode, it behaves like 0).	
TMIC-BK	Use it to set the correction along the trailing edge for BkLUT and BkLUT for PDL (Tmic).	2
	Settings 0: PDL BK_LUT end correction ON; copy Bk_LUT end correction OFF 1: PDL BK_LUT end correction OFF; copy Bk_LUT end correction OFF 2: PDL BK_LUT end correction ON; copy Bk_LUT end correction ON (default) 3: PDL BK_LUT end correction OFF; copy Bk_LUT end correction ON at time of shipment/upon RAM initialization: 2	
SVMD-ENT	Switching the method of entering the Service Mode.	2
	Setting Values 0: [User Mode key] -> Press [2] and [8] simultaneously -> [User Mode key] [Initial setting upon shipment/value after RAM clear] 1: [User Mode key] -> Press [4] and [9] simultaneously -> [User Mode key] Reference Information Support for Siemens	
DH-MODE	Patch Data (high density side) Used in D-half Except in Full Correction Change the default setting so that the readout collected from D-half at time of full correction will be substituted for the patch on the high density side at time of D-half (other than in full correction).	2
	Settings 0: use patch image read data of full correction (at time of shipment/upon RAM initialization) 1: do not use patch image read data of full correction at time of shipment/upon RAM initialization: 0	
W-CLN-PH	Use it to set the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned. If an image fault (e.g., vertical lines) occurs in a high temperature/humidity environment, the intervals at which the primary charging wire/pre-transfer charging wire is automatically cleaned may be changed. Note: In a normal environment, be sure to use W-CLN-P to set the intervals used to automatically clean the primary charging wire.	2
	Range of settings 100 to 1000 at time of shipment/upon RAM initialization: 1000	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SSH-SW	Use it to select whether to activate the SSH server. Selects whether to activate the SSH server when activating the main unit.	2
	Setting value 0: Do not activate the SSH server when activating the main unit. 1: Activate the SSH server when activating the main unit. [Factory setting / After RAM clear: 0] Reference SSH stands for "Secure Shell", in which the communication between the digital accessory (DA) and the iR device is encrypted so that it cannot be read from outside. ⚠ Even when the setting value is changed to 1 (ON) while the main unit is being activated, the SSH server is not activated. The setting value becomes valid after the power is turned OFF/ON.	
RMT-LGIN	Use it to select whether to allow remote login to the SSH server. Selects whether to allow remote login to the debug console in the SSH server from the remote host (SSH client: digital accessory).	2
	Setting value 0: Do not allow remote login to the SSH server. 1: Allow remote login to the SSH server. [Factory setting / After RAM clear: 0] ⚠ This is valid only when "1 (ON)" is set to <SSH-SW>.	
RE-PKEY	Use it to select whether to recreate the pair key for the SSH server. Selects whether to recreate the pair key for the SSH server when activating the main unit.	2
	Setting value: 0: Do not recreate the pair key for the SSH server when activating the main unit. 1: Recreate the pair key for the SSH server when activating the main unit. [Factory setting / After RAM clear: 0] Reference - When "1 (Recreate the pair key.)" is set, the SSH server host recreates the pair key (secret key/public key) when activating the task (turning the power OFF/ON), outputs it to the key file, and saves it in the HDD. The encryption algorithm (DSA) and key length (512 bit) are fixed. - It sometimes takes approximately 3 to 4 minutes to activate the copier main unit due to this operation. ⚠ This is valid only when "1 (ON)" is set to <SSH-SW>.	
U-NAME	Use it to set a user name required to connect to the SSH server. Sets a login user name required to connect to the SSH server. Only one user can login the server.	2
	Setting range 8 characters maximum (English one byte characters) [Factory setting / After RAM clear: gN3Fp2A] ⚠ - Do not change this setting because this is for future expansion. - This is valid only when "1 (ON)" is set to <SSH-SW>.	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
U-PASWD	Use it to set a password of the user required to connect to the SSH server. Sets a password of the login user required to connect to the SSH server.	2
	Setting range 8 characters maximum (English one byte characters) [Factory setting / After RAM clear: Vs8DuwJ] ⚠️ - Do not change this setting because this is for future expansion. - This is valid only when "1 (ON)" is set to <SSH-SW>. - The password is left hidden on the screen.	
B-SPL-SW	Use it to set the environment table for black toner supply.	2
	settings range 0: variable 1: fixed at time of shipment/upon RAM initialization: 0	
B-CNT-SW	Use it to set the environment table for black development contrast.	2
	settings range 0: variable 1: fixed at time of shipment/upon RAM initialization: 0	
1ROT-CR	Use it to change the retention current for primary transfer retention current idle rotation. If the user disconnects the power plug at night and thus the drum heater goes off, the temperature of the primary transfer roller is not likely to match that of the drum when the power is turned on the next morning; and the resulting temporary change in the resistance of the primary transfer roller at times prevents proper performance of ATVC. If the level of current set by default is not high enough, use this item to increase it.	2
	Settings 0: refer to environment sensor 1: 60uA 2: 70uA 3: 80uA 4: 90uA 5: 100uA 6: 110uA 7: 120uA at time of shipment/upon RAM initialization: 0	
1ROT-TIM	Use it to change the duration of primary transfer power retention current idle rotation.	2
	Settings 0: refer to environment sensor 1: 40sec 2: 60sec 3: 120sec 4: 180sec 5: 300sec 6: 420sec 7: 600sec at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
2ROT-TIM	Use it to change the secondary transfer power retention idle rotation.	
	Settings 0: refer to environment sensor 1: 40sec 2: 60sec 3: 120sec 4: 180sec 5: 300sec 6: 420sec 7: 600sec at time of shipment/upon RAM initialization: 0	2
DEV-K-TM	Use it to set the duration of toner discharge executed as part of the ITB black band cleaning sequence.	
	Use it to set the duration of toner discharge executed as part of the ITB black band cleaning sequence. Settings 1: 10 2: 20 at time of shipment/upon RAM initialization: 1	2
CDEV-IDL	Use it to enable/disable power-on idle rotation of the color developing assembly (YMC). Use it to adjust the intervals of patch ATR for the No. 1 limit. A higher limit will increase the execution intervals, but will affect the density. On the other hand, although a lower limit will decrease the intervals, the density will be more stable. - the number of prints (CNT) reset upon execution of patch detection - cumulative video count CNT) Timing - perform patch detection during last rotation of the ongoing job when the No. 1 limit (20 prints) is exceeded. - force patch detection by interrupting the job as soon as the No. 2 limit is exceeded. - force patch execution as soon as the cumulative VC exceeds 300% (in terms of A4). 1 print = 3 images (YMC only); for image count, 1 for small and 2 for large)	2
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 1	
PCHINT-1	Use it to change the intervals of 1-patch detection (No. 1 limit) in terms of the number of prints. Use it to change the intervals of patch ATR for the No. 1 limit. A higher limit will increase the downtime intervals, but will affect the density. On the other hand, although a lower limit may decrease the downtime intervals, the density will be more stable. The following triggers are used to initiate patch detection: - when the 1st limit (20 prints) is exceeded, execute patch detection during the last rotation of the ongoing job. - when the 2nd limit is exceed, stop the ongoing job and force patch detection. (1 print = 3 images (YMC only); for image count, 1 for small and 2 for large) The above No. 1 limit may be changes. A higher limit will increase downtime intervals, but will affect density. On the other hand, although a lower limit will decrease downtime intervals, the density will be more stable. By default, the No. 1 limit is 20 prints (60 images), variable between -10 and + 10 (offset).	2
	Use it to change the intervals of 1-patch detection (No. 1 limit) in terms of the number of prints. settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PCHINT-2	Use it to adjust the intervals of patch detection (No. 2 limit). Use it to change the patch ATR intervals for the No. 2 limit. For the triggers used to initiate patch detection, see the list for PCHINT-1.	2
	Settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	
PCHINT-V	Use it to adjust the intervals of patch detection (video counter cumulative count). Use it to adjust the intervals of patch ATR in relation to the video counter cumulative count.	2
	Settings range: -10 to +10 at time of shipment/upon RAM initialization: 0	
POT-OFTM	Use it to adjust the length of time for the detection of a disconnected connector or to adjust the potential sensor offset. By default, the machine executes idle rotation of the fixing roller for 1 seconce every 30 min to prevent deformation of the roller while in standby.	2
	Settings range: 5 to 50 (unit: sec) at time of shipment/upon RAM initialization: 5	
FXWRNLVL	Use it to set the fixing upper roller alert level. Use it to change the alert level in relation to the fixing counter reading. If you have replaced the fixing roller or the fixing unit with a modified type (with a longer life), use this mode to set the level to suit the new type: i.e., change the setting of the following service mode item to '1' or '2': COPIER>OPTION>BODY>FXRWNLVL. Then, decrease the following setting slightly: COPIER>COUNTER>MISC>FX-UP-RL. Make copies to see that the appropriate alert is issued when the counter reaches a specific setting.	2
	Settings range 0: 180,000 1: 150,000 2: 120,000 at time of shipment/upon RAM initialization: 0	
FXERRLVL	Use it to change the fixing roller error level setting. Use it to change the error level of the fixing counter count. If you have replaced the fixing roller or the fixing unit with a modified type (with a longer life), change the setting to suit the new type. The threshold of the fixing error level will be in relation to the setting made using the following service mode (offset by the level you set here): COPIER>OPTION>BODY>FXWRNLVL.	2
	Settings 0: +20,000 1: +40,000 2: +60,000 3: no error (alert retained) at time of shipment/upon RAM initialization: 0	
PCHINTV2	Use it to change the intervals of post rotation patch detection (video counter count). Use it to change the intervals of patch ATR in relation to the cumulative video count. When a specific video count is exceeded, ATR patch detection is executed during last rotation at the end of the ongoing job, and the limit of the cumulative video count may be changed. A higher limit will increase the downtime intervals, but will affect the density. On the other hand, although a lower limit will decease the downtime intervals, the density will be more stable.	2
	Settings range: -10 to +10 (level: 10% duty/A4) default: 200% duty (A4, 5% duty x 40 prints) at time of shipment/RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DLV-SPSW	Use it to change the delivery speed.	2
	Settings 0: delivery speed with priority on FCOT (about.635 mm/sec) 1: delivery speed with priority on paper edge damage avoidance (about.276 mm/sec) at time of shipment/upon RAM initialization: 0	
DA-CNCT	Use it to select whether to use DA. Selects whether to use DA (software).	2
	Setting value 0: Do not use DA. 1: Use DA. [Factory setting / After RAM clear: 0] ⚠️ - "1 (DA disabled)" should be set to use DA. When DA (hardware) is installed in the main unit but "1" is not set, it cannot be used. - When "1" is set to COPIER>OPTION>BODY>DA-CNCT, "ON" is set to the following items. COPIER>OPTION>BODY>STS-PORT 　　　　　　>CMD-PORT 　　　　　　>SSH-SW 　　　　　　>DA-PORT	
FXMSG-SW	Use it to enable/disable the message that prompts replacement of the fixing assembly. Use it to enable/disable the message on the control panel indication the need for the replacement of the fixing assembly. Normally, the setting is enabled; however, you can disable the message if there is no need for replacement (so that the user will not feel unnecessarily concerned and place a service call). If replacement is necessary, be sure to replace it and enable the setting.	2
	Settings 0: do not indicate 1: indicate a time of shipment/upon RAM initialization: 1	
G-LUT-SW	Use it to change the gamma LUT auto correction function. Use it to adjust the control on image formation in relation to the state (on/off) of the gamma LUT auto correction function.	2
	Settings range 0: off (do not apply gamma LUT auto correction) 1: copy T-mic (apply gamma LUT auto correction) 2: copy PDL T-mic (apply gamma LUT auto correction) 3: all (apply gamma a LUT auto correction) at time of shipment/upon RAM initialization; 1	
G-LUT-SZ	Use it to set the gamma LUT auto correction function (smoothing intervals). Use it to set the intervals of smoothing executed as part of the gamma LUT auto correction function.	2
	Settings 0: 30 1: 35 2: 40 3: 45 4: 50 at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TR-BKBND	Use it to set the black band used to prevent bending/slipping of the transfer cleaning blade. The machine is designed to deposit a black band to prevent bending/shipping of the transfer charging cleaning blade before cleaning the photosensitive drum immediately after patch detection or before application of the secondary transfer reverse bias.	2
	Settings 0: off (default) 1: on only if H/H 2: on at all times at time of shipment/upon RAM initialization: 0	
1TR-ATVC	Use it to enable/disable the primary transfer ATVC retry function for initial multiple rotation. Use it to enable/disable the primary transfer ATVC retry function for initial multiple rotation to suit the site of installation.	2
	Settings 0: off at all times (spare) 1: on only if H/H (default) 2: on normally at time of shipment/upon RAM initialization: 1	
CHNG-STS	Use it to set a port number for the status connection at TUIF over TCP/IP.	2
	Setting range 1 to 65535 [Factory setting / After RAM clear: 20010]	
CHNG-CMD	Use it to set a port number for the command connection at TUIF over TCP/IP.	2
	Setting range 1 to 65535 [Factory setting / After RAM clear: 20000]	
FXLW-TMP	Use it to change the control temperature for the pressure roller.	2
	Settings 0: 170 deg C(default) 1: 160 deg C 2: 150 deg C at time of shipment/upon RAM initialization: 0	
GLUTLV-Y/ M/K	for study by design dpt	2
GLUTLV-C	Use it to adjust the slope as part of the gamma LUT auto correction mechanism of the controller when improvement is needed to correct coarseness of images read of a cyan solid original.	2
	Settings 0: 2.4 1: 2.0 2: 1.6 3: 1.2 4: 0 at time of shipment/upon RAM initialization: 0	
GLUTMX-Y/ M/C/K	Use it to adjust the maximum correction slope as part of the gamma LUT auto correction mechanism of the controller when improvement is needed to correct coarseness of images read of a cyan solid original.	2
	Settings 0: 2.4 1: 2.2 2: 2.0 3: 1.8 4: 1.6 at time of shipment/upon RAM initialization: 2	
GLUTOF-Y/ M/C/K	for study by design dpt	2

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MEAP-DSP	Use it to select whether to switch the MEAP screen to the standard screen.	2
	Setting value 0: Switch the MEAP screen to the standard screen. 1: Do not switch the MEAP screen to the standard screen. [Factory setting / After RAM clear: 0]	
ANIM-SW	Use it to select whether to display full screen for a jam/alarm when operating the MEAP application.	2
	Setting value 0: Display full screen. 1: Do not display full screen. [Factory setting / After RAM clear: 0] ⚠ The following screens are displayed as exceptions even when "1" is set. - Serviceman error screen - Address list import screen - BBS screen - Screen for errors in manual feed paper size - Screen for the setting of manual feed paper - Screen for the setting of inserter paper	
HDD-TMP	Use it to set a level of temperature to serve as a reference for detecting a low temperature error.	2
	Settings 0 to 30 deg C at time of shipment/upon RAM initialization: 2	
HDD-TIM	Use it to set the time interval allowed before a low temperature error is identified	2
	Settings 0 to 200 min at time of shipment/upon RAM initialization: 10	
HDD-SW	Use it to enable/disable E code indication of a low temperature error	2
	Settings 0: indicate 1: do not indicate at time of shipment/upon RAM initialization: 0	
MEAP-SSL	Use it to set an HTTPS port for MEAP. Sets a port for the HTTPS server to use SSL in the MEAP HTTP.	2
	Setting range 1 to 65535 [Factory setting / After RAM clear: 8443]	
BG-CTR	Controlling correction of coarse image on solid area Controlling image formation to be corrected as well as ON/OFF of the function to correct coarse image on solid area	2
	Settings 0: OFF (Coarse image on solid area is not corrected.) [Factory default/After RAM is cleared] 1: Copy T-mic (Coarse image on solid are is corrected.) 2: Copy PDL T-mic (Coarse image on solid are is corrected.) 3: ON (Coarse image on solid are is corrected on the whole.)	
BG-SET	Settings of coarse image correction on solid area	2
	Settings 0: Rougher than standard 1: A little rougher than standard 2: Standard [Factory default/After RAM is cleared] 3: A little finer than standard 4: Finer than standard	

COPIER>OPTION>BODY (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MIX-FLG	Use it to select an image field flag (for image synthesis). Selects the image processing method which is performed when a combined image cannot be compressed at a certain compression ratio on the main controller side.	2
	Setting value 0: Image processing equivalent to the PDL character mode 1: Image processing equivalent to the PDL photo mode 2: Image processing equivalent to the SCAN character mode 3: Image processing equivalent to the SCAN photo mode [Factory setting / After RAM clear: 0]	
LPD-PORT	Use it to set an LPD port number	2
	Setting range 1 to 65535 [Factory setting / After RAM clear: 515] Reference An LPD port is a network port for TCP/IP connection when printing is performed via network.	
BL-GM	Use it to select gamma table for bookbinding and image synthesis. Selects gamma table to be used when a copy job for bookbinding/image synthesis and other job (PDL, etc.) are mixed.	2
	Setting value 0: 1: [Factory setting / After RAM clear: 0]	
ORG-A4R	Use it to set a special paper size that is not otherwise recognized by the DF	2
	Setting value 0:A4-R 1:FOLIO-R [Factory setting / After RAM clear: 0]	
PDF-RDCT	Use it to enable/disable reduction for transfer of received data (in PDF).	2
	Use it to indicate whether or not to reduce data received in fax/i-fax mode for transmission as e-mail/file PDF data. 0: disables reduction of received data for transfer as PDF 1: enables reduction of received data for transfer as PDF	

2. USER <iR C6870U/iR C5870U>

T-16-129

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
COPY-LIM	Use it to change the upper limit on the copy count.	1
	Settings range 1 to 9999 (prints) at time of shipment/upon RAM initialization: 9999	
SLEEP	Use it to enable/disable the sleep function.	1
	Settings 0: OFF 1: ON at time of shipment/upon RAM initialization: 1 Use 'timer setup' of user mode to set the sleep function.	
COUNTER 1	Use it to set soft counter 1 appearing on the User Mode screen.	1
	101: total 1 at time of shipment/upon RAM initialization: 1 (fixed and cannot be changed)	
COUNTER 2	Use it to have the counter type of soft counter 2 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 108	
COUNTER 3	Use it to change the counter type of soft counter 3 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 232	
COUNTER 4	Use it to change the counter type of soft counter 4 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars my be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 324	
COUNTER 5	Use it to change the counter type of soft counter 5 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 0	
COUNTER 6	Use it to change the counter type of soft counter 6 displayed on the control panel to suit the needs of the user or the dealer. The counter particulars may be changed to suit the needs of the user or the dealer.	1
	Settings range 0 to 999 at time of shipment/upon RAM initialization: 0	

Software Counter Specifications
000s: remote copy
100s: total
200s: copy
300s: print
400s: copy + print
500s: scan
600s: box
700s: reception print
800s: report print

Guide to the Table
yes: counter valid on the machine
4C: full color
mono: mono color (YMC/RGB; ageing effect mono)
Bk: black mono
L: large-size (larger than B4)
S: small-size (B4 and smaller)
counter particular 1, 2: indicates the count of large-size sheets; B4 may be counted as large-size if so set in service mode: COPIER>OPTION>USER>BR_L_CONT).
copy: local copy + remote copy
copy A: local copy + remote copy + box print
print: PDL print + report print + box print
print A: PDL port + report print
scan: black-and-white scan + color scan

T-16-130

Sport	No.	Counter particulars
	000	no indication
yes	002	remote copy (full color 1)
yes	003	remote copy (full color o2)
yes	004	remote copy (mono color 1)
yes	005	remote copy (mono color 2)
yes	006	remote copy (black-and-white 1)
yes	007	remote copy (black-and-white 2)
yes	008	remote copy (full color; large)
yes	009	remote copy (full color; small)
yes	010	remote copy (mono color; large)
yes	011	remote copy (mono color; small)
yes	012	remote copy (black-and-white; large)
yes	013	remote copy (black-and-white; small)
yes	014	remote copy (full color + mono color; large)
yes	015	remote copy (full color + mono color; small)
yes	016	remote copy (full color + mono color 2)
yes	017	remote copy (full color + mono color 1)
yes	018	remote copy (full color; large; double-sided)
yes	019	remote copy (full color; small; double sided)
yes	020	remote copy (mono color; large; double-sided
yes	021	remote copy (mono color; small; double-sided)
yes	022	remote copy (black-and-white; large; double-sided)
yes	023	remote copy (black-and-white; small; doubles-sided)

T-16-131

Sport	No.	Counter particulars
yes	101	total 1
yes	102	total 2
yes	103	total (large)
yes	104	total (small)
yes	105	total (full color 1)
yes	106	total (full color 2)
yes	108	total (black-and-white 1)
yes	109	total (black-and-white 2)
yes	110	total (mono color; lag)
yes	111	total (mono color; small)
yes	112	total (black-and-white; large)
yes	113	total (black-and-white; small)
yes	114	total 1 (double-sided)

Sport	No.	Counter particulars
yes	115	total 2 (double-sided)
yes	116	large-size (double-sided)
yes	117	Small-size (double-sided)
yes	118	total (mono color 1)
yes	119	total (mono color 2)
yes	120	total (full color; large)
yes	121	total (full color; small)
yes	122	total (full color + mono color; large)
yes	123	total (full color + mono color; small)
yes	124	total (full color + mono color 2)
yes	125	total (full color + mono color 1)

T-16-132

Sport	Sport	Counter particulars
yes	201	copy (total 1)
yes	202	copy (total 2)
yes	203	copy (large)
yes	204	copy (small)
yes	205	copy A (total 1)
yes	206	copy A (total 2)
yes	207	copy A large)
yes	208	copy A (small)
yes	209	local copy (total 1)
yes	210	local copy (total 2)
yes	211	local copy (large)
yes	212	local copy (small)
yes	213	remote copy (total 1)
yes	214	remote copy (total 2)
yes	215	remote copy (large)
yes	216	remove copy (small)
yes	217	copy (full color 1)
yes	218	copy (full color 2)
yes	219	copy (mono color 1)
yes	220	copy (mono color 2)
yes	221	copy (black-and-white 1)
yes	222	copy (black-and-white 2)
yes	223	copy (full color; large)
yes	224	copy (full color; small)
yes	225	copy (mono color; large)
yes	226	copy (mono color; small)
yes	227	copy (black-and-white; large)
yes	228	copy (black-and-white; small)
yes	229	copy (full color + mono color; large)
yes	230	copy (full color + mono color; small)
yes	231	copy (full color + mono color; 2)
yes	232	copy (full color mono color; 1)
yes	233	copy (full color; large; double-sided)
yes	234	copy (full color; small; double-sided)
yes	235	copy (mono color; large; double-sided)
yes	236	copy (mono color; small; double-sided)
yes	237	copy (black-and-white; large; double-sided)
yes	238	copy (black-and-white; small; double-sided)

Sport	Sport	Counter particulars
yes	245	copy A (full color 1)
yes	246	copy A (full color 2)
yes	247	copy A (mono color 1)
yes	248	copy A (mono color 2)
yes	249	copy A (black-and-white 1)
yes	250	copy A (back-and-white 2)
yes	251	copy A (full color; large)
yes	252	copy A (full color; small)
yes	253	copy A (mono color; large)
yes	254	co A (mono color; small)
yes	255	copy A (black-and-white; large)
yes	256	copy A (black-and-white; small)
yes	257	copy A (full color + mono color; lag)
yes	258	copy A (full color + mono color; small)
yes	259	copy A (full color + mono color; color 2)
yes	260	copy A (full color + mono color 1)
yes	261	copy A (full color; large; double-sided)
yes	262	copy A (full color; small; double-sided)
yes	263	copy A (mono color; laser; double-sided)
yes	264	copy A (mono color; small; double-sided)
yes	265	copy A (black-and-while; large; double-sided)
yes	266	copy A (black-and-white; small; double-sided)
yes	273	local copy (full color 1)
yes	274	local copy (full color 2)
yes	275	local copy (mono color 1)
yes	276	local copy (mono color 2)
yes	277	local copy (black-and-white 1)
yes	278	local copy (black-and-white 2)
yes	279	local copy (full color; large)
yes	280	local copy (full color; small)
yes	281	local copy (mono color; large)
yes	282	local copy (mono color; small)
yes	283	local copy (black-and-white; large)
yes	284	local copy (black-and-white; small)
yes	285	local copy (full color + mono color; small)
yes	286	local copy (full color + mono color; small)
yes	287	local copy (full color +mono color 2)
yes	288	local copy (full color + mono color 1)
yes	289	local copy (full color; large; double-sided)
yes	290	local copy (full color; small; double-sided)
yes	291	local copy (mono color; large; double-sided)
yes	292	local copy (mono color; small; double-sided)
yes	293	local copy (black-and-white; large; double-sided)
yes	294	local copy (black-and-white; small; double-sided)

T-16-133

Sport	No.	Counter particulars
yes	301	print (total 1)
yes	302	print (total 2)
yes	303	print (large)
yes	304	print (small)
yes	305	print A (total 1)

Sport	No.	Counter particulars
yes	306	print A (total 2)
yes	307	print A (laser)
yes	308	pint A (small)
yes	309	print full color 1)
yes	310	print (full color 2)
yes	311	print (mono color 1)
yes	312	print (mono color 2)
yes	313	print (black-and-white 1)
yes	314	print (black-and-white 2))
yes	315	print (full color; large)
yes	316	print (full color small)
yes	317	print (mono color; large)
yes	318	print (mono color; large)
yes	319	print (black-and-white; large)
yes	320	print (black-and-white; small)
yes	321	print (full color + mono color; large)
yes	322	print (full color + mono color; small)
yes	323	print (full color + mono color/2)
yes	324	front (full color + mono color/1)
yes	325	print (full color; large; double-sided)
yes	326	front (full color; small; double-sided)
yes	327	front (mono color; large; double-sided)
yes	328	print (mono color; small; double-sided)
yes	329	print (black-and-while; large; double-sided)
yes	330	print (black-and-white; small; sided-sided)
yes	331	PDL print (total 1)
yes	332	PDL print (total 2)
yes	333	PDL print (large)
yes	334	PDL print (small)
yes	335	PDL print (full color 1)
yes	336	PDL print (full color)
yes	339	PDL print (black-and-white 1)
yes	340	PDL print (black-and-white 2)
yes	341	PDL print (full color; large)
yes	342	PDL print (full color; small)
yes	345	PDL print (black-and-white; large)
yes	346	PDL print (black-and-while; small)
yes	351	PDL print (full color; large; double-sided)
yes	352	PDL print (full color; small; double-sided)
yes	355	PDL print (black-and-white; large; double-sided)
yes	356	PDL print (black-and-white; small; double-sided)

T-16-134

Sport	No.	Counter particulars
yes	401	copy + print (full color; large)
yes	402	copy + print full color; small)
yes	403	copy + print (black-and-white; large)
yes	404	copy + print (black-and-white; small)
yes	405	copy + print (black-and-white 2)
yes	406	copy + print (black-and-white 1)
yes	407	copy print (full color + mono color; large)
yes	408	copy + print (full color + mono color; small)

Sport	No.	Counter particulars
yes	409	copy + print (full color + mono color/2)
yes	410	copy + print (full color + mono color/1)
yes	411	copy + print (large)
yes	412	copy + print (small)
yes	413	copy + print (2)
yes	414	copy + print (1)
yes	415	copy + print (mono color; large)
yes	416	copy + print (mono color; small)
yes	417	copy + print (full color; large; double-sided)
yes	418	copy + print (full color; small; double-sided)
yes	419	copy + print (mono color; large; double-side)
yes	420	copy + print (mono color; small; double-sided)
yes	421	copy + print (black-and-white; large; double-sided)
yes	422	copy + print (black-and-white; small double-sided)

T-16-135

Sport	No.	Counter particulars
yes	501	scan (total 1)
-	502	scan (total 2)
-	503	scan A(large)
-	504	scan (large)
yes	505	black-and-white scan (total 1)
-	506	black-and-white scan (total 2)
-	507	black-and-white scan (large)
-	508	black-and-white scan (small)
yes	509	color scan (total 1)
-	510	color scan (total 2)
-	511	color scan (large)
-	512	color scan (small)

T-16-136

Sport	No.	Counter particulars
yes	601	box print (total 1)
yes	602	box print (total 2)
yes	603	box print (large)
yes	604	box print (small)
yes	605	box print (full color 1)
yes	606	box print (full color 2)
yes	607	box print (mono color 1)
yes	608	box print (mono color 2)
yes	609	box print (black-and-white 1)
yes	610	box print (black and-white 2)
yes	611	box print (full color; large)
yes	612	box print (full color; small)
yes	613	box print (mono color; large)
yes	614	box print (mono color; small)
yes	615	box print (lack-and-white; large)
yes	616	box print (black-and-white; small)
yes	617	box print (full color + color; large)
yes	618	box print (full color + mono color; small)
yes	619	box print (full color + mono color 2)
yes	620	box print (full color + mono color 1)
yes	621	box print (full color; large; double-sided)

Sport	No.	Counter particulars
yes	622	box print (full color; small; double-sided)
yes	623	box print (mono color; large; double-sided)
yes	624	box print (mono color; small; double-sided)
yes	625	box print (black-and-white; large; double-sided)
yes	626	box print (black-and-white; small; double-sided)

T-16-137

Sport	No.	Counter particulars
yes	701	reception print (total 1)
yes	702	reception print (total 2)
yes	703	reception print (large)
yes	704	reception print (small)
-	705	reception print (full color 1)
-	706	reception print (full color 2)
-	707	reception print (grayscale 1)
-	708	reception print (grayscale 2)
yes	709	reception print (black-and-white 1)
yes	710	reception print (black-and-white 2)
-	711	reception print (full color; large)
-	712	reception print (full color; small)
-	713	reception print (grayscale; large)
-	714	reception print (grayscale; small)
yes	715	reception print (black-and-white; large)
yes	716	reception print (black-and-white; small)
-	717	reception print (full color + grayscale; large)
-	718	reception print (full color + grayscale; small)
-	719	reception print (full color + grayscale 2)
-	720	reception print (full color + grayscale 1)
-	721	reception print (full color; large; double-sided)
-	722	reception print (full color; small; double-sided)
-	723	reception print (grayscale; large: double-sided)
-	724	reception print (grayscale; small; double-side)
yes	725	reception print (black-and-white; large; double-sided)
yes	726	reception print (black-and-white; small; double-sided)

T-16-138

Sport	No.	Counter particulars
yes	801	report print (total 1)
yes	802	report print (total 2)
yes	803	report print (large)
yes	804	report print (small)
-	805	report point (full color 1)
-	806	report print (full color 2)
-	807	report print (grayscale 1)
-	808	report print (grayscale 2)
yes	809	report print (lack-and-white 1)
yes	810	report print (black-and-white 2)
-	811	report print (full color large)
-	812	report print (full color; small)
-	813	report print (grayscale; large)
-	814	report print (grayscale; small)
yes	815	report print (black-and-white; large)

Sport	No.	Counter particulars
yes	816	report print (black-and-white; small)
-	817	report print (full color + grayscale; large)
-	818	report print (full color + grayscale; small)
-	819	report print (full color + grayscale 2)
-	820	report print (full color + grayscale 1)
-	821	report print (full color; large; double-sided)
-	822	report print (full color; small; double-sided)
-	823	report print (grayscale; large; double-sided)
-	824	report print (grayscale: small; double-sided)
yes	825	report print (black-and-white; large; double-sided)
yes	826	report print (black-and-white; small; double-sided)

T-16-139

Sport	No.	Counter particulars
-	901	copy scan total 1 (color)
-	902	copy scan total 1 (black-and-white)
-	903	copy scan total 2 (color)
-	904	copy scan total 2 (black-and-white)
-	905	copy scan total 3 (color)
-	906	copy scan total 3 (black-and-white)
-	907	copy scan total 4 (color)
-	908	copy scan total 4 (black-and-while)
-	909	local copy scan (black-and-white)
-	910	local copy scan (black-and-while)
-	911	remote copy scan (color)
-	912	remote copy scan (black-and-white)
-	913	transmission scan total 1 (color)
-	914	transmission scan total 1 (black-and-white)
yes	915	transmission scan total 2 (color)
yes	916	transmission scan total 2 (black-and-white)
yes	917	transmission scan total 3 (color)
yes	918	transmission scan total 3 (black-and-white)
-	919	transmission scan total 4 (color)
-	920	transmission scan total 4 (black-and-white)
yes	921	transmission scan total 5 (color)
yes	922	transmission scan total 6 (black-and-white
yes	929	transmission scan total 6 (color)
yes	930	transmission scan total 6 (black-and-white)
-	931	transmission scan total 7 (color)
-	932	transmission scan total 7 (black-and-white)
-	933	transmission scan total 8 (color)
-	934	transmission scan total 8 (black-and-white)
-	935	universal transmission scan total (color)
-	936	universal transmission scan total (black-and-while)
yes	937	box scan (color)
yes	938	box scan (black-and-while)
yes	939	remote scan (color)
yes	940	remote scan (black-and-white)
-	941	transmission scan/fax (color)
-	942	transmission scan/fax (black-and-white)
-	943	transmission scan/i-fax (color)

Sport	No.	Counter particulars
-	944	transmission scan/i fax (black-and-white)
yes	945	transmission scan/e-mail (color)
yes	946	transmission scan/e-mail (black-and-white)
-	947	transmission scan/FTP (color)
-	948	transmission scan/FTP (black-and-white)
-	949	transmission scan/SMB (color)
-	950	transmission scan/SMB (black-and-white)
-	951	transmission scan/IPX (color)
-	952	transmission scan/IPX (black-and-while)
-	953	transmission scan/detach base (color)
-	954	transmission scan/detach base (black-and-white)
-	955	transmission scan/local print (color)
-	956	transmission scan/local print (black-and-white)
-	957	transmission scan/box (color)
-	958	transmission scan/box (black-and-white)

T-16-140

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CONTROL	Use it to impose a limit on the use of a control card for a PDL job.	
	Settings 0: do not limit 1: limit at time of shipment/upon RAM initialization: 0	1
B4-L-CNT	For soft counters 1 through 6, use it to specify whether B4 should be counted as large-size or small-size.	
	Settings 0: small-size 1: large-size at time of shipment/upon RAM initialization: 0	1
COPY-JOB	Disabling Copy Job Reservation When the Card Reader/Coin Vendor Is in Use Use it when it is necessary to prevent multiple jobs as when the CCX or coin robot is in use.	
	Settings 0: permit copy job reservation 1: prohibit copy job reservation at time of shipment/upon RAM initialization: 0	1
TAB-ROT	Use it to enable/disable 180-deg rotation of a landscape image for a tab sheet.	
	Settings 0: do not rotate 1: rotate at time of shipment/upon RAM initialization: 0	1
PR-PSESW	Use it to select whether to display the print pause function switch. Selects whether to display the print pause function switch in the user screen.	
	Setting value 0: Print pause function not available (The print pause function switch is not displayed in the user screen.) 1: Print pause function available (The print pause function switch is displayed in the user screen.) [Factory setting / After RAM clear: 0]	1
IDPRN-SW	Use it to switch over job types for the group control counter.	
	Settings 0: count in PRINT category: box print, report print, SEND local print PDL print 1: count in PRINT category: report print, end local print, PDL print at time of shipment/upon RAM initialization: 0	1

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CPRT-DSP	Use it to enable/disable indication of the count button on the Sales Counter Check screen.	1
	Settings 0: do not indicate 1: indicate at time of shipment/upon RAM initialization: 1	
CNT-SW	Use it to switch over counter indication items. Counters in Question	1
	At the time of the setting value 0 101 total 1 108 total (black-and-white 1) 232 copy (full color + mono color; 1) 324 print (full color + mono color; 1) At the time of the setting value 1 102 total 2 231 copy (full color + mono color; 2) 148 total A (full color + mono color; 2) 222 copy (black-and-white 2) at time of shipment/upon RAM initialization: 0	
REMPNL	Use it to select whether to use the remote panel function. Selects whether to use the remote panel function, which enables a user to operate a copier using a PC in the same manner as the LCD panel	1
	Setting value 0: Do not use remote panel function. 1: Use remote panel function. [Factory setting / After RAM clear: 0]	
BCONT-AST	Use it to switch over counter indication items. Counters in Question	1
	Settings 0: count box print job as PDL job 1: count box print job as copy job at time of shipment/upon RAM initialization: 0	
DFLT-CPY	Use it to set the default color mode of COPY.	1
	Settings 0: ACS 1: full color 2: black-and-white JPN (at time of shipment/upon RAM initialization: 2) UL (at time of shipment/upon RAM initialization: 0) EUR (at time of shipment/upon RAM initialization: 2) other (at time of shipment/upon RAM initialization: 2)	
DFLT-BOX	Use it to set the default color mode for BOX.	1
	Settings 0: ACS 1: full color 2: black-and-white JPN (at time of shipment/upon RAM initialization: 2) UL (at time of shipment/upon RAM initialization: 0) EUR (at time of shipment/upon RAM initialization: 2) others (at time of shipment/upon RAM initialization: 2)	
DOC-REM	Use it to set the message promoting for the removal of originals.	1
	Settings 0: do not indicate 1: indicate at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
COUNTER7	Use it to select the counter type to be displayed for Counter 7 in the user mode. Sets the number for the 7th counter displayed for the counter check in the user mode.	1
	Setting range 1 to 26, 39, 41 to 45 [Factory setting / After RAM clear: 0 (not displayed)]	
COUNTER8	Use it to select the counter type to be displayed for Counter 8 in the user mode. Sets the number for the 8th counter displayed for the counter check in the user mode	1
	Setting range 1 to 26, 39, 41 to 45 [Factory setting / After RAM clear: 0 (not displayed)]	
LDAP-SW	Use it to select the searching condition for LDAP search. Sets the matching condition to retrieve email addresses or fax numbers from the LDAP server.	1
	Setting value 0: Includes the following condition 1: Does not include the following condition 2: Is equal to the following condition 3: Is not equal to the following condition 4: Starts with the following condition 5: Ends with the following condition [Factory setting / After RAM clear: 4] Reference When the LDAP (Lightweight Directory Access Protocol) server is registered, email addresses or fax numbers can be retrieved from the LADP server. The email addresses or fax numbers obtained can be registered in the address/number list, etc	
FROM-OF	Use it to select whether to delete "from-address" used for email sending.	1
	Setting value 0: Do not delete "from-address". 1: Delete "from-address". [Factory setting / After RAM clear: 0]	
SPEAKER	Use it to select whether to display the "Speaker / Headphone Switching" button in the voice setting (user mode).	1
	Setting value 0: Do not display the button. 1: Display the button. [Factory setting / After RAM clear: 0]	
FILE-OF	Use it to select whether to prohibit transmission to file addresses. Selects whether to prohibit transmission to file addresses by prohibiting input of file addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to file addresses. 1: Prohibit transmission to file addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when a file address is registered, it is desirable to manually delete the file address. (Otherwise, the file address can be used.) - When "1" is set, it is not allowed to import (register) a file address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" for the file exported by RUI or equipment information distribution.	

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MAIL-OF	Use it to select whether to prohibit transmission to email addresses. Selects whether to prohibit email transmission by prohibiting input of email addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to email addresses. 1: Prohibit transmission to email addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when an email address is registered, it is desirable to manually delete the email address. (Otherwise, the email address can be used.) - When "1" is set, it is not allowed to import (register) an email address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" by RUI or equipment information distribution.	
IFAX-OF	Use it to select whether to prohibit transmission to I Fax addresses. Selects whether to prohibit transmission to I Fax addresses by prohibiting input of I Fax addresses using the address book.	1
	Setting value 0: Do not prohibit transmission to I Fax addresses. 1: Prohibit transmission to I Fax addresses. [Factory setting / After RAM clear: 0] Reference - To change this item from 0 to 1 when an I Fax address is registered, it is desirable to manually delete the I Fax address. (Otherwise, the I Fax address can be used.) - When "1" is set, it is not allowed to import (register) an I Fax address from RUI or equipment information distribution. Therefore, in order to delete all the addresses at once, set "1" and execute "overwriting import (deletes the current data and then registers the imported data)" by RUI or equipment information distribution.	
SIZE-DET	Use it to enable/disable the original size detection function.	2
	Settings 0: off (the scanner will not go on when the copyboard cover is opened/closed thus not blinding the user) 1: on (at time of shipment/upon RAM initialization)	
DATE-DSP	Use it to change the date notation.	2
	Settings 0: YYMM/DD 1: DD/MM'YY 2: MM/DD/YY	
MB-CCV	Use it to limit access to the mail box function (control card).	2
	Settings 0: do not limit 1: limit at time of shipment/upon RAM initialization: 0	
TRY-STP	Use it to enable/disable output when the tray becomes full.	2
	Settings 0: normal mode (interrupted when the finisher tray becomes full) 1: interrupt in relation to stack height at time of shipment/upon RAM initialization: 0	
MF-LG-ST	Use it to enable/disable the indication of the Extra length mode.	2
	Settings 0: normal 1: indicate key on extension mode screen at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CNT-DISP	Use it to enable/disable the indication of the serial number in response to a press on the Counter Check key.	2
	Settings 0: indicate serial number 1: do not indicate serial number at time of shipment/upon RAM initialization: 0	
NW-SCAN	Use it to enable/disable the network scan function.	2
	Settings 0: no not permit 1: permit (invalid in the absence of a UFR or open I/F board) at time of shipment/upon RAM initialization: 0	
HDCR-DSP	Use it to enable/disable the indication of HDD initialization mode (user mode).	2
	Settings 0: do not indicate and do not initialize 1: initialize once using 0s 2: initialize once using random data 3: initialize 3 times using random data at time of shipment/upon RAM initialization: 0	
JOB-INVL	Use it to set the intervals of interrupt jobs.	2
	Settings 0: standard (permit the next job) 1: permit output of next job after delivery of last page of interrupt job 2: permit output of next job after delivery of last page of all jobs at time of shipment/upon RAM initialization: 0	
LGSW-DSP	Use it to enable/disable indication of 'log display on/off' on the User Mode screen.	2
	Settings 0: do not indicate 'log display on/off'. 1: indicate 'log display on/off' at time of shipment/upon RAM initialization: 0	
PCL-COPY	Use it to set the PCL command COPIES (Meru/Pinatubo/Hood compatibility mode).	2
	Setting mode 0: control page by page according to COPIES command setting on pages 1: Meru/Pinatubo/Hood compatible mode 2 to 65535: space at time of shipment/upon RAM initialization: 0	
PRJOB-CP	Use it to set the CCV count pulse for reception/report output.	2
	Settings 0: do not generate count pulse 1: generate count pulse at time of shipment/upon RAM initialization: 0	
DPT-ID-7	Registering a department ID and inputting a 7-digit code for authentication.	2
	Setting Values 0: As before [Initial setting upon shipment/value after RAM clear] 1: Inputting a 7-digit code Reference Information Support for Siemens	
RUI-RJT	Disconnecting the HTTP port when three authentication failures from RUI are recognized.	2
	Setting Values 0: Invalid [Initial setting upon shipment/value after RAM clear] 1: Valid Reference Information Support for Siemens	

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SND-RATE	Use it to set the rate of compression when SEND-RATE is set to 'high'	
	Settings 0: 1/16 1: 1/20 2: 1/24 A higher rate of compression will lower the image quality. at time of shipment/upon RAM initialization: 0	2
CTM-S06	Use it to remove the password from an export file (file transmission address).	
	range of settings 0:do not remove password from export file 1:remove password from export file. at time of shipment/upon RAM initialization: 0	2
FREG-SW	Use it to select whether to display the free register section for the "SEND" MEAP counter.	
	Setting value 0: Do not display the free register section. 1: Display the free register section. [Factory setting / After RAM clear: 0]	2
IFAX-SZL	Use it to select whether to restrict the transmission size for IFAX transmission. (only when the transmission is not performed via a server)	
	Setting value 0: Enable the restriction. (when transmission is performed via a server / when transmission is not performed via a server) 1: Disable the restriction. (only when transmission if not performed via a server) [Factory setting / After RAM clear: 1]	2
IFAX-PGD	Use it to select whether to allow the transmission in the separation mode per page. (only when the data size exceeds the threshold.) Select whether to allow the transmission in the separation mode per page when the transmission data exceeds the threshold in the IFAX simple mode.	
	Setting value 0: Do not allow the separation transmission per page. 1: Allow the separation transmission per page. [Factory setting / After RAM clear: 0] ⚠️ In the page separation transmission mode, the order of pages on the receiver side is not guaranteed. There is also a possibility that another reception job might be inserted between the pages, which must be explained to a user before setting this item.	2
MEAPSAFE	Use it to select the MEAP safe mode.	
	Setting value 0: Ordinary mode 1: Safe mode [Factory setting / After RAM clear: 0] Reference In the safe mode, you can obtain a log for fault investigation by stopping the MEAP application	2
FXEX-CNT	Use it to set the temperature control hysterisis width for the outside heating roller. The outside heating roller of the machine has a low heating capacity and tends to go on and off frequently; this mode is offered to prevent flickering.	
	Settings range 0: hysterisis width = -/+1 deg C (225 deg C -/+1 deg C) efault) 1: hysterisis width = -/+2 deg C (224 deg C -/+2 deg C) 2: hysterisis width = -/+3.5 deg C (222.5 deg C -/+3.5 deg C) 3: hysterisis width = -/+4.5 deg C (221.5 deg C -/+4.5 deg C) [at time of shipment/upon RAM initialization: 0]	2

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PTJAM-RC	Use it to select whether to make the machine recover from the PDL jam. Selects whether to make the machine recover from the PDL jam and perform printing.	2
	Setting value 0: Do not make the machine recover from the jam. 1: Make the machine recover from the jam. [Factory setting / After RAM clear: 1] Reference Use it when you don't want to print the receipt or pay statement, etc. for a jam recovery after it was printed halfway.	
SLP-SLCT	Use it to select whether to use the BW2 (CL1) Network application. Selects whether to make the machine enter the 1w(2w)Sleep mode so that the BW2 (CL1) Network application can be also used for BW3 (CL2).	2
	Setting value 0: Do not use the BW2 (CL1) network application. (The machine enters the 1w(2w)Sleep mode.) 1: Use the BW2 (CL1) network application. (The machine does not enter the 1w(2w)Sleep mode.) [Factory setting / After RAM clear: 0] Reference In order to make the BW3 (CL2) machine in the 1w(2w)Sleep recover via the network, it is necessary to receive a specific packet. Since the BW2 (CL1) machine does not require receipt of a specific packet, the BW3 (CL2) machine cannot recover from the 1w(2w)Sleep mode by the network application (such as NSA) used by the BW2 (CL1) machine. Therefore, it is necessary to make the machine not to enter the 1w(2w)Sleep mode when using the BW2 (CL1) application.	
PS-MODE	Use it to set a PS conversion mode. Sets a PS conversion mode.	2
	Setting value 0: No conversion 1: Conversion by PS Type3 Halftone command (opposite dither order) [Factory setting / After RAM clear: 0] Reference When BW2 was upgraded to BW3, major changes were made in the image processing method for PDL (PS), and the image printed by BW3 might be substantially different from the one printed by BW2. Therefore, the same image processing method as BW2 is provided by BW3.	
2C-CT-SW	Use it to select the color counter (2-color mode only). Selects whether to use the full-color counter or mono-color counter for 2-color mode setting.	2
	Setting value 0: Use mono-color counter. 1: Use full-color counter. [Factory setting / After RAM clear: 1] Reference 2-color printing: 1 color of R, G, B, C, M, Y + Bk Mono-color: 1 color only	

COPIER>OPTION>USER (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CNCT-RLZ	Connection Serialization Switch Use it to enable/disable the connection serialization function.	
	0:off (disables connection serialization function) 1:on (enables connection serialization function) Remarks: Connection Serialization Function It has been designed to support the job grouping function of Version 1.0 of imageWARE Output Manager Select Edition. The iR Series of machines (MFPs) are capable of assigning connections, and it is important that there be a mechanism preventing multiple connections on the part of the device for the job grouping function to operate correctly. Specifically, once the job data of a connection is received, that of another will not be accepted (received) until the end of the ongoing reception (so as to prevent reordering of jobs). The term "connection" refers to a connection established with multiple hosts (e.g., PCs) on a network. Job Grouping Function It has been designed as a function of Version 1.0 of imageWARE Output Manager Select Edition, and serves to prevent a job coming from another PC in a group job (in which multiple jobs are transmitted within a single session).	2
DOM-ADD	Use it to select whether to add the destination domain name for email transmission. Selects whether to add the domain name (ex. @canon.co.jp), which was set by the user mode, to the account input for email transmission.	
	Setting value 0: Do not add the domain name. 1: Add the domain name. [Factory setting / After RAM clear: 0] <When you send email to xxx@canon.co.jp> Set "canon.co.jp" as the domain name by the user mode, and set "1" to <DOM-ADD>. When you input xxx, the registered domain name is added for email transmission.	2

3. CST <iR C6870U/iR C5870U>

T-16-141

COPIER>OPTION>CST (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
P-SZ-C1	Use it to select and register paper size for the cassette 1.	
	Settings 0: A4 1: B5 2: LTR at time of shipment/upon RAM initialization: 0	1
P-SZ-C2	Use it to select and register paper size for the cassette 2.	
	Settings 0: A4 1: B5 2: LTR at time of shipment/upon RAM initialization: 0	1
U1-NAME to U4-NAME	Use it to enable/disable the indication of the paper name identified with a paper size group (U1 through U4).	
	Settings 0: indication on touch panel as U1, U2, U3, U4. 1: indicate name of paper set in service mode (CST-U1, U2, U3, U4) at time of shipment/upon RAM initialization: 0	2

COPIER>OPTION>CST (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CST-U1/U2/ U3/U4	Use it to select the names of paper sizes to be used in paper size groups. By registering a special size for U1, U2, U3, or U4, you can cause the machine to treat the paper in question as special size paper.	2
	24: Foolscap (CST-U2; default) 25: Australian Foolscap 26: Officio 27: Ecuadorian Officio 28: Bolivian Officio 29: Argentine Letter (U4; default) 30: Argentine Letter-R 31: Government Letter (U1: default) 32: Government Letter-R 34: Government Legal (U3: default) 35: Folio 36: Argentine Officio 37: Mexico Officio 38: Executive	

4. ACC <iR C6870U/iR C5870U>

T-16-142

COPIER>OPTION>ACC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
COIN	Use it set up the coin vendor mechanism. Use it to permit/not permit access to coin vendor mode.	1
	Settings 0: coin vendor not used (control card permitted; no charging) 1: coin vendor (charging used) 2: remote counter (charging used) at time of shipment/upon RAM initialization: 0	
DK-P	Use it to set the size of paper used in the paper deck (optional).	1
	Settings 0: A4 1: not supported 2: LTR at time of shipment/upon RAM initialization: 0	
CARD-SW	Use it to set the UI screen when switching the coin vendor mechanism.	1
	Settings 0: coin 1: card 2: coin and card at time of shipment/upon RAM initialization: 0	
STPL-LMT	Use it to put a limit to the number of sheets for saddle binding.	2
	Settings 0: 5 sheets (w/o white band) 1: 10 sheets (w/o white band) 2: 10 sheets (w/ white band) 3: 15 sheets (w/ white band) at time of shipment/upon RAM initialization: 3	
SC-TYPE	Use it to change the type of machine (self copy/coin vendor machine). This mode is effective only when the machine soft ID is "Lawson." Use it to switch between a Lawson model and a self copy model.	2
	Settings 0: Lawson model 1: general self copy model at time of shipment/upon RAM initialization: 0	

COPIER>OPTION>ACC (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
CC-SPSW	Use it to set the control card (CC IV/CCV) I/F support level.	
	Settings 0: do not support 1: support (priority on speed) 2: support (priority on upper limit) at time of shipment/upon RAM initialization: 0 - if set to '1' , priority on the maintenance of the engine performance; as such, the upper limit may not be properly imposed. - if set to '2' , on the other hand, the upper limit may properly be imposed, but the engine performance may decrease depending on the source of paper.	2

5. INT-FACE <iR C6870U/iR C5870U>

T-16-143

COPIER>OPTION>INT-FACE (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
IMG-CONT	Use it to set up EFI controller connection.	
	Settings 0: normal operation 1: not used 2: not used 3: EFI controller 4: not used 5: not used	1

If '1' is selected, the following user mode items will be reset to their default settings:
   - system control setup>network setup>TCP/IP setup>IP address setup>IP address
   - system management setup>network setup>TCP/IP setup>IP address setup>sub net mask
   - system management setup>network setup>TCP/IP setup>IP address setup>gateway address
   - system management setup>network setup>TCP/IP setup>Ethernet driver setup/commutation method
   - system management setup>network setup>TCP/IP setup>Ethernet driver setup>Ethernet type
   - system management setup>network setup>TCP/IP setup>start-up time

Moreover, the settings of the following user mode items will be OFF:
   - system management setup>network setup>TCP/IP setup>IP address setup>DHCP use
   - system management setup>network setup>TCP/IP setup>IP address setup>RARP use
   - system management setup>network setup>TCP/IP setup>IP address setup>BOOTP use
   - system management setup>network setup>TCP/IP setup>Ethernet driver setup>auto detection
   - system management setup>network setup>spool function use

If the setting is '3' or 4', the following items will be OFF in addition to the foregoing:
   - system management setup>network setup>TCP/IP setup>RW setup
   - system management setup>network setup>TCP/IP setup>LPD setup
   - system management setup>network setup>TCP/IP setup>IPP print
   - system management setup>network setup>SMB setup

The foregoing items will not be reset when set to '0: normal mode'; be sure to re-set them as necessary.

T-16-144

COPIER>OPTION>INT-FACE (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
AP-OPT	Use it to permit or not permit printing from PrintMe (application installed to the PS print server unit).	
	Settings 0: enable if for specific account 1: enable for all accounts 2: reject printing (print only from specific group ID) at time of shipment/upon RAM initialization: 1	2
AP-ACCNT	Use it to set group ID for print jobs (CPCA) from PrintMe (application installed on PS print server unit).	
	Settings 0 to 9999999 (at time of shipment/upon RAM initialization: 0)	2
AP-CODE	Use it to set a pass code for print jobs (CPCA) for PrintMe (application installed on PS print sever unit).	
	Code settings 0 to 9999999 (at time of shipment/upon RAM initialization)	2
NWCT-TM	Use it to set time for timeout to maintain network connection. (KeepAlive) Sets how long the network can be connected between the application in the PC and the iR main unit. (KeepAlive)	
	Setting range 1 to 5 (Unit: minutes) [Factory setting / After RAM clear: 5] Reference After the time specified here elapses, the network is disconnected. When the network cannot be connected due to some reason, this can reduce downtime of the main unit.	2

6. LCNS-TR <iR C6870U/iR C5870U>

T-16-145

COPIER>OPTION>LCNS-TR (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
ST-SEND	Use it to select whether to display the installation status of the SEND function when the transfer function is set invalid.	
	Setting value 0: SEND function not available (not installed) 1: SEND function available (installed) [Factory setting / After RAM clear: 0]	2
TR-SEND	Use it to obtain the transfer license key for the SEND function when the transfer function is set invalid. Obtains the transfer license key to use the SEND function in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-SEND	Use it to select whether to use the SEND function when the transfer function is set invalid.	
	Setting value 0: Do not use SEND function. 1: Use SEND function. [Factory setting / After RAM clear: 0]	2
ST-ENPDF	Use it to display the installation status of the SEND encryption PDF transmission function when the transfer function is set invalid.	
	Setting value 0: SEND encryption PDF transmission function not available (not installed) 1: SEND encryption PDF transmission function available (installed) [Factory setting / After RAM clear: 0]	2

TR-ENPDF	Use it to obtain the transfer license key for the SEND encryption PDF transmission function when the transfer function is set invalid. Obtains the transfer license key to use the SEND encryption PDF transmission function in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-ENPDF	Use it to select whether to use the SEND encryption PDF transmission function when the transfer function is set invalid.	2
	Setting value 0: Do not use SEND encryption PDF transmission function. 1: Use SEND encryption PDF transmission function. [Factory setting / After RAM clear: 0]	
ST-SPDF	Use it to select whether to display the installation status of the SEND searchable PDF transmission function when the transfer function is set invalid.	2
	Setting value 0: SEND searchable PDF transmission function not available (not installed) 1: SEND searchable PDF transmission function available (installed) [Factory setting / After RAM clear: 0]	
TR-SPDF	Use it to obtain the transfer license key for the SEND searchable PDF transmission function when the transfer function is set invalid. Obtains the transfer license key to use the SEND searchable PDF transmission function in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-SPDF	Use it to select whether to use the SEND searchable PDF transmission function when the transfer function is set invalid.	2
	Setting value 0: Do not use SEND searchable PDF transmission function. 1: Use SEND searchable PDF transmission function. [Factory setting / After RAM clear: 0]	
ST-EXPDF	Use it to display the installation status of the PDF expansion kit (encryption PDF + searchable PDF) when the transfer function is set invalid.	2
	Setting value 0: PDF expansion kit not available (not installed) 1: PDF expansion kit available (installed) [Factory setting / After RAM clear: 0]	
TR-EXPDF	Use it to obtain the transfer license key for the PDF expansion kit (encryption PDF + searchable PDF) when the transfer function is set invalid. Obtains the transfer license key to use the PDF expansion kit (encryption PDF + searchable PDF) in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-EXPDF	Use it to select whether to use the PDF expansion kit (encryption PDF + searchable PDF) when the transfer function is set invalid.	2
	Setting value 0: Do not use PDF expansion kit. 1: Use PDF expansion kit. [Factory setting / After RAM clear: 0]	
ST-LIPS	Use it to display the LIPS installation status when the transfer function is set invalid.	2
	Setting value 0: LIPS not available (not installed) 1: LIPS available (installed) [Factory setting / After RAM clear: 0]	
TR-LIPS	Use it to obtain the LIPS transfer license key when the transfer function is set invalid. Obtains the transfer license key to use LIPS in other MFP machine.	2
	Setting value Transfer license key: 24 digits	

OF-LIPS	Use it to select whether to use LIPS when the transfer function is set invalid.	
	Setting value 0: Do not use LIPS. 1: Use LIPS. [Factory setting / After RAM clear: 0]	2
ST-PDFDR	Use it to display the installation status of the PDF Direct when the transfer function is set invalid.	
	Setting value 0: PDF Direct not available (not installed) 1: PDF Direct available (installed) [Factory setting / After RAM clear: 0]	2
TR-PDFDR	Use it to obtain the transfer license key for the PDF Direct when the transfer function is set invalid. Obtains the transfer license key to use the PDF Direct in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-PDFDR	Use it to select whether to use the PDF Direct when the transfer function is set invalid.	
	Setting value 0: Do not use PDF Direct. 1: Use PDF Direct. [Factory setting / After RAM clear: 0]	2
ST-SCR	Use it to display the installation status of the encryption secure print when the transfer function is set invalid.	
	Setting value 0: Encryption secure print not available (not installed) 1: Encryption secure print available (installed) [Factory setting / After RAM clear: 0]	2
TR-SCR	Use it to obtain the transfer license key for the encryption secure print when the transfer function is set invalid. Obtains the transfer license key to use the encryption secure print in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-SCR	Use it to select whether to use the encryption secure print when the transfer function is set invalid.	
	Setting value 0: Do not use encryption secure print. 1: Use encryption secure print. [Factory setting / After RAM clear: 0]	2
ST-HDCLR	Use it to display the installation status of the HDD encryption / HDD complete deletion when the transfer function is set invalid.	
	Setting value 0: HDD encryption / HDD complete deletion not available (not installed) 1: HDD encryption / HDD complete deletion available (installed) [Factory setting / After RAM clear: 0]	2
TR-HDCLR	Use it to obtain the transfer license key for the HDD encryption / HDD complete deletion when the transfer function is set invalid. Obtains the transfer license key to use the HDD encryption / HDD complete deletion in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-HDCLR	Use it to select whether to use the HDD encryption / HDD complete deletion when the transfer function is set invalid.	
	Setting value 0: Do not use HDD encryption / HDD complete deletion. 1: Use HDD encryption / HDD complete deletion. [Factory setting / After RAM clear: 0]	2

ST-BRDIM	Use it to display the installation status of BarDIMM when the transfer function is set invalid.	2
	Setting value 0: BarDIMM not available (not installed) 1: BarDIMM available (installed) [Factory setting / After RAM clear: 0]	
TR-BRDIM	Use it to obtain the transfer license key for BarDIMM when the transfer function is set invalid. Obtains the transfer license key to use BarDIMM in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-BRDIM	Use it to select whether to use BarDIMM when the transfer function is set invalid.	2
	Setting value 0: Do not use BarDIMM. 1: Use BarDIMM. [Factory setting / After RAM clear: 0]	
ST-VNC	Use it to display the VNC installation status when the transfer function is set invalid.	2
	Setting value 0: VNC not available (not installed) 1: VNC available (installed) [Factory setting / After RAM clear: 0]	
TR-VNC	Use it to obtain the transfer license key for VNC when the transfer function is set invalid. Obtains the transfer license key to use VNC in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-VNC	Use it to select whether to use VNC when the transfer function is set invalid.	2
	Setting value 0: Do not use VNC. 1: Use VNC. [Factory setting / After RAM clear: 0]	
ST-WEB	Use it to display the installation status of the WEB browser when the transfer function is set invalid.	2
	Setting value 0: WEB browser not available (not installed) 1: WEB browser available (installed) [Factory setting / After RAM clear: 0]	
TR-WEB	Use it to obtain the transfer license key for the WEB browser when the transfer function is set invalid. Obtains the transfer license key to use the WEB browser in other MFP machine.	2
	Setting value Transfer license key: 24 digits	
OF-WEB	Use it to select whether to use the WEB browser when the transfer function is set invalid.	2
	Setting value 0: Do not use WEB browser. 1: Use WEB browser. [Factory setting / After RAM clear: 0]	
ST-HRPDF	Use it to display the installation status of the high-compression PDF when the transfer function is set invalid.	2
	Setting value 0: High-compression PDF not available (not installed) 1: High-compression PDF available (installed) [Factory setting / After RAM clear: 0]	
TR-HRPDF	Use it to obtain the transfer license key for the high-compression PDF when the transfer function is set invalid. Obtains the transfer license key to use the high-compression PDF in other MFP machine.	2
	Setting value Transfer license key: 24 digits	

OF-HRPDF	Use it to select whether to use the high-compression PDF when the transfer function is set invalid.	
	Setting value 0: Do not use high-compression PDF. 1: Use high-compression PDF. [Factory setting / After RAM clear: 0]	2
ST-PS-K	Use it to display the installation status of the PS Kanji Kit when the transfer function is set invalid.	
	Setting value 0: PS Kanji Kit not available (not installed) 1: PS Kanji Kit available (installed) [Factory setting / After RAM clear: 0]	2
TR-PS-K	Use it to obtain the transfer license key for the PS Kanji Kit when the transfer function is set invalid. Obtains the transfer license key to use the PS Kanji Kit in other MFP machine.	
	Setting value Transfer license key: 24 digits	2
OF-PS-K	Use it to select whether to use the PS Kanji Kit when the transfer function is set invalid.	
	Setting value 0: Do not use PS Kanji Kit. 1: Use PS Kanji Kit. [Factory setting / After RAM clear: 0]	2

16.6.2 FEEDER

16.6.2.1 FEEDER List <iR C6800/iR C5800/iR C6870U/ iR C5870U>

T-16-146

FEEDER>OPTION		
Subheading	**Contents**	**Level**
SL-DBL	Use it to enable/disable ADF high-speed duplex mode.	
	Settings 0: on (execute high-speed duplex mode; normal, default) 1: off (do not execute high-speed duplex mode; use low-speed duplex mode) at time of shipment: factory adjustment value upon RAM initialization: 0	1
STAMP-SW	Use it to specify the presence/absence of the stamp. This mode item indicates the presence/absence of the stamp, and is designed for use by the service person.	
	Settings 0:stamp absent 1:stamp present at time of shipment: factory adjustment value upon RAM initialization: 0	1

16.6.3 SORTER

16.6.3.1 SORTER List <iR C6800/iR C5800/iR C6870U/iR C5870U>

T-16-147

SORTER>OPTION		
Subheading	**Contents**	**Level**
BLNK-SW	Use it to set the margin width (W) for both sides of the crease associated with a saddle stitcher.	
	Settings 0: normal width (5 mm) 1: large width (10 mm) at time of shipment/upon RAM initialization: 1	1
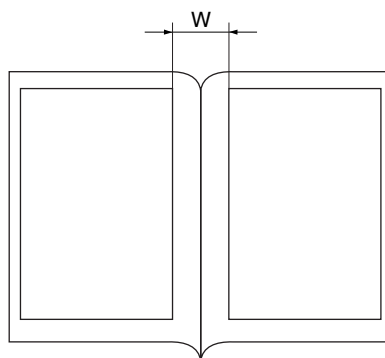
F-16-31

T-16-148

SORTER>OPTION		
Subheading	**Contents**	**Level**
MD-SPRTN	Use it to set conditions on the finisher function.	
	Setting 0: normal 1: go to bare mode at time of shipment/upon RAM initialization: 0	1

16.6.4 BOARD

16.6.4.1 BOARD List <iR C6800/C5800>

T-16-149

BOARD>OPTION (iR C6800/C5800)		
Subheading	**Contents**	**Level**
MENU 1 to 4	Indication of Levels 1 Through 4 for the Printer Setup Menu 0: do no indicate setting 1: indicate [at time of shipment/after RAM initialization]	2
SURF-OFF	Use it to enable/disable the UFR board function. setting 0: enable operation as copier model without E code indication in absence of UFR board 1: check presence of UFR board; if absent, indicate E code [at time of shipment/after RAM initialization: 0]	2

16.6.4.2 BOARD List <iR C6870U/iR C5870U>

T-16-150

BOARD>OPTION (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MENU-1 to 4	Indication of Levels 1 Through 4 for the Printer Setup Menu 0: do no indicate setting 1: indicate [at time of shipment/after RAM initialization]	2

16.7 TEST (Test Print Mode)

16.7.1 COPIER

16.7.1.1 COPIER List <iR C6800/iR C5800>

1. PG

T-16-151

<table>
<tr><td colspan="3" align="center">COPIER>TEST>PG (iR C6800/iR C5800)</td></tr>
<tr><td align="center">Subheading</td><td align="center">Contents</td><td align="center">Level</td></tr>
<tr>
<td rowspan="2">TYPE</td>
<td>Use it to generate test prints. Enter the appropriate type number (test print), and press the Start key. (Be sure to return the setting to '0' after garneting the test print.)</td>
<td rowspan="2" align="center">1</td>
</tr>
<tr>
<td>Settings
0: image from CCD (normal print)
1 to 3: for R&D
4: 16-gradation
5: full page halftone
6: grid
7 to 9: for R&D
10: MCYBk horizontal stripe
11: for R&D
12: YMCBk 64 gradation
13: for R&D
14: full color 16-gradation
15 to 200: for R&D
at time of shipment/upon RAM initialization: 0</td>
</tr>
<tr>
<td rowspan="2">TXPH</td>
<td>Use it to set image mode when generating test prints.</td>
<td rowspan="2" align="center">1</td>
</tr>
<tr>
<td>Settings
0: T-Mic (w/o end correction)
1: SC1 (w/o end correction)
2: SC2 (w/o end correction)
3: T-Mic (w/ end correction only if Bk)
4: SC2 (w/ end correction if Bk)
5: T-Mic (w/ gamma LUT auto correction)
6: SCI (w/ gamma LUT auto correction)
7: SC2 (w/gamma LUT auto correction)
8: T-Mic (w/ end correction if Bk; w/ gamma LUT auto correction)
9: SC2 (w/ end correction if Bk; w/ gamma LUT auto correction)
The setting herein is valid only for test prints.
at time of shipment/upon RAM initialization: 0</td>
</tr>
<tr>
<td rowspan="2">THRU</td>
<td>Use it to switch over image correction tables when generating test prints.</td>
<td rowspan="2" align="center">1</td>
</tr>
<tr>
<td>Settings
0: on (use)
1: off (do not use)
at time of shipment/upon RAM initialization: 0</td>
</tr>
<tr>
<td rowspan="2">DENS-Y/M/C/K</td>
<td>Use it to adjust the density of individual colors of a test print (TYPE=5).</td>
<td rowspan="2" align="center">1</td>
</tr>
<tr>
<td>settings range
0 to 255: a higher setting will make the image darker.
at time of shipment/upon RAM initialization: 128</td>
</tr>
<tr>
<td rowspan="2">COLOR-Y/M/C/K</td>
<td>Use it to set the output of individual colors for individual TYPEs.
For example, to generate M in mono, set '1' to 'COLOR-M' and '0' to others.</td>
<td rowspan="2" align="center">1</td>
</tr>
<tr>
<td>Settings
0: do not generate
1: generate
at time of shipment/upon RAM initialization: 1</td>
</tr>
</table>

COPIER>TEST>PG (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
F/M-SW	Set it to switch over full color and mono color during PG output.	1
	Settings 0: full color output 1: mono color output at time of shipment/upon RAM initialization: 0	
PG-PICK	Use it to select the source of paper for test printing.	1
	Settings 1: cassette 1 2: cassette 2 3: cassette 3 4: cassette 4 5: side deck 6: manual feeder 7 to 8: not used at time of shipment/upon RAM initialization: 1	
2-SIDE	Use it to set the output mode for test printing.	1
	Settings 0: single-sided (at time of shipment/upon RAM initialization) 1: double-sided at time of shipment/upon RAM initialization: 0	
PG-QTY	Use it to set the output mode for test printing.	1
	Use it to set the copy count of test printing. 1 to 999 at time of shipment/upon RAM initialization: 1	

2. NETWORK <iR C6800/iR C5800>

T-16-152

COPIER>TEST>NETWORK (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
PING	Use it to check the connection between the machine and the network (for TCP/IP only).	1

1) Turn off the main power switch.
2) Connect the network cable to the machine, and turn on the main power switch.
3) Inform the user's system administrator that the installation of the machine is over, asking him/her to make the appropriate network settings.
4) Inform the user's system administrator that you will be checking the network connector, and find out the remote host address (i.e., the IP address of the PC terminal on the user network) for use in the PING command.
5) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the IP address you obtained in step 4), and press the OK key and then the Start key.
   - if the connection to the network is normal, 'OK' will appear (to indicate that you may end the work).
   - if 'NG' has appeared, check the physical connection of the network cable; if normal, go to step 6). If a fault is found in the connection of the network cable, connect it properly, and go back to step 5).
6) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the loopback address* (127.0.0.1), and press the OK key and then the Start key.
   - if 'NG' is indicated, suspect a fault in the TCP/IP settings; go back to step 3), and check the settings.
   - if 'OK' is indicated, you may assume that the TCP/IP settings are free of a fault. However, the connection of the network interface board (NIC) or the NIC itself may have a fault; go to step 7) to make a check.
     *When used, the signal will return before reaching the NIC, thus enabling you to check the TCP/IP settings of the source machine.
7) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the local host address (IP address of the machine), and press the OK key.
   - if 'NG' is indicated, suspect a fault in the connection of the NIC or the NIC itself; check the connection of the NIC or replace it as necessary.
   - if 'OK' is indicated, the network settings of the machine and the NIC are free of a fault. On the other hand, the user's network environment is likely to have a fault; communicate the fact to the user's system administrator for action.

F-16-32

16.7.1.2 COPIER List <iR C6870U/iR C5870U>

1. PG

T-16-153

COPIER>TEST>PG (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TYPE	Use it to generate test prints. Enter the appropriate type number (test print), and press the Start key. (Be sure to return the setting to '0' after garneting the test print.)	
	Settings 0: image from CCD (normal print) 1 to 3: for R&D 4: 16-gradation 5: full page halftone 6: grid 7 to 9: for R&D 10: MCYBk horizontal stripe 11: for R&D 12: YMCBk 64 gradation 13: for R&D 14: full color 16-gradation 15 to 200: for R&D at time of shipment/upon RAM initialization: 0	1
TXPH	Use it to set image mode when generating test prints.	
	Settings 0: T-Mic (w/o end correction) 1: SC1 (w/o end correction) 2: SC2 (w/o end correction) 3: T-Mic (w/ end correction only if Bk) 4: SC2 (w/ end correction if Bk) 5: T-Mic (w/ gamma LUT auto correction) 6: SCI (w/ gamma LUT auto correction) 7: SC2 (w/gamma LUT auto correction) 8: T-Mic (w/ end correction if Bk; w/ gamma LUT auto correction) 9: SC2 (w/ end correction if Bk; w/ gamma LUT auto correction) The setting herein is valid only for test prints. at time of shipment/upon RAM initialization: 0	1
THRU	Use it to switch over image correction tables when generating test prints.	
	Settings 0: on (use) 1: off (do not use) at time of shipment/upon RAM initialization: 0	1
DENS-Y/M/C/ K	Use it to adjust the density of individual colors of a test print (TYPE=5).	
	settings range 0 to 255: a higher setting will make the image darker. at time of shipment/upon RAM initialization: 128	1

COPIER>TEST>PG (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
COLOR-Y/M/ C/K	Use it to set the output of individual colors for individual TYPEs. For example, to generate M in mono, set '1' to 'COLOR-M' and '0' to others.	1
	Settings 0: do not generate 1: generate at time of shipment/upon RAM initialization: 1	
F/M-SW	Set it to switch over full color and mono color during PG output.	1
	Settings 0: full color output 1: mono color output at time of shipment/upon RAM initialization: 0	
PG-PICK	Use it to select the source of paper for test printing.	1
	Settings 1: cassette 1 2: cassette 2 3: cassette 3 4: cassette 4 5: side deck 6: manual feeder 7 to 8: not used at time of shipment/upon RAM initialization: 1	
2-SIDE	Use it to set the output mode for test printing.	1
	Settings 0: single-sided (at time of shipment/upon RAM initialization) 1: double-sided at time of shipment/upon RAM initialization: 0	
PG-QTY	Use it to set the output mode for test printing.	1
	Use it to set the copy count of test printing. 1 to 999 at time of shipment/upon RAM initialization: 1	

2. NETWORK <iR C6870U/iR C5870U>

T-16-154

COPIER>TEST>NETWORK (iR C6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PING	Use it to check the connection between the machine and the network (for TCP/IP only).	1
BML-DISP	Use it to select the screen displayed for Bmlinks. Selects whether to display only the device configuration screen without displaying the job condition/history in the system status screen.	2
	Setting value 0: Display the ordinary system status screen. 1: Display only the device configuration screen. [Factory setting / After RAM clear: 0]	

1) Turn off the main power switch.
2) Connect the network cable to the machine, and turn on the main power switch.
3) Inform the user's system administrator that the installation of the machine is over, asking him/her to make the appropriate network settings.
4) Inform the user's system administrator that you will be checking the network connector, and find out the remote host address (i.e., the IP address of the PC terminal on the user network) for use in the PING command.
5) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the IP address you obtained in step 4), and press the OK key and then the Start key.
   - if the connection to the network is normal, 'OK' will appear (to indicate that you may end the work).
   - if 'NG' has appeared, check the physical connection of the network cable; if normal, go to step 6). If a fault is found in the connection of the network cable, connect it properly, and go back to step 5).
6) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the

loopback address* (127.0.0.1), and press the OK key and then the Start key.
- if 'NG' is indicated, suspect a fault in the TCP/IP settings; go back to step 3), and check the settings.
- if 'OK' is indicated, you may assume that the TCP/IP settings are free of a fault. However, the connection of the network interface board (NIC) or the NIC itself may have a fault; go to step 7) to make a check.
   *When used, the signal will return before reaching the NIC, thus enabling you to check the TCP/IP settings of the source machine.
7) Make the following selections in service mode: COPIER>TEST>NETWORK>PING. Then, enter the local host address (IP address of the machine), and press the OK key.
- if 'NG' is indicated, suspect a fault in the connection of the NIC or the NIC itself; check the connection of the NIC or replace it as necessary.
- if 'OK' is indicated, the network settings of the machine and the NIC are free of a fault. On the other hand, the user's network environment is likely to have a fault; communicate the fact to the user's system administrator for action.

F-16-33

16.8 COUNTER (Counter Mode)

16.8.1 COPIER

16.8.1.1 COPIER List <iR C6800/iR C5800>
<TOTAL>

T-16-155

COPIER>COUNTER>TOTAL (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
SERVICE1	service total counter 1 The count increases when a sheet is discharged outside the machine. (regardless of paper size, large or small) The count returns to '00000000' after '99999999'.	1
SERVICE2	service total counter 2 The counter increases when a sheet is discharged outside the machine. (if large size, by 2; if small size, by 1) The count returns to '00000000' after '99999999'.	1
COPY	total copy counter The count increases when copying ends and the sheet is discharged outside the machine. The count returns to '00000000' after '99999999'.	1
PDL-PRT	PDL print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing during PDL printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count is increased by 1 for both large and small sizes. The count returns to '00000000' after '99999999'.	1
FAX-PRT	fax reception print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing during fax reception in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
RMT-PRT	remote print counter The count increases when a sheet is discharged outside the machine/stacked for duplexing during remote printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
BOX-PRT	Box print counter The count increases when a sheet is discharged outside the machine/stacked for duplexing during Box printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
RPT-PRT	report print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing in terms of the number of duplexing copies/prints in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1

COPIER>COUNTER>TOTAL (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
2-SIDE	Double-Sided Copy/Print Counter It increases its count when paper is delivered outside the machine or stacked for duplexing in keeping with the charge counter, indicating the number of double-sided copies/prints. Double-Sided Copy/Print Counter It increases its count when paper is delivered outside the machine or stacked for duplexing in keeping with the charge counter, indicating the number of double-sided copies/prints. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
SCAN	Scan Counter The count is increased at tine end of reading in terms of the number of scans. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1

<PICK-UP>

T-16-156

COPIER>COUNTER>PICK-UP (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
C1/2/3/4	cassette 1/2/3/4 pickup total counter Use it to indicate the number of sheets picked up from the cassette 1/2/3/4. The count returns to '00000000' after '99999999'.	1
MF	manual feeder total counter Use it to indicate the number of sheets picked up from the manual feeder unit. The count returns to '00000000' after '99999999'.	1
DK	deck pickup total counter Use it to indicate the number of sheets picked up from the deck. The count returns to '00000000' after '99999999'.	1
2-SIDE	duplexing pickup total counter Use it to indicate the number of 2-sided sheets. The count returns to '00000000' after '99999999'.	1

<FEEDER>

T-16-157

COPIER>COUNTER>FEEDER (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
FEED	Use it to indicate the reading of the total counter in terms of the number of sheets picked up by the ADF.	1

<JAM>

T-16-158

COPIER>COUNTER>JAM (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
TOTAL	copier total jam counter	1
FEEDER	feeder total jam counter	1
SORTER	finisher total jam counter	1
2-SIDE	duplexing unit jam counter	1
MF	manual feed pickup jam counter	1
C1/2/3/4	cassette 1/2/3/4 jam counter	1
DK	side paper deck jam counter	1

<MISC>

T-16-159

COPIER>COUNTER>MISC (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
FIX-WEB	fixing cleaning web counter (count retained by DC controller PCB) The count in this mode begins a count, after a web-less preliminary announcement display is displayed. If you have replaced the fixing web, reset the counter reading.	1
WST-TNR	waste toner counter (count retained by DC controller PCB) If you have disposed of waste toner, reset the counter reading.	1
PRI-CLN	primary charging wire auto cleaning counter (count retained by DC controller PCB) If you have replaced the primary charging wire, reset the counter reading.	1
DV-UNT-K	for the developing unit, indicates the number of sheets that have passed. (count retained by DC controller PCB) - if you have replaced the developing unit (Bk), reset the counter reading. - if you have replaced the DC controller PCB, enter the reading indicated before the replacement. Do not reset or change the reading of the counter unless the foregoing is true; otherwise, the image density will likely be wrong, causing fogging or damage to the drum by carrier. If you inadvertently reset or changed the reading, replace the developing unit (Bk), and reset the reading once again. The machine's ATR control uses the patch image density measured at specific timing and target value to correct toner supply amounts. The target density on the other hand is also corrected for individual colors and is corrected for Bk based on the cumulative number of images that have been formed (monitored by the counter in question).	1
DV-CAR-Y/ M/C	toner life Y/M/C (count retained by DC controller PCB) YMC Toner Life Reset the setting to '0' when you have replaced the developing assembly; any value may be entered. - if you have replaced the DC control PCB, enter the reading indicated before the replacement. Estimated life 500,000 prints	1
DRM-PHAS	Use it when shifting the photosensitive drum phase. When the photosensitive drum is used without changing the home position in relation to the drum axis, uneven density at drum intervals or lines can occur in output images. To limit the symptom, shift the phase of the photosensitive drum by 90 deg every specific number of prints. The machine does not shift the phase on its own, and requires the work of the service person. The machine indicates a message to prompt the work on the User and Service Mode screens. Use this mode item to obtain an idea of how much the photosensitive drum has been used so that the work cycle may be predicted. - When the service mode item used in shifting the drum phase is executed (i.e., COPIER>FUNCTION>MISC-P>DR-P-ADJ), the counter reading will automatically be reset. - to change the timing at which the message is indicated (COPIER>FUNCTION>MISC-P>DR-P-ADJ), change the denominator of the setting. By default, the denominator is 200,000 images (Japan) or 100,000 images (outside Japan).	1

The counter readings used in service mode are grouped into the following 5 types:

Type 1	Type 2	Type 3	Type 4	Type 5
black-and-white	black-and-white	black-and-white	black-and-white	black-and-white
S size:count by 1	S size:count by 1	S size:count by 1	no count	no count
L size:count by 2	L size:count by 2	L size:count by 2		
full color	full color	full color	full color	full color
S size:count by 4	S size:count by 3	S size:count by 1	count by 1	count by 1
L size:count by 8	L size:count by 6	L size:count by 2		

<PRDC-1>

All the values of the items under COPIER>COUNTER>PRDC-1 are retained by the main controller PCB.

T-16-160

COPIER>COUNTER>PRDC-1 (iR C6800/iR C5800)		
Subheading	**Contents**	**Level**
PRM-GRID	for the grid plate, indicates the number of times high voltage has gone on. count type: type 1	1
PRM-WIRE	for the primary charging wire, indicates the number of times high voltage has gone on. count type: type 1	1
PO-WIRE	for the pre-transfer charging wire, indicates the number of times high voltage has gone on. count type: type 1	1
PRM-CLN	for the primary charging wire cleaner, indicates the number of times it has been replaced. count type: type 1	1
PO-CLN	for the pre-transfer charging wire cleaner, indicates the number of times it has been replaced. count type: type 1	1
PRM-CLN2	for the primary charging wire cleaner 2, indicates the number of times it has been replaced. count type: type 1	1
PO-CLN2	for the pre-transfer charging wire cleaner2, indicates the number of times it has been replaced. Estimated life: 500,000image count type: type 1	1
PO-UNIT	for the post charging assembly, indicates the number of times it has gone on. count type: type 1	1
PRM-UNIT	for the primary charging wire, indicates the number of times it has gone on. count type: type 1	1
FIX-TH1	for the fixing assembly main thermistor (TH1), indicates the number of times it has gone on in terms of the number of sheets involved. count type: type 3	1
FX-TSW	for the fixing assembly thermal switch (TP1), indicates the number of times it has gone on in terms of the number of sheets involved. count type: type 3	1
FX-LW-TH	for the contact thermistor, indicates the number of sheets that have passed. counter type: type 3	1
FX-EX-TH	for the external heating roller thermistor, indicates the number of sheets that have passed. count type: type 3	1
FX-LW-TS	for the contact thermal switch, indicates the number of sheets that have passed. counter type: type 3	1
FX-EX-TS	for the external heating roller thermal switch, indicates the number of sheets that have passed. count type: type 3	1
OZ-FIL2	for the ozone filter (FM2) fan, indicates the number of times it has gone on. count type: type 1	1
TN-FIL2	for the toner filter (FM2), indicates the number of times it has gone on. count type: type 1	1

<DRBL-1>
The following is a list of service mode items whose data is retained by the DC controller PCB or the main controller PCB.

Main controller PCB
TRD-CLN/ TR-BLT/ TR-ROLL/ 2TR-TOLL/ TR-STC-H/ 1TR-STC/ ITB-SUPS/ 2TR-INRL/ CLN-BLD/ CL-SUPS/ CL-SCRP/ C3-PU-RL/ C3-SP-RL/ C3-FD-RL/ C4-PU-RL/ C4-SP-RL/ C4-FD-RL/ LD-PU-RL/ LD-SP-RL/ LD-FD-RL/ RD-PU-RL/ RD-SP-RL/ RD-FD-RL/ M-PU-RL/ M-SP-RL/ FX-IN-BS/ FX-WEB/ FX-EX-RL/ FX-RW-BS/ FX-EX-BS/ DLV-UCLW/ DLV-LCLW/ OZ-FIL5/ TN-FIL2/ TN-FIL5/ FX-SPACE/ ITB-SCRP

DC controller PCB
DV-UNT-C/ DV-UNT-Y/ DV-UNT-M/ FX-UP-RL/ FX-LW-RL

If you are replacing the main controller PCB or the DC controller PCB,be sure to exeucte the following service mode item and keep the output stored away: COPIER>FUNCTION>MISC>P-PRINT.

T-16-161

COPIER>COUNTER>DRBL-1 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
LSR-DRV	not used	1
LSR-MTR	not used	1
SCN-MTR	not used	1
TRD-CLN	indicates the number of times the transfer drum cleaner has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
TR-BLT	for the intermediate transfer belt unit, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
TR-ROLL	for the secondary transfer outside roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
2TR-ROLL	for the secondary transfer outsider roller, indicates the number of times high voltage has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
TR-STC-H	indicates the number of times the secondary transfer static eliminator has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
1TR-STC	indicates the number of times the primary transfer static eliminator has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
ITB-SUPS	for the ITB cleaner scoop-up sheet, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
2TR-INRL	for the secondary transfer inside roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
PT-DRM	indicates the number of times the photosensitive drum has rotated in terms of the number of sheets involved. (count retained by controller PCB)	1
DRM-MTR	not used	1

COPIER>COUNTER>DRBL-1 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
MAIN-MTR	not used	1
CLN-BLD	for the cleaner scoop-up sheet, indicates the number of times it has been used in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
CL-SUPS	for the cleaner scoop-up sheet, indicates the number of times it has been used in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
DV-UNT-C	indicates the number of times the C developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
DVG-CYL	indicates the number of times the developing cylinder has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 3	1
DVG-ROLL	indicates the number of tines the developing assembly roll has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 3	1
DV-UNT-Y	indicates the number of times the Y developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
DV-UNT-M	indicates the number of times the M developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
CL-SCRP	for the edge scraper, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
C3-PU-RL	for the cassette 3 pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C3-SP-RL	for the cassette 3 separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C3-FD-RL	for the cassette 3 feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-PU-RL	for the cassette 4 pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-SP-RL	for the cassette 4 separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-FD-RL	of the cassette 4 feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
LD-PU-RL	for the left front deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1

COPIER>COUNTER>DRBL-1 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
LD-SP-RL	for the left front deck separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
LD-FD-RL	for the left front deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-PU-RL	for the right front deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-SP-RL	for the right front deck separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-FD-RL	for the right front deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
M-PU-RL	for the manual feed pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
M-SP-RL	for the manual feed tray separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type; type 3	1
FX-UP-RL	for the fixing upper roller, indicates the number of sheets that have passed. (count retained by DC controller PCB) count type: type 2	1
FX-LW-RL	for the fix lower roller, indicates the number of sheets that have passed. (count retained by DC controller PCB) count type: type 3	1
FX-IN-BS	for the fixing heat insulating bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
FX-WEB	for the fixing web, indicates the number of times it has been taken up. (count retained by controller PCB) count type: type 3 Clear in COPIER>COUNTER>MISC>FIX-WEB and COPIER>COUNTER>DRBL-1>FX-WEB, when webs are exchanged	1
FX-EX-RL	for the external heating roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 2	1
FX-LW-BS	for the pressure roller heat insulating bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
FX-EX-BS	for the eternal heating roller bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
DLV-UCLW	for the delivery upper separation claw, indicates the number of sheets that have passed. (count retained by controlled PCB) count type: type 3	1

COPIER>COUNTER>DRBL-1 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
DLV-LCLW	for the delivery lower separation claw, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
OZ-FIL5	for the fixing heat discharge fan, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
TN-FIL2	for the toner filter (FM2), indicates the number of times it has gone on. Estimated life: 250,000Å@image count type: type 1	1
TN-FIL5	not used	1
FX-SPACE	not used	1
ITB-SCRP	ITB scraper; number of sheets fed Estimated life: 600000Å@image count type:type 1	1

<DRBL-2>

T-16-162

COPIER>COUNTER>DRBL-2 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
DF-PU-RL	for the ADF pickup roller, indicates the number of sheets it has picked up. (count retained by controller PCB) for both single-sided and double-sided modes, for each single original (not the sides), the count is increased by 1; large and small sizes are not distinguished	1
DF-SP-PD	for the ADF separation pad, indicates the number of sheets that have passed. (count retained by controller PCB) for both single-sided and double-sided modes, for each single original (not the sides), the count is increased by 1: large and small sizes are not distinguished	1
DF-FD-RL	for the DF separation plate, indicates the number of sheets that have been separated. (count retained by controller PCB) for single-sided mode, the count is increased by 1 for each single original; for double-sided mode, the count is increased by 3 (as feeding takes place 3 times for face, back, and idle); large and small sizes are not distinguished	1
LNT-TAPE	not used	1
DF-SP-RL	for the ADF separation roller, indicates the number of sheets that have passed. for both single-sided and double-sided modes, the count is increased by every single original (not the sides).	1
LNT-TAP1	for the dust collecting tape A, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP2	for the dust collecting tape B, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP3	for the dust-collecting tape C, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP4	for the dust-collecting tape D, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP5	for the dust-collecting tape E, indicates the number of sheets that have passed. (count retained by controller PCB)	1
PD-PU-RL	for the paper deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB)	1
PD-SP-RL	for the paper deck separation roller, indicates the number of sets that have passed. (count retained by controller PCB)	1
PD-FD-RL	for the paper deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB)	1
SORT	for the sort path, indicates the number of sheets that have passed. (count retained by DC controller PCB)	1

COPIER>COUNTER>DRBL-2 (iRC6800/iR C5800)		
Subheading	**Contents**	**Level**
FIN-STPR	for the stacker assembly, indicates the number of times the stapler has gone on. (count retained by the DC controller PCB)	1
SADDLE	for the saddle path, indicates the number of sheets that have passed. (count retained by DC controller PCB)	1
SDL-STPL	for the saddle assembly, indicates the number of times the stapler has gone on. (count retained by DC controller PCB)	1
PUNCH	for the puncher, indicates the number of times it has gone on. (count retained by DC controller PCB)	1
FN-BFFRL	for the buffer roller, indicates the number of times it has gone on. (count retained by DC controller PCB) for every single sheet that passes the buffer roller, the roller goes on once	1

16.8.1.2 COPIER List <iR C6870U/iR C5870U>

1.TOTAL

COPIER>COUNTER>TOTAL (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
SERVICE1	service total counter 1 The count increases when a sheet is discharged outside the machine. (regardless of paper size, large or small) The count returns to '00000000' after '99999999'.	1
SERVICE2	service total counter 2 The counter increases when a sheet is discharged outside the machine. (if large size, by 2; if small size, by 1) The count returns to '00000000' after '99999999'.	1
COPY	total copy counter The count increases when copying ends and the sheet is discharged outside the machine. The count returns to '00000000' after '99999999'.	1
PDL-PRT	PDL print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing during PDL printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count is increased by 1 for both large and small sizes. The count returns to '00000000' after '99999999'.	1
FAX-PRT	fax reception print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing during fax reception in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
RMT-PRT	remote print counter The count increases when a sheet is discharged outside the machine/stacked for duplexing during remote printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
BOX-PRT	Box print counter The count increases when a sheet is discharged outside the machine/stacked for duplexing during Box printing in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1

COPIER>COUNTER>TOTAL (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
RPT-PRT	report print counter The count increases when the sheet is discharged outside the machine/stacked for duplexing in terms of the number of duplexing copies/prints in keeping with the charge counter. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
2-SIDE	Double-Sided Copy/Print Counter It increases its count when paper is delivered outside the machine or stacked for duplexing in keeping with the charge counter, indicating the number of double-sided copies/prints. Double-Sided Copy/Print Counter It increases its count when paper is delivered outside the machine or stacked for duplexing in keeping with the charge counter, indicating the number of double-sided copies/prints. The count does not increase in the case of a blank sheet. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1
SCAN	Scan Counter The count is increased at tine end of reading in terms of the number of scans. The count increases by 1 for both large and small sizes. The reading may be reset. The count returns to '00000000' after '99999999'.	1

2.PICK-UP

COPIER>COUNTER>PICK-UP (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
C1/2/3/4	cassette 1/2/3/4 pickup total counter Use it to indicate the number of sheets picked up from the cassette 1/2/3/4. The count returns to '00000000' after '99999999'.	1
MF	manual feeder total counter Use it to indicate the number of sheets picked up from the manual feeder unit. The count returns to '00000000' after '99999999'.	1
DK	deck pickup total counter Use it to indicate the number of sheets picked up from the deck. The count returns to '00000000' after '99999999'.	1
2-SIDE	duplexing pickup total counter Use it to indicate the number of 2-sided sheets. The count returns to '00000000' after '99999999'.	1

3.FEEDER

COPIER>COUNTER>FEEDER (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FEED	Use it to indicate the reading of the total counter in terms of the number of sheets picked up by the ADF.	1

4.JAM

COPIER>COUNTER>JAM (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
TOTAL	copier total jam counter	1
FEEDER	feeder total jam counter	1
SORTER	finisher total jam counter	1
2-SIDE	duplexing unit jam counter	1

COPIER>COUNTER>JAM (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
MF	manual feed pickup jam counter	1
C1/2/3/4	cassette 1/2/3/4 jam counter	1
DK	side paper deck jam counter	1

5.MISC

COPIER>COUNTER>MISC (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FIX-WEB	fixing cleaning web counter (count retained by DC controller PCB) The count in this mode begins a count, after a web-less preliminary announcement display is displayed. If you have replaced the fixing web, reset the counter reading.	1
WST-TNR	waste toner counter (count retained by DC controller PCB) If you have disposed of waste toner, reset the counter reading.	1
PRI-CLN	primary charging wire auto cleaning counter (count retained by DC controller PCB) If you have replaced the primary charging wire, reset the counter reading.	1
DV-UNT-K	for the developing unit, indicates the number of sheets that have passed. (count retained by DC controller PCB) - if you have replaced the developing unit (Bk), reset the counter reading. - if you have replaced the DC controller PCB, enter the reading indicated before the replacement. Do not reset or change the reading of the counter unless the foregoing is true; otherwise, the image density will likely be wrong, causing fogging or damage to the drum by carrier. If you inadvertently reset or changed the reading, replace the developing unit (Bk), and reset the reading once again. The machine's ATR control uses the patch image density measured at specific timing and target value to correct toner supply amounts. The target density on the other hand is also corrected for individual colors and is corrected for Bk based on the cumulative number of images that have been formed (monitored by the counter in question).	1
DV-CAR-Y/M/ C	toner life Y/M/C (count retained by DC controller PCB) YMC Toner Life Reset the setting to '0' when you have replaced the developing assembly; any value may be entered. - if you have replaced the DC control PCB, enter the reading indicated before the replacement. Estimated life 500,000 prints	1
DRM-PHAS	Use it when shifting the photosensitive drum phase. When the photosensitive drum is used without changing the home position in relation to the drum axis, uneven density at drum intervals or lines can occur in output images. To limit the symptom, shift the phase of the photosensitive drum by 90 deg every specific number of prints. The machine does not shift the phase on its own, and requires the work of the service person. The machine indicates a message to prompt the work on the User and Service Mode screens. Use this mode item to obtain an idea of how much the photosensitive drum has been used so that the work cycle may be predicted. - When the service mode item used in shifting the drum phase is executed (i.e., COPIER>FUNCTION>MISC-P>DR-P-ADJ), the counter reading will automatically be reset. - to change the timing at which the message is indicated (COPIER>FUNCTION>MISC-P>DR-P-ADJ), change the denominator of the setting. By default, the denominator is 200,000 images (Japan) or 100,000 images (outside Japan).	1

The counter readings used in service mode are grouped into the following 5 types:

Type 1	Type 2	Type 3	Type 4	Type 5
black-and-white	black-and-white	black-and-white	black-and-white	black-and-white
S size:count by 1	S size:count by 1	S size:count by 1	no count	no count
L size:count by 2	L size:count by 2	L size:count by 2		
full color	full color	full color	full color	full color
S size:count by 4	S size:count by 3	S size:count by 1	count by 1	count by 1
L size:count by 8	L size:count by 6	L size:count by 2		

6.PRDC-1
All the values of the items under COPIER>COUNTER>PRDC-1 are retained by the main controller PCB.

COPIER>COUNTER>PRDC-1 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PRM-GRID	for the grid plate, indicates the number of times high voltage has gone on. count type: type 1	1
PRM-WIRE	for the primary charging wire, indicates the number of times high voltage has gone on. count type: type 1	1
PO-WIRE	for the pre-transfer charging wire, indicates the number of times high voltage has gone on. count type: type 1	1
PRM-CLN	for the primary charging wire cleaner, indicates the number of times it has been replaced. count type: type 1	1
PO-CLN	for the pre-transfer charging wire cleaner, indicates the number of times it has been replaced. count type: type 1	1
PRM-CLN2	for the primary charging wire cleaner 2, indicates the number of times it has been replaced. count type: type 1	1
PO-CLN2	for the pre-transfer charging wire cleaner2, indicates the number of times it has been replaced. Estimated life: 500,000image count type: type 1	1
PO-UNIT	for the post charging assembly, indicates the number of times it has gone on. count type: type 1	1
PRM-UNIT	for the primary charging wire, indicates the number of times it has gone on. count type: type 1	1
FIX-TH1	for the fixing assembly main thermistor (TH1), indicates the number of times it has gone on in terms of the number of sheets involved. count type: type 3	1
FX-TSW	for the fixing assembly thermal switch (TP1), indicates the number of times it has gone on in terms of the number of sheets involved. count type: type 3	1
FX-LW-TH	for the contact thermistor, indicates the number of sheets that have passed. counter type: type 3	1
FX-EX-TH	for the external heating roller thermistor, indicates the number of sheets that have passed. count type: type 3	1
FX-LW-TS	for the contact thermal switch, indicates the number of sheets that have passed. counter type: type 3	1
FX-EX-TS	for the external heating roller thermal switch, indicates the number of sheets that have passed. count type: type 3	1

COPIER>COUNTER>PRDC-1 (iRC6870U/iR C5870U)		
Subheading	Contents	Level
OZ-FIL2	for the ozone filter (FM2) fan, indicates the number of times it has gone on. count type: type 1	1
TN-FIL2	for the toner filter (FM2), indicates the number of times it has gone on. count type: type 1	1

\<DRBL-1\>

The following is a list of service mode items whose data is retained by the DC controller PCB or the main controller PCB.

Main controller PCB
TRD-CLN/ TR-BLT/ TR-ROLL/ 2TR-TOLL/ TR-STC-H/ 1TR-STC/ ITB-SUPS/ 2TR-INRL/ CLN-BLD/ CL-SUPS/ CL-SCRP/ C3-PU-RL/ C3-SP-RL/ C3-FD-RL/ C4-PU-RL/ C4-SP-RL/ C4-FD-RL/ LD-PU-RL/ LD-SP-RL/ LD-FD-RL/ RD-PU-RL/ RD-SP-RL/ RD-FD-RL/ M-PU-RL/ M-SP-RL/ FX-IN-BS/ FX-WEB/ FX-EX-RL/ FX-RW-BS/ FX-EX-BS/ DLV-UCLW/ DLV-LCLW/ OZ-FIL5/ TN-FIL2/ TN-FIL5/ FX-SPACE/ ITB-SCRP

DC controller PCB
DV-UNT-C/ DV-UNT-Y/ DV-UNT-M/ FX-UP-RL/ FX-LW-RL

If you are replacing the main controller PCB or the DC controller PCB,be sure to exeucte the following service mode item and keep the output stored away: COPIER>FUNCTION>MISC>P-PRINT.

COPIER>COUNTER>DRBL-1 (iRC6870U/iR C5870U)		
Subheading	Contents	Level
LSR-DRV	not used	1
LSR-MTR	not used	1
SCN-MTR	not used	1
TRD-CLN	indicates the number of times the transfer drum cleaner has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
TR-BLT	for the intermediate transfer belt unit, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
TR-ROLL	for the secondary transfer outside roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
2TR-ROLL	for the secondary transfer outsider roller, indicates the number of times high voltage has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
TR-STC-H	indicates the number of times the secondary transfer static eliminator has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 3	1
1TR-STC	indicates the number of times the primary transfer static eliminator has gone on in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
ITB-SUPS	for the ITB cleaner scoop-up sheet, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
2TR-INRL	for the secondary transfer inside roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1

COPIER>COUNTER>DRBL-1 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
PT-DRM	indicates the number of times the photosensitive drum has rotated in terms of the number of sheets involved. (count retained by controller PCB)	1
DRM-MTR	not used	1
MAIN-MTR	not used	1
CLN-BLD	for the cleaner scoop-up sheet, indicates the number of times it has been used in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
CL-SUPS	for the cleaner scoop-up sheet, indicates the number of times it has been used in terms of the number of sheets involved. (count retained by controller PCB) count type: type 1	1
DV-UNT-C	indicates the number of times the C developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
DVG-CYL	indicates the number of times the developing cylinder has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 3	1
DVG-ROLL	indicates the number of tines the developing assembly roll has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 3	1
DV-UNT-Y	indicates the number of times the Y developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
DV-UNT-M	indicates the number of times the M developing assembly has rotated in terms of the number of sheets involved. (count retained by DC controller PCB) count type: type 5	1
CL-SCRP	for the edge scraper, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
C3-PU-RL	for the cassette 3 pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C3-SP-RL	for the cassette 3 separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C3-FD-RL	for the cassette 3 feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-PU-RL	for the cassette 4 pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-SP-RL	for the cassette 4 separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
C4-FD-RL	of the cassette 4 feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1

COPIER>COUNTER>DRBL-1 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
LD-PU-RL	for the left front deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
LD-SP-RL	for the left front deck separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
LD-FD-RL	for the left front deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-PU-RL	for the right front deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-SP-RL	for the right front deck separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
RD-FD-RL	for the right front deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 4	1
M-PU-RL	for the manual feed pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
M-SP-RL	for the manual feed tray separation roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type; type 3	1
FX-UP-RL	for the fixing upper roller, indicates the number of sheets that have passed. (count retained by DC controller PCB) count type: type 2	1
FX-LW-RL	for the fix lower roller, indicates the number of sheets that have passed. (count retained by DC controller PCB) count type: type 3	1
FX-IN-BS	for the fixing heat insulating bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
FX-WEB	for the fixing web, indicates the number of times it has been taken up. (count retained by controller PCB) count type: type 3 Clear in COPIER>COUNTER>MISC>FIX-WEB and COPIER>COUNTER>DRBL-1>FX-WEB, when webs are exchanged	1
FX-EX-RL	for the external heating roller, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 2	1
FX-LW-BS	for the pressure roller heat insulating bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
FX-EX-BS	for the eternal heating roller bush, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1
DLV-UCLW	for the delivery upper separation claw, indicates the number of sheets that have passed. (count retained by controlled PCB) count type: type 3	1
DLV-LCLW	for the delivery lower separation claw, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 3	1

COPIER>COUNTER>DRBL-1 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
OZ-FIL5	for the fixing heat discharge fan, indicates the number of sheets that have passed. (count retained by controller PCB) count type: type 1	1
TN-FIL2	for the toner filter (FM2), indicates the number of times it has gone on. Estimated life: 250,000image count type: type 1	1
TN-FIL5	not used	1
FX-SPACE	not used	1
ITB-SCRP	ITB scraper; number of sheets fed Estimated life: 600000image count type:type 1	1

<DRBL-2>

COPIER>COUNTER>DRBL-2 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
DF-PU-RL	for the ADF pickup roller, indicates the number of sheets it has picked up. (count retained by controller PCB) for both single-sided and double-sided modes, for each single original (not the sides), the count is increased by 1; large and small sizes are not distinguished	1
DF-SP-PD	for the ADF separation pad, indicates the number of sheets that have passed. (count retained by controller PCB) for both single-sided and double-sided modes, for each single original (not the sides), the count is increased by 1: large and small sizes are not distinguished	1
DF-FD-RL	for the DF separation plate, indicates the number of sheets that have been separated. (count retained by controller PCB) for single-sided mode, the count is increased by 1 for each single original; for double-sided mode, the count is increased by 3 (as feeding takes place 3 times for face, back, and idle); large and small sizes are not distinguished	1
LNT-TAPE	not used	1
DF-SP-RL	for the ADF separation roller, indicates the number of sheets that have passed. for both single-sided and double-sided modes, the count is increased by every single original (not the sides).	1
LNT-TAP1	for the dust collecting tape A, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP2	for the dust collecting tape B, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP3	for the dust-collecting tape C, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP4	for the dust-collecting tape D, indicates the number of sheets that have passed. (count retained by controller PCB)	1
LNT-TAP5	for the dust-collecting tape E, indicates the number of sheets that have passed. (count retained by controller PCB)	1
PD-PU-RL	for the paper deck pickup roller, indicates the number of sheets that have passed. (count retained by controller PCB)	1
PD-SP-RL	for the paper deck separation roller, indicates the number of sets that have passed. (count retained by controller PCB)	1
PD-FD-RL	for the paper deck feed roller, indicates the number of sheets that have passed. (count retained by controller PCB)	1
SORT	for the sort path, indicates the number of sheets that have passed. (count retained by DC controller PCB)	1

COPIER>COUNTER>DRBL-2 (iRC6870U/iR C5870U)		
Subheading	**Contents**	**Level**
FIN-STPR	for the stacker assembly, indicates the number of times the stapler has gone on. (count retained by the DC controller PCB)	1
SADDLE	for the saddle path, indicates the number of sheets that have passed. (count retained by DC controller PCB)	1
SDL-STPL	for the saddle assembly, indicates the number of times the stapler has gone on. (count retained by DC controller PCB)	1
PUNCH	for the puncher, indicates the number of times it has gone on. (count retained by DC controller PCB)	1
FN-BFFRL	for the buffer roller, indicates the number of times it has gone on. (count retained by DC controller PCB) for every single sheet that passes the buffer roller, the roller goes on once	1

imageRUNNER C6800/C5800 Upgrading

Contents

17.1 Outline

17.1.1 Outline of the Version Upgrade

The version upgrade of this machine and the accessories can be done by downloading from a personal computer (PC) in which the service support tool (SST) is installed or by replacing DIMM-ROM. The table below shows a list of firmware and the associated way of upgrading.

T-17-1

	Firmware	Way of Version Upgrade		Notes
		SST	ROM-DIMM replacement	
Main Body	System (system software)	Yes	No	
	Language (language module)	Yes	No	
	RUI (remote UI)	Yes	No	
	Boot (boot program)	Yes	Yes	
	DCON (DC controller)	Yes	No	
	RCON (reader controller)	Yes	No	It also controls ADF reading.
Accessory	G3FAX (super G3FAX board-P1)	Yes	Yes	
	Fin_QR (Finisher-R1/ Saddle Finisher-R2)	Yes	No	The special service tool (Downloader PCB: FY9-2034) is necessary.

17.1.2 Outline of the Service Support Tool

The service supporrt tool (SST, hereafter) provides the following functions:
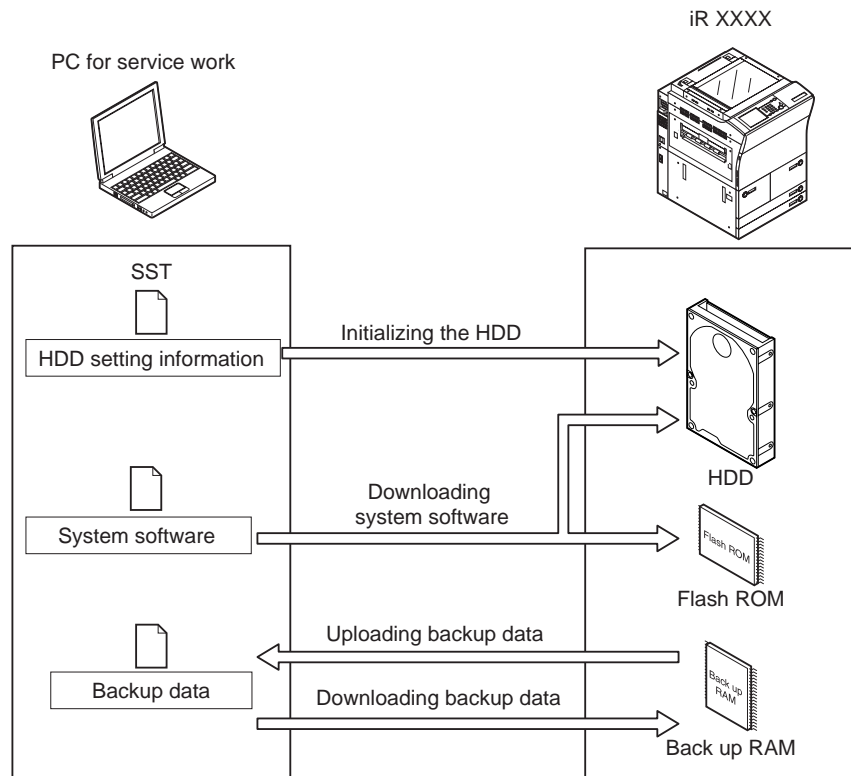
F-17-1

To use the SST, you must first set the machine to download mode.
The machine's download mode consists of 2 types.

1. Normal Mode(Download mode B)
(With pressing 1+7, turn on the main power switch and select service mode: COPIER> FUNCTION> SYSTEM> DOWNLOAD.)

2. Safe Mode(Download mode A)
(With pressing 2+8, turn on the main power switch.)
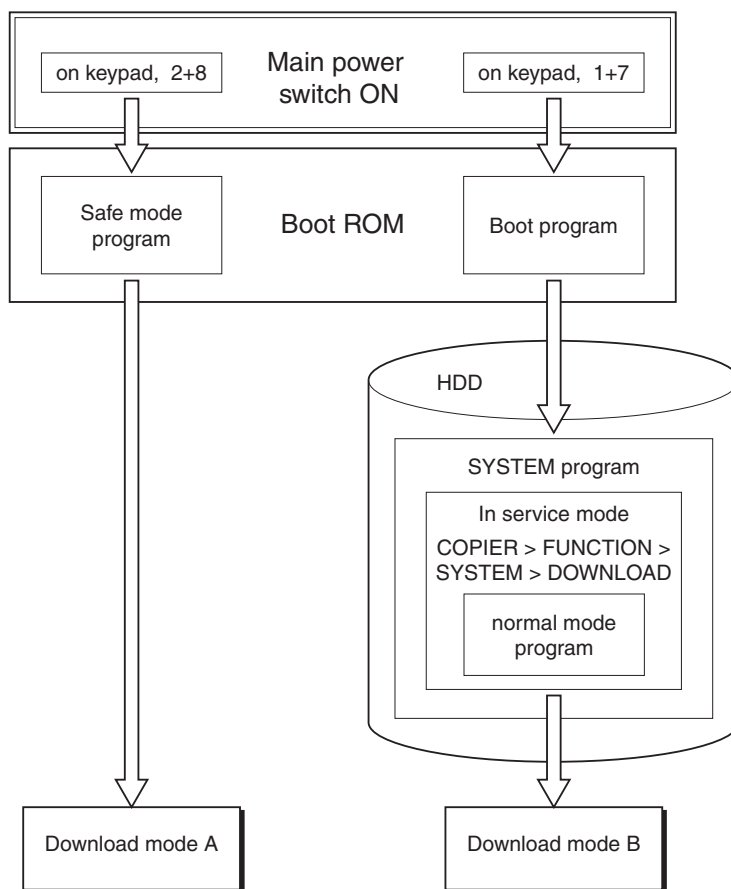
F-17-2

⚠

Use safe mode for the following:
- after replacing the HDD.
- if the system fails to operate normally.

The following shows combinations of functions that may be used in association with the SST and the download mode:

T-17-2

Function	Download mode	
	Normal mode (download mode B)	**Safe mode (download mode A)**
Formatting the HDD	-	ALL
	-	BOOTDEV
	DOSDEV	-
	FSTDEV	-
	DOSDEV2	-
	FSTPDEV	-
	DOSDEV3	-
	PDLDEV	-
	DOSDEV4	-
	DOSDEV5	-
Downloading system software	-System	-System
	-Language	-Language
	-RUI	-RUI
	-Boot	-Boot
	-G3FAX	-
	-Dcon	-
	-Rcon	-
Downloading/	-DconSRAM	-
Uploading back up data	-RconSRAM	-

17.1.3 Network Interface of the Machine with the SST in Use

The machine communicates with the SST using the Ethernet protocol(TCP/IP).
The machine offers 2 sets of network settings:

1. user enviroment network settings
(Additional Function> system contorol settings> network settings)

2. service network settings
 (IP address: 172.16.1.160
 Subnet mask: 255.255.255.0)

The netework settings are dependent on how the machine is started up.
The user enviroment settings are retained while the service settings are selected.

⚠

You need not change the user enviroment network settings before or after the SST.

iR XXXX

User network enviroment

Ethernet I/F

User enviromsnt network settings

Service network settings

Power OFF
Power ON in response to 1+7 or 2+8 on keypad

iR XXXX

Service PC

SST in use

Ethernet I/F

User enviroment network settings
(settings are retained)

Service network settings
IP address: 172.16.1.160
Subnet mask: 255.255.255.0

Power OFF
Normal power ON

iR XXXX

User network enviroment

Ethernet I/F

User envorment network settings
(settings retained)

Service network settings

F-17-3

If you start up the machine by pressing 1+7, the machine indicates **'FIXIP'** in the upper right of the LCD to distinguish its state from normal.
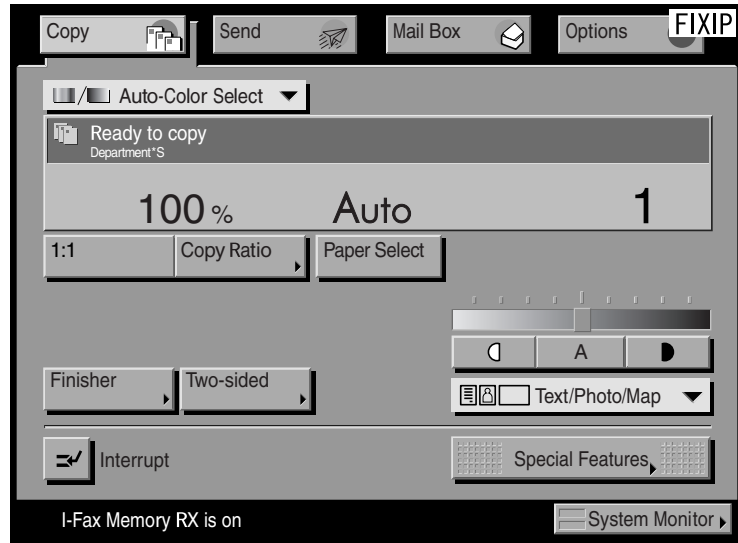
F-17-4

⚠
Attension when installed option board
-Normal Power ON
The Ethernet interface is disabled if a TokenRing board is installed.
-Power ON in response to 1+7 or 2+8
 The Ethernet interface is enabled if a TokenRing board is installed, and the TokenRing board is disabled.
 You need not remove the TokenRing board when connecting the SST.
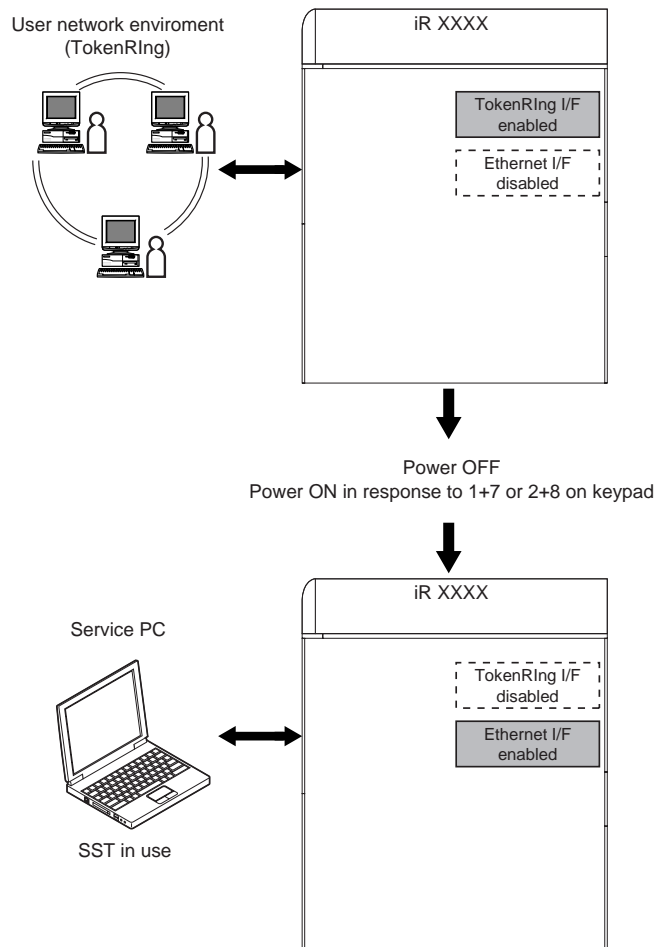
F-17-5

17.2 Making Preparations

17.2.1 Registering the System software

Register the System software stored on the system CD to the SST.

1. Before starting the work
Keep the following on hand:
- PC to which SST v1.73 or later has been installed.
- system CD for iRC6800
  (if the machine supports the Netware, prepare the system CD for iRC6800N)

2. Registering the System software
1) Start up the PC.
2) Attach the system CD to the PC.
3) Start up the SST.
4) Press [next] under Controlling Data.
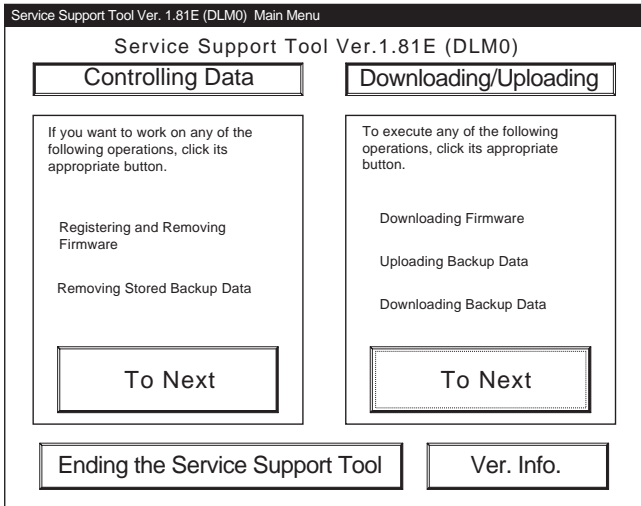
F-17-6

5) Press [Registering Firmware].
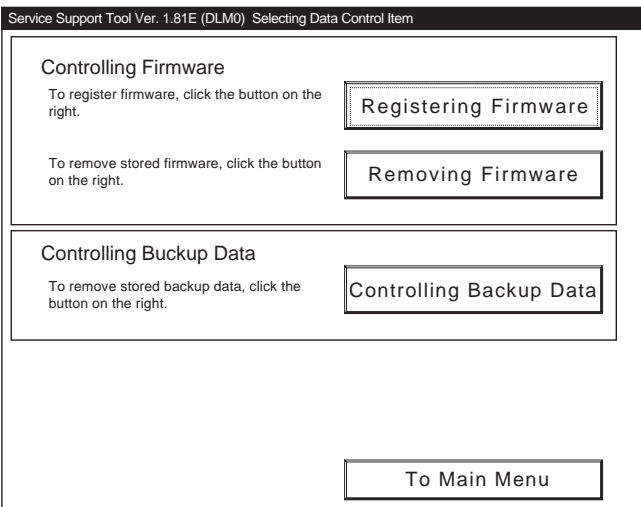
F-17-7

6) Press [Register from selected folder].
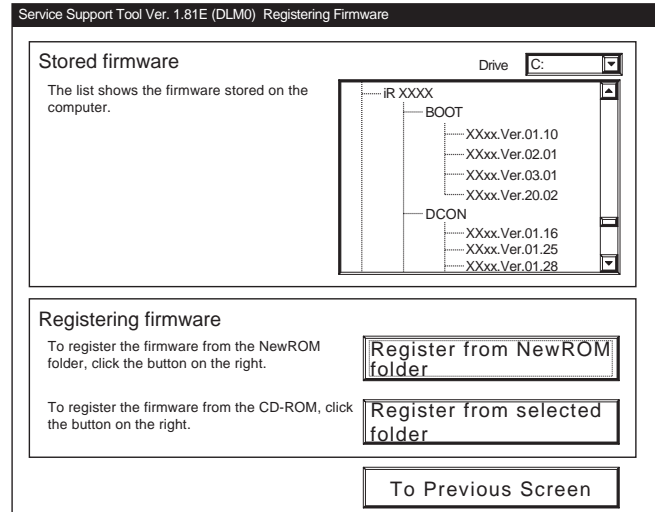
F-17-8

7) Select the drive in which you have set the system CD, and press [Search].
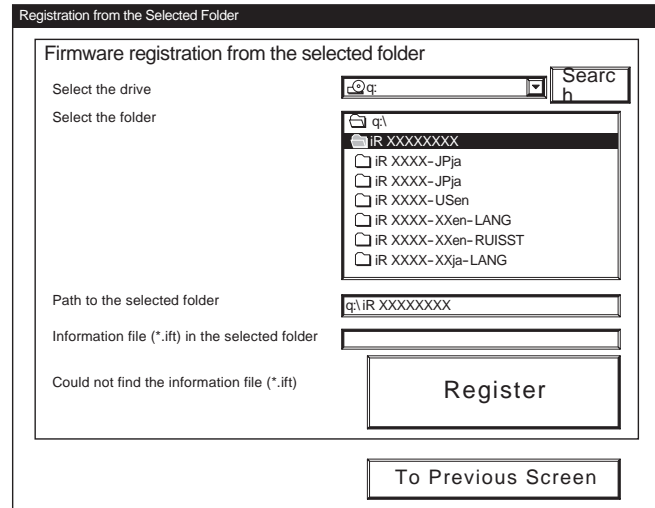
F-17-9

8) When the list of system software items contained on the system CD has appeared, press [Register All] after it becomes enabled.
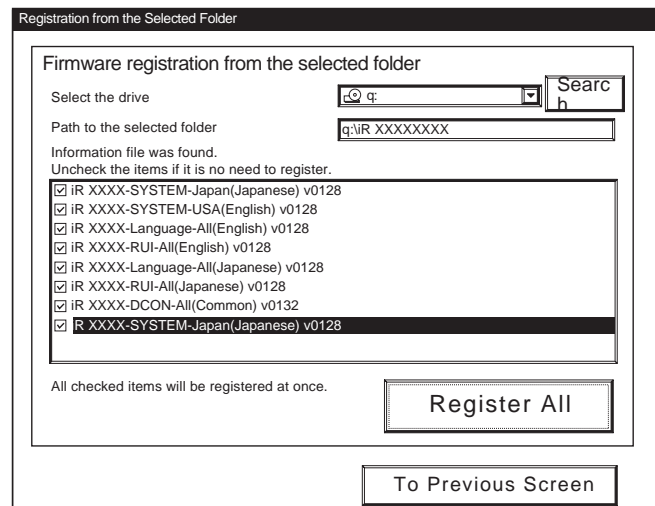
F-17-10

9) When the result of the registration have appeared, press [OK].

Registration from the Selected Folder

Firmware registration from the selected folder

Results....

☑ iR XXXX-SYSTEM-Japan[Japanese] v0128 >>>> Registered, OK!
☑ iR XXXX-SYSTEM-USA[English] v0128 >>>> Registered, OK!
☑ iR XXXX-Language-All[English] v0128 >>>> Registered, OK!
☑ iR XXXX-RUI-All[English] v0128 >>>> Registered, OK!
☑ iR XXXX-Language-All[Japanese] v0128 >>>> Registered, OK!
☑ iR XXXX-RUI-All[Japanese] v0128 >>>> Registered, OK!
☑ iR XXXX-DCON-All[Common] v0132 >>>> Registered, OK!
☑ iR XXXX-SYSTEM-Japan[Japanese] v0128 >>>> Registered, OK!

Batch Registration finished.   OK

Register All

To Previous Screen

F-17-11

17.2.2 Making Connections

You will be connecting the PC to the machine.

1. Before starting the work
Keep the following on hand:
  - PC to which SST v1.73 or later has been installed and iRC3100 system software has been registered.
  - Twisted pair Cross cable
    10BASE-T: category 3 or 5
    100BASE-T: category 5

2. Procedure
1) Start up the PC.
2) Check the network settings of the PC.
2-1) Type 'IPCONFIG' to the command prompt, and press the Enter key.
2-2) Check to see that the network settings are as follows:
IP address: 172.16.1.160
Subnet mask: 255.255.255.0
Default gateway: any

⚠
Do not use the following settings.
-172.16.1.0
-172.16.1.100
-172.16.1.255

If the settings are not as indicatred, change the PC network settings:

Command Prompt

Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Mincrosoft Corp.

C:\>ipconfig

Windows 2000 IP Configuration

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix . :
        IP Address. . . . . : 172.16.1.160
        Subnet Mask . . . . : 255.255.255.0
        Default Gateway . . . . :

C:\>
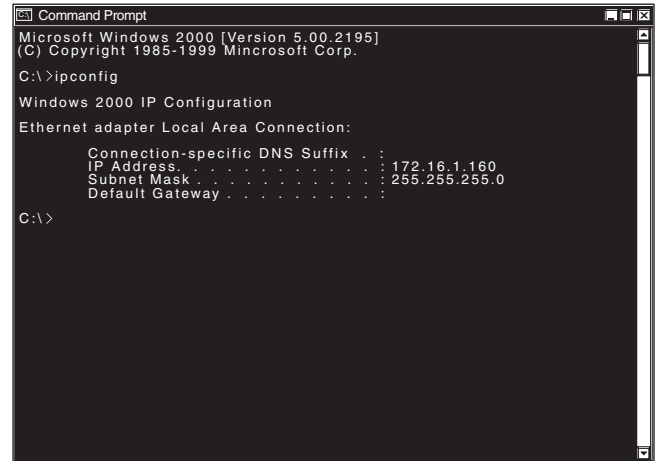
F-17-12

3) Check to see that the Perform/Memory lamp on the control panel is OFF; then, turn off the main power switch of the machine.
4) Connect the PC and the machine with a cross cable.

IP sddress: 172.16.1.160
Subnet mask: 255.255.255.0

IP address: 172.16.1.100
Subnet mask: 255.255.255.0

Cross cable
10Base-T: category 3 or 5
100Base-TX: category 5
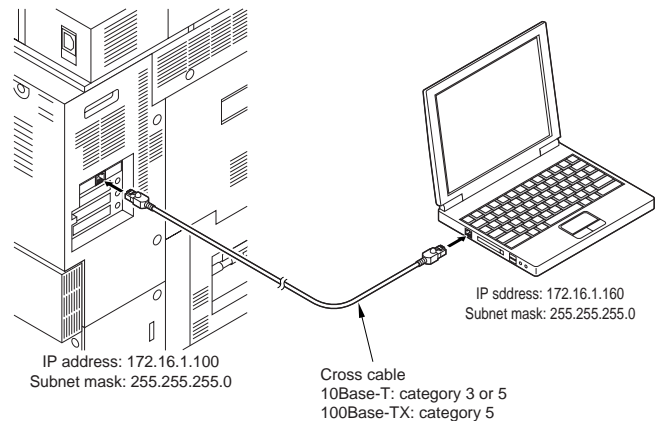
F-17-13

5) While holding down the keys suited to the download mode you are going to use, turn on the main power switch of the machine.
  -if Normal mode
    Turn on the main power switch in response to 1+7 on keypad.
    Enter sorce mode, make the following selection in service mode:
        COPIER> FUNCTION> SYSTEM> DOWNLOAD
  -if Safe mode
    Turn on the main power switch in response to 2+8 on keypad.

6) Start up the SST.

7) Press [To next] under Downloading/Uploading.

Service Support Tool Ver. 1.81E (DLM0) Main Menu

Service Support Tool Ver.1.81E (DLM0)

Controlling Data | Downloading/Uploading

If you want to work on any of the following operations, click its appropriate button.

Registering and Removing Firmware

Removing Stored Backup Data

To execute any of the following operations, click its appropriate button.

Downloading Firmware

Uploading Backup Data

Downloading Backup Data

To Next | To Next

Ending the Service Support Tool | Ver. Info.

F-17-14

8) Select the model of the machine.

Service Support Tool Ver. 1.81E (DLM0) Selecting Model/Unit

Available Model and Unit

The list shows models and units that may be connected. Select the PCB for the machine by clicking.

iRC3100N
iRC3200
iRC3200_3220
iRC3200L
iRC3200N
iRC3200W
iRC6500
iRC6800
iRC6800L
iRC6800N

Selected Model and Unit

Model | Unit | Interface | Connect

Check the selected model/unit, and click the <Connect> button.

To Main Menu

F-17-15

9) Select the unit you want, and press [Connect].

Service Support Tool Ver. 1.81E (DLM0) Selecting Model/Unit

Available Model and Unit

The list shows models and units that may be connected. Select the PCB for the machine by clicking.

iR XXXX

iR XXXX
  BOOT
  DCON
  G3FAX
  HDFormat
  Language
  RCON
  RUI
  SYSTEM

Selected Model and Unit

Model | Unit | Interface | Connect

Check the selected model/unit, and click the <Connect> button.

To Main Menu
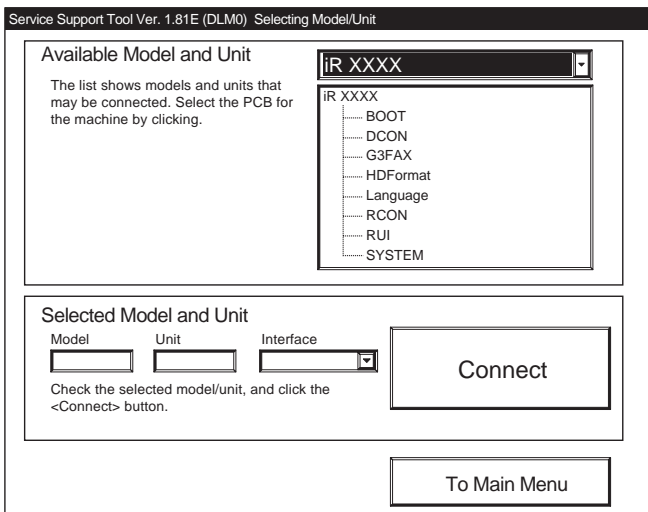
F-17-16

10) Press [Set host name].

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit

Model | iR XXXX | Unit | Language

"If the following preparations have been made, click [OK]."
""
"Turn off the machine."
"Connect the PC and the machine using a network cable."
"Turn on the machine, and start the download mode."

To Unit Selection Screen | Set host name | OK
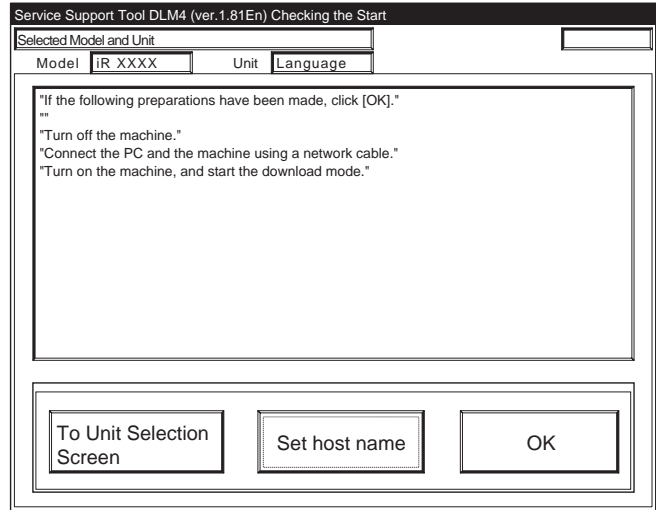
F-17-17

11) The machine's IP address is entered automatically; press [OK].

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit

Model | iR XXXX | Unit | Language

"If the following preparations have been made, click [OK]."
""
"Turn off t
"Connect
"Turn on t

The list indicates the last host name or IP address

If you want to change, select an appropriate name from drop-down-list or input character directly.

Click [Save] to save the name for reuse.
Click [Delete] to delete the name from list.

172.16.1.100

Delete | Save | Cancel | OK

To U... Screen | Set host name | OK

F-17-18

12) Press [OK] so that the machine makes a connection.

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit | Connected to | 172.16.1.100

Model | iR XXXX | Unit | Language

"If the following preparations have been made, click [OK]."
""
"Turn off the machine."
"Connect the PC and the machine using a network cable."
"Turn on the machine, and start the download mode."

To Unit Selection Screen | Set host name | OK

F-17-19

13) When the machine has made a connection and brings up the following screen, press [OK].

F-17-20

17.3 Formatting the HDD

17.3.1 Formatting All Partitions

You will be settin up partitions on the HDD and formatting (initializing) them for use by the main controller.
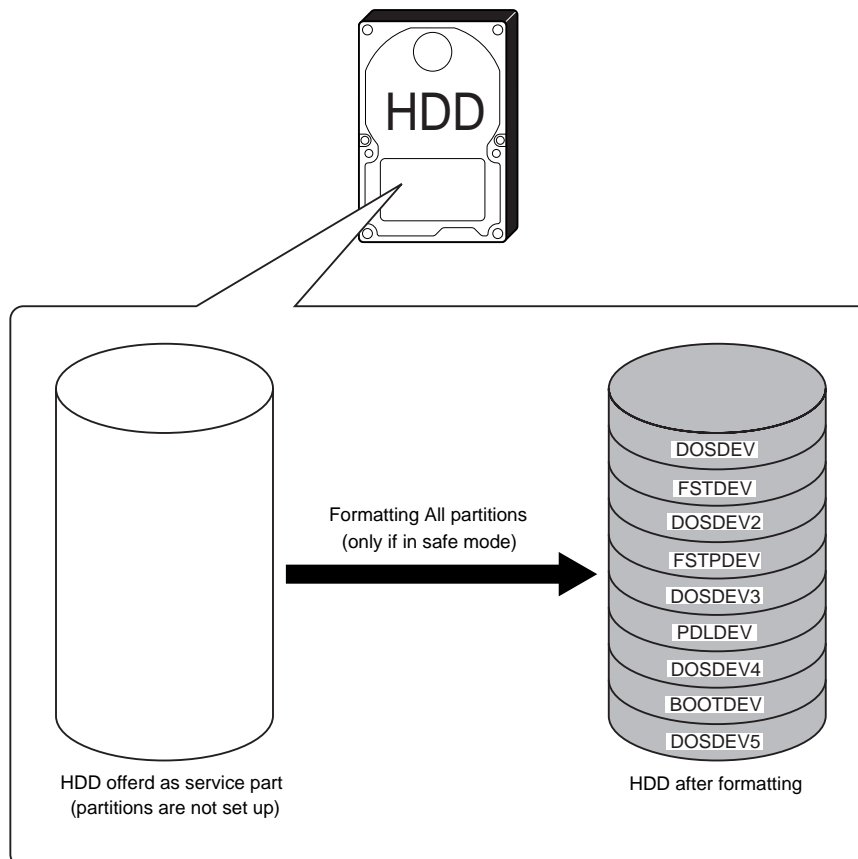
F-17-21

17.3.2 Formatting Selected Partitions

You will be formatting (initializing) partitions that you have selected.
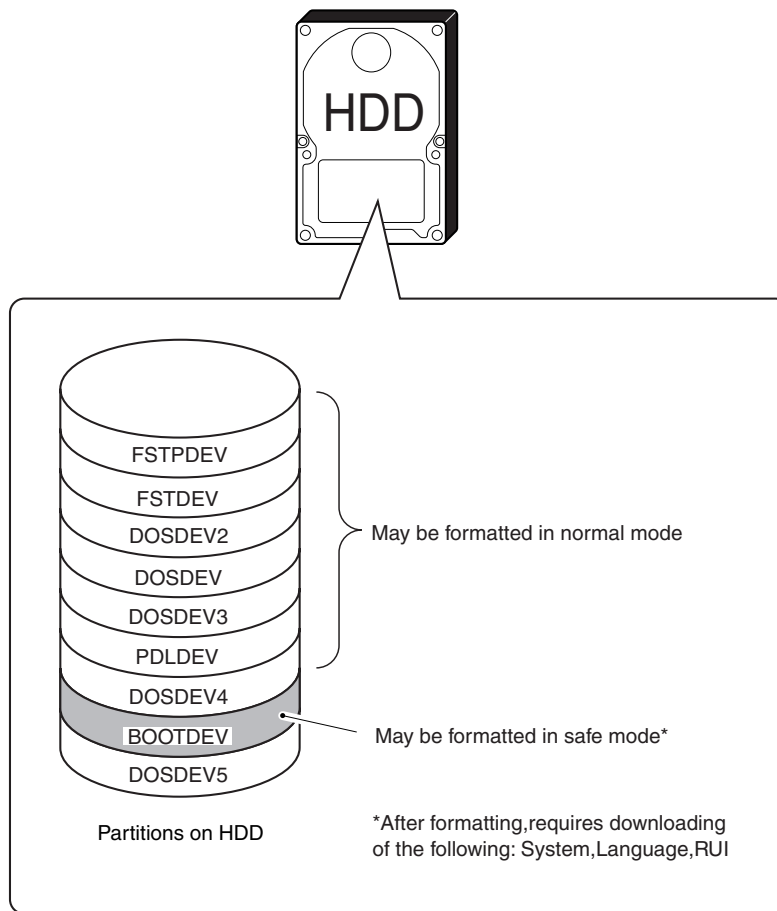
F-17-22

Formatting Partitions Using the SST

T-17-3

Name of partition selected by the SST	Partition that is formatted
FSTDEV	FSTDEV, FSTPDEV, DOSDEV, DOSDEV2
DOSDEV3	DOSDEV3
PDLDEV	PDLDEV
DOSDEV4	DOSDEV4
DOSDEV5	DOSDEV5
BOOTDEV	BOOTDEV

Reference:
-4 partitions (FSTDEV, FSTPDEV, DOSDEV, DOSDEV2) are formatted at the same time.
-Formatting of DOSDEV4 requires the use of the SST.

The actual formatting of FSTDEV and PDLDEV takes place when the machine is started up the next time, and it takes as long as the following:
  Formatting of FSTDEV: 2 min (approx.)
  Formatting of PDLDEV: 5 min (approx.)
  Formatting of All partitions: 7 min (approx.)

-The times vary according to the state of the HDD, and the progress of formatting is indicated by means of a progress bar.

17.3.3 Formatting the Procedure

1) Press [To next] under Downloading/Uploading.

```
Service Support Tool Ver. 1.81E (DLM0)  Main Menu
       Service Support Tool Ver.1.81E (DLM0)
      Controlling Data          Downloading/Uploading

  If you want to work on any of the     To execute any of the following
  following operations, click its       operations, click its appropriate
  appropriate button.                   button.


  Registering and Removing                 Downloading Firmware
  Firmware
                                           Uploading Backup Data
  Removing Stored Backup Data
                                           Downloading Backup Data


         To Next                              To Next


     Ending the Service Support Tool       Ver. Info.
```

F-17-23

2) Select [HDForamt], and press [Connect].

```
Service Support Tool Ver. 1.81E (DLM0)  Selecting Model/Unit
  Available Model and Unit       iR XXXX
     The list shows models and units that   iR XXXX
     may be connected. Select the PCB for        BOOT
     the machine by clicking.                     DCON
                                                  G3FAX
                                                  HDFormat
                                                  Language
                                                  RCON
                                                  RUI
                                                  SYSTEM

  Selected Model and Unit
  Model       Unit         Interface
  iR XXXX     HDFormat     Network            Connect
  Check the selected model/unit, and click the
  <Connect> button.

                                         To Main Menu
```

F-17-24

3) Press [Set host name].

```
Service Support Tool DLM4 (ver.1.81En)  Checking the Start
  Selected Model and Unit
  Model   iR XXXX           Unit  HDFormat

  "If the following preparations have been made, click [OK]."
  ""
  "Turn off the machine."
  "Connect the PC and the machine using a network cable."
  "Turn on the machine, and start the download mode."




  To Unit Selection
  Screen            Set host name        OK
```

F-17-25

4) The machiine's IP address is entered automatically; press [OK].

```
Service Support Tool DLM4 (ver.1.81En)  Checking the Start
  Selected Model and Unit
  Model   iR XXXX        Unit  HDFormat

  "If the following preparations have been made, click [OK]."
  ""
  "Turn off t
  "Connect    The list indicates the last host name or IP address
  "Turn on t
              If you want to change, select an appropriate name from
              drop-down-list or input character directly.

              Click [Save] to save the name for reuse.
              Click [Delete] to delete the name from list.


              172.16.1.100


           Delete    Save    Cancel    OK

  To U
  Screen             Set host name        OK
```

F-17-26

5) Press [OK] to start connection.

```
Service Support Tool DLM4 (ver.1.81En)  Checking the Start
  Selected Model and Unit          Connected to  172.16.1.100
  Model   iR XXXX      Unit  HDFormat

  "If the following preparations have been made, click [OK]."
  ""
  "Turn off the machine."
  "Connect the PC and the machine using a network cable."
  "Turn on the machine, and start the download mode."




  To Unit Selection
  Screen            Set host name        OK
```

F-17-27

6) When the machine has made a connection and brings up the following screen, press [OK].

```
Service Support Tool DLM4 (ver.1.81En)  Connecting to the Machine
  Selected Model and Unit          Connected to  172.16.1.100
  Model   iR XXXX      Unit  HDFormat
  Connected Model and Unit
  Model   iR XXXX      Unit  HDFormat
  List of Partition Names of the Hard Disk Drive
    Partition
    /DOSDEV5
    /DOSDEV4
    /PDLDEV
    /DOSDEV3
    /FSTDEV


  The information needed for the job has been obtained.
  Check the indicated descriptions, and press [OK].


              OK
```

F-17-28

7) Press [Format].

Service Support Tool DLM4 (ver.1.81En) Selecting a Job

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit HDFormat

List of Partition Names of the Hard Disk Drive

Partition
/DOSDEV5
/DOSDEV4

Selecting a HDFormat Job

Click the job key for HDFormat.

Format the hard disk.   **Format**

To Unit Selection Screen

F-17-29

8) Select the partition you want to format from the list, and press [start].

⚠

When formatting all partitions, press [start] under All partitions (enabled if in safe mode).

1. If formatting in Normal Mode (Power ON in response to 1+7)

Service Support Tool DLM4 (ver.1.81En) Selecting Disk Partision

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit HDFormat

List of Partition Names of the Hard Disk Drive

Partition
/DOSDEV3
/FSTDEV

Selected Partition

Partition
/FSTDEV   **Start**

All Partitions   **Start**

Previous Screen
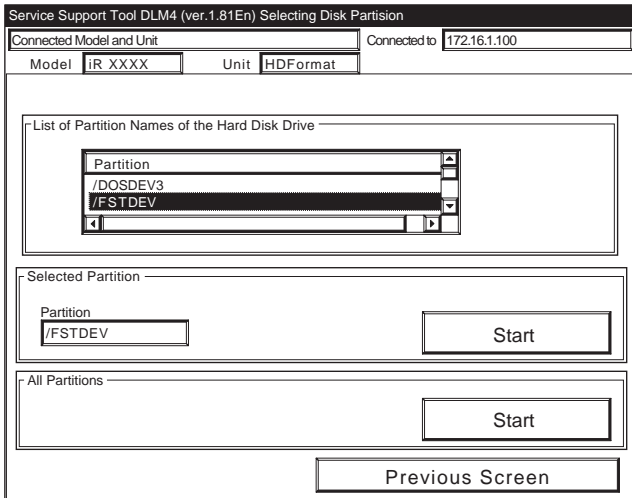
F-17-30

2. If formatting in Safe Mode (Power ON in response to 2+8)

Service Support Tool DLM4 (ver.1.81En) Selecting Disk Partition

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit HDFormat

List of Partition Names of the Hard Disk Drive

Partition
/BOOTDEV

Selected Partition

Partition
/BOOTDEV   Start

All Partitions   Start

Previous Screen
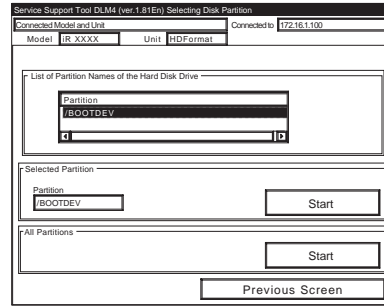
F-17-31

9) When the machine indicates the message for confirmation for the last time, press [Start].

Service Support Tool DLM4 (ver.1.81En) Formatting the disk

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit HDFormat

Selected Partition

Partition
/FSTDEV

Final Confirmation

Formatting

Stop   **Start**

Previous Screen
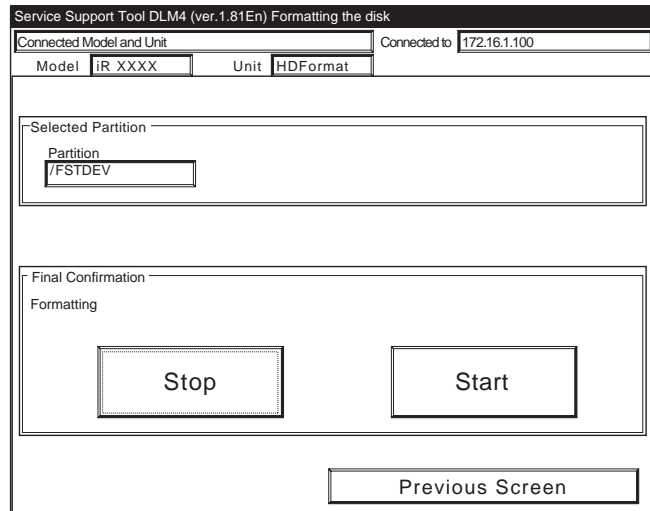
F-17-32

10) After the machine indicates the message to the indicate the end of formatting, press [OK].

Service Support Tool DLM4 (ver.1.81En) Formatting the disk

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit HDFormat

Selected Partition

Partition
/FSTDEV

Result of Formatting

Formatting has ended.

OK

Previous Screen
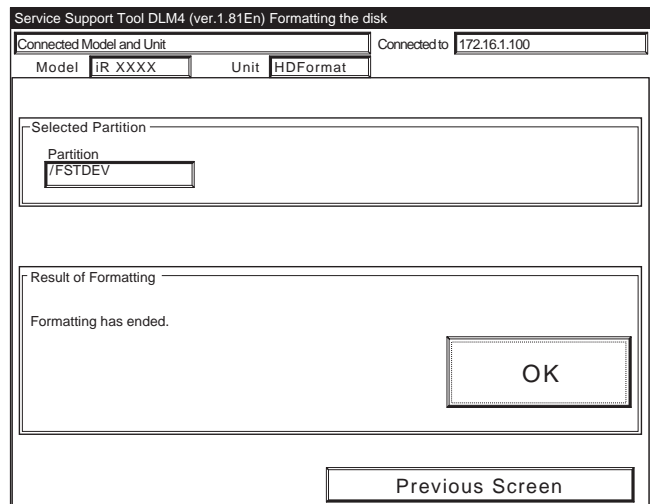
F-17-33

11) Press [To Unit Selectioin Screen].

⚠

- If you have formatted all partitions or BOOTDEV, you must download the following:
  System, Language, RUI
  (If you fail to download these, an error(E602) will occur when the main power switch is turned ON.)
- The actual formattin of FSTDEV and PDLDEV takes place when the machine is started up the next time, and it takes as long as the following:
  Formatting of FSTDEV: 2 min (approx.)
  Formatting of PDLDEV: 5 min (approx.)
- Formatting of All partitions: 7 min (approx.)

- The times vary according to the state of the HDD, and the progress of formatting is indicated by means of a progress bar.

- You must not turn off the machine's main power switch while the progress bar is shown.

17.4 Downloading System Software

17.4.1 Batch Downloading

17.4.1.1 Overview

If you need to download multiple pieces of system software, you can do so automatically.
To make use of batch downloading, you need to have the following:
-SST v2.01 or later
-information file for batch downloading
Files to Register in the SST
-information file for batch downloading (SST v2.01 or later)
-system software
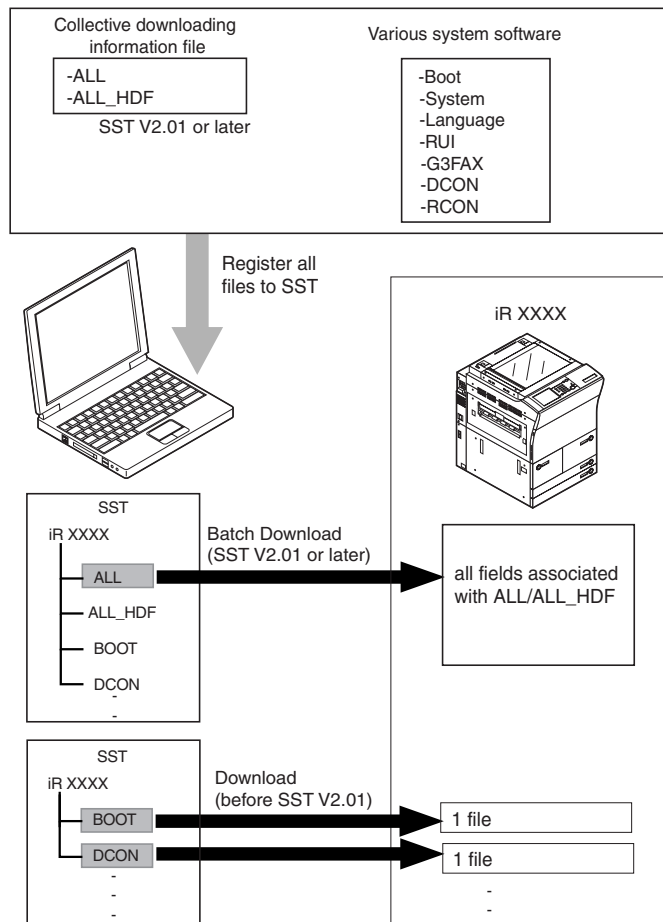
F-17-34

MEMO:
An information file for batch downloading:
It contains appropriate combinations of system software versions to download. Once it is registered in the SST, the relevant files will be identified by the notation "ALL" and "ALL_HDF".

⚠

ALL/ALL_HDF does not include the various system software itself.
To register ALL/ALL_HDF, be sure also to register the various system software at the same time.

Clicking 'ALL' or 'ALL_HDF' will download **the following system software pieces that have been registerd in SST** in sequence:

1. to HDD
   - System (system software)
   - Language (language module)
   - RUI (Remote UI)

2. to each PCB
   - Boot (boot program)
   - DCON (DC controller)
   - RCON (reader controller)

17.4.1.2 Downloading Procedure

MEMO:
You can use either of the following two approaches for a downloading session as long as you have selected the appropriate "downloading information file":
- normal mode (turn on the main power while holding down 1+7): ALL
- safe mode (turn on the main power while holding down 2+8): ALL_HDF

1. Items to Prepare
Check to be sure that you have the following on hand:
- PC to which SST v2.01 or later has been installed
- iR C6800 System CD

2. Prepare for the Batch Download (Registering the Information File)
1) Start up the PC.
2) Start up the Service Support Tool.
3) Press [next] under [Controlling Data].
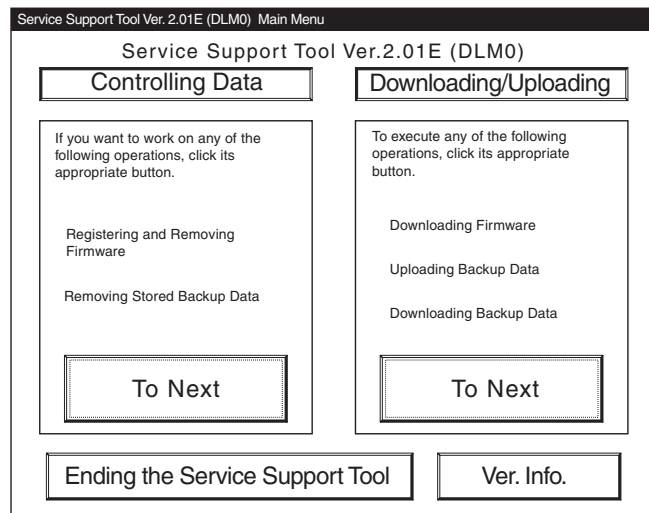
F-17-35

4) Press [Registering Firmware].
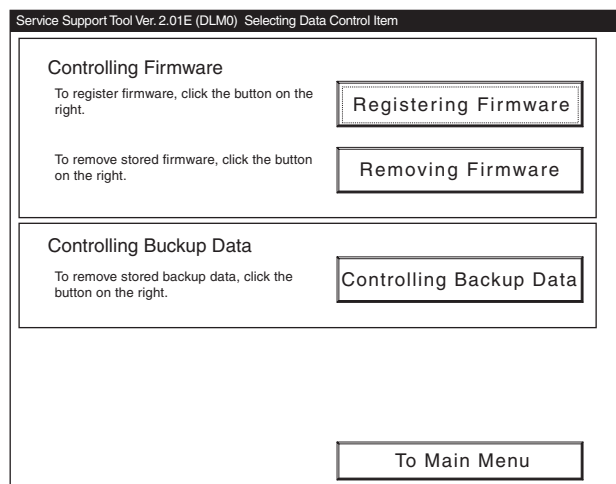
F-17-36

5) Press [register from selected folder].
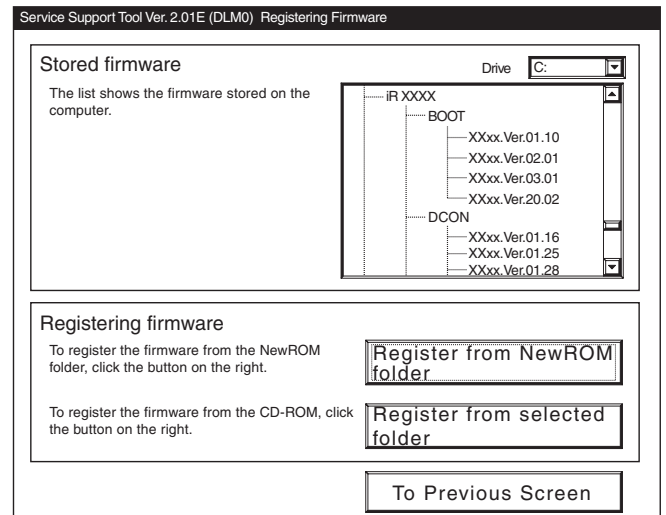
F-17-37

6) Select the folder containing the collective download information file, and press [Register].
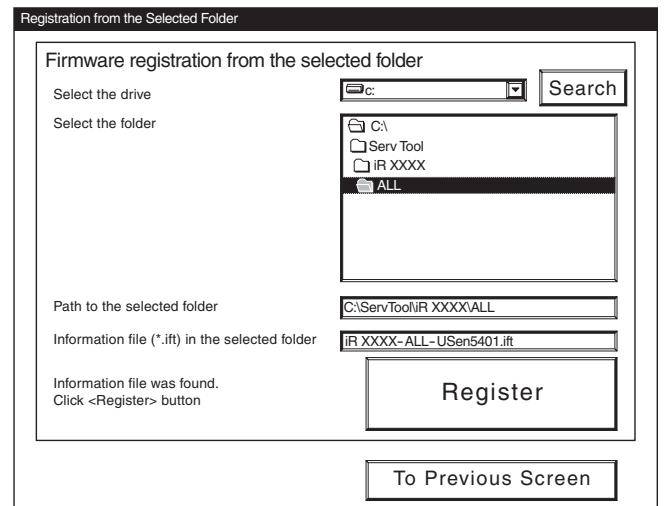
F-17-38

7) When 'Batch object files registration status' has appeared, press [OK].
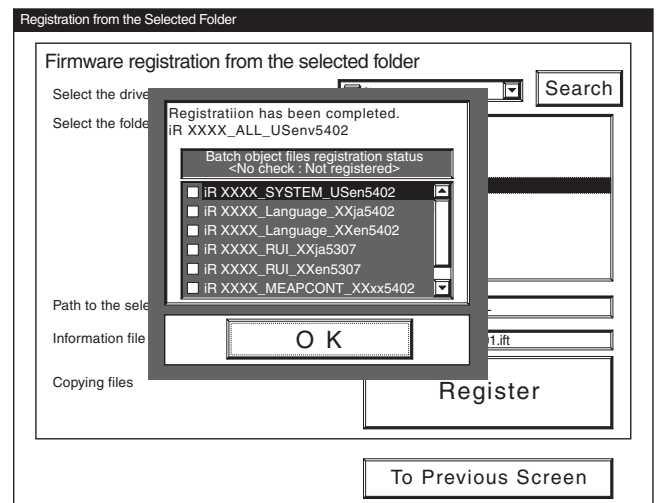
F-17-39

⚠

If you choose "Register All" using version 2.01 of the SST,
ALL will not be indicated under "Batch object files registration status" and all the check boxes of the field remain blank. Although this seems to indicate that no system software has been registered, the system software you have selected has been registered.
(In the case of version 2.02 or later of the SST, the appropriate check boxes will be checked.)

Making Sure That the Appropriate System Software Has Been Registered
1) On the Models and Units screen, select 'ALL' or 'ALL_HDF'.
2) Press [Batch Download].
3) Check to see that the Batch Download File List screen indicates the paths to the individual pieces of system software.

Service Support Tool Ver. 2.01E (DLM0) Batch Download Control Screen

Batch download list

"iR XXXX Ver2.01"
"Common to C−Boot and N−Boot"

Job	Path
Wait "Turn off the copier, then turn on...	
Download iR XXXX_SYSTEM_USen2101	C:\ServTool\iR XXXX\SYSTEM\USenv21.01\iR
Download iR XXXX_Language_XXja2101	C:\ServTool\iR XXXX\Langugage\XXjav21.01\iR
Download iR XXXX_Language_XXen2101	C:\ServTool\iR XXXX\Langugage\XXenv21.01\i
Download iR XXXX_DCON_XXxx2007	C:\ServTool\iR XXXX\DCON\XXjav21.01\iR XX
Wait "Turn off the copier, then turn on...	
Download iR XXXX_RUI_XXja1011	C:\ServTool\iR XXXX\RUI\XXjav1011\iR XXXX

Interface Network
Device IP: 172.16.1.100

Confirm firmware versions
◉ Same Ver:Skip/Ver down:Confirm
○ Confirm   ○ Overwrite

Start Batch Download

To Unit Selection Screen

F-17-40

MEMO:
Any piece of system software that has not been registered is indicated by an appropriate notation for its path. Be sure to use [Registering Firmware] for the work.

Service Support Tool Ver. 2.01E (DLM0) Batch Download Control Screen

Batch download list

"iR XXXX Ver2.01"
"Common to C−Boot and N−Boot"

Job	Path
Wait "Turn off the copier, then turn on...	
Download iR XXXX_SYSTEM_USen2101	Not registerd
Download iR XXXX_Language_XXja2101	Not registerd
Download iR XXXX_Language_XXen2101	Not registerd
Download iR XXXX_DCON_XXxx2007	Not registerd
Wait "Turn off the copier, then turn on...	
Download iR XXXX_RUI_XXja1011	Not registerd

Interface Network
Device IP: 172.16.1.100

Confirm firmware versions
◉ Same Ver:Skip/Ver down:Confirm
○ Confirm   ○ Overwrite

Start Batch Download

To Unit Selection Screen

F-17-41

3. Executing Batch Downloading

MEMO:
Although it varies from one type of system software to another, a typical session is executed as follows according to the mode you select:
Be sure to use safe mode, however, if you have formatted the HDD.

Downloading in Normal mode
1) Start up the PC and the copier (by turning on the main power while holding down 1+7).
2) Start downloading (SYSTEM, Language, Boot, DCON).
3) Turn off the copier, and start it up again in normal mode.
4) Start downloading (RUI, RCON).

Downloading in Safe Mode
1) Start up the PC and the copier (but turning on the main power while holding down 2+8).
2) Start downloading (SYSTEM, Language, RUI). If you have formatted the HDD, the HDD will be in its initial state at this point.
3) Start downloading (BOOT).
4) Turn off the copier, and start it up again in normal mode.
5) Start downloading (DCON).
6) Turn off the copier, and start it up against in normal mode.
7) Start downloading (RCON).

The steps are following in the case of normal mode.
1) On the Main Menu screen of the Service Support Tool, press [To Next] under [Downloading/ Uploading].

Service Support Tool Ver. 2.01E (DLM0) Main Menu

Service Support Tool Ver.2.01E (DLM0)

Controlling Data	Downloading/Uploading
If you want to work on any of the following operations, click its appropriate button.	To execute any of the following operations, click its appropriate button.
Registering and Removing Firmware	Downloading Firmware
Removing Stored Backup Data	Uploading Backup Data
	Downloading Backup Data
To Next	To Next

Ending the Service Support Tool   Ver. Info.

F-17-42

2) Select the file of the model name you have previously checked; then, press [all].
3) Press [Batch Download].
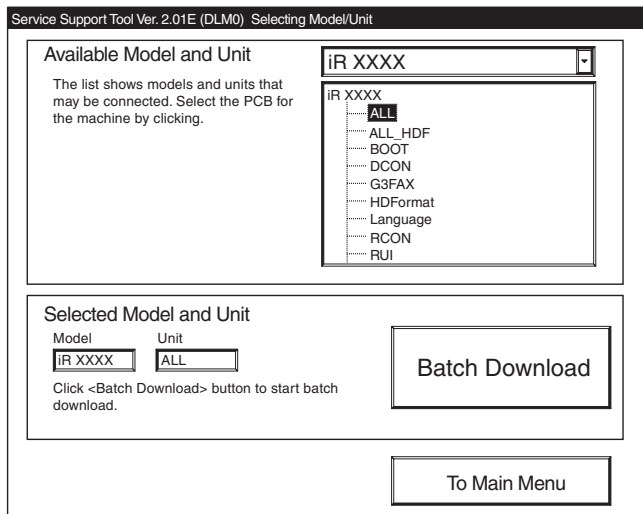
F-17-43

4) See that the Batch Download File List screen has appeared.
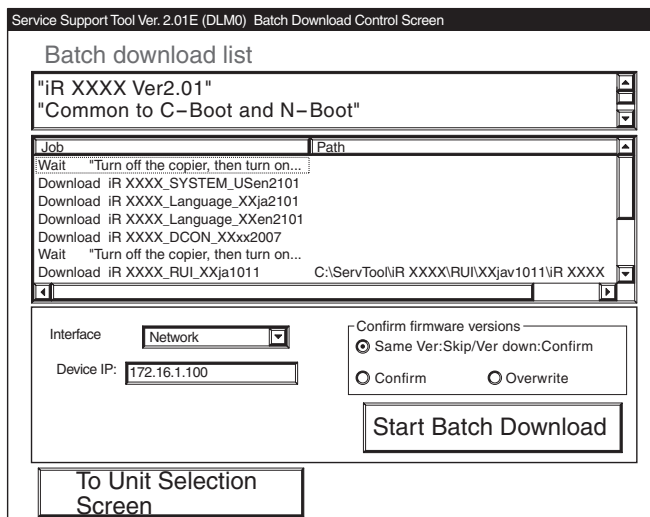
F-17-44

⚠
Check firmware versions

The System will check the following two items, and indicate the result, permitting you to check the progress of downloading:

- system software that has been installed to the machine
- system software that will be downloaded

There are 3 patterns to check:
- Same Ver:Skip/Ver down:check
- check
- Overwrite

T-17-4

SST indication

	same version:skip / ver down: confirm	confirm	overwrite
b is older (Downgrade)	check and then download	check and download	download
a and b of same version	do not download	check and download	download
b is new (Upgrade)	download	download	download

Confirmation Message for Downgrading
You will not be able to select a different version even if you select 'Skip'.
(The session will move to the confirmation of the next system software.)

In the case of version 2.01 of the SST, the notation 'Skip' is replaced by the notation 'Select Again'. The response, however, will be the same.
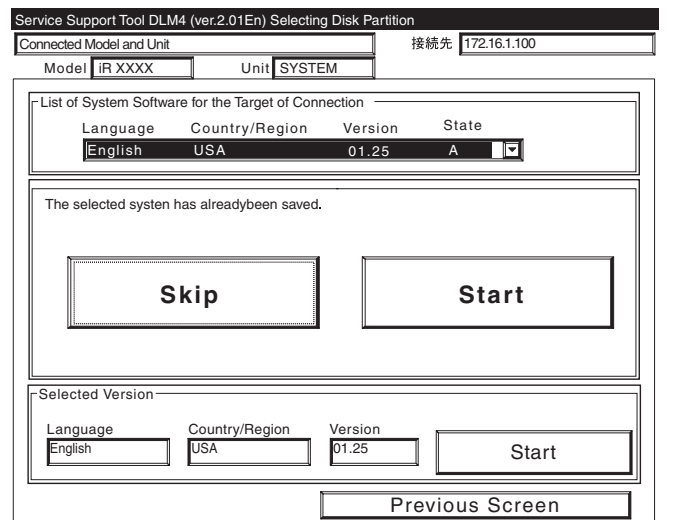
F-17-45

5) Press [Start Batch Download].
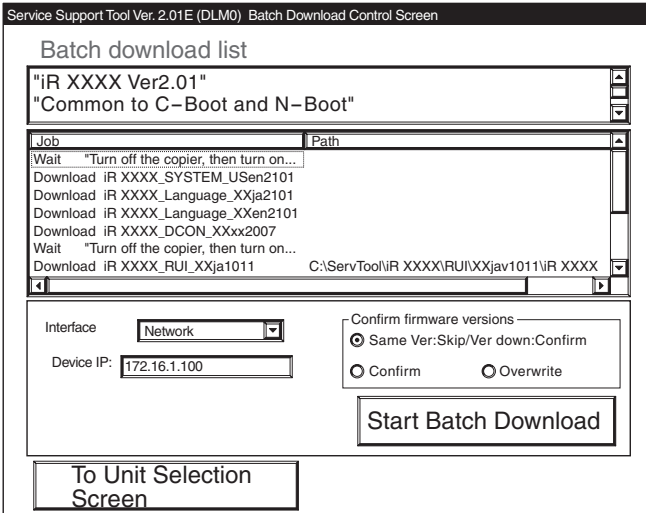
F-17-46

6) See that the download mode to be used is indicated.When the mode has started, press [Resume].
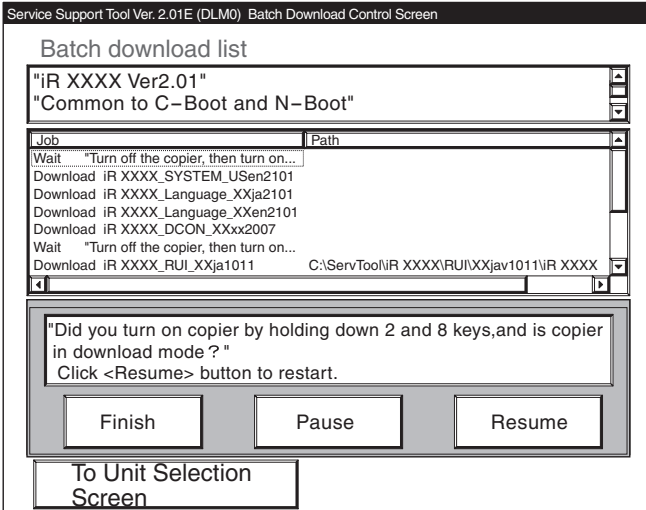
F-17-47

7) See that the system software that has been registered is downloaded one after another. The System will show the progress (results) of downloading.

⚠

As necessary, e.g., when re-start is needed, an appropriate message will be indicated during a downloading session. In response, follow the instructions, and press [resume].
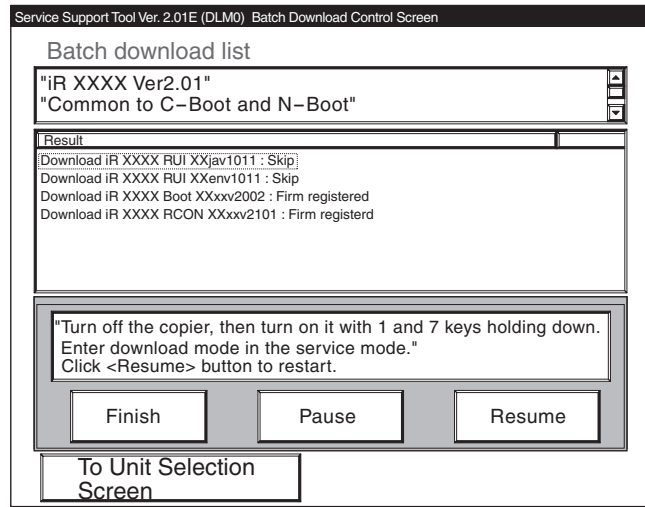
F-17-48

8) Follow the instructions given by the SST to download the RUI and RCON files as done in the previous step.
9) See the results of downloading; then, press [return to unit selection screen].
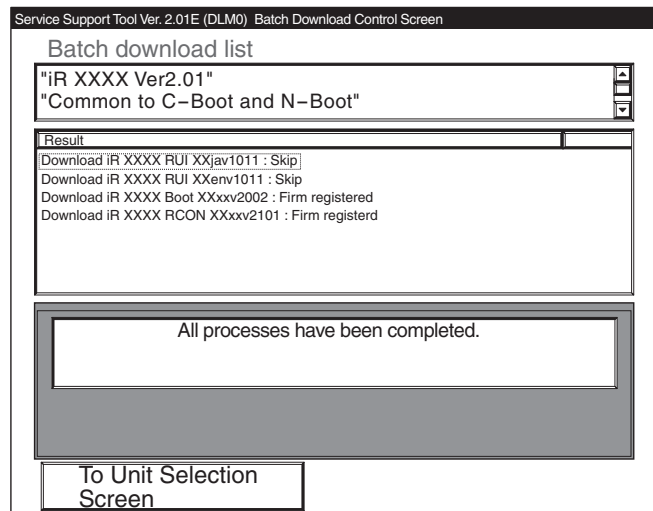
F-17-49

17.4.2 Downloading the System Software

17.4.2.1 Outline
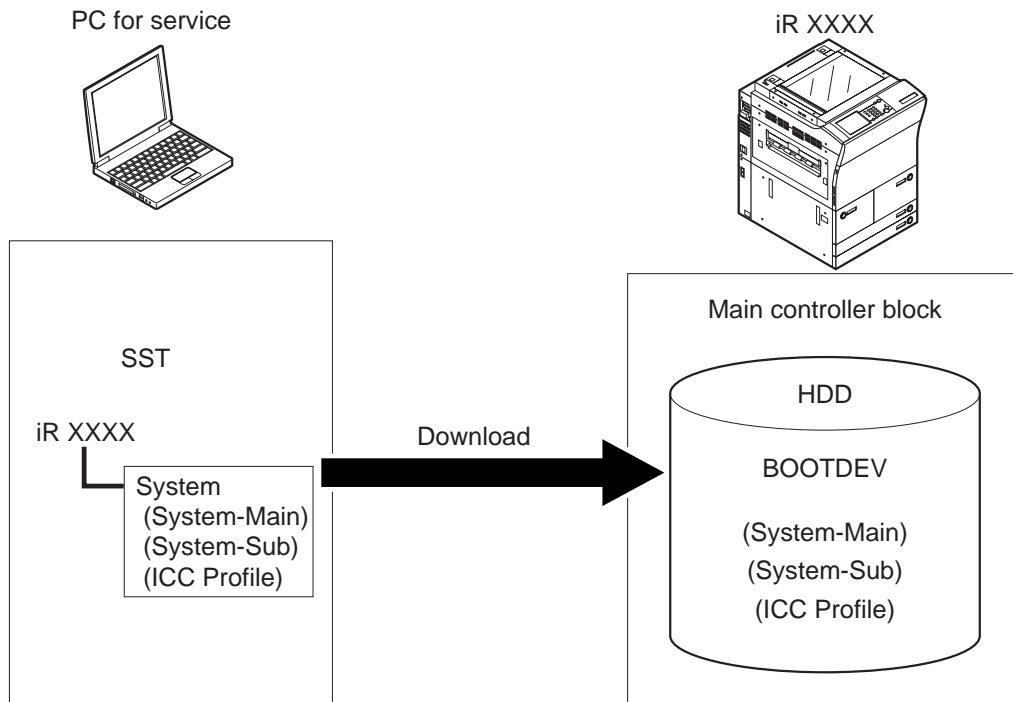
F-17-50

The system software comes in 3 types.(2 types for Japan)

⚠

In the case of Japan, appropriate model must be selected with reference to the presence/absence of support for NetWare.

T-17-5

Country	SST installation model	NetWare	Remarks
100V	iRC6800	Not supported	Installed at time of shipment to iRC6800 (100V)
	iRC6800N	Supported	Installed at time of shipment to iRC6800N(100V)
120/230V	iRC6800	Supported	Installed at time of shipment to iR6800 (120/230V)/ 6800N(120/230V)

The machine's System software consists of multiple files.
The SST handles these files in group, and transfers them in succession at time of downloading.

T-17-6

Notation	Function
System-Main	Program for main CPU
System-Sub	Program for sub CPU
ICC Profile	color correction information file for PDL functions

17.4.2.2 Downloading Procedure

Making a Check Work (Jpn only)
Press the Counter Check key [1] on the control panel to check the model name [2] indicated on the LCD.
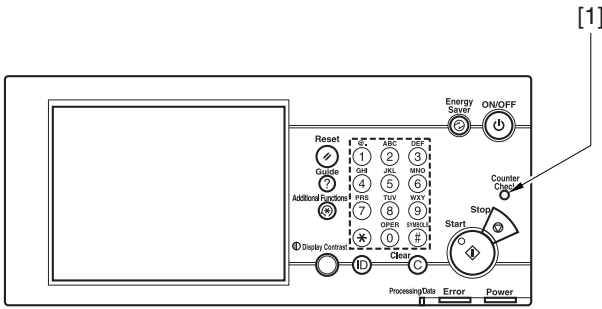
F-17-51

⚠

When checking the model name, see the indication in parentheses.
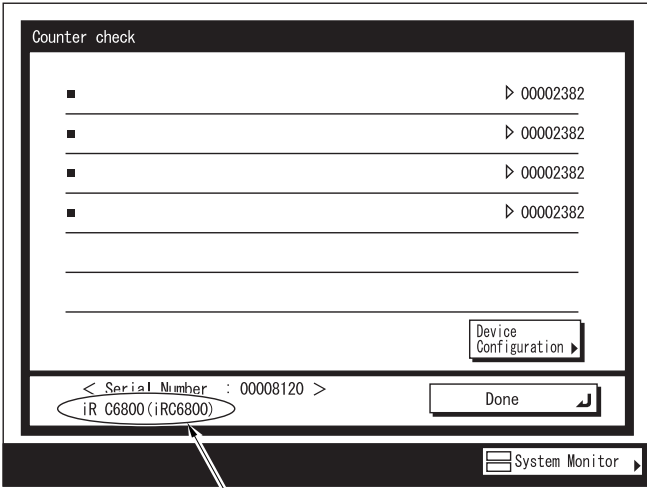
F-17-52

1. Procedure
1) Press [To Next] under Downloading/Uploading.
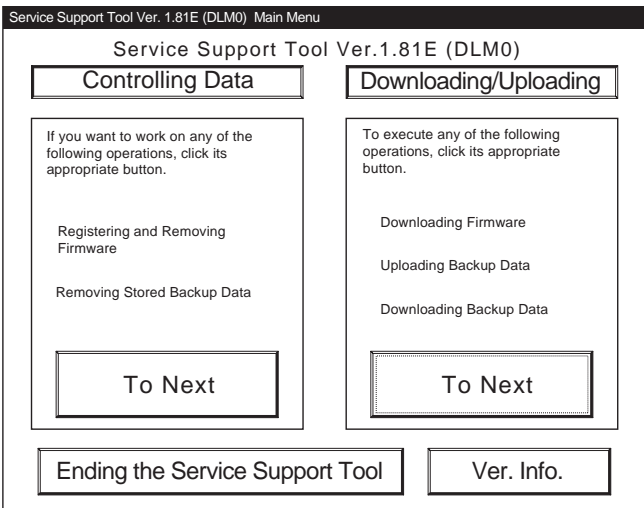
F-17-53

2) Select the SYSTEM of the iRC6800, and press [Connect].
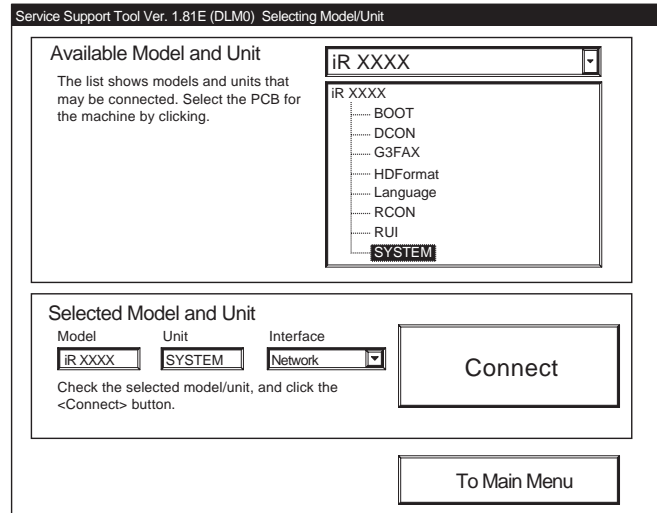
F-17-54

3) Press [Set host name].
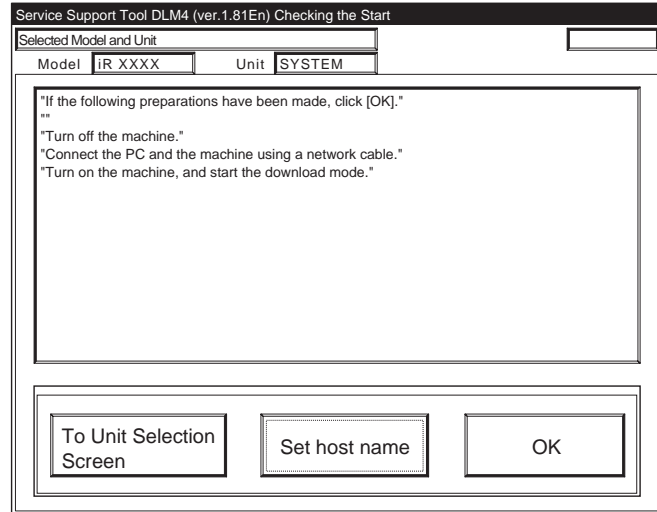
F-17-55

4) The machine's IP address is entered automatically, press [OK].

F-17-56

5) Press [OK] to start connection.

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit | Connected to 172.16.1.100
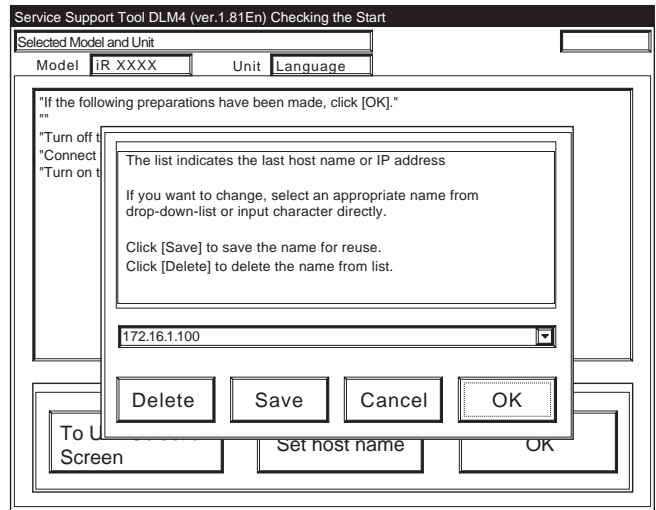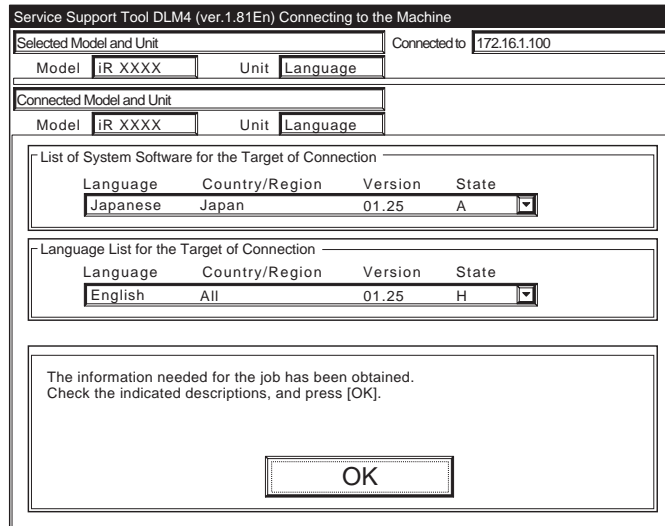
Model iR XXXX   Unit SYSTEM

"If the following preparations have been made, click [OK]."
""
"Turn off the machine."
"Connect the PC and the machine using a network cable."
"Turn on the machine, and start the download mode."

To Unit Selection Screen | Set host name | OK

F-17-57

6) When the machine has made a connection and brings up the following screen, press [OK].

Service Support Tool DLM4 (ver.1.81En) Connecting to the Machine

Selected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit SYSTEM

Connected Model and Unit

Model iR XXXX   Unit SYSTEM

List of System Software for the Target of Connection

Language	Country/Region	Version	State
Japanese	Japan	01.25	A

The information needed for the job has been obtained.
Check the indicated descriptions, and press [OK].

OK

F-17-58

7) Press [System Software Download].

Service Support Tool DLM4 (ver.1.81En) Selecting a Job

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit SYSTEM

List of System Software for the Target of Connection

Language	Country/Region	Version	State
Japanese	Japan	01.25	A

Selecting a SYSTEM Job

Click the job key for SYSTEM.

Write the system software to the machine.   System Software Download

Recover the system software that has been backed up.   Recover the Backup system

Save the backup data of the machine.   Upload the Backup Data

Write the saved backup data to the machine.   Download the Backup Data

To Unit Selection Screen

F-17-59

8) Select the version to download, and press [Start].

Service Support Tool DLM4 (ver.1.81En) Selecting a Version

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit SYSTEM

List of System Software for the Target of Connection

Language	Country/Region	Version	State
Japanese	Japan	01.25	A

System Software Versions Available for Selection

Click the appropriate version to select from among the available system software versions.

Information on the selected version will be indicated at the bottom.

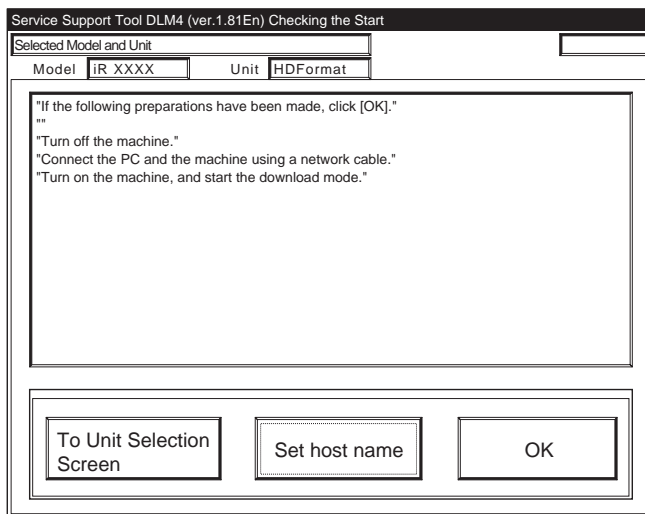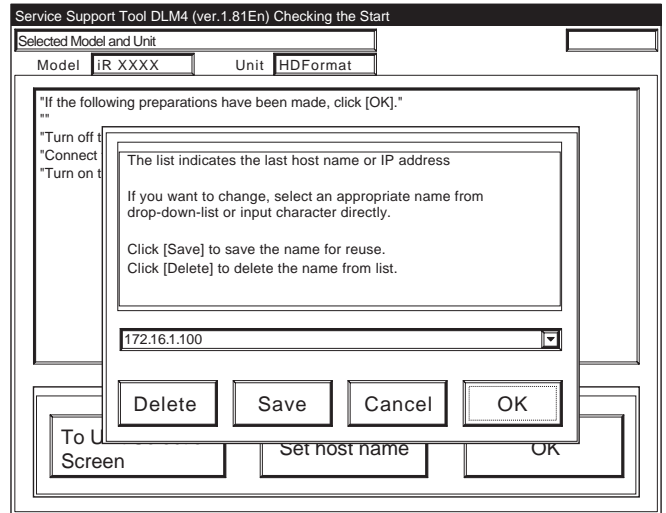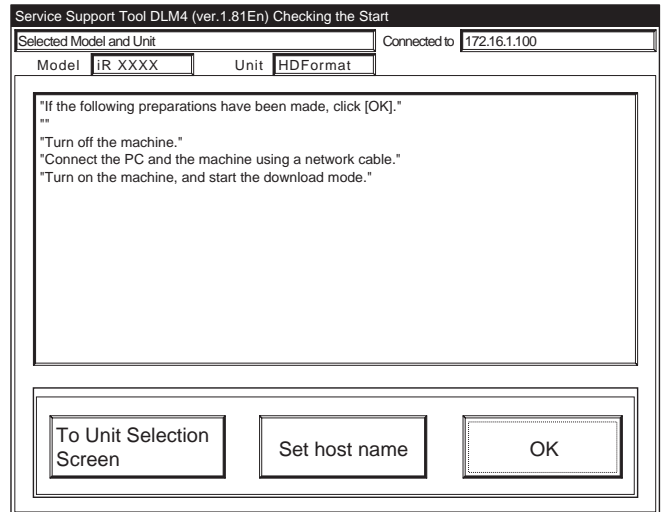| Language	Country/Region	Version
English	USA	01.27
English	USA	01.28
Japanese	Japan	01.27
Japanese	Japan	01.28

Selected Version

Language	Country/Region	Version
English	USA	01.28

Start

Previous Screen

F-17-60

9) When the results of the downloading are indicated, and press [OK].

Service Support Tool DLM4 (ver.1.81En) Downloading the SYSTEM

Connected Model and Unit | Connected to 172.16.1.100

Model iR XXXX   Unit SYSTEM

List of System Software for the Target of Connection

Language	Country/Region	Version	State
Japanese	Japan	01.25	A

Selected System Software

Language English | Country/Region USA | Version 01.28

Result of Downloading

The check sums of all files have matched.

File Name	Nor...	Obta...	Eval...
iR XXXX-USen0128-B4B0.PRG	B4B0	B4B0	OK
iR XXXX-XXxx0128-A641-Sub....	A641	A641	OK
iR XXXX-XXxx0128-E7FD-ICC....	E7FD	E7FD	OK

OK

F-17-61

10) Press [To Unit Selection Screen].

⚠

Never turn off the machine while the following screen is shown.
Otherwise writing to the HDD will be suspended, preventing the machine to start up.

```
Service Support Tool DLM4 (ver.1.81En) Downloading the SYSTEM
┌ Connected Model and Unit ─────────────    Connected to  172.16.1.100
   Model  iR XXXX        Unit  SYSTEM
  ┌ List of System Software for the Target of Connection ─────────────
        Language     Country/Region    Version    State
        Japanese     Japan              01.25      A        ▼

  └──────────────────────────────────────────────────
  Selected System Software ─────────────────────────
  Language  English    Country/Region  USA          Version  01.28
  ┌ Progress of Writing to the Hard Disk ─────────────
   Data has been transferred, and is now been written to the hard disk.

    "Now, data writing. Don't power off target"

                Time
                Remaining      251      sec

                                         Stop
```

F-17-62

If the machine fails to start up, perform foramtting BOOTDEV using HDForamt and download the following:
System, Language, RUI

17.4.3 Downloading the RUI, and Language Module

17.4.3.1 Outline
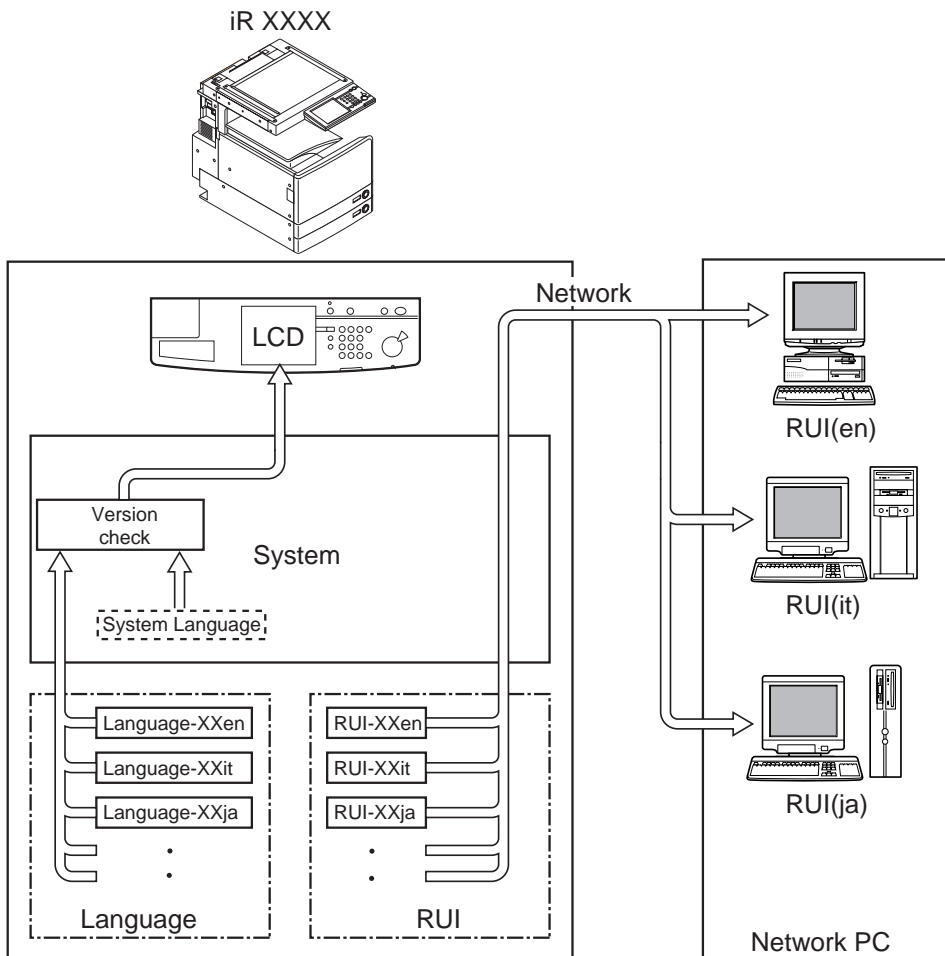
F-17-63

T-17-7

Language used on control panel LCD

Check the versions of system software and language files.

   1) if the versions are correct

    Selections may be made in Additional Function;

    Common settings>Language Switch

   2) if the versions are not correct

    'E744' will be indicated.

    Turn off and then on the main power switch so that the

    system language will be used.

T-17-8

Language used in RUI

Select on the RUI.

A specific language may be selected for a specific PC.

<Language Code>	<Language>
de	German
en	English
fr	French
it	Italian
ja	Japanese
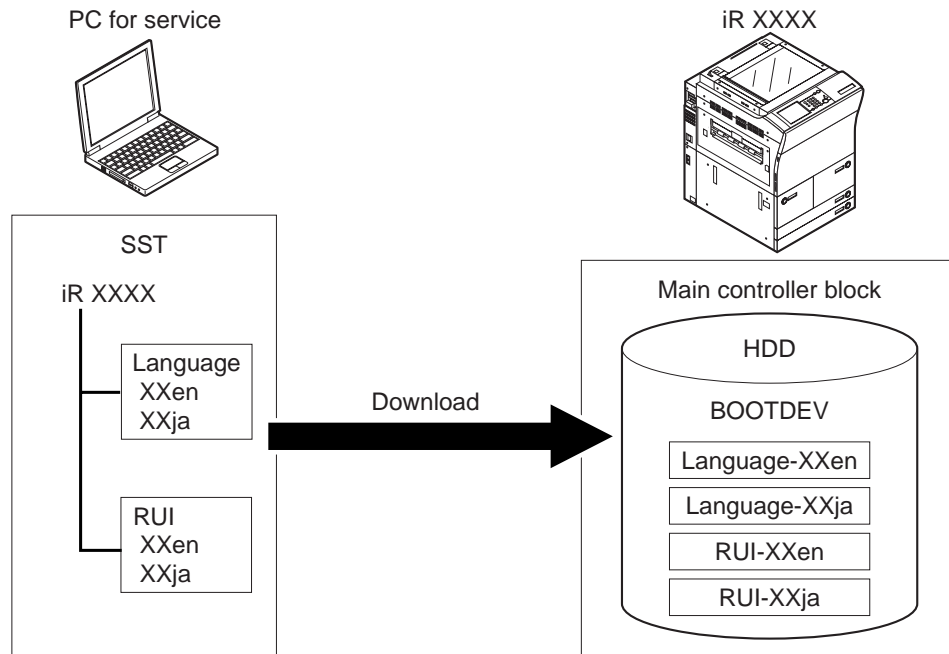
F-17-64

17.4.3.2 Downloading Procedure

1. Procedure
Downloading may take place when the machine is in normal or in safe mode.
Both Language and RUI files mey be downloaded in common among models.
(here,the iRC6800 is selected)

2. describes downloading of the Language
1) Press [To next] under Downloading/Uploading.
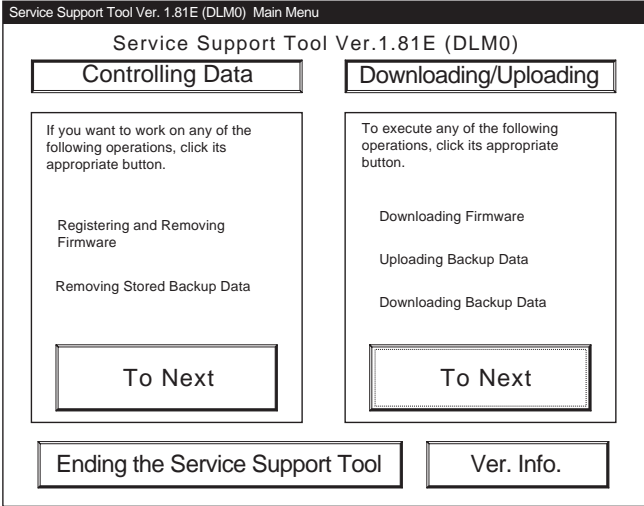
F-17-65

2) Select [Language] for the iRC6800, and Press [Connect].
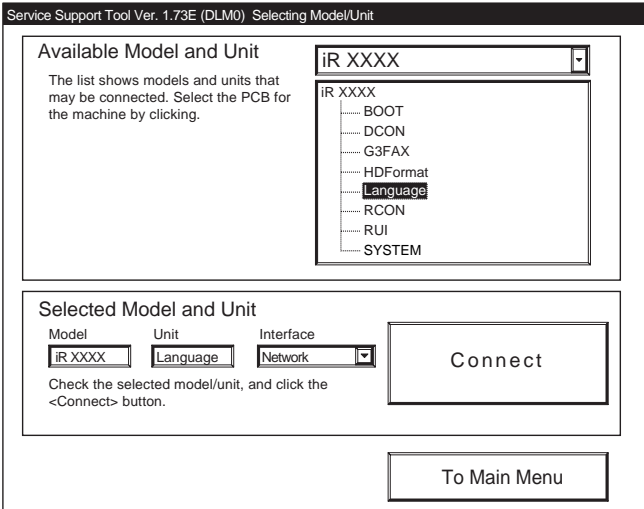
F-17-66

3) Press [Set host name].
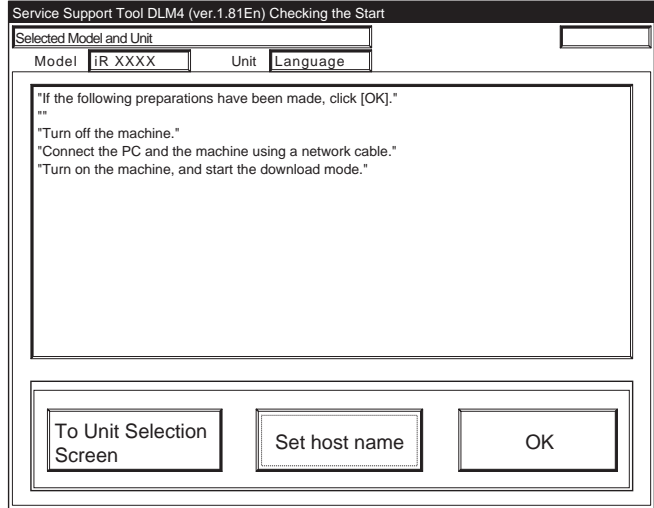
F-17-67

4) The machiine's IP address is entered automatically; press [OK].
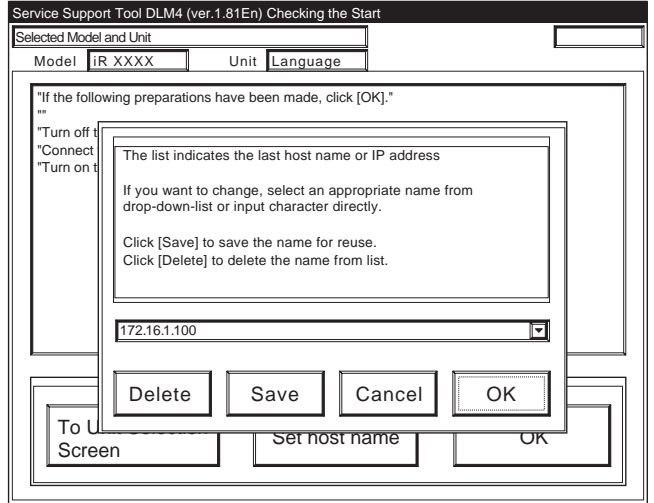
F-17-68

5) Press [OK] to start conncection.
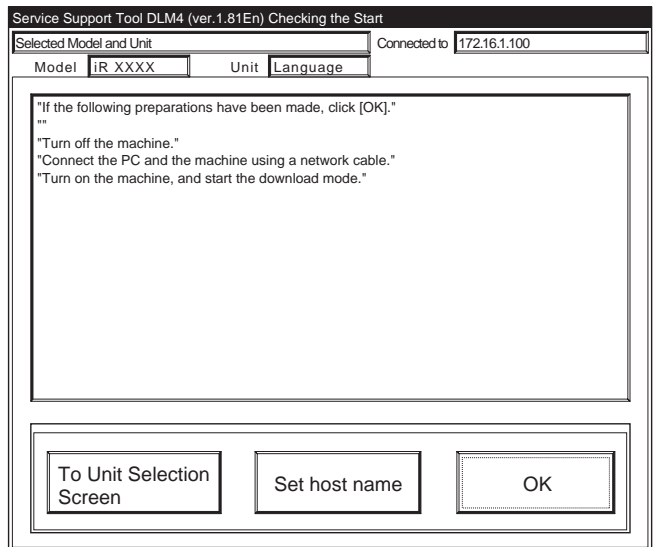
F-17-69

6) When the machine has made a connection and bring up the following screen, press [OK].
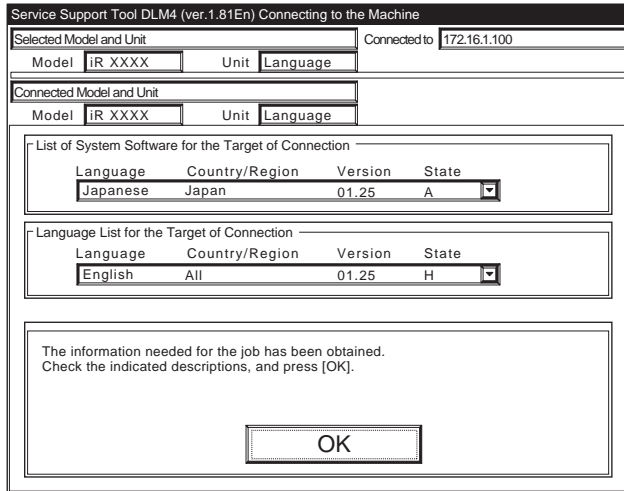
F-17-70

7) Press [Language Download].
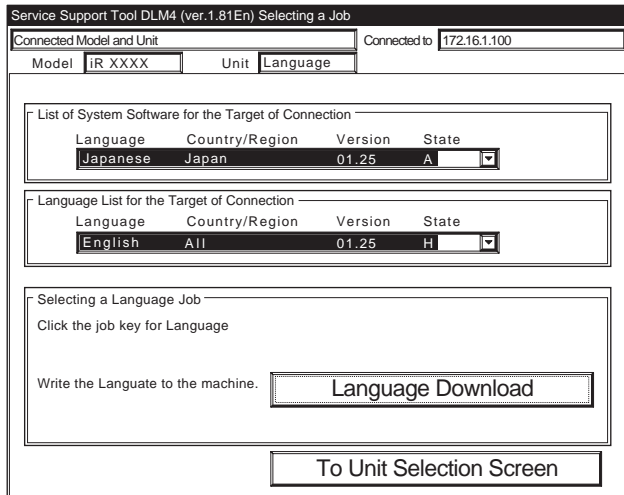
F-17-71

8) Select the version to download, and press [Start].
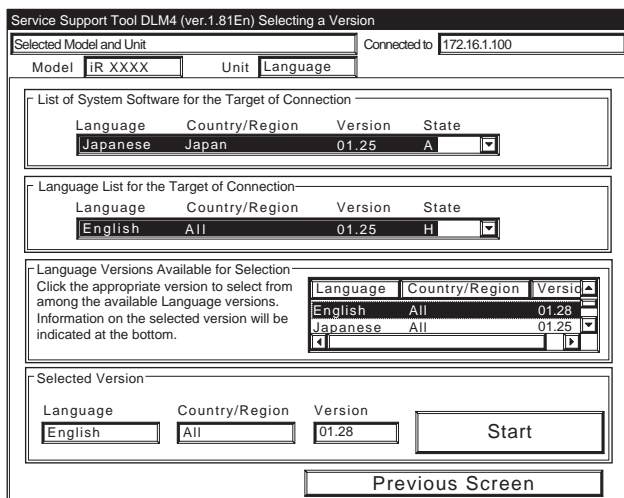
F-17-72

9) When the results of the downloading are indicated. press [OK].
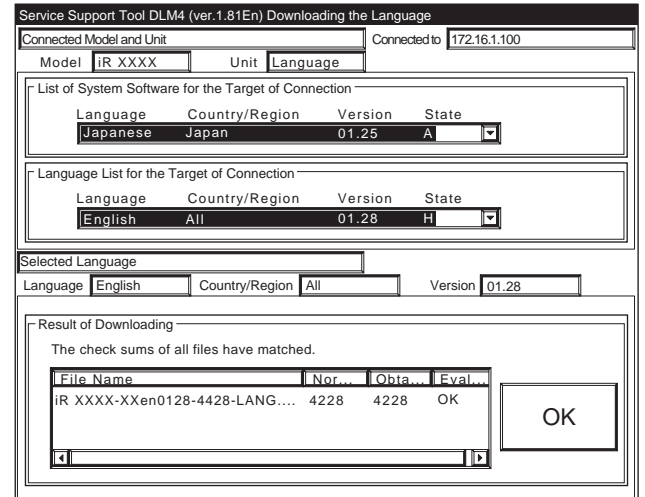
F-17-73

10) Press [To Unit Selection Screen].

⚠

Never turn off the machine while the following screen is shown.
Otherwise writing to the HDD will be suspended, preventing the machine to start up.
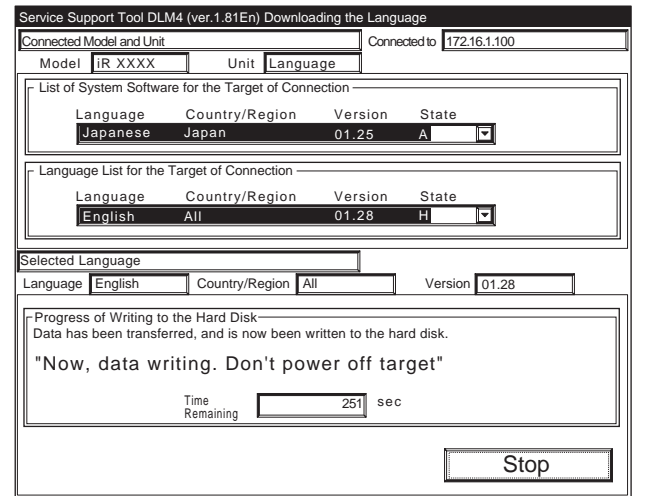
F-17-74

If the machine fails to start up, perform foramtting BOOTDEV using HDForamt and download the following:
System, Language, RUI

17.4.4 Downloading the BOOT Software

17.4.4.1 Outline

iR XXXX

PC for service

SST

iR XXXX

Boot

Download

Main controller block

Boot ROM
(Flash ROM DIMM)

| Copy Boot
(Flash ROM DIMM) | LIPS Boot
(Flash ROM DIMM) | PSPCL Boot
(Flash ROM DIMM) |

- may be upgraded by DIMM replacement

F-17-75
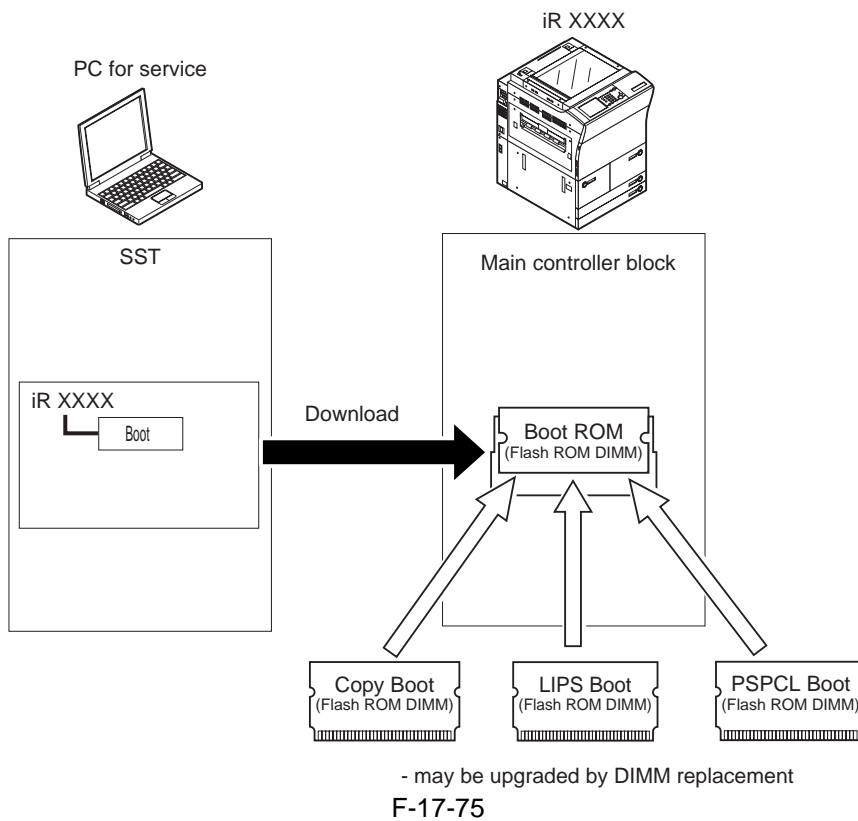
There are as many as three types of Boot:
   - COPY Boot (100/120/230V model)
   - LIPS Boot (100V model)
   - PAPCL Boot (120/230V model)

If you are upgrading using a downloading function, be sure to select "iRC6800" as the model name regardless of the type of Boot that is installed. There is no need to change the model name to suit the type of Boot.

⚠

If you fail to downloading files, you must replace the boot ROM.

17.4.4.2 Downloading Procedure

Downloading may take place in normal mode (1+7 on keypad) or in safe mode (2+8 on keypad).

1. Procedure
1) Press [To next] under Downloading/Uploading.

Service Support Tool Ver. 1.81E (DLM0) Main Menu

Service Support Tool Ver.1.81E (DLM0)

Controlling Data	Downloading/Uploading
If you want to work on any of the following operations, click its appropriate button.	To execute any of the following operations, click its appropriate button.
Registering and Removing Firmware	Downloading Firmware
Removing Stored Backup Data	Uploading Backup Data
	Downloading Backup Data
To Next	To Next

Ending the Service Support Tool   Ver. Info.

F-17-76

2) Select [BOOT] for the iRC6800 Series, and press [Connect].

Service Support Tool Ver. 1.81E (DLM0) Selecting Model/Unit

Available Model and Unit   iR XXXX

The list shows models and units that may be connected. Select the PCB for the machine by clicking.

iR XXXX
 — BOOT
 — DCON
 — G3FAX
 — HDFormat
 — Language
 — RCON
 — RUI
 — SYSTEM

Selected Model and Unit

Model   Unit   Interface
iR XXXX BOOT   Network

Check the selected model/unit, and click the <Connect> button.

Connect

To Main Menu

F-17-77

3) Press [Set host name].

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit

Model   iR XXXX   Unit   Boot

"If the following preparations have been made, click [OK]."
""
"Turn off the machine."
"Connect the PC and the machine using a network cable."
"Turn on the machine, and start the download mode."

To Unit Selection Screen   Set host name   OK

F-17-78

4) The machine's IP address is entered automatically; press [OK].

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit

Model   iR XXXX   Unit   Boot

"If the following preparations have been made, click [OK]."
""
"Turn off t
"Connect
"Turn on t

The list indicates the last host name or IP address

If you want to change, select an appropriate name from drop-down-list or input character directly.

Click [Save] to save the name for reuse.
Click [Delete] to delete the name from list.

172.16.1.100

Delete   Save   Cancel   OK

To U   Set host name   OK
Screen

F-17-79

5) Press [OK] to start connection.

Service Support Tool DLM4 (ver.1.81En) Checking the Start

Selected Model and Unit   Connected to 172.16.1.100

Model   iR XXXX   Unit   Boot

"If the following preparations have been made, click [OK]."
""
"Turn off the machine."
"Connect the PC and the machine using a network cable."
"Turn on the machine, and start the download mode."

To Unit Selection Screen   Set host name   OK

F-17-80

6) When the machine has made a connection and brings up the following screen, press [OK].

Service Support Tool DLM4 (ver.1.81En) Connecting to the Machine

Selected Model and Unit | Connected to 172.16.1.100
Model iR XXXX   Unit Boot

Connected Model and Unit
Model iR XXXX   Unit Boot

List of System Software for the Target of Connection
Language   Country/Region   Version   State
Japanese   Japan   01.25   A

BootROM of the Target of Connection
Language   Country/Re...   Version
Common   All   03.01

The information needed for the job has been obtained.
Check the indicated descriptions, and press [OK].

OK

F-17-81

7) Press [BootROM Download].

Service Support Tool DLM4 (ver.1.81En) Selecting a Job

Connected Model and Unit | Connected to 172.16.1.100
Model iR XXXX   Unit Boot

List of System Software for the Target of Connection
Language   Country/Region   Version   State
Japanese   Japan   01.25   A

BootROM of the Target of Connection
Language   Country/Re...   Version
Common   All   03.01

Selecting a BootROM Job
Click the job key for BootROM.

Write the boot program to the machine.   BootROM Download

To Unit Selection Screen

F-17-82

8) Select the version to download, and press [Start].

Service Support Tool DLM4 (ver.1.81En) Selecting a Version

Connected Model and Unit | Connected to 172.16.1.100
Model iR XXXX   Unit Boot

BootROM of the Target of Connection
Language   Country/Re...   Version
Common   All   03.01

BootROM Versions Available for Selection
Click the appropriate version to select from among the available BootROM versions.

Information on the selected version will be indicated at the bottom.

Langua...   Country/Re...   Versi...
Common   All   01.10
Common   All   02.01
Common   All   03.01
Common   All   20.02

Selected Version
Language   Country/Region   Version
Common   All   20.02   Start

Previous Screen

F-17-83

9) When the results of the downloading are indicated, and press [OK].

Service Support Tool DLM4 (ver.1.81En) Downloading the BOOT

Connected Model and Unit | Connected to 172.16.1.100
Model iR XXXX   Unit Boot

BootROM of the Target of Connection
Language   Country/Re...   Version
Common   All   03.01

Selected BootROM
Language Commom   Country/Region All   Version 20.02

Result of Downloading
The check sums of all files have matched.

File Name   Nor...   Obta...   Eval...
iR XXXX-XXxx2002-F510-BOOT....   F510   F510   OK

OK

F-17-84

10) Press [To Unit Selection Screen].

2. after Downloading
When you upgrade the boot ROM, be sure to turn off and then on the machine's main power switch so that the new version will be validated.

⚠

Never turn off the machine while the following screen is shown.
Otherwise writing to the HDD will be suspended, preventing the machine to start up.

Service Support Tool DLM4 (ver.1.81En) Downloading the BOOT

Connected Model and Unit | Connected to 172.16.1.100
Model iR XXXX   Unit Boot

BootROM of the Target of Connection
Language   Country/Re...   Version
Common   All   03.01

Selected BootROM
Language Common   Country/Region All   Version 20.02

Progress of Writing to the Hard Disk
Data has been transferred, and is now been written to the hard disk.

"Now, data writing. Don't power off target"

Time Remaining   376   sec

Stop
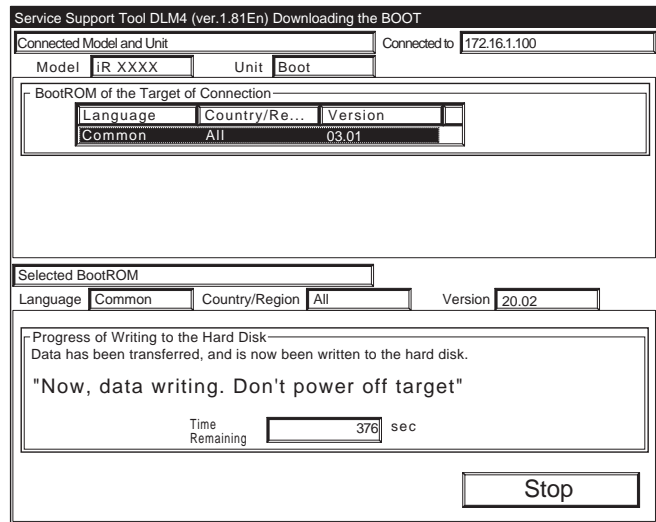
F-17-85

If the machine fails to start up, replace the boot ROM.

17.4.5 Downloading the Dcon and Rcon Software

17.4.5.1 Outline

The DC controller/Reader controller files are downloaded by way of the main controller block.

⚠

Both DC controller PCB and the Reader controller PCB are wquipped with booy ROMs, permitting retries if downloading fails.

F-17-86

⚠
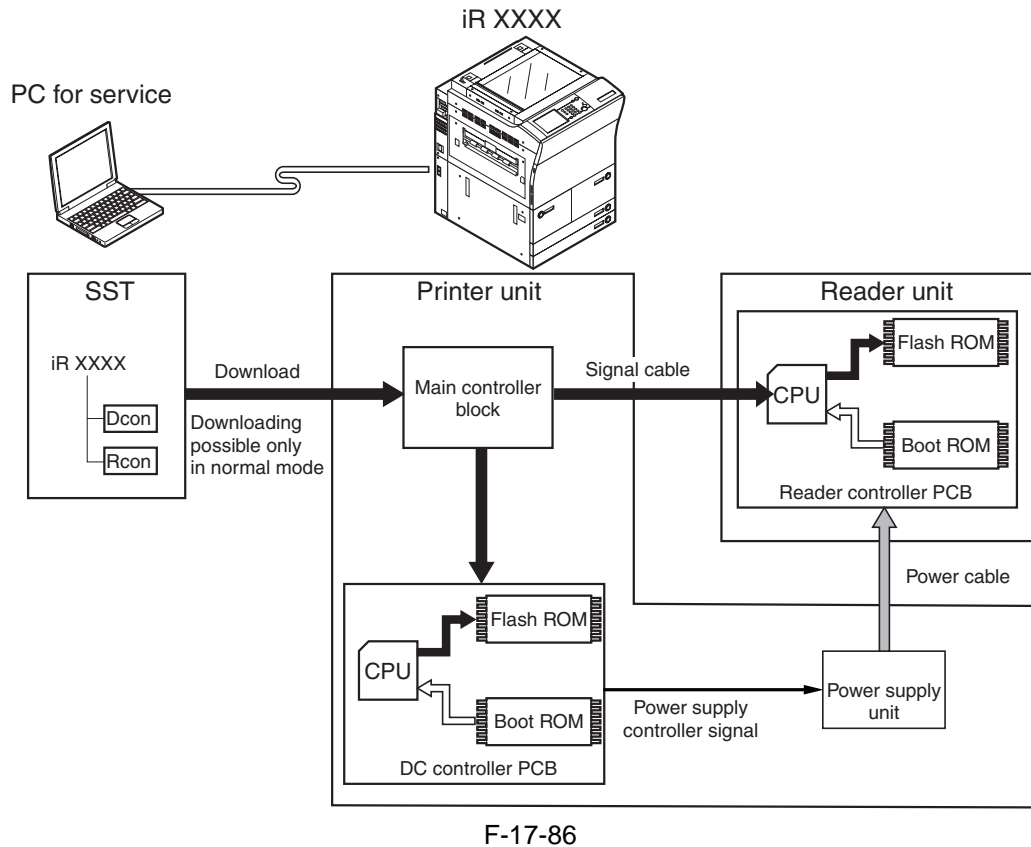
Unless the DC controller has started up normally, not permitting downloading of Reader controller files. (Because the power supply control signal will not be validated, not supplying the reader unit with power.)

17.4.5.2 Downloading Procedure

1. Making Checks in Advance
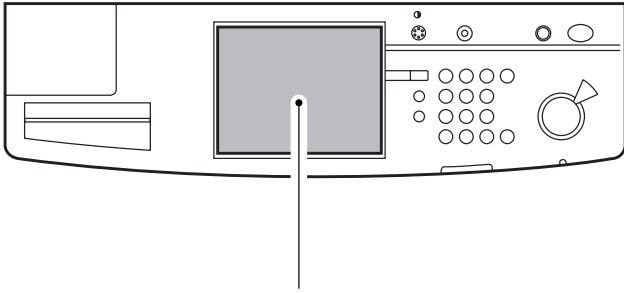
- No error code must be indicated.
- In the case of downloading Rcon files, the version of DC-CON must be indicated in service mode.

F-17-87

2. Procedure

The following describes downloading of DC controller files.

Both DC controller and Reader controller files are common among models.

1) Press [To next] under Downloading/Uploading.
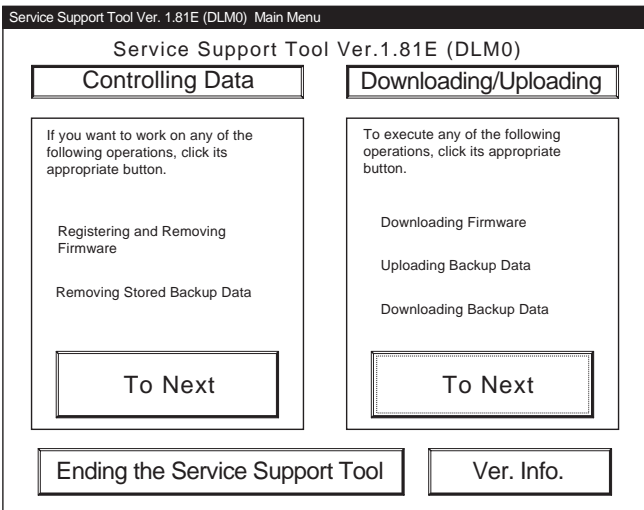
F-17-88

2) Select [DCON], and press [Connect].

F-17-89

3) Press [Set host name].

F-17-90

4) The machine's IP address is entered automatically; press [OK].

F-17-91

5) Press [OK] to start connection.

F-17-92

6) When the machine has made a connection and brings up the following screen, press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Connecting to the Machine
Selected Model and Unit                    Connected to  172.16.1.100
   Model  iR XXXX          Unit  DCON

Connected Model and Unit
   Model  iR XXXX          Unit  DCON

  ┌─List of System Software for the Target of Connection─
       Language      Country/Region    Version     State
       Japanese      Japan             01.25       A     ▼

  ┌─DCON List for the Target of Connection─
       Language      Country/Region    Version     State
       Common        All               01.26       A     ▼


      The information needed for the job has been obtained.
      Check the indicated descriptions, and press [OK].


                              OK
```
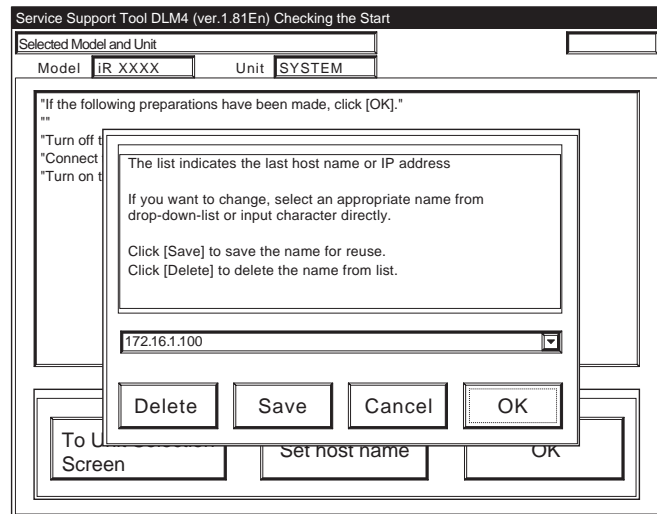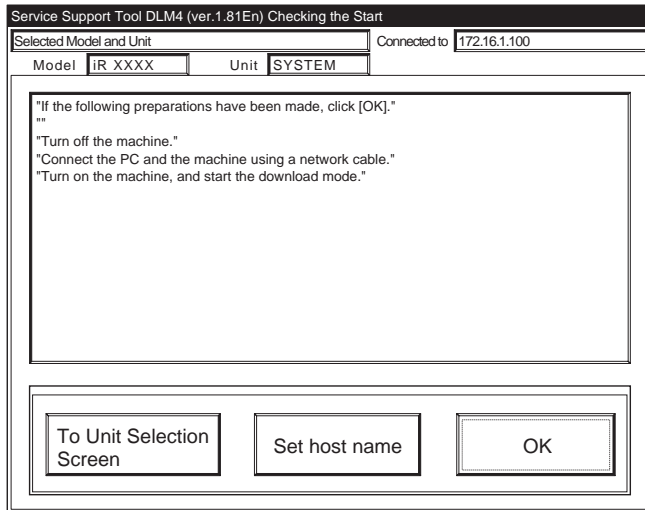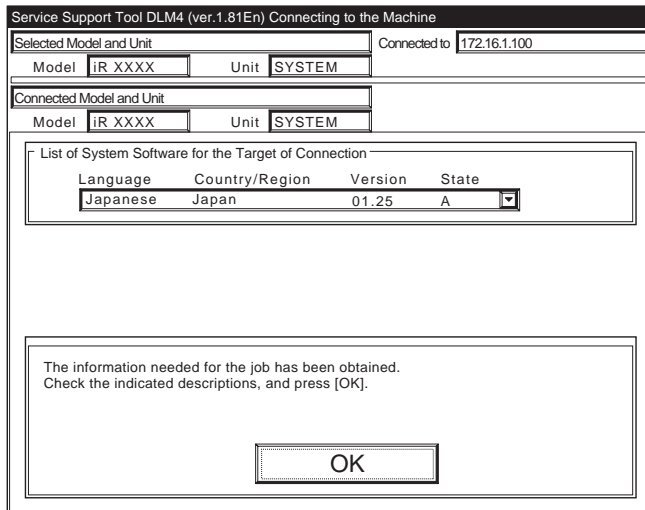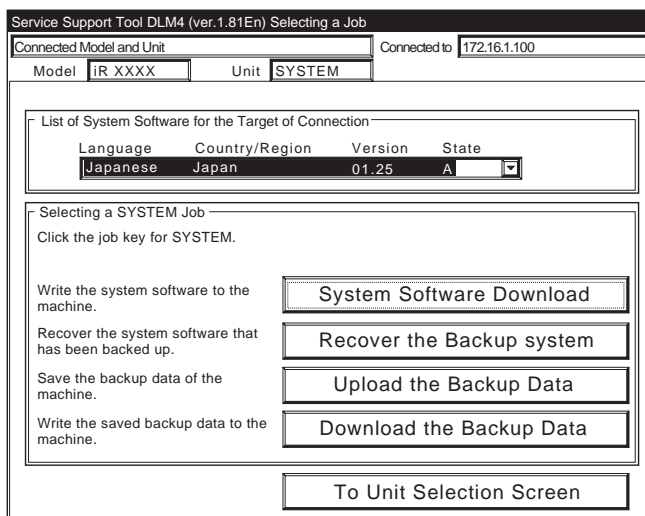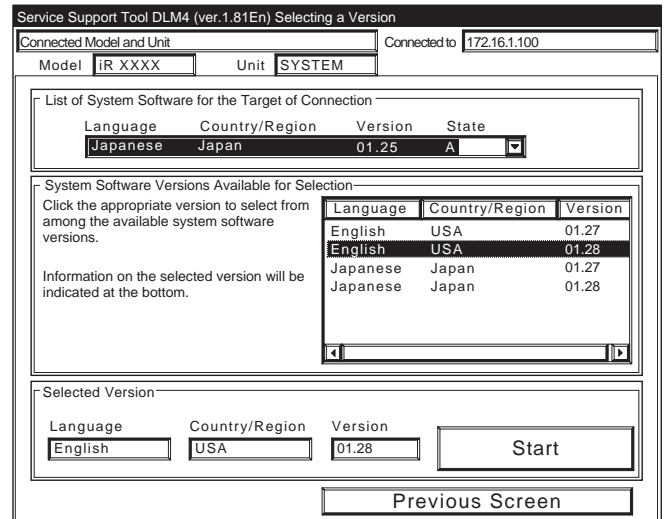
F-17-93

7) Press [DCON Download].

```
Service Support Tool DLM4 (ver.1.81En) Selecting a Job
Connected Model and Unit                   Connected to  172.16.1.100
   Model  iR XXXX          Unit  DCON

  ┌─List of System Software for the Target of Connection─
       Language      Country/Region    Version     State
       Japanese      Japan             01.25       A     ▼

  ┌─DCON List for the Target of Connection─
       Language      Country/Region    Version     State
       Common        All               01.26       A     ▼

  ┌─Selecting a DCON Job─
    Click the job key for DCON


    Write the DCON to the machine.        DCON Download


                              To Unit Selection Screen
```

F-17-94

8) Select the version to download, and press [Start].

```
Service Support Tool DLM4 (ver.1.81En) Selecting a Version
Connected Model and Unit                   Connected to  172.16.1.100
   Model  iR XXXX          Unit  DCON

  ┌─List of System Software for the Target of Connection─
       Language      Country/Region    Version     State
       Japanese      Japan             01.25       A     ▼

  ┌─DCON List for the Target of Connection─
       Language      Country/Region    Version     State
       Common        All               01.26       A     ▼

  ┌─DCON Versions Available for Selection─
    Click the appropriate version to select from   Language  Country/Region  Versio ▲
    among the available Language versions.          Common    All             01.32
    Information on the selected version will be
    indicated at the bottom.                        ◄                           ►

  ┌─Selected Version─
    Language        Country/Region    Version
    Common          All               01.32            Start

                              Previous Screen
```

F-17-95

9) When the results of the downloading are indicated, and press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Downloading the DCON
Connected Model and Unit                   Connected to  172.16.1.100
   Model  iR XXXX          Unit  DCON

  ┌─List of System Software for the Target of Connection─
       Language      Country/Region    Version     State
       Japanese      Japan             01.25       A     ▼

  ┌─DCON List for the Target of Connection─
       Language      Country/Region    Version     State
       Common        All               01.26       A     ▼

Selected DCON
  Language  Common    Country/Region  All        Version  01.32

  ┌─Result of Downloading─
    The check sums of all files have matched.

    File Name                    Nor...  Obta...  Eval...
    iR XXXX-XXxx0132-5C64-DCON…   5C64    5C64    OK
    iR XXXX-XXxx0132-A0A8-DCON…   A0A8    A0A8    OK          OK

    ◄                                         ►
```

F-17-96

10) Press [To Unit Selection Screen].

3. after Downloading

When you have downloaded DC controller or Reader controller files, be sure to turn off and then on the machine's main power switch.

⚠

- You cannot download the DC controller and Reader controller files in succession.
- Never turn off the machine while the following screen is shown.
 Otherwise, writing to `DCON/RCON' can fail, indicated by the error code.
  DCON: E733
  RCON: E732

```
Service Support Tool DLM4 (ver.1.81En) Downloading the DCON
Connected Model and Unit                   Connected to  172.16.1.100
   Model  iR XXXX          Unit  DCON

  ┌─List of System Software for the Target of Connection─
       Language      Country/Region    Version     State
       Japanese      Japan             01.25       A     ▼

  ┌─DCON List for the Target of Connection─
       Language      Country/Region    Version     State
       Common        All               01.26       A     ▼

Selected DCON
  Language  Common    Country/Region  All        Version  01.32

  ┌─Progress of Writing to the Hard Disk─
    Data has been transferred, and is now been written to the hard disk.

    "Now, data writing. Don't power off target"

         Time
         Remaining          448        sec


                                           Stop
```

F-17-97

If an error code is indicated, be sure to download the appropriate system software.

17.4.6 Downloading the FAX Software

17.4.6.1 Outline

The G3fax files are downloaded by way of the main controller block.

PC for service

iR XXXX

G3Fax
(Flash ROM DIMM)

Upgrading may be
by DIMM replacement

SST

iR XXXX

G3Fax

Downloading

Main controller
block

CPU

G3Fax
(Flash ROM DIMM)

G3Fax Board

Downloading possible
only in normal mode
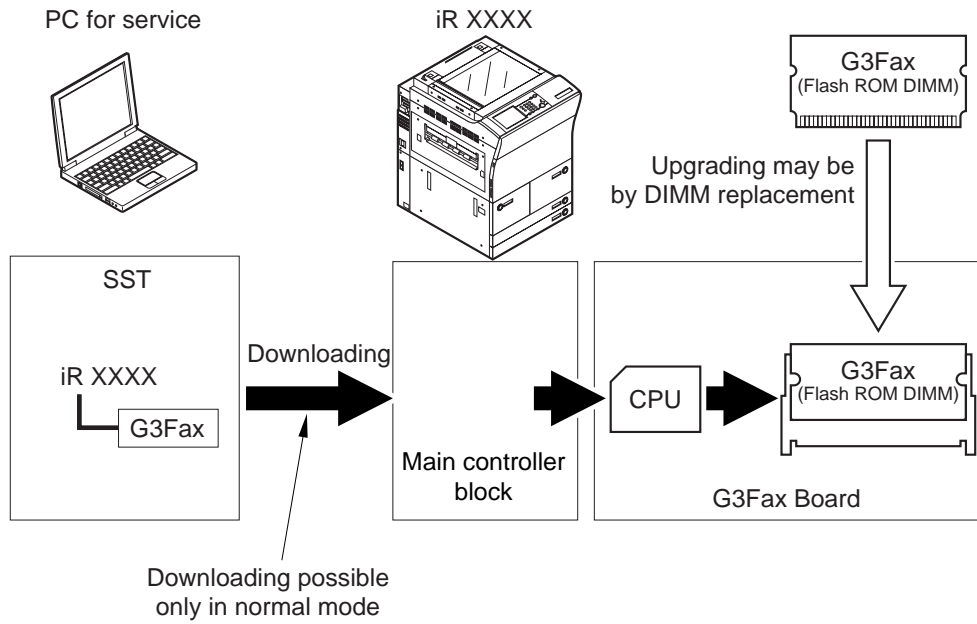
F-17-98

⚠
If downloading fails, the flash ROM DIMM must be replaced.

17.4.6.2 Downloading Procedure

1. Procedure
Use normal mode for downloading.

1) Press [To next] under Downloading/Uploading.

```
Service Support Tool Ver. 1.81E (DLM0)  Main Menu

          Service Support Tool Ver.1.81E (DLM0)

   Controlling Data            Downloading/Uploading

 If you want to work on any of the    To execute any of the following
 following operations, click its      operations, click its appropriate
 appropriate button.                  button.


 Registering and Removing             Downloading Firmware
 Firmware
                                      Uploading Backup Data
 Removing Stored Backup Data
                                      Downloading Backup Data


      To Next                              To Next


   Ending the Service Support Tool        Ver. Info.
```

F-17-99

2) Select [G3FAX], and press [Connect].

```
Service Support Tool Ver. 1.81E (DLM0)  Selecting Model/Unit

 Available Model and Unit
                                      iR XXXX
 The list shows models and units that
 may be connected. Select the PCB for  iR XXXX
 the machine by clicking.                 — BOOT
                                          — DCON
                                          — G3FAX
                                          — HDFormat
                                          — Language
                                          — RCON
                                          — RUI
                                          — SYSTEM

 Selected Model and Unit

 Model       Unit       Interface
 iR XXXX     G3FAX      Network            Connect

 Check the selected model/unit, and click the
 <Connect> button.

                                        To Main Menu
```

F-17-100

3) Press [Set host name].

```
Service Support Tool DLM4 (ver.1.81En) Checking the Start
Selected Model and Unit
  Model  iR XXXX        Unit  G3FAX

 "If the following preparations have been made, click [OK]."
 ""
 "Turn off the machine."
 "Connect the PC and the machine using a network cable."
 "Turn on the machine, and start the download made."




    To Unit Selection        Set host name          OK
    Screen
```

F-17-101

4) The machine's IP address is entered automatically; press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Checking the Start
Selected Model and Unit
  Model  iR XXXX        Unit  G3FAX

 "If the following preparations have been made, click [OK]."
 ""
 "Turn off th
 "Connect     The list indicates the last host name or IP address
 "Turn on th
              If you want to change, select an appropriate name from
              drop-down-list or input character directly.

              Click [Save] to save the name for reuse.
              Click [Delete] to delete the name from list.


              172.16.1.100

    To U       Delete    Save      Cancel      OK
    Screen
                     Set host name              OK
```

F-17-102

5) Press [OK] to start connection.

```
Service Support Tool DLM4 (ver.1.81En) Checking the Start
Selected Model and Unit                  Connected to  172.16.1.100
  Model  iR XXXX        Unit  G3FAX

 "If the following preparations have been made, click [OK]."
 ""
 "Turn off the machine."
 "Connect the PC and the machine using a network cable."
 "Turn on the machine, and start the download made."




    To Unit Selection        Set host name          OK
    Screen
```

F-17-103

6) When the machine has made a connection and brings up the following screen, press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Connecting to the Machine
Selected Model and Unit                  Connected to  172.16.1.100
  Model  iR XXXX        Unit  G3FAX
Connected Model and Unit
  Model  iR XXXX        Unit  G3FAX

 List of System Software for the Target of Connection
    Language    Country/Region   Version    State
    English     USA              01.28      A

 G3FAX List for the Target of Connection
    Language    Country/Region   Version    State
    Common      All              51.02      A


 The information needed for the job has been obtained.
 Check the indicated descriptions, snd press [OK].


                      OK
```

F-17-104

7) Press [G3FAX Download].

```
Service Support Tool DLM4 (ver.1.81En) Selecting a Job
Connected Model and Unit          Connected to  172.16.1.100
   Model  iR XXXX        Unit  G3FAX

  ┌ List of System Software for the Target of Connection ┐
  │   Language     Country/Region    Version    State     │
  │   English      USA               01.28      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  ┌ G3FAX List for the Target of Connection ─────────────┐
  │   Language     Country/Region    Version    State     │
  │   Common       All               51.02      A    [▼]  │
  └──────────────────────────────────────────────────────┘

  ┌ Selecting a G3FAX Job ───────────────────────────────┐
  │ Click the job key for G3FAX                           │
  │                                                       │
  │ Write the G3FAX to the machine.   ┌───────────────┐  │
  │                                   │ G3FAX Download │  │
  │                                   └───────────────┘  │
  └──────────────────────────────────────────────────────┘
                              ┌─────────────────────────┐
                              │ To Unit Selection Screen │
                              └─────────────────────────┘
```

F-17-105

8) Select the version to download, and press [Start].

```
Service Support Tool DLM4 (ver.1.81En) Slecting a Version
Connected Model and Unit          Connected to  172.16.1.100
   Model  iR XXXX        Unit  G3FAX

  ┌ List of System Software for the Target of Connection ┐
  │   Language     Country/Region    Version    State     │
  │   English      USA               01.28      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  ┌ G3FAX List for the Target of Connection ─────────────┐
  │   Language     Country/Region    Version    State     │
  │   Common       All               51.02      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  ┌ G3FAX Versions Available for Selection ──────────────┐
  │ Click the appropriate   │Language│Country/Region│Version│
  │ version to select from  │Common  │All          │51.02  │
  │ among the available G3FAX versions.                   │
  │ Information on the selected version will be           │
  │ indicated at the bottom.  [◄]              [►]        │
  └──────────────────────────────────────────────────────┘
  ┌ Selected Version ────────────────────────────────────┐
  │ Language      Country/Region    Version               │
  │ Common        All               51.02    ┌─────────┐  │
  │                                          │  Start   │  │
  │                                          └─────────┘  │
  └──────────────────────────────────────────────────────┘
                              ┌─────────────────────────┐
                              │ Previous Screen          │
                              └─────────────────────────┘
```

F-17-106

9) When the results of the downloading are indicated, and press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Downloading the G3FAX
Connected Model and Unit          Connected to  172.16.1.100
   Model  iR XXXX        Unit  G3FAX

  ┌ List of System Software for the Target of Connection ┐
  │   Language     Country/Region    Version    State     │
  │   English      USA               01.28      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  ┌ G3FAX List for the Target of Connection ─────────────┐
  │   Language     Country/Region    Version    State     │
  │   Common       All               51.02      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  Selected G3FAX
  Language  Common   Country/Region  All    Version  51.02

  ┌ Result of Downloading ───────────────────────────────┐
  │  The check sums of all files have matched.            │
  │  ┌──────────────────┬────┬────┬────┐                 │
  │  │ File Name        │Nor…│Obta│Eval│  ┌─────────┐   │
  │  │ iR XXXX-XXxx5102-A73D-G3FA… A73D A73D OK │  OK  │   │
  │  │                  │    │    │    │  └─────────┘   │
  │  └──────────────────┴────┴────┴────┘                 │
  │  [◄]                             [►]                  │
  └──────────────────────────────────────────────────────┘
```

F-17-107

10) Press [To Unit Selection Screen].

2. after Downloading

When you have downloaded G3FAX filess, be sure to turn off and then on the machine's main power switch.

⚠

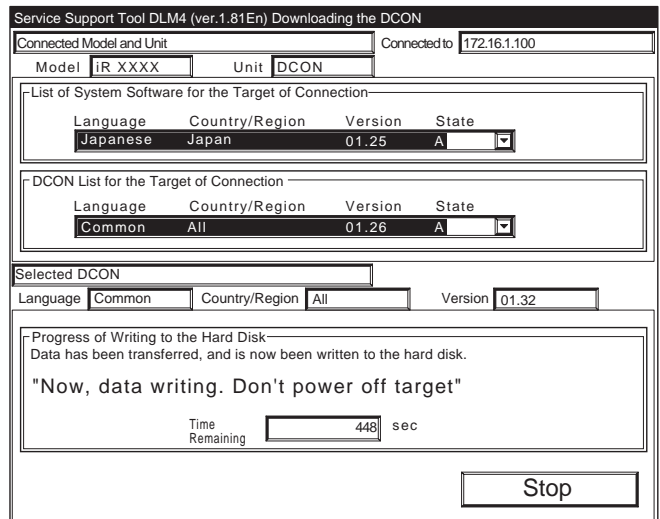You cannnot download G3FAX files twice in succession.
(Once downloading ends, the G3FAX board will be reset, leaving download mode.)

Never turn off the machine while the following screen is shown.
Writing to the flash ROM DIMM of the G3 fax board will fail, preventing the G3FAX board functions from operating normally.

```
Service Support Tool DLM4 (ver.1.81En) Downloading the G3FAX
Connected Model and Unit          Connected to  172.16.1.100
   Model  iR XXXX        Unit  G3FAX
  ┌ List of System Software for the Target of Connection ┐
  │   Language     Country/Region    Version    State     │
  │   English      USA               01.28      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  ┌ G3FAX List for the Target of Connection ─────────────┐
  │   Language     Country/Region    Version    State     │
  │   Common       All               51.02      A    [▼]  │
  └──────────────────────────────────────────────────────┘
  Selected G3FAX
  Language  Common   Country/Region  All    Version  51.02

  ┌ Progress of Writing to the Hard Disk ────────────────┐
  │ Data has been transferred, and is now been written to the hard disk. │
  │                                                       │
  │ "Now, data writing. Don't power off target"           │
  │                                                       │
  │              Time                                     │
  │              Remaining        251    sec              │
  │                                                       │
  │                                   ┌─────────┐         │
  │                                   │  Stop    │         │
  │                                   └─────────┘         │
  └──────────────────────────────────────────────────────┘
```
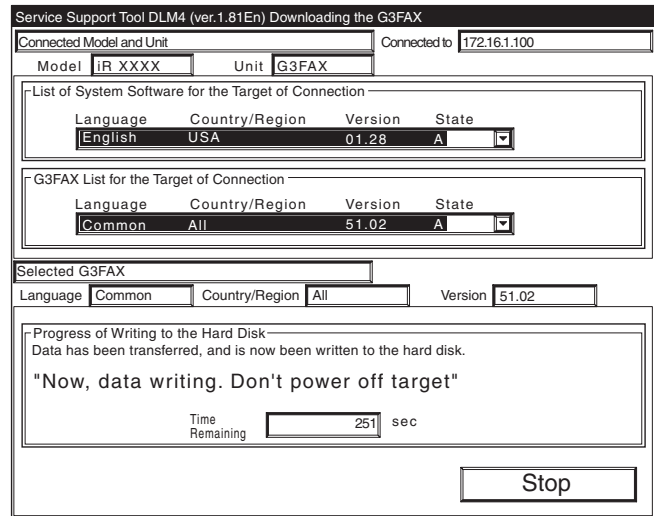
F-17-108

If the G3fax board fails to operate, be sure to replace the flash ROM DIMM onthe G3fax board.

# 17.5 Uploading and Downloading Backup Data

17.5.1 Outline

The machine's backup data is stored on the SRAM, DC controller PCB, and Reader controller PCB.
Any backup data is selected with reference to its file name used when uploading it.

T-17-9

Backup data	File name selected at time of uploading
DC controller PCB	SramDCON.bin
Reder controller PCB	SramRCON.bin
For R&D	Sublog.txt

⚠
- **Be sure not to download or upload the [Sublog.txt]** in the field.
- When replacing the DC controller PCB or the Reder controller PCB, it is a good idea to upload its data in advance, and download it after replacement so that parts counter reading and the like may be retained.
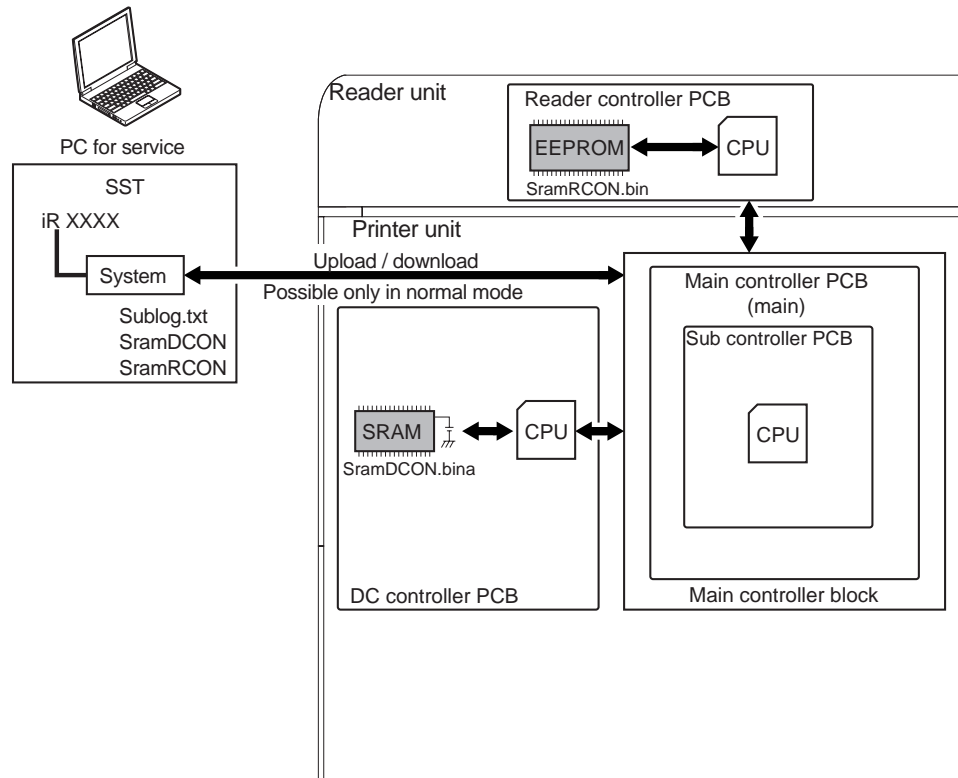
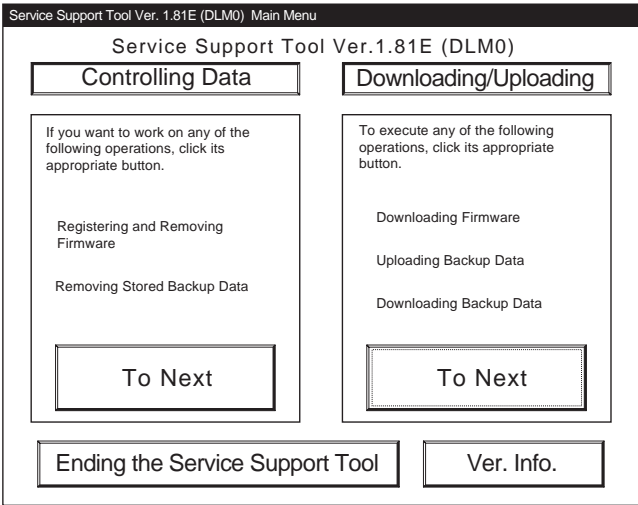
F-17-109

17.5.2 Uploading Procedure

Use normal mode (Power ON 1+7 on keypad) for uploading.

1) Press the [To Next] under Downloading/ Uploading.

F-17-110

2) Select [SYSTEM] under iRC6800, and press [Connect].
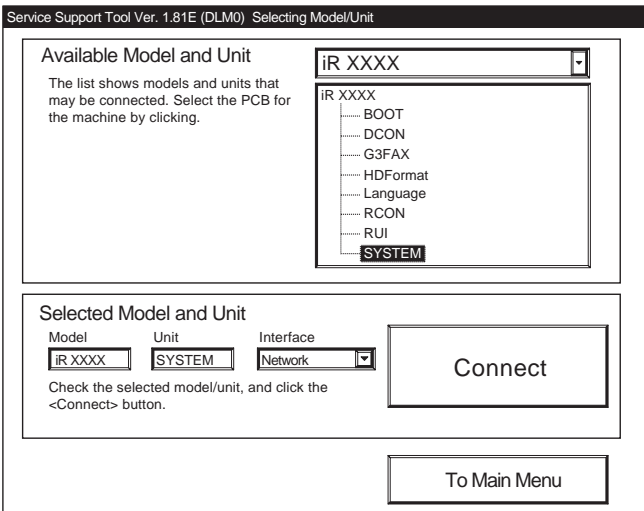
F-17-111

3) Press [Set host name].
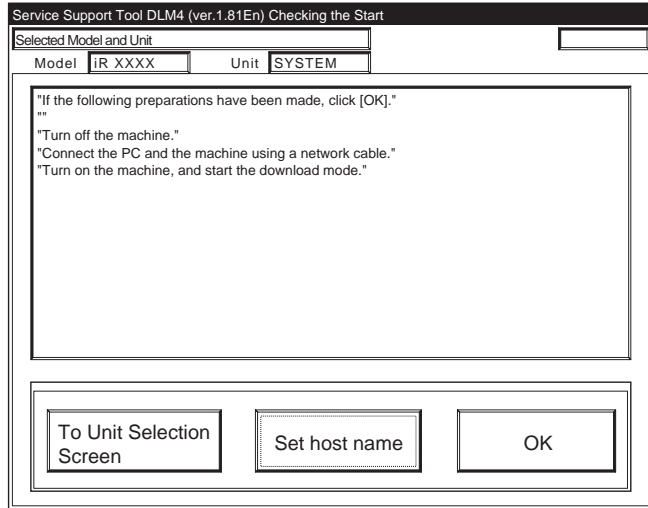
F-17-112

4) The machine's IP address is entered automatically; press [OK].
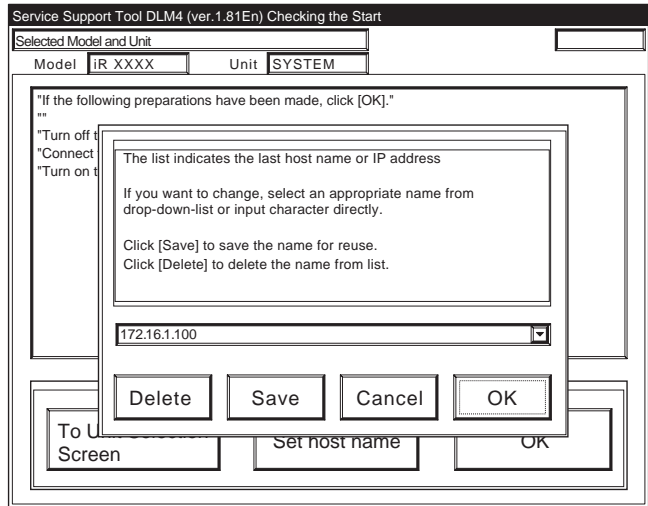
F-17-113

5) Press [OK] to start connection.
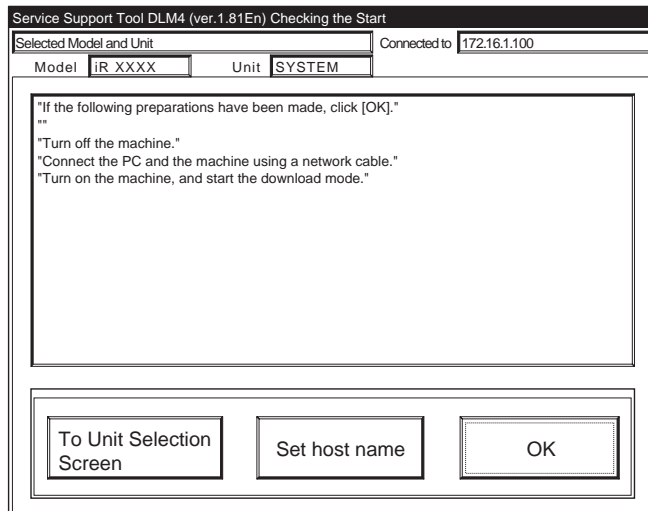
F-17-114

6) When the machine has made a connection and brings up the following screen, press [OK].
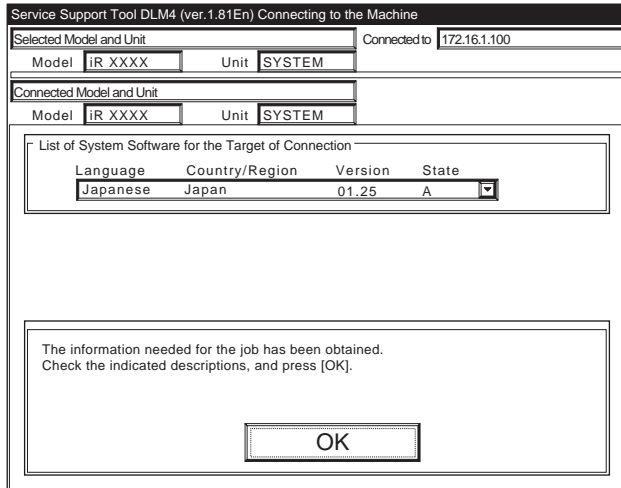
F-17-115

7) Press [Upload the Backup Data].
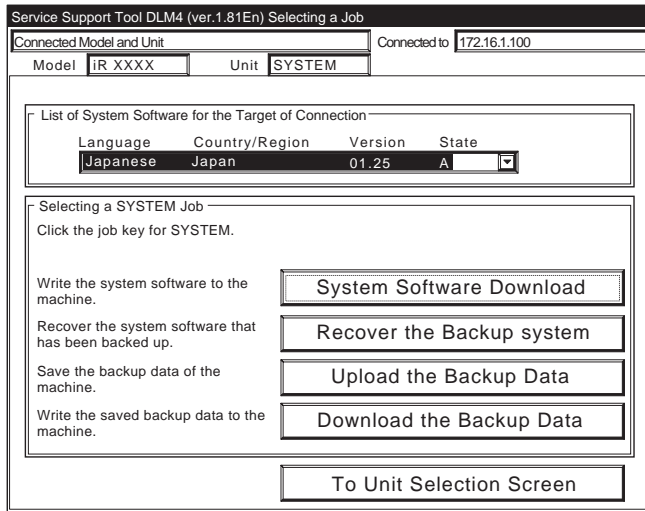
F-17-116

8) Select the data to upload, and press [Start Storing].
- DC controller PCB: SramDCON.bin
- Reader controller PCB: SramRCON.bin

F-17-117

9) When uploading has ended, enter a file name to use, and press [Save].
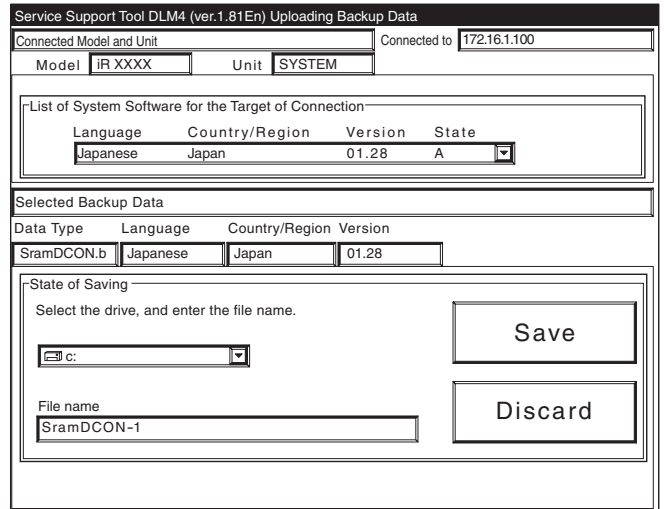
F-17-118

10) When the file has been saved, press [OK].
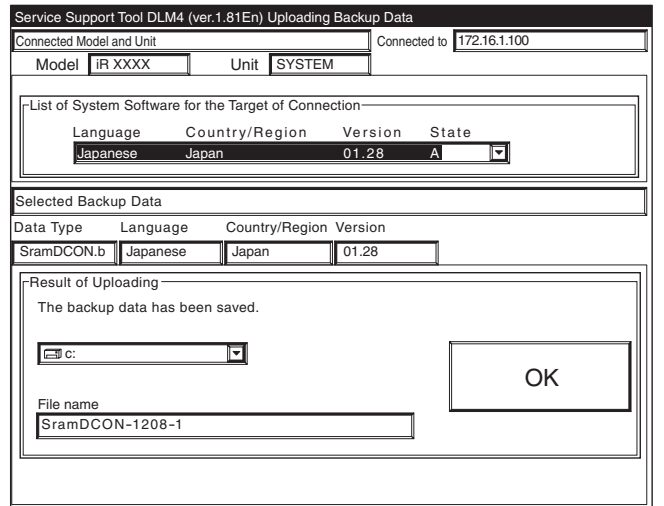
F-17-119

11) Press [To Unit Selection Screen].

17.5.3 Downloading Procedure

Use normal mode (Power ON 1+7 on keypad) for downloading.

1) Press the [To Next] under Downloading/ Uploading.
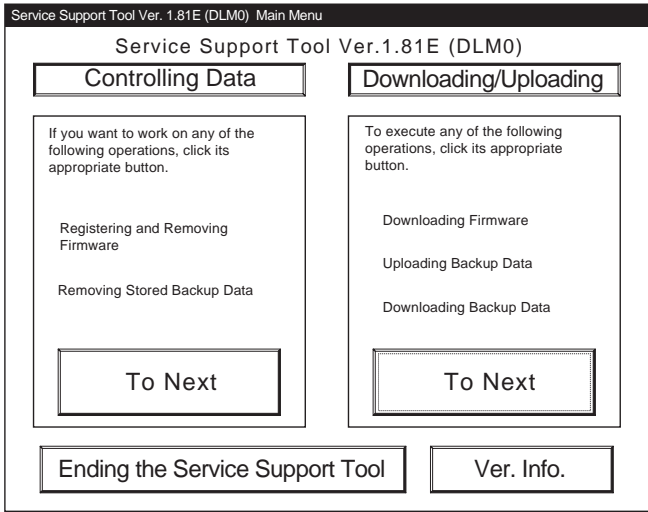

F-17-120

2) Select [SYSTEM] under iRC6800, and press [Connect].


F-17-121

3) Press [Set host name].

F-17-122

4) The machine's IP address is entered automatically; press [OK].


F-17-123

5) Press [OK] to start connection.

F-17-124

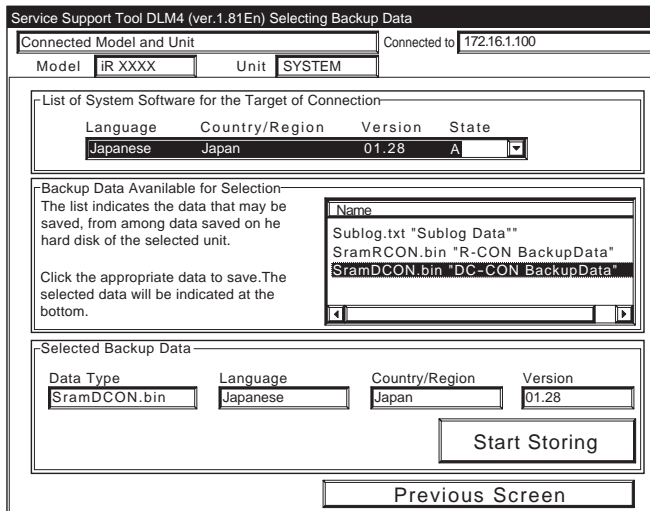6) When the machine has made a connection and brings up the following screen, press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Connecting to the Machine
Selected Model and Unit                    Connected to  172.16.1.100
    Model  iR XXXX          Unit  SYSTEM

Connected Model and Unit
    Model  iR XXXX          Unit  SYSTEM

  ┌ List of System Software for the Target of Connection ┐
  │    Language    Country/Region    Version    State    │
  │   Japanese     Japan             01.25      A    [▼] │
  └──────────────────────────────────────────────────────┘




  ┌──────────────────────────────────────────────────────┐
  │  The information needed for the job has been obtained. │
  │  Check the indicated descriptions, and press [OK].     │
  │                                                        │
  │                  ┌──────────────────┐                  │
  │                  │       OK         │                  │
  │                  └──────────────────┘                  │
  └──────────────────────────────────────────────────────┘
```

F-17-125

7) Press [Download the Backup Data].

```
Service Support Tool DLM4 (ver.1.81En) Selecting a Job
Connected Model and Unit                   Connected to  172.16.1.100
    Model  iR XXXX          Unit  SYSTEM

  ┌ List of System Software for the Target of Connection ┐
  │    Language    Country/Region    Version    State    │
  │   Japanese     Japan             01.25      A    [▼] │
  └──────────────────────────────────────────────────────┘

  ┌ Selecting a SYSTEM Job ───────────────────────────────┐
  │  Click the job key for SYSTEM.                         │
  │                                                        │
  │  Write the system software to the  ┌────────────────────────┐
  │  machine.                          │ System Software Download │
  │                                    └────────────────────────┘
  │  Recover the system software that  ┌────────────────────────┐
  │  has been backed up.               │ Recover the Backup system│
  │                                    └────────────────────────┘
  │  Save the backup data of the       ┌────────────────────────┐
  │  machine.                          │  Upload the Backup Data  │
  │                                    └────────────────────────┘
  │  Write the saved backup data to the┌────────────────────────┐
  │  machine.                          │ Download the Backup Data │
  │                                    └────────────────────────┘
  │                                    ┌────────────────────────┐
  │                                    │ To Unit Selection Screen │
  │                                    └────────────────────────┘
  └────────────────────────────────────────────────────────────┘
```
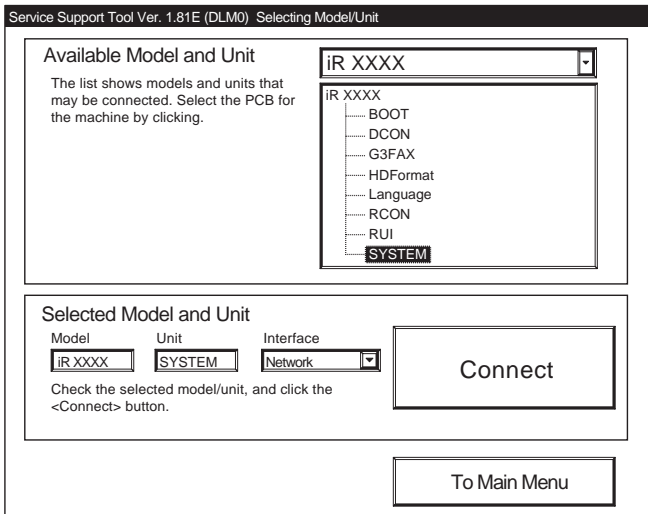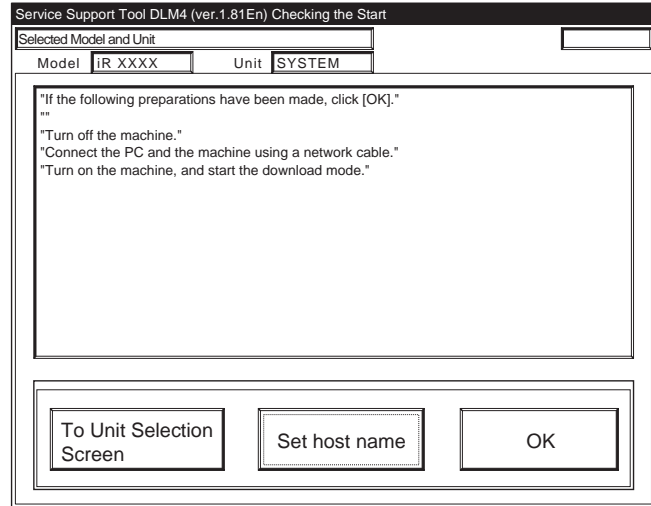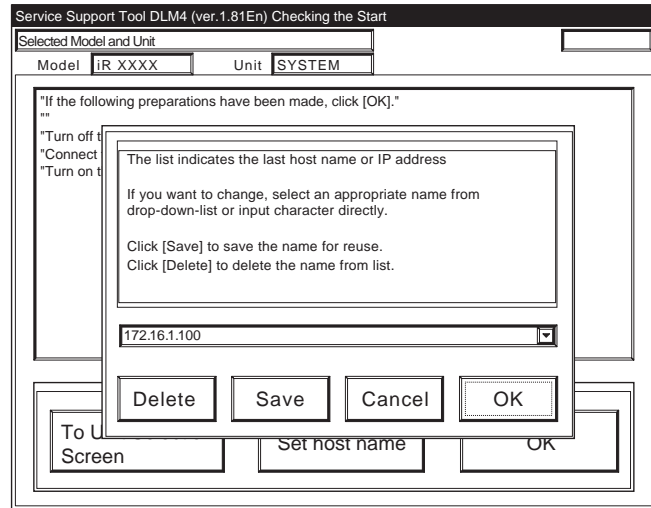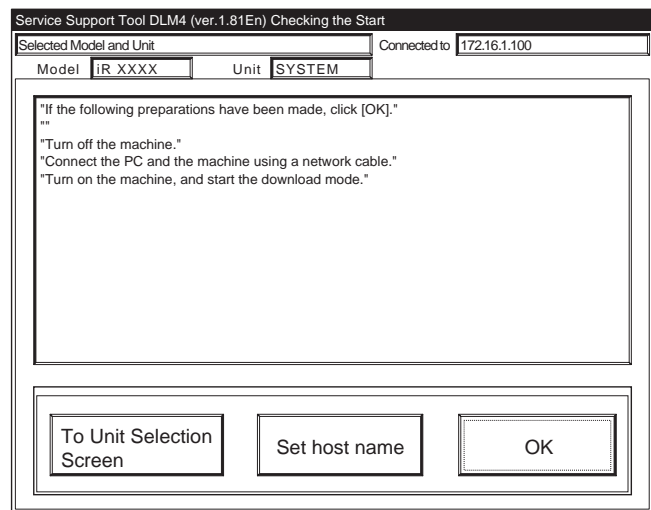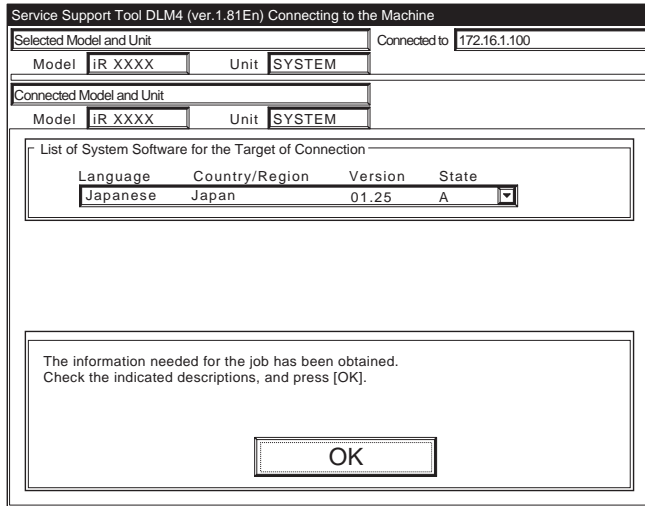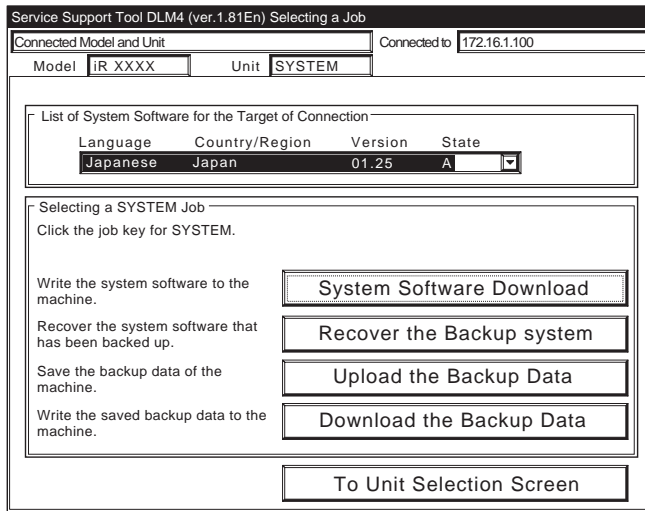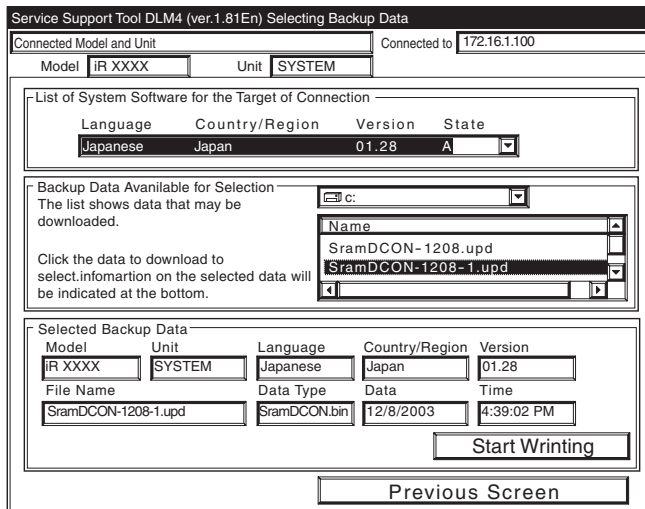
F-17-126

8) Select the file to download, and press [Start Writing].

```
Service Support Tool DLM4 (ver.1.81En) Selecting Backup Data
Connected Model and Unit                   Connected to  172.16.1.100
    Model  iR XXXX          Unit  SYSTEM

  ┌ List of System Software for the Target of Connection ┐
  │    Language    Country/Region    Version    State    │
  │   Japanese     Japan             01.28      A    [▼] │
  └──────────────────────────────────────────────────────┘

  ┌ Backup Data Available for Selection ──────────────────┐
  │  The list shows data that may be     [⊟ c:       [▼]  │
  │  downloaded.                                           │
  │                                      [ Name        [▲]│
  │                                       SramDCON-1208.upd│
  │  Click the data to download to        SramDCON-1208-1.upd
  │  select.infomartion on the selected data will      [▼]│
  │  be indicated at the bottom.         [◄            ►]  │
  └──────────────────────────────────────────────────────┘

  ┌ Selected Backup Data ─────────────────────────────────┐
  │  Model      Unit        Language    Country/Region  Version
  │  iR XXXX    SYSTEM      Japanese    Japan            01.28
  │  File Name            Data Type     Data        Time
  │  SramDCON-1208-1.upd  SramDCON.bin  12/8/2003   4:39:02 PM
  │                                    ┌──────────────────┐
  │                                    │  Start Writning  │
  │                                    └──────────────────┘
  └──────────────────────────────────────────────────────┘
                      ┌──────────────────┐
                      │ Previous Screen  │
                      └──────────────────┘
```

F-17-127

9) When uploading has ended, press [OK].

```
Service Support Tool DLM4 (ver.1.81En) Downloading Backup Data
Connected Model and Unit                   Connected to  172.16.1.100
    Model  iR XXXX          Unit  SYSTEM

  ┌ List of System Software for the Target of Connection ┐
  │    Language    Country/Region    Version    State    │
  │   Japanese     Japan             01.28      A    [▼] │
  └──────────────────────────────────────────────────────┘

Selected Backup Data

  Data Type    Language      Country/Region  Version
  SramDCON.b   Japanese      Japan           01.28

  ┌ Result of Downloading ────────────────────────────────┐
  │   The backup data has been transferred.                │
  │                                                        │
  │                            ┌──────────────────┐        │
  │                            │       OK         │        │
  │                            └──────────────────┘        │
  └──────────────────────────────────────────────────────┘
```

F-17-128

10) Press [To Unit Selection Screen].

Chapter 18

imageRUNNER C6870/C5870 Upgrading

Contents

18.1 Outline

18.1.1 Overview of Upgrading Work

The machine and its system software options may be upgraded as follows:
- downloading from a PC to which the Service Support Tool (SST) has been installed
- downloading from a USB device
- replacing the DIMM-ROM(Only Boot and G3FAX)
To upgrade the various system software, go through the following:

T-18-1

Item	System software	Method			Remarks
		SST	USB	DIMM-ROM Replacement	
Machine	System (main controller)	Yes	Yes	No	The main controller is also used to control the G3 fax board (1-line).
	Language (language module)	Yes	Yes	No	
	RUI (remote user interface)	Yes	Yes	No	
	Boot (boot program)	Yes	Yes	Yes	
	MEAPCONT (MEAP library)	Yes	Yes	No	
	SDICT (OCR dictionary)	Yes	Yes	No	
	KEY (encryption communication key)	Yes	Yes	No	
	TTS (voice dictionary)	Yes	Yes	No	
	BROWSER (Web browser)	Yes	Yes	No	
	DCON (DC controller)	Yes	Yes	No	
	RCON (reader controller)	Yes	Yes	No	The reader controller is also used to control the ADF.
Option	G3FAX (Multi Port Fax Board-G1)	Yes	Yes	Yes	
	Fin_T (Finisher-R1, Saddle Finisher-R2)	Yes	No	No	The work requires a special service tool (downloader PCB; FY9-2034).

18.1.2 Outline of the Functions and Operations

When connected to a PC (to which the SST and system software have been installed) and USB device (to which system software has been copied), the machine provides the following functions:
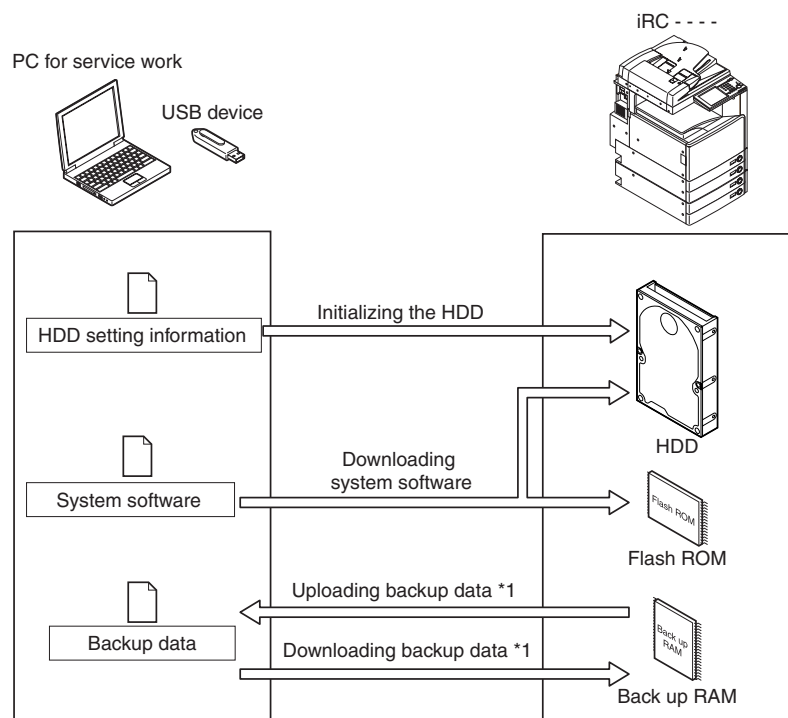

F-18-1

*1: Not when USB is in use.

To use these functions, the machine must be in download mode, which may be either of the following:
- Normal Mode (download mode B)
Turn on the main power while holding down the keys 1+7; then, make the following selections in service mode: COPIER > FUNCTION > SYSTEM > DOWNLOAD.
- Safe Mode (download mode A)
Turn on the main power while holding down the keys 2+8.
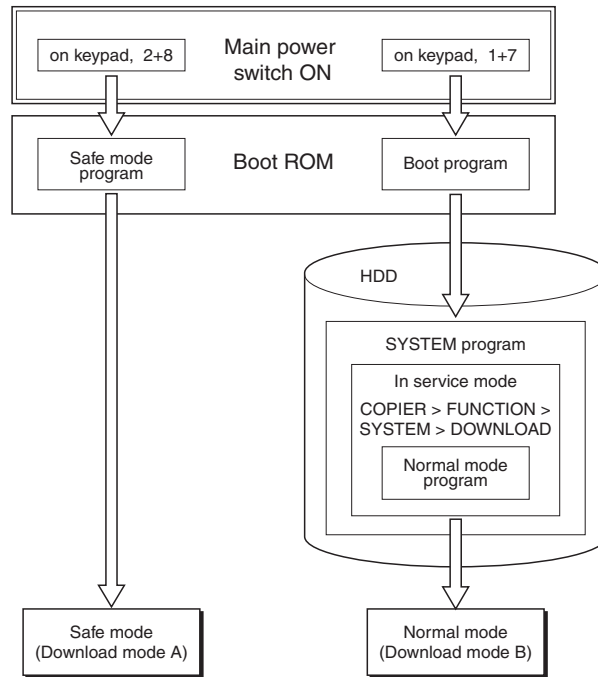
F-18-2

⚠

Use safe mode for the following:
- after replacing the HDD
- when the system fails to start up normally

The following shows combinations of download modes and functions:

T-18-2

Function	Download mode	
	Normal mode (download mode B)	Safe mode (download mode A)
Formatting the HDD	-	All
	-	BOOTDEV
Downloading the system software *1	System	System
	Language	Language
	RUI	RUI
	Boot	Boot
	G3FAX	-
	G4FAX	-
	Dcon	Dcon
	Rcon	Rcon
	SDICT	SDICT
	MEAPCONT	MEAPCONT
	KEY	KEY
	TTS	TTS
	BROWSER	BROWSER
Uploading/downloading of backup data *2	-	Meapback
	SramRCON	-
	SramDCON	-

*1: Not all software to download may be selected for downloading while USB is in use.
*2: Not when USB device is in use.

Installing the System Software
When downloaded, the system software is stored in the temporary storage area of the HDD. At the end of downloading, the main power switch must be turned off and then back on, thus restarting the machine and writing the system software to both system area and flash ROM from the temporary storage area. When the main power switch is turned off and then back on once again, the machine will start up using the new system software.
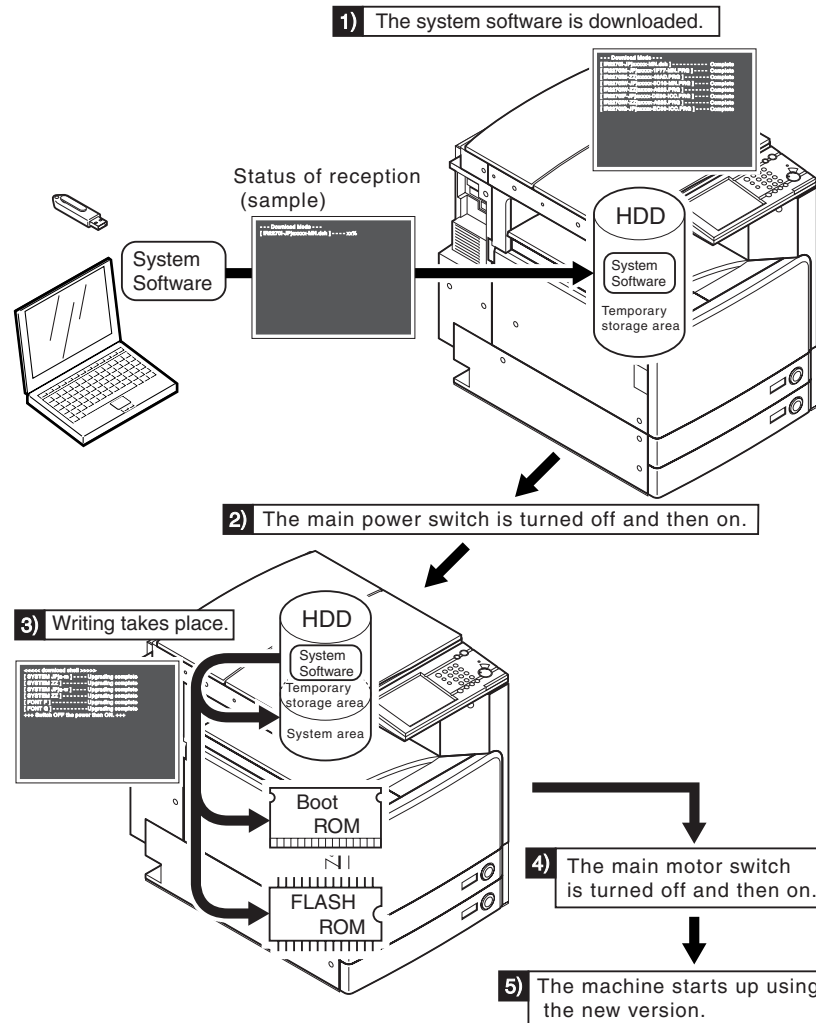
F-18-3

18.2 Making Preparations

18.2.1 Installing the System Software (System CD -> SST)

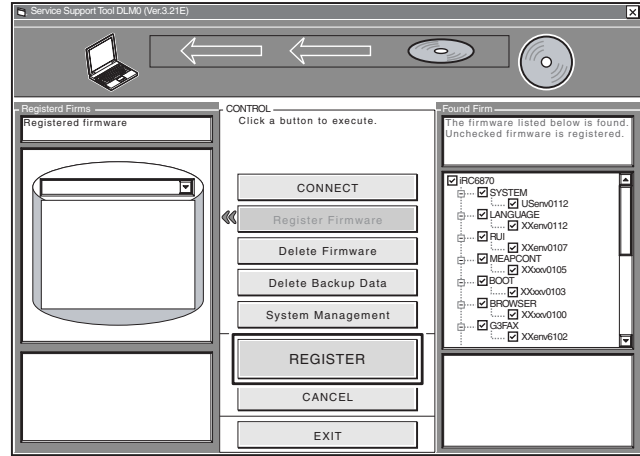Here, you will be copying the system software found on the System CD to the SST.

[Preparatory Work]
Requirements
- PC to which the SST (version 3.21 or later) has been installed
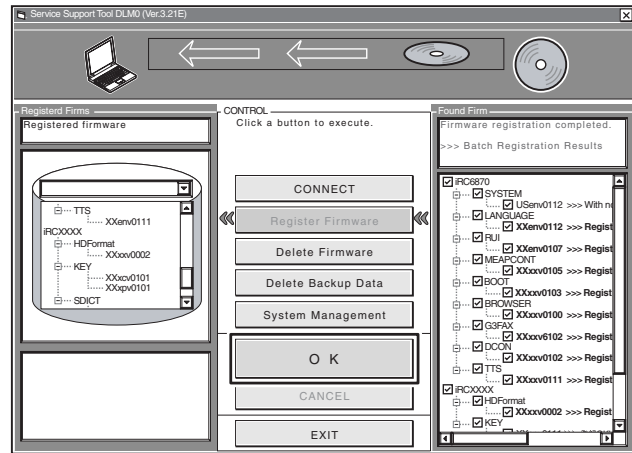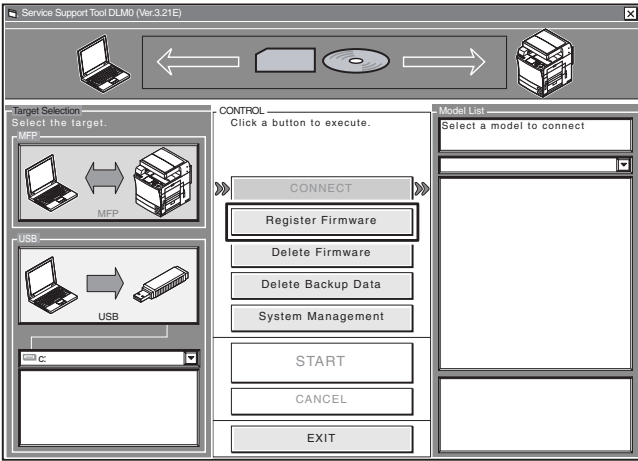- System CD of the iR C6870/C5870 Series

[Installing the System Software]
1) Turn on the PC.
2) Set the System CD in the PC.
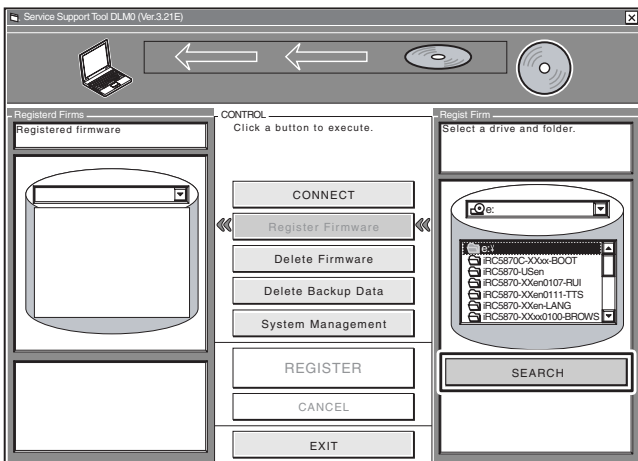3) Start up the SST.
4) Click [Register Firmware].

5) Select the drive in which the System CD has been set, and click [SEARCH].

F-18-4

6) A list of system software found on the System CD appears. Remove the check marks from the folders and software files you do not need, and click [REGISTER].

F-18-5

7) When a message has appeared to indicate that the system software has been installed, click [OK].

F-18-6

18.2.2 Copying the System Software (SST -> USB)

Here, you will be copying the system software from the SST to a USB device.

[Preparatory Work]
Requirements
- PC to which the SST (version 3.21 or later) has been installed and the system software for the iR C6870/C5870 Series has been copied.
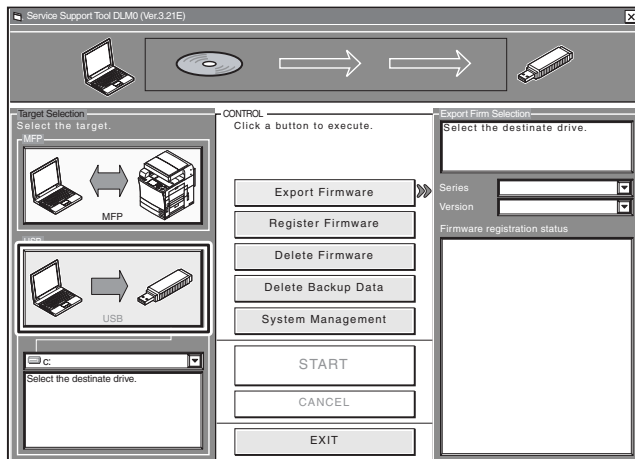- USB device *

 *: USB Requirements

Interface	USB 1.1 or higher
Capacity	1 GB or more recommended (A set of system software is in excess of 512 MB.)
Format	FAT (FAT16), FAT32 (It must not be NTFS or HFS.) single partition (There must not be multiple partitions.)

⚠

You will not be able to use a security-protected USB device. Be sure to remove the protection before use.

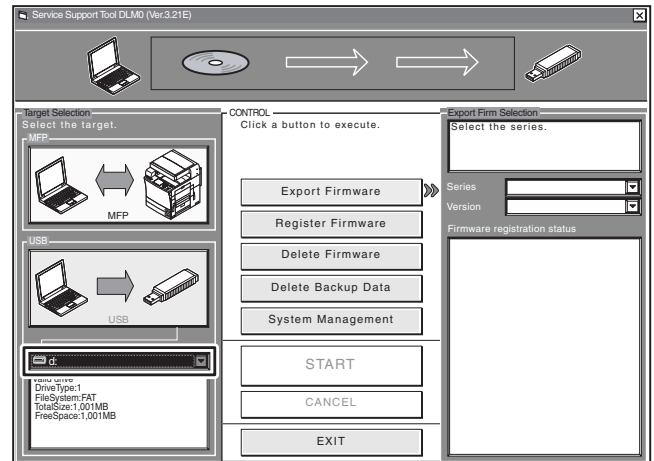[Copying the System Software]
1) Start up the PC.
2) Connect the USB device to the USB port of the PC.
3) Start up the SST.
4) Click the USB icon on the Target Selection screen.

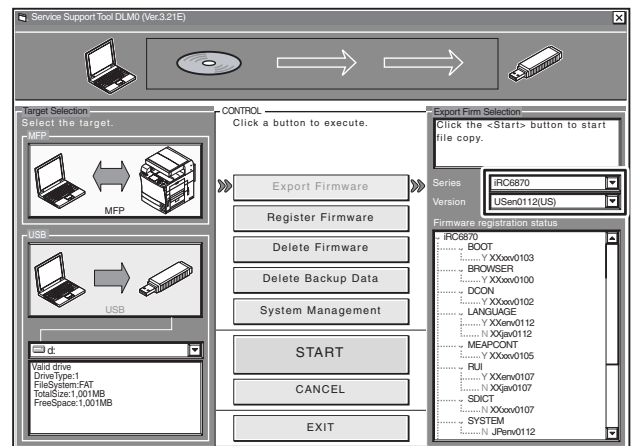
F-18-7

5) Select the drive to which the USB device has been connected.

F-18-8

6) Select the appropriate series and version of the system software you want to copy.

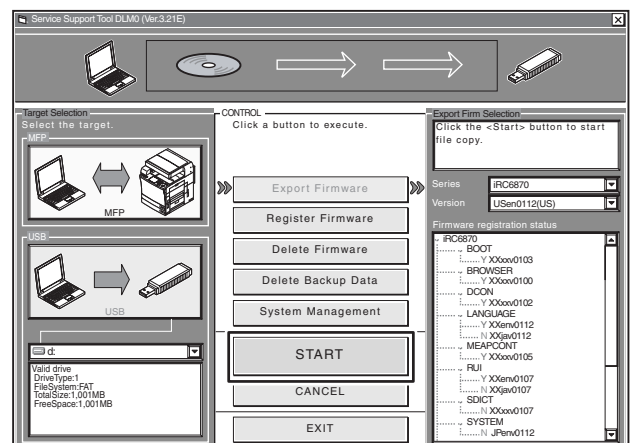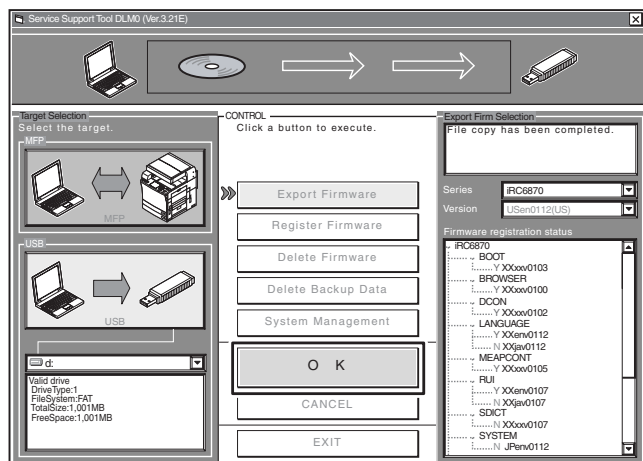

F-18-9

MEMO:
The notations that appear in the column under "Firmware registration status" mean the following:
Y: exists in the SST.
N: does not exist in the SST.

7) Click [START] so that copying to the USB device starts.

F-18-10

8) When done, click [OK].

F-18-11

18.2.3 Making Connections (SST in use)

[Requirements]
- PC to which the SST (version 3.21 or later) has been installed and the system software for the iR C6870/C5870 Series has been copied
- twisted-pair cross cable
    10Base-T: Category 3 or 5
    100Base-TX: Category 5

[Procedure]
1) Start up the PC.
2) Connect the PC to the machine with a cross cable.
3) Check the network settings of the PC.
3-1) Start the command prompt, and type in "**IPCONFIG**," and press the Return key.
3-2) Check to be sure that the network settings appearing on the screen are as follows; if not, change the PC network settings:
    IP address: 172.16.1.160
    Subnet mask: 255.255.255.0
    Default gateway: any

⚠

Do not use the following IP addresses:
- 172.16.1.0
- 172.16.1.100
- 172.16.1.255

4) Check to make sure that the Execute/Memory lamp on the control panel is off; then, turn off the main power switch.

4-1) Hold down the power switch on the control panel for 3 sec or more.

4-2) Go through the shut-down instructions appearing on the control panel screen so that the main power switch may be turned off.

4-3) Turn off the main power switch.

IP sddress: 172.16.1.160
Subnet mask: 255.255.255.0

IP address: 172.16.1.100
Subnet mask: 255.255.255.0

Cross cable
10Base-T: category 3 or 5
100Base-TX: category 5
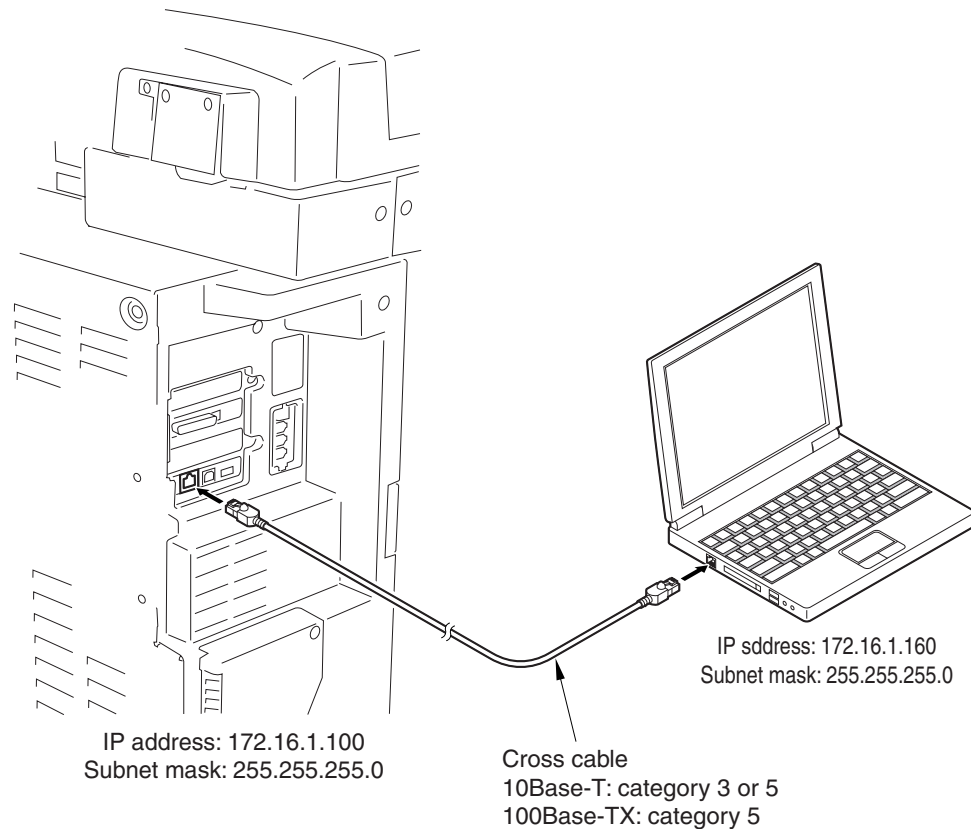
F-18-12

5) Set the machine to the appropriate mode:

- Normal Mode

Turn on the main power switch while holding down the keys 1 and 7.
When the machine has started, make the following selections in service mode:
COPIER > FUNCTION > SYSTEM > DOWNLOAD; then, click [OK].

- **Safe Mode**

Turn on the main power switch while holding down the keys 2 and 8. In response, the machine will start up in safe mode.

18.2.4 Making Connections (USB device in use)

[Requirements]
- USB device to which the system software for the iR C6870/C5870 Series has been copied.

[Procedure]
1) Check to make sure that the Execute/Memory on the control panel is off; then, turn off the main power switch as follows:
1-1) Hold down the control panel power switch for 3 sec or more.
1-2) Go through the shut-down instructions.
1-3) Turn off the main power switch.
2) Connect the USB device [2] to the USB port [1].
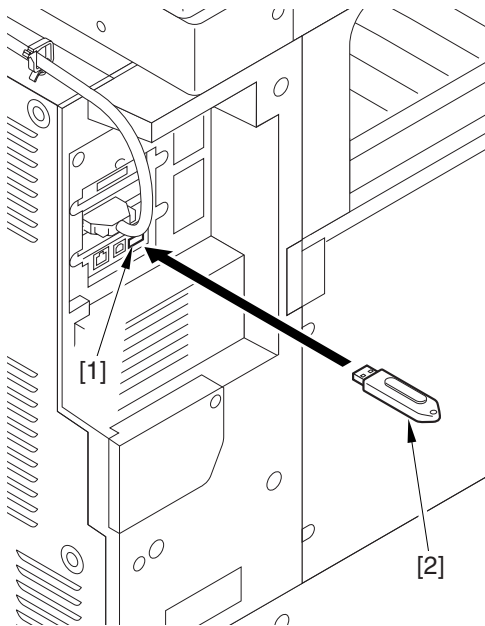
F-18-13

3) If a network cable is connected to the machine, disconnect it.
4) Set the machine to the appropriate download mode:
   - **Normal Mode**
     Turn on the main power switch while holding down the keys 1 and 7.
     When the machine has started up, make the following selections in service mode, and press [OK]:
     COPIER > FUNCTION > SYSTEM > DOWNLOAD.
   - **Safe Mode**
     Turn on the main power switch while holding down the keys 2 and 8 so that the machine will start up in safe mode.
5) See the following menu appearing on the control panel screen, indicating that the machine has recognized the presence of a USB device.

```
[[[[[  download Menu (USB) ]]]]]]]]]]]]
----------------------------------------
[1]: Upgrade (Auto)
[2]: Upgrade (w Confirmation)
[3]: Upgrade (Overwrite all)
[4]: Format HDD
[5]: Backup
[6]: Restore former version
[7]: Clear downloaded files

[Stop]: Shutdown
```

F-18-14

⚠
The machine may not recognize certain types of USB device or USB device from certain manufacturers. The machine looks for a USB deivce for a maximum of 60 sec after its main power is turned on, not indicating the menu if it fails to detect one. (If such is the case, obtain an appropriate USB device.)

⚠
The SST cannot be run while the USB device is in use. (The machine will not communicate with the SST when it detects the presence of a USB device.)

18.3 Formatting the HDD

18.3.1 Formatting All Partitions

When formatting the HDD for all partition, there will be partitions on the HDD and all these partitions will be formatted (initialized) and the main controller will be made ready for use.
All the information needed to set up the partition is found in the partition settings file (on the SST, 'HD-Format' in the folder 'iRCXXXX').
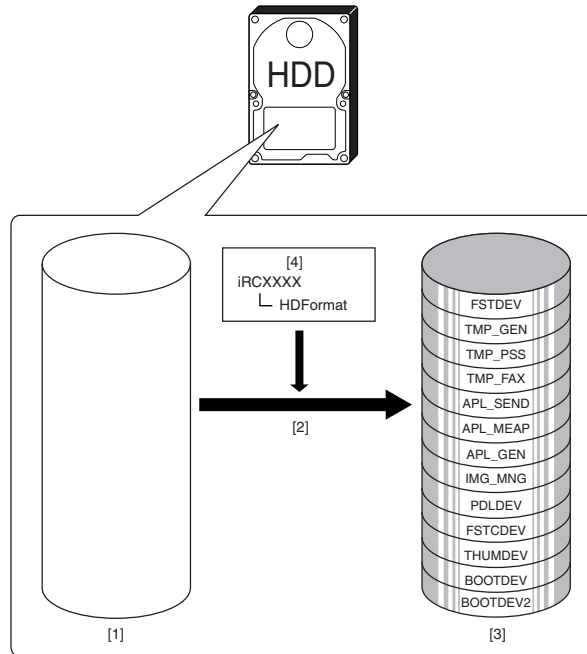
F-18-15

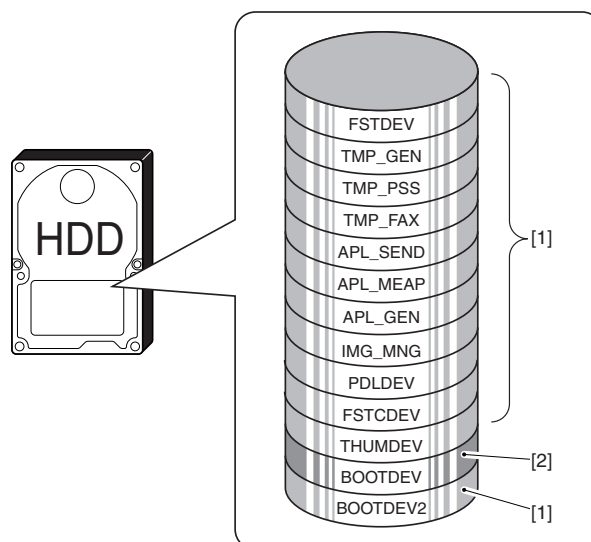[1] HDD (service part; without partitions)   [3] HDD after formatting
[2] Formatting for full partition (only in safe mode) [4] Partition settings information file

18.3.2 Formatting Selected Partitions

When formatting the HDD for selected partitions, only those selected partitions will be initialized.
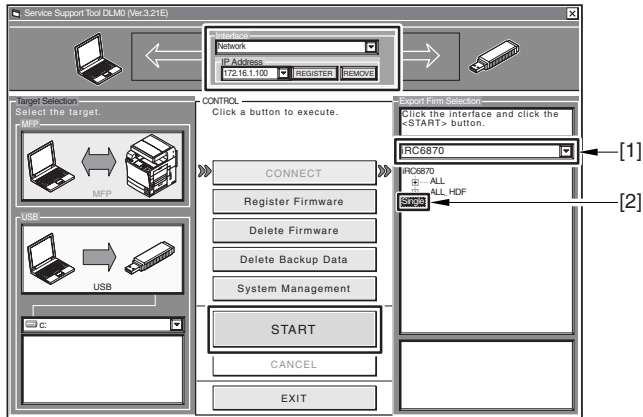

F-18-16

[1] Formatting not possible   2] Formatting possible in safe mode

MEMO:

Partition-based formatting is possible in service mode (COPIER > FUNCTION > SYSTEM > HD-CLEAR), with the exception of BOOTDEV.

18.3.3 Formatting the Partitions

1) Start up the SST.
2) Select the model [1] ('iRC6870') and the type of system software [2] ('Single'); then, check the network settings, and click [START].

F-18-17

3) Click [Format HDD].
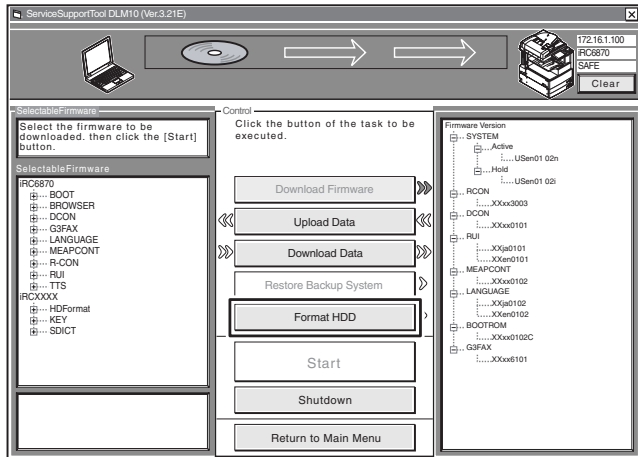
F-18-18

4) Specify BOOTDEV partition or full partition (ALL), and click [Start].
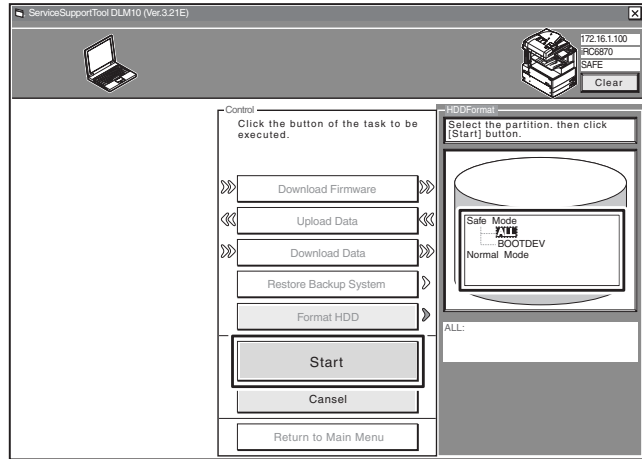
F-18-19

5) Click [Execute Formatting].
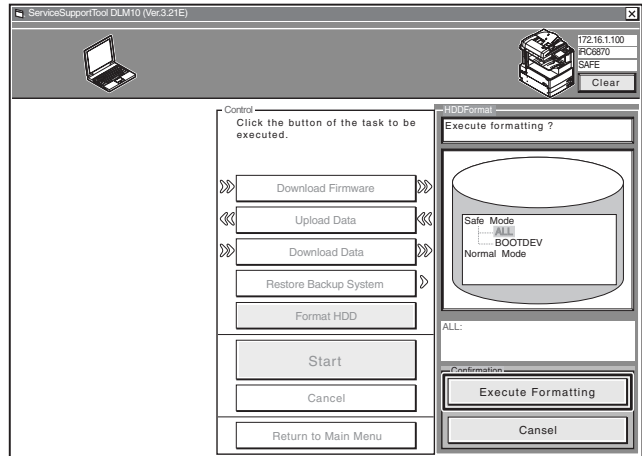
F-18-20

6) When formatting has ended, click [OK] to return to the Menu screen.
7) Move on to download the system software.

⚠

Whenever you have executed HDD formatting, be sure to download the system software; otherwise, an error (E602) will occur when the main power is turned on.

If the system software is not registered, HDD FORMAT cannot be executed.

18.4 Downloading System Software

18.4.1 Batch Downloading

18.4.1.1 Overview

You can collectively download various system software files at one time. The groups of system software files that may be downloaded in a batch are identified in the batch download information file, which is found on the System CD. Copy the file to the SST to enable the batch downloading mechanism.

<Batch Download Information File>

ALL: for downloading in normal mode
Use it to collectively download all system software files that are found.
Use it as when upgrading the system software.

ALL_HDF: for downloading in safe mode
Use it to collectively download system software files other than the following:
- BOOT
- DCON
- RCON
Use it when reinstalling the system software as after formatting the HDD.
The foregoing 3 system software files may be downloaded using different steps.

18.4.1.2 Downloading Procedure

Here, the discussions are in reference to batch downloading in safe mode.

1) Start up the SST.
2) Select the model [1] ('iRC6870') and the batch download information file [2] ('ALL_HDF').
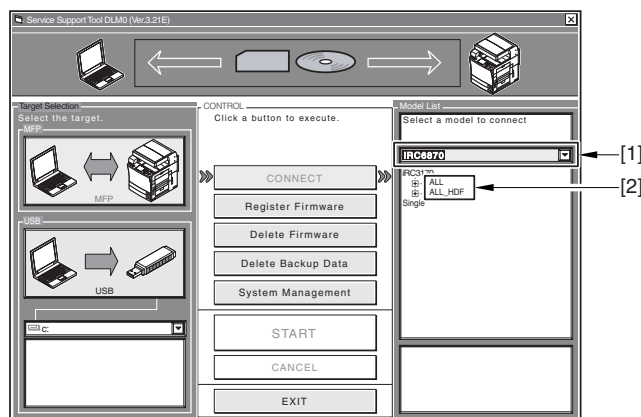
F-18-21

3) Make sure of the network settings, and click [Start Batch Download].
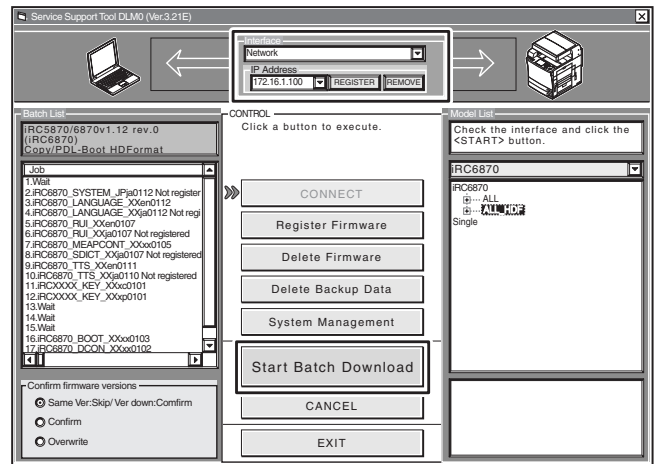
F-18-22

4) Click [Resume].
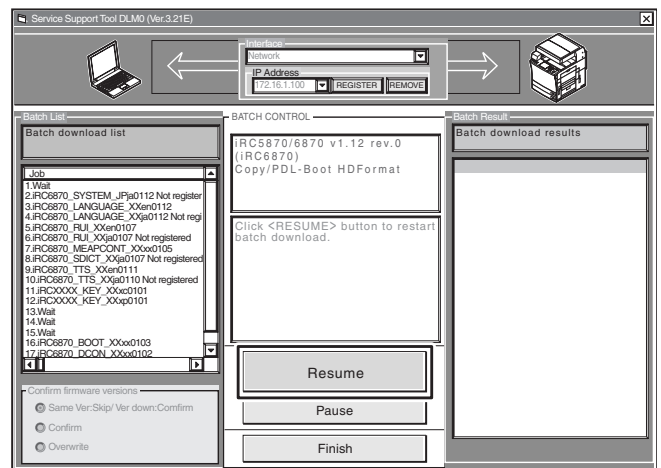
F-18-23

MEMO:
Refer to the Batch Download Result List [1] for the progress of downloading.
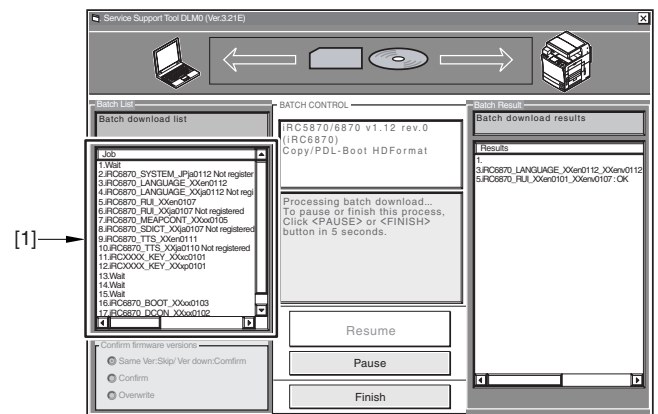
F-18-24

5) The Download End screen appears for the system software files to be stored on the HDD. To stop downloading, click [Finish]; if you want to download BOOT, DCON, and RCON, on the other hand, click [Resume], and go to the next step.

F-18-25

6) Turn off the machine's main power switch, and start it up in normal mode (turn on the main power switch while holding down the 1 and 7 keys; then, start download mode in service mode).
Click [Resume].
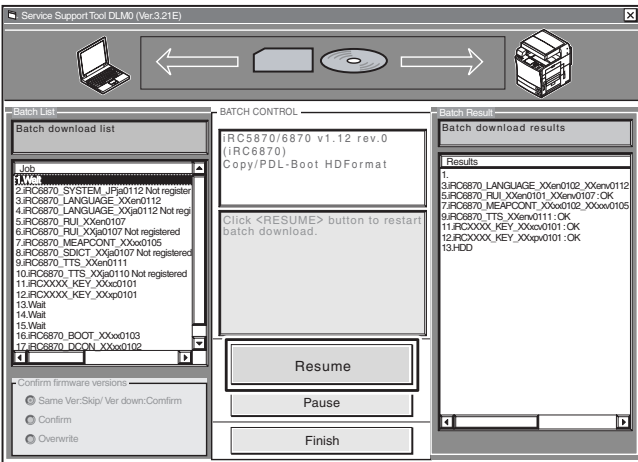
F-18-26

7) Click [Resume] to start downloading BOOT, DCON, and RCON.
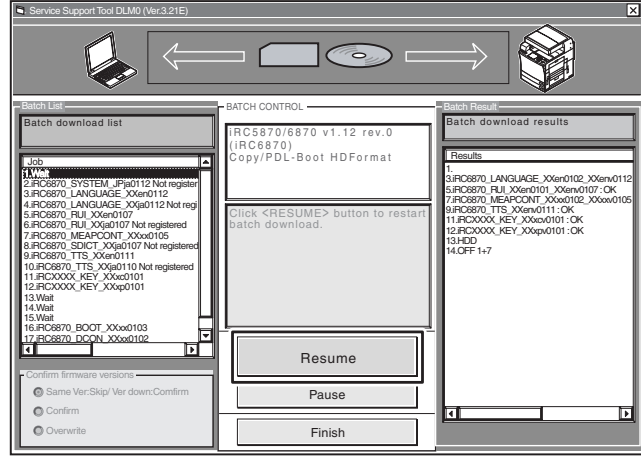
F-18-27

8) Click [OK].
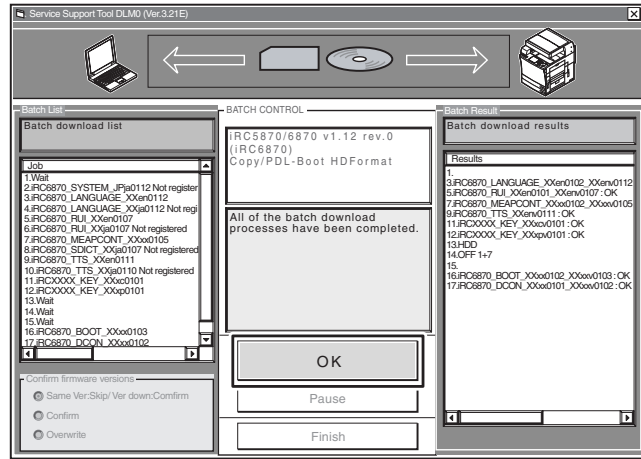
F-18-28

⚠**Turning Off the Power**
Do not turn off the power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once gain.

18.4.2 Downloading the System Software

18.4.2.1 Outline

The system software comes in 2 types (one for use inside Japan and the other, outside Japan).

18.4.2.2 Downloading Procedure

1) Start up the SST.
2) Select the model [1] ('iRC6870') and the type of system software [2] ('Single'); then, check the network settings, and click [START].
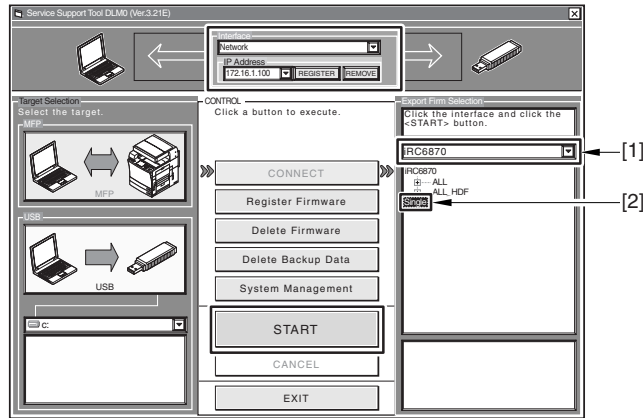
F-18-29

3) Select the version of the System software you want to download, and click [Start].
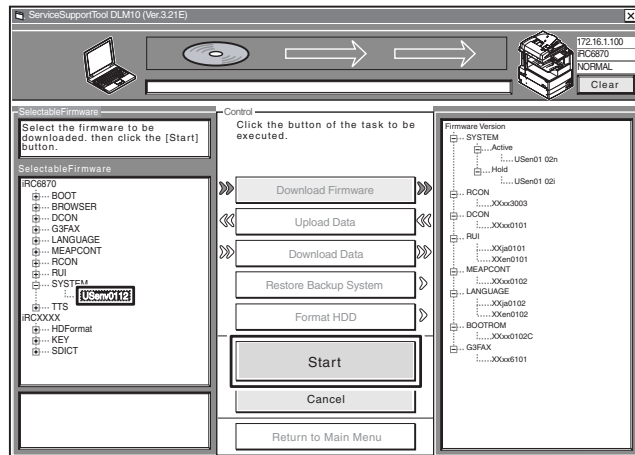
F-18-30

4) When downloading has ended, click [OK] to go back to the previous screen.
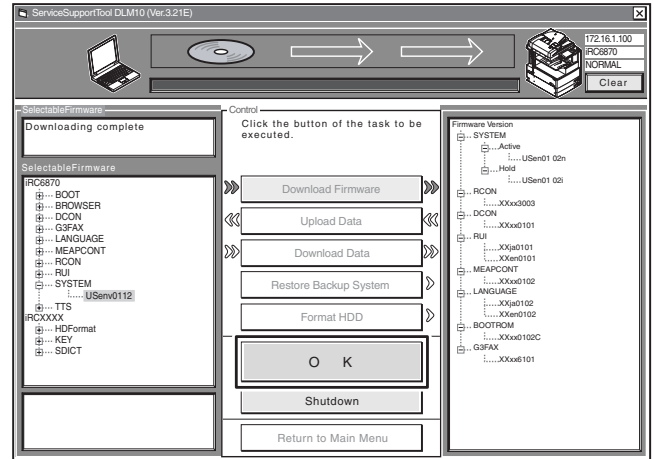
F-18-31

5) Start up the machine. The subsequent procedure differs depending on the download mode.

If the machine is in normal mode,
5-1) Click [Shutdown].
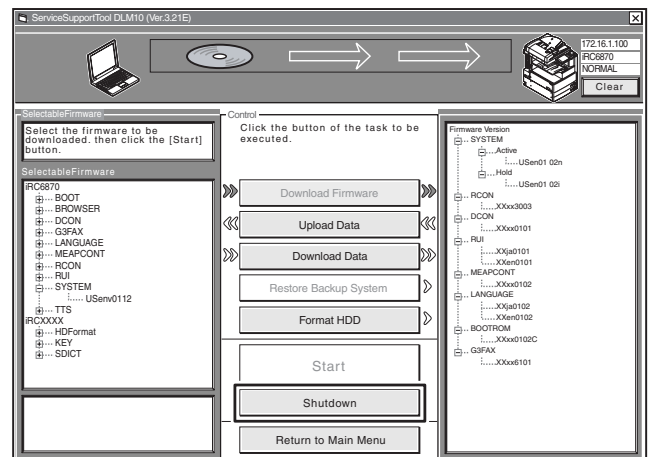
F-18-32

5-2) Click [Start Shutdown] so that the machine starts the shut-down sequence.
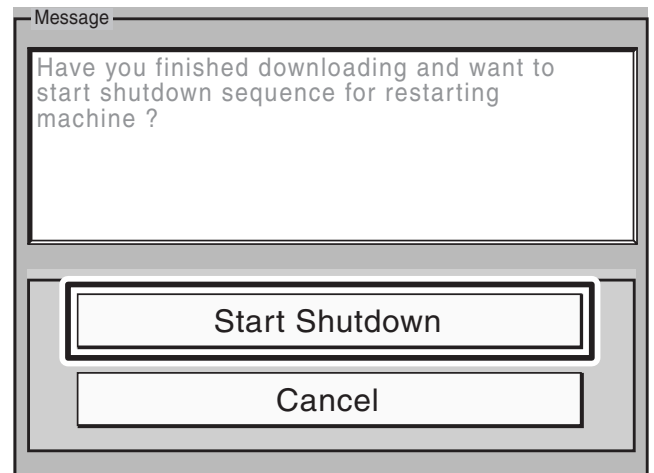
F-18-33

5-3) Click [OK], and turn off and then back on the machine's main power switch.
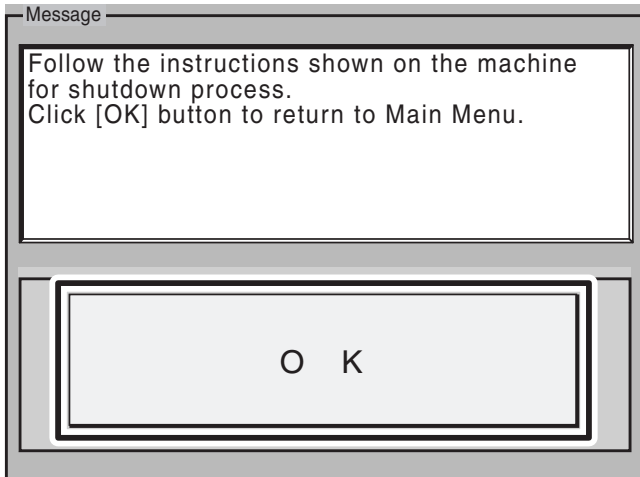
F-18-34

If the machine is in safe mode,
5-1) Turn off and then back on the machine's main power switch.

6) When the machine starts up, it will write the system software to its HDD and flash ROM while showing the progress of writing on the control panel screen. When done, it will indicate a message asking you to turn off and then back on the power. In response, turn off and then back on the main power.

⚠Turning Off the Power
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

MEMO:
You can remove the downloaded system software before it is written to the HDD or flash ROM when the system software of a wrong version is downloaded.Start the main body in a safe mode when you turn off the power supply after it downloads it. To do so, go through the following before restarting the machine:
1) Click [Clear] [1].
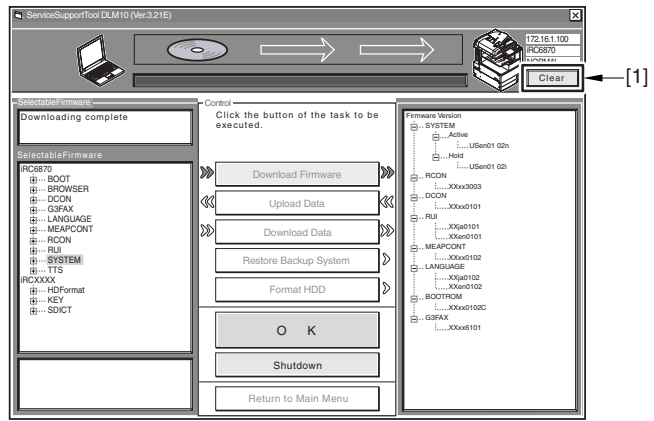
F-18-35

2) Click [Execute Clear] so that the system software that has been stored in the temporary storage area of the HDD will be removed.

F-18-36

3) Click [OK].
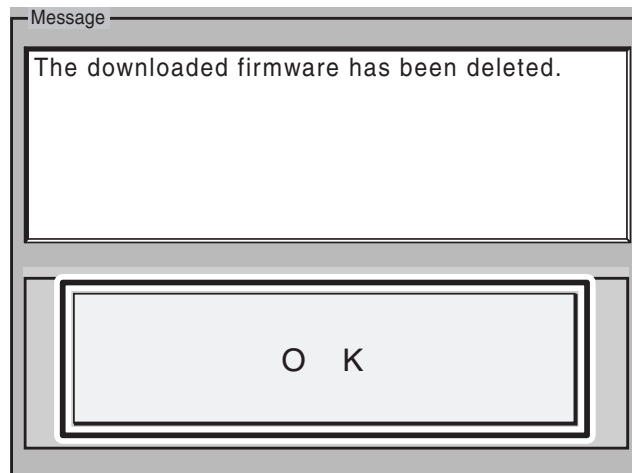
F-18-37

MEMO:
When a connection is made, the upper right area of the SST screen will indicate the following device information [1]:
- IP address
- product name
- download mode
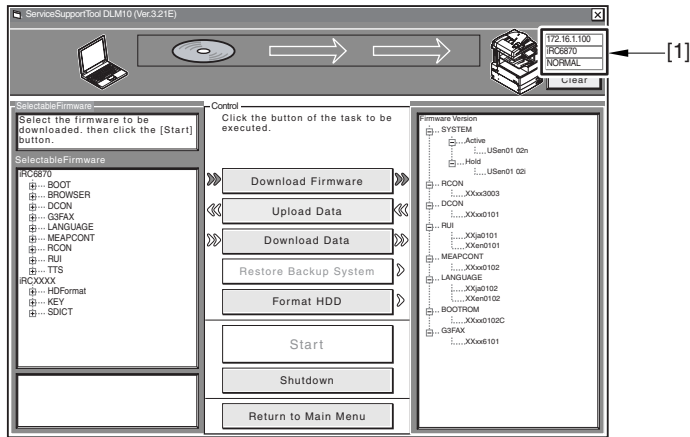
F-18-38

18.4.3 Downloading the RUI, and Language Module

18.4.3.1 Outline
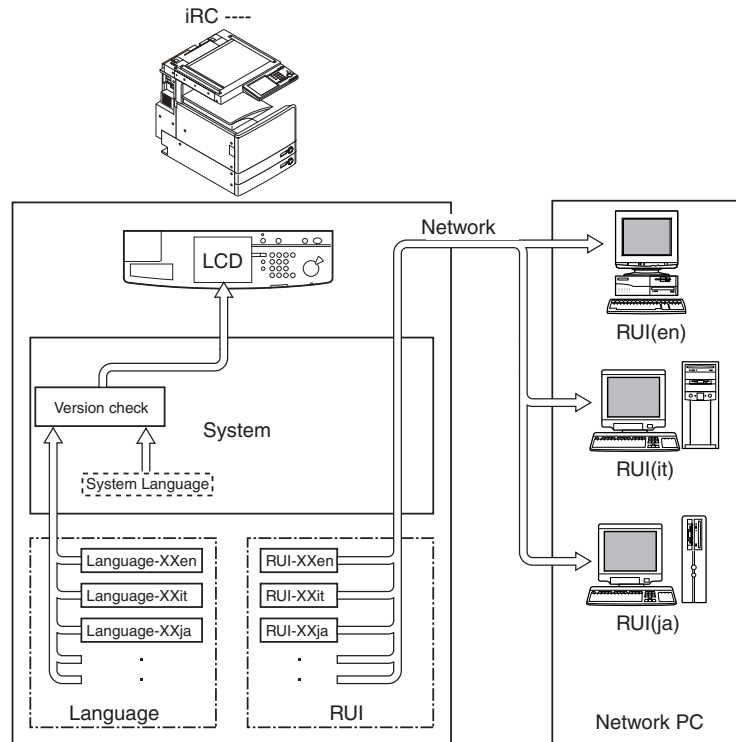
F-18-39

Control Panel LCD Display Language

Check the version of System and Language.

1. If correct, You can switch languages by making the following selections in user mode: common settings>display language change.

2. If not correct, 'E744' will be indicated, and System Language will be used when the main power is turned off and then on.

RUI Display Language

Select using the RUI.
You can select a different language for a different PC.

<Language Code>	<Language>
de	German
en	English
fr	French
it	Italian
ja	Japanese

PC for service

iRC ----
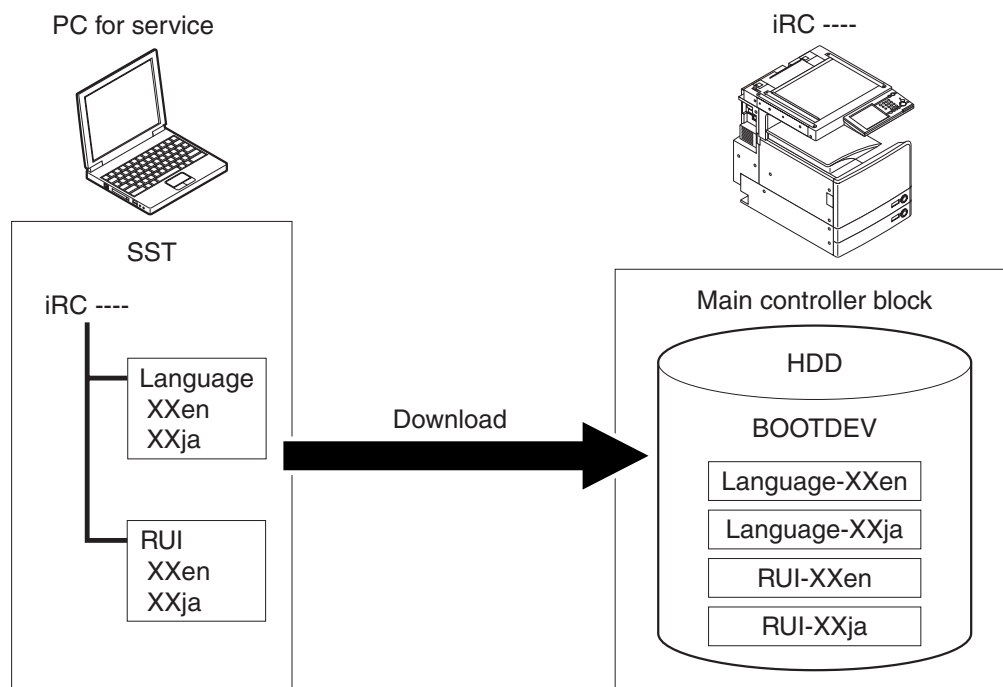
F-18-40

18.4.3.2 Downloading Procedure

1) Select the Language file or the RUI version to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.4.4 Downloading the SDICT

18.4.4.1 Outline

The file SDICT is a dictionary file used to convert image data read by the reader unit into appropriate character code (OCR processing). The SDICT data is used in common among all iR color controllers, and is stored under 'iRCXXXX' in the SST. Its functions are used by the PDF generation function extension kit.

18.4.4.2 Downloading Procedure

1) Select the version of the SDICT file to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.4.5 Downloading the MEAPCONT

18.4.5.1 Outline

MEAPCONT is a standard library used in conjunction with a MEAP application.

18.4.5.2 Downloading Procedure

1) Select the version of MEAPCONT to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.
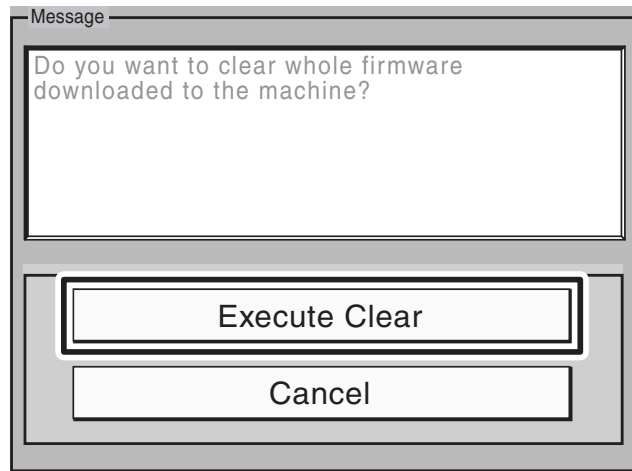
18.4.6 Downloading the KEY

18.4.6.1 Outline

The file KEY is a certificate and a key used for encrypted communications over the network. The KEY data is used in common among new iR color controllers, and is stored in "iRCXXXX" on the SST.

⚠
The file KEY is either of 2 types: XXxc and XXxp. Be sure to download both types.

18.4.6.2 Downloading Procedure

1) Select the version of the KEY file to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.4.7 Downloading the TTS

18.4.7.1 Outline

TTS is voice dictionary data when the voice guidance board is installed.

18.4.7.2 Downloading Procedure

1) Select the version of the TTS file to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.4.8 Downloading the BROWSER

18.4.8.1 Outline

The file BROWSER contains data used for indications on the Web browser, which is an optional function.

18.4.8.2 Downloading Procedure

1) Select the version of the BROWSER file to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.4.9 Downloading the BOOT Software

18.4.9.1 Outline

The file BOOT is used in common among various types of boot ROMs, and it is not possible to change the type of a boot ROM through downloading.

F-18-41

18.4.9.2 Downloading Procedure

1) Select the version of the BOOT file to download.
2) Go through the steps in "Downloading the System"

⚠**Turning Off the Power**
Do not turn off the power while downloading or writing is under way; otherwise, the machine can fail to start up. If such is the case, replace the DIMM ROM.

18.4.10 Downloading the Dcon and Rcon Software

18.4.10.1 Outline

The file DCON/RCON is downloaded by way of the main controller block.

⚠
The machine has a separate boot ROM so that downloading may be tried multiple times following a failed downloading attempt for the DC controller PCB/reader controller PCB.
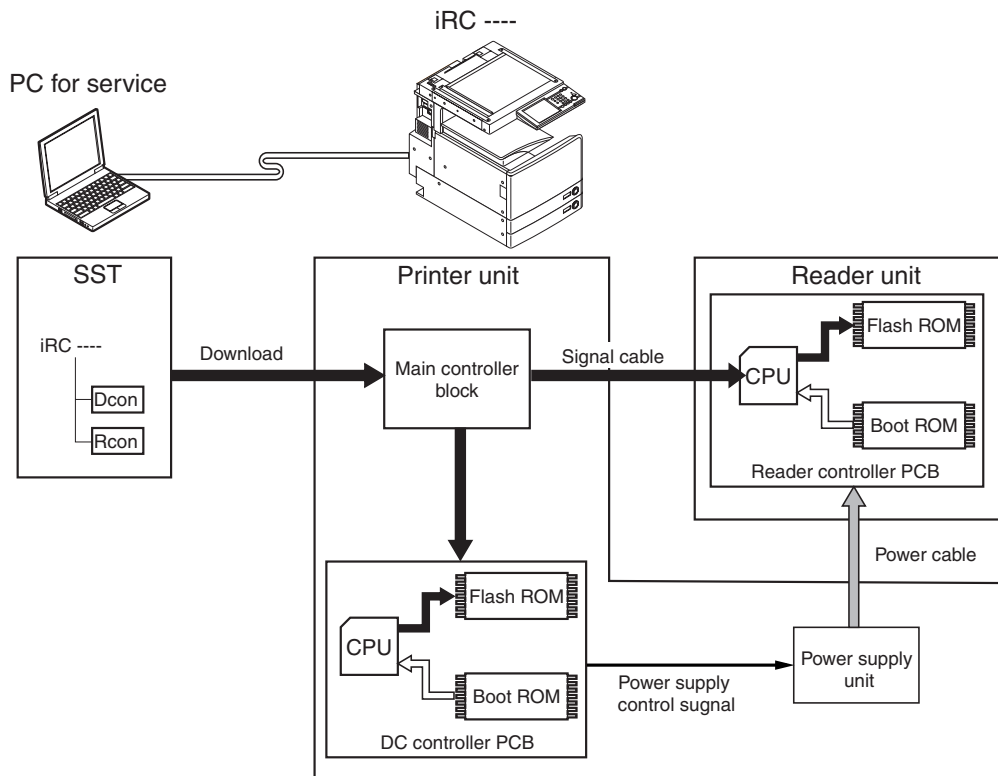
F-18-42

⚠
You will not be able to download the RCON file unless the DC controller has started up normally (as the power control signal would remain disabled, and the reader unit will not be supplied with power).

18.4.10.2 Downloading Procedure

⚠

Here, downloading may take place in either normal mode or safe mode. Safe mode, however, will not permit collection of version information so that the DCON/RCON file installed to the SST will necessarily be overwritten, creating a possibility of downgrading. The use of normal mode, therefore, is recommended.

1) Select the version of the DCON or RCON file to download. (In the case of RCON, select the file in 'iRC3100'.)
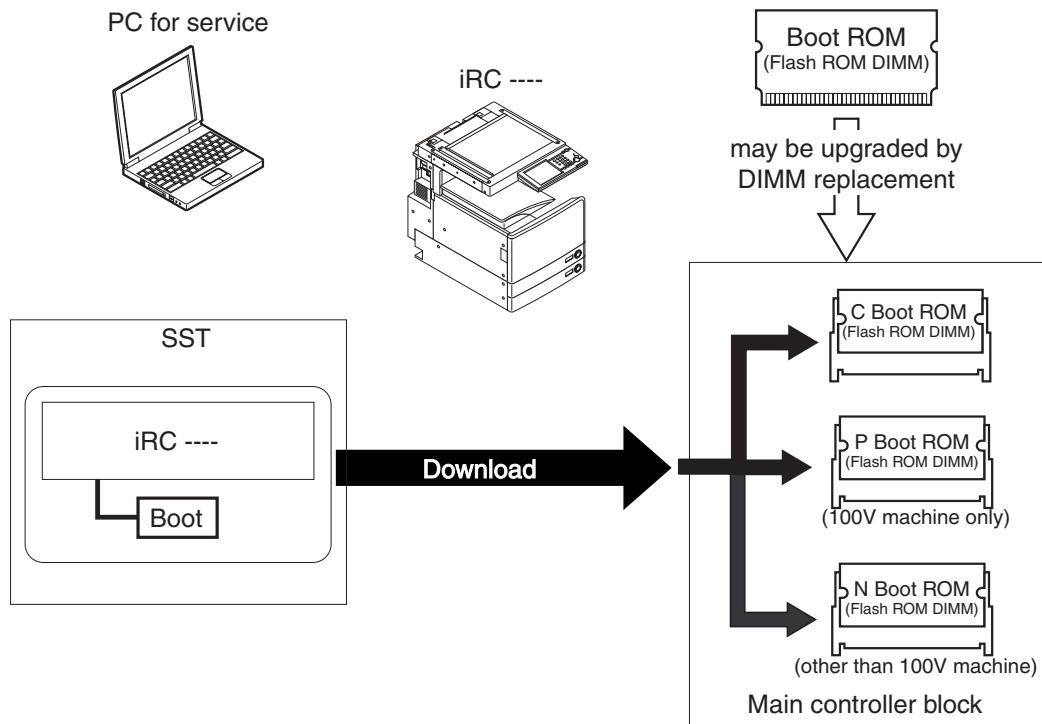2) Go through the steps in "Downloading the System"

⚠ Turning Off the Power

Do not turn off the machine's power while downloading or writing is under way; otherwise, the machine may fail to start up. If such is the case, execute HDD formatting, and download the system software once again.

18.5 Uploading and Downloading Backup Data

18.5.1 Outline

The file MeapBack is a MEAP application and its data stored on the HDD.
The file SramDCON is data stored in the SRAM of the DC controller PCB.
The file SramRCON is data stored in the EEPROM of the reader controller PCB.

Backup data	File to select for downloading
For R&D	~~SramImg.bin~~ (do not select this file)
MEAP application	MeapBack.bin (may be uploaded/ downloaded in safe mode)
For R&D	~~Sublog.txt~~ (do not select this file)
Reader controller PCB backup	SramRCON (may be uploaded/ downloaded in normal mode)
DC controller PCB backup	SramDCON (may be uploaded/ downloaded in normal mode)

MEMO:
- If you are planning to replace the HDD or execute ALL or APL_MEAP formatting, it will be a good idea to upload the MeapBack file in advance and then download after the work by way of temporarily keeping away the MEAP application.
- If you are planning to replace the DC controller PCB, you can upload the SramDCON file in advance, and download it after replacement so that the service mode and other settings may be inherited.
- If you are planning to replace the DC controller PCB, you can upload the SramDCON file in advance, and download it after replacement so that the service mode and other settings may be inherited.

18.5.2 Uploading Procedure

⚠️

- When uploading the data, do not select 'SramImg.bin' or 'Sublog.txt'.
- The machine must be in normal mode for uploading/downloading SramDCON or SramRCON.
- The machine must be in safe mode when uploading/downloading MeapBack.

[In the Case of MeapBack]

1) Start up the SST.
2) Select the model [1] ('iRC3170') and the type of system software [2] ('Single'); then, check the network settings, and click [START].
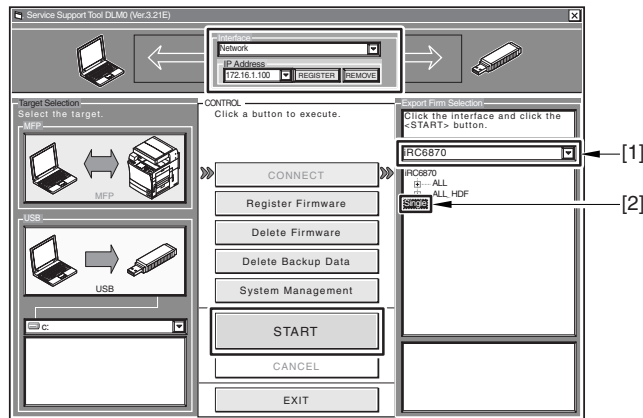
F-18-43

3) Click [Upload Data].
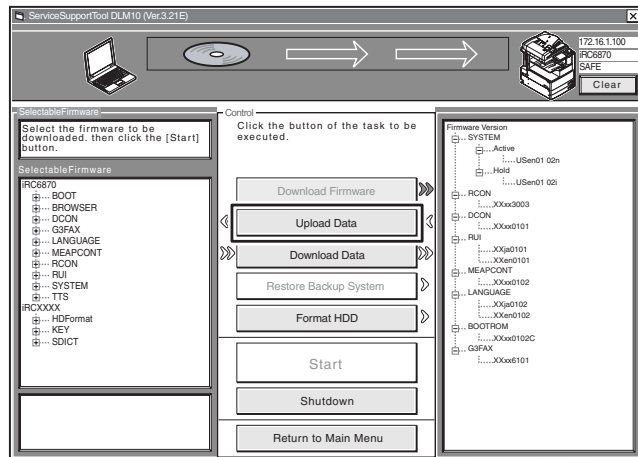
F-18-44

4) Select 'MeapBack.bin', and click [Start].
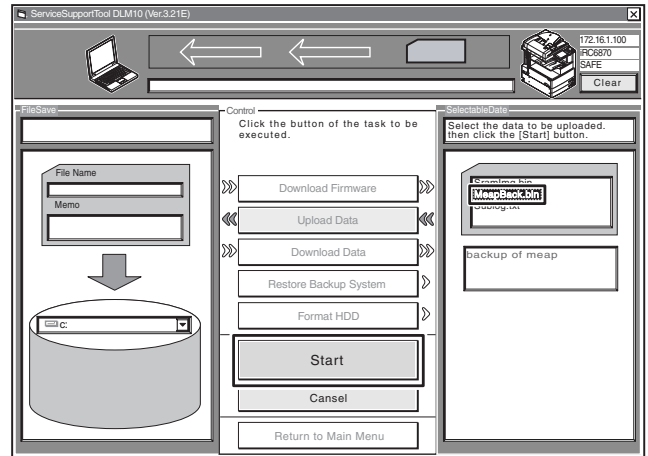
F-18-45

5) Type in the name of the file to store and, as necessary, a brief description; then, click [Save].
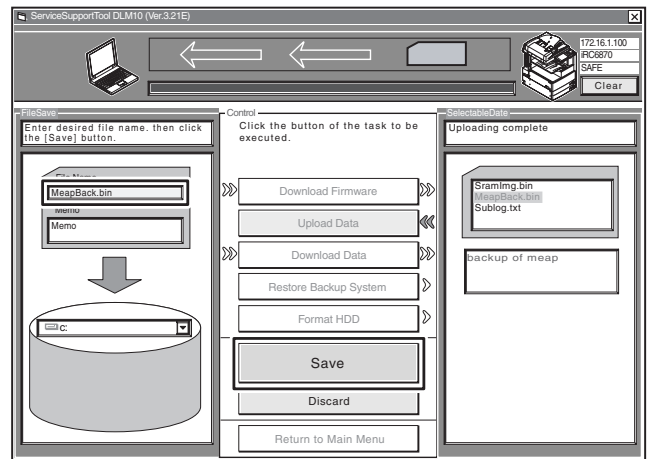
F-18-46

6) Click [OK].

⚠
The file SramRCON, SramDCON, or MeapBack may only be downloaded to their source machine.
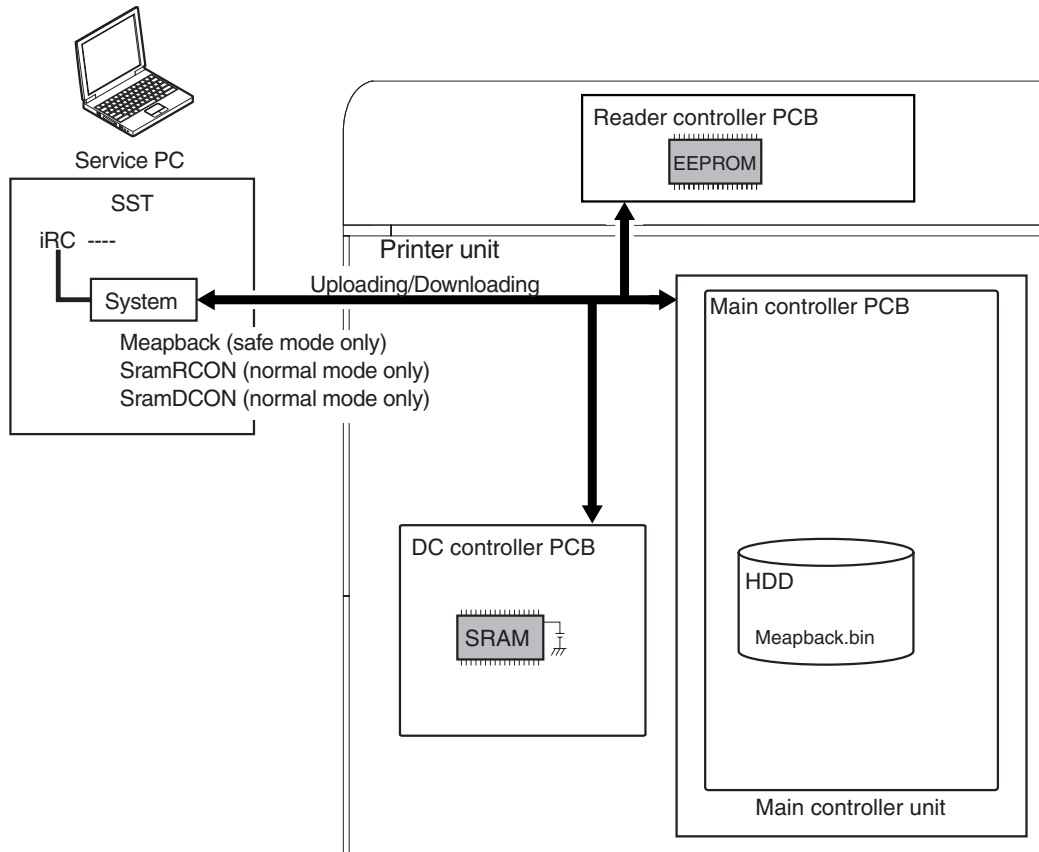
F-18-47

18.5.3 Downloading Procedure

⚠️
- The machine must be in normal mode for uploading/downloading the file SramDCON or SramRCON.
- The machine must be in safe mode for uploading/ downloading the file MeapBack.

[In the Case of MeapBack]

1) Start up the SST.
2) Select the model [1] ('iRC3170') and the type of system software [2] ('Single'); then, check the network settings, and click [START].
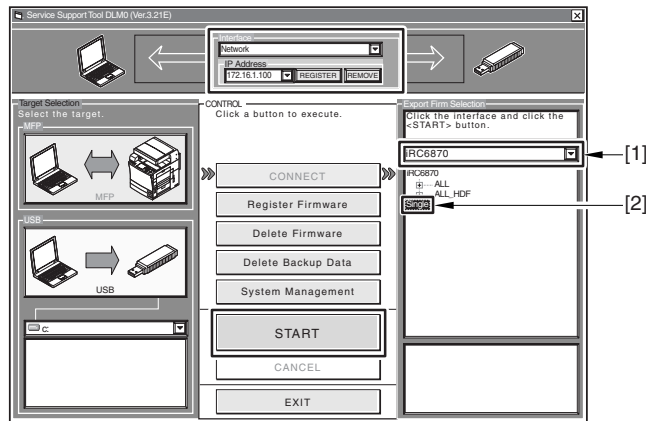
F-18-48

3) Click [Download Data].

F-18-49

4) Select the data to download, and click [Start].

F-18-50

5) When downloading has ended, click [OK] to return to the previous screen.

18.6 Version Upgrade using USB

18.6.1 Overview of Menus and Functions

```
[[[[[  download Menu (USB) ]]]]]]]]]]
--------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

 [Stop]: Shutdown
```

F-18-51

Downloading the System Software
 [1]: Upgrade (Auto)
  Use it to download/write the system software. (auto)
 [2]: Upgrade (w Confirmation)
  Use it to download the system software. (Confirmation execution when version is downed the same version)
 [3]: Upgrade (Overwrite all)
  Use it to download the system software. (all overwrite)

Formatting the HDD (only in safe mode)
 [4]: Format HDD (in the presence of BOOTDEV)
  Use it to format the HDD for BOOTDEV partition.
 [4]: Format HDD (ALL) (in the absence of BOOTDEV)
  Use it to format the HDD for full partition.

Other Functions
 [5]: Backup
  Do not use it. (for use by R&D only)
 [6]: Restore former version (in the presence of a backup of the system software)
  Use it to restore the backup of the system software.
 [7]: Clear downloaded files
  Use it to remove the system software immediately before downloading (before writing).
 [Stop]: Shutdown (in normal mode)
  Use it to execute shut-down instructions.

To select/execute a function, use the keys on the control panel.

18.6.2 Downloading/Writing the System Software (auto)

[1]: Upgrade (AUTO)
The system software on the HDD and that in the USB device are compared. If the latter is new, it will be downloaded to the temporary storage area of the HDD. At the end of the downloading, the machine restarts on its own to write the downloaded system software to the system area of the HDD and the flash ROM.

<Procedure>

1) If the machine is on, go through the HDD shutdown instructions, and turn off the main power.
2) Connect the USB device to the sub port.
3) Put the machine in download mode (normal or safe).
4) Go through the instructions on the control panel, and press the appropriate key.
[1] -> [0]: execute download / other than [0]: go back to Menu screen

```
[[[[[  download Menu (USB) ]]]]]]]]]]
--------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

 [1] has been selected. Execute?
 - (OK):0 / (CANCEL):The other keys -
```

F-18-52

5) While downloading is under way, the control panel screen shows its progress. At the end of the downloading, the machine restarts on its own to start writing to the system area of the HDD or the flash ROM.
- Screen Showing the Progress of Downloading

```
    Copying files from USB-dev.
[iRC2570-XXen0111-5822-TTS.lst] OK.
[iRCXXXX-XXxc0101-1776-KEY.dsh] OK.
[iRCXXXX-XXxc0101-F4D1-KEY.dat] OK.
[iRCXXXX-XXxc0101-405C-KEY.lst] OK.
[iRCXXXX-XXxp0101-17AC-KEY.dsh] OK.
[iRCXXXX-XXxp0101-96D0-KEY.dat] OK
[iRCXXXX-XXxp0101-0564-KEY.lst] OK.
[iRC2570-XXxx0102-5C64-DCON.ird] OK.
[iRC2570-XXxx0102-B1B1-DCON.prg] OK.
[iRC2570-XXxx0102-DCON.ift] OK.
File transfer has been completed.
```

- Screen Showing the Progress of Writing to the HDD

```
<<<<<<<<<< download-shell >>>>>>>>>>
[KEY xp]      ...Upgrading complete
[KEY xc]      ...Upgrading complete
[TTS en]      ...Writing to HDD XX%
```

F-18-53

6) At the end of writing to the HDD, a message will appear asking you to turn off and then back on the power. Turn off the power, remove the USB device, and turn the power back on.

```
<<<<<<<<<< download-shell >>>>>>>>>
[KEY xp]      ...Upgrading complete
[KEY xc]      ...Upgrading complete
[TTS en]      ...Upgrading complete
+++ Switch OFF the power then ON. +++
```

F-18-54

18.6.3 Downloading the System Software (Confirmation execution when version is downed the same version)

[2]: Upgrade (w Confirmation)
The system software on the HDD is compared against that in the USB device. Those system files that are newer will then be downloaded to the temporary storage area of the HDD. If the system software in the USB is of the same or older version, a message will appear on the screen, offering a choice. Unlike menu item [1], the machine will not restart on its own. When you turn it off and then back on manually, it will start to write the system software when it starts up.

<Procedure>

1) If the machine is on, go through the HDD shutdown instructions, and turn off the main power.
2) Connect the USB device to the USB port.
3) Put the machine in download mode (normal or safe).
4) Go through the instructions indicated on the control panel, and press the appropriate key.
   [2] -> [0]: execute download / other than [0]: go back to Menu screen

```
[[[[[  download Menu (USB) ]]]]]]]]]]]]
--------------------------------------
[1]: Upgrade (Auto)
[2]: Upgrade (w Confirmation)
[3]: Upgrade (Overwrite all)
[4]: Format HDD
[5]: Backup
[6]: Restore former version
[7]: Clear downloaded files

  [2] has been selected. Execute?
- (OK):0   (CANCEL):The other keys -
```

F-18-55

MEMO:
If the system software in the USB device is found to be of the same or older version, a message will appear asking you if you want to overwrite. Go though the instructions on the control panel, and press the appropriate key.
[0]: overwrite / other than [0]: do not overwrite

```
/// Copying files from USB-dev.
[Warning] Same version or old version.
---------------------------------------
[BOOT XXxx]...Same. OVERWRITE?
   -- (YES):0  (NO):The other keys--
```

F-18-56

5) While downloading is under way, the control panel screen shows its progress. At the end of downloading, a message will appear asking you to press a key. Press the appropriate key. If the machine is in normal mode, it starts the shutdown instructions.

```
/// Copying files from USB-dev.
[iRC2570-XXen0111-5822-TTS.lst] OK.
[iRCXXXX-XXxc0101-1776-KEY.dsh] OK.
[iRCXXXX-XXxc0101-F4D1-KEY.dat] OK.
[iRCXXXX-XXxc0101-405C-KEY.lst] OK.
[iRCXXXX-XXxp0101-17AC-KEY.dsh] OK.
[iRCXXXX-XXxp0101-96D0-KEY.dat] OK.
[iRCXXXX-XXxp0101-0564-KEY.lst] OK.
[iRC2570-XXxx0102-5C64-DCON.ird] OK.
[iRC2570-XXxx0102-B1B1-DCON.prg] OK.
[iRC2570-XXxx0102-DCON.ift] OK.
File transfer has been completed.

---Please hit any key---
```

F-18-57

6) When a message appears asking you to turn off the power, turn off the main power switch, remove the USB device, and turn on the main power switch.
7) Upon start-up, the machine starts to write the system software to the system area of the HDD or the flash ROM. At the end of writing to the HDD, a message will appear asking you to turn off and then back on the power. Turn off and then back on the main power switch.

```
<<<<<<<<<< download-shell >>>>>>>>>
[KEY xp]      ...Upgrading complete
[KEY xc]      ...Upgrading complete
[TTS en]      ...Upgrading complete
+++ Switch OFF the power then ON. +++
```

F-18-58

18.6.4 Downloading the System Software (all overwriting)

[3]: Upgrade (Overwrite all)

The system software in the USB device will overwrite the software on the HDD regardless of the version of the latter. Unlike menu item [1], however, the machine will not restart on its own at the end of downloading. When the power is turned off and then back on manually, the machine starts writing the system software.

<Procedure>

1) If the machine is on, go through the HDD shutdown instructions, and turn off the main power.
2) Connect the USB device to the USB port.
3) Put the machine in download mode (normal or safe).
4) Go through the instructions on the control panel, and press the appropriate key.
[3] -> [0]: execute download / other that [0]: go back to Menu screen

```
[[[[[  download Menu (USB) ]]]]]]]]]]]
------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

  [3] has been selected. Execute?
 - (OK):0 / (CANCEL):The other keys -
```

F-18-59

5) While downloading is under way, the control panel screen shows its progress. At the end of downloading, a message will appear asking you to press a key. Press the appropriate key. If the machine is in normal mode, the shut-down sequence will start.

```
///  Copying files from USB-dev. ///
[iRC2570-XXen0111-5822-TTS.lst] OK.
[iRCXXXX-XXxc0101-1776-KEY.dsh] OK.
[iRCXXXX-XXxc0101-F4D1-KEY.dat] OK.
[iRCXXXX-XXxc0101-405C-KEY.lst] OK.
[iRCXXXX-XXxp0101-17AC-KEY.dsh] OK.
[iRCXXXX-XXxp0101-96D0-KEY.dat] OK.
[iRCXXXX-XXxp0101-0564-KEY.lst] OK.
[iRC2570-XXxx0102-5C64-DCON.ird] OK.
[iRC2570-XXxx0102-B1B1-DCON.prg] OK.
[iRC2570-XXxx0102-DCON.ift] OK.
File transfer has been completed.

---Please hit any key---
```

F-18-60

6) When a message appears asking you to turn off the power, turn off the main power, remove the USB device, and turn the main power switch back on.
7) Upon start-up, the machine starts writing the system software to the system area of the HDD or the flash ROM. At the end of writing, a message will appear asking you to turn off and then back on the power. Turn off and then on the main switch.

```
<<<<<<<<<< download-shell >>>>>>>>>>
[KEY xp]       ...Upgrading complete
[KEY xc]       ...Upgrading complete
[TTS en]       ...Upgrading complete
+++ Switch OFF the power then ON. +++
```

F-18-61

18.6.5 Formatting the HDD

⚠

This function is available only when the machine is in safe mode.

[4]: Format HDD (in the presence of BOOTDEV)

Use it to format the HDD for BOOTDEV partition.

[4]: Format HDD (ALL) (in the absence of BOOTDEV, as when replacing with new HDD)

Use it to format the HDD for full partition.

<Procedure>
Go through the following to format the HDD for BOOTDEV partition:

1) If the machine is on, go through the HDD shutdown instructions, and turn off the main power.
2) Connect the USB device to the USB port.
3) Start up the machine in safe mode.
4) Follow the instructions on the control panel, and press the appropriate key.
[4] -> [0]: go to Partition Selection screen / other that [0]: go back to Menu screen

```
[[[[[  download Menu (USB) ]]]]]]]]]]]
------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

  [4] has been selected. Execute?
 - (OK):0 / (CANCEL):The other keys -
```

F-18-62

5) Go through the instructions on the control panel, and press the appropriate key.

[1] -> [0]: execute BOOTDEV formatting / other than [0]: go back to Menu screen

[C]: go back to Menu screen

```
[[[[[ Format HDD Manu (USB) ]]]]]]]]]]]]]
-----------------------------------------
 [1]:  BOOTDEV
 [C]: Return to Main Menu

 [1] has been selected. Execute?
 - (OK):0   (CANCEL):The other keys -
```

F-18-63

6) At the end of formatting, a message will appear asking you to press a key. Press any key to go back to the Men screen.

```
[[[[[ Format HDD Manu (USB) ]]]]]]]]]]]]]
-----------------------------------------
 [1]:  BOOTDEV
 [C]: Return to Main Menu

 [1] has been selected. Execute?
 - (OK):0   (CANCEL):The other keys -

Formatting  BOOTDEV ... OK
 Formatting HDD ...Complete


---Please hit any key---
```

F-18-64

7) Start downloading the system software. For instructions, see "Downloading the System Software."

18.6.6 Other Functions

[5]: Backup

⚠

This function is for R&D purposes only. Do not use it.

[6]: Restore former version (in the presence of backup of system software)
Use it to restore the backup of the system software while saving the system software that is current as a backup.

<Procedure>

1) If the machine is on, go through the HDD shutdown instructions, and turn off the main power.
2) Connect the USB device to the USB port.
3) Put the machine in download mode (normal or safe).
4) Go through the instructions on the control panel, and press the appropriate key.

[6] -> [0]: initialize / other than [0]: go back to Menu screen
   After execution, a message will appear asking you to turn off and then on the power.

```
[[[[[ download Menu (USB) ]]]]]]]]]]]]
-----------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

  [6] has been selected. Execute?
 - (OK):0   (CANCEL):The other keys -
Restore former version ...Complete.
+++ Switch OFF the power then ON.  +++
```

F-18-65

5) Turn off the main power switch, remove the USB memory, and turn on the main power switch.

[7]: Clear downloaded files
Use it to remove the system software files that have been saved in the temporary storage area of the HDD. Use it if you want to remove the files without writing them to the HDD after downloading (menu [2] and [3]).

<Procedure>

1) The power supply is turned off after the download of the system software by menu 2 or 3 is completed, and it starts in a safe mode with the USB memory connected.
2) Go through the instructions on the control panel, and press an appropriate key.

[7] -> 10: execute / other than [0]: go back to Menu screen
   Upon execution, the Menu screen will return.

```
[[[[[  download Menu (USB) ]]]]]]]]]]]]
-----------------------------------------
 [1]: Upgrade (Auto)
 [2]: Upgrade (w Confirmation)
 [3]: Upgrade (Overwrite all)
 [4]: Format HDD
 [5]: Backup
 [6]: Restore former version
 [7]: Clear downloaded files

 [7] has been selected. Execute?
 - (OK):0   (CANCEL):The other keys -
```

F-18-66

[Stop]: Shutdown (in normal mode only)
Use it to start up the shut-down sequence.

<Procedure>
1) Go through the instructions on the control panel, and press an appropriate key.

[Stop]->[0]: execute/ other than [0]: go to Menu screen

The shut-down sequence will be executed, and a message will appear asking you to turn off the power.

```
[[[[[ download Menu (USB) ]]]]]]]]]]]
------------------------------------
 [1]: Upgrade (Auto
```

F-18-67

2) Turn off the main power switch, and remove the USB device.

Chapter 19

Service Tools

Contents
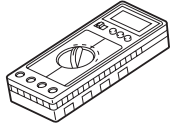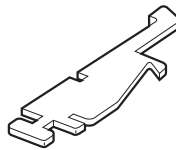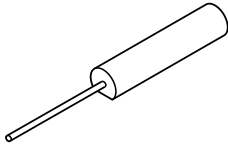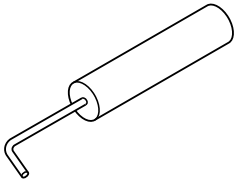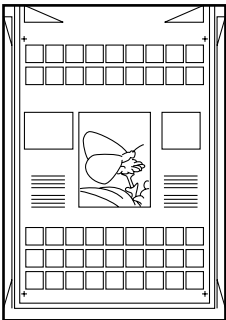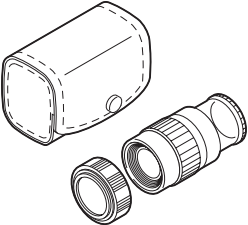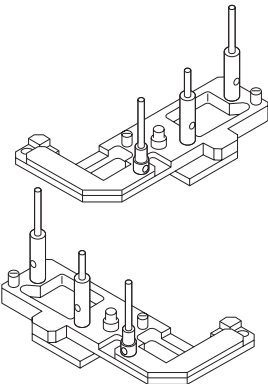
19.1 Service Tools

19.1.1 Special Tools

In addition to the standard tools set, the following special tools are required when servicing the machine:

T-19-1

Tool name	Tool No.	Ctgr	Appearance	Remarks
Digital multimeter	FY9-2002	A		Use for electrical checks; for adjustment of laser power in combination with the laser power checker.
Cover switch	TKN-0093	A		
Tester extension pin	FY9-3038	A		Used as a probe extension when making electrical checks.
Tester extension pin (L-shaped)	FY9-3039	A		Used as a probe extension when making electrical checks.
CA1 test Sheet	FY9-9030	A		Used for adjusting/checking images.
Loupe	CK-0056	B		Used for checking images.
Mirror positioning tool	FY9-3009-040	B		Used for positioning mirror mounts.

Tool name	Tool No.	Ctgr	Appearance	Remarks
Routing mirror cleaning tool	FL2-2474	B		Used for cleaning routing mirror

Reference:
Ctgr
 A: Must be kept by each service engineer.
 B: Must be kept by each group of about five engineers.
 C: Must be kept by each warkshop.

19.1.2 Solvents and Oils

T-19-2

Item	Uses	Composition	Remarks
Alcohol	Cleaning; e.g., glass, plastic, rubber; external covers.	-Fluoride-family hydrocarbon -Alcohol -Surface activating -Water	-Do not bring near fire. -Procure locally. -Substitute: IPA(isopropy alcohol)
Solvent	Cleaning; e.g., metal; oil or toner stain.	-Fluoride-family hydrocarbon -Chlorine-family hydrocarbon -Alcohol	-Do not bring near fire. -Procure locally. -Substitute: MEK
Heat-resisting grease	Lubrication; e.g., fixing drive areas.	-Mineral oil-family lithium soap -Molybdenum disulfide	-MO-138S -Tool No: CK-0427 (500 g/can)
Lubricating oil		-Mineral oil (paraffin-family)	-Tool No: CK-0524 (100 cc)
Lubricating oil	Lubrication; e.g., drive areas, friction areas.	-Silicone oil	-Tool No: CK-0551 (20 g)
Lubricating oil (EM-50L)	Lubrication; e.g., gears.	-Special oil -Special solid lubricating agent -Lithium soap	-Tool No: HY9-0007
Lubricating oil	Lubrication; e.g., scanner rail.	-Silicone oil	-Tool No: FY9-6011 (50 cc)
Conducting grease	Lubrication; e.g., edge of secondary transfer roller, drum heater sliding area.	-Fluorine poly wthyl -Polytetra fluorune ethylene	-Tool No: FY9-6008 (75 g)
Lubricant	Lubricating:e.g., photosensitive drum cleaning blade.	Fluorine graphite	-Tool No: TKN-0480

APPENDIX

1 General Timing Chart

Full color mode

<Conditions>

reading: book, 1 A4 original
printing: A4, plain paper, single-sided, full color, 2 prints

*1: interval used to stabilize the rotation.
*2: interval during which the main heater and the sub heater are tuned on alternately.

F-1-1

1

Mono color mode

<Conditions>
reading: book mode, 1 A4 original
printing: A4, plain paper, single-sided, mono color, 2 prints

Start key ON

■ :forward ▨ :reverse

Original exposure		STBY	SCFW	SCRW	STBY
	Scanner motor (M501)				
	Scanning lamp				
	Scanner HP sensor (PS501)				

Start key ON
Image formation ready timing

	Printer unit	PSTBY	PINTR	PRINT	LSTR	PSTBY
Laser exposure system	Laser scanner motor(M1)		*1			
	ITB home position signal					
	PVREQ signal					
	Laser			Bk1 Bk2		
Image formation system	Drum/ITB motor (M2)					
	Pre-exposure LED (LED1)					
	Primary charging bias					
	Grid bias					
	Developing rotary motor (M5)					
	Stray toner collection roller bias					
	Black developing bias (DC)					
	Black developing bias (AC)					
	Black developing clutch (CL3)					
	Color developing bias (DC)					
	Color developing bias (AC)					
	Color developing clutch (CL1)					
	Pre-transfer charging bias (AC)					
	Pre-transfer charging bias (DC)					
	Primary transfer bias					
	Secondary transfer outside roller shift motor (M20)					
	Secondary transfer bias					
	Secondary transfer cleaning bias					
	ITB cleaner shift motor (M21)					
Pickup/feeding system	Right deck pickup motor (M17)					
	Deck (right) pickup solenoid (SL6)					
	Right deck pickup sensor (PS33)					
	Right deck pull-off motor (M14)					
	Manual feed pre registration motor (M6)					
	OHP sensor (front/ rear) (PS3/29)					
	Registration motor (M8)					
Fixing system	Fixing main heater (H1)				*2	
	Fixing sub heater (H2)					
	Shift heater (H3)				*2	
	Outside heating roller heater (H4)					
	Fixing motor (M4)					
	Outside heating roller shift motor (M22)					
	Fixing inlet sensor (PS11)					
	Outside delivery sensor (PS13)					

*1: interval used to stabilize the rotation.
*2: interval during which the main heater and the sub heater are tuned on alternately.

F-1-2

2

General Circuit Diagram
List Of Signals

T-2-1

Abbreviation	Signal name
AFTER_TRNS_HP_SNS	post-transfer paper detection signal
ATR_REF	ATR sensor reference signal
ATR_SIG	ATR sensor signal
ATR_VCC	ATR power supply signal
ATR_VSS	ATR sensor light detection signal
ATRLED_ON	ATR sensor light emission signal
ATRSL_ON	ATR shutter solenoid drive signal
BK_CRG_DOOR_OPN	hopper cover open/closed detection signal
BK_DC_CONT	black development DC bias control signal
BK_DEV	black developing bias drive signal
BK_DEV_CL	black development clutch drive signal
BK_TNR_REMAIN	black toner level detection signal
CHD_CLK	side deck clock signal
CHO_RXD	side deck communication signal 0
CHO_RXLOAD*	side deck data request signal
CHO_TXD	side deck communication signal 1
CHO_TXEND*	side deck communication final signal
CHO_TXOUTEN*	side deck data enable signal
CL_CRG_DTC	color toner cartridge present/absent signal
CL_DEV	color developing bias drive signal
CL_TNR_REMAIN	color toner level detection signal (light-receiving segment)
CL_TNR_SNS_ON	color toner level detection signal (light-emitting segment)
CLR_DC_CONT	color developing DC bias control signal
CLR_DEV_CL	color developing clutch drive signal
CLR_TNR_SPLY_CL	color toner supply clutch drive signal
CMNCLK_A1	HVT1 high-voltage bias reference signal
CMNCLK_A1	HVT2 high-voltage bias reference signal
CNT0	laser control signal 0
CNT1	laser control signal 1
CRG_MTR_ON	black toner supply motor drive signal

Abbreviation	Signal name
CST_FEED_M_CLKA	cassette pickup motor drive signal A
CST_FEED_M_CLKAB	cassette pickup motor drive signal AB
CST_FEED_M_CLKB	cassette pickup motor drive signal B
CST_FEED_M_CLKBB	cassette pickup motor drive signal BB
CST_HEAT_ON	cassette heater drive signal
CUAL_FAN	delivery cooling fan 1 drive signal
CUAL_FAN_ERR	delivery cooling fan 1 error detection signal
D_LOAD	finisher start-up signal
DCP_FAN_LOK*	power supply fan lock detection signal
DCP_REM0	power supply remote signal 0
DCP_REM1	power supply remote signal 1
DCP_REM2	power supply remote signal 2
DCP_REM3	power supply remote signal 3
DEIL_FLAP_SL	delivery reversing solenoid drive signal
DEV_BK_AC_ON	black developing AC bias drive signal
DEV_BK_DC_ON	black developing DC bias drive signal
DEV_CL_AC_ON	color developing AC bias drive signal
DEV_CL_DC_ON	color developing DC bias drive signal
DEV_MTR_CLK	developing motor reference signal
DEV_MTR_CW/CCW	developing motor drive detection switchover signal
DEV_MTR_ID	development motor identification signal
DEV_MTR_LOK*	development motor lock detention signal
DEV_MTR_ON	development motor drive signal
DEV_MTR_SEL	development motor speed switchover signal
DEVBKCLK1	black developing bias reference signal A
DEVCLCLK_A1	color developing bias reference signal A
DEVCLCLK_B1	color developing bias reference signal B
DRAM_HP_SNS	drum HP detection signal
DRUM_HEAT_ON	drum heater drive signal
DRUM_MTR_BRAKE	drum/ITB motor drive direction switchover signal
DRUM_MTR_CLK	drum/ITB motor reference signal
DRUM_MTR_ID	drum/ITB motor identified signal
DRUM_MTR_LOK*	drum/ITB motor lock detection signal
DRUM_MTR_ON	drum/ITB motor drive signal
DRUM_MTR_SEL	drum/ITB motor speed switchover signal

Abbreviation	Signal name
DUP_FEED_SNS	duplexing left detection signal
DUPLEX_CENTER_M_CLK_A	depleting middle motor drive signal A
DUPLEX_CENTER_M_CLK_AB	duplexing middle motor drive signal AB
DUPLEX_CENTER_M_CLK_B	duplexing middle motor drive signal B
DUPLEX_CENTER_M_CLK_BB	duplexing middle motor drive signal BB
DUPLEX_LEFT_M_CLK_A	duplexing left motor drive signal A
DUPLEX_LEFT_M_CLK_AB	duplexing left motor drive signal AB
DUPLEX_LEFT_M_CLK_B	duplexing left motor drive signal B
DUPLEX_LEFT_M_CLK_BB	duplexing left motor drive signal BB
DUPLEX_REV_M_CLK_A	duplexing reversal motor drive signal A
DUPLEX_REV_M_CLK_AB	duplexing reversal motor drive signal AB
DUPLEX_REV_M_CLK_B	duplexing reversal motor drive signal B
DUPLEX_REV_M_CLK_BB	duplexing reversal motor drive signal BB
DUPLEX_RIGHT_M_CLK_A	duplexing right motor drive signal A
DUPLEX_RIGHT_M_CLK_AB	duplexing right motor drive signal AB
DUPLEX_RIGHT_M_CLK_B	duplexing right motor drive signal B
DUPLEX_RIGHT_M_CLK_BB	duplexing right motor drive signal BB
ELIMINATE	static eliminator bias drive signal
ENV_HUM_CLK	environment sensor reference signal
ENV_TEMP	environment sensor detection signal
EPC_SIG	potential sensor reference signal
EPC_SNS_ON	potential sensor detection signal
EX_FIX_HP_SNS	outside heating roller HP detection signal
EX_FIX_P_MTR_A	outside heating roller shift motor drive signal A
EX_FIX_P_MTR_A*	outside heating roller shift motor drive signal A*
EX_FIX_P_MTR_B	outside heating roller shift motor drive signal B

Abbreviation	Signal name
EX_FIX_P_MTR_B*	outside heating roller shift motor drive signal B*
EX_FIX_THM_EDGE_IN	outside heating sub thermistor detection signal
EX_FIX_THM_IN	outside heating main thermistor detection signal
EX-HEAT-ON	outside heating roller heater drive signal
EXP_LED	pre-exposure LED drive signal
EX-TR-ERR	outside heating roller heater error signal
FEED_FAN_4	feed fan 4 drive signal
FEED_FAN1	feed fan 1 drive signal
FEED_FAN1_ERR	feed fan 1 error detection signal
FEED_FAN2	feed fan 2 drive signal
FEED_FAN2_ERR	feed fan 2 error detection signal
FEED_FAN3	feed fan 3 drive signal
FEED_FAN3_ERR	feed fan 3 error detection signal
FEED_FAN4_ERR	feed fan 4 error detection signal
FIN_FAN	exhaust heat cooling fan 2 drive signal
FIN_FAN_LOK*	exhaust heat cooling fan 2 lock detection signal
FIRST_TRN	primary transfer bias drive signal
FIX_ENT_SNS	fixing inlet detention signal
FIX_FAN	fixing exhaust fan drive signal
FIX_FAN_LOK*	fixing exhaust fan lock detection signal
FIX_MTR_BRAKE	fixing motor stop signal
FIX_MTR_CLK	fixing motor reference signal
FIX_MTR_ID	fixing motor identification signal
FIX_MTR_LOK*	fixing motor lock detection signal
FIX_MTR_ON	fixing motor drive signal
FIX_MTR_SEL	fixing motor selection signal
FIX_WEB_REMAIN	fixing web length detection signal
FIX_WEB_SL	web solenoid drive signal
FRONT_DOOR_OPN	front cover detection signal
FSR_UNIT_CNCT*	fixing assembly present/absent detection signal
GRID_CONT	grid bias control signal
HOP_MTR_0	hopper stirring motor drive signal 1
HOP_MTR_1	hopper stirring motor drive signal 0
HV_RMT	high-voltage bias remote signal
HV_RMT	HVT 3 enable signal

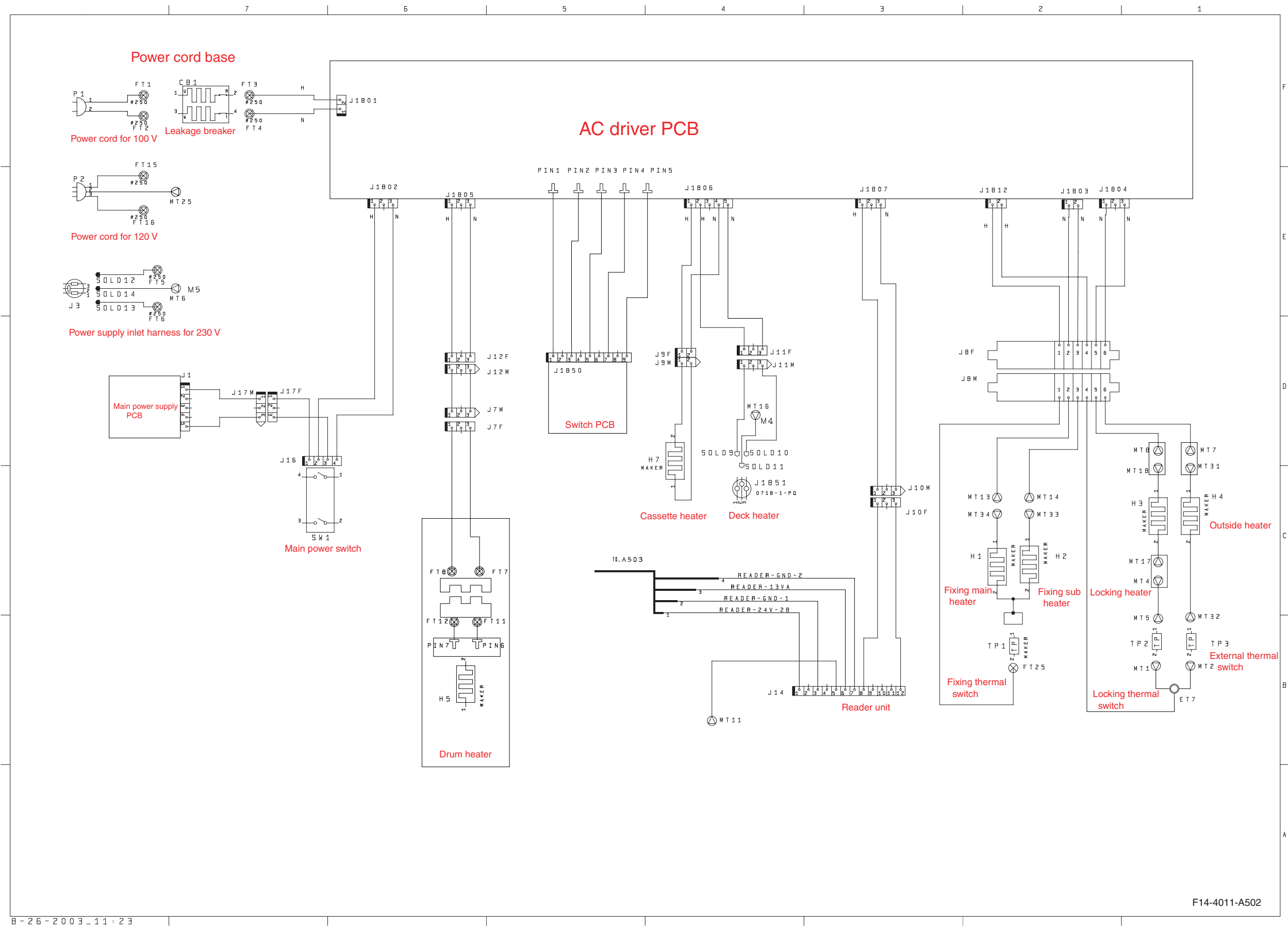| Abbreviation	Signal name
IN_DELI_SNS	inside delivery detection signal
ITB_CLN_HP_SNS	ITB cleaner HP detection signal
ITB_CLN_P_MTR_A	ITB cleaner shift motor drive signal A
ITB_CLN_P_MTR_A*	ITB cleaner shift motor drive signal/A
ITB_CLN_P_MTR_B	ITB cleaner shift motor drive signal B
ITB_CLN_P_MTR_B*	ITB cleaner shift motor drive signal/B
ITOP_SNS_A	ITB HP sensor detection signal A
ITOP_SNS_B	ITB HP sensor detection signal B
JOIN_SNS	vertical path confluence detection signal
L_DECK_DTC	left deck paper detection signal
L_DECK_EXIT_SL	left deck confluence solenoid drive signal
L_DECK_FEED_SNS	left deck pickup detection signal
L_DECK_LIFT	left deck lifter motor drive signal
L_DECK_LIMIT_SNS	left deck limit detection signal
L_DECK_M_CLKA	left deck pickup motor drive signal A
L_DECK_M_CLKAB	left deck pickup motor drive signal AB
L_DECK_M_CLKB	left deck pickup motor drive signal B
L_DECK_M_CLKBB	left deck pickup motor drive signal BB
L_DECK_PAP_HIGHT_SNS	left deck lifter detection signal
L_DECK_PAP_SNS	left deck paper detection signal
L_DECK_REMAIN_SNS0	left deck paper level detection signal A
L_DECK_REMAIN_SNS1	left deck paper level detection signal B
L_DECK_SL	left deck pickup solenoid drive signal
LDPSEL	laser power selection signal
LO_CST_FEED_SNS	cassette 4 pickup detection signal
LO_CST_LIMIT_SNS	cassette 4 limit detention signal
LO_CST_PAP_HIGHT_SNS	cassette 4 lifter detection signal
LO_CST_PAP_SNS	cassette 4 paper detection signal
LO_CST_REMAIN_SNS0	cassette 4 paper level detection signal A
LO_CST_REMAIN_SNS1	cassette 4 paper level detection signal B
LO_CST_SIZE0	cassette 4 paper size detection signal 0
LO_CST_SIZE1	cassette 4 paper size detection signal 1
LO_CST_SIZE2	cassette 4 paper size detection signal 2
LO_CST_SIZE3	cassette 4 paper size detection signal 3

Abbreviation	Signal name
LO_CST_SIZE4	cassette 4 paper size detection signal 4
LO_CST_SL	cassette 4 pickup solenoid drive signal
LOW_CST_LIFT	cassette 4 lifter motor drive signal
MAIN_THM_EDGE_IN	fixing sub thermistor detection signal
MAIN_THM_IN	fixing main thermistor detection signal
MAIN-HEAT-ON	fixing main heater drive signal
MAIN-TR-ERR	fixing main heater error signal
MLT_LAST_PAP_SNS	last sheet detection signal
MLT_PAP_SNS	manual feed paper detection signal
MLT_PAP_WIDTH	manual feed paper width detection signal
MLT_SL	manual feed pickup solenoid drive signal
MLT_TRAY_OPN	manual feed unit open/closed detection signal
MODE	finisher mode switchover signal
OHP_LED0	transparency sensor (front) light emission signal
OHP_LED1	transparency sensor (rear) light emission signal
OHP_SNS0	transparency sensor (rear) light reception signal
OHP_SNS1	transparency sensor (front) light reception signal
OUT_DELI_MTR_A	outside delivery motor drive signal A
OUT_DELI_MTR_A*	outside delivery motor drive signal A*
OUT_DELI_MTR_B	outside delivery motor drive signal B
OUT_DELI_MTR_B*	outside delivery motor drive signal B*
OUT_DELI_SNS	outside delivery paper detection signal
PAP_STAGNATE_SNS	left deck stationary paper detection signal
PATCH_LED_ON	patch image read sensor light emission signal
PATCH_LED_ON	patch image read sensor reference signal
PATCH_LED_REF	patch sensor shutter solenoid drive signal
PATCH_SHUT_SL	patch sensor shutter solenoid drive signal
PATCH_VOP	patch image read sensor detention signal P
PATCH_VOS	patch image read sensor detention signal S
PD_MTR_CLK	side deck clock signal 1
PKIT_FAN	controller cooling fan dire signal
PKIT_FAN_LOK*	controller cooling fan lock detection signal
POST	pre-transfer bias drive signal
POST_AC_ON	pre-transfer bias AC drive signal
POST_CLN_MTR0	pre-transfer charging wire cleaning motor drive signal 0

Abbreviation	Signal name
POST_CLN_MTR1	pre-transfer charging wire cleaning motor drive signal 1
POST_DC_ON	pre-transfer bias DC drive signal
POSTCLK_A1	pre-transfer bias reference signal A
POSTCLK_B1	pre-transfer bias reference signal B
POSTCONT	pre-transfer bias control signal
PRE_REGI_MTR_A	manual feed pre-registration motor drive signal A
PRE_REGI_MTR_A*	manual feed pre-registration motor drive signal A*
PRE_REGI_MTR_B	manual feed pre-registration motor drive signal B
PRE_REGI_MTR_B*	manual feed pre-registration motor drive signal B*
PRE_REGI_SNS	pre-registration paper detection signal
PRESS-HEAT-ON	pressure heater drive signal
PRESS-TR-ERR	pressure heater error signal
PRIM_CLN_MTR0	primary charging wire cleaning motor drive signal 0
PRIM_CLN_MTR1	primary charging wire cleaning motor drive signal 1
PRIM_CONT	primary charging bias control signal
PRIM_EX_FAN	primary charging exhaust fan drive signal
PRIM_EX_FAN_LOK*	primary charging exhaust fan lock signal
PRIM_IN_FAN	primary charging suction fan drive signal
PRIM_IN_FAN_LOK*	primary charging suction fan lock detection
PRIM_ON	primary charging bias drive signal
PRIMARY	primary charging bias drive signal
PRS_THM_EDGE_IN	pressure sub thermistor detection signal
PRS_THM_IN	pressure main thermistor detection signal
R_DECK_DTC	right deck paper detection signal
R_DECK_FEED_SNS	right deck pickup detection signal
R_DECK_LIFT	right deck lifter motor drive signal
R_DECK_LIMIT_SNS	right deck limit detection signal
R_DECK_M_CLKA	right deck pickup motor drive signal A
R_DECK_M_CLKAÇa	right deck pickup motor drive signal AB
R_DECK_M_CLKÇa	right deck pickup motor drive signal B
R_DECK_M_CLKBB	right deck pickup motor drive signal BB
R_DECK_PAP_HIGHT_SNS	right deck lifter detection signal
R_DECK_PAP_SNS	right deck paper detection signal

Abbreviation	Signal name
R_DECK_PULL_M_CLKA	right deck pull-off motor drive signal A
R_DECK_PULL_M_CLKAB	right deck pull-off motor drive signal AB
R_DECK_PULL_M_CLKB	right deck pull-off motor drive signal B
R_DECK_PULL_M_CLKBB	right deck pull-off motor drive signal BB
R_DECK_REMAIN_SNS0	right deck paper level detection signal B
R_DECK_REMAIN_SNS1	right deck paper level detection signal A
R_DECK_SL	right deck pickup solenoid drive signal
R_LOW_DOOR_OPN	lower right cover open/closed detection signal
RE_FEED_SNS	duplexing confluence detection signal
REAL_BD*	BD detection signal
REGI_DRIVE_M_CLK_A	registration motor drive signal A
REGI_DRIVE_M_CLK_AB	registration motor drive signal AB
REGI_DRIVE_M_CLK_B	registration motor drive signal B
REGI_DRIVE_M_CLK_BB	registration motor drive signal BB
RELAY_ON	relay drive signal
REV_ALIENATE_SL	reversal interval solenoid drive signal
REV_SNS	reversal detection signal
REV_TATE_PAS_SNS	reversal vertical path detention signal
ROT_MTR_A	developing rotary motor drive signal A
ROT_MTR_A*	developing rotary motor drive signal A*
ROT_MTR_B	developing rotary motor drive signal A*
ROT_MTR_B*	developing rotary motor drive signal B*
ROTARY_HP_SNS	developing rotary HP detection signal
ROTARY_SL	developing rotary fixing solenoid drive signal
ROTARY_SL_SNS	developing rotary fixing detection signal
RSET	finisher reset signal
SCN_ACC*	scanner motor acceleration signal
SCN_DEC*	scanner motor deceleration signal
SCN_FG_IN*	scanner motor speed detection signal
SEC_ROLL_PRESS_M_A	secondary transfer roller shift motor drive signal A
SEC_ROLL_PRESS_M_A*	secondary roller shift motor drive signal A*
SEC_ROLL_PRESS_M_B	secondary transfer roller shift motor drive signal B

Abbreviation	Signal name
SEC_ROLL_PRESS_M_B*	secondary transfer roller shift motor drive signal B*
SEC_TRNS_HP_SNS	secondary transfer roller HP detection signal
SECOND_TR	secondary transfer bias drive signal
SFTTRAY_CCW	shift tray motor drive signal 0
SFTTRAY_CNCT	shift tray connection detection signal
SFTTRAY_CW	shift tray motor drive signal 1
SFTTRAY_FULL_ON	shift tray full detection signal 1
SFTTRAY_L_HP	shift tray left HP detection signal
SFTTRAY_PAP_FULL	shift tray full detection signal 0
SFTTRAY_PAP_SNS	shift tray paper detection signal
SFTTRAY_R_HP	shift tray right HP detector signal
STPC_RXD	finisher communication signal 0
STPC_TXD	finisher communication signal 1
SUB_HOP_REMAIN	hopper toner level detection signal
SUB-HEAT-ON	fixing sub heater drive signal
SUB-TR-ERR	fixing sub heater error signal
TR_REV_BIAS	secondary transfer reversal bias drive signal
TR1_CRT_SEL	primary transfer current selection signal
TR1_ON	primary transfer bias drive signal
TR1CONT	primary transfer bias control signal
TR1CONTN	primary transfer reverse bias control signal
TR1CRTCONT	primary transfer current control signal
TR1ELM_ON	primary transfer static eliminator bias drive signal
TR1ELM_TRN	primary transfer static eliminator bias drive signal
TR1ELMCONT	primary transfer static eliminator bias control signal
TR1RVSEL	primary transfer reverse bias selection signal
TRNS1_DC	primary transfer DC bias drive signal
UP_CST_FEED_SL	cassettes 3 pickup solenoid drive signal
UP_CST_FEED_SNS	cassette 3 pickup solenoid drive signal
UP_CST_LIFT	cassette 3 lifter motor drive signal
UP_CST_LIMIT_SNS	cassette 3 limit detection signal
UP_CST_PAP_HIGHT_SNS5	cassette 3 lifter detection signal
UP_CST_PAP_SNS	cassette 3 paper detection signal

Abbreviation	Signal name
UP_CST_REMAIN_SNS0	cassette 3 paper level detection signal A
UP_CST_REMAIN_SNS1	cassette 3 paper level detection signal B
UP_CST_SIZE0	cassette 3 paper size detection signal 0
UP_CST_SIZE1	cassette 3 paper size detection signal 1
UP_CST_SIZE2	cassette 3 paper size detection signal 2
UP_CST_SIZE3	cassette 3 paper size detection signal 3
UP_CST_SIZE4	cassette 3 paper size detection signal 4
V_PASS_LOW_M_CLKA	vertical path motor drive signal A
V_PASS_LOW_M_CLKA B	vertical path motor drive signal AB
V_PASS_LOW_M_CLKB	vertical path motor drive signal B
V_PASS_LOW_M_CLKB B	vertical path motor drive signal BB
VDO	video signal 0
VDO*	video signal 1
VPASS_SNS_0	vertical path 0 detection signal
VPASS_SNS1	vertical path 1 paper detection signal
VPASS_SNS2	vertical path 2 paper detection signal
VPASS_SNS3	vertical path 3 paper detection signal
VPASS_SNS4	vertical path 4 paper detection signal
WASTE_TNR_ERRO	waste toner screw lock detection signal
YOKO_REGI_CLK_A	laser scanner motor drive signal A
YOKO_REGI_CLK_A*	laser scanner motor drive signal A*
YOKO_REGI_CLK_B	laser scanner motor drive signal B
YOKO_REGI_CLK_B*	laser scanner motor drive signal B*
YOKO_REGI_SNS	horizontal registration detection signal
ZERO_CROSS	zero-cross detection signal

General Circuit Diagram

General Circuit Diagram 1 (Printer)

Power cord base

AC driver PCB

Power cord for 100 V

Leakage breaker

Power cord for 120 V

Power supply inlet harness for 230 V

Main power supply PCB

Main power switch

Switch PCB

Cassette heater

Deck heater

Drum heater

Reader unit

Fixing main heater

Fixing sub heater

Locking heater

Outside heater

Fixing thermal switch

Locking thermal switch

External thermal switch

F14-4011-A502

8-26-2003_11:23

F-2-1

9

General Circuit Diagram 2 (Printer)

F-2-2

10

General Circuit Diagram 3 (Printer)

DC controller PCB

Laser driver PCB

Laser scanner unit

Polygon mirror motor

M1

BD PCB

HVT2

Development high-voltage sub PCB

AC driver sub PCB

AC driver PCB

F14-4011-A504

F-2-3

General Circuit Diagram 4 (Printer)

DC controller PCB

F14-4011-A505

F-2-4

12

General Circuit Diagram 5 (Printer)

DC controller PCB

J1107

24VIL
MLT-SL
GND
MLT-PAP-SNS
5V
3.3V
GND
MLT-PAP-WIDTH
GND
MLT-LAST-PAP-SNS
5V
GND
VPASS-SNS-O
5V

J1121

5VREM
IIOP-SNS-A
GND
5VREM
IIOP-SNS-B
GND
24VIL
PATCH-SHUT-SL
PATCH-LED-ON
PATCH-VOP
PATCH-VOS
5V
GND
PATCH-LED-REF

J430D / J430DH
J438L
J431D / J431DH
J431L

J381D / J381DH
J381L

J267D
J267LH
J261D
J261LH

J267L
J261L

MT21
MT29
MT30

MT22

J266D
J266DH
J266L

J388D / J388DH
J388L

J386D
J386DH
J386L

J265D / J265DH
J265L

J262

J382D / J382DH
J382L

J263
J264

J384
J383D
J383DH
J383L

PS30
PS31

SL11

PS2

SL1

PS6

Manual feed paper sensor

Manual feed pickup solenoid

J385

PS7

UN13

Last paper sensor

Manual feed paper width sensor

J387

PS31

Vertical path 0 sensor

ITB home position sensor (rear)
ITB home position sensor (front)

Patch image read sensor shutter solenoid

Patch image read sensor

ITB unit

Multifeeder unit

F14-4011-A506

F-2-5

13

DC controller PCB

Side Paper Deck U1

Finisher R1/R2

Drum home
position sensor

DC power supply relay PCB

UN21

Primary charging
exhaust fan

Color toner supply
clutch

Black developing
clutch

Development motor

Color developing clutch

Drum/ITB motor

Main drive unit

F14-4011-A507

General Circuit Diagram 7 (Printer)

DC controller PCB

HVT1

J412D — FM5 — Fixing exhaust fan

J418D / J418DH / J418L

J411D / J411DH / J411L

FM10 — Delivery cooling fan 2

J413D / J413DH / J413L

J444 — PS13 — Outside delivery sensor

J414 — PS33 — Right deck sensor

J415 — PS46 — Left deck sensor

J501D — J501LH / J501L

J502D — J502LH / J502L

J512 — PS38 — Right deck paper level sensor B

J513 — PS37 — Right deck paper level sensor A

J514 — PS45 — Left deck paper level sensor B

J515 — PS44 — Left deck paper level sensor A

J503DA / J503DWH / J503DH / J503DB

J503LA / J503LWH / J503LB

J555D / J555LH / J555L

J556D / J556LH / J556L

J505D / J505DH / J506L — Cassette 3 paper size sensor — UN14

J554

J410D / J410DH / J410L

J416 — PS61 — Vertical path 2 paper sensor

J507D / J507DH / J507L — Cassette 4 paper size sensor — UN15

J548

J417 — PS64 — Lower right cover open/closed sensor

F14-4011-A508

F-2-7

15

General Circuit Diagram 8 (Printer)

DC controller PCB

Right deck pickup unit

Right deck pickup solenoid

Right deck pickup sensor

Right deck limit sensor

Right deck paper sensor

Right deck lifter sensor

Vertical path 1 paper sensor

Left deck pickup unit

Left deck pickup solenoid

Left deck pickup sensor

Left deck limit sensor

Left deck paper level sensor

Left deck lifter sensor

Left deck lifter sensor

F14-4011-A509

F-2-8

16

General Circuit Diagram 9 (Printer)

DC controller PCB

Cassette 4 pickup unit

Cassette 3 pickup unit

Cassette 4 pickup solenoid

Cassette 4 pickup sensor

Cassette 4 limit sensor

Cassette 4 paper sensor

Cassette 4 lifter sensor

Vertical path 4 sensor

Cassette 3 pickup solenoid

Cassette 3 pickup sensor

Cassette 3 pickup sensor

Cassette 3 paper sensor

Cassette 3 lifter sensor

Vertical path 3 sensor

F14-4011-A510

F-2-9

17

General Circuit Diagram 10 (Printer)

F-2-10

18

DC controller PCB

General Circuit Diagram 12 (Printer)

DC controller PCB

Fixing assembly

THM1
Fixing main
thermistor

THM4
Fixing sub
thermistor

PS11
Fixing inlet sensor

THM2
Locking main
thermistor

THM5
Locking sub
thermistor

THM3
External main
thermistor

THM6
External sub
thermistor

External heat roller
HP sensor

Web level sensor

External heat roller
drive motor

Web solenoid

Fixing motor

F14-4011-A513

F-2-12

20

DC controller PCB

Potential sensor PCB

UN11

Environment sensor
UN12

Potential sensor

UN11

Manual
feed pre-registration motor

External delivery motor

Developing rotary motor

Shift tray C1

F14-4011-A514

General Circuit Diagram 14 (Printer)

F-2-14

General Circuit Diagram 15 (Printer)

F-2-15

F14-4011-A516

23

F-2-16

General Circuit Diagram 17 (Printer)

DC power supply PCB

DC power supply relay PCB

J140 J141 J142 J143 J144

J132 J133 J134 J135

J130 J131 J124

FAN
GND
LOCK

FT134 FT135
FT140 FT130
FT141 FT131
FT143 FT133

DC-RELAY

J126D
J126DH
J126L

FM9
Power cooling fan

F14-4011-A518

F-2-17

25

General Circuit Diagram 18 (Printer)

F14-4011-A519

General Circuit Diagram 19 (Printer)

Speaker

XR

XR

XR

G3 FAX/Multiport control PCB

J2504

J2505

G3 FAX power
supply PCB

J2501

J2507L

J2507D
J2507DH

J2500L

J2500D
J2500DH

J2503

Flat cable

J2502

XA

CT

J2506

J146L
J146LH

CT

J146D

J11B

13VA

GND

13VB

GND

XA

DC power supply PCB

AC driver PCB

J1813

J5F

J5M

ARG

FT10

NCU PCB

J2508

J2509

G3 pseudo IC PCB

FAX

CIRCUIT DIAGRAM

F14-4011-A520

F-2-19

F14-4011-A522

F-2-20

Shift Tray C-1

SERVICE
MANUAL

Canon

Symbols Used

This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
Error	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

    In the diagrams, ▬▬ represents the path of mechanical drive; where a signal name accompanies the symbol , the arrow ⟶ indicates the direction of the electric signal.

    The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1'is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low".(The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (*) as in "DRMD*" indicates that the DRMD signal goes on when '0'.

    In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."

Contents

Chapter 1

Specifications

Contents

1.1 Product Specifications

1.1.1 Specifications

T-1-1

Item	Description
Method of stacking	ascent/descent by paper weight/coil springsort by tray shift movement
Mode of stacking	sort: offset used non-sort: offset not used
Source of drive	ascent/descent: by coil spring (descent by paper weight) shift movement: by motor
Size of paper for stack	A3, A4, A4R, A5R, B4, B5, B5R, 11x17, LTR, LTR-R, LGL, STMT-R, postcard, transparency
Weight of paper for stack	64 to 200 g/m2
Movement of offset	in units of sets
Distance of offset	55 mm
Maximum number of sets in stack	sort: 500 sheets (6y4 g/m2 paper) non-sort: 250 sheets (64/m2 paper)
Accuracy of alignment	sort: 50 mm or less (delivery direction) 20 mm or less (shift direction, between stacks) between stacks: -5 mm or less (shift direction, within stack) non-sort: 100 mm or less
Tray full detection*2	by reflection type sensor (2 pc.) monitoring height of stack
Power supply	24 VDC/5 V (from host machine)
Maximum power consumption	2 W or less
Dimensions	365.3 (W) x 547 (D) x 255.7 (H) mm
Weight	4.2 kg
Operating environment	same as host machine

*1: the following will not be operated: A4R, A5R, B5R, 11x17, 13x19, LTR-R, STMT-R, 4-pane postcard, tab sheet.
*2: the machine stops printing when the stack exceeds a specific height.

1.2 Names of Parts

1.2.1 Names of Parts

F-1-1
T-1-2
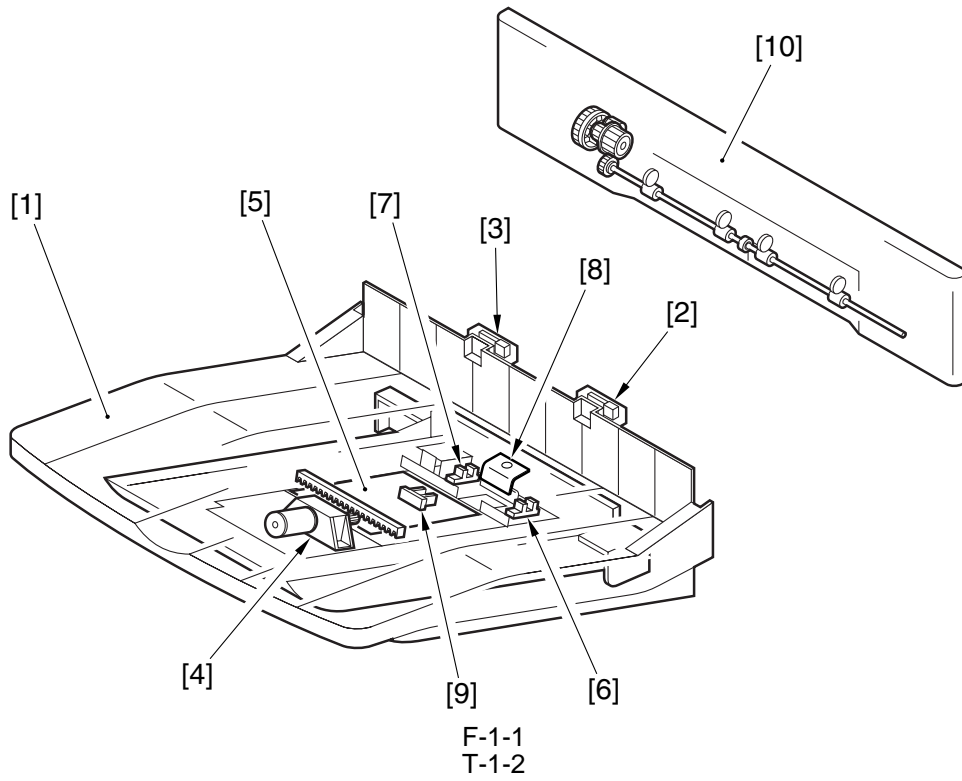
1	Tray	2	Tray full sensor (front)
3	Tray full sensor (rear)	4	Tray drive unit
5	Shift tray drive PCB	6	HP sensor (front)
7	HP sensor (rear)	8	Light-blocking plate
9	Paper sensor	10	Delivery unit

Chapter 2

Functions

Contents

2.1 Basic Construction

2.1.1 Outline of the Electrical Circuitry

The circuit shown below is used to drive the shift motor according to the shift control signal from the host machine and also to send various sensor signals associated with the shift operation to the host machine.
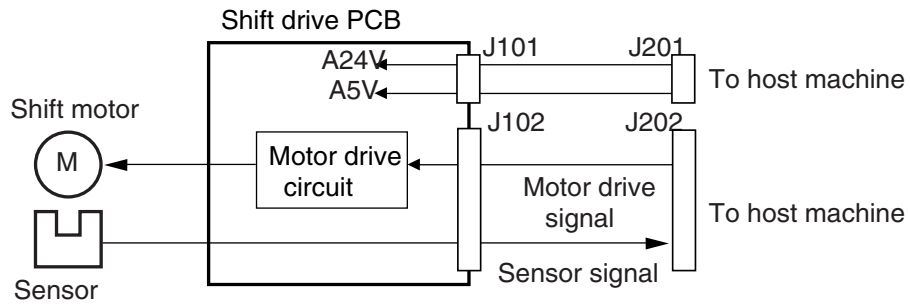
F-2-1

2.1.2 Inputs to and Outputs from the Shift Tray Driver PCB
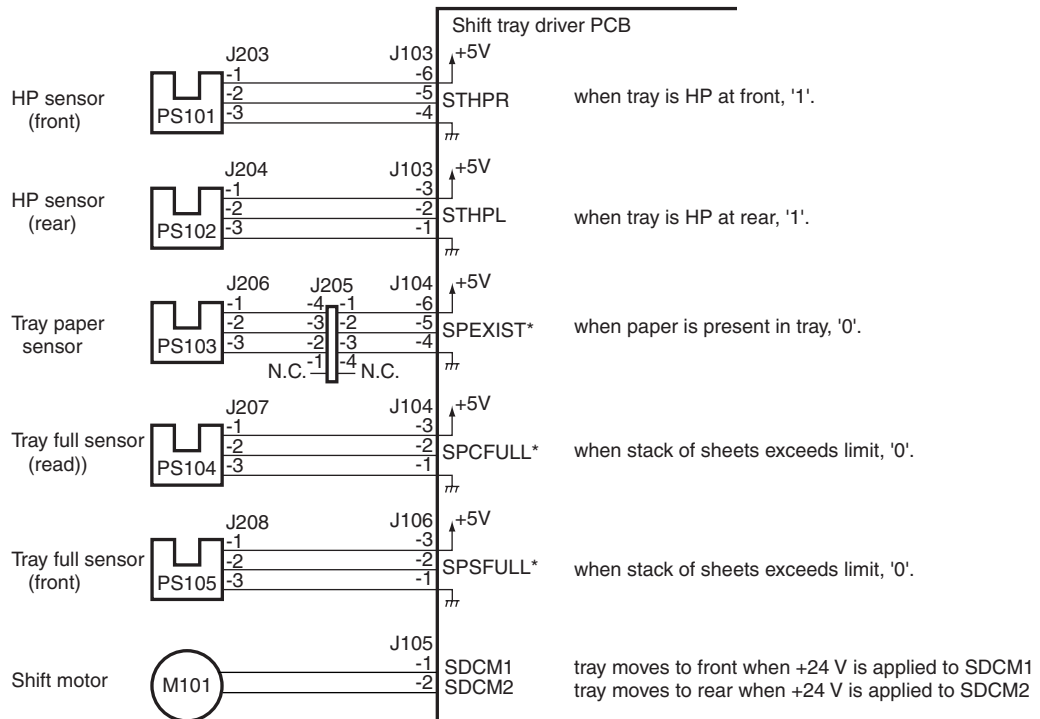
F-2-2

2.2 Basic Operation

2.2.1 Shift Movement

The machine moves the tray to the front and the rear (shift of 55 mm) to sort stacks (offset). The tray is driven by a DC motor, and the rotation of the motor is converted into liner movement by means of a rack and pinion gear mechanism. The location of the tray (front, rear) is monitored by the HP sensor mounted to the front and the rear.

F-2-3
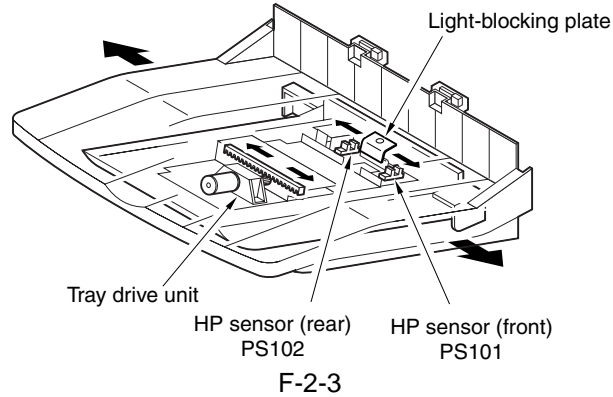
2.2.2 Placement of Paper

The machine's tray is held up by the work of a coil spring. When paper is placed, the tray moves down under the weight of the paper. The height of the stack in the tray is monitored by the tray full sensor (reflection type photo sensor), and the shift tray driver PCB sends the tray full signal to the host machine when the top of the stack reaches a specific height.

F-2-4
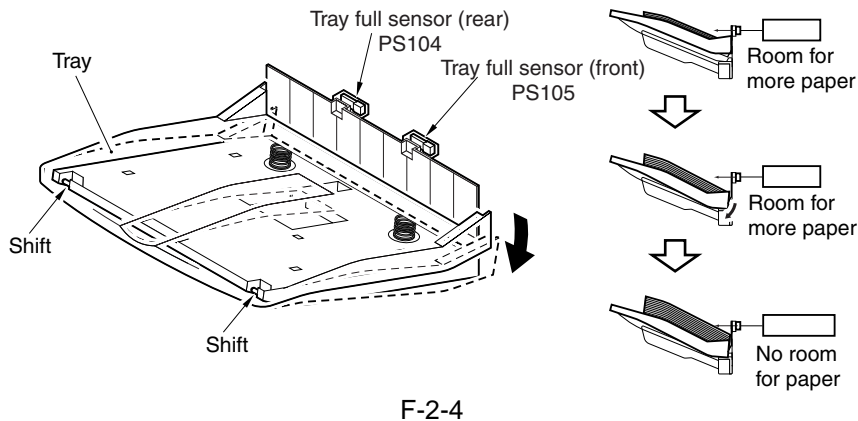
2.2.3 Detecting the Presence/Absence of Paper

The presence/absence of paper in the tray is detected by the paper sensor mounted to the tray.

F-2-5
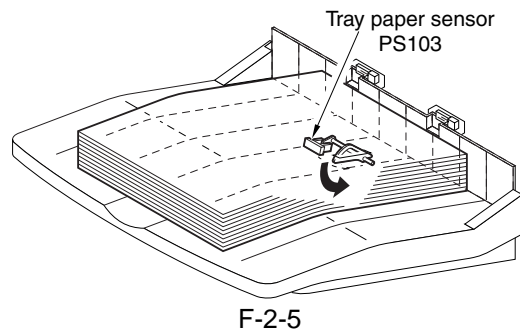
2.2.4 Delivery Movement

The paper from the host machine is delivered to the tray through the delivery unit, which is driven by the host machine's gear mechanism.
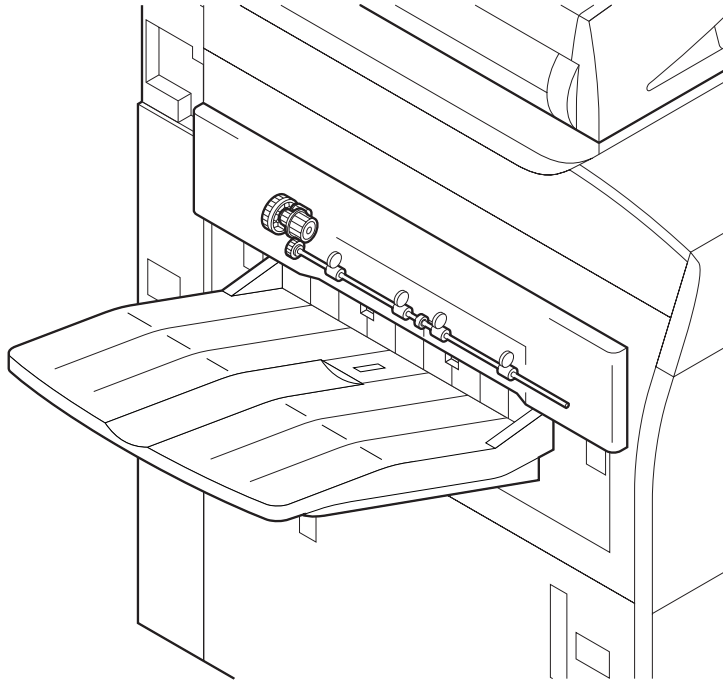
F-2-6

Chapter 3

Parts Replacement Procedure

Contents

3.1 Removing from the Host Machine

3.1.1 Shift Tray

3.1.1.1 Removing the Shift Tray

1) Remove the 3 face covers [1].
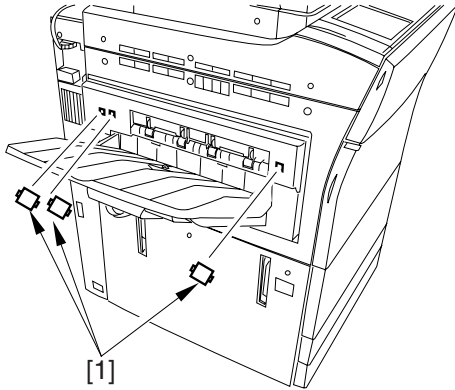
F-3-1

2) Remove the 2 screws [1], and detach the delivery unit [2].
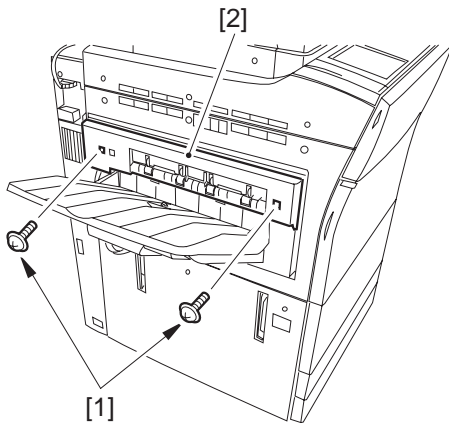
F-3-2

3) Remove the 2 screws [1], and detach the reinforcing plate [2].
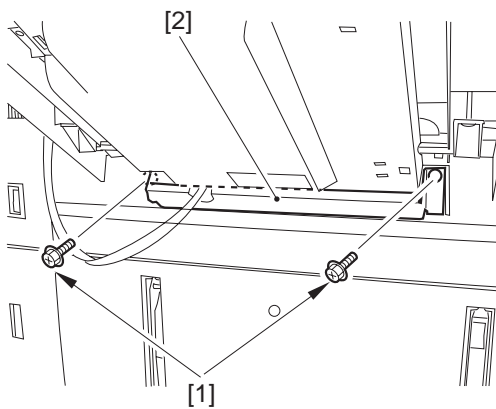
F-3-3

4) Remove the screw [1], and disconnect the connector [2].
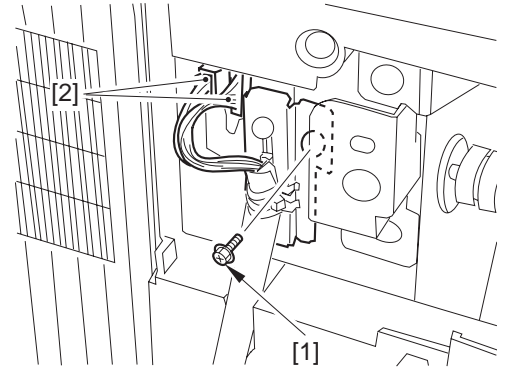
F-3-4

5) Remove the screw [1].
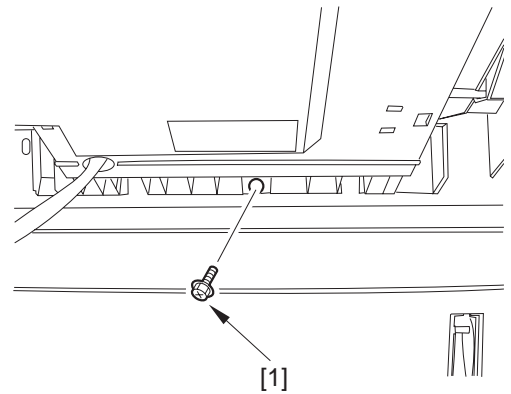
F-3-5

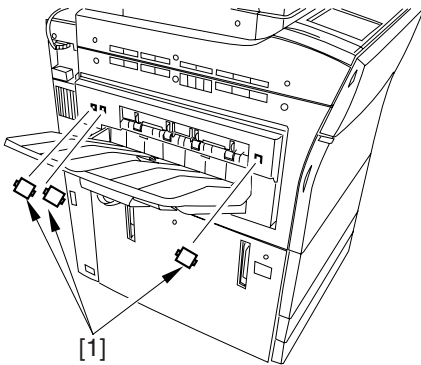6) Move the shift tray [1] to the right to detach the shift tray [1] from the host machine.
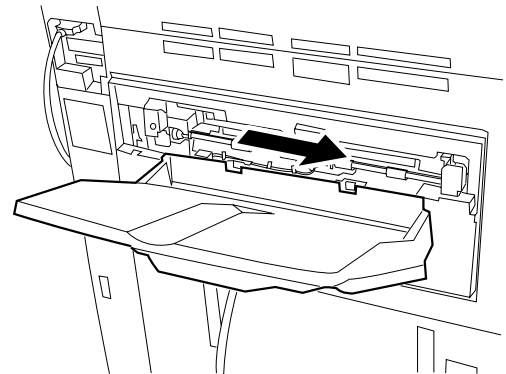
F-3-6

3.2 Drive System

3.2.1 Tray Drive Unit

3.2.1.1 Removing the Shift Tray

1) Remove the 3 face covers [1].
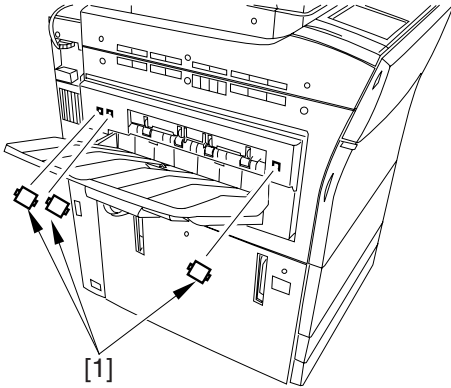
F-3-7

2) Remove the 2 screws [1], and detach the delivery unit [2].
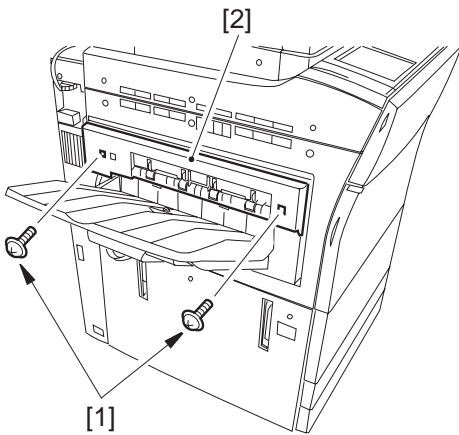
F-3-8

3) Remove the 2 screws [1], and detach the reinforcing plate [2].
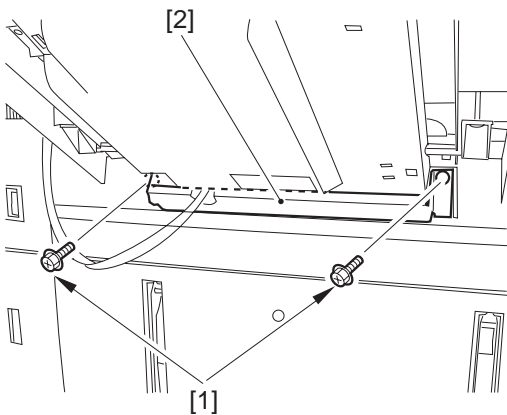
F-3-9

4) Remove the screw [1], and disconnect the connector [2].
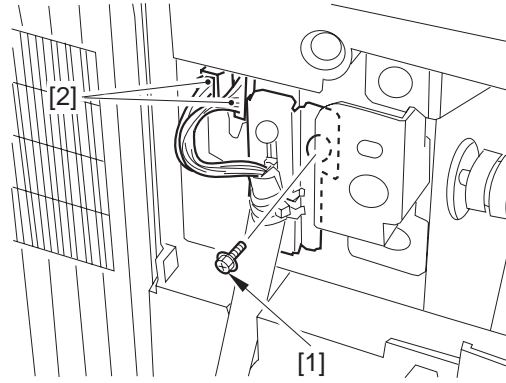
F-3-10

5) Remove the screw [1].
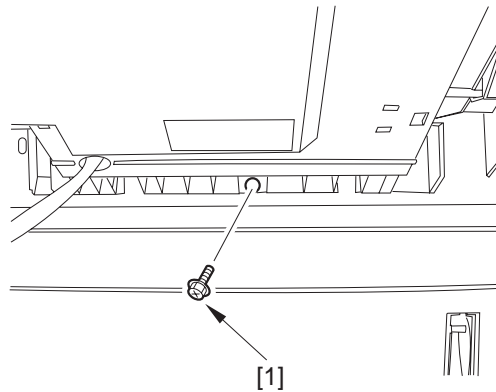
F-3-11

6) Move the shift tray [1] to the right to detach the shift tray [1] from the host machine.
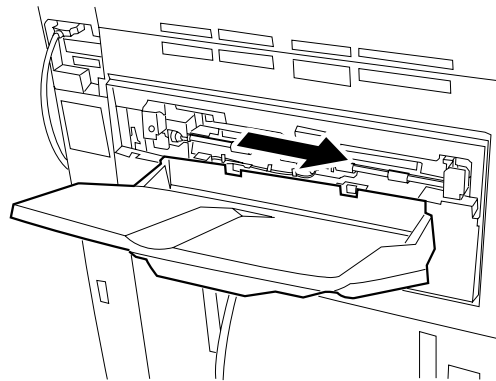
F-3-12

## 3.2.1.2 Removing the Shift Tray Driver PCB

1) Free the 2 retaining claws [1], and detach the cable retaining plate [2].
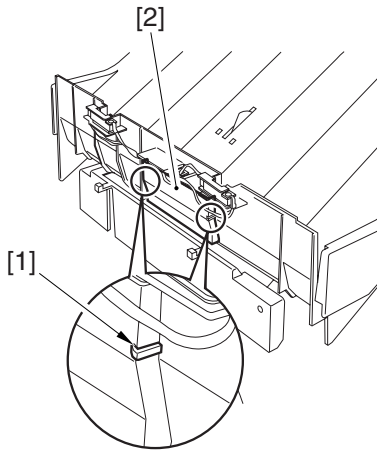
F-3-13

2) Remove the 2 screws [3], and detach the 2 tray full sensors [4] and the 2 grounding wires.

3) Free the cable of the tray full sensor from the clamp [5], and disconnect the connector [6].
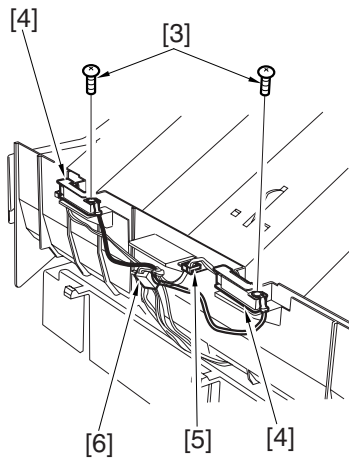

F-3-14

4) From the back of the shift tray, remove the 4 screws [7] and detach the 4 shaft retainers [8]; then, detach the tray drive assembly [9].
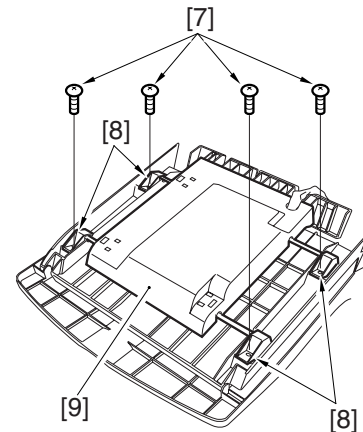

F-3-15

5) Pull off the shaft [10] from the tray drive assembly; then, remove the 3 screws [11], and detach the shield cover [12].
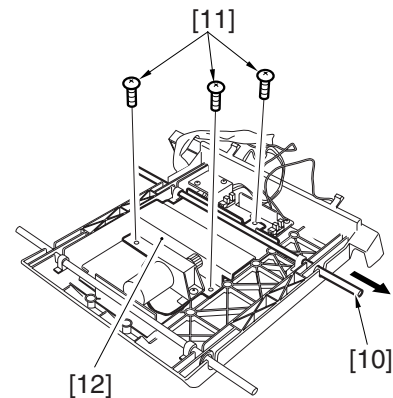
F-3-16

6) Remove the 4 screws [13], and detach the shift tray driver PCB [14].
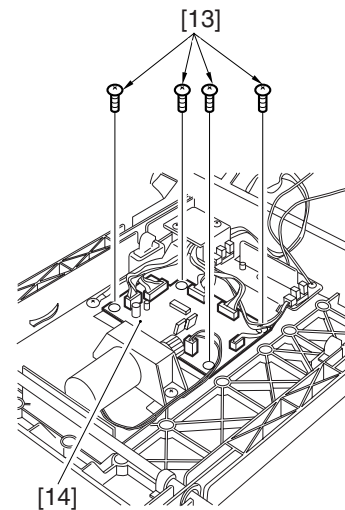
F-3-17

3.2.1.3 Removing the Tray Drive Unit

1) Remove the 2 screws [1], and disconnect the connector; [2]; then, detach the tray drive unit [3].

F-3-18

3.3 Electrical System

3.3.1 Shift Tray Driver PCB

3.3.1.1 Removing the Shift Tray

1) Remove the 3 face covers [1].

F-3-19

2) Remove the 2 screws [1], and detach the delivery unit [2].

F-3-20
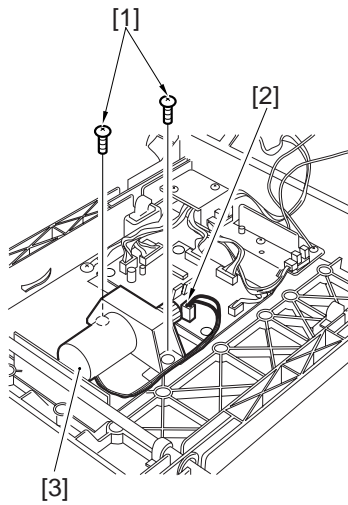
3) Remove the 2 screws [1], and detach the reinforcing plate [2].
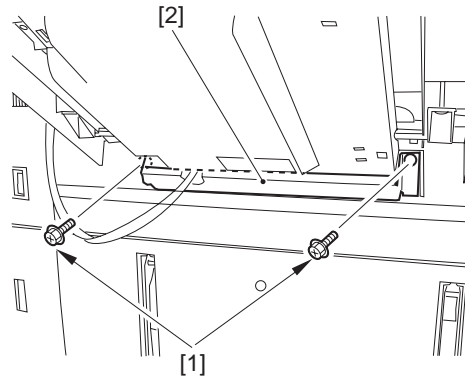
F-3-21

4) Remove the screw [1], and disconnect the connector [2].
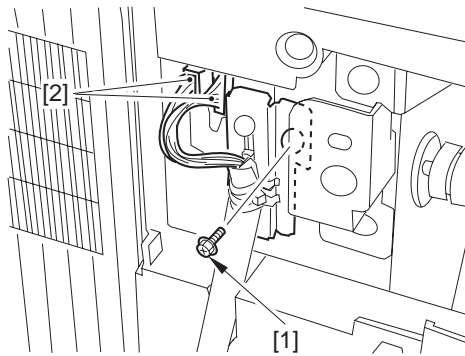
F-3-22

5) Remove the screw [1].
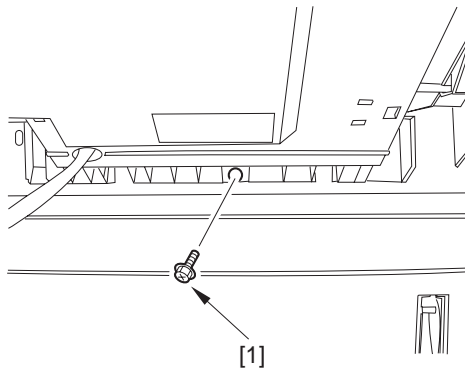
F-3-23

6) Move the shift tray [1] to the right to detach the shift tray [1] from the host machine.

F-3-24
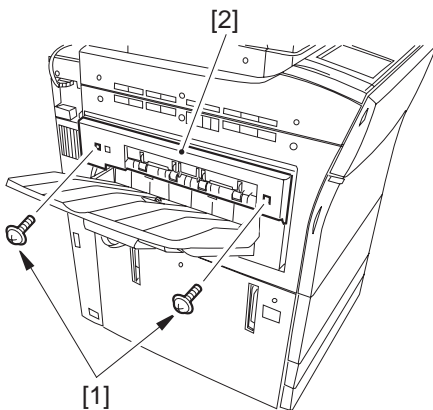
3.3.1.2 Removing the Shift Tray Driver PCB

1) Free the 2 retaining claws [1], and detach the cable retaining plate [2].
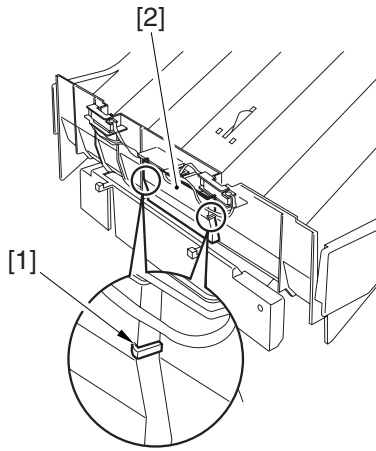
F-3-25

2) Remove the 2 screws [3], and detach the 2 tray full sensors [4] and the 2 grounding wires.

3) Free the cable of the tray full sensor from the clamp [5], and disconnect the connector [6].
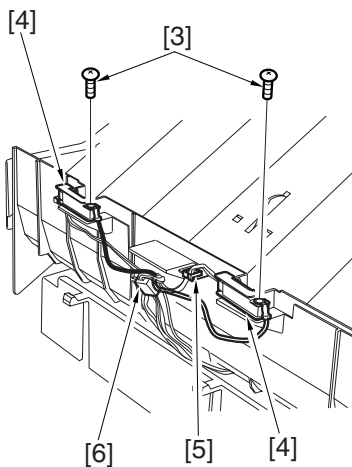
F-3-26

4) From the back of the shift tray, remove the 4 screws [7] and detach the 4 shaft retainers [8]; then, detach the tray drive assembly [9].
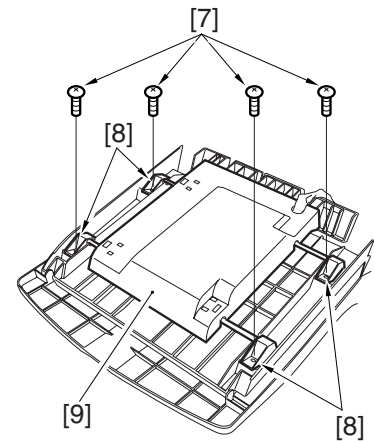
F-3-27

5) Pull off the shaft [10] from the tray drive assembly; then, remove the 3 screws [11], and detach the shield cover [12].
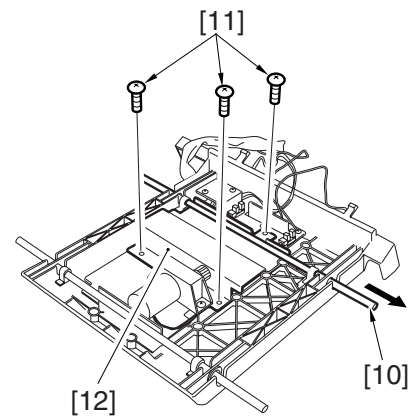
F-3-28

6) Remove the 4 screws [13], and detach the shift tray driver PCB [14].
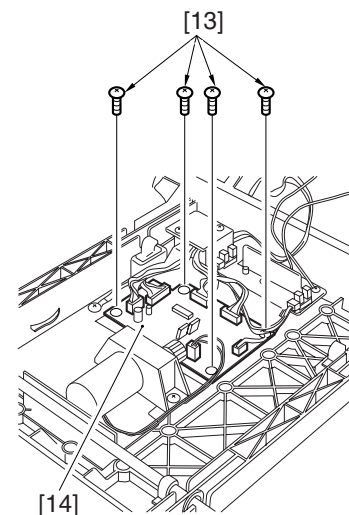
F-3-29

Chapter 4

Maintenance

Contents

4.1 Adjustment

4.1.1 Adjustment at Time of Parts Replacement

4.1.1.1 Adjusting the Tray Full Sensor Position
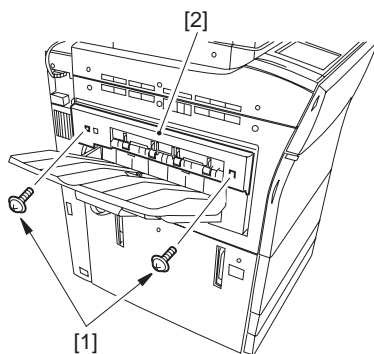
Adjusting the Position of the Shift Tray Full Sensor
Be sure to go through the following whenever you have removed/replaced the tray full sensor (front, rear):
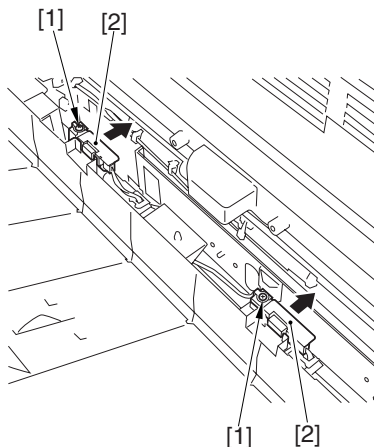1)Remove the 3 face covers [1].
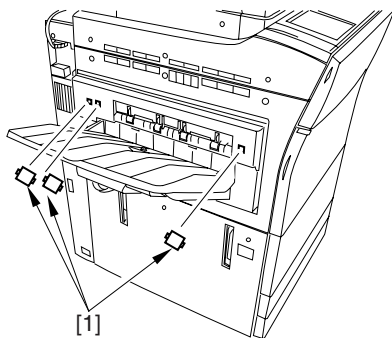
F-4-1

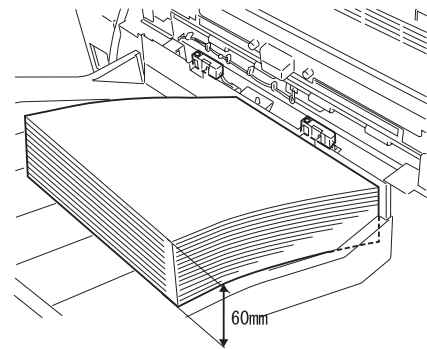2)Remove the 2 screws [1], and detach the delivery unit [2].

F-4-2

3)Loosen the screw [1], and temporarily fix both of the tray full sensors in place where they are farthest from the paper.
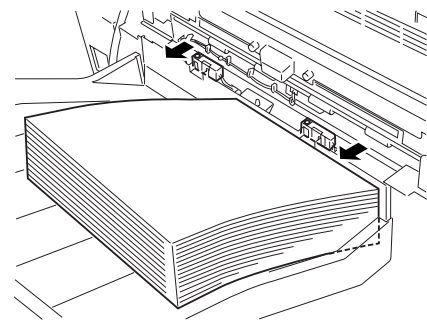
F-4-3

4)Place a stack of paper about 60 mm in height over the point of detection of either of the tray full sensors on the shift tray.
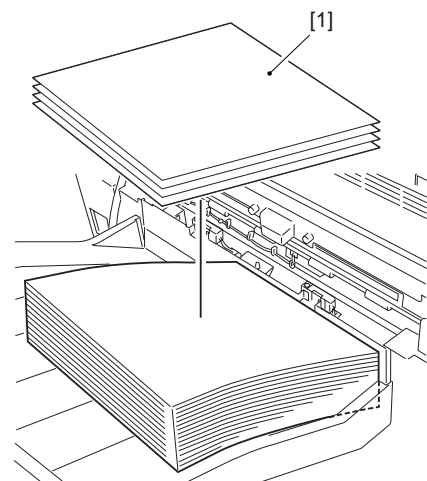
F-4-4

5)Select the service mode item, and press the OK key.
6)While referring to the indication, move the sensor closer to the paper, and fix it in place where 'ON' is indicated.

F-4-5

Memo: If 'ON' is not indicated after moving the sensor closest to the paper, keep adding a sheet of paper until 'ON' is indicated.

F-4-6

7)Perform step 6) for the other sensor.
8)Press the Stop key to end the adjustment.

⚠

1.When moving the sensor (front, rear), be sure to do so starting from where it is farthest from the paper. This is important in respect of the characteristics of the sensor.
2.Be sure that the grounding terminal of the sensor (front, rear) is parallel to the sensor and, moreover, its bend is in downward direction.

Grounding wire terminal
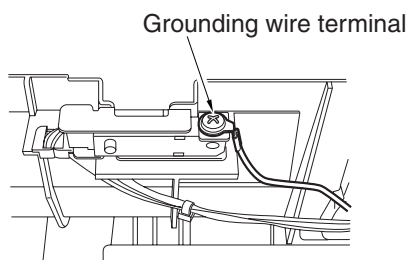
F-4-7

4.2 Outline of Electrical Components

4.2.1 Sensors, Motors, PCBs

T-4-1

Notation	Name	Parts No.	I/O	Connector No.	PART-CHK
	Description				
M101	Shift Motor	FH6-1829		J105	MTR>37
	shifts the tray				
PS101	HP sensor (front)	FH7-7462	P008-2 1:HP detection	J103	
	detects tray stop position (front)				
PS102	HP sensor (rear)	FH7-7462	P008-1 1:HP detection	J103	
	detects tray stop position (rear)				
PS103	Tray paper sensor	FH7-7462	P008-3 0:paper present	J104	
	detects the sheet on the tray				
PS104	Limit sensor (rear)	WG8-5485		J104	
	detects sheet full on the tray				
PS105	Limit sensor (front)	WG8-5485	P008-4 0:full	J106	
	detects sheet full on the tray				
[1]	Shift tray driver PCB	FG6-6841			
	controls tray shifting				
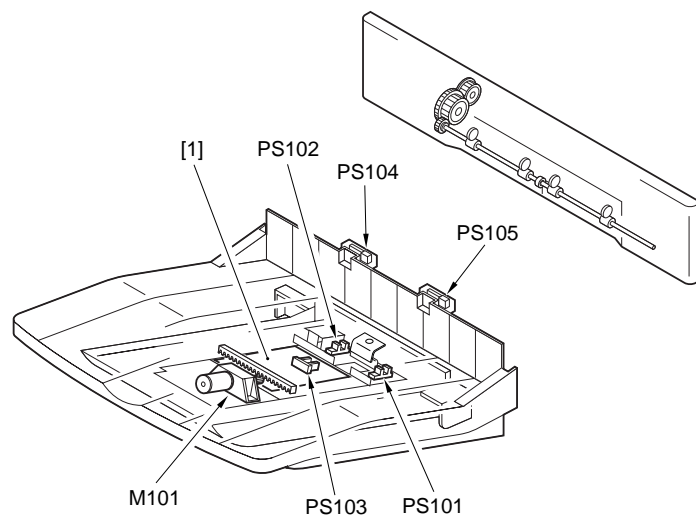
F-4-8

General Circuit Diagram

Canon