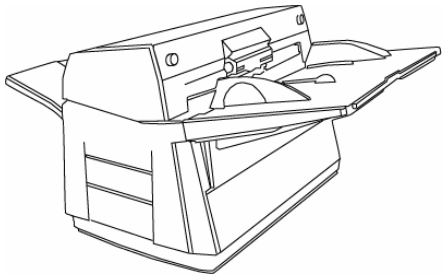
fi-5650C, Image Scanner
fi-565PR, Imprinter
Maintenance Manual



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08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		
07	Jan. 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	**P1PA03338-B5XX/6** CUST.
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Revision Record		
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02	February 20, 2006	P10, 131, 141: Error corrected. P56, 150~164, 201~202, 206~207: For RoHS compliance P123: Notes on HK Ring ME replacement procedure
03	April 14, 2006	P101~105, 154, 169: ADF unit can be separated to ADF Base unit and ADF Upper unit.
04	January 4, 2007	P73, 82, 121, 155, 156: Descriptions of Background units added and modified.
05	April 4, 2007	P89: Deleted P75, 90-96, 130-131: Cleaning procedure, and action to avoid guide rail breakage added.
06	November 26, 2007	P211, 216: Control PCA for Imprinter (part number) changed.
07	January 13, 2009	P9, 15: A8 size revised. P92: “Cleaning inside of the Background Unit B” is applicable to overseas only.
08	May 19, 2009	P142, 145: Notes at offset/white level adjustments added.
09	July 14, 2009	P133, 139-141, 143-148: Notes on maintenance mode added.

The contents of this manual are subject to change without prior notice.

Preface

This manual provides the technical information such as maintenance, troubleshooting procedure and parts replacement procedure for field Engineers on fi-5650C image scanner.
This manual is not responsible if used for other than maintenance.

For information that is not contained in this manual, refer to the following manuals:

Item	Manuals	P/N *
1	fi-5650C Image Scanner Operator's Guide	P3PC-E957-xxEN
2	fi-5650C Image Scanner Getting Started	P3PC-E967-xxEN
3	fi-565PR Imprinter Operator's Guide	P3PC-E977-xxEN
4	fi-5650C Illustrated Parts Catalog	P4PA03338-B50X/6

* xx represents revision number of the manuals.

Convention

Special information, such as warnings, cautions, are indicated as follows:

WARNING

WARNING indicates that personal injury may result if you do not follow a procedure correctly.

CAUTION

CAUTION indicates that damage to the scanner may result if you do not follow a procedure correctly.

NOTICE

NOTICE provides 'how-to" tips or suggestions to help you perform a procedure correctly.

General note:

Be careful not to power off the scanner while communicating with the host computer. In case that the scanner is accidentally powered off during communication with the host, follow the procedure below:

1. Power off the host computer.
2. Power on the scanner.
3. Power on the host computer.

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How Trademarks are Indicated in This Manual

References to operating systems (OS) are indicated as follows:

Windows 95: Microsoft® Windows® 95 operating system.

Windows 98: Microsoft® Windows® 98 operating system.

Windows Me: Microsoft® Windows® Millennium Edition operating system.

Windows 2000: Microsoft® Windows® 2000 Professional operating system.

Windows XP: Microsoft® Windows® XP Professional operating system,
Microsoft® Windows® XP Home Edition operating system.

Windows NT 4.0: Microsoft® Windows® NT® Server operating system Version 4.0
Microsoft® Windows® NT®

Where there is no distinction between the different versions of the above operating system, the general term “Windows” is used.

Contents

Chapter 1 Overview

1.1 Scanner Overview

1.1.1 Features

The fi-5650C, image scanner offers up to A3 paper size scanning through the ADF. It provides faster color document scanning speed than the preceding model (fi-4750C) and has the following features:

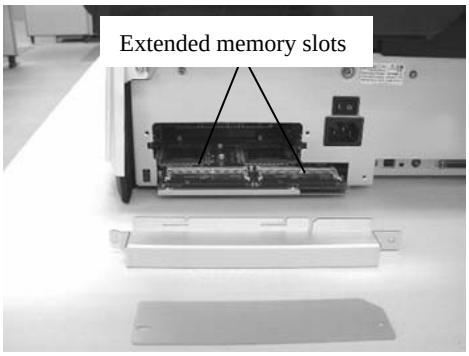
- Direct start of scanning from the scanner with “Send to” or “Scan “ button
- Ultra SCSI or USB 2.0 interfaces
- Wide range of paper weight
- Ultrasonic double feed detection
- Selectable background color (black or white) in the ADF.

An imprinter (option) can be installed on the scanner.

1.1.2 Scanner Specification

No.	Items		Specifications			Remarks
1	Operating method		Automatic Document Feeder (ADF)			
2	Optical resolution		600 dpi			
3	Output resolution		Binary: 50 - 600dpi Grayscale: 50 - 600 dpi Color: 50 - 600 dpi			Note 1
4	Bit depth		Color 24bit, Grayscale 8bit, Binary 1bit			
5	ADF Specification	Scanning speed	Binary / Grayscale / Color, Simplex: 55 ppm @200/300 dpi, A4 Portrait Duplex: 110 ipm @200/300 dpi, A4 Portrait			
6		Document size	Maximum. A3 (Portrait) Minimum. A8 (~~53~~ 52x74mm) (Portrait) 07			Note 1
7		Document thickness	A4 / Letter or smaller: 41 to 203 g/m^2 (11 to 54 lb.) Larger than A4 / Letter: 52 to 203 g/m^2 (13.9 to 54 lb.)			
8		ADF paper chute loading capacity	Maximum: 200 sheets (A4, 80g/m^2 or 20lb.)			Refer to 1.2.3
9		Stacker capacity	Maximum: 300 sheets (A4, 80g/m^2 or 20lb.)			
10		Paper loading	Front facing down			
11		Background	Selectable (black or white) The same color is chosen on both sides.			
12		Double feed detection	Yes (Ultrasonic sensor, document length detection)			Refer to 5.2.1
13	Optical system		Minification optical system			
14	Light source		White cold cathode discharge fluorescent lamp x4, with heater			
15	Interface		Ultra SCSI (High density 50 pin) x1 USB 2.0 x 1 (Type B) Third party slot (Type 3) x1			Also works with USB 1.1.
16	Attached driver		FJ TWAIN, ISIS			
17	Operator panel		Switch: Scan, Send to, Function Lamp: Power, Scanner status (Function No. Display)			
18	Option		Item	Specification	Function	
			Imprinter option	PA03338-D301	Letter printing on the document	Refer to Chapter 9
			Image processing software option	PA43400-D72201	Image processing (Threshold)	Processing speed is deteriorated slightly when using it. Software IPC

Note 1) Depending on system configurations or PC status, document feeding may stop intermittently during scanning of large document or high resolution as described below, and processing speed is deteriorated. To avoid temporary suspension of scanning, 2 extended memory slots are located under the ADF paper chute (photo on the right). Memory specification is listed in the table below. Be sure to fill both slots with the same memory type. If memories with different capacity are mounted, "E15" (Extended memory alarm, section 5.2.2) is displayed on the Operator panel immediately after power-on. Then, scan is performed according to the memory with smaller capacity.



The condition that may cause speed deterioration :

Scan mode:	Color simplex / duplex
Document size:	B4, A3, 11" x 17"
Output resolution:	400 dpi or more

Processing speed example at A4, Portrait, 600dpi, duplex scanning
60ipm (with extended memories installed)
50ipm (without extended memories)

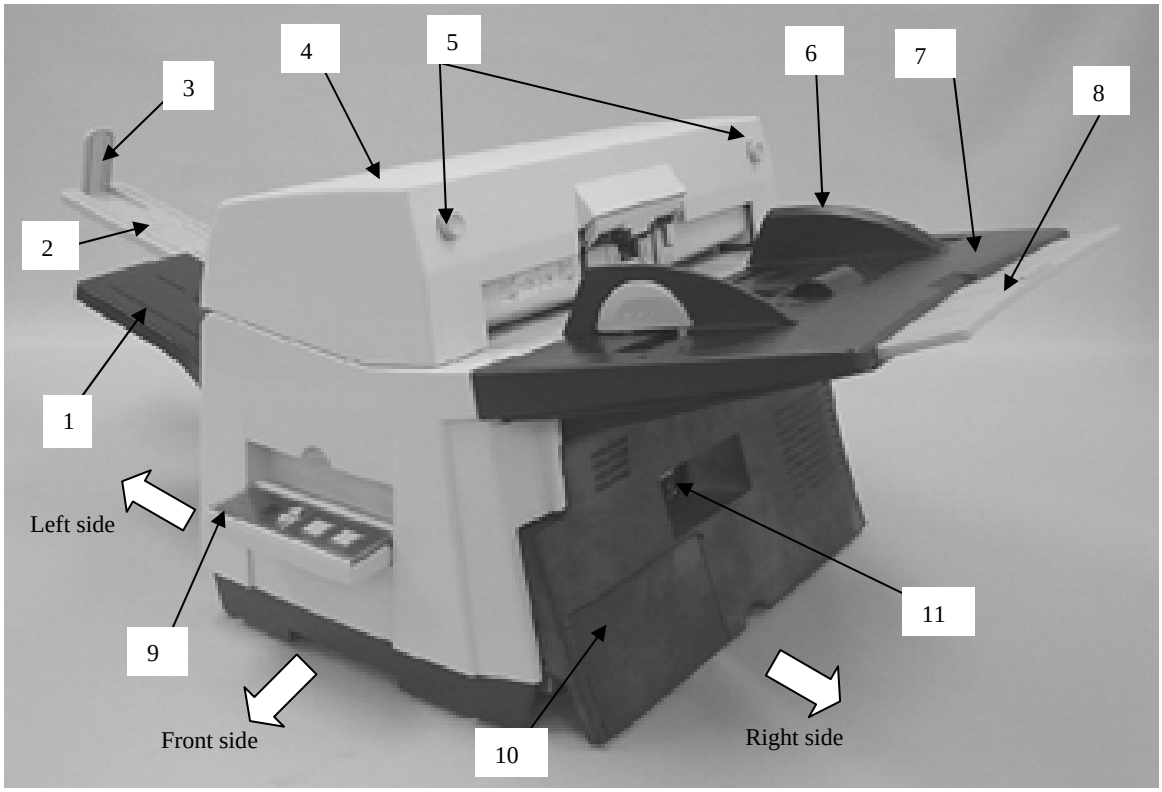
Name	Specifications	Recommended model type
Extended memories	128M Byte SO-DIMM 256M Byte SO-DIMM (2 memories are required for a scanner.)	CA46210-0053 CA46210-0048

1.1.3 Environmental Specification

No.	Items		Specifications
1	Input power		AC100V to 240V ± 10%, 50/60Hz ± 3%
2	Power consumption		Max. 216 W or less (Rated power)
3	Noise		50 dB or less
4	Outer dimensions (mm)		639 (W) x 428 (D) x 296 (H) mm / 25.2 (W) x 16.9 (D) x 11.7 (H) in 02 (with the Operator panel closed)
5	Installation space (mm)		1179 (W) x 686 (D) x 600 (H) mm / 46.4 (W) 27.0 (D) 25.4 (H) in 02
6	Weight (kg)		17 kg (37.5lb.) or less
7	Environmental condition	Temperature	Operating: 5 to 35 °C (41 to 95 °F) Not operating: -20 to 60 °C (-4 to 140 °F) 02
		Humidity	Operating: 20 to 80 % Not operating: 8 to 95 %

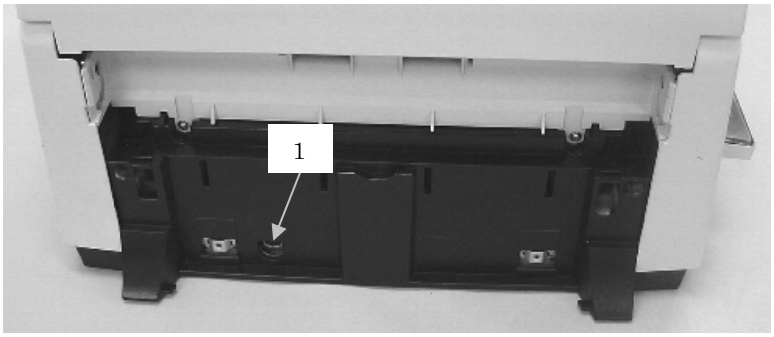
1.1.4 Appearance

(1) Front



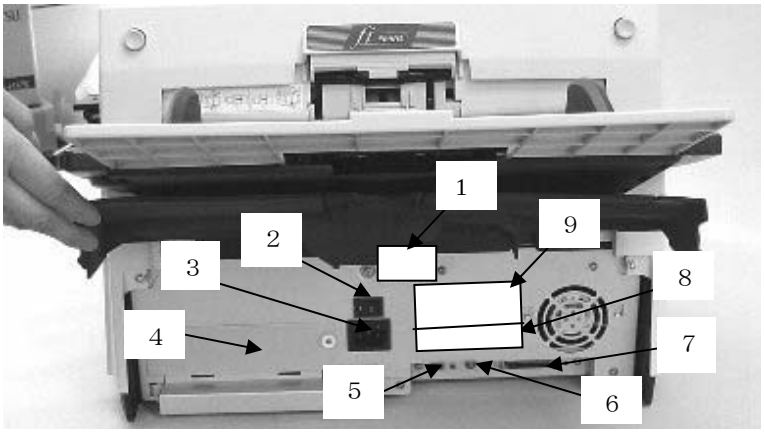
No.	Parts name	Function
1	Stacker	Scanned documents are ejected from the ADF onto this tray. It is possible to change the height of the stacker.
2	Stacker extension	Pull out and adjust to the paper length.
3	Stopper	Open this to prevent the document from falling from the stacker.
4	ADF (Automatic Document Feeder)	It transports documents to the scanning position automatically.
5	ADF buttons	Press these buttons to open the ADF, for example, in order to remove jammed documents in the ADF.
6	Side Guide	Adjusts to the width of the paper to eliminate paper skew.
7	ADF paper chute	Holds the documents that are to be fed through the ADF in place.
8	ADF paper chute extension	Pull out when scanning a long size documents.
9	Operator panel	This panel consists of a Function No. Display, four operating push buttons and a LED. Operation can be conducted from either of two sides of the scanner. (The same operator panel exists on the opposite side. See (3) of this section.) Can be closed and compactly stored when not in use.
10	Cable cover	Covers the AC cable and interface cables.
11	Hole for power switch and power inlet	Power switch and power inlet are available with the cable cover closed.

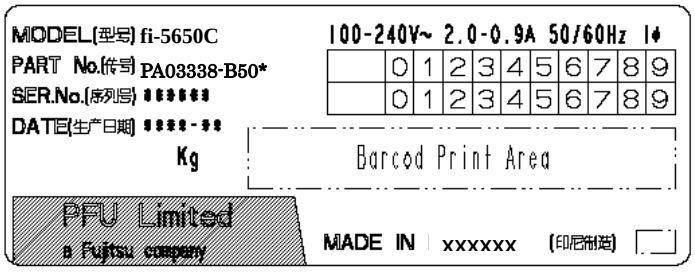
(2) Sides



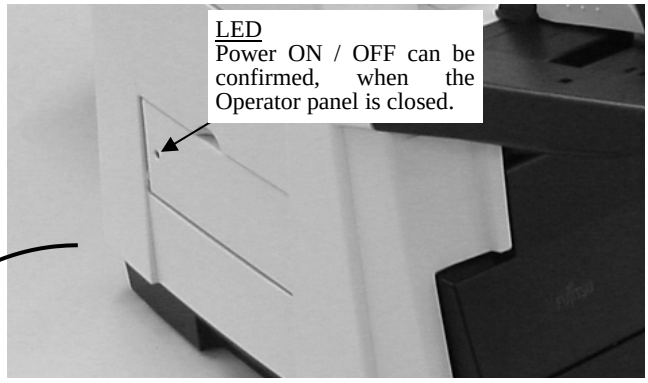
[Left side]

[Right side]
Inside of the Cable cover

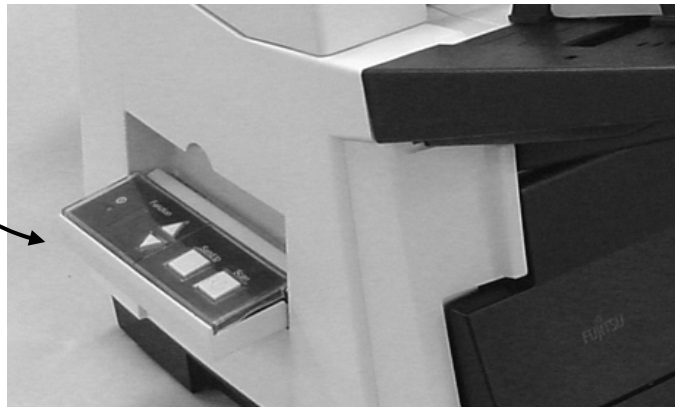


No.	Parts name	Function
1	EXT connector	Connector port for optional units. (Used when the Imprinter is installed.)
2	Power switch	Used for turning ON/OFF the scanner.
3	Power inlet	Used for connecting a power cable from the power outlet.
4	Third party slot	The slot for an optional board.
5	USB interface connector	Used for connecting a USB interface cable from a PC.
6	SCSI ID switch	Used for setting the SCSI ID. (Default ID is “5”.)
7	SCSI interface connector	Used for connecting a SCSI interface cable from a PC.
8	Certification label	
9	Manufacturing label	
10	Electric shock caution label	Message: Disconnect power cord before doing Maintenance Work.

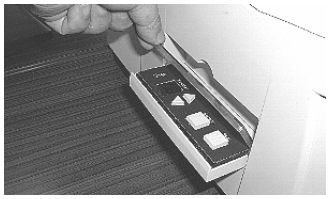
(3) Operator Panel

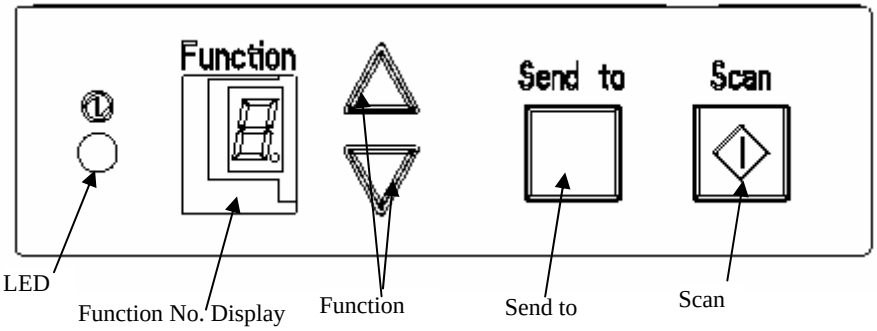


Open



Ref) Open the cover of the operator panel, and you can change the descriptions on the panel by mounting the sheet with holes on the buttons and LED.



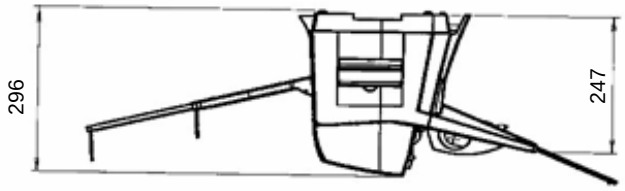


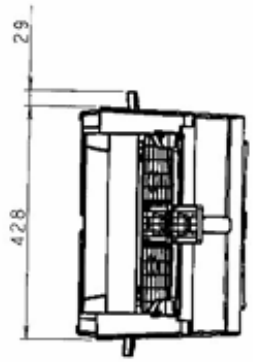
Name		Function
Function No. Display		Indicates the function No. and Error status (alarm).
Button	Function	Change the Function activated by the [Send to] button.
	Send to	Launches the linked application software.
	Scan	
LED	①	Lights when the scanner is turned ON.

1.1.5 Outer Dimensions

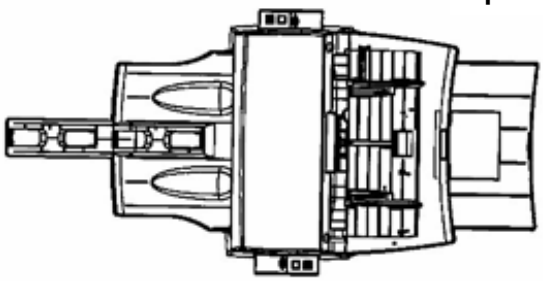
Unit: mm

Back view

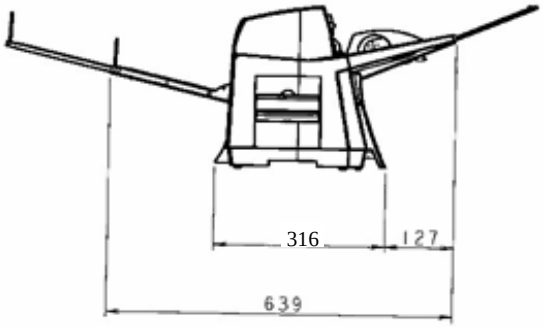




Top view



Exit view



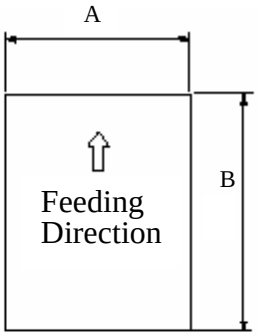
Front view

1.2 Document Specification

The following is the ADF document specification for the fi-5650C. Following these guidelines will improve the feeding reliability of the ADF.

1.2.1 Document Size

The following is the document size range for the fi-5650C scanner.



Maximum		Minimum	
A	B	A	B
297mm (11.7 in.)	431.8mm (17 in.)*1	~~53~~ 52mm (2.0 in.) 07	74mm (2.9 in.)

*1 Document with lengths of up to 863mm / 34 inches can be scanned if long page scanning is set. Paper jams will not be detected.

1.2.2 Document Quality and Thickness (Weight)

- Recommended Document Type

- Woodfree paper
- Paper containing wood

- Paper thickness

Paper thickness is expressed by the “Paper weight” specification. The following paper weights are the spec for ADF scanning.

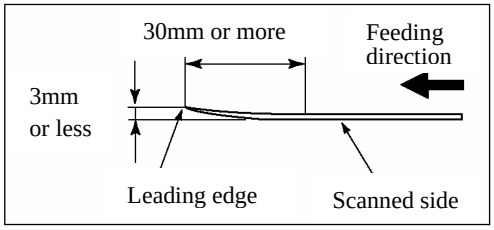
Paper size	Paper weight	Remarks
A4 / Letter or smaller	41 to 203 g/m^2 (11 to 54 lb.)	A4 : 210 x 297 mm
Over A4 / Letter	52 to 203 g/m^2 (13.9 to 54 lb.)	

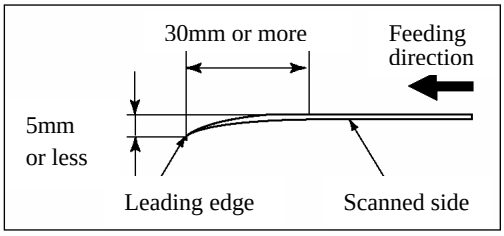
When scanning paper other than the type or weight listed above, perform a test-scan with a few sheets before executing the actual task in order to check whether or not the document can be scanned.

- Precautions

Scanning the following documents through the ADF is not recommended

- Document of non-uniform thickness (e.g. envelopes)
- Wrinkled or curled documents (See right figure)
- Folded or torn documents
- Tracing paper
- Coated paper
- Carbon paper
- Carbonless paper
- Photosensitive paper
- Perforated or punched documents
- Documents that are not square or rectangular
- Very thin documents



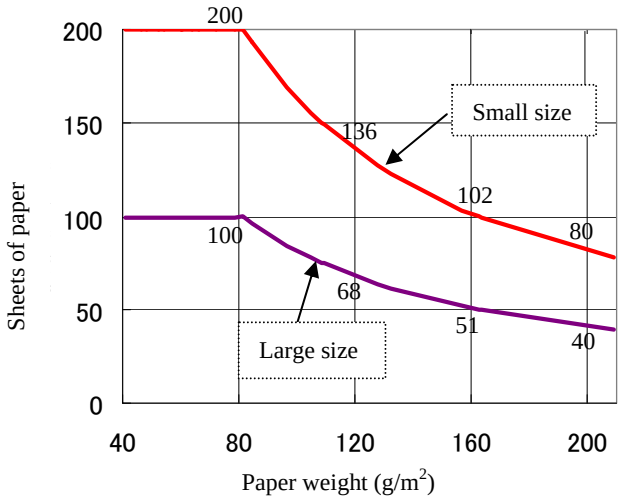


Do not scan the following documents through the ADF:

- Paper-clipped or stapled documents
- Documents where the ink is still wet
- Documents smaller than A8 (Portrait) in size
- Documents larger than A3 or 11 in. x 17 in. size
- Documents other than paper such as fabric, metal foil or transparencies

1.2.3 ADF Capacity

The maximum number of sheets that can be loaded on the ADF paper chute (Capacity of ADF) changes depending on the paper size and weight. The following graph shows the capacity of ADF with respect to paper weight.



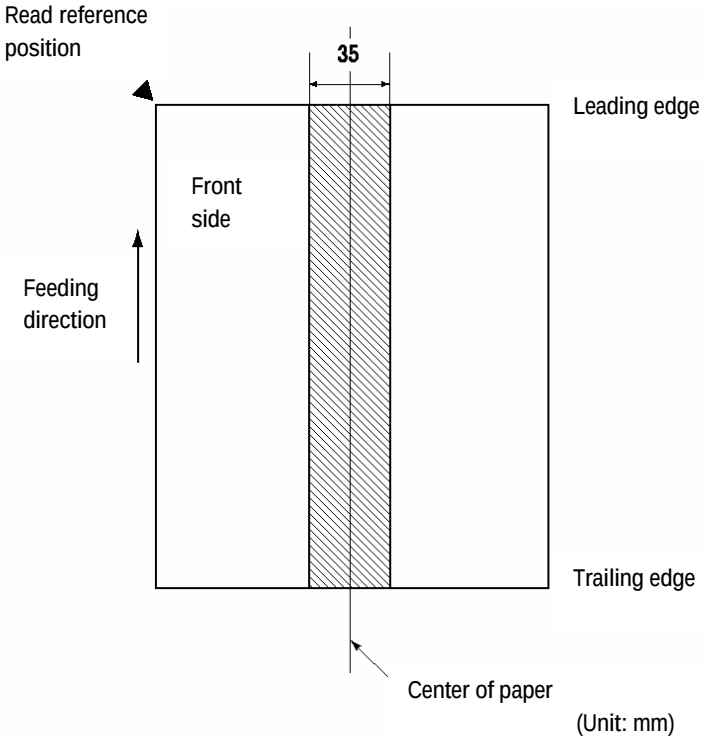
Small Size:
The documents of A4/Letter or smaller size

Large Size:
The documents over A4/Letter size

Unit	Conversion								
g/m^2	41	52	64	75	80	90	104	127	203
lb	11	13.9	17	20	21	24	27.9	34	54

1.2.4 Areas not to be Perforated

Document feeding problems may occur if there are any punched holes in the shaded area in the figure below.



1.2.5 Double feed Detection Conditions

One of the following 3 methods of double feed detection is available in the scanner.

- Check overlapping
- Check length
- Check overlapping and length

The following conditions are required for each selection:

1) Check overlapping

- Paper weight: Refer to section 1.2.2.
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document
- Other paper shall not be glued within 35 mm (1.4 in.) of the vertical centerline of the document

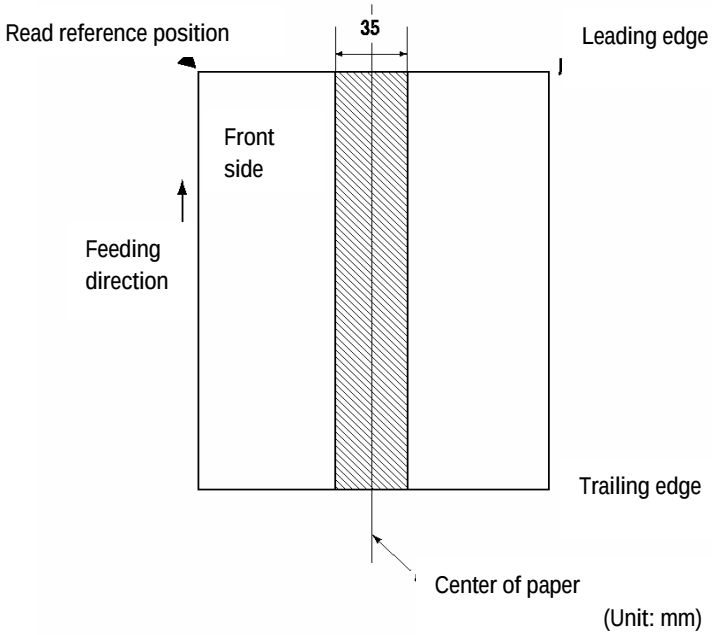
2) Check length

- Document length deviation: 1 % or less
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document

3) Check overlapping and length

- Paper weight: Refer to section 1.2.2.
- Document length deviation: 1 % or less
- Punched holes are not allowed within 35 mm (1.4 in.) of the vertical centerline of the document
- Other paper shall not be glued within 35 mm (1.4 in.) of the vertical centerline of the document

When overlapping check is specified and glued paper or electro-statically charged paper is fed, a false double feed may occur. Double feed may be miss-detected depending on the condition of documents.



1.2.6 Condition for De-skew and Automatic Document Size Detection (Automatic Cropping)

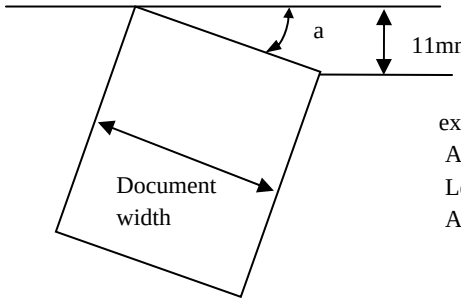
Available scanning mode:

Binary / Grayscale / Color

Following condition is required for correct De-skew and Auto-cropping.

1) Paper weight: 41 to 203 g/m^2 (11 to 54lb)
2) Shape of document: Rectangular
3) Documents cannot have a black border within 5mm of the edge of the page.
4) Skew angle (a) must be less than the following angles.

<ADF>



ex)

A4 size:	a=Less than 6.0 degrees
Letter size:	a=Less than 5.0 degrees
A8 size:	a=Less than 24.0 degrees

NOTICE

This function may fail due to the noise of image. Cleaning of the ADF may be effective to reduce this error rate.

Chapter 2 Installation

2.1 Unpacking the Scanner

⚠CAUTION

Injury: This scanner weighs 17kg (35.5lb.). One person lifting the scanner may cause personal injury.

Follow the procedure below to unpack the scanner. Make sure that all the accessories are included in the package.

(1) Cut the tape and open the box.

(2) Remove the appended goods box.

(3) Remove the cushions TF and TR, then remove the scanner from the box.

(4) Remove the scanner from the polyethylene bag.

(5) Remove all the accessories and remove the tape protecting the scanner.

The following table lists the packaging configuration.

Table 2.1 Packaging configuration list

No.	Items	Quantity
1	Appended goods box (Items included: ADF paper chute, stacker, CD-ROM, Manual, etc.)	1
2	Cushion TR	1
3	Cushion TF	1
4	Scanner in Polyethylene bag	1
5	Cushion BR	1
6	Cushion BL	1
7	Lower package box	1

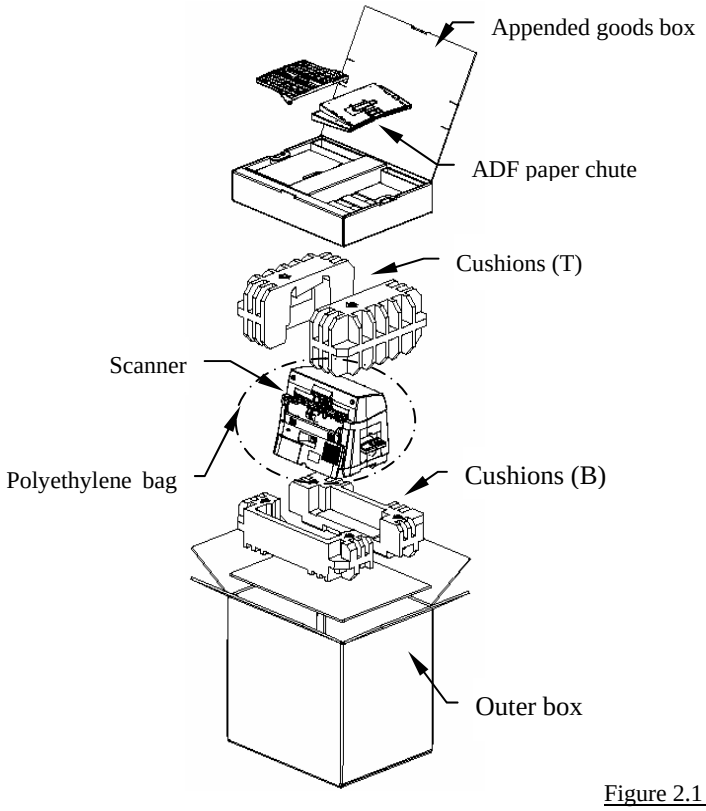


Figure 2.1 Packaging configuration

2.2 Installing the Scanner

2.2.1 For Safety Installation

Before installing the scanner, read the following precautions carefully to avoid scanning trouble.
Refer to Section 1.1.3 “Environmental Specification” for information on input power and Section 1.1.5 for outer dimensions.

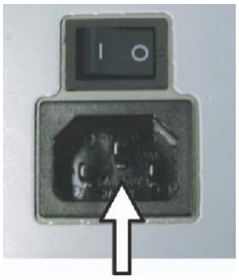
- Install the scanner away from strong magnetic fields and other sources of noise.
- Do not install the scanner near heating apparatus or in the direct sunlight.
- Install the scanner in a location which is level and subject to minimal vibration.
- Do not install the scanner in locations subject to humidity and dust.
- Do not block the ventilation ports.
- Protect the scanner from static electricity.
- Use attached AC Cable, and use proper AC voltage.

NOTICE

Make sure the rubber pads on the bottom of the scanner are level on the table or desk.

2.2.2 Installation

Install the scanner by following the procedures below.

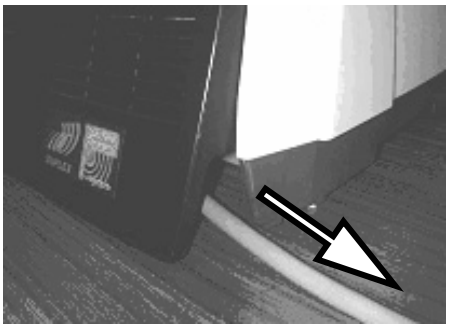


1) Place the scanner in a horizontal position.

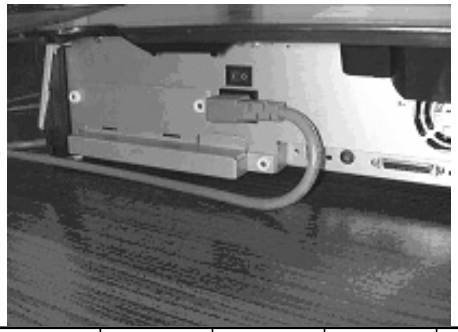
2) Install the ADF paper chute and the Stacker on the ADF (Section 6.6.1, 6.6.3).

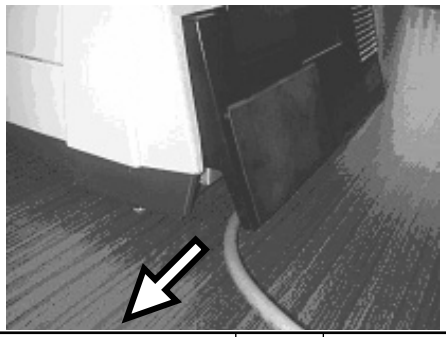
3) Connect the AC cable to the scanner.
Open the cable cover located below the ADF paper chute and insert the AC cable into the power inlet. Once the cable is connected, close the cable cover.

Note: Lead out the AC cable from the conduit located at the bottom of both sides of the cable cover.
<When leading out the AC cable from the right side>

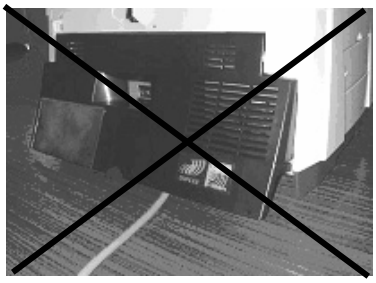


<When leading out the AC cable from the left side>





Do not lead out the AC cable as shown below, since the cable cover may pinch and damage the AC cable.



4) Connect an interface cable to the scanner and PC. Refer to Section 1.1.4 (2) for the positions of the connection ports.

Note 1 Use either USB interface or SCSI interface.
For the users of Windows 95 or Windows NT 4.0, use SCSI connection. USB interface is not supported.
As for the users of Windows 98, Windows Me, Windows 2000 or Windows XP, either SCSI or USB can be used.

Note 2 When using the USB interface, use the USB cable provided with the scanner. Scanner performance is not guaranteed for a cable other than the one provided with the scanner.
As for a connection with USB HUB, use the nearest HUB connection port (in the first line).

Note 3 When using the SCSI interface, a SCSI host adapter and cable must be purchased separately.
- SCSI cable
When selecting the SCSI cable, be aware the scanner has a 50 pin high density SCSI connector. The other side of the cable is dependent on the host adapter chosen.
- SCSI card
Refer to the following web site for recommended SCSI host adapters:
http://imagescanner.fujitsu.com/
When using the SCSI interface, make sure the scanner is the last device on the bus.

5) Press the "I" area of the power switch to turn the scanner ON.

6) If the SCSI interface is used, set the SCSI ID in the following procedure.
   a. Power OFF the scanner.
   b. Turn the SCSI switch at the rear of the scanner (Refer to Section 1.1.4 (2) for its position) to set the SCSI ID.

ID No.	Contents
0 to 7	Available ID's
8,9	The SCSI ID is set to the default of 5.

   c. Power ON the scanner. The specified SCSI ID is enabled.

Note 4 The SCSI ID has been set to No.5 at the factory. If other equipment is set to the same ID, change the ID of the scanner or the other equipment.

2.2.3 Installation of Software

The following scanner drivers and application software are included with the scanner.

- FUJITSU TWAIN 32 Scanner driver
- FUJITSU ISIS Scanner driver

- ScandAll 21 (for FUJITSU TWAIN 32 scanner driver)
- QuickScan Pro Demo (for FUJITSU ISIS scanner driver)

- Error Recovery Guide (When a scanner error occurs, a guide to resolve the error can be displayed on the screen.)

For the installation procedure, refer to the “fi-5650C Image Scanner Getting Started” provided with the scanner.

Note that a program to set “Scanner and Camera Properties” is automatically installed when you install TWAIN driver included in the attached CD. Please refer to Appendix A for operation.

Chapter 3 Operation and Daily Maintenance

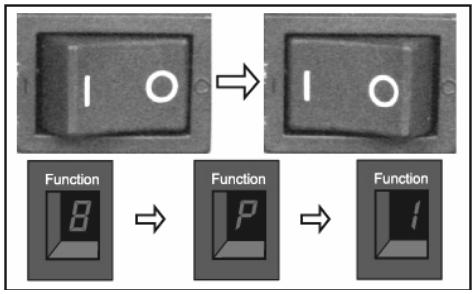
3.1 Basic Operation

3.1.1 Power ON/OFF

(1) Turning ON the power

Press the “I” area of the power switch to turn the power ON. The green LED on the operator panel lights. The Function No. display on the operator panel will be changed as shown below during initial processing.

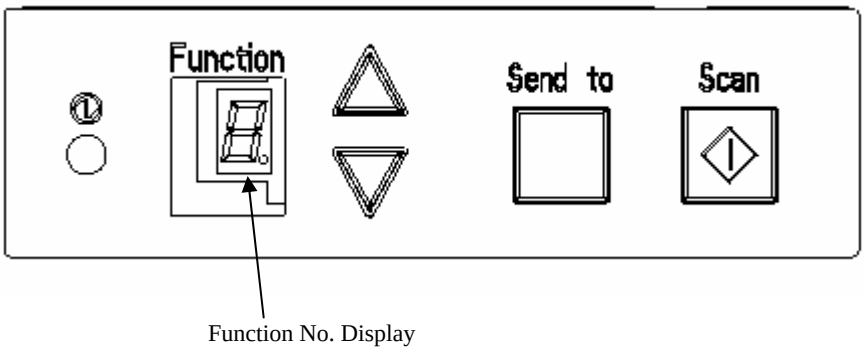
“8” → “P” → “1”



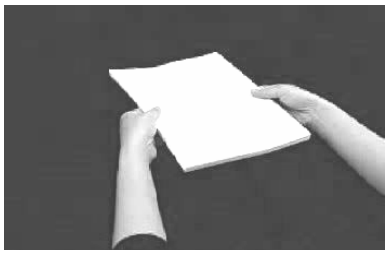
When the Function No. display shows “1”, the scanner is READY.

(2) Turning OFF the power

Press “O” area of the power switch to turn the power OFF.



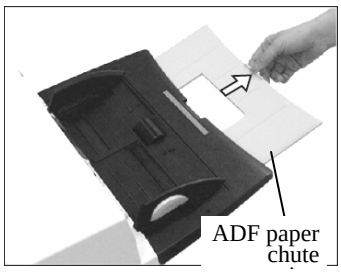
3.1.2 ADF Scanning Operation



ADF scanning is operated as follows:

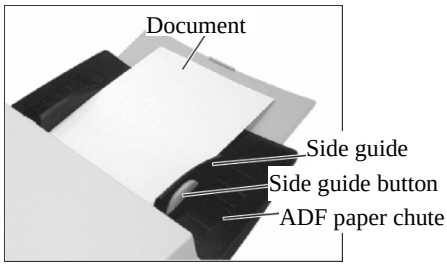
1) Fan the documents.
   - Lightly grip both end of the document, then band and fan it.
   - Repeat this operation a couple of times.
   - Rotate the document 90 degrees, then bend and fan it again.
   - Align the edges of the documents.

2) Set the documents face down onto the ADF paper chute (so that the side to be scanned faces towards the ADF paper chute).
   Pull out the ADF paper chute extension according to the length of the document.



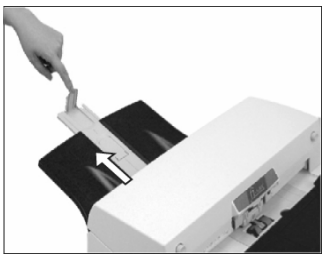
NOTICE

(1) Remove clips and/or staples from the document. Flatten the staple holes. If double feeds or miss picking occurred, reduce the quantity of document on the ADF paper chute.
(2) Make sure that the document satisfies the specification in Section 1.2.
(3) When loading small documents onto the ADF paper chute, be careful not to touch the Chute roller cover for it may open while scanning operation and your fingers may get caught.

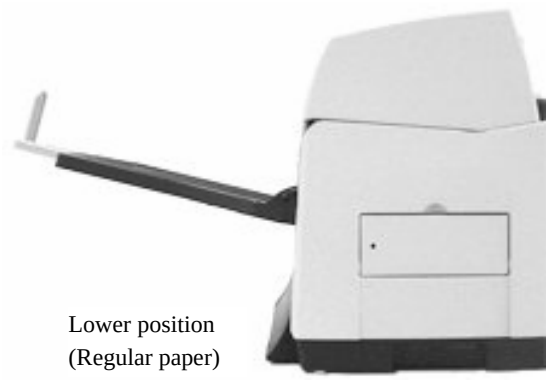


3) Adjust the side guides to the width of the documents.
   Move the side guides so that they contact both sides of the documents. If there is any space between the side guides and the edges of the documents, the scanned image may be skewed.

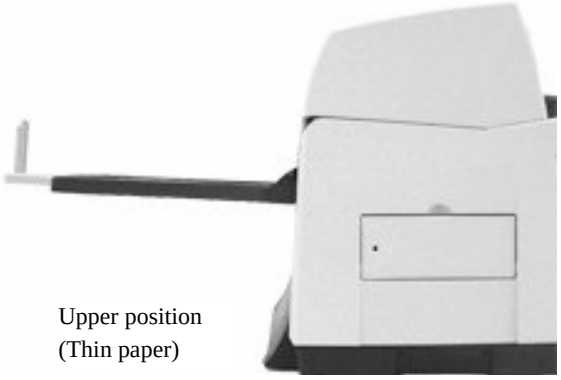
4) Adjust the stacker extension according to the document size so that the scanned documents will not fall and raise the stopper.



5) Adjust the stacker level.
   The level of the stacker can be changed according to the type and amount of paper. Place the stacker on the lower level in a slant position for paper of regular thickness. However, lightweight or thin paper or for paper that is slightly curled, bring the stacker to its upper horizontal position.



Lower position
(Regular paper)



Upper position
(Thin paper)

6) Start the ADF scanning using the application software. The following is the scanning procedure when using ScannedAll 21.

1. Start ScandAll 21,
   Select [Start] - [Program] – [Scanner Utility for Microsoft Windows] – [ScanedAll 21].
2. Select [Select source] from the [Scan] menu.
3. Select “FUJITSU fi-5650Cdj” and click the [Select] button.
4. Click the [Scan To View] button on the tool bar.
5. Set the scan resolution, paper size, etc., and click the [Scan] button.

When scanning of the documents is completed, an image is displayed on the ScandAll 21 screen. Refer to [ScandAll 21 Help] for the functions and operations of ScandAll 21.

3.2 Set up Mode (Software Operation panel)

3.2.1 Setting Item List

No.	Item	Description	Settings	Initial Value
1	Double feed (See section 3.2.3)	Specifies double feed detection method. The scanner monitors differences in document length, overlapping or both, for detecting double-feeds.	None / Check Overlapping / Check Length / Check Overlapping and Length For setting the length difference detection, select 10/15/20mm.	None
2	Page Edge Filler (ADF) (See section 3.2.4)	Specifies area to be erased from image margins when scanning documents.	Top/Bottom/Right/Left: set the value from 0 to 15mm (can be changed by 1mm) Bottom: –7 to7 mm by 1mm	Top/Bottom/Right/Left: 0mm
3	Dropout Color (See section 3.2.5)	Use this function to drop out a color in Grayscale or Binary mode.	Red, Green, Blue, White (No dropout)	Green
4	Pre-pick (See section 3.2.6)	Select "Yes" to enable Pre-picking, otherwise select "No".	Yes/No	Yes
5	Consumable Counter/ Reset (See section 3.2.7)	Used to know when to replace the consumable items. After replacing the consumable, reset this counter.	To reset: Brake roller Pick roller	-
6	Offset Adjustment (See section 3.2.8)	Set the horizontal and vertical offset for scanning. (This setting is for adjusting image position. Offset value in Section 7.1.4 is not affected.)	Main: -2 to 3mm (can be changed by 0.5mm) Sub: -5 to 5mm (can be changed by 0.5mm)	Right & Left: 0mm Top & Bottom: 0mm
7	Magnification Adjustment (See section 3.2.9)	Set the magnification of a scanned image. (This setting is for image size adjustment. Magnification value in section 7.1.3 is not affected.)	-6.3% to 6.3% (can be changed by 0.1%)	0%
8	Sleep Mode (See section 3.2.10)	Set the waiting time for the scanner to switch into the power save mode	You can set the waiting time from 15 minutes to 55 minutes (can be changed by 5 minutes)	15 minutes
9	Automatic Page Size Detection (See section 3.2.11)	Automatic Page Size Detection is a function to extract the image data of actual paper size. It also corrects skewing. This function may be used for OCR scanning. Normal: A standard setting that does not deteriorate scanning speed. High quality: A setting to emphasize this function. Processing performance may be deteriorated depending on the scanning condition.	High quality / Normal	Normal
10	Resetting remaining ink counter (with the Imprinter installed) (See section 3.2.7)	Resets the counter after ink cartridge replacement.	Reset (remaining ink display)	---

No.	Item	Description	Selectable Parameter	Initial Value
11	Activating Imprinter (with the Imprinter installed) (See section 3.2.12)	Enables or turns ON the Imprinter.	Enable / Disable Enable: Characters can be imprinted. Disable: Characters cannot be imprinted	Disable
12	Digit number of the counter (with the Imprinter installed) (See section 3.2.12)	Specifies how many digits of the counter will be imprinted.	5 digits / 8 digits	5 digits
13	Initial value of the counter (with the Imprinter installed) (See section 3.2.12)	Specifies the initial value of the counter to be imprinted.	5 digits: 0 to 9999 8 digits: 0 to 16777215	0
14	Reset of imprinting counter (with the Imprinter installed) (See section 3.2.12)	Select to reset the imprinting counter to an initial value set above (#13).		---
15	Resetting condition of imprinter counter (with the Imprinter installed) (See section 3.2.12)	Set "Yes" if you reset the imprinter counter to the initial value when there is no paper in the ADF paper chute (when the "No paper on the ADF paper chute" error occurred).	Yes / No	No

For the items #1 to 4 and #11 to 15, the settings in this mode will be ignored if specified from the scanner driver.

3.2.2 Accessing the Software Operation Panel

NOTICE

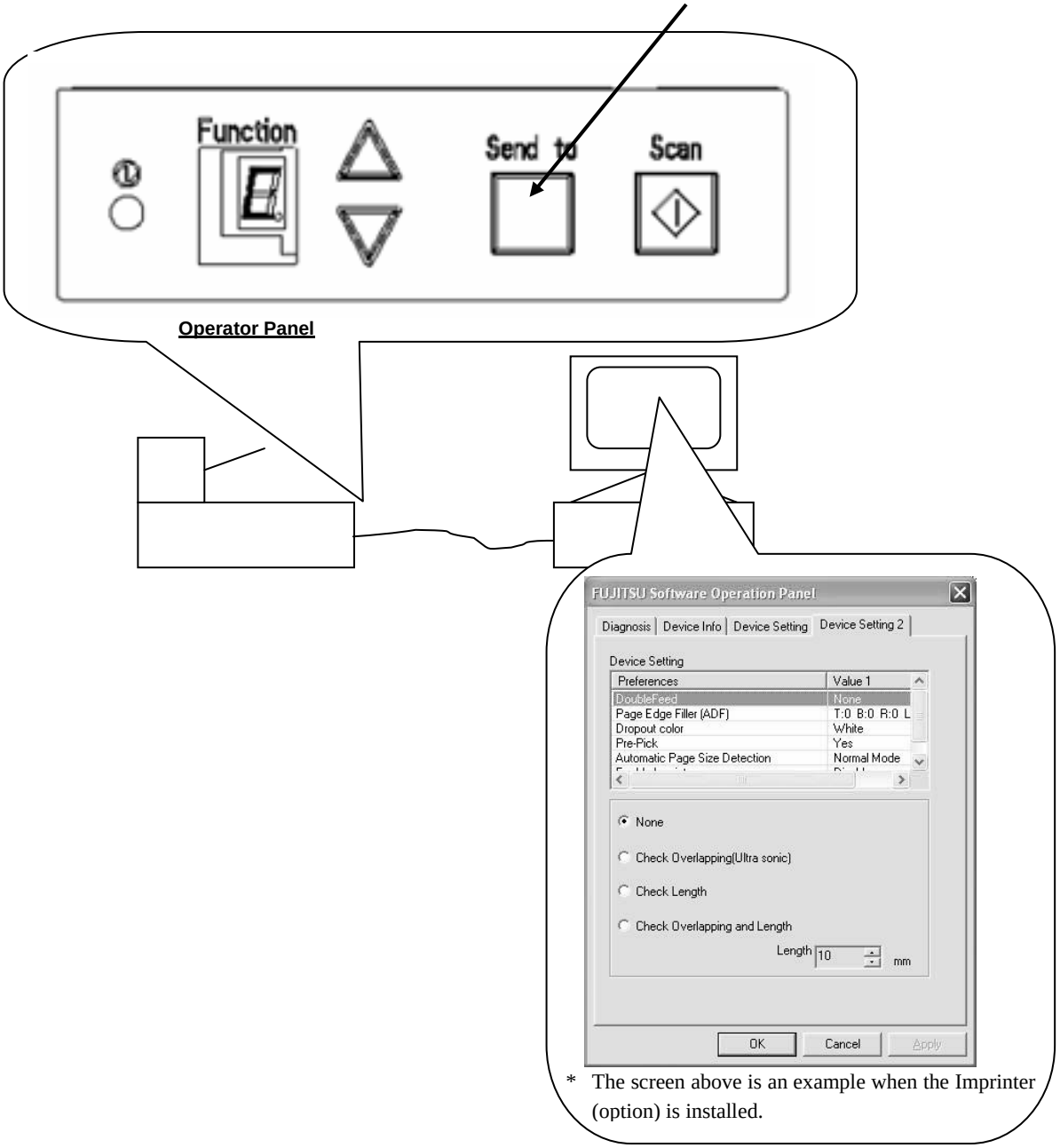
Connect the scanner and the PC, and make sure the scanner driver and the software operation panel are installed. (Refer to the "Getting Started" attached.)

To start the set up mode, follow the procedures below.

(1) Press the Function (△ or ▽) button on the operator panel of the scanner until "C" is displayed.

(2) Press the Send to button on the operator panel. The "FUJITSU Software Operation Panel" is displayed on the PC screen.

Pressing the Send to button when "C" is displayed on the Function No. Display will open the software operation panel.

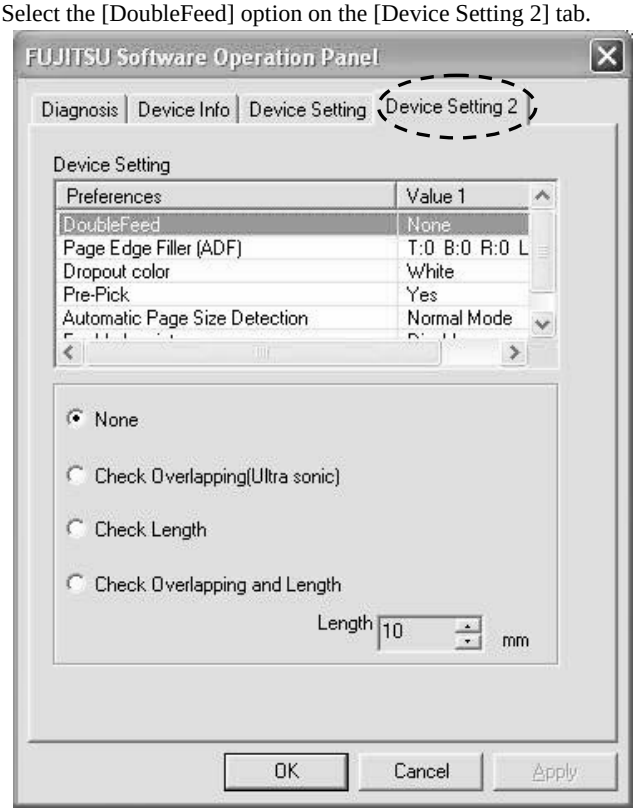


* The screen above is an example when the Imprinter (option) is installed.

3.2.3 Double feed Detection Setting

There are three methods of double feed detection, overlapping detection using the Ultrasonic sensor, detection of document length difference using the TOP sensor, and the combination of these two methods. (Refer to item No.3 in the table in section 5.2.1 for detail.) After entering the Set up mode in the procedure in Section 3.2.2, enable double feed detection by following the procedure below.

(1) Select the [DoubleFeed] option on the [Device Setting 2] tab.



(2) Select the button next to the desired detection method. Select 10, 15, or 20mm if you select “Check length” or “Check Overlapping and Length”.

- None: Does not detect double feed.

- Check Overlapping: Checks the overlapping of paper using the Ultrasonic (US) sensor.

- Check Length: Checks the length of each paper using the TOP sensor. Detects double feed when the difference of the lengths is larger than the length for error detection specified at the bottom of the screen.
  Length for the error detection can be selected among 10, 15, and 20 mm.
  If the length difference is within the value specified in the bottom of the screen, the double feed is not detected.

- Check overlapping and length: Detects double feed in combination of the two methods above.

(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

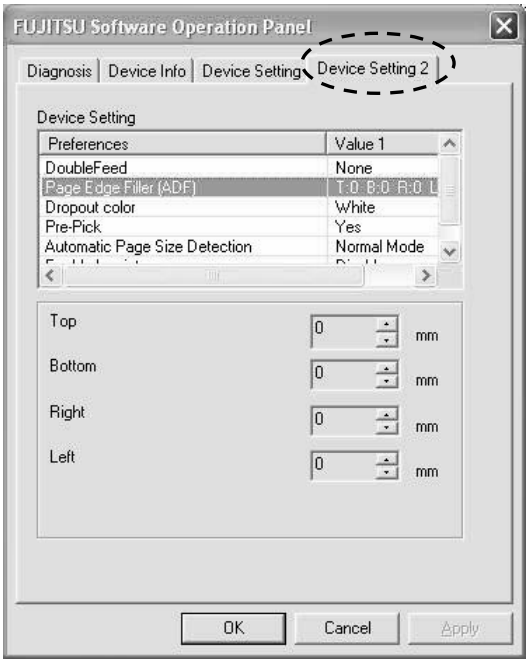
(4) Click the [OK] button.

Note: The FUJITSU TWAIN32 scanner Driver selection has precedence over this setting.

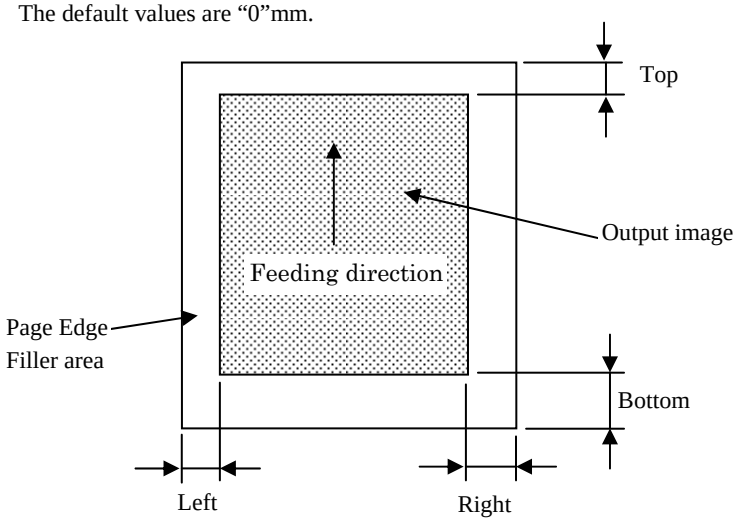
3.2.4 Page Edge Filler (ADF) Setting

After entering the Set up mode in the procedure in Section 3.2.2, enable the frame deletion of images scanned through the ADF by following the procedure below.
"Page edge filler" is the function of overwriting a white background of the specified width of the frame around the images that are scanned.

(1) Select the [Page Edge Filler (ADF)] option on the [Device Setting 2] tab.



(2) Using the UP/DOWN (△ or ▽) button, input the values of the frame deletion width for top, bottom, right and left. The default values are "0"mm.



(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

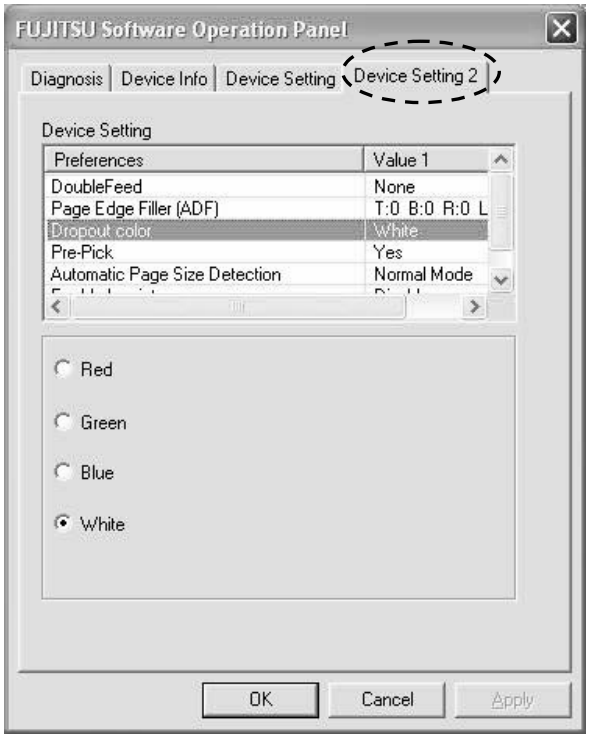
(4) Click the [OK] button.

Note: The FUJITSU TWAIN32 scanner Driver selection has precedence over this setting.

3.2.5 Dropout Color Setting

After entering the Set up mode in the procedure in Section 3.2.2, select the dropout color by following the procedure below.

(1) Select the [Dropout color] option on the [Device Setting 2] tab.



(2) Select the button of the dropout color from Red, Green, Blue and White.
Red: Drops out reds.
Green: Drops out greens (default).
Blue Drops out blues
White: No colors are dropped out.

(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

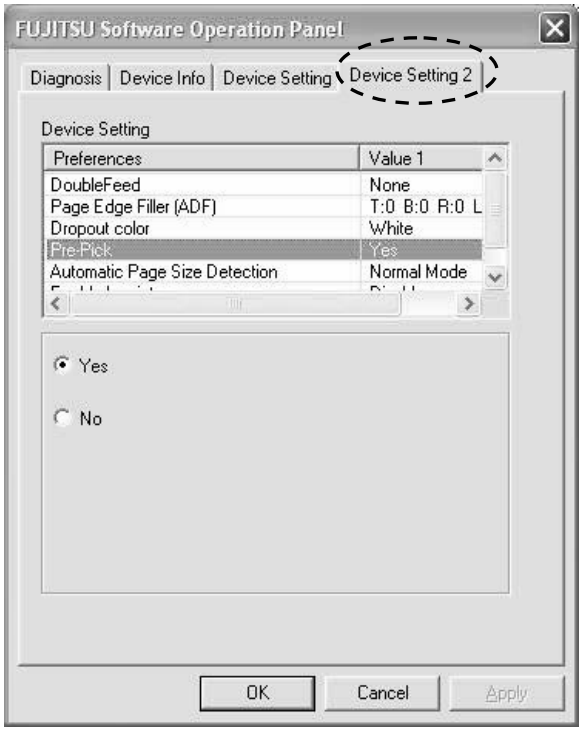
(4) Click the [OK] button.

Note: The FUJITSU TWAIN32 scanner Driver selection has precedence over this setting.

3.2.6 Pre-Pick Setting

After entering the Set up mode in the procedure in Section 3.2.2, enable/disable Pre-pick by following the procedure below.

(1) Select the [Pre-Pick] option on the [Device Setting 2] tab.



(2) Select the “Yes” or “No” button.
Yes: Prioritizes the scanning speed, automatically sending the next document to the Pick roller. (Default)
No: The next document will not be fed to the Pick roller until the next scan command is received.
This setting may reduce the double feed error, although the scanning speed decreases.

(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

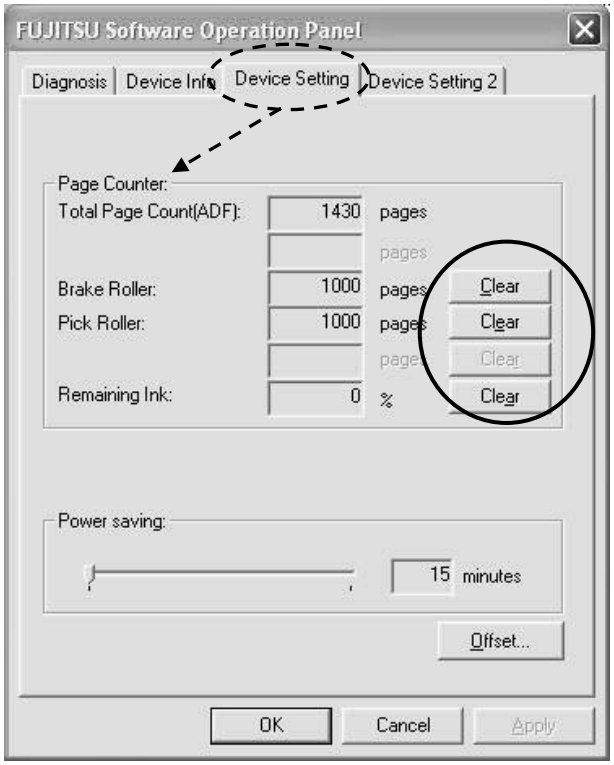
(4) Click the [OK] button.

Note: The FUJITSU TWAIN32 scanner Driver selection has precedence over this setting.

3.2.7 Confirmation and Reset of Consumable Counters

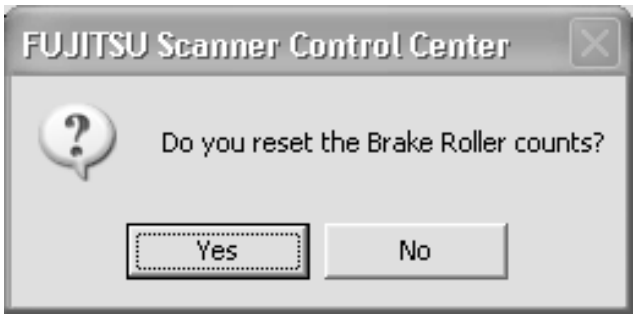
After entering the Set up mode in the procedure in Section 3.2.2, confirm and reset the Consumable counters by following the procedure below.

(1) Select the [Device Setting] tab.
The number of pages (*Note) fed by each consumable and remaining ink (%) are displayed.



Note: "Remaining Ink" is available when the Imprinter (option) is installed.
"100%" is the initial value of this counter, and decrements as ink is used.

(2) If any of the consumables are replaced, press the [Clear] button of the replaced consumable to reset the counter.



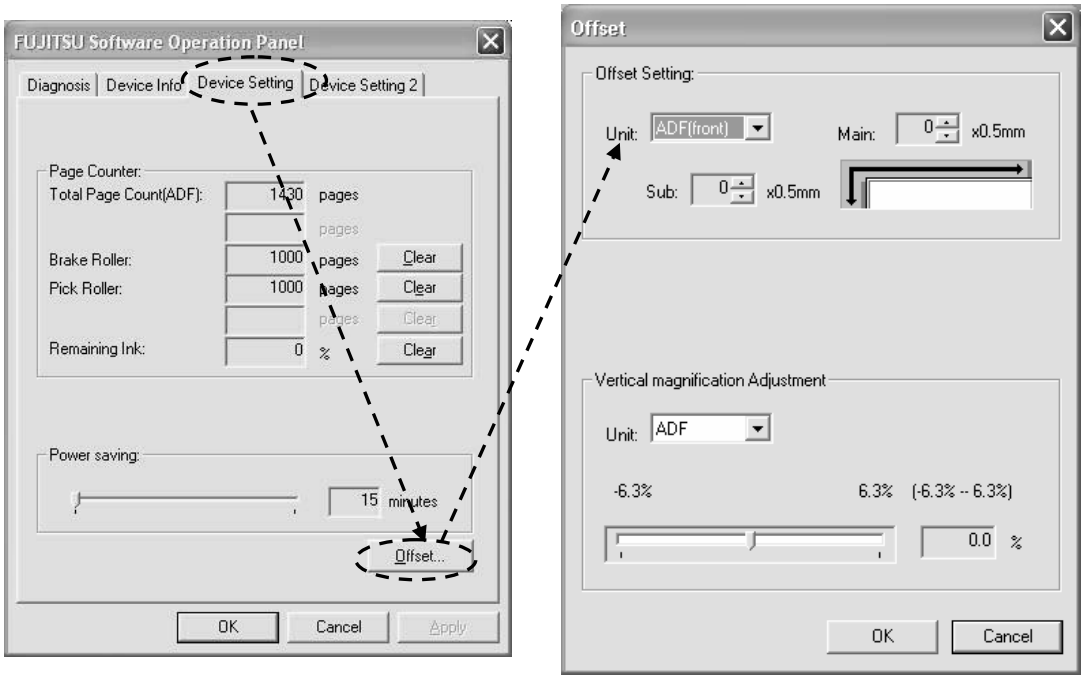
(3) Press the [Yes] button to reset the counter to "0".

Note: These page counters are counted up every 10 sheets.

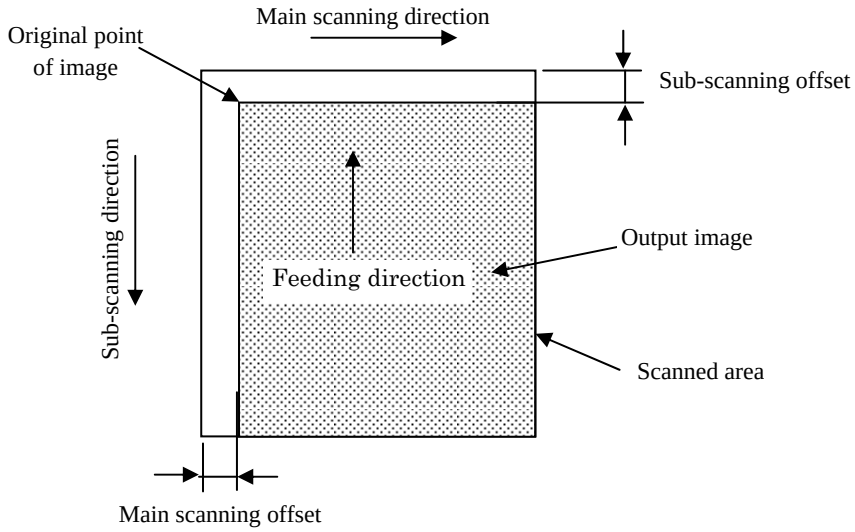
3.2.8 Offset Adjustment

After entering the Set up mode in the procedure in Section 3.2.2, perform the offset adjustment by following the procedure below.

(1) Select the [Device Setting] tab, then press the [Offset…] button.



(2) From the [Unit] pull down menu, select ADF (front) or ADF (back).
Set the offset value using the UP/DOWN (△ or ▽) button for the Main scanning and Sub-scanning.
Offset values are 0mm as default.



Main scanning= Horizontal
Sub scanning = Vertical

NOTICE

Making the “Main” offset more positive moves the image to the right.
Making the “Sub” offset more negative moves the image down.

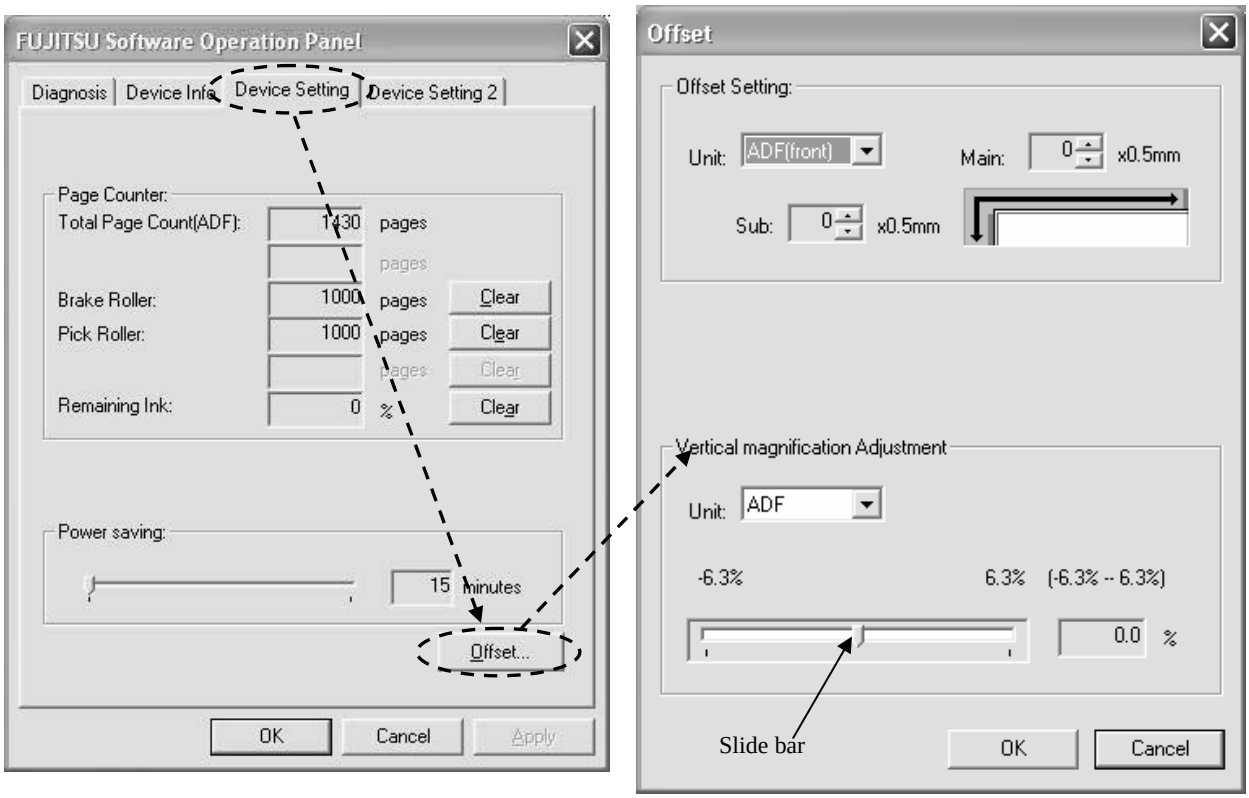
(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(4) Click the [OK] button.

3.2.9 Magnification Adjustment

After entering the Set up mode in the procedure in Section 3.2.2, perform the magnification adjustment by following the procedure below.

(1) Select the [Device Setting] tab, then press the [Offset…] button.



Set the magnification value with the slide bar.
The default magnification value is 0mm.

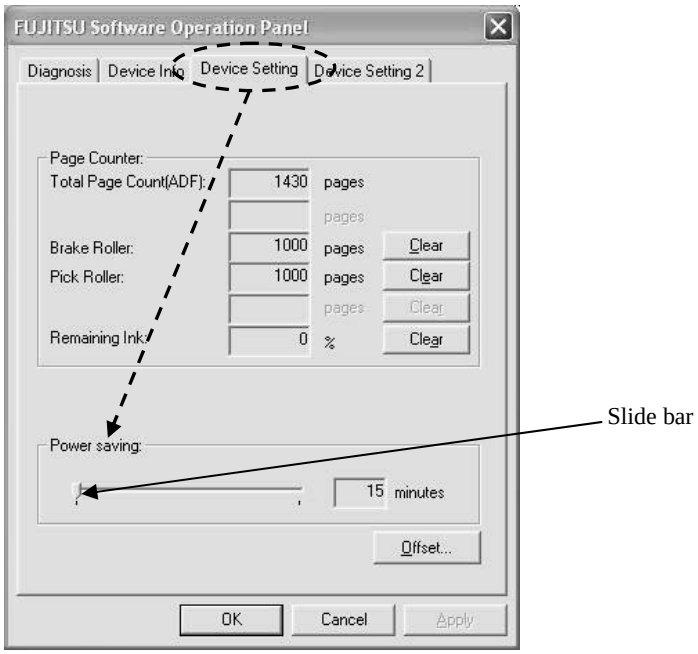
(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(4) Click the [OK] button.

3.2.10 Sleep Mode Setting

After entering the Set up mode in the procedure in Section 3.2.2, set the Sleep mode by following the procedure below.

(1) Select the [Device Setting] tab.



(2) Set the period of time that the scanner is inactive before entering sleep mode.
Default time is 15 minutes.

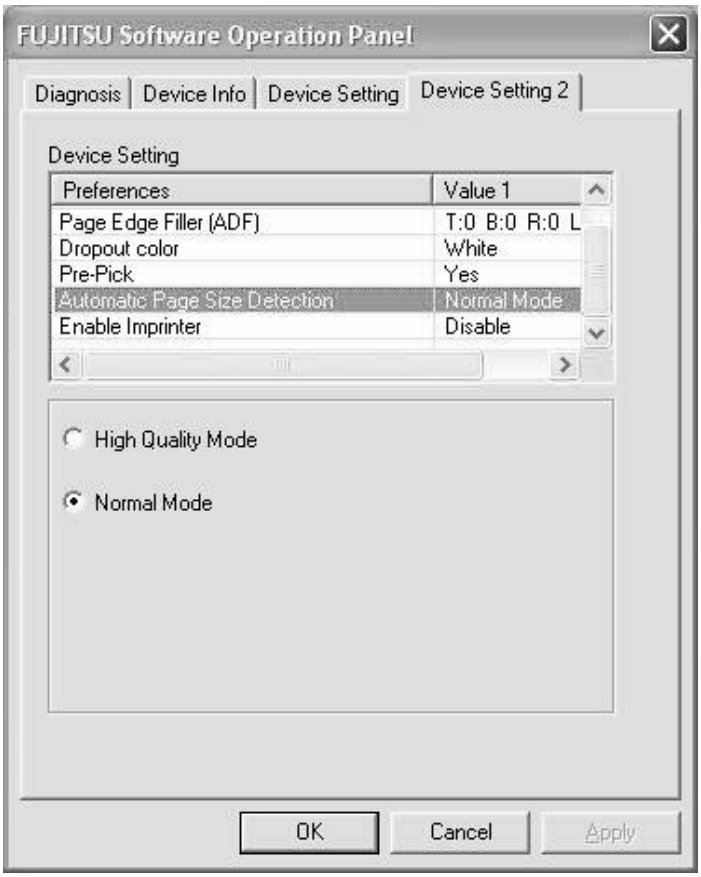
(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(4) Click the [OK] button.

3.2.11 Automatic Page Size Detection

Automatic Page Size Detection is a function to extract the image data of actual paper size. It also corrects skewing. This function may be used for OCR scanning.
After entering the Set up mode in the procedure in Section 3.2.2, select a mode for the automatic paper size detection by following the procedure below.

(1) Select the [Automatic Page Size Detection] option on the [Device Setting 2] tab.



(2) Select “High Quality Mode” or “Normal Mode” button.
High Quality Mode: Emphasizing the Automatic Page Size Detection. Processing performance may be deteriorated depending on the scanning condition.
Normal Mode: This setting does not deteriorate the scanning speed. (default)

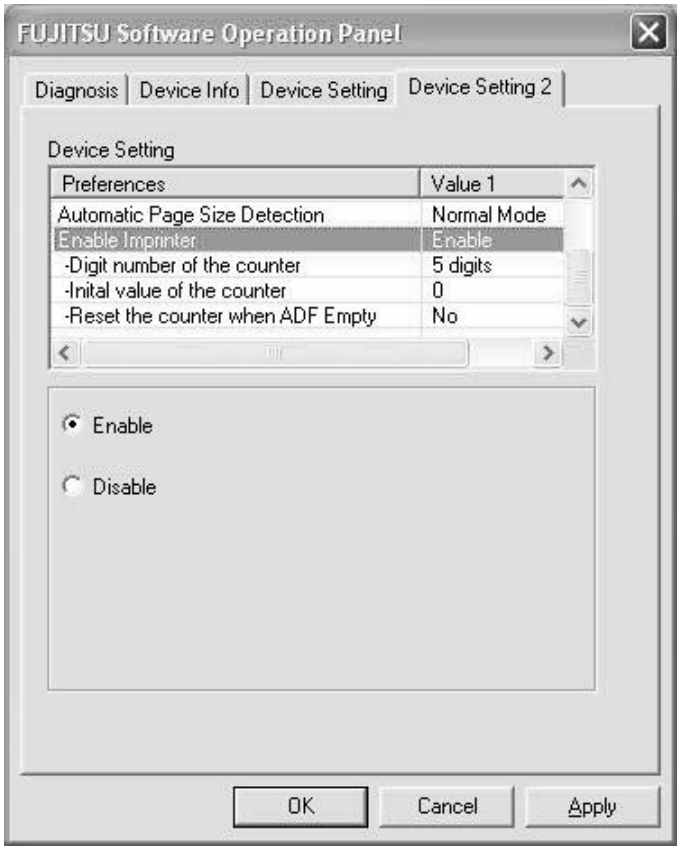
(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(4) Click the [OK] button.

3.2.12 Imprinter Setting (with the Imprinter installed)

Specifies whether to imprint characters or not.
After entering the Set up mode in the procedure in Section 3.2.2, perform the automatic paper size detection by following the procedure below.

(1) Select the [Enable Imprinter] option on the [Device Setting 2] tab.



(2) Select the “Enable” or “Disable.
Enable: Characters can be imprinted.
Disable: Characters cannot be imprinted. (default)

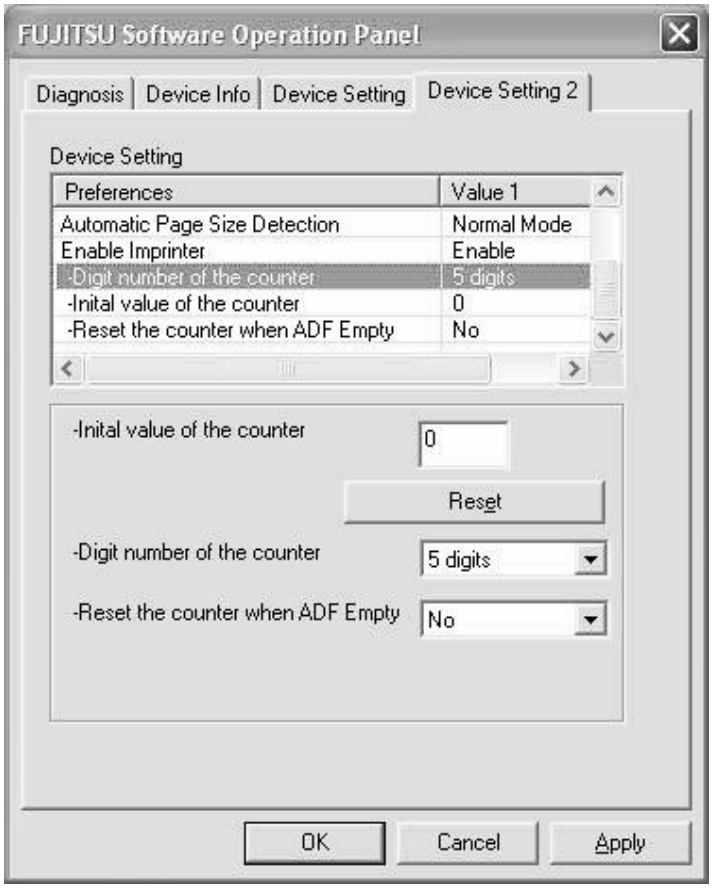
(3) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(4) Click the [OK] button.
- Go to step (5) if you want to set the Digit number of the counter, Initial value of the counter, or Reset the counter when ADF empty.

After the imprinter is enabled, the following settings become available.

- Initial value of the counter: Specifies the initial number of the counter to be imprinted.
  8 digits: 0~16777215
  5 digits: 0~99999 (default)
- Reset: Resets the imprinting counter to the initial value specified above.
- Digit numbers of the counter: Specifies the number of digits printed, 8 or 5.
- Reset the counter when ADF Empty: If "Yes" is set, the scanner resets the imprinter counter to the initial value when there is no paper remaining in the ADF paper chute.

(5) After activating the Set up mode in the procedure in Section 3.2.2, select the [Device Setting 2] tab.



(6) Specify Initial value of the counter (including Reset), Digit number of the counter, or Reset the counter when ADF Empty.

(7) Click the [OK] button. The following message appears to confirm the EEPROM writing.

(8) Click the [OK] button.

Note: The FUJITSU TWAIN32 scanner Driver selection has precedence over this setting.

3.3 Cleaning

3.3.1 Cleaning the ADF

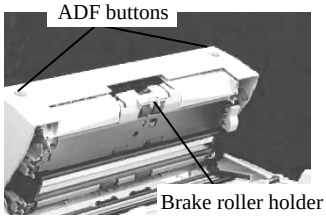
⚠ CAUTION

Injury: When operating the scanner, the ADF's inside glass becomes very hot. Take serious caution as the heat can cause burns. Before you clean the inside of the scanner, turn off its power and unplug the AC adapter from the outlet and wait (at least three minutes) until it gets cold.
Be careful not to pinch your fingers when the ADF cover is being closed.

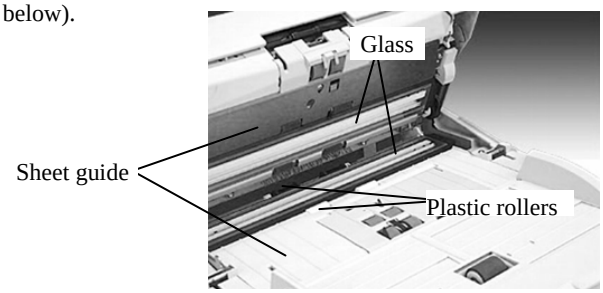
Note: Cleaning should be done approximately every 10,000 sheets scanned, though it may vary depending on types of documents scanned. More frequent cleaning is necessary when the following types of documents are scanned:
- Smooth surface document such as coated paper
- Documents printed on almost entire surface
- Documents processed with chemical materials such as carbonless paper
- Paper with a high calcium content
- Pages with pencil lead
- Document where toner is not fused sufficiently

Clean the ADF by following the procedure below.
<Cleaning the Brake roller, Glasses, Plastic rollers>

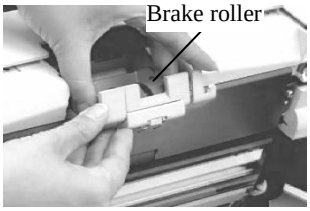
1) Open the ADF while pushing the ADF buttons (photo on the right).



2) Using a cloth moistened with the ethyl alcohol, clean the Glasses, Sheet guides and Plastic rollers (photo below).



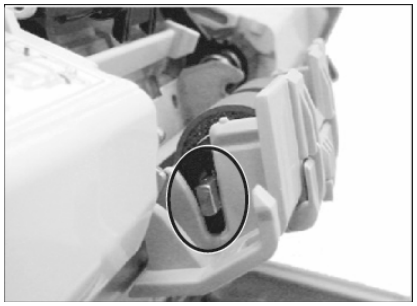
3) Open the Brake roller holder and lift to remove the Brake roller (photo on the right). Using a cloth moistened with the ethyl alcohol, clean the Brake roller.



4) Reinstall the Brake roller and close the Brake roller holder.

NOTICE

Install the Brake roller aligning the protrusion on the shaft to the slot. Confirm that the Brake roller is installed completely. If not, document jams or other feeding errors may occur.



5) Holding the upper center portion of the ADF, gently close it until the ADF buttons latch and click to close.

<Cleaning the Pick roller>

1) Open the ADF while pressing the ADF buttons.

2) Remove the ADF paper chute from the scanner.

3) Open the Pick roller cover and remove the Pick rollers (2 rollers) (Refer to Section 3.4.3(4)). Remove the Pick rollers from the shaft. Wipe the surfaces of the Pick rollers with a cloth moistened with ethyl alcohol. After cleaning, reinstall the Pick rollers (Section 3.4.3(5),(6)).

4) Close the Pick roller cover and attach the ADF paper chute.

5) Holding the upper center portion of the ADF, gently close it until the ADF buttons latch and click to close.

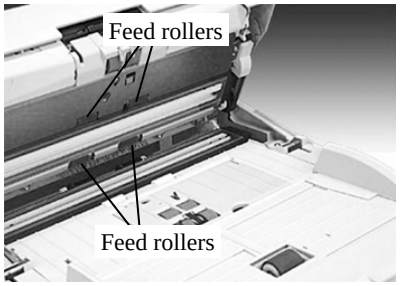
<Cleaning the Feed rollers>

⚠CAUTION

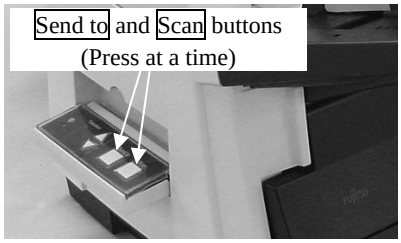
Injury: The Feed rollers can be cleaned with the scanner power ON. The glass surface inside the ADF buttons hot during the operation of the scanner. Take care not to touch the glass.
Be careful not to pinch your fingers when the ADF cover is being closed.

1) When the Function No. Display indicates anything other than "P", open the ADF button while pressing the ADF button.

2) Hold the lint-free dry cloth moistened with the ethyl alcohol against the feed rollers.



3) Hold down both [Send to] or [Scan] buttons on the operator panel. The Feed rollers start rotate a little.

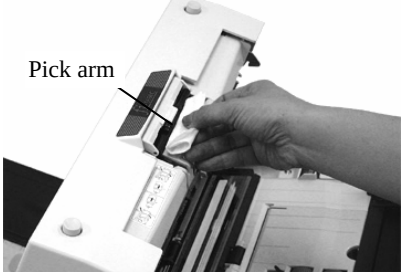


4) Perform 7 times the step 3 (the Feed rollers will rotate one full turn). Repeat this cleaning process until the rollers get completely clean, otherwise any dirt on them can adversely affect the image pick-up performance.

5) Holding the upper center portion of the ADF, gently close it until the ADF buttons latch and click to close.

<Cleaning the Chute roller>
Open the Chute roller cover and clean the Chute roller using a cloth moistened with the ethyl alcohol.

<Cleaning the Pick arm>
Open the ADF cover while pushing the ADF button, and clean the rollers at the tip of the Pick arm using a cloth moistened with ethyl alcohol.



3.4 Consumables and Replacement

3.4.1 Consumables

The scanner has the following consumables which users need to replace at the following intervals when the screen on the right appears. To check the number of scanned documents, go to Maintenance mode (see section 7.1.6).

Imprinter (option) consumables: See Section 9.1.1

Table 3.4.1

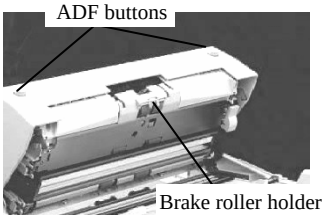
No.	Part name	Specifications	Standard replacement cycle *1	How to check the number of scanned documents	How to replace
1	Brake roller	PA03338-K010	250,000 sheets or one year	See section 7.1.6.	See section 3.4.2.
2	Pick roller	PA03338-K011	250,000 sheets or one year		See section 3.4.3.

* The consumable replacement cycle is an approximation based of scanning A4 (64g/m^2 or 17.1lb) woodfree paper, or paper containing wood. The life of the consumables differs depending on volume or types of documents, frequency of scanner usage and frequency of scanner cleaning.

⚠ CAUTION

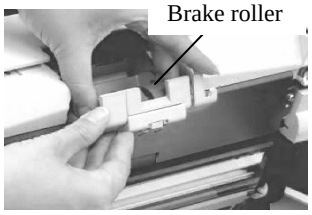
Injury: While the scanner is being used, the glass inside the ADF is very hot.

3.4.2 Brake Roller Replacement

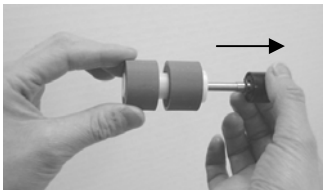


Replace the Brake roller by following the procedure below.

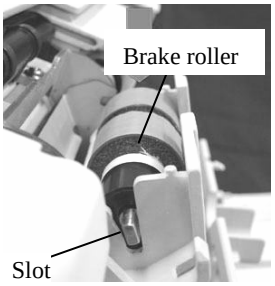
1) Remove any documents remaining in the ADF paper chute.
2) Open the ADF while pressing the ADF buttons (photo on the right).
3) Open the Brake roller holder, and lift to remove the Brake roller (photo below).



4) Remove the Brake roller from its shaft.



5) Install a new roller to the shaft, and install it aligning the protrusion on the shaft to the slot.
6) Close the Brake roller holder.
7) Holding the upper center portion of the ADF, gently close it until the ADF buttons latch and click to close.
8) Referring to Section 7.1.6 or 3.4.4, reset the Brake roller counter.



3.4.3 Pick Roller Replacement

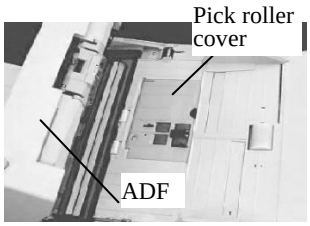
NOTICE

1) Be careful not to pinch your fingers when closing the ADF.
2) Do not close the ADF cover when the pick roller cover is open.

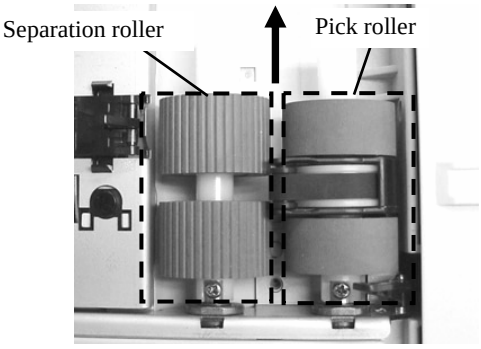
Replace the Pick rollers by following the procedure below.

1) Open the ADF while pressing the ADF buttons.

2) Remove any documents remaining in the ADF paper chute and remove the ADF paper chute from the scanner.
3) Open the Pick roller cover.

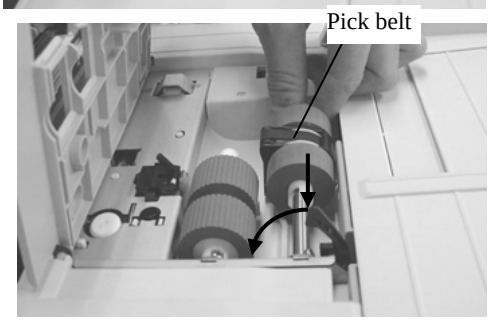


4) Slide the Pick rollers (2 rollers) outward (direction of the arrow below) and remove them from the scanner.



5) Insert the new Separation roller into the shaft all the way. When it hits the end lightly, rotate it in the direction of the arrow (photo on the right) so that the screw on the shaft fits in the roller gap.

6) Confirm the direction of the pick belt as shown in the photo on the right, then insert the new Pick roller into the shaft all the way. When it hits the end lightly, rotate it in the direction of the arrow (photo on the right) so that the screw on the shaft fits in the groove.



NOTICE

If the Pick belt is not installed in appropriate direction, the scanner does not start operation. Refer to the photo on the right and install it correctly.

7) Close the Pick roller cover.
8) Attach the ADF paper chute.
9) Holding the upper center portion of the ADF, gently close it until the ADF buttons latch and click to close.
10) Referring to Section 7.1.6 or 3.4.4, reset the Pick roller counter.

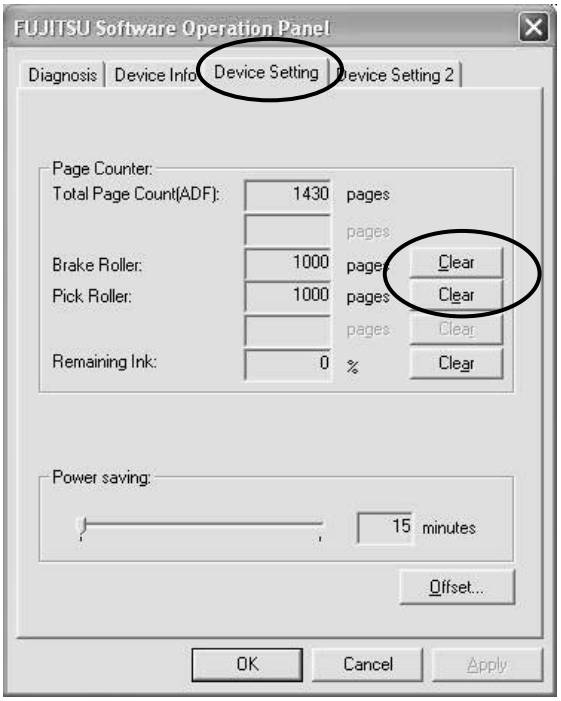
3.4.4 Resetting Consumable Counters

Resetting consumable counters is also available from the PC screen as explained below.

1. Confirm that the scanner and the PC are connected, and the scanner is powered ON.

2. Select [Program] – [Scanner Utility for Microsoft Windows] – [Software Operation Panel] from the [Start] menu. The [FUJITSU Software Operation Panel] dialog box is displayed.

3. Press the [Device Setting] tab to display the screen below.

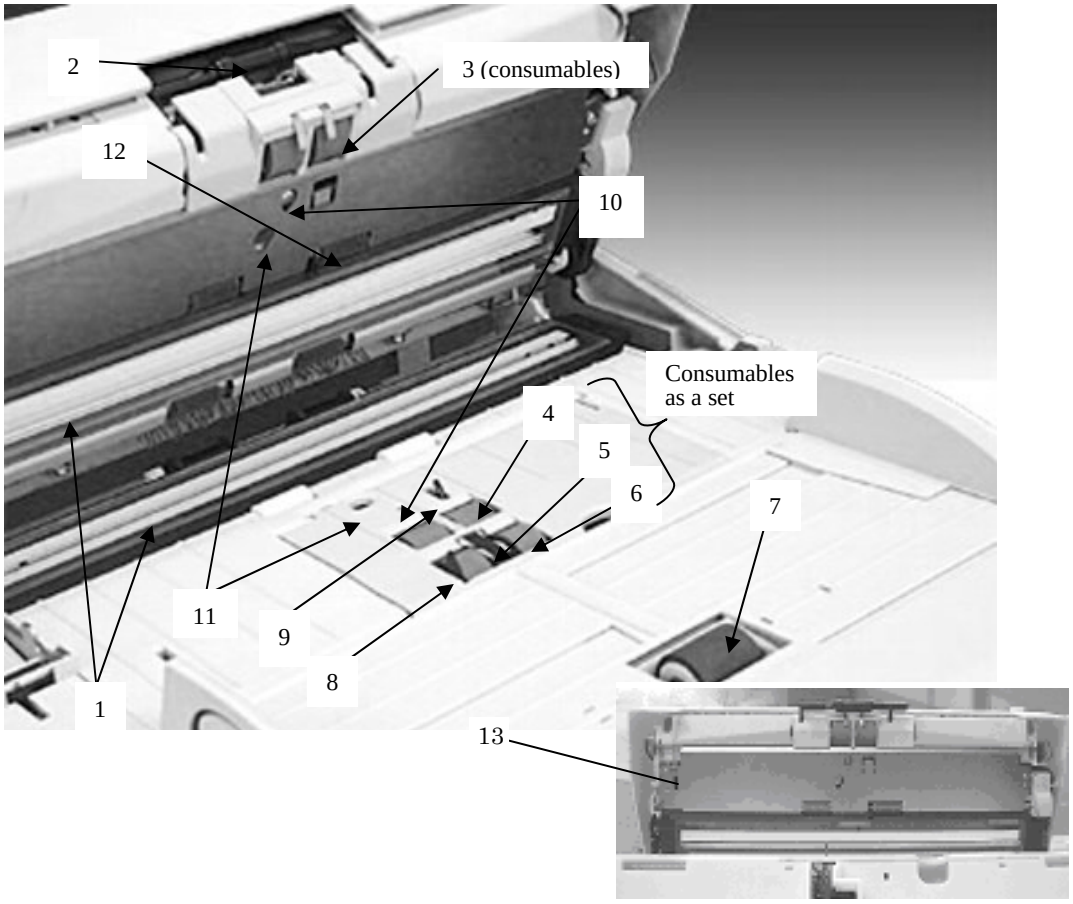


4. Press the [Clear] button of either the “Brake Roller” or “Pick Roller”.

Chapter 4 Scanner Operation Description

4.1 ADF Unit

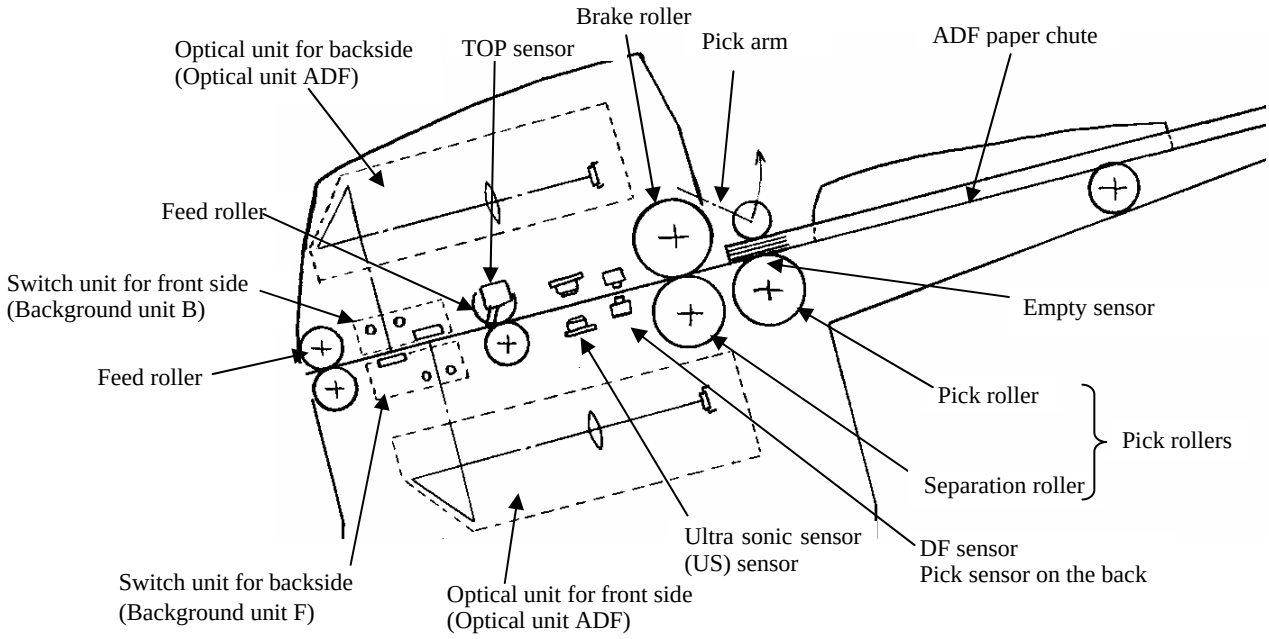
(1) Names and Functions



No.	Parts name	Function
1	Glass	Prevents paper dust from entering the optical unit. The lower glass protects the front side optical unit from paper dust. The upper glass protects the backside optical unit from paper dust..
2	Pick arm	Presses documents on the ADF paper chute onto the pick roller to insure proper picking.
3	Brake roller	Prevents documents from being double-fed. This is a consumable.
4	Separation roller	Transports documents.
5	Pick belt	These parts are included in the “Pick roller”.
6	Pick roller	This is a consumable.
7	Chute roller	Helps documents on the ADF paper chute to be transported.
8	Empty sensor	Detects whether there are documents remaining on the chute.
9	Pick sensor	Detects document jamming. When this sensor detects trailing edge, the next sheet is picked.
10	DF sensors	Detects Job separation sheet.
11	Ultrasonic sensors (US sensors)	Measures how much ultrasonic sound waves are transmitted through documents to detect double feeds.
12	TOP sensor	Detects the leading edge of paper and determines the timing of image scanning. Detects paper jams as well.
13	ADF cover open sensor	Detects the ADF cover open.

(2) Paper separation

The Pick arm is usually raised except when scanning operation is performed. When the Empty sensor detects that documents are loaded on the ADF paper chute and PC starts scanning, the Pick arm presses documents onto the Pick roller to insure proper picking. The Pick roller rotates to send the lowest document to the ADF. Documents are separated respectively by the Separation roller and the Brake roller. The Pick sensor detects paper jams. The DF sensor detects whether there is notch on the leading edge of paper (Job separation sheet). The Ultrasonic sensor and the DF sensor detect when double feed errors occur. The TOP sensor located at the Feed roller determines when to begin scanning. The front side of a document is scanned by the lower optical unit, and backside is scanned by the upper unit. The scanned documents are deposited on the stacker by the Feed rollers. When the Pick sensor detects the trailing edge of a document, the next document is picked.
The paper feeding unit also includes the Cover open sensor and Pick arm position detection sensor.

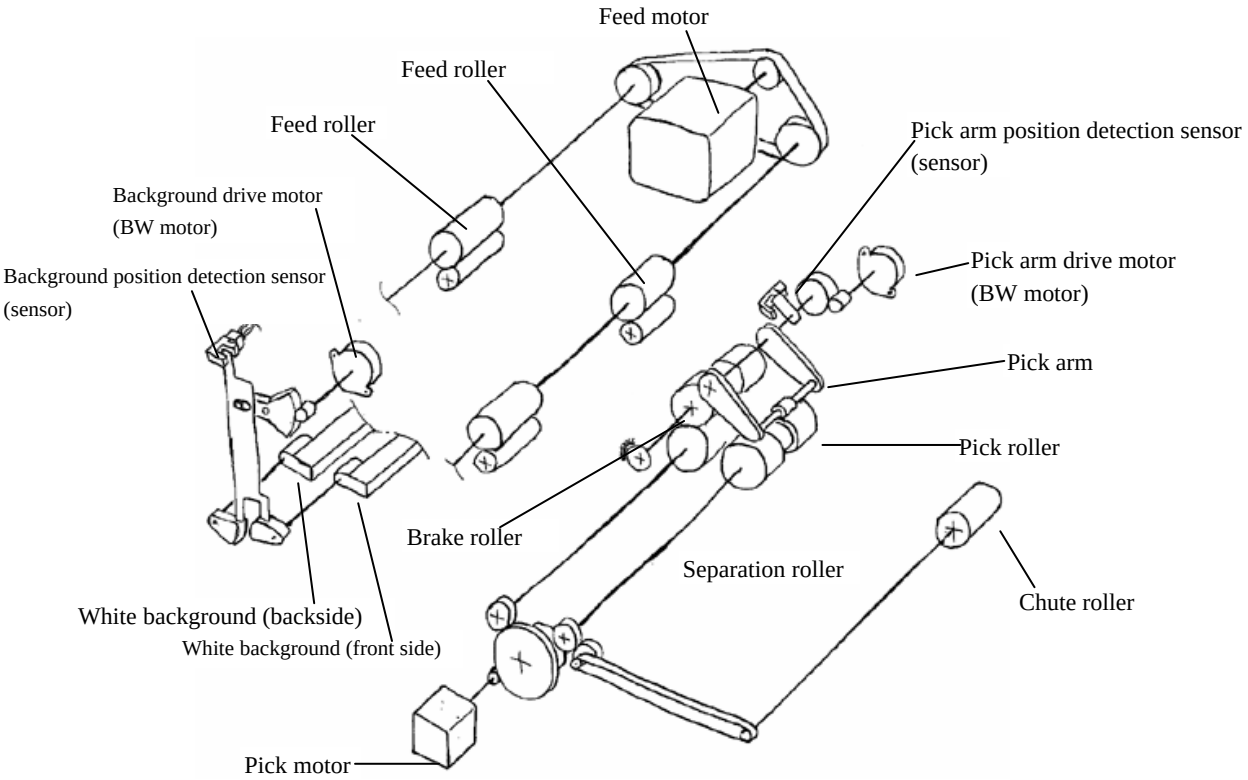


(3) Consumables

The Pick roller and Separation roller are included in the pick roller. The Brake roller is sold separately. These items are consumables and are the user's responsibility to replace (Refer to Section 3.4 for details).
The scanner supports two consumable counters, the brake roller counter and the pick roller counter. These counters indicate the number of sheets scanned since each consumable has been replaced. Users can check the counters from the "Scanners and Cameras" on the PC or using the scanner built-in Maintenance mode. They can also reset the counters from these locations after the consumables have been replaced. (Refer to Section 7.1.6 for details.)

(4) Motor drive system

The pick roller, Separation roller and Chute roller are turned by the Pick motor. The Feed rollers are turned by the Feed motor. The Pick arm and background are driven up and down by the respective BW motors. The motor drive circuit is located on the Control PCA. If abnormal electric current runs through the motor drive circuit, the current is cut off by the motor fuses located in the Control PCA.



4.2 Reading Station

(1) Optical system

Documents shall be set in the ADF paper chute, front side face down (Refer to Section 3.1.2). The front side of the document is scanned by the lower Optical unit in the ADF, and the backside of the document is scanned by the upper Optical unit in the ADF. These two optical units have the same parts number.

The image on the document is projected to a color CCD through a lens and mirror system and converted to image signals that are 10 bit per pixel at 600 dpi resolution.

(2) Light source and heater

The scanner uses two lamps (White cold cathode discharge lamp) for ADF front / ADF back respectively which lights the scanning area of front and back side in order to get sufficient CCD output. The lamp is turned ON or OFF by an inverter that is controlled by the Control PCA.
The life of lamp is approximately 10,000 hours, which means the lamps last the life of the scanner.

The lamps have heaters and thermistors attached, which are controlled to stabilize the lamp temperatures while the power is supplied. The power of the lamps and heaters are cut OFF during sleep mode.

The ADF Optical units have two lamps with heaters respectively. To replace the lamps, the corresponding Background unit needs to be replaced.

(3) Scan controller

Before scanning a document, the scanner scans the white background of the scanning position and adjusts the gain of the CCD amplifier. If the CCD output does not reach a reference level after the gain adjustment, an Optical alarm is issued.

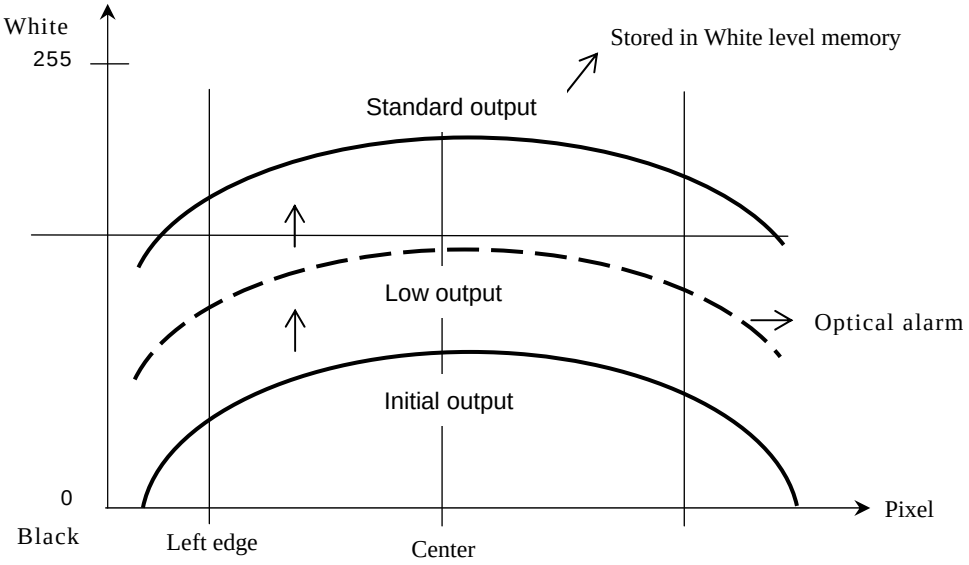


Figure 4.2 AGC (Automatic Gain Control)

When the gain adjustment is completed successfully, the scanner feeds the document to the scanning position at the speed that corresponds to the specified scanning resolution. The leading edge of the document is detected by the TOP sensor in front of the scanning position. The document is fed from the TOP sensor by some defined length for front and back side scanning (the length which determines sub-scanning offset), the scanner starts scanning the image. The scanner terminates the scan operation when the length specified from the host is scanned (Fixed size scanning) or when the TOP sensor detects the trailing edge of the document (Page end detection scanning).

4.3 Controller

(1) Control PCA

The Control PCA controls the units in the block diagram below by 2 types of software, one for interface control (SDC) and another for mechanical control (MDC). The firmware can be updated through the SCSI/USB interface using the firmware update tool. Firmware version number can be confirmed in the procedure described in Section 7.1.7.

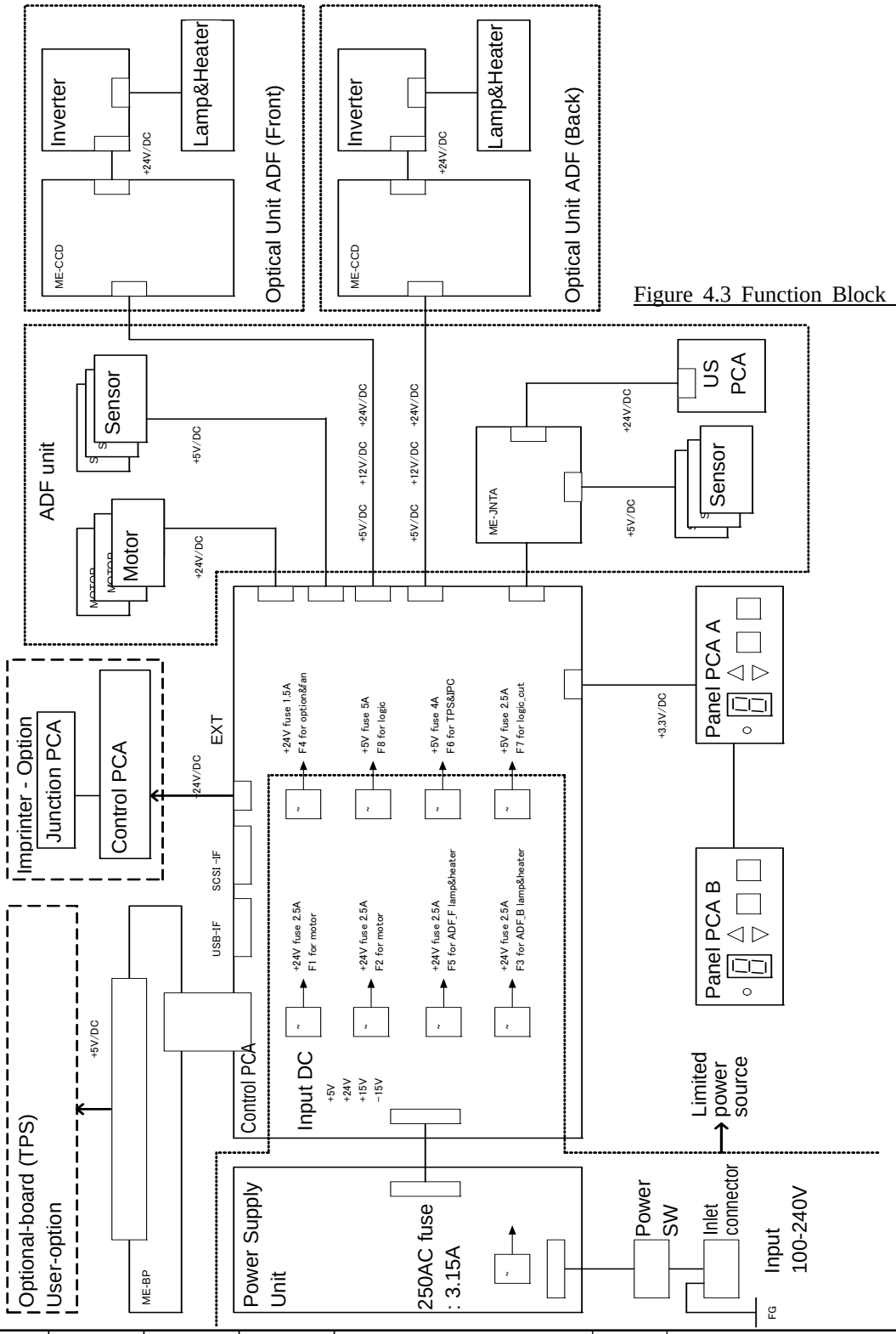


Figure 4.3 Function Block Diagram

09	July 14, 2009	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	TITLE	fi-5650C, fi-565PR MAINTENANCE MANUAL
08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		
07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	P1PA03338-B5XX/6 CUST.
Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED	PAGE 54/228
DESIG	Jun 29, 2004	T.Anzai	CHECK	T.Anzai	APPR. H. Hasegawa		

The Control PCA includes the following connectors and a switch exteriorly (see section 1.1.4 (2)).

- EXT connector (for Imprinter)
- SCSI connector (1)
- USB connector (1)
- SCSI ID setting rotary switch
- Connector for third party slot
- Connector for extended memories

If both the SCSI and USB cables are connected at the same time,

- SCSI is selected when selection phase is recognized first.
- USB is selected when H level VBUS signal is detected first.

(2) Panel PCA

This scanner has two placement methods, one of which places the ADF paper chute at the right side, another places it at the left. For easy operation at either setting, two operator panels are available. (Refer to Section 1.1.4 (3) for the button and lamp allocation.) Therefore, two Panel PCAs (Panel PCA A/Panel PCA B) are provided. Both have the same functions but only the Panel PCA A has the EEPROM that records the information below. When replacing the Panel PCA A with a new one, you need to copy all the data stored in the EEPROM to the Control PCA temporarily (Refer to Section 7.2), and then restore the data from the Control PCA to the new Panel PCA A (Refer to Section 7.1.8).

- Magnification correction value for sub-scanning direction / Offset correction value for main/sub-scanning direction
- White level correction value
- Values of Brake roller counter and Pick roller counter
- Firmware version number, First date of the scanner operation, the number of documents scanned by ADF
- Remaining ink, Print cartridge counter (only when the Imprinter is installed)

(3) Sleep mode

If a scan operation is not performed for over the specified period, the scanner automatically goes into the Sleep mode. This specified period is set at 15 minutes at the factory. However, you can change the period for this mode by the Setup mode in Section 3.2.10. During this mode, the lamp heaters turn off and the Function No. display is turned OFF, only the power LED remains ON.

Perform one of the operations below to return from the Sleep mode.

- Set document on the ADF paper chute.
- Press either of buttons on the operator panel.
- Execute a command from the scanner driver.

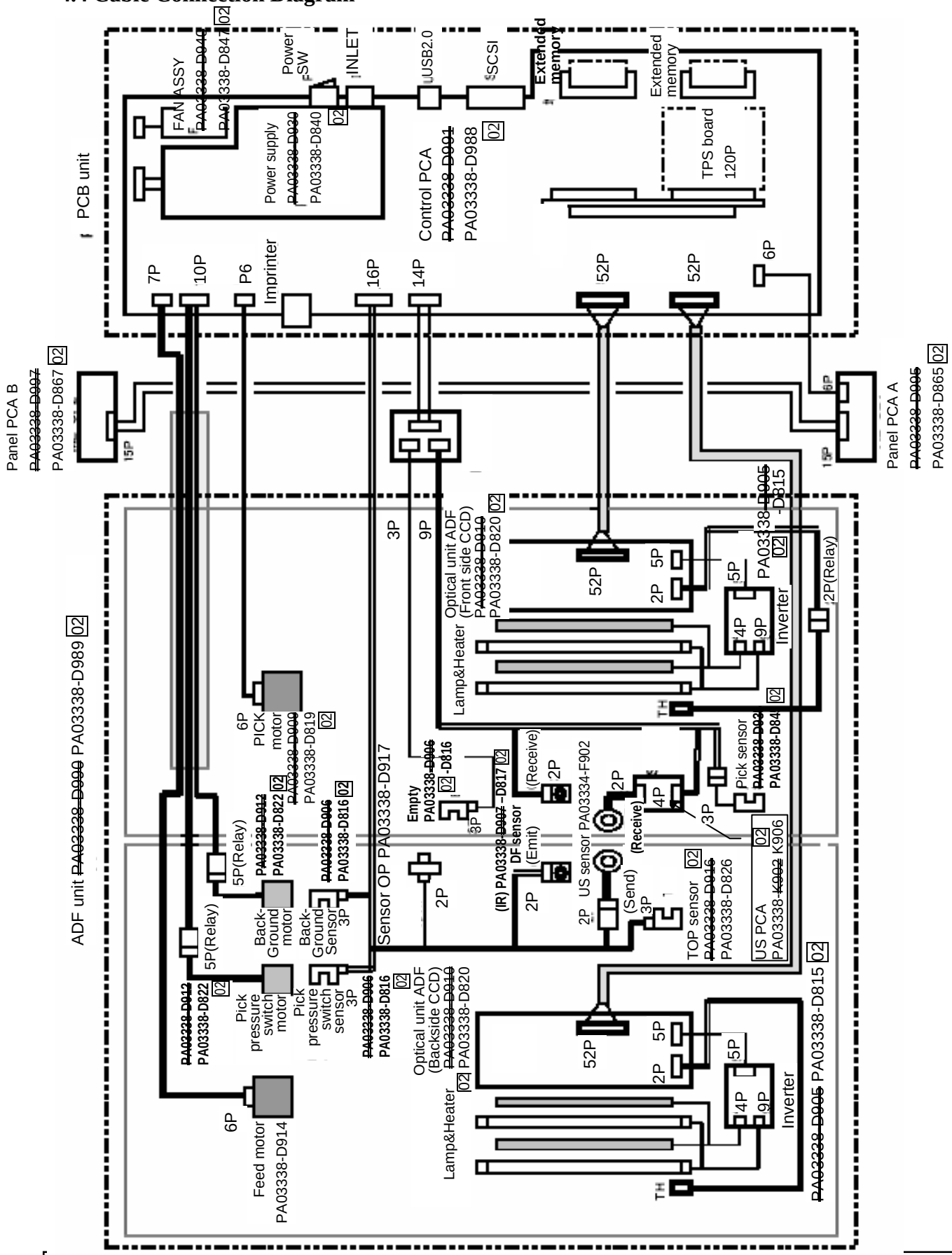
(4) Emulations

When the user replaces the following scanners with fi-5650C, the communication can fail because of driver incompatibly. Emulation mode can accommodate the connection for this case.

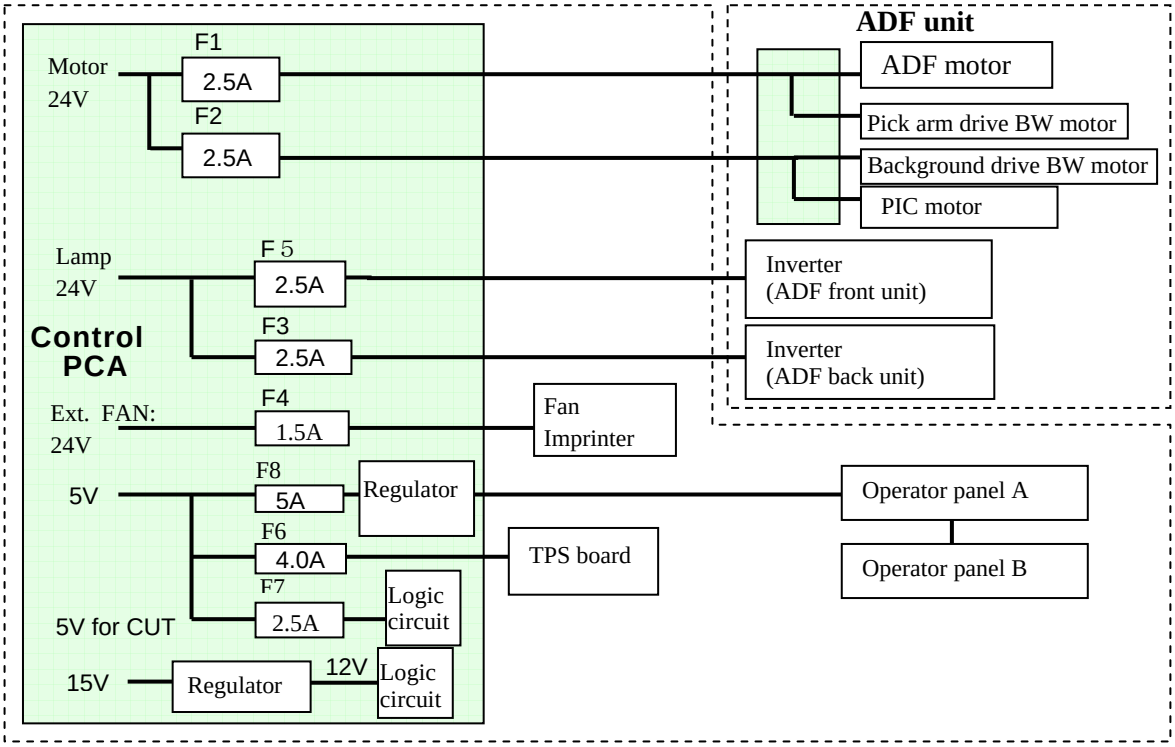
This mode is not open to user. This mode may not be used for maintenance. Refer to section 7.3 if required.

- fi-4570C
- M4097D
- fi-4640S
- fi-4750L
- fi-5750C

4.4 Cable Connection Diagram



4.5 Diagram of Power Supply System



The Pin assignment of the connector between Power supply and Control PCA (CN15) is as follows.

CONNECTOR(CN15)

PIN 1	+24V
PIN 2	GND
PIN 3	-15V
PIN 4	GND
PIN 5	+15V
PIN 6	ON/OFF SIGNAL
PIN 7	+5V
PIN 8	+5V
PIN 9	GND
PIN 10	GND

Chapter 5 Troubleshooting

This section describes the self-diagnostic functions of the scanner, temporary errors and detection algorithms, and how to troubleshoot them.

5.1 Self-diagnostic Functions

5.1.1 Scanner Status Display and Self-diagnostics at Power-ON

(1) Operator panel display sequence at power-on

The following display is shown during initial processing (self-diagnostics).

Function No. Display	Power LED	Description
	ON	Displays “8” without blinking. Immediately after power-on, the scanner turns all the segments ON.

When the initial processing starts, the following is displayed.

Function No. Display	Power LED	Description
	ON	Displays “P” without blinking. Indicates the scanner is currently in initial processing (self-diagnostics).

When the initial processing terminates properly, the following is displayed.

Function No. Display	Power LED	Description
	ON	Displays default Function No. without blinking. Indicates the scanner is in ready state.

The Function No. is incremented by 1 every time the Function button is pressed. After Function No. 9 is displayed, the number changes to “C” and then returns to “0”.

(2) Self-diagnostics

The scanner checks the following items at power-on and displays errors or alarms if any.

No.	Check items	Error display		Remarks, Reference section
		Scanner display	TWAIN display	
1	Motor fuse alarm	E4	<Motor fuse is blown.> Sense Key=0x04 ASC=0x181 DDES=0x81	Section 5.3.17
2	Operator panel alarm	E6	None	*2, Section 5.3.19
3	EEPROM alarm	E7	<EEPROM is not accessible.> Sense Key=0x04 ASC=0x44 DDES=0xD2	*2 Section 5.3.20
4	SCSI fuse blown	E8	None	*2 Section 5.3.21
5	Image memory alarm	E9	<Memory is not accessible.> Sense Key=0x04 ASC=0x44 DDES=0xE4 (E5,E6)	*2 Section 5.3.22
6	Imprinter alarm (with the Imprinter installed)	EA	<Anomaly in Imprinter.> Sense Key=0x04 ASC=0x1080 DDES=0xB3～0xB8	Section 5.3.23
7	RAM alarm	Ec	None	Section 5.3.24
8	SPC alarm	Ed	None	Section 5.3.25
9	Extended memory alarm	E15	None	*2 *3 Section 5.3.29
10	LSI alarm	E19	<LSI is not accessible.> Sense Key=0x04 ASC=0x44 DDES=0xE9 (EA)	*2 Section 5.3.32
11	ROM sum check	F	None	Section 5.3.34
12	No ink cartridge (with the Imprinter installed)	U6	Ink cartridge is not installed in the imprinter properly.	*2, Section 5.3.14
13	5V, 2.3V fuse check	(*1)	None	Section 5.3.1

*1 In this case, the scanner does not power on.

*2 The display blinks 3 times at power ON before indicating “P”.

*3 Displayed only when the extended memories are installed.

5.1.2 Online Self-diagnostics

The scanner checks the following items during online operation and displays errors or alarms if any.

No.	Check items (Timing of occurrence)	Error display		Remarks
		Scanner display	TWAIN (Error recovery guide) display	
1	Paper jam check (during paper transport)	U1	Paper jammed in the ADF. Please clean rollers.	Section 5.3.11
2	Double feed detection (during paper transport)	U2	A double feed is detected.	When double feed detection is enabled. Section 5.3.12
3	ADF cover open (before scanning begins)	U4	The ADF is open. Close the ADF and set the document on ADF paper chute or Hopper.	Section 5.3.13
4	No ink cartridge (with the Imprinter installed)	U6	Ink cartridge is not installed in the imprinter properly.	*2, Section 5.3.14
5	Imprinting position alarm	U7	Imprinting position is set out of paper. Please check the installation and try again.	Section 5.3.15
6	ADF (front) lamp intensity check (before ADF scanning begins)	E2	<Anomaly in the light intensity of ADF front side lamp.> Sense Key=0x04 ASC=0x680 DDES=0x74	*1, Section 5.3.16
7	ADF (back) lamp intensity check (before ADF scanning begins)	E3	<Anomaly in the light intensity of ADF back side lamp.> Sense Key=0x04 ASC=0x680 DDES=0x75	*1, Section 5.3.16
8	Motor fuse blown (before paper transport)	E4	<Motor fuse is blown.> Sense Key=0x04 ASC=0x181 DDES=0x81	Section 5.3.17
9	Lamp fuse blown (before scanning begins)	E5	<Lamp fuse is blown.> Sense Key=0x04 ASC=0x380 DDES=0x84	Section 5.3.18
10	Imprinter alarm (with the Imprinter installed)	EA	<Anomaly in Imprinter> Sense Key=0x04 ASC=0x1080 DDES=0xB3～0xB8	Section 5.3.23
11	Background switcher alarm (before scanning begins)	EF	<Anomaly in Background change operation.> Sense Key=0x04 ASC=0x580 DDES=0xF2	Section 5.3.26
12	Fan alarm	E11	<Fan is halted.> Sense Key=0x04 ASC=0x780 DDES=0xEC	Section 5.3.27

No.	Check items (Timing of occurrence)	Error display		Remarks
		Scanner display	TWAIN (Error recovery guide) display	
13	Heater error	E12	<Anomaly in ADF front side heater.> Sense Key=0x04 ASC=0x44 DDES=0x92 <Anomaly in ADF back side heater.> Sense Key=0x04 ASC=0x44 DDES=0x93	Section 5.3.28
14	Imprinter fuse blown (with the Imprinter installed)	E17	Irregular status is detected in the scanner. <Imprinter fuse is blown out.> Sense Key=0x04 ASC=0x1180 DDES=0x85	*2, Section 5.3.30
15	Sensor error	E18	<Anomaly in sensor response.> Sense Key=0x04 ASC=0x44 DDES=0x02(03)	Section 5.3.31
16	Communication error in the scanner	E1A	<Anomaly in communication in the scanner.> Sense Key=0x04 ASC=0x44 DDES=0xF0	Section 5.3.33
17	Abnormal command	None	<Anomaly in the command for communicating with the scanner.> Sense Key=0x05 ASC=0x20(24, 25, 26, 2C, 22C)	Section 5.3.35
18	Interface error	None	<Anomaly communication with the scanner.> Sense Key=0x0B ASC=0x43 (45, 47, 48, 4E, 180)	Section 5.3.36
19	ROM sum check (mainly when firmware is rewritten)	F	None	Section 5.3.34

*1 Displayed only when this scanning is specified.

*2 Displayed only when the optional imprinter is installed.

5.1.3 Self-diagnostics in Maintenance Mode

The scanner checks the following items during maintenance mode #1, #2, #3 or #4, and displays the result if any error or alarm is detected.

No.	Check items (Timing of occurrence)	Error display		Remarks
		Scanner display	TWAIN display	
1	ROM sum check (at power-on)	F	None *3	Section 5.3.34
2	RAM error (at power-on)	Ec		Section 5.3.24
3	Image memory error (at power-on)	E9		Section 5.3.22
4	EEPROM error (at power-on)	E7		Section 5.3.20
5	5V and 2.3V fuse check (at power-on)	*1		Section 5.3.1
	Motor fuse check (at power-on and when Maintenance mode #1 is begun)	E4		Section 5.3.17
	SCSI fuse check (at power-on)	E8		Section 5.3.21
	Light intensity check (when Maintenance mode #1, #2 is begun)	E2		Section 5.3.16
		E3		Section 5.3.16
8	Paper jam check (during #1)	U1		Section 5.3.11

*1 In this case, the scanner does not power on.

*2 Maintenance mode #1 does not detect double feeding.

*3 There is no TWAIN display during off-line testing.

5.2 Temporary Errors and Alarm Detection Algorithm

5.2.1 Temporary Errors

Temporary errors occur during scanning operation and can be remedied by the operator. They are displayed on the PC screen through the driver or on the operator panel.
The display and detection algorithm of the temporary errors are described below.

(1) Temporary error scanner display
When a temporary error occurs, the scanner displays the followings:

Function No. Display	Power LED	Description (supplement)
	ON	Displays “U” and the error No. (0 to 9) alternately. Example) When error “U0” occurs, the scanner displays the following: “U” -> “0” ……

When the Scan or Send to button is pressed while the alarm is displayed, the scanner returns to the “Ready” display (Function number display).

(2) Temporary errors and detection algorithm

No.	Error display		Detection algorithm and action to recover
	Scanner display	TWAIN display	
1	None	No paper on ADF paper chute or Hopper.	**No paper on the ADF paper chute** This error occurs when the Empty sensor detects no paper loaded on the ADF paper chute at the receipt of a Feed command. **How to recover:** Load documents on the ADF paper chute. When the error occurs frequently, refer to section 5.3.10
2	U1 	Paper jammed in the ADF or imprinter.	**Paper jam** This error is detected when one of the following occurs: 1) A document does not reach the Pick sensor or TOP sensor while the pick roller and separation roller have transported the document a specified length. (The scanner performs retry operation.) 2) The TOP sensor has detected that the document is longer than the specified length. (The document may have slipped on the rollers) Note) If a cable from Imprinter is not connected to the scanner while the Imprinter (option) is installed, the scanner does not rotate the Imprinter rollers, recognizing that there is no Imprinter installed. In this case, paper jam occurs. **How to recover:** Open the ADF and remove the jammed document. Close the ADF. When the error occurs frequently, refer to section 5.3.11

<table>
<tr><th rowspan="2">No.</th><th colspan="2">Error display</th><th rowspan="2">Detection algorithm and action to recover</th></tr>
<tr><th>Scanner display</th><th>TWAIN display</th></tr>
<tr><td>3</td><td>U2
  </td><td>A double feed is detected.</td><td>

Double feed

Three methods are used to detect this error. The methods for detecting double feeds are listed in Table A. The default double feed detection setting is “OFF”.(*)

* Double feed detection method can be selected both on the setting screen on the TWAIN driver and on the Software Operation Panel (see Section 3.2.3). The setting on the driver is recommended since it is prioritized.

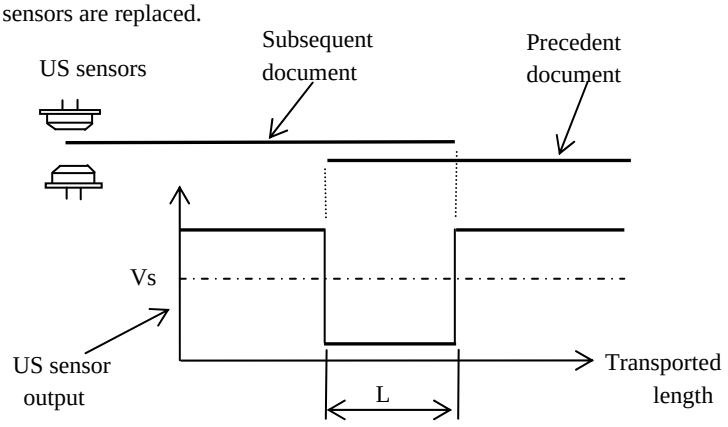
Table A: Methods of double feed detection

No.	Method	Document Type	Remarks
(a)	Overlapping detection by ultrasonic only	Different document length	
(b)	Document length only	Constant document length	
(c)	Combination of overlapping and document length detection		

(a) Double feed detection by ultrasonic sensors (US sensors)

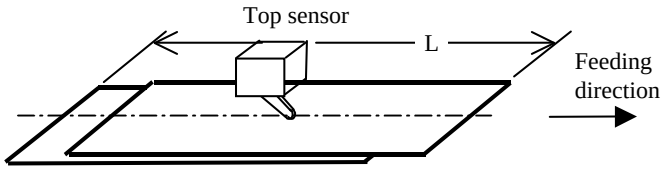
The ultrasonic sensors (US sensor, see section 4.1 (1), (2)) are located above and below the document transporting section. The ultrasonic wave emitted from the transmitter goes through the document and is scanned at the receiver. When two sheets exist between the ultrasonic sensors, the output at the receiver is lower compared to when one sheet exists. When sensor output is consistently lower by 3mm than the specified slice level (Vs), a double feed is detected. (See Section 1.2.5 for document condition.)

The specified slice level needs to be set by referring to Section 7.1.9 when the US sensors are replaced.



L > 3 mm: Double feed

</td></tr>
</table>

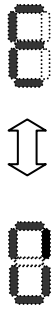
No.	Error display		Detection algorithm and action to recover
	Scanner display	TWAIN display	
3	U2 	A double feed is detected.	(Continued) **(b) Double feed detection by TOP sensor** Using the TOP sensor, the scanner measures the length of the first document transported in the batch. The measured length is used as a standard length to be compared with the length of subsequent documents to be scanned. (See Section 1.2.5 for document condition.) If the second document is shorter than the first one, it means the double feed occurred at the first document. The scanner detects a double feed when the detected paper length is larger or smaller than the standard value by ±10mm, ±15mm or ±20mm which is specified by the command. Immediately after a double feed error is detected, the feeding operation stops.  L – paper length > ±10, ±15, ±20 (selectable) **How to recover:** Open the ADF and remove the document. When the error occurs frequently, refer to Section 5.3.12.
4	U4 	The ADF is open. Close the ADF and set the document on ADF paper chute or Hopper.	**ADF cover open** This error occurs when the ADF Cover open sensor (sensor OP) detects that the ADF is not closed at the receipt of a Feed command. **How to recover:** Close the ADF. When the error occurs frequently, replace the Sensor OP by referring to Section 6.10.7.
		The imprinter cover is open. Close the cover and try again.	**Imprinter cover open** This error occurs when the Imprinter (option) is installed and its cover is detected open at the receipt of a Feed command. **How to recover:** Close the Imprinter cover.
5	U6 	Ink cartridge is not installed in the imprinter properly. Please check the installation and try again.	**No ink cartridge** This error occurs when the Imprinter (option) is installed and no ink cartridge installed is detected at start of scanning. **How to recover:** Confirm whether there is an Ink cartridge or not, then install it.
6	U7 	Imprinting position is located outside of paper edge. Please check the imprinting position and try again.	**Imprinting position alarm** This error occurs when the Imprinter (option) is installed and one of the following defects is detected. The document to imprint is not detected. - Imprinting start position is located outside of paper edge. **How to recover:** Confirm that the imprinting start position is specified within paper area by the imprinting offset setting by the driver (Refer to Section 9.3.2) and try scanning again.

5.2.2 Alarms

Alarms require maintenance by an authorized service person. The following table shows the display and detection algorithm for alarms. The alarms are displayed on a PC screen and/or on the operator panel (Function No. Display).

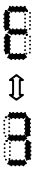
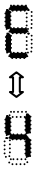
(1) Alarm displayed on the operator panel

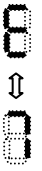
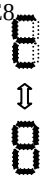
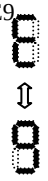
When an alarm occurs, the scanner displays the followings on the operator panel:

Function No. Display	Power LED	Description (supplement)
	ON	Displays “E” and one of the alarms (0 - 9, A, c, d, F) alternately. The example shown in the left column is the case of Alarm “E0”. The display sequence is: “E” → “0” → …… The interval of the display change is approximately 1 second.

When Scan or Send to button is pressed while the alarm is displayed, the scanner returns to the “Ready” display on Function number display.

(2) Alarms and their detection algorithm

No.	Error display		Error name and occurrence algorithm	Related section
	Scanner display	TWAIN display		
1	E2 	<Anomaly in the light intensity of ADF front side lamp.> … (Code DS42037) or (Code DS42040) Sense Key=0x04 ASC=0x680 DDES=0x74	**Optical alarm (ADF front)** This alarm occurs when the READ command for the first document is received, or when the gain of the CCD amplifier is adjusted (white background is scanned) during scanning. (Refer to (3) in section 4.2) **Probable causes:** - The lamp, optical system or white sheet guide is dirty. - Defective lamp, heater, CCD, or inverter. - Connector disconnected	5.3.16
2	E3 	<Anomaly in the light intensity of ADF back side lamp.> … (Code DS42038) or (Code DS42040) Sense Key=0x04 ASC=0x680 DDES=0x75	**Optical alarm (ADF back)** See item 1 (Optical alarm (ADF front)) above. **Probable causes:** See item 1 (Optical alarm (ADF front)) above.	
3	E4 	<Motor fuse is blown.> … (Code DS42034) Sense Key=0x04 ASC=0x181 DDES=0x81	**Motor fuse blown** This alarm occurs immediately after the motor fuse is blown. The motor fuse is blown when any of the motors in the ADF are abnormal. For maintenance, the Control PCA needs replacing because the fuse is soldered on the Control PCA. **Probable causes:** - Some metal material dropped on the Control PCA - Insulating material of motor cable damaged - Defective motors	5.3.17

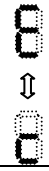
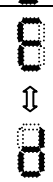
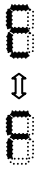
No.	Error display		Error name and occurrence algorithm	Related section
	Scanner display	TWAIN display		
4	E5 	<Lamp fuse is blown out.> … (Code DS42035) Sense Key=0x04 ASC=0x380 DDES=0x84	**Lamp fuse blown** This alarm occurs immediately after the lamp fuse is blown. The lamp fuse is blown when any of the lamps (ADF front/back) are abnormal. The control PCA needs replacing because the fuse is soldered on the board. **Probable causes:** - Defective insulation of lamp cable - Defective lamp, control PCA or Inverter	5.3.18
5	E6  Note1	None	**Operator panel alarm** Operator panel alarm occurs if no EEPROM information existence on the Panel PCA A is detected during initial processing immediately after power-on. Before the Panel PCA A is replaced, EEPROM information shall be saved on the Control PCA, so that this information can be returned to the new Panel PCA. **Probable causes:** - Panel PCA A not connected properly - Defective Panel PCA	5.3.19
6	E7  Note1	<EEPROM is not accessible.> … (Code DS42022) Sense Key=0x04 ASC=0x44 DDES=0xD2	**EEPROM alarm** This alarm is detected by checking the data in EEPROM during initial processing immediately after power-on. **Probable causes:** Damaged EEPROM in Panel PCA A. (Replace Panel PCA A)	5.3.20
7	E8  Note1	None	**SCSI fuse blown** This alarm is detected only during initial processing immediately after power-on. **Probable causes:** - Defective insulation of the devices connected to SCSI cable - Defective Control PCA	5.3.21
8	E9  Note1	<Memory is not accessible.> … (Code DS42023) Sense Key=0x04 ASC=0x44 DDES=0xE4 (E5, E6)	**Image memory alarm** This alarm is detected by checking read/write and bus only during initial processing immediately after power-on. **Probable causes:** - Defective memory - Defective Control PCA	5.3.22

Note 1) The alarm E6 to E9 is displayed 3 times before "P" during the initial processing immediately after power-on. When more than 1 of these errors occur simultaneously, they are displayed in the order of the priority described below:

E6 > E7 > E8 > E9

High priority ◄——► Low priority

The scanner can perform the scan operations even if these alarms occur, but the scanner might not operate properly.
For instance, when the EEPROM is damaged, the document is scanned by default settings, which means the settings of magnification, offset and white level may not be optimum for the document to be scanned.
When the image memory is damaged, irregular image may appear which can be easily detected by a visual check.

No.	Error display		Error name and occurrence algorithm	Related section
	Scanner display	TWAIN display		
9	EA 	<Anomaly in Imprinter>… (Code DS42001) Sense Key=0x04 ASC=0x1080 DDES=0xB3~0xB8	**Imprinter alarm** This alarm occurs, when the scanner detects some defects in the Imprinter, or when a communication error occurs after the scanner recognizes the Imprinter. It may occur in the following cases: - Ink cartridge pin shorted - Defect on the Control PCA of the Imprinter detected - Communication error with the Imprinter after the Imprinter is recognized by the scanner (This alarm will not be detected if the Imprinter is not recognized). If the Control PCA of the Imprinter is damaged, the scanner starts up when the power is turned ON again, but the imprinter will not start up. (If the Imprinter is not recognized by the scanner, the scanner does not rotate the roller in the Imprinter and paper jam occurs.) If the Control PCA of the scanner is damaged, the same error occurs when the power is turned ON again. **Probable causes:** - EXT cable connection error - Ink cartridge error - Defective Control PCA for the scanner or Imprinter	
10	Ec 	None	**RAM alarm** This alarm is detected by checking read/write of RAM and the bus. **Probable causes:** Defective Control PCA	5.3.24
11	Ed 	None	**SPC alarm** This alarm is detected by checking read/write and bus for SPC. SPC: SCSI Protocol Controller **Probable causes:** Defective Control PCA	5.3.25
12	EF 	<Anomaly in Background change operation.> … (Code DS42046) Sense Key=0x04 ASC=0x580 DDES=0xF2	**Background switching mechanism alarm** A Sensor that detects the position of background does not change state even if the BW motor moves to change the background color. **Probable causes:** - Background detection sensor connector is disconnected. - Defective background detection sensor - BW motor connector is disconnected, Defective BW motor - Defective background unit F - Defective background unit B	5.3.26
13	E11 	<Fan is halted.> … (Code DS42041) Sense Key=0x04 ASC=0x780 DDES=0xEC	**Fan alarm** This alarm is displayed when the fan rotation is not detected. **Probable causes:** Defective Fan ASSY or Control PCA	5.3.27

No.	Error display		Error name and occurrence algorithm	Related section
	Scanner display	TWAIN display		
14	E12 	<Anomaly in ADF front side heater.> … (Code DS42031) Sense Key=0x04 ASC=0x44 DDES=0x92 <Anomaly in ADF back side heater.> … (Code DS42032) Sense Key=0x04 ASC=0x44 DDES=0x93	**Heater alarm** This alarm occurs if the thermistor temperature in the Background unit F or B is less than 40 C° for more than 10 minutes. **NOTICE** Scanning is still available even when the heater alarm occurs. Once this occurs after power-on and this alarm is canceled, this alarm will not be detected until next power OFF/ON. Image quality may be affected if the heaters are not operating properly. **Probable causes:** - Connectors between Control PCA and lamp, and connectors between Control PCA and thermistor are disconnected. - Defective lamp - Defective Control PCA - Defective Background unit F or B	5.3.28
15	E15 	None	**Extended memory alarm** This alarm is detected when the extended memories are installed. This alarm is detected only during initial diagnostics immediately after power-on and blinks 3 times before displaying “P”. **Probable causes:** - Improper installation of extended memories - Defective extended memories - Defective Control PCA	5.3.29
16	E17 	<Imprinter fuse is blown out.>…(Code DS42036) Sense Key=0x04 ASC=0x1180 DDES=0x85	**Imprinter fuse blown** This alarm is detected as soon as the imprinter fuse is blown. Since the fuse is soldered on the Control PCA, the Control PCA must be replaced to repair the fuse. **Probable causes:** - Metal pieces fell off on the Control PCA - Insulator for the motor driving cable damaged - Insulator in the motor damaged	5.3.30
17	E18 	<Anomaly in sensor response.> … (Code DS42026) Sense Key=0x04 ASC=0x44 DDES=0x02(03)	**Sensor alarm** This alarm is detected when communication with Empty sensor, ADF cover open sensor, TOP sensor, US sensor, DF sensor, or Pick sensor is not available. This alarm is detected only during initial diagnostics immediately after power-on and blinks 3 times before displaying “P”. **Probable causes:** - Each sensor’s connector disconnected - Defective sensors - Defective US PCA - Defective Control PCA	5.3.31
18	E19 	<LSI is not accessible.> … (Code DS42029) Sense Key=0x04 ASC=0x44 DDES=0xE9(EA)	**LSI alarm** This alarm is detected when the register (LSI) is not accessible. **Probable causes:** - LSI on the Control PCA is shorted out - Defective Control PCA	5.3.32

No.	Error display		Error name and occurrence algorithm	Related section
	Scanner display	TWAIN display		
19	E1A 	<Anomaly of internal communication of the scanner.> … (Code DS42028) Sense Key=0x04 ASC=0x44 DDES=0xF0	**Scanner internal communication error** This alarm is detected when MDC and SDC are unable to communicate via DPRAM. Refer to Section 4.4 for MDC and SDC. **Probable causes:** - DPRAM pins on the Control PCA are shorted out. - Defective Control PCA	5.3.33
20	None	<Anomaly in the command for communicating with the scanner.> … (Code DS00003) Sense Key=0x05 ASC=0x20(24,25,26, 2C,22C)	**Abnormal command** Detected by the driver. **Probable causes:** - Communication error between the scanner and the PC - Defective Control PCA	5.3.35
21	None	<Anomaly in communication with the scanner.> … (Code DS42050) Sense Key=0x0B ASC=0x43(45,47,48, 4E,180)	**Interface alarm** Detected by the driver. **Probable causes:** - Communication error between the scanner and the PC - Defective Control PCA	5.3.36

5.2.3 Flash Memory Status Display

The display and detection algorithm of the flash memory status are described below.

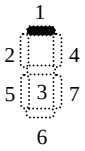
(1) Error status display

The following display appears when a checksum error of the flash memory occurs:

Function No. Display	Power LED	Description (supplement)
	ON	"F" is displayed without blinking on the Function No. Display.

(2) Flash memory (firmware) update display

The following display appears while the firmware is being updated.

Function No. Display	Power LED	Description (supplement)
	ON	The Function No. Display changes in the order below. 1) Lights 1 → 2 → 3 → 4 2) Goes out 1 → 2 → 3 → 4 3) Lights 3 → 5 → 6 → 7 4) Goes out 3 → 5 → 6 → 7 The step (1) to (4) is repeated. The interval of display change is approximately 0.5 seconds.

5.3 Troubleshooting

When a temporary error or an alarm occurs, find the troubleshooting procedure from the list in this section and go to the related section for maintenance. Before starting the troubleshooting, get the following information from your customer to understand whether the error is scanner-related or system-related.

- Is the scanner operated correctly?
- Are the fault symptoms reproducible by some setting of the driver?
  (Check if the target scanner causes the same error by connecting with other computer system.)

Following table lists the case of troubleshooting described later in this section.

Error category	Error description	Related section	Remarks
Device	Scanner does not turn ON. (No display on the operator panel)	5.3.1	
	Scanning does not start.	5.3.2	
	Scanned image is distorted.	5.3.3	
Image	Resolution or gradation of scanned image is unsatisfactory.	5.3.4	
	Too much jitter on scanned image	5.3.5	
	Scanned image is misaligned	5.3.6	
	Magnification of scanned image is incorrect	5.3.7	
	Vertical streaks appear in scanned image	5.3.8	
	When calibrating white level of scanned image	5.3.9	
Temporary error	Improper “No paper on the ADF paper chute” error	5.3.10	
	U1: Frequent paper jam error	5.3.11	
	U2: Frequent double feed error	5.3.12	
	U4: Improper “ADF cover open” error	5.3.13	
	U6: “No ink cartridge”	5.3.14	
	U7: “Imprinting position alarm”	5.3.15	
Alarm	E2 or E3: “Optical alarm”	5.3.16	
	E4: “Motor fuse blown”	5.3.17	
	E5: “Lamp fuse blown”	5.3.18	
	E6: “Operator panel alarm”	5.3.19	
	E7: “EEPROM alarm”	5.3.20	
	E8: ” SCSI fuse blown”	5.3.21	
	E9: ”Memory alarm”	5.3.22	
	EA: “Imprinter alarm”	5.3.23	
	Ec: “RAM alarm”	5.3.24	
	Ed: “SPC alarm”	5.3.25	
	EF: “Background switch alarm”	5.3.26	
	E11: “Fan alarm”	5.3.27	
	E12: “Heater alarm”	5.3.28	
	E15: “Optional extended memory alarm”	5.3.29	
	E17: “Imprinter fuse blown”	5.3.30	
	E18: “Sensor alarm”	5.3.31	
	E19: “LSI alarm”	5.3.32	
	E1A: “Communication error inside of scanner”	5.3.33	
	F: “ROM sum check alarm”	5.3.34	
	“Abnormal command”	5.3.35	
	“Interface alarm”	5.3.36	
	Imprinter do not operate initially	5.3.37	
	No imprinting / Imprinting distortion	5.3.38	
	Imprinting form soiled	5.3.39	
	Imprinting area is out of paper	5.3.40	

NOTICE

The troubleshooting should be conducted from item number 1 to the last item number in each table.
Continue the troubleshooting until the error is resolved.

5.3.1 Scanner Does not Turn ON (No display on the operator Panel)

Table 5.3.1

Item No.	Check items	How/where to check
1	Is the AC cable connected correctly? Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Connect the AC cable to a different wall outlet.	---
3	Replace AC cable and see if the error is resolved.	---
4	Replace Panel PCA A or Panel PCA B and see if the error is resolved.	Refer to Section 6.6.4, 6.6.5.
5	Replace Power supply and see if the error is resolved.	Refer to Section 6.7.
6	Replace Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.2 Scanning Does not Start

Table 5.3.2

Item No.	Check items	How/where to check
1	Does the same symptom appear after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Check the items listed in the right column.	・ Is the AC cable connected properly? ・ Is the interface cable (SCSI or USB) connected properly? ・ Is the SCSI ID correctly set? ・ Is there documents loaded on the ADF paper chute? ・ Is the ADF cover completely closed? ・ If any temporary error or alarm is indicated, follow the corresponding troubleshooting.

5.3.3 Scanned Image is Distorted

Due to the loose contact in connectors, cut wire in cables, or defective parts, scanned images may have regular or random patterns of distortion on it.

Table 5.3.3

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	・ Is the interface cable (SCSI or USB) connected properly? ・ If any temporary error or alarm is indicated, follow the corresponding troubleshooting.
2	Are the cables between the Control PCA and the Optical unit ADF damaged? Or are the connectors connected properly?	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
3	Replace the Optical unit ADF and see if the error is resolved.	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.4 Resolution or Gradation of Scanned Image is Unsatisfactory

Table 5.3.4

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	• Does the document satisfy the paper specifications described in the Section 1.2? • Are the scan settings (resolution, density) correctly specified in the application software used for the document being scanned? • Is the interface cable (SCSI or USB) connected correctly? • If any temporary error or alarm is indicated, follow the corresponding troubleshooting.
2	Clean the reading section (glass) and see if the error is resolved.	Refer to Section 3.3.1.
3	Clean the Feed rollers and Plastic rollers and see if the error is resolved.	Refer to Section 3.3.1.
4	Is the Optical unit ADF dirty? Are the cables damaged? Are the connectors for the Optical unit or Background unit connected properly?	Refer to Section 6.3.1 for the cleaning of Optical unit ADF.
5	Replace the Optical unit and see if the error is resolved.	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
6	Replace the Background unit and see if the error is resolved.	ADF ~~front~~ back scanning: Replace Background unit F by referring to Section 6.11.1. 04 ADF ~~back~~ front scanning: Replace Background unit B by referring to Section 6.10.8. 04
7	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.5 Too Much Jitter on Scanned Image when Scanning from ADF

The following shows a sample of scanned image when "Jitter" error occurs. This error occurs when the ADF feed roller do not transport the document smoothly.

Scanned image with jitter

Normal scanned image

Table 5.3.5

Item No.	Check items	How/where to check
1	Does the document satisfy the paper specification?	Refer to Section 1.2 for the paper specification.
2	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 3.3.1.
3	Replace the Pick roller and the Brake roller and see if the error is resolved.	Check the consumable counter in the software operation panel or in the built-in Maintenance mode (Section 7.1.6). When the counter exceeds the values shown in section 3.4.1, replace the Pick roller or the Brake roller.
4	Are the cables between the Control PCA and the Feed motor damaged? Are the connectors connected properly?	Refer to Section 6.10.4.
5	Is the Optical unit ADF installed correctly?	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
6	Is the Belt ADF installed correctly?	Refer to Section 6.10.4.
7	Is the Belt ADF damaged?	Refer to Section 6.10.4.
8	Replace Feed motor and see if the error is resolved.	Refer to Section 6.10.4.
9	Replace the Optical unit ADF and see if the error is resolved.	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
10	Replace the ADF unit and see if the error is resolved.	Refer to Section 6.8.

5.3.6 Scanned Image is Misaligned when Scanning from the ADF

Table 5.3.6

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	・ Does the document satisfy the paper specifications described in section 1.2? ・ Are the scan settings (document size, etc.) correct in the application software used?
2	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 3.3.1.
3	Adjust the offset value in the software operation panel.	Refer to Section 3.2.8.
3	Adjust the offset by Maintenance mode.	Refer to Section 7.1.4.
4	Is the Optical unit installed correctly?	ADF front: Refer to Section 6.11.1. ADF back: Refer to Section 6.10.2.
5	Replace the ADF unit and see if the error is resolved.	Refer to Section 6.8.

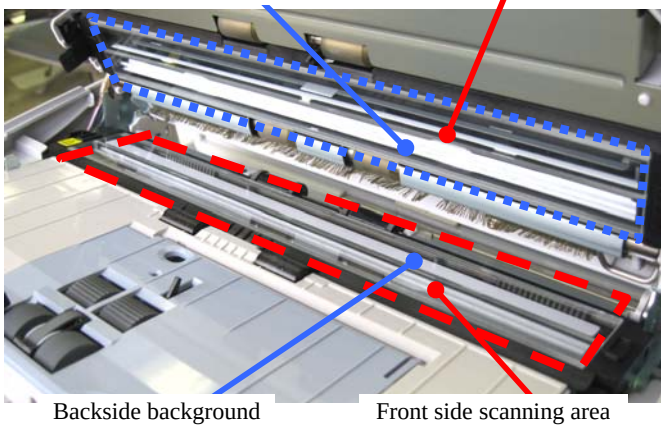
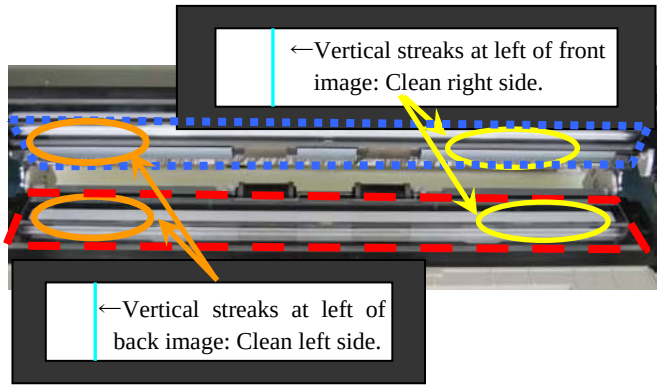
5.3.7 Magnification of Scanned Image is Incorrect when Scanning from the ADF

Table 5.3.7

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	Are the scan settings (resolution, etc.) correct in the application software used?
2	Does the abnormal magnification occur horizontally (main scanning direction) or vertically (sub-scanning direction)?	Sub-scanning direction: Go to item No.3 Main scanning direction Go to item No.8
3	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 3.3.1.
4	Is there a foreign object in the roller section of the ADF, affecting the rotation of the Feed rollers?	Referring to step (1) in Section 6.10.1, remove the ADF cover, and check the ADF belt.
5	Adjust the vertical magnification in the software operation panel.	Refer to Section 3.2.9.
6	Is the Belt ADF loose?	Refer to Section 6.10.4.
7	Replace the Feed motor and see if the error is resolved.	Refer to Section 6.10.4.
8	Is the Optical unit ADF installed correctly?	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
9	Replace the Optical unit ADF and see if the error is resolved.	
10	Replace the ADF unit and see if the error is resolved.	Refer to Section 6.8.

5.3.8 Vertical Streaks Appear in Scanned Image

Table 5.3.8

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	Is the interface cable connected properly?
052	When vertical streaks appear on the front side image, clean the scanning area of the front side and the front side background unit (photo on the right). When vertical streaks appear on the backside image, clean the scanning area of the backside and the backside background unit (photo on the right).	Cleaning ADF: Refer to Section 3.3.1 Backside scanning area / Front side background  Backside background / Front side scanning area **Front side**: Vertical streaks and cleaning position are **left-right reversal**. **Backside**: Vertical streaks and cleaning position are on the **same side**. 
053	Inside of the glasses at the scanning area or white reference may be dirty. In the case of Background unit F, clean inside of the unit. In the case of Background unit B, replace the unit.	Cleaning inside of Background unit F: Refer to Section 6.3.2. Replacing Background unit B: Refer to Section 6.10.8.
4	Is the Optical unit dirty? Are the cables damaged? Are the connectors connected properly?	Refer to Section 6.3.1.
5	Replace the Optical unit and see if the error is resolved.	ADF front scanning: Refer to Section 6.11.1. ADF back scanning: Refer to Section 6.10.2.
6	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.9 When Calibrating White Level of Scanned Image

Table 5.3.9

Item No.	Check items	How/where to check
1	Check the items listed in the right column.	・ Are the scan settings (density, number of colors) correct for the application software used? ・ Is the sheet guide (White part) in the ADF dirty?
2	Conduct the white level adjustment by Maintenance mode.	Refer to Section 7.1.5.

5.3.10 Improper "No Paper on the ADF paper chute" Error

Table 5.3.10

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Is there a slip of paper left near the Empty sensor?	Open the ADF and check inside visually.
3	Check the performance of the Empty sensor.	Conduct Maintenance mode (Section 7.1.2) to see if the sensor works properly. If the error still occurs, confirm that the cable is correctly connected then replace the sensor. (Section 6.9.2)

5.3.11 "U1:Frequent Paper Jam Error"

Table 5.3.11

Item No.	Check items	How/where to check
1	Do the documents satisfy the paper specification?	Refer to Section 1.2 for the paper specifications.
2	Have the documents been prepared properly?	・ Align the edge of documents for stable paper feeding. ・ Remove documents with creases or dog-ear corners. ・ Scanning different widths documents may cause skew and result in paper jam.
3	Is the imprinter EXT cable connected to the scanner properly?	(only when the imprinter is installed) Refer to the cable in Section 9.2.2.
4	Clean the Pick roller, the Separation roller, the Brake roller and the Chute roller and see if the error is resolved.	Refer to Section 3.3.1.
5	Clean the Feed rollers and the Plastic rollers and see if the error is resolved.	Refer to Section 3.3.1.
6	Replace the Pick roller, the Brake roller and the Chute roller, and see if the error is resolved.	Check the consumable counter in the software operation panel or from the built-in Maintenance mode (Section 7.1.6). When the counter exceeds the values shown in Section 3.4.1, replace the Pick roller or the Brake roller.
7	Check the performance of the Pick arm.	If it does not perform correctly, replace BW motor (pick arm side). Refer to Section 6.10.3.
8	Check the performance of TOP sensor.	Refer to Section 7.1.2.
9	Is the Pick sensor malfunctioning?	Refer to Section 7.1.2.
10	Check whether the Sensor OPB5 lever moves smoothly. If not, install it properly.	(only when the imprinter is installed) Refer to Section 9.5.5.1. Replace the Sensor OPB5 if it is damaged.
11	If the imprinter rollers do not rotate, replace the Feed motor.	(only when the imprinter is installed) Refer to Section 9.5.5.3.
12	Replace the Imprinter Control PCA.	(only when the imprinter is installed) Refer to the Section 9.5.4.
13	Replace the scanner Control PCA.	(only when the imprinter is installed) Refer to Section 6.7.

5.3.12 "U2: Frequent Double feed Error"

Table 5.3.12

Item No.	Check items	How/where to check
1	Do the documents satisfy the paper specification?	Refer to Section 1.2 for paper specification, paying attention to the following points: ・ Is double feed error detected by paper length when scanning documents with different length? ・ Are there perforations in the center of the documents?
2	Are the document handled well?	Check whether the paper is handled as described in step (2) of Section 3.1.3.
3	Clean the ADF unit.	Refer to Section 3.3.1 for cleaning cycle and method. Clean the Pick roller, the Brake roller, the Ultrasonic sensor and the DF sensor with care.
4	Replace the Pick roller and the Brake roller and see if the error is resolved.	Check the consumable counter in the software operation panel or from the built-in Maintenance mode (Section 7.1.6). When the counter exceeds the values shown in Section 3.4.1, replace the Pick roller or the Brake roller.
5	Check the performance of the Ultrasonic sensor and the DF sensor.	Conduct Maintenance mode (Section 7.1.9) to see if the sensors work properly. If the error still occurs, confirm that the cables are correctly connected then replace the corresponding sensor. (Section 6.9.2.)

5.3.13 Improper "ADF Cover Open" Error

Table 5.3.13

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Is there a slip of paper left near Cover open sensor?	Open the ADF and check inside visually.
3	Check the performance of Cover open sensors.	- Conduct Maintenance mode (Section 7.1.2) to see if the sensor works properly. - If the error still occurs, confirm that the cable is correctly connected. - If the error still occurs, replace the sensors by following the sections below: ADF cover open sensor: Section 6.10.7 Imprinter cover sensor: Section 9.5.5.2

5.3.14 "U6: No ink cartridge" (with the Imprinter installed)

Table 5.3.14

Item No.	Check items	How/where to check
1	Check whether the print cartridge is installed properly.	Refer to Section 9.3.3.
2	Remove the Print cartridge and check to see if electrodes on the mounting bracket are dirty.	Clean if dirty. Refer to Section 9.4.1.
3	Replace the Print cartridge and see if the error is resolved.	Refer to Section 9.3.3.
4	The communication between the Print cartridge and the Control PCA may be defective. Confirm connection with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 9.5.3.4 - PR cable: Section 9.5.5.4 - Junction PCA: Section 9.5.3.3
5	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.

5.3.15 Imprinting position alarm (with the Imprinter installed)

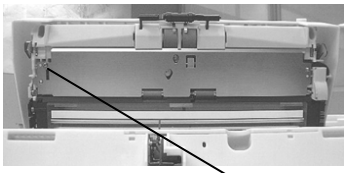
Table 5.3.15

Item No.	Check items	How/where to check
1	Check whether the imprinting position is specified within the printable area. (Refer to Section 9.1.1 for the printable area and Section 9.3.2 for the print setup.	Confirm whether the printing position or printing length is out of the printable area.
2	The communication between the Print cartridge and the Control PCA may be defective. Confirm connection with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 9.5.3.4 - PR cable: Section 9.5.5.4 - Junction PCA: Section 9.5.3.3
3	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.

5.3.16 "E2 or E3: Optical Alarm"

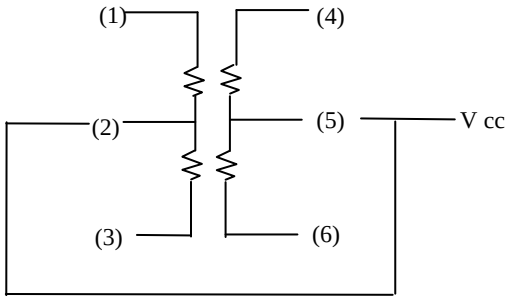
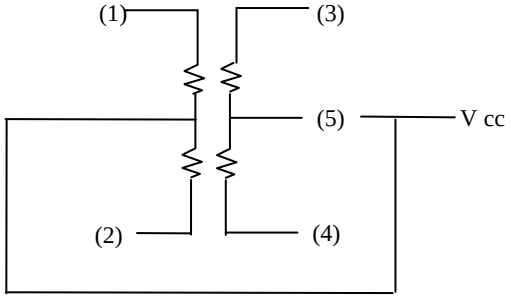
Ref) E2: ADF front side scanning optical alarm (lower optical unit ADF)
E3: ADF backside scanning optical alarm (upper optical unit ADF)

Table 5.3.16

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	E2: Is the upper glass (white sheet guide) of the reading section dirty? E3: Is the lower glass (white sheet guide) of the reading section dirty?	Open the ADF, and clean the sheet guide (white part) and the glass. (Refer to Section 3.3.1.)
3	E2: Is the lower Optical unit ADF dirty? E3: Is the upper Optical unit ADF dirty? Are the cables damaged? Are the connectors connected properly?	Refer to Section 6.3.1.
4	E2: Is the lower lamp ON? E3: Is the upper lamp ON? Are the cables damaged? Are the connectors connected properly?	Disconnect the SCSI cable and turn the scanner ON. Open the ADF and press ADF cover open sensor as shown below to see if the ADF lamps light. If not, the error is caused by defective lamps or inverter. If upper lamp does not light: Refer to "Background unit B" in Section 6.10.8. If lower lamp does not light: Refer to "Background unit F" in Section 6.11.1.  ADF cover open sensor
5	Replace the lower Optical unit ADF and see if the error is resolved. Replace the upper Optical unit ADF and see if the error is resolved.	E2 (ADF front): Refer to Section 6.11.1. E3 (ADF back): Refer to Section 6.10.2.

5.3.17 "E4: Motor Fuse Blown"

Table 5.3.15

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are there any foreign objects lying on the Control PCA?	Remove the Control PCA and inspect. (Refer to Section 6.7.)
3	Are the cables between the Control PCA and the motor damaged? Are the connectors connected properly?	Pick motor: Refer to Section 6.11.1. BW motor: Refer to Section 6.10.3 or 6.10.5. Feed motor: Refer to Section 6.10.4.
4	Is the coil resistance of the motor normal?	Remove the motor cable to check the coil resistance between the following pins of the motor. 1) Pick motor unit, Feed motor Pick motor unit Feed motor Resistance 2-1, 2-3: approx. 1.7 Ohms Resistance 5-4, 5-6: approx. 1.7 Ohms Resistance 1-3, 4-6: approx. 3.4 Ohms Other match: Infinite  2) BW motor BW motor Resistance 1-2, 1-3, 1-4: approx.20 Ohms Resistance 2-3, 2-4, 3-4: approx.20 Ohms Resistance 5-1, 5-2, 5-3, 5-4: approx.40 Ohms Other match: Infinite  Replace the corresponding motor if the resistance is abnormal.
5	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.18 "E5: Lamp Fuse Blown"

Table 5.3.18

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are there any foreign objects lying on the Control PCA?	Remove the Control PCA and inspect. (Refer to section 6.7.)
3	Are the cables between the Control PCA and the lamps damaged? Are the connectors connected properly?	Referring to the following sections, check the cables (pink and blue lines). Lamp for ADF front: Refer to Section 6.11.1. Lamp for ADF back: Refer to Section 6.10.8.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.19 "E6: Operator Panel Alarm"

Table 5.3.19

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace it with the new Panel PCA and see if the error is resolved.	Install the new Panel PCA after saving the EEPROM data (Refer to Section 6.6.4 and 6.6.5). Then conduct Maintenance mode #7 by referring to Section 7.1.8.

5.3.20 "E7: EEPROM Alarm"

Table 5.3.20

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Panel PCA and see if the error is resolved.	Refer to Section 6.6.4, 6.6.5 and 7.1.8.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.21 "E8: SCSI Fuse Blown"

Table 5.3.21

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Was this error caused by the SCSI cable connected to the scanner or other SCSI devices?	- Disconnect any other SCSI device connected. - Replace the SCSI cable.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.22 "E9: Memory Alarm"

Table 5.3.22

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.23 "EA: Imprinter Alarm" (with the Imprinter installed)

Table 5.3.23

Item No.	Check items	How/where to check
1	Check whether the print cartridge is installed properly.	Refer to Section 9.3.3.
2	Replace the print cartridge and see if the error is resolved.	Refer to Section 9.3.3.
3	Is the imprinter EXT cable connected to the scanner properly?	Refer to Section 9.2.2.
4	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
5	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.
6	Replace the scanner Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.24 "Ec: RAM Alarm"

Table5.3.24

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

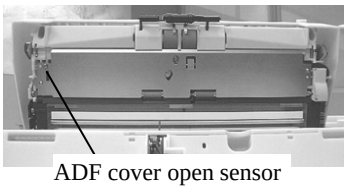
5.3.25 "Ed: SPC Alarm"

Table 5.3.25

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.26 "EF: Background Switch Alarm"

Table 5.3.26

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are the cables between the Control PCA, the BW motor (for driving background switch mechanism) and sensors (for detecting background position) damaged? Are the connectors connected properly?	BW motor (background switch mechanism drive): Refer to Section 6.10.5. Sensor (background position detection): Refer to Section 6.10.6.
3	Check if the BW motor performs correctly.  ADF cover open sensor	Open the ADF, turn ON the power while pressing the ADF cover open sensor. - If ~~Sheet guide~~ Background unit B on upper ADF does NOT operate, BW motor is not operating correctly. Replace the parts in the following order and find defective parts. 04 1) BW motor (Section 6.10.3) 2) Background unit F (Section 6.11.1) and Background unit B (Section 6.10.8) 3) Control PCA (Section 6.7) - If ~~Sheet guide~~ Background unit B on upper ADF operates correctly, replace the parts in the following order and find defective parts. 04 1) Sensor for background position detection (Section 6.10.6) 2) Background unit F (Section 6.11.1) and Background unit B (Section 6.10.8) 3) Control PCA (Section 6.7)

5.3.27 "E11: Fan Alarm"

Table 5.3.27

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press "O" area of power switch to turn the scanner OFF, and press "I" area to turn it ON.
2	Check if the fan ASSY cable is not damaged and if the connectors are connected correctly, then replace the fan ASSY.	Refer to Section 6.7.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.28 "E12: Heater Alarm"

NOTICE

Scanning is still available even when the heater alarm occurs. Once it occurs after power-on and is canceled, this alarm will not be detected until next power OFF/ON. If the heaters are not operating properly, image quality may be affected.

Table 5.3.28

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are the cables between the Control PCA and the Background unit F, and Background unit B damaged? Are the connectors connected correctly?	Refer to the following sections. Background unit F: Section 6.11.1. Background unit B: Section 6.10.8.
3	Replace the Background unit F or Background unit B and see if the error is resolved.	Refer to the following sections. Background unit F: Section 6.11.1. Background unit B: Section 6.10.8.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.29 "E15: Extended Memory Alarm"

Table 5.3.29

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner? This alarm displayed 3 times (blinking) before "P" is displayed immediately after power-on.	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Confirm with the user whether the recommended Extended memories with the same specification described in Section 1.1.2 are installed correctly.	Refer to Section 1.1.2. If the memories are not the recommended model type, ask the user to install the recommended ones.
3	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.30 "E17: Imprinter Fuse Blown" (with the Imprinter installed)

Table 5.3.30

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Check whether the cause is the scanner or the imprinter.	Press the "O" area of power switch to turn the scanner OFF, and remove the Imprinter (option). After 10 minutes, press the "I" area to turn it ON. - Imprinter fuse blown: Go to item 3. - Imprinter fuse not blown: Go to item 5.
3	Are there any foreign objects lying on the Control PCA.	Referring to Section 6.7, remove the Control PCA and observe it.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7. Closed.
5	Are there any foreign objects lying on the Imprinter Control PCA.	Refer to Section 9.5.4.
6	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.

5.3.31 "E18: Sensor Alarm"

Table 5.3.31

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Are the cables between the Control PCA and the sensors damaged? Are the connectors connected properly?	Refer to the following sections. Pick sensor, DF sensor, Top sensor, Empty sensor: Section 6.9.2 ADF cover open sensor: Section 6.10.7
3	Replace each sensor and the US PCA and see if the error is resolved.	Refer to Section 6.9.2.
4	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.32 "E19: LSI Alarm"

Table 5.3.32

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to section 6.7.

5.3.33 "E1A: Internal Scanner Communication Error"

Table 5.3.33

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.34 "F: ROM Sum Check Alarm"

Table 5.3.34

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.35 "Abnormal Command"

Table 5.3.35

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner and PC?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.36 "Interface Alarm"

Table 5.3.36

Item No.	Check items	How/where to check
1	Does the same symptom occur after turning OFF and ON the scanner and PC?	Press the "O" area of power switch to turn the scanner OFF, and press the "I" area to turn it ON.
2	Replace the Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.37 "Imprinter does not operate initially" (with the Imprinter installed)

Table 5.3.37

Item No.	Check items	How/where to check
1	Check if the Imprinter EXT cable is connected properly.	The cable shown in Section 9.2.2.
2	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.
3	Replace the scanner Control PCA and see if the error is resolved.	Refer to Section 6.7.

5.3.38 "No imprinting / Imprinting Distortion" (with the Imprinter installed)

Table 5.3.38

Item No.	Check items	How/where to check
1	Check if the screen in Section 9.3.3 is displayed.	Replace the print cartridge if displayed to do so. (Refer to Section 9.3.3)
2	Turn ON/OFF several times, and try imprinting again. Does the same symptom occur? (Be sure to turn OFF the scanner after it becomes READY.)	
3	Clean the print cartridge nozzle and see if the error is resolved.	Refer to Section 9.4.1.
4	The communication between the print cartridge and the Control PCA may be defective. Confirm the connections with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 9.5.3.4 - PR cable: Section 9.5.5.4 - Junction PCA: Section 9.5.3.3

5.3.39 "Scanned Form is Dirty" (with the Imprinter installed)

Table 5.3.39

Item No.	Check items	How/where to check
1	Is the sheet guide of the Imprinter dirty with ink?	If dirty, clean it by referring to Sections 9.4.1 to 9.4.3.
2	Replace the Felt.	Refer to Section 9.5.5.5.

5.3.40 "Imprinting area is out of paper" (with the Imprinter installed)

Table 5.3.40

Item No.	Check items	How/where to check
1	Is the imprinting position specified within the printable area?	- Refer to Section 9.1.1 for printable area and Section 9.3.2 for the print setup. - Check if the document of the specified size (length) is loaded on the ADF paper chute.
2	The communication between the print cartridge and the Control PCA may be defective. Confirm the connections with the parts on the right, and replace if necessary.	Parts to be checked - Holder ASSY: Section 9.5.3.4 - PR cable: Section 9.5.5.4 - Junction PCA: Section 9.5.3.3
3	Replace the Imprinter Control PCA and see if the error is resolved.	Refer to Section 9.5.4.

Chapter 6 Maintenance Procedure

This chapter describes how to replace maintenance parts, and clean the scanner to ensure normal operations. When assembling the maintenance parts, conduct necessary cleaning when instructed in this manual.

6.1 For Safety Operation

Please read this page carefully before disassembling or assembling.

⚠WARNING **Electric shock**

Before disassembling or assembling, turn the power switch off, and unplug the AC power source from the outlet. If you do not do this, an electric shock may occur.

⚠CAUTION **Injury**

Be careful not to get your fingers, hair, clothes or accessories caught in a moving part.
It may cause injury.

Machine damage

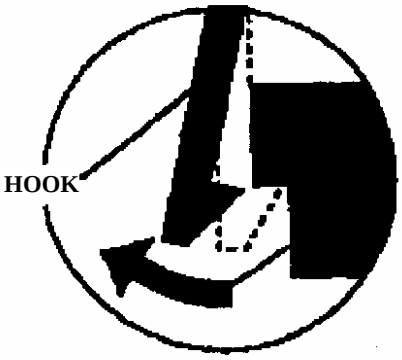
Static Electricity may cause the damage to the scanner.
When repairing the scanner, wear a wrist strap to avoid ESD.

Notes when cleaning

When cleaning the scanner, be careful not to allow foreign matter, such as dried ink and toner, to fall inside the scanner.

How to unlock plastic hooks

Many parts of the scanner are held in place with plastic hooks.
When removing parts that are held in place with hooks, be very careful not to break the hooks.
Pull out the latch to unlock, then pull up on the assembly to remove.



Do not use excessive force when removing parts held in place with hooks.

05

6.2 Periodic Maintenance

Periodic maintenance should be performed on the scanner at the following intervals.

Item	Maintenance cycle
Periodic maintenance	Every 12 months

At maintenance, clean the ADF if dirty (Refer to Section 3.3.1).

6.3 Cleaning

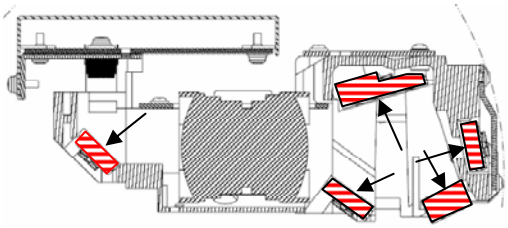
6.3.1 Cleaning the Optical Unit ADF

Clean the Optical unit ADF using the following procedure.

1) To clean the Optical unit ADF for front side scanning (lower parts in ADF), remove the Optical unit ADF by referring to Section 6.11.1.
   To clean the Optical unit ADF for backside scanning (upper parts in ADF), remove the Optical unit ADF by referring to Section 6.10.2.

05

2) Remove any dirt on the mirrors of the Optical unit ADF with blow brush (photo below). Do not use air sprays which may build up condensation on the mirrors.
   ~~Using alcohol may leave residue. Make sure not to touch the mirrors with your fingers.~~



Blow brush

NOTICE 05

Do not disassemble any parts of this unit (PCA's and mirrors) as mentioned in section 6.5.

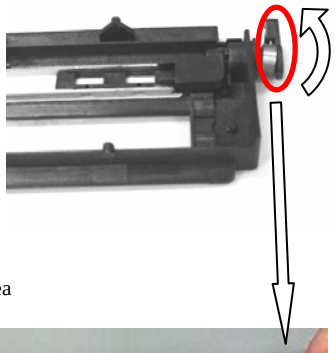
05

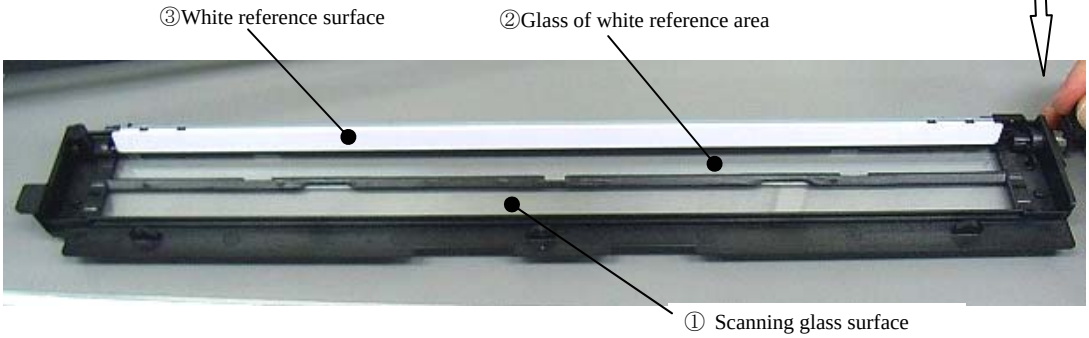
6.3.2 Cleaning inside of the Background unit F

Clean the Background unit F in the following procedure.

(1) Referring to Section 6.11.1, remove the Background unit F.

(2) Rotate the cam of the glass frame in the direction of the arrow (photo on the right), and then wipe the glass surfaces (① and ② in the photo below) and white reference surface (③ in the photo below) with a lint-free dry cloth. Be sure to wipe them from one edge to another **in one direction**, and **suck the dust with a vacuum cleaner** if there still is dust at the edge and groove of the frame. Do not use alcohol but **rub with a dry cloth.** If you want to use alcohol, soak it on a cloth and wipe in one direction. And **be sure to finish with a dry cloth**.

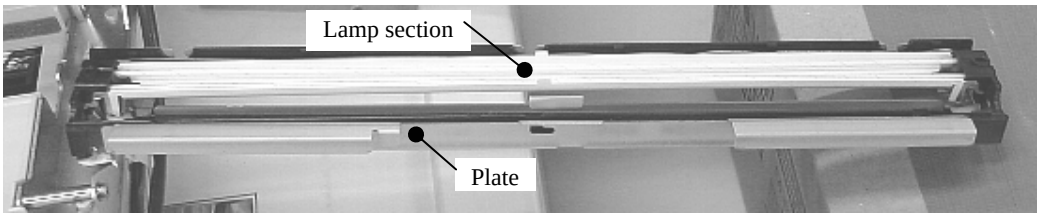




Note: After cleaning, expose the glass to the light (ex: Hold the glass against the fluorescent lamp to see dust). Make sure that there is no dust on the glass. If dust is still on the glass, clean the parts again in the procedure above.

(3) After cleaning, install the Background unit F in the procedure above in reverse order.

Note 1: The plate and the lamp section are assembled as shown in the photo below (for your reference).



Note 2: After assembling all the parts, open the ADF and clean the glass of the Background unit F.
Note 3: Turn on the power, and confirm that no error “EF (background switch alarm)” appears.

05 07

6.3.3 (Reference-Overseas only) Cleaning inside of the Background unit B

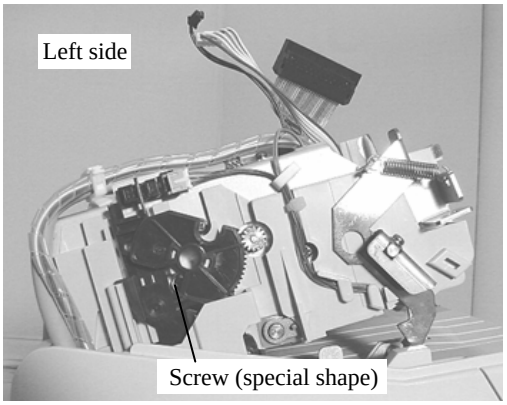
This cleaning requires the following part. Prepare it in advance.

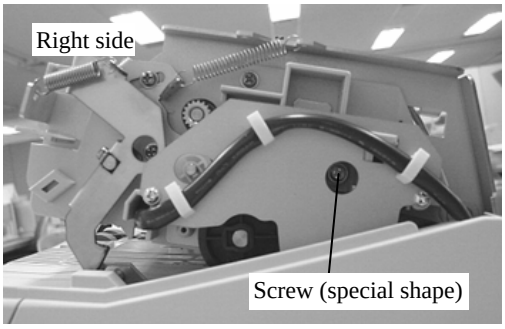
Part name	Part number
P SHEET	PA03338-Y451

As cleaning kits, a vacuum cleaner, a packing tape, and alcohol are required as well.

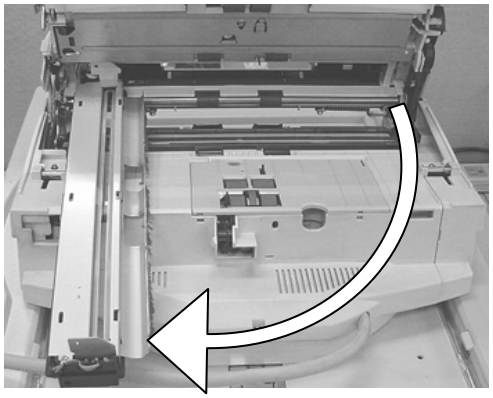
(1) Referring to step (1) of Section 6.10.1, remove the ADF cover.

(2) Remove screws (special shape) from both right and left sides of the ADF.

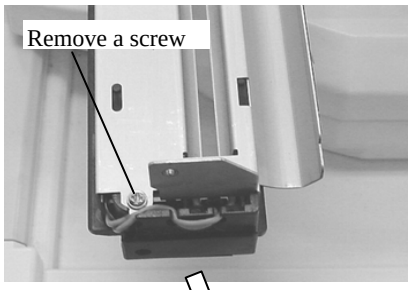


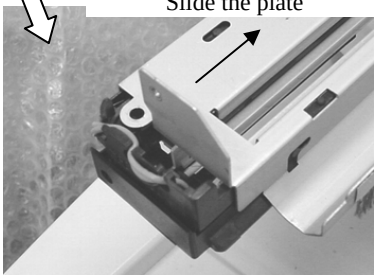


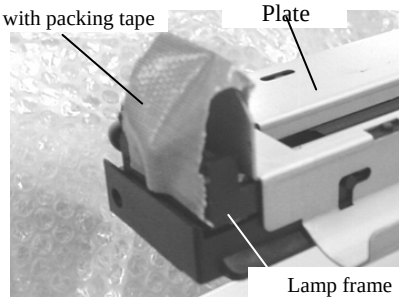
(3) Open the ADF, take out the Background unit B in the direction of the arrow in the photo on the right. Be careful not to pull the cable forcibly.



(4) Remove a screw from the Background unit B, slide the plate in the direction of the arrow (photo below), and then fix the lamp frame and the plate with packing tape.

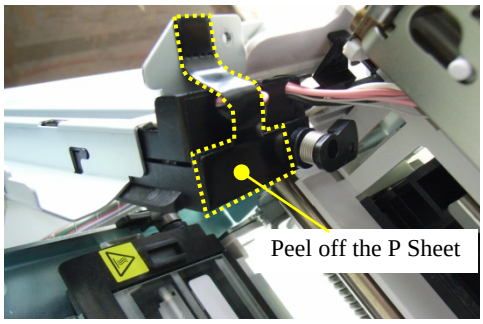


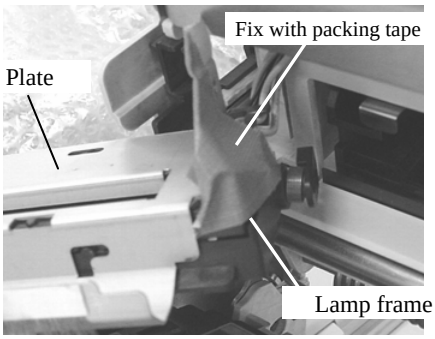




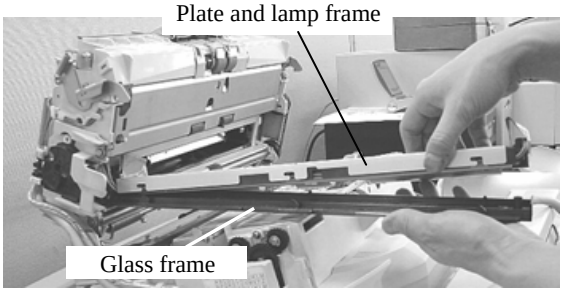
05

(5) If there is P SHEET at one edge of the Background unit B, remove it. Then, fix the lamp frame and the plate with packing tape.

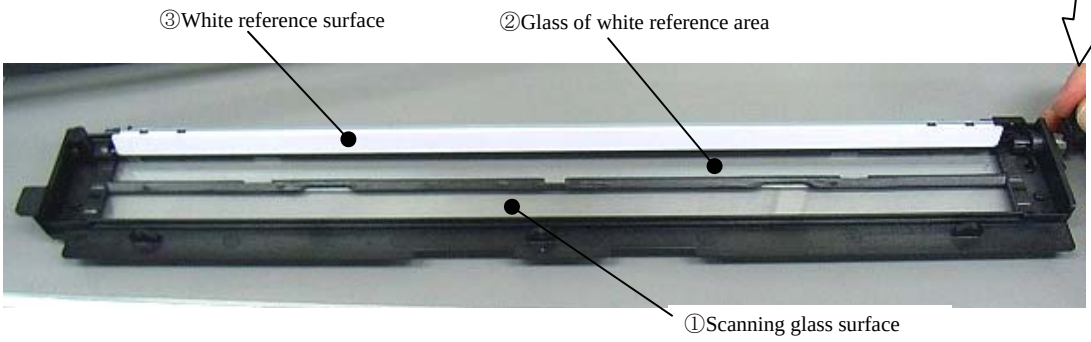




(6) Lower the glass frame to remove.



(7) Rotate the cam of the glass frame in the direction of the arrow (photo on the right), and then wipe the glass surfaces (① and ② in the photo below) and white reference surface (③ in the photo below) with a lint-free dry cloth. Be sure to wipe them from one edge to another **in one direction**, and **suck the dust with a vacuum cleaner** if there still is dust at the edge and groove of the frame. Do not use alcohol but **rub with a dry cloth.** If you want to use alcohol, soak it on a cloth and wipe in one direction. After wiping with alcohol, **be sure to wipe with a dry cloth**.



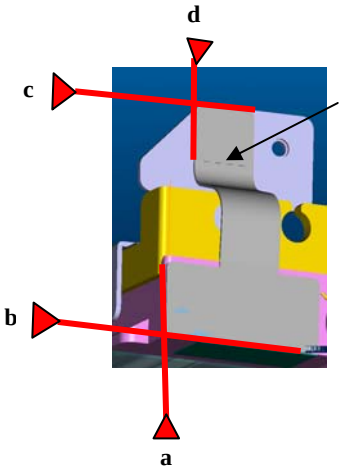
Note: After cleaning, expose the glass to the light (ex: Hold the glass against the fluorescent lamp to see dust). Make sure that there is no dust on the glass. If dust is still on the glass, clean the parts again in the procedure above.

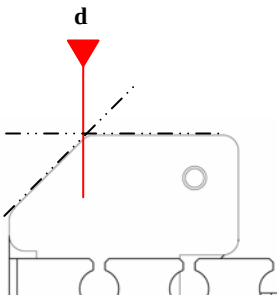
05

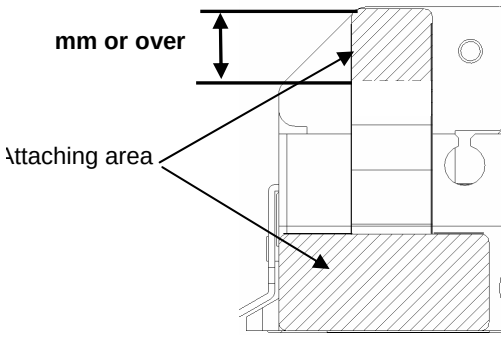
(8) After cleaning, attach the P SHEET in the following method.

Note 1: Before attaching the P SHEET, peel off all debris of packing tape on the frame and metal plate, and degrease with alcohol.

P SHEET
Align against the edges a, b, c, and d, then paste the P SHEET.
Bulge should be 0~1mm.







Note: After attaching, fully press the attaching surface.

(9) Install the Background unit B in the procedure above in reverse order.

Note 2: After installing the Background unit B, check that it moves slightly (approx. 1mm) up and down.
Note 3: After assembling all the parts, open the ADF and clean the glass of the Background unit B.
Note 4: Turn on the power, and confirm that no error “EF (background switch alarm)” appears.

6.4 Maintenance Tool

Special tools to maintain this scanner are shown in table 6.4.

Table 6.4

No.	Tools	When to use	Remarks
1	Philips screwdriver		For M3, M4 screws
2	Alcohol	Cleaning	Ethyl alcohol
3	Blow brush	Cleaning mirror	
4	Glove or cloth	Handling CR shaft	
5	Small flat-blade screwdriver	Removing sensors and connector	
6	Allen Wrench (2mm)	Removing special screws for carrier guide shaft	
7	Longnose plier	Installing E ring	
8	White level adjustment sheet	White level adjustment (Refer to Section 7.1.5)	Description: TEST SHEET (W) Part number: PA03277-Y123 Please purchase this sheet prior to maintenance.
9	Magnification / Offset adjustment sheet	Magnification adjustment (Refer to Section 7.1.3) Offset adjustment (Refer to Section 7.1.4)	Required for magnification / offset adjustment for ADF. See figure 7.1.3, and prepare the sheet in advance, if you do not have the sheet.
10	Adjustment sheet	Ultrasonic sensor adjustment (Refer to Section7.1.9)	Part number: PA03296-Y990 Used when replacing US sensor.
05 11	Vacuum cleaner	Commercial item	Required for cleaning the Background units in Section 6.3.2 and 6.3.3.
05 12	Packing tape	Commercial item	Required for cleaning the Background unit in Section 6.3.3.

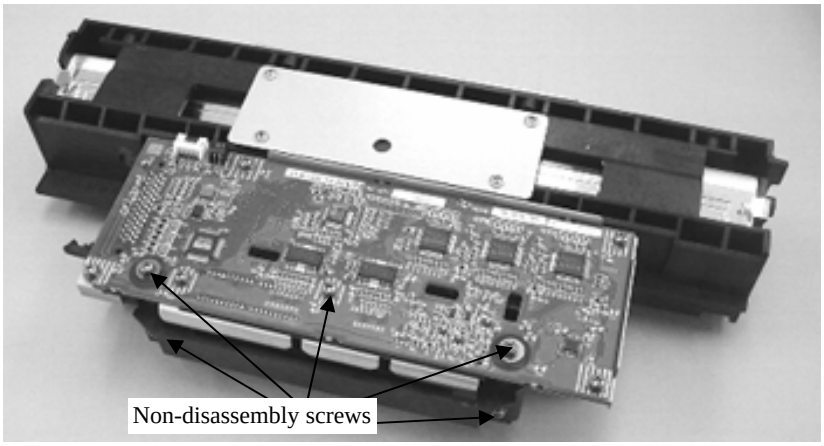
6.5 Non-disassembly Parts

⚠CAUTION

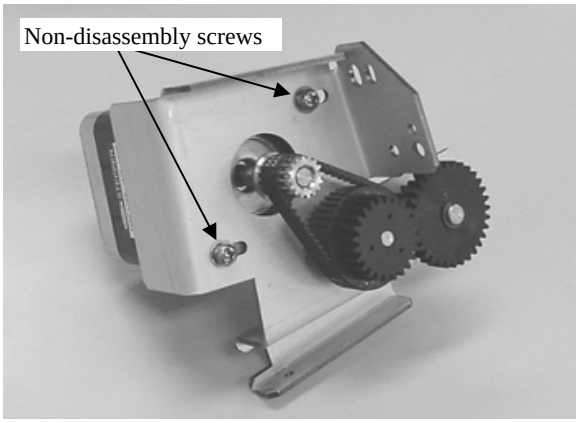
The following screws are adjusted and secured at the factory. Do not attempt to disassemble or loosen them.

(1) Optical unit ADF

05 Besides the non-disassembly screws, do NOT disassemble any parts on this unit (mirrors).



(2) PICK motor unit screws



Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION
09	July 14, 2009	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.
08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.
07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.
DESIG	Jun 29, 2004	T.Anzai	CHECK	T.Anzai	APPR. H. Hasegawa

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6.6 Removing / Installing the Chute ASSY, Chute roller, Stacker ASSY, Panel unit and Panel PCA

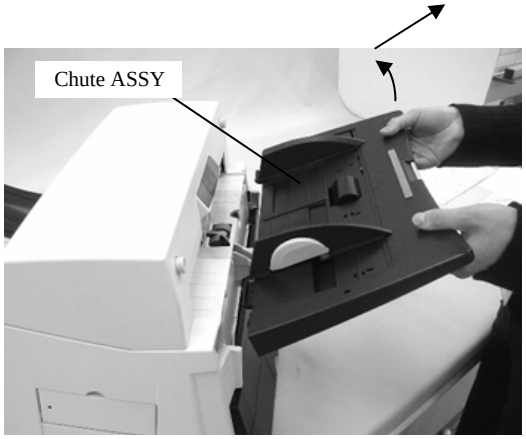
6.6.1 How to remove/install the Chute ASSY

NOTICE

Refer to Section 8.24 for the part number of the replacement part.

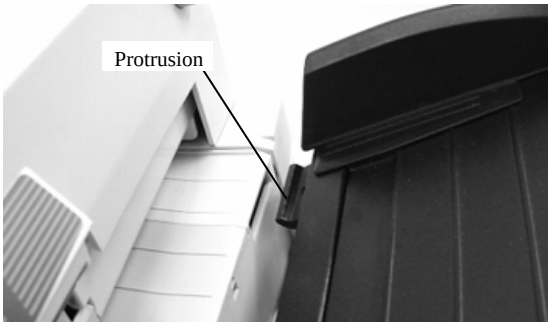
<Removing>

(1) Lifting up the front edge of the Chute ASSY slightly, pull it out of the scanner.



<Installing>

(1) Insert the protrusions of the Chute ASSY into the openings in the scanner.



6.6.2 How to remove/install the Chute roller

NOTICE

Refer to Section 8.25 for the part number of the replacement part.

<Removing>

(1) Remove the Chute ASSY by referring to section 6.6.1.

(2) Extend the extension of the Chute ASSY all the way out.

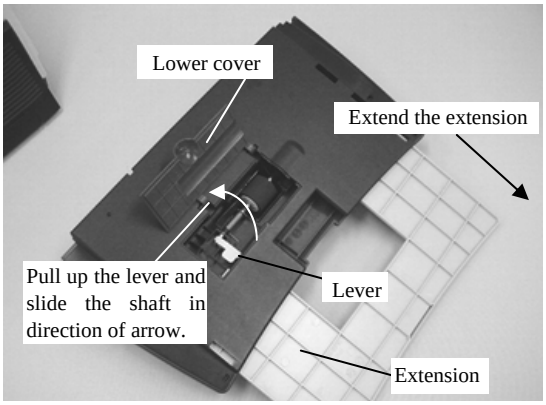
(3) Open a lower cover of the Chute.

(4) Pull up the lever, then slide it away from the roller.

(5) Lift the Chute roller to remove.

<Installing>

Follow the above procedure in reverse.



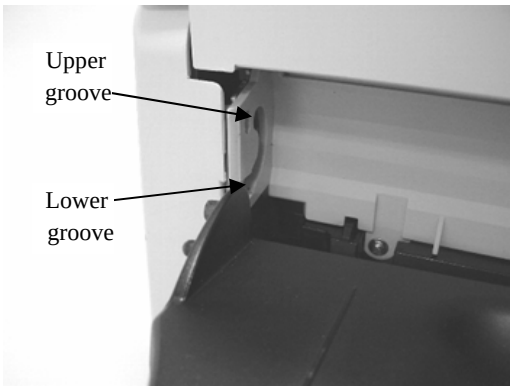
6.6.3 How to remove/install the Stacker ASSY

NOTICE

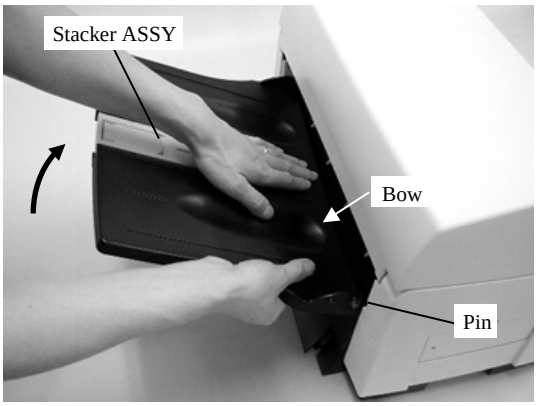
Refer to section 8.23 for the part number of the replacement part.

<Removing>

(1) Move the Stacker ASSY to the lower groove.



(2) Lift the Stacker a little, and press the center of the stacker to bow it, then remove the stacker pin at one side from the scanner. Remove the stacker.



<Installing>

Follow the above procedure in reverse.

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6.6.4 How to remove/install the Panel unit A and Panel PCA A

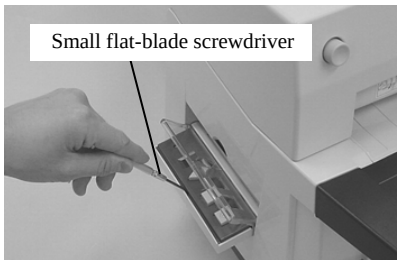
NOTICE

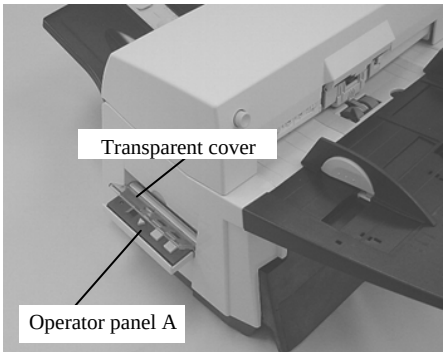
Refer to the following sections for the part numbers of the replacement parts.
Panel unit A: Section 8.19
Panel PCA A: Section 8.20

<Removing>

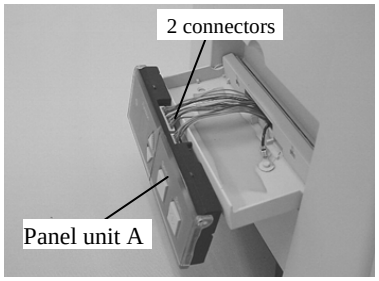
(1) EEPROM is mounted on the Panel PCA A. Before replacing Panel PCA A or Panel unit A, move the EEPROM data to the Control PCA temporarily by referring to Section 7.2.

(2) Open the Operator Panel A shown in the right, then open the transparent cover. Insert a small flat-blade screwdriver in the gap as shown in the photo below and remove the Panel unit A.

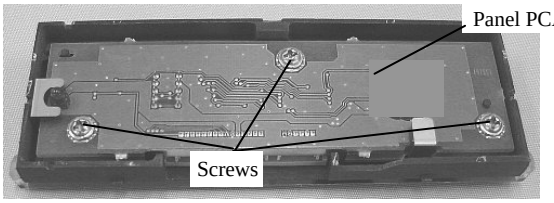




(3) Disconnect 2 connectors from the Panel unit A and remove the Panel unit A.



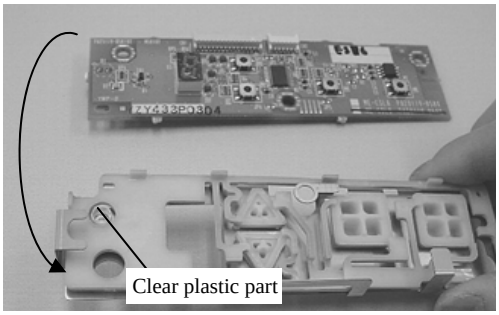
(4) To replace the Panel PCA A, remove 3 screws at the back of the unit and remove it. (photo below)



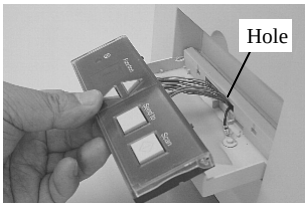
(5) Referring to Section 7.1.8, restore the EEPROM data which has been saved in the Control PCA to the Panel PCA A.

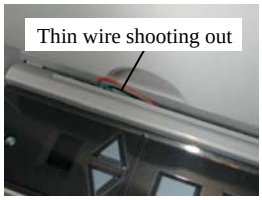
<Installing>

Follow the procedure above in reverse.
When mounting the Panel PCA A onto the Panel unit, be careful not to drop the clear plastic part for the LED. (photo on the right)



When installing the Panel unit A, insert the cable connected to the Panel PCA A into the hole (See photo on the lower left). If it is difficult to insert, open side cover (See steps (5) and (6) in Section 6.11.1) and insert it.
Make sure that thin wire shall not shoot out from the clearance of the operator panel (See photo on the lower right).
And also make sure that the operator panel moves smoothly between open and close positions.





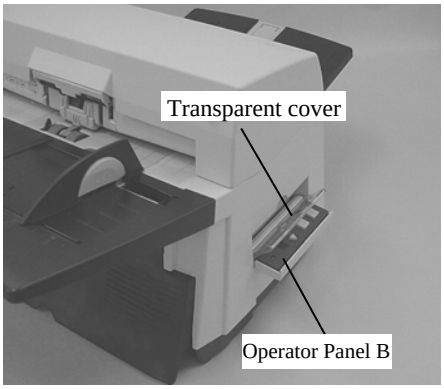
6.6.5 How to remove/install Panel unit B and Panel PCA B

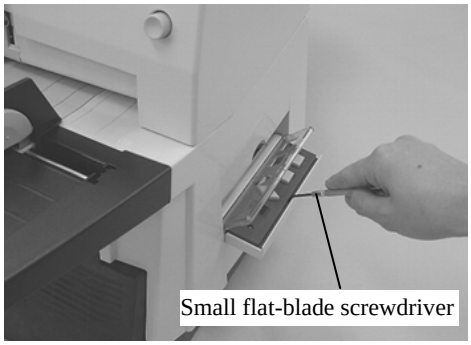
NOTICE

1. Refer to the following sections for the part numbers of the replacement parts.
   Panel unit B: Section 8.27
   Panel PCA B: Section 8.28
2. There is no EEPROM mounted on the Panel PCA B. You do not need to temporarily move the EEPROM data to the Control PCA.

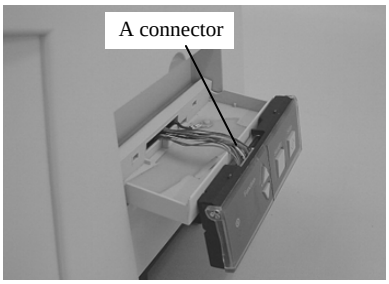
<Removing>

(1) Open the operator panel B shown in the right, then open the transparent cover. Insert a small flat-blade screwdriver in the gap as shown in the photo below and remove the Panel unit B.

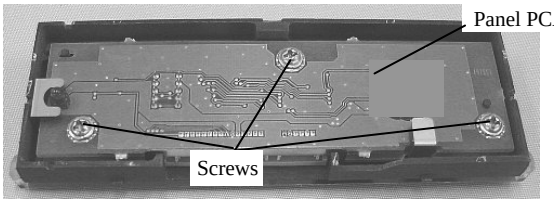




(2) Disconnect a connector from the Panel unit B and remove the Panel unit B (See photo on the right).



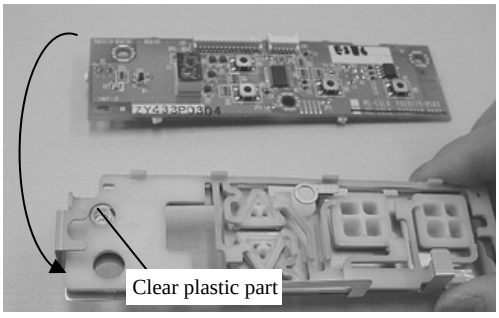
(3) To replace the Panel PCA B, remove 3 screws at the back of the unit and remove it. (photo below)



<Installing>

Follow the procedure above in reverse.

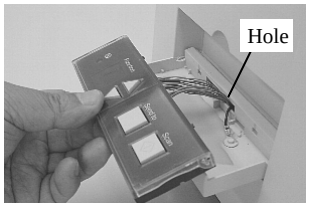
When mounting the Panel PCA B onto the Panel unit, be careful not to drop the clear plastic part for the LED. (See photo on the right)

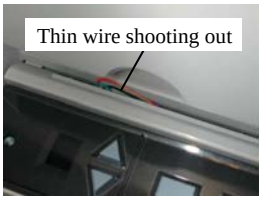


When installing the Panel unit B, insert the cable connected to the Panel PCA B into the hole (See photo on the lower left). If it is difficult to insert, open side cover (See steps (5) and (6) in Section 6.11.1) and insert it.

Make sure that thin wire shall not shoot out from the clearance of the operator panel (See photo on the lower right).

And also make sure that the operator panel moves smoothly between open and close positions.





6.7 Removing / Installing the Power supply, Control PCA, and Fan ASSY

NOTICE

Refer to the following sections for the part numbers of the replacement parts.

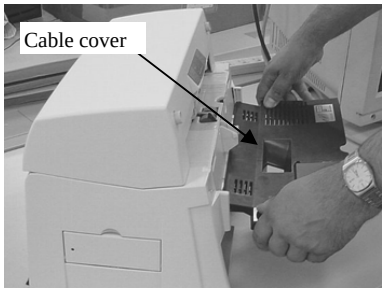
Power supply: Section 8.22
Control PCA: Section 8.21
Fan ASSY: Section 8.26

<Removing>

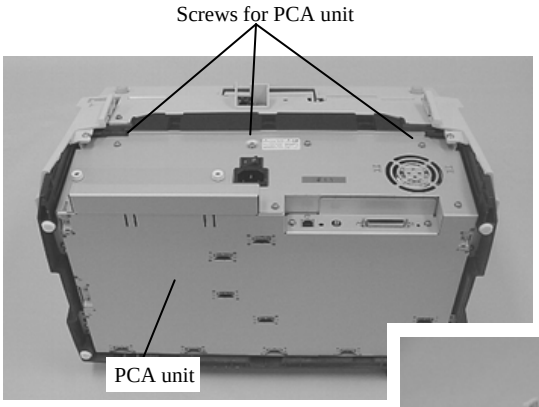
(1) If the Imprinter (option) is installed, remove it from the scanner by the reverse order of Section 9.2.2.

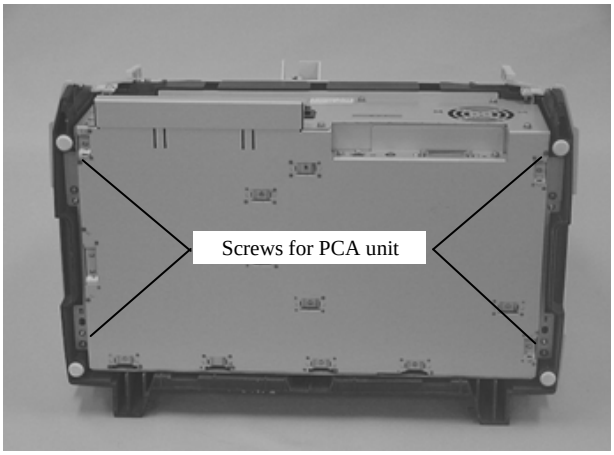
(2) Remove the Chute ASSY (Section 6.6.1) and the Stacker ASSY (Section 6.6.3).

(3) Open the Cable cover, and warp the center of the cover down, and remove it.

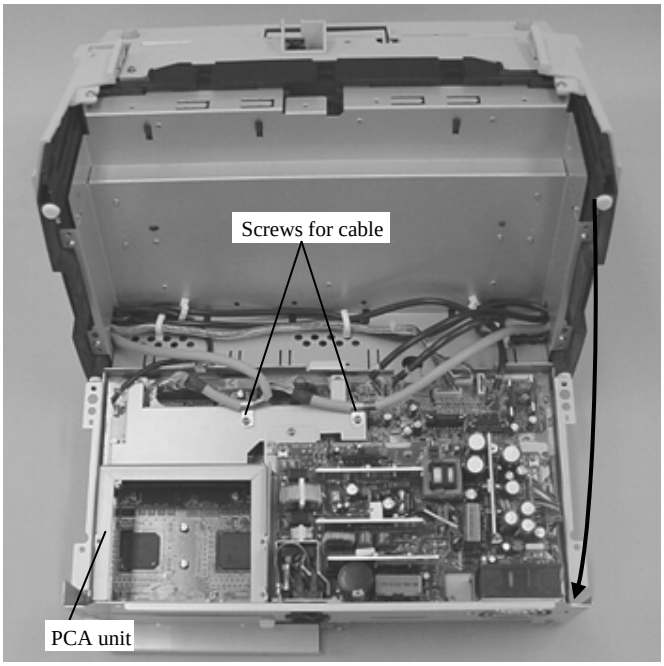


(4) Place the scanner so that the connector inlet faces up and remove the 7 screws for PCA unit.





(5) Open the PCA unit and remove two screws for the cable. Then disconnect 8 connectors from the Control PCA and remove the PCA unit.

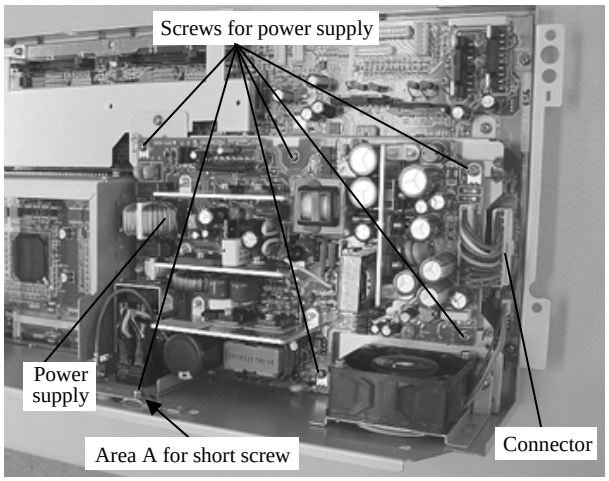


To replace the Power supply, go to step (6)
To replace the Fan ASSY, go the step (7).

<Replacement of Power supply>

Follow the procedure below after step (5).

(6) Disconnect a connector from the Control PCA, remove 6 screws for the Power supply then the Power supply (photo on the right).



<Installing>
Follow the above procedure in reverse.

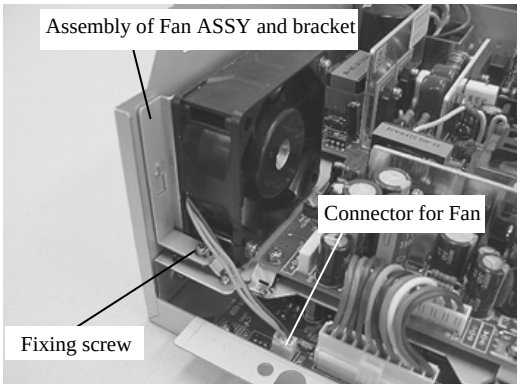
Note: A short screw is applied at the area A.

<Replacement of Fan ASSY>

Follow the procedure below after step (5).

(7) Disconnect a connector for the Fan from the Control PCA.

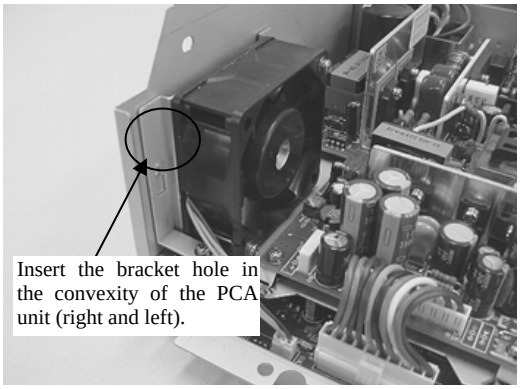
(8) Remove a fixing screw then the assembly of the Fan ASSY and the bracket upward.



<Installing>

Follow the above procedure in reverse.

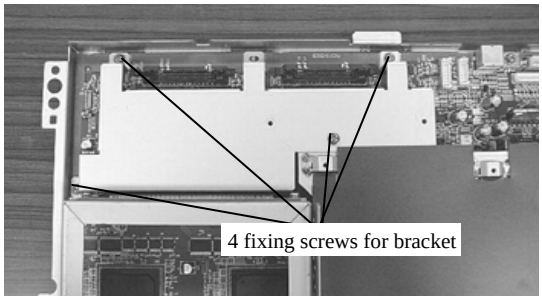
Note: When fixing the bracket, be sure that the hole of the Fan ASSY fixing bracket catches two convexity of the PCA unit.



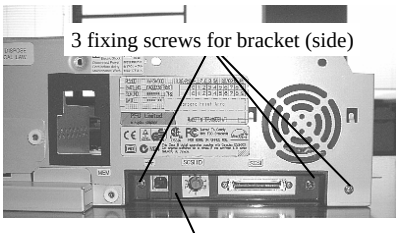
<Replacement of Control PCA>

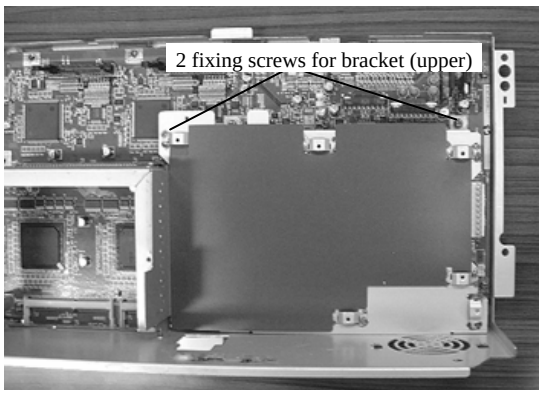
Follow the procedure below after step (8).

(9) Remove 4 screws then the bracket of the Control PCA. (photo on the right)

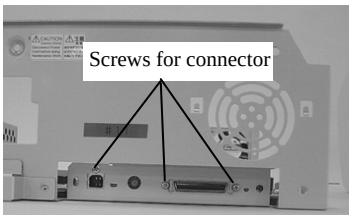


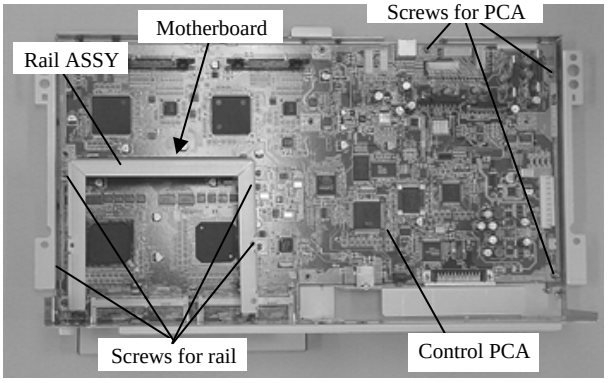
(10) Remove the screws from the bracket (2 from the upper and 3 from the side) then remove the bracket and the plastic cover.



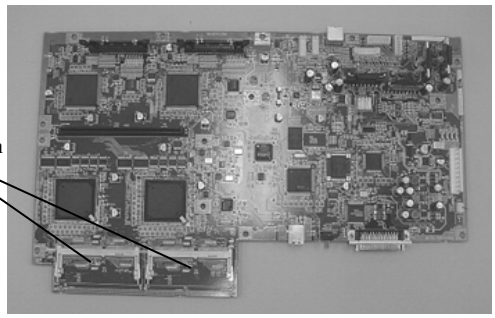


(11) Disconnect 4 screws for the rail and remove the motherboard for the TPS. Remove 3 screws for the Control PCA and another 3 for the connector, then remove the Control PCA.





(12) Remove the extended memories if installed.



<Installing>

Follow the above procedure in reverse.

6.8 Removing / Installing the ADF unit, ADF Base unit, ADF Upper unit

03 **6.8.1 How to remove/install the ADF unit**

NOTICE

Refer to the following section for the part number of replacement part.
ADF unit: Section 8.1

<Removing>

(1) Remove the Imprinter (option) if installed from the scanner by the reverse order of Section 9.2.2.

(2) Remove the Chute ASSY (Section 6.6.1) and the Stacker ASSY (Section 6.6.3).

(3) Remove Panel unit A by referring to steps (2) and (3) in Section 6.6.4. Remove Panel unit B by referring to steps (1) and (2) in Section 6.6.5. And then remove the PCA unit by referring to steps (3) to (5) in Section 6.7.

(4) Remove Optical unit ADF (for front side) by referring the steps (4) to (13) in Section 6.11.1.

(5) Remove ADF cover by referring the step (1) in Section 6.10.1. Then remove Optical unit ADF (for backside) by referring the steps (2) to (4) in Section 6.10.2.

<Installing>

Follow the above procedure in reverse.

After replacing the ADF unit, perform the magnification adjustment (Section 7.1.3), offset adjustment (Section 7.1.4), white level adjustment (Section 7.1.5) and Ultrasonic sensor adjustment (Section 7.1.9), and reset the consumable counters (Section 7.1.6).

6.8.2 How to remove/install the ADF Base unit, ADF Upper unit

NOTICE

Refer to the following sections for the part numbers of replacement parts.
ADF Base unit: Section 8.29
ADF Upper unit: Section 8.30

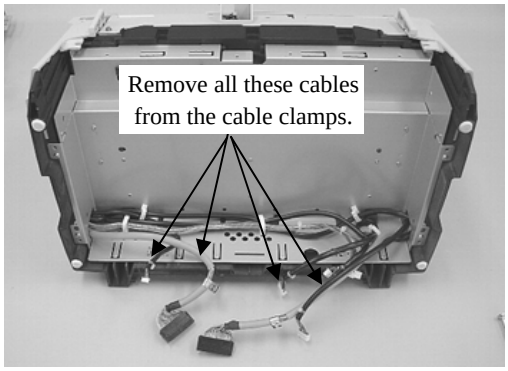
<Removing>

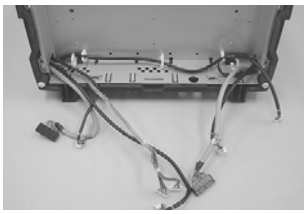
(1) Remove the Imprinter (option) if installed from the scanner by the reverse order of Section 9.2.2.

(2) Remove the Chute ASSY (Section 6.6.1) and the Stacker ASSY (Section 6.6.3).

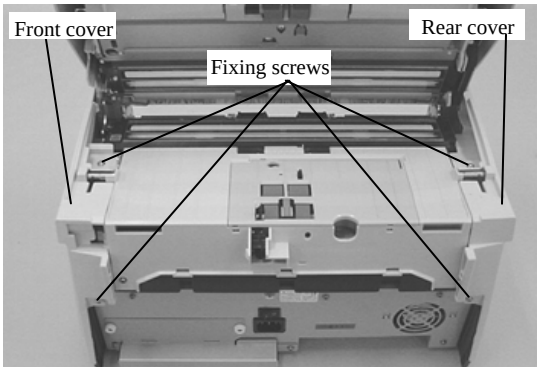
(3) Remove Panel unit A by referring to steps (2) and (3) in Section 6.6.4. Remove Panel unit B by referring to steps (1) and (2) in Section 6.6.5. And then remove the PCA unit by referring to steps (3) to (5) in Section 6.7.

(4) Remove the cables from the cable clamps and take them all out of the frame holes as shown below.



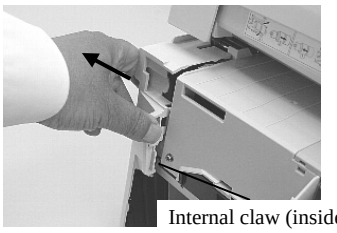


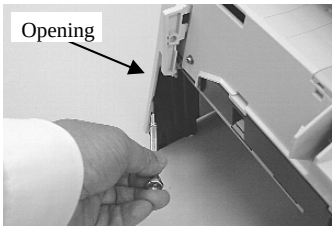
(5) Return the scanner to the original position (upward), remove four (4) screws that secure the Front and Rear covers (photo on the right).



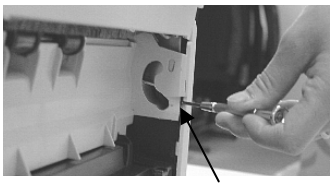
(6) Remove the Front cover in the following procedure.

- With the ADF opened a bit, tilt the protrusion of the Front cover and unlatch the claw inside (photo on the right).
- Then Insert a mini flat-blade screwdriver in the opening under the protrusion and unlatch the claw inside (photo below).



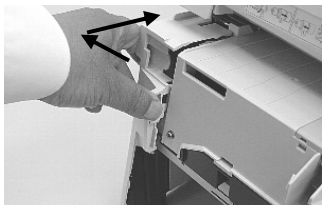


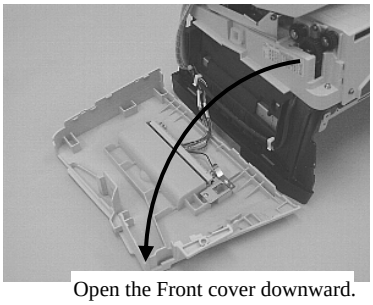
- Then insert a mini flat-blade screwdriver in the opening on the other side of the Front cover, then unlatch the claw (photo on the right).



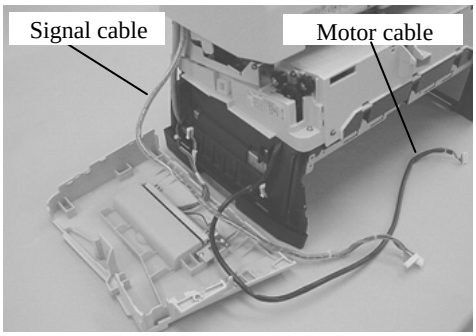
- Open the Front cover, press it to the back, then open it downward. This cover has the cable for the Operator panel connected. Be careful not to pull it forcibly.

Open the Front cover and press it to the back





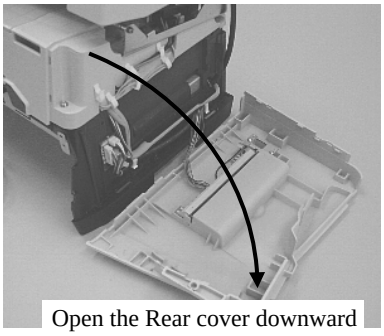
(7) Remove the signal cable and motor cable in the Front cover from the clamps, then take the cable connectors out of the frame holes (photo on the right).

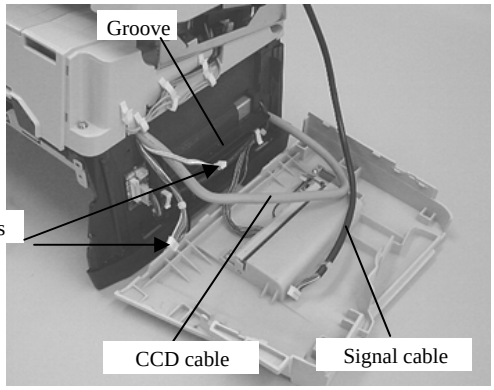


(8) Open the Rear cover in the same way.

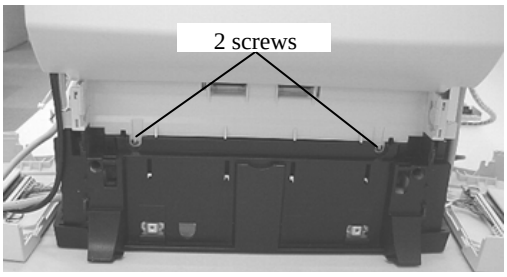
- With the ADF opened a bit, tilt the protrusion of the Rear cover and unlatch the claw inside.
- Then Insert a mini flat-blade screwdriver in the opening under the protrusion and unlatch the claw inside.
- Then insert a mini flat-blade screwdriver in the opening on the other side of the Rear cover, then unlatch the claw.
- Open the Rear cover, press it to the back, then open it downward. This cover has the cable for the Operator panel connected. Be careful not to pull it forcibly.

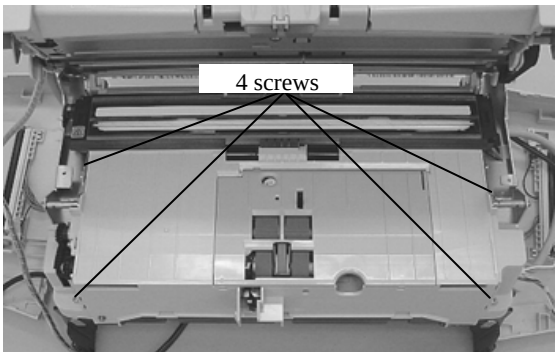
(9) Remove the CCD cable from the groove. Take the signal cable out of the hole on the side frame. Then disconnect two (2) small connectors Photo below)



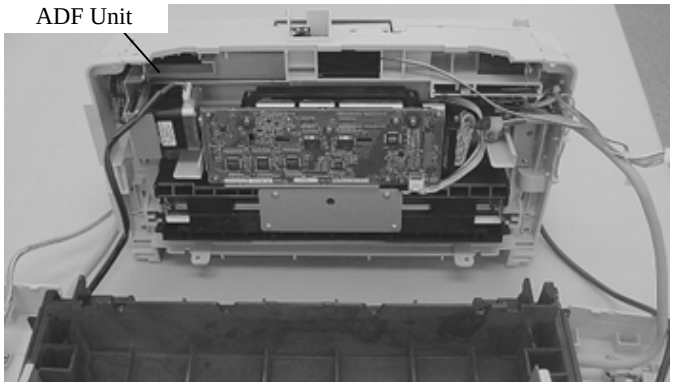


(10) Open the ADF, remove four (4) screws (photo on the right). Then remove two (2) screws on the document exit side (photo below).

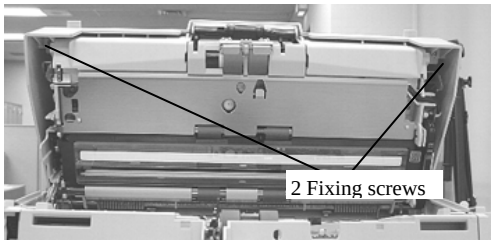




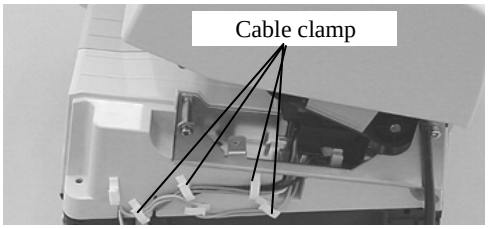
(11) Remove the ADF unit from the frame (photo on the right).



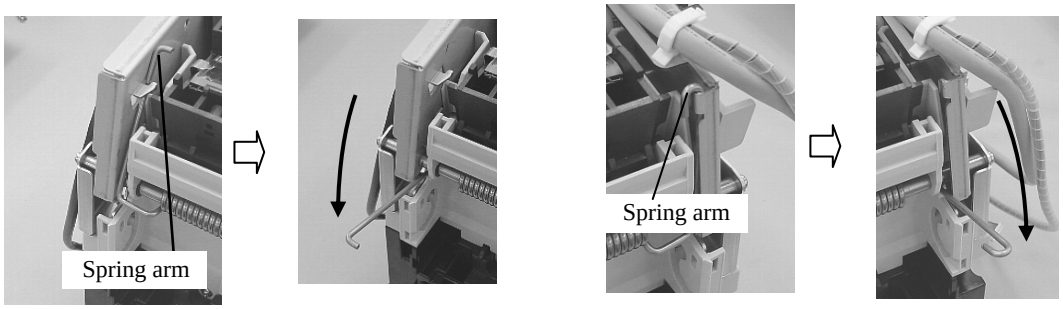
(12) Open the ADF and remove two (2) screws that secure the ADF cover (in the hole in the photo on the right). Then pull out the ADF cover at the document exit side a little harder to remove.



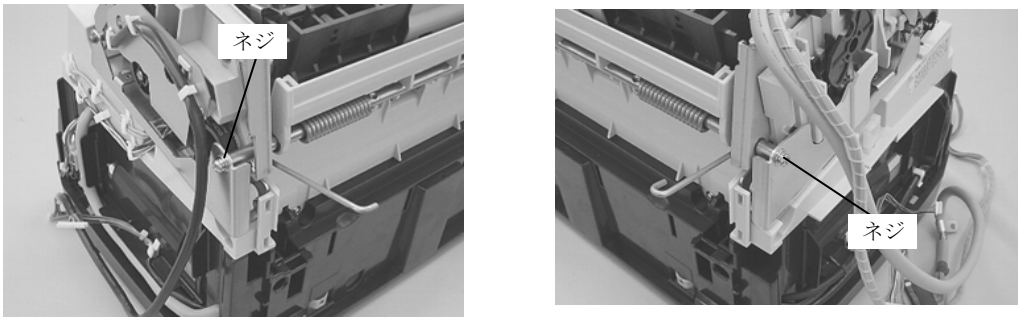
(13) Remove the cable from the cable clamp at the side of the ADF Base unit.



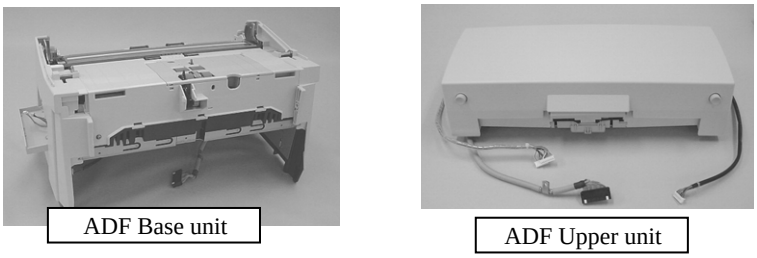
(14) Release the arm of the torsion coil spring for balancing weight in the ADF from the frame side panel.
It is easier to work on if you open the ADF.



(15) Remove 2 large screws (each on right and left) from the left and right side panel.



(16) Slide the ADF movable unit in the direction of the shaft to the right and pull out the shaft on the other end from the hole on the side panel. Slide the unit to the opposite direction to remove.
The ADF Base unit is the ADF fixed unit with the Right cover, Left cover, and Front cover attached.
The ADF Upper unit is the ADF movable side with ADF cover attached.



Note: Be careful not to damage the glass on the ADF Upper unit.

<Installing>
Follow the above procedure in reverse.

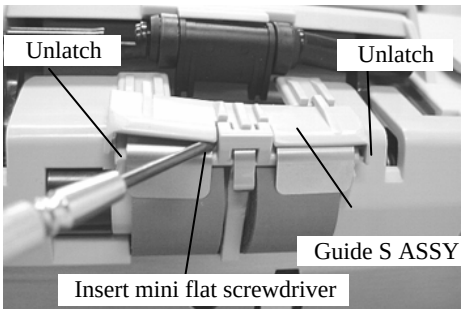
After replacing the ADF Base unit or ADF Upper unit, perform the magnification adjustment (Section 7.1.3), offset adjustment (Section 7.1.4), white level adjustment (Section 7.1.5) and Ultrasonic sensor adjustment (Section 7.1.9), and reset the consumable counters (Section 7.1.6).

6.9 Removing / Installing the Paper path

6.9.1 How to remove/install the Guide S ASSY

NOTICE

Refer to section 8.10 for the part number of replacement part.

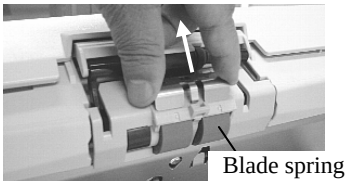


<Removing>

(1) Open the ADF.

(2) Unlatch both sides of the Guide S ASSY, insert a small flat-blade screwdriver between the blade spring and plastic part and remove the plastic part.

(3) Remove the blade spring by lifting up.



<Installing>

Follow the above procedure in reverse.

6.9.2 How to remove/install the US sensor, US PCA, Pick sensor, DF sensor, TOP sensor and Empty sensor

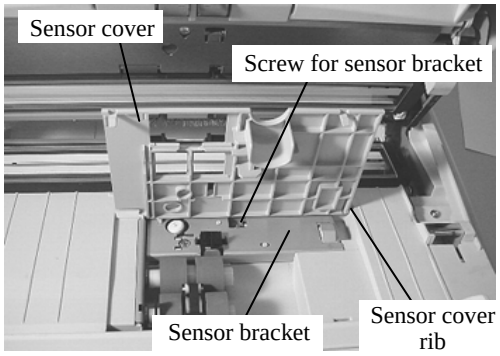
NOTICE

Refer to the following sections for the part numbers of replacement parts.
US sensor: Section 8.5
US PCA: Section 8.6
Pick sensor: Section 8.8
DF sensor: Section 8.9
TOP sensor: Section 8.16
Empty sensor: Section 8.7

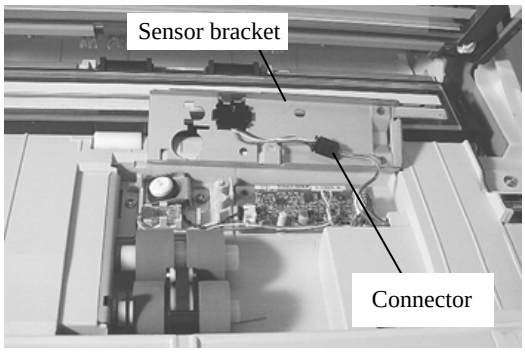
<Removing>

(1) Open the ADF, then open the Sensor cover.

(2) Carefully bow the sensor cover rib and remove the Sensor cover. Remove a screw from the Sensor bracket. (Photo on the right)



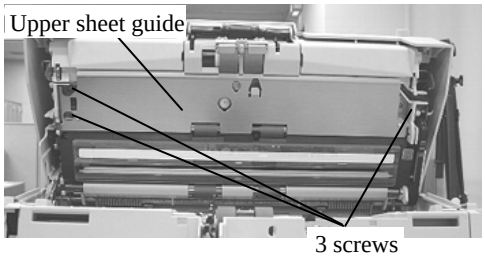
(3) Turn the Sensor bracket over, and disconnect a connector and remove the Sensor bracket.



Go to step (6) for replacement of the US sensor (lower).
Go to step (10) for replacement of the US PCA.
Go to step (15) for replacement of the Empty sensor.

(4) Referring to section 6.6.1, remove the Chute ASSY. Remove 3 screws shown in the right and remove the upper Sheet guide.

Go to step (8) for replacement of the US sensor (upper), go to step (11) for the DF sensor, and step (13) for the TOP sensor.

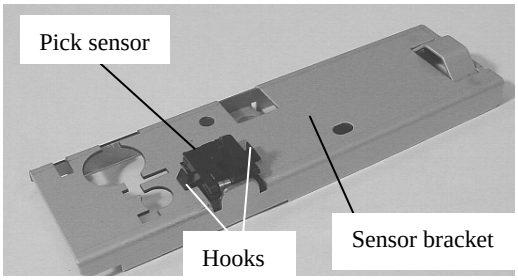


NOTICE

Be careful not to drop the upper Sheet guide when removing/installing it. It may break the glass at the reading section.

<Replacement of Pick sensor>

(5) Unlatch the hooks of the Pick sensor from the sensor bracket that was removed in step (2), and detach the Pick sensor.



<Installing>

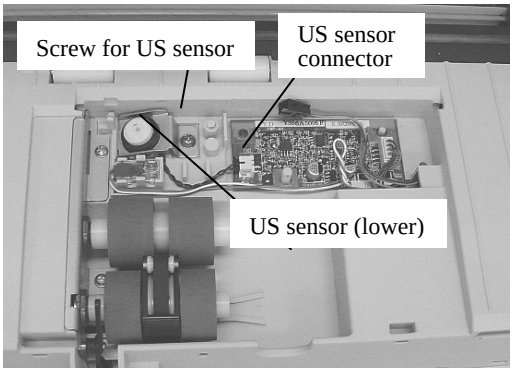
Follow the above procedure in reverse.
Make sure that the claws of the Pick sensor are latched on the bracket firmly.

<Replacement of US sensor (lower)>

Follow the procedure below after step (3).

(6) Disconnect the US sensor (lower) connector out of the US PCA.

(7) Remove a screw from the US sensor and remove the bracket and the US sensor. Remove the sensor from the bracket.



<Installing>

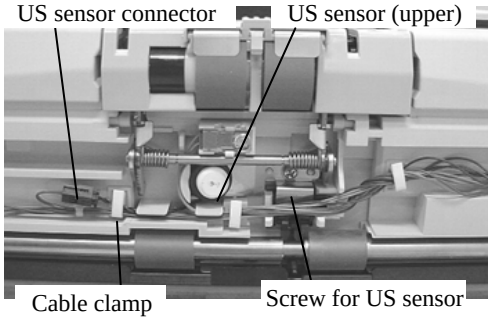
Follow the above procedure in reverse.
Place the cables as shown in the photo above.
After replacing the US sensor, perform the Ultrasonic sensor adjustment (section 7.1.9).

<Replacement of US sensor (upper)>

Follow the procedure below after step (4).

(8) Disconnect the US sensor (upper) cable from the Cable clamp and disconnect its connector.

(9) Remove 1 screw from the US sensor and remove the bracket then the US sensor.

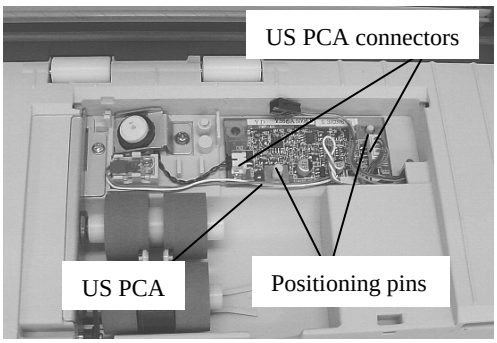


<Installing>

Follow the above procedure in reverse.
Place the cables as shown in the photo on the right.
After replacing the US sensor, perform the Ultrasonic sensor adjustment (Section 7.1.9).

<Replacement of US PCA>

Follow the procedure below after step (3).



(10) Disconnect 2 connectors from the US PCA at the bottom of the Paper path and remove the US PCA.

<Installing>

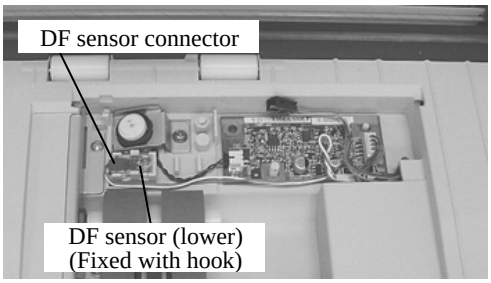
Follow the above procedure in reverse. Make sure that the holes of the US PCA are inserted in the positioning pins. Place the cables as shown in the right photo.

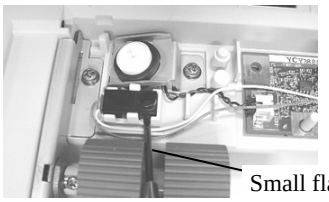
Note: After replacing the US PCA, perform the Ultrasonic sensor adjustment (Section 7.1.9).

<Replacement of DF sensor>

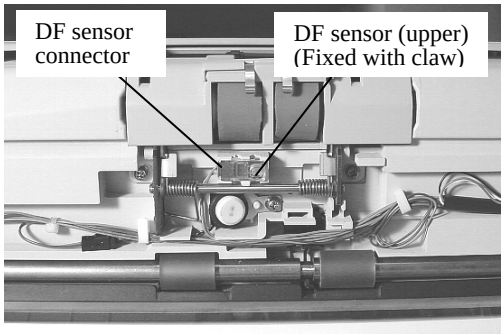
Follow the procedure below after step (4).

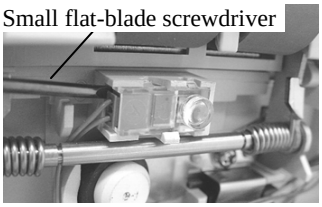
(11) Disconnect the lower DF sensor connector, unlatch the DF sensor hook, and then remove the DF sensor (lower).
Inserting a small flat-blade screwdriver under the sensor will make it easier to remove the sensor. (Photo below)





(12) Disconnect the upper DF sensor connector, unlatch the DF sensor hook, and then remove the DF sensor (upper).
Inserting a small flat-blade screwdriver under the sensor will make it easier to remove the sensor. (Photo below)





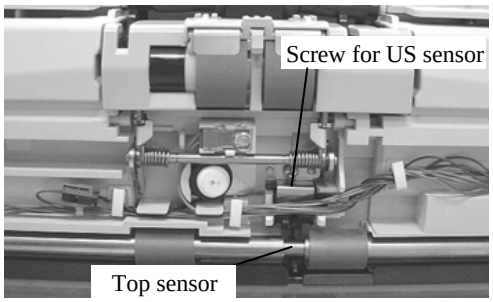
<Installing>

The DF sensor consists of two parts. DF sensor (lower) is black and DF sensor (upper) is transparent. Do not confuse them when installing.
Follow the above procedure in reverse.
Place the cables as shown in the photo on the above right.

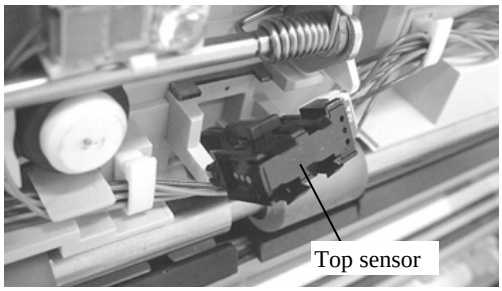
<Replacement of TOP sensor>

Follow the procedure below after step (4).

(13) Remove 1 screw that secures the US sensor, and then remove the bracket.



(14) Remove the TOP sensor (photo on the right), and disconnect 1 connector, then the TOP sensor.



<Installing>

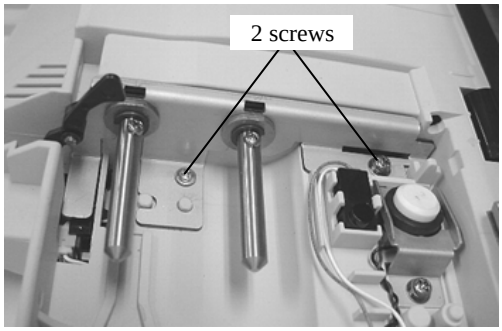
Follow the above procedure in reverse.
Place the cables as shown in the photo above right.
Make sure that the TOP sensor lever moves smoothly after installation.
After replacing the TOP sensor, perform offset adjustment (Section 7.1.4).

<Replacement of Empty sensor>

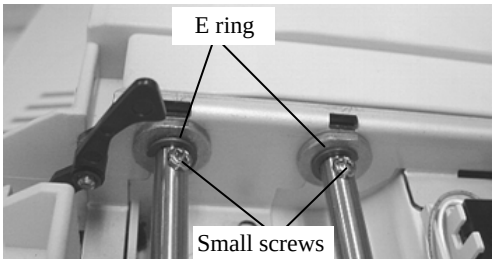
Note: A small flat-blade screwdriver (M2) is required for replacing this part.

Follow the procedure below after step (3).

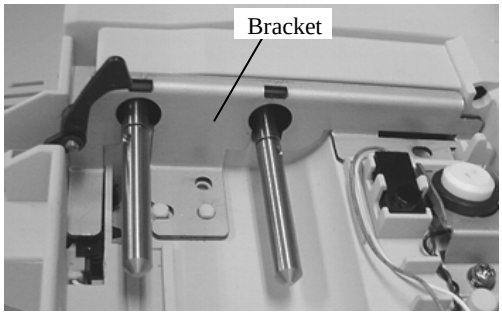
(15) Open the ADF, then the sensor cover. Remove 2 screws that secure the bracket which holds the pick roller axis.



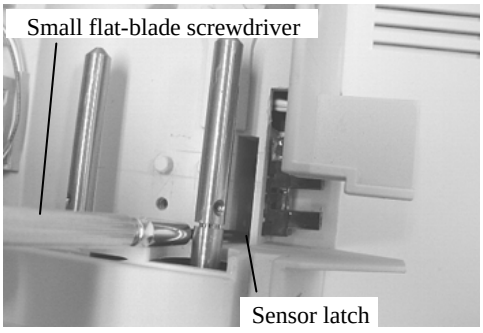
(16) Remove 2 screw (small, M2) and E ring from each of the pick roller shaft, and pull the roller bearing off the shafts.



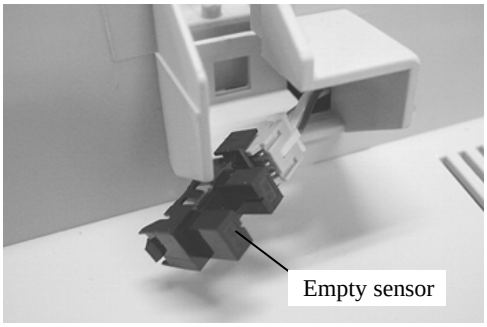
(17) Disconnect the connector from the Empty sensor. Remove the bracket that supports the pick roller shafts. (Photo on the right)



(18) Unlatch from the Empty sensor using a small flat-blade screwdriver (photo on the right) and remove it.



(19) Disconnect the cable from the empty sensor.



<Installing>

Follow the above procedure in reverse.

6.10 Removing / Installing the Parts in the ADF cover

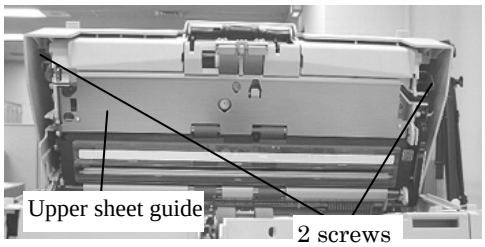
6.10.1 How to remove/install the Inverter (for ADF backside scanning)

NOTICE

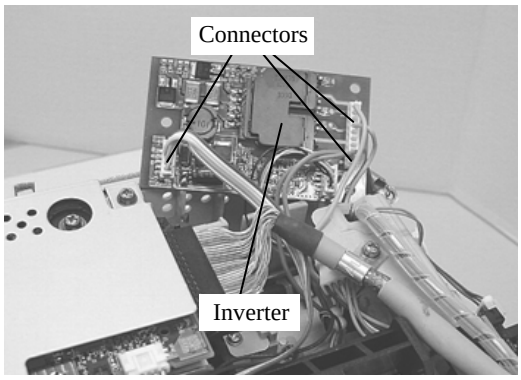
Refer to Section 8.4 for the part number of replacement parts.

<Removing>

(1) Open the ADF and remove 2 screws (photo at right) that secure the ADF cover. Pull out on the cover on the ejection side and remove. (Photo below)



(2) Lifting up the Inverter from the groove, disconnect 3 connectors connected to the Inverter, then remove the Inverter.

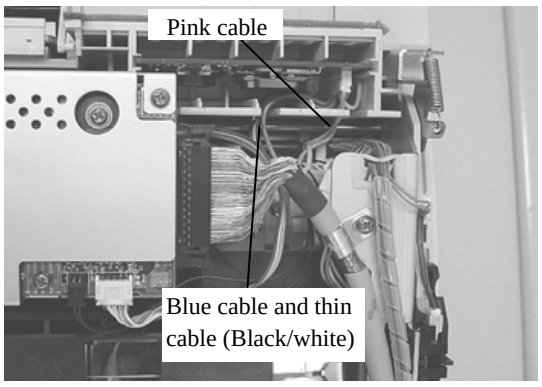


<Installing>

Follow the above procedure in reverse.

NOTICE

To avoid defective images, insert the pink and blue cables and thin black/white cable connected to the Inverter into respective grooves as shown on the right.



6.10.2 How to remove/install the Optical unit ADF (for backside optical system)

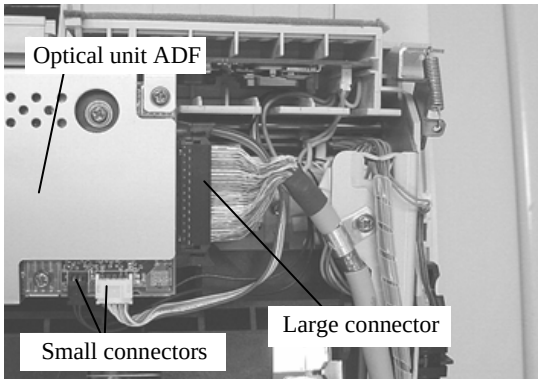
NOTICE

Refer to Section 8.19 for the part number of replacement part.

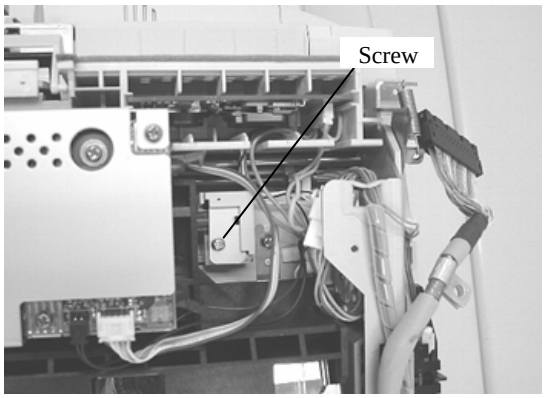
<Removing>

(1) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

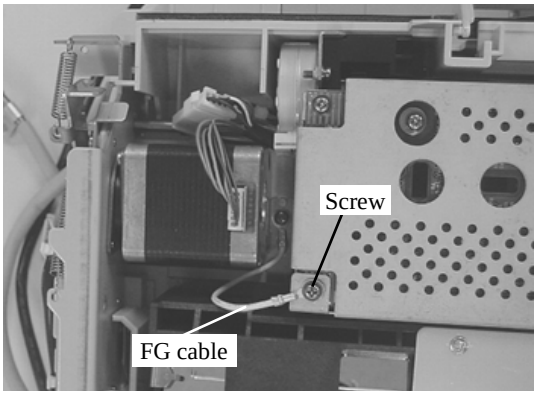
(2) Pull one large connector and two small connectors out of the Optical unit ADF.



(3) Remove a screw which secures the bracket (photo below) and remove the bracket.

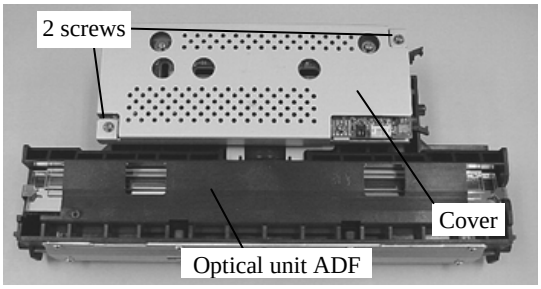


Then remove a screw for the FG cable of the Optical unit ADF.



(4) Remove the Optical unit ADF by lifting upward.

(5) Remove 2 screws from the Optical unit ADF and remove the cover.



<Installing>

Follow the above procedure in reverse.

NOTICE

1) Be careful not to touch the mirror in the Optical unit ADF.
2) After replacing the Optical unit ADF, perform the Offset adjustment (Section 7.1.4) and White level adjustment (Section 7.1.5).

6.10.3 How to remove/install the BW motor (for driving pick arm) Sensor (for detecting pick arm position)

NOTICE

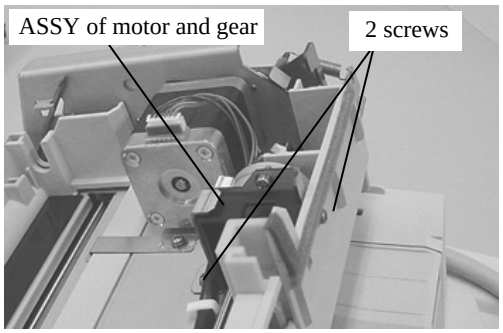
Refer to the following sections for the part numbers of replacement parts.
BW motor: Section 8.13
Sensor: Section 8.7

<Removing>

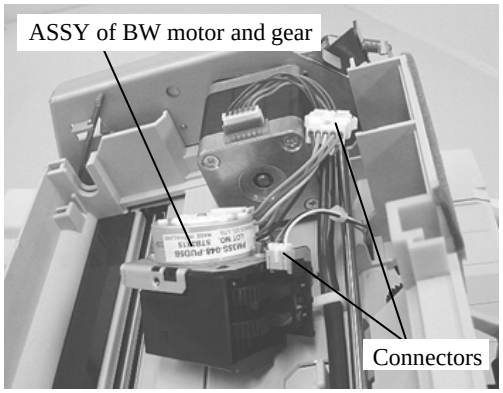
(1) Remove the ADF cover by referring to step (1) and (2) on section 6.10.1.

(2) Remove the Optical unit ADF by referring to step (2) to (4) of section 6.10.2.

(3) Remove 2 screws shown on the right. Insert a small flat-blade screwdriver in the space between the frame and gearbox and release the gearbox from the frame.



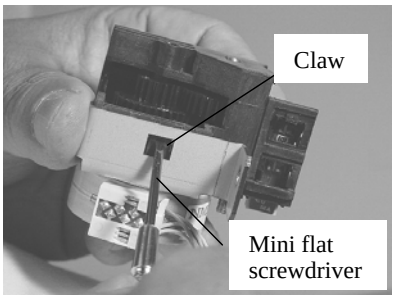
(4) Disconnect the connectors of the BW motor and the sensor, and remove the ASSY of BW motor and the gear.



Go to step (7) for replacement of the sensor.

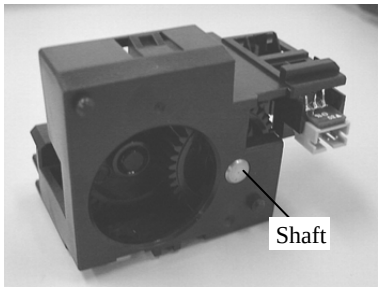
<Replacement of BW motor>

(5) Push the claw of the ASSY of the BW motor and gear (in the holes) to remove the gearbox. (Photo on the right)

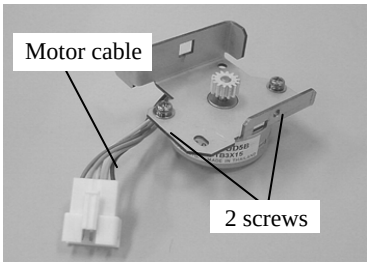


NOTICE

Make sure that the metal shaft does not come off the gearbox and fall off. Refer to photo below for location of the shaft.



(6) Remove 2 screws from the bracket and remove the BW motor.



<Installing>

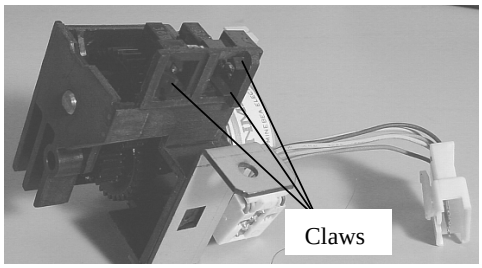
Follow the above procedure in reverse.
When installing the BW motor, place the cable as shown on

the right.

<Replacement of Sensor>

Follow the procedure below after step (4).

(7) Unlatch the claws of the sensor, and remove the sensor from the gear unit.



<Installing>

Follow the above procedure in reverse.

NOTICE

Be careful not to pinch any cables.

6.10.4 How to remove/install the Feed motor, Belt ADF

NOTICE

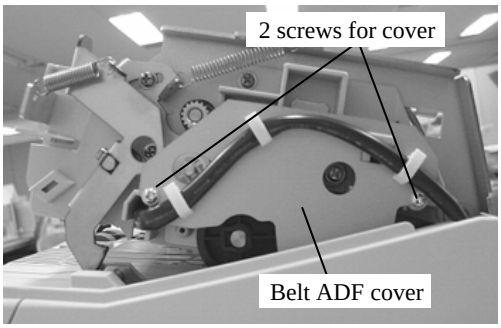
Refer to the following sections for the part numbers of replacement parts.
Feed motor: Section 8.14
Belt ADF: Section 8.15

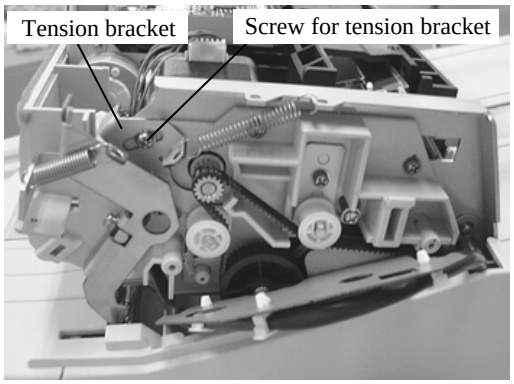
<Removing>

(1) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

(2) Referring to step (2) to (4) on Section 6.10.2, remove the Optical unit ADF.

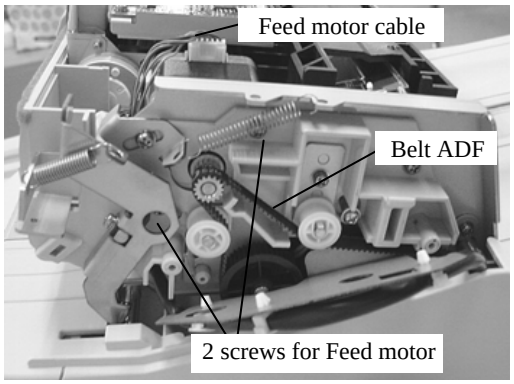
(3) Loosen 2 screws that secure the Belt ADF cover (no need to remove them) and pull down the cover to the front. (Photo below).

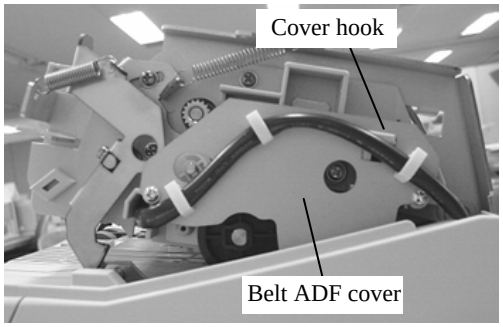




(4) Loosen a screw of the tension bracket as shown above, and rotate the bracket clockwise to loosen the belt tension. Remove the ADF belt if it will be replaced.

(5) Disconnect the cable from the Feed motor. Remove 2 screws that secure the Feed motor as shown on the right and remove the Feed motor.





<Installing>

Follow the above procedure in reverse.

Make sure that the cover is hung on the hook when installing the Belt ADF cover.

After replacing the Feed motor or Belt ADF, perform the magnification adjustment (Section 7.1.3) and offset adjustment (Section 7.1.4).

6.10.5 How to remove/install the BW motor (for driving background switch mechanism)

NOTICE

Refer to Section 8.13 for the part number of replacement part.

<Removing>

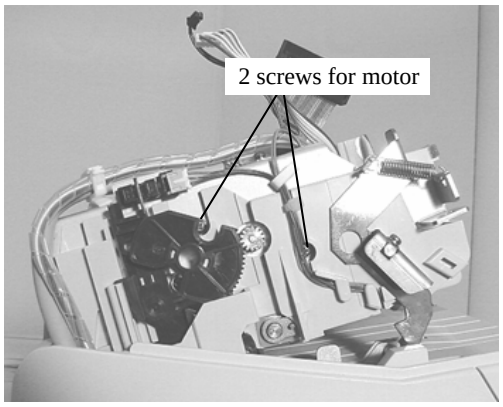
(1) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

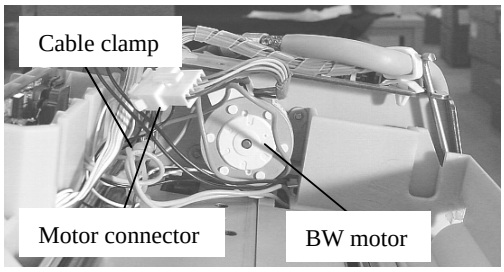
(2) Remove the Optical unit ADF by referring to step (2) to (4) on Section 6.10.2.

(3) Remove the wires from the cable clamp behind the motor.

(4) Remove 2 screws that secure the BW motor.

(5) Disconnect the BW motor connector and remove the BW motor.





<Installing>

Follow the above procedure in reverse.

NOTICE

Place the cables as shown in the photo on the right.

6.10.6 How to remove/install the Sensor (for detecting background position)

NOTICE

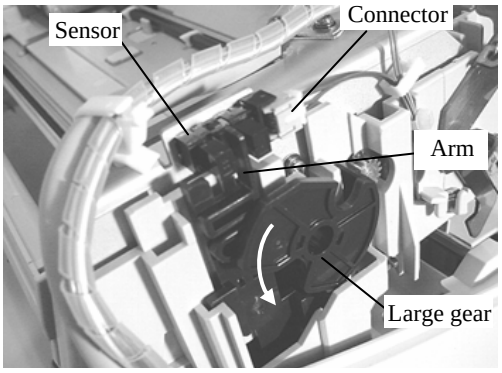
Refer to Section 8.7 for the part number of replacement parts.

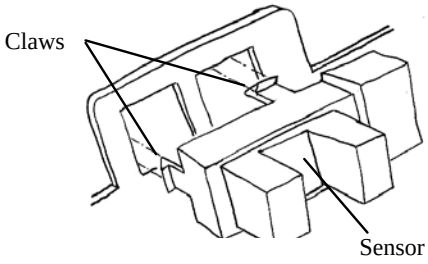
<Removing>

(1) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

(2) Rotate the large gear counterclockwise and lower the arm below the sensor position.

(3) Disconnect the cable connected to the sensor, unlatch the claws of the sensor and remove the sensor.





<Installing>

Follow the above procedure in reverse.

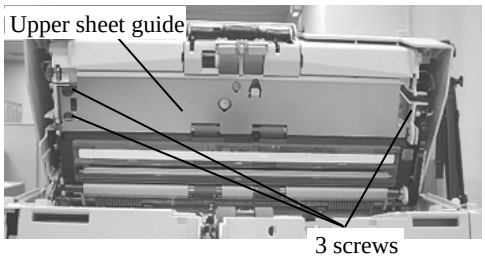
6.10.7 How to remove/install the Sensor OP

NOTICE

Refer to Section 8.17 for the part number of replacement part.

<Removing>

(1) Open the ADF, remove 3 screws that secure the upper Sheet guide (shown on the right), and remove the upper Sheet guide.
If the screwdriver cannot reach, remove the Chute ASSY by referring to Section 6.6.1.

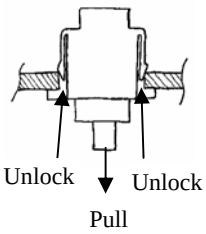


NOTICE

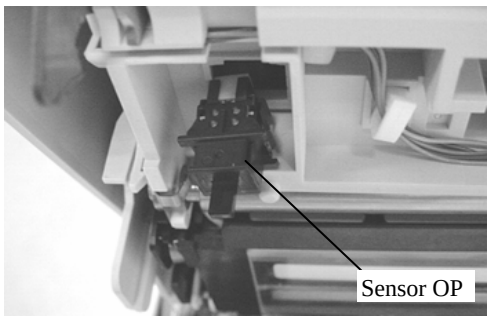
Be careful not to drop the upper sheet guide when removing/installing it. It may break the glass at the reading position.

(2) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

(3) Pushing out the Sensor OP from of the inside, insert a small flat-blade screwdriver into both spaces of the sensor OP to unlock. (Photo on the right)



(4) Disconnect the connector from Sensor OP. (Photo on the right)



<Installing>
Follow the above procedure in reverse.

6.10.8 How to remove/install the Background unit B

NOTICE

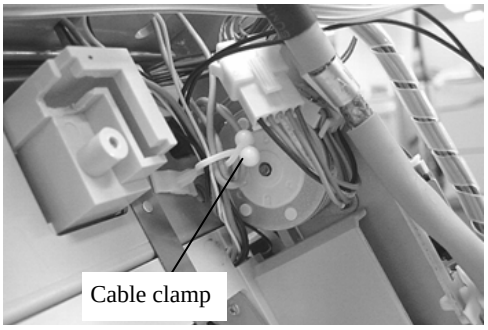
1) Refer to Section 8.3 for the part number of replacement part.
2) Background unit B includes the lamp for backside scanning and the background for front side scanning.

<Removing>

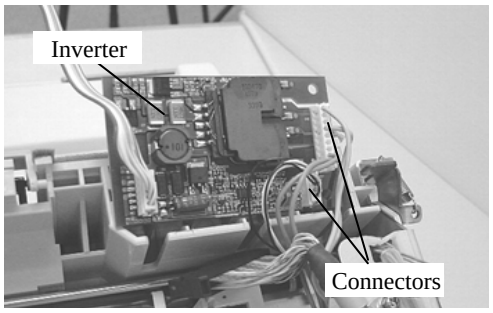
(1) Remove the ADF cover by referring to step (1) and (2) on Section 6.10.1.

(2) Remove the Optical unit ADF by referring to step (2) and (3) on Section 6.10.2.

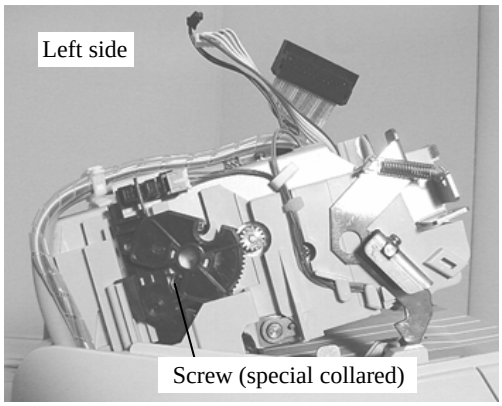
(3) Remove wires from cable clamp.

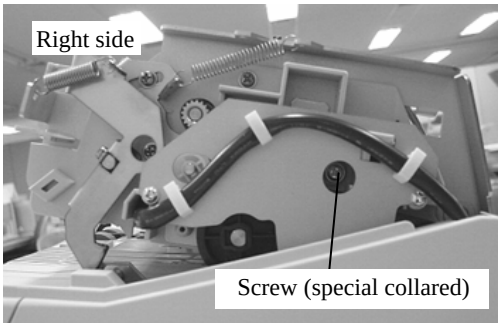


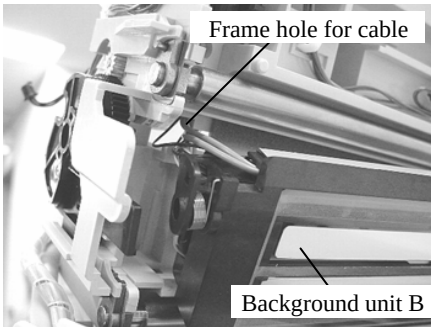
(4) Disconnect 2 connectors from the Inverter.



(5) Remove screws (special collared) from left and right side board of the ADF, and remove the Background unit B by pulling the cable through the opening in the frame. Be careful not to drop the screws.







<Installing>

Follow the above procedure in reverse.

NOTICE

1) Be sure to route the cables of the Background unit B into the original opening in the frame.
2) If the background unit B is installed appropriately, it moves up and down a bit (approx. 1mm).
3) After replacing the Background unit B, perform the Offset adjustment (Section 7.1.4) and White level adjustment (Section 7.1.5).

6.11 Removing / Installing the Parts in lower part of ADF

6.11.1 How to remove/install the Optical unit ADF(for front optical system), Inverter, Pick motor unit, and Background unit F

NOTICE

1) Refer to the following sections for the part numbers of replacement parts.
   Optical unit ADF: Section 8.18
   Inverter: Section 8.4
   Pick motor unit: Section 8.11
   Background unit F: Section 8.2

04 2) Background unit F includes the lamp for front side scanning and the background for backside scanning.

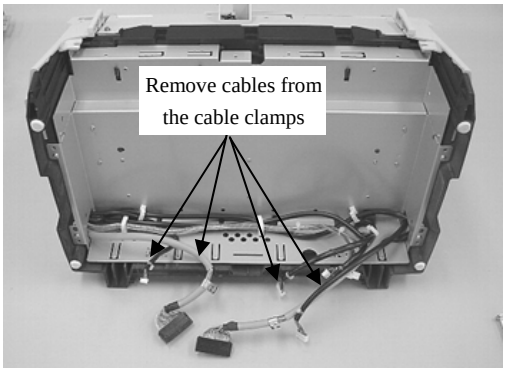
<Removing>

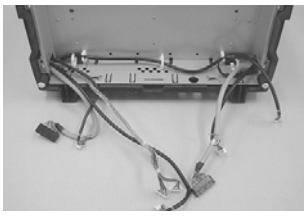
(1) Remove the Imprinter (option), if installed, from the scanner by the reverse order of Section 9.2.2.

(2) Remove the Chute ASSY (Section 6.6.1) and the Stacker ASSY (Section 6.6.3).

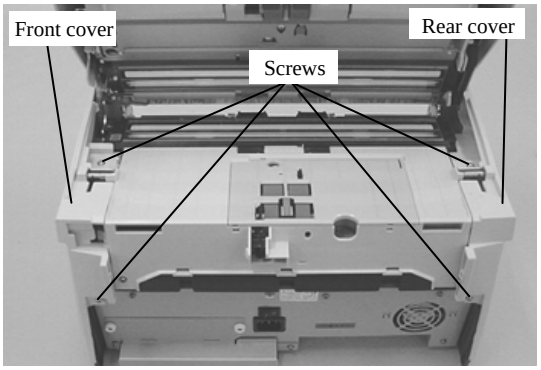
(3) Remove Panel unit A by referring to steps (2) and (3) in Section 6.6.4. Remove Panel unit B by referring to steps (1) and (2) in Section 6.6.5. And then remove the PCA unit by referring to steps (3) to (5) in Section 6.7, remove the PCA unit.

(4) Remove the cables shown in the photo below from the cable clamps, and pull them out of the frame holes.



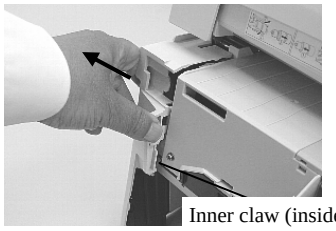


(5) Place the scanner upright position, and remove 4 screws that secure the front and rear covers. (photo on the right)

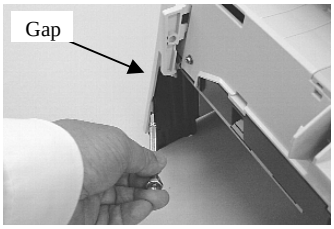


(6) Remove the front cover in the following procedure.

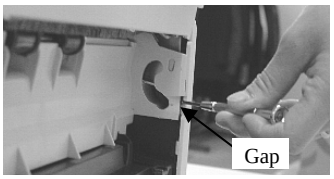
- While opening the ADF a bit, incline the protrusion of the front cover and unlatch the inner claw. (photo on the right)



- Insert a small flat-blade screwdriver in the gap under this protrusion and unlatch the inner claw. (photo below)

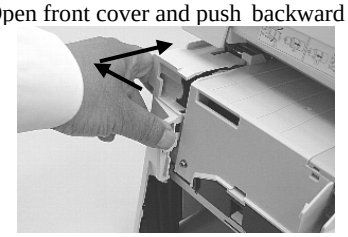


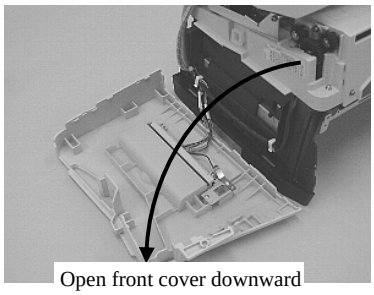
- Insert a small flat-blade screwdriver in the gap of the other side of the front cover and unlatch the claw. (photo on the right)



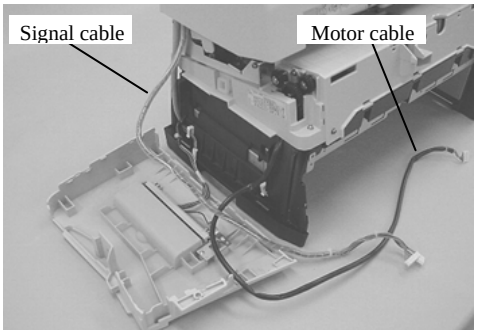
- Open the front cover and push in backward and open it down. Be careful not to pull it forcibly as this cover has the cable for the operator panel connected.

Open front cover and push backward



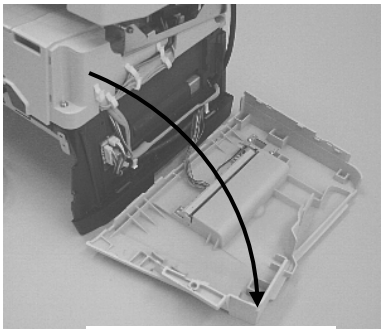


(7) Remove a signal cable and a motor cable from the clamps, and pull the cable connectors out of the frame holes. (photo on the right)



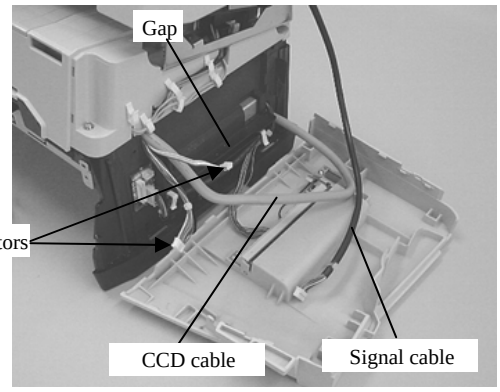
(8) Open the rear cover in the same way.

- While opening the ADF a bit, incline the protrusion of the rear cover and unlatch the inner claw.
- Insert a small flat-blade screwdriver in the gap under this protrusion and unlatch the inner claw.
- Insert a small flat-blade screwdriver in the gap of the other side of the rear cover and unlatch the claw.
- Open the rear cover and push in backward and open it down. Be careful not to pull it forcibly as this cover has the cable for the operator panel connected.

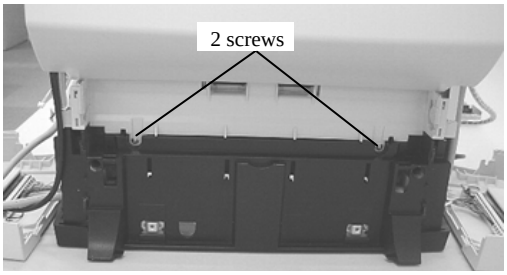


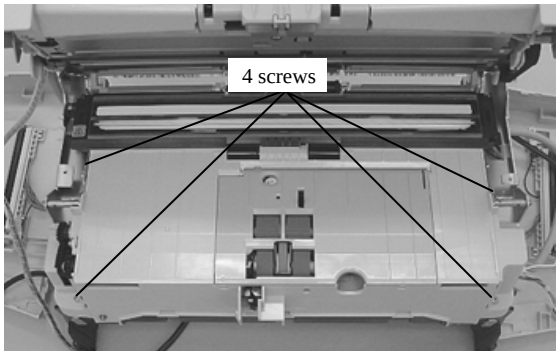
Open rear cover downward

(9) Remove the CCD cable from the groove. Pull the signal cable out of the side frame holes. Then disconnect 2 small connectors. (photo below)

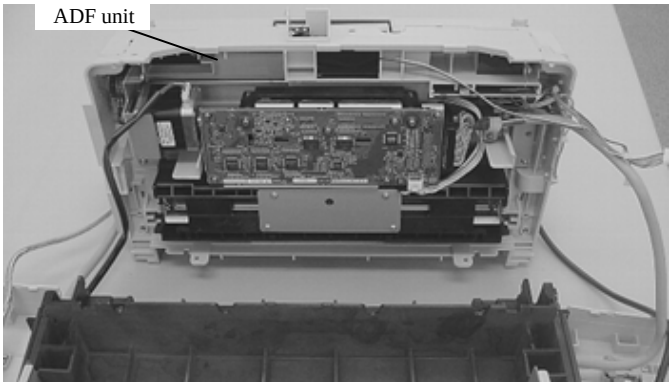


(10) Open the ADF and remove 4 screws (photo on the right). Remove 2 screws from the document eject side. (photo below).





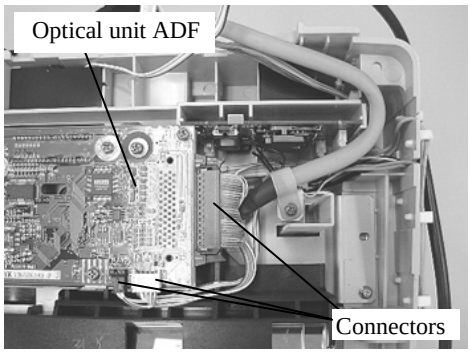
(11) Remove ADF unit from the frame.

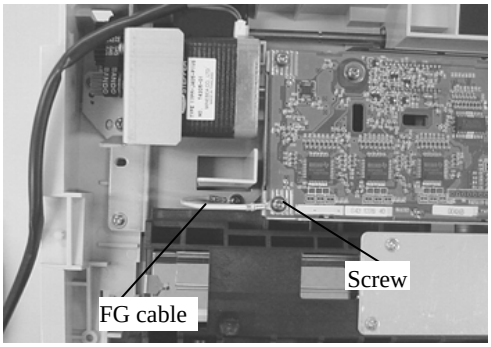


Go to each step depending on the parts to be replaced.
Go to step (12) for the Optical unit ADF
Go to step (14) for the Pick motor unit.
Go to step (15) for the Background unit F.
Go to step (18) for the Inverter.

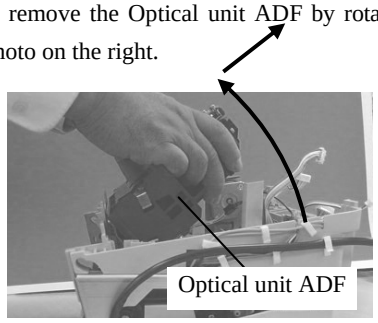
<Replacement of Optical unit ADF>

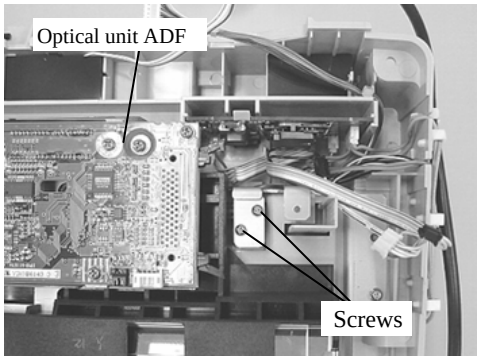
(12) From the bottom of the ADF unit, remove a cable clamp screw and disconnect 3 cables connected to the Optical unit ADF. (Photo on the right)
Then remove a fixing screw for the FG cable. (photo below)





(13) Remove 2 bracket screws (photo on the right) and remove the bracket. Then remove the Optical unit ADF by rotating it as shown in the photo on the right.





<Installing>

Follow the above procedure in reverse.

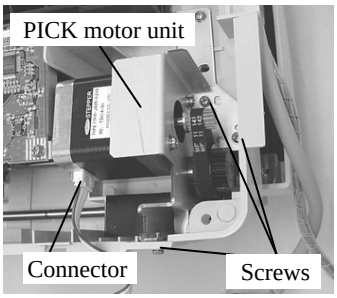
NOTICE

- Be careful not to touch the mirrors on the Optical unit ADF.
- After replacing the Optical unit ADF, perform the Offset adjustment (Section 7.1.4) and White level adjustment (Section 7.1.5).

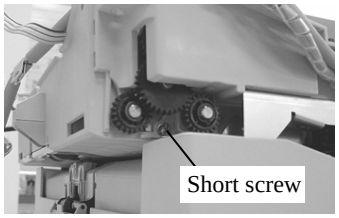
<Replacement of Pick motor unit>

Follow the procedure below after step (1).

(14) From the bottom of the ADF unit, remove 4 screws that secure the Pick motor unit (one of the screws is short) as shown in the photos on the right and right below, disconnect 1 connector, then remove the Pick motor unit.
The Pick motor includes the gear and bracket.



<Installing>
Follow the above procedure in reverse.



NOTICE

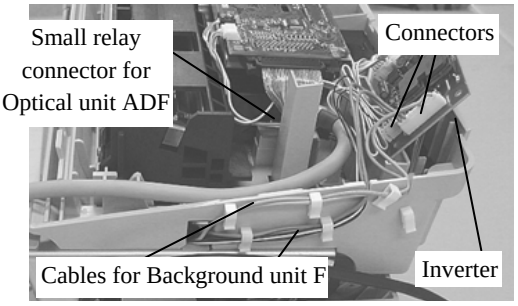
After replacing the Pick motor unit, perform the magnification adjustment (Section 7.1.3).

<Replacement of Background unit F>

NOTICE

1) The Background unit F includes the lamp for front side scanning and the background for backside scanning.
2) Follow the procedure below after step (1).

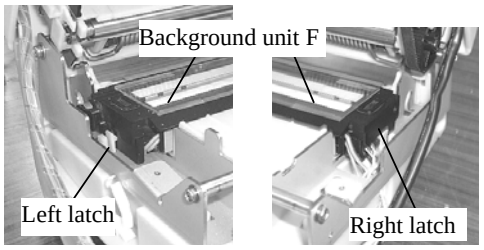
(15) From the bottom of the ADF unit, remove the Inverter, disconnect two connectors, then a small relay connector from the Optical unit ADF, and remove it from the cable clamps.



(16) Open the ADF, and place it on its side. (See photo below)

05

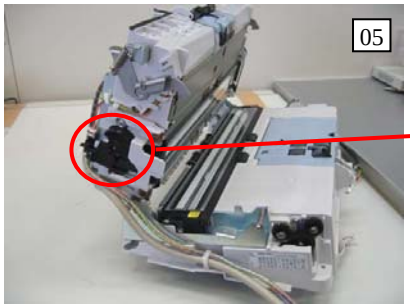
(17) Unlatch the right latch of the Background unit F, then the left latch, and then remove the Background unit F.

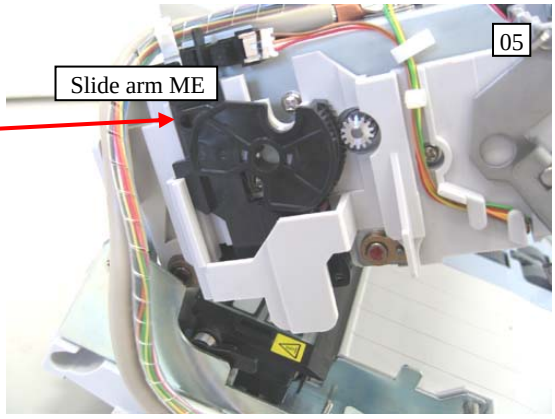


<Installing>

Follow the above procedure in reverse.

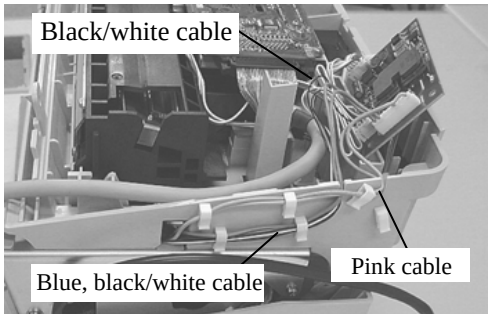
05 Note: Before installing the Background unit F, check that both left and right latches secure the Background unit F. Otherwise, the Background unit F and the Slide arm ME interfere, which may break the ADF Upper unit.





NOTICE

1) After replacing the Background unit F, perform the Offset adjustment (Section 7.1.4) and White level adjustment (Section 7.1.5).
2) To avoid defective images, make sure the pink, blue and black/white cables are separated as shown in photo on the right.

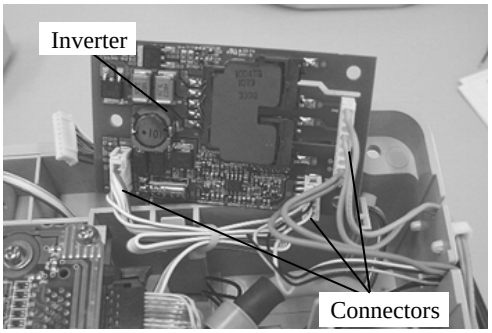


<Replacement of Inverter>

Follow the procedure below after step (1).

(1) From the bottom of the ADF unit, unlock an Inverter latch and remove the Inverter.

(2) Disconnect 3 connectors from the Inverter and remove the Inverter.



<Installing>

Follow the above procedure in reverse.

6.11.2 How to remove/install the HK Ring ME

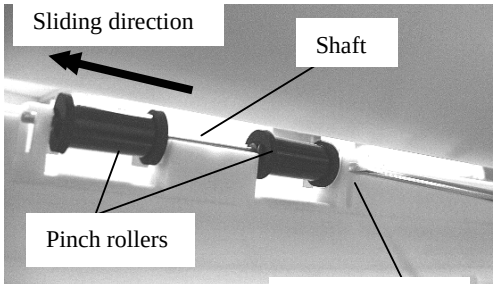
NOTICE

Refer to Section 8.12 for the part number of replacement parts.
Do not touch the glass of the reading section while disassembling.

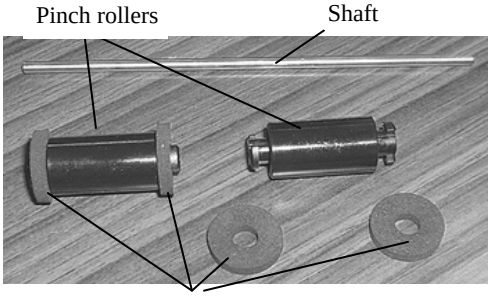
<Removing>

(1) Referring to Section 6.11.1, remove the Background unit F.

(2) Insert a small flat-blade screwdriver in the right groove when you look at the ADF unit from the document exit side (photo on the right), and slide the shaft of the Pinch rollers in the direction of the arrow until the Pinch rollers and shaft are removed.



(3) Remove the pinch rollers from the shaft, then remove the HK rings ME from the rollers.

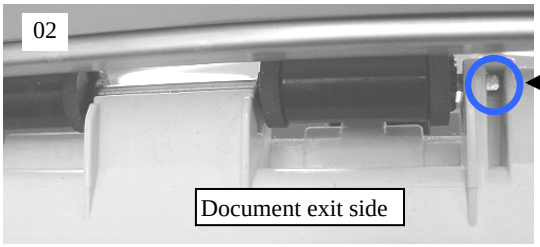


<Installing>

Follow the above procedure in reverse.

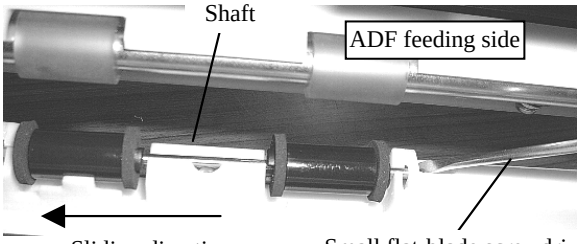
NOTICE

1) When installing the pinch roller shaft, be sure that the end of the shaft with the flat area comes at right side and the flat area faces to the document exit side. 02



Face the flat area on the shaft to the document exit side.

2) After inserting the pinch roller shaft in the groove, slide the edge of the shaft in the direction of the arrow with a small flat-blade screwdriver.



3) After replacing the HK ring ME, perform the magnification adjustment (Section 7.1.3) and offset adjustment (Section 7.1.4).

Chapter 7 Adjustment/Settings

7.1 Maintenance Mode

The scanner supports the built-in Maintenance mode that allows service providers to check the scanner performance and settings. This section gives the description of the Maintenance mode.

Note on Maintenance Mode 09

1: Before performing the sub-scanning magnification adjustment, Offset adjustment, or White level adjustment, set the user's inherent adjustment value to the default value.
The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]
Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.
Software Operation Panel ➔ Device Setting ➔ Offset
- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning
- Vertical magnification adjustment: "0.0" % for ADF
Software Operation Panel ➔ Device Setting 2 ➔ Page edge filler
- "0" for Top/Bottom/Right/Left
*** After changing the setting values above, write into EEPROM to reflect the setting.**

2: When performing Sub-scanning magnification adjustment, Offset adjustment and White level adjustment, do not adjust the ADF front side and ADF backside successively. When one adjustment is done, turn off the scanner, and back on again, and then start the next adjustment.

7.1.1 Activating the Maintenance Mode and Mode Types

(1) How to activate the Maintenance mode

Open the ADF cover and press the "I" area of the power switch while holding down the Scan button. Keep holding the Scan button down until Screen T04 is displayed. This will put the scanner into the Maintenance mode. While in Maintenance mode, the scanner interface is off-line.
The following display appears during activation of Maintenance mode.

Screen T01

Function No. Display	Power LED	Scanner status
	ON	Initial processing in Maintenance mode

When the Maintenance mode is activated normally after the initial processing, the following display appears.

Screen T04

Function No. Display	Power LED	Scanner status
	ON	Maintenance mode #1 selected

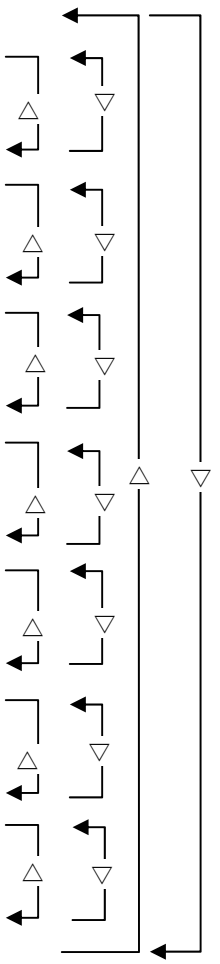
(2) Test/adjustment items of the Maintenance mode

The following lists test/adjustment items #1 ~ #8 that are supported by the scanner.

Mode #1: Paper feeding test and Sensor test
Mode #2: Sub-scanning magnification adjustment
Mode #3: Offset adjustment
Mode #4: White level adjustment
Mode #5: Consumables counter display and reset
Mode #6: Miscellaneous information display
Mode #7: EEPROM data restore
Mode #8: Ultrasonic sensor adjustment

(3) How to change the Maintenance mode

To change the Maintenance modes (#1 ~ #7), press the Function (△ or ▽) button on the operator panel. The display changes as follows. Mode #1 is the default.

Maintenance mode No.	Display			Maintenance mode	Related section
	Function No. Display	Power LED	Status transition		
#1		ON		Paper feeding test and Sensor test	7.1.2
#2		ON		Sub-scanning magnification adjustment	7.1.3
#3		ON		Offset adjustment	7.1.4
#4		ON		White level adjustment	7.1.5
#5		ON		Consumables counter display and reset	7.1.6
#6		ON		Miscellaneous information display	7.1.7
#7		ON		EEPROM data restore	7.1.8
#8		ON		Ultrasonic sensor adjustment	7.1.9

(4) How to start the Maintenance mode

Select a Maintenance mode and press the Scan button. The scanner activates the selected Maintenance mode.

7.1.2 Maintenance Mode #1: Paper feeding test and Sensor test

This mode tests the ADF continuous scanning operation at the specified speed and also checks the sensor status (ON/OFF) for each of the ADF sensors.

[How to start]

(1) From screen T04, press the Function (△ or ▽) button to select 1 (Maintenance mode #1) and press the Scan button. The selection screen for scanning speed/sensor test appears. A number is shown on the Function No. Display indicating the selected scanning speed or test mode as follows.

Function No. Display	Scanning speed/test mode	Remarks
0	200 dpi	Default *1
1	240 dpi	*1
2	300 dpi	*1
3	400 dpi	*1
4	600 dpi	*1
5		
6		
7	Sensor test	
8	Imprinter sensor test	With the Imprinter installed

*1: The scanner performs the self-diagnosis of Section 5.1.3 during testing. If there is no error displayed, the test is completed successfully.

(2) The scanning speed/test mode is changed by pressing the Function (△ or ▽) button. To test the continuous feeding operation, select the desired scanning speed (this varies depending on the scanning resolution) from 0 ~ 4.
When pressing the Scan button with paper on the ADF paper chute (Empty sensor ON), the ADF scanning starts.

(3) If the Scan button is pressed when the Imprinter is installed, the setting whether imprinting is performed or not is displayed as below. Pressing the Function (△ or ▽) button can switch this setting.
Go to step (4) if the Imprinter (option) is not installed.

Screen T11

Function No. Display	Scanner status
-	Not printing (default) Displays "-" without blinking.

Screen T12

Function No. Display	Scanner status
P	Printing. Displays "P" without blinking

Function button: Switches these settings.

Send to button: Terminates this mode and returns to screen T04.

(4) If the Scan button is pressed while the paper is set on the ADF paper chute (Empty sensor: ON), feeding begins.
If "printing" is selected in step (3), the patterns in Section 9.2.4 is printed out.

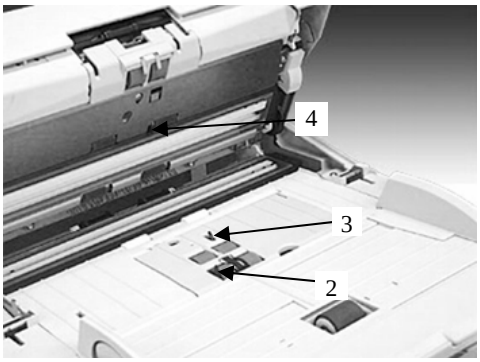
(5) By pressing the Scan button while "7" is shown on the display, the scanner enters the Sensor test mode.
The following table shows how the sensor status is displayed while the sensor test is in progress.

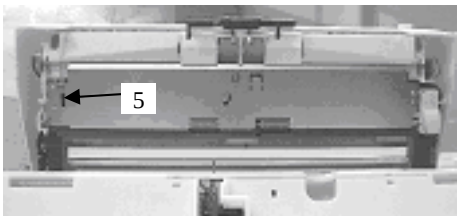
Screen T13

Function No. Display	Description	Display
1 2 4 5 3 7 6	2: indicates Empty sensor status	Illuminates when the sensor is ON. (Paper is detected)
	3: indicates Pick sensor status	Illuminates when the sensor is ON. (Paper is detected)
	4: indicates TOP sensor status	Illuminates when the sensor is ON. (Paper is detected)
	5: indicates ADF Cover open sensor status	Illuminates when the sensor is OFF. (Cover is open) *Note 1

Note 1) Perform this test by opening / closing the ADF cover. If the cover open sensor is pressed by fingers, the transmitter and the receiver of the double feed sensors are not aligned and the scanner recognizes that there is paper on the ADF and "7" lights.

Note 2) Refer to the photo below for sensor positions.



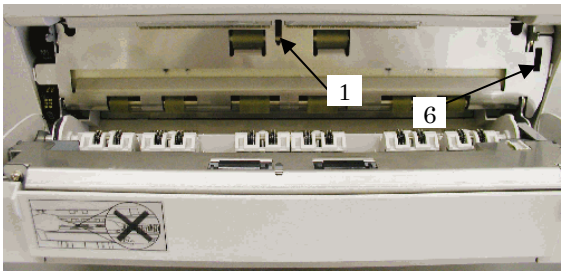


(6) By pressing the Scan button while "8" is shown on the display when the Imprinter is installed, the scanner enters the Imprinter sensor test mode. The following table shows how the sensor status is displayed while the sensor test is in progress.

Screen T14

Function No. Display	Description	Display
1 2 4 5 3 7 6	1: indicates Sensor OPB5 status in Imprinter	Illuminates when the sensor is ON. (Paper is detected)
	6: indicates Imprinter cover sensor status	Illuminates when the sensor is OFF. (Cover is open)
	Reserved	

Note 1) Refer to the photo below for sensor positions.



Pressing the Function (△ or ▽) button rotates the Feed motors and the Pick motor.

During the sensor test, you can check the sensor status (ON/OFF) when the document passes through the ADF by the following procedures:

1. Keep pressing the Function (△ or ▽) button. The ADF motor starts to rotate.
2. Set the document on the ADF paper chute.

[How to end]

Press the Send to button. The test stops and the Maintenance mode selection screen (T04) appears. The test also terminates when no paper remains on the ADF paper chute after the paper feeding test.

7.1.3 Maintenance Mode #2: Sub-scanning magnification adjustment

In this mode, the magnification correction values for sub-scanning are automatically calculated to satisfy the following adjustment value.

Adjustment value: Within ±1.0% (Without stop and start during scanning)
If stopped and started during scanning, the adjustment value is within ±2.0.

NOTICE

Before this adjustment, obtain the Test sheet described in the figure 7.1.3. This is an A3 size sheet of paper.

Notes on Sub-scanning magnification adjustment 09

1: Before performing the sub-scanning magnification adjustment, set the user's inherent adjustment value to the default value.
The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]
Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.
Software Operation Panel ➔ Device Setting ➔ Offset
- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning
- Vertical magnification adjustment: "0.0" % for ADF
Software Operation Panel ➔ Device Setting 2 ➔ Page edge filler
- "0" for Top/Bottom/Right/Left
*** After changing the setting values above, write into EEPROM to reflect the setting.**

2: When performing Sub-scanning magnification adjustment, do not adjust the ADF front side and ADF backside successively. When one adjustment is done, turn off the scanner, and back on again, and then start the next adjustment.

[How to start]
(1) From screen T04, Press the Function (△ or ▽) button to select 8 (Maintenance mode #2) and press the Scan button. A number is shown on the Function No. Display indicating the magnification to be adjusted as follows.

Function No. Display	Offset to be adjusted	Remarks
0	ADF sub-scanning magnification adjustment	Default Prepare the test sheet described in figure 7.1.3.

(2) Set a white A3 size sheet (Figure 7.1.3) on the ADF paper chute in Portrait orientation, and adjust the sheet guide to the width of the sheet.

Press the Scan button to begin the adjustment operation.

[How to abort]
Press the Send to button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If 0 is displayed, the sub-scanning magnification is adjustment has been successful. Go to step.3. If E is displayed, the sub-scanning magnification adjustment has failed. Go to step 4.

(3) When the sub-scanning magnification adjustment is completed successfully

If the sub-scanning magnification adjustment is completed successfully, Screen T21 appears. To save the adjustment result, press the Function (△ or ▽) button. If not, press the Send to button.

Screen T21

Function No. Display	Scanner status	Available buttons
	Displays "o" without blinking. The adjustment has been successful.	Function button: Displays screen T22. Writing magnification correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After Function button is pressed, Screen T22 is displayed. To write the adjustment result, press the Scan and the Function buttons simultaneously, then let go. The writing operation begins. Screen T23 is displayed during the operation, and T24 is displayed when writing is completed.

Screen T22

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan + Function button, then let go: Begin writing the offset correction value into EEPROM. During writing operation, screen T23 is displayed. Screen T24 is displayed when writing is completed. Send to button: Terminates this mode and returns to screen T04.

Screen T23

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T24

Function No. Display	Scanner status	Available buttons
	"o" (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the Send to button to terminate this mode and return to screen T04.
09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

(4) When the sub-scanning magnification adjustment fails

When the sub-scanning magnification adjustment fails, Screen T25 appears. Press the Function (△ or ▽) button to see what error has occurred. After checking the error, press the Send to button to return to Screen T04.

Screen T25

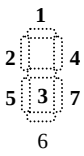
Function No. Display	Scanner status	Available buttons
	Displays "c" without blinking. The adjustment has failed.	Function button: Displays error information (screen T26) Send to button: Terminates this mode and returns to screen T04.

NOTICE

The major reason for adjustment failure is incorrect setting of the test sheet.
Set the test sheet correctly and try the ~~offset~~ magnification adjustment again.

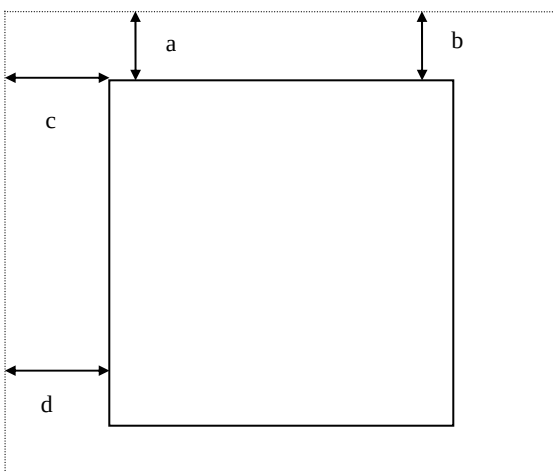
02

Screen T26

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1:Cannot detect the leading edge of the document (Image is shifted upward too much)	Conduct necessary operation by referring to step (2) and later in Section 5.3.7.
	2: Cannot detect the left edge of the document (Image is shifted to left too much.)	
	3: Cannot detect the leading edge of the document (Image is shifted downward too much.)	
	5: Cannot detect the left edge of the document (Image is shifted to right too much.)	
	4: Excessive skew A	
	7: Excessive skew B	

Skew A and B are calculated by the following expression.

Skew A = a – b
Skew B = c – d



<Available buttons on screen T26>
Send to button: Terminates this mode and returns to screen T04.

09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

[Test sheet]
Use the test sheet for magnification / offset adjustment that meets the following specification (A3 copy paper is allowed).

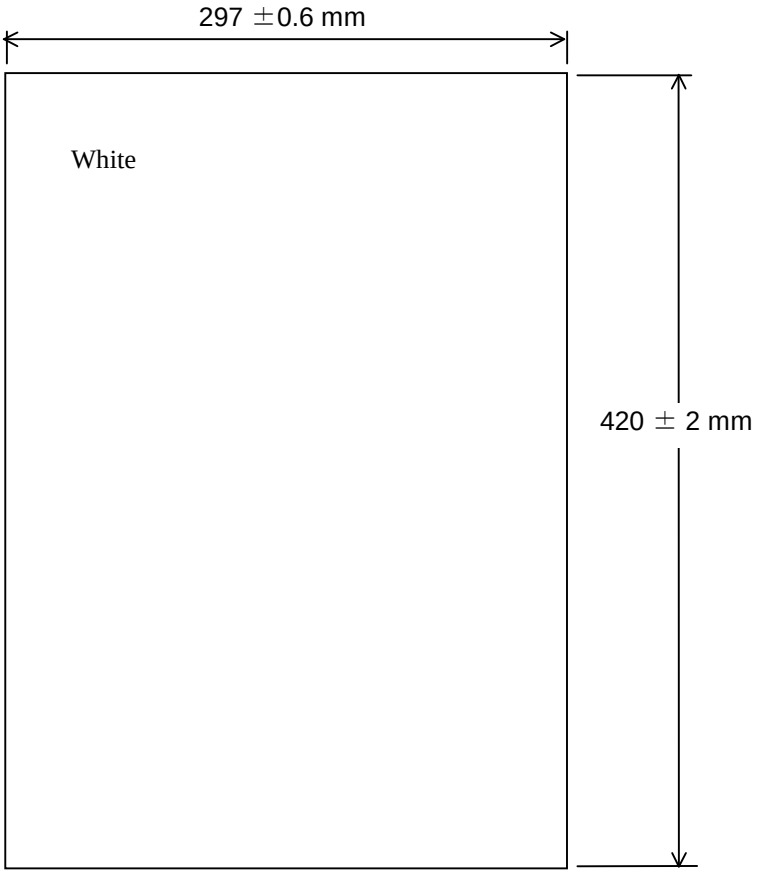


Figure 7.1.3 Magnification / Offset Adjustment Test Sheet

7.1.4 Maintenance Mode #3: Offset adjustment

In this mode, the offset correction values for main/sub-scanning are automatically calculated to satisfy the following offset values:

<Target offset value>
Main scanning: The largest offset of A6 or larger size of document shall be: ± 24 dot (@600dpi)
Sub-scanning: The largest offset of A6 or larger size of document shall be: ± 33 dot (@600dpi)

NOTICE

1) The value above is the target value of the offset adjustment. Image specification is as follows:
   ADF) Main scanning: Smaller offset of top or bottom of left edge shall be 0 to 1.5mm.
   Sub-scanning: Smaller offset of left or right of leading edge shall be 0 to 2.0mm.
2) Before this adjustment, obtain the Test sheet described in the figure 7.1.3. This is an A3 size sheet of paper.

08

~~3) Do not adjust the offset for the ADF front side and ADF backside in a row. Be sure to turn off the scanner after adjusting either side, and then turn on again to adjust the other side.~~

Notes on Offset adjustment 09

1: Before performing the Offset adjustment, set the user's inherent adjustment value to the default value. The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method]
Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.
Software Operation Panel ➔ Device Setting ➔ Offset
- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning
- Vertical magnification adjustment: "0.0" % for ADF
Software Operation Panel ➔ Device Setting 2 ➔ Page edge filler
- "0" for Top/Bottom/Right/Left
*** After changing the setting values above, write into EEPROM to reflect the setting.**

2: When performing Offset adjustment, do not adjust the ADF front side and ADF backside successively. When one adjustment is done, turn off the scanner, and back on again, and then start the next adjustment.

[How to start]
(1) From screen T04, Press the Function (△ or ▽) button to select  (Maintenance mode #3) and press the Scan button. A number is shown on the Function No. Display indicating the location of the offset to be adjusted.

Function No. Display	Offset to be adjusted	Remarks
0	ADF front	Default Prepare the test sheet described in figure 7.1.3.
1	ADF back	Prepare the test sheet described in figure 7.1.3.

(2) Change the selection by pressing the Function (△ or △) button.
(3) Set a white A3 size sheet (Figure 7.1.3) on the ADF paper chute in Portrait orientation, and adjust the sheet guide to the width of the sheet.

Press the Scan button to begin the adjustment operation.

[How to abort]
Press the Send to button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the offset adjustment has been successful. Go to step 4. If  s displayed, the offset adjustment has failed. Go to step.5.

(4) When the offset adjustment is completed successfully

If the offset adjustment is completed successfully, Screen T31 appears. To save the adjustment result, press the Function (△ or ▽) button. If not, press the Send to button.

Screen T31

Function No. Display	Scanner status	Available buttons
	Displays "o" without blinking. The adjustment has been successful.	Function button: Displays screen T32 and writing offset correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After Function button is pressed, Screen T32 is displayed. To write the adjustment result, press the Scan and the Function buttons simultaneously, then let go. The writing operation begins. Screen T33 is displayed during the operation, and T34 is displayed when writing is completed.

Screen T32

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan + Function button, then let go: Begin writing the offset correction value into EEPROM. During writing operation, screen T33 displayed. Screen T34 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T33

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T34

Function No. Display	Scanner status	Available buttons
	"o" (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the Send to button to terminate this mode and return to screen T04.

09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

(5) When the offset adjustment fails

When the offset adjustment fails, Screen T35 appears. Press the Function (△ or ▽) button to see what error has occurred. After checking the error, press the Send to button to return to Screen T04.

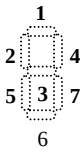
Screen T35

Function No. Display	Scanner status	Available buttons
	Displays "c" without blinking. The adjustment has failed.	Function button: Displays error information (screen T36) Send to button: Terminates this mode and returns to screen T04.

NOTICE

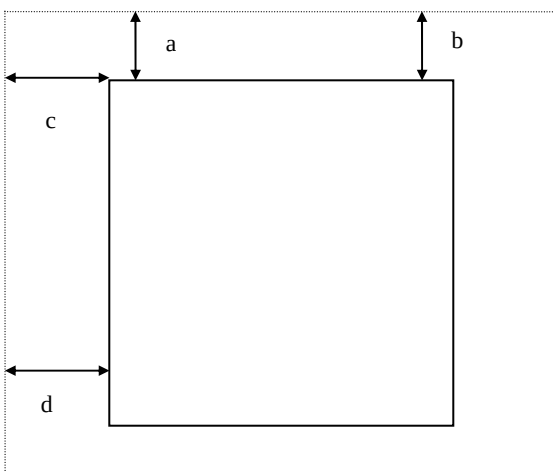
The major reason for adjustment failure is incorrect setting of the test sheet.
Set the test sheet correctly and try the offset adjustment again.

Screen T36

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1:Cannot detect the leading edge of the document (Image is shifted upward too much.)	Conduct necessary operation by referring to step (3) and later in Section 5.3.6.
	2: Cannot detect the left edge of the document (Image is shifted to left too much.)	
	3: Cannot detect the leading edge of the document (Image is shifted downward too much.)	
	5: Cannot detect the left edge of the document (Image is shifted to right too much.))	
	4: Excessive skew A	
	7: Excessive skew B	

Skew A and B are calculated by the following expression.

Skew A = a – b
Skew B = c – d



<Available buttons on screen T36>
Send to button: Terminates this mode and returns to screen T04.
09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

7.1.5 Maintenance Mode #4: White level adjustment

In this mode, the white level correction value for the ADF is automatically adjusted.

NOTICE

1) Before this adjustment, obtain the white level adjustment sheet (A4 coated paper) described in section 6.4.

08

~~2) Do not adjust the white level for the ADF front side and ADF backside in a row. Be sure to turn off the scanner after adjusting either side, and then turn on again to adjust the other side.~~

Notes on White level adjustment 09

1: Before performing the White level adjustment, set the user's inherent adjustment value to the default value. The adjustment is not performed properly if the offset adjustment value and magnification adjustment value are set individually.

[Default value setting method】
Check the following items on the Software Operation Panel. If you found any individual setting values, modify them before adjustment.
Software Operation Panel ➔ Device Setting ➔ Offset
- Offset setting: "0" for ADF (front) Main/Sub-scanning and ADF (back) Main/Sub-scanning
- Vertical magnification adjustment: "0.0" % for ADF
Software Operation Panel ➔ Device Setting 2 ➔ Page edge filler
- "0" for Top/Bottom/Right/Left
*** After changing the setting values above, write into EEPROM to reflect the setting.**

2: When performing White level adjustment, do not adjust the ADF front side and ADF backside successively. When one adjustment is done, turn off the scanner, and back on again, and then start the next adjustment.

[How to start]

(1) From screen T04, press the Function (△ or ▽) button to select  (Maintenance mode #4) and press the Scan button. A number is shown on the Function No. Display indicating the location of the white level to be adjusted.

Function No. Display	White level to be adjusted	Remarks
0	ADF front	Default Use the white level adjustment sheet described in Section 6.4.
1	ADF back	Use the white level adjustment sheet described in Section 6.4.

(2) Change the selection by pressing the Function (△ or ▽) button.

(3) Set the adjustment test sheet (see section 6.4) on the ADF paper chute in landscape orientation and adjust the sheet guide to the width of the test sheet.

Press the Scan button to begin the adjustment operation.

NOTICE

The adjustment starts approx. 10 seconds after pressing the Scan button.

Screen T41

Function No. Display	Scanner status	Available buttons
	Blinks during white level adjustment.	All buttons are disabled.

[How to abort]

Press the Send to button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If  is displayed, the white level adjustment has been successful. Go to step 4. If  is displayed, the white level adjustment has failed. Go to step 5.

NOTICE

After scanning the white level adjustment sheet, it takes approx. 10 seconds for the scanner to calculate the level adjustment.

(4) When the white level adjustment is completed successfully

If the white level adjustment is completed successfully, Screen T42 appears. To save the adjustment result, press the Function (△ or ▽) button. If not, press the Send to button.

Screen T42

Function No. Display	Scanner status	Available buttons
	Displays "o" without blinking. The adjustment has been successful.	Function button: Displays screen T42 and writing the correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After Function (△ or ▽) button is pressed, Screen T43 is displayed. To write the adjustment result, press the Scan and the Function buttons simultaneously, then let go. The writing operation begins. Screen T44 is displayed during the operation. T45 is displayed when writing is complete.

Screen T43

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Confirming whether the correction value is written to EEPROM.	Scan + Function button, then let go: Begin writing the white level correction value to EEPROM. During the writing operation, screen T44 displayed. Screen T45 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T44

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T45

Function No. Display	Scanner status	Available buttons
	"o" (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the Send to button to terminate this mode and return to screen T04.

09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

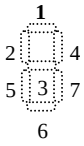
(5) When the white level adjustment fails

When the white level adjustment fails, Screen T46 appears. Press the Function (△ or ▽) button to see what error has occurred. After checking the error, press the Send to button to return to Screen T04.

Screen T46

Function No. Display	Scanner status	Available buttons
	Displays “c” without blinking. The adjustment has failed.	Function button: Displays error information (screen T47) Send to button: Terminates this mode and returns to screen T04.

Screen T47

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1: media error The test sheet may not be the specified one. Please confirm the test sheet.	The Lamps, Optical units may be defective. Replace the defective parts.

<Available buttons at screen T47>

Send to button: Terminates this mode and return to screen T04.

09

When screen T04 appears (Maintenance Mode menu), turn off the scanner once and back on again, and then perform the next adjustment.

7.1.6 Maintenance Mode #5: Consumables counter display and Reset

In this mode, the following consumable counters cab be displayed and reset:

- Pick counter (Abrasion counter for the Pick roller)
- Brake roller counter (Abrasion counter for the Brake roller)
- Remaining ink (with the Imprinter installed)
- Print cartridge counter (with the Imprinter installed)

[How to operate]

(1) From screen T04, press the Function (△ or ▽) button to select  (Maintenance mode #5) and press the Scan button. A number is shown on the Function No. Display indicating the counters as follows.

Function No. Display	Display	Remarks
0	Pick counter (Abrasion counter for Pick roller)	Default
1	Brake roller counter (Abrasion counter for Brake roller)	
2	Remaining ink	Only when the Imprinter is installed.
3	Print cartridge counter	

(2) Change the selection by pressing the Function (△ or ▽) button.

(3) The counter is displayed as follows when pressing the Scan button.

Counter	Display
Pick counter	The counter displays 8 digits in total, 1 number at a time (1 blink), from left digit to right digit. (If the counter has not reached 8 digits yet, 0 is added to blank digits.) The symbol "-" is displayed before the first number, indicating the counter display begins. The counter displays "0" until it reaches 500, and increases in increments of 10 after 500. eg. When the counter is "16,245", "-00016240" is displayed in the following order: "-" → "0" → "0" → "0" → "1" → "6" → "2" → "4" → "0"
Brake roller counter	See "Pick counter" for how to display.
Remaining ink	The counter displays 3 digits in total between 100 to o (percentage), following the symbol "-". 100 (%) is the initial value. As consumed amount of ink differs depending on environmental condition, this is approximate number. Eg. When ink remains 58%: "-" → "0" → "5" → "8"
Print cartridge counter	The counter displays 8 digits in total. See "Pick counter" for how to display.

[How to reset]

The following buttons are available during the counter display.

Function button: Displays screen T51 to reset the counter.

Send to button: Terminates this mode and returns to screen T04.

Screen T51

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Counter is ready to be reset.	Scan + Function button, then let go: Begin resetting the displayed counter value to 0. During the reset operation, screen T52 displayed. Screen T53 is displayed when the counter is reset. Send to button: Terminates this mode and returns to screen T04.

Screen T52

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. The counter is being reset.	All buttons are disabled.

Screen T53

Function No. Display	Scanner status	Available buttons
	"o" (upper half) lights without blinking. Counter reset is complete.	Send to button: Terminates this mode and returns to screen T04.

Press the Send to button to terminate this mode and return to screen T04.

7.1.7 Maintenance Mode #6: Miscellaneous information display

In this mode, the following information is displayed:

- Firmware version number
- Starting date of the scanner *
- The accumulated number that have been scanned by the ADF

*: This indicates the date when the scanner is activated by the driver for the first time. This information is only available if the driver supports this function.

[How to start]

(1) From screen T04, press the Function (△ or ▽) button to select 8 (Maintenance mode #6) and press the Scan button. A number is shown on the Function No. Display indicating the information as follows.

Function No. Display	Display	Remarks
0	Firmware version	Default
1	Starting date of the scanner	
2	Accumulated number of paper scanned by ADF	

(2) Change the selection by pressing the Function (△ or ▽) button.

(3) The information is displayed as follows when pressing the Scan button.

Information	Display
Firmware version number	The version numbers (4 digits for each) are displayed following the symbol "-". eg.1. When the SDC version is "A00" and the MDC version is "B00" (*1), <SDC> 02 <MDC> "-" → "0" → "1" → "0" → "0" → "-" → "0" → "2" → "0" → "0" The letter "A" through "L" are expressed by two digits with following rule. A=01, B=02, C=03, ……, J=10, K=11, L=12 SDC: Firm for controlling interface MDC: Firm for controlling mechanism eg.2. When the SDC version is "B00", the MDC is "C00", and the Imprinter version is "A00" <SDC> 02 <MDC> "-" → "0" → "2" → "0" → "0" → "-" → "0" → "3" → "0" → "0" → <Imprinter> "P" → "0" → "1" → "0" → "0" The display changes every 0.5 second.
Starting date of the scanner	Starting date of the scanner is displayed in 6 digits, 2 digits for "Year (Christian calendar)", 2 digits for "Month", and 2 digits for "Date", following the symbol "-". You cannot reset the date. eg. When the starting date is January 31st, 2002, "020131" is displayed in the following order: "-" → "0" → "2" → "0" → "1" → "3" → "1"
The accumulated number of paper scanned by the ADF	The accumulated number of scanned by the ADF is displayed in 8 digits from left to right, following the symbol "-". (If the counter does not reach 8 digits, 0 is added to blank digits.) The counter displays "0" until it reaches 10, and increases in increment of 10. You cannot reset this counter. eg. When the accumulated number is "16,245", "00016240" is displayed in the following order: "-" → "0" → "0" → "0" → "1" → "6" → "2" → "4" → "0"

*1: The firmware version is normally expressed by an alphabet, such as A, B or C. However, if the firmware is a beta version, two digits are added after the alphabet character, such as A01, A02 or A03. So the firmware version like A00, B00 or C00 means this is an official version.

[How to abort]

Press the Send to button to terminate this mode and return to screen T04.

7.1.8 Maintenance Mode #7: EEPROM data restore

When replacing the Panel PCA A, the EEPROM data on the Panel PCA A must be moved to the flash memory of the Control PCA. In this mode, the data is restored from the Control PCA to the Panel PCA A.

[How to start]

(1) From screen T04, press the Function (△ or ▽) button to select  (Maintenance mode #7) and press the Scan button. The following display appears.

To restore the EEPROM data, press the Scan and Function buttons simultaneously, then let go. The restore operation begins. Screen T72 is displayed during the operation. T73 is displayed when restoration is complete.

Screen T71

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Confirming whether the data is restored or not.	Scan + Function button, then let go: Returns the data from the Control PCA to the EEPROM. During the restore operation, screen T72 is displayed. Send to button: Terminates this mode and returns to screen T04.

Screen T72

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. The data is being restored.	All buttons are disabled.

When the data restoration is successful, the following display appears. Press the Send to button: to return to screen T04.

Screen T73 Normal termination

Function No. Display	Scanner status	Available buttons
	Displays "o" (upper half) without blinking. The data has been restored successfully.	Send to button: Terminates this mode and returns to screen T04.

When no data exists on the Control PCA, the following display appears. Press the Send to button to return to screen T04.

Screen T74 No data

Function No. Display	Scanner status	Available buttons
	Displays "c" without blinking.	Send to button: Terminates this mode and returns to screen T04.

7.1.9 Maintenance Mode #8: Ultrasonic sensor adjustment

In this mode, the optimum Ultrasonic sensor (US sensor) output is automatically adjusted in order to improve the double feed detection accuracy.

NOTICE

Before this adjustment, obtain the adjustment sheet (A4 size thick paper) described in Section 6.4.

[How to start]

(1) From screen T04, press the Function (△ or ▽) button to select 8 (Maintenance mode #8). Place the adjustment sheet on the ADF paper chute and press the Scan button. The adjustment will begin.
Screen T81 is displayed during the Ultrasonic sensor adjustment.

Screen T81

Function No. Display	Scanner status	Available buttons
8	Blinking "5" is displayed during adjustment.	All buttons are disabled.

[How to abort]

Press the Send to button during the adjustment operation. The operation stops and the Maintenance mode selection screen (T04) appears.

If 0 is displayed, the adjustment was successful. Go to item No.4. If E is displayed, the adjustment failed. Go to item No.5.

NOTICE

After scanning the US sensor adjustment sheet, it takes approx. 10 seconds for the scanner to calculate the level adjustment.

(4) When the ultrasonic sensor adjustment is successful

If the ultrasonic sensor adjustment is successful, Screen T82 appears. To save the adjustment result, press the Function (△ or ▽) button. If not, press the Send to button.

Screen T82

Function No. Display	Scanner status	Available buttons
	Displays "o" without blinking. The adjustment has been successful.	Function button: Displays screen T83 and writing the correction value in EEPROM is available. Send to button: Terminates this mode and returns to screen T04.

After the Function (△ or ▽) button is pressed, Screen T83 is displayed. To write the adjustment result, press the Scan and the Function buttons simultaneously, then let go. The writing operation begins. Screen T84 is displayed during operation, and T85 is displayed when writing has completed.

Screen T83

Function No. Display	Scanner status	Available buttons
	"o" (lower half) blinks. Confirming whether the correction value is written to EEPROM or not.	Scan + Function button, then let go: Begin writing the white level correction value into EEPROM. During the writing operation, screen T84 displayed. Screen T85 is displayed when writing is complete. Send to button: Terminates this mode and returns to screen T04.

Screen T84

Function No. Display	Scanner status	Available buttons
	"L" lights without blinking. Correction value is being written to EEPROM.	All buttons are disabled.

Screen T85

Function No. Display	Scanner status	Available buttons
	"o" (upper half) lights without blinking. The value has been written successfully.	Send to button: Terminates this mode and returns to screen T04.

Press the Send to button to terminate this mode and return to screen T04.

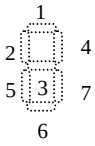
(5) When the ultrasonic sensor adjustment fails

When the ultrasonic sensor adjustment fails, Screen T86 appears. Press the Function (△ or ▽) button to see what error has occurred. After checking the error, press the Send to button to return to Screen T04.

Screen T86

Function No. Display	Scanner status	Available buttons
	Displays "c" without blinking. The adjustment has failed.	Function button: Displays error information (screen T87) Send to button: Terminates this mode and returns to screen T04.

Screen T87

Function No. Display	Description	Countermeasure when abnormal termination frequently occurs
	1: Adjustment failed because of incorrect sensor output.	Confirm whether this adjustment has been performed with the Adjustment sheet (PA03296-Y990) in Section 6.4. If the adjustment sheet is right, the US sensor or US PCA is defective.

Send to button: Terminates this mode and return to screen T04.

7.2 Saving EEPROM Data

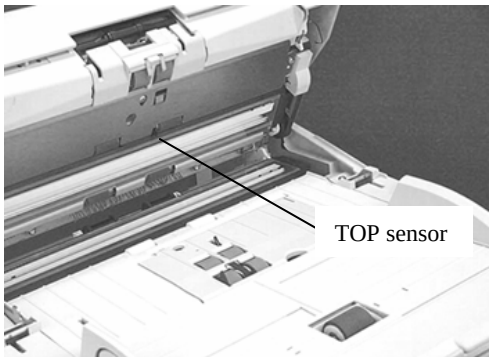
The EEPROM data on the Panel PCA A can be saved on the flash memory of the Control PCA. This operation is required when replacing the Panel PCA A. Since this operation is performed when the Panel PCA A is malfunctioning, the following procedure was designed to save the EEPROM data without the use of the operator panel.

NOTICE

- Do not perform this procedure unless the Panel PCA A is malfunctioning.
- The Panel PCA A from which the data was saved to the Control PCA cannot be used again.
- Make sure to have a new Panel PCA A before saving the EEPROM data.

[How to save the EEPROM data onto the Control PCA]

1. Open the ADF cover. While pressing the TOP sensor lever (ON), power on the scanner. "P" -> "H " are displayed.
2. Let go of the TOP sensor lever. Press the TOP sensor longer than 1 second twice.
3. Close the ADF cover. "L" is displayed when the Function No. Display is working normally.
4. After more than 5 seconds elapse, open the ADF cover.
5. When the EEPROM data is successfully saved, the ADF front lamp blinks 3 times and  is displayed on the Function No. Display. In case the EEPROM data is not successfully saved, the lamp does not blink and  is displayed on the Function No. Display.



NOTICE

If EEPROM data is saved in the Control PCA successfully, the scanner writes some information on the Panel PCA A that disables the usage of it. The replacement of the Panel PCA A is required after saving the EEPROM data to the Control PCA. If the scanner is turned on without replacing the Panel PCA A, "E" and "6" are displayed alternately on the Operator panel which signifies an error.

7.3 Emulations

With the fi-5750C, you can change the emulation of the scanner to the scanner listed below..
In emulation mode, this scanner responds as if it was the scanners listed.

- fi-5750C
- fi-4750C
- M4097D
- fi-4640S
- fi-4750L

(1) How to activate the Emulation mode

Open the ADF cover and turn the scanner ON while holding down the Function (△ or ▽) button. Continue holding the Function button down until Screen B below is displayed. Let go of the Function button. Screen C appears when entering this mode. In this mode, the scanner interface is off-line.
The following display appears during initial processing in Emulation mode.

Screen A

Function No. Display	Power LED	Scanner status
	ON	Initializing

After the initial processing, the display changes as follows.

Screen B

Function No. Display	Power LED	Scanner status
	ON	Maintenance mode

 Let go of the Function button

Screen C

Function No. Display	Power LED	Scanner status
	ON	Initial status of emulation switching mode

[How to start]

(1) When  is displayed, press the Scan button to show the model selection screen.

A number is shown on the Function No. Display indicating the model to be emulated.

Function No. Display	Model	Remarks
0	fi-5650C	Default (standard) Emulation mode invalid.
1	fi-4750C	Emulation (The scanner returns the Product ID "fi-4750Cdjm" to the host)
2	fi-4640S	Emulation (The scanner returns the Product ID "fi-4640Sm" to the host)
3	fi-4750L	Emulation (The scanner returns the Product ID "fi-4750Ldm" to the host)
4	M4097D	Emulation (The scanner returns the Product ID "M4097Ddm" to the host)
5	fi-5750C	Emulation (The scanner returns the Product ID "fi-5750Cdj" to the host)

(2) Change the selection by pressing the Function (△ or ▽) button.

(3) Press the Scan button, and confirm that the numbers of the selected model appears on the Function No. Display as shown in Note A.

(4) To save the emulation change, press the Function (△ or ▽) button. If not, press the Send to button.

Screen E11

Function No. Display	Power LED	Scanner status	Available buttons
	ON	Confirming emulation change "o" (lower half) blinks.	Scan + Function button, then let go: Writes the selected model into EEPROM. Screen E12 is displayed during writing. If writing to the EEPROM is completed successfully, screen E13 is displayed. If writing to the EEPROM fails, screen E14 is displayed. Send to button: Returns to the initial display of the emulation mode.

Screen E12

Function No. Display	Scanner status	Available buttons
	Writing data into EEPROM. "L" lights without blinking.	All buttons are disabled.

After the Function (△ or ▽) button is pressed, Screen E11 is displayed. To change the emulation, press the Scan and Function buttons simultaneously, then let go. The writing operation begins. Screen E12 is displayed during the operation. E13 is displayed when writing is complete.

Screen E13

Function No. Display	Scanner status	Available buttons
	Selecting the emulated model has succeeded. Displays “o” (upper half) without blinking.	Send to button: Returns to the initial emulation mode display.

Screen E14

Function No. Display	Scanner status	Available buttons
	Selecting the emulated model has failed. Displays “c” without blinking.	Send to button: Returns to the initial emulation mode display.

Note A) The selected model is displayed as below.

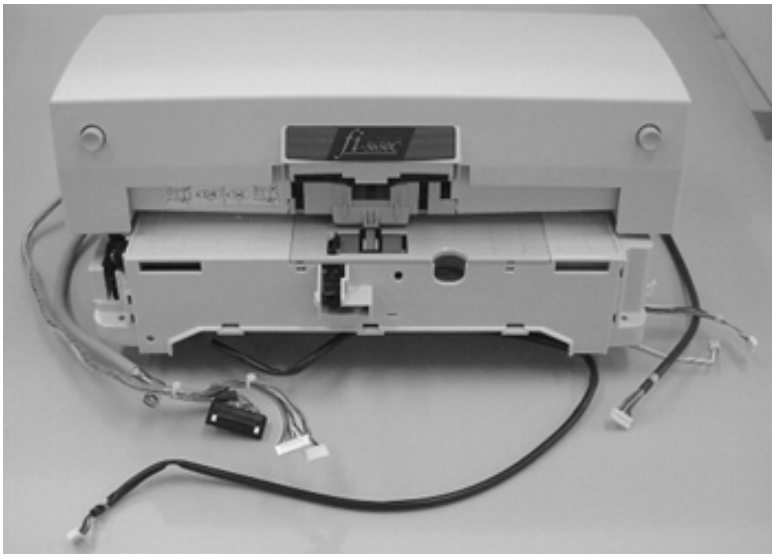
Emulation mode	How to display
fi-5650C	Starting with “-“, “5650” is indicated as follows: “-”→”5”→”6”→”5”→”0” The display changes every 0.5 second.
fi-5750C	Starting with “-“, “5750” is indicated as follows: “-”→”5”→”7”→”5”→”0” The display changes every 0.5 second.
fi-4750C	Starting with “-“, “4750” is indicated as follows: “-”→”4”→”7”→”5”→”0” The display changes every 0.5 second.
M4097D	Starting with “-“, “4097” is indicated as follows: “-”→”4”→”0”→”9”→ ”7” The display changes every 0.5 second.
fi-4640S	Starting with “-“, “4640” is indicated as follows: “-” → ”4”→”6” → ”4” → ”0” The display changes every 0.5 second.
fi-4750L	Starting with “-“, “4750L” is indicated as follows: “-” → ”4” → ”7” → ”5” → ”0” → ”L” The display changes every 0.5 second.

Chapter 8 Maintenance Parts

No.	Description	Part Number	Quantity	Appearance (Section)	Replacement Procedure (Section)	Remarks
1	ADF UNIT	~~PA03338-D990~~ PA03338-D989 02	1	8.1	6.8.1 03	Including #19, #30 03
2	BACKGROUND UNIT F	~~PA03338-D901~~ PA03338-D811 02	1	8.2	6.11.1	
3	BACKGROUND UNIT B	~~PA03338-D903~~ PA03338-D813 02	1	8.3	6.10.8	
4	INVERTER	~~PA03338-D905~~ PA03338-D815 02	2	8.4	6.10.1, 6.11.1	
5	US SENSOR	PA03334-F902	2	8.5	6.9.2	
6	US PCA	~~PA03334-K902~~ PA03334-K906 02	1	8.6	6.9.2	
7	SENSOR	~~PA03338-D906~~ PA03338-D816 02	3	8.7	6.9.2, 6.10.3, 6.10.6	
8	PICK SENSOR	~~PA03338-D935~~ PA03338-D845 02	1	8.8	6.9.2	
9	DF SENSOR	~~PA03338-D907~~ PA03338-D817 02	1	8.9	6.9.2	2 pieces per set
10	GUIDE S ASSY	PA03338-D908	1	8.10	6.9.1	
11	PICK MOTOR	~~PA03338-D909~~ PA03338-D819 02	1	8.11	6.11.1	
12	HK RING ME	PA03338-D941	1	8.12	6.11.2	4 pieces per set
13	BW MOTOR	~~PA03338-D912~~ PA03338-D822 02	2	8.13	6.10.3, 6.10.5	
14	FEED MOTOR	PA03338-D914	1	8.14	6.10.4	
15	BELT ADF	PA03338-D915	1	8.15	6.10.4	
16	TOP SENSOR	~~PA03338-D916~~ PA03338-D826 02	1	8.16	6.9.2	
17	SENSOR OP	PA03338-D917	1	8.17	6.10.7	
18	OPTICAL UNIT ADF	~~PA03338-D910~~ PA03338-D820 02	2	8.18	6.10.2, 6.11.1	
19	PANEL UNIT A	~~PA03338-D994~~ PA03338-D864 02	1	8.19	6.6.4	Including #20.
20	PANEL PCA A	~~PA03338-D995~~ PA03338-D865 02	1	8.20	6.6.4	
21	CONTROL PCA	~~PA03338-D991~~ PA03338-D988 02	1	8.21	6.7	
22	POWER SUPPLY	~~PA03338-D930~~ PA03338-D840 02	1	8.22	6.7	
23	STACKER ASSY	~~PA03338-D992~~ PA03338-D964 02	1	8.23	6.6.3	
24	CHUTE ASSY	~~PA03338-D993~~ PA03338-D965 02	1	8.24	6.6.1	
25	CHUTE ROLLER	PA03338-D933	1	8.25	6.6.2	
26	FAN ASSY	~~PA03338-D940~~ PA03338-D847 02	1	8.26	6.7	
27	PANEL UNIT B	~~PA03338-D996~~ PA03338-D866 02	1	8.27	6.6.5	Including #28
28	PANEL PCA B	~~PA03338-D997~~ PA03338-D867 02	1	8.28	6.6.5	
03 29	ADF BASE UNIT	PA03338-D957	1	8.29	6.8.2	
03 30	ADF UPPER UNIT	PA03338-D958	1	8.30	6.8.2	

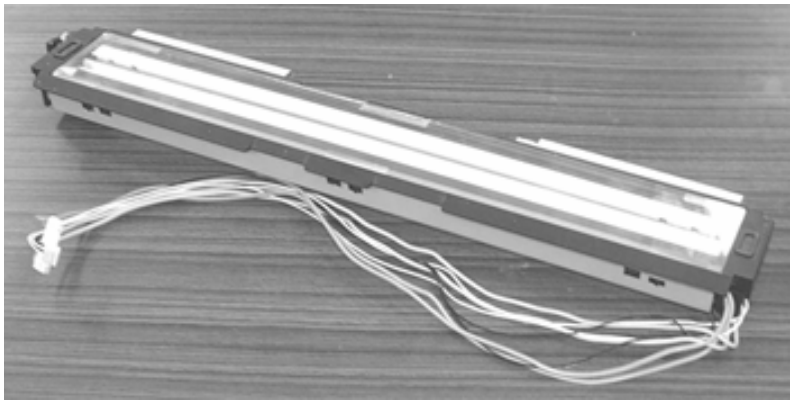
8.1 ADF Unit

Description	Parts No.	Remarks
ADF Unit	~~PA03338-D990~~ PA03338-D989 02	ADF Base unit and ADF Upper unit are included. 03



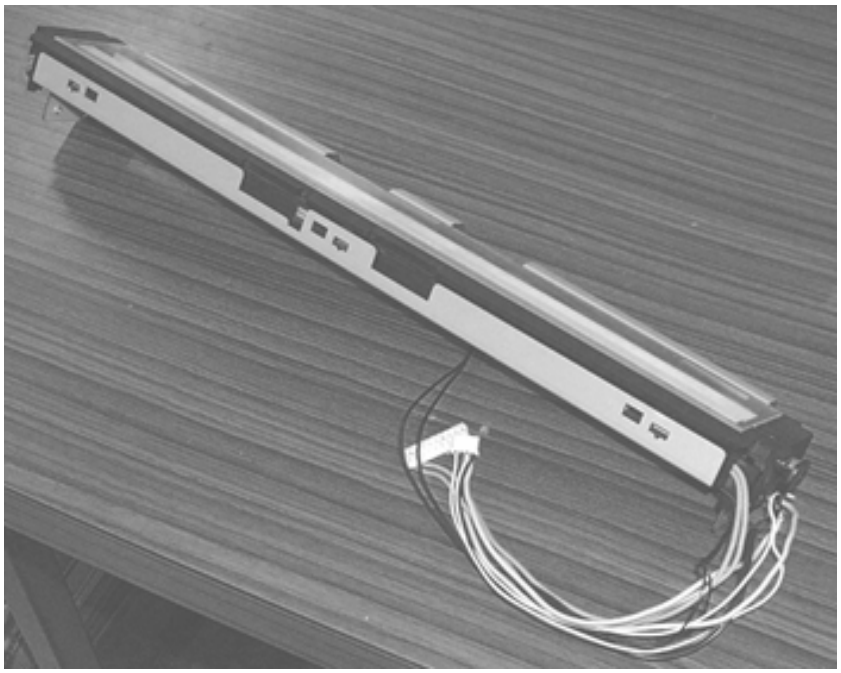
8.2 Background Unit F

Description	Parts No.	Remarks
Background unit F	~~PA03338-D901~~ PA03338-D811 02	Includes the lamp for front side scanning and the background for backside scanning. 04 White level adjustment sheet is enclosed.



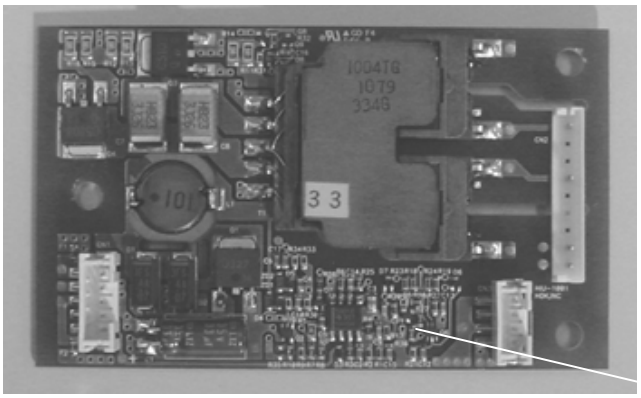
8.3 Background Unit B

Description	Parts No.	Remarks
Background Unit B	~~PA03338-D903~~ PA03338-D813 02	Includes the lamp for backside scanning and the background for front side scanning. 04 White level adjustment sheet is enclosed.



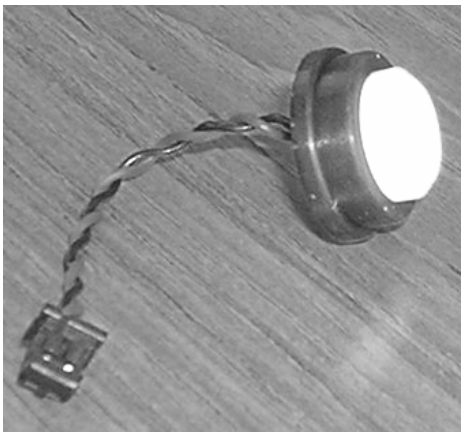
8.4 Inverter

Description	Parts No.	Remarks
Inverter	~~PA03338-D905~~ PA03338-D815 02	



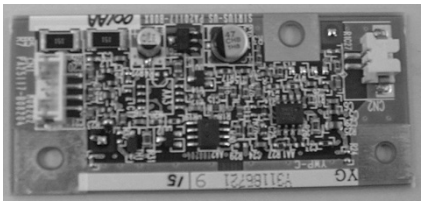
8.5 US Sensor

Description	Parts No.	Remarks
US sensor	PA03334-F902	



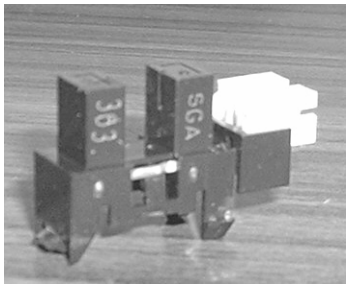
8.6 US PCA

Description	Parts No.	Remarks
US PCA	~~PA03334-K902~~ PA03334-K906 02	



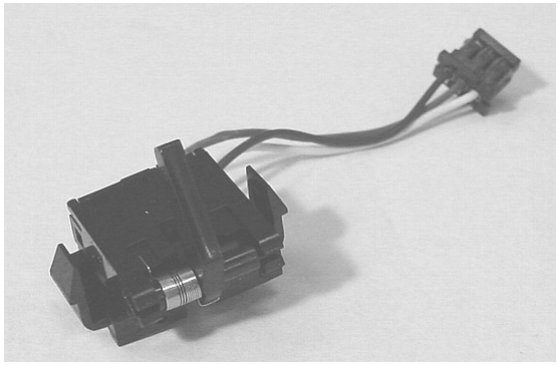
8.7 Sensor

Description	Parts No.	Remarks
Sensor	~~PA03338-D906~~ PA03338-D816 02	



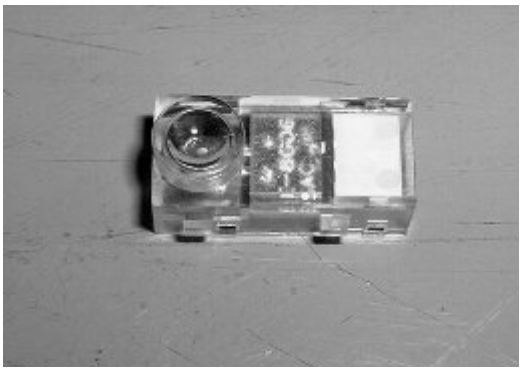
8.8 Pick Sensor

Description	Parts No.	Remarks
Pick sensor	~~PA03338-D935~~ PA03338-D845 02	



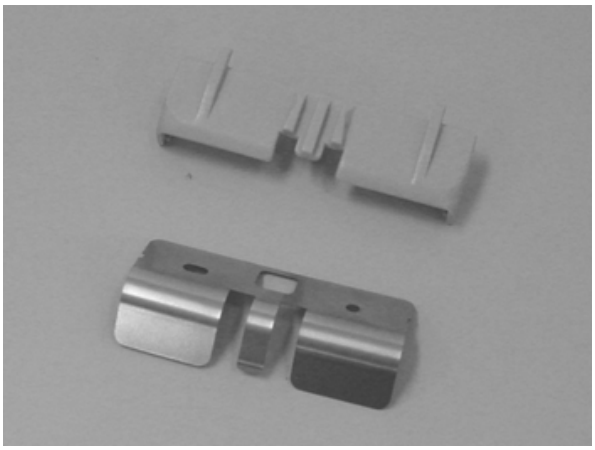
8.9 DF Sensor

Description	Parts No.	Remarks
DF sensor	~~PA03338-D907~~ PA03338-D817 02	2 pieces per set



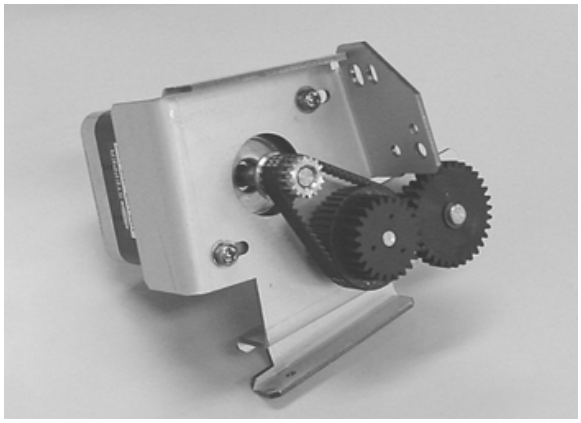
8.10 Guide S ASSY

Description	Parts No.	Remarks
Guide S ASSY	PA03338-D908	



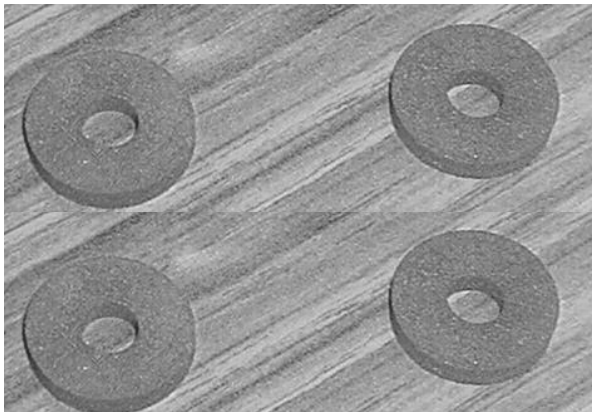
8.11 Pick Motor Unit

Description	Parts No.	Remarks
Pick motor unit	~~PA03338-D909~~ PA03338-D819 02	



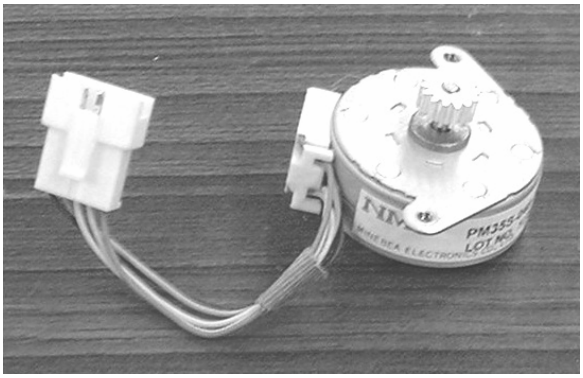
8.12 HK Ring ME

Description	Parts No.	Remarks
HK Ring ME	PA03338-D941	4 pieces per set



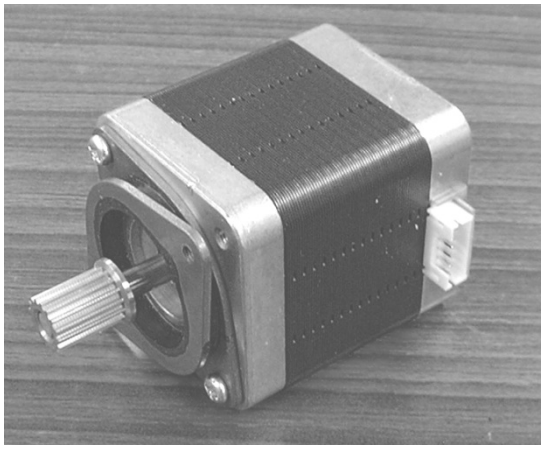
8.13 BW Motor

Description	Parts No.	Remarks
BW motor	~~PA03338-D912~~ PA03338-D822 02	



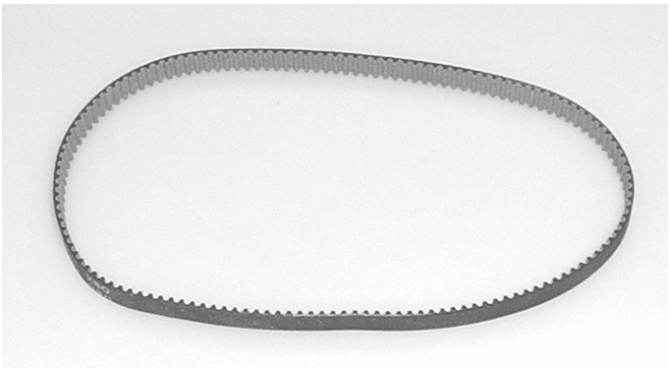
8.14 Feed Motor

Description	Parts No.	Remarks
Feed motor	PA03338-D914	



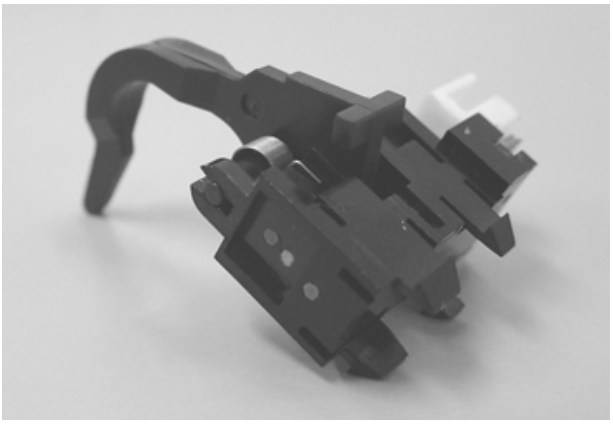
8.15 Belt ADF

Description	Parts No.	Remarks
Belt ADF	PA03338-D915	



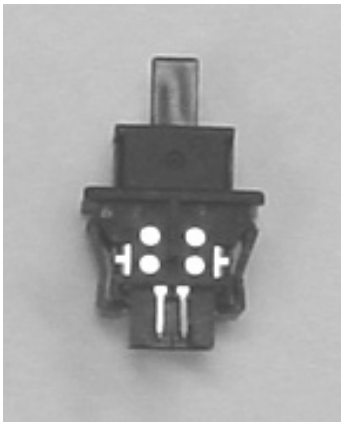
8.16 TOP Sensor

Description	Parts No.	Remarks
TOP sensor	~~P03338-D916~~ PA03338-D826 02	



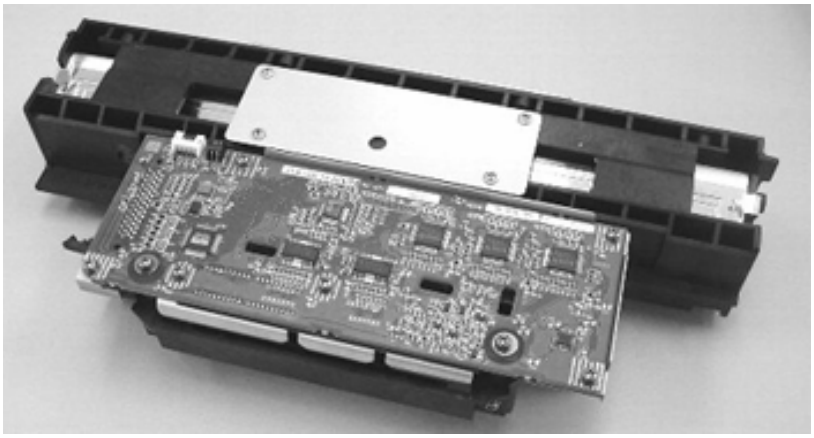
8.17 Sensor OP

Description	Parts No.	Remarks
Sensor OP	PA03338-D917	



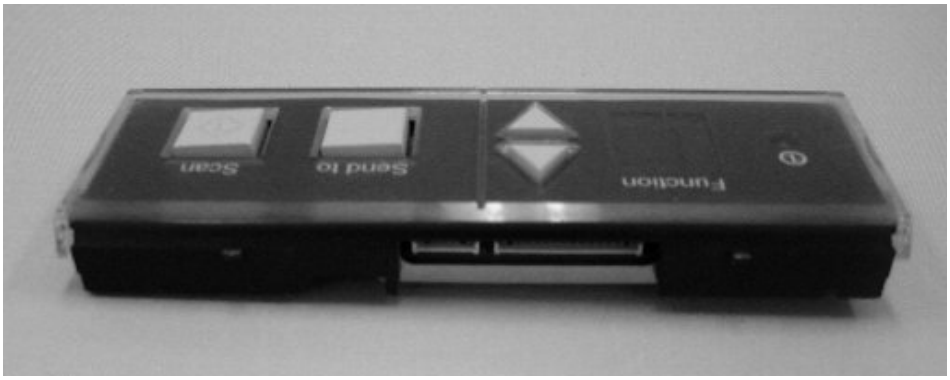
8.18 Optical Unit ADF

Description	Parts No.	Remarks
Optical unit ADF	~~PA03338-D910~~ PA03338-D820 02	White level adjustment is enclosed.



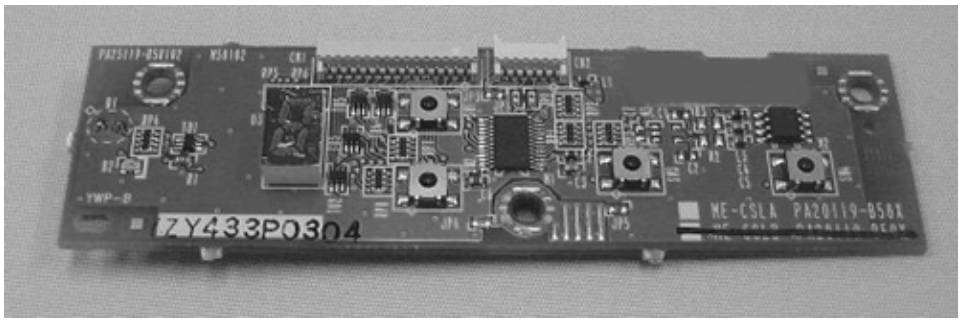
8.19 Panel Unit A

Description	Parts No.	Remarks
Panel unit A	~~PA03338-D994~~ PA03338-D864 02	Including Panel PCA A



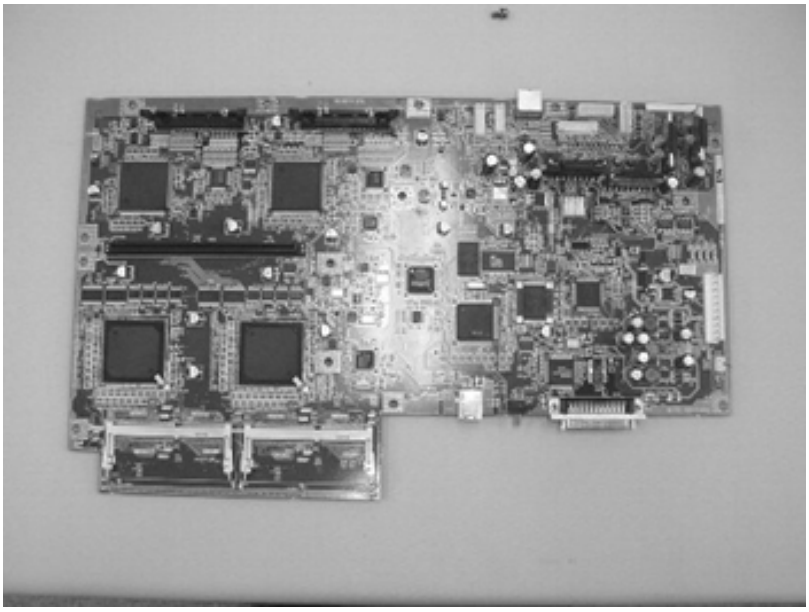
8.20 Panel PCA A

Description	Parts No.	Remarks
Panel PCA A	~~PA03338-D922~~ PA03338-D865 02	There is a sticker of "A" on this PCA to show that this is Panel PCA A.



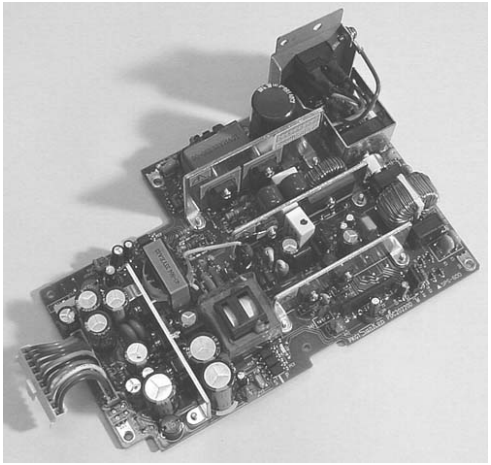
8.21 Control PCA

Description	Parts No.	Remarks
Control PCA	~~PA03338-D991~~ PA03338-D988 02	



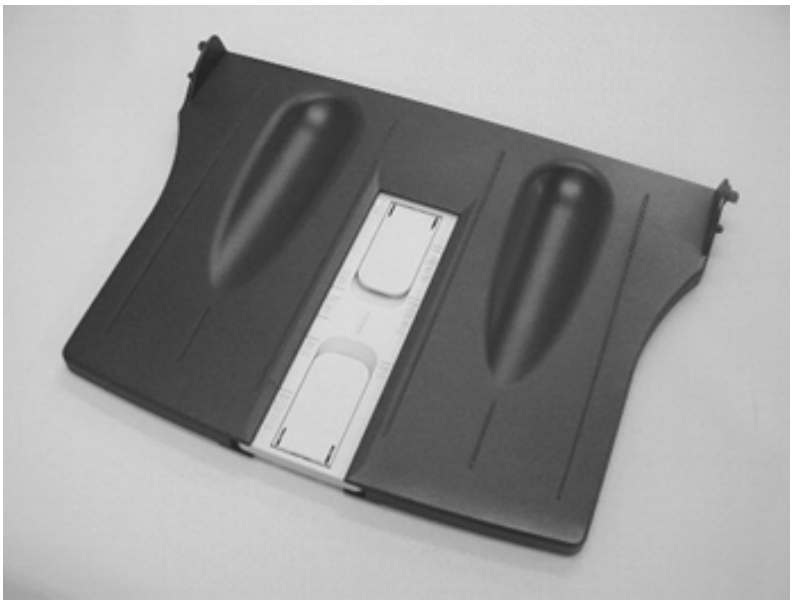
8.22 Power Supply

Description	Parts No.	Remarks
Power Supply	~~PA03338-D930~~ PA03338-D840 02	



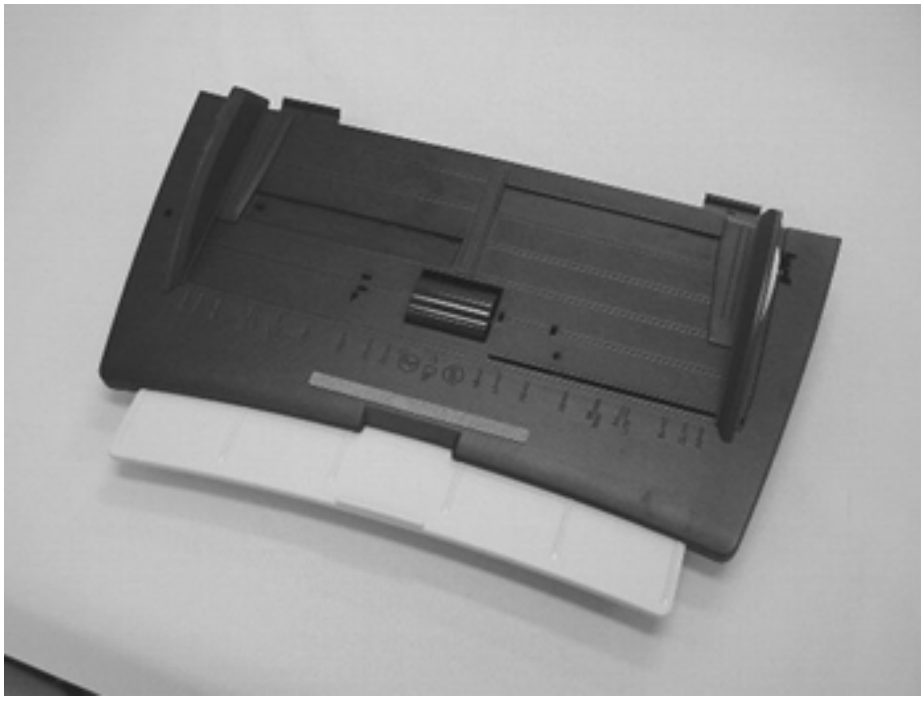
8.23 Stacker ASSY

Description	Parts No.	Remarks
Stacker ASSY	~~PA03338-D992~~ PA03338-D964 02	



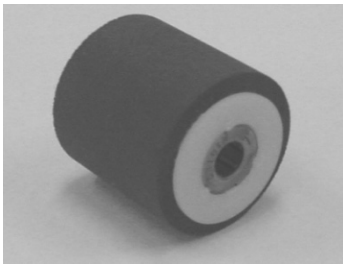
8.24 Chute ASSY

Description	Parts No.	Remarks
Chute ASSY	~~PA03338-D993~~ PA03338-D965 02	Including Chute roller



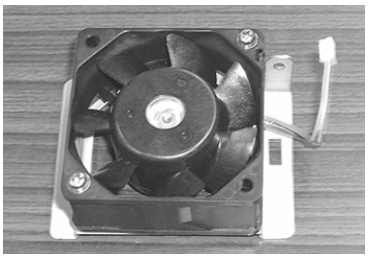
8.25 Chute Roller

Description	Parts No.	Remarks
Chute roller	PA03338-D933	



8.26 Fan ASSY

Description	Parts No.	Remarks
Fan ASSY	~~PA03338-D940~~ PA03338-D847 02	

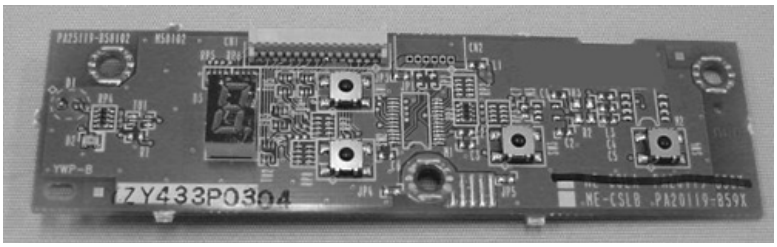


8.27 Panel Unit B

Description	Parts No.	Remarks
Panel unit B	~~PA03338-D996~~ PA03338-D866 02	Including Panel PCA B.

8.28 Panel PCA B

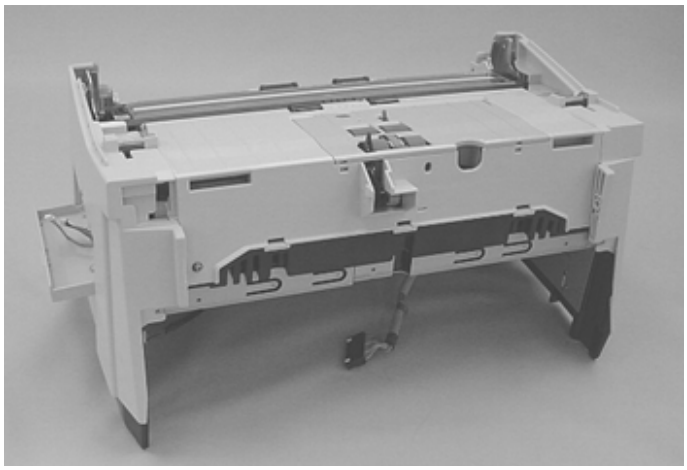
Description	Parts No.	Remarks
Panel PCA B	~~PA03338-D997~~ PA03338-D867 02	There is a sticker of "B" on this PCA to show that this is Panel PCA B.



03

8.29 ADF Base Unit

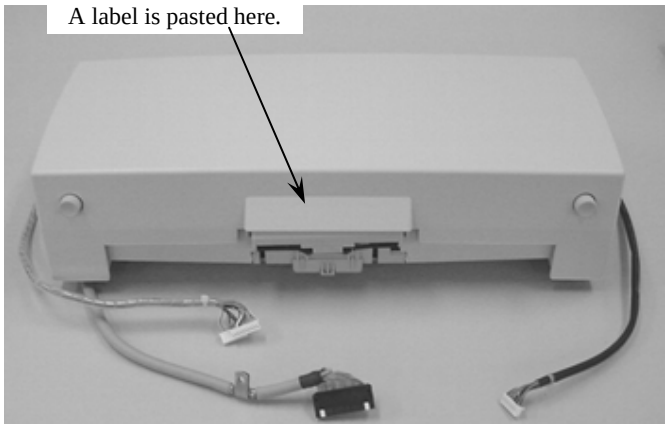
Description	Parts No.	Remarks
ADF Base unit	PA03338-D957	The following parts are included: Optical unit ADF, Background unit F, Inverter, US sensor, US PCA, Sensor (for detecting hopper empty), Pick sensor, DF sensor, Pick motor unit, HK Ring ME White level adjustment sheet and Ultrasonic sensor adjustment sheet are enclosed.



03

8.30 ADF Upper Unit

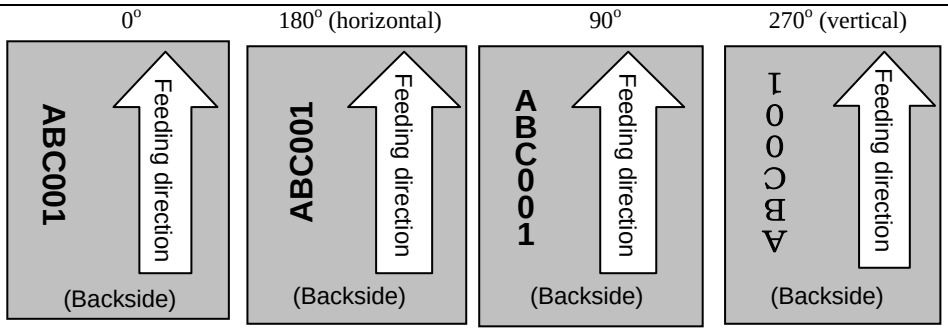
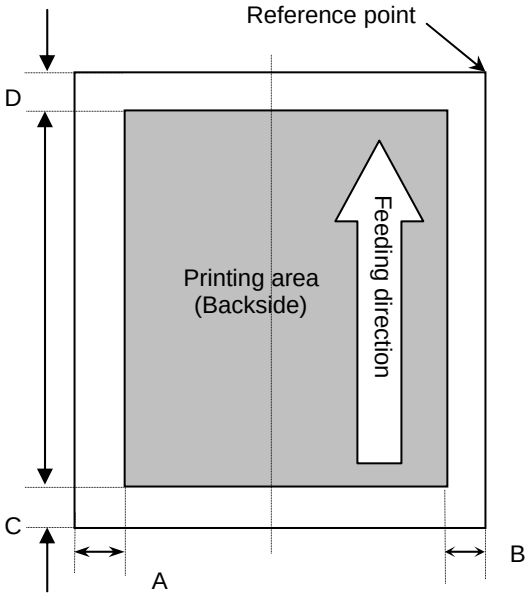
Description	Parts No.	Remarks
ADF Upper unit	PA03338-D958	The following parts are included: Optical unit ADF, Background unit B, Inverter, US sensor, Sensor (for detecting pick arm position and background position), DF sensor, Guide S ASSY, BW motor, Feed motor, Belt ADF, TOP sensor, Sensor OP White level adjustment sheet and Ultrasonic sensor adjustment sheet are enclosed.

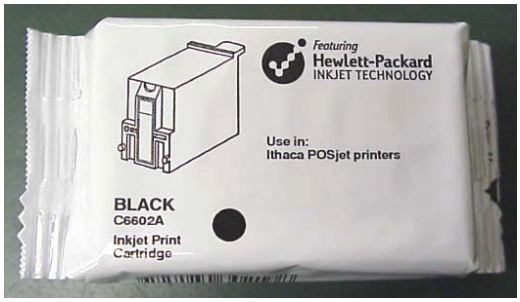


Chapter 9 Imprinter

9.1 Imprinter Specification

9.1.1 Printing Specification

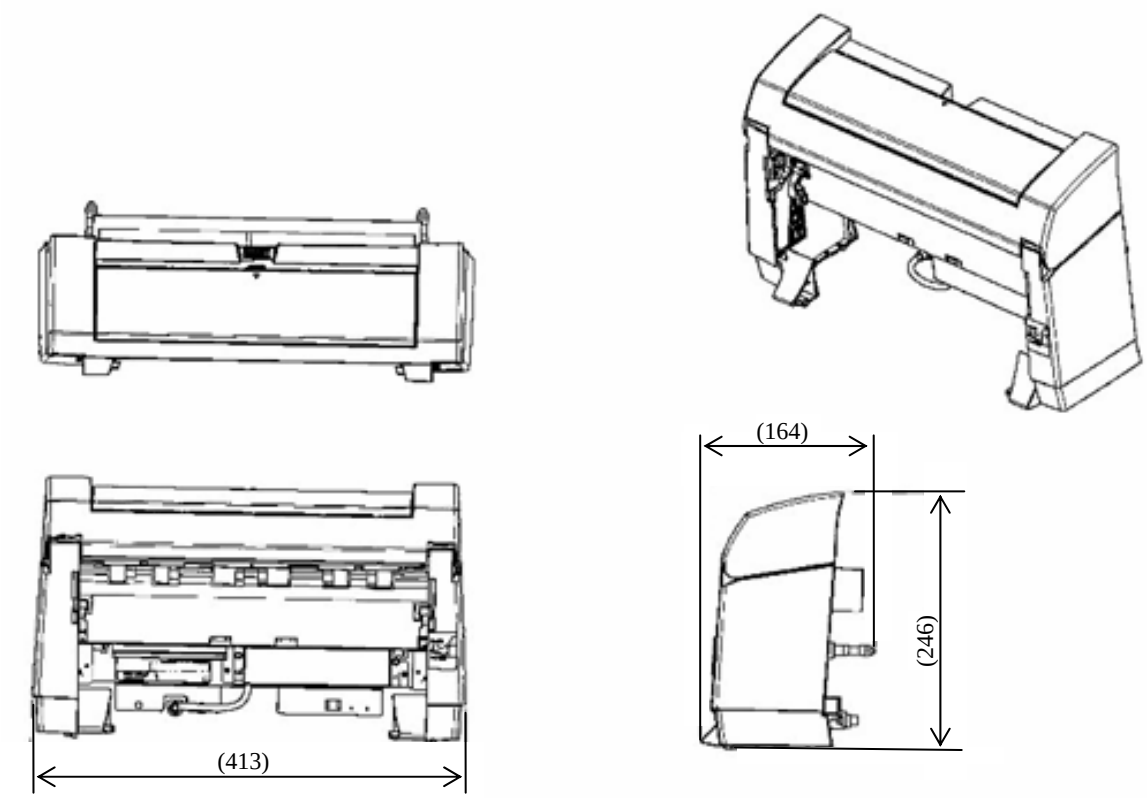
Item	Specification
Printing Method	Thermal inkjet printing
Print Timing	Post printing (printing after scanning)
Printing Characters	Alphabet : A~Z, a~z Numeric Characters : 0, 1~9 Symbols : ! ” $ # % & ’ ( ) * + , - . / : ; < = > ? @ [\ ] ^ _` {	} ~
Number of characters per line	Maximum 40 characters
Print orientation	
Character size	Height 2.91 mm x width 2.82 mm (horizontal orientation), Height 2.82 mm x width 2.91 mm (vertical orientation)
Character pitch	3.53mm
Document that can be scanned	Document supported by fi-5650C Document with glossy surface such as thermal paper, thermal transfer paper, coated paper, and art paper take longer time for the ink to dry and may cause poor print quality. The imprinter must be cleaned more frequently if you use these types of papers.
Printing area	A≧5mm B≧5mm C≧5mm D≧5mm 

Item	Specification
Consumable	Print cartridge (Supply No.:0330610) Color: Black Replacement Cycle: 4,000,000 characters (The number of characters may decrease depending on the font selection.)    Limit of use

9.1.2 Imprinter Installation Specification

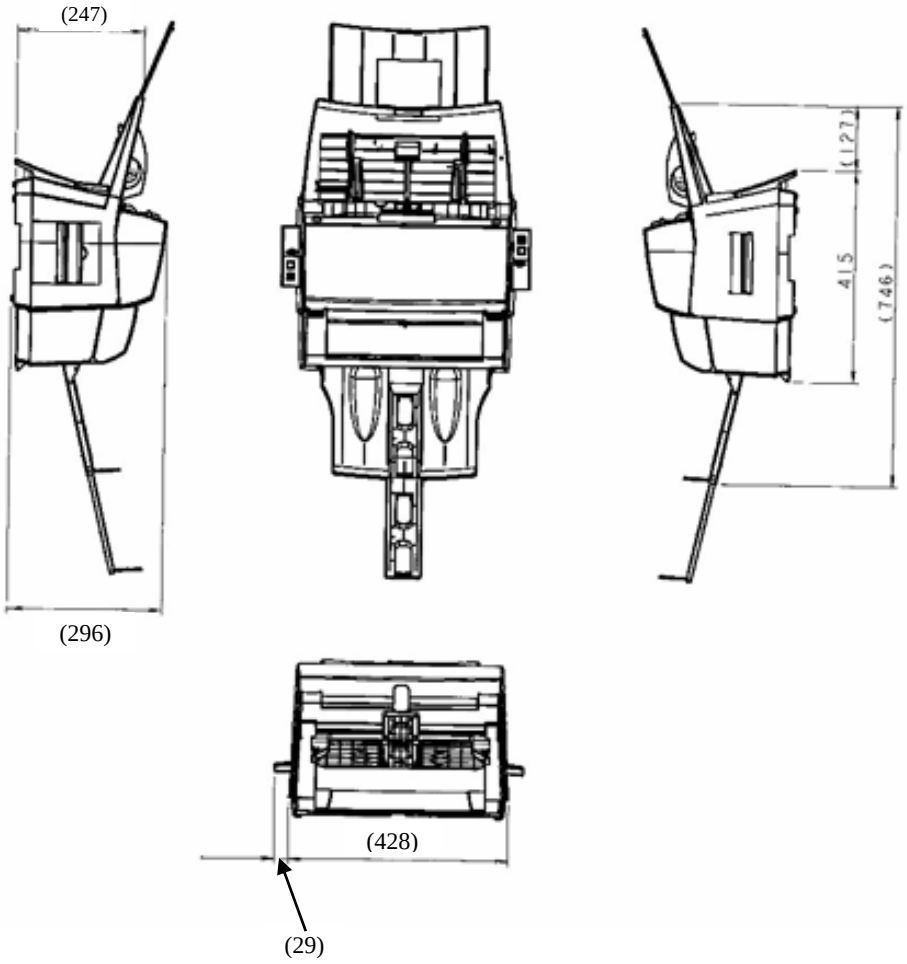
Installation Specification					
Item		Specification			Remarks
Outer dimension (mm)		Width	Depth	Height	
		413	164	246	Imprinter dimension
		746	428	296	Imprinter with scanner dimension
Weight (kg)		Less than 5.0kg			Imprinter only
Input voltage (V)		Non (supplied by scanner)			
Environment	Condition	Operating	Non operating		
	Temperature (Degree C)	10 to 35	-20 to 60		
	Humidity (%)	20 to 80	10 to 95		

<Dimension of Imprinter>



<Dimension of Scanner with Imprinter>

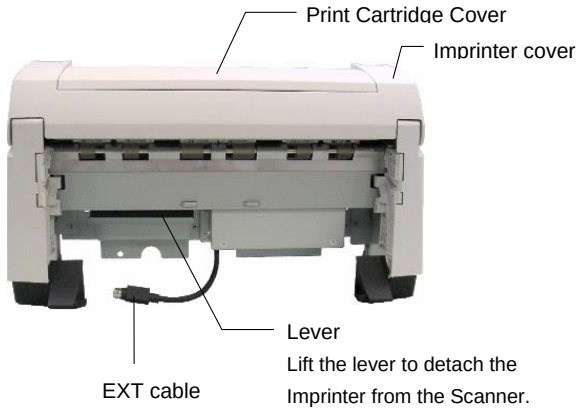
Unit: mm



09	July 14, 2009	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	TITLE	fi-5650C, fi-565PR MAINTENANCE MANUAL
08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		
07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	P1PA03338-B5XX/6 CUST.
Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED	PAGE 180/228
DESIG	Jun 29, 2004	T.Anzai	CHECK	T.Anzai	APPR. H. Hasegawa		

9.1.3 Name of parts

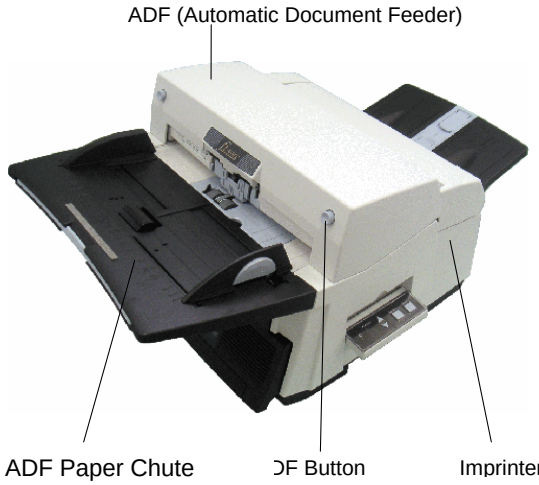
<Imprinter Unit>



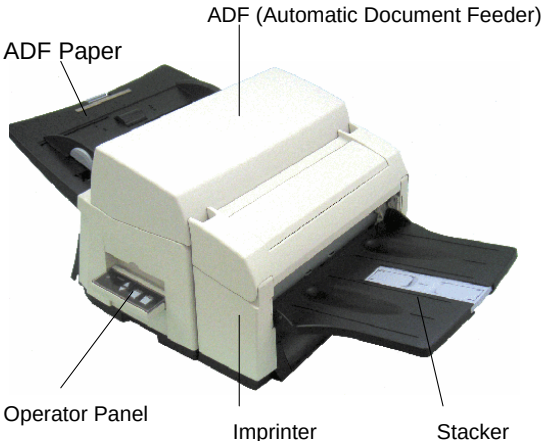
<Attachment Guide>

<Imprinter with Scanner Installed>

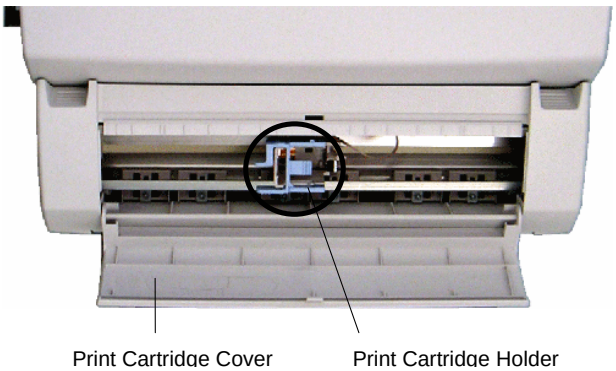
Front Side



Rear Side

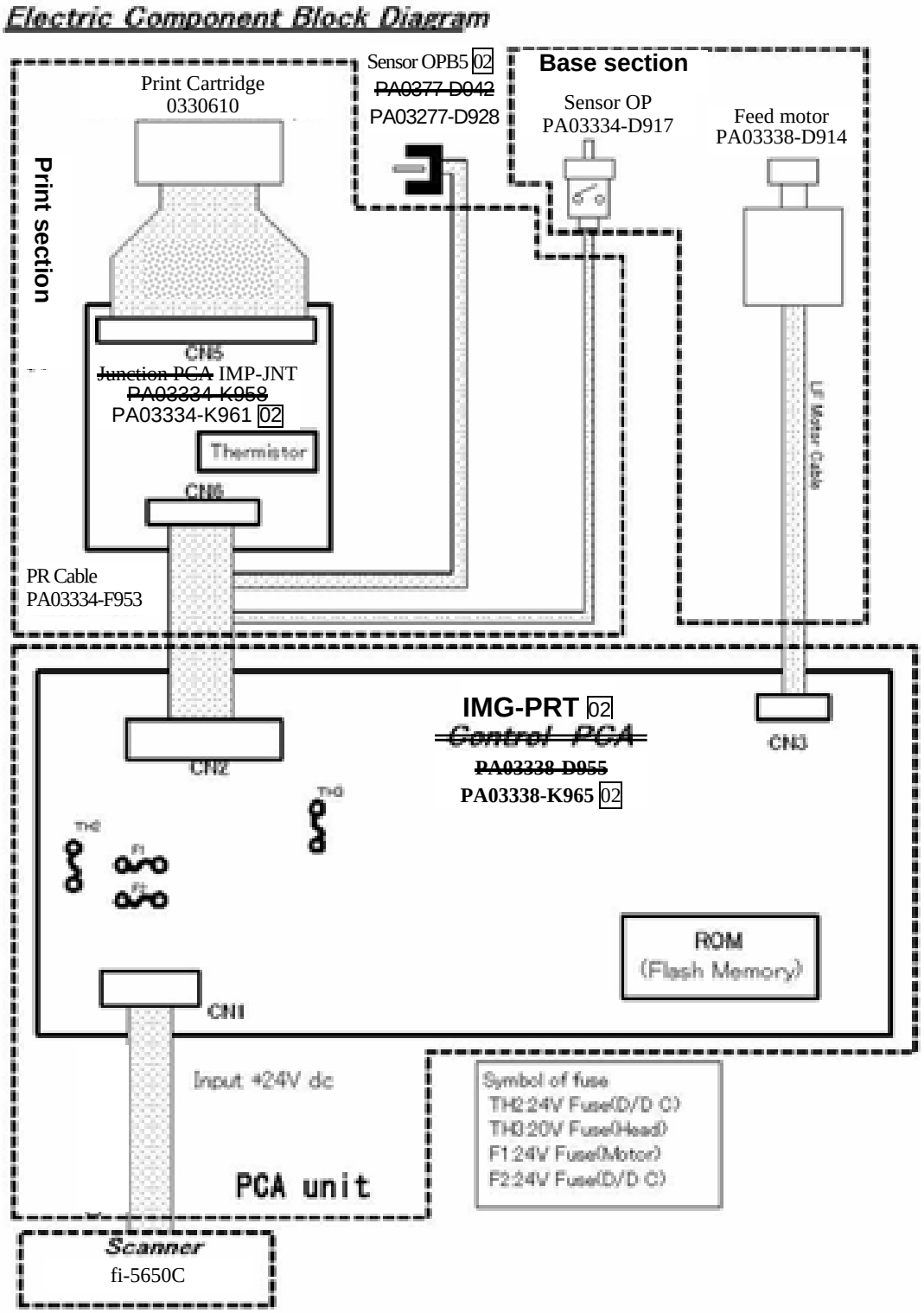


<Inside>



9.1.4 Block Diagram

Following figure shows the electric component block diagram of Imprinter.



9.2 Unpacking and Installation of Imprinter

This chapter describes the instruction unpacking, and connection of the Imprinter.

9.2.1 Unpacking

Follow the procedures below when unpacking the Imprinter. Confirm that all accessories are involved after unpacking.

(1) Cut the tape and open the box.
(2) Remove the accessories and separation board.
(3) Remove the cushions and Imprinter from the box.
(4) Take out the Imprinter from PET bag.
(5) Remove the protection tape on the Imprinter.

Table 9.2.1 shows the list of packaging configuration list and Figure 9.2.1 shows the packaging configuration..

Table 9.2.1 Package configuration list

No.	Description	Quantity	Remarks
1	Box	1	
2	Cushion L	1	
3	Cushion R	1	
4	Accessory box	1	
5	Imprinter	1	
6	Print cartridge	1	
7	Operator's Guide	1	
8	fi-565PR SETUP CD-ROM	1	

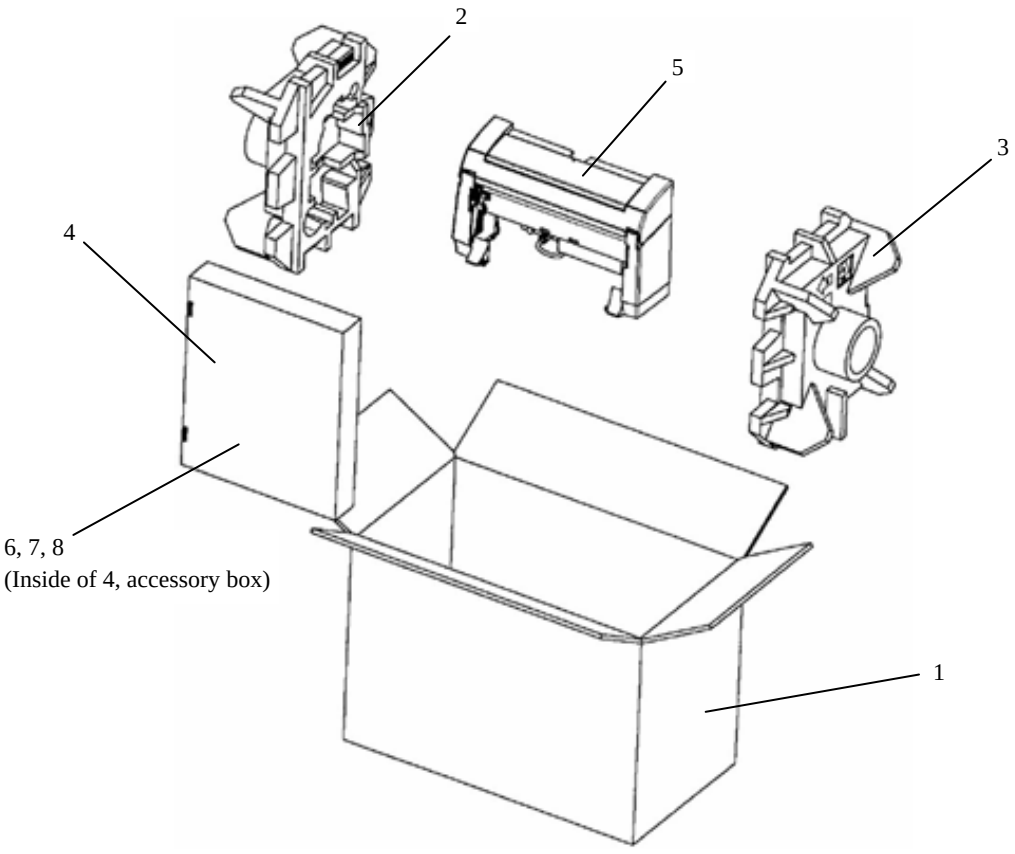


Figure 9.2.1 Packaging configuration

9.2.2 Installing / Removing the Imprinter

<Installing>

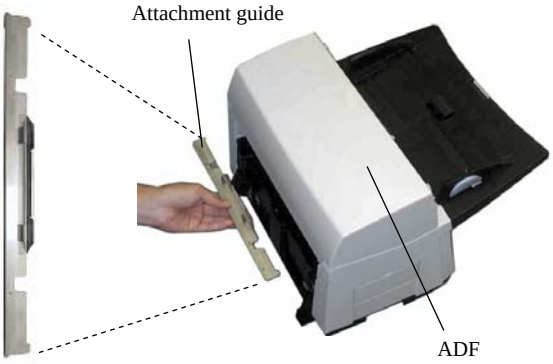
1. Switch off the Scanner and disconnect the electrical power cable.
2. Remove the Stacker from the scanner.

   Lift the Stacker about 45°. At the end of the Stacker where attached to the scanner, press down on the lower center of the Stacker to release it and gently pull the Stacker away. (photo on the right)

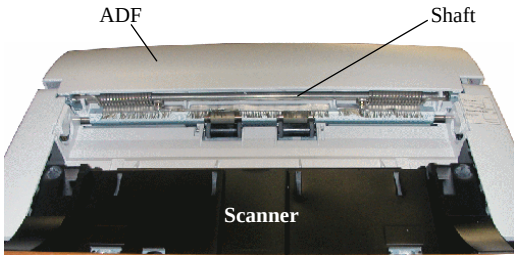
3. Remove the cover (black) located under the stacker.

You must remove the stacker and black cover before installing the Imprinter onto the Scanner.

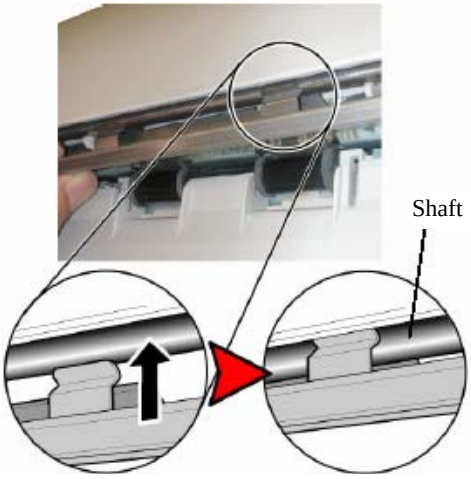
4. Install the Imprinter to the scanner.
   (1) Check the insertion direction of the attachment guide.



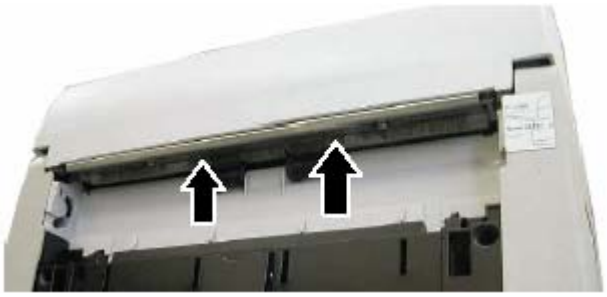
   (2) Check the Shaft from below.



   (3) Locate the Attachment Guide along the shaft.



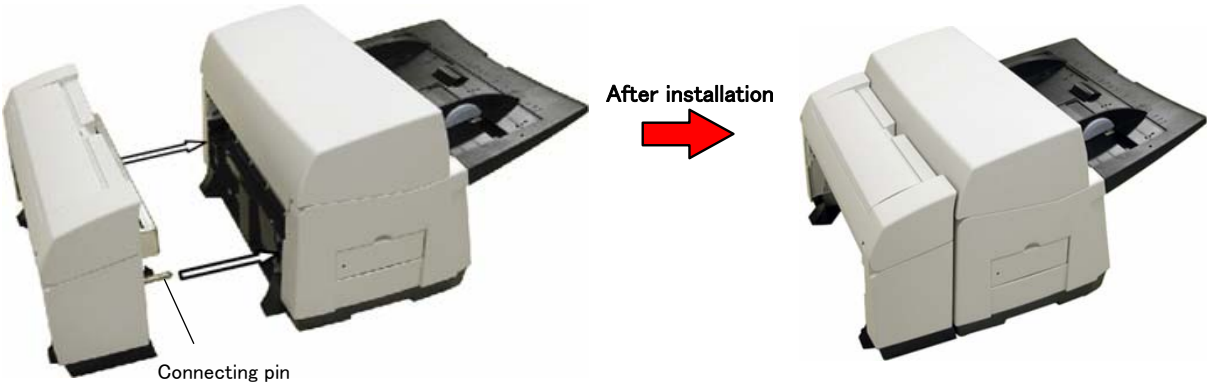
(4) Push up the attachment guide.



5. Remove the attached screw from the Imprinter's rear position.

Thumb screw

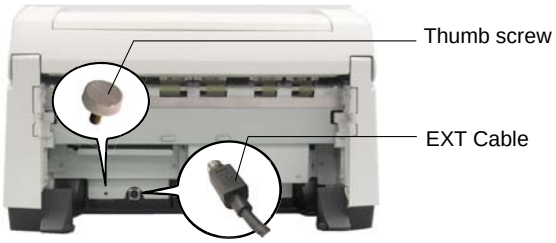
6. Install the Imprinter to the Scanner.



To install the Imprinter to the scanner, insert the connecting pins located on the Scanner's rear component into the scanner's round holes.

- Do not hold the imprinter cover when carrying or transferring it from one place to another.
- Attach the imprinter firmly on to the scanner.
- Be careful not to pinch your fingers.

7. Attach the Thumb screw to fix the Imprinter. (1 position)



8. Connect the EXT cable to the Scanner's rear connector.

The Imprinter will not work if the EXT cable is not connected to the Scanner. Scanning when the EXT cable is not connected can cause documents to jam inside the Imprinter.

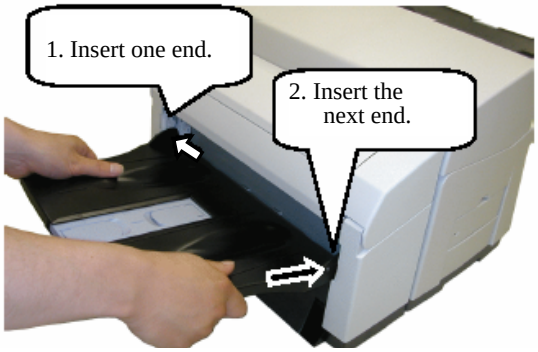
9.Replace the black cover (removed in procedure 3) to the Imprinter.

(1) Place the hollows at the cover's bottom into the projecting side-points inside of the Imprinter.

(2) Close the cover until it snaps in place.

10. Replace the Stacker (removed in step (2) into the Imprinter.

11. Connect the power cable to the scanner.



<Removing>
Follow the above procedure in reverse.

How to remove the Attachment guide

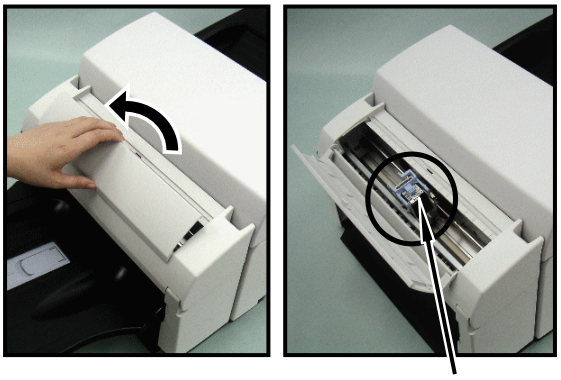
Pressing your fingers on the Attachment Guide, slide it down and out to remove.

9.2.3 Mounting the Print Cartridge

Mount the print cartridge as follows:

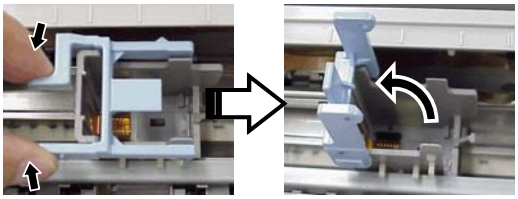
1. Confirm that the scanner is turned off.

2. To open the print cartridge cover, grasp and pull open the center of the cover lifting it towards you, as shown to the right.



3. Remove the tape seal that is affixed to the print cartridge holder.

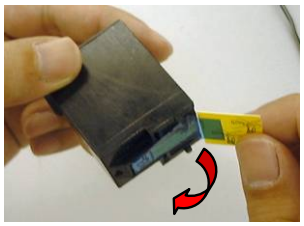
4. Pinch the handles of the locking mechanism to release it, and lift to open.



5. Remove the new print cartridge from its pouch.

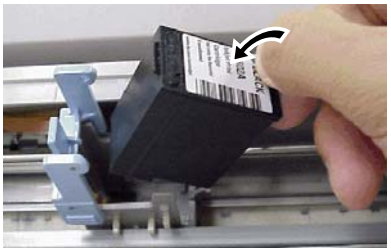
6. Remove the protective tape from the new Print Cartridge.

Do not touch the metal part of the cartridge nor put the tape back again.

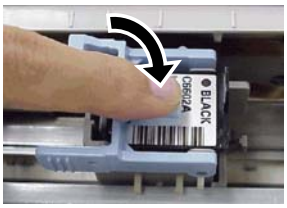


7. Insert the Print Cartridge into the holder as shown to the right.

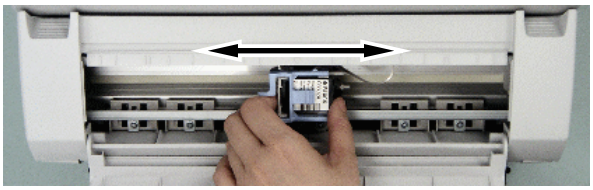
Be careful not to let the Print Cartridge touch or catch the print circuit film.



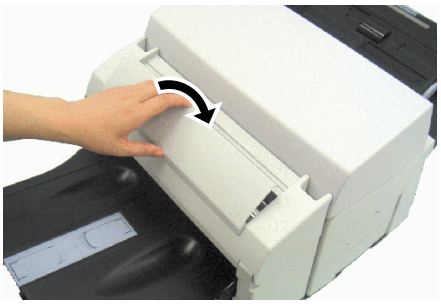
8. Lower the cartridge lock until it locks the cartridge in place.



9. Position the Print Cartridge Holder in the desired location of print.



10. Close the Print Cartridge Cover.

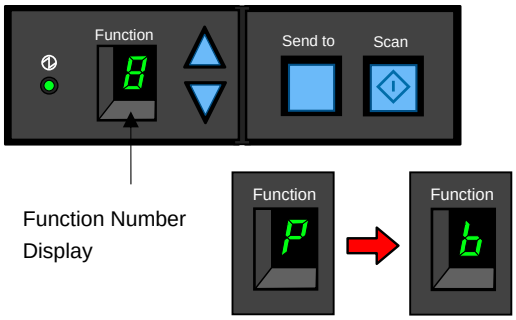


9.2.4 Operating Test

After installing the imprinter, test to see if printing can be performed on the Offline Print Test mode.

1. Switch OFF the scanner
2. Confirm that ADF Cover and Imprinter Cover are closed.
3. While pressing [Function](△ or ▽) button on the operator panel, switch on the scanner.
4. Continue pressing on the [Function] button until the Function No. Display changes from [P] to [b] as shown on the right.

   Note: If you switch ON the scanner while pressing both [Function] (△ and ▽) buttons, the Function No. Display may not show "b" properly. In this case, switch OFF the scanner and perform the operation described above.



5. Release the [Function] button.
6. Place a blank document on the ADF paper chute.

- Use A4 or Letter size paper. If the size is smaller than A4 or Letter, printing may not successfully complete.
- Confirm that the Print Cartridge is positioned within the document width.

7. Press the [Scan] button to test.
   ➔The paper will feed into the ADF and the Imprinter will print out the Print Test characters starting at 5mm from the paper's edge.

There are following print test patters:

Test pattern 1 (Horizontal):

ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`00000000

Test pattern 2 (Horizontal):

abcdefghijklmnopqrstuvwxyz{|}~ 00000000

Test pattern 3 (Horizontal):

!" #$%&()*+,-./0123456789:;<=>?@00000000

Test pattern 4 (Vertical):

ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`00000000

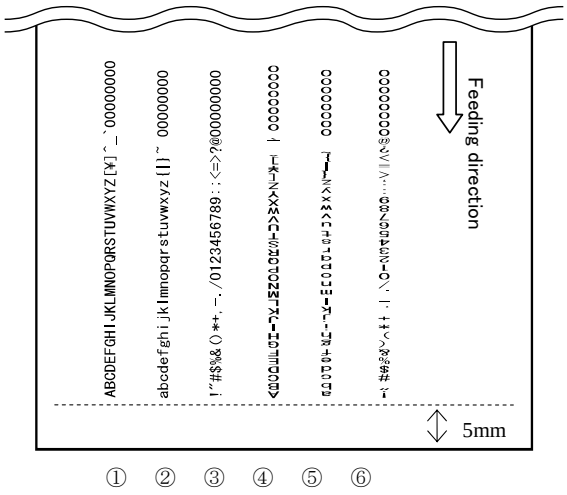
Test pattern 5 (Vertical):

abcdefghijklmnopqrstuvwxyz{|}~ 00000000

Test pattern 6 (Vertical):

!"#$%&()*+,-./0123456789:;<=>?@00000000

When multiple sheets of documents are placed in the ADF, the Test print repeats patterns from 1 through 6.
The numbering data portion "00000000" changes from 0 (Zero) with increment of 1(one).



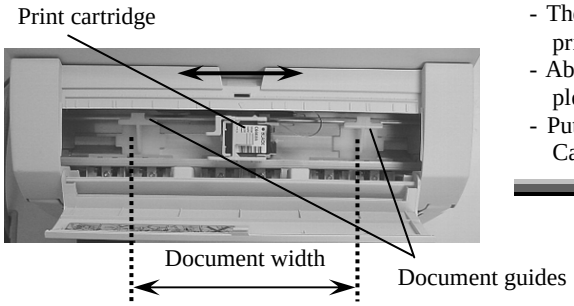
Print test sample

8. To stop Offline Print test mode, turn off the scanner.

9.3 Imprinter Basic Operation

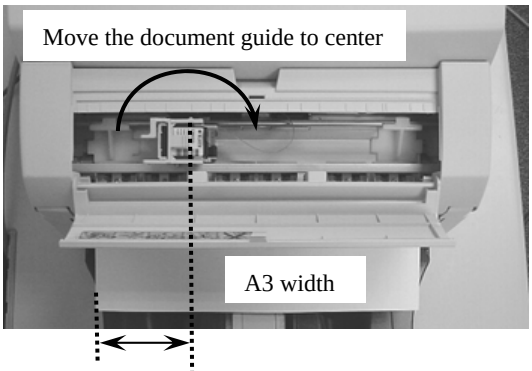
9.3.1 Positioning the Print Cartridge and Document Guides

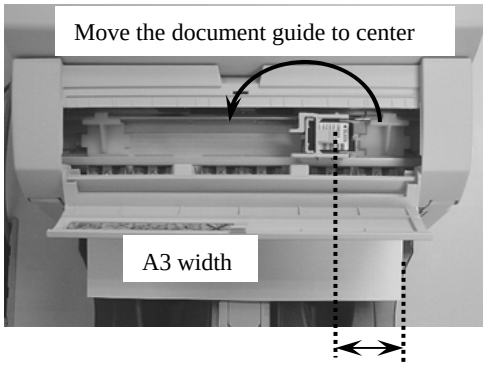
1. Open the Print Cartridge Cover.
2. Slide the print cartridge holder, as shown below, to the left or right within the document width to place it in the desired print position.



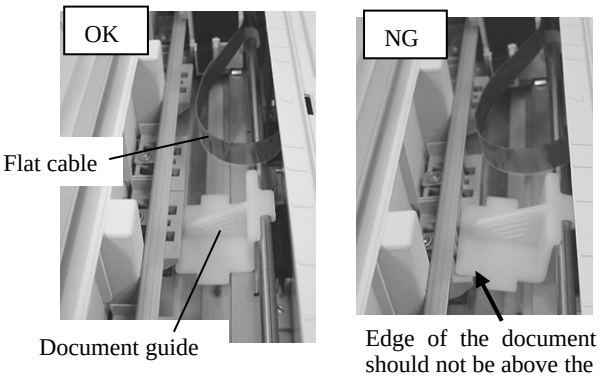
- The small "▲" protruding from the upper right hand side of the print cartridge tray handle indicates the print position on the page.
- Above the print cartridge tray are document paper size markings; please use them to adjust for printing positions.
- Put the actual document on the ADF and confirm that the Print Cartridge is positioned within the document's width.

In case of printing within 40mm from the edge of the A3 width, move the plastic document guides outside of the print cartridge to center in the method in Note 1.





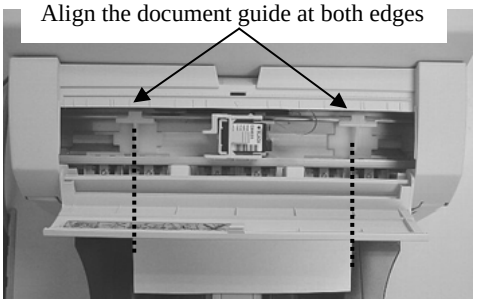
Note 1: When installing the document guides, make sure that the edge of the document guides comes under the guide.on the scanner. (See below)



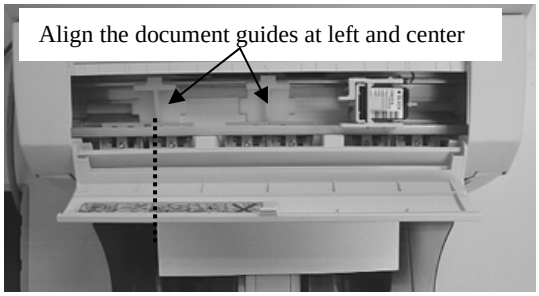
Note 1: When removing the document guides, be careful not to damage the flat cable in the Imprinter. (See above)

3. Align the document guides with right and left edges of a document. In case the print cartridge is located within the document width, it is not necessary to align the document guides with the document width.

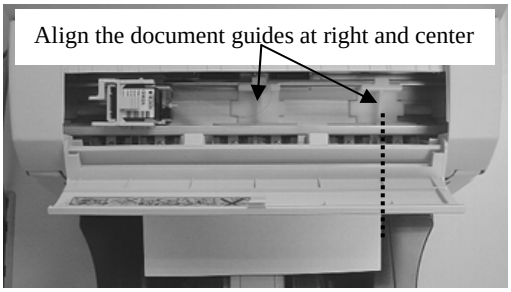
Printing around the center of the document



Printing at right edge of the document



Printing at left edge of the document

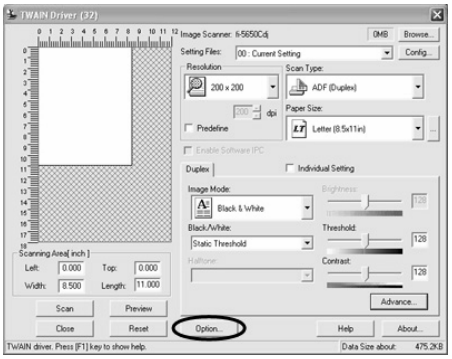


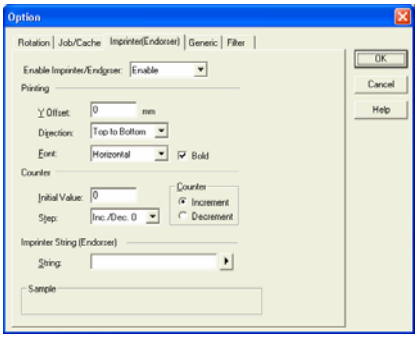
9.3.2 Print Setup

You can configure settings of the imprinter by using the scanner driver dialog box.

FUJITSU TWAIN driver (Example)

Click the [Option] button. (screen on the right)
In the [Option] dialog box (screen below), choose the [Imprinter (Endorser)] tab and specify the Imprinter settings.





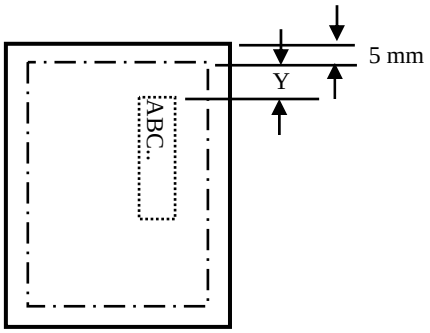
Following items are specifiable in this window.

- Enable Imprinter (Endorser)

Specifies enabling or disabling the imprinter function of the device.
Disable : Imprinting is not performed.
Enable : Prints on documents using the imprinter using the following settings.
In this case, it prints on the backside of documents after scanning. Therefore, the printing is not included in the scanned image.

- Y Offset (Printing)

Specifies Y Offset from the edge of the original for the placement of printing. See "Relevant Image Scanner Specification" in the Appendix because the standard value specified here depends on the device.

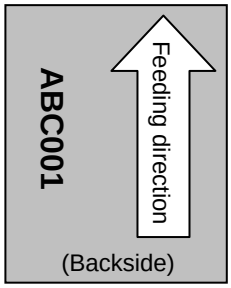
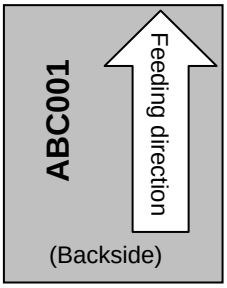
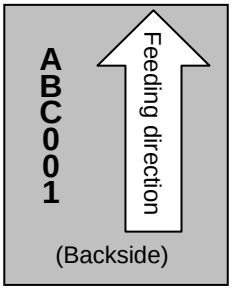
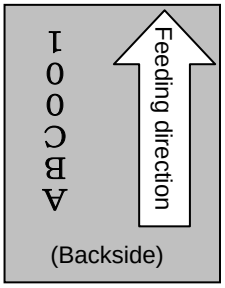


- Direction (Printing)

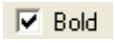
Specifies the printing direction of endorsement strings.

- Font (Printing)

Specifies the printing orientation of characters.

		Direction:	
		Top to Bottom	Bottom to Top
Font:	Vertical		
	Horizontal		

- Bold



The imprinter string is printed using a bold font.

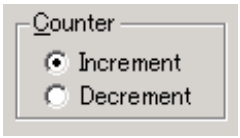
- Initial Value (Counter)

Designates the initial count when the Imprinter String is set, including a counter value.

- Counter Step (Counter)

Configures whether the count increments or decrements. In other words, this value is added to or subtracted from the counter each time an original is scanned. An increment of 0, 1, or 2 may be specified. Usually, 1 is designated for a single-sided original.

- Counter (Counter)



Designates whether to increase or decrease the specified step value.

- Imprinter String (Endorser)

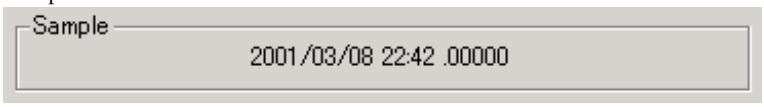
Specifies the imprinter string.
The following characters can be output by the Imprinter.

Alphabet Letters	: A-Z, a-z
Numeric Characters	: 0, 1-9
Symbols	: !"#$%&'()*+,-./:;<=>?@[¥]^_`{|}~
Other	: (Space)

(*The space is ignored when it is entered at the head of [String:].)
The following definitions can be used. They may also be selected from the menu, which is displayed by clicking on "▶".

%YYYY: The year is printed in four digits using the Western calendar.
%YYY: The year is printed using the two digits of the Japanese calendar (current, or Heisei era).
%YY: The year is printed in the last two digits of the Western calendar.
%MMM: An English abbreviation of the month is printed; for example, JAN for January and FEB for February.
%MM: The month is printed in two digits; for example, 01 for January and 12 for December.
%M: The month is printed using one or two digits; for example, 1 for January and 12 for December.
%DD: The day is printed using two digits; for example, 03 for the 3rd day of the month and 26 for the 26th day of the month.
%D: The day is printed using one or two digits; for example, 3 for the 3rd day of the month and 26 for the 26th day of the month.
%HH: The hour is printed using two digits of the 24-hour clock; for example, 08 for 8:00 a.m. and 14 for 2:00 p.m.
%H: The hour is printed using one or two digits of the 24-hour clock; for example, 8 for 8:00 a.m. and 14 for 2:00 p.m.
%NN: The minute is printed using two digits; for example, 02 for 8:02 a.m. and 48 for 2:48 p.m.
%N: The minute is printed using one or two digits; for example, 2 for 8:02 a.m. and 48 for 2:48 p.m.
%Nud: A counter value is printed by N digits which increases or decreases with each page.
Programmable digits of the counter is 5 and 8 and described as "%05ud" and "%08ud" respectively. (See the "Relevant Image Scanner Specification" described in the Appendix since the programmable digits depend on the device.)
The initial counter and the methods of increasing and decreasing values can be specified as explained above under the heading "Counter."
This specification is only permitted at the end of an Imprinter String (Endorser).

- Sample



Displays printed examples of the Imprinter String (Endorser) designated above.

Note.

The printed counter, date, and time do not always look like the sample because the scanning option takes precedence.

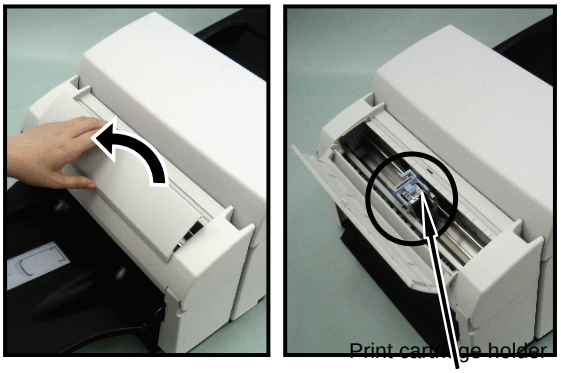
9.3.3 Replacing the Print Cartridge

- When the message to the right is displayed on the computer screen, replace the Print Cartridge as soon as possible.
  If you continue to print without replacing the cartridge, your print output will continue to appear lighter and lighter.

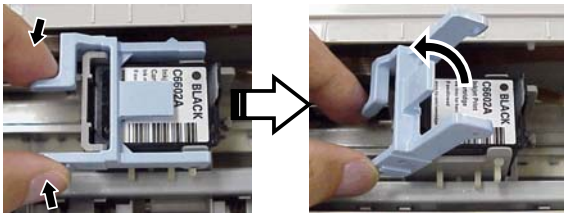
Replace the Print Cartridge as follows:

1. Turn off the scanner.

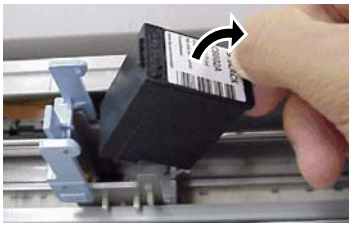
2. Open the cover by grasping the center of the Print Cartridge Cover and pull it open while lifting the cover towards you, as exhibited on the right.



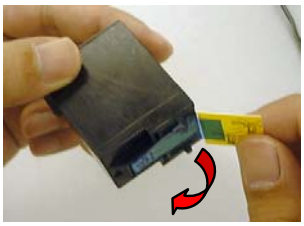
3. Pinch the handles of the locking mechanism to release it, and lift to open..



4. Remove the old Print Cartridge from the Print Cartridge Holder. (photo on the right)

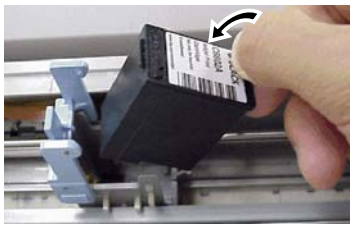


6. Take out the new Print Cartridge from its pouch and remove the protective tape from the Print Cartridge.

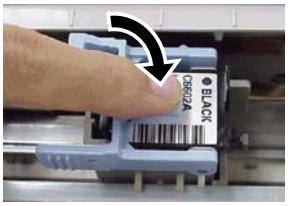


Do not touch the metal part of the cartridge nor put the tape back again.

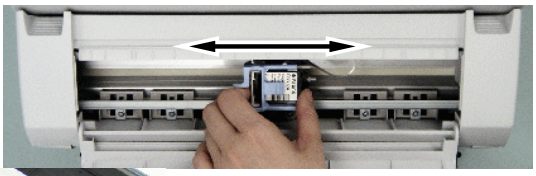
6. Insert the print cartridge into the holder as shown to the right.



7. Lower the cartridge lock until it locks the cartridge in place.



8. Position the Print Cartridge Holder in the desired location of print.



Printing too close to a document's edge can leave little or no room for further printing, be sure to position the print cartridge to have enough space.

9. Close the Print Cartridge Cover.

10. Turn on the scanner.

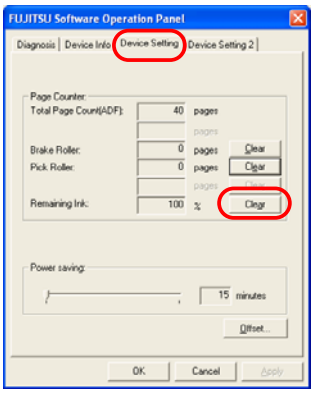
11. Reset the Remaining Ink Counter.

You must clear the Remaining Ink Counter whenever you replace the print cartridge.

For Windows 98, Windows Me, Windows 2000, Windows XP

(1) On the [Start] menu, select [Programs] –[Scanner Utility for Microsoft Windows]- [Software Operation Panel].

(2) Select the [Device Setting] tab.



(3) Click the [Clear] button at the [Remaining Ink] tab.

➔The Remaining Ink Counter will reset to 100%.

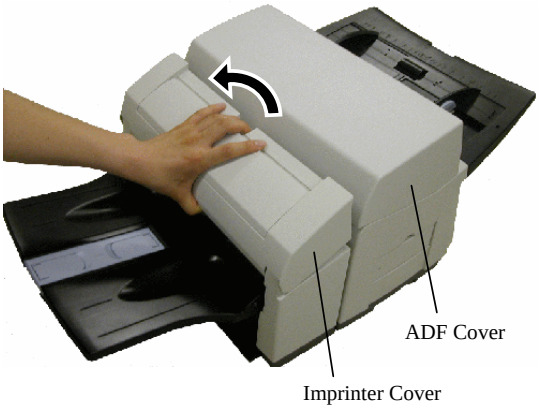
9.3.4 Removing Jammed Documents

Remove jammed documents sheets as follows:

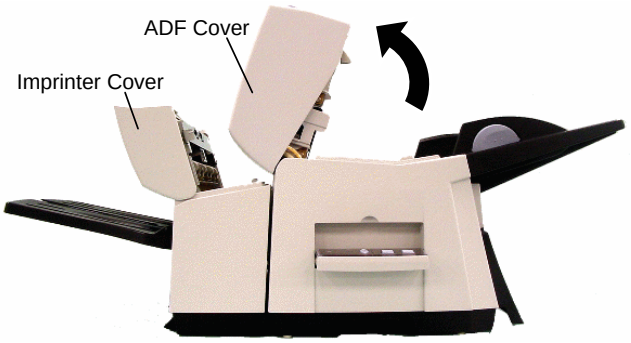
Do not forcibly pull out the documents pages.

1. Remove the documents from the ADF Paper chute.

2. Grab the center of Imprinter cover, and lift to open the cover.

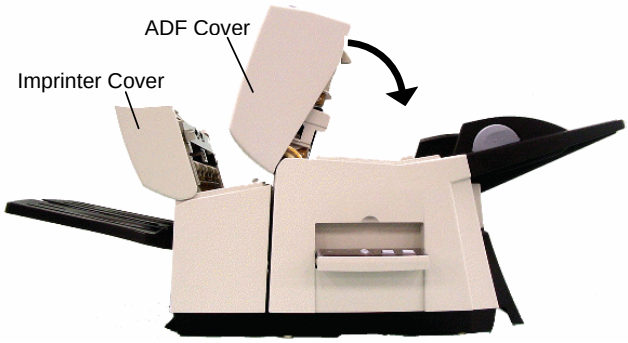


3. Pull open the ADF cover as shown below.



4. Remove the jammed documents.

5. Close the ADF cover.



6. Press the center of Imprinter Cover and close it.

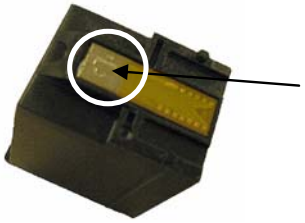
- Do not move the imprinter and scanner while printing. Printing may distort.
- When you are not going to use the imprinter for a long time, please remove the print cartridge from the imprinter and store it.
- Ink is consumed every time at the initial start-up of the imprinter though no printing is performed.
- Do not move the imprinter with the print cartridge installed. The imprinter may become damaged.

9.4 Daily Care

9.4.1 Cleaning the Print Cartridge

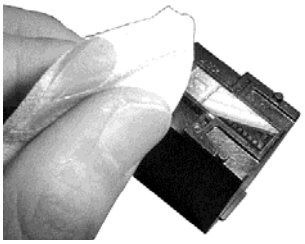
Poor quality prints can occur due to blocked ink emission holes in the nozzle. Leaving the imprinter unused for long periods can also cause emission holes to become blocked. When the emission holes are blocked, clean the nozzle surface of the print cartridge.

For cleaning, use a dry lint-free cloth (DO NOT use tissue), and gently wipe any dirt and stains off the nozzle's surface.



1. Turn off the Scanner.
2. Remove the Print Cartridge. (Refer to Section 9.3.3)

When cleaning, be careful not to touch the Nozzle plate or the contact parts of the cartridge directly by hand.



3. Gently wipe any dirt and stains off the nozzle surface.
4. Make sure that all dirt and stains are removed before reinstalling the print cartridge. (Refer to Section 9.3.3)

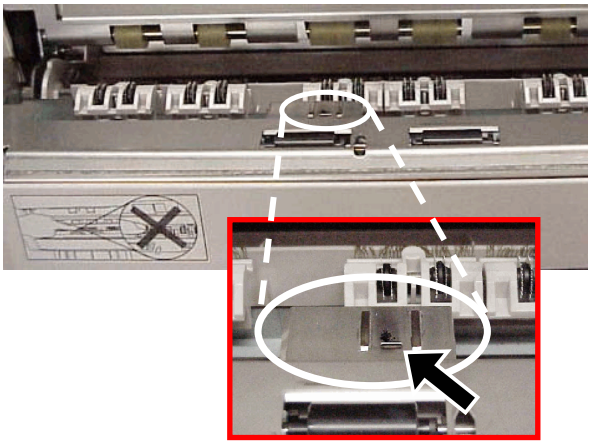
When installing or replacing the print cartridge, be careful not to insert it out of place.

9.4.2 Cleaning the Imprinter

After frequent use, ink will begin to accumulate or stick to the base of the imprinter, which can soil printouts. Always keep the imprinter base clean.

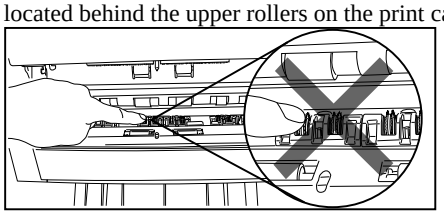
To assure high quality print outs and long use of the imprinter, adopt a daily maintenance procedure as given below.

- When cleaning, gently wipe the imprinter base with an absorbent item that can remove the ink.
- If the ink is dried, gently wipe it with a moistened cloth. (Since the ink is water soluble, it can be cleaned with water.)



1. Turn off the Scanner.
2. Open the Print Cartridge Cover and remove the print cartridge. (Refer to Section 9.3.3)
3. Open the Imprinter Cover.
4. Clean the print cartridge holder base by wiping off any dirt and dust with a lint-free cloth.

When cleaning, be careful not to touch the metal wheels located behind the upper rollers on the print cartridge cover.



5. Check that the dirt is wiped off, and then close the Imprinter Cover.
6. Reinstall the Print Cartridge and close the print cartridge cover. (Refer to Section 9.3.3)

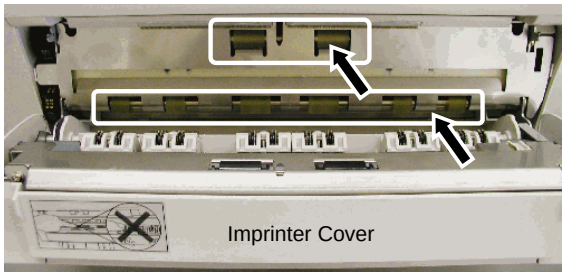
9.4.3 Cleaning the Rollers

When ink or dust from paper is stuck on the imprinter feed roller surfaces, documents may not feed smoothly. To prevent feed problems, clean the rollers' surfaces regularly.

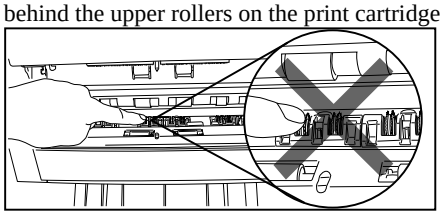
Recommended cleaning cycle is every 5,000 sheets. Actual cleaning cycle may be shorter depending on usage and documents.

1. Open the imprinter cover.

2. With a lint-free cloth, gently wipe off the dirt or dust from the roller surfaces.
   To clean the lower rubber rollers (total eight), rotate the rollers by holding down the [Scan] button and [Send to] button on the front panel of the scanner.

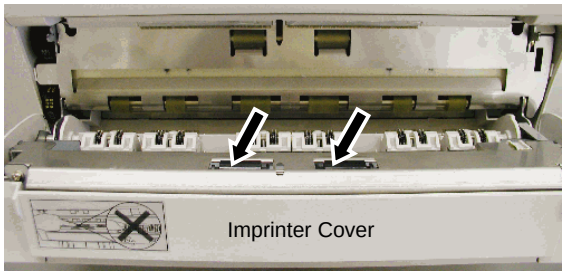


When cleaning, be careful not to touch the metal wheels located behind the upper rollers on the print cartridge holder cover.



3. Clean the Plastic Rollers.
   Clean the two black plastic rollers on the inner side of the Imprinter cover.
   Rotate the rollers with your fingers gently and wipe off any dirt or dust from the roller surface with a lint-free cloth.

4. Confirm that all dirt and dust have been removed from the rollers. Close the Imprinter cover.



9.5 Imprinter Maintenance

This chapter explains the precautions before maintenance, removing and attaching covers, and replacing the maintenance parts.

9.5.1 Precaution before maintenance

⚠ Caution **Be careful not to pinch your fingers, or hook your hair or accessory by the mechanism of the unit.**

Precaution before maintenance:
- Thoroughly clean unit before working.
- Follow disassembly and assembly instructions carefully.
- Store the disassembled parts so as not to loose them.
- Check the condition and parts count after replacement.
- Assemble the unit in reverse order of disassembly.

Periodic inspection of Imprinter shall be performed with the same timing of the scanner inspection

9.5.2 Maintenance tools

Table below lists tools for maintenance of the Imprinter.

No.	Tools	Remarks
1	Philips screw driver	No.3 for M3 and M4 screws
2	Small flat-blade screwdriver	For removing E-ring, switch
3	Pliers	For removing clamp, assembling E-ring
4	Alcohol	Ethyl alcohol for cleaning
5	Spring gauge	1kg or 500g for adjusting belt tension

9.5.3 Parts replacements in printing section

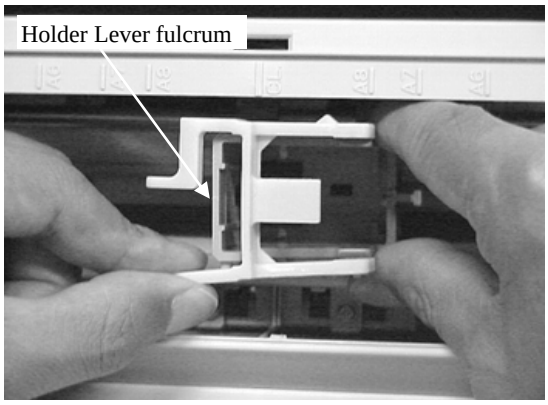
9.5.3.1 Replacing IM-Holder Lever

NOTICE

Refer to Section 9.6.5 for the part number of the replacement part.

<Removing>
(1) Open the Print cartridge cover.
(2) Widen the fulcrum of the IM-holder lever which holds the print cartridge and remove the IM-holder lever.

<Installing>
Follow the above procedure in reverse.

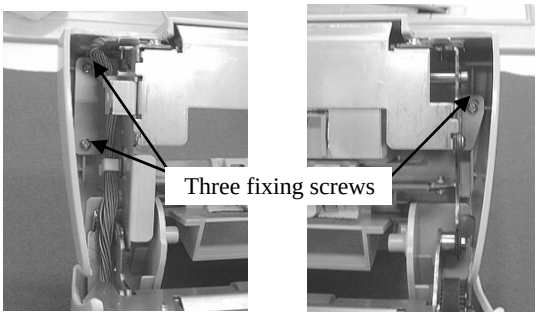


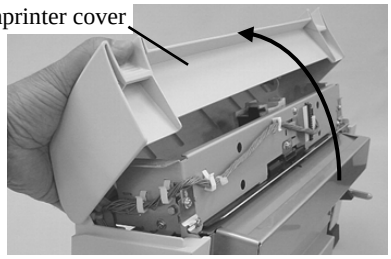
9.5.3.2 Replacing Pinch ASSY

NOTICE

Refer to Section 9.6.3 for the part number of the replacement part.

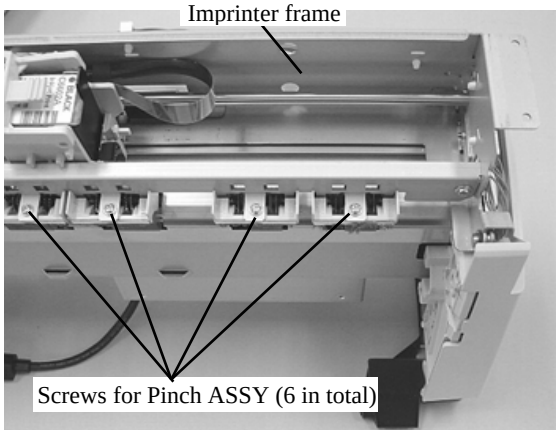
<Removing>
(1) Remove the Imprinter from the scanner by referring Section 9.2.2.
(2) Remove the Imprinter cover as follows.
- Open the Imprinter.
- Remove 3 screws from inside of the cover. (photo on the right)
- Close the Imprinter and remove the Imprinter cover while opening it. (photo below)

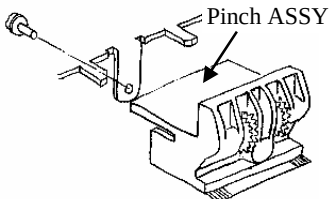




(3) Remove the screws (6 in total) that fix each Pinch ASSY, and remove the Pinch ASSY(s) by opening the imprinter frame.

<Installing>
Follow the above procedure in reverse.





9.5.3.3 Replacing Junction PCA

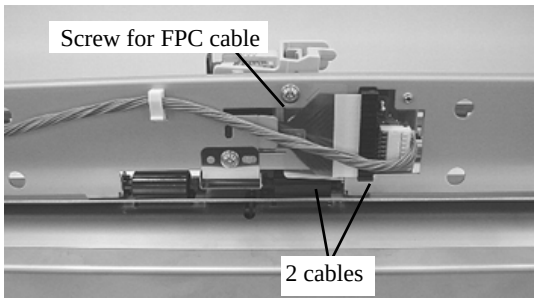
NOTICE

Refer to Section 9.6.11 for the part number of the replacement part.

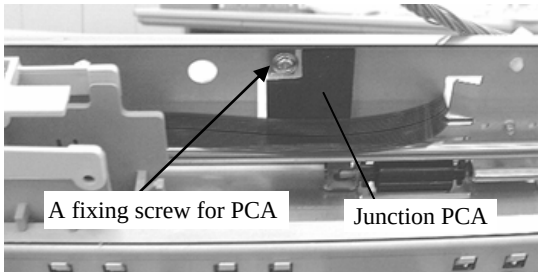
<Removing>
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

(2) Remove the Imprinter cover by referring to the procedure (2) in Section 9.5.3.2.

(3) Remove a screw for the FPC cable, then 2 cables from the Junction PCA. (photo on the right)



(4) Remove a screw from the Junction PCA, and remove the Junction PCA. (photo below)



<Installing>
Follow the above procedure in reverse.

9.5.3.4 Replacing Holder ASSY and FPC Cable

NOTICE

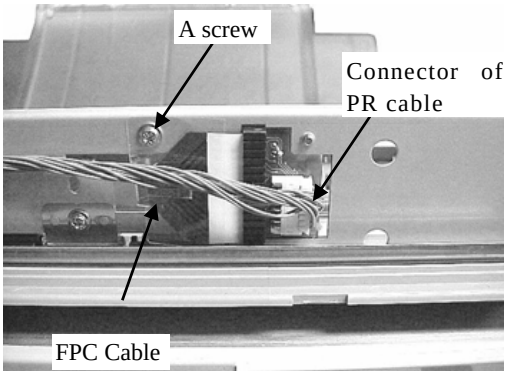
Refer to Section 9.6.2 for the part number of the replacement part.

<Removing>

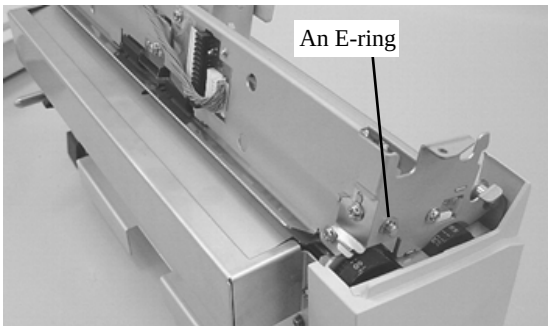
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

(2) Remove the Imprinter cover by referring to the procedure (2) in Section 9.5.3.2.

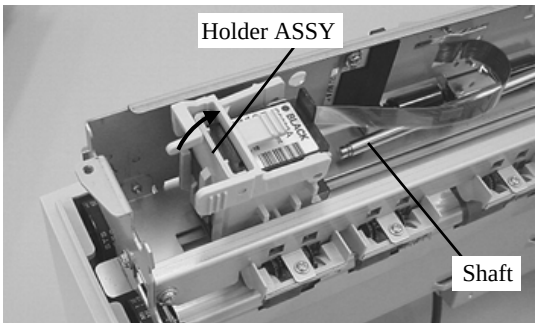
(3) Remove a screw shown in the photo on the right. And remove FPC cable from the connector. If it is difficult to remove FPC cable, remove the connector of the PR cable first.
Pull out the FPC cable through the frame hole to the Holder ASSY side.



(4) Remove an E-ring (photo below) at one side of the frame.



(5) Slide the Holder ASSY to an end of the imprinter as shown in the photo on the right. Slide the shaft and remove it from the Holder ASSY. Tilt the Holder ASSY and remove it from the frame (photo on the right) so that the FPC cable is not damaged by the edge of metal frame.



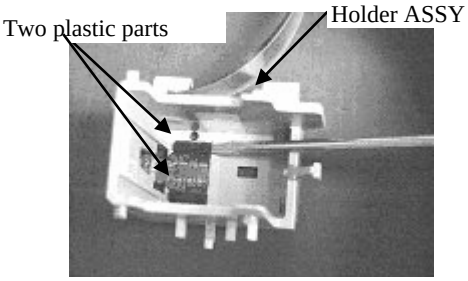
<Installing>

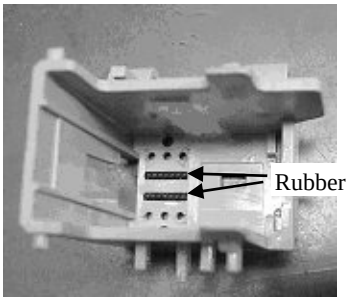
Follow the above procedure in reverse by taking care of the following points.

<When removing FPC cable, please proceed to the following procedures.

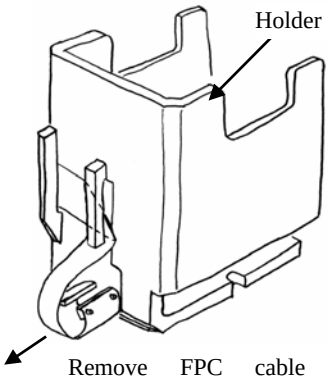
(6) Remove two plastic parts from Holder by small flat screwdriver.

Note: Be careful not to lose rubber cushions on the bottom of the Holder

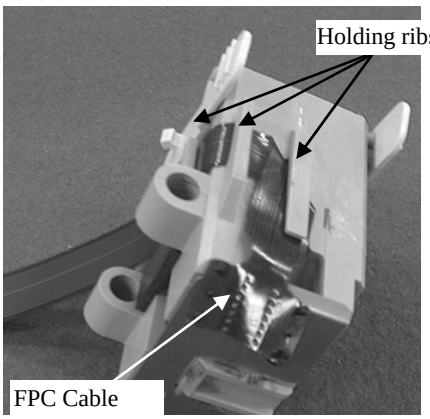




(7) Remove one end of the FPC cable from the Holder as shown in the right figure.



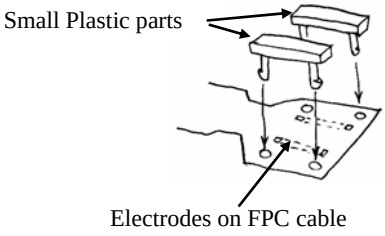
(8) Remove FPC cable form all cable holding ribs.

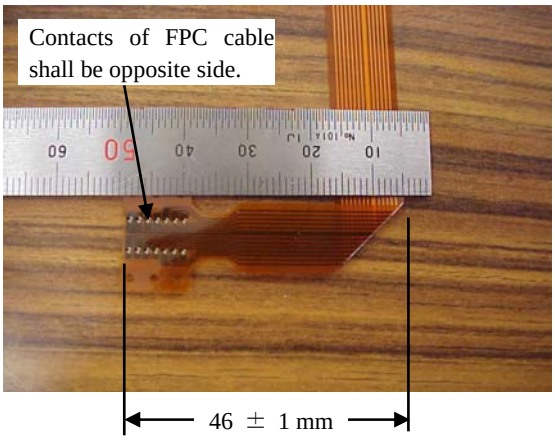


<Mounting>
Follow the above procedure in reverse by taking care of the following points.

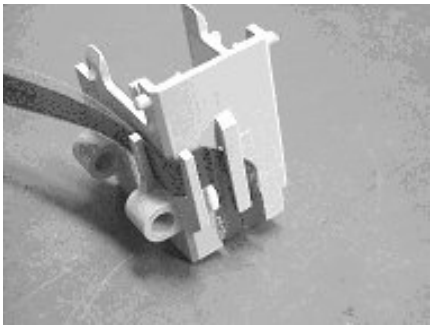
1. Fold new FPC cable as shown in the right figure.

2. Small plastic parts come with FPC cable. Insert two small plastic parts into the holes of FPC cable near electrodes.





3. Route new FPC cable as shown in the following figure.



09	July 14, 2009	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	TITLE	fi-5650C, fi-565PR MAINTENANCE MANUAL
08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		
07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	P1PA03338-B5XX/6 CUST.
Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED	PAGE 203/228
DESIG	Jun 29, 2004	T.Anzai	CHECK	T.Anzai	APPR. H. Hasegawa		

9.5.4 Replacing Control PCA

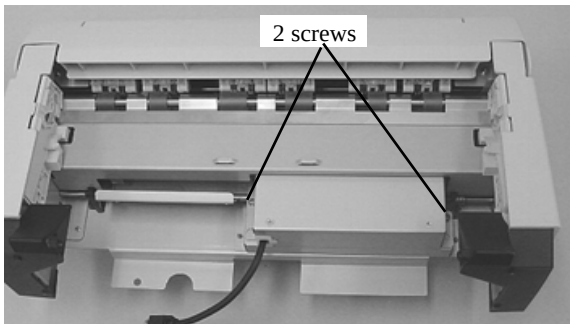
NOTICE

Refer to Section 9.6.10 for the part number of the replacement part.

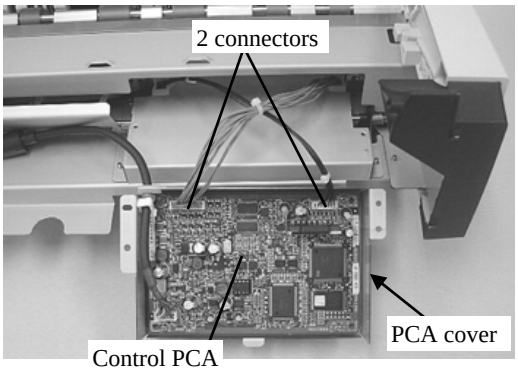
<Removing>

(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

(2) Remove 2 screws from the document eject side. (photo on the right)

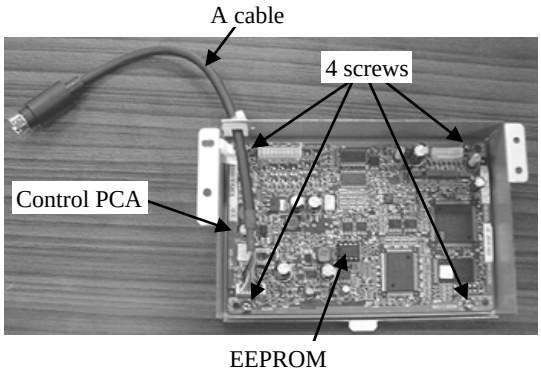


(3) Pull out the PCA cover from the Imprinter and open it toward you. Disconnect two connectors from the Control PCA. (photo below)



(4) Remove a cable and 4 screws from the Control PCA, and remove the Control PCA.

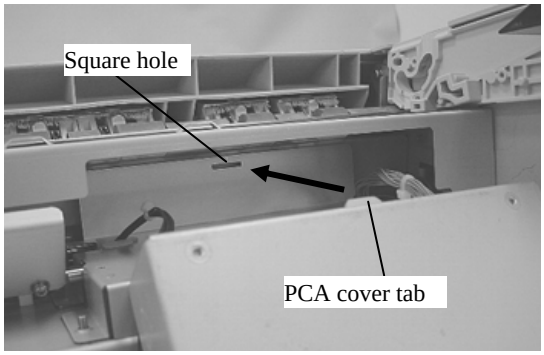
(5) Remove an EEPROM and mount it on the new Control PCA. EEPROM stores the data of Ink counter for current Print cartridge



<Installing>

Follow the above procedure in reverse.

Note: When installing the PCA cover, insert the PCA cover tab into the square hole at the rear of the Imprinter.



9.5.5 Replacing the parts under the sheet guide

9.5.5.1 Sensor OPB5

NOTICE

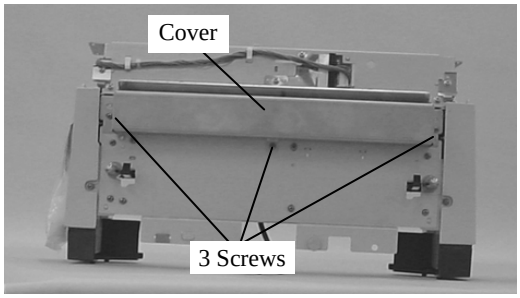
Refer to Section 9.6.1 for the part number of the replacement part.

<Removing>

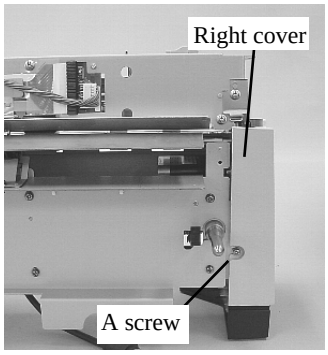
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

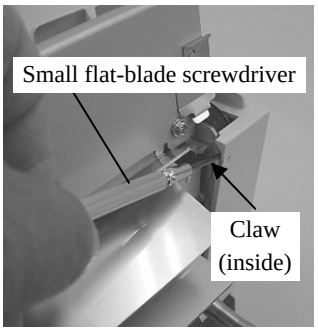
(2) Remove the Imprinter cover by referring to the step (2) in Section 9.5.3.2.

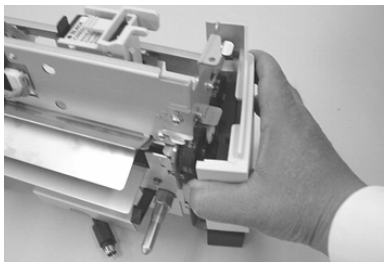
(3) Remove 3 screws at the installed side of the imprinter and remove the cover. (photo on the right)



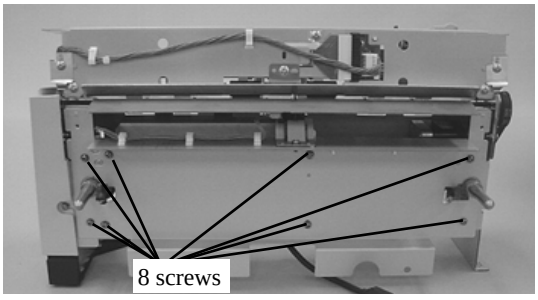
(4) Remove a screw for the right cover. Insert a small flat-blade screwdriver in the gap between the right cover and the frame to remove the cover claw. Then remove the right cover while opening it. (photo below)

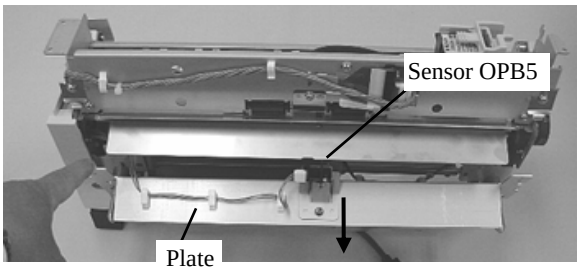




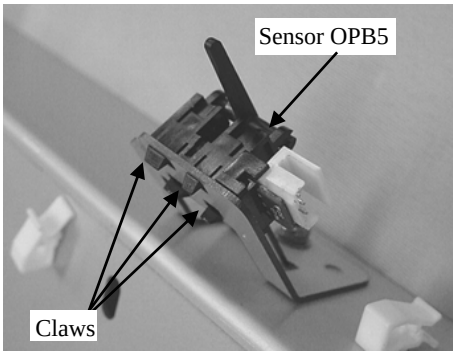


(5) Remove 8 screws at the installed side of the imprinter then move the plate toward you.





(6) Disconnect the connector from the Sensor OPB5.
Unlatch the claws for the Sensor OPB5 and remove this sensor.



<Installing>

Follow the above procedure in reverse.

Press the Sensor OPB5 down firmly so that the claws engage correctly.

After assembling, confirm that the lever of the sensor moves smoothly.

9.5.5.2 Replacing Sensor OP

NOTICE

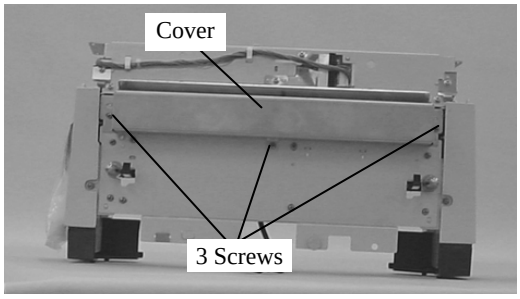
Refer to Section 9.6.12 for the part number of the replacement part.

<Removing>

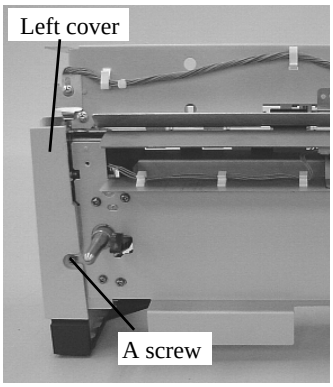
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

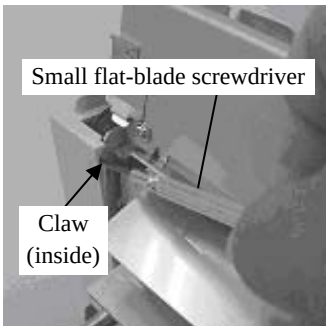
(2) Remove the Imprinter cover by referring to the step (2) in Section 9.5.3.2.

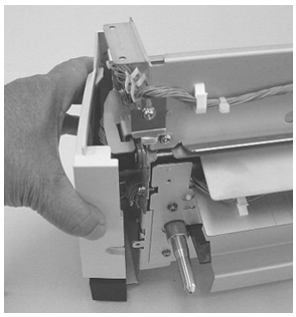
(3) Remove 3 screws at the installed side of the imprinter and remove the cover. (photo on the right)



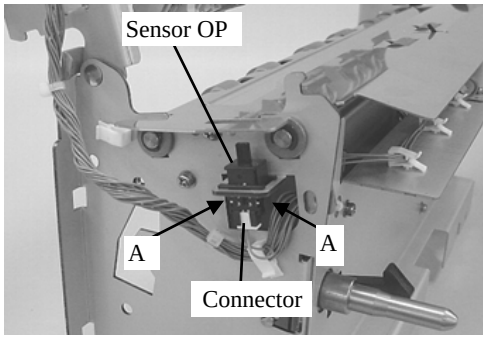
(4) Remove a screw for the left cover. Insert a small flat-blade screwdriver in the gap between the left cover and the frame to remove the cover claw. Then remove the left cover while opening it. (photo below)







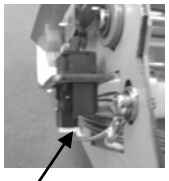
(5) Disconnect a connector from the Sensor OP, and remove this sensor upward by pinching the Sensor OP claws (part A). (photo on the right)



<Installing>

Follow the above procedure in reverse by taking care of the following points.

When attaching the Sensor OP, the connector of the Sensor shall come your side as shown in the photo on the right. You cannot insert the Sensor OP in the reverse direction.



Ref: The connector inlet of the Sensor OP should be outside when attaching.

9.5.5.3 Replacing Feed Motor

NOTICE

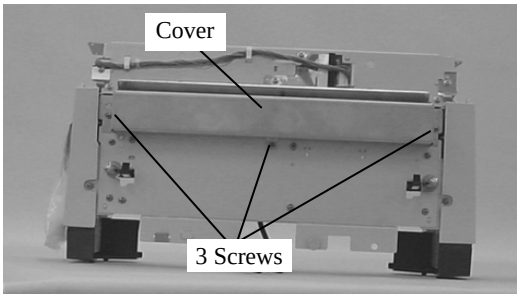
Refer to Specification 9.6.4 for the part number of the replacement part.

<Removing>

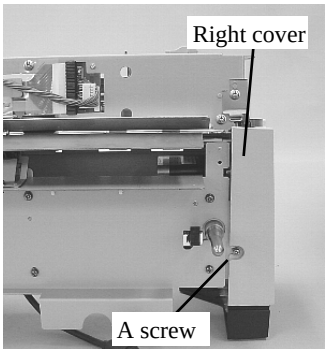
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

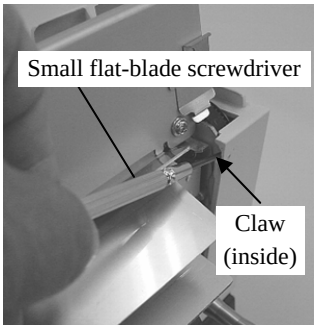
(2) Remove the Imprinter cover by referring to the step (3) in Section 9.5.3.2.

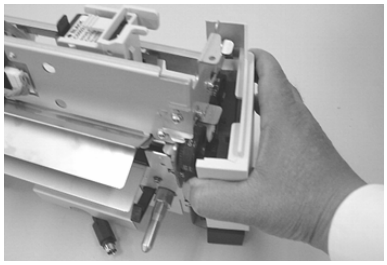
(3) Remove 3 screws at the installed side of the imprinter and remove the cover. (photo on the right)



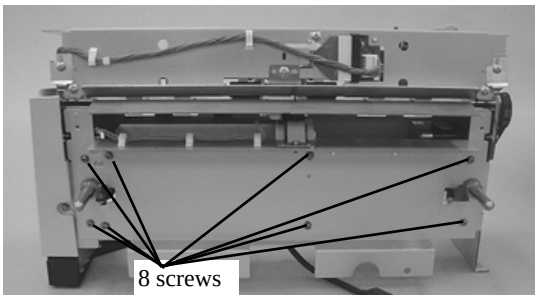
(4) Remove a screw for the right cover. Insert a small flat-blade screwdriver in the gap between the right cover and the frame to remove the cover claw. Then remove the right cover while opening it. (photo below)

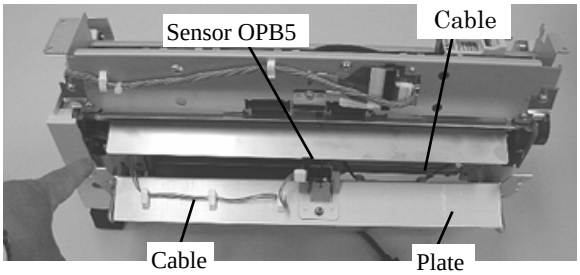




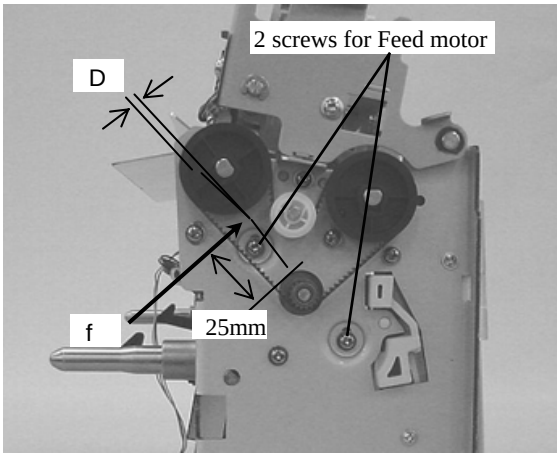


(5) Remove 8 screws at the installed side of the imprinter. Disconnect the connector from the Sensor OPB5, remove the cable fixed to the plate and remove the plate.





(6) Remove two screws from the Feed motor, and remove the Feed motor. Then disconnect the cable from the Feed motor.



<Installing>

Follow the above procedure in reverse.

When fastening the screws for the Feed motor, adjust the belt tension so that the belt deflect (D) becomes the following value when the belt is pressed by the force (F) at the right position.

D = 3 mm

f = 300 ± 40 gf

9.5.5.4 Replacing PR Cable

NOTICE

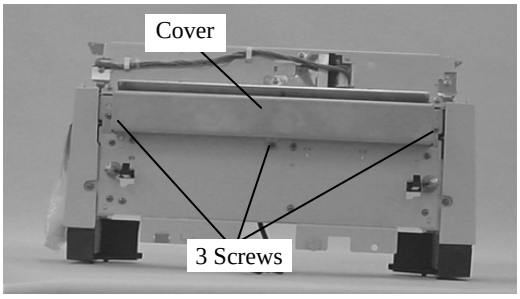
Refer to Section 9.6.7 for the part number of the replacement part.

<Removing>

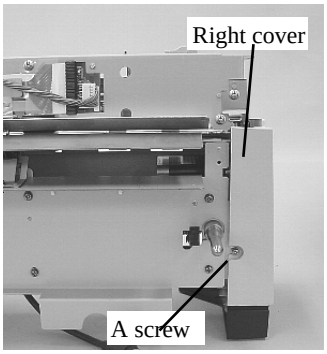
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

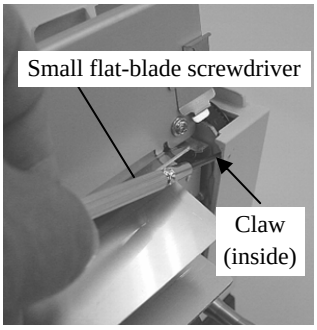
(2) Remove the Imprinter cover by referring to the step (2) in Section 9.5.3.2.

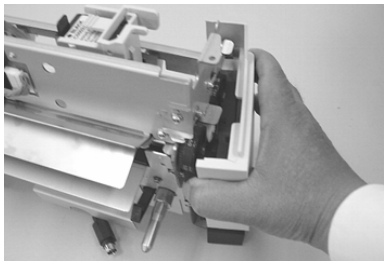
(3) Remove 3 screws at the installed side of the imprinter and remove the cover. (photo on the right)



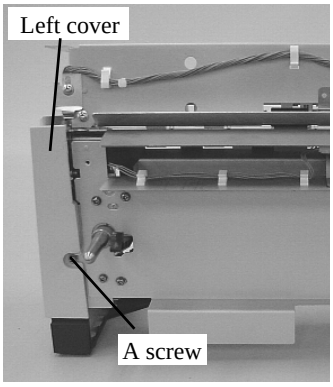
(4) Remove a screw for the right cover. Insert a small flat-blade screwdriver in the gap between the right cover and the frame to remove the cover claw. Then remove the right cover while opening it. (photo below)

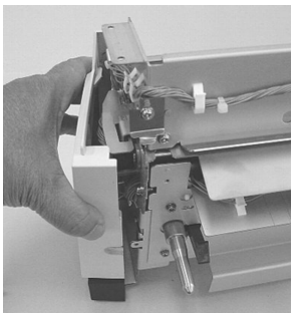




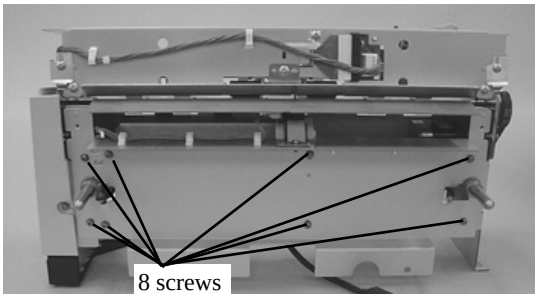


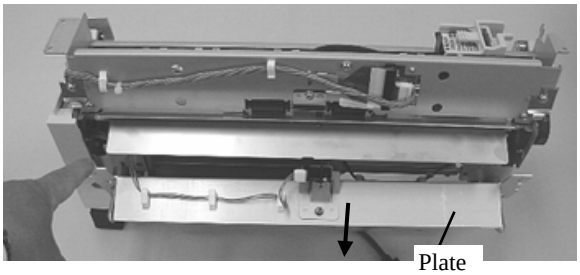
(5) Remove a screw for the left cover and remove the left cover while opening it. (photo below)



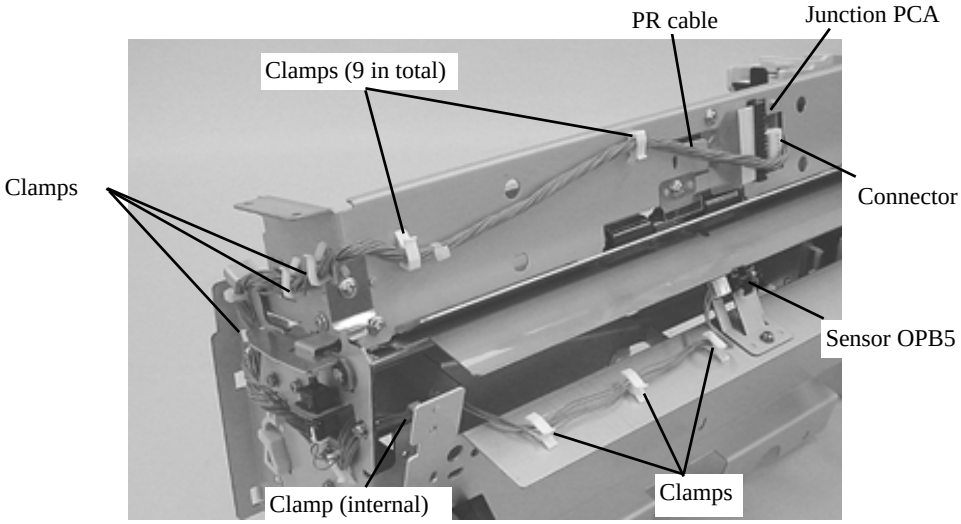


(6) Remove 8 screws at the installed side of the imprinter then move the plate toward you.





(7) Disconnect the PR cable connector from the Junction PCA. Then disconnect it from the Sensor OPB5. Remove the PR cable from all the cable clamps (9 in total) that secure it and get it out..



<Installing>
Follow the above procedure in reverse.

9.5.5.5 Replacing Felt

NOTICE

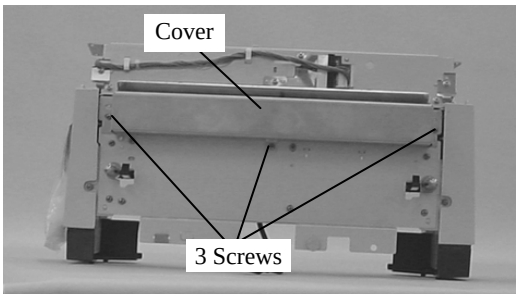
Refer to Section 9.6.8 for the part number of the replacement part.

<Removing>

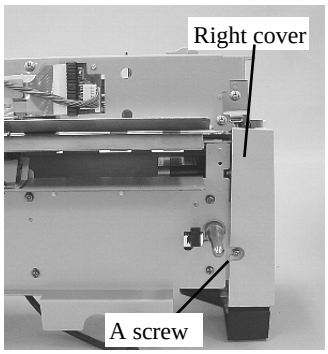
(1) Remove the Imprinter from the scanner by referring to Section 9.2.2.

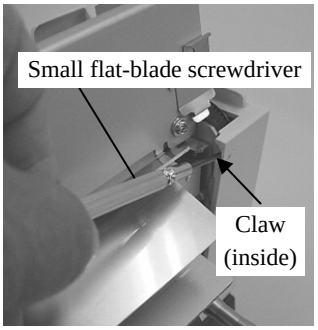
(2) Remove the Imprinter cover by referring to the step (2) in Section 9.5.3.2.

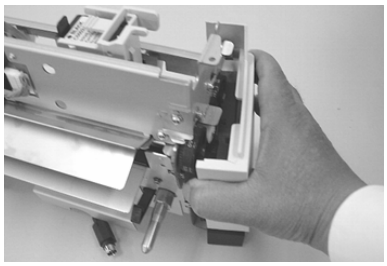
(3) Remove 3 screws at the installed side of the imprinter and remove the cover. (photo on the right)



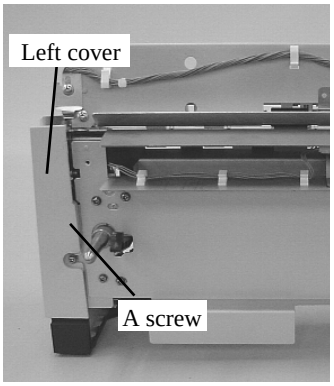
(4) Remove a screw for the right cover. Insert a small flat-blade screwdriver in the gap between the right cover and the frame to remove the cover claw. Then remove the right cover while opening it. (photo below)

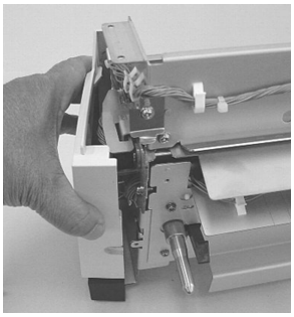




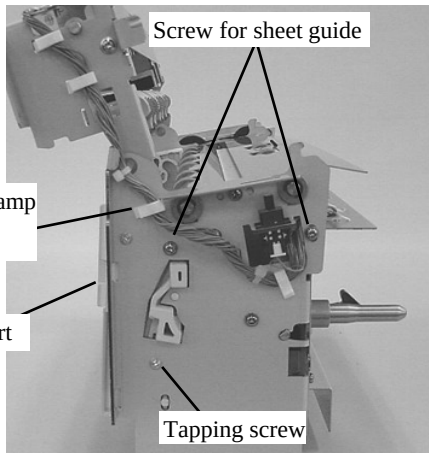


(5) Remove a screw for the left cover and remove the left cover while opening it. (photo below)

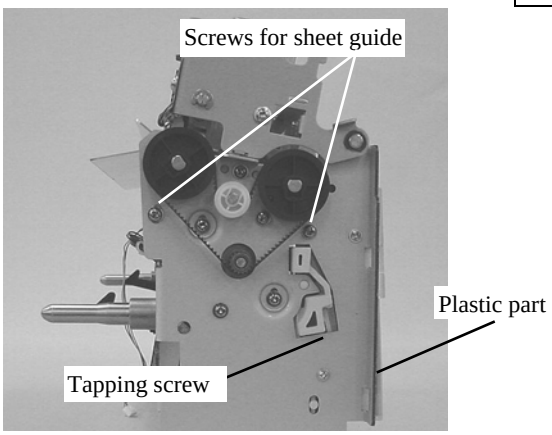




(6) Remove 2 screws for the Sheet guide from the left side. Remove a tapping screw and a plastic part at the back. Then remove a clamp (right photo) with cable.

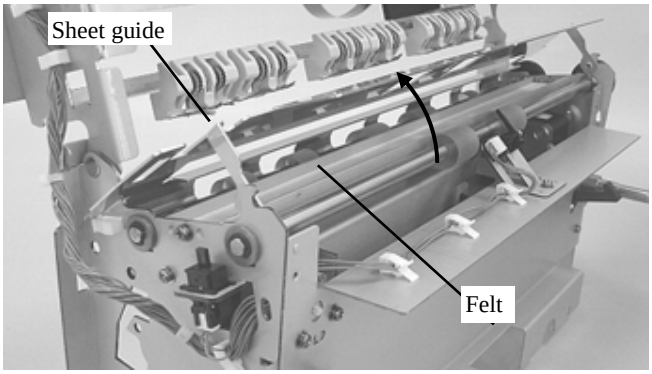


(7) Remove 2 screws for the Sheet guide from the right side. Remove a tapping screw and the plastic part at the back.



(8) Lift and open the Sheet guide up as shown in the photo on the right, and replace the Felt. This Felt is not glued on the frame.

<Installing>
Follow the above procedure in reverse.
You can replace the new felt with either side facing up.

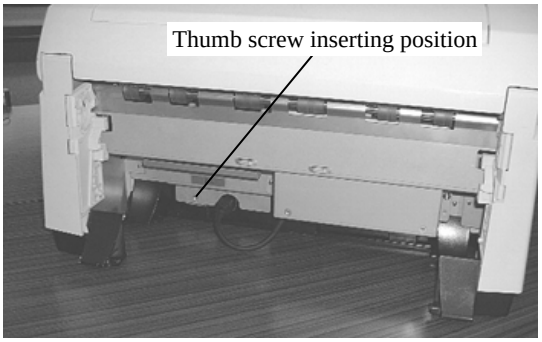


9.5.6 Replacing Thumb screw

NOTICE

Refer to Section 9.6.9 for the part number of the replacement part.

<Removing>
(1) Lift up the stacker and remove the Thumb screw that secures the imprinter.



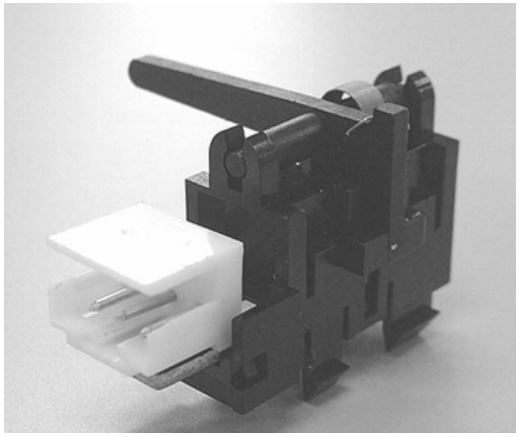
<Installing>
Follow the above procedure in reverse.

9.6 Maintenance Parts for Imprinter

No.	Description	Part Number	Quantity.	Appearance (Section)	Replacement procedure (Section)	Remarks
1	Sensor OPB5	~~PA03277-D042~~ PA03277-D928 02	1	9.6.1	9.5.5.1	
2	Holder ASSY	PA03338-E815	1	9.6.2	9.5.3.4	
3	Pinch ASSY	PA03338-E810	6	9.6.3	9.5.3.2	
4	Feed Motor	PA03338-D914	1	9.6.4	9.5.5.3	
5	Holder lever	PA03334-F951	1	9.6.5	9.5.3.1	
6	FPC cable	PA03334-F952	1	9.6.6	9.5.3.4	
7	PR Cable	PA03334-F953	1	9.6.7	9.5.5.4	
8	Felt	PA03334-F954	1	9.6.8	9.5.5.5	
9	Thumb Screw	~~PA03334-F956~~ PA03334-F959 02	1	9.6.9	9.5.6	
10	~~Control PCA~~ IMG-PRT 02	~~PA03338-D955~~ ~~PA03338-K965 02~~ PA03334-K966 06	1	9.6.10	9.5.4	
11	~~Junction PCA~~ IMP-JNT 02	~~PA03334-K958~~ PA03334-K961 02	1	9.6.11	9.5.3.3	
12	Sensor OP	PA03338-D917	1	9.6.12	9.5.5.2	

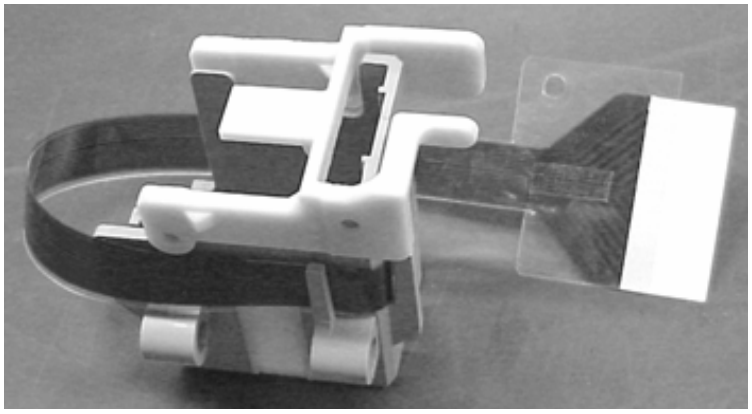
9.6.1 Sensor OPB5

Description	Part Number	Remarks
Sensor OPB5	~~PA03277-D042~~ PA03277-D928 02	



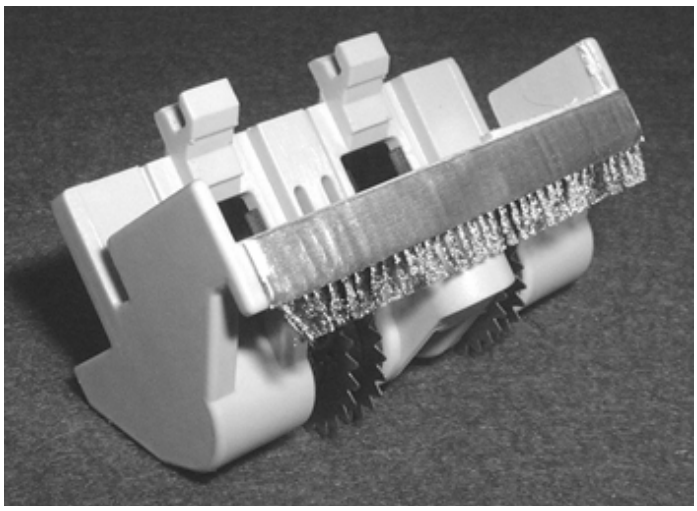
9.6.2 Holder ASSY

Description	Part Number	Remarks
Holder ASSY	PA03338-E815	This part includes the holder lever and the FPC cable.



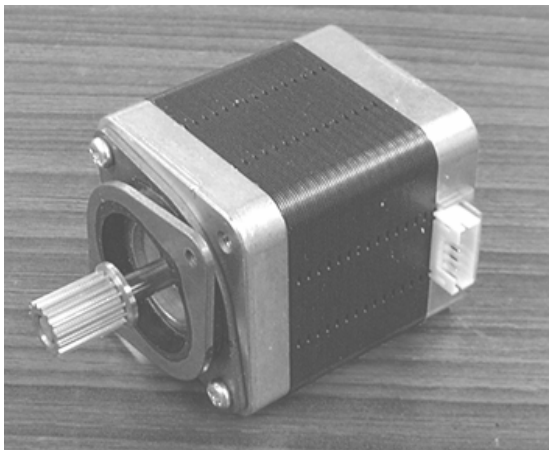
9.6.3 Pinch ASSY

Description	Part Number	Remarks
Pinch ASSY	PA03338-E810	



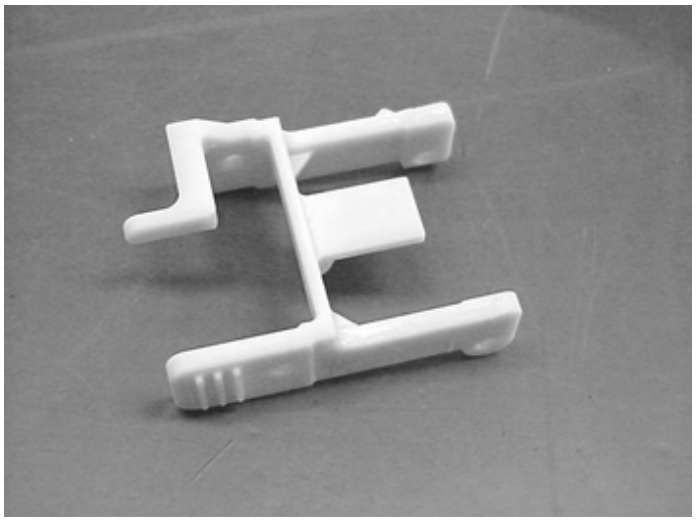
9.6.4 Feed Motor

Description	Part Number	Remarks
Feed Motor	PA03338-D914	



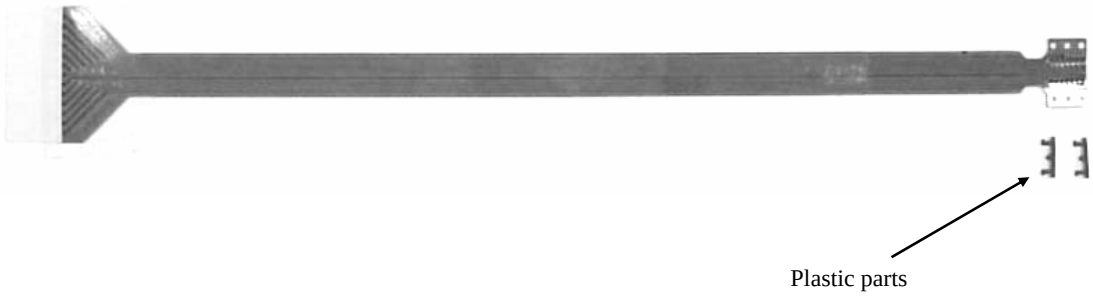
9.6.5 Holder Lever

Description	Part Number	Remarks
Holder Lever	PA03334-F951	



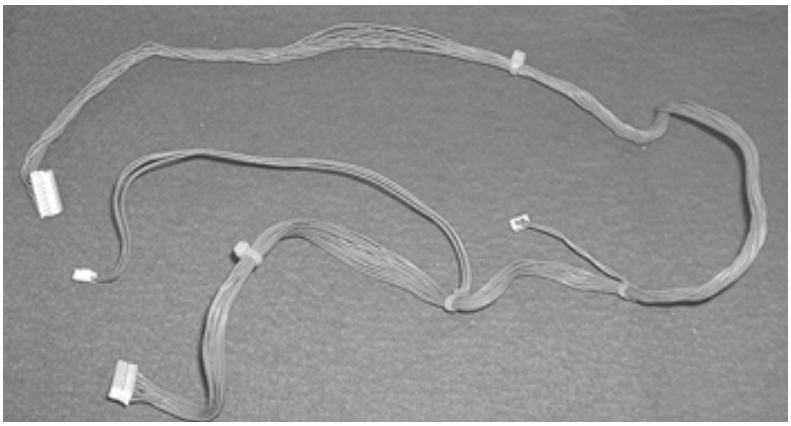
9.6.6 FPC Cable

Description	Part Number	Remarks
FPC cable	PA03334-F952	Two plastic parts are included.



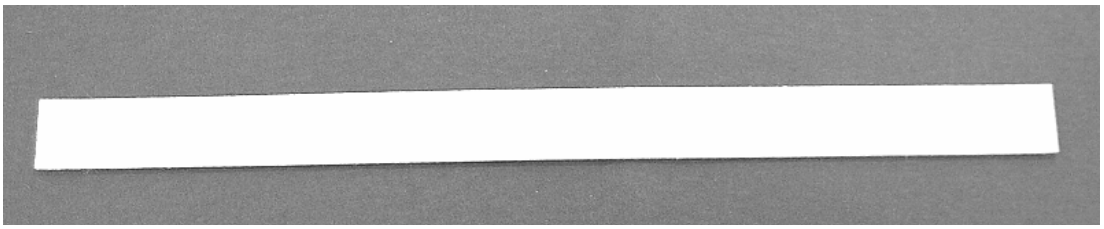
9.6.7 PR Cable

Description	Part Number	Remarks
PR Cable	PA03334-F953	



9.6.8 Felt

Description	Part Number	Remarks
Felt	PA03334-F954	



9.6.9 Thumb Screw

Description	Part Number	Remarks
Thumb Screw	~~PA03334-F956~~ PA03334-F959 02	

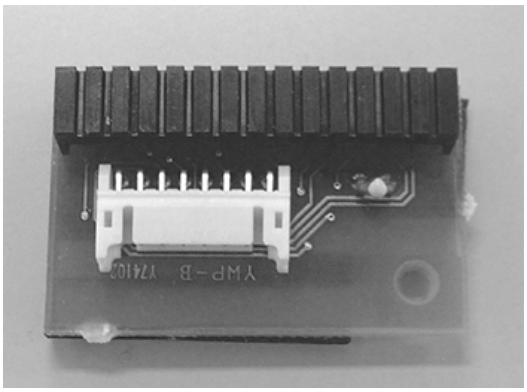
9.6.10 Control PCA

Description	Part Number	Remarks
~~Control PCA~~ IMG-PRT 02	~~PA03338-D955~~ ~~PA03338-K965 02~~ PA03334-K966 06	

There is a sticker of “ME-PRT”.

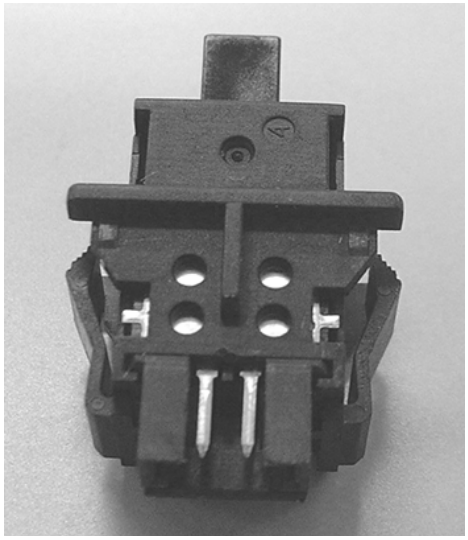
9.6.11 Junction PCA

Description	Part Number	Remarks
~~Junction PCA~~ IMP-JNT 02	~~PA03334-K958~~ PA03334-K961 02	



9.6.12 Sensor OP

Description	Part Number	Remarks
Sensor OP	PA03338-D917	



Appendix A Scanner and Camera Properties

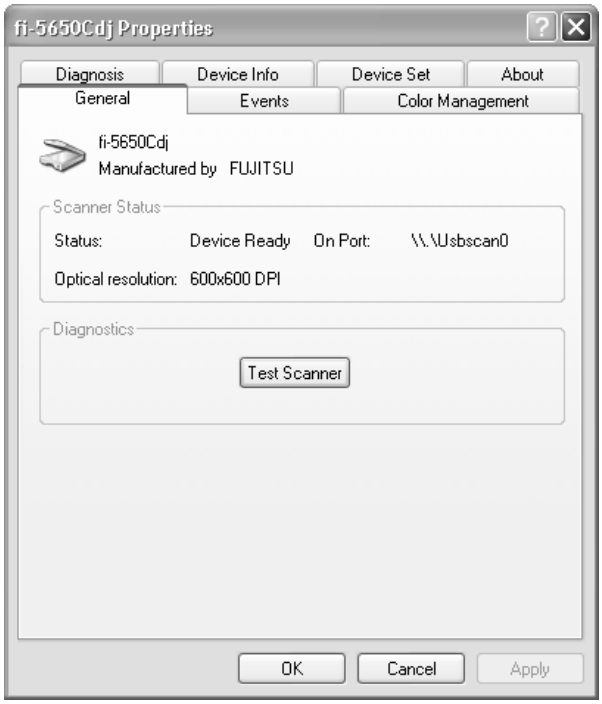
The following describes the scanner driver settings for the ST1 TWAIN driver.

A.1 Displaying Scanner and Camera Properties

Select the [Scanner and Camera] icon on the [Control Panel] to display the corresponding properties dialog box shown below. If the scanner driver has been properly installed, the icon of your scanner is displayed. Select the model name. And double-click the icon or select the [Properties…] by using right-click. The Properties dialog box shown below is displayed.
In this dialog box, the scanner can be checked and information related to different kinds of devices can be confirmed. An explanation of each tab folder and its use is below.

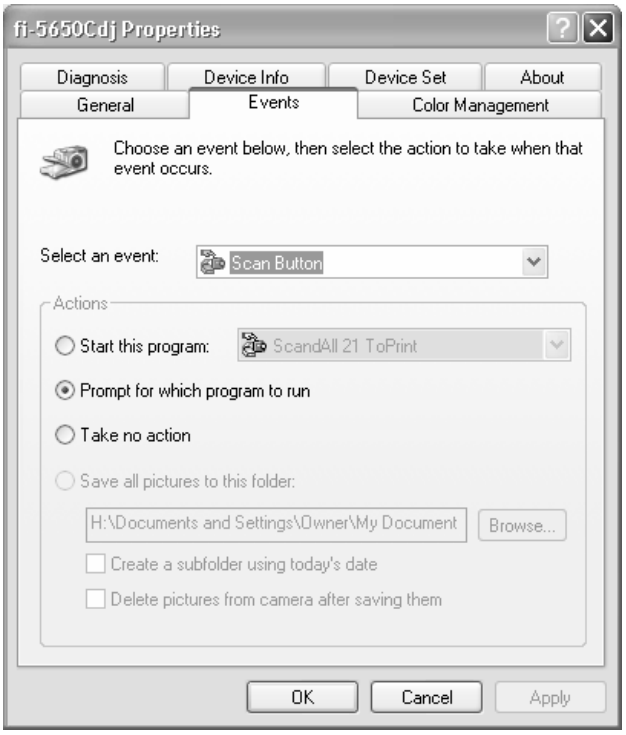
A.2 General Tab

General information on the driver for the connected scanner are displayed. The scanner/host communications can be tested at this screen.



A.3 Events Tab

On the [Events] tab, an application can be specified to automatically launch by “Scanner events” such as “pushing buttons on the scanner” or “placing documents on the paper chute”.



<Select an event>

Select a “scanner event” from the list box to start an application. Please select the item to set up from the following events.

"Feeder loaded with paper ": When placing paper on the paper chute.
"Scan button": When pressing the Scan button on the scanner.
"Send to 1-9": When pressing the Send to button of the scanner.

<Actions>

Select an action when the event selected on [Select an event] occurs.

- Start this program:
  The application selected from the list box to the right starts when the event occurs.
- Prompt for which program to run
  The window for selecting application appears when the event occurs.
- Take no action
  Nothing starts even if the event occurs.
  Select if events are not used.

* If the above settings are not activated by clicking [OK] or [Apply], reboot the PC.

In the other operating systems, the following “Events” may be displayed.
(* The same functions are displayed as the previous screen.)

<Scanner events>
Select a “scanner event” from the list box to begin an application. Please select the item to Set up from the following events.

"Auto check of paper supply": When placing paper on the paper chute.
"Scan button": When pressing the Scan button on the scanner.
"Send to 1-9": When pressing the Send to button on the scanner.

<Send to this application>
Mark on the check box of an application to be started by the operation specified in the above [Scanner events]. Multiple applications can be specified. When two or more applications are specified, a dialog box appears to select one to be started by the operation.

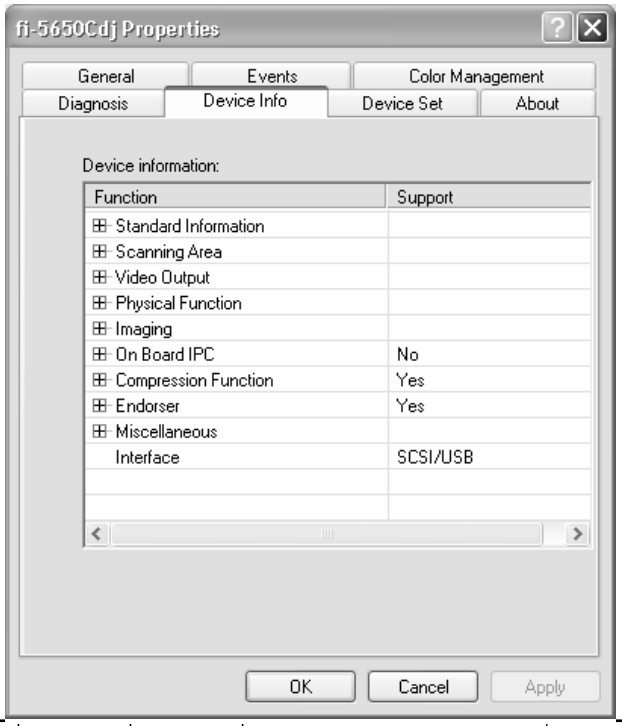
<Disable device events>
Check this box if events are not used.

A.4 Diagnosis Tab

To perform more detailed diagnostic tests than those provided in the general tab folder, click the [Diagnose] button.
In Windows 2000 or Windows XP, only a user who has administrator rights can run these tests.

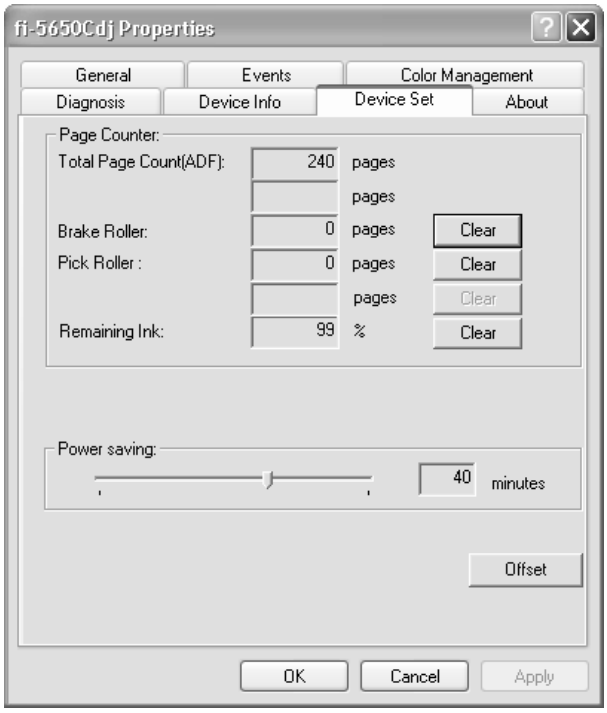
A.5 Device Information Tab

A list of the functions compatible with the selected scanner driver are displayed. The items displayed depend on the selected scanner model. Only hardware functions are displayed. The functions controlled by software are not displayed in this tab folder. Therefore, the displayed content may not match the content specified during scanning. The contents of this tab folder are not displayed if the scanner driver is either currently in use or the scanner is not connected to the computer. If they are not displayed, stop the application being used by the scanner driver or check the connection. Then, select this tab folder again to display the contents.



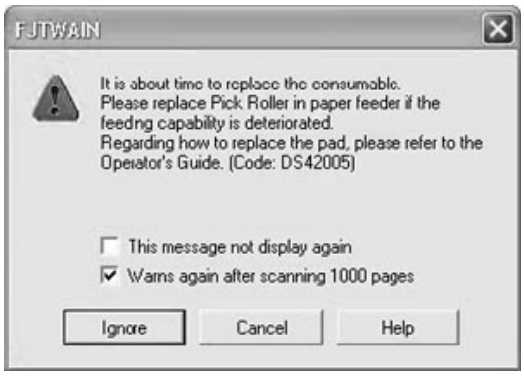
A.6 Device Set Tab

Information related to the operation and maintenance of the scanner driver can be displayed and set up. For some scanner models, this tab may not be displayed, or some items cannot be set up (grayed out). Changing the setup activates the [Apply] button. The changed setup is reflected on the device only if the [Apply] button or [OK] button is clicked. The contents of this tab folder are not displayed if the scanner driver is either currently in use or the scanner is not connected to the computer. If they are not displayed, stop the application being used by the scanner driver or check the connection. Then, select this tab folder again to display the contents.
In Windows 2000 or Windows XP, only a user who has administrator rights can change the setup from this tab folder.



<Page counters>
An approximate total number of pages that the ADF has scanned are displayed. A count of the pages scanned with currently installed consumables is also displayed. To set the consumables counter to zero after replacing consumables, click the [Clear] button.
* Reset of the counters can be executed using the operator's panel of the device as well. (Refer to Section 7.1.6.)

When consumables need to be replaced, the following message may be displayed.



If this message appears, replace consumables following the instructions below.

<If replacing consumables immediately>

1 Check [This message not display again]*.
2 In cases where consumables are replaced after completing all documents being scanned, click [Ignore]. In cases where scanning is stopped for an immediate replacement, click [Cancel].
3 Following the operator's guide, replace the consumables.
4 Select [Page counter] from [Device setup], click the [Clear] button to reset the consumables counter.

<If replacing consumables later (immediate replacement is impossible)>

1 If you do not want to display the message again, check [This message not display again]*. If it is necessary to display this message again after scanning xxx pages, check [Warns again after scanning xxx pages].
2 If scanning is continued, click [Ignore] and close the message. If scanning is stopped, click [Cancel] and close the message.
3 Replace the consumables as soon as possible or when this message appears next.
4 After replacement, click [Clear] of the [Page Counter] under [Device Setup] to reset the consumables counter.

(* If [This message not display again] is checked, this message will not appear before the consumables counter is reset.)

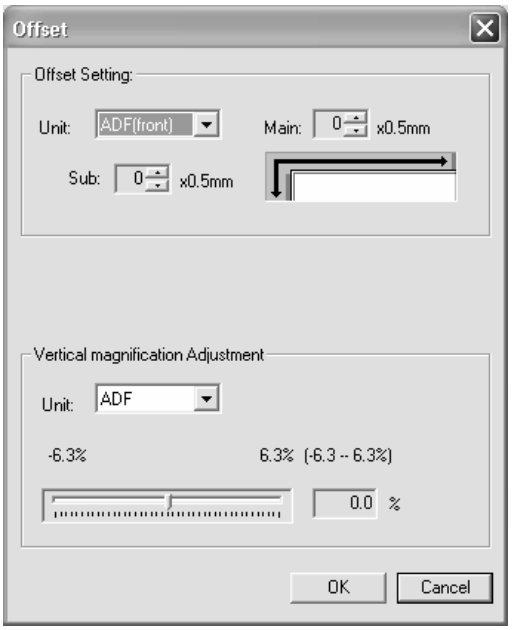
<Power saving>

When scanning operation is not performed for a certain period of time, the scanner goes into the Sleep mode. You can specify the time on this screen.

<[Offset] button>

When this button is clicked, the following dialog box is displayed.

Using this dialog box, the offset and magnification for the sub-scanning direction can be changed.



- Offset Setting:

If the position of the scanned image shifts from the original document, fine adjustment is possible.

At shipment, the offset has been adjusted to an optimum value within a certain range. Therefore, adjustment is not generally required.

*The adjustable offset range is-–2 to 3mm.

- Vertical magnification Adjustment

The Vertical magnification correction value of the sub-scanning direction can be changed.

The image is expanded or shrunk in the paper feeding direction based on the setting value at shipment.

This function is used to adjust the image whose ratio of length seems different from the original document.

*The settable value range is –6.3 to 6.3%.

- [OK] button

The adjusted value is written into the EEPROM.

* Offset and vertical magnification of ADF can be adjusted.
Changing this setting affects the position and size of the scanned images greatly.
Care must be taken when changing.

A.7 About Tab

The version of the driver and a link to the Fujitsu home page are displayed.

A.8 Color Management Tab

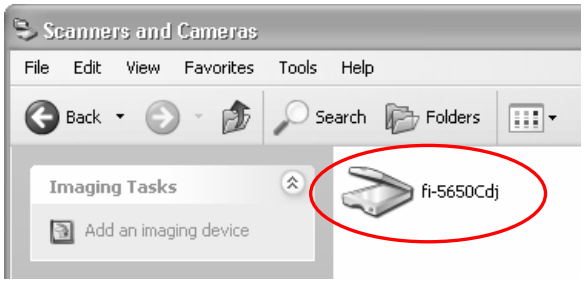
Color profiles assigned to the device can be added or deleted from this folder.
"sRGB Color Space Profile.icm" is the default assigned to this driver.

A.9 Scanning by using “Scanner and Camera Wizard”

In case of Windows XP, you can scan by using “Scanner and Camera Wizard”.
Follow below procedure to scan:

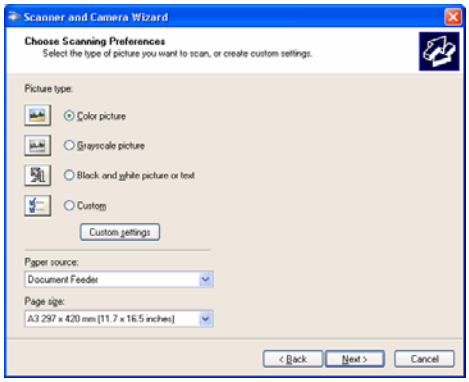
On the [Start] menu, select [Control Panel] – [Scanners and Cameras].

1. Double-click on your scanner’s icon.



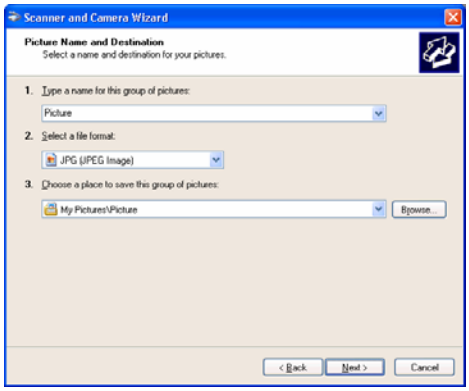
2. Click [Next] button when Scanner and Camera Wizard appears.

3. Specify the scan settings and click [Next] button on the following window.

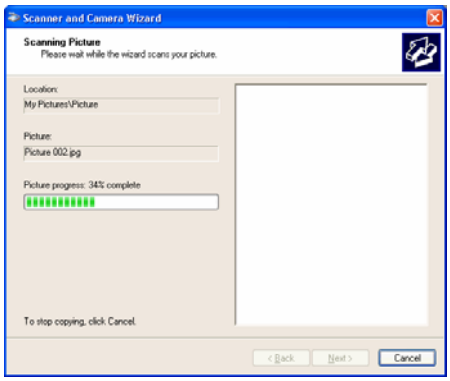


09	July 14, 2009	K.Okada	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.	TITLE	fi-5650C, fi-565PR MAINTENANCE MANUAL
08	May 19, 2009	T.Yoshimoto	A.Miyoshi	I.Fujioka	Refer to Revision Record on page 2.		
07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	P1PA03338-B5XX/6 CUST.
Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED	PAGE 227/228
DESIG	Jun 29, 2004	T.Anzai	CHECK	T.Anzai	APPR. H. Hasegawa		

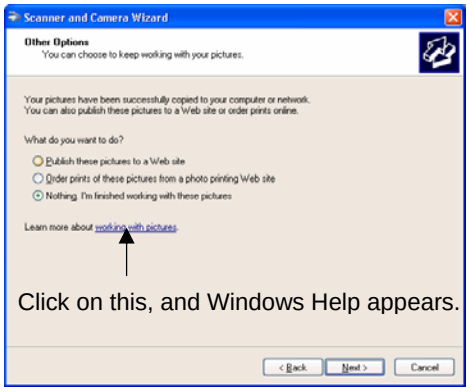
4. Specify a file name, a format and a location to save the scanned images. And click [Next] button.



=> Scanning begins. (The following window is displayed during scanning.)



5. Select an item from “What do you want to do?” to keep working with your picture. And click [Next] button.



* Refer to Windows Help for detail.

6. Select “Nothing” if finished working with these pictures when you want to finish. And click [Next] button.
7. Click [Finish] button to finish this wizard.

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07	Jan 13, 2009	K.Okada	T.Anzai	I.Fujioka	Refer to Revision Record on page 2.	DRAW. No.	P1PA03338-B5XX/6 CUST.
Rev	DATE	DESIG.	CHECK	APPR.	DESCRIPTION	PFU LIMITED	PAGE 228/228
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