KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

magicolor 3730DN

2011.05
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.1

FIELD SERVICE TOTAL CONTENTS

magicolor 3730DN Main body

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SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the safety and important warning items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this service manual is complete and accurate.
The user of this service manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this service manual is intended.
Therefore, this service manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this service manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠ DANGER", "⚠ WARNING", and "⚠ CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

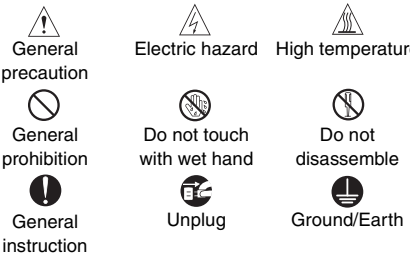
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when servicing the product.

⃠ :Prohibition when servicing the product.

● :Direction when servicing the product.



SAFETY WARNINGS

[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

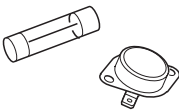
KONICA MINOLTA brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

Prohibited Actions

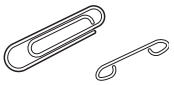
⚠ DANGER

- Using any cables or power cord not specified by KMBT.

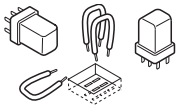
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



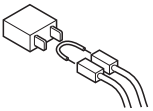
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



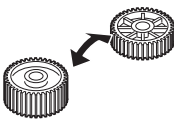
- Disabling relay functions (such as wedging paper between relay contacts).



- Disabling safety functions (interlocks, safety circuits, etc.). Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT.
- Using parts not specified by KMBT.



[2] POWER PLUG SELECTION

In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.

- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - •Black or Brown:L (line)
  - •White or Light Blue:N (neutral)
  - •Green/Yellow:PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

[3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

KONICA MINOLTA brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and customer engineer (hereafter called the CE) from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

- Check that mains voltage is as specified.

  Connection to wrong voltage supply may result in fire or electric shock.

- Connect power plug directly into wall outlet having same configuration as the plug.

  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.

- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.

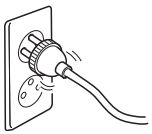
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.

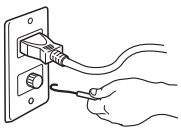
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

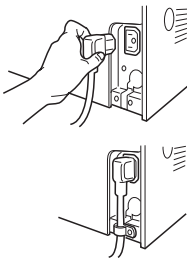
  Connect power plug to grounded wall outlet.



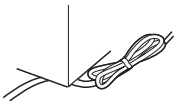
Power Plug and Cord

⚠ WARNING

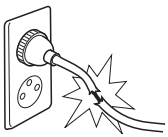
- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



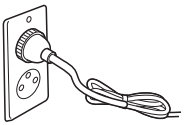
- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.



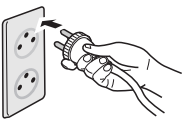
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

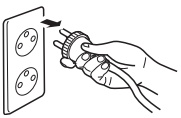


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

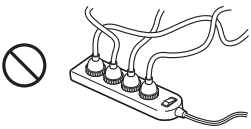
- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



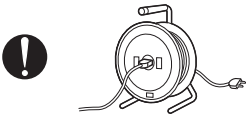
Wiring

⚠ WARNING

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.
  Do not use an extension cable reel with the cable taken up. Fire may result.

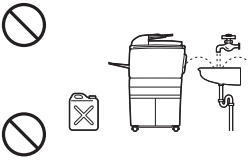


2. Installation Requirements

Prohibited Installation Places

⚠ WARNING

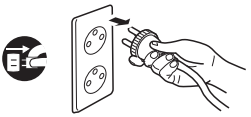
- Do not place the product near flammable materials or volatile materials that may catch fire.
  A risk of fire exists.
- Do not place the product in a place exposed to water such as rain.
  A risk of fire and electric shock exists.



When not Using the Product for a long time

⚠ WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.
  Dust collected around the power plug and outlet may cause fire.



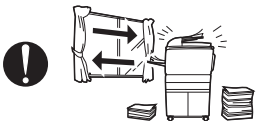
Ventilation

⚠ CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.

  If a bad smell of ozone is present in the following cases, ventilate the room.

  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time



Stability

⚠ CAUTION

- Be sure to lock the caster stoppers.

  In the case of an earthquake and so on, the product may slide, leading to a injury.

Inspection before Servicing

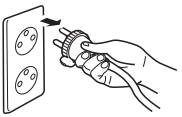
⚠ CAUTION

- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

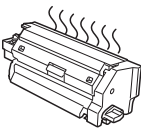
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



- The area around the fixing unit is hot.

  You may get burnt.



Inspection before Servicing

⚠ CAUTION

- Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.

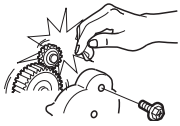
  The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

Work Performed with the Product Powered On

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

- If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.

  A normally protected part may cause unexpected hazards.

Safety Checkpoints

⚠ WARNING

- Check the exterior and frame for edges, burrs, and other damage.

  The user or CE may be injured.

- Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work.

  The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.

Safety Checkpoints

⚠ WARNING

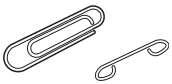
- When mounting an option on the machine, be careful about the clearance between the machine and the option.
  You may be injured with your finger or hand pinched between the machine and the option.

- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.
  You may be injured by a falling part or unit.

- Check the external covers and frame for possible sharp edges, burrs, and damage.
  They can be a cause of injury during use or servicing.

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts.
  They may injure your hands or fingers.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.
  They can short internal circuits and cause electric shock or fire.



- Check wiring for squeezing and any other damage.
  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.
  Current can leak, leading to a risk of electric shock or fire.

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.
  Current can leak, leading to a risk of trouble or fire.

Safety Checkpoints

⚠ WARNING

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.

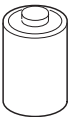
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

  The laser light can enter your eye, leading to a risk of loss of eyesight.

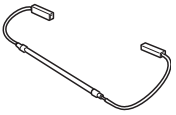
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



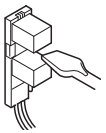
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

  A risk of fire exists.



- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.

  Current can leak, leading to a risk of electric shock or fire.

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)

  A risk of product trouble, electric shock, and fire exists.

Handling of Consumables

⚠ WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.

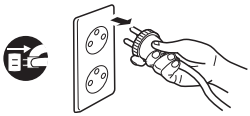
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

- Unplug the power cord from the wall outlet.

  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

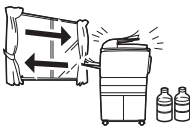
  A risk of fire exists.

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

  A risk of fire exists.

- When using any solvent, ventilate the room well.

  Breathing large quantities of organic solvents can lead to discomfort.



[4] LASER SAFETY

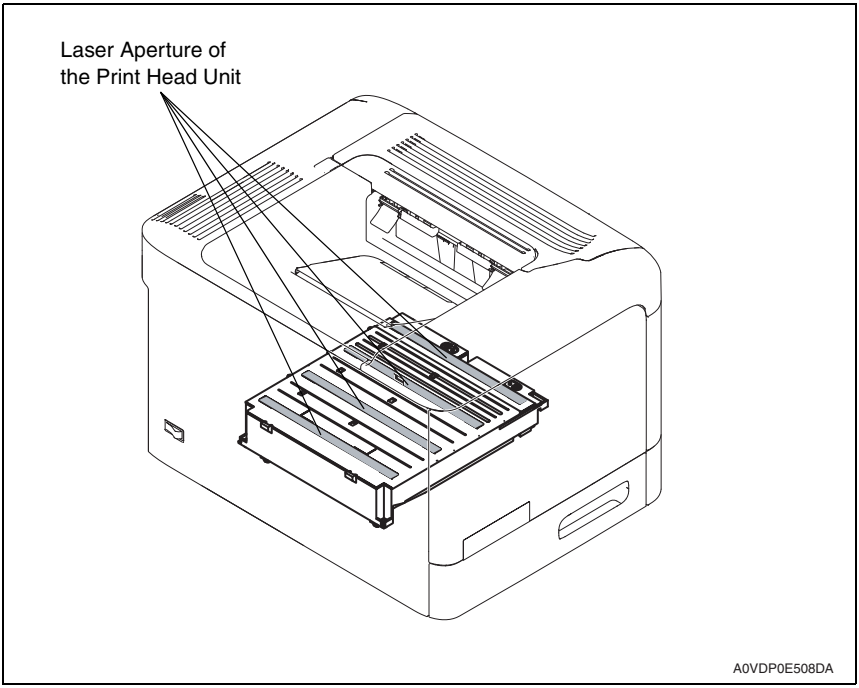
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

4.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	15 mW
Maximum average radiation power (*)	11.2 µW
Wavelength	770 - 800 nm

*at laser aperture of the Print Head Unit

- This product employs a Class 3B laser diode that emits an invisible laser beam. The laser diode and the scanning polygon mirror are incorporated in the print head unit.
- The print head unit is NOT A FIELD SERVICEABLE ITEM. Therefore, the print head unit should not be opened under any circumstances.



U.S.A., Canada
(CDRH Regulation)

- This machine is certified as a Class 1 Laser product under Radiation Performance Standard according to the Food, Drug and Cosmetic Act of 1990. Compliance is mandatory for Laser products marketed in the United States and is reported to the Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration of the U.S. Department of Health and Human Services (DHHS). This means that the device does not produce hazardous laser radiation.

- The label shown on page S-16 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

CAUTION
- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	15 mW
Wavelength	770 - 800 nm

All Areas

CAUTION
- **Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.**

semiconductor laser	
Maximum power of the laser diode	15 mW
Wavelength	770 - 800 nm

Denmark

ADVARSEL
- **Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.**

halvlederlaser	
Laserdiodens højeste styrke	15 mW
bølgelængden	770 - 800 nm

Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

VAROITUS!
- **Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.**

puolijohdelaser	
Laserdiodin suurin teho	15 mW
aallonpituus	770 - 800 nm

VARNING!
- **Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.**

halvledarlaser	
Den maximala effekten för laserdioden	15 mW
våglängden	770 - 800 nm

VARO!
- **Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.**

VARNING!
- **Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.**

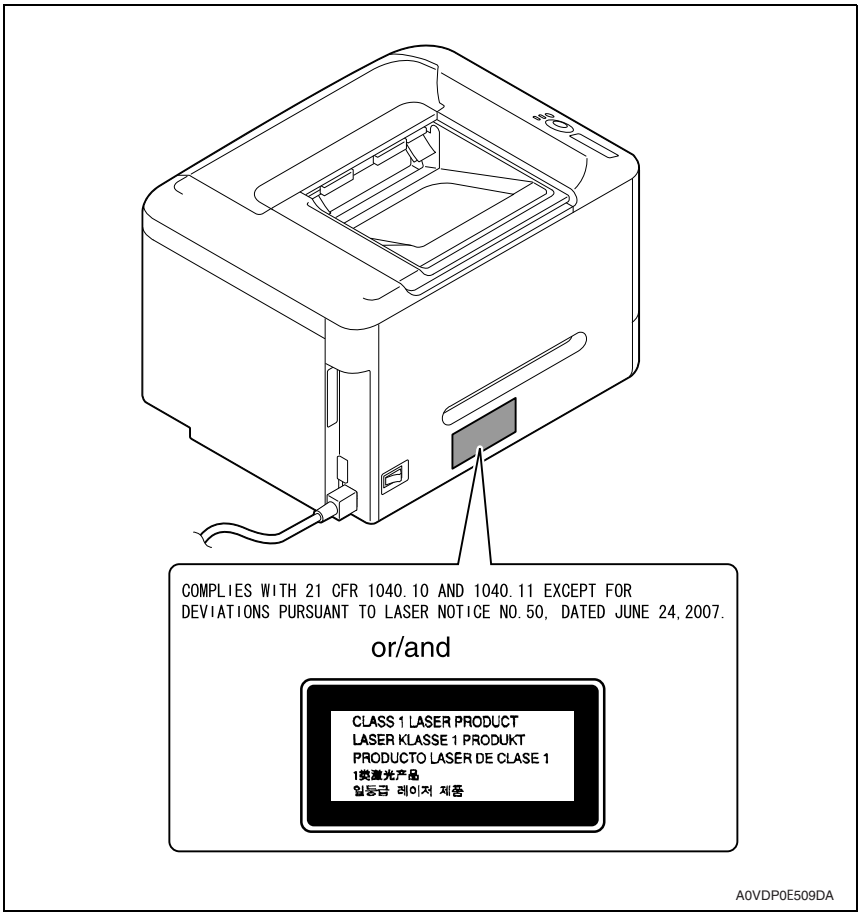
Norway

ADVERSEL
- **Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes för unsynlig laserstrålning, som overskrider grensen for laser klass 1.**

halvleder laser	
Maksimal effekt till laserdiode	15 mW
bølgelengde	770 - 800 nm

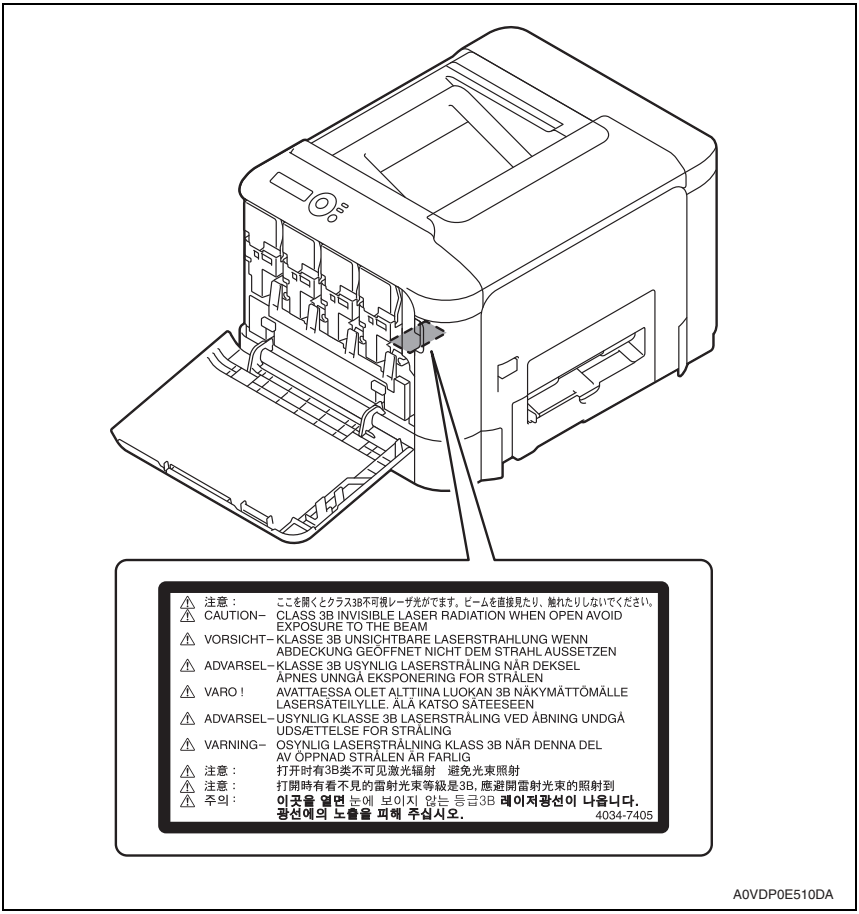
4.2 Laser Safety Label

- A laser safety label is attached to the outside of the machine as shown below.



4.3 Laser Caution Label

- A laser caution label is attached to the inside of the machine as shown below.

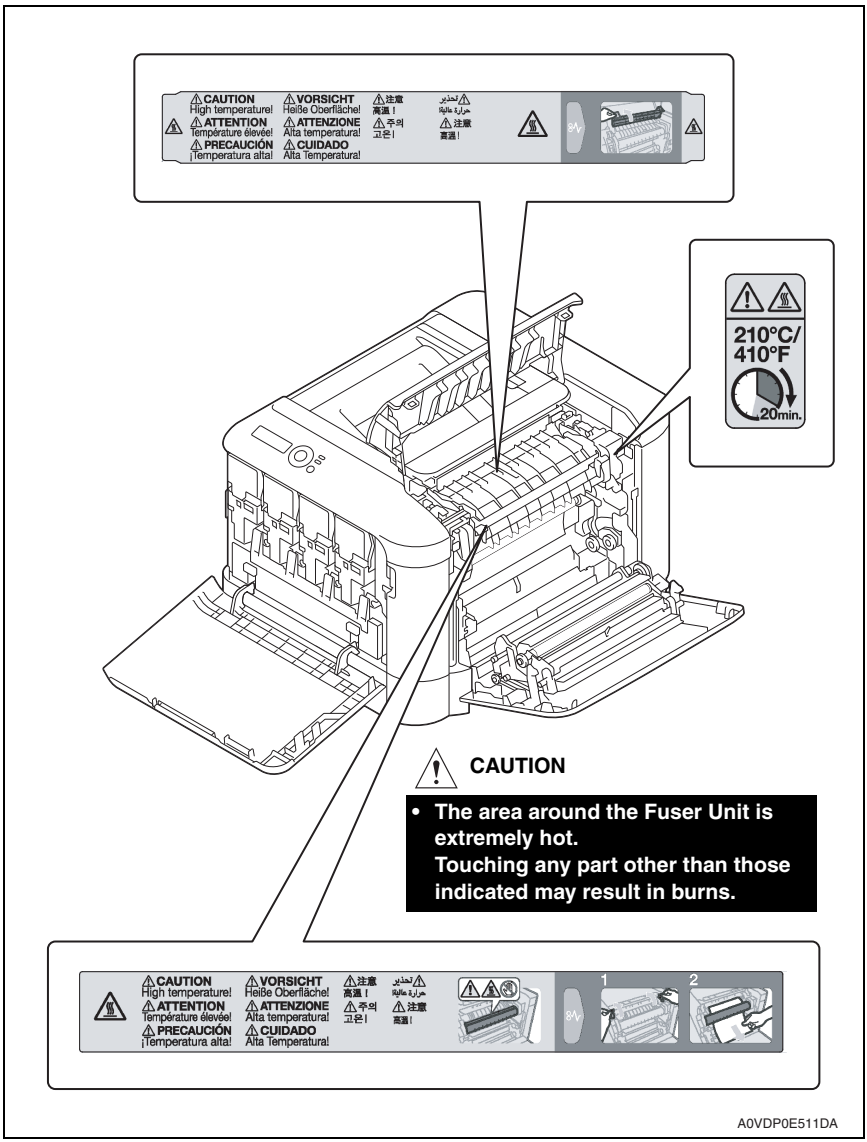


4.4 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the printer OFF.
- If the job requires that the printer be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.

INDICATION OF WARNING ON THE MACHINE

Caution labels shown below are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

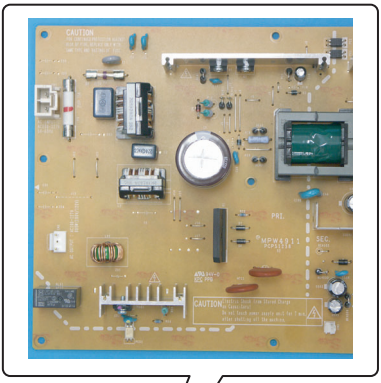


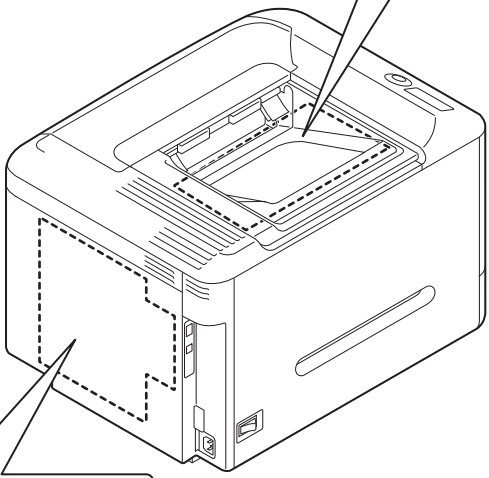
High voltage

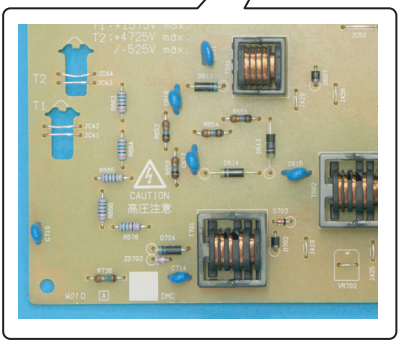
- **This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.**

Electric hazard

- **To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 7 minutes.**



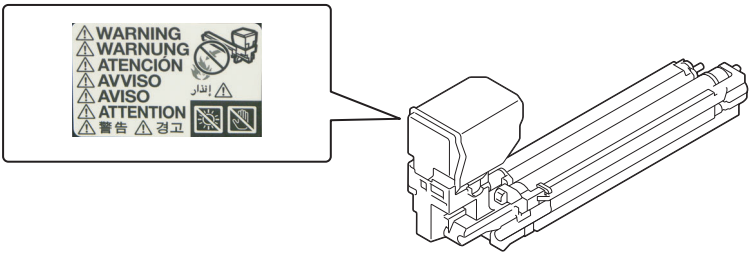




High voltage

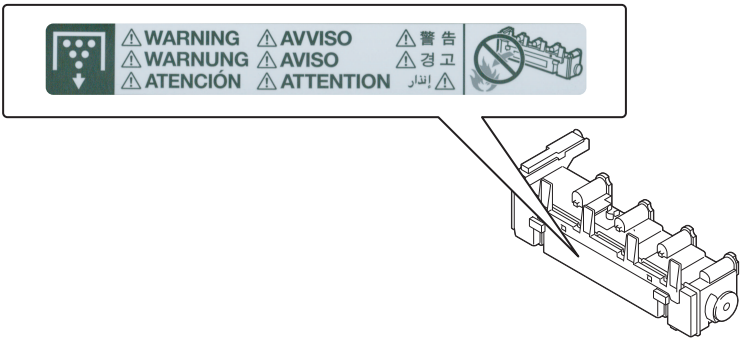
- **This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.**

A0VDP0E512DA



⚠ WARNING

- **Do not burn used Toner Cartridges.**
  Toner expelled from the fire is dangerous.



⚠ WARNING

- **Do not burn used Waste Toner Bottle.**
  Toner expelled from the fire is dangerous.

A0VDP0E513DA

⚠ CAUTION:

- **You may be burned or injured if you touch any area that you are advised by any caution label to keep yourself away from. Do not remove caution labels. And also, when the caution label is peeled off or soiled and cannot be seen clearly, replace it with a new caution label.**

MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KMBT must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KMBT.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

Composition of the service manual

This service manual consists of Theory of Operation section and Field Service section to explain the main machine and its corresponding options.

Theory of Operation section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

Field Service section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The basic configuration of each section is as follows. However some options may not be applied to the following configuration.

<Theory of Operation section>

OUTLINE:	Explanation of system configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Explanation of configuration of each unit, operating system, and control system

<Field service section>

OUTLINE:	Explanation of system configuration, and product specifications
MAINTENANCE:	Explanation of service schedule, maintenance steps, service tools, removal/reinstallation methods of major parts, and firmware version up method etc.
ADJUSTMENT/SETTING:	Explanation of utility mode, service mode, and mechanical adjustment etc.
TROUBLESHOOTING:	Explanation of lists of jam codes and error codes, and their countermeasures etc.
APPENDIX:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing are attached.

Notation of the service manual

A. Product name

In this manual, each of the products is described as follows:

(1)	magicolor 3730DN	Main body
(2)	Microsoft Windows NT 4.0:	Windows NT 4.0 or Windows NT
	Microsoft Windows 2000:	Windows 2000
	Microsoft Windows XP:	Windows XP
	Microsoft Windows Vista:	Windows Vista
	Microsoft Windows 7:	Windows 7
	When the description is made in combination of the OS's mentioned above:	
		Windows NT 4.0/2000
		Windows NT/2000/XP/Vista/7

B. Brand name

The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

C. Feeding direction

- When the long side of the paper is parallel with the feeding direction, it is called short edge feeding. The feeding direction which is perpendicular to the short edge feeding is called the long edge feeding.
- Short edge feeding will be identified with [S (abbreviation for Short edge feeding)] on the paper size. No specific notation is added for the long edge feeding.
  When the size has only the short edge feeding with no long edge feeding, [S] will not be added to the paper size.

<Sample notation>

Paper size	Feeding direction	Notation
A4	Long edge feeding	A4
	Short edge feeding	A4S
A3	Short edge feeding	A3

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

magicolor 3730DN

Main body

2011.05

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.1

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, ⚠1 is shown at the left margin of the revised section.
  The number inside ⚠1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, 1 is shown near the page number of the corresponding page.
  The number inside 1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2011/05	1.1	⚠1⚠1	Error corrections
2010/06	1.0	—	Issue of the first edition

CONTENTS

magicolor 3730DN Main body

OUTLINE

MAINTENANCE

ADJUSTMENT/SETTING

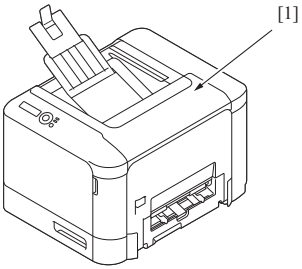
TROUBLESHOOTING

APPENDIX

Blank Page

OUTLINE

1. SYSTEM CONFIGURATION



A0VDT1C505AA

[1] magicolor 3730DN

2. PRODUCT SPECIFICATIONS

A. Type

Type	Desktop tandem full-color A4 laser beam printer
Printing system	Semiconductor laser and electrostatic image transfer to plain paper
Exposure system	4 laser diode and 1 polygon mirror
PC drum type	OPC (organic photo conductor)
Print resolution	2400 dpi x 600 dpi x 1 bit 1200 dpi x 600 dpi x 1 bit 600 x 600 dpi x 1bit
Paper feeding system	Tray1: Manual paper feeding Tray2: Small roller separation system with torque limiter
Developing system	Single-element developing system
Charging system	Charge roller system
Image transfer system	Intermediate transfer belt system
Paper separating system	Curvature separation + charge-neutralizing system
Fusing system	Belt fusing
Paper exit system	Face down (Output tray capacity: 200 sheets (A4S/LetterS))

B. Functions

Warm-up time	120 V: Avg. 38 seconds 220 V: Avg. 41 seconds 240 V: Avg. 36 seconds (Time until the printer can start printing after being turned on at room temperature (23 °C))
Process speed	185 mm/sec. (plain paper) 92.5 mm/sec. (thick paper1/2, envelope, post card, label)
First-page-output time	Simplex (Monochrome/Full color) 16.0 seconds for A4 (plain paper) 15.9 seconds for Letter (plain paper)
Print speed	Simplex Monochrome/Full color: 24.0 page per minutes for A4 (plain paper) 25.0 page per minutes for Letter (plain paper) Duplex (double-sided) Monochrome/Full color: 24.0 sheet per minutes for A4 (plain paper) 25.0 sheet per minutes for Letter (plain paper)

C. Media

Type		Paper source (maximum tray capacity)	
		Tray 1	Tray 2
Media type	Plain paper (60 to 90 g/m²; 16 to 24 lb)	1 sheet	250 sheets
	Thick 1 (91 to 150 g/m² / 24.25 to 40 lb)		20 sheets
	Thick 2 (151 to 210 g/m² / 40.25 to 55.75 lb)		
	Label		
	Letterhead		
	Glossy 1 (100 to 128 g/m² / 26.75 to 34 lb)		
	Glossy 2 (129 to 158 g/m² / 34.5 to 42 lb)		
	Postcard		
	Envelope		-
Media dimensions	Width	92 to 216 mm* (3.6 to 8.5 inch)	92 to 216 mm* (3.6 to 8.5 inch)
	Length	148 to 356 mm (5.8 to 14.0 inch)	148 to 356 mm (5.8 to 14.0 inch)

*: If the width set 210 mm to 216 mm (8.27 inch to 8.51 inch), the max. length is to 279.6 mm (11 inch).

D. Maintenance

E. Machine specifications

Power requirements	Voltage:	AC 110V, 127V, 120 V, 220 to 240 V
	Frequency:	50 to 60 Hz
Max power consumption		900 W or less (110 V) 1,000 W or less (120 V) 1,100 W or less (127 V, 220-240 V)
Dimensions		419 (W) x 523 (D) x 330 (H) mm 16.5 (W) x 20.6 (D) x 13.0 (H) inch
Weight		Approximately 22.0 kg (48.5 lb) (without consumables) Approximately 26.8 kg (59.1 lb) (with consumables)
Operating noise		Printing: 52 dB or less Standby: 39 dB or less

F. Operating environment

Temperature	10 to 30 °C (50 to 86 °F) Fluctuations of no more than 10 °C (18 °F) within an hour.
Humidity	15% to 85% (Fluctuations of no more than 10% within an hour.)

G. Print functions

Type	Built-in printer controller
RAM	32 MB
Interface	USB 2.0 (High Speed) compliant, 10Base-T/100Base-TX Ethernet
Printer language	PDL • PageScope Raster Language Emulation • Printer Job Language (PJL) Job Control Language • PJL Command Language
Supported computer	Microsoft Windows 7 Home Premium/Professional/Ultimate, Windows 7 Home Premium/Professional/Ultimate x64 Edition, Windows Server 2008 Standard/Enterprise, Windows Server 2008 Standard/Enterprise x64 Edition, Windows Vista Home Basic/ Home Premium/Ultimate/ Business/Enterprise, Windows Vista Home Basic /Home Premium / Ultimate/Business /Enterprise x64 Edition, Windows XP Home Edition/Professional (Service Pack 2 or later), Windows XP Professional x64 Edition, Windows Server 2003, Windows Server 2003 x64 Edition, Windows 2000 (Service Pack 4 or later) RedHat Enterprise Linux 5 Desktop, SUSE Linux Enterprise Desktop 10 Mac OS X (10.2.8/10.3.9/10.4/10.5/10.6; We recommend installing the newest patch)
Printer driver	Windows GDI Base driver • Windows 7/Vista/Server 2008/XP/Server 2003/2000 (32bit) • Windows 7/Vista/Server 2008/XP/Server 2003 (64bit) Mac OS-X • CUPS 1.1.15 or later • GhostScript (Mac OS-X 10.2 only)

NOTE

- **These specifications are subject to change without notice.**

MAINTENANCE

3. PERIODICAL MAINTENANCE ITEM

3.1 Periodical replacement parts list (CRU)

Class	Part to be replaced	Number of prints	Description	Ref. page
Processing section	Standard in-box toner cartridge (K)	2,000 (Continuous printing)		P.6
	Standard in-box toner cartridge (C,M,Y)	1,000 (Continuous printing)		
	Standard-capacity toner cartridge (C,M,Y,K)	3,000 (Continuous printing)		
	High-capacity toner cartridge (C,M,Y,K)	5,000 (Continuous printing)		
Image transfer section	Waste toner bottle (WB-P03)	20,000 (monochrome) (Continuous printing)		P.10
		9,000 (full color) (Continuous printing)		
	Transfer roller (TF-P04)	100,000 (2P/J)	*1	P.11
	Transfer belt unit (in-box)	50,000 (2P/J)	*1	P.12
	Transfer belt unit (TF-P05)	100,000 (2P/J)		
Fusing section	Fuser unit (FU-P02)	100,000 (2P/J)	*1	P.15

*1: 2 pages/job

3.2 Periodical replacement parts list (FRU)

3.2.1 Main body

Class	Part to be replaced	Quantity	Parts No.	Actual durable cycle	Description	Ref. page
Tray2	Tray2 feed roller	1	4138 3032 ##	300,000		P.18

3.3 Concept of parts life

- **See the accompanying sheet “magicolor 3730DN Concept of parts life” for details.**

4. PERIODICAL MAINTENANCE PROCEDURE

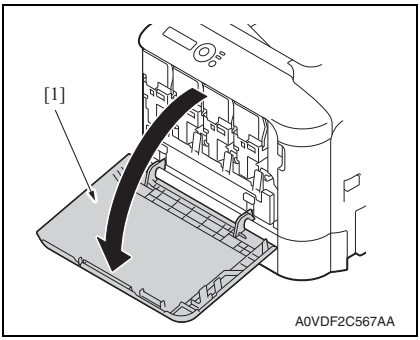
4.1 Processing section

4.1.1 Replacing the toner cartridge (C, M, Y, K)

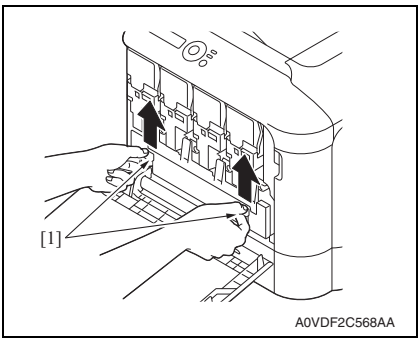
A. Periodically replaced parts/cycle

- Standard-in box toner cartridge (K): Every 2,000 images
- Standard-in box toner cartridge (C, M, Y): Every 1,000 images
- Standard-capacity toner cartridge (C, M, Y, K): Every 3,000 images
- High-capacity toner cartridge (C, M, Y, K): Every 5,000 images

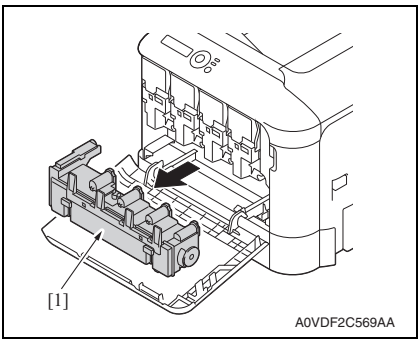
B. Removal procedure



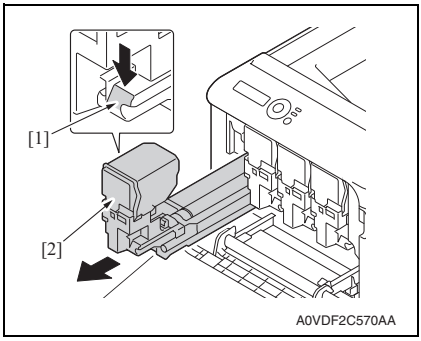
1. Open the front door [1].



2. Raise the left and right handles [1] to unlock the waste toner bottle.

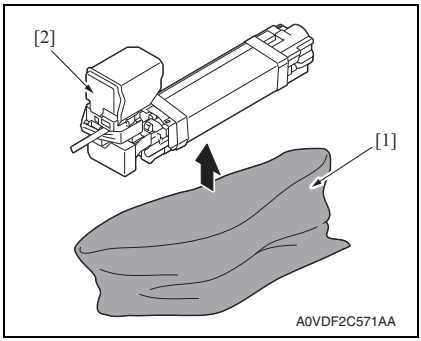


3. Grab the left and right handles, remove the waste toner bottle [1].

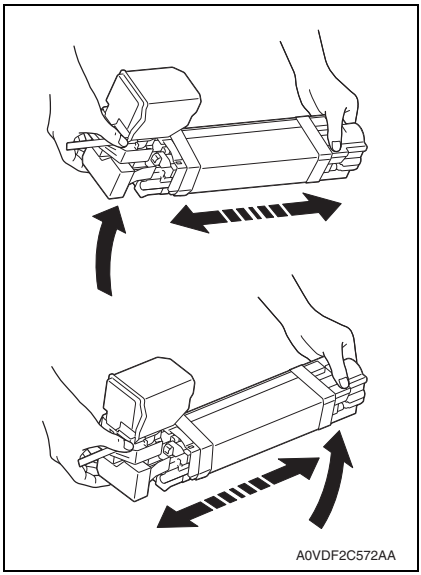


4. While pressing down the area marked “Push” [1] on the toner cartridge to be replaced, slide the cartridge [2] completely out of the printer.

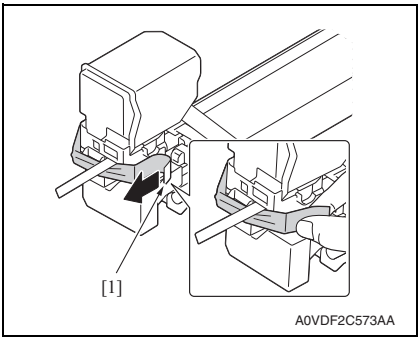
C. Reinstallation procedure



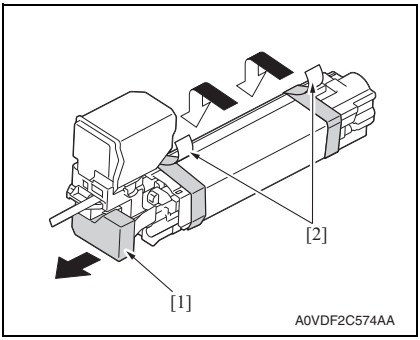
1. Remove the toner cartridge [2] from the bag [1].



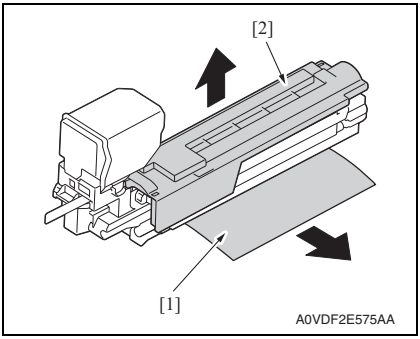
2. Hold the toner cartridge with both hands, and then shake it twice as shown in the illustration.



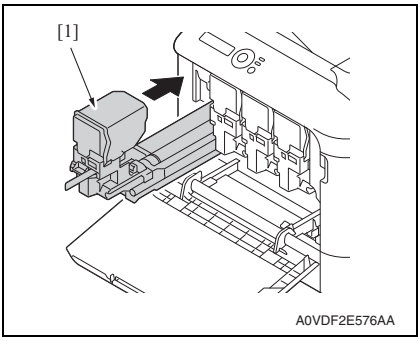
3. Peel off the tape [1] from the right side of the toner cartridge.



4. Remove the protective cover [1] from the toner cartridge.
5. Remove all packing tape [2] from the toner cartridge.



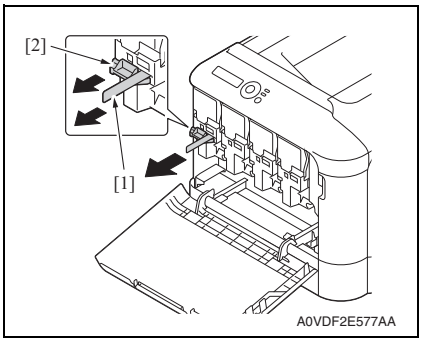
6. Remove the paper [1] from the toner cartridge.Remove the protective cover [2] from the toner cartridge.



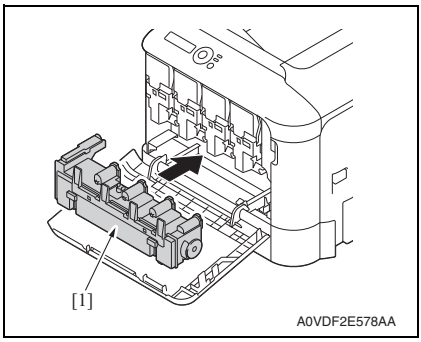
7. Make sure that the new toner cartridge to be installed is the same color as the printer compartment, and then install the toner cartridge [1] in the printer.

NOTE

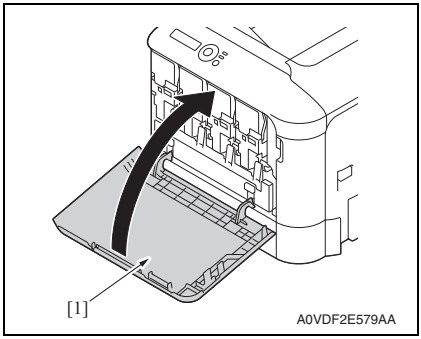
- **Fully insert the toner cartridge [1].**



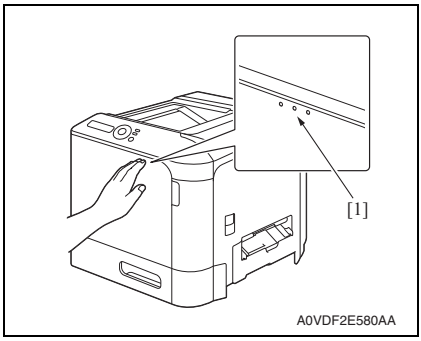
8. Make sure that the toner cartridge is securely installed, and then remove the protective film [1] and the bracket [2].



9. Press in on the waste toner bottle [1] until it locks into place.



10. Close the front door [1].



NOTE

- **When closing the front cover, press the area [1] of the cover with small projections.**

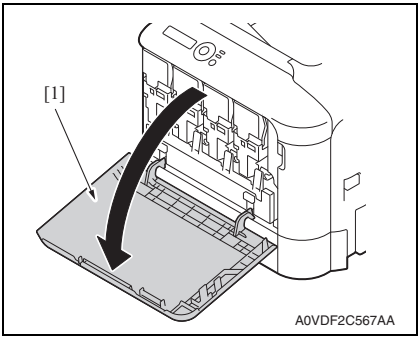
4.2 Transfer section

4.2.1 Replacing the waste toner bottle

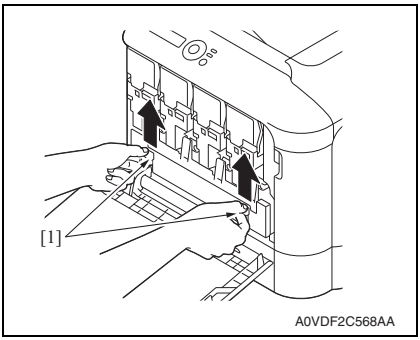
A. Periodically replaced parts/cycle

- Waste toner bottle: Every 20,000 images (monochrome) / 9,000 images (full color)

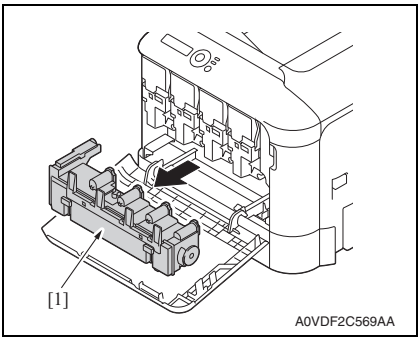
B. Removal procedure



1. Open the front door [1].



2. Raise the left and right handles [1] to unlock the waste toner bottle.



3. Grab the left and right handles, remove the waste toner bottle [1].

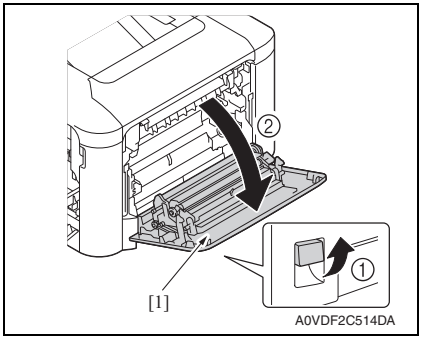
4. To reinstall, reverse the order of removal.

4.2.2 Replacing the transfer roller

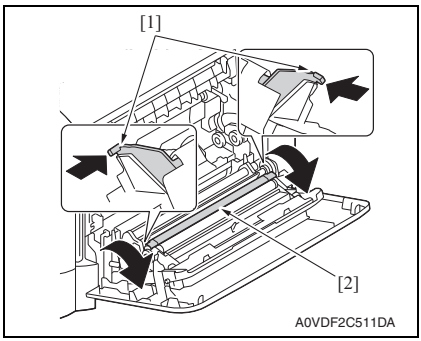
A. Periodically replaced parts/cycle

- Transfer roller: Every 100,000 images

B. Removal procedure

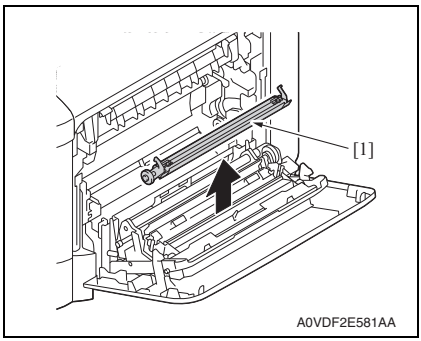


1. Open the right door [1].



2. Push two levers [1] inside to unlock the transfer roller.

3. Rotate the transfer roller [2] in the direction of the arrow.



4. While continuing to press the levers, remove the transfer roller [1].

5. To reinstall, reverse the order of removal.

6. From the Menu, select [ENGINE] → [ENGINE SERVICE] → [ENGINE SUPPLIES REPLACE] → [SUPPLIES REPLACE TRANS. ROLLER] and execute this function to reset the transfer roller counter value.

7. From the Menu, select [ENGINE] → [ENGINE SERVICE] → [COLOR CALIBRATION] and execute this function.

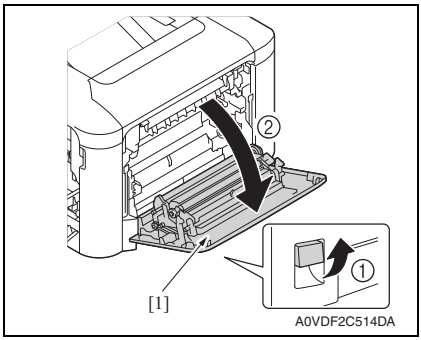
4.2.3 Replacing the transfer belt unit

A. Periodically replaced parts/cycle

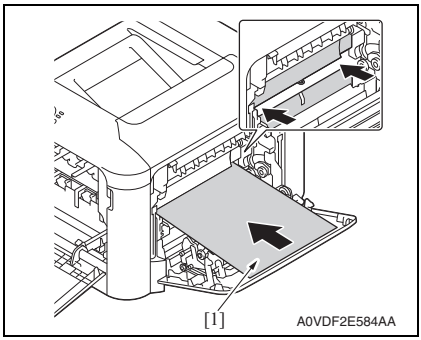
- Transfer belt unit (in-box): Every 50,000 images
- Transfer belt unit: Every 100,000 images

B. Removal procedure

1. Turn OFF the power switch.
2. Remove the waste toner bottle.
See P.10
3. Remove the toner cartridge (C,M,Y,K).
See P.6



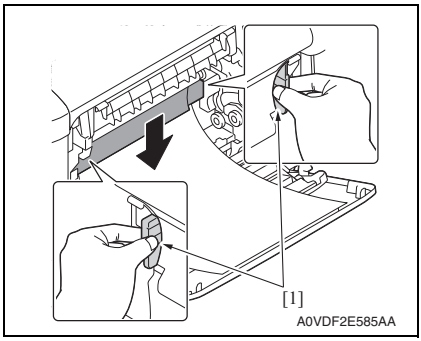
4. Open the right door [1].



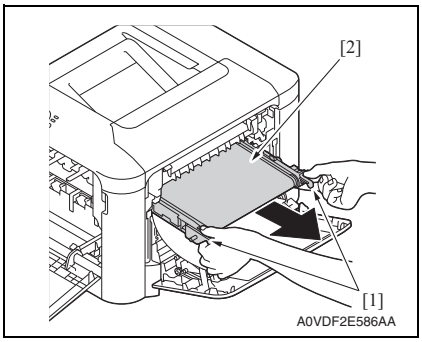
5. Insert the protective sheet [1] into the unit in the direction of the arrow until it stops.

NOTE

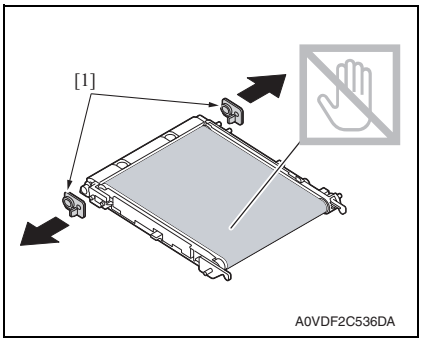
- **If the protective sheet is not supplied, use two sheets of A4 or Letter paper.**



6. Push down the guides [1].



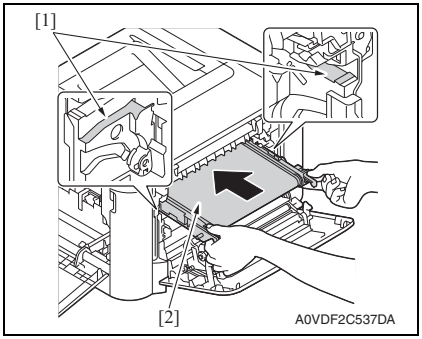
7. Hold the handles [1], and then carefully pull out the transfer belt unit [2].



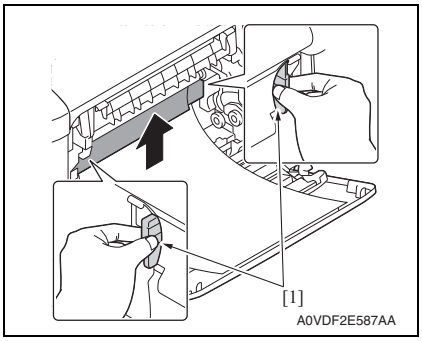
8. Remove the protective cover [1] from the new transfer belt.

NOTE

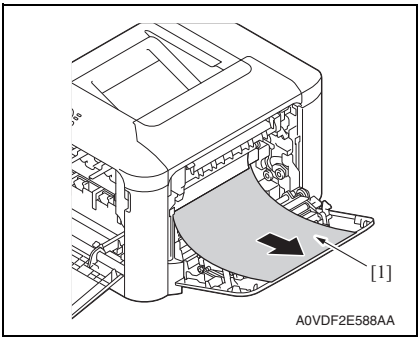
- **Be careful not to touch the surface of the belt.**



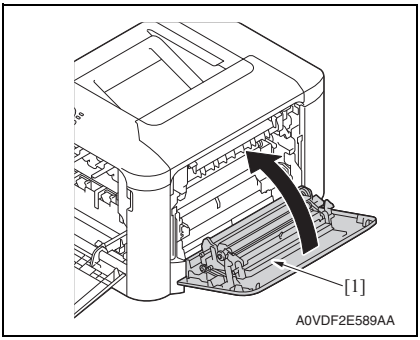
9. Insert the transfer belt unit [2] along the rail [1].



10. Push up the guides [1].



11. Pull out the protective sheet [1].



12. Close the right door [1].

13. From the Menu, select [ENGINE] → [ENGINE SERVICE] → [ENGINE SUPPLIES REPLACE] → [SUPPLIES REPLACE TRANS. BELT] and execute this function to reset the transfer belt unit counter value.

14. From the Menu, select [ENGINE] → [ENGINE SERVICE] → [COLOR CALIBRATION] and execute this function.

4.3 Fusing section

4.3.1 Replacing the fuser unit

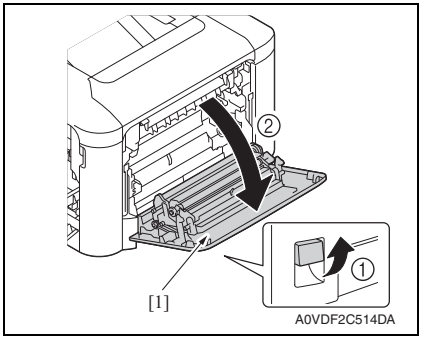
⚠ CAUTION
• **The temperature gets high in the vicinity of the fuser unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.**

A. Periodically replacing parts/cycle

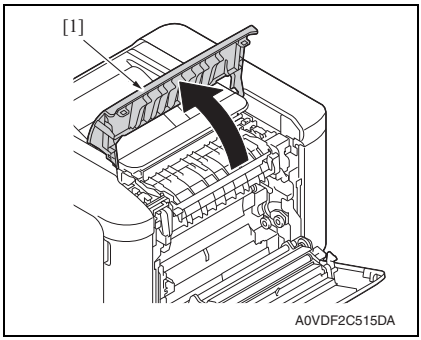
⚠ • Fuser unit: Every 100,000 images (2 pages print/job)

B. Procedure

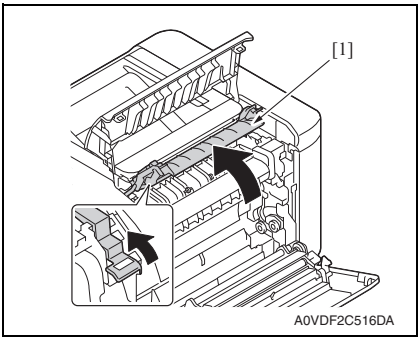
1. Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.



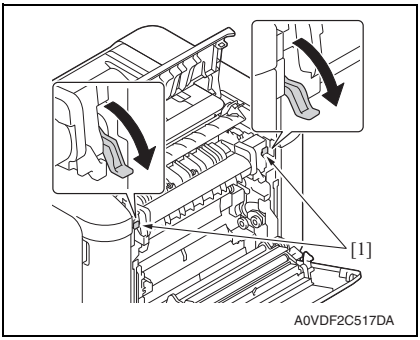
2. Open the right door [1].



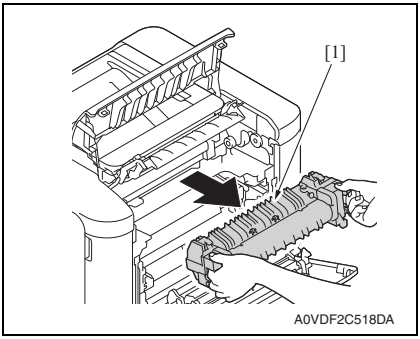
3. Open the eject cover [1].



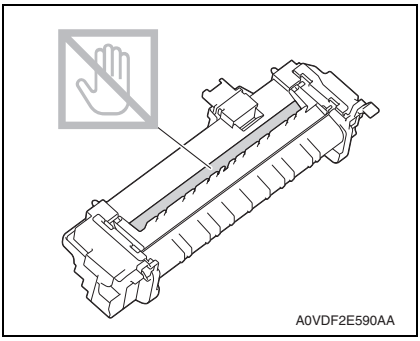
4. Open the fuser unit cover [1].



5. Pull down two levers [1].



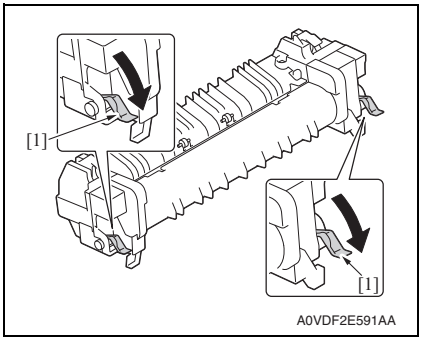
6. Remove the fuser unit [1].



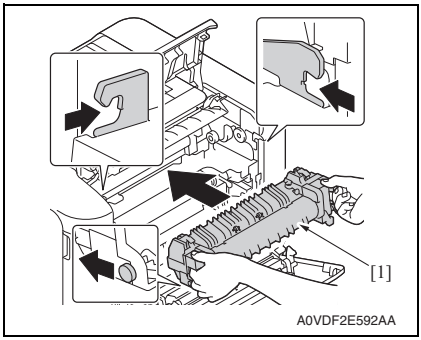
7. Prepare a new fuser unit.

NOTE

- **Be careful not to touch the surface of the fuser roller.**



8. Pull down two levers [1] of a new fuser unit.



9. Insert the fuser unit [1] until it locks into place.

10. To reinstall, reverse the order of removal.

11. From the Menu, select [ENGINE] → [ENGINE SERVICE] → [ENGINE SUPPLIES REPLACE] → [SUPPLIES REPLACE FUSER UNIT] and execute this function to reset the fuser unit counter value.

4.4 Feed section

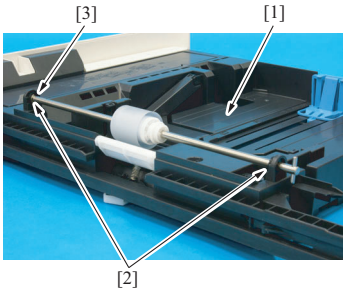
4.4.1 Replacing the tray2 feed roller

A. Periodically replaced parts/cycle

- Tray2 feed roller: Every 300,000 counts

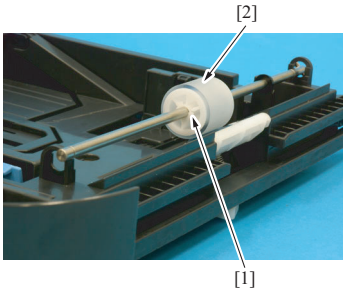
B. Procedure

1. Remove the tray2.

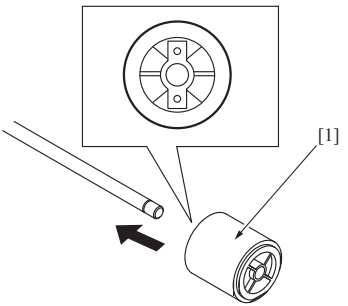


2. Lock the media lift metal plate [1].

3. Remove two E-rings [2] and the bushing [3].



4. Remove the C-ring [1], and remove the tray2 feed roller [2].



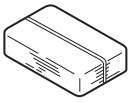
NOTE

- **When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration on the left.**

5. To reinstall, reverse the order of removal.

5. SERVICE TOOL

5.1 Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad	 A02EF2C526DA	000V-18-1	10pcs/1pack
Isopropyl alcohol	 A00KF2C506DA	000V-19-0	

5.2 CE tool list

Tool name	Shape	Quantity	Parts No.
Laser lens cleaning tool	 A0VDF2C553DA	1	A0VD 1089 ##

6. FIRMWARE REWRITING

6.1 Checking the current firmware version

1. Select [SPECIAL PAGES] - [CONFIG PAGE] from the menu and output the “Configuration Page” to check the current firmware version.
See P.67

NOTE

- **The current firmware version may also be checked on a panel display that is made available by selecting [ENGINE] - [ENGINE SERVICE] - [CONTROLLER VER.] or [ENGINE VER.].**

6.2 Firmware rewriting procedure by updater

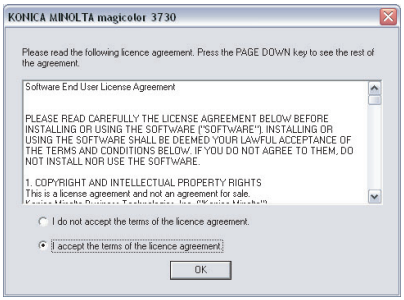
6.2.1 Controller firmware rewriting

- To rewrite the firmware, perform “Firmware Updater.”

NOTE

- **Make sure that the printer driver has been installed in the PC.**
- **Before starting the firmware updater, turn on the printer, and make sure that it is correctly connected.**

1. Download the firmware updater.
2. Double-click “DownLoader.exe.”
3. The license agreement is displayed. Select “I accept the teams of the license agreement.”, and then click the [OK].



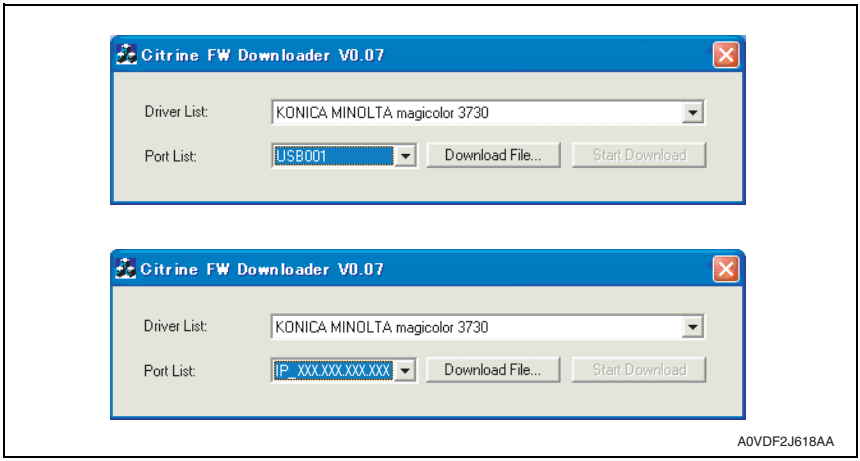
A0VDF2E626AA

4. From “Driver List:”, select [KONICA MINOLTA magicolor 3730].

A0VDF2J617AA

5. From “Port List:”, select [USB00X] (USB connection) or [IP_XXX.XXX.XXX.XXX] (network connection).

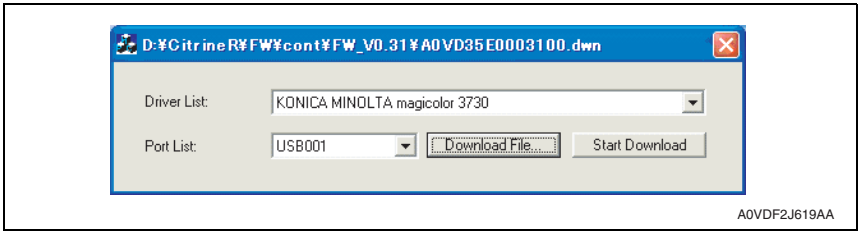
6. Click [Download File].



A0VDF2J618AA

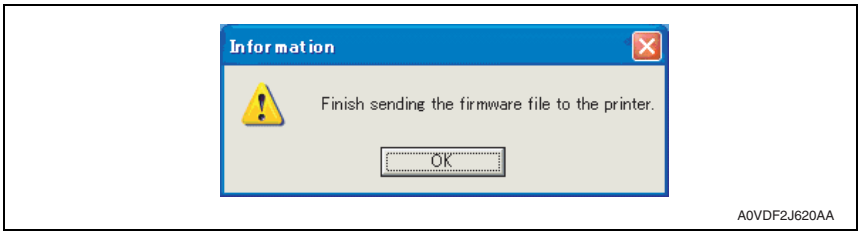
7. Select the file (that has an extension of .dwn) with which the firmware is to be upgraded and click [Open].

8. Click [Start Download].



A0VDF2J619AA

9. Click [OK].

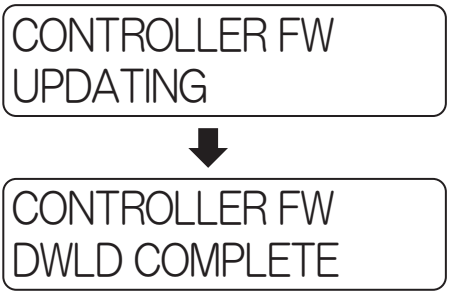


A0VDF2J620AA

10. When the message “CONTROLLER FW DWLD COMPLETE” appears on the screen, turn OFF and ON the printer’s power switch.

NOTE

- **Do not turn the printer’s power switch OFF while the firmware is rewriting.**



A0VDF2E624AA

11. Select [SPECIAL PAGES] - [CONFIG PAGE] from the menu and output the “Configuration Page” to check the firmware version.
See P.67

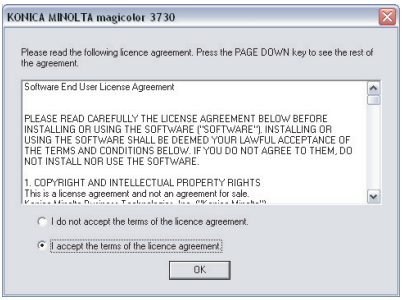
6.2.2 Engine firmware rewriting

- To rewrite the firmware, perform “Firmware Updater.”

NOTE

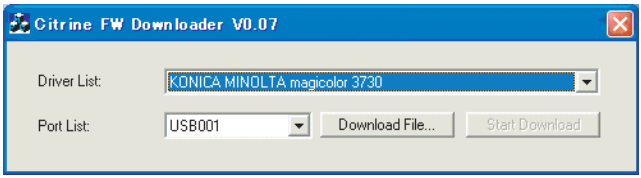
- **Make sure that the printer driver has been installed in the PC.**
- **Before starting the firmware updater, turn on the printer, and make sure that it is correctly connected.**

1. Download the firmware updater.
2. Double-click “DownLoader.exe.”
3. The license agreement is displayed. Select “I accept the teams of the license agreement.”, and then click the [OK].



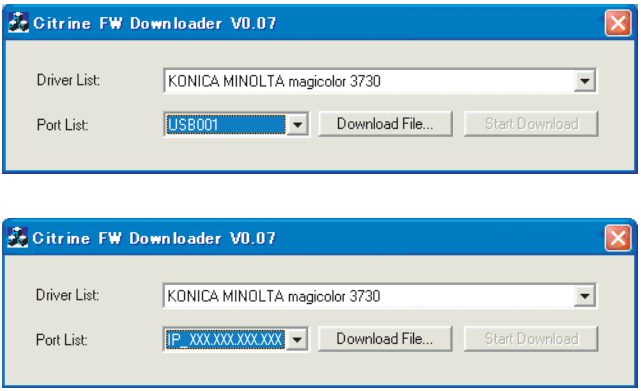
A0VDF2E626AA

4. From “Driver List:”, select [KONICA MINOLTA magicolor 3730].



A0VDF2J617AA

5. From “Port List:”, select [USB00X] (USB connection) or [IP_XXX.XXX.XXX.XXX] (network connection).
6. Click [Download File].

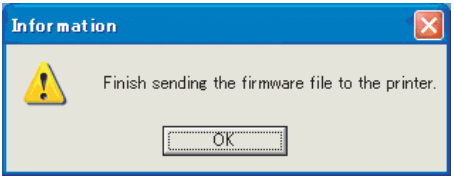


A0VDF2J618AA

7. Select the file (that has an extension of .bin) with which the firmware is to be upgraded and click [Open].
8. Click [Start Download].

A0VDF2J619AA

9. Click [OK].

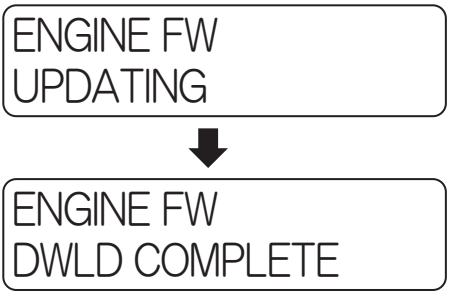


A0VDF2J620AA

10. When the message “ENGINE FW DWLD COMPLETE” appears on the screen, turn OFF and ON the printer’s power switch.

NOTE

- **Do not turn the printer’s power switch OFF while the firmware is rewriting.**



A0VDF2E625AA

11. Select [SPECIAL PAGES] - [CONFIG PAGE] from the menu and output the “Configuration Page” to check the firmware version.
See P.67

7. OTHER MAINTENANCE ITEM

7.1 Items not allowed to be disassembled and adjusted

A. Paint-locked screws

NOTE
- **To prevent loose screws, a screw lock in blue or green series color is applied to the screws.**
- **The screw lock is applied to the screws that may get loose due to the vibrations and loads created by the use of machine or due to the vibrations created during transportation.**
- **If the screw lock coated screws are loosened or removed, be sure to apply a screw lock after the screws are tightened.**

B. Red-painted screws

NOTE
- **The screws which are difficult to be adjusted in the field are painted in red in order to prevent them from being removed by mistake.**
- **Do not remove or loosen any of the red-painted screws in the field. It should also be noted that, when two or more screws are used for a single part, only one representative screw may be marked with the red paint.**

C. Variable resistors on board

NOTE
- **Do not turn the variable resistors on boards for which no adjusting instructions are given in Adjustment/Setting.**

D. Removal of PWBs

⚠ CAUTION
- **To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 7 minutes.**
- **When removing a circuit board or other electrical component, refer to "Handling of PWBs" and follow the corresponding removal procedures.**
- **The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.**
- **Where it is absolutely necessary to touch the ICs and other electrical components on the board, be sure to ground your body.**

E. Precautions for disassembly
- **When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of the frame and parts.**
  They may injure your hands or fingers.
- **If it is absolutely necessary to service the machine with the door open or external covers removed, always be attentive to the motion of the internal parts.**
  A normally protected part may cause unexpected hazards.
- **When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.**
  You may be injured by a falling part or unit.

F. Precautions during setup or transportation

- **Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work.**
  The fellow worker may be injured with his or her finger or hand pinched between the machine and the option.
- **When mounting an option on the machine, be careful about the clearance between the machine and the option.**
  You may be injured with your finger or hand pinched between the machine and the option.
- **Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action.**
  The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

7.1.1 PH unit

A. Reason for prohibition

- The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do no remove any screw which may disassemble the PH unit.

7.1.2 Fusing unit

A. Reason for prohibition

- Inner part of the fusing unit and the position of the fusing roller are adjusted prior to shipping. Do not remove any screw which may disassemble the fusing unit.

7.2 Disassembly/reassembly parts list

Section	Part name	Ref.Page
Exterior parts	Left cover	P.28
	Rear right cover	P.28
	Front right cover	P.29
	Upper cover	P.30
	Exit cover	P.28
	Operation panel	P.29
Boards and etc.	MFP board (MFPB)	P.32
	Printer control board (PRCB)	P.33
	DC power supply (DCPU)	P.35
	High voltage unit/1 (HV1)	P.37
	Temperature/ humidity sensor (TEM/HUMS)	P.59
	IDC sensor (IDC)	P.60
Units	Tray1	P.31
	Tray2	P.31
	PH unit	P.40
Other parts	Developing motor (M1)	P.41
	Main motor (M2)	P.42
	DC power supply fan motor (FM10)	P.42
	Cooling fan motor (FM11)	P.43
	Tray2 media feed clutch (CL1)	P.43
	Registration clutch (CL3)	P.44
	Toner supply motor/Y (CL4)	P.45
	Toner supply motor/M (CL5)	
	Toner supply motor/C (CL6)	
	Toner supply motor/K (CL7)	
	Loop detection clutch (CL8)	P.47
	Switchback roller feed clutch (CL11)	P.49
	Switchback roller reverse clutch (CL12)	
	Duplex conveyance roller clutch (CL13)	P.52
	2nd transfer release solenoid (SD2)	P.57

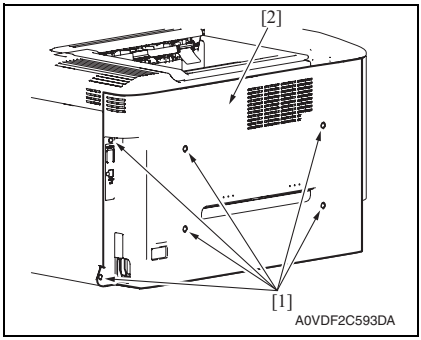
7.3 Cleaning parts list

Section	Part name	Ref.Page
Tray2	Tray2 feed roller	P.62
Processing section	Laser irradiation section	P.62

7.4 Disassembly/reassembly procedure

7.4.1 Left cover

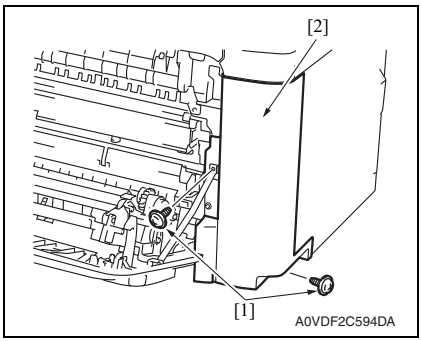
1. Open the front cover.
2. Slide out tray2.



3. Remove six screws [1], and remove the left cover [2].

7.4.2 Rear right cover

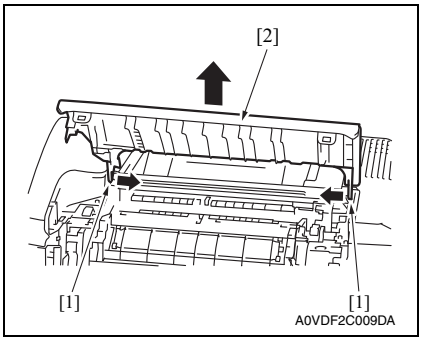
1. Open the right door.



2. Remove two screws [1], and remove the rear right cover [2].

7.4.3 Exit cover

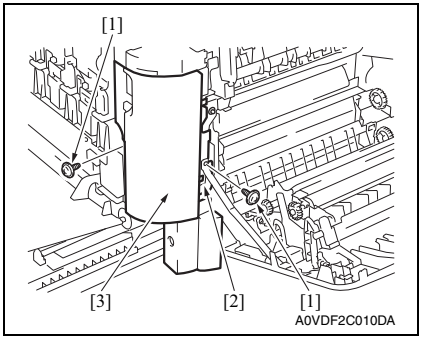
1. Open the right door.



2. Unlock two tabs [1], and remove the exit cover [2].

7.4.4 Front right cover

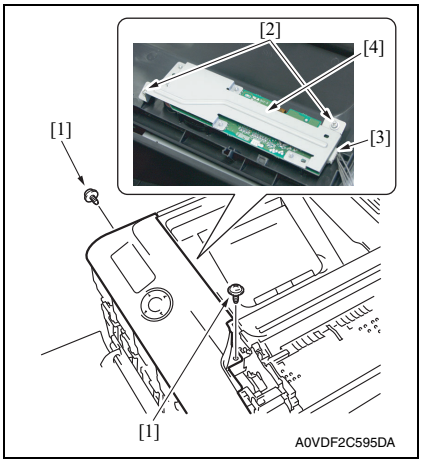
1. Remove the exit cover.
See P.28
2. Remove the operation panel.
See P.29
3. Open the right door.
4. Open the front door.



5. Remove two screws [1] and unlock the tab [2], and remove the front right cover [3].
6. To reinstall, reverse the order of removal.

7.4.5 Operation panel

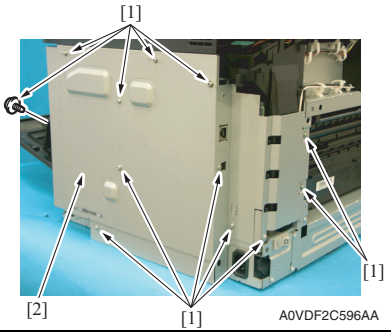
1. Remove the exit cover.
See P.28
2. Remove the left cover.
See P.28
3. Open the front door.



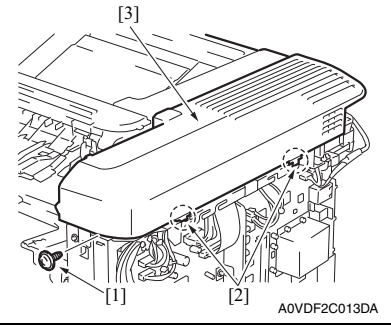
4. Remove two screws [1].
5. Remove two screws [2], and disconnect the connector [3].
6. Remove the operation panel [4].
7. To reinstall, reverse the order of removal.

7.4.6 Upper cover

1. Remove the exit cover.
See P.28
2. Remove the operation panel.
See P.29
3. Remove the left cover.
See P.28
4. Remove the rear right cover.
See P.28

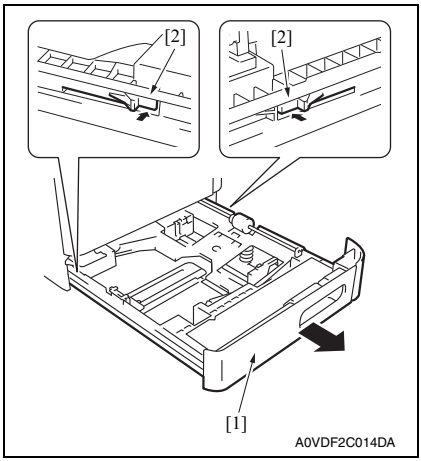


5. Remove twelve screws [1], and remove the board protective shield [2].



6. Remove the screw [1].
7. Unlock two tabs [2], and remove the upper cover [3].
8. To reinstall, reverse the order of removal.

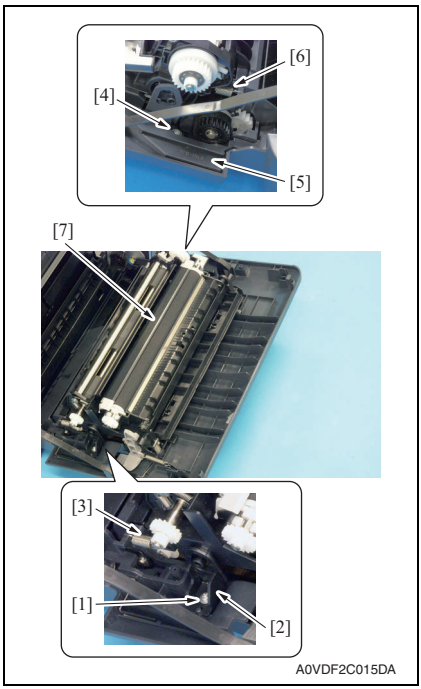
7.4.7 Tray2



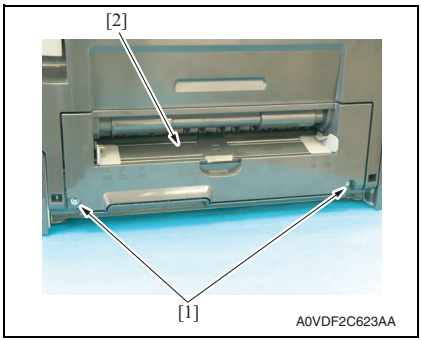
1. Pull out the tray 2 [1].
2. While pushing the left and right tabs [2], remove the tray 2 [1].
3. To reinstall, reverse the order of removal.

7.4.8 Tray1

1. Open the right door.



2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



7. Remove two screws [1], and remove the tray 1 [2].

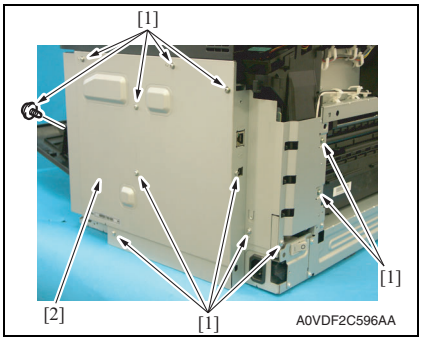
8. To reinstall, reverse the order of removal.

7.4.9 MFP board (MFPB)

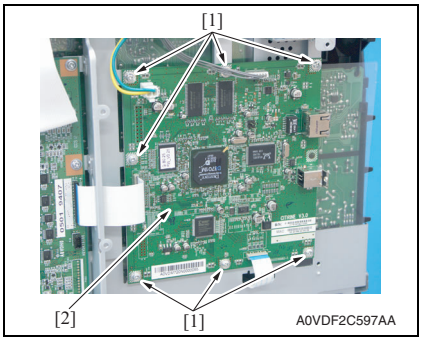
NOTE

- **When the MFP board is replaced, upgrade the firmware to the latest version.**
  See P.20
- **When the MFP board is replaced with a new one, be sure to execute [BK CLEAR].**
  See P.87

1. Remove the left cover.
   See P.28
2. Remove the rear right cover.
   See P.28



3. Remove twelve screws [1], and remove the board protective shield [2].



4. Disconnect all connectors and flat cables.
5. Remove seven screws [1], and remove the MFP board [2].

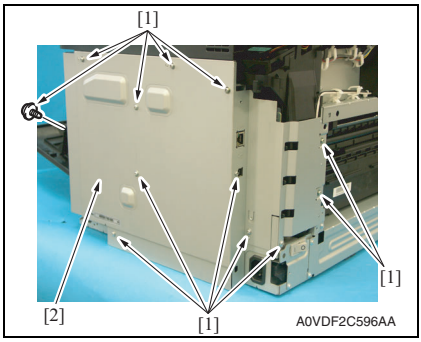
6. To reinstall, reverse the order of removal.

7.4.10 Printer control board (PRCB)

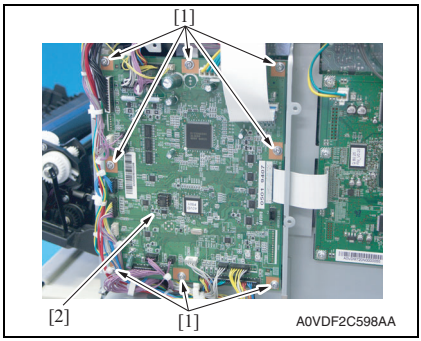
NOTE

- **When the printer control board is replaced with a new one, be sure to execute [BK CLEAR].**
  See P.87

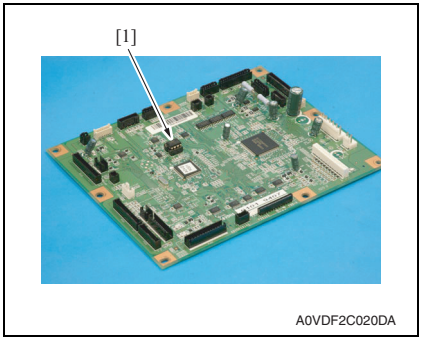
1. Remove the left cover.
   See P.28
2. Remove the rear right cover.
   See P.28



3. Remove twelve screws [1], and remove the board protective shield [2].

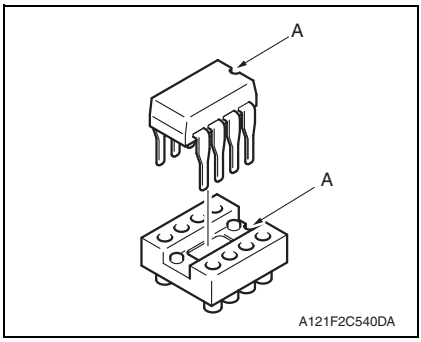


4. Disconnect all connectors and flat cables.
5. Remove eight screws [1], remove the printer control board [2].



NOTE

- **When the printer control board (PRCB) has been replaced, be sure to remount EEPROM (ICS1). Unmount EEPROM (ICS1) from the old printer control board and mount it on the new printer control board.**



6. To reinstall, reverse the order of removal.

NOTE

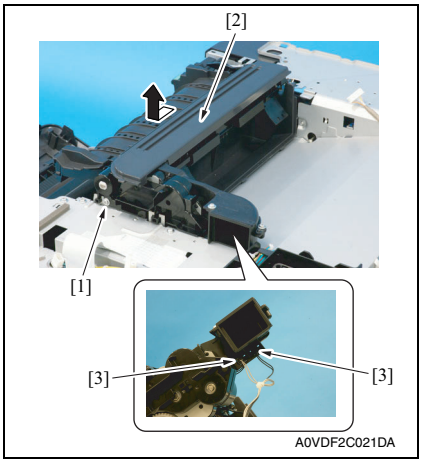
- **When mounting EEPROM (ICS1), make sure the notches "A" are precisely lined up.**

7.4.11 DC power supply (DCPU)

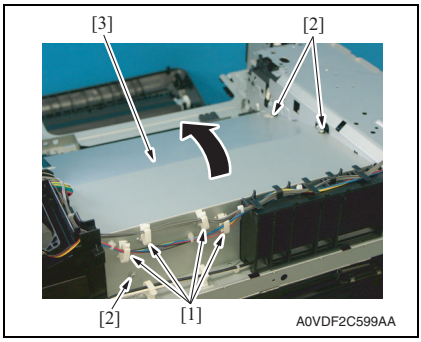
⚠ CAUTION

- **Note that in the event of DC power supply failure, it can take long before voltage drops even after turning OFF the power switch. To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 7 minutes.**

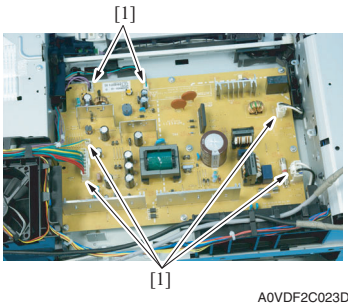
1. Remove the fuser unit. See P.15
2. Remove the exit cover. See P.28
3. Remove the left cover. See P.28
4. Remove the rear right cover. See P.28
5. Remove the operation panel. See P.29
6. Remove the upper cover. See P.30
7. Remove the cooling fan motor. See P.43



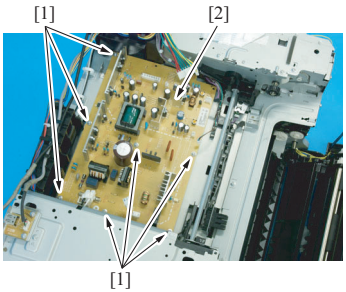
8. Remove the screw [1], and remove the exit drive assy [2].
9. Disconnect two connectors [3].



10. Remove the harness from four wire saddles [1].
11. Remove three screws [2], and remove the DC power supply protective cover [3].



12. Disconnect six connectors [1].

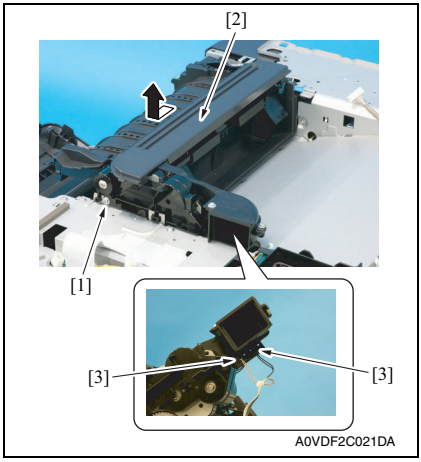


13. Remove seven screws [1], and remove the DC power supply [2].

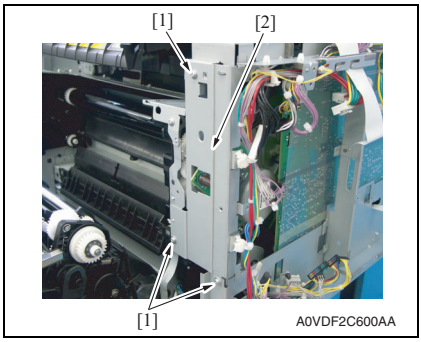
14. To reinstall, reverse the order of removal.

7.4.12 High voltage unit (HV1)

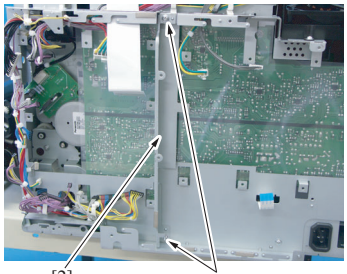
1. Remove the fuser unit.
See P.15
2. Remove the exit cover.
See P.28
3. Remove the left cover.
See P.28
4. Remove the rear right cover.
See P.28
5. Remove the operation panel.
See P.29
6. Remove the MFP board.
See P.32
7. Remove the printer control board.
See P.33
8. Remove the upper cover.
See P.30
9. Remove the DC power supply fan motor.
See P.35
10. Remove the cooling fan motor.
See P.43



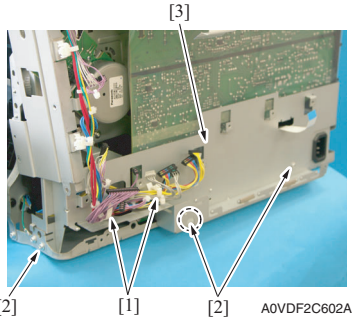
11. Remove the screw [1], and remove the exit drive assy [2].
12. Disconnect two connectors [3].



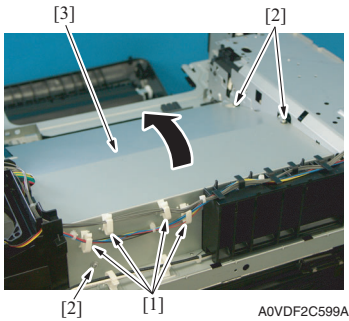
13. Remove three screws [1], and remove the metal plate [2].



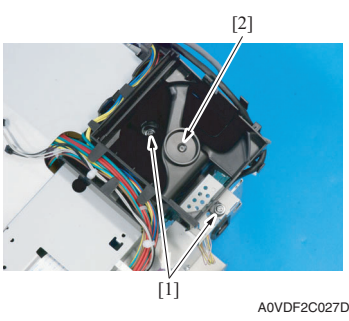
14. Remove two screws [1], and remove the mounting metal plate [2].



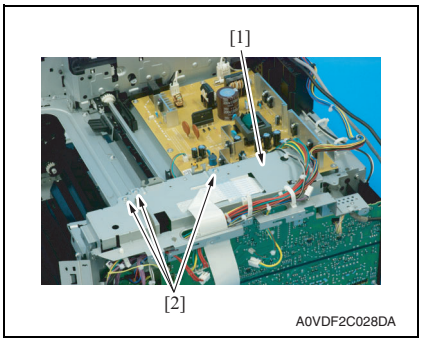
15. Remove the harness from two wire saddles [1].
16. Remove three screws [2], and remove the metal plate [3].



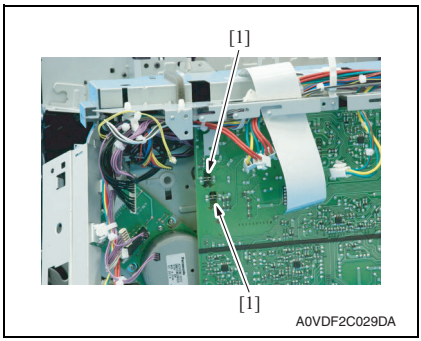
17. Remove the harness from four wire saddles [1].
18. Remove three screws [2], and remove the DC power supply protective cover [3].



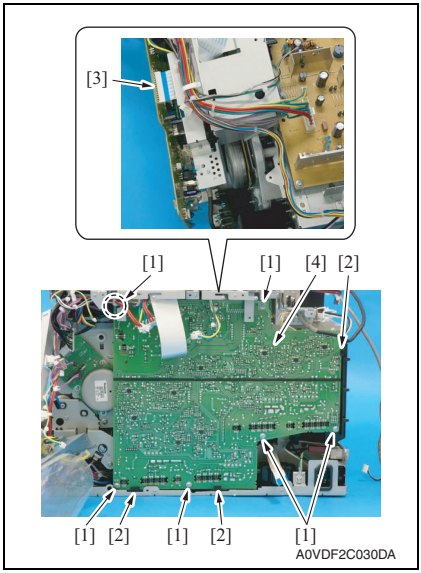
19. Remove two screws [1].
20. Remove the harness from the guide, and remove the duct [2].



21. Remove three screws [2] of the metal plate [1].



22. Detach the spring from two hooks [1].



23. Remove six screws [1] and three tabs [2].

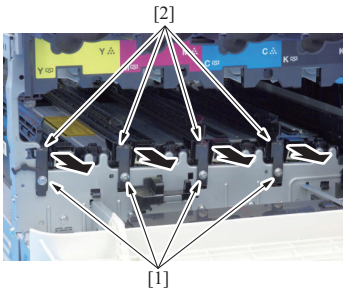
24. Disconnect the flat cable [3], and remove the high voltage unit [4].

25. To reinstall, reverse the order of removal.

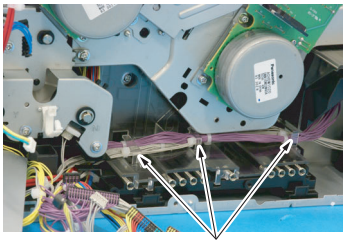
7.4.13 PH Unit

CAUTION
• **Do not replace the printer head unit while the power is ON. Laser beam generated during the above mentioned activity may cause blindness.**
• **Do not disassemble or adjust the printer head unit. Laser beam generated during the above mentioned activity may cause blindness.**

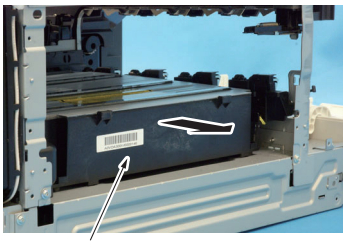
1. Remove the waste toner bottle.
   See P.10
2. Remove the toner cartridge (C, M, Y, K).
   See P.6
3. Remove the fuser unit.
   See P.15
4. Remove the exit cover.
   See P.28
5. Remove the left cover.
   See P.28
6. Remove the rear right cover.
   See P.28
7. Remove the upper cover.
   See P.30
8. Remove the operation panel.
   See P.29
9. Remove the MFP board.
   See P.32
10. Remove the printer control board.
    See P.33
11. Remove the high voltage unit.
    See P.37



12. Remove four screws [1], and remove four rails [2].



13. Remove the harness from three harness guides [1].

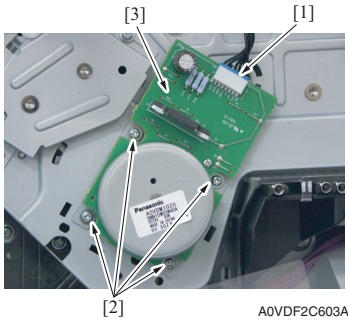


14. Remove the PH unit [1].

15. To reinstall, reverse the order of removal.

7.4.14 Developing motor (M1)

1. Remove the high voltage unit.
See P.37



2. Disconnect the connector [1].
3. Remove four screws [2], and remove the developing motor [3].

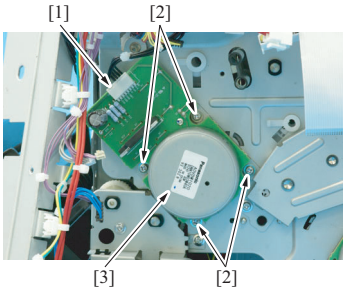
NOTE

- **When installing the motor, try to insert it straight, and take care not to damage the gears.**

4. To reinstall, reverse the order of removal.

7.4.15 Main motor (M2)

1. Remove the high voltage unit.
See P.37



2. Disconnect the connector [1].
3. Remove four screws [2], and remove the main motor [3].

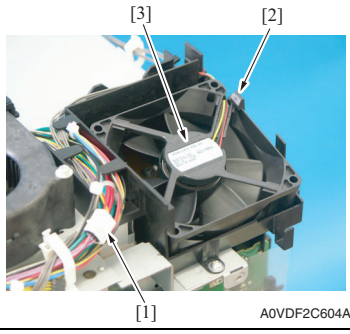
NOTE

- **When installing the motor, try to insert it straight, and take care not to damage the gears.**

4. To reinstall, reverse the order of removal.

7.4.16 DC power supply fan motor (FM10)

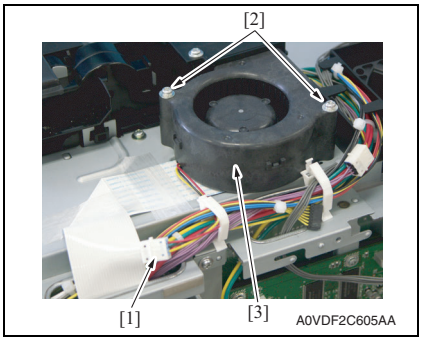
1. Remove the exit cover.
See P.28
2. Remove the operation panel.
See P.29
3. Remove the left cover.
See P.28
4. Remove the rear right cover.
See P.28
5. Remove the upper cover.
See P.30



6. Disconnect the connector [1].
7. Unlock the tab [2], and remove the DC power supply fan motor [3].
8. To reinstall, reverse the order of removal.

7.4.17 Cooling fan motor (FM11)

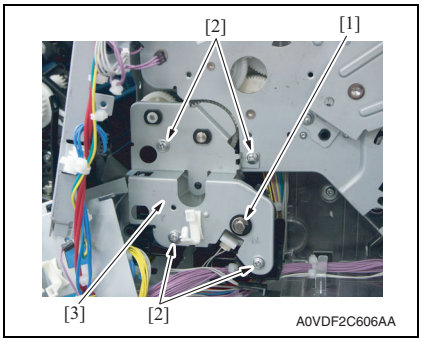
1. Remove the exit cover.
See P.28
2. Remove the operation panel.
See P.29
3. Remove the left cover.
See P.28
4. Remove the rear right cover.
See P.28
5. Remove the upper cover.
See P.30



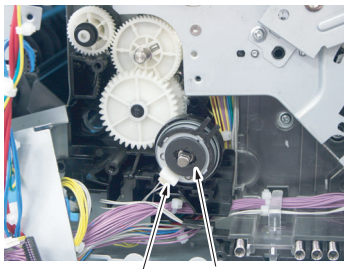
6. Disconnect the connector [1].
7. Remove two screws [2], and remove the cooling fan motor [3].
8. To reinstall, reverse the order of removal.

7.4.18 Tray2 media feed clutch (CL1)

1. Remove the high voltage unit.
See P.37
2. Remove the main motor.
See P.42



3. Remove the E-ring [1].
4. Remove four screws [2], and remove the fixing metal plate [3].

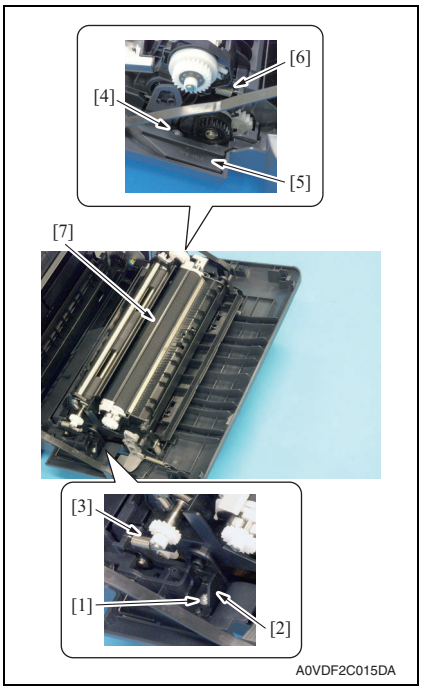


5. Disconnect the connector [1], and remove the tray2 media feed clutch [2].

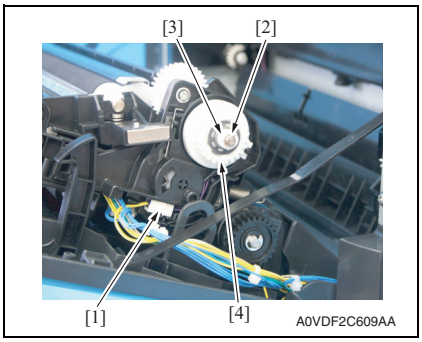
6. To reinstall, reverse the order of removal.

7.4.19 Registration clutch (CL3)

1. Open the right door.



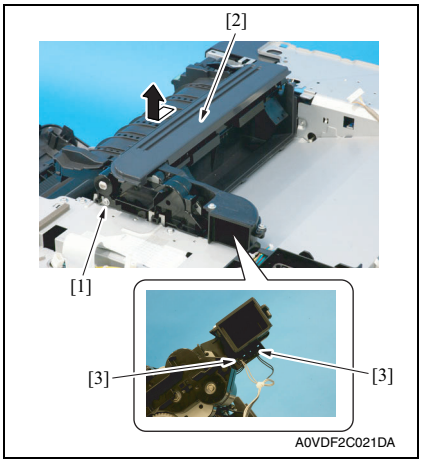
2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



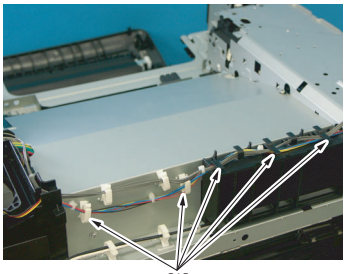
7. Disconnect the connector [1].
8. Remove the E-ring [2] and the bushing [3], and remove the registration clutch [4].
9. To reinstall, reverse the order of removal.

7.4.20 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)

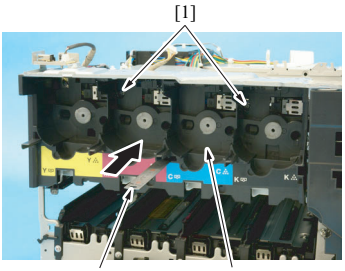
1. Remove the waste toner bottle.
See P.10
2. Remove the toner cartridge (C,M,Y,K).
See P.6
3. Remove the fuser unit.
See P.15
4. Remove the exit cover.
See P.28
5. Remove the left cover.
See P.28
6. Remove the rear right cover.
See P.28
7. Remove the upper cover.
See P.30
8. Remove the operation panel.
See P.29
9. Remove the cooling fan motor.
See P.43



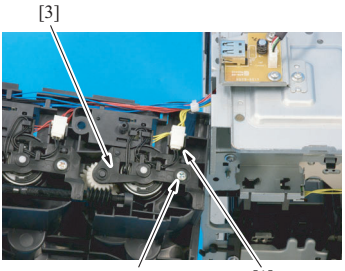
10. Remove the screw [1], and remove the exit drive assy [2].
11. Disconnect two connectors [3].



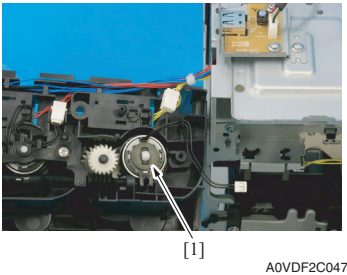
12. Remove the harness from five wire saddles [1].



13. Remove two screws [1].
14. While releasing the lock with the inserted scale [2] or another similar tool as shown in the illustration, remove the toner cartridge drive Assy [3].



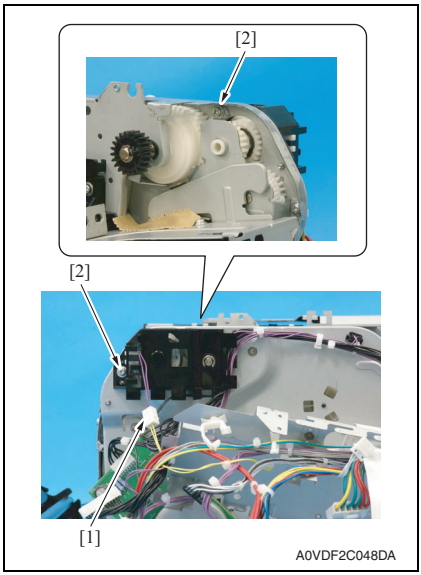
15. Remove the harness from guide, and disconnect the connector [1].
16. Remove the screw [2], and remove the cover [3].



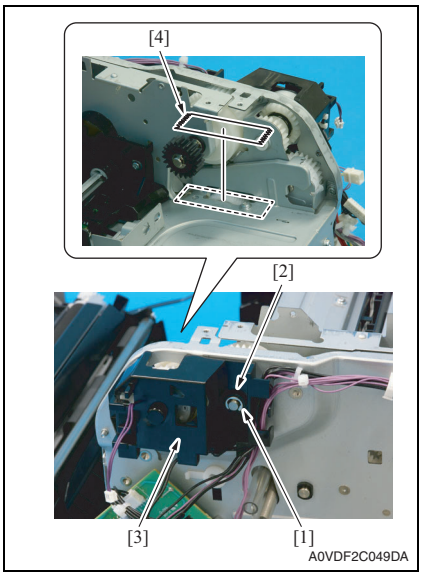
17. Remove the toner supply clutch [1].
18. To reinstall, reverse the order of removal.

7.4.21 Loop detection clutch (CL8)

1. Remove the high voltage unit.
See P.37



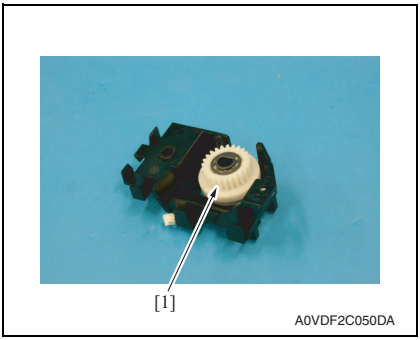
2. Disconnect the connector [1].
3. Remove two screws [2].



4. Remove the E-ring [1] and bushing [2], and remove the holder [3].

NOTE

- **Before removing the holder [3], attach tape or similar material [4] to the section shown in the illustration to prevent the shaft from falling down and being lost.**

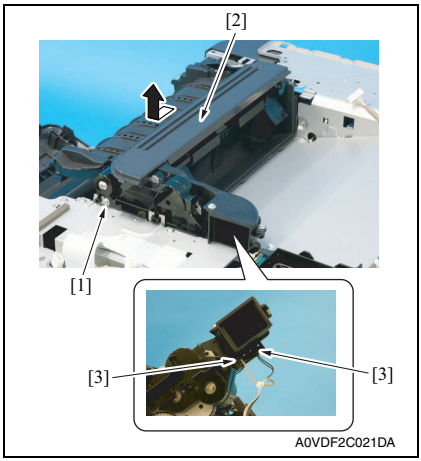


5. Remove the loop detection clutch [1].

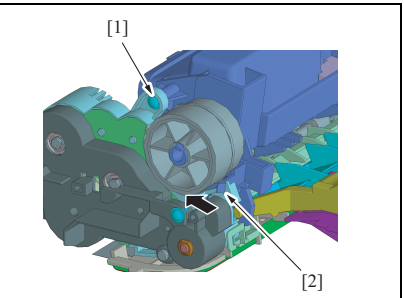
6. To reinstall, reverse the order of removal.

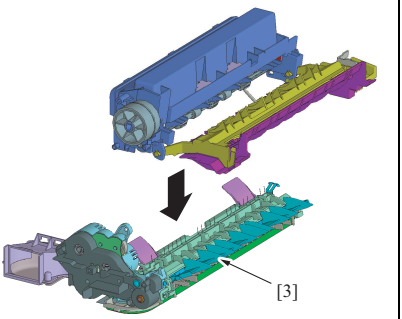
7.4.22 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)

1. Remove the fuser unit.
See P.15
2. Remove the exit cover.
See P.28
3. Remove the left cover.
See P.28
4. Remove the rear right cover.
See P.28
5. Remove the operation panel.
See P.29
6. Remove the upper cover.
See P.30
7. Remove the cooling fan motor.
See P.43

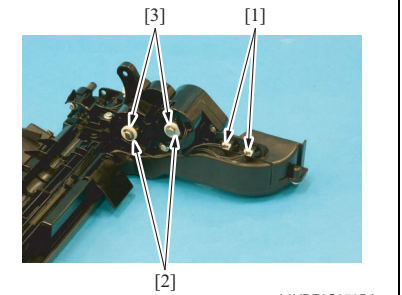


8. Remove the screws [1], and remove the exit drive assy [2].
9. Disconnect two connectors [3].

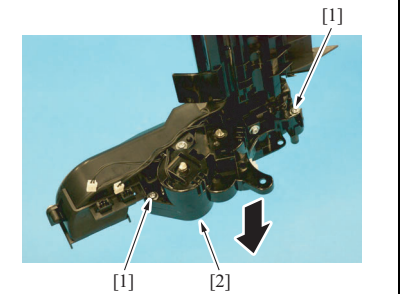




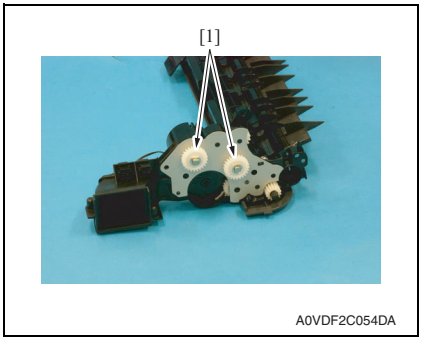
10. Remove the screw [1].
11. While pushing the tab [2] in the direction of the arrow to unlock it, disassemble and remove the exit drive assy [3].



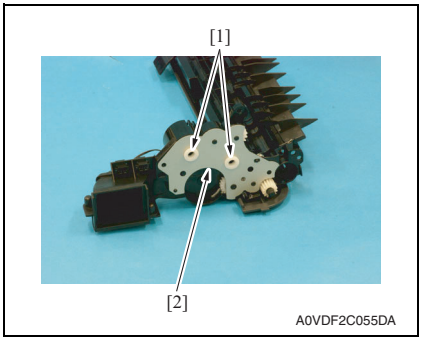
12. Disconnect two connectors [1].
13. Remove two E-rings [2] and two bushings [3].



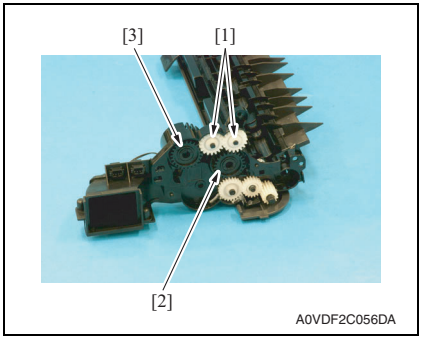
14. Remove two screws [1], and remove the gear assy [2].



15. Remove two gears assy [1].



16. Remove two bushings [1], and remove the metal plate [2].

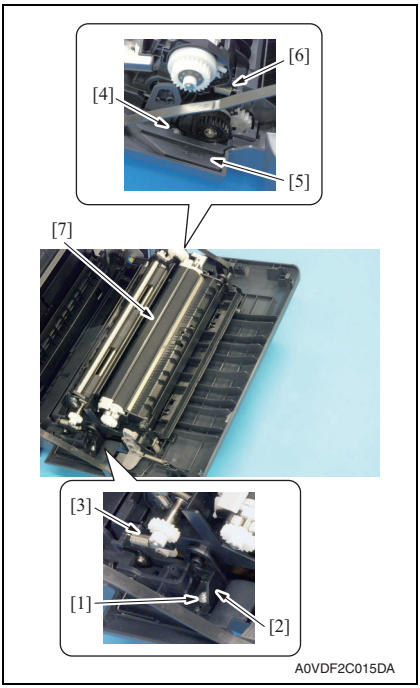


17. Remove two gears [1] and remove the switchback roller feed clutch [2] or the switchback roller reverse clutch [3].

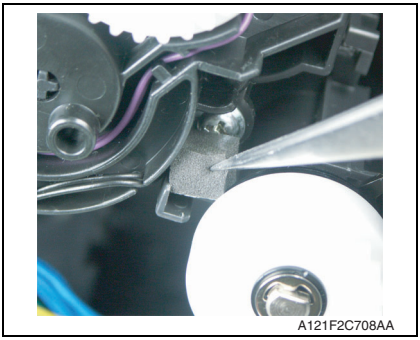
18. To reinstall, reverse the order of removal.

7.4.23 Duplex conveyance roller clutch (CL13)

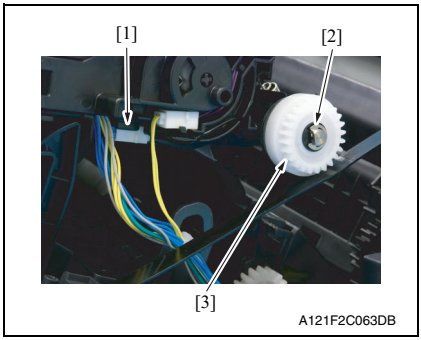
1. Open the right door.



2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].

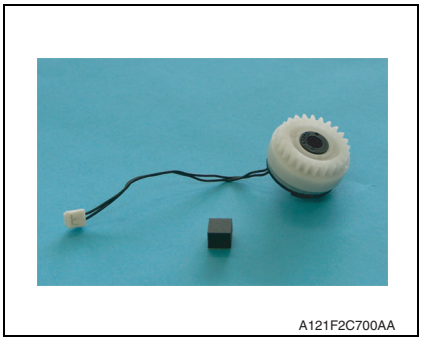


7. Remove the heavy sponge.

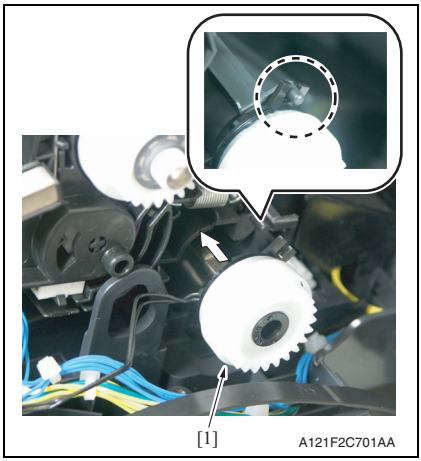


8. Remove the hookup connector from the holder and pull out the connector [1].
9. Remove the E-ring [2] and remove the duplex conveyance roller clutch [3].

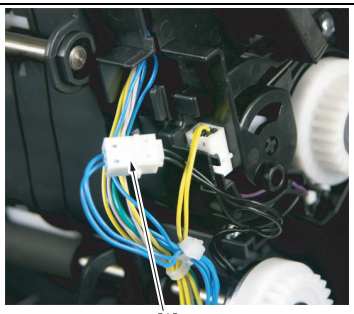
7.4.24 Installation of the duplex conveyance roller clutch (CL13)



1. Prepare the heavy sponge shipped with the replacement clutch.

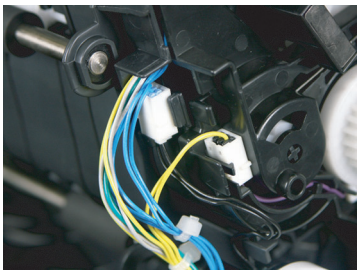


2. Install the duplex conveyance roller clutch [1] and fix it with the E-ring.



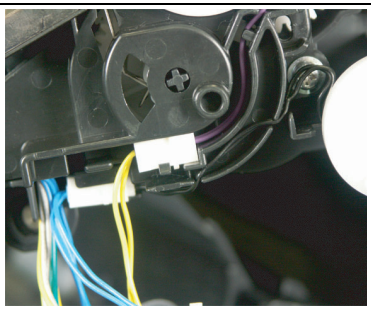
A121F2C702AA

3. Connect the duplex conveyance roller clutch connector [1].



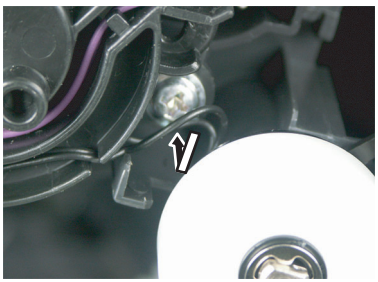
A121F2C703AA

4. Fix the hookup connector of the duplex conveyance roller clutch to the holder of the conveyance unit.



A121F2C704AA

5. Route the harness of the duplex conveyance roller clutch as illustrated on the left.

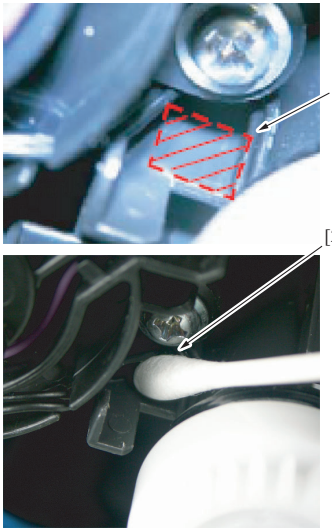


A121F2C705AA

6. Using tweezers or similar tool, tidy up the harness on the duplex conveyance roller clutch side by pushing it in the direction of the arrow.

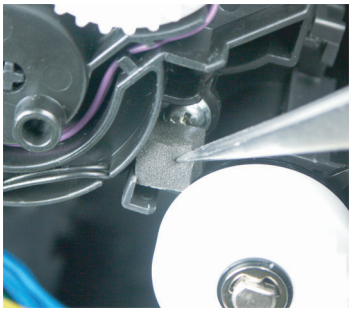
A121F2C706AA

7. Make sure that the harness is neatly stored inside.



A121F2C707AA

8. Dampen a cotton swab with alcohol and clean [2] the shaded area [1] shown on the left.

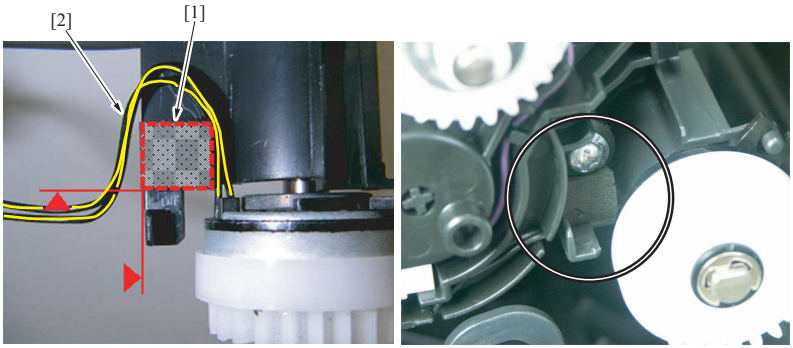


A121F2C708AA

9. Mount the heavy sponge shipped with the clutch on the area cleaned earlier.

NOTE

- **When mounting the heavy sponge, affix it at the location [1] shown in the affixing standard.**
- **Make sure that the heavy sponge and the harness [2] are not in contact with the harness when the heavy sponge is mounted.**

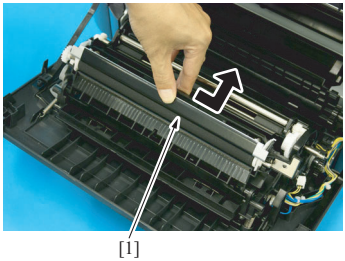


A121F2C709AA

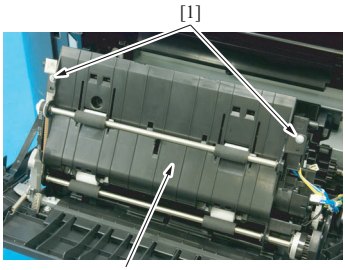
10. Perform steps from 6 to 1 of the duplex conveyance roller clutch (CL13).
See P.52

7.4.25 2nd transfer release solenoid (SD2)

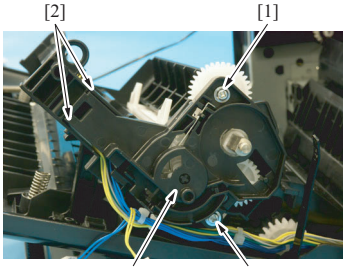
1. Remove the registration clutch.
See P.44



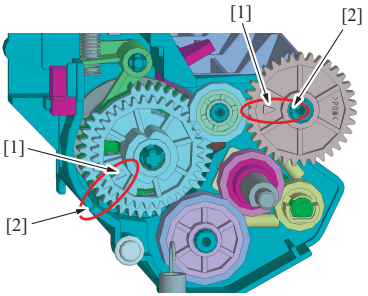
2. Remove the 2nd transfer roller unit assy [1].



3. Remove two screws [1], and remove the duplex conveyance roller assy [2].

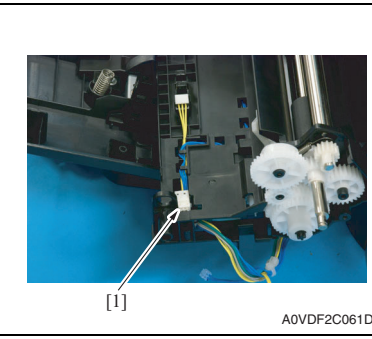


4. Remove two screws [1] and unlock two tabs [2], and remove the holder [3].

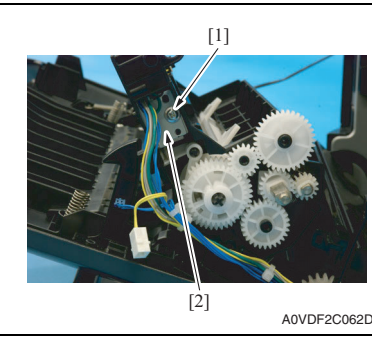


NOTE

- **If the gears come off and they need to be reinstalled, align the arrow [1] on the gear with the marked line [2] on the holder.**



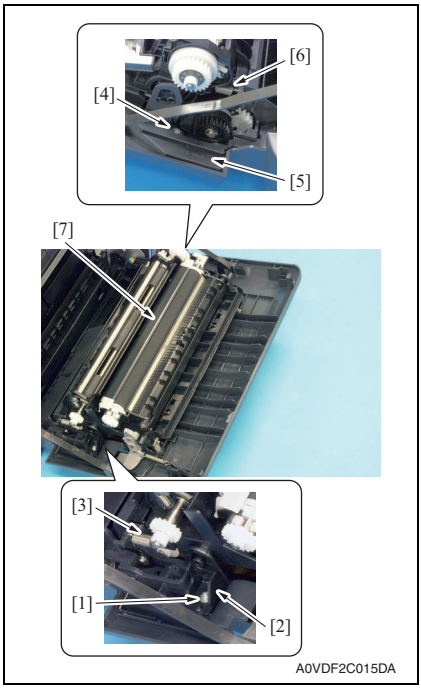
5. Disconnect the connector [1].



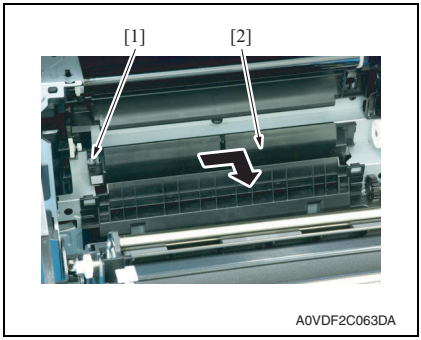
6. Remove the screw [1], and remove the 2nd transfer release solenoid [2].

7.4.26 Temperature/ humidity sensor (TEM/HUMS)

1. Open the right door.



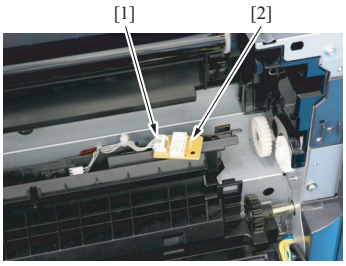
2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove the screw [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].



7. Remove the screw [1] and remove the sensor holder [2] as shown in the illustration on the left.

NOTE

- **Do not jerk off the sensor holder, to which a harness is connected.**

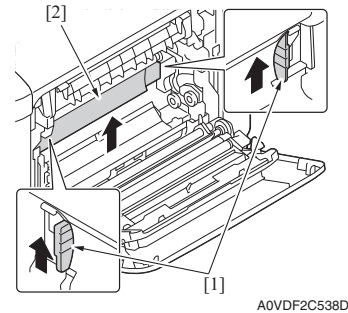


8. Disconnect the connector [1], and remove the temperature/humidity sensor [2].

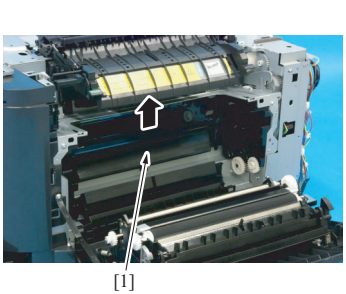
9. To reinstall, reverse the order of removal.

7.4.27 IDC sensor (IDC)

1. Remove the waste toner bottle.
See P.10
2. Remove the toner cartridge (C,M,Y,K).
See P.6
3. Remove the transfer belt.
See P.11



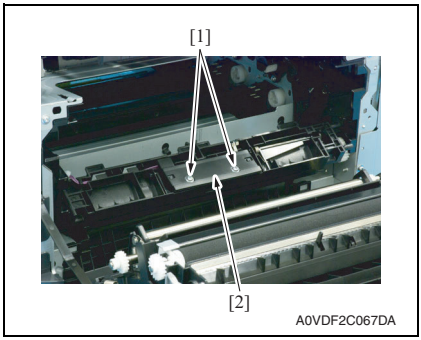
4. Hold the both handles [1] and raise the guide [2].



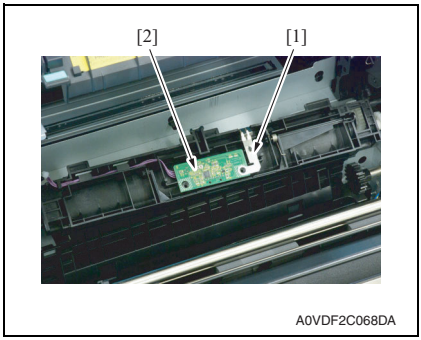
5. Raise the guide [1] further and remove it.

NOTE

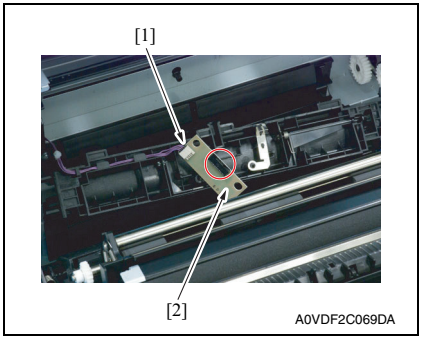
- **Do not jerk off the sensor holder, to which a harness is connected.**



6. Remove two screws [1], and remove the sensor cover [2].



7. While slightly raising the ground plate [1], remove the IDC sensor [2].



8. Disconnect the connector [1], and remove the IDC sensor [2].

NOTE

- **Be careful not to break the sensor head of the IDC sensor.**

9. To reinstall, reverse the order of removal.

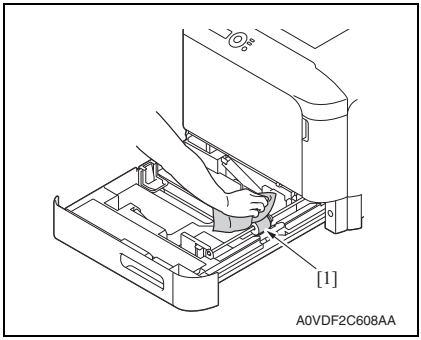
7.5 Cleaning procedure

NOTE

- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

7.5.1 Tray2 feed roller

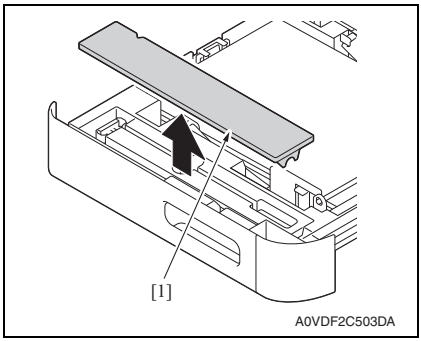
1. Slide out tray2.



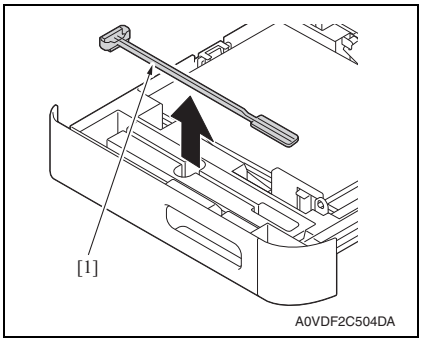
2. Using a cleaning pad dampened with alcohol, wipe the tray2 feed roller [1] clean of dirt.

7.5.2 Laser irradiation section

1. Slide out tray2.

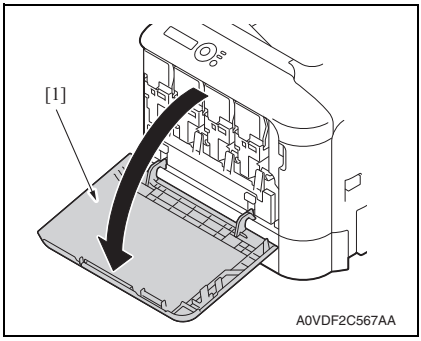


2. Remove the cover [1].

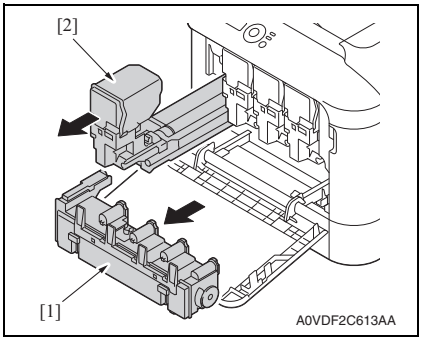


3. Remove the laser lens cleaning tool [1].

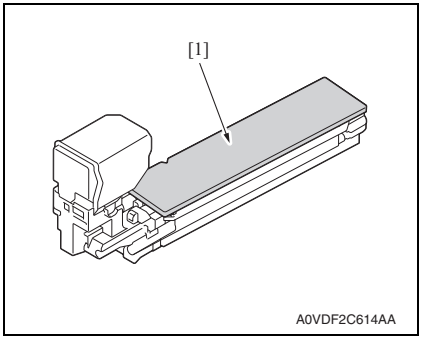
4. Close the tray2.



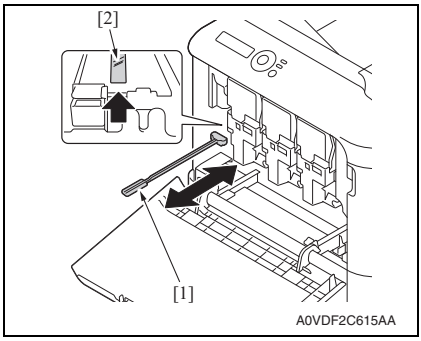
5. Open the front door [1].



6. Remove the waste toner bottle [1].
See P.10
7. Remove the toner cartridge [2].
See P.6



8. Attach the cover [1] to the removed toner cartridge.



9. Insert the laser lens cleaning tool [1] into the laser aperture [2], pull it out, and then repeat this back and forth movement 2 or 3 times.

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ADJUSTMENT/SETTING

8. HOW TO USE THE ADJUSTMENT/SETTING SECTION

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

Advance checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:

- The power supply voltage meets the specifications.
- The power supply is properly grounded.
- The machine shares the power supply with any other machine that draws large current intermittently (e.g., elevator and air conditioner that generate electric noise).
- The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit glass, or related part is dirty.
- Correct paper is being used for printing.
- The units, parts, and supplies used for printing (developer, PC drum, etc.) are properly replenished and replaced when they reach the end of their useful service life.
- Toner is not running out.

⚠ CAUTION

- **To unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.**
- **Take care not to damage the PC drum with a tool or similar device.**
- **Do not touch IC pins with bare hands.**

9. MENU

9.1 List of menu functions

MENU			
SPECIAL PAGES	CONFIG PAGE		
	MENU MAP		
LANGUAGE			
ENGINE	ENERGY SAVER		
	AUTO CONTINUE		
	ENGINE SERVICE	TOTAL FACE COUNT	
		COLOR FACE COUNT	
		BW FACE COUNT	
		BOOT VER.	
		FPGA VER.	
		CONTROLLER VER.	
		ENGINE VER.	
		COLOR CALIBRATION	
		ENGINE SUPPLIES REPLACE	SUPPLIES REPLACE TRANS. BELT
			SUPPLIES REPLACE TRANS. ROLLER
			SUPPLIES REPLACE FUSER UNIT
		RESTORE USER DEFAULT	
NETWORK	IP ADDRESS	IP ADDRESS SET AUTO	
		IP ADDRESS SET SPECIFY	IP ADDRESS
			SUBNET MASK
			GATEWAY
	DHCP		
	BOOTP		
	ARP/PING		
	MAC ADDRESS		
	HTTP		
	BONJOUR		
	IPP		
	SNMP		
	FORCED MODES		
CONSUMABLE USAGE			
INTERFACE	USB TIME OUT		
	NETWORK TIME OUT		

9.2 CONFIG PAGE

- To check the status and the usage of the machine (consumables, maintenance parts and paper).

9.2.1 Sample of the configuration page

```
                                        Product Name: KONICA MINOLTA magicolor 3730

Configuration Page

-Supplies Status-              Status          Remaining%      Cartridge Type
  Toner Cartridge Cyan           Ready             73%            High
  Toner Cartridge Magenta        Ready             75%            High
  Toner Cartridge Yellow         Ready             83%            High
  Toner Cartridge Black          Near Empty        30%            High
  Waste Toner Bottle             Ready


-Coverage Information-    (Normalization: All sizes converted to A4 equivalent)
  Normalized Total Faces Counter        Normalized Coverage Information
    Color Faces Printed      241          Color Average            0.2
    B/W Faces Printed        782          B/W Average              0.1
    Total                    1023
                                        Current Toner Cartridge    Last Job
  Normalized Faces Coverage               Average% C      0.0        Average% C  0.0
    Color Faces              0.2          Average% M      0.0        Average% M  0.0
    B/W Faces                0.2          Average% Y      0.0        Average% Y  0.0
    Total                    0.2          Average% K      0.1        Average% K  0.0


-Counter-
  Total page Counter:        64          Total Duplex Counter:        0
    Color Faces Counter      64            Color Faces Counter        0
    B/W Faces Counter        64            B/W Faces Counter          0

  Sheets Printed By paper Tray
    Tray1                    4
    Tray2                    60


-Paper-
  Sheets Printed By paper Size          Sheets Printed By paper Type
    A4                       48           Plain Paper   64       Envelope      0
    B5(JIS)                  0            Recycled      0        Letterhead    0
    A5                       0            Thick1        0        Postcard      0
    Legal                    0            Thick2        0        label         0
    Letter                   16           Glossy1       0
    Others                   0            Glossy2       0


-Machine Setting-                       -Network Setting-
  Serial Number          A0VDXXXXXXXXX    Network Interface  Ethernet10/100BaseTX
  Panel Language         English          Bonjour Discovery  ON
  Memory                 32MB             DHCP               ON
  Auto Continue          ON               BOOTP              ON
  Duplex                 Not Installed    HTTP               ON
  Energy Save Mode(min)  30               SNMP               ON
                                          IP Address         XXX.XXX.XXX.XXX
                                          Subnet Mask        XXX.XXX.XXX.XXX
-Firmware Version-                        Gateway Address    XXX.XXX.XXX.XXX
  Engine             A0VDXXXXXXXXX        MAC Address        XX:XX:XX:XX:XX:XX
  Controller         A0VDXXXXXXXXX
  Boot Loader        A0VDXXXXXXXXX
  FPGA                     XXX


-PM Parts Information-     Remaining%
  Transfer Belt Unit          89%
  Transfer Roller            100%
  Fuser Unit                  89%

0/0/0/0/0/0/0/0/0/0/0/0/0/0/
100/0/89/1/89/0/0000/18/46/4/0/0/
```

A0VDF3E551DA

A. Supplies Status

- Display the estimated percent of life remaining in the toner cartridge.
  The type of the toner cartridges that are installed in the printer is also displayed.
  (See the table below)
- Display the status of the waste toner bottle.

Types of toner cartridges	
Starter	• Toner cartridge included with a product shipped from the factory: 2.0 K (K), 1.0 K (Y,M,C)
Standard	• Standard-capacity toner cartridge: 3.0 K
High	• High-capacity toner cartridge: 5.0 K

NOTE

- **The percent of life remaining in the toner cartridge can be used as a guide, but may not exactly reflect the amount that has been used in the toner cartridge.**

B. Coverage Information

- Each coverage information is calculated and displayed based on the description shown in the following table.

<Coverage information list>

Coverage information		Contents
Normalized Total Faces Counter	Color Faces Printed	• Number of color printed pages converted into the standard page size (A4/Letter) 1-side: +1, 2-sides: +2
	B/W Faces Printed	• Number of monochrome printed pages converted into the standard page size (A4/Letter) 1-side: +1, 2-sides: +2
	Total	• Number of total printed pages converted into the standard page size (A4/Letter)
Normalized Total Faces Coverage	Color Faces (%)	• Average of total dot coverage of color PC-print printed pages converted into the standard page size (A4/Letter) • Average of total color print printed dot ratio when page area of each page is assumed as 100 % Minimum unit is 0.1%
	B/W Faces (%)	• Average of total dot coverage of monochrome PC-print printed pages converted into the standard page size (A4/Letter) • Average of total monochrome print printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%
	Total (%)	• Average of total dot coverage of PC-print printed pages converted into the standard page size (A4/Letter) • Average of total PC-print printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%

Coverage information		Contents
Normalized Coverage Information	Color Average (%)	• Average of total dot coverage of color print into the standard page size (A4/Letter) • Average of total color printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%
	B/W Average (%)	• Average of total dot coverage monochrome printing into the standard page size (A4/Letter) • Average of total monochrome printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%
	Current Toner Cartridge (%)	• Average of total dot coverage of each color. • Average of total printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%
	Last Job (%)	• Average of dot coverage of each color of the final job • Average printed dot ratio when page area of each page is assumed as 100% Minimum unit is 0.1%

NOTE

- **Coverage information can be used as a guide and may not completely reflect the actual amount of toner used.**

C. Counter

- The total number of pages that have been printed is counted and displayed based on the description shown in the following table.

<Counter information list>

Types of count	Contents
Total page Counter	• Total page Counter = Color Faces Counter + B/W Faces Counter
Color Faces Counter	• Number of color printed pages 1-side: +1, 2-sides +2
B/W Faces Counter	• Number of monochrome printed pages 1-side: +1, 2-sides +2
Total Duplex Counter	• Total Duplex Counter = Color Faces Counter + Monochrome Faces Counter
Color Faces Counter	• Number of color duplex printed sheets 1-side: +0, 2-sides +1
B/W Faces Counter	• Number of monochrome duplex printed sheets 1-side: +0, 2-sides +1
Sheets Printed By Paper Tray	• Number of sheet of each tray 1-side: +1, 2-side +1

NOTE

- **The total counters and the print counters count at a different timing, when a sheet of media is properly ejected and when a sheet of media is fed, respectively. Therefore, the sum of each total counter value may not be same with the sum of each print counter value if a sheet of media cannot be ejected due to media jam inside the machine or other possible problems.**

D. Paper

- Display the number of printed pages according to the size/type of media.

E. Machine Setting

- Display the following information as they relate to the machine.
  Serial number/current panel language/memory capacity/Auto Continue setting/duplex installation state/Energy Save Mode setting

F. Network Setting

- Display the network settings of the machine.

G. Firmware Version

- Display the firmware version of the machine.

H. PM Parts Information

- Display the estimated percent of life remaining in periodic replacement parts and units such as the transfer roller unit, transfer belt unit and fusing unit.

I. How to read consumable/periodic replacement parts (units) counter information.

- The lower left part of the configuration page shows numerical values that represent consumable/periodic replacement parts (units) counter information.
  The table below explains counter information that is provided by each numerical data.

<Display on the [Counter] tab>

0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0
0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0 / 0

<Meaning of counter value> (From the left of the numerical values)

No.	Contents
1	• Number of times a High-capacity toner cartridge (K) has been replaced
2	• Number of times a Standard-capacity toner cartridge (K) has been replaced
3	• Number of times a non-genuine toner cartridge (K) has been replaced
4	• Number of times a High-capacity toner cartridge (C) has been replaced
5	• Number of times a Standard-capacity toner cartridge (C) has been replaced
6	• Number of times a non-genuine toner cartridge (C) has been replaced
7	• Number of times a High-capacity toner cartridge (M) has been replaced
8	• Number of times a Standard-capacity toner cartridge (M) has been replaced
9	• Number of times a non-genuine toner cartridge (M) has been replaced
10	• Number of times a High-capacity toner cartridge (Y) has been replaced
11	• Number of times a Standard-capacity toner cartridge (Y) has been replaced
12	• Number of times a non-genuine toner cartridge (Y) has been replaced
13	• If non-genuine toner cartridge was used (detected), value is 1. (default is 0)
14	• If refilled toner cartridge was used (detected), value is1. (default is 0)
1	• Transfer roller remaining; 0 to 100 (%)
2	• Number of times a transfer roller has been replaced
3	• Transfer belt unit remaining; 0 to 100 (%)
4	• Number of times a transfer belt unit has been replaced

No.	Contents	
5	• Fusing unit remaining; 0 to 100 (%)	
6	• Number of times a fusing unit has been replaced	
7	Start date of use *1	Year (e.g. The year 2010 is displayed as 0.)
		Month (e.g. January is displayed as A. February is B. March is C. and December is L.)
		Day (e.g. The day 1 is displayed as 01.)
8	• Number of report (Configuration page or Menu map) printed pages	
9	• Number of PC-print printed pages 1-side; +1, 2-sides; +2	
10	• Not used	
11	• Not used.	
12	• Not used.	

*1: Start date of use begins when 300 prints from the first print job.

9.3 RESTORE USER DEFAULT

- Restores various settings to their default values.
- Use when restoring settings to their default values.
- The following settings will be restored.
  [ENGINE] → [ENERGY SAVER]
  [ENGINE] → [AUTO CONTINUE]
  [NETWORK]
  [INTERFACE]

1. Select [RESTORE USER DEFAULT] and press the Menu/Select key.
2. Select [YES] and press the Menu/Select key.
3. "USER DEFAULT IS SELECTED" will be displayed for 2 seconds, then controller starts to reset by itself, and the status returns to the status it settings have been restored.

A. List of reset items and its default value

Item			Default value
ENGINE	ENERGY SAVER		30 MINUTES
	AUTO CONTINUE		ON
NETWORK	IP ADDRESS SET		AUTO
	IP ADDRESS SET SPECIFY	IP ADDRESS	192.168.1.2
		SUBNET MASK	255.255.255.0
		GATEWAY	192.168.1.1
	DHCP		ON
	BOOTP		OFF
	ARP/PING		OFF
	HTTP		ON
	BONJOUR		ON
	IPP		ON
	SNMP		ON
	FORCED MODES		AUTO/AUTO/ON
INTERFACE	USB TIME OUT		60
	NETWORK TIME OUT		60

10. USER SERVICE

10.1 List of user service

USER SERVICE				Ref. Page
E. SAVE OFF				P.77
ADJUST	FLICKER			P.78
	THICK MODE			P.78
	TOP ADJUSTMENT			P.79
	TOP ADJ DUPLEX			P.79
	LEFT ADJUSTMENT			P.80
	LEFT ADJ DUPLEX			P.81
	TRANSFER POWER	SIMPLEX PASS		P.82
		DUPLEX PASS		P.82
	FINE LINE ADJ			P.83
	AIDC MODE			P.84
	MAIN-SCAN SCALE	MAIN SCAN PAGE		P.84
		ADJUST VALUE	YELLOW	P.85
			MAGENTA	
			CYAN	

- See SERVICE PERSON for how to set each item.

10.2 Starting/Exiting

10.2.1 Starting procedure

NOTE

- **Make sure not to reveal the procedure of entering the USER SERVICE menu to any unauthorized person.**

1. Press the Menu/Select key.
2. Press the left key◀ for more than 2 seconds.
3. USER SERVICE menu will appear.

10.2.2 Exiting procedure

- Press the left key◀ or the Cancel key.

11. SERVICE PERSON

11.1 List of service person

<table>
<tr><th colspan="4">SERVICE PERSON</th><th>Ref. Page</th></tr>
<tr><td>FACTORY DEFAULT</td><td colspan="3"></td><td>P.76</td></tr>
<tr><td>E. SAVE OFF</td><td colspan="3"></td><td>P.77</td></tr>
<tr><td rowspan="20">ADJUST</td><td colspan="3">FLICKER</td><td>P.78</td></tr>
<tr><td colspan="3">THICK MODE</td><td>P.78</td></tr>
<tr><td colspan="3">TOP ADJUSTMENT</td><td>P.79</td></tr>
<tr><td colspan="3">TOP ADJ DUPLEX</td><td>P.79</td></tr>
<tr><td colspan="3">LEFT ADJUSTMENT</td><td>P.80</td></tr>
<tr><td colspan="3">LEFT ADJ DUPLEX</td><td>P.81</td></tr>
<tr><td rowspan="2">TRANSFER POWER</td><td colspan="2">SIMPLEX PASS</td><td>P.82</td></tr>
<tr><td colspan="2">DUPLEX PASS</td><td>P.82</td></tr>
<tr><td colspan="3">FINE LINE ADJ</td><td>P.83</td></tr>
<tr><td colspan="3">IMAGE ADJ PARAM</td><td>P.83</td></tr>
<tr><td rowspan="3">TEMPERATURE</td><td colspan="2">PLAIN PAPER</td><td rowspan="3">P.83</td></tr>
<tr><td colspan="2">THICK</td></tr>
<tr><td colspan="2">ENVELOPE</td></tr>
<tr><td colspan="3">AIDC MODE</td><td>P.84</td></tr>
<tr><td rowspan="4">MAIN-SCAN SCALE</td><td colspan="2">MAIN SCAN PAGE</td><td>P.84</td></tr>
<tr><td rowspan="3">MAIN-SCAN SCALE ADJUST VALUE</td><td>YELLOW</td><td rowspan="3">P.85</td></tr>
<tr><td>MAGENTA</td></tr>
<tr><td>CYAN</td></tr>
<tr><td rowspan="3">SUPPLIES REPLACE</td><td colspan="2">TRANS. BELT</td><td>P.86</td></tr>
<tr><td colspan="2">TRANS. ROLLER</td><td>P.86</td></tr>
<tr><td colspan="2">FUSER UNIT</td><td>P.86</td></tr>
<tr><td colspan="3">BK CLEAR</td><td>P.87</td></tr>
<tr><td rowspan="7">COUNTER</td><td colspan="3">TOTAL PRINT</td><td>P.87</td></tr>
<tr><td colspan="3">TRAY</td><td>P.87</td></tr>
<tr><td colspan="3">PAPER SIZE</td><td>P.87</td></tr>
<tr><td colspan="3">PAPER TYPE</td><td>P.87</td></tr>
<tr><td colspan="3">APPLICATION</td><td>P.87</td></tr>
<tr><td colspan="3">JAM COUNTER</td><td>P.88</td></tr>
<tr><td colspan="3">TROUBLE COUNTER</td><td>P.88</td></tr>
<tr><td rowspan="6">DISPLAY</td><td colspan="3">MAIN RAM SIZE</td><td>P.88</td></tr>
<tr><td colspan="3">SERIAL NO.</td><td>P.88</td></tr>
<tr><td colspan="3">BOOT VER.</td><td>P.88</td></tr>
<tr><td colspan="3">FPGA VER.</td><td>P.88</td></tr>
<tr><td colspan="3">CONTROLLER VER.</td><td>P.88</td></tr>
<tr><td colspan="3">ENGINE VER.</td><td>P.88</td></tr>
</table>

SERVICE PERSON		Ref. Page
PRINTER TEST	SENSOR	P.89
	ELECTRIC PARTS	P.90
	PRINT	P.91
SOFT SW		P.91
ENGINE SW		P.91

11.2 Starting/Exiting

11.2.1 Starting procedure

NOTE

- **Make sure not to reveal the procedure of entering the SERVICE PERSON menu to any unauthorized person.**

1. Press the Menu/Select key to enter the MENU mode.
2. Select [ENGINE] → [SERVICE], and display [TOTAL FACE COUNT].
3. Press both the Menu/Select key and the right key▶ for more than 2 seconds.
4. SERVICE PERSON menu will appear.

11.2.2 Exiting procedure

- Press the left key◀ or the Cancel key.

11.3 FACTORY DEFAULT

- Return various settings to their default values.
- Use when restoring settings to their default values.

1. Select [FACTORY DEFAULT] and press the Menu/Select key.
2. Select [YES] and press the Menu/Select key.
3. "FACTORY DEFAULT PLEASE WAIT" will be displayed for 2 seconds, then controller starts to reset by itself, and the status returns to the status it settings have been restored.

A. List of reset items and its default value

(1) MENU

Item			Default value
LANGUAGE			ENGLISH
ENGINE	ENERGY SAVER		30 MINUTES
	AUTO CONTINUE		ON
NETWORK	IP ADDRESS SET		AUTO
	IP ADDRESS SET SPECIFY	IP ADDRESS	192.168.1.2
		SUBNET MASK	255.255.255.0
		GATEWAY	192.168.1.1
	DHCP		ON
	BOOTP		OFF
	ARP/PING		OFF
	HTTP		ON
	BONJOUR		ON
	IPP		ON
	SNMP		ON
	FORCED MODES		AUTO/AUTO/ON
INTERFACE	USB TIME OUT		60
	NETWORK TIME OUT		60

(2) USER SERVICE

Item	Default value
E. SAVE OFF	HIDE

(3) SERVICE PERSON

Item		Default value
ADJUST	AIDC MODE	MODE 1
SOFT SW	SW1	0
	SW2	0
	SW3	0
	SW4	0

(4) PageScope Web Connection

Item		Default value
Administrator Password		administrator
Refresh Rate		30 seconds
Printer Name		KONICA MINOLTA magicolor 3730 (xx:xx:xx) "xx:xx:xx" is mac address last 6-digit.
Host Name		MC3730-xxxxxx "xxxxxx" is mac address last 6-digit.
IPP	Printer Name	KONICA MINOLTA magicolor 3730 (xx:xx:xx) "xx:xx:xx" is mac address last 6-digit.
	Printer Location	blank
	Printer Information	blank
Contact Name		KONICA MINOLTA Customer Support
Contact Information		http://printer.konicaminolta.com
Product Help URL		http://printer.konicaminolta.com
Corporate URL		http://printer.konicaminolta.com
Supplies and Accessories		http://www.q-shop.com
Contact Utility Link		http://pagescope.com
Contact Phone Number		blank
Contact Address		blank
Administrator Name		blank
Device Name		blank
Device Location		blank
Device Information		blank
Do Startup Page		Off
LPD		Enable
RAW Port Number		9100
Priority Protocol		LPD
UDP Port		161
Read Community Name		public
Write		Enable
Write Community Name		private

11.4 E. SAVE OFF

A. Use

- Sets whether to show or hide "OFF" for [MENU] → [ENGINE] → [ENERGY SAVER].
  HIDE: "OFF" choice will not be displayed in ENERGY SAVE menu.
  SHOW: "OFF" choice will be displayed in ENERGY SAVE menu.
- When ENERGY SAVER is set to "OFF" and E. SAVE OFF is changed from "SHOW" to "HIDE", the setting value of ENERGY SAVER will change to the default value (30 MINUTES).

B. Procedure

- The default setting is HIDE.

"HIDE" SHOW

11.5 ADJUST

11.5.1 FLICKER

A. Use

- Sets the heater lamp lighting control so that it implements the flicker standards.
- To use when flickering from fluorescent light occurs.
  0: Not set flicker control
  1: Control flickering
  2: Not control flickering

B. Procedure

- The default setting is 0.

"0" to 2

11.5.2 THICK MODE

A. Use

- In order to prevent toner from clogging within the developer unit as a result of it being driven at half-speed, select the timing for driving the developer unit at full speed for a fixed length of time when thick paper is being fed.

  QUALITY MODE: While printing on thick paper, printing is periodically paused, and the developer unit is driven at full speed for a fixed length of time. Since printing is paused, the quality is not affected; however, a standby time of approximately 70 seconds occurs every 400 seconds or so of half-speed operation.

  SPEED MODE: While printing on thick paper, only the drive of the developer unit periodically switches to full speed for a fixed length of time. Since printing continues during full-speed drive, the print quality is slightly affected, however the standby time is short.

B. Procedure

- The default setting is QUALITY MODE.

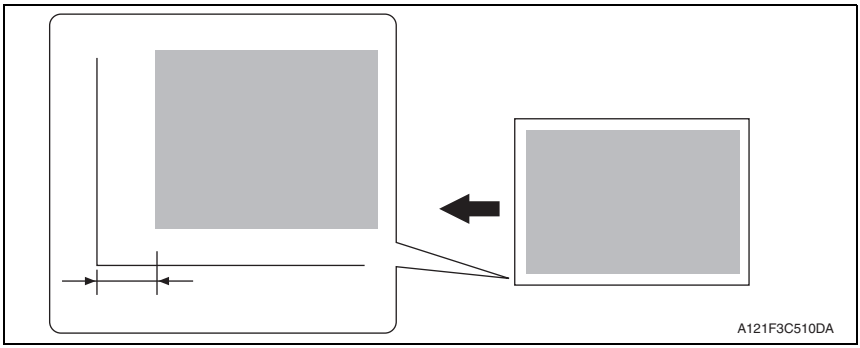
"QUALITY MODE" SPEED MODE

11.5.3 TOP ADJUSTMENT

A. Use

- Adjusts the leading edge margin of media for single-sided printing.
- To correct a misaligned print image.

  PLAIN PAPER : Adjust the leading edge margin of plain paper.
  THICK : Adjust the leading edge margin of thick 1 paper.
  THICK2 : Adjust the leading edge of thick 2 paper
  ENVELOPE : Adjust the leading edge margin of envelope.



B. Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [TOP ADJUSTMENT] and press the Menu/Select key.
3. Select desired paper type and press the Menu/Select key.
4. Select desired adjustment amount with the up key▲/down key▼ and press the Menu/Select key.

- 15 to 15 (1 step: 0.2 mm)

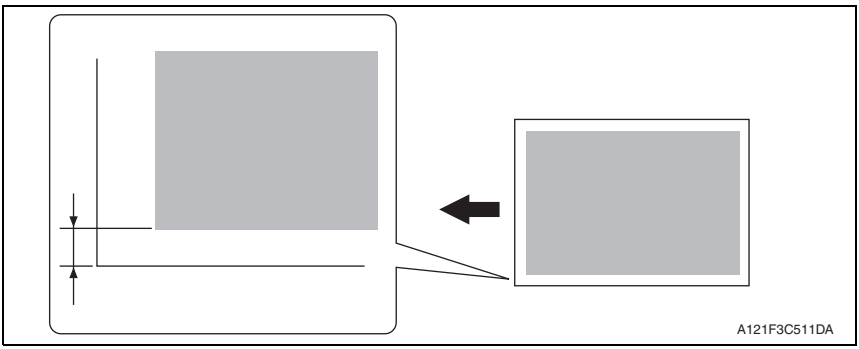
11.5.4 TOP ADJ DUPLEX

- Not used.

11.5.5 LEFT ADJUSTMENT

A. Use

- Adjusts the left margin of media for single-sided printing.
- To correct a misaligned print image.
  LEFT ADJ TRAY 1: Adjust the left margin of paper fed from tray 1 (manual tray.)
  LEFT ADJ TRAY 2: Adjust the left margin of paper fed from tray 2.



B. Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [LEFT ADJUSTMENT] and press the Menu/Select key.
3. Select desired tray and press the Menu/Select key.
4. Select desired adjustment amount with the up key▲/down key▼ and press the Menu/Select key.

- 15 to 15 (1 step: 0.2 mm)

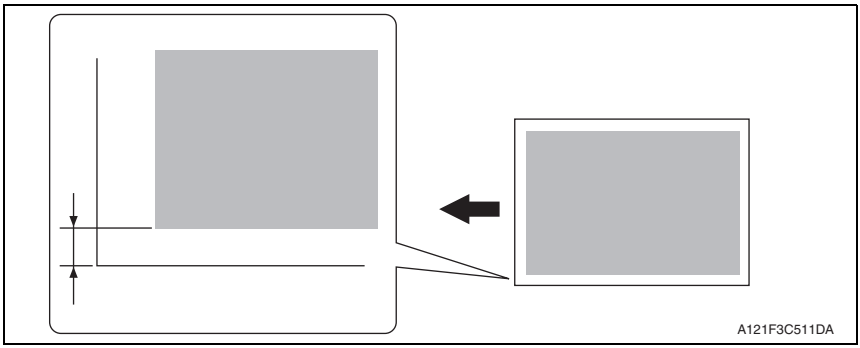
11.5.6 LEFT ADJ DUPLEX

A. Use

- Adjusts the left margin of media for double-sided printing.
- To correct a misaligned print image.

  LEFT ADJ TRAY 1: Adjust the left margin of duplex print paper fed from tray 1 (manual tray.)

  LEFT ADJ TRAY 2: Adjust the left margin of duplex print paper fed from tray 2.



B. Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [LEFT ADJ DUPLEX] and press the Menu/Select key.
3. Select desired tray and press the Menu/Select key.
4. Select desired adjustment amount with the up key▲/down key▼ and press the Menu/Select key.

- 15 to 15 (1 step: 0.2 mm)

11.5.7 TRANSFER POWER-SIMPLEX PASS

A. Use

- Adjust the 2nd image transfer output (ATVC) on the single-sided pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

B. Procedure

- The default setting is 0.

-8 to +7

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [TRANSFER POWER] and press the Menu/Select key.
3. Select [SIMPLEX PASS] and press the Menu/Select key.
4. Select desired media type with the up key▲/down key▼ and press the Menu/Select key.
5. Select desired setting value with the up key▲/down key▼ and press the Menu/Select key.

<Adjustment instructions>
To increase the ATVC value (in the direction of a foggier image),
decrease the setting value.
To decrease the ATVC value (in the direction of a less foggy image),
increase the setting value.

11.5.8 TRANSFER POWER-DUPLEX PASS

A. Use

- Adjust the 2nd image transfer output (ATVC) on the manual duplexed pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

B. Procedure

- The default setting is 0.

-8 to +7

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [TRANSFER POWER] and press the Menu/Select key.
3. Select [DUPLEX PASS] and press the Menu/Select key.
4. Select desired media type with the up key▲/down key▼ and press the Menu/Select key.
5. Select desired setting value with the up key▲/down key▼ and press the Menu/Select key.

<Adjustment instructions>
To increase the ATVC value (in the direction of a foggier image),
decrease the setting value.
To decrease the ATVC value (in the direction of a less foggy image),
increase the setting value.

11.5.9 FINE LINE ADJ

A. Use

- Adjust how fine lines are reproduced by changing the applied voltage (VC) to the electrostatic roller.

B. Procedure

- The default setting is 0.

-40 to 30 (1 step: 10)

NOTE

- **The administrator can also make this setting.**
  However, the adjustable range of the parameter is narrowed to -30 to 20.

11.5.10 IMAGE ADJ PARAM

A. Use

- Adjusts the printer in case of an image quality problem (uneven density)
- To correct image quality problems (uneven density) due to the machine being operated at a high altitude.

B. Procedure

- The default setting is 0.

0 to 6

NOTE

- **When the setting has been changed, be sure to run a [MENU] → [ENGINE] → [ENGINE SERVICE] → [COLOR CALIBRATION].**

11.5.11 TEMPERATURE

A. Use

- To adjust the fusing heating temperature individually for each paper type so as to ensure good fusing performance that varies with varying environmental conditions.
- When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
- Use this function when curled paper, or paper misfeed as a result of the curled paper, occurs under varying environmental conditions or depending on the type of paper used.
  PLAIN PAPER : -10 °C to 0 °C (Step: 5 °C)
  THICK : -10 °C to 0 °C (Step: 5 °C)
  ENVELOPE : -10 °C to 0 °C (Step: 5 °C)

B. Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [TEMPERATURE] and press the Menu/Select key.
3. Select the type of paper and press the Menu/Select key.
4. Select desired setting value with the up key▲/down key▼ and press the Menu/Select key.

<Adjustment instructions>
If fusing performance is poor, increase the setting.
If wax streaks occur, decrease the setting.
If offset occur, decrease the setting.
If curling of the paper occurs, decrease the setting.

11.5.12 AIDC MODE

A. Use

- Sets the frequency of image stabilization that is performed when the power switch is turned ON or the machine returns from sleep mode.
  - Mode1: Always performs image stabilization when the main power switch is turned ON or the machine returns from sleep mode. (Standard mode)
  - Mode2: Reduces the frequency of image stabilization that is performed when the main power switch is turned ON or the machine returns from sleep mode. (Low mode)

B. Procedure

- The default setting is MODE1.

"MODE1" MODE2

11.5.13 MAIN-SCAN SCALE

A. MAIN SCAN PAGE

(1) Use

- Prints the test pattern used for the main scan adjustment.

(2) Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [MAIN-SCAN SCALE] → [MAIN SCAN PAGE] and press the Menu/Select key.
3. Press the Menu/Select key.
4. The test pattern is output.

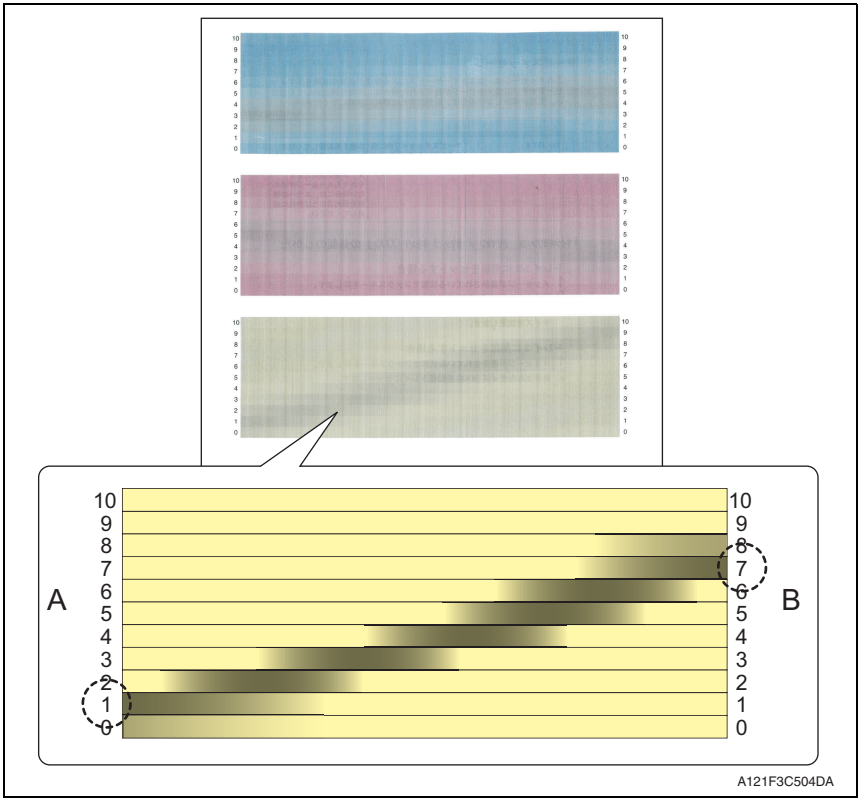
B. MAIN-SCAN SCALE ADJUST VALUE

(1) Use

- Adjusts magnification in the main scan direction.
- Use when replacing the PH unit.
- This adjustment is necessary when the adjustment values are cleared due to the replacement of the EEPROM on the printer control board or other reasons.

(2) Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [MAIN-SCAN SCALE] → [MAIN SCAN PAGE] and press the Menu/Select key.
3. Press the Menu/Select key to print the test pattern.



4. Make adjustments so that the gray area on each color sample of the output test pattern becomes parallel to the main scan direction.
   Calculate the correction values for cyan, magenta, and yellow in the following way.

<1> Check the numbers indicated on the ends of A and B which correspond to the darkest black lines in the gray area of each color pattern.
(In the example of the yellow pattern, “1” is selected for the end of A and “7” is selected for the end of B.)

<2> The number indicated on the end of A minus the number on the end of B equals the correction value.

(In the example of the yellow pattern, the calculation is 1-7=-6. “-6” is the correction value.)

5. Call [SERVICE PERSON] to the display.
6. Select [ADJUST] → [MAIN-SCAN SCALE] → [MAIN-SCAN SCALE ADJUST VALUE] and press the Menu/Select key.
7. Select the color to be adjusted.
8. Select the correction value calculated in step 2 and press the Menu/Select key.
9. Enter the correction values for cyan, magenta, and yellow respectively.
10. Output the test pattern again to check the results of the adjustments.

- **Specification: The difference between the respective numbers indicated on the ends of A and B which correspond to the darkest black lines must be within 2 steps.**

11.5.14 SUPPLIES REPLACE

A. TRANS. BELT

(1) Use

- Resets the transfer belt unit counter.
- To use when the transfer belt unit has been replaced.

(2) Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [SUPPLIES REPLACE] → [TRANS. BELT], and select “YES.”
3. Press the Menu/Select key and reset the counter.

B. TRANS. ROLLER

(1) Use

- Resets the transfer roller unit counter.
- To use when the transfer roller unit has been replaced.

(2) Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [SUPPLIES REPLACE] → [TRANS. ROLLER], and select “YES.”
3. Press the Menu/Select key and reset the counter.

C. FUSER UNIT

(1) Use

- Resets the fusing unit counter.
- To use when the fusing unit has been replaced.

(2) Procedure

1. Call [SERVICE PERSON] to the display.
2. Select [ADJUST] → [SUPPLIES REPLACE] → [FUSER UNIT], and select “YES.”
3. Press the Menu/Select key and reset the counter.

11.5.15 BK CLEAR

A. Use

- To clear engine information backup data.
- Use when the engine information backup data is cleared.
- Use when the MFP board or the printer control board is replaced.
  Yes: Executes data clear
  No: Does not execute data clear

B. Procedure

- The default setting is NO.

YES "NO"

11.6 COUNTER

11.6.1 TOTAL PRINT

A. Use

- Displays the total counter value.
- The following types of counters are available, each counting numbers as detailed below.
  TOTAL FACE COUNT : Total number of printed pages (1-side: +1, 2-sides: +2)
  COLOR FACE COUNT : Number of color printed pages (1-side: +1, 2-sides: +2)
  BW FACE COUNT : Number of monochrome printed pages (1-side: +1, 2-sides: +2)
  TOTAL DUPLEX : Total number of duplex printed pages (1-side: +0, 2-sides: +1)
  DUP. COLOR COUNT : Number of color duplex printed pages (1-side: +0, 2-sides: +1)
  DUP. MONO COUNT : Number of monochrome duplex printed pages (1-side: +0, 2-sides: +1)

11.6.2 TRAY

A. Use

- Displays the number of media feed sequences carried out for each tray.
  (1-side: +1, 2-sides: +1)

11.6.3 PAPER SIZE

A. Use

- Displays the number of printed pages produced for each media size.
  (1-side: +1, 2-sides: +1)

11.6.4 PAPER TYPE

A. Use

- Displays the number of printed pages produced for each media type.
  (1-side: +1, 2-sides: +1)

11.6.5 APPLICATION

A. Use

- Displays the number of printed pages produced for each application (PC print or report print).
  PC-PRINT: 1-side: +1, 2-sides: +2
  REPORT PRINT: +1 for printing of each report (configuration page or menu map)

11.6.6 JAM COUNTER

A. Use

- Displays the total number of misfeeds that occurred.
- The number of misfeeds that occurred for each section can be checked with MIB.

11.6.7 TROUBLE COUNTER

A. Use

- Displays the total number of malfunctions (FATAL ERRORS) that occurred.
- The number of malfunctions (FATAL ERRORS) that occurred for each section can be checked with MIB.

11.7 DISPLAY

11.7.1 MAIN RAM SIZE

A. Use

- Displays the main ram size of the machine.

11.7.2 SERIAL NO.

A. Use

- Displays the serial number of the machine.

11.7.3 BOOT VER.

A. Use

- Displays the firmware (BOOT) version number of the machine.

11.7.4 FPGA VER.

A. Use

- Displays the firmware (FPGA) version number of the machine.

11.7.5 CONTROLLER VER.

A. Use

- Displays the firmware (CONTROLLER) version number of the machine.

11.7.6 ENGINE VER.

A. Use

- Displays the firmware (ENGINE) version number of the machine.

11.8 PRINTER TEST

11.8.1 SENSOR

A. Use

- To display the states of the input ports of sensors and switches when the machine remains stationary.
- Used for troubleshooting when a malfunction or a misfeed occurs.
- The operation of each of the switches and sensors can be checked on a real-time basis.
- It can be checked as long as the 5-V power line remains intact even when a door is open.

NOTE

- **SENSOR displays the status of a sensor selected at the time when the function is invoked. To check for changes in the status of the sensor, display the status of any other sensor to temporarily exit from the sensor in question and then go back to the specific sensor.**
- **When the SENSOR function has been executed, turn OFF the power switch and reboot the machine.**

B. Sensor check list

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			ON	OFF
PS2	TRAY2 EMPTY	Tray2 media empty sensor	Paper present	Paper not present
PS5	SYNC. ROLLER	Registration sensor	Paper present	Paper not present
PS6	PAPER LOOP	Loop detection sensor	Paper present	Paper not present
PS8	EXIT	Exit sensor	Paper present	Paper not present
PS9	DUPLEX PAPER	Duplex conveyance sensor	Paper present	Paper not present
PS17	RETRACTION 2ND	1st transfer release sensor	Engaged	Released
PS1	TRAY2 SET	Tray2 set sensor	Set	Unset
PS12	WASTE TONER	Waste toner near full sensor	Full	Not full

11.8.2 ELECTRIC PARTS

A. Use

- Checks the operation of each electrical component.
- The electrical components which can be checked are as follows.

Name	Electric parts name	Symbol
LV FAN (H-S)	DC power supply fan motor (High speed)	FM10
DUP FAN (H-S)	Cooling fan motor (High speed)	FM11
DUP FAN (M-S)	Cooling fan motor (Half speed)	
POLYGON MOTOR	Polygon motor	M5
COLOR PC M YMC	Color PC drum motor	M4
DEV. MOTOR K	Developing motor (reverse rotation)	M1
DEV. MOTOR YMCK	Developing motor (normal rotation)	
TRAY 2 FEED CL	Tray 2 media feed clutch	CL1
SYNC ROLLER CL	Registration clutch	CL3
2ND TRANS. CL	2nd transfer release solenoid	SD2
1ST TRANS. CL	1st transfer release solenoid	SD1
TONER SUP. CL Y	Toner supply clutch/Y	CL4
TONER SUP. CL M	Toner supply clutch/M	CL5
TONER SUP. CL C	Toner supply clutch/C	CL6
TONER SUP. CL K	Toner supply clutch/K	CL7
DUP NORMAL CL	Switchback roller feed clutch	CL11
DUP REV. CLUTCH	Switchback roller reverse clutch	CL12
DUP FEED CLUTCH	Duplex conveyance roller clutch	CL13
MAIN MOTOR	Main motor	M2
FUSER LOOP CL	Loop detection clutch	CL8

NOTE

- **Any component does not operate in the event of jam or when a cover is open.**
- **When making the developing motor or the registration clutch driven, be sure to install the waste toner bottle.**

B. Procedure

1. Call [SERVICE PRESON] to the display.
2. Select [PRNTER TEST]→[ELECTRIC PARTS].
3. Select the electrical component of which operation is checked.
4. Press the Menu/Select key.
   The corresponding component starts to operate.

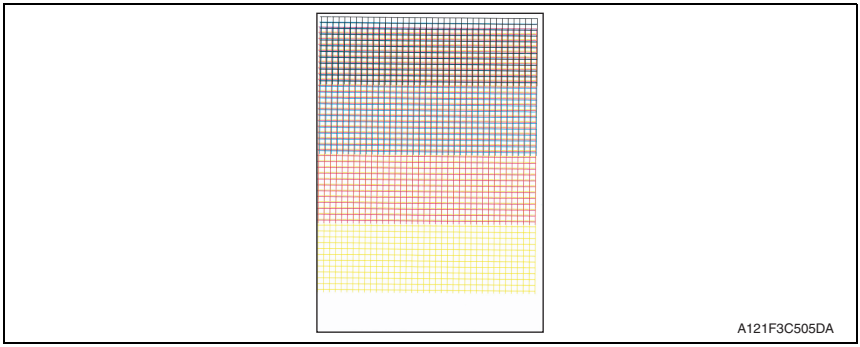
NOTE

- **When the ELECTRIC PARTS function has been executed, turn OFF the power switch and reboot the machine.**

11.8.3 PRINT

A. Use

- Prints the test pattern for the image adjustment.
- Use when adjusting skew, registration, and magnification.



B. Procedure

1. Set plain paper of A4 or Letter size in the tray1.

NOTE

- **To output the test pattern, the paper feed is only from the tray1.**

2. Call [SERVICE PERSON] to the display.
3. Select [PRINTER TEST]→[PRINT].
4. Select [A4] or [LETTER], and press the Menu/Select key.
5. The test pattern is output.

11.9 SOFT SW

- Not used.

11.10 ENGINE SW

- Not used.

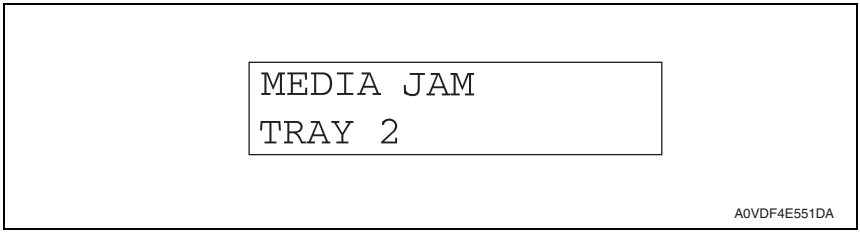
Blank Page

TROUBLESHOOTING

12. JAM DISPLAY

12.1 Misfeed display

- When a media misfeed occurs a message is displayed on the control panel.

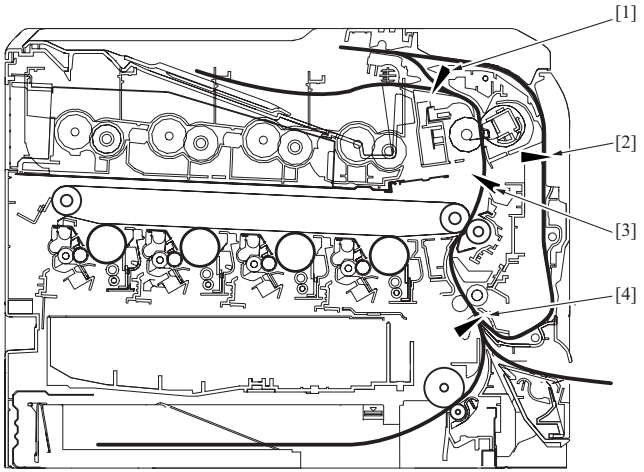


Display		Misfeed location	Misfeed processing location	Action
LCD 1	LCD 2			
MEDIA JAM	FUSER EXIT	• Fusing/exit section	• Right side cover • Fuser unit	P.96
	TRANSFER ROLLER	• Transfer section	• Right side cover	P.97
	DUPLEX LOWER	• Duplex media feed section	• Duplex door	P.101
	DUPLEX UPPER	• Duplex transport section		P.100
	TRAY1	• Tray1 media feed	• Manual feed tray • Right side cover	P.98
	TRAY2	• Tray2 media feed	• Tray2 • Right side cover	P.99
	UNDEFINED	• Media misfeed in control logic	—	P.102

12.2 Misfeed display resetting procedure

- Open the relevant cover, clear the sheet of misfed media, and close the cover.
- Turn the power switch OFF and ON.

12.3 Sensor layout



[1] Exit sensor (PS8)
[2] Duplex conveyance sensor (PS9)
[3] Loop detection sensor (PS6)
[4] Registration sensor (PS5)

12.4 Solution

12.4.1 Initial check items

A. When a media misfeed occurs, first make checks of the following initial check items.

Check item	Action
Does media meet product specifications?	• Change media.
Is media curled, wavy, or damp.	• Change media. • Instruct user in correct media storage.
Is a foreign matter present along the media path, or is the media path deformed or worn?	• Clean or change the media path.
Are rolls/rollers dirty, deformed, or worn?	• Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at correct position to accommodate the media?	• Set as necessary.
Are actuators found operational as checked for correct operation?	• Correct or change the defective actuator.

12.4.2 Misfeed at fusing/exit section

A. Detection timing

Type	Description
Detection of misfeed at fusing/ exit section	• The exit sensor (PS8) is not blocked even after the lapse of a given period of time after the media has unblocked the exit sensor (PS8). • The exit sensor (PS8) is blocked even before the lapse of a given period of time after the media has unblocked the exit sensor (PS8).
Detection of media left in fusing/exit section	• The exit sensor (PS8) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Exit sensor (PS8) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
5	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	PS8 sensor check	PRCB PJ15-9 (ON)	H-15
7	CL13 operation check	PRCB PJ14-5 (REM)	C-7
8	M2 operation check	PRCB PJ11-10 to 13	C-15
9	Change PRCB.	-	-

12.4.3 Misfeed at transfer section

A. Detection timing

Type	Description
Detection of misfeed at transfer section	• The registration sensor (PS5) is not blocked even after the lapse of a given period of time after the registration roller driving is started. • The media does not unblock the exit sensor (PS8) even after the lapse of a given period of time after the registration roller driving is started. • Media is loaded on tray 1 during a print cycle using tray 2.
Detection of media left in transfer section	• The registration sensor (PS5) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The loop detection sensor (PS6) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Registration sensor (PS5) Exit sensor (PS8) Loop detection sensor (PS6)	Printer control board (PRCB) Main motor (M2) Loop detection clutch (CL8)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between PS6-PRCB PJ24 for proper connection and correct as necessary.	-	-
6	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
7	Check the connector between CL8-relay CN2-PRCB PJ7 for proper connection and correct as necessary.	-	-
8	PS5 sensor check	PRCB PJ23-3 (ON)	K-15
9	PS8 sensor check	PRCB PJ15-9 (ON)	H-15
10	PS6 sensor check	PRCB PJ24-3 (ON)	D-7
11	CL8 operation check	PRCB PJ7-2 (REM)	C-15
12	M2 operation check	PRCB PJ11-10 to 13	C-15
13	Change PRCB.	-	-

12.4.4 Misfeed at tray1 media feed section

A. Detection timing

Type	Description
Detection of tray 1 media feed section	• The registration sensor (PS5) has been unblocked within the lapse of a given period of time after the tray1 media feed sequence has been started. • Media is loaded on tray 1 a second time during a print cycle using tray 1.
Detection of media left in tray 1 media feed section	• The power switch is turned OFF and ON with media loaded in tray 1.

B. Action

Relevant electrical parts	
Registration sensor (PS5)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	PS5 sensor check	PRCB PJ23-3 (ON)	K-15
6	M2 operation check	PRCB PJ11-10 to 13	C-15
7	Change PRCB.	-	-

12.4.5 Misfeed at tray 2 media feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 2 media feed section	• The media does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray2 media feed clutch (CL1) is turned ON.

B. Action

Relevant electrical parts	
Registration sensor (PS5) Tray2 media feed clutch (CL1)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-PRCB PJ16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB PJ23-3 (ON)	K-15
7	CL1 operation check	PRCB PJ16-2 (REM)	B-7
8	M2 operation check	PRCB PJ11-10 to 13	C-15
9	Change PRCB.	-	-

12.4.6 Misfeed at duplex media transport section

A. Detection timing

Type	Description
Detection of misfeed at duplex media transport section	• The duplex conveyance sensor (PS9) is not blocked even after the lapse of a given period of time after the media has unblocked PS9. • The duplex conveyance sensor (PS9) is not unblocked even after the lapse of a given period of time after the media has blocked the exit sensor (PS8).
Detection of media left at duplex media transport section	• The duplex conveyance sensor (PS9) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant Electrical Parts	
Exit sensor (PS8) Duplex conveyance sensor (PS9) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB PJ15 for proper connection and correct as necessary.	-	-
5	Check the connector between PS9-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
7	PS8 sensor check	PRCB PJ15-9 (ON)	H15
8	PS9 sensor check	PRCB PJ14-3 (ON)	C-7
9	CL13 operation check	PRCB PJ14-5 (REM)	C-7
10	M2 operation check	PRCB PJ11-10 to 13	C-15
11	Change PRCB.	-	-

12.4.7 Misfeed at duplex media feed section

A. Detection timing

Type	Description
Detection of misfeed at duplex media feed section	• The media does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the media feed sequence has been started at the duplex.

B. Action

Relevant Electrical Parts	
Registration sensor (PS5) Duplex conveyance roller clutch (CL13)	Printer control board (PRCB) Main motor (M2)

Step	Action	WIRING DIAGRAM	
		Control Signal	Location (Electrical Component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB PJ23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL13-relay CN20-PRCB PJ14 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB PJ23-3 (ON)	K-15
7	CL13 operation check	PRCB PJ14-5 (REM)	C-7
8	M2 operation check	PRCB PJ11-10 to 13	C-15
9	Change PRCB.	-	-

12.4.8 Media misfeed in control logic

A. Detection timing

Type	Description
Detection of controller JAM	• A duplex print job is sent with the number of pages that goes beyond the maximum number of pages allowed to be in the printer for the selected media type. • When trying to feed duplex media though there is no media to be fed to the duplex print unit. • When printing is directed with the duplex print unit selected as a media source and an exit media set to be fed to the duplex unit. • While two sheets of media are in the printer, printing is directed with normal media feed settings other than a duplex media feed setting. • In duplex printing, a size error occurs.

B. Action

Relevant electrical parts	
Printer control board (PRCB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check printer driver settings.	-	-
2	Change PRCB.	-	-
3	Change MFPB.	-	-

13. ERROR MESSAGE

13.1 Error message

- The printer's CPU performs a self-diagnostics function that, on detecting a error, gives the corresponding message on the control panel.

13.2 List

Display		Description
LCD 1	LCD 2	
ERROR	VIDEO UNDER RUN	• Data transfer speed is not enough to print the image.
ERROR	MEMORY OVERFLOW	• The controller needs more memory to print the image.
ERROR	FW DOWNLOAD	• Engine/controller FW download fail error message.
ERROR	ENV. SENSER	• No response is provided from the temperature/ humidity sensor.
ERROR	IDC SENSOR	• IDC sensor output values are out of the specified range.
ERROR	COLOR REGIST. 1	• The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.
ERROR	COLOR REGIST. 2	• The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction. • The skew correction amount is greater than the specified value.

13.3 Solution

13.3.1 ERROR/VIDEO UNDER RUN

13.3.2 ERROR/MEMORY OVERFLOW

Step	Action
1	Change the size of the media used for the print cycle to a smaller one.
2	Reduce the setting of print resolution on the printer driver.

13.3.3 FW DOWNLOAD

Step	Action
1	Rewrite the firmware data again.

13.3.4 ERROR/ENV. SENSER

Relevant parts	
Temperature/ humidity sensor (TEM/HUMS)	Printer control board (PRCB)

Step	Action
1	Check the connector between TEM/HUMS-PRCB PJ20 for proper connection and correct as necessary.
2	Change TEM/HUMS.
3	Change PRCB.

13.3.5 ERROR/IDC SENSOR

Relevant parts	
IDC sensor (IDC) Transfer belt unit	Printer control board (PRCB) High voltage unit (HV)

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Reinstall or reconnect IDC, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDC if it is dirty.
5	Check the HV connector for proper connection and correct as necessary.
6	Change IDC.
7	Change PRCB.

13.3.6 ERROR/COLOR REGIST. 1

Relevant parts	
Transfer belt unit PH unit	Printer control board (PRCB) MFP board (MFPB)

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Change PH unit.
4	Change PRCB.
5	Change MFPB.

13.3.7 ERROR/COLOR REGIST. 2

Relevant parts	
IDC sensor (IDC)	Printer control board (PRCB)

Step	Action
1	Slide out the toner cartridge and reinstall it in position.
2	Reinstall or reconnect IDC if it is installed or connected improperly.
3	Change IDC.
4	Change PRCB.

14. MALFUNCTION CODE

14.1 FATAL ERROR codes (service call)

- The printer's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the control panel.

A0VDF4E553DA

14.1.1 Trouble code list

Code	Item	Detection timing
0017H	Main motor malfunction	• The main motor does not rotate evenly even after the lapse of a given period of time while it is being started. • The motor lock signal remains HIGH for a given period of consecutive time while the main motor is being rotated.
0018H	Developing motor malfunction	• The developing motor does not rotate evenly even after the lapse of a given period of time while it is being started. • The motor lock signal remains HIGH for a given period of consecutive time while the developing motor is being rotated.
004AH	Cooling fan motor malfunction	• The cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. • The motor lock signal remains HIGH for a given period of consecutive time while the cooling fan motor is being rotated.
004EH	DC power supply fan motor malfunction	• The DC power supply fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. • The motor lock signal remains HIGH for a given period of consecutive time while the DC power supply fan motor is being rotated.
0094H	2nd image transfer pressure / retraction failure	• The IDC sensor does not come into the condition where the level detection is available (retracted position = IDC sensor shutter is open) within a given period of time after the 2nd transfer release solenoid has turned ON. • The IDC sensor does not come into the condition where the level detection is not available (pressed position = IDC sensor shutter is closed) within a given period of time after the 2nd transfer release solenoid has turned ON.
0096H	1st image transfer pressure / retraction failure	• The 1st transfer release sensor is not activated (retracted position) within a given period of time after the 1st transfer release solenoid has turned ON. • The 1st transfer release sensor is not deactivated (pressed position) within a given period of time after the 1st transfer release solenoid has turned ON.

Code	Item	Detection timing
0300H	Polygon motor malfunction	• The polygon motor does not rotate evenly even after the lapse of a given period of time after it has been started. • The motor lock signal remains HIGH for a given period of consecutive time while the polygon motor is being rotated.
0310H	Laser malfunction	• The SOS signal is not detected within a given period of time after the output of the laser has been started.
0500H	Heating roller warm-up failure	• The thermistor /1 does not detect the specified temperature and the warm-up cycle is not completed even after the lapse of a given period of time after the cycle has been started.
0502H	Thermistor open-circuit failure	• The temperature detected by the thermistor/1 does not reach a predetermined level even after the lapse of a given period time after the warm-up cycle has been started.
0503H	Thermistor resistance failure	• The difference between the temperature detected by thermistor/1 and that detected by thermistor/2 exceeds a predetermined value.
0510H	Abnormally low heating roller temperature	• The temperature detected by the thermistor /1 remains lower than the specified value for a given period of time or longer.
0520H	Abnormally high heating roller temperature	• The temperature detected by the thermistor /1 remains higher than the specified value for a given period of time or longer. • The heater lamp remains ON for a given period of time or longer.
0F52H	Toner level sensor /Y malfunction	• An error occurs on the toner level sensor for each color.
0F53H	Toner level sensor /M malfunction	
0F54H	Toner level sensor /C malfunction	
0F55H	Toner level sensor /K malfunction	
13DDH	Backup data error	• The engine counter data and the controller counter data are inconsistent.
13E2H	Flash ROM write error	• Flash ROM writing is found faulty during a check.
13E3H	Flash ROM device fault	• An erase error occurs during erasing of data in flash ROM.
13F0H	Engine control failure	• An undefined malfunction occurs in the engine section (PRCB, etc.). While the machine is operating, if it detects defective conditions, e.g. the next print is not started after the lapse of a given period of time, it stops operating and the trouble code is displayed.
3C00H	Trouble related to security	• Contact the responsible people of KONICA MINOLTA when not returning in power switch OFF/ON.
3C10H		
C002H	RAM error at startup (standard memory)	• RAM error at standard memory is detected during printer start-up.
C023H	Controller EEPROM access error	• EEPROM access error is detected during the printer starting.
C025H	Controller ROM access error	• ROM access error is detected during the printer starting.

Code	Item	Detection timing
C101H	Communication error of USB/Ethernet	• A communication error occurs in USB or Ethernet communication.
CFFFH	Controller undefined error	• An undefined error occurs.
FFFFH	Interface Communication error	• Correct communication is failed when receiving/sending the command between MFPB and PRCB.

14.2 Resetting a malfunction

- To reset a malfunction, turn the power switch OFF and then ON again.

14.3 Solution

14.3.1 0017H: Main motor malfunction

Relevant electrical parts	
Main motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	M2 operation check	PRCB PJ11-10 to 13	C-15
4	Change M2.	-	-
5	Change PRCB.	-	-

14.3.2 0018H: Developing motor malfunction

Relevant electrical parts	
Developing motor (M1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M1-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
3	M1 operation check	PRCB PJ11-3 to 6	B-15
4	Change M1.	-	-
5	Change PRCB.	-	-

14.3.3 004AH: Cooling fan motor malfunction

Relevant electrical parts	
Cooling fan motor (FM11)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between FM11-relay CN29-PRCB PJ10 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM11 operation check	PRCB PJ10-5 (REM) PRCB PJ10-7 (LOCK)	F-7
4	Change FM11.	-	-
5	Change PRCB.	-	-

14.3.4 004EH: DC power supply fan motor malfunction

Relevant electrical parts	
DC power supply fan motor (FM10)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between FM10-relay CN43-PRCB PJ3 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM10 operation check	PRCB PJ3-5 (REM) PRCB PJ3-7 (LOCK)	K-10
4	Change FM10.	-	-
5	Change PRCB.	-	-

14.3.5 0094H: 2nd image transfer pressure/retraction failure

Relevant electrical parts	
IDC sensor (IDC) 2nd transfer release solenoid (SD2) Main motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between IDC-PRCB PJ19 for proper connection and correct as necessary.	-	-
4	Check the connector between SD2-relay CN23-PRCB PJ24 for proper connection and correct as necessary.	-	-
5	IDC sensor check	PRCB PJ19-1 (IDC_D_LEFT) PRCB PJ19-4 (IDC_CTL_LEFT)	J-15
6	SD2 operation check	PRCB PJ24-6 (REM)	D-7
7	M2 operation check	PRCB PJ11-10 to 13	C-15
8	Change SD2.	-	-
9	Change M2.	-	-
10	Change IDC.	-	-
11	Change PRCB.	-	-

14.3.6 0096H: 1st image transfer pressure/retraction failure

Relevant electrical parts	
1st transfer release sensor (PS17) 1st transfer release solenoid (SD1) Main motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between PS17-PRCB PJ26 for proper connection and correct as necessary.	-	-
4	Check the connector between SD1-relay CN25-PRCB PJ13 for proper connection and correct as necessary.	-	-
5	PS17 sensor check	PRCB PJ26-3 (ON)	I-15
6	SD1 operation check	PRCB PJ13-2 (REM)	D-15
7	M2 operation check	PRCB PJ11-10 to 13	C-15
8	Change PS17.	-	-
9	Change SD1.	-	-
10	Change M2.	-	-
11	Change PRCB.	-	-

14.3.7 0300H: Polygon motor malfunction

Relevant electrical parts	
PH unit	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ18 for proper connection and correct as necessary.	-	-
2	Change PH unit.	-	-
3	Change PRCB.	-	-

14.3.8 0310H: Laser malfunction

Relevant electrical parts	
PH unit	Printer control board (PRCB) MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ18 for proper connection and correct as necessary.	-	-
2	Check the connector between PH unit-MFPB CN10 for proper connection and correct as necessary.	-	-
3	Change PH unit.	-	-
4	Change PRCB.	-	-

14.3.9 0500H: Heating roller warm-up failure

14.3.10 0502H: Thermistor open-circuit failure

14.3.11 0503H: Thermistor resistance failure

14.3.12 0510H: Abnormally low heating roller temperature

14.3.13 0520H: Abnormally high heating roller temperature

Relevant electrical parts	
Fuser unit	Printer control board (PRCB) DC power supply (DCPU)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the fuser unit for correct installation (whether it is secured in position).	-	-
2	Check the connector between fuser unit-PRCB PJ9 for proper connection and correct as necessary.	-	-
3	Check the connector between fuser unit-DCPU CN2 for proper connection and correct as necessary.	-	-
4	Change fuser unit.	-	-
5	Change PRCB.	-	-
6	Change DCPU.	-	-

14.3.14 0F52H: Toner level sensor/Y malfunction

14.3.15 0F53H: Toner level sensor/M malfunction

14.3.16 0F54H: Toner level sensor/C malfunction

14.3.17 0F55H: Toner level sensor/K malfunction

Relevant electrical parts	
Toner level sensor/Y (PS13) Toner level sensor/M (PS14) Toner level sensor/C (PS15) Toner level sensor/K (PS16)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between each sensor-PRCB PJ21 for proper connection and correct as necessary.	-	-
2	Replace the toner level sensor of the corresponding color.	-	-
3	Change PRCB.	-	-

14.3.18 13DDH: Backup data error

Relevant electrical parts	
Printer control board (PRCB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Select [SERVICE PERSON] → [ADJUST] → [BK CLEAR], and execute the BK Clear function.	-	-
2	Check the connector between MFPB CN9-PRCB PJ5 for proper connection and correct as necessary.	-	-
3	Change PRCB.	-	-
4	Change MFPB.	-	-

14.3.19 13E2H: Engine flash ROM write error

14.3.20 13E3H: Engine flash ROM device fault

Relevant electrical parts	
Printer control board (PRCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Rewrite the engine firmware.	-	-
2	Change PRCB.	-	-

14.3.21 13F0H: Engine control failure

Relevant electrical parts	
Printer control board (PRCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-

14.3.22 C002H: RAM error at startup (standard memory)

Relevant electrical parts	
MFP board (MFPB)	Standard memory

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check connection state of the standard memory and correct as necessary.	-	-
3	Check the MFPB connector for proper connection and correct as necessary.	-	-
4	Change the standard memory.	-	-
5	Change MFPB.	-	-

14.3.23 C023H: Controller EEPROM access error

14.3.24 C025H: Controller ROM access error

Relevant electrical parts
MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB connector for proper connection and correct as necessary.	-	-
3	If this error message is displayed after update of firmware, conduct the firmware update procedures again.	-	-
4	Change MFPB.	-	-

14.3.25 C101H: Communication error of USB/Ethernet

Relevant electrical parts
MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB connector for proper connection and correct as necessary.	-	-
3	Change MFPB.	-	-

14.3.26 CFFFH: Controller undefined error

Relevant electrical parts
MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the MFPB connector for proper connection and correct as necessary.	-	-
3	If this error message is displayed after update of firmware, conduct the firmware update procedures again.	-	-
4	Change MFPB.	-	-

14.3.27 FFFFH: Interface Communication error

Relevant electrical parts	
Printer control board (PRCB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	-	-
2	Check the PRCB connector for proper connection and correct as necessary	-	-
3	Check the MFPB connector for proper connection and correct as necessary.	-	-
4	Change MFPB.	-	-
5	Change PRCB.	-	-

15. POWER SUPPLY TROUBLE

15.1 Machine is not energized at all (DCPU operation check)

Relevant parts	
Power switch (SW1) Printer control board (PRCB)	DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	J-11	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Is DC3.3V being output from CN12 on MFPB?	F-11	NO	Check the wiring from the CN4DCPU to CN12MFPB.
3	Is DC3.3 V being output from PJ1 on PRCB?	G-13	NO	Check the wiring from the CN4DCPU to PJ1PRCB.
4	Check the wiring from the CN9MFPB to PJ5PRCB.	-	YES	Reconnect. Change flat cable.
5	Check the wiring from the PJ1PRCB to CN4DCPU.	-	YES	Reconnect.
			NO	Change PRCB.

15.2 Control panel indicators do not light

Relevant electrical parts	
MFP board (MFPB) Control panel	DC power supply (DCPU)

Step	Check item	Location (electrical component)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	J-11	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Are the fuses on DCPU conducting?	-	NO	Change DCPU.
3	Is CN11 on MFPB properly connected?	E-10	NO	Reconnect.
			YES	Change MFPB. Change operation panel.

15.3 Fusing heaters do not operate

Relevant parts	
Main power switch (SW1) Right door switch (SW3) Fuser unit	DC power supply (DCPU) Printer control board (PRCB)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across CN1 on DCPU?	J-11	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Is the power source voltage applied across CN2 on DCPU?	I-13	YES	Change fuser unit.
			NO	Check the wiring from the CN2DCPU to PJ9PRCB. Change DCPU. Change PRCB.

16. IMAGE QUALITY PROBLEMS

16.1 How to identify problematic part

- This chapter is divided into two parts: “Initial check items” and “Troubleshooting procedure by a particular image quality problem.”
- When an image quality problem occurs, first go through the “Initial check item” and, if the cause is yet to be identified, go to “Troubleshooting procedure by a particular image quality problem.”

16.1.1 Initial check item

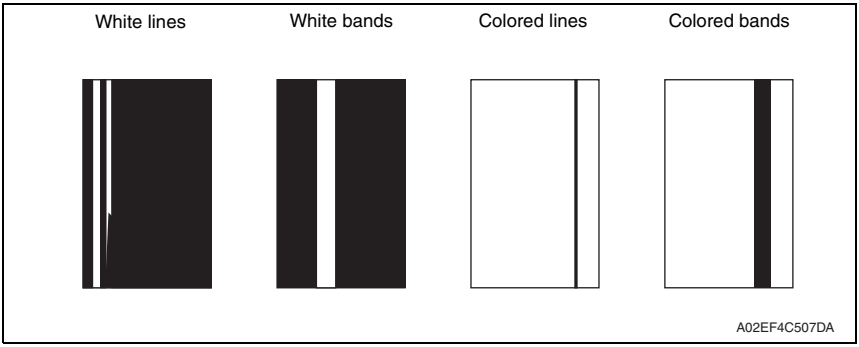
- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors
- Evaluation procedure

Action	Result	Cause	Next step
From [SERVICE PERSON], select [PRINTER TEST] → [PRINT], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	P.132
	NO	Printer, single color	P.120

16.2 Solution

16.2.1 Printer monocolor: white lines, white bands, colored lines and colored bands in sub scan direction

A. Typical faulty images

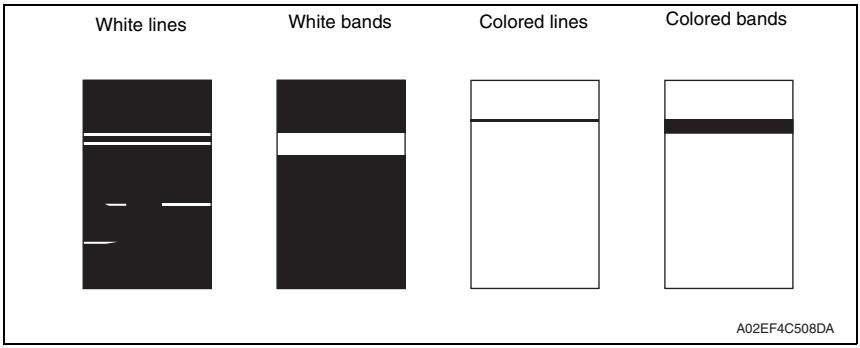


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2		When printing thick paper, black lines appear.	YES	Select [SERVICE PERSON] → [ADJUST] → [THICK MODE] and set [QUALITY MODE].
3	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
4		Dirty on the outside.	YES	Clean.
5		Contact terminals make good connection between each toner cartridge and machine.	NO	Clean contact terminals.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit. Change PH unit.

16.2.2 Printer monocolor: white lines, white bands, colored lines and colored bands in main scan direction

A. Typical faulty images

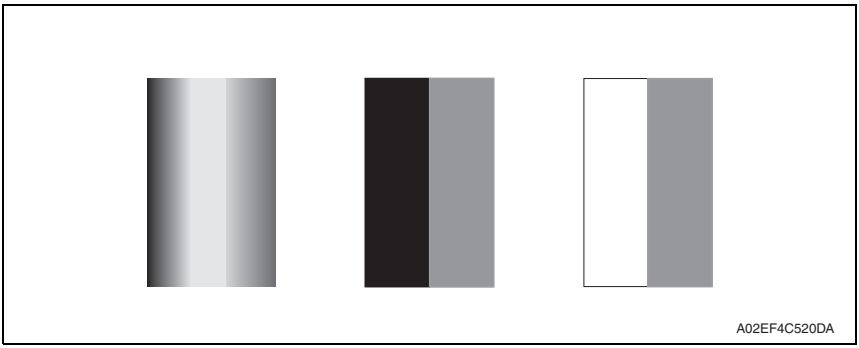


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or black line in main scan direction is sharp.	NO	Clean the electrostatic charger wire.
2	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each toner cartridge and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit. Change PH unit.

16.2.3 Printer monocolor: uneven density in sub scan direction

A. Typical faulty images

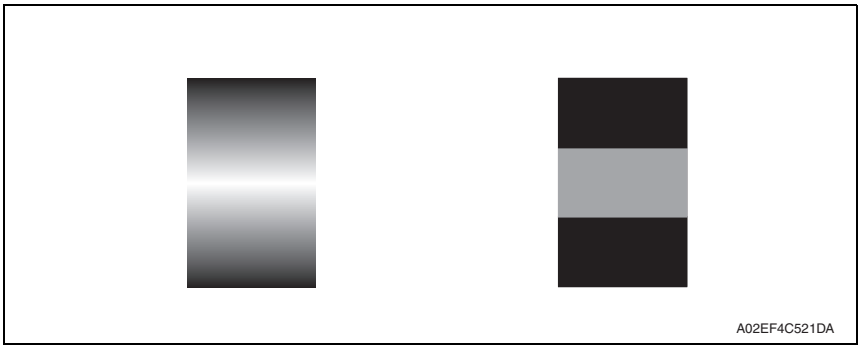


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
2	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Change transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 7.	NO	Change PH unit. Change High voltage unit. Printer control board.

16.2.4 Printer monocolor: uneven density in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Check that the spring does not come off during the pressure operation of the transfer roller.	NO	Correct. Change transfer roller unit.
5	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Is abnormality found in the cam gear?	YES	Change image transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change PH unit. Change high voltage unit.

16.2.5 Printer monocolor: low image density

A. Typical faulty images

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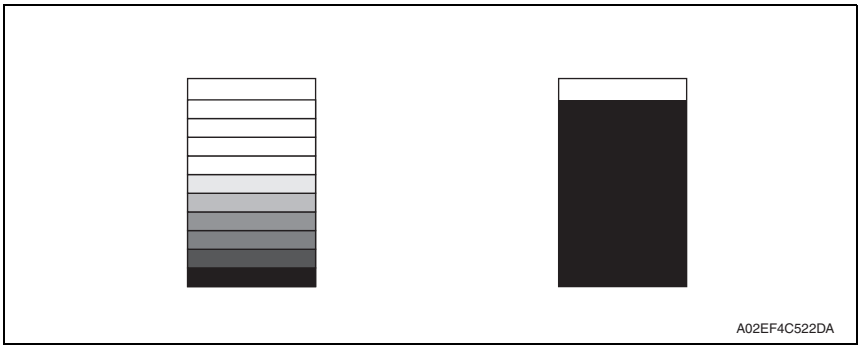
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
4		Is abnormality found in the cam gear?	YES	Change image transfer belt unit.
5		The problem has been eliminated through the checks of steps up to 3.	NO	Change toner cartridge. → Change IDC sensor. → Change printer control board. →Change PH unit. →Change high voltage unit.

16.2.6 Printer monocolor: gradation reproduction failure

A. Typical faulty images

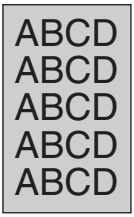


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 3.	NO	Change toner cartridge. → Change printer control board → Change PH unit. → Change high voltage unit.

16.2.7 Printer monocolor: foggy background

A. Typical faulty images



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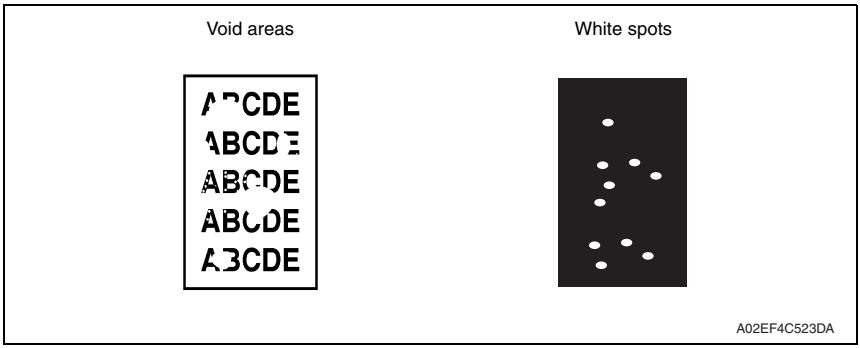
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	Toner cartridge	Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Printer control board (PRCB)	Check the connection of connectors, harness, and flat cables between PRCB and PH unit, and correct if necessary.	NO	Change printer control board.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change toner cartridge. → Change PH unit. → Change high voltage unit.

16.2.8 Printer monocolor: void areas, white spots

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	See P.124
2		There is void area at the rear side section.	YES	Perform [SERVICE PERSON] → [ADJUST] → [TRANSFER POWER].
3	Toner cartridge	The surface of the PC drum is scratched.	YES	Change drum unit.
4	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
5	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [SERVICE PERSON] → [ADJUST] → [IMAGE ADJ PARAM].

16.2.9 Printer monocolor: colored spots

A. Typical faulty images

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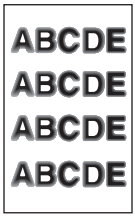
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC drum is scratched.	YES	Change toner cartridge.
3		Dirty on the outside.	YES	Clean.

16.2.10 Printer monocolor: blurred image

A. Typical faulty images



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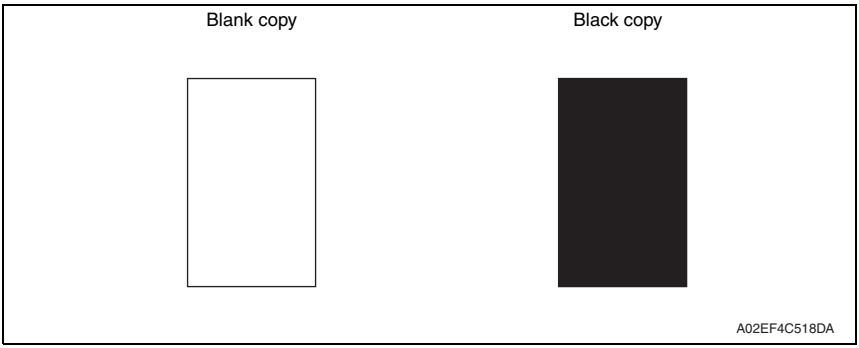
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Toner cartridge	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change toner cartridge. → Change PH unit.

16.2.11 Printer monocolor: blank copy, black copy

A. Typical faulty images

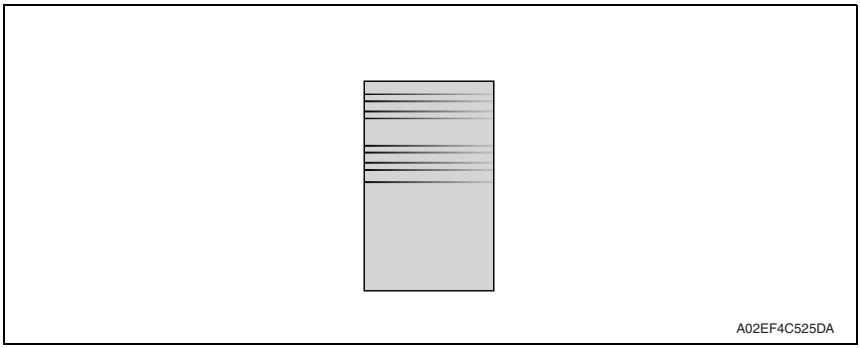


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Toner cartridge	Coupling of drum unit drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change toner cartridge.
3		The PC drum charge corona voltage contact or PC drum ground contact of the toner cartridge is connected properly.	NO	Check, clean, or correct the contact.
4	High voltage unit	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	Change high voltage unit. → Change printer control board → Change PH unit. → Change MFP board.

16.2.12 Printer monocolor: uneven image

A. Typical faulty images

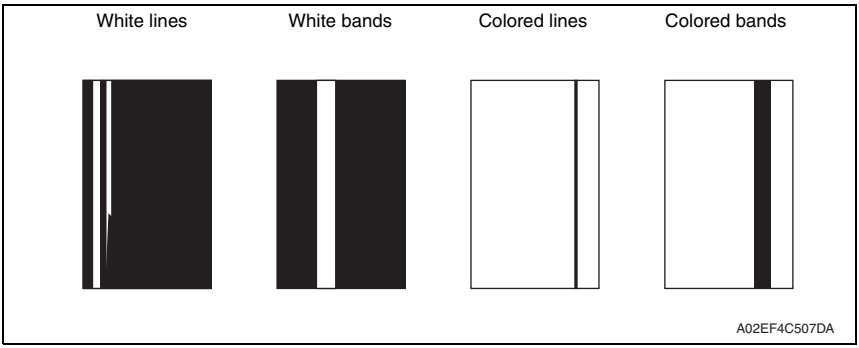


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Toner cartridge	There is any stain, damage or abrasion on the PC drum.	YES	Replace the toner cartridge.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
6	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Replace the fuser unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the image transfer belt unit.

16.2.13 Printer 4-color: white lines, white bands, colored lines and colored bands in sub scan direction

A. Typical faulty images

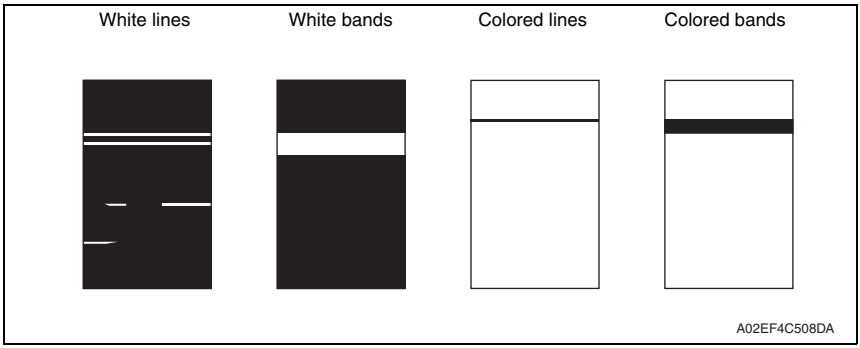


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or colored line in sub scan direction.	YES	Clean the comb electrode.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4		Cleaning blade is not effective in removing toner completely.	YES	Change transfer belt unit.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
8	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fuser unit.
9		Fusing paper separator fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

16.2.14 Printer 4-color: white lines, white bands, colored lines and colored bands in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
6	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fuser unit.
7		Fusing paper separator fingers are dirty.	YES	Clean.
8	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞.	NO	Check the contact. Change neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change printer control board

16.2.15 Printer 4-color: uneven density in sub scan direction

A. Typical faulty images

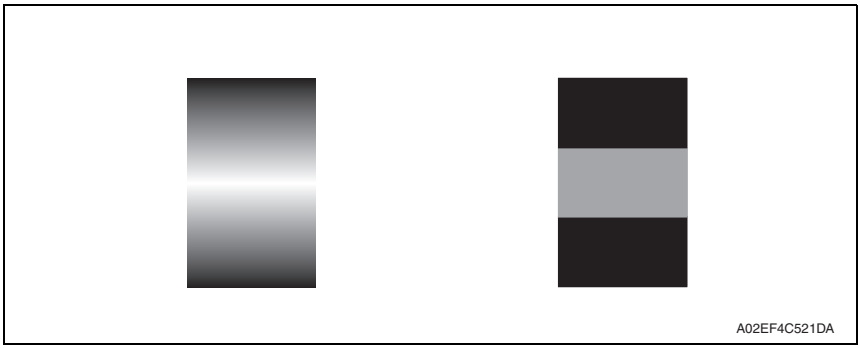
A02EF4C526DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.

16.2.16 Printer 4-color: uneven density in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit.

16.2.17 Printer 4-color: low image density

A. Typical faulty images

A02EF4C516DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change image transfer belt unit. → Change IDC sensor. → Change printer control board. → Change high voltage unit.

16.2.18 Printer 4-color: poor color reproduction

A. Typical faulty images

A02EF4C527DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change printer control board. → Change high voltage unit. → Change MFP board.

16.2.19 Printer 4-color: incorrect color image registration

A. Typical faulty images

A02EF4C512DA

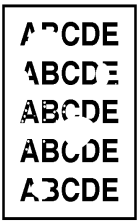
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn off the main power switch and turn it on again more than 10 seconds after.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4		Drive coupling to the machine is dirty.	YES	Clean.
5	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
6	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
7		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit. Change printer control board. Change MFP board.

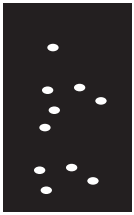
16.2.20 Printer 4-color: void areas, white spots

A. Typical faulty images

Void areas



White spots



A02EF4C523DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	There are void areas at the front side or high density section.	YES	See P.137
2		There are void areas in the trailing edge.	YES	Perform [SERVICE PERSON] → [ADJUST] → [TRANSFER POWER].
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change 2nd image transfer roller unit.
6		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-image transfer guide plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change transfer belt unit.

16.2.21 Printer 4-color: colored spots

A. Typical faulty images

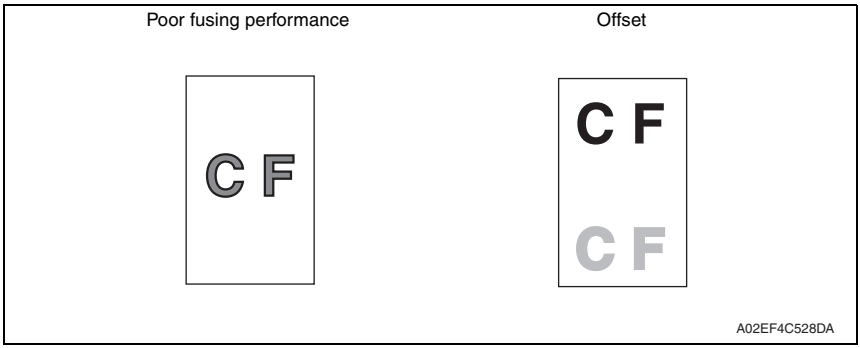
A02EF4C509DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	The surface of the PC drum is scratched.	YES	Change toner cartridge.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the image transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
4	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Fuser unit	Fusing belt is dirty or scratched.	YES	Change fuser unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit.

16.2.22 Printer 4-color: poor fusing performance, offset

A. Typical faulty images

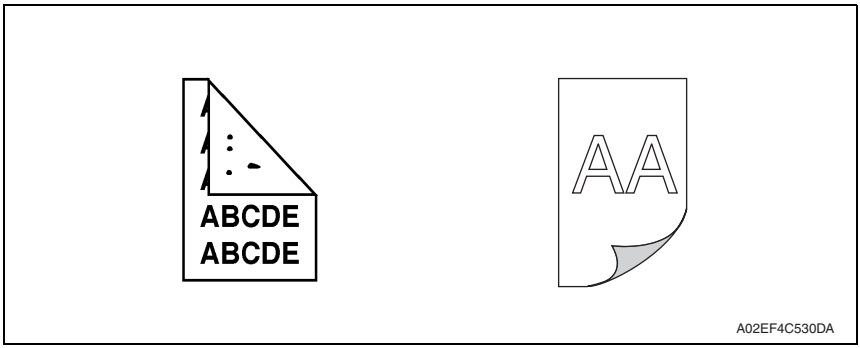


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	ADJUST → TEMPERATURE (SERVICE PERSON)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust fusing temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change fuser unit.

16.2.24 Printer 4-color: back marking

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer roller unit	Transfer roller is scratched or dirty.	YES	Change transfer roller unit.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fuser unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Lower fusing roller is scratched or dirty.	YES	Change fuser unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit.

16.2.25 Printer 4-color: uneven image

A. Typical faulty images

A02EF4C525DA

B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Toner cartridge	There is any stain, damage or abrasion on the PC drum.	YES	Replace the toner cartridge.
5	Transfer roller unit	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller unit.
6	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Replace the fuser unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the transfer belt unit.

17. IC protector

17.1 Outline

- To increase product safety, this printer has an IC protector (ICP) installed in each board. ICP is a component that protects IC. If the amount of the current supplied to the electrical parts such as motor exceeds the set level, ICP trips to protect IC from over current. The following list contains ICP installed in each board, related devices, and symptoms that occur when ICP trips.

17.2 IC protector list

17.2.1 Main body

A. Printer control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	SOS sensor	No function	0310H
	-	Laser diode		
ICP1	FM10	DC power supply fan motor	No function	004EH *1
	FM11	Cooling fan motor		
	FM12	MFP board cooling fan motor		
ICP2	CL1	Tray 2 media feed clutch	No function	0094H *1 0096H *1
	CL3	Registration clutch		
	CL4	Toner supply clutch/Y		
	CL5	Toner supply clutch/M		
	CL6	Toner supply clutch/C		
	CL7	Toner supply clutch/K		
	CL8	Loop detection clutch		
	CL11	Switchback roller feed clutch		
	CL12	Switchback roller reverse clutch		
	CL13	Duplex conveyance roller clutch		
	SD1	1st transfer release solenoid		
	SD2	2nd transfer release solenoid		
	TCT	Total counter		
ICP3	HV	High voltage unit	No function	Error message *1
ICP4	M5	Polygon motor	No function	0300H
ICP5	-	On-board components	No function	Regardless of whether the door is open or closed, Door Open error is displayed.

*1: This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

B. DC power supply

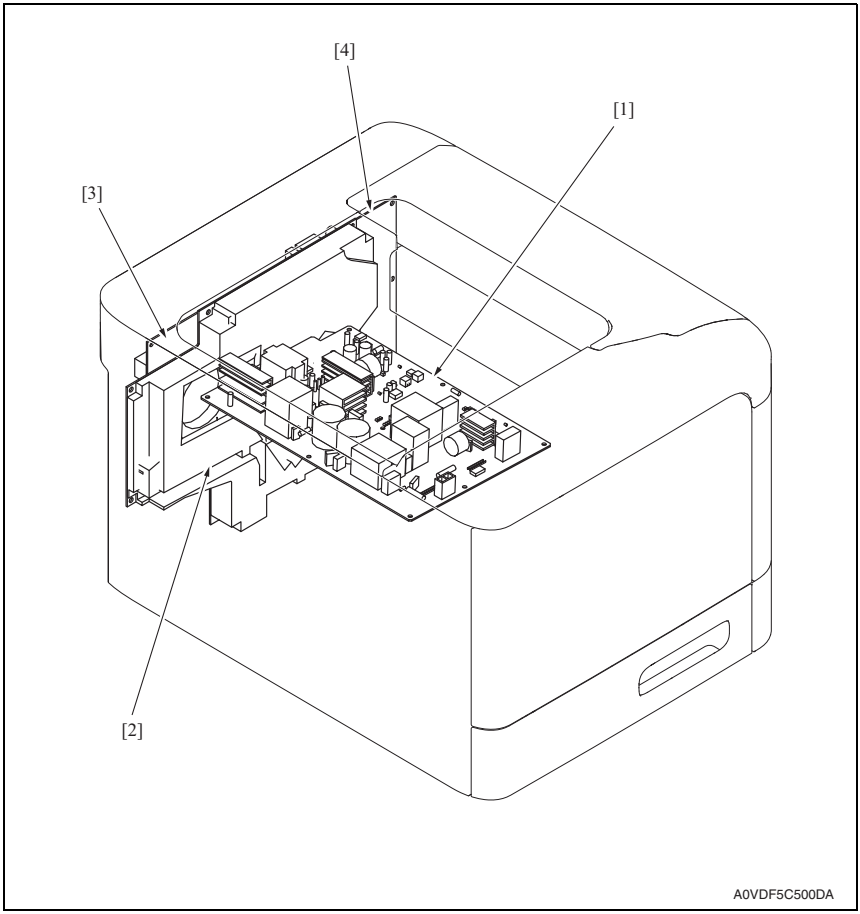
ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
FU101	-	DC power supply circuit	DC power supply does not supply power.	Power switch is not turned ON.
FU191	-	Heater circuit	The heater does not turn ON.	0500 *1

*1: This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

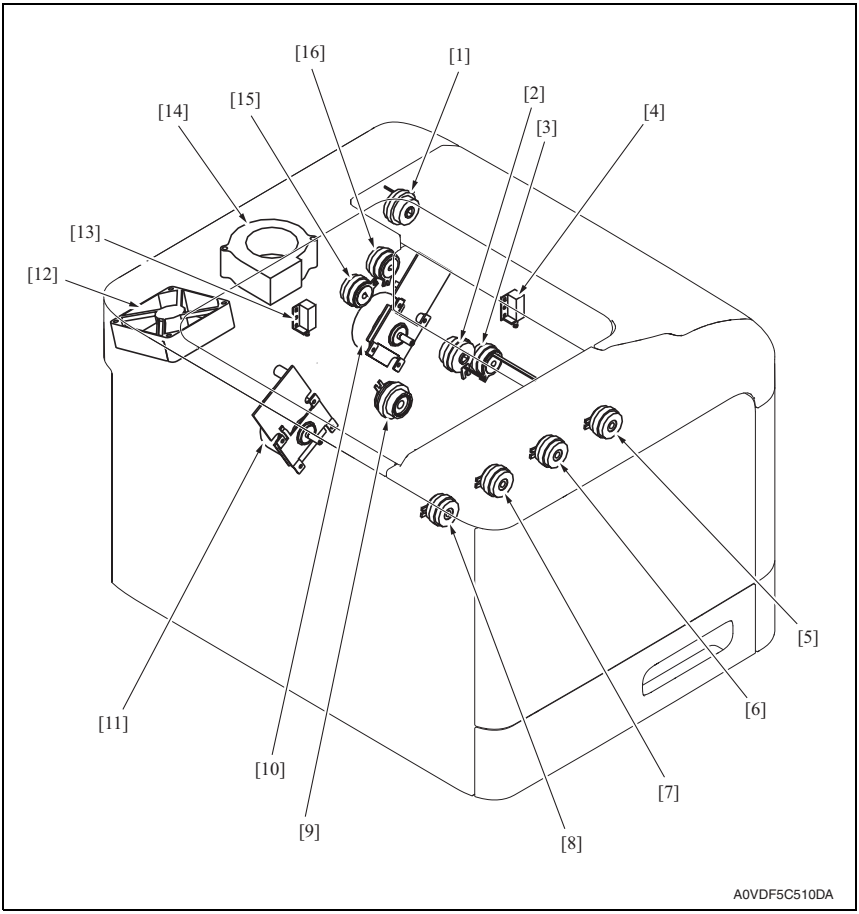
APPENDIX

18. PARTS LAYOUT DRAWING

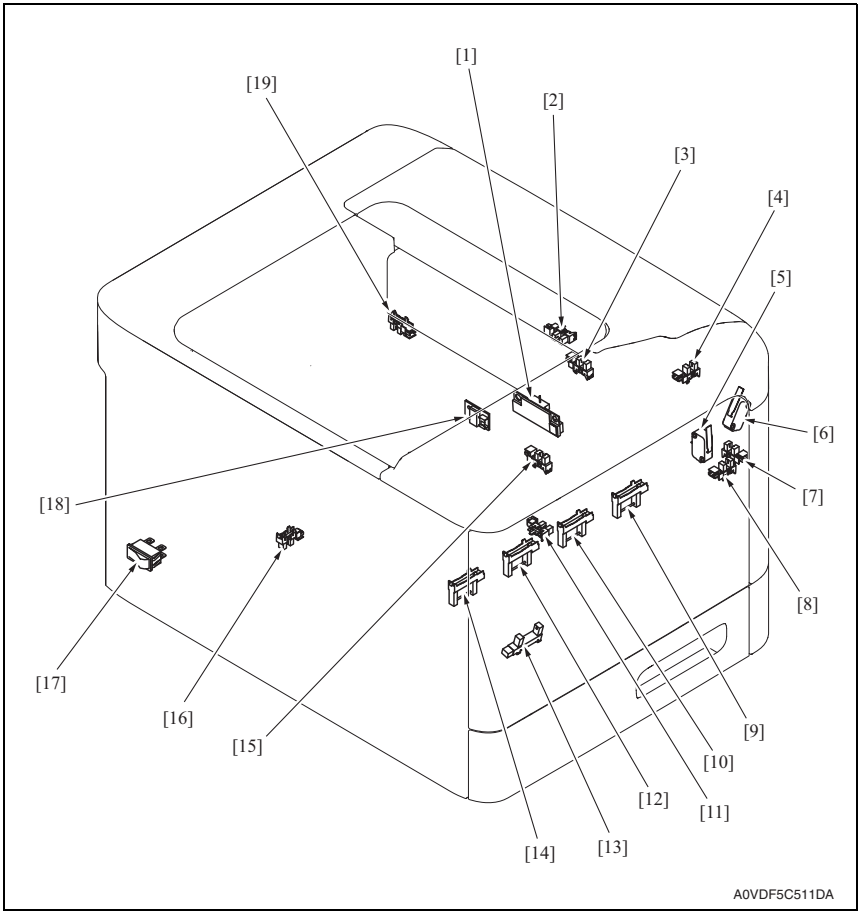
18.1 Main body



[1] DC power supply (DCPU)
[2] High voltage unit (HV1)
[3] MFP board (MFPB)
[4] Printer control board (PRCB)



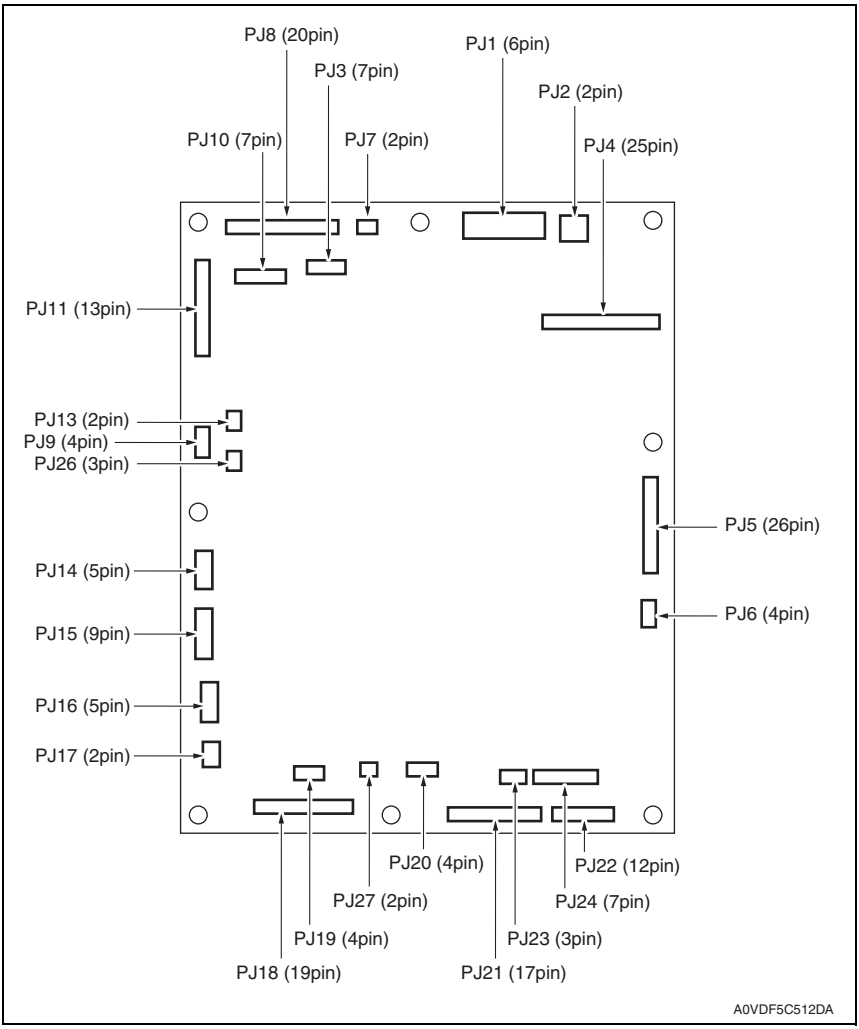
[1] Loop detection clutch (CL8)
[2] Registration clutch (CL3)
[3] Duplex conveyance roller clutch (CL13)
[4] 2nd transfer release solenoid (SD2)
[5] Toner supply motor/K (CL7)
[6] Toner supply motor/C (CL6)
[7] Toner supply motor/M (CL5)
[8] Toner supply motor/Y (CL4)
[9] Tray 2 media feed clutch (CL1)
[10] Main motor (M2)
[11] Developing motor (M1)
[12] DC power supply fan motor (FM10)
[13] 1st transfer release solenoid (SD1)
[14] Cooling fan motor (FM11)
[15] Switchback roller reverse clutch (CL12)
[16] Switchback roller feed clutch (CL11)



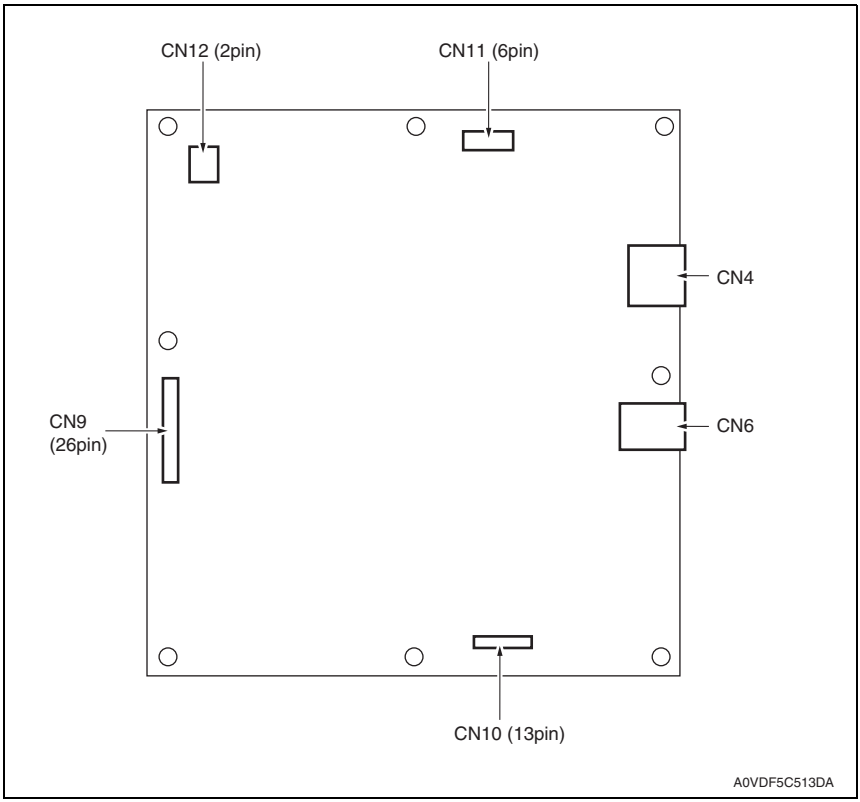
[1] IDC sensor (IDC)
[2] Loop detection sensor (PS6)
[3] Duplex conveyance sensor (PS9)
[4] Exit sensor (PS8)
[5] Front door switch (SW2)
[6] Right door switch (SW3)
[7] Right door sensor (PS11)
[8] Front door sensor (PS10)
[9] Toner level sensor/K (PS16)
[10] Toner level sensor/C (PS15)
[11] Tray2 media empty sensor (PS2)
[12] Toner level sensor/M (PS14)
[13] Waste toner near full sensor (PS12)
[14] Toner level sensor/Y (PS13)
[15] Registration sensor (PS5)
[16] Tray2 set sensor (PS1)
[17] Power switch (SW1)
[18] Temperature/ humidity sensor (TEM/HUMS)
[19] 1st transfer release sensor (PS17)

19. CONNECTOR LAYOUT DRAWING

19.1 Printer control board (PRCB)



19.2 MFP board (MFPB)

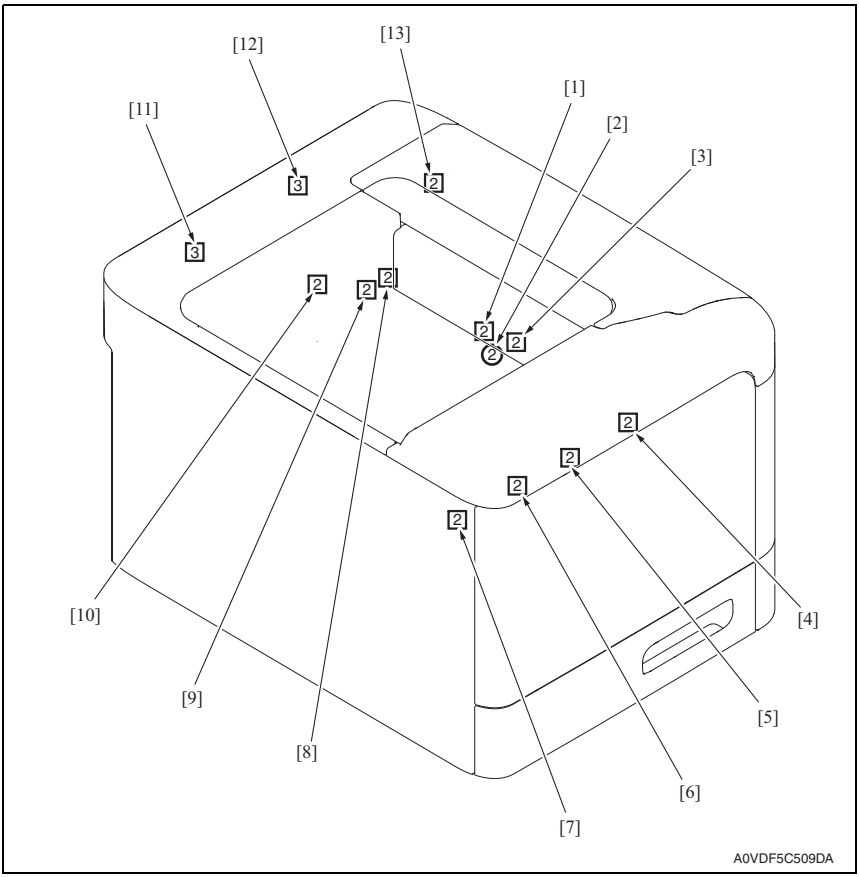


20. CONNECTOR LAYOUT DRAWING

Description

Number of Pin → ① Possible to confirm by removing external cover.

→ 1 Not possible to confirm by removing external cover.



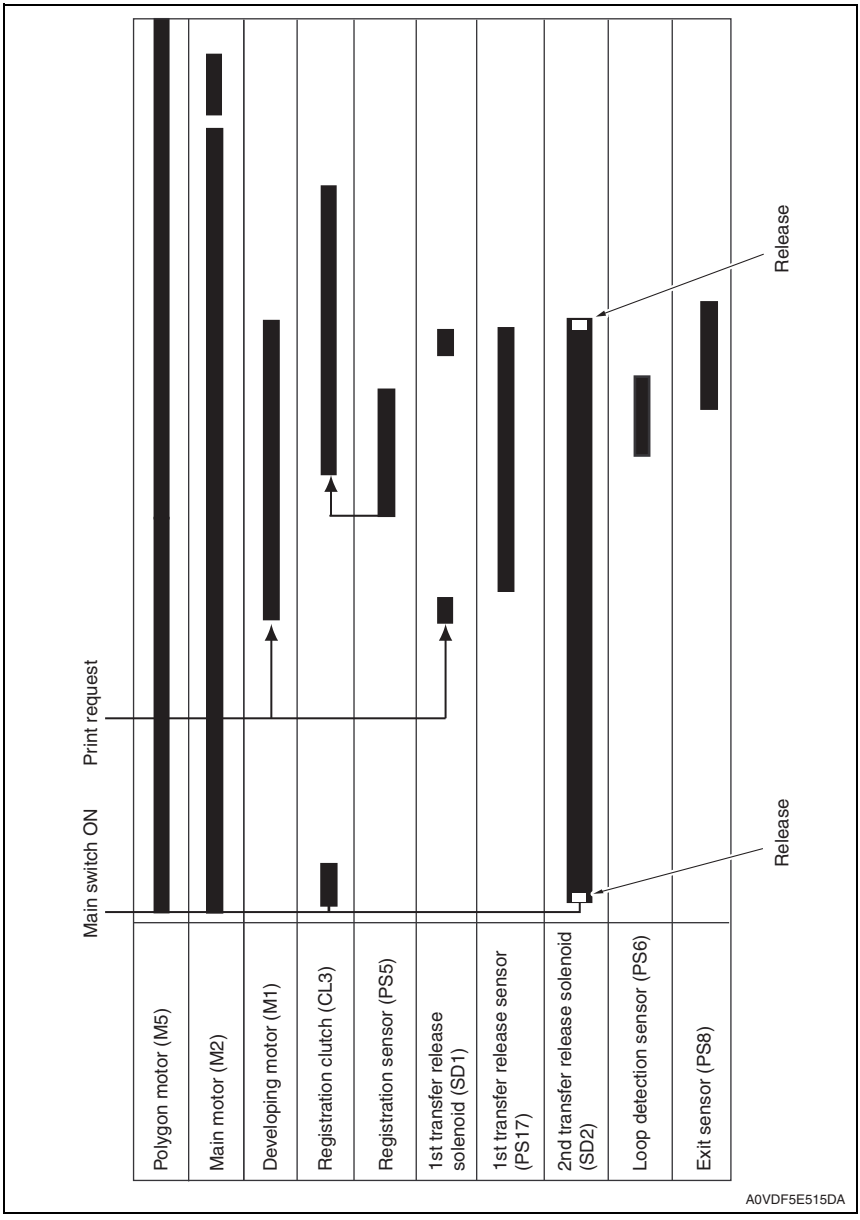
No.	CN No.	Location	No.	CN No.	Location
[1]	CN23	D-7	[2]	CN22	D-7
[3]	CN20	C-7	[4]	CN35	H-7
[5]	CN34	H-7	[6]	CN33	H-7
[7]	CN32	G-7	[8]	CN27	E-7
[9]	CN28	E-7	[10]	CN25	C-15
[11]	CN29	F-7	[12]	CN43	K-11
[13]	CN2	C-15			

21. TIMING CHART

A. Operating conditions

- Color, A4S or 8 $^{1}/_{2}$ x 11S

B. Timing chart



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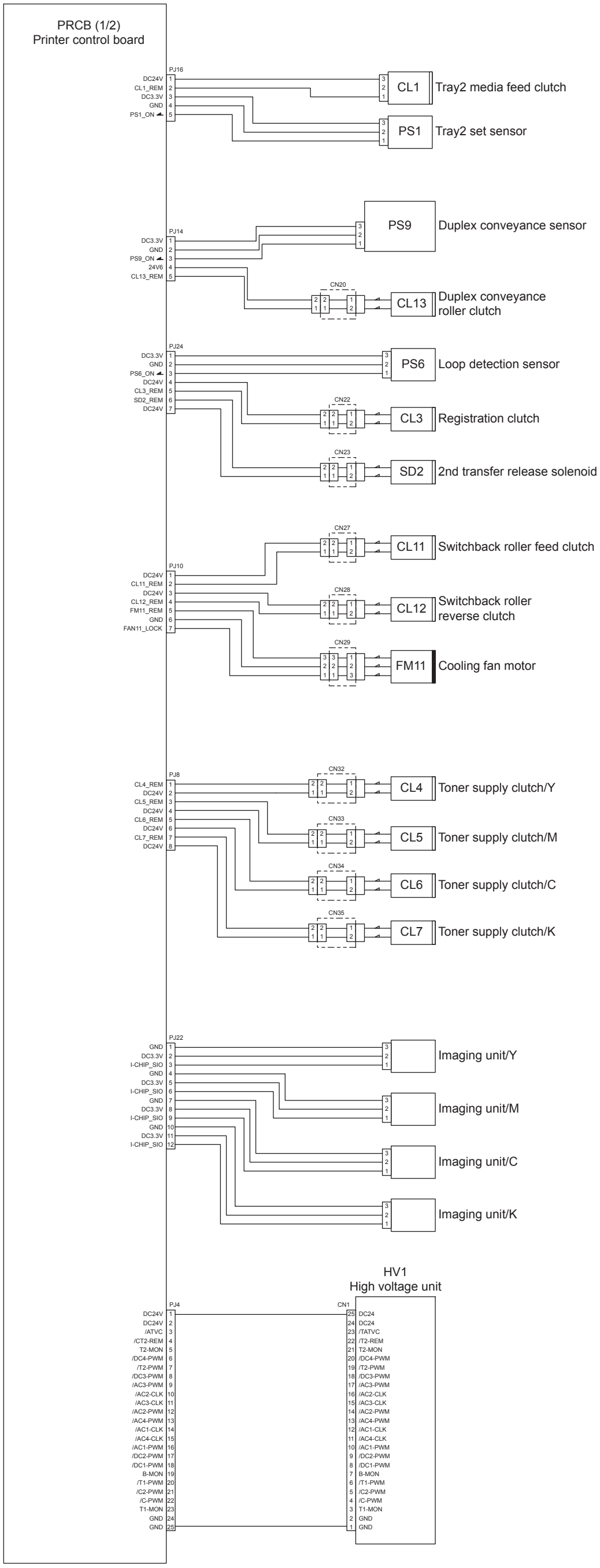
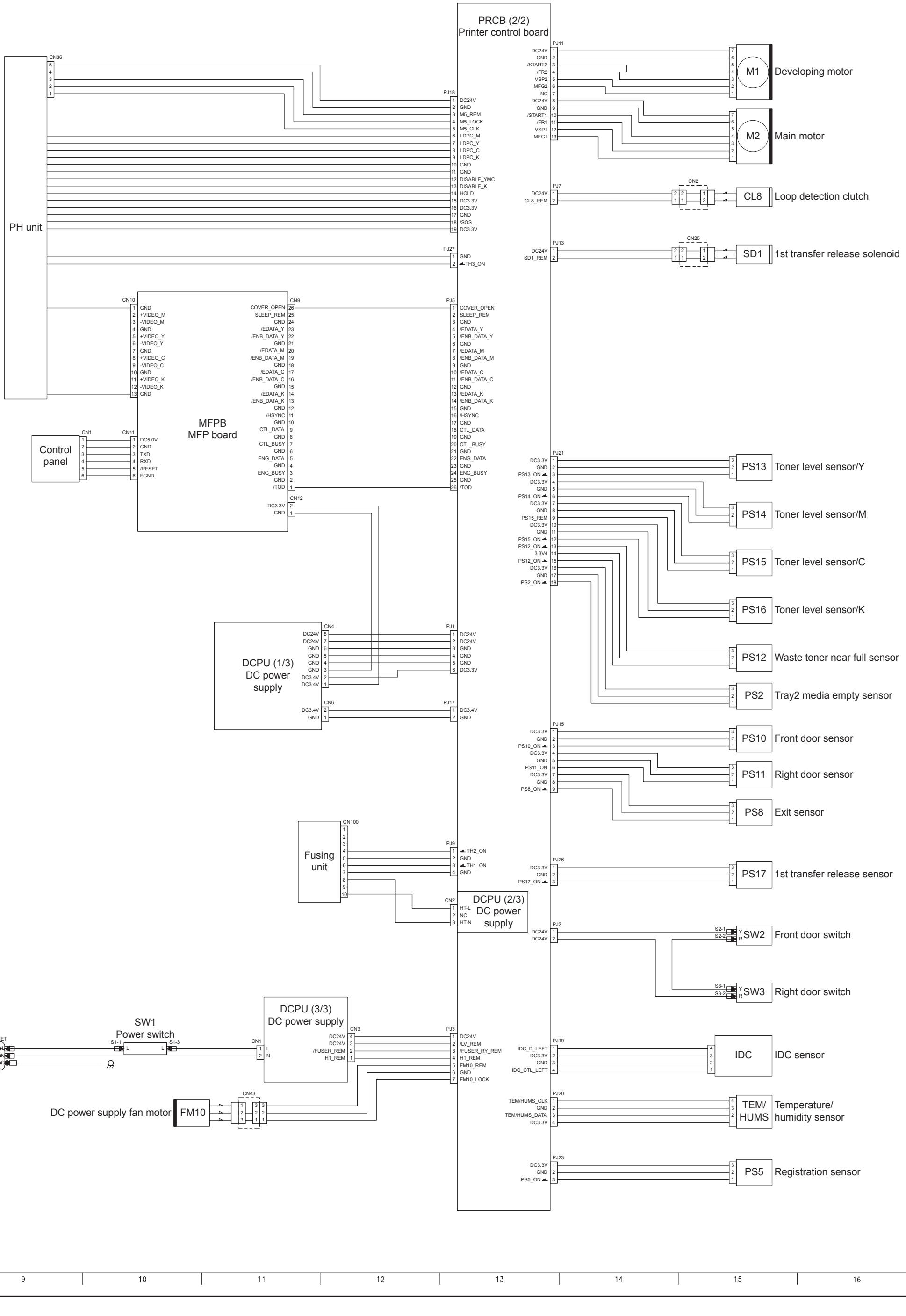
magicolor 3730DN Overall wiring diagram 1/2

A0VD-B001-3A 1/2
Jun.2010



magicolor 3730DN Overall wiring diagram 2/2

A0VD-B001-3A 2/2
Jun.2010



KONICA MINOLTA

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