Dell 2150cn
Service Manual

16 Jun 2010

Version record

Refer to the portion indicated by change bar in each section.

Also refer to the reasons in table below.

Version	Issue date	Note
1st	March 19, 2010	1st issued

1.1st	April 30, 2010	1.1st version issued
		
		Introduction
		  - The content was reviewed.
		Chapter 1:Troubleshooting
		  - The content was reviewed.
		Chapter 2:Operation of Diagnostic
		  - The content was reviewed.
		Chapter 3:RRP
		  - The content was reviewed.
		Chapter 4:Plug/Jack Connector Locations
		  - The illustration was changed.
		Chapter 6:Principles of Operation
		  - The content was reviewed.
		Chapter 8:Printer Specifications
		  - The content was reviewed.

1.2st	May 19, 2010	1.2st version issued
		
		Introduction
		  - The content of "4.5.2 Caution label for toner cartridges" was updated.
		Chapter 5 : Parts List
		  - Correction according to change of spare parts.

2nd	June 16, 2010	2nd version issued
		
		Chapter 1:Troubleshooting
		  - The check result of development was reflected.
		Chapter 3:RRP
		  - The error in writing was corrected.
		Chapter 4: Plug/Jack Connector Locations
		  - The error in writing was corrected.
		Chapter 5: Parts List
		  - The error in writing was corrected.
		Chapter 6:Principles of Operation
		  - The content was reviewed.
		Chapter 7: Wiring Diagrams and Signal Information CONTENTS
		  - The content was reviewed.
		Chapter 8: Printer Specifications
		  - The content was reviewed.

Cautions

Operation contents of this document may be subject to modification without notice.

Dell Inc. will not assume responsibility for accidental or incidental damages resulting from technical or editorial errors or omissions in this manual, the issue of this manual, the execution of descriptions in this manual, or the use of this manual.

1. About this manual

This manual is a standard service manual of Dell Inc. containing information required for maintenance of this laser printer (standard specifications).

2. Marks giving caution

Maintenance operations requiring special cautions or additional information regarding descriptions in this manual are presented as "Warning," "Caution," or "Note," depending on their nature.

WARNING   *If instructions are not observed, death or serious injury may result.*

CAUTION   **If instructions are not observed, injuries to workers or physical damage to assets (including this laser printer) may result.**
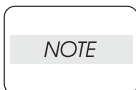
NOTE   **Essentials for procedures, steps, rules, and others.**

Reference   Incidental information to descriptions.

3. Related documents

- Instruction manuals (standard manuals)
Describe the operation and handling of this laser printer.

- Performance specifications
Describe in detail various specifications of this laser printer.
(In the event of a discrepancy between this manual and the performance specifications, the performance specifications take precedence.)

- Spare parts list
Information on maintenance parts (spare parts) for this laser printer.

4. Safety

To prevent possible accidents during maintenance operation, you should observe strictly the "Warning" and "Caution" information in this manual.

Avoid dangerous operations and operations out of the scope of this manual.

Various processes not covered by this manual may be required in actual operations, and should be performed carefully, always giving attention to safety.

4.1 Power source

Keep the power plug disconnected during the maintenance operation to prevent electric shock, burns and other damages.

If the power supply should be kept connected to measure voltage or for other similar reasons, take sufficient care to prevent electric shock, by following the procedures in this manual.

WARNING *While the printer is on, never touch live parts if not required.*

WARNING *Power is supplied to the power switch / inlet even while the printer is off. Never touch its live components.*

WARNING *Do not touch live parts unless otherwise specified.*
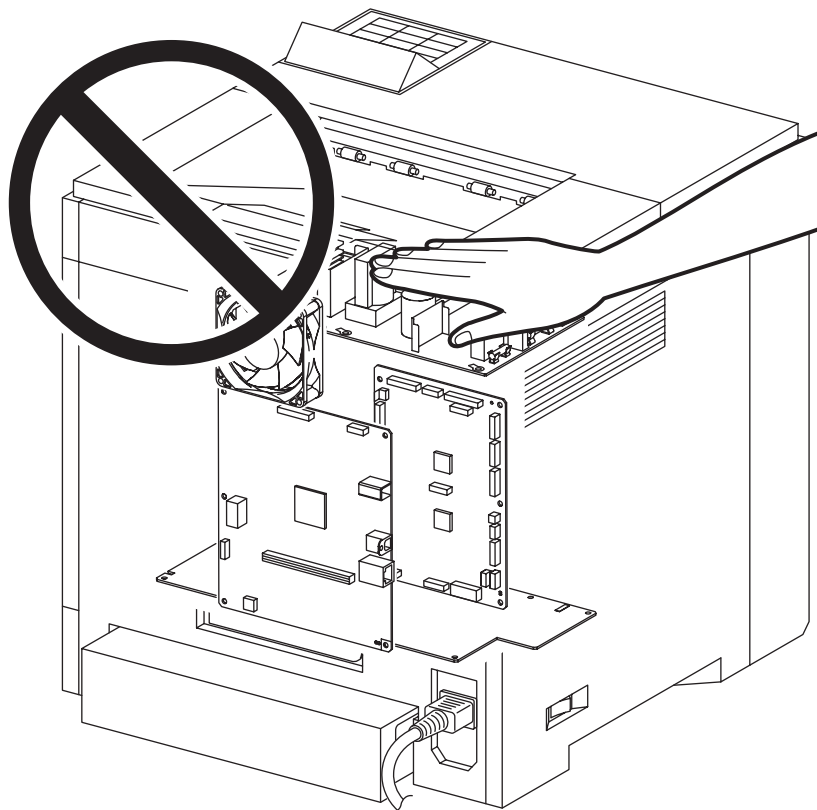
MiS00002KA

4.2   Driving units

When servicing gears or other driving units, be sure to turn off the power switch and unplug the power cord. Drive them manually when required.

WARNING	***Do not do the print work removing the cover of the printer to confirm the operation of driving part.***

4.3   High-temperature units

When servicing high-temperature units (securing unit, etc.), be sure to turn them off to prevent burns, injuries and other troubles. Remove the power plug and start service processes after they have cooled down sufficiently.

WARNING	***Because high-temperature units are still hot after they complete an operation, wait at least 40 minutes before starting maintenance service.***

4.4 Laser beams

- *If your eyes are exposed to laser beams, you may lose your eyesight.*
- *Never open the cover if the warning label for laser beams is attached there.*
- *Before disassembling and reassembling this laser printer, be sure to turn it OFF.*
- *When servicing this laser printer while it is running, be sure to follow the procedures specified in this manual.*
- *You should be well aware that the laser beams are capable of injuring you and other people near the printer.*

NOTE
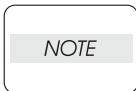
Laser beams have features as follows:
- **Frequencies are smaller in width than other beams (sun and electric bulbs) and phases are uniform so that high monochromatic and convergence performance can be obtained and thin beams of light can reach places at a long distance.**
- **Being highly converged, the laser beams exert a heating action that may be harmful to human body.**

Reference: The laser beams of this laser printer are invisible rays.

ROS
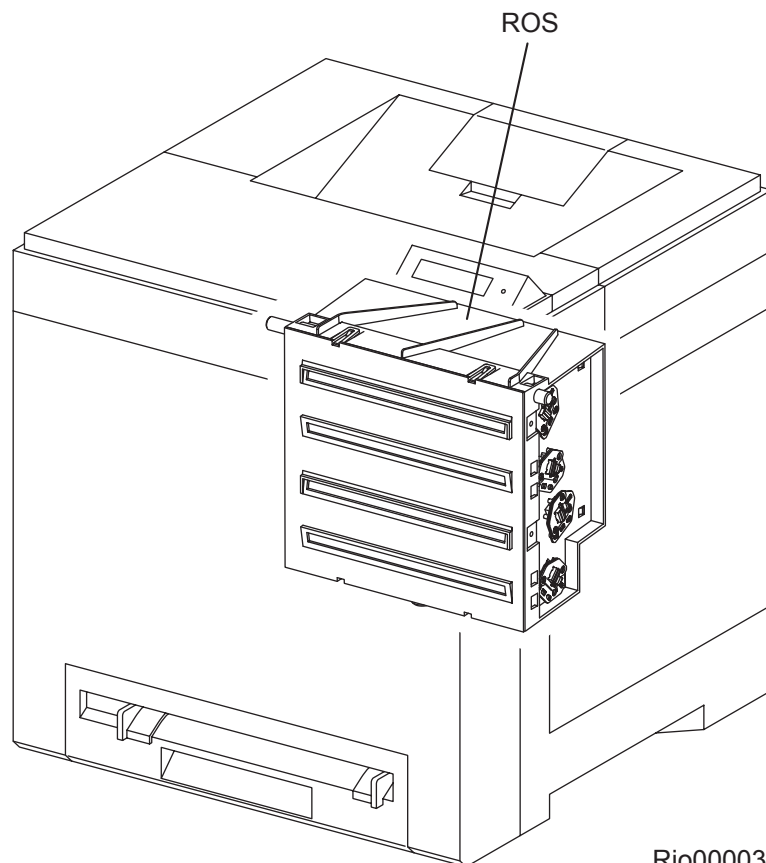
Rio00003KA

4.5 Warning/caution labels

Warning labels and caution labels are attached to this laser printer to prevent accidents Check those labels for peeling or stains when servicing the printer.

4.5.1 Caution label for high-temperature units

Rio00004KA

4.5.2 Caution label for toner cartridges

Rio00006KA

K

Dell™ 2150 Series/ 2155 Series Standard Capacity Black Toner Cartridge 2FV35

Cartouche de Toner Noir / Tonerkartusche Schwarz / Cartuccia Toner Nero
/ Cartucho de Tóner Negro / Zwarte Tonercartridge

Order Supplies at : www.dell.com/supplies

Dell is a trademark of Dell Inc.
For warranty questions, see the limited warranty
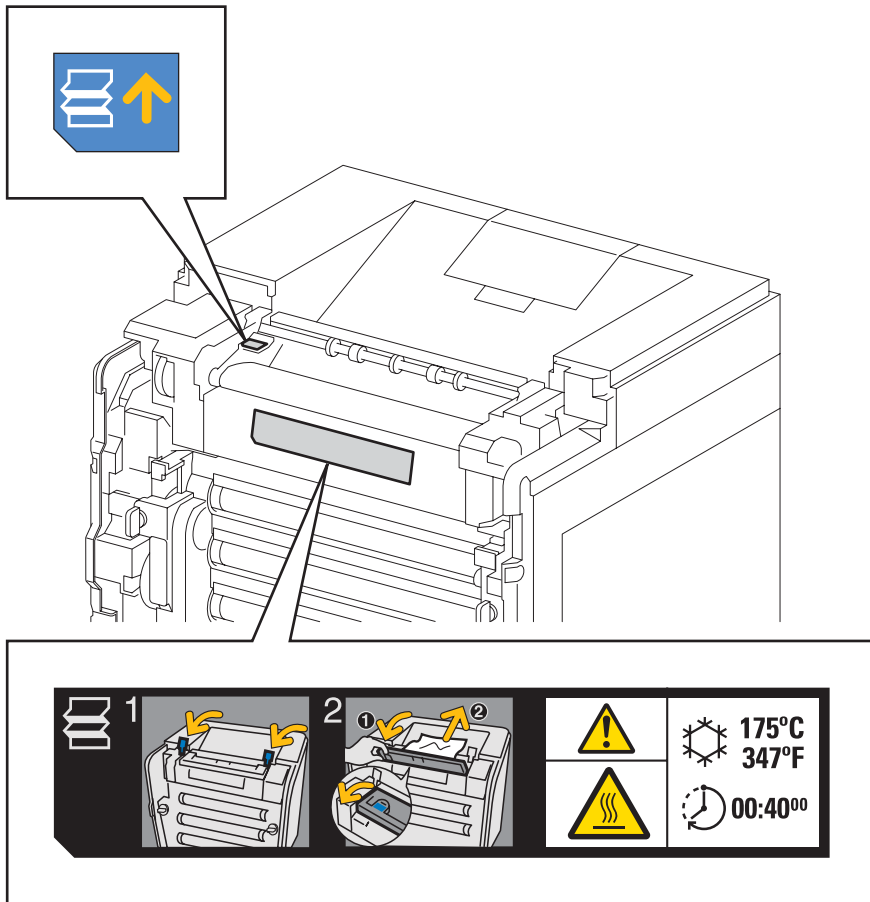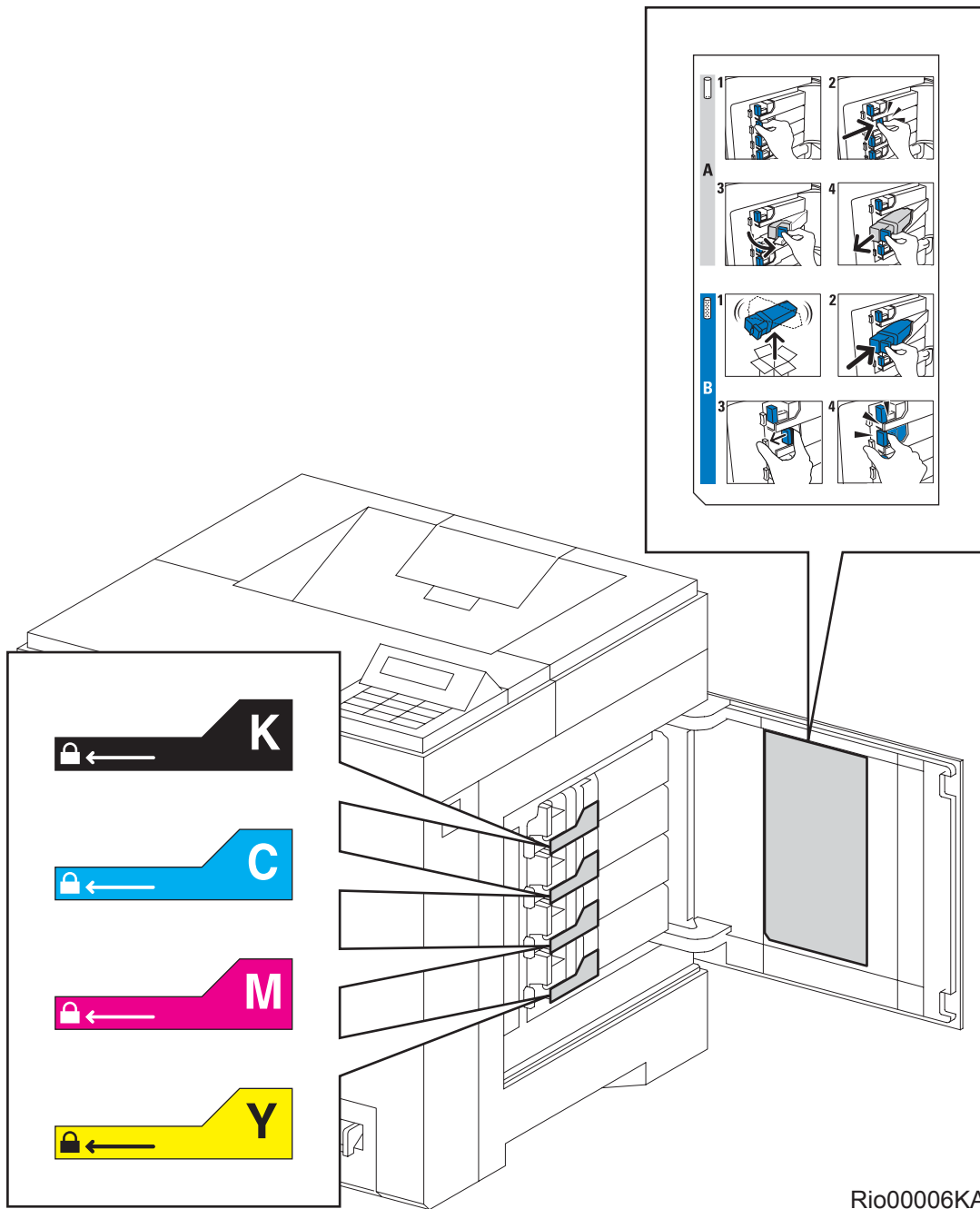statements included with your printer documentation.

* 1 5 2 3 *

C

Dell™ 2150 Series/ 2155 Series Standard Capacity Cyan Toner Cartridge WHPFG

Cartouche de Toner Cyan / Tonerkartusche Zyan / Cartuccia Toner Ciano
/ Cartucho de Tóner Cian / Cyaan Tonercartridge

Order Supplies at : www.dell.com/supplies

Dell is a trademark of Dell Inc.
For warranty questions, see the limited warranty
statements included with your printer documentation.

* 1 5 2 4 *

M

Dell™ 2150 Series/ 2155 Series Standard Capacity Magenta Toner Cartridge 9M2WC

Cartouche de Toner Magenta / Tonerkartusche Magenta / Cartuccia Toner Magenta
/ Cartucho de Tóner Magenta / Magenta Tonercartridge

Order Supplies at : www.dell.com/supplies

Dell is a trademark of Dell Inc.
For warranty questions, see the limited warranty
statements included with your printer documentation.

* 1 5 2 5 *

Y

Dell™ 2150 Series/ 2155 Series Standard Capacity Yellow Toner Cartridge NT6X2

Cartouche de Toner Jaune / Tonerkartusche Gelb / Cartuccia Toner Giallo
/ Cartucho de Tóner Amarillo / Gele Tonercartridge

Order Supplies at : www.dell.com/supplies

Dell is a trademark of Dell Inc.
For warranty questions, see the limited warranty
statements included with your printer documentation.

* 1 5 2 6 *
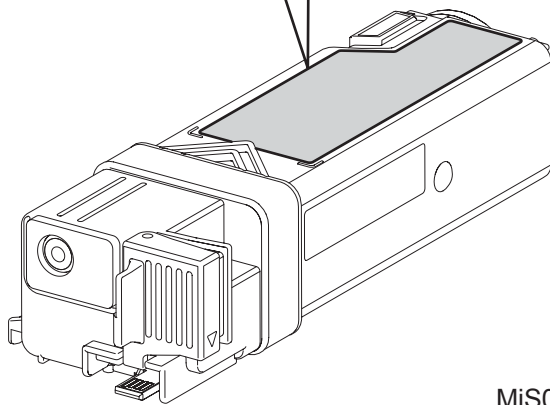
MiS00007KA

4.5.3　Caution label for SSI and tray
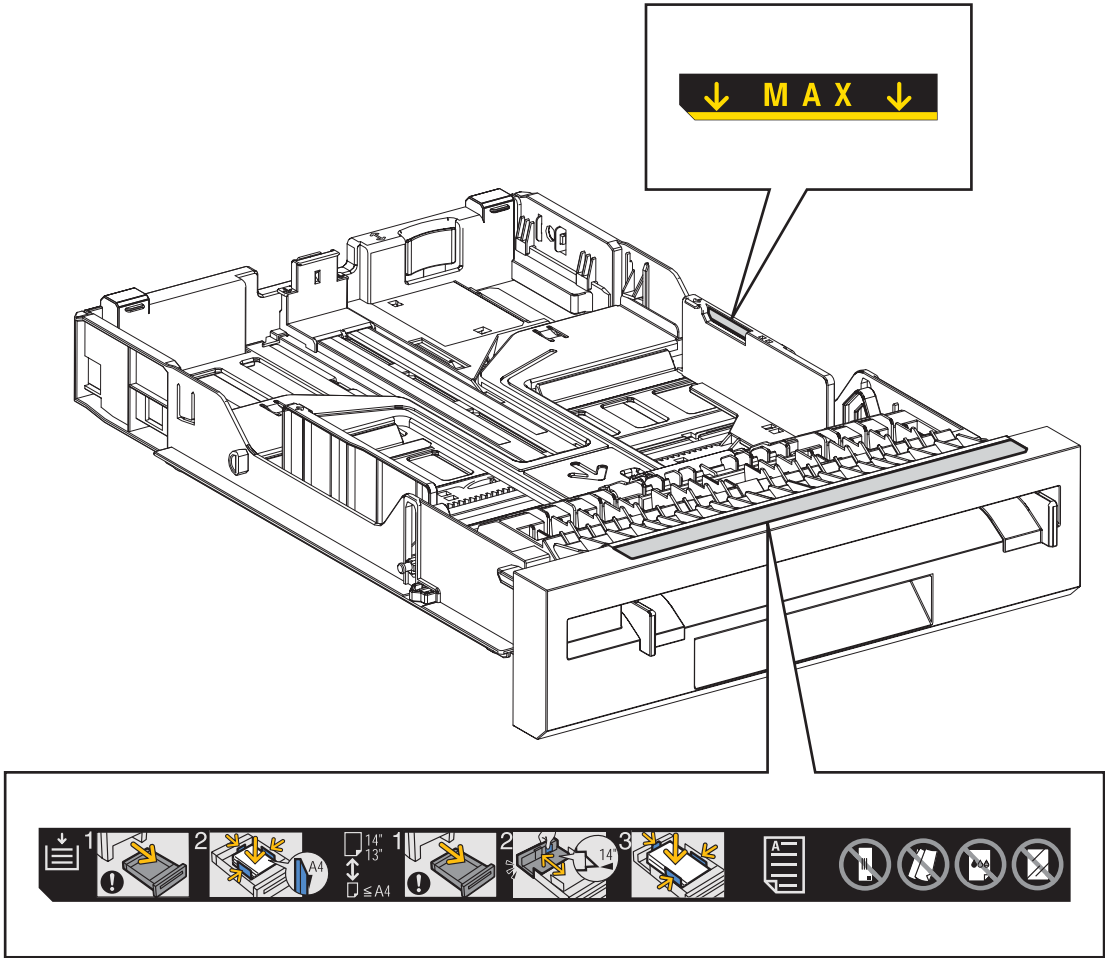
Rio00008KA

4.5.4 Caution label for ROS

CAUTION — CLASS 3B INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.

VORSICHT — UNSICHTBARE LASERSTRAHLUNG KLASSE 3B, WENN ABDECKUNG GEÖFFNET.
NICHT DEM STRAHL AUSSETZEN.

ADVARSEL — KLASSE 3B USYNLIG LASERSTRÅLING VED ÅBNING
UNDGÅ UDSÆTTELSE FOR STRÅLING

VARO! — KLASS 3B NÄKYMÄTÖNTÄ AVATTAESSA OLET ALTTINA LASERSÄTEILYLLE
ÄLÄ KATSO SÄTEESEEN

Rio00009KA

x
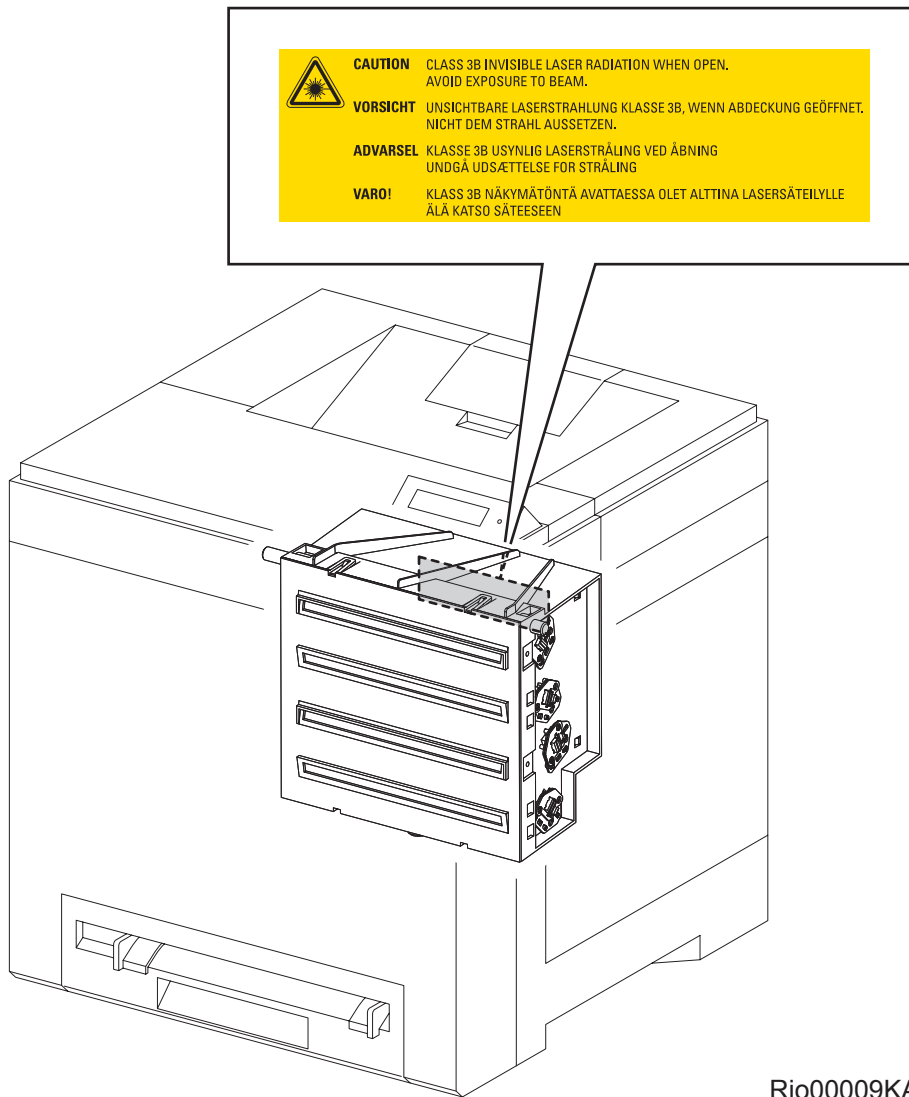
4.5.5   Caution label for transfer belt and PHD unit
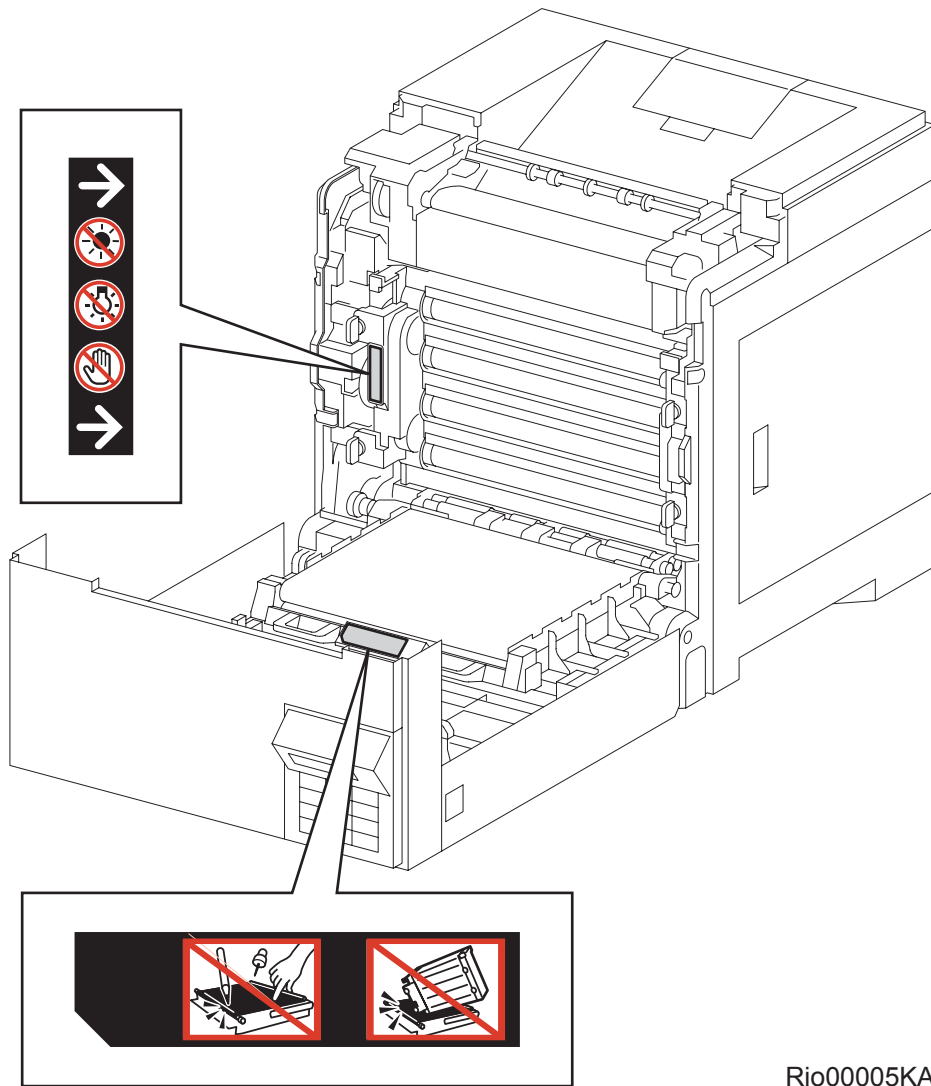
Rio00005KA
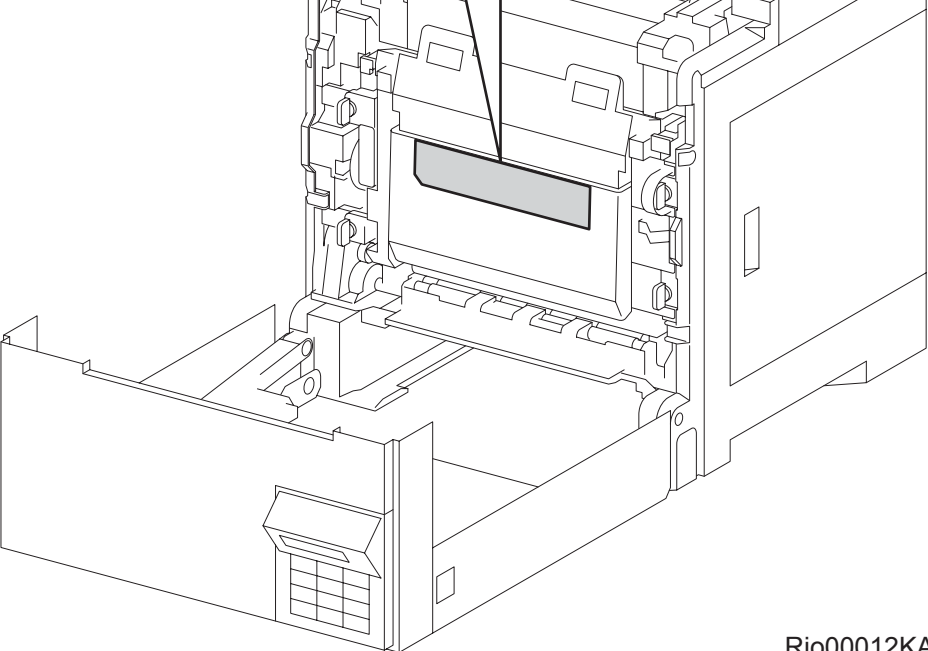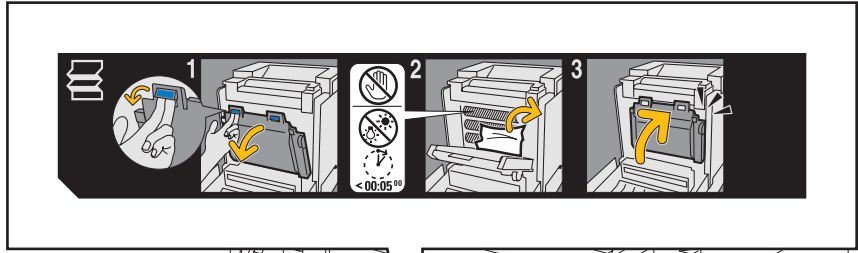
Rio00012KA

4.5.6　Caution label for duplex
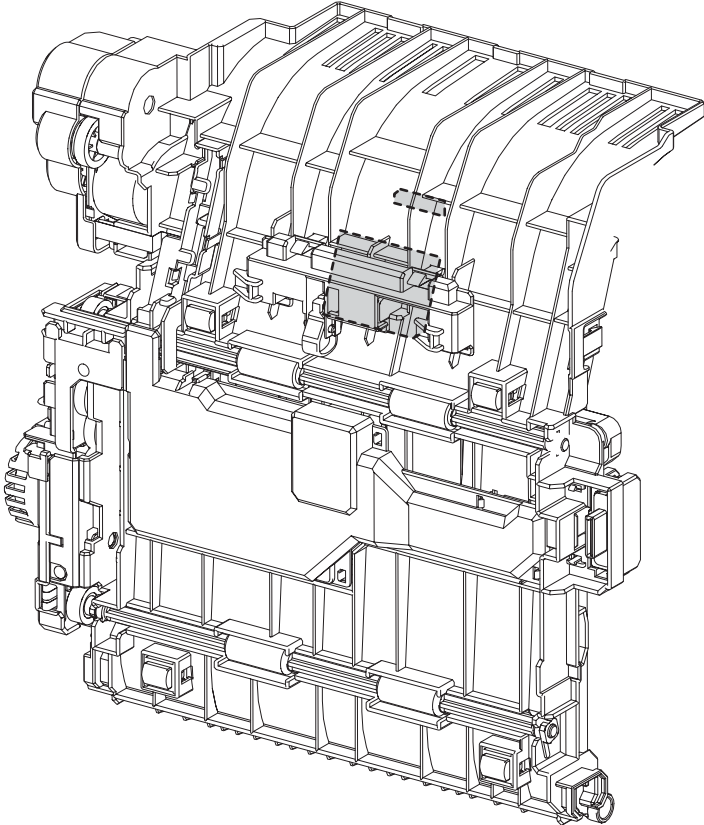
Blank Page

Unpacking the Printer

CAUTION	**Take extreme care to avoid personal injuries.**

Check the printer for evidence of any damages.

Peel all tapes off the printer.

MiS00010KA

MiS00011KA

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1. Troubleshooting Overview

To increase the efficiency of troubleshooting, ensure that preliminary checks should be made to confirm the trouble status before proceeding to the Fault Isolation Procedure (FIP), Operation of Diagnostic (Chapter 2), Wiring Diagrams (Chapter 7), and Principles of Operation (Chapter 6).

1.1 Flow of Troubleshooting

Flow of the troubleshooting is as follows:
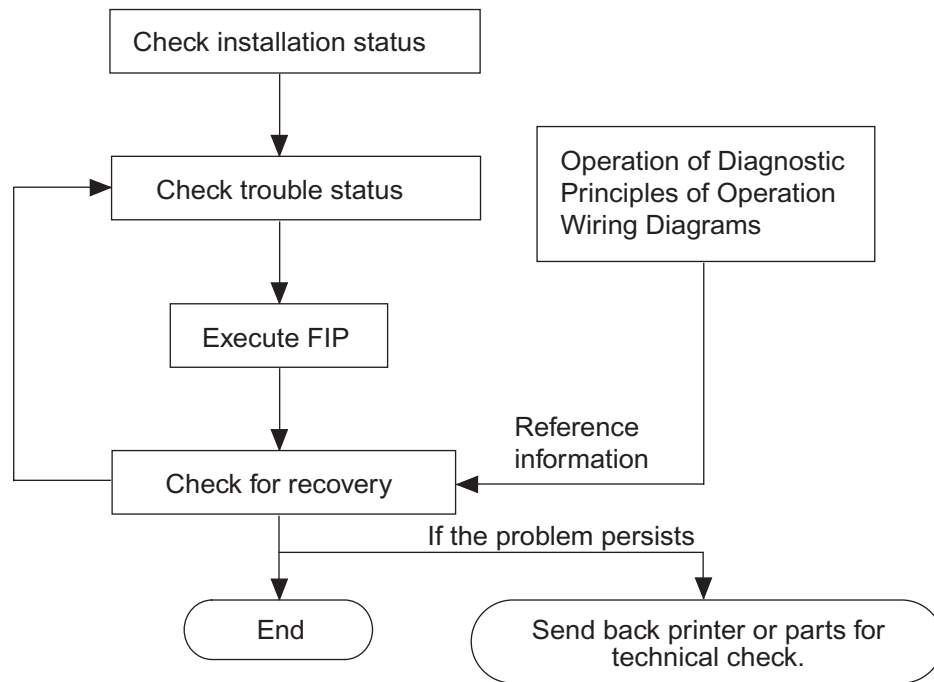
1.2 Check Installation Status

Be sure to check the following items before starting the troubleshooting procedures

1)   The power supply voltage is within the specifications (measure the voltage at the wall outlet).

2)   Power cord is free from breakage, short-circuit, disconnected wire, or incorrect connection in the power cord.

3)   The printer is properly grounded.

4)   The printer is not installed at a place subjected to high/low temperature, humidity, and sudden temperature changes.

5)   The printer is not installed at or near water facilities, humidifier, heating appliance, fire, dust, or in airflow from air conditioner.

6)   The printer is not installed in a place subjected to volatile or inflammable gas.

7)   The printer is not installed under direct sunlight.

8)   The printer is installed in a well-ventilated place.

9)   The printer is installed on a firm and stable surface.

10) The paper meets the specifications (standard paper is recommended).

11) The printer is handled properly.

12) The high frequency service items are replaced at the recommended print count intervals.

1.3 Cautions on Service Operations

1) Be sure to remove the power cord unless otherwise required.

WARNING

While the printer is powered ON, never touch the conductive parts unless otherwise required.
Never touch the conductive parts of the power switch and inlet of the LVPS, because they are live even while the printer is powered off.

2) When checking some parts with covers removed and with the interlock, safety, and power switches ON, disconnect the connectors (P/J411 and P/J412) on the ROS ASSY except unless otherwise required.

WARNING

When checking some parts with covers removed and with the interlock, safety, and power switches ON, laser beams may be irradiated from the ROS ASSY. For your safety, be sure to disconnect the connectors (P/J411 and P/J 412) unless otherwise required.

3) When checking some parts with the Front Cover removed and the printer powered ON, be sure to remove the connector (P/J16) on the PWBA MCU unless otherwise required.

WARNING

When checking some parts with the Front Cover removed and the printer powered ON, be sure to remove the connector (P/J16) on the MCU. Otherwise, a high voltage may be output from the HVPS.
When connecting the connector (P/J16) on the MCU according to the instructions in the FIP, never touch the HVPS and high voltage parts.

4) When outputting a high voltage using the Diag Tool, etc., keep all the covers on unless otherwise required.

WARNING

When outputting a high voltage using the Diag Tool, etc., ensure that:
- The high voltage carrying parts must never be touched.
- The instructions in this manual must be followed.

5) When operating the drive unit using the Diag Tool, etc., keep all the covers on unless otherwise required.

WARNING

When operating the drive unit using the Diag Tool, etc., ensure that:
- The drive unit must never be touched.
- The instructions in this manual must be followed.

6) When touching hot parts, be careful not to get burnt.

7) While working, be sure to wear a wrist band or the like to dissipate static charges from your body.

1.4 Cautions on Using FIP

1)   When troubleshooting according to the FIP, have on hand a normal MCU, LVPS, HVPS, FUSER ASSY, TRANSFER ASSY, etc., for possible fault isolation.

2)   In the initial check according to the FIP, check only items which can be simply checked.

3)   In the initial check according to the FIP, check the constitutive parts of the major check parts and related parts, as well as major check parts.

4)   When working with the printer, be sure to remove the power cord unless otherwise required. Never touch live parts if not required, while the power cord is connected.

5)   Connector condition is denoted as follows:
     [P/J12] → Connector (P/J12) is connected.
     [P12]   → Plug side with the connector (P/J12) removed (except when attached directly to the board).
     [J12]   → Jack side with the connector (P/J12) removed (except when attached directly to the board).

6)   [P/J1-2PIN <=> P/J3-4PIN] in the FIP means measurement with the positive side of the measuring instrument connected to [2PIN] of [P/J1] and the negative side to [4PIN] of [P/J3].

7)   [P/J1<=> P/J2] in the FIP means measurement for all terminals corresponding between [P/J1] and [P/J2] based on "Wiring Diagrams".

8)   In [P/J1-2PIN <=> P/J3-4PIN] in the FIP where voltage is measured, [P/J3-4PIN] on the rear negative side is always at the AG (analog ground), SG (signal ground), or RTN (return). Therefore, after checking of proper conductivity between AGs, SGs, or RTNs respectively, the rear negative side can be connected to the PIN of AG, SG or RTN instead of [P/J3-4PIN]. However, care should be taken not to confuse [AG], [SG], and [RTN] because they are not on the same level.

9)   When measuring the voltage at small connectors, use the dedicated tool. Handle the tool with care because its business end is pointed.

10) When measuring the voltage, set the TRANSFER ASSY, toner cartridge and sheet feeder, close the COVERs and power ON unless otherwise required.

11) Numerical values in the FIP are only for guideline. Approximate values are acceptable.

12) In each step of the FIP, parts removal and other procedures implicitly required for the step are omitted.

13) In the FIP, "Replacement" means the replacement of the parts that are considered to be the cause of the trouble. Replacement of those parts means the replacement of the assembly part (HIGH ASSY) that contain them.

14) In the FIP, the sheet feeder immediately below the printer main body is called "Tray 1", and the cassette below it is called "Tray 2".

15) Some of the instructions in the FIP are branched off depending on the specifications. Follow the applicable instruction.

16) For some optional components, you may have to refer to the manual of the relevant component for troubleshooting. Have the relevant manual at hand as needed.

1.5 Items To Be Confirmed Before Going To FIP Troubleshooting

Basic Printer Problems

Some printer problems can be easy to resolve. If a problem occurs with your printer, check each the following:

1) If a message is displayed on the LCD of operator panel, see "2.3 Status Code List".
2) The printer power cable is plugged into the printer and a properly grounded electrical outlet.
3) The printer power is powered ON.
4) The electrical outlet is not turned off by any switch or breaker.
5) Other electrical equipment plugged into the outlet is working.
6) All options are properly installed.
7) If you have checked all of the above and still have a problem, turn off the printer, wait for 10 seconds, and then turn on the printer. This often solves the problem.

Display Problems

1) If the operator panel displays only diamonds or is blank, check and try the action below.
   If the problem persists even after checking and executing the items below, execute "Flow 27 Operator Panel-ESS Communication Fail", "Flow 112 AC Power" or "Flow 113 DC Power".
   a) Turn off the printer, wait for 10 seconds, and turn on the printer.
   b) Self Test Message appears on the operator panel. When the test is completed, "Ready to Print" is displayed.
2) If menu settings changed from the operator panel have no effect, check and try the actions below.
   Settings in the software program, the printer driver, or the printer utilities are overriding the settings made on the operator panel.
   a) Change the menu settings from the printer driver, the printer utilities, or the software program instead of the operator panel.
   b) Disable the settings in the printer driver, the printer utilities, or the software program so you can change settings on the operator panel.

Printing Problems

1) If a job did not print correct or incorrect characters were printed, check and try the actions below.
   a) Make sure "Ready to Print" appears on the operator panel before sending a job to print. Press **Menu** to return to "Ready to Print".
   b) Make sure print media is loaded in the printer. Press **Menu** to return to "Ready to Print".
   c) Verify that you are using the correct printer driver.
   d) Make sure you are using the correct Ethernet or USB cables and it securely connected at the back of the printer.
   e) Verify that the correct print media size is selected.
   f) If using a print spooler, verify that the spooler has not stalled.
   g) Check the printer interface from the "Configure" menu. Determine the host interface you are using. Print a Panel Setting page to verify that the current interfaces settings are correct.
   h) Output fonts will not print correctly using the PCL driver in its default mode. To correct this problem, use PostScript driver when using the PCL driver.

2)   If secure print is not available or not printing, refer to the requirements below.

    a) Minimum 256 MB is required.

    b) RAM Disk must be enabled using the operation panel.

    c) The number of secure print jobs your printer can store is dependent on the job size including number of pages, graphics, color attributes, and the amount of memory installed. To increase this number, add additional memory.

3)   If print media misfeeds or multiple feeds occur, check and try the actions below.

    a) Make sure the print media you are using meets the specifications for your printer. Refer to **Print Media Guidelines** of this section.

    b) Flex print media before loading it in any of the sources.

    c) Make sure the print media is loaded correctly.

    d) Make sure the width and length guides on the print media sources are adjusted correctly.

    e) If the print media are overfilled in sources, reduce the amount of media.

    f) Load the recommended print side correctly for the type of print media you are using.

    g) Turn the print media over or around and try printing again to see if feeding improves.

    h) Check the print media type loaded in the source, and refill only one type of print media, if print media types are mixed.

    i) Refill a new ream of print media, if some reams are mixed.

    j) Remove the top and bottom sheets of a ream before loading the print media.

    k) Do not reload print media until the print media source is empty.

4)   If envelope misfeeds or multiple feeds occur, check and try the action below.

    a) Remove the stack of envelops from the Single Sheet Feeder (SSF).

5)   If page breaks in unexpected places, check and try the action below.

    a) Check the "Job Time-out" in the Basic Settings menu and increase the value.

6)   If a job prints from the wrong source or on the wrong print media, check and try the action below.

    a) Check the "Paper Size" and "Paper Type" in the Tray Settings menu on the printer operator panel and in the printer driver.

7)   If print media does not stack neatly in the output tray, check and try the action below.

    a) Turn the print media stack over in the tray or multipurpose feeder.

Print Media Guidelines

Print media refers to paper, labels, envelopes, and coated paper among others. Your printer provides high-quality printing on a variety of print media. Selecting the appropriate print media for your printer helps avoid printing troubles. This section describes selecting print media, caring for print media, and loading the print media in the standard 250-sheet tray.

Paper

For the best print quality in color, use 75 g/m^2 (20 lb) xerographic, grain long paper. For the best print quality in black and white, use 90 g/m^2 (24 lb) xerographic, grain long paper. It is recommended that you perform trial print before purchasing large quantities of print media.

When loading paper, identify the recommended print side on the paper package, and load the paper accordingly. See "Loading Print Media in the Standard 250-Sheet Tray and the Optional 250-Sheet Feeder" and "Loading Print Media in the SSF" for detailed loading instructions.

Paper Characteristics

The following paper characteristics affect print quality and reliability. It is recommended that you follow these guidelines when evaluating new paper stock.

Weight

The tray automatically feeds paper weights from 60 g/m^2 to 216 g/m^2 (16 lb to 80 lb bond) grain long.

The single sheet feeder automatically feeds paper weights from 60 g/m^2 to 216 g/m^2 (16 lb to 80 lb bond) grain long. Paper lighter than 60 g/m^2 (16 lb) may not feed properly, and could cause paper jams. For best performance, use 75 g/m^2 (20 lb bond) grain long paper.

Curl

Curl is the tendency of print media to curve at its edges. Excessive curl can cause paper feeding problems. Curl usually occurs after the paper passes through the printer, where it is exposed to high temperatures. Storing paper unwrapped, even in the paper tray, can contribute to paper curling prior to printing and cause feeding problems regardless of humidity. When printing on curled paper, straighten the paper and then insert it into the single sheet feeder.

Smoothness

The degree of paper smoothness directly affects the print quality. If the paper is too rough, the toner does not fuse on to the paper properly, resulting in poor print quality. If the paper is too smooth, it can cause paper feeding problems. Smoothness between 150 and 250 Sheffield points produces the best print quality.

Moisture Content

The amount of moisture in the paper affects both the print quality and the ability of the printer to feed the paper properly. Leave the paper in its original packaging until you are ready to use it. This limits the exposure of the paper to moisture changes that can degrade its performance.

Grain Direction

Grain refers to the alignment of the paper fibers in a sheet of paper. Grain is either grain long, running the length of the paper, or grain short, running the width of the paper. For 60 g/m^2 to 135 g/m^2 (16 lb to 36 lb bond) paper, grain long fibers are recommended. For paper heavier than 135 g/m^2 (36 lb bond), grain short is preferred.

Fiber Content

Most high-quality xerographic paper is made from 100% chemically pulped wood. Paper containing fibers such as cotton may lead to degraded paper handling.

Recommended Paper

To ensure the best print quality and feed reliability, use 75 g/m^2 (20 lb) xerographic paper. Business paper designed for general business use also provides acceptable print quality. Only use paper able to withstand high temperatures without discoloring, bleeding, or releasing hazardous emissions. The laser printing process heats paper to high temperatures. Check with the manufacturer or vendor to determine whether the paper you have chosen is acceptable for laser printers.

It is recommended that you perform trial print before purchasing large quantities of print media. When choosing any print media, you should consider the weight, fiber content, and color.

Unacceptable Paper

The following paper types are not recommended for use with the printer:

- Chemically treated paper used to make copies without carbon paper, also known as carbonless paper, carbonless copy paper (CCP), or no carbon required (NCR) paper.
- Preprinted paper with chemicals that may contaminate the printer.
- Preprinted paper that can be affected by the temperature in the fuser.
- Preprinted paper that requires a registration (the precise print location on the page) greater than ±0.09 inches, such as optical character recognition (OCR) forms.

In some cases, you can adjust registration with your software program to successfully print on these forms.

- Coated paper (erasable bond), synthetic paper, and thermal paper.
- Rough-edged, rough or heavily textured surface paper, or curled paper.
- Recycled paper containing more than 25% post-consumer waste that does not meet DIN 19 309.
- Multiple-part forms or documents.
- Print quality may deteriorate (blank spaces or blotches may appear in the text) when printing on talc or acid paper.

Selecting Paper

Proper paper selection helps prevent jams and ensures trouble-free printing.

To help avoid jams or poor print quality:

- Always use new, undamaged paper.
- Before loading the paper, identify the recommended print side of the paper.
  This information is usually indicated on the paper package.
- Do not use paper that you have cut or trimmed.
- Do not mix print media sizes, weights, or types in the same source. This may result in a paper jam.
- Do not remove the tray while printing is in progress.
- Ensure that the paper is properly loaded in the tray.
- Flex the paper back and forth, and then fan them. Straighten the edges of the stack on a level surface.

Identifying Print Media Sources and Specifications

The following tables provide information on standard and optional print media sources.

Supported Paper Sizes

Paper size	Single sheet feeder		Standard 250-sheet tray		Optional 250-sheet feeder		Duplexer
	Side 1	Side 2	Side 1	Side 2	Side 1	Side 2	
A4 (210 x 297 mm)	Y	Y	Y	Y	Y	Y	Y
B5 (182 x 257 mm)	Y	Y	Y	Y	Y	Y	N
A5 (148 x 210 mm)	Y	Y	Y	Y	Y	Y	N
Letter (8.5 x 11 in)	Y	Y	Y	Y	Y	Y	Y
Folio (8.5 x 13 in)	Y	Y	Y	Y	Y	Y	Y
Legal (8.5 x 14 in)	Y	Y	Y	Y	Y	Y	Y
Executive (7.25 x 10.5 in)	Y	Y	Y	Y	Y	Y	N
Envelope #10 (4.125 x 9.5 in)	Y	N	Y	N	N	N	N
Monarch (3.875 x 7.5 in)	Y[*2]	N	Y	N	N	N	N
DL(110 x 220mm)	Y[*2]	N	Y	N	N	N	N
C5 (162 x 229mm)	Y	N	Y	N	N	N	N
Custom[*1]	Y	Y	Y	N	N	N	N

*1: Custom: width: 76.2 mm (3.0 inch) to 215.9 mm (8.5 inch)

length: 127.0 mm (5.0 inch) to 355.6 mm (14.00 inch)

*2: Monarch LEF and DL LEF are not available.

Supported Paper Types

Paper type		Single sheet feeder		Standard 250-sheet tray		Optional 250-sheet feeder		Duplexer	
		Side 1	Side 2	Side 1	Side 2	Side 1	Side 2	Side 1	Side 2
Plain	Light	Y	Y	Y	Y	Y	Y	Y	N
	Normal	Y	Y	Y	Y	Y	Y	Y	N
	Thick	Y	Y	Y	Y	Y	Y	Y	N
Covers	Normal	Y	-	Y	-	N	-	N	-
	Thick	Y	-	Y	-	N	-	N	-
Coated	Normal	Y	-	N	-	N	-	N	-
	Thick	Y	-	N	-	N	-	N	-
Label	Normal	N	-	Y	-	N	-	N	-
	Thick	N	-	Y	-	N	-	N	-
Envelope		Y	-	Y	-	N	-	N	-
Recycled		Y	Y	Y	Y	Y	Y	Y	N
Letterhead		Y	-	Y	-	Y	-	Y	-
Preprinted		Y	-	Y	-	Y	-	Y	-
Prepunched		Y	-	Y	-	Y	-	Y	-
Color		Y	Y	Y	Y	Y	Y	Y	N

Paper Type Specifications

Paper type	Weight (g/m^2)	Remarks
Plain	60-90	-
Plain Thick	80/90-105	-
Recycled	60-105	-
Labels	-	Inkjet printer paper cannot be used.
Covers	106-163	-
Covers Thick	164-216	-
Envelope	-	-
Coated	106-163	Inkjet printer paper cannot be used.
Coated Thick	164-216	Inkjet printer paper cannot be used.
Letterhead	-	-
Preprinted	64	-
Prepunched	64	-
Color	64	-

2. FIP
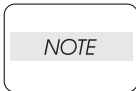
2.1 FIP

The FIP is the first step for trouble diagnosis. The FIP isolates the presence of various troubles including error codes, and guides the troubleshooting procedure.

2.2 Flow of FIP

```
┌─────────────────────────────────────┐  N
│ Ask the operator about trouble status.│─────────────┐
│ Is operator's operating method correct?│             │
└─────────────────────────────────────┘             │
              │ Y                                    │
              ▼                                      ▼
┌─────────────────────────────────┐   ┌─────────────────────────────┐
│ Turn off and turn on the Power. │   │ Instruct how to operate     │
└─────────────────────────────────┘   └─────────────────────────────┘
              │
              ▼
┌─────────────────────────────────┐  N  ┌─────────────────────────────┐
│ Does error still occur when print │───▶│ End of work                 │
│ is done by the problem mode?      │   └─────────────────────────────┘
└─────────────────────────────────┘
              │ Y
              ▼
┌─────────────────────────────────┐   ┌─────────────────────────────────┐
│ When status code or LCD         │──▶│ Refer to "2.3 Status Code List." │
│ display is displayed:           │   │            │                     │
│                                 │   │            ▼                     │
│                                 │   │ Refer to "3  Error Code FIP."    │
├─────────────────────────────────┤   ├─────────────────────────────────┤
│ When image quality trouble      │   │ Refer to "4.1 Entry Chart for    │
│ is occurred:                    │──▶│ Image Quality Troubleshooting."  │
│                                 │   │            │                     │
│                                 │   │            ▼                     │
│                                 │   │ Refer to "4.5 Image Quality FIP."│
├─────────────────────────────────┤   ├─────────────────────────────────┤
│ When abnormal noise            │   │ Refer to "5.1 Entry Chart for    │
│ is occurred:                   │──▶│ Abnormal Noise Troubleshooting." │
│                                 │   │            │                     │
│                                 │   │            ▼                     │
│                                 │   │ Refer to "5.2 Operation Mode Table." │
└─────────────────────────────────┘   └─────────────────────────────────┘
```

2.3 Status Code List

NOTE **Errors that occur when optional components are installed are gray-shaded.**

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
001	360	Restart Printer Contact Support ↕ Flip If Message Returns 001-360	Printer error. 001-360 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	< IOT Fan Motor Failure > MCU detects an error upon receiving error signal from the Fan.	Flows 1 FIP-1.1
003	340	Restart Printer Contact Support ↕ Flip If Message Returns 003-340	Printer error. 003-340 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT Firmware Error> MCU firmware error occurs.	Flows 2 FIP-1.2
	356	Restart Printer Contact Support ↕ Flip If Message Returns 003-356	Printer error. 003-356 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT NVRAM Error> The operation error of NVM (read/write check error etc.) is detected.	Flows 3 FIP-1.3
004	311	Restart Printer Reseat Duplexer ↕ Flip Contact Support 004-311	Printer Error 004-311 Turn off the printer. Confirm Duplex is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	<IOT Duplexer Failure> (2150cdn only) The error is detected by Duplexer communication check.	Flows 4 FIP-1.4
This code is given when the Optional 250-Sheet Feeder is installed.					
004	312	Restart Printer Reseat Feeder ↕ Flip Contact Support 004-312	Printer error. 004-312 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT Feeder Configuration Failure> Option Sheet Feeder Configuration error is detected.	Flows 5 FIP-1.5

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
006	370	Restart Printer Contact Support ↕ Flip If Message Returns 006-370	Printer error. 006-370 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT ROS Failure> The operation error of ROS (rotational error etc.) is detected.	Flows 6 FIP-1.6
007	340	Restart Printer Contact Support ↕ Flip If Message Returns 007-340	Printer error. 007-340 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT Main Motor Failure> Main Motor failure is detected.	Flows 7 FIP-1.7
	341	Restart Printer Contact Support ↕ Flip If Message Returns 007-341	Printer error. 007-341 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT Sub Motor Failure> Sub Motor failure is detected.	Flows 8 FIP-1.8
	344	Restart Printer Contact Support ↕ Flip If Message Returns 007-344	Printer error. 007-344 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	< Option Feeder Motor Failure > Option Feeder Motor failure is detected.	Flows 9 FIP-1.9
	371	Restart Printer Contact Support ↕ Flip If Message Returns 007-371	Printer error. 007-371 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT K Mode Solenoid Error 1> The error is generated when K Mode Solenoid (Color Mode Switching Solenoid) does not operate in specified time.	Flows 10 FIP-1.10
007	372	Restart Printer Contact Support ↕ Flip If Message Returns 007-372	Printer Error 007-372 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT K Mode Solenoid Error 2> The error is generated when the gear which operates by K Mode Solenoid (Color Mode Switching Solenoid) rotates two times.	Flows 10 FIP-1.10

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
009	340	Restart Printer Contact Support ↕ Flip If Message Returns 009-340	Printer error. 009-340 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT CTD(ACD) Sensor Error> CTD(ACD) sensor error (analog-to-digital conversion etc.) is detected.	Flows 11 FIP-1.11
	360	Cartridge Error Reseat ↕ Flip Yellow Cartridge 009-360	Printer error. 009-360 Turn off the printer. Confirm Yellow Cartridge is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	<IOT Yellow Toner CRUM Comm Fail> The Yellow Toner Cartridge CRUM communication failure is detected.	Flows 12 FIP-1.12
	361	Cartridge Error Reseat ↕ Flip Magenta Cartridge 009-361	Printer error. 009-361 Turn off the printer. Confirm Magenta Cartridge is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	<IOT Magenta Toner CRUM Comm Fail > The Magenta Toner Cartridge CRUM communication failure is detected.	Flows 12 FIP-1.12
	362	Cartridge Error Reseat ↕ Flip Cyan Cartridge 009-362	Printer error. 009-361 Turn off the printer. Confirm Cyan Cartridge is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	<IOT Cyan Toner CRUM Comm Fail> The Cyan Toner Cartridge CRUM communication failure is detected.	Flows 12 FIP-1.12
	363	Cartridge Error Reseat ↕ Flip Black Cartridge 009-363	Printer error. 009-361 Turn off the printer. Confirm Black Cartridge is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	<IOT Black Toner CRUM Comm Fail> The Black Toner Cartridge CRUM communication failure is detected.	Flows 12 FIP-1.12

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	**Status Window**		
010	317	Restart Printer Reseat Fuser ↕ Flip Contact Support 010-317	The Fuser is either missing or not fully inserted into the printer. 010-317 CAUTION: Turn off the printer and wait for 30 minutes. Open the Front Cover and make sure that the Fuser have been fully installed. Please click the Show Me How Button for details.	\<IOT Fuser Detached> Fuser detached is detected.	Flows 13 FIP-1.13
	351	Replace Fuser Now ↕ Flip Contact Support 010-351	Fuser Life Over 010-351 Contact customer support. Please click the Show Me How Button to show details.	\<IOT Fuser Life Over> The value of Fuser counter has reached the replacement time.	Flows 14 FIP-1.14
	354	Restart Printer Contact Support ↕ Flip If Message Returns 010-354	Printer Error 010-354 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<IOT Environment Sensor Error> The Temperature sensor detected the temperature anomaly.	Flows 15 FIP-1.15
	377	Restart Printer Reseat Fuser ↕ Flip Contact Support 010-377	Printer error. 010-377 Turn off the printer. Confirm Fuser is correctly installed. Turn on the printer. Contact customer support if this failure is repeated.	\<IOT Fuser Failure> The operation error of Fuser (Temperature anomaly error etc.) is detected.	Flows 16 FIP-1.16
	421	Ready to Print Replace Fuser ↕ Flip Now Contact Support ↕ Flip 010-421	Replace Fuser Now Contact customer support 010-421	\< IOT Fuser Near Life> The Fuser is approaching the replacement time.	Flows 17 FIP-1.17
016	300	Restart Printer Contact Support ↕ Flip If Message Returns 016-300	Printer error. 016-300 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<ESS Data Cache Error> The CPU cache error occurred.	Flows 18 FIP-1.18

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	301	Restart Printer Contact Support ↕ Flip If Message Returns 016-301	Printer error. 016-301 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS Instruction Cache Error> The CPU instruction cache error occurred.	Flows 18 FIP-1.18
	302	Restart Printer Contact Support ↕ Flip If Message Returns 016-302	Printer error. 016-302 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS Illegal Exception> The Exception error occurred.	Flows 18 FIP-1.18
	310	Restart Printer Contact Support ↕ Flip If Message Returns 016-310	Printer Error 016-310 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS Font ROM Error (Main)> Built-in Font ROM checksum error.	Flows 18 FIP-1.18
	313	016-313 Restart Printer ↕ Flip Contact Support If Message Returns	Printer error. Turn off the printer, and turn it on again. Contact customer support if this failure is repeated. 016-313	<ESS ASIC Fail> The ASIC error occurred.	Flows 18 FIP-1.18
	315	Restart Printer Contact Support ↕ Flip If Message Returns 016-315	Printer error. 016-315 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS On Board RAM R/W Check Fail> An error occurred during the on-board RAM read/write check at the time of initialization.	Flows 18 FIP-1.18
			This code is given when the Optional Memory Module is installed.		
	316	Restart Printer Reseat Memory ↕ Flip Contact Support 016-316	Printer error. 016-316 Turn off the printer. Remove the additional memory module from the slot, and then reattach it firmly. Turn on the printer. Contact customer support if this failure is repeated.	<ESS DIMM Slot RAM R/W Check Fail> Unsupported additional memory module is detected in the memory slot.	Flows 19 FIP-1.19

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
	317	Restart Printer Contact Support ↕ Flip If Message Returns 016-317	Printer error. 016-317 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS ROM Check (Main) Fail> Checksum error occurred in the main program ROM.	Flows 18 FIP-1.18
		This code is given when the Optional Memory Module is installed.			
	318	Restart Printer Reseat Memory ↕ Flip Contact Support 016-318	Printer error. 016-318 Remove the unsupported additional memory module. Contact customer support if this failure is repeated.	<ESS DIMM Slot RAM Error> Additional memory module is not completely inserted in the slot.	Flows 19 FIP-1.19
016	323	Restart Printer Contact Support ↕ Flip If Message Returns 016-323	Printer error. 016-323 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS NVRAM 1 R/W Check Fail> An error occurred during the master NVRAM 1 read/write check at the time of initialization.	Flows 18 FIP-1.18
	324	Restart Printer Contact Support ↕ Flip If Message Returns 016-324	Printer Error 016-324 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS NVRAM 2 R/W Check Fail> An error occurred during the slave NVRAM 2 read/write check at the time of initialization. (Reserved)	Flows 18 FIP-1.18
	327	Restart Printer Contact Support ↕ Flip If Message Returns 016-327	Printer error. 016-327 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS NVRAM 1 SIZE And ID Check Fail> Upon turning the power ON, an error occurred during checks on consistency of the NVRAM size between the system-required one and actual one and on consistency of the recorded IDs.	Flows 18 FIP-1.18
		This code is given when the Optional Wireless Adapter is installed.			
	338	Restart Printer Reseat Wireless ↕ Flip Contact Support 016-338	Printer Error 016-338 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<Optional Wireless Adapter Error> The error is detected by Wireless option check.	Flows 20 FIP-1.20

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	340	Restart Printer Contact Support ↕ Flip If Message Returns 016-340	Printer error. 016-340 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<ESS Network Communication Fail> A communication error occurred between the On Board Network and ESS firmware.	Flows 18 FIP-1.18
	347	Restart Printer Contact Support ↕ Flip If Message Returns 016-347	Printer Error 016-347 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<On Board Network Fatal Error> A fatal error occurred the on board network communication.	Flows 21 FIP-1.21
	362	Restart Printer Contact Support ↕ Flip If Message Returns 016-362	Printer error. 016-362 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<PCI Bus#0 Host Bridge Controller Error > Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22
	363	Restart Printer Contact Support ↕ Flip If Message Returns 016-363	Printer error. 016-363 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<PCI Bus#1 Host Bridge Controller Error > Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22
	364	Restart Printer Contact Support ↕ Flip If Message Returns 016-364	Printer error. 016-364 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<PCI Bus#0 Error Detected > Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22
	366	Restart Printer Contact Support ↕ Flip If Message Returns 016-366	Printer error. 016-366 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<PCI Bus#1 Error Detected > Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	367	Restart Printer Contact Support ↕ Flip If Message Returns 016-367	Printer error. 016-367 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<PCI Error Messages received from Bus#0-Device#0 \> Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22
	368	Restart Printer Contact Support ↕ Flip If Message Returns 016-368	Printer error. 016-368 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<PCI Error Messages received from Bus#0-Device#1 \> Connection error occurred between the PCI BUS port and the port of peripheral devices.	Flows 22 FIP-1.22
	369	Restart Printer Contact Support ↕ Flip If Message Returns 016-369	Printer error. 016-369 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Operator Panel - ESS Communication Fail\> Communication Fail with a Operator Panel and ESS F/W.	Flows 23 FIP-1.23
	370	Restart Printer Contact Support ↕ Flip If Message Returns 016-370	Printer error. 016-370 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<MCU-ESS Communication Fail\> Communication fail between MCU and ESS.	Flows 24 FIP-1.24
	383	Invalid ID Data Violation ↕ Flip Press ✓ 016-383	Firmware download ID error has occurred 016-383 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download ID Error\> Download file ID is invalid.	Flows 25 FIP-1.25
	384	Range Chk Error Data Violation ↕ Flip Press ✓ 016-384	Firmware download range error has occurred 016-384 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Range Error\> At download, write-in destination address is invalid.Range check error.	Flows 25 FIP-1.25

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	385	Header Error Data Violation ↕ Flip Press ✓ 016-385	Firmware download header checksum error has occurred 016-385 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download header Error> Download file header is invalid.	Flows 25 FIP-1.25
	386	Check Sum Error Data Violation ↕ Flip Press ✓ 016-386	Firmware download checksum error has occurred 016-386 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Check Sum Error> Download file checksum is invalid.	Flows 25 FIP-1.25
	387	Format Error Data Violation ↕ Flip Press ✓ 016-387	Firmware download format error has occurred 016-387 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Format Error> Download file format is invalid.	Flows 25 FIP-1.25
	388	MPC Error Reseat MPC ↕ Flip Press ✓ 016-388	Firmware download format error has occurred 016-388 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Initial Error> When downloading, failed in starting download mode.	Flows 25 FIP-1.25
	391	Protection Error Data Violation ↕ Flip Press ✓ 016-391	Firmware download protect error has occurred 016-391 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Protect Error> Performed FW download although FW update is prohibited by panel settings.	Flows 25 FIP-1.25
	392	Erase Flash Err. Contact Support ↕ Flip If Message Returns 016-392	Firmware download delete error has occurred 016-392 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	\<Download Delete Error> Flash memory erase error occurred.	Flows 18 FIP-1.18

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	393	Write Flash Err. Contact Support ⬍ Flip If Message Returns 016-393	Firmware download write error has occurred 016-393 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<Download Write Error> Flash memory write error occurred.	Flows 18 FIP-1.18
	394	Verify Error Contact Support ⬍ Flip If Message Returns 016-394	Firmware download verify error has occurred 016-394 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<Download Verify Error> Flash memory verify error occurred.	Flows 18 FIP-1.18
	520	Restart Printer Certificate Fail ⬍ Flip Contact Admin. 016-520	Certification error has occurred 016-520 Please inquire of the system administrator.	<Ipsec Certificate Error> Ipsec Certificate Error.	Flows 26 FIP-1.26
	700	Out of Memory Job Failed ⬍ Flip Press ✓ 016-700	The printer memory is full and cannot continue processing the current print job 016-700 Press Set Button to clear the message and cancel the current print job. Please click the Show Me How Button for details.	<Memory Over flow> The current printing job process cannot be continued because the memory capacity is exceeded.	Flows 27 FIP-1.27
	720	PDL Request Data Violation ⬍ Flip Press ✓ 016-720	Error relating to PDL emulation problems occurs 016-720 Press Set Button to clear the message and cancel the current print job. Please click the Show Me How Button for details.	<PDL Error> The print data cannot be processed by PDL.	Flows 28 FIP-1.28
	753	Wrong Password Press ✓ ⬍ Flip 016-753	-	<PDF password error> PDF password error.	Flows 29 FIP-1.29

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Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	755	PDF Print Disabled ↕ Flip Press ✓ 016-755	-	\<PDF print disabled error\> PDF print is not allowed.	Flows 29 FIP-1.29
	756	Job Failed Prohibited Time ↕ Flip Press ✓ 016-756	Now printer is in Prohibited Time 016-756 Please inquire of the system administrator.	\<Auditron - Print prohibited time\> Printing was executed at the print-prohibited time or the day of the week.	Flows 30 FIP-1.30
	757	User Account Not Registered ↕ Flip Press ✓ 016-757	Authentication error has occurred 016-757 The account is not registered. Please inquire of the system administrator.	\<Auditron - Invalid User\> An error occurred because the user's account settings did not match those of the Administrator.	Flows 31 FIP-1.31
	758	Function Disabled Denied Col print ↕ Flip Press ✓ 016-758	Function unavailable 016-758 It is a function that cannot be used. Please inquire of the system administrator.	\<Auditron - Disabled Function\> An error occurred because a user authorized only for B&W print attempted to execute color printing.	Flows 32 FIP-1.32
	759	Page Limit Reached Over your limits ↕ Flip Press ✓ 016-759	Printable page limit reached 016-759 Printable page limit reached, cannot print. Please inquire of the system administrator.	\<Auditron - Reached Limit\> An attempt was made to print more copies than the print count limit.	Flows 33 FIP-1.33
	799	Invalid Job Data Violation ↕ Flip Press ✓ 016-799	The configuration of the printer on the printer driver does not conform to the printer 016-799 Press the Set Button to clear the message and cancel the current print job. Make sure that the configuration of the printer on the printer driver conforms to the printer.	\<Job Environment Violation\> Detects violation data for the print condition. The print data specifies paper type/ size not available for the printer.	Flows 34 FIP-1.34
		This code is given when the Optional Wireless Adapter is installed.			
	920	Wireless Time-out Error ↕ Flip Press ✓ 016-920	Time-out Error has occurred thigh Wireless 016-920 Press set and try again.	\<Wireless Setting Error Time-out Error\> The time-out was done to the connection with Register.	Flows 35 FIP-1.35

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
016	921	Wireless Download Error ⬍ Flip Press ✓ 016-921	Download Error has occurred thigh Wireless 016-921 Press set and try again.	<Wireless Setting Error Download Error> The error occurred while connecting it with Register.	Flows 36 FIP-1.36
	922	Wireless Session Overlap Error ⬍ Flip Press ✓ 016-922	Session Overlap Error has occurred thigh Wireless 016-922 Press set and try again.	<Wireless Setting Error Session Overlap Error> Two or more Register that operated by WPS-PBC was found.	Flows 37 FIP-1.37
	This code is given when the Optional Memory Module is installed.				
	980	Disk Full Job too Large ⬍ Flip Press ✓ 016-980	Disk space is insufficient and cannot continue processing the current print job 016-980 Press Set Button to clear the message and cancel the current print job. Please click the Show Me How Button for details.	<Disk Full> The current printing job process cannot be continued because the RAM disk is full.	Flows 38 FIP-1.38
	981	Collate Full Job too Large ⬍ Flip Press ✓ 016-981	Disk space is insufficient and cannot continue processing the current print job 016-981 Press Set Button to clear the message and cancel the current print job. Please click the Show Me How Button for details.	< Collate Full> Unable to collate due to insufficient memory.	Flows 39 FIP-1.39
024	360	MCU Flash Error Contact Support ⬍ Flip If Message Returns 024-360	MCU DownLoad Error 024-360 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<MCU DownLoad Error> Download failure of MCU firmware.	Flows 40 FIP-1.40

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
024	362	Restart Printer Contact Support ↕ Flip If Message Returns 024-362	Printer Error 024-362 Turn off the printer, and turn it on again. Contact customer support if this failure is repeated.	<IOT Start Image Marking Time-out> "Start Image Making" has not been issued within the time allowed.	Flows 41 FIP-1.41
	985	Pause Feed SSF Press ✓ ↕ Flip to Feed 024-985	-	<Waiting for "Continue" key to be pressed after reloading paper to the SSF> Printer starts printing automatically after a certain period of time even if the key is not pressed.	Flows 42 FIP-1.42
027	446	Restart Printer IPv6 Duplicate ↕ Flip 027-446	-	<IPv6 duplicate> Duplicate IPv6 addresses detected upon startup.	Flows 43 FIP-1.43
	452	Restart Printer IPv4 Duplicate ↕ Flip 027-452	-	<IPv4 duplicate> Duplicate IPv4 addresses detected upon startup.	Flows 43 FIP-1.43
042	700	Overheated Wait for printer ↕ Flip to cool down 042-700	An internal temperature of the printer became a high temperature. 042-700 Please wait for a while until falling in temperature.	<IOT Over Heat Stop> The temp. Sensor sensed high temperature.	Flows 44 FIP-1.44
071	100	Paper Jam Open Tray1 ↕ Flip Remove Paper Open and Close ↕ Flip Front Cover 071-100	Paper Jam has occurred at the Tray 1 071-100 Remove the Tray 1 and remove the jammed paper. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT Tray1 Misfeed JAM> The Regi Sensor is not turned ON within the specified time after feeding a paper from Tray 1.	Flows 45 FIP-1.45
072		This code is given when the Option 250 Sheet Feeder is installed.			
	100	Paper Jam Open Tray2 ↕ Flip Remove Paper Open and Close ↕ Flip Front Cover 072-100	Paper Jam has occurred at the Tray 2 072-100 Remove the Tray 2 and remove the jammed paper. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT Tray2 Misfeed JAM> The Paper Path Sensor of Tray 2 is not turned ON within the specified time after feeding a paper from Tray 2.	Flows 46 FIP-1.46

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	**Status Window**		
072	101	Paper Jam Open Tray1 or 2 ↕ Flip Remove Paper Open and Close ↕ Flip Front Cover 072-101	Paper Jam has occurred at the Tray 1 or 2. 072-101 Remove the Tray 1 or 2, and remove the jammed paper. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT Feeder 2 JAM> A jam has been detected between the Regi Sensor and the Paper Sensor of Tray 2.	Flows 47 FIP-1.47
	908	Paper Jam Open Tray1 or 2 ↕ Flip Remove Paper Open and Close ↕ Flip Front Cover 072-908	Paper Jam has occurred at the Tray 1 or 2. 072-908 Remove the Tray 1 or 2, and remove the jammed paper. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT Remain Option Feeder JAM> The paper remains at the Paper Path Sensor of Tray 2.	Flows 48 FIP-1.48
075	101	Paper Jam Open Front Cover ↕ Flip Remove Paper 075-101	Paper Jam has occurred at the SSF 075-101 Open the Front Cover and remove the jammed paper. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT SSF Insert JAM> SSF No Paper Sensor detect when a paper is inserted from SSF.	Flows 49 FIP-1.49
	102	Paper Jam Open Front Cover ↕ Flip Remove Paper 075-102	Paper Jam has occurred at the SSF 075-102 Pull the jammed paper out of the SSF. Open and close the Front Cover. Please click the Show Me How Button for details.	<IOT SSF Paper Pullout JAM> Though it tried to feed a paper from SSF, the paper was not loaded or it was pulled out forcibly from SSF.	Flows 49 FIP-1.49
	923	Check SSF Reseat Paper SSF ↕ Flip 075-923	SSF is not holding the paper correctly 075-923 Pull the paper out of the SSF. Reload the paper of the SSF.	<Waiting for reseat paper of SSF> Wait for the paper on SSF to be reseated.	Flows 49 FIP-1.49

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
077	100	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-100	-	<IOT Regi On early JAM> The paper remains at the paper transfer path between the Tray 1 and the Regi Sensor.	Flows 50 FIP-1.50
	101	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-101	-	<IOT Regi OFF Jam> The paper does not pass through the Regi Sensor within the specified time.	Flows 51 FIP-1.51
	102	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-102	-	<IOT Exit On JAM> The paper does not reach the Exit Sensor within the specified time.	Flows 52 FIP-1.52
	103	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-103	-	<IOT Exit On early JAM> The paper remains at the paper transfer path between the Exit Sensor and the Regi Sensor.	Flows 52 FIP-1.52
	104	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-104	-	<IOT Exit Off JAM> The paper does not pass through the Exit Sensor within the specified time.	Flows 53 FIP-1.53
	105	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-105	-	<IOT Exit Off early JAM> The paper passed through the Exit Sensor earlier than the specified time.	Flows 53 FIP-1.53
	106	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-106	-	<IOT Stop Reservation JAM> Detect jam when stopped before Fuser in forced stop mode.	Flows 52 FIP-1.52
	107	Paper Jam Open Front Cover ↕ Flip and Duplexer Remove Paper ↕ Flip 077-107	Paper Jam has occurred at the Duplexer. 077-107 Open the Front Cover and the Duplexer. Then remove the jammed paper. Close the Front Cover. Please click the Show Me How Button for details.	<IOT Duplex Misfeed JAM> (2150cdn only) In the duplex printing mode, the lead edge does not reach the Regi Sensor when the sheet changes the direction in the Duplexer after the standby.	Flows 54 FIP-1.54

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
077	108	Paper Jam Open Front Cover ↕ Flip and Duplexer Remove Paper ↕ Flip 077-108	Paper Jam has occurred at the Duplexer. 077-108 Open the Front Cover and the Duplexer. Then remove the jammed paper. Close the Front Cover. Please click the Show Me How Button for details.	<IOT Duplex JAM>(2150cdn only) In the duplex printing mode, the lead edge does not reach the SSF No Paper Sensor when the sheet changes the direction in the Duplexer after the standby.	Flows 54 FIP-1.54
	300	Front Cover Is Open ↕ Flip Close Front Cover 077-300	Front Cover is open 077-300 Close the Front Cover.	<IOT Cover Front Open> The Front Cover is open.	Flows 55 FIP-1.55
	301	Side Cover Is Open ↕ Flip Close Side Cover 077-301	Side Cover is open 077-301 Close the Side Cover.	<IOT Side Cover Open> The Toner Access Cover is open.	Flows 56 FIP-1.56
	900	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-900	Paper Jam has occurred at the Output Tray 077-900 CAUTION: The Fuser is hot. Open the Front Cover and remove the jammed paper. If the jammed paper is in the Fuser, lift the levers at both ends of the Fuser and remove the jammed paper. Please click the Show Me How Button for details.	<IOT Exit JAM> The paper remains at the Exit Sensor.	Flows 57 FIP-1.57
	901	Paper Jam Open Front Cover ↕ Flip Remove Paper 077-901	Paper Jam has occurred at the Belt Unit 077-901 Open the Front Cover and remove the jammed paper. Close the Front Cover. If the jammed paper is not easily removed, work after pulling out the tray. Please click the Show Me How Button for details.	<IOT Remain Registration JAM> The paper remains at the Regi Sensor.	Flows 58 FIP-1.58

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
077	907	Paper Jam Open Front Cover ↕ Flip and Duplexer Remove Paper ↕ Flip 077-907	Paper Jam has occurred at the Duplexer. 077-907 Open the Front Cover and the Duplexer. Then remove the jammed paper. Close the Front Cover. Please click the Show Me How Button for details.	<IOT Remain Duplex JAM> (2150cdn only) The paper remains at the Duplex area.	Flows 59 FIP-1.59
091	402	Ready to Print Replace PHD ↕ Flip Now Contact Support ↕ Flip 091-402	Replace PHD unit Now Contact customer support 091-402	<IOT PHD Life Pre Warning> The PHD Unit is approaching the replacement time.	Flows 60 FIP-1.60
	912	PHD Reseat PHD ↕ Flip 091-912	PHD Tape Staying 091-912 Remove the Tape from the PHD unit. Contact customer support if this failure is repeated.	<PHD Tape Staying> Detect the tape staying on the PHD Unit.	Flows 61 FIP-1.61
	935	Replace PHD Now ↕ Flip Contact Support 091-935	Replace PHD unit 091-935 Contact customer support. Please click the Show Me How Button for details.	<IOT PHD Life Over> The PHD Unit has reached the replacement time.	Flows 62 FIP-1.62
	972	Insert PHD 091-972	PHD Unit is either missing or not fully inserted into the printer 091-972 Open the Front Cover and make sure that the PHD unit have been fully installed. Please click the Show Me How Button for details.	<IOT PHD Detached> The PHD Unit is not installed in the printer.	Flows 63 FIP-1.63
092	310	CTD Sensor Dirty Clean ↕ Flip CTD Sensor 092-310	CTD Sensor Dirty 092-310 Clean the CTD sensor.	<IOT CTD (ADC) Sensor Dustiness> The CTD (ADC) Sensor has reached the Cleaning time.	Flows 64 FIP-1.64
	910	Ready to Print Clean ↕ Flip CTD Sensor 092-910	-	<CTD (ADC) Sensor Dustiness Warning> The CTD (ADC) Sensor is approaching the Cleaning time.	Flows 64 FIP-1.64

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
093	423	Ready to Print Yellow Cartridge ↕ Flip Is close to life 093-423	Yellow Cartridge needs to be replaced soon 093-423	<IOT Toner Cartridge (Y) Near Life> The Toner Cartridge (Y) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 65 FIP-1.65
	424	Ready to Print Magenta Cartridge ↕ Flip Is close to life 093-424	Magenta Cartridge needs to be replaced soon 093-424	<IOT Toner Cartridge (M) Near Life> The Toner Cartridge (M) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 65 FIP-1.65
	425	Ready to Print Cyan Cartridge ↕ Flip Is close to life 093-425	Cyan Cartridge needs to be replaced soon 093-425	<IOT Toner Cartridge (C) Near Life> The Toner Cartridge (C) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 65 FIP-1.65
	426	Ready to Print Black Cartridge ↕ Flip Is close to life 093-426	Black Cartridge needs to be replaced soon 093-426	<IOT Toner Cartridge (K) Near Life> The Toner Cartridge (K) is approaching the replacement time. When all the toner cartridges are simultaneously approaching the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 65 FIP-1.65
	919	Shake Cartridge Remove and Shake ↕ Flip Yellow Cartridge 093-919	Yellow Toner Low Density 093-919 Remove and shake the Yellow Cartridge. Contact customer support if this failure is repeated.	<IOT Y Toner Low Density> Detects low density of yellow.	Flows 66 FIP-1.66

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
093	920	Shake Cartridge Remove and Shake ↕ Flip Magenta Cartridge 093-920	Magenta Toner Low Density 093-920 Remove and shake the Magenta Cartridge. Contact customer support if this failure is repeated.	<IOT M Toner Low Density> Detects low density of magenta.	Flows 66 FIP-1.66
	921	Shake Cartridge Remove and Shake ↕ Flip Cyan Cartridge 093-921	Cyan Toner Low Density 093-921 Remove and shake the Cyan Cartridge. Contact customer support if this failure is repeated.	<IOT C Toner Low Density> Detects low density of cyan.	Flows 66 FIP-1.66
	922	Shake Cartridge Remove and Shake ↕ Flip Black Cartridge 093-922	Black Toner Low Density 093-922 Remove and shake the Black Cartridge. Contact customer support if this failure is repeated.	<IOT K Toner Low Density> Detects low density of black.	Flows 66 FIP-1.66
	930	Crtrdg Life Over Replace ↕ Flip Yellow Cartridge 093-930	The Yellow Cartridge need to be replaced now. 093-930 Open the Toner Access Cover. Then remove the used Yellow Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT Toner Cartridge (Y) Life Over> The Toner Cartridge (Y) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 67 FIP-1.67
	931	Crtrdg Life Over Replace ↕ Flip Magenta Cartridge 093-931	The Magenta Cartridge need to be replaced now. 093-931 Open the Toner Access Cover. Then remove the used Magenta Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT Toner Cartridge (M) Life Over> The Toner Cartridge (M) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 67 FIP-1.67
	932	Crtrdg Life Over Replace ↕ Flip Cyan Cartridge 093-932	The Cyan Cartridge need to be replaced now 093-932 Open the Toner Access Cover. Then remove the used Cyan Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT Toner Cartridge (C) Life Over> The Toner Cartridge (C) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 67 FIP-1.67

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
093	933	Crtrdg Life Over Replace ↕ Flip Black Cartridge 093-933	The Black Cartridge need to be replaced now. 093-933 Open the Toner Access Cover. Then remove the used Black Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT Toner Cartridge (K) Life Over> The Toner Cartridge (K) has reached the replacement time. When all the toner cartridges have simultaneously reached the replacement time, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 67 FIP-1.67
	934	Crtrdg Life Over Replace ↕ Flip Yellow Cartridge 093-934	The Yellow Cartridge need to be replaced now. 093-934 Open the Toner Access Cover. Then remove the used Yellow Cartridge and install a new. Please click the Show Me How Button for details.	<IOT CRU Waste (Y) Full> Waste Toner (Y) Counter value has reached replacement time.	Flows 68 FIP-1.68
	935	Crtrdg Life Over Replace ↕ Flip Magenta Cartridge 093-935	The Magenta Cartridge need to be replaced now. 093-935 Open the Toner Access Cover. Then remove the used Magenta Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT CRU Waste (M) Full> Waste Toner (M) Counter value has reached replacement time.	Flows 68 FIP-1.68
	936	Crtrdg Life Over Replace ↕ Flip Cyan Cartridge 093-936	The Cyan Cartridge need to be replaced now. 093-936 Open the Toner Access Cover. Then remove the used Cyan Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT CRU Waste (C) Full> Waste Toner (C) Counter value has reached replacement time.	Flows 68 FIP-1.68
	937	Crtrdg Life Over Replace ↕ Flip Black Cartridge 093-937	The Black Cartridge need to be replaced now. 093-937 Open the Toner Access Cover. Then remove the used Black Cartridge and install a new one. Please click the Show Me How Button for details.	<IOT CRU Waste (K) Full> Waste Toner (K) Counter value has reached replacement time.	Flows 68 FIP-1.68

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
093	960	CRUM ID Reseat Yellow ↕ Flip Cartridge 093-960	An unsupported Yellow Cartridge is installed 093-960 Open the Toner Access Cover. Remove the unsupported Yellow Cartridge and install a supported one. Please click the Show Me How Button for details.	<IOT (Y) CRUM ID Error> An unsupported Toner Cartridge (Y) is detected.	Flows 69 FIP-1.69
	961	CRUM ID Reseat Magenta ↕ Flip Cartridge 093-961	An unsupported Magenta Cartridge is installed 093-961 Open the Toner Access Cover. Remove the unsupported Magenta Cartridge and install a supported one. Please click the Show Me How Button for details.	<IOT (M) CRUM ID Error> An unsupported Toner Cartridge (M) is detected.	Flows 69 FIP-1.69
	962	CRUM ID Reseat Cyan ↕ Flip Cartridge 093-962	An unsupported Magenta Cartridge is installed 093-961 Open the Toner Access Cover. Remove the unsupported Magenta Cartridge and install a supported one. Please click the Show Me How Button for details.	<IOT (C) CRUM ID Error> An unsupported Toner Cartridge (C) is detected.	Flows 69 FIP-1.69
	963	CRUM ID Reseat Black ↕ Flip Cartridge 093-963	An unsupported Black Cartridge is installed 093-963 Open the Toner Access Cover. Remove the unsupported Black Cartridge and install a supported one. Please click the Show Me How Button for details.	<IOT (K) CRUM ID Error> An unsupported Toner Cartridge (K) is detected.	Flows 69 FIP-1.69
	965	CRUM ID Reseat PHD ↕ Flip 093-965	An unsupported PHD unit is installed 093-965 Open the Front Cover. Remove the unsupported PHD unit and install a supported one. Please click the Show Me How Button for details.	<IOT PHD CRUM ID Error> An unsupported PHD Unit is detected.	Flows 70 FIP-1.70

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
093	970	Crtrdg Detached Insert ↕ Flip Yellow Cartridge 093-970	Yellow Cartridge is either missing or not fully inserted into the printer 093-970 Open the Toner Access Cover and make sure that the Yellow Cartridge have been fully installed. Please click the Show Me How Button for details.	<IOT Toner Cartridge (Y) Detached> The Toner Cartridge (Y) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 71 FIP-1.71
	971	Crtrdg Detached Insert ↕ Flip Magenta Cartridge 093-971	Magenta Cartridge is either missing or not fully inserted into the printer 093-971 Open the Toner Access Cover and make sure that the Magenta Cartridge have been fully installed. Please click the Show Me How Button for details.	<IOT Toner Cartridge (M) Detached> The Toner Cartridge (M) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 71 FIP-1.71
	972	Crtrdg Detached Insert ↕ Flip Cyan Cartridge 093-972	Cyan Cartridge is either missing or not fully inserted into the printer 093-972 Open the Toner Access Cover and make sure that the Cyan Cartridge have been fully installed. Please click the Show Me How Button for details.	<IOT Toner Cartridge (C) Detached> The Toner Cartridge (C) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 71 FIP-1.71
	973	Crtrdg Detached Insert ↕ Flip Black Cartridge 093-973	Black Cartridge is either missing or not fully inserted into the printer 093-973 Open the Toner Access Cover and make sure that the Black Cartridge have been fully installed. Please click the Show Me How Button for details.	<IOT Toner Cartridge (K) Detached> The Toner Cartridge (K) is not installed in the printer. If no toner cartridge has been installed in the printer, a warning is indicated on the LCD panel in the following order: 1)Black → 2)Cyan → 3)Magenta → 4)Yellow	Flows 71 FIP-1.71
094	422	Ready to Print Contact Support ↕ Flip If Message Returns 094-422	Contact customer support if this failure is repeated 094-422	<IOT Belt Unit Near Life> The Belt Unit has reached the replacement time.	Flows 72 FIP-1.72
	911	Contact Support If Message Returns ↕ Flip 094-911	Belt Unit Life Over 094-911 Contact customer support if this failure is repeated.	<IOT Belt Unit Life Over> The Belt Unit has reached the replacement time.	Flows 73 FIP-1.73

Status Code		Error Message		Status Contents	FIP to be referred
		LCD	Status Window		
193	700	Ready to Print Non-Dell Toner ⬍ Flip Installed 193-700	Ready to print	\<Custom Toner Mode\> The printer is in custom toner mode.	Flows 74 FIP-1.74

3. Error Code FIP

3.1 Troubleshooting for the call center

Flows 1   001-360: IOT Fan Motor Failure

Cause: MCU detects an error upon receiving error signal from the Fan.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
                        ┌─────────────────────────┐
                        │ Checking after replacing│
                        │ the FAN.                │
                        │ Replace the FAN (Refer to│
                        │ Removal 40/ Replacement │
                        │ 14).                    │
                        └─────────────────────────┘
                                    │
                                    ▼
                              ╱           ╲
                            ╱   Does the    ╲
                   Yes    ╱   error still     ╲    No
                   ┌─────◄   occur when the    ►─────┐
                   │      ╲  power is turned  ╱       │
                   │        ╲  off and on?  ╱         │
                   │          ╲           ╱           │
                   ▼                                  ▼
        ┌─────────────────────────┐            ┌──────────┐
        │ Checking after replacing│            │   END    │
        │ the PWBA LVPS.          │            └──────────┘
        │ Replace the PWBA LVPS   │
        │ (Refer to Removal 11/   │
        │ Replacement 43).        │
        └─────────────────────────┘
                   │
                   ▼
              ╱           ╲
            ╱   Does the    ╲
   Yes    ╱   error still     ╲    No
   ┌─────◄   occur when the    ►─────┐
   │      ╲  power is turned  ╱       │
   │        ╲  off and on?  ╱         │
   │          ╲           ╱           │
   ▼                                  ▼
┌─────────────────────────┐      ┌──────────┐
│ Replace the KIT PWBA    │      │   END    │
│ MCU. (Refer to Removal  │      └──────────┘
│ 43/Replacement 11)      │
└─────────────────────────┘
```
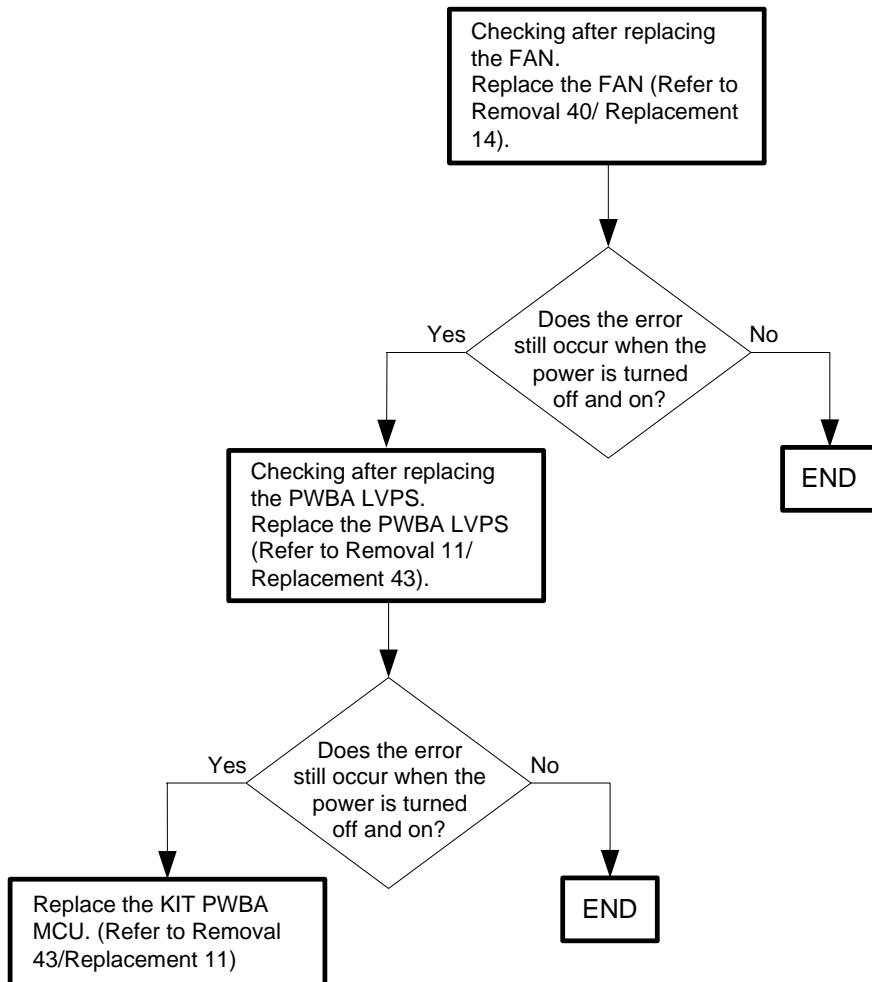
Flows 2   003-340: IOT Firmware Error

Cause: MCU firmware error occurs.

Solution: Proceed to the troubleshooting following the flowchart given below.

NOTE	**Never turn off the power to the printer while the firmware is being downloaded. Turning the power off may cause a failure in the printer.**

Check the Firmware Version.
The version of the firmware for the printer should be checked with the Printer Information of the Web Tool.
The latest Firmware Version should be checked on the DELL Support website.

Is the firmware the latest version?
Yes — No

Download the latest version of the firmware from the Dell Support Web Site.

Does the error still occur when the power is turned off and on?
Yes — No

END

Checking the error.

Does the error still occur when the power is turned off and on?
Yes — No

Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

END*1

*1: Though some kind of external noise would be possible cause, go to [Flows 100 Electrical Noise] and check, to make sure.

Flows 3   003-356: IOT NVRAM Error

Cause: The operation error of NVM (read/write check error etc.) is detected.

Solution: Proceed to the troubleshooting following the flowchart given below.
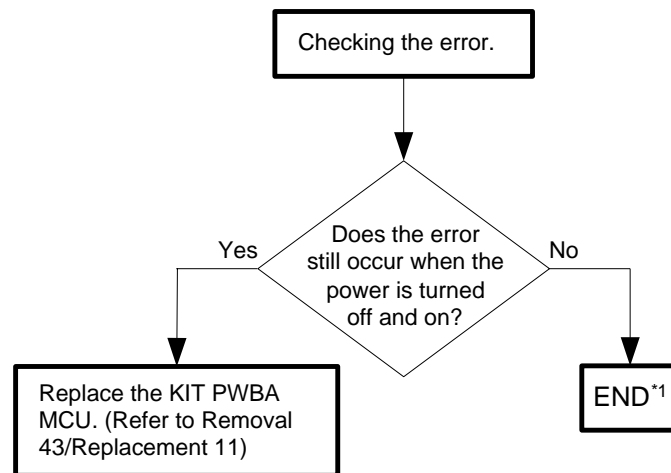
```
                    ┌─────────────────────┐
                    │  Checking the error. │
                    └─────────────────────┘
                               │
                               ▼
                              ╱ ╲
                            ╱ Does the ╲
                Yes       ╱ error still   ╲      No
            ◄───────────╱ occur when the   ╲───────────►
                        ╲ power is turned   ╱
                          ╲ off and on?   ╱
                            ╲           ╱
                              ╲       ╱
                               ▼                      ▼
            ┌──────────────────────┐      ┌─────────────┐
            │ Replace the KIT PWBA  │      │  END*1       │
            │ MCU. (Refer to Removal│      └─────────────┘
            │ 43/Replacement 11)    │
            └──────────────────────┘
```

*1: Though some kind of external noise would be possible cause, go to [Flows 100 Electrical Noise] and
check, to make sure.

Flows 4   004-311: IOT Duplexer Failure (2150cdn only)

Cause: The error is detected by Duplexer communication check.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
          ┌─────────────────────────┐
          │ Checking the Duplexer for│
          │ installing.              │
          │ Reseat the Duplexer.     │
          └────────────┬────────────┘
                       │
                       ▼
                    ╱──────╲
          Yes   ╱ Does the error ╲   No
        ◄──────  still occur when the  ──────►
               ╲ power is turned ╱
                ╲  off and on? ╱
                    ╲──────╱               ┌───────┐
          │                                │  END  │
          ▼                                └───────┘
┌─────────────────────────┐
│ Checking after replacing │
│ the FEEDER ASSY DUP      │
│ SFP STD.                 │
│ Replace the FEEDER       │
│ ASSY DUP SFP STD.        │
│ (Refer to Removal 56/    │
│ Replacement 57)          │
└────────────┬────────────┘
             │
             ▼
          ╱──────╲
  Yes ╱ Does the error ╲ No
 ◄──── still occur when the ────►
     ╲ power is turned ╱
      ╲  off and on? ╱
          ╲──────╱            ┌───────┐
  │                           │  END  │
  ▼                           └───────┘
┌─────────────────────────┐
│ Replace the KIT PWBA    │
│ MCU (Refer to Removal   │
│ 43/Replacement 11).     │
└─────────────────────────┘
```
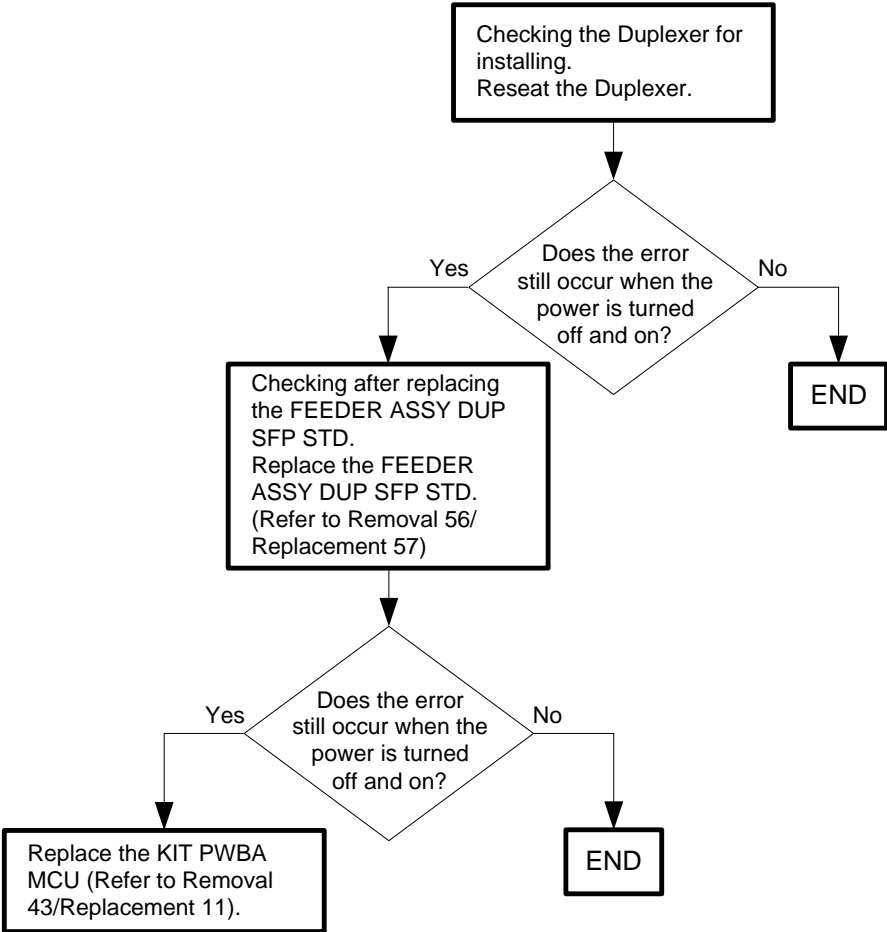
Flows 5   004-312: IOT Feeder Configuration Failure

Cause: Option Sheet Feeder Configuration error is detected.

Solution: The combinations of the Optional Feeder for 2150cn/2150cdn is not correct.Change the combinations to the correct one.

NOTE | **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────────┐
                    │ Checking the Optional 250-│
                    │ Sheet Tray for installing.│
                    │ Reseat the Optional 250-  │
                    │ Sheet Tray.               │
                    └─────────────────────────┘
                                │
                                ▼
                    ◇ Does the error still occur when the power is turned off and on? ◇
          Yes ──────────┤                              ├────── No
           │                                                    │
           ▼                                                    ▼
  ┌─────────────────────┐                              ┌──────────┐
  │ Checking the KIT FEEDER│                           │   END    │
  │ ASSY OPT for installing.│                          └──────────┘
  │ Reseat the KIT FEEDER  │
  │ ASSY OPT.              │
  └─────────────────────┘
           │
           ▼
  ◇ Does the error still occur when the power is turned off and on? ◇
  Yes ──────┤                        ├────── No
   │                                         │
   ▼                                         ▼
┌──────────────────────┐             ┌──────────┐
│ Checking after replacing│          │   END    │
│ the KIT FEEDER ASSY    │          └──────────┘
│ OPT.                   │
│ Replace the KIT FEEDER │
│ ASSY OPT.              │
│ (Refer to Removal 58/  │
│ Replacement 59).       │
└──────────────────────┘
```

Flows 6   006-370: IOT ROS Failure

Cause: The operation error of ROS (rotational error etc.) is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
┌─────────────────────────┐
│ Checking after replacing │
│ the KIT ROS.            │
│ Replace the KIT ROS.    │
│ (Refer to Removal 45/   │
│ Replacement 9).         │
└─────────────────────────┘
            │
            ▼
        ╱ Does the error ╲
  Yes  ╱ still occur when the ╲  No
◄─────╱  power is turned      ╲─────►
       ╲   off and on?       ╱
        ╲                   ╱
            │                         │
            ▼                         ▼
┌─────────────────────────┐      ┌─────────┐
│ Replace the KIT PWBA     │      │  END    │
│ MCU. (Refer to Removal   │      └─────────┘
│ 43/Replacement 11)       │
└─────────────────────────┘
```
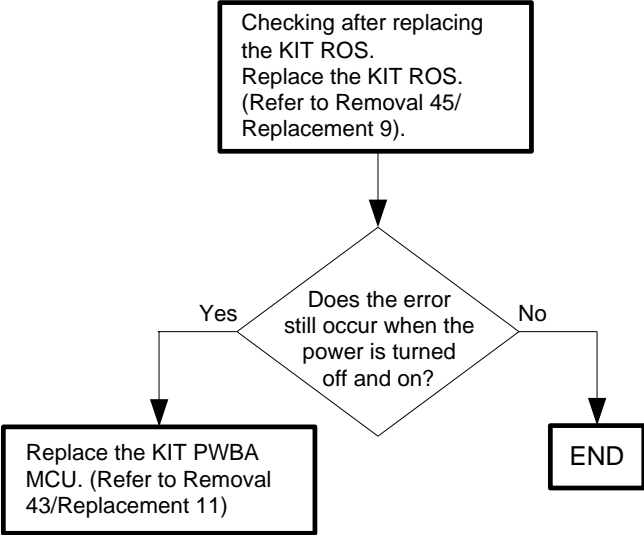
Flows 7   007-340: IOT Main Motor Failure

Cause: Main Motor failure is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
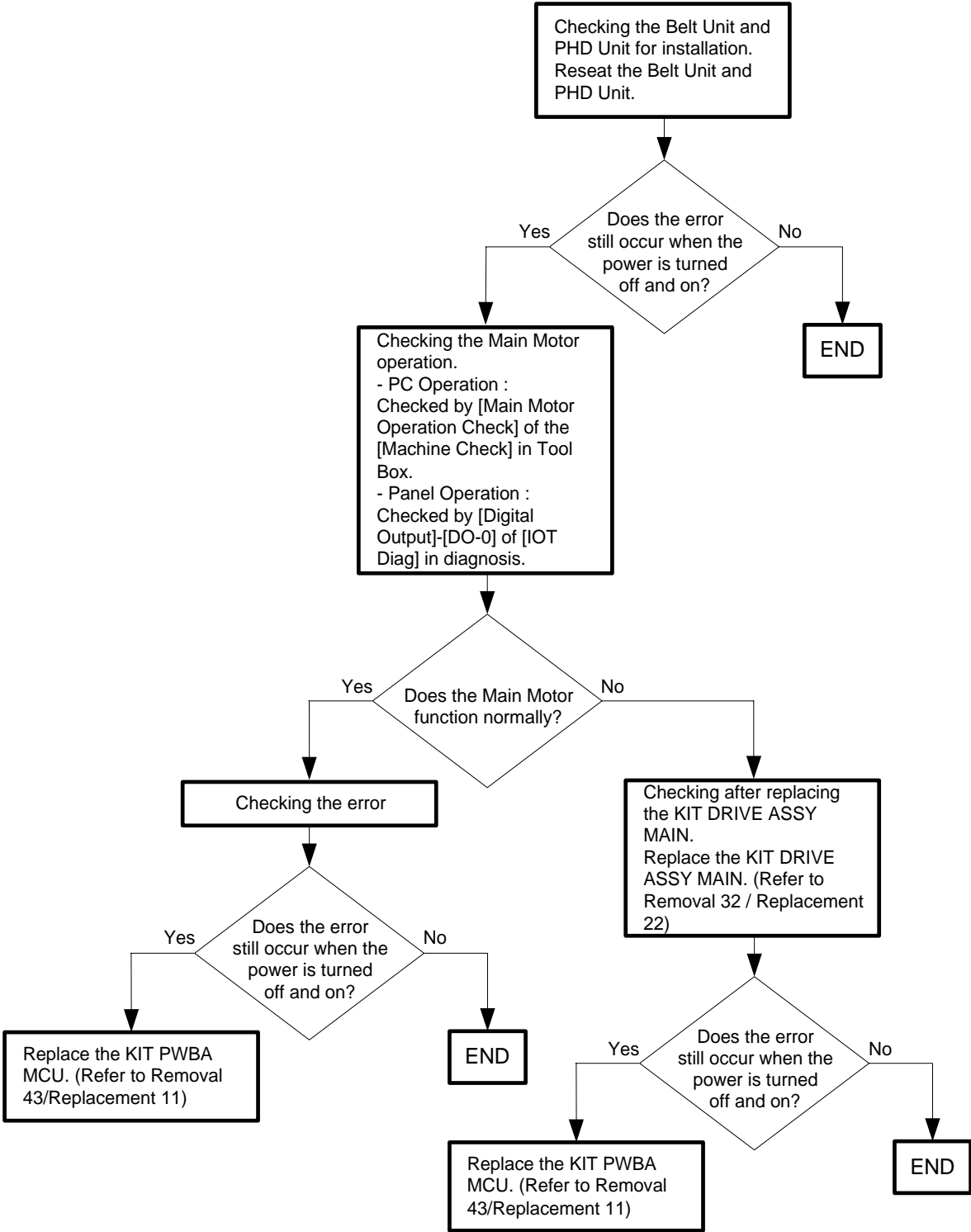
Flows 8   007-341: IOT Sub Motor Failure

Cause: Sub Motor failure is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
                              ┌────────────────────────┐
                              │ Checking the Fuser and │
                              │ PHD Unit for installation. │
                              │ Reseat the Fuser and PHD │
                              │ Unit.                   │
                              └────────────────────────┘
                                         │
                                         ▼
                              ╱◇╲ Does the error
                 Yes    ╱          ╲ still occur when the   No
              ◄─────────          power is turned  ─────────►
                    ╲          ╱ off and on?
                      ╲◇╱
                       │                                    ▼
                       ▼                                ┌───────┐
   ┌────────────────────────┐                          │  END  │
   │ Checking the Sub Motor │                          └───────┘
   │ operation.             │
   │ - PC Operation :       │
   │ Checked by [Fuser Motor│
   │ Operation Check] of the│
   │ [Machine Check] in Tool │
   │ Box.                   │
   │ - Panel Operation :    │
   │ Checked by [Digital    │
   │ Output]-[DO-5] of [IOT │
   │ Diag] in diagnosis.    │
   └────────────────────────┘
```

Does the Main Motor function normally?

Yes — Checking the error

No — Checking after replacing the DRIVE ASSY SUB. Replace the DRIVE ASSY SUB. (Refer to Removal 33 / Replacement 21)

Does the error still occur when the power is turned off and on?

Yes — Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

No — END

Does the error still occur when the power is turned off and on?

Yes — Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

No — END

Flows 9   007-344: Option Feeder Motor Failure

Cause: Option Feeder Motor failure is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
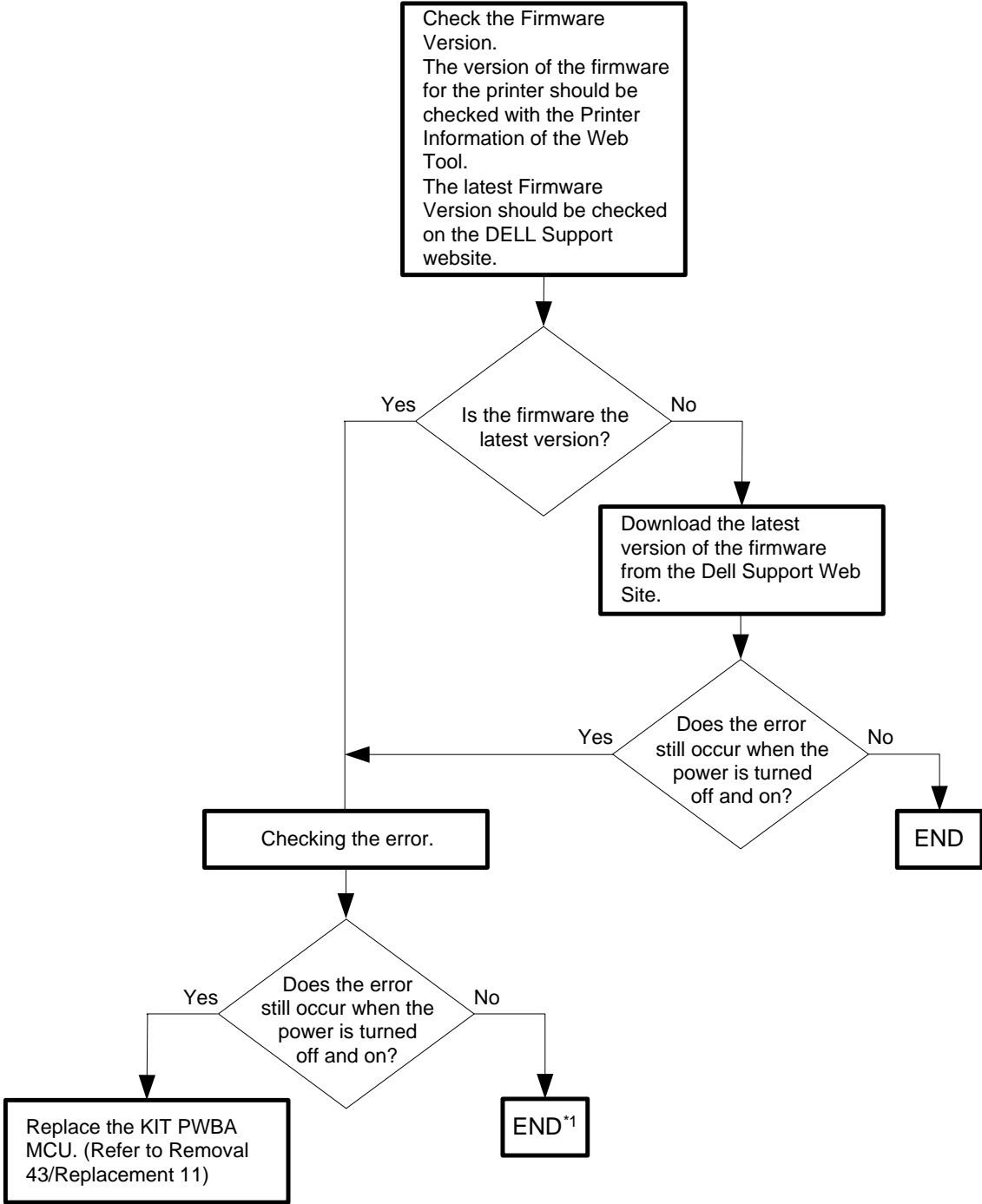
```
                    ┌─────────────────────────┐
                    │ Checking the KIT FEEDER │
                    │ ASSY OPT for installation.│
                    │ Reseat the KIT FEEDER   │
                    │ ASSY OPT.               │
                    └─────────────────────────┘
                                │
                                ▼
                              ◇◇◇◇◇
                     Yes    ◇ Does the error ◇    No
                    ┌──────◇ still occur when the ◇──────┐
                    │       ◇ power is turned  ◇          │
                    │       ◇   off and on?   ◇           │
                    │              ◇◇◇◇◇                  │
                    ▼                                     ▼
        ┌─────────────────────────┐               ┌──────────┐
        │ Replace the KIT FEEDER  │               │   END    │
        │ ASSY OPT. (Refer to     │               └──────────┘
        │ Removal 58/Replacement  │
        │ 59)                     │
        └─────────────────────────┘
```

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Flows 10   007-371 / 007-372: IOT K Mode Solenoid Error 1/2

Cause: 007-371:The error is generated when K Mode Solenoid (Color Mode Switching Solenoid) does not operate in specified time.

007-372:The error is generated when the gear which operates by K Mode Solenoid (Color Mode Switching Solenoid) rotates two times.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
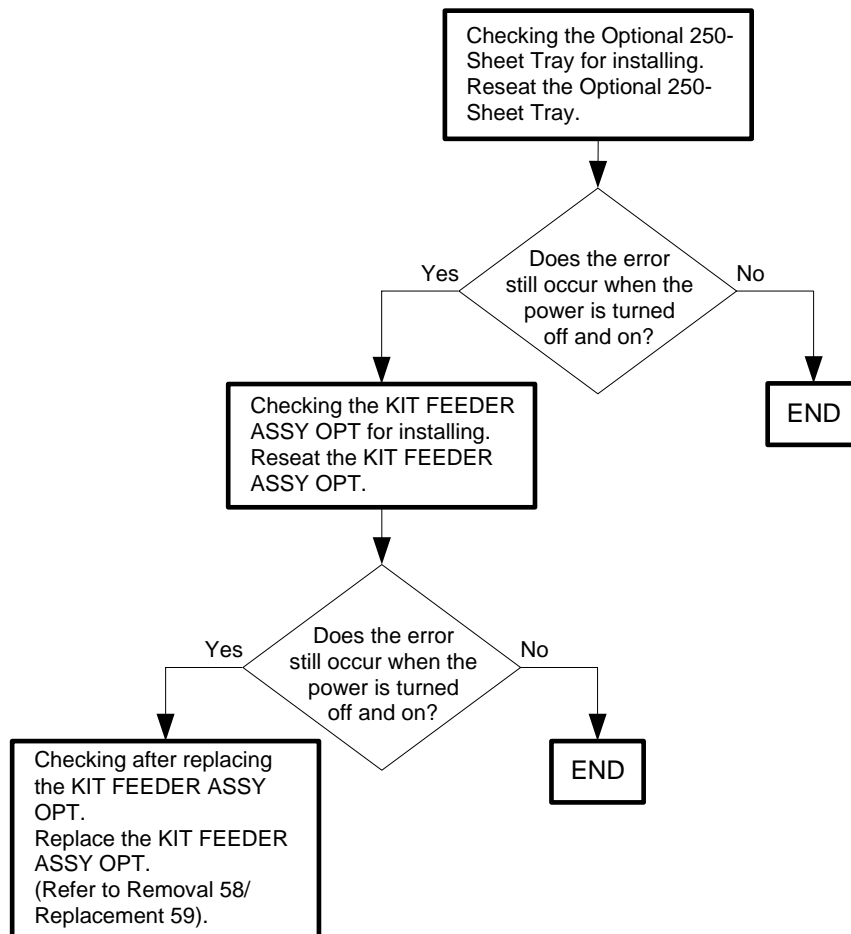
```
              ┌──────────────────────┐
              │ Checking the KIT DRIVE│
              │ ASSY PH for installation.│
              │ Reseat the KIT DRIVE  │
              │ ASSY PH.              │
              └──────────┬───────────┘
                         │
                    ╱────▼────╲
          Yes      ╱  Does the  ╲      No
         ┌────────╱  error still  ╲────────┐
         │        ╲ occur when the╱        │
         │         ╲power is turned╱        │
         │          ╲ off and on? ╱         │
         │           ╲──────────╱           │
         ▼                                  ▼
┌─────────────────────┐              ┌──────────┐
│ Checking after replacing│          │   END    │
│ the KIT DRIVE ASSY PH.  │          └──────────┘
│ Replace the KIT DRIVE   │
│ ASSY PH. (Refer to      │
│ Removal 31/ Replacement │
│ 23)                     │
└──────────┬──────────────┘
           │
      ╱────▼────╲
Yes  ╱  Does the  ╲  No
┌───╱  error still  ╲───┐
│   ╲ occur when the╱   │
│    ╲power is turned╱   │
│     ╲ off and on? ╱    │
│      ╲──────────╱      │
▼                       ▼
┌──────────────────┐  ┌──────────┐
│ Replace the KIT PWBA│  │   END    │
│ MCU. (Refer to Removal│ └──────────┘
│ 43/Replacement 11)  │
└──────────────────┘
```

Flows 11   009-340: IOT CTD (ACD) Sensor Error

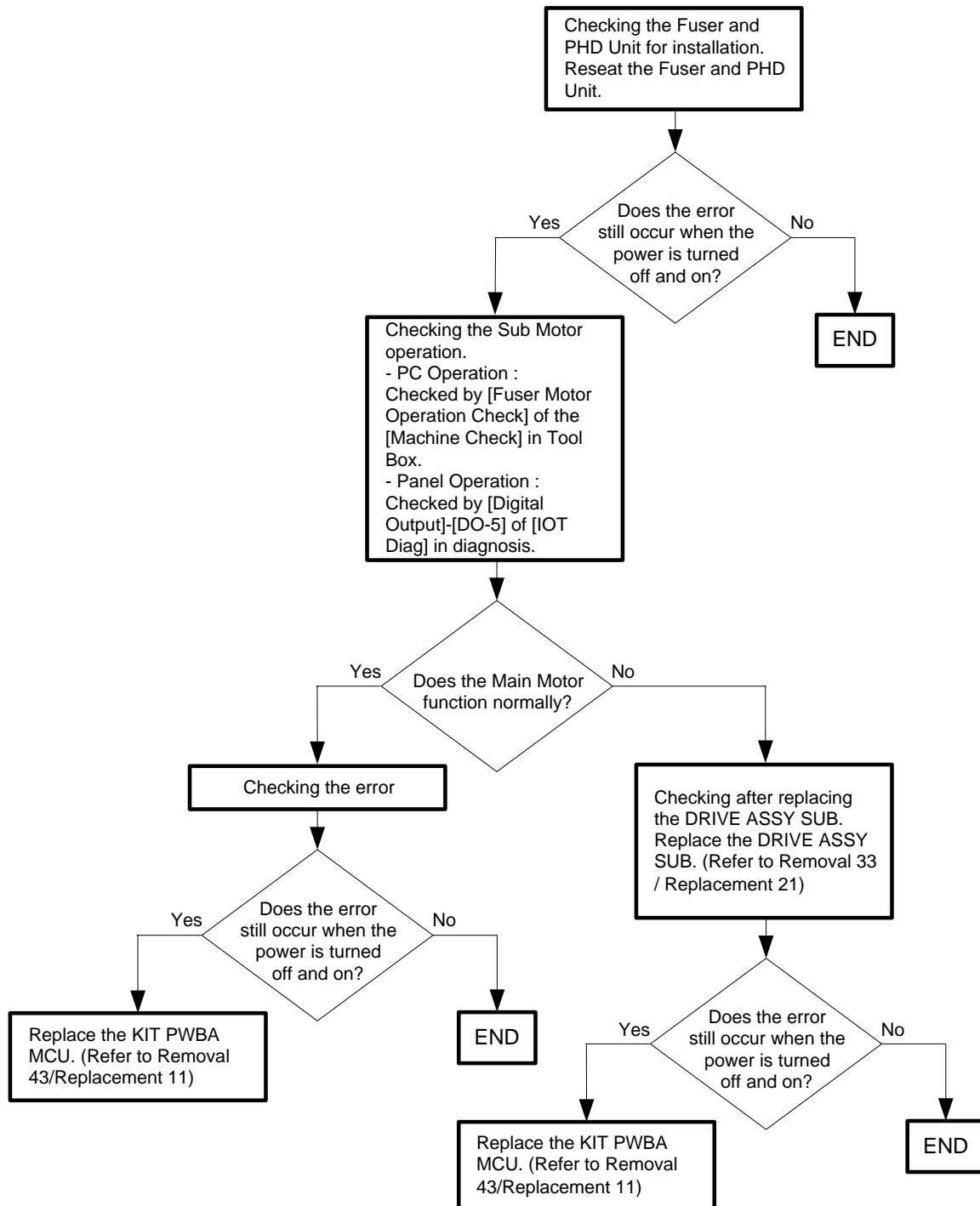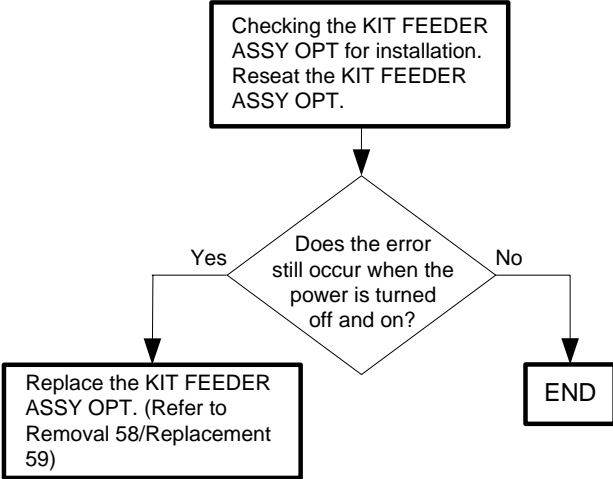Cause: CTD (ACD) sensor error (analog-to-digital conversion etc.) is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
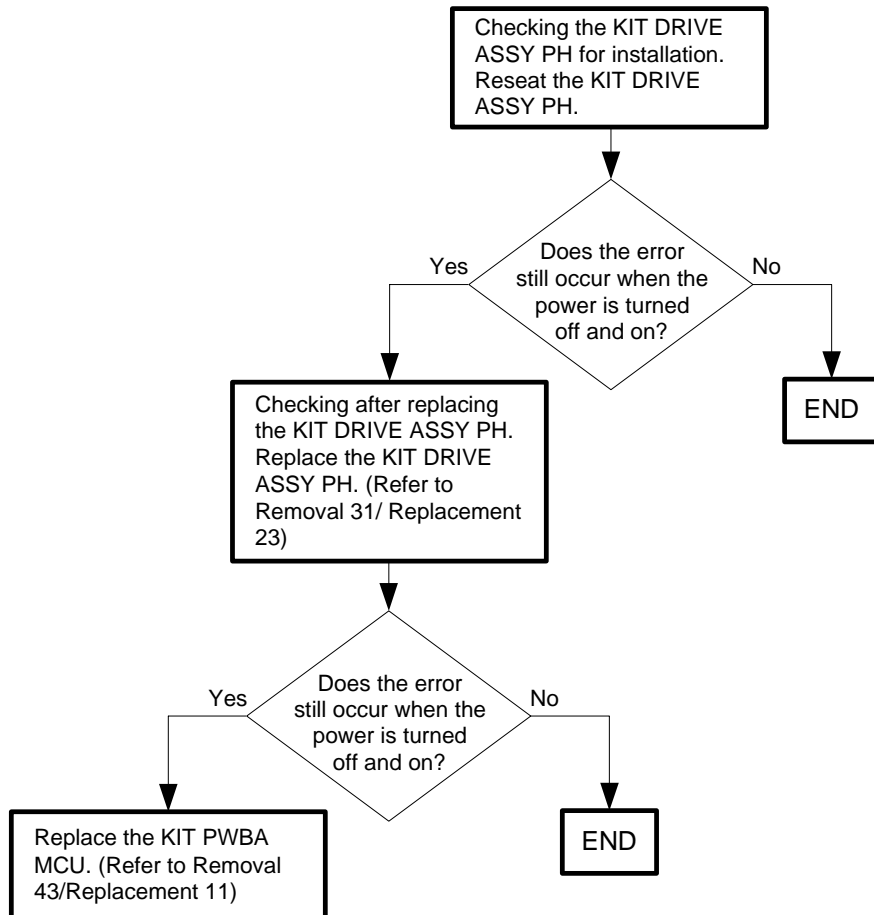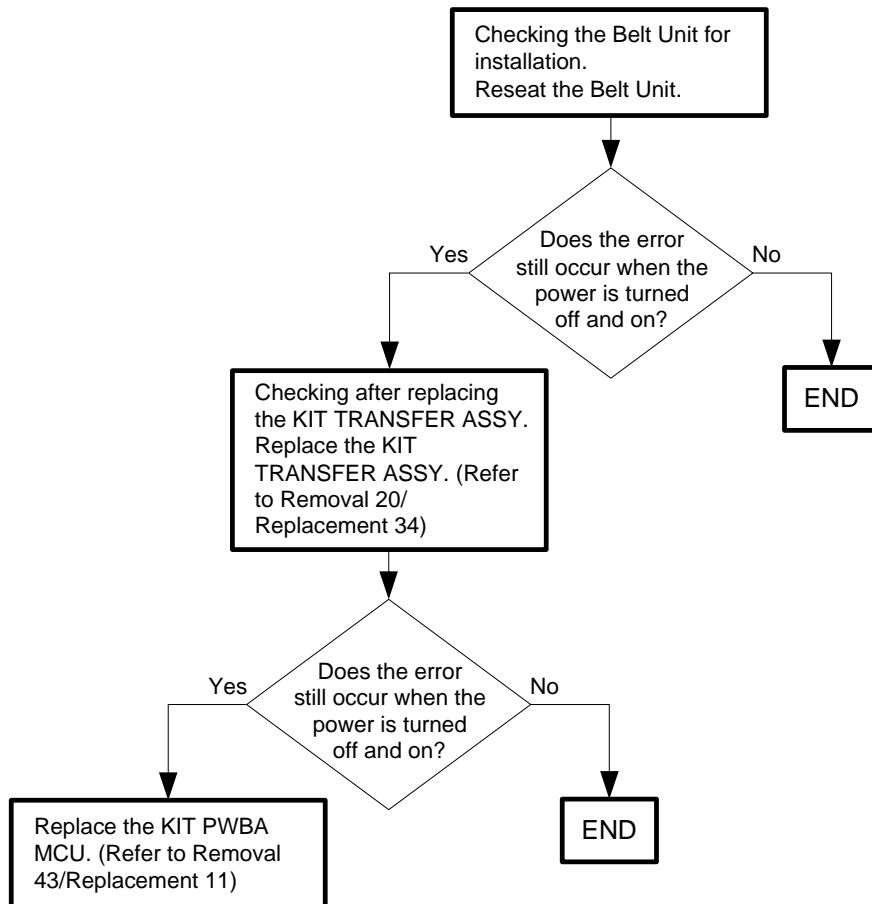
```
                      ┌────────────────────────┐
                      │ Checking the Belt Unit  │
                      │ for installation.       │
                      │ Reseat the Belt Unit.   │
                      └────────────┬───────────┘
                                   │
                                   ▼
                               ╱───────╲
                              ╱ Does the ╲
                  Yes        ╱ error still ╲        No
          ┌───────────────── ╲ occur when  ╱ ──────────────┐
          │                   ╲ the power  ╱                │
          │                    ╲ is turned╱                 │
          │                     ╲off and ╱                  ▼
          ▼                      ╲on?   ╱             ┌──────────┐
┌──────────────────────┐          ╲──╱               │   END    │
│ Checking after        │                            └──────────┘
│ replacing the KIT     │
│ TRANSFER ASSY.        │
│ Replace the KIT       │
│ TRANSFER ASSY. (Refer │
│ to Removal 20/        │
│ Replacement 34)       │
└──────────┬───────────┘
           │
           ▼
       ╱───────╲
      ╱ Does the ╲
  Yes╱ error still ╲ No
┌─── ╲ occur when  ╱ ────┐
│     ╲ the power  ╱      │
│      ╲ is turned╱       │
▼       ╲off and ╱        ▼
┌──────────╲on?╱─┐  ┌──────────┐
│ Replace the    │  │   END    │
│ KIT PWBA MCU.  │  └──────────┘
│ (Refer to      │
│ Removal 43/    │
│ Replacement 11)│
└────────────────┘
```

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Flows 12   009-360 / 009-361 / 009-362 / 009-363: IOT Toner (YMCK) CRUM Comm Fail

Cause: 009-360:The Yellow Toner Cartridge CRUM communication failure is detected.
009-361:The Magenta Toner Cartridge CRUM communication failure is detected.
009-362:The Cyan Toner Cartridge CRUM communication failure is detected.
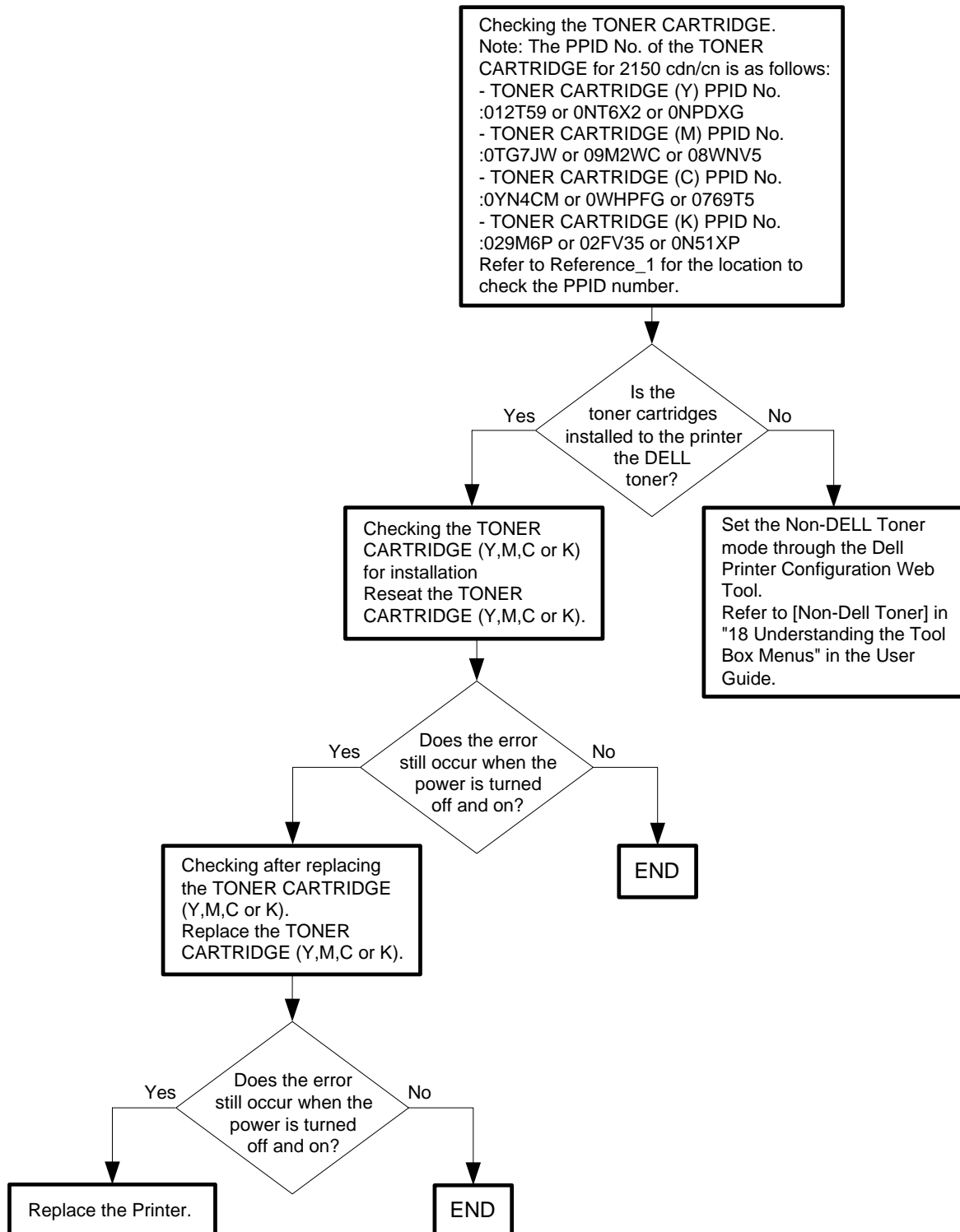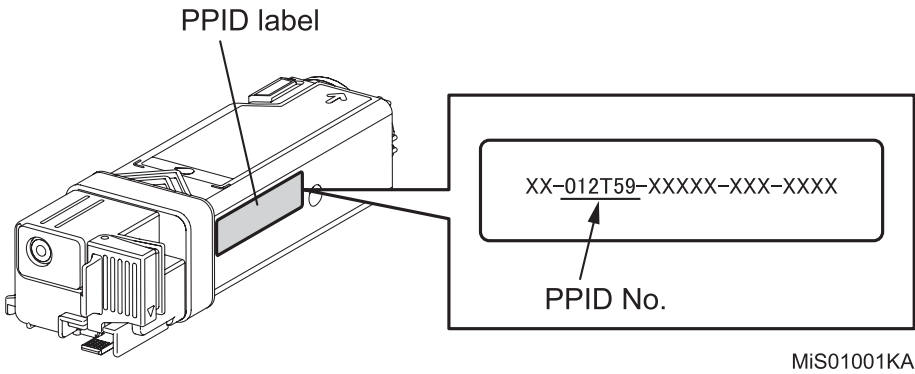009-363:The Black Toner Cartridge CRUM communication failure is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

Checking the TONER CARTRIDGE.
Note: The PPID No. of the TONER CARTRIDGE for 2150 cdn/cn is as follows:
- TONER CARTRIDGE (Y) PPID No. :012T59 or 0NT6X2 or 0NPDXG
- TONER CARTRIDGE (M) PPID No. :0TG7JW or 09M2WC or 08WNV5
- TONER CARTRIDGE (C) PPID No. :0YN4CM or 0WHPFG or 0769T5
- TONER CARTRIDGE (K) PPID No. :029M6P or 02FV35 or 0N51XP
Refer to Reference_1 for the location to check the PPID number.

Is the toner cartridges installed to the printer the DELL toner?
Yes   No

Checking the TONER CARTRIDGE (Y,M,C or K) for installation
Reseat the TONER CARTRIDGE (Y,M,C or K).

Set the Non-DELL Toner mode through the Dell Printer Configuration Web Tool.
Refer to [Non-Dell Toner] in "18 Understanding the Tool Box Menus" in the User Guide.

Does the error still occur when the power is turned off and on?
Yes   No

Checking after replacing the TONER CARTRIDGE (Y,M,C or K).
Replace the TONER CARTRIDGE (Y,M,C or K).

END

Does the error still occur when the power is turned off and on?
Yes   No

Replace the Printer.

END

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- Reference_1:   Position of PPID label.

PPID label

XX–012T59–XXXXX–XXX–XXXX

PPID No.

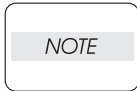MiS01001KA

Flows 13   010-317: IOT Fuser Detached

Cause: Fuser detached is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
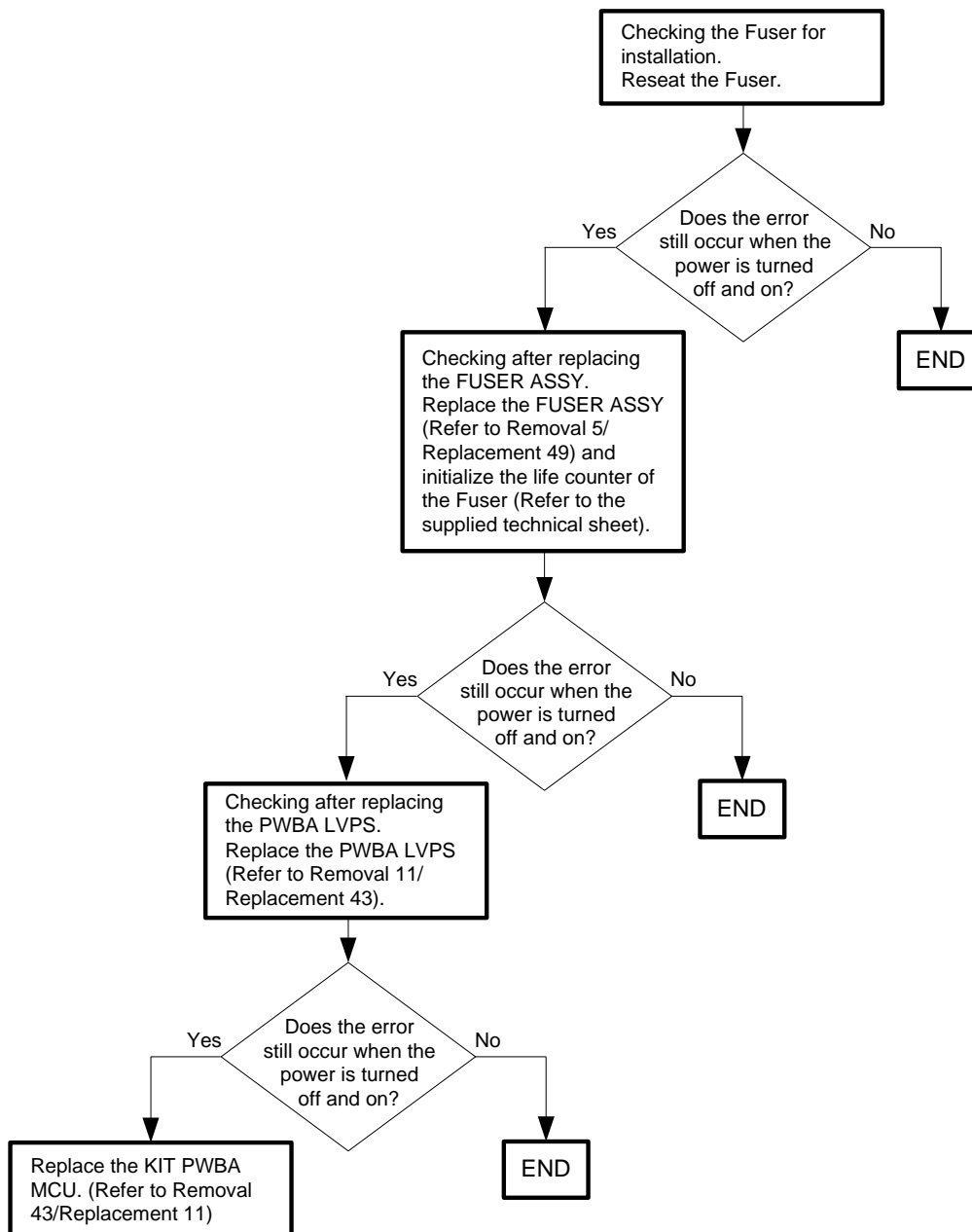
CAUTION | **To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.**
Turn off the printer and wait for 30 minutes before removing the fuser.

NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

Checking the Fuser for installation.
Reseat the Fuser.

Does the error still occur when the power is turned off and on?

Yes

No → END

Checking after replacing the FUSER ASSY.
Replace the FUSER ASSY (Refer to Removal 5/Replacement 49) and initialize the life counter of the Fuser (Refer to the supplied technical sheet).

Does the error still occur when the power is turned off and on?

Yes

No → END

Checking after replacing the PWBA LVPS.
Replace the PWBA LVPS (Refer to Removal 11/Replacement 43).

Does the error still occur when the power is turned off and on?

Yes

No → END

Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

Flows 14   010-351: IOT Fuser Life Over

Cause: The value of Fuser counter has reached the replacement time.

Solution: The Fuser has reached the end of its life. Replace the Fuser with a new one.

| NOTE | **Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the message "Life Over" is indicated.** |

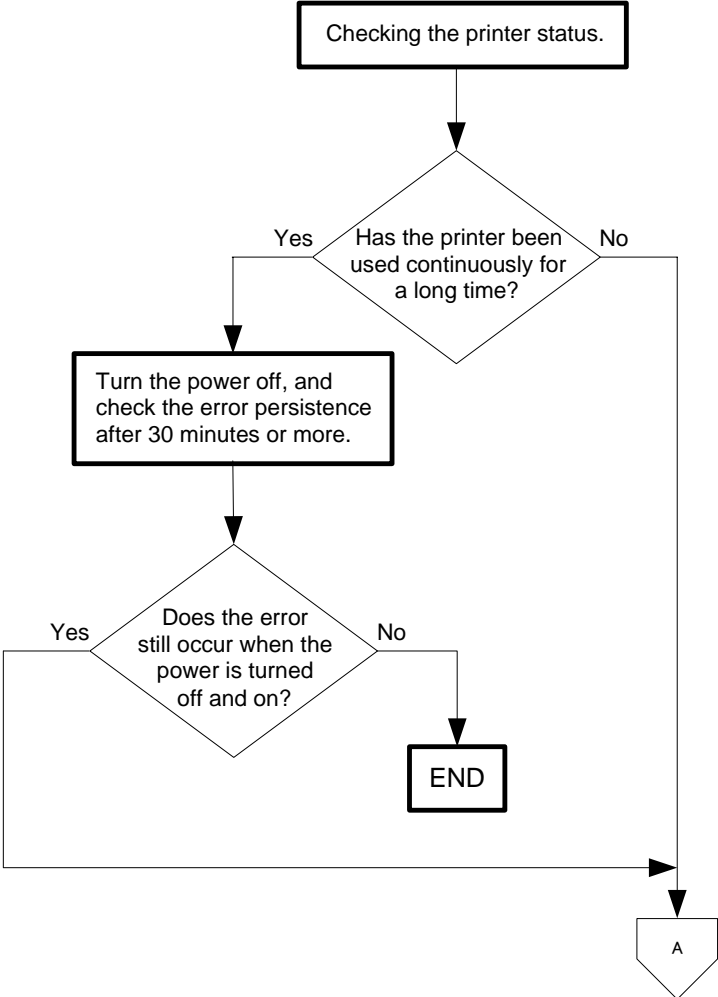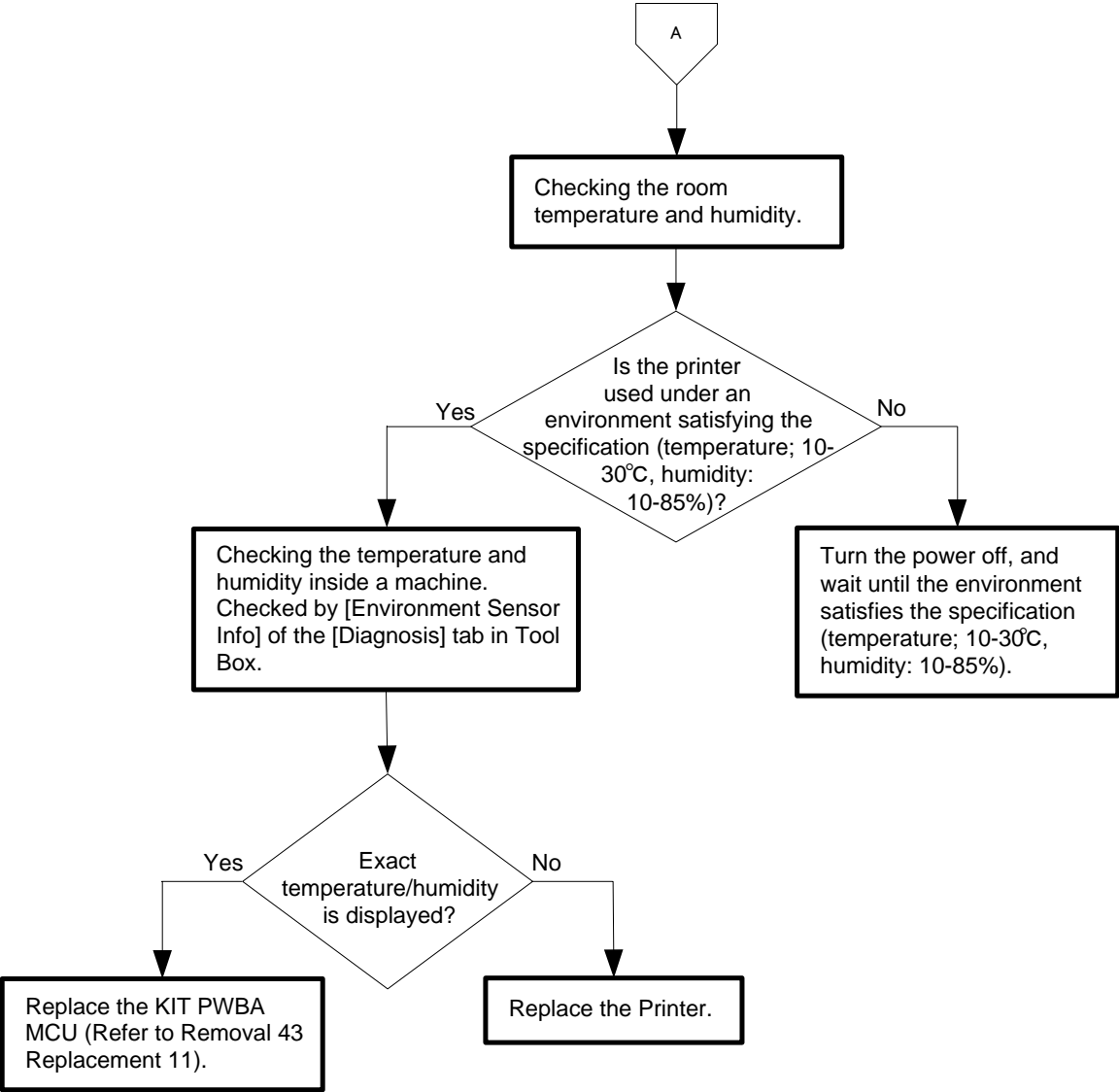| NOTE | **This error code is not related to any hardware fault.** |

| NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.** |

Flows 15   010-354: IOT Environment Sensor Error

Cause: The Temperature sensor detected the temperature anomaly.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
                              ┌───┐
                              │ A │
                              └─┬─┘
                                │
                                ▼
            ┌───────────────────────────────────────┐
            │   Checking the room                    │
            │   temperature and humidity.            │
            └───────────────────┬───────────────────┘
                                │
                                ▼
                          ◇ Is the printer ◇
                            used under an
         Yes              environment satisfying the        No
       ◄─────────         specification (temperature; 10-   ─────────►
                            30℃, humidity:
                             10-85%)?
              │                                              │
              ▼                                              ▼
  ┌────────────────────────────┐              ┌────────────────────────────┐
  │ Checking the temperature and│              │ Turn the power off, and    │
  │ humidity inside a machine.  │              │ wait until the environment │
  │ Checked by [Environment Sensor]│           │ satisfies the specification│
  │ Info] of the [Diagnosis] tab in Tool│       │ (temperature; 10-30℃,     │
  │ Box.                        │              │ humidity: 10-85%).         │
  └──────────────┬─────────────┘              └────────────────────────────┘
                 │
                 ▼
         Yes   ◇ Exact ◇   No
       ◄────── temperature/humidity ──────►
               is displayed?
         │                            │
         ▼                            ▼
  ┌────────────────────┐      ┌────────────────────┐
  │ Replace the KIT PWBA│      │ Replace the Printer.│
  │ MCU (Refer to Removal 43│   └────────────────────┘
  │ Replacement 11).   │
  └────────────────────┘
```
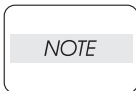
Flows 16   010-377: IOT Fuser Failure

Cause: The operation error of Fuser (Temperature anomaly error etc.) is detected.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

CAUTION **To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.**
Turn off the printer and wait for 30 minutes before removing the fuser.

NOTE **When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

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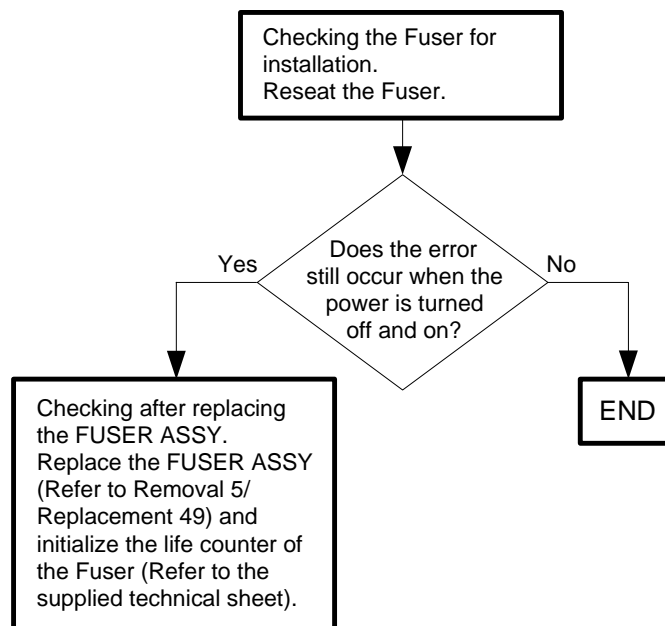
Flows 17   010-421: IOT Fuser Near Life

Cause: The Fuser is approaching the replacement time.

Solution: The Fuser is approaching the replacement time. Prepare a new Fuser.

NOTE	**Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the message "Near Life" is indicated.**

NOTE	**This error code is not related to any hardware fault.**

NOTE	**When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

Flows 18   016-300 / 016-301 / 016-302 / 016-310 / 016-313 / 016-315 / 016-317 / 016-323
/ 016-324 / 016-327 / 016-340 / 016-392 / 016-393 / 016-394 : ESS Error
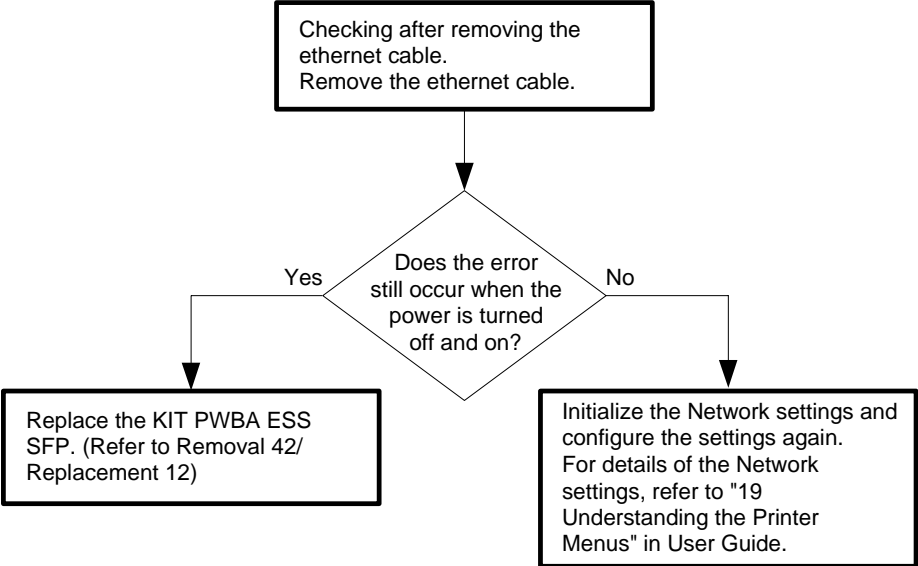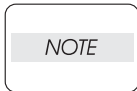
Cause: ESS-related error occurred.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
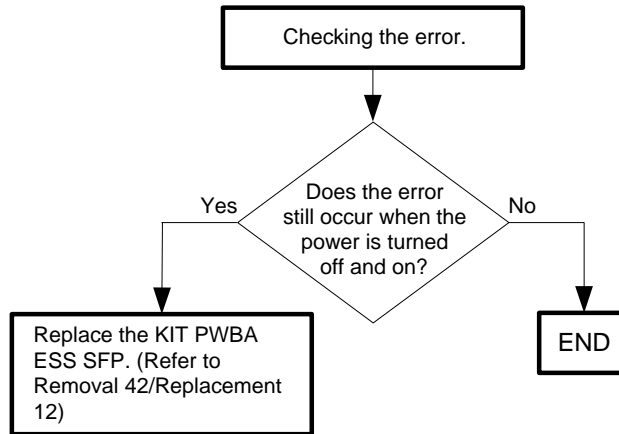
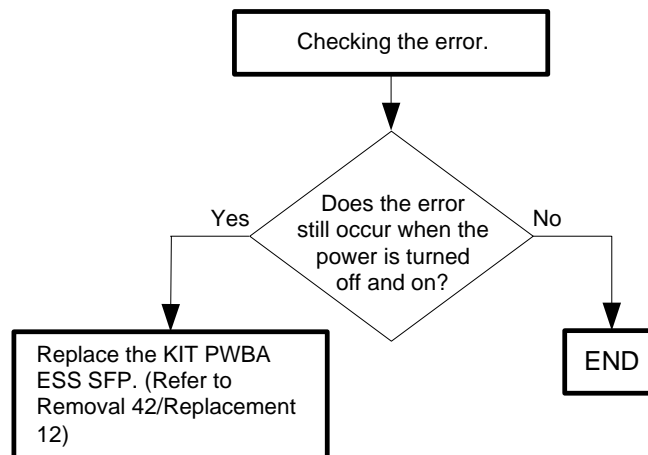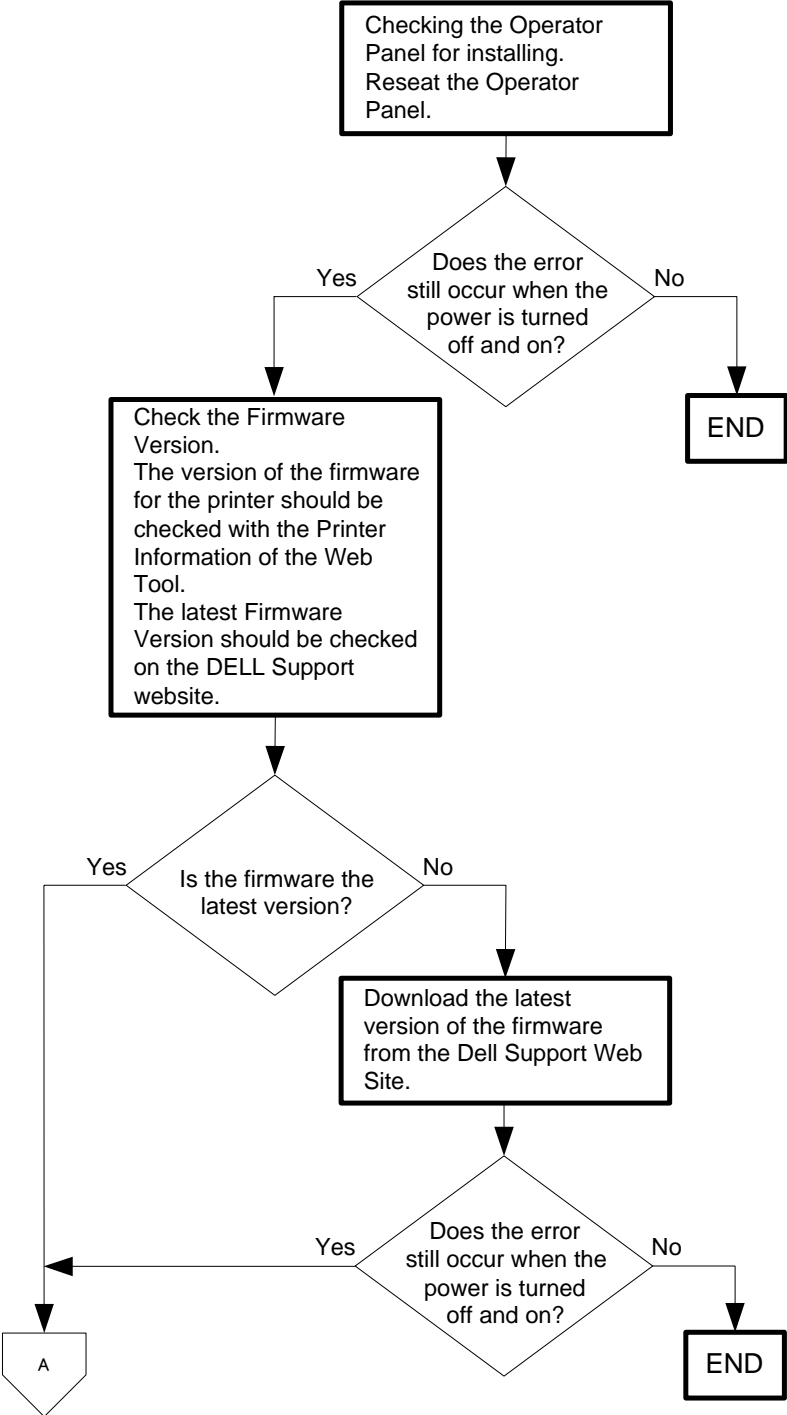Flows 19   016-316 / 016-318: ESS DIMM Slot RAM R/W Check Fail / ESS DIMM Slot RAM Error

Cause: 016-316: Unsupported additional memory module is detected in the memory slot.
            016-318: Additional memory module is not completely inserted in the slot.

Solution: 016-316: Remove the added memory module. To add a memory, use the Optional Memory Module.
            016-318: Remove the Memory Module and re-install it.

NOTE   **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

Checking the Optional Memory Module.
Note: The PPID No. of the Optional Memory Module for 2150 cdn/cn is as follows:
- PPID No.:0T4NTT
Refer to Reference_1 for the location to check the PPID number.

Is the Optional Memory Module for 2150 cn/cdn installed?

Yes

No → Install the Optional Memory Module for 2150 cn/cdn.

Checking the Optional Memory Module for installation.
Reseat the Option 512MB Memory.
Refer to [Installing the Optional Memory Module] in "6 Installing Optional Accessories" in the Users Guide.

Does the error still occur when the power is turned off and on?

Yes

No → END

Replace the KIT PWBA ESS SFP. (Refer to Removal 42/Replacement 12)

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- Reference_1:   The PPID number is on the packing box.

          XX-0T4NTT-XXXXX-XXX-XXXX

            ↑

         PPID No.

Flows 20   016-338: Optional Wireless Adapter Error

Cause: The error is detected by Optional Wireless Adapter check.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
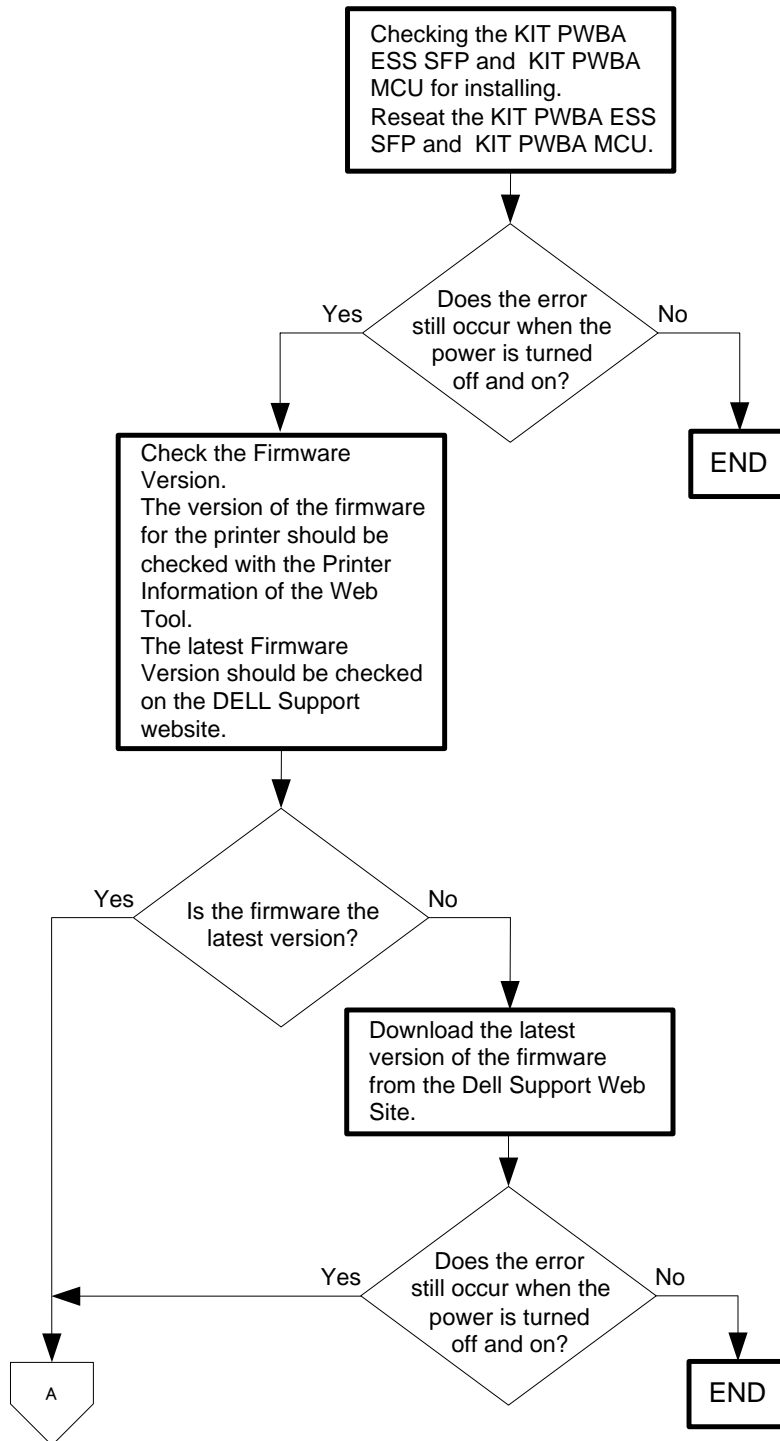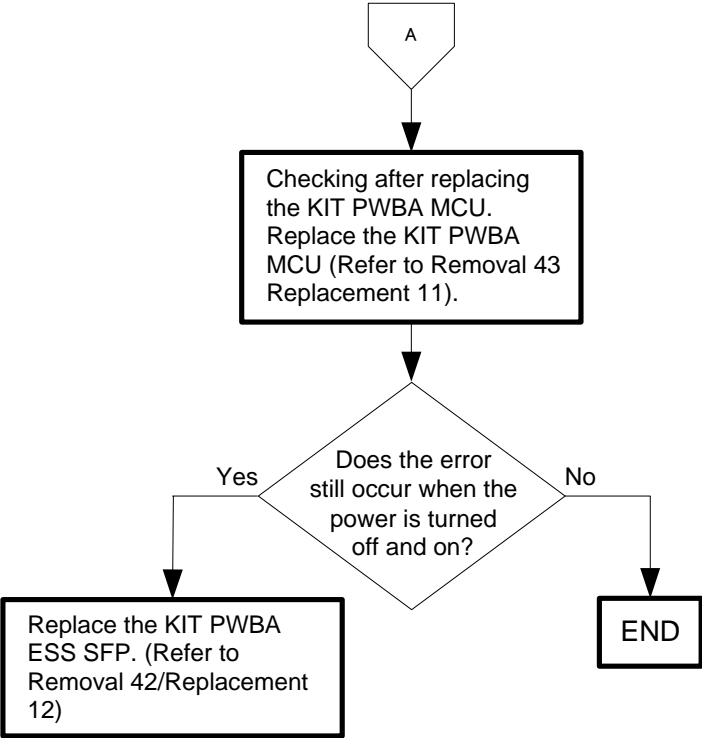
```
                              ┌──────────────────────────┐
                              │ Checking the connected   │
                              │ device to the Optional   │
                              │ Wireless Adapter Socket   │
                              │ on the PWBA ESS.         │
                              └──────────────────────────┘
                                          │
                                          ▼
                                   ╱ Is the Optional ╲
                         Yes      ╱ Wireless Adapter  ╲      No
                        ◄────────  connected to the Wireless ────────►
                        │         ╲ Adapter Socket on the ╱          │
                        │          ╲ PWBA ESS? ╱                     │
                        ▼                                            ▼
              ┌──────────────────────┐                  ┌──────────────────────┐
              │ Checking the Optional │                  │ Connect the Optional  │
              │ Wireless Adapter for  │                  │ Wireless Adapter to the│
              │ installation.         │                  │ Wireless Adapter Socket│
              │ Reseat the Optional   │                  │ on the PWBA ESS.      │
              │ Wireless Adapter.     │                  └──────────────────────┘
              └──────────────────────┘
                        │
                        ▼
                 ╱ Does the error ╲
        Yes     ╱ still occur when ╲    No
       ◄─────────  the power is turned ─────────►
       │        ╲ off and on? ╱               │
       │         ╲          ╱                 ▼
       ▼                                  ┌───────┐
┌──────────────────────┐                 │  END  │
│ Checking after replacing │              └───────┘
│ the WIRELESS ADAPTER.  │
│ Replace the WIRELESS   │
│ ADAPTER. (Refer to     │
│ Removal 54/Replacement │
│ 54)                    │
└──────────────────────┘
       │
       ▼
 ╱ Does the error ╲
Yes ╱ still occur when ╲ No
◄───  the power is turned ───►
│   ╲ off and on? ╱          │
│    ╲          ╱            ▼
▼                        ┌───────┐
┌──────────────────────┐ │  END  │
│ Replace the KIT PWBA  │ └───────┘
│ ESS SFP. (Refer to    │
│ Removal 42/Replacement│
│ 12)                   │
└──────────────────────┘
```

Flows 21   016-347: On Board Network Fatal Error

Cause: A fatal error occurred the on board network communication.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
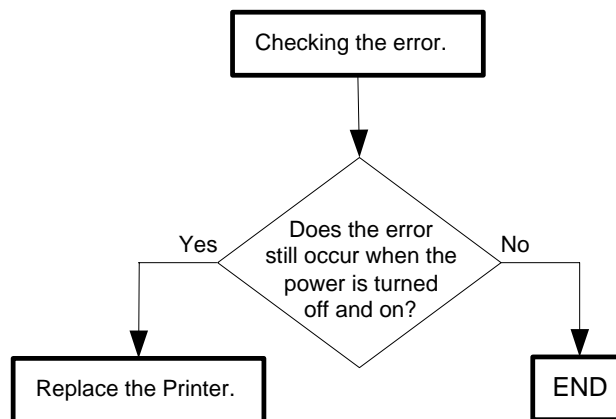
```
          ┌─────────────────────────────┐
          │ Checking after removing the │
          │ ethernet cable.             │
          │ Remove the ethernet cable.  │
          └─────────────────────────────┘
                         │
                         ▼
                       ◇ Does the error ◇
          Yes          still occur when the          No
      ┌────────────    power is turned    ───────────┐
      │                off and on?                   │
      ▼                                               ▼
┌──────────────────────┐          ┌──────────────────────────────┐
│ Replace the KIT PWBA │          │ Initialize the Network       │
│ ESS SFP. (Refer to   │          │ settings and configure the   │
│ Removal 42/          │          │ settings again.              │
│ Replacement 12)      │          │ For details of the Network   │
└──────────────────────┘          │ settings, refer to "19       │
                                  │ Understanding the Printer    │
                                  │ Menus" in User Guide.        │
                                  └──────────────────────────────┘
```

Flows 22   016-362 / 016-363 / 016-364 / 016-366 / 016-367 / 016-368: PCI Bus# (0 / 1)
Host Bridge Controller Error / PCI Bus# (0 / 1) Error Detected / PCI Error Mes-
sages received from Bus#0-Device# (0 / 1)

Cause: Connection error occurred between the PCI BUS port and the port of peripheral devices.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshoot-
ing following the flowchart given below.

NOTE **Never turn off the power to the printer while the firmware is being downloaded.
Turning the power off may cause a failure in the printer.**

```
        ┌────────────────────────┐
        │   Checking the error.  │
        └────────────────────────┘
                     │
                     ▼
               ╱──────────╲
         Yes  ╱ Does the error ╲  No
        ◄────╱  still occur when the ╲────►
             ╲  power is turned  ╱
              ╲  off and on?   ╱
               ╲──────────╱
         │                        │
         ▼                        ▼
┌────────────────────┐      ┌──────────┐
│ Replace the KIT PWBA│      │   END    │
│ ESS SFP. (Refer to  │      └──────────┘
│ Removal 42/Replacement│
│ 12)                 │
└────────────────────┘
```

Flows 23   016-369: Operator Panel - ESS Communication Fail

Cause: Communication Fail with a Operator Panel and ESS F/W.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
              ┌─────────────────────┐
              │ Checking the Operator│
              │ Panel for installing.│
              │ Reseat the Operator  │
              │ Panel.               │
              └─────────────────────┘
                        │
                        ▼
                  Does the error
      Yes ◄──── still occur when the ────► No
                  power is turned
                     off and on?
       │                                    │
       ▼                                    ▼
┌─────────────────────┐              ┌──────────┐
│ Check the Firmware  │              │   END    │
│ Version.            │              └──────────┘
│ The version of the  │
│ firmware for the    │
│ printer should be   │
│ checked with the    │
│ Printer Information  │
│ of the Web Tool.    │
│ The latest Firmware │
│ Version should be   │
│ checked on the DELL │
│ Support website.    │
└─────────────────────┘
           │
           ▼
     Is the firmware the
Yes ◄──── latest version? ────► No
 │                               │
 │                               ▼
 │                   ┌─────────────────────┐
 │                   │ Download the latest  │
 │                   │ version of the       │
 │                   │ firmware from the    │
 │                   │ Dell Support Web     │
 │                   │ Site.                │
 │                   └─────────────────────┘
 │                               │
 │                               ▼
 │                        Does the error
 │            Yes ◄──── still occur when the ────► No
 │                        power is turned
 │                           off and on?
 ▼                                              │
┌───┐                                           ▼
│ A │                                     ┌──────────┐
└───┘                                     │   END    │
                                          └──────────┘
```

```
         ┌───┐
         │ A │
         └─┬─┘
           ▼
┌─────────────────────────┐
│ Checking after replacing│
│ the CONSOLE ASSY        │
│ PANEL.                  │
│ Replace the CONSOLE     │
│ ASSY PANEL. (Refer to   │
│ Removal 25/Replacement  │
│ 29)                     │
└───────────┬─────────────┘
            ▼
        ╱Does the error╲
  Yes  ╱ still occur when╲  No
◄─────╱  the power is turned╲─────►
      ╲  off and on?      ╱
       ╲                 ╱
   ▼                        ▼
┌──────────────────┐    ┌───────┐
│Replace the KIT   │    │ END   │
│PWBA ESS SFP.     │    └───────┘
│(Refer to Removal │
│42/Replacement 12)│
└──────────────────┘
```

1 - 62

Flows 24   016-370: MCU-ESS Communication Fail

Cause: Communication fail between MCU and ESS.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

CAUTION   **When replacing the PWBA ESS and PWBA MCU concurrently, ensure that the ROM chip of the ESS is replaced and that the NVM data of the MCU is saved and reloaded. For details, refer to the supplied technical sheet.**

Checking the KIT PWBA ESS SFP and KIT PWBA MCU for installing.
Reseat the KIT PWBA ESS SFP and KIT PWBA MCU.

Does the error still occur when the power is turned off and on?

Yes   No

END

Check the Firmware Version.
The version of the firmware for the printer should be checked with the Printer Information of the Web Tool.
The latest Firmware Version should be checked on the DELL Support website.

Is the firmware the latest version?

Yes   No

Download the latest version of the firmware from the Dell Support Web Site.

Does the error still occur when the power is turned off and on?

Yes   No

A

END

```
        ┌─────────┐
        │    A    │
        └────┬────┘
             │
             ▼
   ┌───────────────────────┐
   │ Checking after replacing
   │ the KIT PWBA MCU.
   │ Replace the KIT PWBA
   │ MCU (Refer to Removal 43
   │ Replacement 11).
   └───────────┬───────────┘
               │
               ▼
            Does the error
   Yes      still occur when the      No
   ◄──────  power is turned  ──────►
            off and on?
   │                                 │
   ▼                                 ▼
┌─────────────────────┐          ┌───────┐
│ Replace the KIT PWBA │          │  END  │
│ ESS SFP. (Refer to   │          └───────┘
│ Removal 42/Replacement
│ 12)
└─────────────────────┘
```

Flows 25   016-383 / 016-384 / 016-385 / 016-386 / 016-387/ 016-388 / 016-391: Download ID Error / Download Range Error / Download header Error / Download Check Sum Error / Download Format Error / Download Initial Error / Download Protect Error

Cause: 016-383:Download file ID is invalid.

016-384:At download, write-in destination address is invalid.Range check error.

016-385:Download file header is invalid.

016-386:Download file checksum is invalid.

016-387:Download file format is invalid.

016-388:When downloading, failed in starting download mode.

016-391:Performed FW download although FW update is prohibited by panel settings.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
                    ┌─────────────────────────┐
                    │ Checking the download   │
                    │ file.                   │
                    └───────────┬─────────────┘
                                │
                                ▼
          Yes           ◇ Was the file for 2150 ◇   No
        ┌───────────────  cn/cdn downloaded?  ───────────────┐
        │                     ◇         ◇                    │
        ▼                                                    ▼
┌─────────────────────────┐                  ┌─────────────────────────┐
│ Check the cable between │                  │ Re-download the correct │
│ the Printer and PC (or  │                  │ file.                   │
│ Printer and Hub).       │                  └─────────────────────────┘
│ - For local printer: USB│
│ cable (USB2.0)          │
│ - For network printer:  │
│ Ethernet cable (10Base-T/│
│ 100Base-TX / 1000Base-T)│
└───────────┬─────────────┘
            │
            ▼
    Yes  ◇ Does the cable meet ◇  No
  ┌──────  the specifications? ──────┐
  │        ◇              ◇          │
  ▼                                  ▼
┌───┐                    ┌─────────────────────────┐
│ A │                    │ Use a cable that        │
└───┘                    │ meets the               │
                         │ specifications.         │
                         │ - For local printer:    │
                         │ USB cable (USB2.0)      │
                         │ - For network printer:  │
                         │ Ethernet cable          │
                         │ (10Base-T/              │
                         │ 100Base-TX /            │
                         │ 1000Base-T)             │
                         └─────────────────────────┘
```

1 - 65

A

Checking cable plug/
unplug.
Plug and unplug the cable.

Yes ← Does the error
still occur when the
power is turned
off and on? → No

Checking after replacing
the Cable.

END

Yes ← Does the error
still occur when the
power is turned
off and on? → No

Replace the KIT PWBA
ESS SFP. (Refer to
Removal 42/Replacement
12)

END

Flows 26   016-520: Ipsec Certificate Error

Cause: Ipsec Certificate Error.

Solution: A certification error occurred. Contact the system administrator.
Reset certificate from other connectable client with EWS.
If no device can be connected, disconnect cable, turn off IPsec, and then reset certificate with EWS.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                          ┌─────────────────────┐
                          │ Checking the error. │
                          └──────────┬──────────┘
                                     │
                                     ▼
                              ╱───────────╲
                         Yes ╱ Does the error ╲ No
                    ┌───────╱ still occur when the ╲───────┐
                    │       ╲ power is turned      ╱       │
                    │        ╲ off and on?        ╱        │
                    ▼         ╲───────────╱                ▼
          ┌─────────────────────┐              ┌─────────────┐
          │ Replace the Printer.│              │     END     │
          └─────────────────────┘              └─────────────┘
```

1 - 67
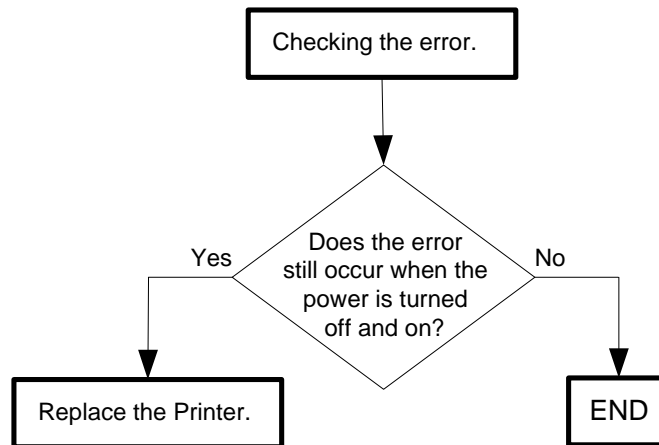
Flows 27   016-700: Memory Over flow

Cause: The current printing job process cannot be continued because the memory capacity is exceeded.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

```
                              ┌──────────────────────────┐
                              │ Checking for memory      │
                              │ expansion.               │
                              └──────────────────────────┘
                                           │
                                           ▼
                                      ╱─────────╲
                              Is additional
                       Yes  ╱ memory installed? ╲  No
                          ╱   Is the additional   ╲
                           ╲  memory installed    ╱
                            ╲   properly?        ╱
                                   ╲─────────╱
              │                                          │
              ▼                                          ▼
   ┌──────────────────────┐               ┌──────────────────────────┐
   │ Checking after setting│               │ Install additional memory.│
   │ the Print Mode to     │               │ Or, re-install it properly.│
   │ "Standard" via the    │               └──────────────────────────┘
   │ printer driver        │
   │ Set the Print Mode of │
   │ the printer driver to │
   │ "Standard".           │
   └──────────────────────┘
              │
              ▼
         ╱─────────╲
    Yes ╱ Does the   ╲ No
       ╱ error persist ╲
        ╲ during      ╱
         ╲ printing? ╱
            ╲─────╱
    │                    │
    ▼                    ▼
┌──────────────────┐  ┌────────┐
│ Deleting the data│  │  END   │
│ by executing     │  └────────┘
│ Clear Storage.   │
│ Execute "Clear   │
│ Storage" under   │
│ [Maintenance] in │
│ the Control Panel│
└──────────────────┘
    │
    ▼
  ╱─────────╲
Yes ╱ Does the ╲ No
   ╱ error persist ╲
    ╲ during      ╱
     ╲ printing? ╱
        ╲─────╱
   │                 │
   ▼                 ▼
┌──────────────────┐ ┌────────┐
│ The current      │ │  END   │
│ printing job     │ └────────┘
│ process cannot be│
│ continued because│
│ the memory       │
│ capacity is      │
│ exceeded.        │
└──────────────────┘
```

Flows 28   016-720: PDL Error

Cause: The print data cannot be processed by PDL.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.
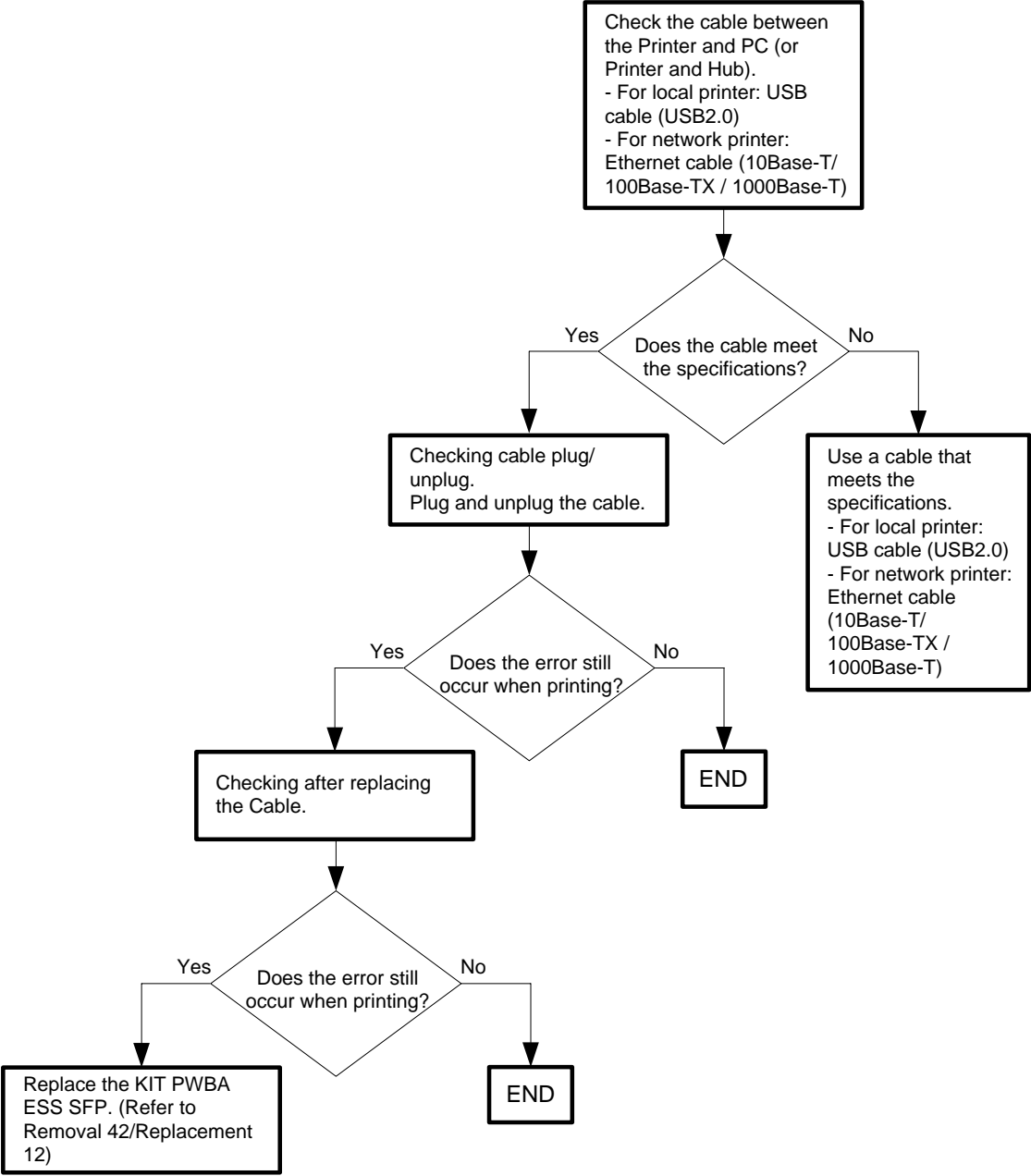
Flows 29   016-753 / 016-755:PDF password error / PDF print disabled error

Cause: 016-753:PDF password error.

016-755:PDF print is not allowed.

Solution: 016-753:The password is incorrect. Enter the correct password again.

016-755:This document cannot be printed because printing is set to "Not Allowed" in the
PDF document security settings. Change the security settings.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
        ┌─────────────────────┐
        │  Checking the error. │
        └─────────────────────┘
                   │
                   ▼
              ╱─────────╲
         Yes ╱ Does the error ╲ No
        ◄───╱ still occur when the ╲───►
            ╲ power is turned ╱
             ╲ off and on? ╱
              ╲─────────╱
         │                       │
         ▼                       ▼
┌─────────────────────┐   ┌─────────┐
│ Replace the Printer.│   │  END    │
└─────────────────────┘   └─────────┘
```

Flows 30   016-756: Auditron - Print prohibited time

Cause: Printing was executed at the print-prohibited time or the day of the week.

Solution: Printing cannot be executed because the printing is set in the print-prohibited day of the
week or the time zone.
To execute printing, consult the system administrator.
This error is automatically reset after a lapse of the specified time.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────┐
                    │ Checking the error. │
                    └─────────────────────┘
                               │
                               ▼
                          ╱─────────╲
                         ╱ Does the  ╲
               Yes      ╱  error      ╲      No
            ◄──────────╱ still occur   ╲──────────►
                       ╲ when the      ╱
                        ╲ power is     ╱
                         ╲ turned     ╱
                          ╲ off and  ╱
                           ╲ on?    ╱
                            ╲──────╱
            │                                    │
            ▼                                    ▼
   ┌────────────────────┐              ┌─────────┐
   │ Replace the Printer.│              │  END    │
   └────────────────────┘              └─────────┘
```
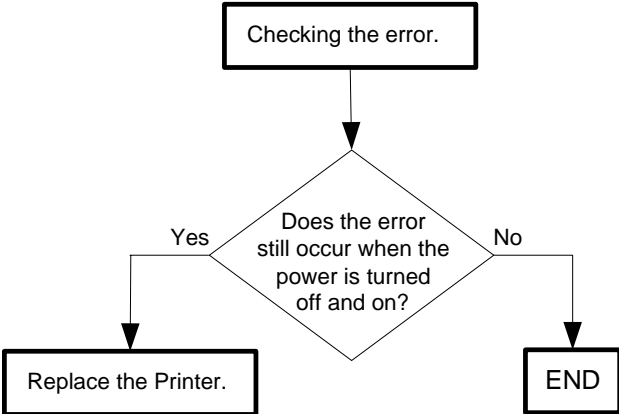
Flows 31   016-757: Auditron - Invalid User

Cause: An error occurred because the user's account settings did not match those of the Adminis-
             trator.

Solution: Printing cannot be executed because your account (user name and password) has not
             been registered. To execute printing, consult the system administrator.
             This error is automatically reset after a lapse of the specified time.

NOTE   **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────┐
                    │  Checking the error. │
                    └─────────────────────┘
                               │
                               ▼
                          ╱─────────╲
                         ╱ Does the   ╲
             Yes        ╱  error still  ╲      No
          ┌───────────  │ occur when the│  ───────────┐
          │            ╲ power is turned╱              │
          │             ╲  off and on? ╱               │
          ▼              ╲─────────────╱               ▼
  ┌──────────────────┐                          ┌──────────┐
  │ Replace the Printer. │                      │   END    │
  └──────────────────┘                          └──────────┘
```
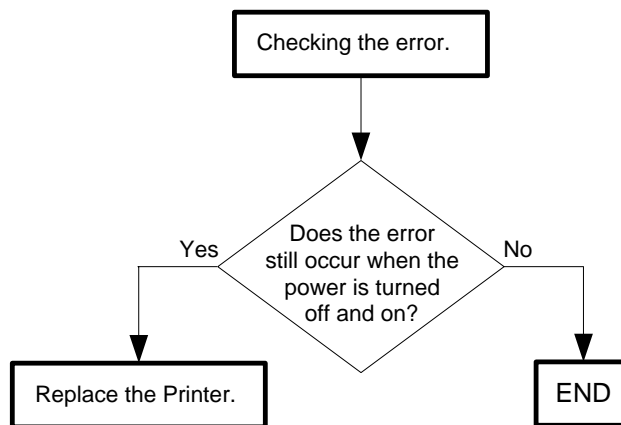
Flows 32   016-758: Auditron - Disabled Function

Cause: An error occurred because a user authorized only for B&W print attempted to execute color printing.

Solution: Color printing cannot be executed because the printer has been set only to enable B&W printing. To use color printing, consult the system administrator.
This error is automatically reset after a lapse of the specified time.

NOTE

If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.

NOTE

Never turn off the power to the printer while the firmware is being downloaded. Turning the power off may cause a failure in the printer.

1 - 73
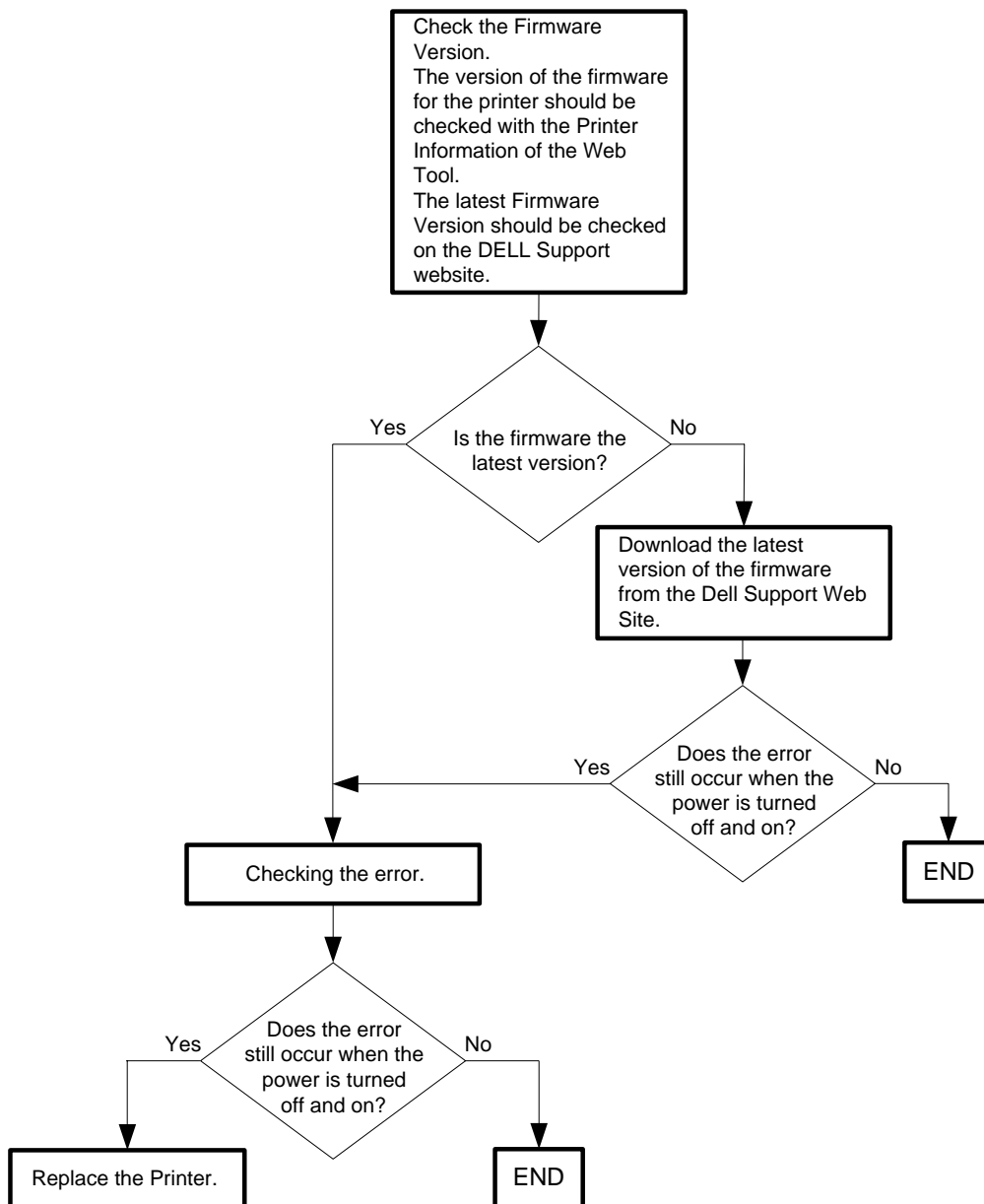
Flows 33   016-759: Auditron - Reached Limit

Cause: An attempt was made to print more copies than the print count limit.

Solution: The printer has been set so that it does not continue printing when the specified number is reached. To continue printing, consult the system administrator.

This error is automatically reset after a lapse of the specified time.

NOTE **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

NOTE **Never turn off the power to the printer while the firmware is being downloaded. Turning the power off may cause a failure in the printer.**

Check the Firmware Version.
The version of the firmware for the printer should be checked with the Printer Information of the Web Tool.
The latest Firmware Version should be checked on the DELL Support website.

Is the firmware the latest version?

Yes

No

Download the latest version of the firmware from the Dell Support Web Site.

Does the error still occur when the power is turned off and on?

Yes

No

END

Checking the error.

Does the error still occur when the power is turned off and on?

Yes

No

Replace the Printer.

END
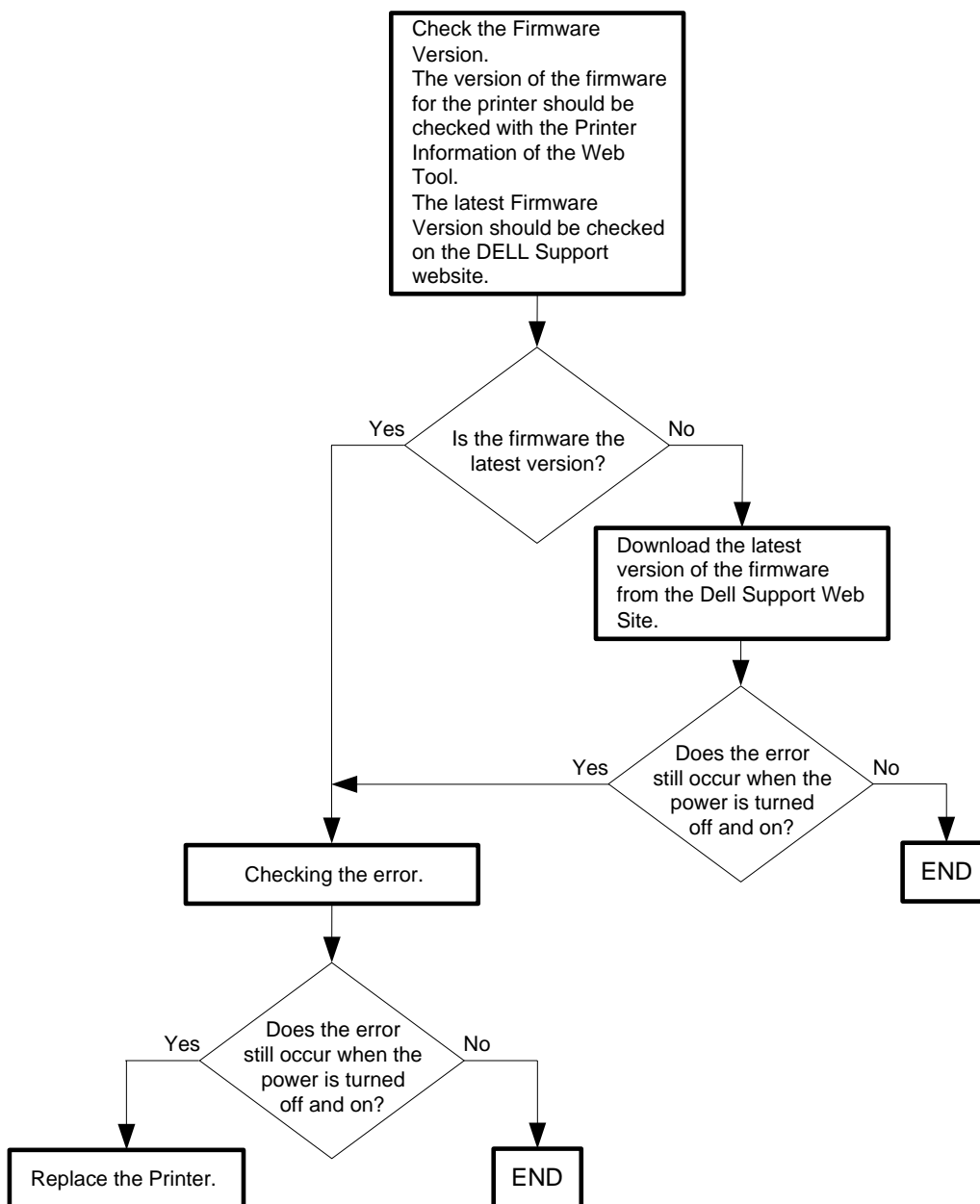
Flows 34   016-799: Job Environment Violation

Cause: Detects violation data for the print condition. The print data specifies paper type/ size not available for the printer.

Solution: Ensure that the printer configuration on the printer driver conforms to the printer you are using.

NOTE **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

NOTE **Never turn off the power to the printer while the firmware is being downloaded. Turning the power off may cause a failure in the printer.**
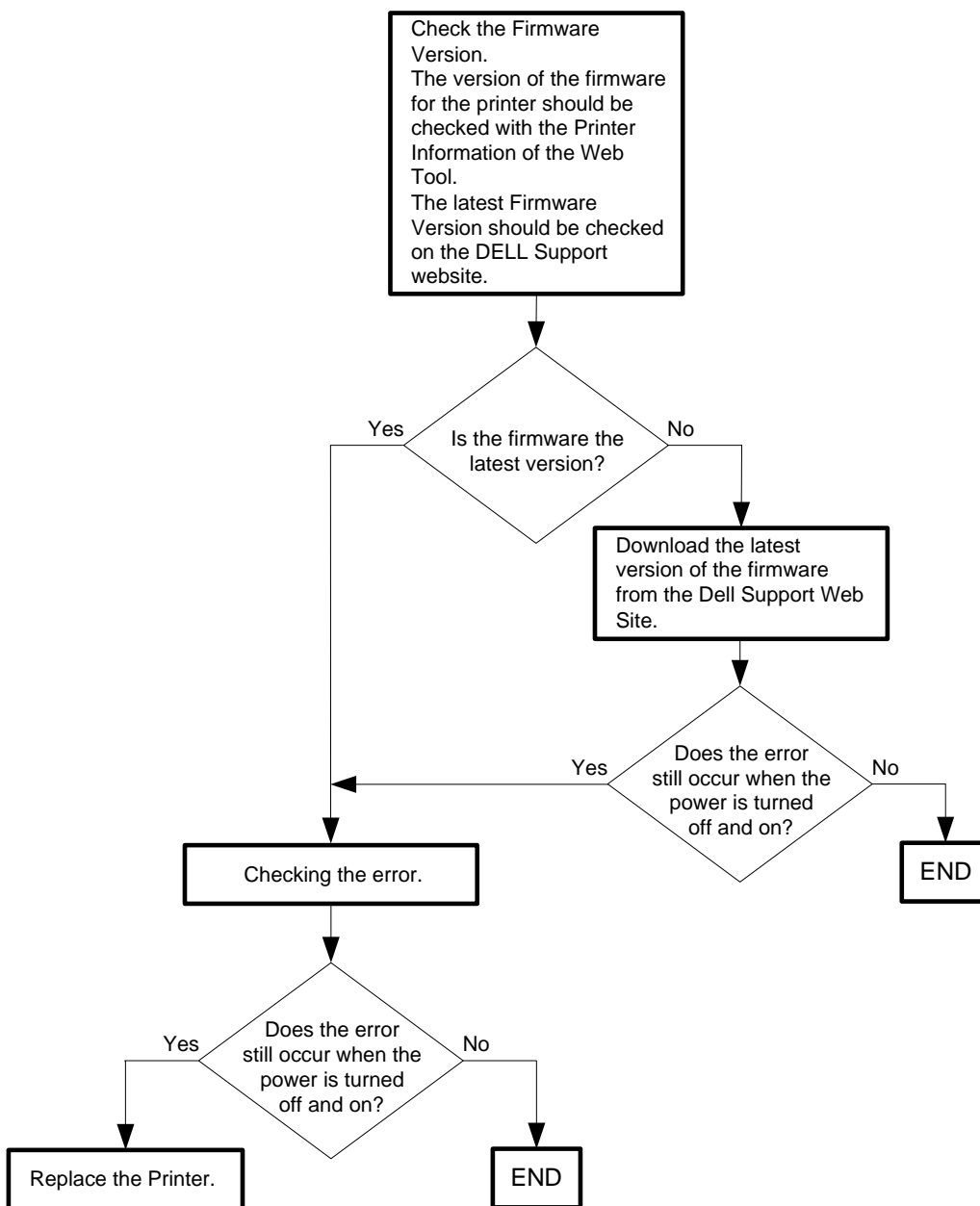
Flows 35   016-920: Wireless Setting Error Time-out Error

Cause: The time-out was done to the connection with Register.

Solution: A time-out error occurred. Contact the system administrator.

The WPS procedure between the wireless LAN access point (Registrar) timed out. Try connecting again.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────────┐
                    │    Checking the error.   │
                    └─────────────────────────┘
                                 │
                                 ▼
                          ╱─────────────╲
                         ╱  Does the error ╲
                 Yes    ╱  still occur when  ╲    No
              ┌────────╱   the power is turned ╲────────┐
              │        ╲   off and on?        ╱         │
              │         ╲                    ╱          │
              ▼          ╲─────────────────╱            ▼
  ┌─────────────────────┐                        ┌──────────┐
  │ Replace the KIT PWBA│                        │   END    │
  │ ESS SFP. (Refer to  │                        └──────────┘
  │ Removal 42/Replacement│
  │ 12)                 │
  └─────────────────────┘
```
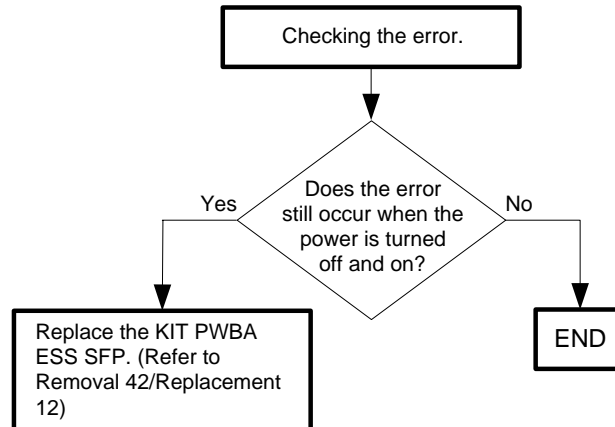
Flows 36   016-921: Wireless Setting Error Download Error

Cause: The error occurred while connecting it with Register.

Solution: An error occurred while connecting. Contact the system administrator.

An error occurred while connecting to the wireless LAN access point (Registrar) in WPS mode. Try connecting again.

NOTE   **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

1 - 77
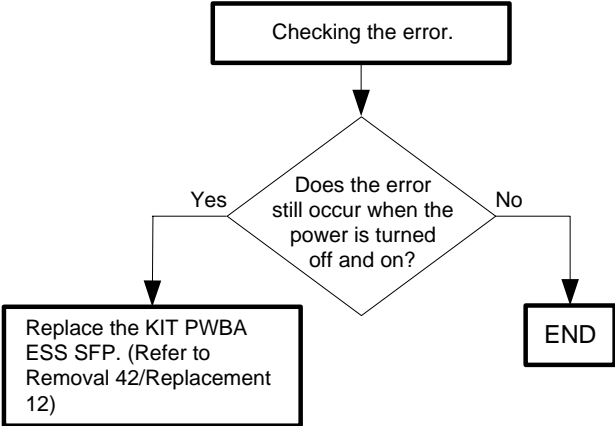
Flows 37   016-922: Wireless Setting Error Session Overlap Error

Cause: Two or more Register that operated by WPS-PBC was found.

Solution: Two or more wireless LAN access points (Registrars) have been found to operate in the WPS-PBC mode.

Set only one wireless access point (Registrar) to operate in the WPS-PBC mode, and execute the process again according to the procedure.

> NOTE
>
> **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
           ┌─────────────────────┐
           │ Checking the error. │
           └─────────────────────┘
                      │
                      ▼
                  ╱───────────╲
          Yes    ╱ Does the error ╲    No
      ◄─────────◄ still occur when the ►─────────►
         │       ╲ power is turned  ╱        │
         │        ╲ off and on?   ╱          │
         │         ╲───────────╱             │
         ▼                                   ▼
┌─────────────────────┐              ┌─────────────┐
│ Replace the KIT PWBA│              │     END     │
│ ESS SFP. (Refer to  │              └─────────────┘
│ Removal 42/Replacement│
│ 12)                 │
└─────────────────────┘
```

1 - 78
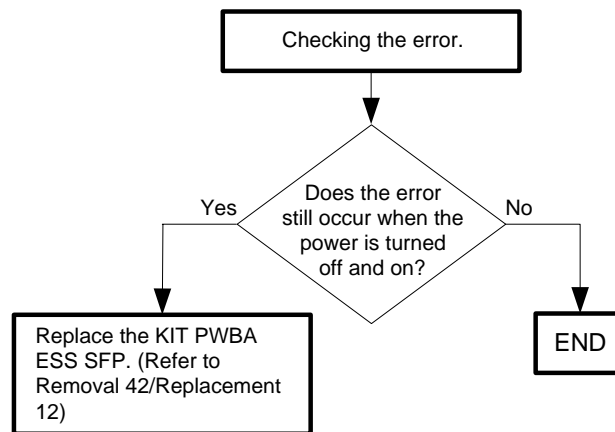
Flows 38   016-980: Disc Full

Cause: The current printing job process cannot be continued because the RAM disk is full.

Solution: It is necessary to delete unnecessary data or System Settings increase the RAM Disk capacity in System Settings.

After increasing the RAM Disk capacity, turn the printer off and then on.

| NOTE | **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.** |

```
            ┌─────────────────────────┐
            │   Checking the error.   │
            └─────────────────────────┘
                         │
                         ▼
                      ╱     ╲
                     ╱ Does the ╲
              Yes   ╱ error       ╲  No
            ◄──────╱ still occur when the ╲──────►
            │      ╲ power is turned      ╱      │
            │       ╲ off and on?       ╱        │
            │        ╲               ╱           │
            ▼          ╲           ╱             ▼
┌───────────────────────┐                ┌──────────┐
│ Divide the print job  │                │   END    │
│ into several blocks.  │                └──────────┘
│ Then, execute printing│
│ on a block by block   │
│ basis.                │
└───────────────────────┘
```
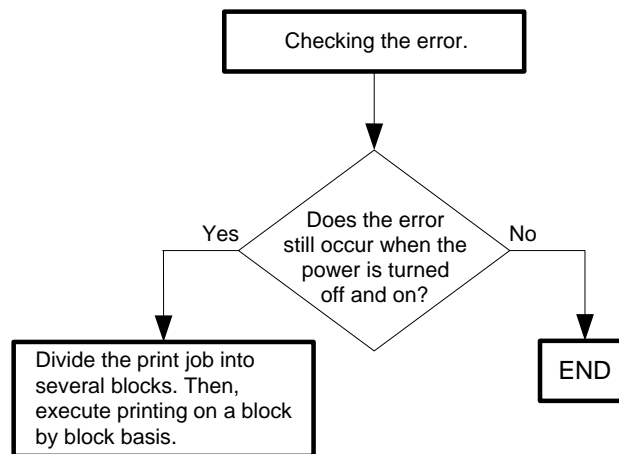
Flows 39   016-981: Collate Full

Cause: Unable to collate due to insufficient memory.

Solution: Collating cannot be performed due to insufficient memory. Decrease the RAM Disk capacity in System Settings. After decreasing the RAM Disk capacity, turn the printer off and then on.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌────────────────────────┐
                    │   Checking the error.   │
                    └────────────────────────┘
                                 │
                                 ▼
                           ◇ Does the error still ◇
              Yes ─────────  occur when printing?  ───────── No
               │                                              │
               ▼                                              ▼
     ┌────────────────────┐                          ┌──────────┐
     │ Split the document │                          │   END    │
     │ into blocks to     │                          └──────────┘
     │ decrease the       │
     │ number of pages to │
     │ be collated.       │
     └────────────────────┘
```
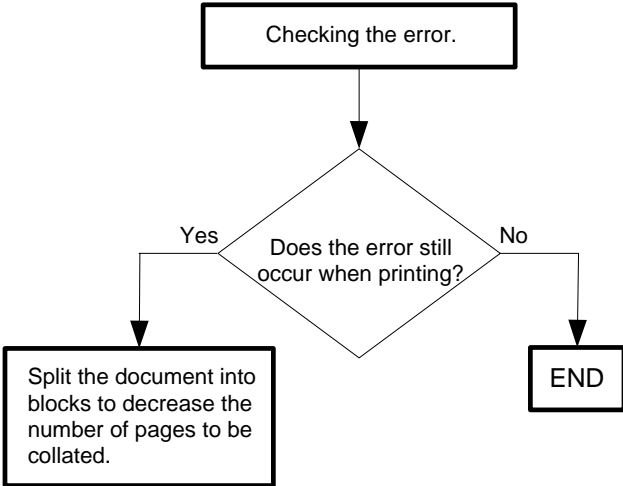
Flows 40   024-360: MCU Down Load Error

Cause: Download failure of MCU firmware.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshoot-
            ing following the flowchart given below.

NOTE

**Never turn off the power to the printer while the firmware is being downloaded.
Turning the power off may cause a failure in the printer.**

Check the Firmware
Version.
The version of the firmware
for the printer should be
checked with the Printer
Information of the Web
Tool.
The latest Firmware
Version should be checked
on the DELL Support
website.

Yes   Is the firmware the
      latest version?   No

Download the latest
version of the firmware
from the Dell Support Web
Site.

Yes   Does the error
      still occur when the
      power is turned
      off and on?   No

Checking the error.

END

Yes   Does the error
      still occur when the
      power is turned
      off and on?   No

Replace the KIT PWBA
MCU (Refer to Removal 43
Replacement 11).

END
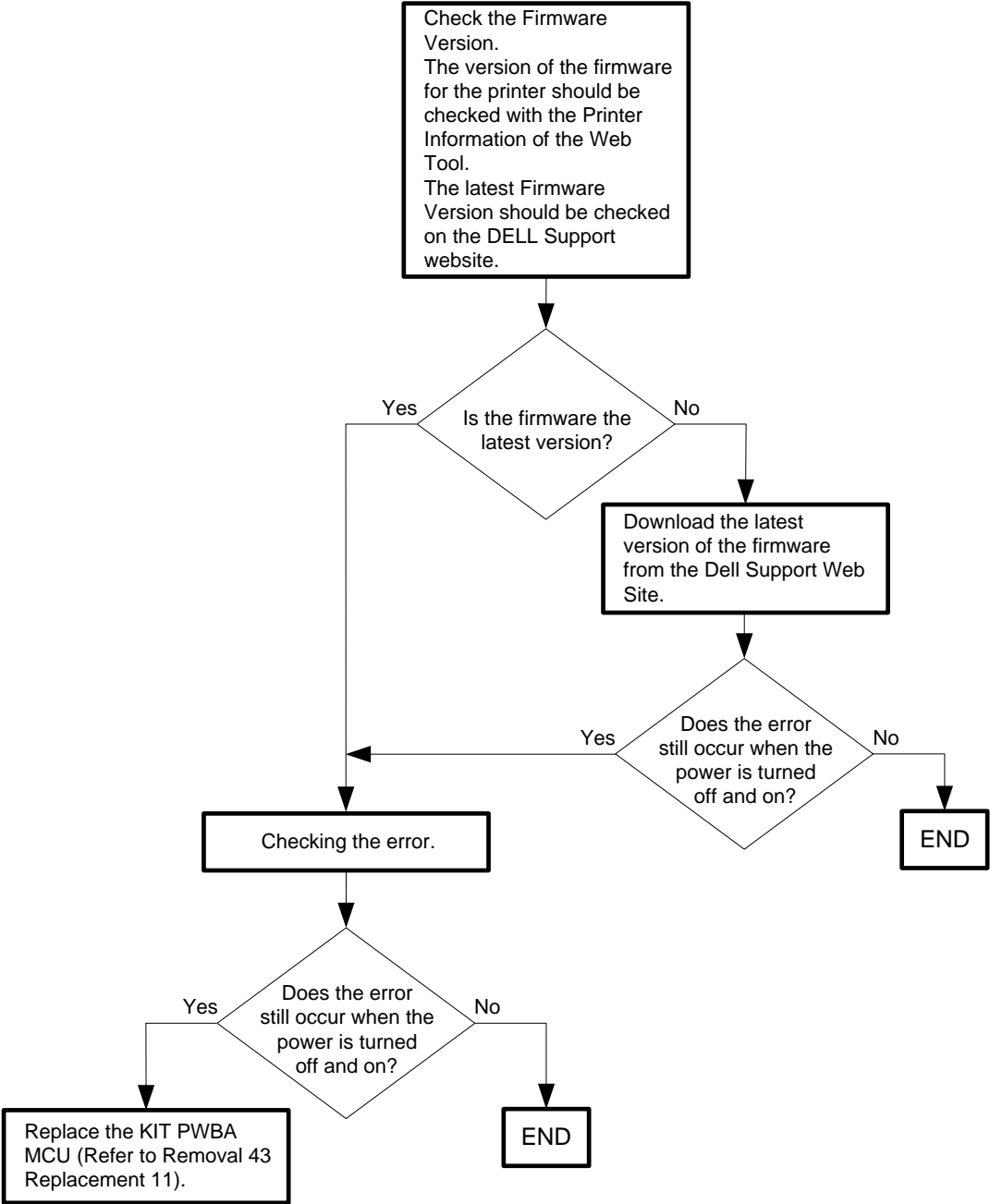
Flows 41   024-362: IOT Start Image Marking Time-out

Cause: "Start Image Making" has not been issued within the time allowed.

Solution: Turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.

NOTE	**Never turn off the power to the printer while the firmware is being downloaded. Turning the power off may cause a failure in the printer.**

Check the Firmware Version.
The version of the firmware for the printer should be checked with the Printer Information of the Web Tool.
The latest Firmware Version should be checked on the DELL Support website.

Is the firmware the latest version?

Yes → No → Download the latest version of the firmware from the Dell Support Web Site.

Does the error still occur when the power is turned off and on?

Yes → No → END

Checking the error.

Does the error still occur when the power is turned off and on?

Yes → Replace the KIT PWBA ESS SFP. (Refer to Removal 42/Replacement 12)

No → END
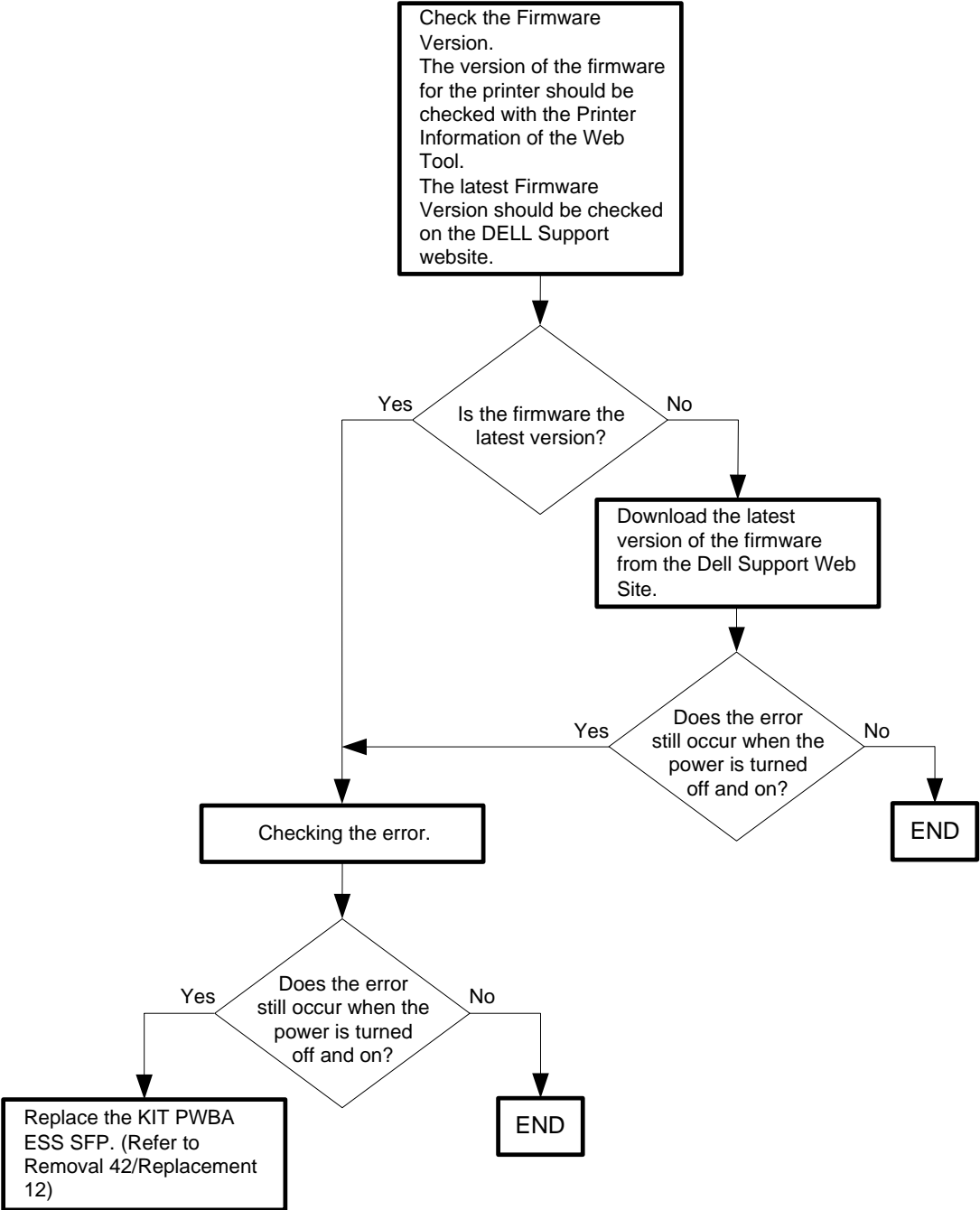
Flows 42   024-985: Waiting for "Continue" key to be pressed after reloading paper to the
SSF

Cause: Printer starts printing automatically after a certain period of time even if the key is not
pressed.

Solution: The printer is waiting for the user to press the <✓> (Set) key. Press the <✓> (Set) key. After
the predetermined time elapses, this error is cleared, and the printer starts feeding automat-
ically.

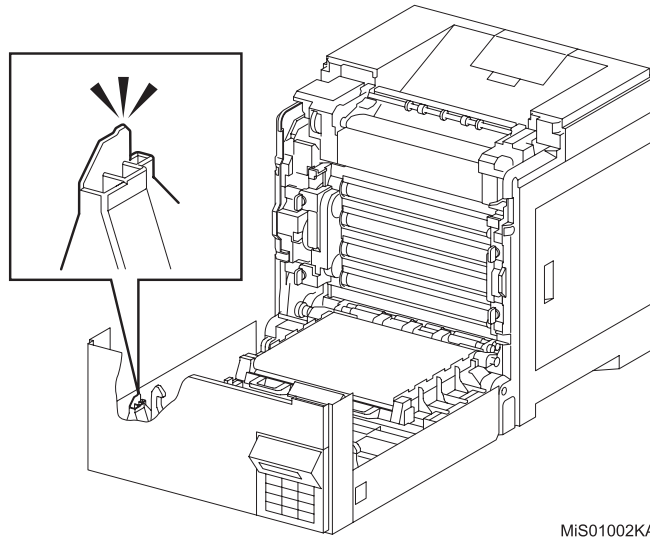| NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────┐
                    │  Checking the error. │
                    └─────────────────────┘
                               │
                               ▼
                            ◇ Does the error
                 Yes       still occur when the      No
                 ◄─────────  power is turned   ─────────►
                 │           off and on?               │
                 ▼                                      ▼
        ┌──────────────────┐               ┌──────────┐
        │Replace the Printer.│              │   END    │
        └──────────────────┘               └──────────┘
```
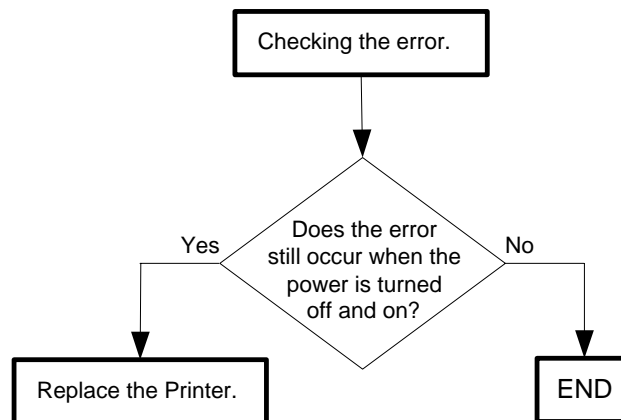
Flows 43   027-446 / 027-452: IPv6 duplicate/IPv4 duplicate

Cause: 027-446:Duplicate IPv6 addresses detected upon startup.

027-452:Duplicate IPv4 addresses detected upon startup.

Solution: 027-446:Duplicate IPv6 addresses have been detected. Contact the system administrator. Remove duplicates and then power off the printer and then on. For details of the IP address settings, refer to "13 Dell Printer Configuration Web Tool" in User Guide.

027-452:Duplicate IPv4 addresses have been detected. Contact the system administrator. Remove duplicates and then power off the printer and then on. For details of the IP address settings, refer to "13 Dell Printer Configuration Web Tool" in User Guide.

NOTE   **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
              ┌─────────────────────┐
              │ Checking the error. │
              └─────────────────────┘
                         │
                         ▼
                      ╱       ╲
            Yes     Does the error      No
          ◄────────  still occur when the  ────────►
                     power is turned
                      off and on?
                      ╲       ╱
                         │
         ┌──────────────────────┐       ┌──────────┐
         │ Replace the Printer. │       │   END    │
         └──────────────────────┘       └──────────┘
```
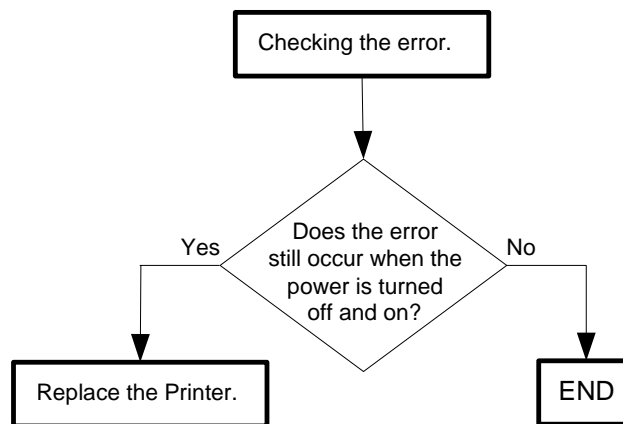
Flows 44   042-700: IOT Over Heat Stop

Cause: The temp. Sensor sensed high temperature.

Solution: Printing has been suspended because inside of the printer is extraordinarily hot. Turn off
             the printer.Open the Front Cover and remove the PHD Unit.
             Start the operation after the Printer has cooled down.

NOTE

**If the error persists after the action above is taken, ensure that the error replicates
after the printer is powered off and then on, and then go to the following steps to
continue further fault isolation.**

```
                    ┌─────────────────────────┐
                    │ Checking after replacing │
                    │ the PHD ASSY.            │
                    │ Replace the PHD ASSY.    │
                    │ (Refer to Removal 4/     │
                    │ Replacement 50)          │
                    └─────────────────────────┘
                                 │
                                 ▼
                            ╱Does the error╲
              Yes          ╱ still occur when ╲         No
          ◄───────────────◄  the power is turned ►───────────────►
                            ╲  off and on?  ╱
                             ╲             ╱
                 │                                          │
                 ▼                                          ▼
         ┌─────────────────────┐                      ┌─────────┐
         │ Replace the Printer.│                      │  END    │
         └─────────────────────┘                      └─────────┘
```
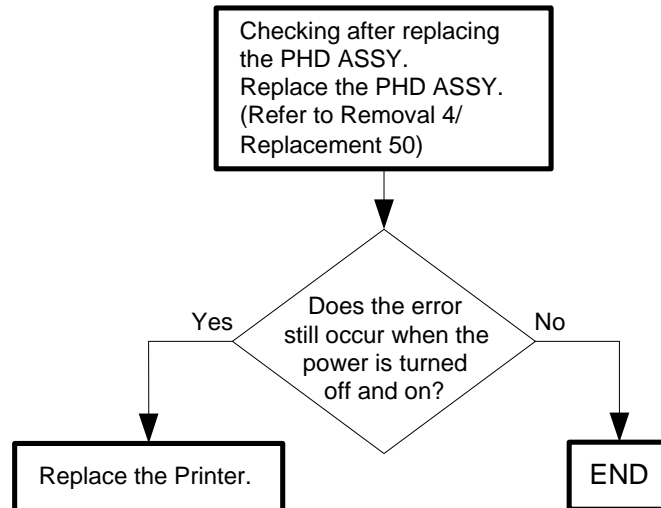
Flows 45   071-100: IOT Tray1 Misfeed JAM

Cause: The Regi Sensor is not turned ON within the specified time after feeding a paper from Tray 1.

Solution: Paper jam has occurred. Remove the jammed paper.
            And then open and close the front cover.Refer to "Appendix_1.2 Clearing Paper Jams From the Standard 250-Sheet Tray" for how to remove the jammed paper.

NOTE **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

NOTE **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

A

Checking for foreign materials.
Remove the sheet, and check the vicinity of Tray 1.

Are there any foreign materials around the Tray 1?

Yes

No

Remove the foreign materials*1, and checking the error.

Does the error still occur when printing?

Yes

No

END

Checking the paper condition.

Is the paper in the Tray 1 new and dry one?

Yes

No

Replace the paper with a new and dry one, and checking the error.

Does the error still occur when printing?

Yes

No

END

B

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```
                          ┌─────┐
                          │  B  │
                          └──┬──┘
                             │
                             ▼
        ┌──────────────────────────────────┐
        │ Checking after replacing          │
        │ the KIT HOLDER ASSY               │
        │ SEPARATOR.                        │
        │ Replace the KIT HOLDER            │
        │ ASSY SEPARATOR.                   │
        │ (Refer to Removal 2/              │
        │ Replacement 52)                   │
        │ - For details on how to           │
        │ replace the HOLDER                │
        │ ASSY SEPARATOR                    │
        │ (Retard Roller), refer to         │
        │ "2.4 Replacing the Retard         │
        │ Roller" in Appendix.              │
        └──────────────────────────────────┘
                             │
                             ▼
                   ◇────────────────◇
         Yes      ╱ Does the error still ╲     No
        ◄─────────  occur when printing?  ─────────►
                   ╲────────────────╱
                             
        ┌──────────────────────┐              ┌─────────┐
        │ Checking after        │             │   END   │
        │ replacing             │             └─────────┘
        │ the KIT ROLL ASSY     │
        │ FEED.                 │
        │ Replace the KIT ROLL  │
        │ ASSY FEED. (Refer to  │
        │ Removal 9/ Replacement│
        │ 45)                   │
        └──────────────────────┘
                             │
                             ▼
                   ◇────────────────◇
         Yes      ╱ Does the error still ╲     No
        ◄─────────  occur when printing?  ─────────►
                   ╲────────────────╱

        ┌──────────────────────┐              ┌─────────┐
        │ Checking after        │             │   END   │
        │ replacing             │             └─────────┘
        │ the KIT FEED ROLL/SOL/│
        │ CLUTCH.               │
        │ Replace the KIT FEED  │
        │ ROLL/SOL/CLUTCH.      │
        │ (Refer to Removal 35/ │
        │ Replacement 19)       │
        └──────────────────────┘
                             │
                             ▼
                   ◇────────────────◇
         Yes      ╱ Does the error still ╲     No
        ◄─────────  occur when printing?  ─────────►
                   ╲────────────────╱

        ┌──────────────────────┐              ┌─────────┐
        │ Replace the Printer.  │             │   END   │
        └──────────────────────┘             └─────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 46   072-100: IOT Tray2 Misfeed JAM

Cause: The Paper Path Sensor of Tray 2 is not turned ON within the specified time after feeding a paper from Tray 2.

Solution: Paper jam has occurred. Remove the jammed paper. And then open and close the front cover.Refer to "Appendix_1.5 Clearing Paper Jams From the Optional 250-Sheet Feeder" for how to remove the jammed paper.

> **NOTE**
>
> **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

> **NOTE**
>
> **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
                    ┌─────┐
                    │  A  │
                    └──┬──┘
                       │
                       ▼
          ┌────────────────────────────┐
          │ Checking for foreign       │
          │ materials.                 │
          │ Remove the sheet, and      │
          │ check the vicinity of Tray 2.│
          └────────────┬───────────────┘
                       │
                       ▼
                   ╱───────────╲
         Yes      ╱ Are there any ╲      No
       ┌─────────◄   foreign      ►─────────┐
       │          ╲ materials    ╱           │
       │           ╲ around the ╱            │
       │            ╲ Tray 2?  ╱             │
       ▼             ╲───────╱               │
┌──────────────────┐                         │
│ Remove the foreign│                        │
│ materials*1, and  │                        │
│ checking the error.│                       │
└────────┬──────────┘                        │
         │                                   │
         ▼                                   │
     ╱────────╲                              │
  Yes ╱          ╲  No                        │
┌────◄ Does the   ►────┐                      │
│    ╲ error still╱    │                      │
│     ╲ occur when╱    ▼                      │
│      ╲printing?╱  ┌───────┐                 │
│       ╲──────╱   │  END  │                 │
│                  └───────┘                 │
│                                            │
└──────────────────┬─────────────────────────┘
                   ▼
          ┌──────────────────┐
          │ Checking the paper│
          │ condition.        │
          └────────┬──────────┘
                   │
                   ▼
               ╱────────╲
       Yes    ╱ Is the paper╲   No
     ┌───────◄ in the        ►──────┐
     │        ╲ Tray 2 new  ╱       │
     │         ╲ and dry    ╱       │
     │          ╲ one?     ╱        ▼
     │           ╲───────╱    ┌──────────────────┐
     │                        │ Replace the paper│
     │                        │ with a new and dry│
     │                        │ one, and checking │
     │                        │ the error.        │
     │                        └────────┬──────────┘
     │                                 │
     │                                 ▼
     │                             ╱────────╲
     │                      Yes   ╱          ╲   No
     │◄───────────────────────────◄ Does the  ►──────┐
     │                            ╲ error still╱      │
     ▼                             ╲occur when ╱      ▼
  ┌─────┐                           ╲printing?╱   ┌───────┐
  │  B  │                            ╲──────╱    │  END  │
  └─────┘                                        └───────┘
```

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```
                        ┌─────┐
                        │  B  │
                        └──┬──┘
                           │
                           ▼
            ┌──────────────────────────────┐
            │ Checking after replacing     │
            │ the ROLL ASSY FEED.          │
            │ Replace the ROLL ASSY        │
            │ FEED. (Refer to Removal      │
            │ 59/ Replacement 58)          │
            └──────────────┬───────────────┘
                           │
                           ▼
                   ╱◇─────────────◇╲
          Yes   ╱  Does the error still ╲   No
         ┌─────◇  occur when printing?  ◇─────┐
         │      ╲                     ╱       │
         │        ╲◇─────────────◇╱           │
         ▼                                    ▼
┌──────────────────────────┐            ┌─────────┐
│ Checking after replacing │            │   END   │
│ the KIT FEEDER ASSY      │            └─────────┘
│ OPT.                     │
│ Replace the KIT FEEDER   │
│ ASSY OPT.                │
│ (Refer to Removal 58/    │
│ Replacement 59).         │
└────────────┬─────────────┘
             │
             ▼
      ╱◇─────────────◇╲
 Yes ╱ Does the error still ╲  No
┌───◇  occur when printing? ◇───┐
│    ╲                    ╱      │
│      ╲◇────────────◇╱          │
▼                                ▼
┌──────────────────────┐    ┌─────────┐
│ Replace the Printer. │    │   END   │
└──────────────────────┘    └─────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 47   072-101: IOT Feeder 2 JAM

Cause: A jam has been detected between the Regi Sensor and the Paper Sensor of Tray 2.

Solution: Paper jam has occurred. Remove the jammed paper. And then open and close the front
            cover. Refer to "Appendix_1.2 Clearing Paper Jams From the Standard 250-Sheet Tray" or
            "Appendix_1.5 Clearing Paper Jams From the Optional 250-Sheet Feeder" for how to
            remove the jammed paper.

> **NOTE**   **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

> **NOTE**   **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
                    ┌─────────────────────────┐
                    │ Checking for foreign    │
                    │ materials*1 in the paper│
                    │ transfer path.          │
                    │ Remove any foreign      │
                    │ materials in the paper  │
                    │ transfer path between   │
                    │ the Regi Sensor and the │
                    │ Paper Path Sensor of Tray│
                    │ 2.                      │
                    └─────────────────────────┘
                                 │
                    Yes      ◇ Does the error still ◇      No
                    ┌────────── occur when printing? ──────────┐
                    │                                          │
        ┌─────────────────────────┐                    ┌─────────┐
        │ Checking the KIT FEEDER │                    │  END    │
        │ ASSY OPT for installing.│                    └─────────┘
        │ Reseat the KIT FEEDER   │
        │ ASSY OPT.               │
        └─────────────────────────┘
                    │
        Yes      ◇ Does the error still ◇      No
        ┌────────── occur when printing? ──────────┐
        │                                          │
   ┌─────────────────────────┐              ┌─────────┐
   │ Checking after replacing│              │  END    │
   │ the KIT FEEDER ASSY     │              └─────────┘
   │ OPT.                    │
   │ Replace the KIT FEEDER  │
   │ ASSY OPT.               │
   │ (Refer to Removal 58/   │
   │ Replacement 59).        │
   └─────────────────────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check
the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the
printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 48   072-908: IOT Remain Option Feeder JAM

Cause: The paper remains at the Paper Path Sensor of Tray 2.

Solution: Paper jam has occurred. Remove the jammed paper. And then open and close the front
            cover. Refer to "Appendix_1.2 Clearing Paper Jams From the Standard 250-Sheet Tray" (or
            "Appendix_1.5 Clearing Paper Jams From the Optional 250-Sheet Feeder") for how to
            remove the jammed paper.

> **NOTE**
>
> **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

> **NOTE**
>
> **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**
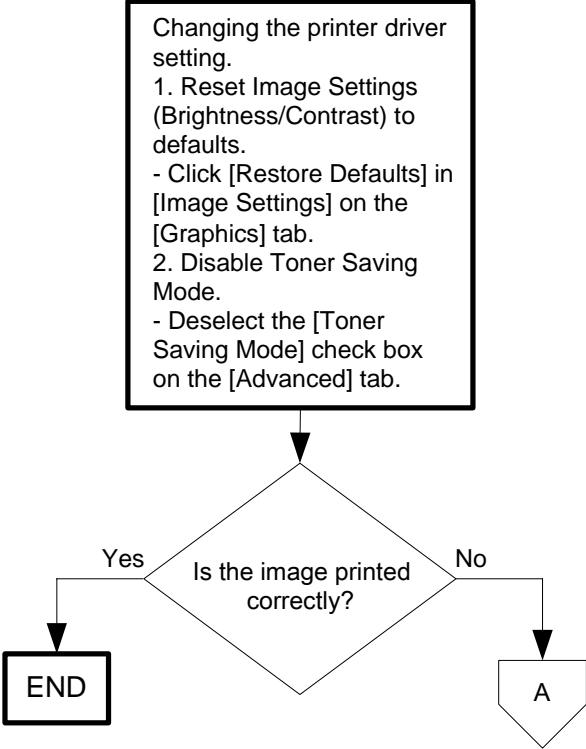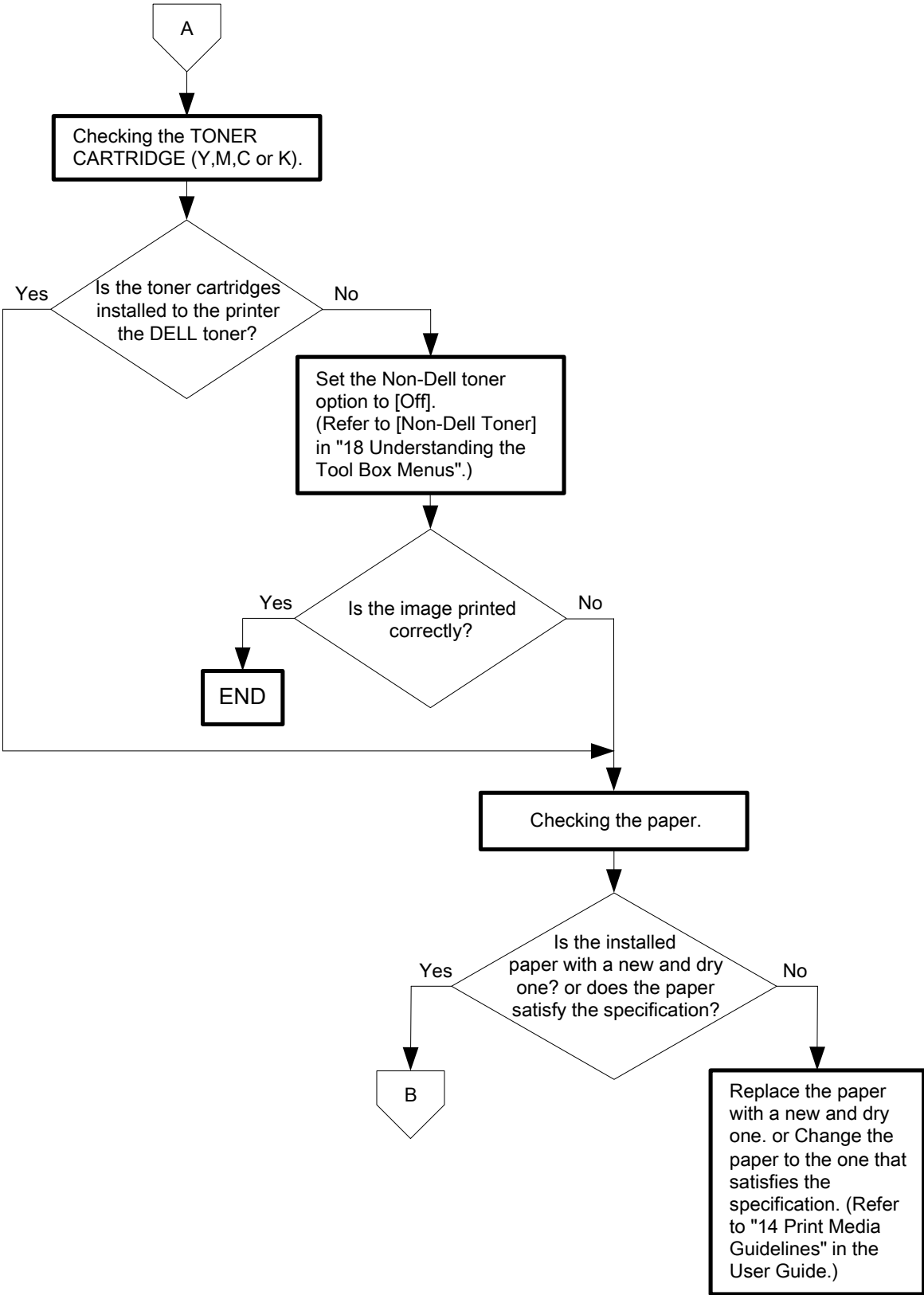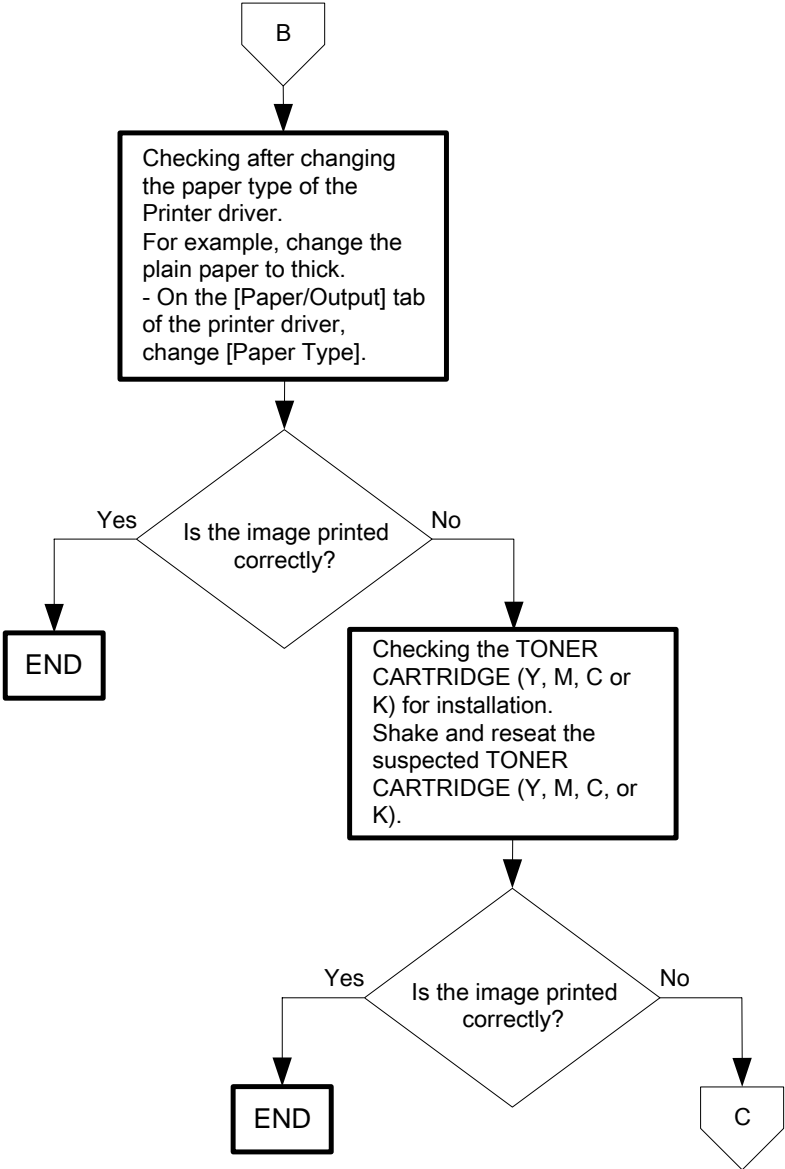
*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing. Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 49   075-101 / 075-102 / 075-923: IOT SSF Insert JAM / IOT SSF Paper Pullout JAM
/ Waiting for reseat paper of SSF

Cause:　　075-101:SSF No Paper Sensor detect when a paper is inserted from SSF.
　　　　　075-102:Though it tried to feed a paper from SSF, the paper was not loaded or it was pulled
　　　　　　　　　　out forcibly from SSF.
　　　　　075-923:Wait for the paper on SSF to be reseated.

Solution:　075-101:Remove the paper from the SSF.
　　　　　075-102:Pull the jammed paper out of the SSF. Open and close the front cover.
　　　　　075-923:Pull the paper out of the SSF. Reload the paper in the SSF.

NOTE	**Do not load a sheet to the SSF while printing source. Otherwise, a Jam error occurs.**

NOTE	**Refer to "Appendix_1.1 Clearing Paper Jams From the SSF" for how to remove the jammed paper.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
            ┌─────────────────────┐
            │  Checking the error. │
            └─────────────────────┘
                       │
                       ▼
                  ╱─────────╲
          Yes    ╱  Does the  ╲   No
       ┌────────╱ error still   ╲────────┐
       │        ╲ occur when the╱        │
       │         ╲power is turned        │
       ▼          ╲off and on? ╱         ▼
┌──────────────┐   ╲─────────╱      ┌────────┐
│Replace the   │                    │  END   │
│Printer.      │                    └────────┘
└──────────────┘
```
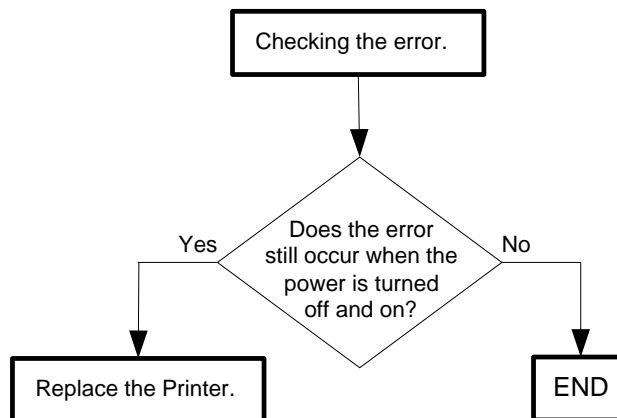
Flows 50   077-100: IOT Regi On early JAM

Cause: The paper remains at the paper transfer path between the Tray 1 and the Regi Sensor.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.1 Clearing
            Paper Jams From the SSF" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
            ┌─────────────────────┐
            │ Checking for foreign│
            │ materials*1 in the  │
            │ paper transfer path.│
            │ Remove any foreign  │
            │ materials around the│
            │ Regi Sensor.        │
            └──────────┬──────────┘
                       │
                       ▼
        Yes        ◇ Does the error still ◇      No
      ┌────────────   occur when printing?   ────────────┐
      ▼                                                   ▼
┌──────────────────┐                              ┌──────────┐
│ Replace the      │                              │   END    │
│ Printer.         │                              └──────────┘
└──────────────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check
the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the
printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 51   077-101: IOT Regi OFF Jam

Cause: The paper does not pass through the Regi Sensor within the specified time.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.1 Clearing
            Paper Jams From the SSF" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

CAUTION	**To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.** **Turn off the printer and wait for 30 minutes before removing the fuser.**

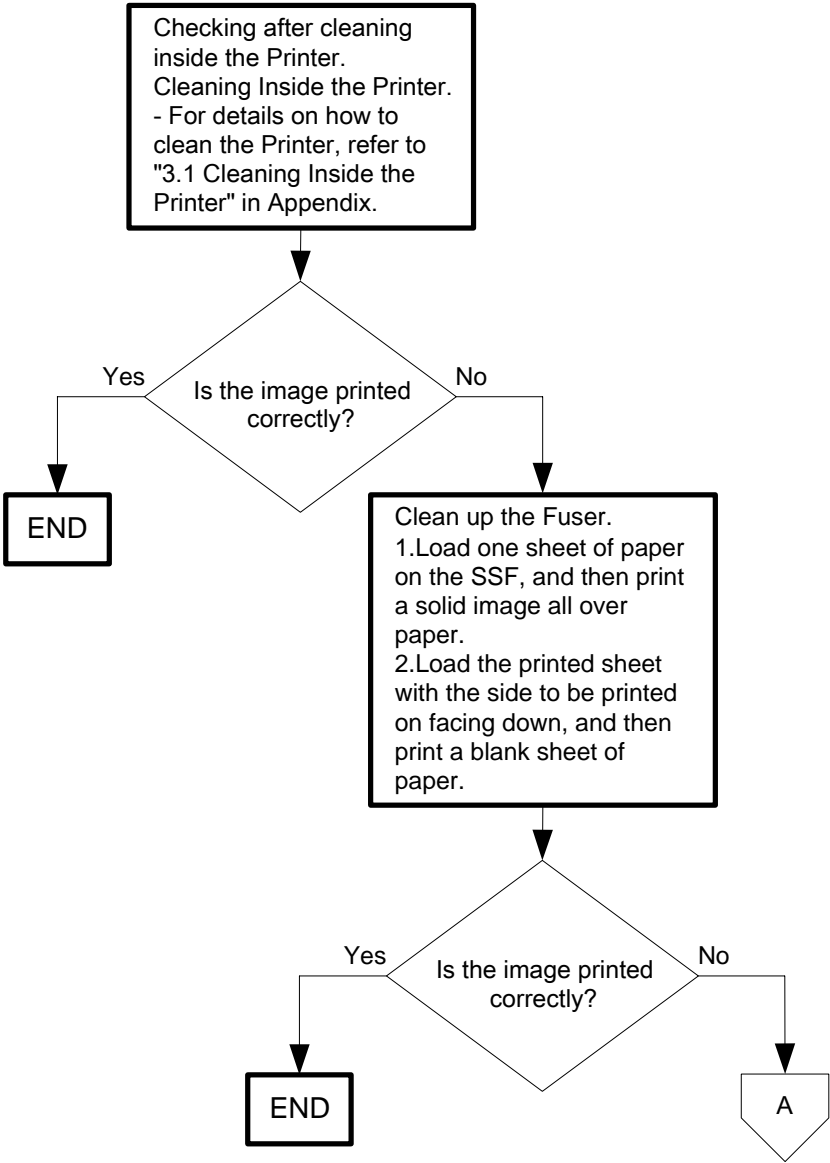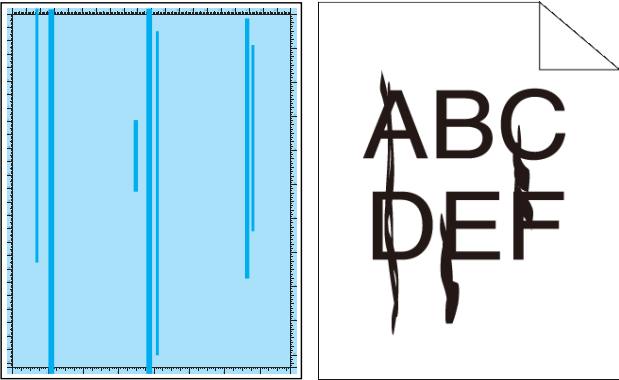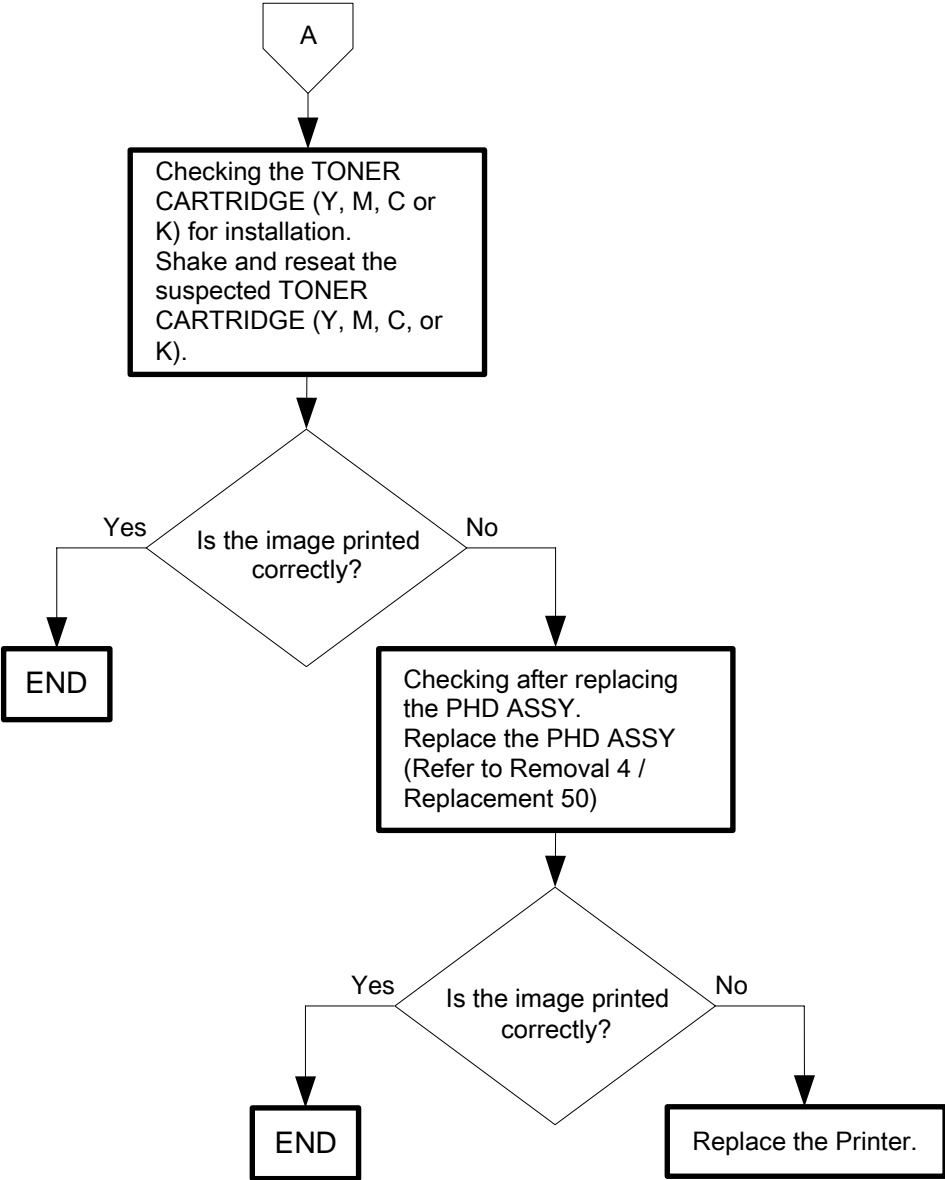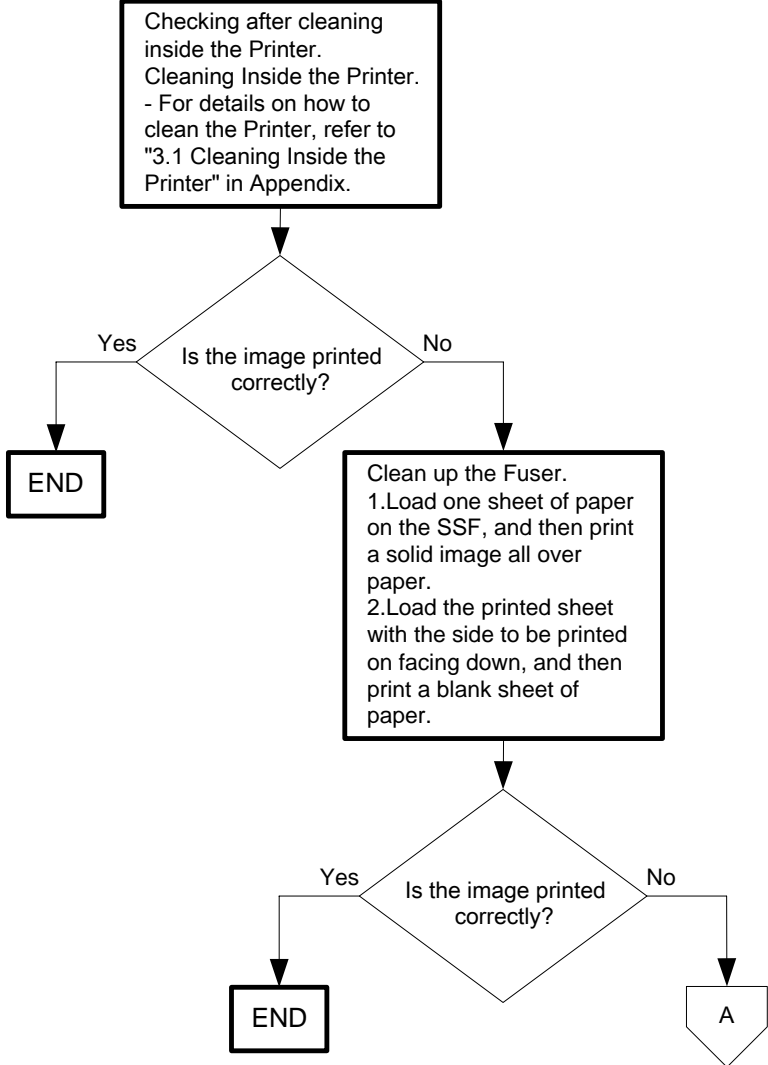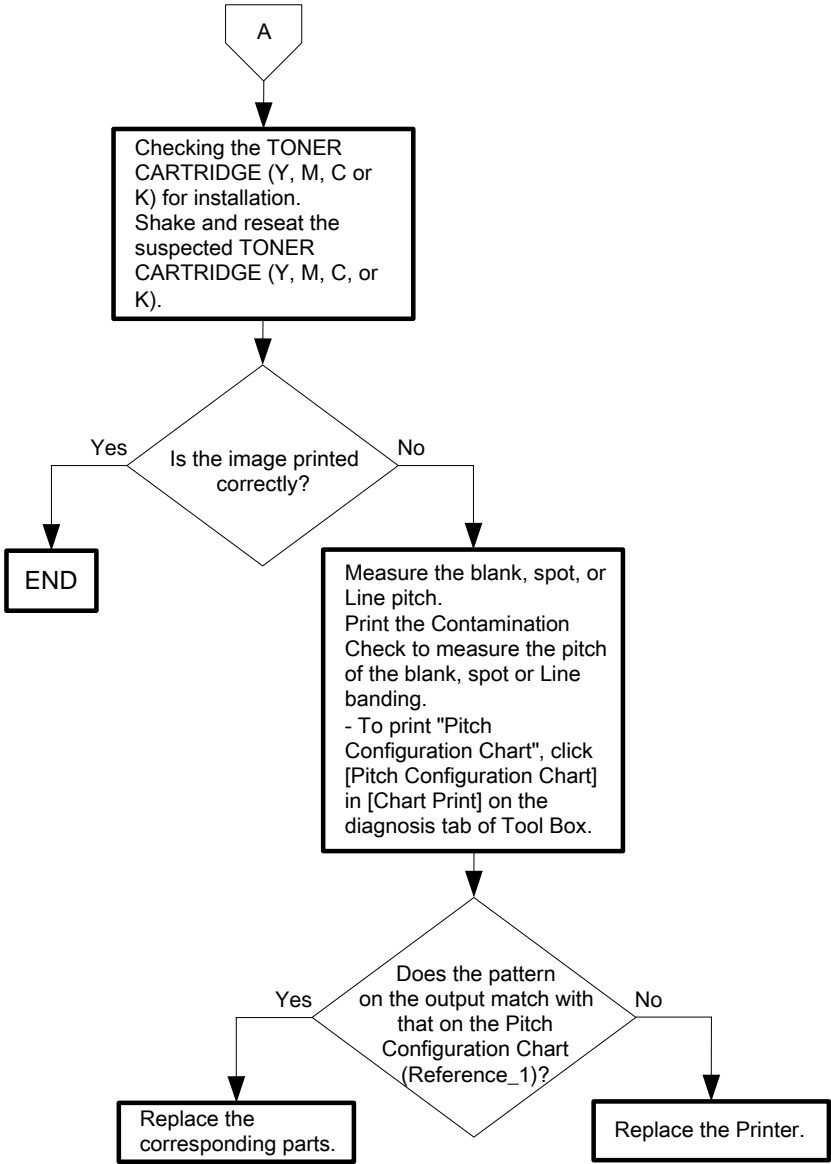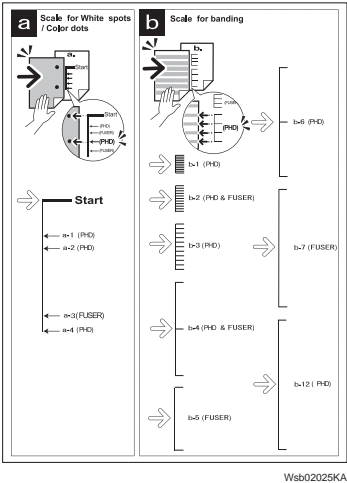| NOTE	**When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

Checking for foreign materials*1 in the paper transfer path.
Remove any foreign materials in the paper transfer path between the Regi Sensor and the Exit Sensor.

Does the error still occur when printing?

Yes

No

END

Checking the Belt Unit for installing.
Reseat the Belt Unit.

Does the error still occur when printing?

Yes

No

A

END

A

Checking the Fuser for
installation.
Reseat the Fuser.

Yes ← Does the error still
occur when printing? → No

END

Checking after replacing
the KIT FEED ROLL/SOL/
CLUTCH.
Replace the KIT FEED
ROLL/SOL/CLUTCH.
(Refer to Removal 35/
Replacement 19)

Yes ← Does the error still
occur when printing? → No

END

Checking after replacing
the KIT TRANSFER ASSY.
Replace the KIT
TRANSFER ASSY.
(Refer to Removal 20/
Replacement 34).

Yes ← Does the error still
occur when printing? → No

B

END

```
                    ┌───────────┐
                     \    B    /
                      └───┬───┘
                          │
                          ▼
        ┌─────────────────────────────────┐
        │ Checking after replacing        │
        │ the FUSER ASSY.                  │
        │ Replace the FUSER ASSY           │
        │ (Refer to Removal 5/             │
        │ Replacement 49) and              │
        │ initialize the life counter of   │
        │ the Fuser (Refer to the          │
        │ supplied technical sheet).       │
        └─────────────────────────────────┘
                          │
                          ▼
                         ◇
              Yes      ◇   ◇      No
            ◇─────◇ Does the error still ◇─────◇
                   ◇  occur when printing? ◇
                     ◇   ◇
                       ◇
              │                           │
              ▼                           ▼
    ┌───────────────────┐       ┌───────────────┐
    │ Replace the Printer.│       │     END      │
    └───────────────────┘       └───────────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 52   077-102 / 077-103 / 077-106: IOT Exit On JAM / IOT Exit On early JAM / IOT
Stop Reservation JAM

Cause: 077-102:The paper does not reach the Exit Sensor within the specified time.
077-103:The paper remains at the paper transfer path between the Exit Sensor and the
Regi Sensor.
077-106:Detect jam when stopped before Fuser in forced stop mode.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.1 Clearing
Paper Jams From the SSF" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

CAUTION	**To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.** **Turn off the printer and wait for 30 minutes before removing the fuser.**

NOTE	**When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

1 - 101

A

Checking the Fuser for installation.
Reseat the Fuser.

Yes ← Does the error still occur when printing? → No

END

Checking after replacing the KIT FEED ROLL/SOL/CLUTCH.
Replace the KIT FEED ROLL/SOL/CLUTCH.
(Refer to Removal 35/ Replacement 19)

Yes ← Does the error still occur when printing? → No

END

Checking after replacing the KIT TRANSFER ASSY.
Replace the KIT TRANSFER ASSY.
(Refer to Removal 20/ Replacement 34).

Yes ← Does the error still occur when printing? → No

B

END

1 - 102

```
                          ┌───────┐
                          │   B   │
                          └───┬───┘
                              │
                              ▼
        ┌──────────────────────────────────────┐
        │ Checking after replacing               │
        │ the FUSER ASSY.                        │
        │ Replace the FUSER ASSY                 │
        │ (Refer to Removal 5/                   │
        │ Replacement 49) and                    │
        │ initialize the life counter of         │
        │ the Fuser (Refer to the                │
        │ supplied technical sheet).             │
        └──────────────────┬─────────────────────┘
                           │
                           ▼
        Yes              ◇◇◇◇◇◇◇◇◇◇◇◇            No
      ┌──────────◇ Does the error still ◇──────────┐
      │            ◇ occur when printing? ◇          │
      │              ◇◇◇◇◇◇◇◇◇◇◇◇                  │
      ▼                                             ▼
┌─────────────────────┐                    ┌──────────────┐
│ Replace the Printer.│                    │    END       │
└─────────────────────┘                    └──────────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check
the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the
printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 53   077-104 / 077-105: IOT Exit Off JAM / IOT Exit Off early JAM

Cause: 077-104:The paper does not pass through the Exit Sensor within the specified time.
           077-105:The paper passed through the Exit Sensor earlier than the specified time.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.3 Clearing
           Paper Jams From the Fuser" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

CAUTION	**To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.** **Turn off the printer and wait for 30 minutes before removing the fuser.**

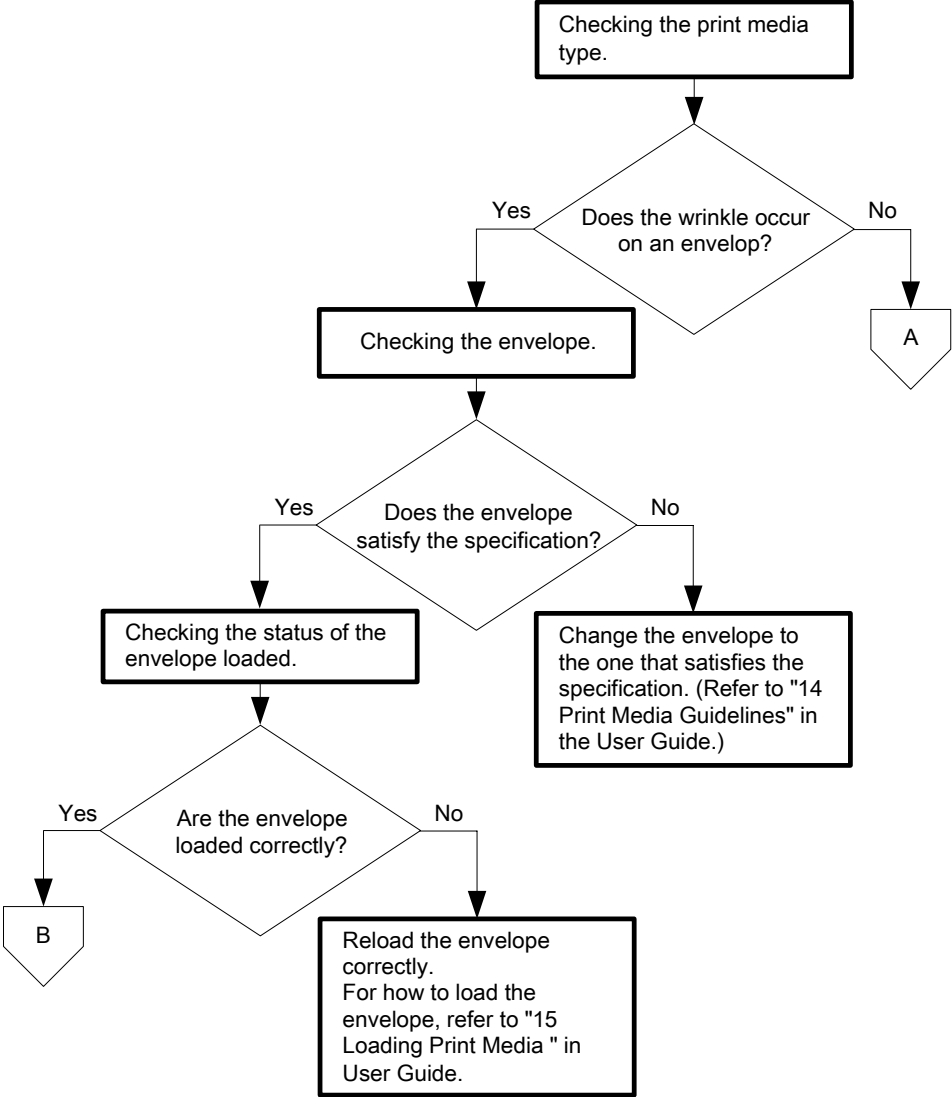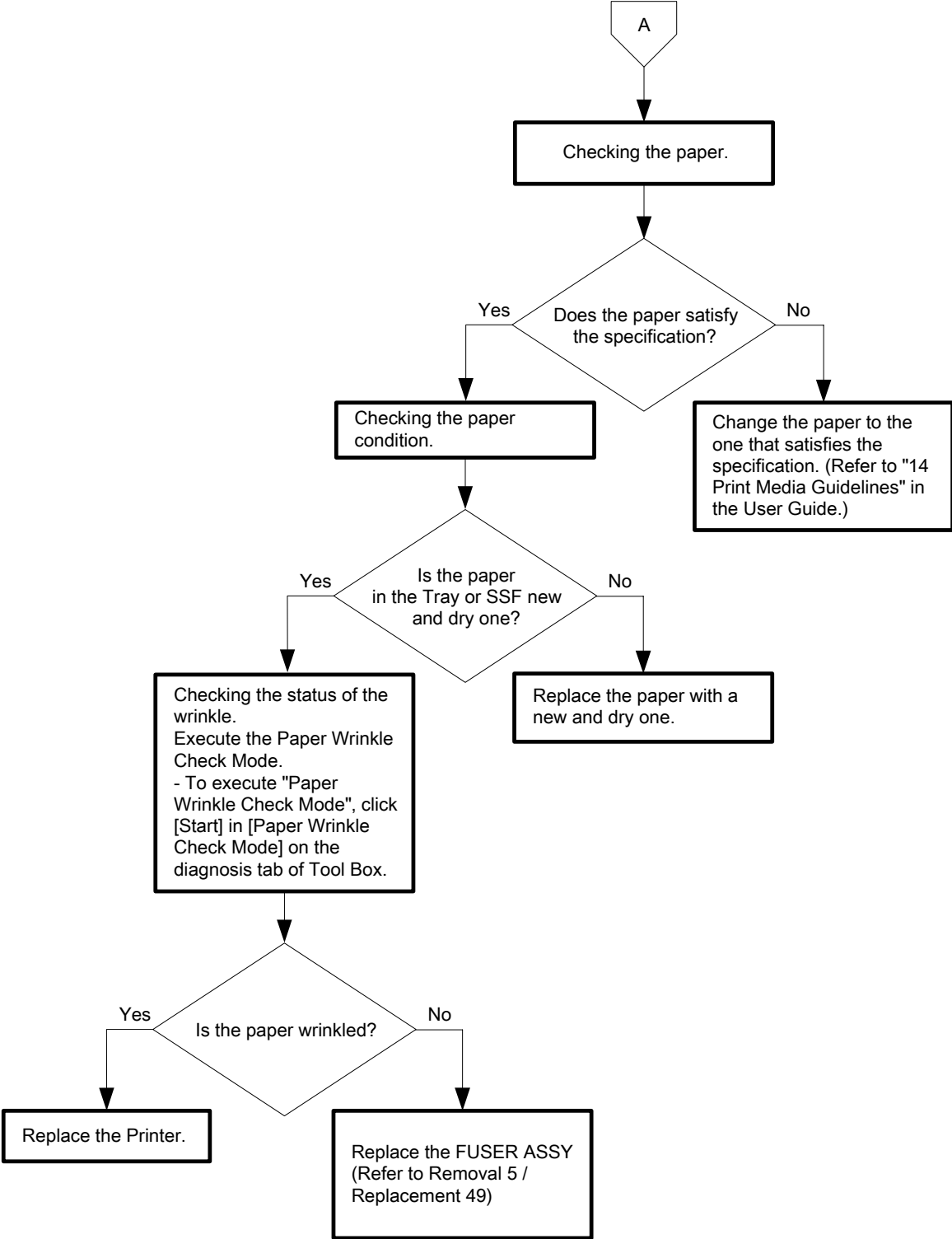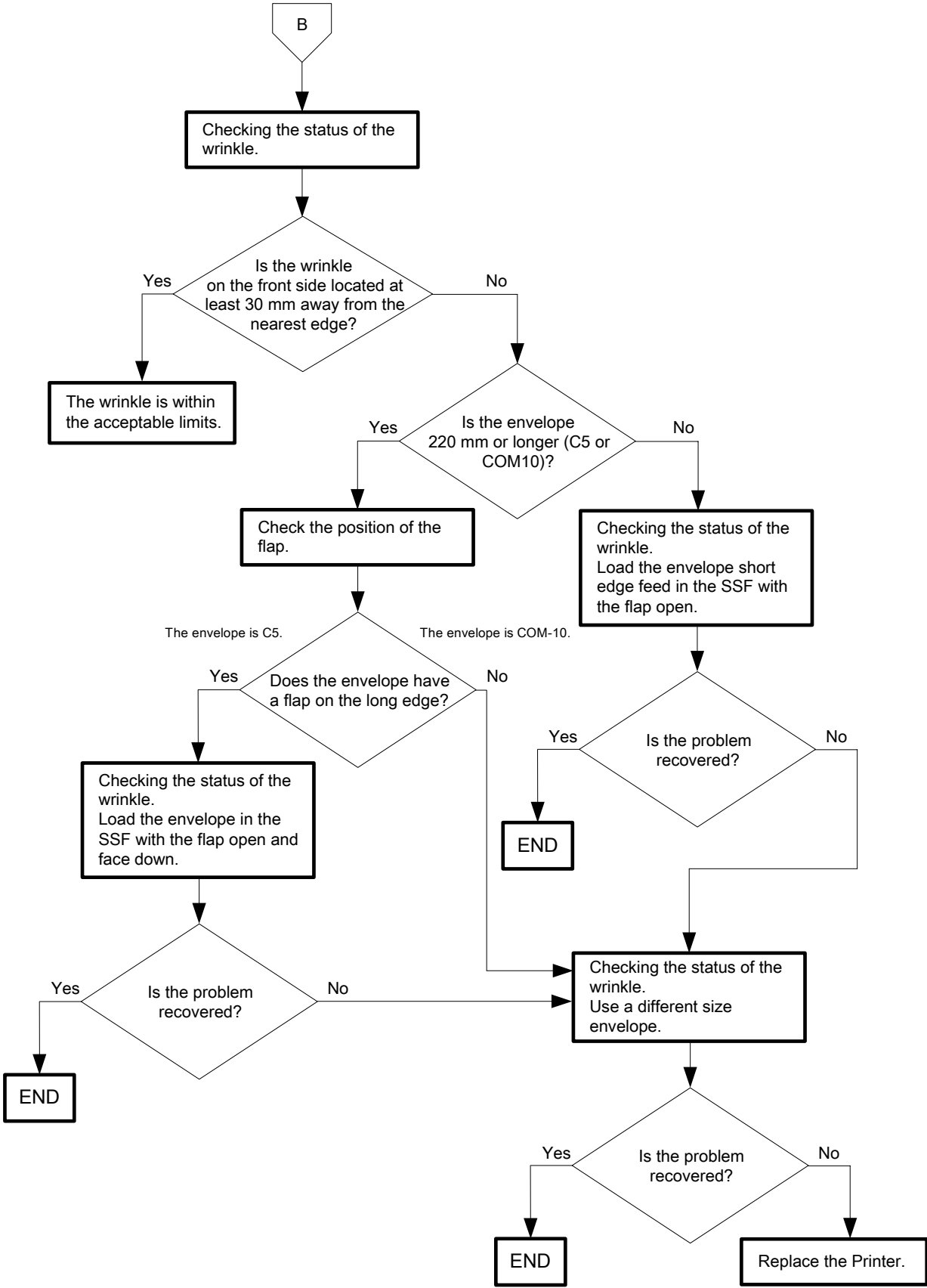| NOTE	**When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

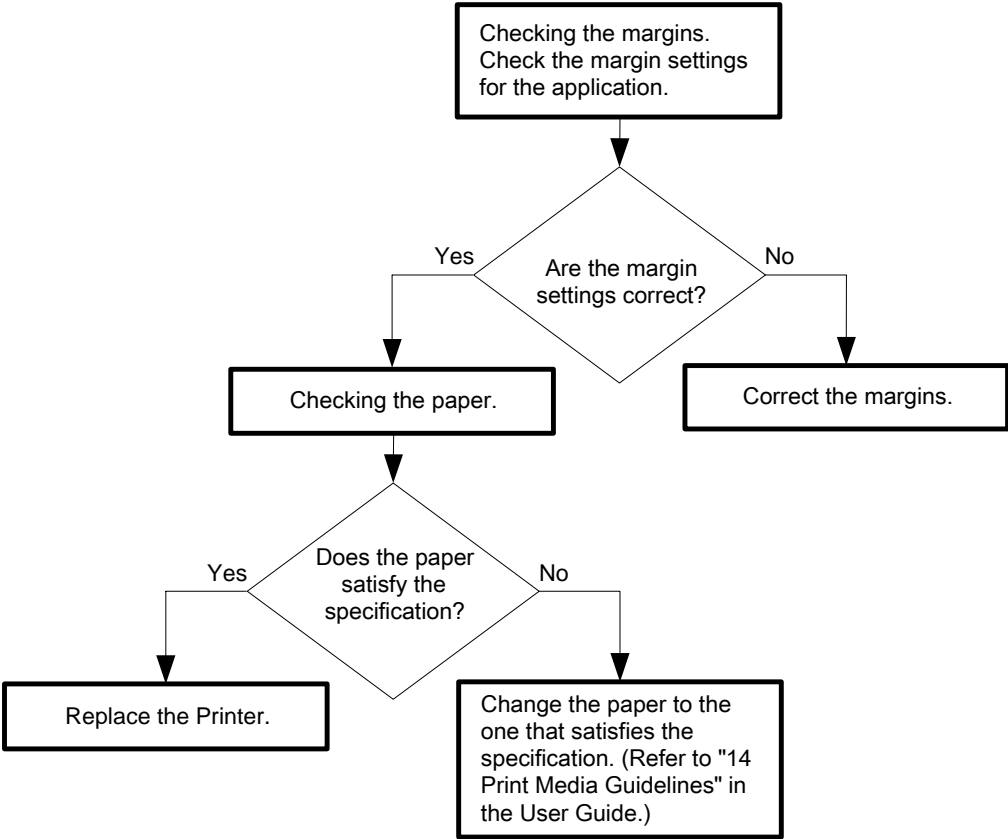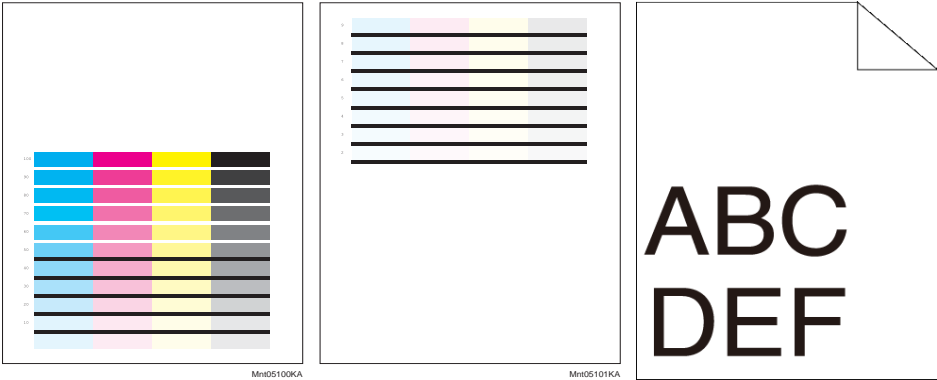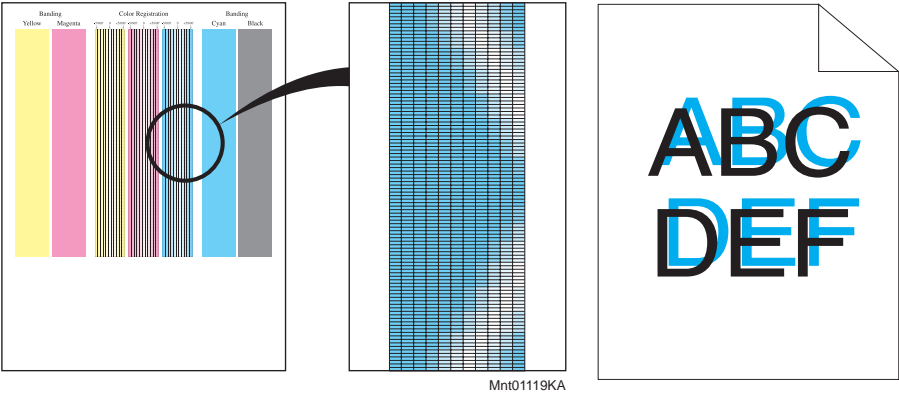| NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

A

Checking after replacing
the FUSER ASSY.
Replace the FUSER ASSY
(Refer to Removal 5/
Replacement 49) and
initialize the life counter of
the Fuser (Refer to the
supplied technical sheet).

Does the error still
occur when printing?

Yes

No

Replace the Printer.

END

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check
the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the
printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 54   077-107 / 077-108: IOT Duplex Misfeed JAM / IOT Duplex JAM (2150cdn only)

Cause: 077-107:In the duplex printing mode, the lead edge does not reach the Regi Sensor when
the sheet changes the direction in the Duplexer after the standby.

077-108:In the duplex printing mode, the lead edge does not reach the SSF No Paper Sen-
sor when the sheet changes the direction in the Duplexer after the standby.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.4 Clearing
Paper Jams From the Duplexer" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
┌─────────────────────────┐
│ Checking for foreign    │
│ materials*1 in the paper│
│ transfer path.          │
│ Remove any foreign      │
│ materials around the    │
│ Duplexer.               │
└─────────────────────────┘
            │
            ▼
    Yes   ◇ Does the error still ◇   No
     ┌─────  occur when printing?  ─────┐
     │                                  │
     ▼                                  ▼
┌─────────────────────────┐         ┌───────┐
│ Checking the Duplexer for│        │  END  │
│ installing.             │         └───────┘
│ Reseat the Duplexer.    │
└─────────────────────────┘
            │
            ▼
    Yes   ◇ Does the error still ◇   No
     ┌─────  occur when printing?  ─────┐
     │                                  │
     ▼                                  ▼
  ┌─────┐                            ┌───────┐
  │  A  │                            │  END  │
  └─────┘                            └───────┘
```

A

Checking after replacing the FEEDER ASSY DUP SFP STD.
Replace the FEEDER ASSY DUP SFP STD. (Refer to Removal 56/ Replacement 57)

Yes ← Does the error still occur when printing? → No

Replace the Printer.
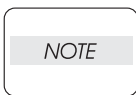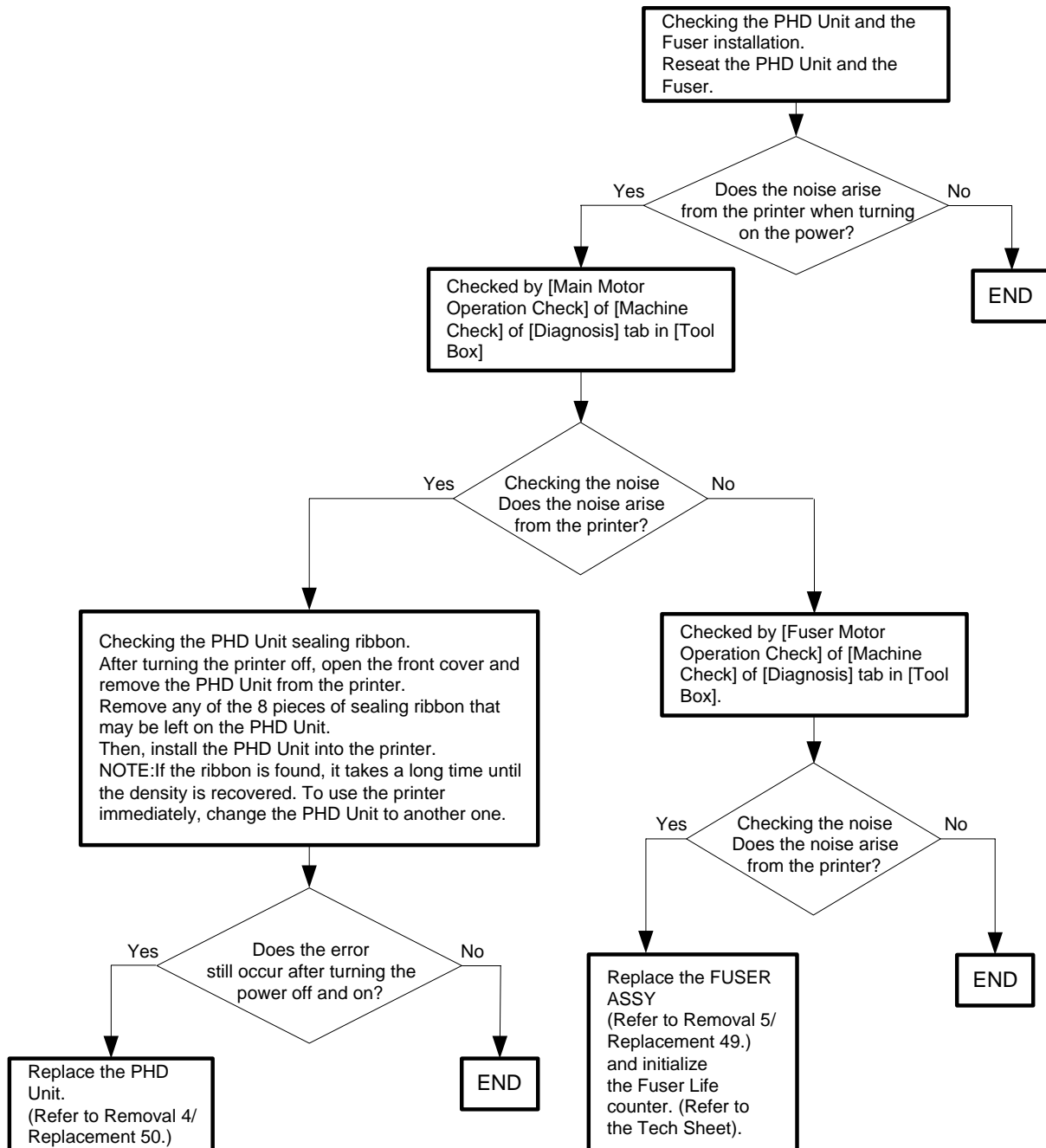
END

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
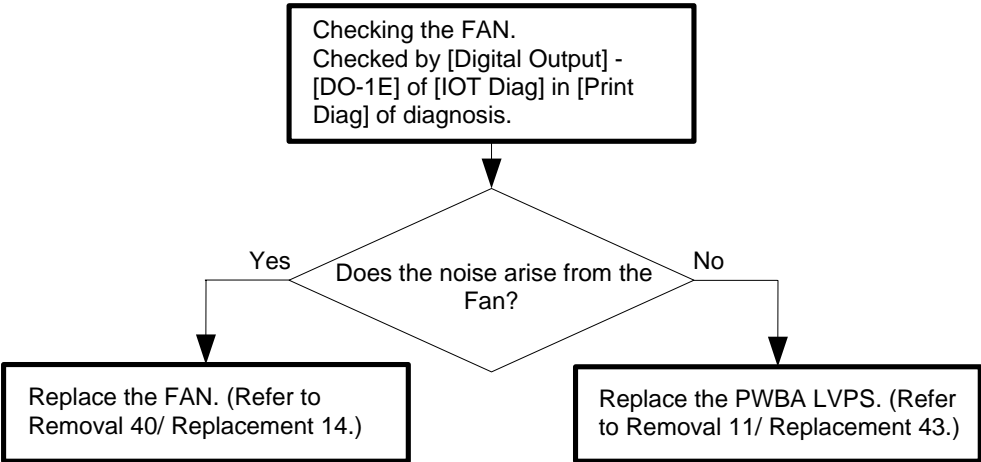Never use any self-adhesive labels that have already been peeled off.
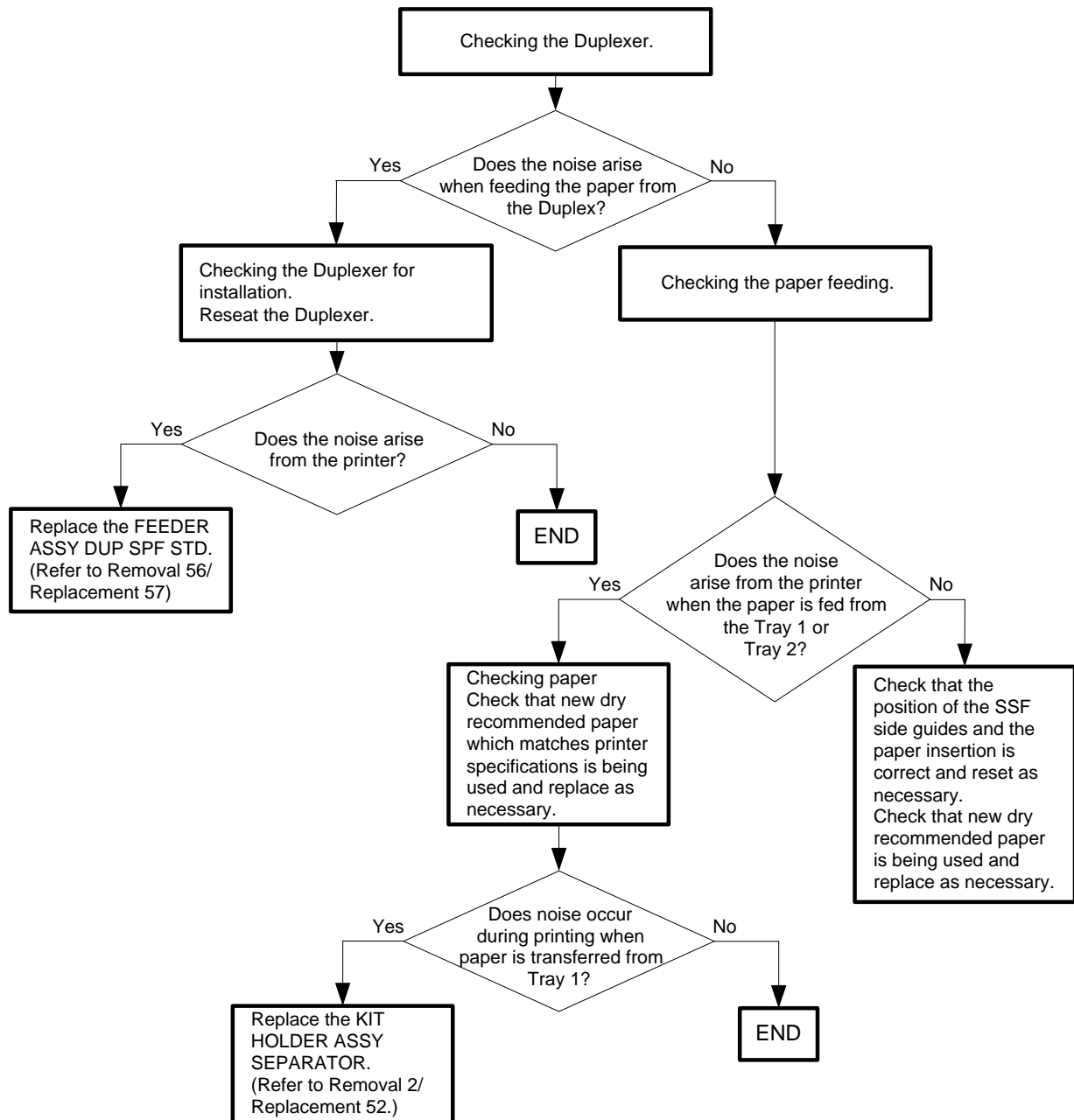
Flows 55   077-300: IOT Cover Front Open

Cause: The Front Cover is open.

Solution: Close the Front cover.

NOTE

If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.

```
                        ┌─────────────────────┐
                        │ Checking the Front  │
                        │ Cover for shape.    │
                        └─────────────────────┘
                                  │
                                  ▼
                            ╱           ╲
                  Yes     ╱  Are there any  ╲     No
              ┌─────────╱   damages on the   ╲─────────┐
              │         ╲  Front Cover?(Refer ╱        │
              │           ╲ to Reference_1)  ╱         │
              ▼             ╲             ╱            ▼
┌──────────────────────┐      ╲        ╱    ┌──────────────────────┐
│ Replace the COVER    │                    │ Checking the Interlock│
│ ASSY FRONT MG. (Refer│                    │ Switch for operation. │
│ to Removal 24/       │                    │ - Panel Operation :   │
│ Replacement 30.)     │                    │ Checked by [Digital   │
└──────────────────────┘                    │ Input]-[DI-7] of [IOT │
                                            │ Diag] in diagnosis.   │
                                            └──────────────────────┘
                                                      │
                                                      ▼
                                                 ╱         ╲
                                       Yes     ╱  Does the   ╲    No
                                   ┌─────────╱  number on the ╲─────────┐
                                   │         ╲ screen increase ╱        │
                                   │           ╲ by one...    ╱         │
                                   ▼             ╲         ╱            ▼
```

Checking after replacing the PWBA LVPS. Replace the PWBA LVPS (Refer to Removal 11/ Replacement 43).

Does the number on the screen increase by one, every time the Front Cover is operated?

Replace the HARN ASSY INTERLOCK. (Refer to Removal 17/Replacement 37)

Does the error still occur when the power is turned off and on?

Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

END

- Reference_1: Section to be checked for damage.

MiS01002KA

Flows 56   077-301: IOT Side Cover Open

Cause: The Toner Access Cover is open.
Solution: Close the Toner Access Cover.

NOTE

If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.

Checking the Toner Cartridge (Y,M,C or K) for installing.
Reseat the Toner Cartridge (Y,M,C or K).

Does the error still occur when the power is turned off and on?

Yes / No

END

Checking the Toner Access Cover for shape.

Are there any damages on the Toner Access Cover? (Refer to Reference_1)

Yes / No

Replace the KIT COVER ASSY WINDOW TNR. (Refer to Removal 8/ Replacement 46.)

Checking the KIT PWBA MCU for installing. Reseat the KIT PWBA MCU.

Does the error still occur when the power is turned off and on?

Yes / No

Replace the KIT PWBA MCU. (Refer to Removal 43/Replacement 11)

END
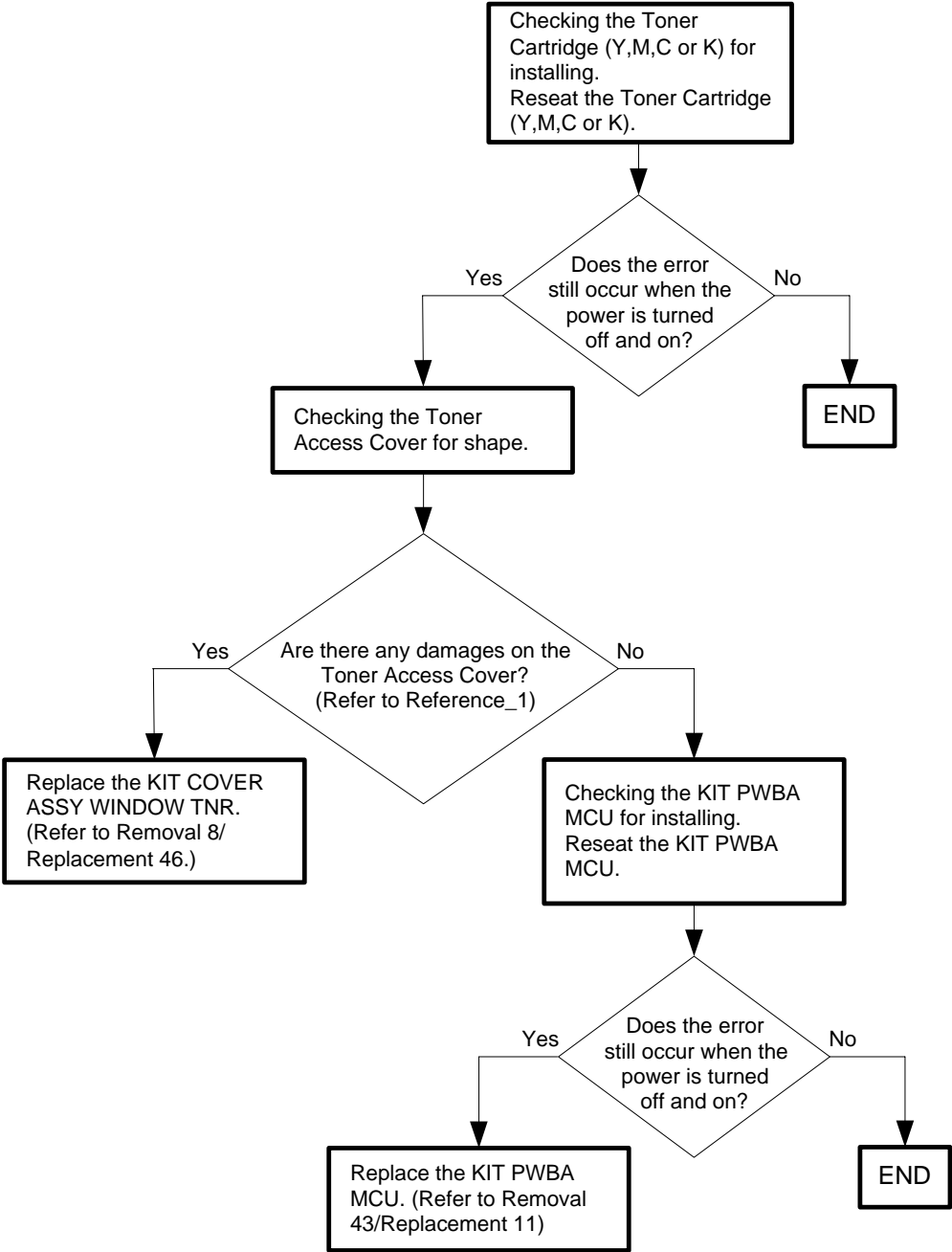
- Reference_1:   Section to be checked for damage.
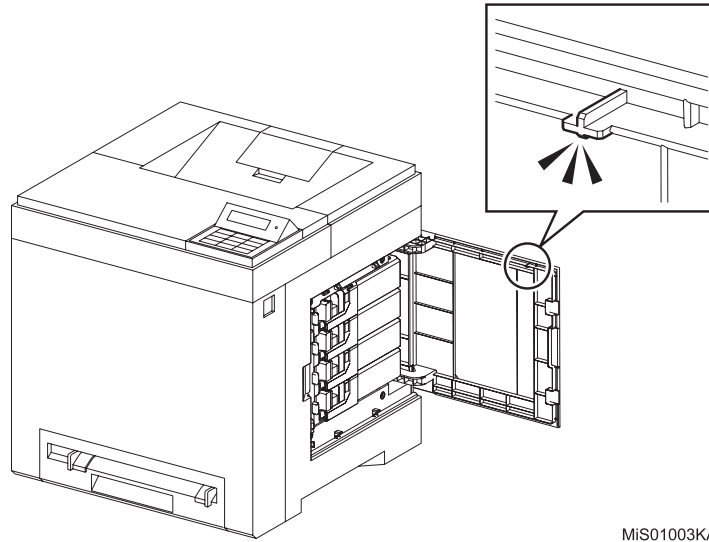
MiS01003KA

Flows 57   077-900: IOT Exit JAM

Cause: The paper remains at the Exit Sensor.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.3 Clearing Paper Jams From the Fuser" for how to remove the jammed paper.

NOTE **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

CAUTION **To avoid burns, do not replace the fuser immediately after printing. The fuser becomes extremely hot during use.**
Turn off the printer and wait for 30 minutes before removing the fuser.

NOTE **When you have replaced the fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

NOTE **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

Checking for foreign materials*1 in the paper transfer path.
Remove any foreign materials in the paper transfer path between the Exit Sensor and the Output Tray.

Does the error still occur when printing?

Yes

No

END

Checking the Fuser for installation.
Reseat the Fuser.

Does the error still occur when printing?

Yes

No

A

END

```
        ┌─────┐
        │  A  │
        └──┬──┘
           │
           ▼
┌──────────────────────────┐
│ Checking after replacing  │
│ the FUSER ASSY.           │
│ Replace the FUSER ASSY    │
│ (Refer to Removal 5/      │
│ Replacement 49) and       │
│ initialize the life counter of │
│ the Fuser (Refer to the   │
│ supplied technical sheet).│
└──────────┬───────────────┘
           │
           ▼
      ╱╲
Yes  ╱    ╲  No
◄───╱ Does the error still ╲───►
    ╲ occur when printing? ╱
     ╲                    ╱
      ╲╱
```

| Replace the Printer. | | END |

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 58   077-901: IOT Remain Registration JAM

Cause: The paper remains at the Regi Sensor.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.1 Clearing Paper Jams From the SSF" for how to remove the jammed paper.

NOTE | **Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

NOTE | **If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
┌─────────────────────────┐
│ Checking for foreign    │
│ materials*1 in the paper│
│ transfer path.          │
│ Remove any foreign      │
│ materials around the Regi│
│ Sensor.                 │
└─────────────────────────┘
             │
             ▼
          ◇ Does the error still ◇
   Yes ◇   occur when printing?   ◇ No
    │     ◇                     ◇    │
    ▼                                ▼
┌──────────────────┐          ┌────────┐
│ Replace the Printer.│        │  END   │
└──────────────────┘          └────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 59   077-907: IOT Remain Duplex JAM (2150cdn only)

Cause: The paper remains at the Duplex area.

Solution: Paper jam has occurred. Remove the jammed paper. Refer to "Appendix_1.4 Clearing Paper Jams From the Duplexer" for how to remove the jammed paper.

NOTE	**Do not load a sheet to the SSF while printing with the Paper Cassette as the media source.Otherwise, a Jam error occurs.**

NOTE	**If there is no jammed paper, or the error still occurs after having removed the jammed paper, turn the power off and on to check that the error recurs. Then, proceed to the troubleshooting following the flowchart given below.**

```
┌─────────────────────────┐
│ Checking for foreign    │
│ materials*1 in the paper│
│ transfer path.          │
│ Remove any foreign      │
│ materials around the SSF│
│ No Paper Sensor.        │
└─────────────────────────┘
            │
            ▼
          ◇ Does the error still ◇
    Yes ◇   occur when printing?  ◇ No
     ┌────◇                      ◇────┐
     ▼     ◇                    ◇     ▼
┌──────────────────┐          ┌──────────┐
│ Replace the Printer. │      │   END    │
└──────────────────┘          └──────────┘
```

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing. Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 60   091-402: IOT PHD Life Pre Warning

Cause: The PHD Unit is approaching the replacement time.

Solution: The PHD Unit is approaching the replacement time. Prepare a new PHD Unit.
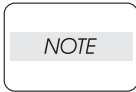
NOTE	**Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the messages "Near Life" is indicated.**
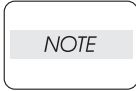
NOTE	**This error code is not related to any hardware fault.**

Flows 61   091-912: PHD Tape Staying

Cause: Detected the ribbons staying on the PHD Unit.

Solution: Completely pull out the eight yellow ribbons from the PHD unit. For how to pull out the ribbons, refer to "25 Maintaining Your Printer" in User Guide.

NOTE	**If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD ASSY to another one.**

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
                    ┌─────────────────────────────┐
                    │ Checking after replacing the PHD │
                    │ ASSY.                        │
                    │ Replace the PHD ASSY (Refer to │
                    │ Removal 4 / Replacement 50). │
                    └─────────────────────────────┘
                                   │
                                   ▼
                              ╱         ╲
                   Yes       ╱ Does the  ╲      No
              ┌─────────────╱ error       ╲─────────────┐
              │            ╱ still occur when╲           │
              │           ╲ the power is     ╱           │
              │            ╲ turned off and ╱            │
              ▼             ╲  on?         ╱             ▼
    ┌────────────────────┐   ╲         ╱        ┌─────────────┐
    │ Replace the Printer.│    ╲     ╱          │     END     │
    └────────────────────┘                      └─────────────┘
```
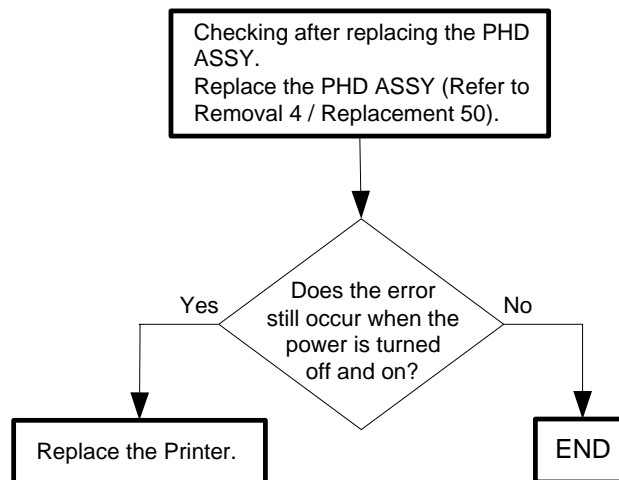
Flows 62   091-935: IOT PHD Life Over

Cause: The PHD Unit has reached the replacement time.

Solution: The PHD Unit has reached the end of its life. Replace the PHD Unit with a new one.

NOTE	**Refer to "Appendix_2.3 Replacing the Print Head Device (PHD) Unit" for the timing when the message "Life Over" is indicated.**

NOTE	**This error code is not related to any hardware fault.**

Flows 63   091-972: IOT PHD Detached

Cause: The PHD Unit is not installed in the printer.

Solution: The PHD Unit is not installed in the printer. Install the PHD Unit in the printer.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
          ┌─────────────────────────┐
          │ Checking the PHD Unit for│
          │ installing.              │
          │ Reseat the PHD Unit.     │
          └─────────────────────────┘
                      │
                      ▼
                 ╱─────────╲
         Yes    ╱ Does the  ╲    No
      ┌────────╱ error still  ╲────────┐
      │        ╲ occur when the╱        │
      │         ╲ power is     ╱         │
      │          ╲turned off   ╱          │
      │           ╲and on?   ╱           │
      ▼            ╲────────╱            ▼
┌──────────────────┐                ┌────────┐
│ Checking after   │                │  END   │
│ replacing        │                └────────┘
│ the PHD ASSY.    │
│ Replace the PHD  │
│ ASSY.            │
│ (Refer to Removal 4/│
│ Replacement 50)  │
└──────────────────┘
         │
         ▼
    ╱─────────╲
 Yes ╱ Does the ╲  No
┌───╱ error still ╲────┐
│   ╲ occur when the╱   │
│    ╲ power is     ╱    │
│     ╲turned off  ╱     │
│      ╲and on?  ╱      │
▼       ╲──────╱       ▼
┌────────────────┐  ┌────────┐
│ Replace the KIT│  │  END   │
│ PWBA MCU.      │  └────────┘
│ (Refer to Removal│
│ 43/Replacement 11)│
└────────────────┘
```
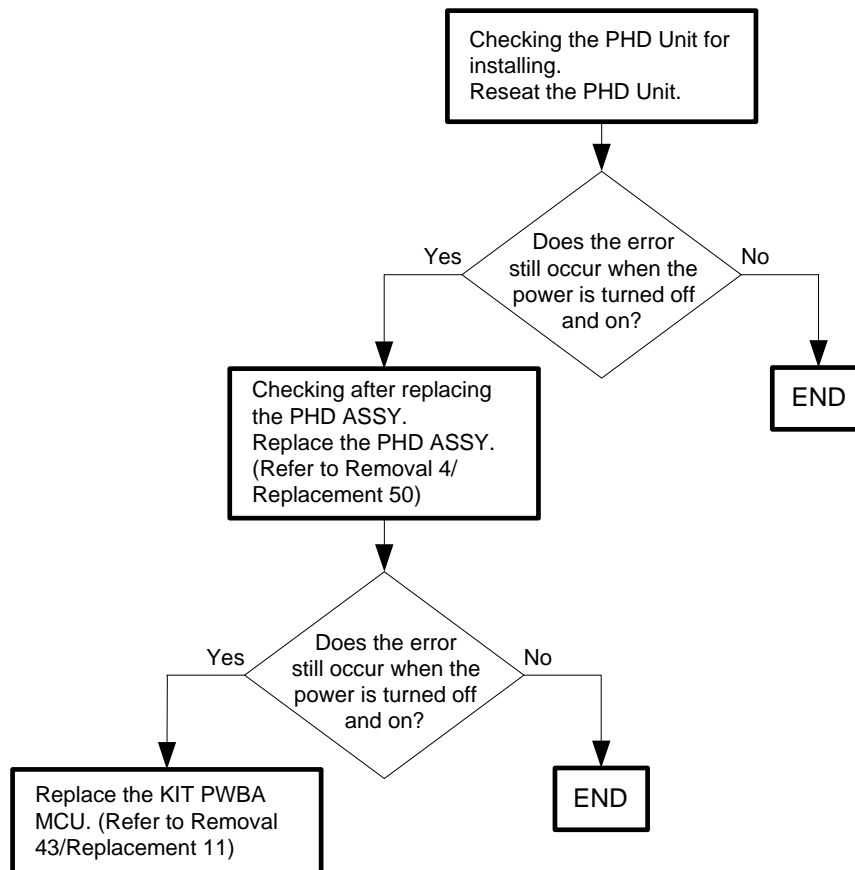
Flows 64   092-310 / 092-910: IOT CTD (ADC) Sensor Dustiness / IOT CTD (ADC) Sensor
Dustiness Warning

Cause: 092-310:The CTD (ADC) Sensor has reached the Cleaning time.
092-910:The CTD (ADC) Sensor is approaching the Cleaning time.

Solution: The CTD (ADC) sensor has reached the cleaning time. Clean up the CTD (ADC) sensor.
Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD
(ADC) Sensor.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
┌─────────────────────────────┐
│ Checking after replacing the KIT
│ TRANSFER ASSY.
│ Replace the KIT TRANSFER
│ ASSY. (Refer to Removal 20/
│ Replacement 34).
└─────────────────────────────┘
              │
              ▼
         Does the error
Yes     still occur when the     No
        power is turned
        off and on?
   │                              │
   ▼                              ▼
┌──────────────────┐        ┌─────────┐
│ Replace the Printer. │     │  END   │
└──────────────────┘        └─────────┘
```
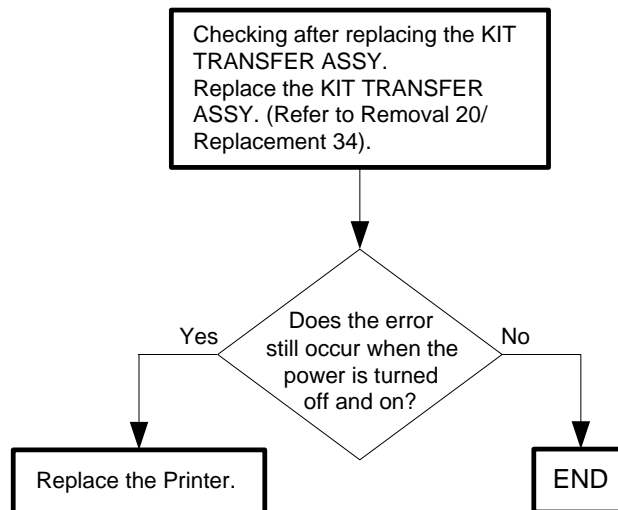
Flows 65   093-423 / 093-424 / 093-425 / 093-426: IOT Toner Cartridge Near Life

Cause: 093-423:The Toner Cartridge (Y) is approaching the replacement time.

093-424:The Toner Cartridge (M) is approaching the replacement time.

093-425:The Toner Cartridge (C) is approaching the replacement time.

093-426:The Toner Cartridge (K) is approaching the replacement time.

Solution: The Toner Cartridge (YMCK) is approaching the replacement time. Prepare a new Toner Cartridge of the relevant one.

NOTE	**Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the message "Near Life" is indicated.**

NOTE	**This error code is not related to any hardware fault.**

Flows 66   093-919 / 093-920 / 093-921 / 093-922: IOT YMCK Toner Low Density

Cause: 093-919:Detects low density of yellow.

093-920:Detects low density of magenta.

093-921:Detects low density of cyan.

093-922:Detects low density of black.

Solution: The toner may be compacted in the Y, M, C, or K cartridge. Remove the toner relevant cartridge and shake it to free any compacted toner. If the problem persists, clean the CTD (ADC) Sensor.For details on the CTD (ADC) Sensor, refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor".

NOTE

If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.

Checking the PHD Unit sealing tape (ribbon).
After turning the printer off, open the front cover and remove the PHD Unit from the printer. Remove any of the 8 pieces of sealing tape that may be left on the PHD Unit. Then, install the PHD Unit into the printer.
NOTE:If the tape is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD Unit to another one.

Does the error still occur when the power is turned off and on?

Yes

No

END

Checking the Toner Motor (YMCK) for operation.
- PC Operation :
Checked by the [Dispense Motor Check (YMCK)] of the [Machine Check] of [Diagnosis] tab in the [Tool Box].
- Panel Operation :
Checked by [Digital Output]-[DO-21(Y),DO-23(M),DO-25(C),DO-27(K)] of [IOT Diag] in [Printer Diag] of diagnosis.

Does the Toner Motor (YMCK) function normally?

Yes

No

A

END

A

Checking after replacing the TONER CARTRIDGE (Y, M, C or K).
Replace the TONER CARTRIDGE (Y, M, C or K) (Refer to Removal 6/Replacement 48).

Does the error still occur when the power is turned off and on?

Yes

No

END

Checking after replacing the PHD ASSY.
Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50)

Does the error still occur when the power is turned off and on?

Yes

No

END

Checking after replacing the KIT TRANSFER ASSY.
Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34).

Does the error still occur when the power is turned off and on?

Yes

No

Replace the Printer.

END

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Flows 67   093-930 / 093-931 / 093-932 / 093-933: IOT Toner Cartridge Life Over

Cause: 093-930:The Toner Cartridge (Y) has reached the replacement time.
            093-931:The Toner Cartridge (M) has reached the replacement time.
            093-932:The Toner Cartridge (C) has reached the replacement time.
            093-933:The Toner Cartridge (K) has reached the replacement time.

Solution: The Toner Cartridge (Y,M,C or K) has reached the end of its life. Replace the Toner Car-
            tridge (Y,M,C or K) with a new one. Refer to "Appendix_2.2 Replacing the Toner Car-
            tridges" for how to replace the Toner Cartridge.

NOTE	**Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the message "Life Over" is indicated.**

NOTE	**This error code is not related to any hardware fault.**

Flows 68   093-934 / 093-935 / 093-936 / 093-937: IOT CRU Waste (YMCK) Full

Cause: 093-934:Waste Toner (Y) Counter value has reached replacement time.
093-935:Waste Toner (M) Counter value has reached replacement time.
093-936:Waste Toner (C) Counter value has reached replacement time.
093-937:Waste Toner (K) Counter value has reached replacement time.

Solution: The Waste Toner Box in Toner Cartridge (Y, M, C or K) is full. Replace the Toner Cartridge (Y, M, C or K) with a new one. Refer to "Appendix_2.2 Replacing the Toner Cartridges" for how to replace the Toner Cartridge.

NOTE

Refer to "Appendix_2.1 Consumables and Periodic Replacement Parts Life" for the timing when the message "Life Over" is indicated.

NOTE

This error code is not related to any hardware fault.

Flows 69   093-960 / 093-961 / 093-962 / 093-963: IOT (YMCK) CRUM ID Error

Cause: 093-960:An unsupported Toner Cartridge (Y) is detected.
093-961:An unsupported Toner Cartridge (M) is detected.
093-962:An unsupported Toner Cartridge (C) is detected.
093-963:An unsupported Toner Cartridge (K) is detected.

Solution: The Dell-genuine Toner Cartridge (Y, M, C or K) for the 2150cn/cdn is not installed. Install the Dell-genuine Toner Cartridge (Y, M, C or K).

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

Checking the TONER CARTRIDGE.
Note: The PPID No. of the TONER CARTRIDGE for 2150 cn/cdn is as follows:
- TONER CARTRIDGE (Y) PPID No. :012T59 or 0NT6X2 or 0NPDXG
- TONER CARTRIDGE (M) PPID No. :0TG7JW or 09M2WC or 08WNV5
- TONER CARTRIDGE (C) PPID No. :0YN4CM or 0WHPFG or 0769T5
- TONER CARTRIDGE (K) PPID No. :029M6P or 02FV35 or 0N51XP
Refer to Reference_1 for the location to check the PPID number.

Is the TONER CARTRIDGES installed to the printer the DELL toner?

Yes — Checking the TONER CARTRIDGE (Y, M, C or K) for installing.
Reseat the TONER CARTRIDGE (Y, M, C or K).

No — Set the Non-DELL Toner mode through the Dell Printer Configuration Web Tool.
Refer to [Non-Dell Toner] in "18 Understanding the Tool Box Menus" in the User Guide.

Does the error still occur when the power is turned off and on?

Yes — A

No — END

```
        ┌───┐
        │ A │
        └─┬─┘
          ▼
┌──────────────────────────┐
│ Checking after replacing │
│ the TONER CARTRIDGE      │
│ (Y , M , C or K) .       │
│ Replace the TONER        │
│ CARTRIDGE (Y , M , C or  │
│ K) .                     │
└────────────┬─────────────┘
             ▼
          ◇ Does the error
   Yes    still occur when the    No
◄─────────  power is turned     ─────────►
          off and on?
   │                                  │
   ▼                                  ▼
┌──────────────────┐          ┌──────────┐
│ Replace the Printer. │      │   END    │
└──────────────────┘          └──────────┘
```

- Reference_1:   Position of PPID label.

PPID label

XX–012T59–XXXXX–XXX–XXXX

PPID No.

MiS01001KA

1 - 127

Flows 70   093-965: IOT PHD CRUM ID Error

Cause: An unsupported PHD Unit is detected.

Solution: The Dell-genuine PHD Unit for the 2150cn/cdn is not installed. Install the Dell-genuine PHD Unit.

NOTE   **If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

Checking the PHD Unit type.
Note: The PPID No. of the PHD Unit for 2150 cdn/cn is as follows:
- PPID No.: 07N7M1 or 0KGR81
Refer to Reference_1 for the location to check the PPID number.

Is the PHD Unit for 2150 cdn/cn installed?

Yes → Checking the PHD Unit for installation. Reseat the PHD Unit.

No → Install the PHD Unit for 2150 cdn/cn.

Does the error still occur when the power is turned off and on?

No → END

Yes → Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50)

Does the error still occur when the power is turned off and on?

Yes → Replace the Printer.

No → END

- Reference_1:   Position of PPID label.

XX-<u>07N7M1</u>-XXXXX-XXX-XXXX

PPID No.

PPID label

MiS01004KA

Flows 71   093-970 / 093-971 / 093-972 / 093-973: IOT Toner Cartridge Detached

Cause: 093-970:The Toner Cartridge (Y) is not installed in the printer.
093-971:The Toner Cartridge (M) is not installed in the printer.
093-972:The Toner Cartridge (C) is not installed in the printer.
093-973:The Toner Cartridge (K) is not installed in the printer.

Solution: Install the Toner Cartridge (Y,M,C or K) properly.

NOTE	**If the error persists after the action above is taken, ensure that the error replicates after the printer is powered off and then on, and then go to the following steps to continue further fault isolation.**

```
           ┌─────────────────────────┐
           │ Checking after replacing │
           │ the TONER CARTRIDGE      │
           │ (Y,M,C or K) .           │
           │ Replace the TONER        │
           │ CARTRIDGE (Y,M,C or K).  │
           └─────────────────────────┘
                        │
                        ▼
                    ◇ Does the error
         Yes       still occur when the       No
        ◄──────    power is turned      ──────►
        │           off and on?                │
        ▼                                       ▼
  ┌──────────────────┐                    ┌─────────┐
  │ Checking the KIT │                    │   END   │
  │ PWBA MCU for     │                    └─────────┘
  │ installing.      │
  │ Reseat the KIT   │
  │ PWBA MCU.        │
  └──────────────────┘
           │
           ▼
       ◇ Does the error
 Yes  still occur when the       No
◄──── power is turned      ──────►
│      off and on?                │
▼                                 ▼
┌──────────────────────┐     ┌─────────┐
│ Replace the KIT PWBA │     │   END   │
│ MCU. (Refer to Removal│    └─────────┘
│ 43/Replacement 11)   │
└──────────────────────┘
```
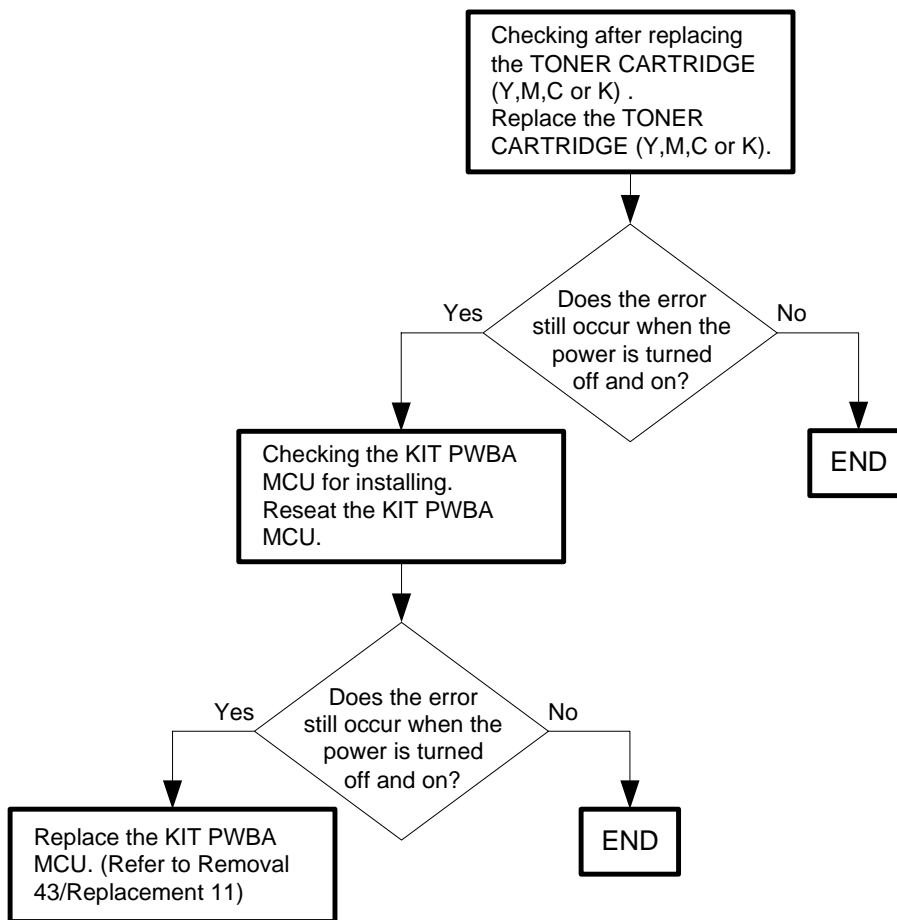
Flows 72   094-422: IOT Belt Unit Near Life

Cause: The Belt Unit has reached the replacement time.

Solution: The Belt Unit is approaching the replacement time. Prepare a new Belt Unit.
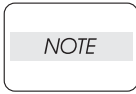
NOTE	**This error code is not related to any hardware fault.**

Flows 73   094-911: IOT Belt Unit Life Over

Cause: The Belt Unit has reached the replacement time.

Solution: The Belt Unit has reached the end of its life. Replace the Belt Unit with a new one.
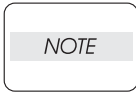
NOTE	**This error code is not related to any hardware fault.**

Flows 74   193-700: Custom Toner Mode

Cause: The printer is in custom toner mode.

Solution: The printer has been set to use the toner cartridge made by other manufacturer than DELL
(Non DELL Toner Mode). When the DELL-specified toner cartridge is used, set the Non
DELL Toner Mode in "Off." Refer to [Non-Dell Toner] in "13. Dell Printer Configuration Web
Tool" in the User Guide for how to set the Non DELL Toner Mode.

> NOTE
>
> **When the toner cartridge made by other manufacturer than DELL is used, the
> warranty may not apply to your printer even if it is severely damaged.**

> NOTE
>
> **If the error still occurs when the DELL-specified toner cartridge is installed and the
> Non DELL Toner Mode is set in "Off," turn the power off and on to check that the
> error recurs. Then, proceed to troubleshooting following the flowchart given below.**

```
                    ┌─────────────────────┐
                    │ Checking the error. │
                    └─────────────────────┘
                               │
                               ▼
                          ◇─────────◇
                         / Does the error \
                Yes     /  still occur when \    No
           ┌──────────< the power is turned >──────────┐
           │           \  off and on?      /           │
           │            \                 /            │
           ▼             ◇─────────────◇               ▼
  ┌──────────────────┐                          ┌──────────┐
  │ Replace the      │                          │   END    │
  │ Printer.         │                          └──────────┘
  └──────────────────┘
```

Flows 75   The output is too light

Faint

Mnt01100KA   Mnt01101KA

| NOTE | **When the PHD Unit has been replaced, be sure to clean up the CTD (ADC) Sensor. Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD (ADC) Sensor.** |

Changing the printer driver setting.
1. Reset Image Settings (Brightness/Contrast) to defaults.
- Click [Restore Defaults] in [Image Settings] on the [Graphics] tab.
2. Disable Toner Saving Mode.
- Deselect the [Toner Saving Mode] check box on the [Advanced] tab.

Yes ← Is the image printed correctly? → No

END

A

A

Checking the TONER
CARTRIDGE (Y,M,C or K).

Is the toner cartridges
installed to the printer
the DELL toner?

Yes

No

Set the Non-Dell toner
option to [Off].
(Refer to [Non-Dell Toner]
in "18 Understanding the
Tool Box Menus".)

Is the image printed
correctly?

Yes

No

END

Checking the paper.

Is the installed
paper with a new and dry
one? or does the paper
satisfy the specification?

Yes

No

B

Replace the paper
with a new and dry
one. or Change the
paper to the one that
satisfies the
specification. (Refer
to "14 Print Media
Guidelines" in the
User Guide.)

1 - 135

B

Checking after changing the paper type of the Printer driver.
For example, change the plain paper to thick.
- On the [Paper/Output] tab of the printer driver, change [Paper Type].

Yes ← Is the image printed correctly? → No

END

Checking the TONER CARTRIDGE (Y, M, C or K) for installation.
Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K).

Yes ← Is the image printed correctly? → No

END

C

C

Checking the PHD Unit sealing ribbon.
After turning the printer off, open the front cover and remove the PHD Unit from the printer.
Remove any of the 8 pieces of sealing ribbon that may be left on the PHD Unit.
Then, install the PHD Unit into the printer.
If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD Unit to another one.

Yes ← Is the image printed correctly? → No

END

Checking Dispense Motor (Y, M, C or K) for operation.
Operate the Dispense Motor (Y, M, C or K) for the color in which the problem lies.
- To check the operation of the Dispense Motor (Y, M, C or K), click [Dispense Motor (Y, M, C or K)] in [Machine Check] on the diagnosis tab of Tool Box.

Yes ← Is the image printed correctly? → No

END

D

1 - 137

```
                          ┌──────┐
                          │  D    │
                          └───┬──┘
                              │
                              ▼
              ┌───────────────────────────────┐
              │ Checking after replacing       │
              │ the PHD ASSY.                   │
              │ Replace the PHD ASSY            │
              │ (Refer to Removal 4 /           │
              │ Replacement 50)                 │
              └───────────────┬───────────────┘
                              │
                              ▼
        Yes              ◇ Is the image printed ◇         No
      ┌─────────────────   correctly?   ─────────────────┐
      │                  ◇               ◇                │
      ▼                                                   ▼
  ┌────────┐                          ┌───────────────────────────────┐
  │  END    │                          │ Checking after replacing       │
  └────────┘                          │ the KIT TRANSFER ASSY.          │
                                       │ Replace the KIT                 │
                                       │ TRANSFER ASSY.                  │
                                       │ (Refer to Removal 20/           │
                                       │ Replacement 34).                │
                                       └───────────────┬───────────────┘
                                                       │
                                                       ▼
                          Yes        ◇ Is the image printed ◇      No
                        ┌───────────   correctly?   ───────────┐
                        │            ◇               ◇          │
                        ▼                                       ▼
                    ┌────────┐                        ┌──────────────────┐
                    │  END    │                        │ Replace the Printer. │
                    └────────┘                        └──────────────────┘
```

1 - 138

Flows 76   The entire output is blank

| NOTE | **When the PHD Unit has been replaced, be sure to clean up the CTD (ADC) Sensor. Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD (ADC) Sensor.** |

Check the printed result.

Are you sure you are not attempting to print a blank page?

Yes → END

No → Checking the TONER CARTRIDGE (Y,M,C or K).

Is the toner cartridges installed to the printer the DELL toner?

Yes

No → Set the Non-Dell toner option to [Off]. (Refer to [Non-Dell Toner] in "18 Understanding the Tool Box Menus".)

Is the image printed correctly?

Yes → END

No

A

A

Checking the paper.

Is the installed paper with a new and dry one? or does the paper satisfy the specification?

Yes

No

Checking after changing the paper type of the Printer driver.
For example, change the plain paper to thick.
- On the [Paper/Output] tab of the printer driver, change [Paper Type].

Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Yes   Is the image printed correctly?   No

END

Checking the TONER CARTRIDGE (Y, M, C or K) for installation.
Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K).

Yes   Is the image printed correctly?   No

END

B

B

Checking the PHD Unit sealing ribbon.
After turning the printer off, open the front cover and remove the PHD Unit from the printer.
Remove any of the 8 pieces of sealing ribbon that may be left on the PHD Unit.
Then, install the PHD Unit into the printer.
If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD Unit to another one.

Is the image printed correctly?

Yes

No

END

Checking Dispense Motor (Y, M, C or K) for operation.
Operate the Dispense Motor (Y, M, C or K) for the color in which the problem lies.
- To check the operation of the Dispense Motor (Y, M, C or K), click [Dispense Motor (Y, M, C or K)] in [Machine Check] on the diagnosis tab of Tool Box.

Is the image printed correctly?

Yes

No

END

C

C

Checking after replacing the PHD ASSY.
Replace the PHD ASSY
(Refer to Removal 4 /
Replacement 50)

Is the image printed correctly?

Yes

No

END

Checking after replacing the KIT TRANSFER ASSY.
Replace the KIT
TRANSFER ASSY.
(Refer to Removal 20/
Replacement 34).

Is the image printed correctly?

Yes

No

END

Replace the Printer.

Flows 77 Part or the entire output is black

> **NOTE**
>
> **When the PHD Unit has been replaced, be sure to clean up the CTD (ADC) Sensor. Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD (ADC) Sensor.**

```
        ┌─────────────────────────┐
        │ Checking the printer driver │
        │ setting.                 │
        └─────────────────────────┘
                     │
                     ▼
              ◇ Is the
    Yes  ◇ [Output Color] option ◇  No
    ◇ under the [Graphics]
    ◇ tab set to "Color
    ◇ (Auto)"? ◇
```

Is the [Output Color] option under the [Graphics] tab set to "Color (Auto)"?

Yes → Checking after replacing the PHD ASSY.
Replace the PHD ASSY (Refer to Removal 4 / Replacement 50)

No → Set the option to "Color (Auto)"

Is the image printed correctly?

Yes → END

No → Checking after replacing the KIT TRANSFER ASSY.
Replace the KIT TRANSFER ASSY.
(Refer to Removal 20/ Replacement 34).

Is the image printed correctly?

Yes → END

No → Replace the Printer.

Flows 78 Toner smears

NOTE	**When you have replaced the Fuser, initialize the life counter of the Fuser.For details, refer to the supplied technical sheet.**

Checking the printer environment.
Check that the printer is in a room where air conditioner is operating. If the air conditioner is not operating, turn it on or move the printer to a room with an air conditioner.

Are printouts still toner smears after turning on the air conditioner?

Yes

No

Checking the paper.

END

Is the installed paper with a new and dry one? or does the paper satisfy the specification?

Yes

No

A

Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

A

Checking after changing
the paper type of the
Printer driver.
For example, change the
plain paper to thick.
- On the [Paper/Output] tab
of the printer driver,
change [Paper Type].

Is the image printed
correctly?

Yes

No

END

Checking after replacing
the PHD ASSY.
Replace the PHD ASSY
(Refer to Removal 4 /
Replacement 50)

Is the image printed
correctly?

Yes

No

END

Checking after replacing
the FUSER ASSY.
Replace the FUSER ASSY
(Refer to Removal 5/
Replacement 49) and
initialize the life counter of
the Fuser (Refer to the
supplied technical sheet).

Is the image printed
correctly?

Yes

No

END

Replace the Printer.

Flows 79   Random spots

Checking after cleaning inside the Printer.
Cleaning Inside the Printer.
- For details on how to clean the Printer, refer to "3.1 Cleaning Inside the Printer" in Appendix.

Is the image printed correctly?

Yes → END

No →

Clean up the Fuser.
1.Load one sheet of paper on the SSF, and then print a solid image all over paper.
2.Load the printed sheet with the side to be printed on facing down, and then print a blank sheet of paper.

Is the image printed correctly?

Yes → END

No → A

```
        ┌──────┐
        │  A   │
        └──┬───┘
           │
           ▼
┌──────────────────────────┐
│ Checking the TONER       │
│ CARTRIDGE (Y, M, C or    │
│ K) for installation.     │
│ Shake and reseat the     │
│ suspected TONER          │
│ CARTRIDGE (Y, M, C, or   │
│ K).                      │
└──────────┬───────────────┘
           │
           ▼
     Yes ◇─────────◇ No
   ┌───  Is the image printed  ───┐
   │        correctly?            │
   ▼                              ▼
┌──────┐            ┌──────────────────────────┐
│ END  │            │ Checking after replacing │
└──────┘            │ the PHD ASSY.            │
                    │ Replace the PHD ASSY     │
                    │ (Refer to Removal 4 /    │
                    │ Replacement 50)          │
                    └──────────┬───────────────┘
                               │
                               ▼
                         Yes ◇─────────◇ No
                       ┌── Is the image printed ──┐
                       │      correctly?          │
                       ▼                          ▼
                    ┌──────┐          ┌────────────────────┐
                    │ END  │          │ Replace the Printer.│
                    └──────┘          └────────────────────┘
```

Flows 80   Streaks appear on the output

Checking after cleaning inside the Printer.
Cleaning Inside the Printer.
- For details on how to clean the Printer, refer to "3.1 Cleaning Inside the Printer" in Appendix.

Is the image printed correctly?

Yes → END

No →

Clean up the Fuser.
1.Load one sheet of paper on the SSF, and then print a solid image all over paper.
2.Load the printed sheet with the side to be printed on facing down, and then print a blank sheet of paper.

Is the image printed correctly?

Yes → END

No → A

A

Checking the TONER CARTRIDGE (Y, M, C or K) for installation.
Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K).

Is the image printed correctly?

Yes

No

END

Checking after replacing the PHD ASSY.
Replace the PHD ASSY (Refer to Removal 4 / Replacement 50)

Is the image printed correctly?

Yes

No

END

Replace the Printer.

Flows 81   Pitched color dots

| NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser. For details, refer to the supplied technical sheet.** |

Checking after cleaning inside the Printer.
Cleaning Inside the Printer.
- For details on how to clean the Printer, refer to "3.1 Cleaning Inside the Printer" in Appendix.

Is the image printed correctly?

Yes → END

No →

Clean up the Fuser.
1.Load one sheet of paper on the SSF, and then print a solid image all over paper.
2.Load the printed sheet with the side to be printed on facing down, and then print a blank sheet of paper.

Is the image printed correctly?

Yes → END

No → A

A

Checking the TONER CARTRIDGE (Y, M, C or K) for installation.
Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K).

Is the image printed correctly?

Yes → END

No →

Measure the blank, spot, or Line pitch.
Print the Contamination Check to measure the pitch of the blank, spot or Line banding.
- To print "Pitch Configuration Chart", click [Pitch Configuration Chart] in [Chart Print] on the diagnosis tab of Tool Box.

Does the pattern on the output match with that on the Pitch Configuration Chart (Reference_1)?

Yes → Replace the corresponding parts.

No → Replace the Printer.

- Reference_1: Pitch Configuration Chart

a Scale for White spots / Color dots
b Scale for banding

Start

a-1 (PHD)
a-2 (PHD)
a-3(FUSER)
a-4 (PHD)

b-1 (PHD)
b-2 (PHD & FUSER)
b-3 (PHD)
b-4 (PHD & FUSER)
b-12 (PHD)
b-5 (FUSER)
b-6 (PHD)
b-7 (FUSER)

Wsb02025KA

If the pitch of the blank banding matches any of the three pitches (PHD and FUSER) shown in the Pitch Configuration Chart, replace the relevant component:
(PHD): PHD Unit
(FUSER): Fuser

1 - 151

Flows 82   Vertical blanks


```
              ┌──────────────────────────┐
              │  Checking the paper.     │
              └──────────────────────────┘
                          │
                          ▼
                   ╱────────────╲
                  ╱ Is the installed ╲
        Yes      ╱ paper with a new and dry ╲      No
       ◄────────  one? or does the paper  ────────►
                 ╲ satisfy the specification? ╱
                  ╲────────────╱
          │                              │
          ▼                              ▼
┌────────────────────┐      ┌────────────────────┐
│ Checking for foreign│      │ Replace the paper with a │
│ objects in the paper│      │ new and dry one. or │
│ transfer path.      │      │ Change the paper to the │
│ Remove any foreign  │      │ one that satisfies the │
│ objects in the paper│      │ specification. (Refer to "14 │
│ transfer path between│      │ Print Media Guidelines" in │
│ the Belt Unit and the│      │ the User Guide.) │
│ Fuser.              │      └────────────────────┘
└────────────────────┘
          │
          ▼
   ╱────────────╲
  ╱ Does the printout ╲
 ╱ have vertical blank lines ╲      No
Yes  (white stripes in the paper  ────────►
 ╲ feed direction)? ╱
  ╲────────────╱
   │                              │
   ▼                              ▼
  ╱‾‾╲                       ┌────────┐
 │ A │                      │  END   │
  ╲__╱                       └────────┘
```

```
      ┌─────┐
      │  A  │
      └──┬──┘
         ▼
┌────────────────────────┐
│ Checking the belt surfaces
│ of the KIT TRANSFER
│ ASSY.                  │
└───────────┬────────────┘
            ▼
```

Yes ◄─── Are there any damages on the belt surface of the KIT TRANSFER ASSY? ───► No

```
┌────────────────────────┐      ┌────────────────────────┐
│ Replace the KIT        │      │ Replace the PHD ASSY   │
│ TRANSFER ASSY.         │      │ (Refer to Removal 3 /  │
│ (Refer to Removal 18/  │      │ Replacement 61).       │
│ Replacement 46)        │      │                        │
└────────────────────────┘      └────────────────────────┘
```

1 - 153

Flows 83   Ghosting

Ghosting

Wsb02020KA

Mnt01114KA

Checking the Afterimage (Ghost).
Print the Ghost Configuration Chart Page.
- To print "Ghost Configuration Chart", click [Ghost Configuration Chart] in [Chart Print] on the diagnosis tab of Tool Box.

Is the image printed correctly?

Yes → END

No →

Checking after changing the paper type of the Printer driver.
For example, change the plain paper to thick.
- On the [Paper/Output] tab of the printer driver, change [Paper Type].

Is the image printed correctly?

Yes → END

No → A

A

Checking the paper

Does the paper satisfy the specification?

Yes

No

Adjusting the transfer bias. Adjust the voltage value of the BTR.
- To adjust the voltage value of the BTR, use [Adjust BTR] on the Printer Maintenance tab of Tool Box.

Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Is the image printed correctly?

Yes

No

END

Checking after "Drum Refresh Mode".
Execute the "Drum Refresh Mode".
- To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box.

Is the image printed correctly?

Yes

No

END

B

```
                              ┌─────┐
                              │  B  │
                              └──┬──┘
                                 │
                                 ▼
              ┌─────────────────────────────────┐
              │ Checking after replacing        │
              │ the PHD ASSY.                    │
              │ Replace the PHD ASSY            │
              │ (Refer to Removal 4 /           │
              │ Replacement 50)                  │
              └────────────────┬────────────────┘
                               │
                               ▼
                              ◇◇◇
          Yes            ◇             ◇           No
     ◄───────────── ◇  Is the image printed  ◇ ─────────────►
     │              ◇       correctly?      ◇               │
     │                   ◇             ◇                     │
     │                        ◇◇◇                            │
     ▼                                                       ▼
┌─────────┐                                        ┌──────────────────┐
│  END    │                                        │ Replace the Printer. │
└─────────┘                                        └──────────────────┘
```

]

1 - 156

Flows 84   Light-Induced Fatigue

Checking after "Drum Refresh Mode".
Execute the "Drum Refresh Mode".
- To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box.

Yes ← Is the image printed correctly? → No

END

Checking after replacing the PHD ASSY.
Replace the PHD ASSY (Refer to Removal 4 / Replacement 50)

Yes ← Is the image printed correctly? → No

END

Replace the Printer.

Flows 85   Fog

Mnt01115KA

| NOTE | **When the PHD Unit has been replaced, be sure to clean up the CTD (ADC) Sensor. Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD (ADC) Sensor.** |

Checking the Fog (Grey Background).
Print the Windows test page.

Is there Fog (Grey Background) during printing?

Yes → Changing the printer driver setting.
Reset Image Settings (Brightness/Contrast) to defaults.
- Click [Restore Defaults] in [Image Settings] on the [Graphics] tab.

No → Printing data is incorrect, then check the printing data which the problem generated.

Is the image printed correctly?

Yes → END

No → A

A

Checking after "Drum Refresh Mode".
Execute the "Drum Refresh Mode".
- To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box.

Yes ← Is the image printed correctly? → No

END

Checking after replacing the PHD ASSY.
Replace the PHD ASSY (Refer to Removal 4 / Replacement 50)

Yes ← Is the image printed correctly? → No

END

Checking after replacing the KIT TRANSFER ASSY.
Replace the KIT TRANSFER ASSY.
(Refer to Removal 20/ Replacement 34).

Yes ← Is the image printed correctly? → No

END

Replace the Printer.

Flows 86   Bead-Carry-Out (BCO)

Setting the altitude.
Set the altitude.
- To set the altitude, use [Adjust Altitude] on the Printer Maintenance tab of Tool Box.

Is the image printed correctly?

Yes

END

No

Checking after replacing the PHD ASSY.
Replace the PHD ASSY (Refer to Removal 4 / Replacement 50)

Is the image printed correctly?

Yes

END

No

Replace the Printer.
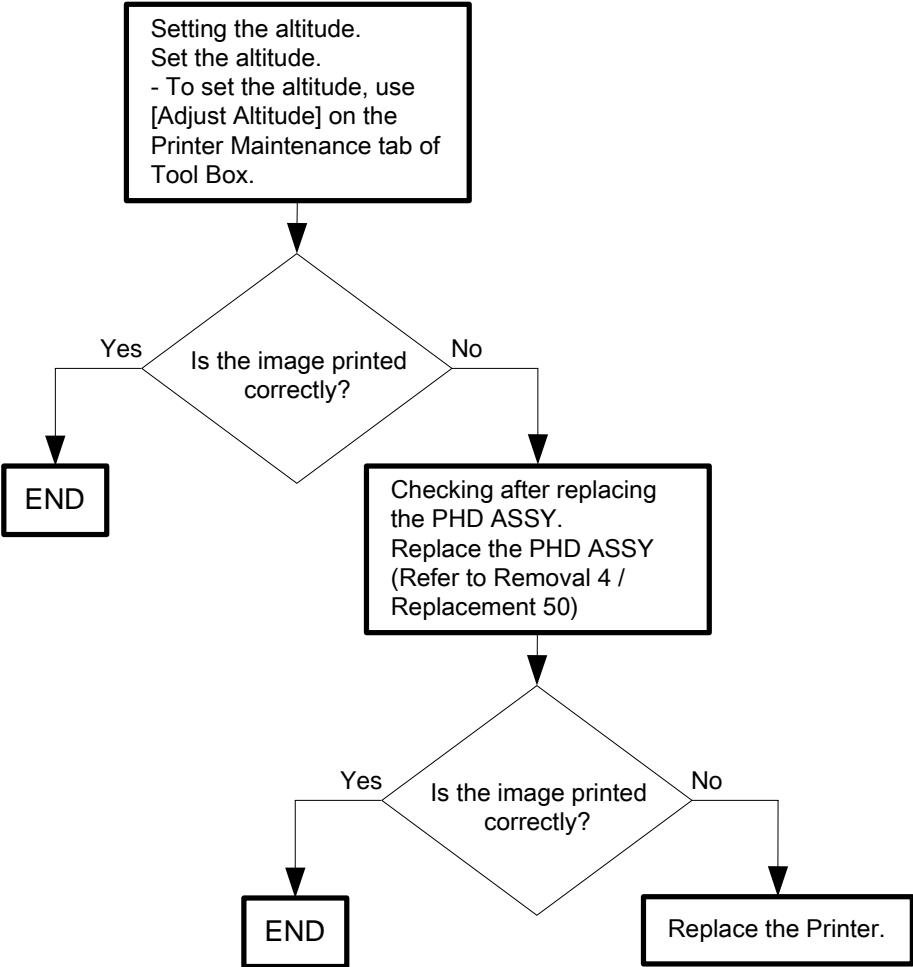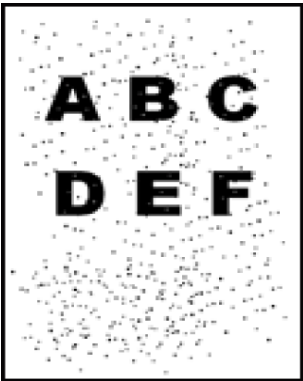
Flows 87   Jagged characters

ABC
DEF
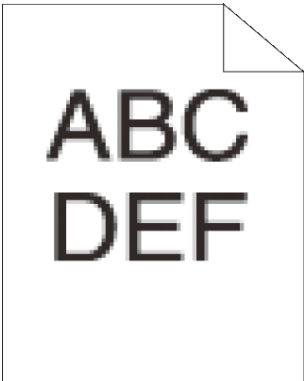
Changing the printer driver setting.
1.Set Screen to Fineness in the printer driver.
- In [Other Settings] of the [Advanced] tab, click [Screen] and select [Fineness].
2.Enable Bitmap Smoothing in the printer driver.
- In [Other Settings] of the [Advanced] tab,
click [Bitmap Smooting] and select [OK].

Is the image printed correctly?

Yes

No

END

A

```
                              ┌─────────┐
                              │    A    │
                              └────┬────┘
                                   │
                                   ▼
                       ┌───────────────────────┐
                       │  Checking the fonts.  │
                       └───────────┬───────────┘
                                   │
                                   ▼
          Yes            ◇ Is the downloaded ◇            No
       ┌─────────────────   font jagged?   ─────────────────┐
       │                    ◇           ◇                    │
       ▼                                                     ▼
┌───────────────────────┐                          ┌───────────────────────┐
│  Checking the fonts.  │                          │  Replace the Printer. │
└───────────┬───────────┘                          └───────────────────────┘
            │
            ▼
  Yes       ◇ Are you using ◇        No
┌───────────   recommended   ───────────┐
│             ◇   fonts?   ◇             │
▼                                        ▼
┌───────────────────────┐    ┌───────────────────────┐
│  Replace the Printer. │    │  Use fonts that are   │
└───────────────────────┘    │  recommended for      │
                             │  the printer,         │
                             │  operating system,    │
                             │  and application you  │
                             │  are using.           │
                             └───────────────────────┘
```
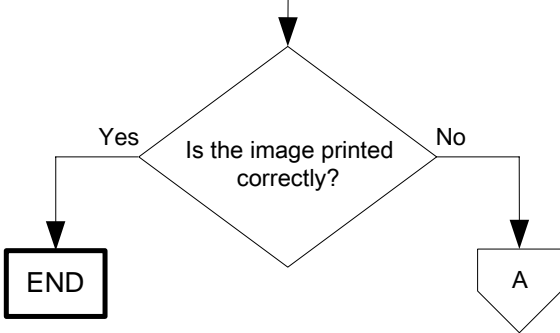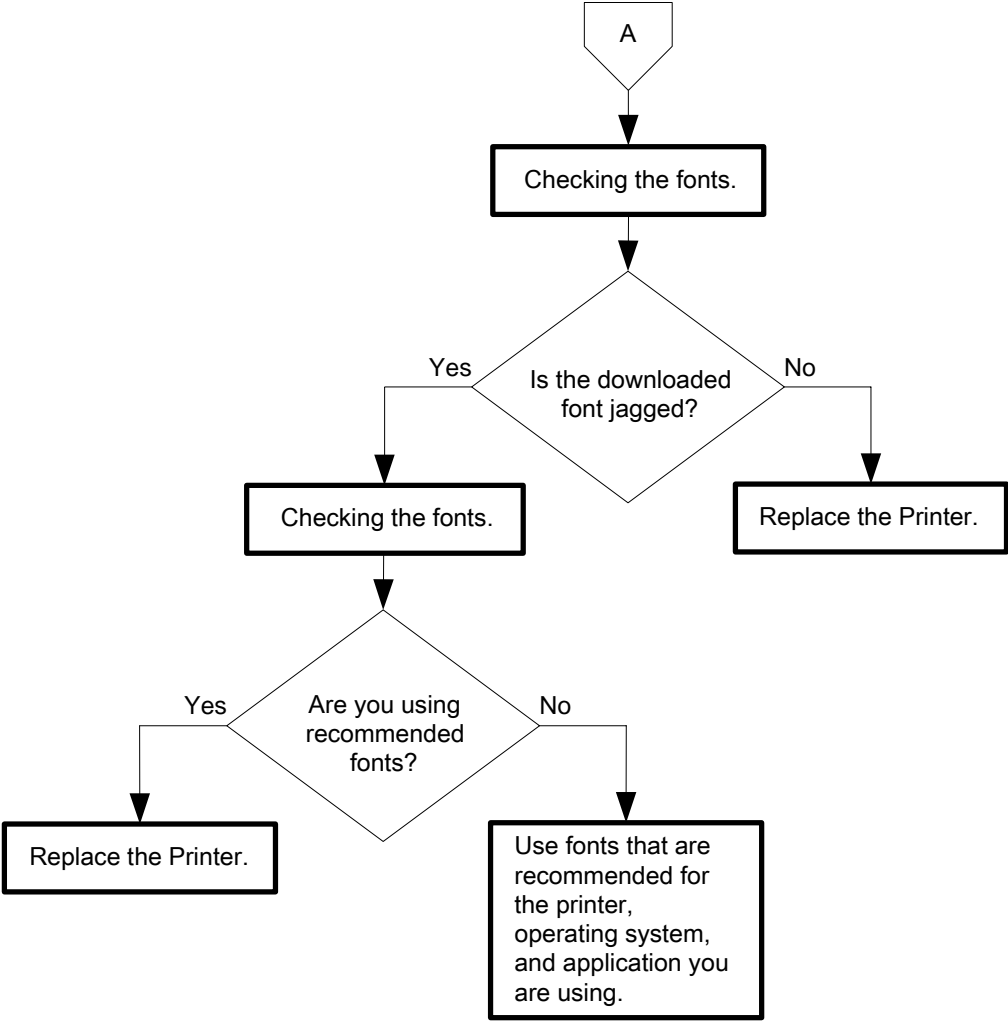
Flows 88   Banding/Horizontal band cross out
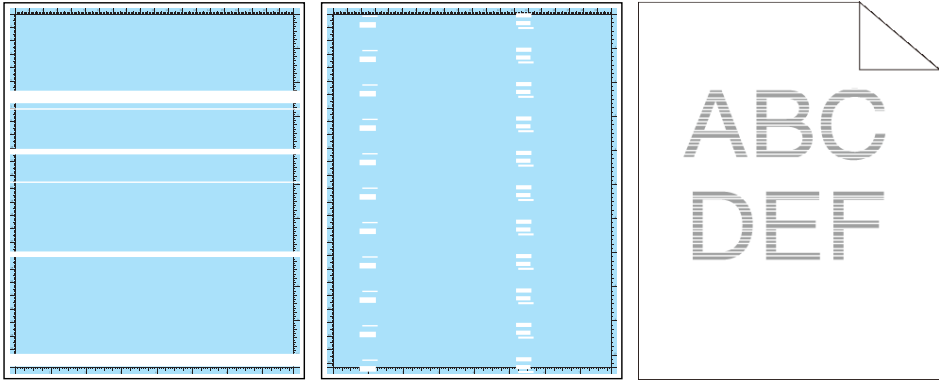
| NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser. For details, refer to the supplied technical sheet.** |

A

Measure the blank, spot, or Line pitch.
Print the Contamination Check to measure the pitch of the blank, spot or Line banding.
- To print "Pitch Configuration Chart", click [Pitch Configuration Chart] in [Chart Print] on the diagnosis tab of Tool Box.

Does the pattern on the output match with that on the Pitch Configuration Chart (Reference_1)?

Yes → Replace the corresponding parts.

No → Replace the Printer.

- Reference_1: Pitch Configuration Chart

Wsb02025KA
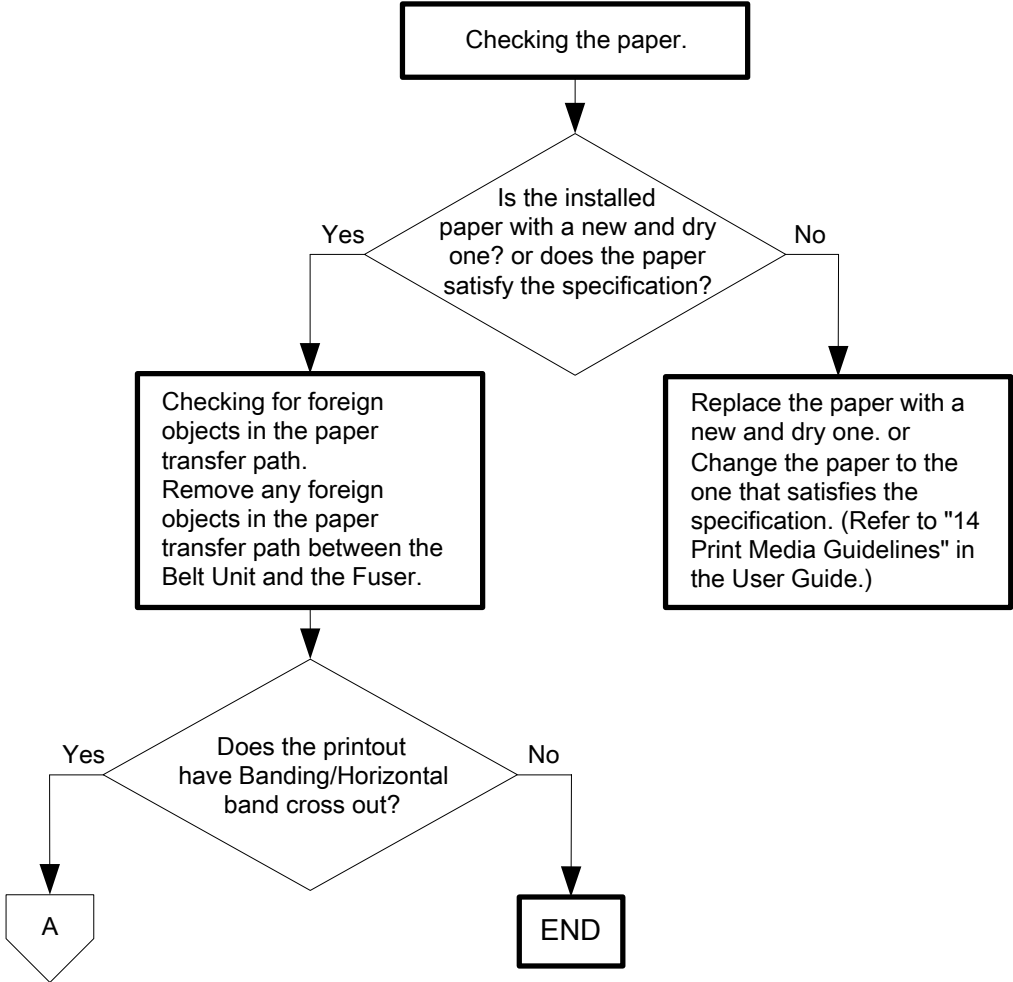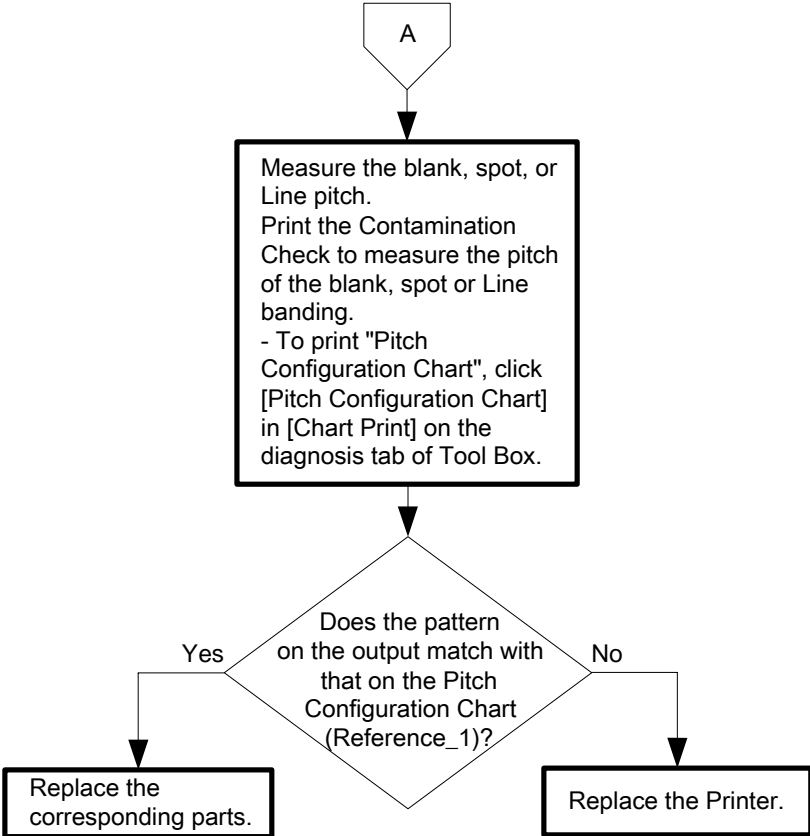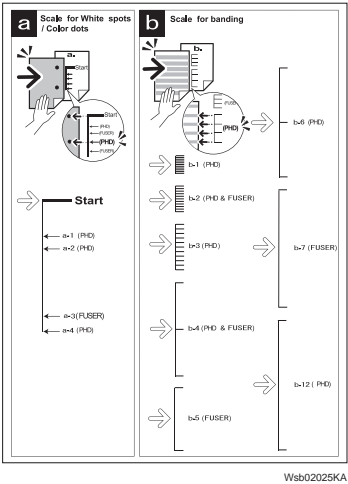
If the pitch of the blank banding matches any of the three pitches (PHD and FUSER) shown in the Pitch Configuration Chart, replace the relevant component:
(PHD): PHD Unit
(FUSER): Fuser

Flows 89   Auger mark

Checking the TONER
CARTRIDGE (Y, M, C or
K) for installation.
Shake and reseat the
suspected TONER
CARTRIDGE (Y, M, C, or
K).

Yes ◄──── Is the image printed
correctly? ────► No

END

Checking Dispense Motor
(Y, M, C or K) for
operation.
Operate the Dispense
Motor (Y, M, C or K) for the
color in which the problem
lies.
- To check the operation of
the Dispense Motor (Y, M,
C or K), click [Dispense
Motor (Y, M, C or K)] in
[Machine Check] on the
diagnosis tab of Tool Box.

Yes ◄──── Is the image printed
correctly? ────► No

END

A

```
                          ┌─────┐
                          │  A  │
                          └──┬──┘
                             │
                             ▼
        ┌────────────────────────────────┐
        │ Checking after replacing       │
        │ the PHD ASSY.                  │
        │ Replace the PHD ASSY           │
        │ (Refer to Removal 4 /          │
        │ Replacement 50)                │
        └────────────────┬───────────────┘
                         │
                         ▼
              ◇─────────────────◇
   Yes       /  Is the image printed \      No
  ┌─────────/       correctly?        \─────────┐
  │         \                         /         │
  │          \                       /          │
  │           ◇─────────────────────◇           │
  ▼                                             ▼
┌─────────┐                         ┌──────────────────────┐
│  END    │                         │  Replace the Printer.│
└─────────┘                         └──────────────────────┘
```

1 - 166

Flows 90   Wrinkled/Stained paper

| NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser. For details, refer to the supplied technical sheet.** |

Checking the print media type.

Does the wrinkle occur on an envelop?
Yes → Checking the envelope.
No → A

Does the envelope satisfy the specification?
Yes → Checking the status of the envelope loaded.
No → Change the envelope to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Are the envelope loaded correctly?
Yes → B
No → Reload the envelope correctly. For how to load the envelope, refer to "15 Loading Print Media " in User Guide.

A

Checking the paper.

Does the paper satisfy
the specification?

Yes

No

Checking the paper
condition.

Change the paper to the
one that satisfies the
specification. (Refer to "14
Print Media Guidelines" in
the User Guide.)

Is the paper
in the Tray or SSF new
and dry one?

Yes

No

Checking the status of the
wrinkle.
Execute the Paper Wrinkle
Check Mode.
- To execute "Paper
Wrinkle Check Mode", click
[Start] in [Paper Wrinkle
Check Mode] on the
diagnosis tab of Tool Box.

Replace the paper with a
new and dry one.

Is the paper wrinkled?

Yes

No

Replace the Printer.

Replace the FUSER ASSY
(Refer to Removal 5 /
Replacement 49)

B

Checking the status of the wrinkle.

Is the wrinkle on the front side located at least 30 mm away from the nearest edge?

Yes — The wrinkle is within the acceptable limits.

No

Is the envelope 220 mm or longer (C5 or COM10)?

Yes — Check the position of the flap.

No — Checking the status of the wrinkle.
Load the envelope short edge feed in the SSF with the flap open.

The envelope is C5.

Does the envelope have a flap on the long edge?

The envelope is COM-10.

Yes — Checking the status of the wrinkle.
Load the envelope in the SSF with the flap open and face down.

No

Is the problem recovered?

Yes — END

No

Is the problem recovered?

Yes — END

No

Checking the status of the wrinkle.
Use a different size envelope.

Is the problem recovered?

Yes — END

No — Replace the Printer.

1 - 169

Flows 91   The top margin is incorrect / The side margin is incorrect

Mnt05100KA

Mnt05101KA

ABC
DEF

```
┌─────────────────────────────┐
│ Checking the margins.       │
│ Check the margin settings   │
│ for the application.        │
└─────────────────────────────┘
              │
              ▼
         ╱─────────╲
  Yes   ╱  Are the   ╲   No
◄──────╱   margin      ╲──────►
       ╲  settings      ╱
        ╲  correct?    ╱
         ╲───────────╱
   │                      │
   ▼                      ▼
┌──────────────────┐   ┌──────────────────┐
│ Checking the     │   │ Correct the      │
│ paper.           │   │ margins.         │
└──────────────────┘   └──────────────────┘
   │
   ▼
  ╱─────────╲
 ╱ Does the  ╲
Yes  paper     No
◄── satisfy the ──►
 ╲ specification?╱
  ╲───────────╱
   │              │
   ▼              ▼
┌──────────────┐  ┌──────────────────────┐
│ Replace the  │  │ Change the paper to  │
│ Printer.     │  │ the one that         │
└──────────────┘  │ satisfies the        │
                  │ specification. (Refer│
                  │ to "14 Print Media   │
                  │ Guidelines" in the   │
                  │ User Guide.)         │
                  └──────────────────────┘
```

Flows 92   Color registration is out of alignment

Mnt01119KA

| NOTE | **When the PHD Unit has been replaced, be sure to clean up the CTD (ADC) Sensor. Refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor" for how to clean up the CTD (ADC) Sensor.** |

```
┌─────────────────────────────┐
│ Checking the Color          │
│ registration.               │
│ Print the Color Regi Chart. │
│ - To print "Color Regi      │
│ Chart", click [Color Regi   │
│ Chart] in [Color            │
│ Registration Adjustments]   │
│ on the Printer Maintenance  │
│ tab of Tool Box.            │
└─────────────────────────────┘
```

Yes ◄── Is the image printed correctly? ──► No

END

```
┌─────────────────────────────┐
│ Checking after cleaning the │
│ CTD (ADC) Sensor.           │
│ Clean the CTD (ADC)         │
│ Sensor.                     │
│ - For details on how to     │
│ clean the CTD (ADC)         │
│ Sensor, refer to "3.2       │
│ Cleaning the CTD Sensor"    │
│ in Appendix.                │
└─────────────────────────────┘
```

Yes ◄── Is the image printed correctly? ──► No

END   A

A

Checking after automatic color registration.
Execute the automatic color registration.
- To execute the automatic color registration, click [Auto Correct] in [Color Registration Adjustments] on the Printer Maintenance tab of Tool Box.

Is the image printed correctly?

Yes → END

No →

Checking after manual color registration.
Manually adjust the color registration.
- To adjust the color registration manually, use [Color Registration Adjustment 1 or 2] in [Color Registration Adjustments] on the Printer Maintenance tab of Tool Box.

Is the image printed correctly?

Yes → END

No → B

B

Checking after replacing
the PHD ASSY.
Replace the PHD ASSY
(Refer to Removal 4 /
Replacement 50)

Yes — Is the image printed
correctly? — No

END

Checking after replacing
the KIT TRANSFER ASSY.
Replace the KIT
TRANSFER ASSY.
(Refer to Removal 20/
Replacement 34).

Yes — Is the image printed
correctly? — No

END

Replace the Printer.

1 - 173

Flows 93   Images are skewed

ABC
DEF

Mnt01116KA

Check the side guide of Tray (or side guide of SSF).

Is the side guide of Tray (or side guide of SSF) correctly set?

Yes

No

Checking the paper.

Set the side guide correctly.

Is the installed paper with a new and dry one? or does the paper satisfy the specification?

Yes

No

A

Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

A

Checking the PHD Unit for installing.
Reseat the PHD Unit.

Yes ← Are images still skewed during printing? → No

END

Checking for foreign objects in the paper transfer path and check the Retard Roller.
Remove any foreign objects in the paper transfer path. Reset the Retard Roller.

Yes ← Are images still skewed during printing? → No

END

Replace the Retard Roller (KIT HOLDER ASSY SEPARATOR).
(Refer to Removal 2/ Replacement 52)
- For details on how to replace the HOLDER ASSY SEPARATOR (Retard Roller), refer to "2.4 Replacing the Retard Roller" in Appendix.

Yes ← Are images still skewed during printing? → No

Replace the Printer.

END

Flows 94   Page Damage

Mnt01117KA

ABC
DEF

```
                              ┌─────────────────────┐
                              │ Check the side guide of │
                              │ Tray (or side guide of  │
                              │ SSF).                   │
                              └─────────────────────┘
                                        │
                                        ▼
                                   ╱─────────╲
                          Yes     ╱ Is the side ╲      No
                        ◄────────╱ guide of Tray  ╲────────►
                                ╲ (or side guide   ╱
                                 ╲ of SSF) correctly╱
                                  ╲    set?   ╱
                                   ╲────────╱
                        │                          │
                        ▼                          ▼
              ┌──────────────────┐        ┌──────────────────┐
              │ Checking the paper. │     │ Set the side guide │
              └──────────────────┘        │ correctly.         │
                        │                 └──────────────────┘
                        ▼
                   ╱─────────╲
          Yes     ╱ Is the installed ╲    No
        ◄────────╱ paper with a new and dry╲────────►
                ╲ one? or does the paper  ╱
                 ╲ satisfy the specification?╱
                  ╲────────╱
        │                              │
        ▼                              ▼
┌──────────────────────┐      ┌──────────────────────┐
│ Checking for foreign  │     │ Replace the paper with a │
│ objects in the paper  │     │ new and dry one. or      │
│ transfer path and check the│ │ Change the paper to the  │
│ Retard Roller.        │     │ one that satisfies the   │
│ Remove any foreign    │     │ specification. (Refer to "14│
│ objects in the paper  │     │ Print Media Guidelines" in │
│ transfer path. Reset the│   │ the User Guide.)         │
│ Retard Roller.        │     └──────────────────────┘
└──────────────────────┘
        │
        ▼
   ╱─────────╲
Yes ╱ Is the paper still╲   No
◄──╱   damaged    ╲────────►
   ╲ during printing?╱
    ╲────────╱
 │                    │
 ▼                    ▼
┌───┐              ┌───────┐
│ A │              │ END   │
└───┘              └───────┘
```

A

Checking the PHD Unit for installing.
Reseat the PHD Unit.

Is the paper still damaged during printing?

Yes → Checking the Fuser for installing. Reseat the Fuser.

No → END

Is the paper still damaged during printing?

Yes → Replace the Retard Roller (KIT HOLDER ASSY SEPARATOR).
(Refer to Removal 2/ Replacement 52)
- For details on how to replace the HOLDER ASSY SEPARATOR (Retard Roller), refer to "2.4 Replacing the Retard Roller" in Appendix.

No → END

Is the paper still damaged during printing?

Yes → Replace the Printer.

No → END

Flows 95   Unfusing

Mnt01118KA

| NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser. For details, refer to the supplied technical sheet.** |

```
┌─────────────────────────┐
│  Checking the paper.     │
└─────────────────────────┘
              │
              ▼
          ╱ Is the installed paper ╲
 Yes   ╱  with a new and dry one?  ╲   No
◄─────╲  or does the paper satisfy ╱─────►
        ╲    specification?       ╱
              │
              ▼
┌──────────────────────┐     ┌──────────────────────┐
│ Checking after       │     │ Replace the paper    │
│ replacing            │     │ with a new and dry   │
│ the FUSER ASSY.      │     │ one. or              │
│ Replace the FUSER    │     │ Change the paper to  │
│ ASSY                 │     │ the one that         │
│ (Refer to Removal 5 /│     │ satisfies the        │
│ Replacement 49)      │     │ specification.       │
└──────────────────────┘     │ (Refer to "14        │
              │              │ Print Media          │
              ▼              │ Guidelines" in       │
          ╱ Is the image ╲   │ the User Guide.)     │
 Yes   ╱   printed         ╲  No └───────────────────┘
◄─────╲    correctly?      ╱─────►
        ╲                 ╱
┌───────┐            ┌──────────────────┐
│ END   │            │ Replace the      │
└───────┘            │ Printer.         │
                     └──────────────────┘
```

Checking the paper.

Is the installed paper with a new and dry one? or does the paper satisfy the specification?

Yes

Checking after replacing the FUSER ASSY.
Replace the FUSER ASSY
(Refer to Removal 5 / Replacement 49)

No

Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Is the image printed correctly?

Yes

END

No

Replace the Printer.

Flows 96   Label Stuck


```
┌─────────────────────────────┐
│ Checking for foreign        │
│ materials in the paper      │
│ transfer path.              │
└─────────────────────────────┘
              │
              ▼
          ╱─────────────╲
  Yes    ╱ Are there any  ╲    No
◄────── ╱  foreign         ╲ ──────►
        ╲  materials such   ╱
         ╲ as precut        ╱
          ╲ adhesive labels╱
           ╲ in the paper  ╱
            ╲transfer path?╱
             ╲───────────╱
```

┌─────────────────────────────┐   ┌─────────────────────────────┐
│ Remove the foreign   │   │ Replace the Printer.   │
│ materials *1.   │   │   │
└─────────────────────────────┘   └─────────────────────────────┘

*1: If precut self-adhesive sheet labels are found, they may have been peeled off during printing.
Since these self-adhesive labels remaining inside the printer may cause damages to the printer, check
the label sheet for any portion that has peeled off or seems easy to peel off before loading it in the
printer.
Never use any self-adhesive labels that have already been peeled off.

Flows 97   Noise: When Power is Turned On

NOTE | **When you have replaced the fuser, initialize the life counter of the Fuser. For details, refer to the supplied technical sheet.**

Checking the PHD Unit and the Fuser installation.
Reseat the PHD Unit and the Fuser.

Does the noise arise from the printer when turning on the power?
Yes / No

No → END

Yes ↓

Checked by [Main Motor Operation Check] of [Machine Check] of [Diagnosis] tab in [Tool Box]

Checking the noise
Does the noise arise from the printer?
Yes / No

Yes ↓ (left branch)

Checking the PHD Unit sealing ribbon.
After turning the printer off, open the front cover and remove the PHD Unit from the printer.
Remove any of the 8 pieces of sealing ribbon that may be left on the PHD Unit.
Then, install the PHD Unit into the printer.
NOTE:If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD Unit to another one.

Does the error still occur after turning the power off and on?
Yes / No

No → END

Yes ↓

Replace the PHD Unit.
(Refer to Removal 4/ Replacement 50.)

No ↓ (right branch)

Checked by [Fuser Motor Operation Check] of [Machine Check] of [Diagnosis] tab in [Tool Box].

Checking the noise
Does the noise arise from the printer?
Yes / No

No → END

Yes ↓

Replace the FUSER ASSY
(Refer to Removal 5/ Replacement 49.)
and initialize the Fuser Life counter. (Refer to the Tech Sheet).

Flows 98   Noise: During Standby

Checking the FAN.
Checked by [Digital Output] -
[DO-1E] of [IOT Diag] in [Print
Diag] of diagnosis.

Yes ← Does the noise arise from the Fan? → No

Replace the FAN. (Refer to
Removal 40/ Replacement 14.)

Replace the PWBA LVPS. (Refer
to Removal 11/ Replacement 43.)

Flows 99   Noise: During Printing (Checking for other items than "power on mechanical noise")

```
┌─────────────────────────────┐
│  Checking the Duplexer.     │
└─────────────────────────────┘
              │
              ▼
Yes    ◇ Does the noise arise ◇    No
◄──────  when feeding the paper from  ──────►
              the Duplex?

┌─────────────────────────────┐        ┌─────────────────────────────┐
│ Checking the Duplexer for   │        │ Checking the paper feeding. │
│ installation.               │        └─────────────────────────────┘
│ Reseat the Duplexer.        │
└─────────────────────────────┘
              │
              ▼
Yes    ◇ Does the noise arise ◇    No
◄──────   from the printer?    ──────►

┌─────────────────────────────┐       ┌─────────┐
│ Replace the FEEDER          │       │  END    │
│ ASSY DUP SPF STD.           │       └─────────┘
│ (Refer to Removal 56/       │
│ Replacement 57)             │
└─────────────────────────────┘
```

Does the noise arise from the printer when the paper is fed from the Tray 1 or Tray 2?

Yes

Checking paper
Check that new dry recommended paper which matches printer specifications is being used and replace as necessary.

No

Check that the position of the SSF side guides and the paper insertion is correct and reset as necessary.
Check that new dry recommended paper is being used and replace as necessary.

Does noise occur during printing when paper is transferred from Tray 1?

Yes

Replace the KIT HOLDER ASSY SEPARATOR.
(Refer to Removal 2/ Replacement 52.)

No

END

Flows 100   Electrical Noise

Checking the external noise
Are there any other electrical appliances within 3 meters form the printer, such as generators, radio and appliances with motors?
Either turn off the other electrical appliances, or relocate the printer at least 6 meters away from other appliances.

Does the electrical noise error still occur?

Yes

No

END

Checking the AC ground.

Is AC power supply outlet wired and grounded appropriately?

Yes

No

Checking after reseating the PHD Unit.
Reseat the PHD Unit.

Request the client to fix AC power supply outlet.

Does the electrical noise error still occur?

Yes

No

END

Checking after reseating the Belt Unit.
Reseat the Belt Unit.

Does the electrical noise error still occur?

Yes

No

END

Reseat the PWBA LVPS. (Refer to Removal 11/ Replacement 43).

Flows 101   AC Power

```
┌─────────────────────────┐
│   Checking the printer   │
└─────────────────────────┘
             │
             ▼
          ╱─────────╲
         ╱  Does the  ╲
Yes     ╱ motor noise   ╲  No
◄──────╱ occur when      ╲──────►
       ╲ turning on the  ╱
        ╲power? In this ╱
         ╲test, close  ╱
          ╲the Front  ╱
           ╲Cover.   ╱
            ╲───────╱
```

Yes → Go to Flows DC Power.

No → Checking the outlet
Connect the power cord with the other outlet.

```
          ╱─────────╲
Yes      ╱ Does the   ╲   No
◄───────╱  printer is   ╲──────►
        ╲  working?     ╱
         ╲─────────────╱
```

Yes → END

No → Checking the power cord connection
Reconnect the power cord.

```
          ╱─────────╲
Yes      ╱ Does the   ╲   No
◄───────╱  printer is   ╲──────►
        ╲  working?     ╱
         ╲─────────────╱
```

Yes → END

No → Replace the PWBA LVPS (Refer to Removal 11/ Replacement 43).

Flows 102   DC Power

```
┌─────────────────────────┐
│   Checking the printer   │
└─────────────────────────┘
              │
              ▼
         ╱─────────╲
        ╱  Does the ╲
  Yes  ╱ motor noise occur when ╲  No
◄─────╱ turning on the power? ╲─────►
      ╲  In this test, close the ╱
       ╲   Front Cover.  ╱
        ╲──────────╱
```

```
┌─────────────────────────┐          ┌─────────────────────┐
│ Checking the message on │          │ Go to Flows AC      │
│ the Control Panel       │          │ Power.              │
└─────────────────────────┘          └─────────────────────┘
              │
              ▼
         ╱─────────╲
        ╱  Does the ╲
  Yes  ╱ message on the ╲  No
◄─────╱  control panel  ╲─────►
      ╲    appear?     ╱
       ╲──────────╱
```

```
┌─────────────────────────┐          ┌─────────────────────┐
│ End of work.            │          │ Checking the CONTROL│
│ If error message appeared,│        │ PANEL.              │
│ go to FIP.              │          └─────────────────────┘
└─────────────────────────┘                    │
                                                ▼
```

```
         ╱─────────╲
  Yes   ╱ Does the CONTROL ╲  No
◄──────╱  PANEL is working? ╲──────►
       ╲               ╱
        ╲─────────╱
```

```
┌───────┐          ┌──────────────────────────┐
│  END  │          │ Replace the KIT PWBA     │
└───────┘          │ ESS SFP. (Refer to       │
                   │ Removal 42/Replacement   │
                   │ 12), the CONSOLE ASSY    │
                   │ PANEL  (Refer to Removal │
                   │ 25/Replacement 29). and  │
                   │ the PWBA LVPS. (Refer to │
                   │ Removal 11/Replacement   │
                   │ 43).                     │
                   └──────────────────────────┘
```

Flows 103   Multiple feed

```
┌─────────────────────────┐
│ Checking the paper      │
│ condition.              │
└─────────────────────────┘
```

Checking
the paper condition.
Are the sheet edges
burred?

Yes   No

```
┌─────────────────────────┐    ┌─────────────────────────┐
│ Use sheets that are not │    │ Checking the SSF fed.   │
│ burred at the edge.     │    │                         │
└─────────────────────────┘    └─────────────────────────┘
```

Yes   Multi feed occurred in   No
            the SSF?

```
┌─────────────────────────┐    ┌─────────────────────────┐
│ Checking the media      │    │ Checking the media      │
│ Replace to the new paper.│   │ Replace to the new paper.│
└─────────────────────────┘    └─────────────────────────┘
```

Does   Does
Yes   the multi feed still occur   No   Yes   the multi feed still occur   No
       when printing?   when printing?

```
┌─────────────────────────┐    ┌──────────┐
│ Replace the Printer.    │    │   END    │
└─────────────────────────┘    └──────────┘
```

```
┌─────────────────────────┐    ┌──────────┐
│ Checking after replacing│    │   END    │
│ the KIT HOLDER ASSY     │    └──────────┘
│ SEPARATOR.              │
│ (Refer to Removal 2/    │
│ Replacement 52)         │
│ - For details on how to │
│ replace the HOLDER      │
│ ASSY SEPARATOR          │
│ (Retard Roller), refer to│
│ "2.4 Replacing the Retard│
│ Roller" in Appendix.    │
└─────────────────────────┘
```

Does
Yes   the multi feed still occur   No
       when printing?

```
┌─────────────────────────┐    ┌──────────┐
│ Replace the KIT ROLL    │    │   END    │
│ ASSY FEED.              │    └──────────┘
│ (Refer to Removal 9/    │
│ Replacement 45)         │
└─────────────────────────┘
```

Flows 104   Control Panel Freezes

```
                                    ┌─────────────────────────────┐
                                    │ Checking the operating      │
                                    │ environment.                │
                                    └─────────────────────────────┘
                                                  │
                          Yes          ◇ Is the printer connected to ◇    No
                       ┌───────────────   the Network?   ───────────────┐
                       │                                                 │
         ┌─────────────────────────┐                    ┌─────────────────────────┐
         │ Checking the IP address.│                    │ Replace the Printer.    │
         └─────────────────────────┘                    └─────────────────────────┘
                       │
        Yes   ◇ Can you change the IP ◇   No
     ┌─────────   address?   ──────────┐
     │                                 │
```

Checking the operating environment.

◇ Is the printer connected to the Network? ◇

- Yes → **Checking the IP address.**
- No → **Replace the Printer.**

◇ Can you change the IP address? ◇

Yes →

Changing the IP address.
Contact your system administrator for obtaining a new IP address.
Refer to Reference_1 for details of how to change the IP address.

◇ Does the error persist when the power is turned off and on? ◇

- Yes → **Replace the KIT PWBA ESS SFP.(Removal 42/Replacement 12)**
- No → **END**

No →

Checking the internet connectivity.

◇ Is there any internet connection available for your PC? ◇

- No → **Replace the KIT PWBA ESS SFP.(Removal 42/Replacement 12)**
- Yes →

Updating the firmware to the latest version.
Download the latest version of the firmware from the DELL Support Website, and execute the update.
NOTE: Before updating the firmware to the latest version, reset the error following the steps of procedure described below. In addition, update the firmware by way of a USB storage.
1) Remove the network cable.
2) Connect the USB cable.
3) Turn the power off and on.

◇ Does the error persist when the power is turned off and on? ◇

- Yes → **Replace the KIT PWBA ESS SFP.(Removal 42/Replacement 12)**
- No → **END**

- Reference_1:   Changing the IP address

1)   Remove the network cable, and power off the printer and then on.

2)   Change the IP address on the Control Panel.

3)   Plug the network cable back into the printer, and then turn the power on.

4)   On the Control Panel, open [Admin] > [Network] > [TCP/IP], and confirm that the IP address has been changed.

3.2 Troubleshooting for the repair center

| NOTE | **Refer to "3.1 Troubleshooting for the call center" for details of the error.** |

FIP-1.1 001-360: IOT Fan Motor Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FAN (PL8.1.1) PWBA LVPS (PL8.2.1) PWBA MCU (PL8.2.13) HARNESS ASSY LVPS MAIN MG SFP (PL9.1.3)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the FAN for rotation. Does the FAN function normally? Checked by [Digital Output] - [DO-1E or DO-1F] in [IOT Diag] of diagnosis. During this check, close the COVER ASSY FRONT MG.	Replace the PWBA MCU. (Refer to Removal 43 / Replacement 11.)	Go to step 3.
3	Check the connection between the FAN and the PWBA LVPS. Is P/J503 on the PWBA LVPS connected correctly?	Go to step 5.	Reconnect the connector P/J 503 correctly, then go to step 4.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Check the connections between the PWBA LVPS and PWBA MCU. Are P/J501 and P/J14 connected correctly? P/J501 P/J14	Go to step 7.	Reconnect the connector(s) P/J501 and P/J14 correctly, then go to step 6.
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.
7	Checking the HARNESS ASSY LVPS MAIN MG SFP for continuity. Disconnect J501 from the PWBA LVPS. Disconnect J14 from the PWBA MCU. Is each cable of J501 <=> J14 continuous?	Go to step 8.	Replace the HARNESS ASSY LVPS MAIN MG SFP.

Step	Check	Remedy	
		Yes	**No**
8	Checking the power to the FAN. Disconnect J503 from the PWBA LVPS. Is the voltage across P503-1pin <=> ground on the PWBA LVPS, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed? 	Replace the FAN. (Refer to Removal 40/ Replacement 14.)	Go to step 9.
9	Checking after replacing the PWBA LVPS. Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.2 003-340: IOT Firmware Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA MCU (PL8.2.13)		
1	Does the error still occur after several ON/OFF procedures of the power?	Go to step 2.	End of work. *1
2	Checking the firmware version. Is the firmware the latest version?	Go to step 3.	Upgrade the firmware, then go to step 3.
3	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work. *1
4	Checking after replacing the PWBA MCU. Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.) Does the error still occur when the power is turned OFF and ON?	Go to Electrical Noise.	End of work.

*1: Though some kind of foreign noise would be possible cause, go to FIP Electrical Noise in Other FIP and check, to make sure.

FIP-1.3 003-356: IOT NVRAM Error

| NOTE | If the error occurred after replacing the PWBA MCU, transfer the internal data of the old PWBA MCU to a new one. |

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13) PWBA EEPROM (XPRO) (PL8.2.16) HARN ASSY PHD XPRO (PL9.1.11)		
1	Does the error still occur after several ON/OFF procedures of the power?	Go to step 2.	End of work. *1
2	Checking after resetting the PHD ASSY and TONER CARTRIDGEs. Reseat the PHD ASSY and four TONER CARTRIDGEs. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work. *1
3	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work. *1
4	Checking the connectors for connection. Check the connections between the PWBA EEPROM and PWBA MCU. Are P/J 144, and P/J 42 connected surely?	Go to step 6.	Reconnect the connector(s) P/J42 and P/J144 surely, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the HARN ASSY PHD XPRO for continuity. Disconnect J42 from the PWBA MCU. Disconnect J144 from the PWBA EEPROM (XPRO). Is each cable of J42 <=> J144 continuous?	Go to step 7.	Replace the HARN ASSY PHD XPRO.
7	Checking the power to the PWBA EEPROM (XPRO). Disconnect J42 from the PWBA MCU. Is the voltage across P42-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Replace the PWBA EEPROM (XPRO).	Go to step 8.
8	Checking after replacing the PWBA MCU. Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.) Does the error still occur when the power is turned OFF and ON?	Go to Electrical Noise.	End of work.

*1: Though some kind of foreign noise would be possible cause, go to FIP Electrical Noise in Other FIP and check, to make sure.

1 - 192
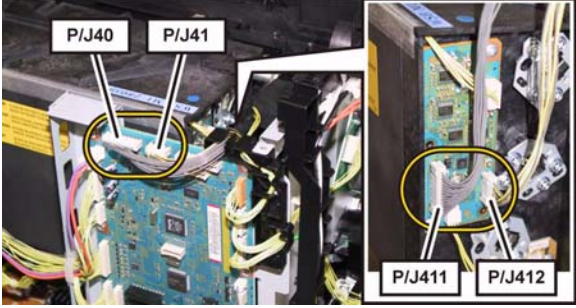
FIP-1.4 004-311: IOT Duplexer Failure (2150cdn only)

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARN ASSY DUP RELAY (PL1.2.13) PWBA MCU (PL8.2.13) HARNESS ASSY DUP (PL11.1.14) FEEDER ASSY DUP SFP STD (PL11.1.1) HARN ASSY OPTION (PL3.1.20)		
1	Checking the Option Duplex for installation. Is the Option Duplex installed correctly?	Go to step 3.	Reseat the Option Duplex, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the connectors for connection. Check the connections between the PWBA DUP and PWBA MCU. Are P/J27, P/J271,P/J272 and P/J 601 connected surely?	Go to step 5.	Reconnect the connector(s) P/J27, P/J271,P/J272 and/or P/J 601 surely, then go to step 4.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work
5	Checking the HARNESS ASSY DUP for continuity. Disconnect P/J601 from the PWBA DUP. Disconnect P/J272 from the HARNE ASSY DUP. Is each cable of P/J601 <=> P/J272 continuous?	Go to step 6.	Replace the HARNESS ASSY DUP.
6	Checking the HARN ASSY DUP RELAY for continuity. Disconnect P/J271 from the HARNESS ASSY DUP. Disconnect P/J 272 from the HARN ASSY OPTION. Is each cable of P/J271<=> P/J272 continuous?	Go to step 7.	Replace the HARN ASSY DUP RELAY. (Refer to Removal 28/ Replacement 26.)
7	Checking the HARN ASSY OPTION for continuity. Disconnect P/J27 from the PWBA MCU. Disconnect P/J 271 from the HARN ASSY DUP RELAY. Is each cable of P/J27<=> P/J271 continuous?	Go to step 8.	Replace the HARN ASSY OPTION.
8	Checking after replacing the FEEDER ASSY DUP SFP STD. Replace the FEEDER ASSY DUP SFP STD.(Refer to Removal 56/ Replacement 57.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.
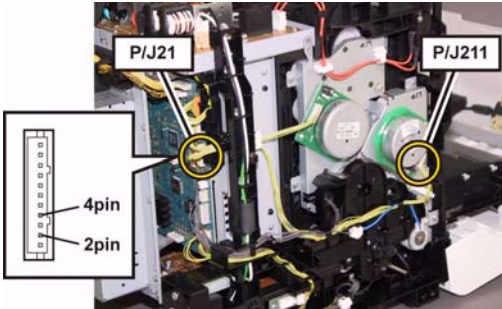
FIP-1.5 004-312: IOT Feeder Configuration Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARN ASSY OPTION (PL3.1.20) PWBA MCU (PL8.2.13) KIT FEEDER ASSY OPT (PL12.1.99) HARN ASSY TRAY (PL12.3.23)		
1	Checking the Optional Feeder for installation. Is the Optional Feeder installed correctly?	Go to step 3.	Reseat the Optional Feeder, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the connectors for connection. Check the connections between the PWBA FEED H and PWBA MCU. Are P/J27, P/J273, and P/J419 connected surely?	Go to step 5.	Reconnect the connector(s) P/J27, P/J273 and/or P/J419 surely, then go to step 4.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Checking the HARN ASSY TRAY for continuity. Disconnect P/J419 from the PWBA FEED H. Disconnect P/J273 from the HARN ASSY OPTION. Is each cable of P/J419 <=> P/J273 continuous?	Go to step 6.	Replace the HARN ASSY TRAY.
6	Checking the HARN ASSY OPTION for continuity. Disconnect P/J27 from the PWBA MCU. Disconnect P/J273 from the HARN ASSY TRAY. Is each cable of P/J27 <=> P/J273 continuous?	Go to step 7.	Replace the HARN ASSY OPTION.
7	Checking after replacing the KIT FEEDER ASSY OPT. Replace the KIT FEEDER ASSY OPT. (Refer to Removal 58/ Replacement 59.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.
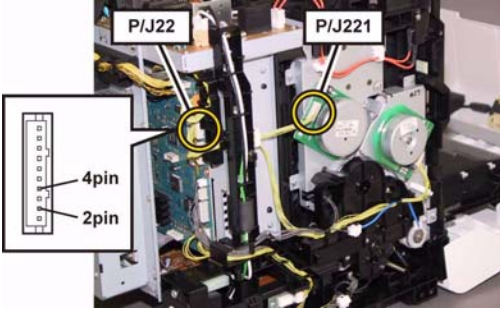
FIP-1.6 006-370: IOT ROS Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: ROS ASSY (PL4.1.1) HARN ASSY ROS RE (PL4.1.22) HARN ASSY ROS VIDEO (PL4.1.23) PWBA MCU (PL8.2.13)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after resetting the ROS ASSY. Reseat the ROS ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Check the connections between the ROS ASSY and PWBA MCU. Are P/J40, P/J41, P/J411 and P/J412 connected correctly? 	Go to step 6.	Reconnect the connector(s) P/J40, P/J41, P/J411 and/or P/J412 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the HARN ASSY ROS RE for continuity. Disconnect P/J40 from the PWBA MCU. Disconnect P/J411 from the ROS ASSY. Is each cable of J40 <=> J411 continuous?	Go to step 7.	Replace the HARN ASSY ROS RE.
7	Checking the HARN ASSY ROS VIDEO for continuity. Disconnect J41 from the PWBA MCU. Disconnect J412 from the ROS ASSY. Is each cable of J41 <=> J412 continuous?	Go to step 8.	Replace the HARN ASSY ROS VIDEO.
8	Checking after replacing the KIT ROS. Replace the KIT ROS. (Refer to Removal 45/Replacement 9.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.7 007-340: IOT Main Motor Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: DRIVE ASSY MAIN (PL7.1.2) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7)		
1	Does the error occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the Main Motor for rotation. Does the Main Motor function normally? - PC Operation : Checked by [Main Motor Operation Check] of the [Machine Check] in Tool Box. - Panel Operation : Checked by [Digital Output]-[DO-0] of [IOT Diag] in diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 4.
4	Checking the connectors of the MAIN MOTOR for connection. Check the connections between the PWBA MCU and DRIVE ASSY MAIN. Are P/J21 and P/J211 connected correctly? 	Go to step 6.	Reconnect the connector(s) P/J21 and/or P/J211 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the HARN ASSY MAIN MOT MG SFP for continuity. Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 7.	Replace the HARN ASSY MAIN MOT MG SFP.
7	Checking after resetting the DRIVE ASSY MAIN. Reseat the DRIVE ASSY MAIN. Does the error still occur when the power is turned OFF and ON?	Go to step 8.	End of work.
8	Checking the power to the DRIVE ASSY MAIN. Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
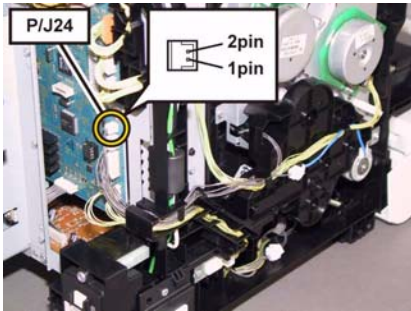
FIP-1.8 007-341: IOT Sub Motor Failure

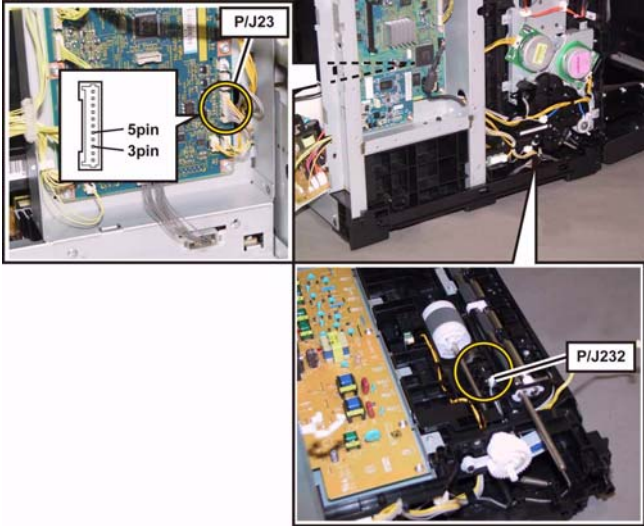| Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: DRIVE ASSY SUB (PL7.1.1) PWBA MCU (PL8.2.13) HARN ASSY SUB MOT MG SFP (PL9.1.8)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after resetting the FUSER ASSY and PHD ASSY Reseat the FUSER ASSY and PHD ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the Sub Motor for rotation. Does the Sub Motor function normally? - PC Operation : Checked by [Fuser Motor Operation Check] of the [Machine Check] in Tool Box. - Panel Operation : Checked by [Digital Output]-[DO-5] of [IOT Diag] in diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 4.
4	Checking the connectors of the SUB MOTOR for connection. Check the connections between the PWBA MCU and DRIVE ASSY SUB. Are P/J22 and P/J221 connected correctly? 	Go to step 6.	Reconnect the connector(s) P/J22 and/or P/J221 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the HARN ASSY SUB MOT MG SFP for continuity. Disconnect J22 from the PWBA MCU. Disconnect J221 from the DRIVE ASSY SUB. Is each cable of J22 <=> J221 continuous?	Go to step 7.	Replace the HARN ASSY SUB MOT MG SFP.
7	Checking after resetting the DRIVE ASSY SUB. Reseat the DRIVE ASSY SUB. Does the error still occur when the power is turned OFF and ON?	Go to step 8.	End of work.
8	Checking the power to the DRIVE ASSY SUB. Disconnect J22 from the PWBA MCU. Are the voltages across J22-2pin/J22-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the DRIVE ASSY SUB. (Refer to Removal 33/ Replacement 21.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
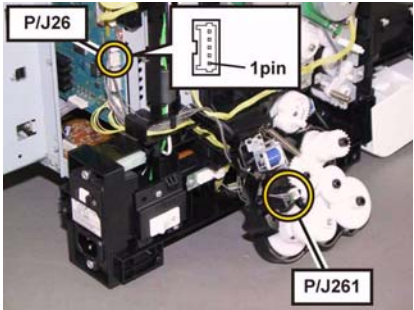
FIP-1.9 007-344: 250 FEEDER Motor Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: MOTOR ASSY SUB (PL12.2.16) PWBA FEED H (PL12.2.1) HARNESS ASSY TRAY MOT (PL12.2.2) KIT FEEDER ASSY OPT (PL12.1.99)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the connectors of the MOTOR ASSY SUB for connection. Check the connections between the PWBA FEED H and MOTOR ASSY SUB. Are P/J422 and P/J4221 connected correctly?	Go to step 4.	Reconnect the connector(s) P/J422 and/or P/J4221 correctly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking the HARNESS ASSY TRAY MOT for continuity. Disconnect J422 from the PWBA FEED H. Disconnect J4221 from the MOTOR ASSY SUB. Is each cable of J422 <=> J4221 continuous?	Go to step 5.	Replace the HARNESS ASSY TRAY MOT.
5	Checking after resetting the MOTOR ASSY SUB. Reseat the MOTOR ASSY SUB. Does the error still occur when the power is turned OFF and ON?	Replace the KIT FEEDER ASSY OPT. (Refer to Removal 58/Replacement 59.)	End of work.
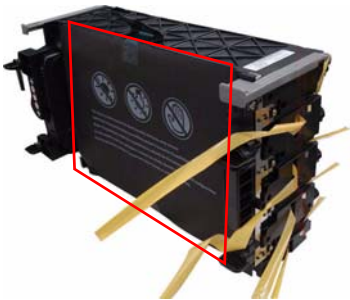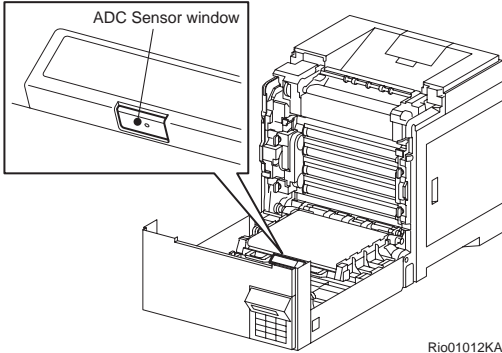
FIP-1.10 007-371 / 007-372: IOT K Mode Solenoid Error 1/2
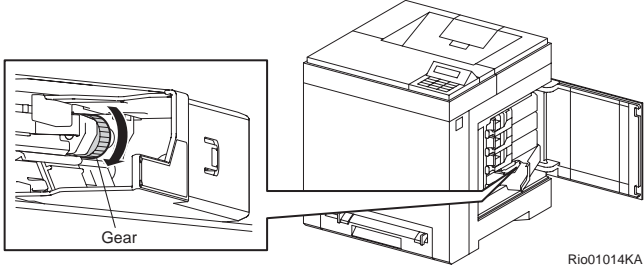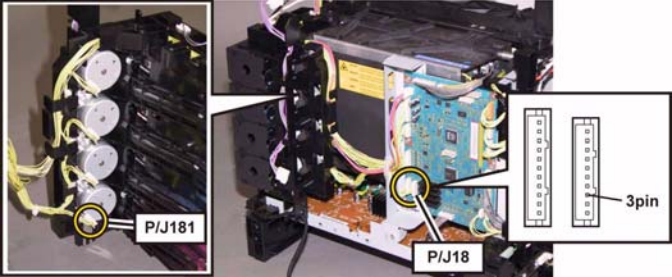
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: DRIVE ASSY PH (PL7.1.4) PWBA MCU (PL8.2.13) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the K Mode Solenoid (Color Mode Switching Solenoid) for operation. Does the K Mode Solenoid function normally? Checked by [Digital Output] - [DO-a] in [IOT Diag] of diagnosis. During this check, close the COVER ASSY FRONT MG. Does the K Mode Solenoid click sound arise from the DRIVE ASSY PH, when the K Mode Solenoid check is performed?	Go to step 3.	Go to step 4.
3	Checking after resetting the DRIVE ASSY PH. Reseat the DRIVE ASSY PH. Does the error still occur when the power is turned OFF and ON?	Go to step 8.	End of work.
4	Checking the connector of the K Mode Solenoid in the DRIVE ASSY PH for connection. Check the connection between the PWBA MCU and K Mode Solenoid. Is P/J24 connected correctly? 	Go to step 6.	Reconnect the connector P/J24 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the power to the K Mode Solenoid. Disconnect J24 from the PWBA MCU. Is the voltage across P24-1pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 7.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
7	Checking the K Mode Solenoid for resistance. Disconnect P/J24 from the PWBA MCU. Is the resistance across J24-1 and J24-2 about 80 to 110-ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT DRIVE ASSY PH. (Refer to Removal 31/ Replacement 23.)

Step	Check	Remedy	
		Yes	**No**
8	Checking the connectors of the K Mode Sensor in the DRIVE ASSY PH for connection Check the connections between the PWBA MCU and K Mode Sensor. Are P/J26 and P/J261 connected correctly? 	Go to step 10.	Reconnect the connector(s) P/J26 and/or P/J261correctly, then go to step 9.
9	Does the error still occur when the power is turned OFF and ON?	Go to step 10.	End of work.
10	Checking the HARN ASSY KSNR REGCL for continuity. Disconnect J26 from the PWBA MCU. Disconnect J261 from the K Mode Sensor. Is each cable of J26 <=> J261 continuous?	Go to step 11.	Replace the HARN ASSY KSNR REGCL.
11	Checking the power to the K Mode Sensor. Disconnect J26 from the PWBA MCU. Is the voltage across P26-1pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 12.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
12	Checking the K Mode Sensor for operation. Remove the DRIVE ASSY PH from the printer once, but P/J261 and P/J24 should be connected. Checked by [Digital Input]-[DI-04] in [IOT Diag] of diagnosis. During this check, close the COVER ASSY FRONT MG. Does the status (L or H) change, when a piece of paper is inserted into the gap of the K Mode Sensor?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT DRIVE ASSY PH. (Refer to Removal 31/ Replacement 23.)

FIP-1.11 009-340: IOT CTD (ACD) Sensor Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) DISPENSER ASSY (PL5.1.1) FRAME ASSY MOT (PL5.1.2) MOTOR ASSY DISP (PL5.1.3) TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) HARN ASSY TNR MOT (PL5.1.25) TRANSFER ASSY (PL6.1.7) PWBA MCU (PL8.2.13)		
1	Checking the protection sheet staying. Is there the protection sheet on the PHD ASSY? 	Remove the protection sheet.	Go to step 2.
2	Checking the CTD (ADC) Sensor Window. Open the COVER ASSY FRONT MG. Is the CTD (ADC) Sensor window dirty? ADC Sensor window Rio01012KA	Go to step 3.	Go to step 4.
3	Turn off the power, and gently wipe the CTD (ADC) Sensor window with a clean dry cloth or cotton swab. After wiping the window, close the COVER ASSY FRONT MG. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking after resetting the TONER CARTRIDGE (Y, M, C and K). Reseat the TONER CARTRIDGE (Y, M, C and K), and check that the lock key is in the lock position. Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
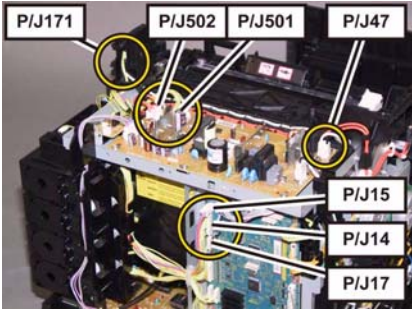
Step	Check	Remedy	
		Yes	**No**
5	Checking the DISPENSE MOTOR (Y, M, C and K) for rotation. Does the DISPENSE MOTOR (Y, M, C and K) function normally? Checked by [Digital Output] - [DO-21(Y),DO-23(M),DO-25(C),DO-27(K)] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 6.	Go to step 7.
6	Checking the gears of the DISPENSER ASSY for shape and operation. Are the shape and operation of the gears of the DISPENSER ASSY normal? Example: For Yellow Gear Rio01014KA	Go to step 11.	Replace the defective gear(s) or DISPENSER ASSY. (Refer to Removal 44/ Replacement 10.)
7	Checking the connector for connection. Check the connectors between the PWBA MCU and DISPENSE MOTOR (Y, M, C and K). Are P/J18 and P/J181(Y)/P/J182(M) connected correctly? Are P/J19 and P/J191(C)/P/J192(K) connected correctly? Example: For Yellow P/J181 P/J18 3pin	Go to step 9.	Reconnect the connector(s) P/J18 and P/J181 surly, then go to step 8. or reconnect the connector(s) P/J19 and P/J191 surly, then go to step 8.
8	Does the error still occur when the power is turned OFF and ON?	Go to step 9.	End of work.
9	Checking the HARN ASSY TNR MOT for continuity. Disconnect J18 from the PWBA MCU. Disconnect J181(Y)/J182(M)/J191(C)/J192(K) from the DISPENSE MOTOR (YMCK) MOT. Is each cable of J18 <=> J181/182 continuous? or Is each cable of J19 <=> J191/192 continuous?	Go to step 10.	Replace the HARN ASSY TNR MOT.
10	Checking the power to TNR (Y) MOT (MOTOR ASSY DISP). Disconnect J18 from the PWBA MCU. Is the voltage across P18-3pin <=> ground on PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed.	Replace the MOTOR ASSY DISP or FRAME ASSY MOT.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
11	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 12.	End of work.
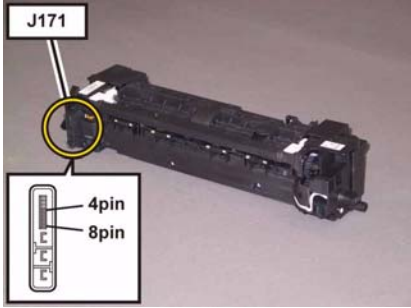
Step	Check	Remedy	
		Yes	**No**
12	Checking after replacing the TONER CARTRIDGE (Y, M, C or K). Replace the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. (Refer to Removal 6/Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Go to step 13.	End of work.
13	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Does the error still occur when the power is turned OFF and ON?	Go to step 14.	End of work.
14	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Does the error still occur when the power is turned OFF and ON?	Replace the TRANSFER ASSY. (Refer to Removal 20/Replacement 34.)	End of work.

FIP-1.12 009-360 / 009-361 / 009-362 / 009-363: IOT Toner (YMCK) CRUM Comm Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) CONNECTOR CRUM (PL5.1.14) PWBA MCU (PL8.2.13) HARN ASSY TONER CRUM (PL5.1.26)		
1	Checking the TONER CARTRIDGE (Y, M, C or K) for installing. Reseat the TONER CARTRIDGE (Y, M, C or K). Does the error still occur when the power is turned off and on?	Go to step 2.	End of work.
2	Checking the connectors for connection. Check the connections between the PWBA MCU and CONNECTOR CRUM (Y, M, C or K). Are P/J31 and P/J311(Y) / P/J312 (M) / P/J313(C) / P/J314 (K) connected surely?	Go to step 4.	Reconnect the connector(s) surely, then go to step 3.
3	Does the error still occur when the power is turned off and on?	Go to step 4.	End of work.
4	Checking the HARN ASSY TONER CRUM for continuity. Disconnect P/J31 from the PWBA MCU. Disconnect P/J311(Y) / P/J312 (M) / P/J313(C) / P/J314 (K) from the CONNECTOR CRUM (YMCK). Is each cable of P/J31 <=> P/J311(Y) / P/J312 (M) / P/J313(C) / P/J314 (K) continuous?	Go to step 5.	Replace the HARN ASSY TONER CRUM.
5	Checking the output power of CONNECTOR CRUM (Y, M, C or K). Disconnect P/J31 on the PWBA MCU. Is the voltage across ground <=> J31-3(Y)/7(M)/11(C)/ 15(K) pin on the PWBA MCU, about +3.3VDC?	Replace the DISPENSER ASSY. (Refer to Removal 44/ Replacement 10)	Go to step 6.
6	Checking after the TONER CARTRIDGE (Y, M, C or K). Replace the TONER CARTRIDGE (Y, M, C or K). Does the error still occur when the power is turned off and on?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11)	End of work.

FIP-1.13 010-317: IOT Fuser Detached

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) HARNESS ASSY FUSER MG SFP (PL6.1.2) PWBA MCU (PL8.2.13) PWBA LVPS (PL8.2.1)		
1	Checking after resetting the FUSER ASSY. Reseat the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the connectors for connection. Remove the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Check the connections between the PWBA MCU (P/J17) and FUSER ASSY (P/J171). Check the connections between the FUSER ASSY (P/J171) and PWBA LVPS (P/J47). Check the connections between the PWBA LVPS (P/J501 and P/J502) and PWBA MCU (P/J14 and P/J15). Are these connectors connected correctly? 	Go to step 4.	"Reconnect the connector(s) P/J17, P/J47, P/J171, P/J501, P/J502, P/J14 and/or P/J15 correctly, then go to step 3."
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking the HARNESS ASSY FUSER MG SFP for continuity. Disconnect J17 from the PWBA MCU. Disconnect J47 from the PWBA LVPS. Is each cable of J17 and J47 <=> P171 continuous? **NOTE: P171 is attached to the frame.**	Go to step 5.	Replace the HARNESS ASSY FUSER MG SFP.

Step	Check	Remedy	
		Yes	**No**
5	Checking the resistances of Temp. Sensor in the FUSER ASSY. Remove the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Check the resistances across the following pins of the removed FUSER ASSY. J171-5pin <=> J171-4pin J171-6pin <=> J171-8pin J171-6pin <=> J171-7pin Can the resistances be measured? (The resistances are 7 k-ohm at 180 degrees C). 	Go to step 6.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49) After replacement, be sure to clear the life counter value.
6	Checking after the PWBA LVPS. Replace the PWBA LVPS.(Refer to Removal 11/ Replacement 43) Does the error still occur when the power is turned off and on?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11)	End of work.

FIP-1.14 010-351: IOT Fuser Life Over
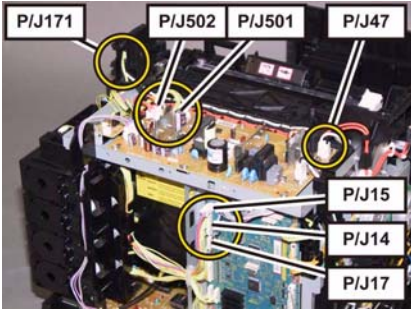
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) PWBA MCU (PL8.2.13)		
1	Checking the life counter value of the FUSER ASSY. Does the life counter value show the near of the end?	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.	Go to step 2.
2	Checking after resetting the FUSER ASSY. Reseat the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the FUSER ASSY. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON? **NOTE: After replacement, be sure to clear the life counter value.**	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.15 010-354: IOT Environment Sensor Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: SENSOR HUM (PL8.2.7) PWBA MCU (PL8.2.13) HARN ASSY HUM (PL9.1.6)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after resetting the SENSOR HUM. Reseat the SENSOR HUM. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the HARN ASSY HUM for continuity. Disconnect J20 from the PWBA MCU. Disconnect J201 from the SENSOR HUM. Is each cable of J20 <=> J201 continuous? 	Go to step 4.	Replace the HARN ASSY HUM.
4	Checking the power to SENSOR HUM. Disconnect the connector of J20 from the PWBA MCU. Is the voltage across P20-4pin <=> ground on the PWBA MCU, about +5 VDC?	Replace the SENSOR HUM. (Refer to Removal 18/ Replacement 36.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.16 010-377: IOT Fuser Failure

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) HARNESS ASSY FUSER MG SFP (PL6.1.2) PWBA LVPS (PL8.2.1) PWBA MCU (PL8.2.13) HARNESS ASSY LVPS MAIN MG SFP (PL9.1.3)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after resetting the FUSER ASSY. Reseat the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the connectors for connection. Remove the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Check the connections between the PWBA MCU (P/J17) and FUSER ASSY (P/J171). Check the connections between the FUSER ASSY (P/J171) and PWBA LVPS (P/J47). Check the connections between the PWBA LVPS (P/J501 and P/J502) and PWBA MCU (P/J14 and P/J15). Are these connectors connected correctly? 	Go to step 5.	"Reconnect the connector(s) P/J17, P/J47, P/J171, P/J501, P/J502, P/J14 and/or P/J15 correctly, then go to step 4."
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Checking the HARNESS ASSY FUSER MG SFP for continuity. Disconnect J17 from the PWBA MCU. Disconnect J47 from the PWBA LVPS. Is each cable of J17 and J47 <=> P171 continuous? **NOTE: P171 is attached to the frame.**	Go to step 6.	Replace the HARNESS ASSY FUSER MG SFP.
6	Checking the HARNESS ASSY LVPS MAIN MG SFP for continuity. Disconnect J14 from the PWBA MCU. Disconnect J501 from the PWBA LVPS. Is each cable of J14 <=> J501 continuous?	Go to step 7.	Replace the HARNESS ASSY LVPS MAIN MG SFP.

Step	Check	Remedy	
		Yes	**No**
7	Checking after replacing the FUSER ASSY Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON? **NOTE: After replacement, be sure to clear the life counter value.**	Go to step 8.	End of work.
8	Checking after the PWBA LVPS. Replace the PWBA LVPS.(Refer to Removal 11/ Replacement 43) Does the error still occur when the power is turned off and on?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11)	End of work.

FIP-1.17 010-421: IOT Fuser Near Life

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) PWBA MCU (PL8.2.13)		
1	Checking the FUSER ASSY for installation. Is the FUSER ASSY installed correctly? Warning: Start the operation after the FUSER ASSY has cooled down.	Go to step 3.	Reseat the FUSER ASSY, then go step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the FUSER ASSY. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when the power is turned OFF and ON? **NOTE: After replacement, be sure to clear the life counter value.**	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work

FIP-1.18 016-300 / 016-301 / 016-302 / 016-310 / 016-313 / 016-315 / 016-317 / 016-323 / 016-324 / 016-327 / 016-340 / 016-392 / 016-393 / 016-394: ESS Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

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FIP-1.19 016-316 / 016-318: ESS DIMM Slot RAM R/W Check Fail / ESS DIMM Slot RAM Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7) MEMORY CARD (OPTION) (PL8.1.15)		
1	Is the customer using the recommended memory card?	Go to step 3.	Replace to the recommended memory card,then go step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the MEMORY CARD (OPTION) installation. Reseat the MEMORY CARD (OPTION). Does the error still occur when turning on the power?	Go to step 4.	End of work.
4	Checking after resetting the MEMORY CARD (OPTION). Replace the MEMORY CARD.(Refer to Removal 55/ Replacement 55.) Does the error still occur when turning on the power?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.20 016-338: Optional Wireless Adapter Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7) WIRELESS ADAPTER (OPTION) (PL8.1.16)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the WIRELESS ADAPTER (OPTION) installation. Reseat the WIRELESS ADAPTER (OPTION). Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the WIRELESS ADAPTER (OPTION). Replace the WIRELESS ADAPTER (OPTION).(Refer to Removal 54/ Replacement 54.) Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking after resetting the PWBA ESS SFP. Reseat the PWBA ESS SFP. Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.21 016-347: On Board Network Fatal Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking after removing the ethernet cable. Does the error still occur when the power is turned off and on?	Go to step 2.	Initialize the Network settings and configutre of the Network settings.
2	Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.
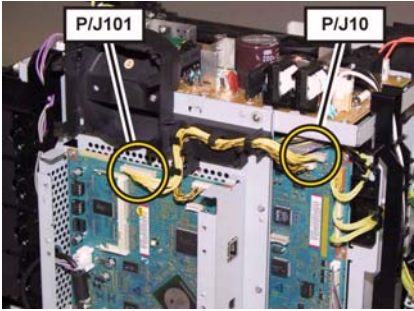
FIP-1.22 016-362 / 016-363 / 016-364 / 016-366 / 016-367 / 016-368: PCI Bus# (0 / 1) Host
Bridge Controller Error / PCI Bus# (0 / 1) Error Detected / PCI Error Messages
received from Bus#0-Device# (0 / 1)

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the error. Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

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FIP-1.23 016-369: Operator Panel - ESS Communication Fail

Step	Check	Remedy	
		Yes	No
	Possible causative parts: CONSOLE ASSY PANEL (PL1.2.3) HARNESS ASSY PNL A (PL1.2.12) HARNESS ASSY B (PL9.1.12) PWBA ESS SFP (PL8.1.7)		
1	Checking the CONSOLE ASSY PANEL for installation. Is the CONSOLE ASSY PANEL installed correctly?	Go to step 3.	Reseat the CONSOLE ASSY PANEL, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking the connectors for connection. Check the connections between the CONSOLE ASSY PANEL and PWBA ESS SFP. Are P/J202, P/J5301and P/J 403 connected surely?	Go to step 5.	Reconnect the connector(s) P/J202, P/J5301and P/J 4031 surely, then go to step 4.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work
5	Checking the HARNESS ASSY PNL A for continuity. Disconnect P/J202 from the CONSOLE ASSY PANEL. Disconnect P/J5301 from the HARNESS ASSY B. Is each cable of P/J202 <=> P/J5301 continuous?	Go to step 6.	Replace the HARNESS ASSY PNL A.(Refer to Removal 27/ Replacement 27.)
6	Checking the HARNESS ASSY B for continuity. Disconnect P/J5301 from the HARNESS ASSY PNL A. Disconnect P/J403 from the PWBA ESS SFP. Is each cable of P/J5301<=> P/J403 continuous?	Go to step 7.	Replace the HARNESS ASSY B.
7	Checking after replacing the CONSOLE ASSY PANEL. Replace the CONSOLE ASSY PANEL.(Refer to Removal 25/ Replacement 29.) Does the error still occur when the power is turned OFF and ON?	Go to step 8.	End of work.
8	Checking the firmware version Is the firmware the latest version?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	Upgrade the firmware.

FIP-1.24 016-370: MCU-ESS Communication Fail

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7) PWBA MCU (PL8.2.13) HARNESS ASSY ESS MG SFP (PL9.1.1)		
1	Checking after resetting the PWBA ESS SFP and PWBA MCU. Reseat the PWBA ESS SFP and PWBA MCU. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the connectors for connection. Check the connections between the PWBA MCU and PWBA ESS SFP. Are P/J10 and P/J101 connected correctly? 	Go to step 4.	Reconnect the connector(s) P/J10 and/or P/J101 correctly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking the HARNESS ASSY ESS MG SFP for continuity. Disconnect J10 from the PWBA MCU. Disconnect J101 from the PWBA ESS SFP. Is each cable of J10 <=> J101 continuous?	Go to step 5.	Replace the HARNESS ASSY ESS MG SFP.
5	Checking the firmware version Is the firmware the latest version?	Go to step 6.	Upgrade the firmware.
6	Checking after replacing the PWBA MCU. Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.) Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.25 016-383 / 016-384 / 016-385 / 016-386 / 016-387/ 016-388 / 016-391: Download
ID Error / Download Range Error / Download header Error / Download Check
Sum Error / Download Format Error / Download Initial Error / Download Protect
Error

Step	Check	Remedy	
		Yes	No
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the download file. Was the file for 2150cn/cdn downloaded?	Go to step 2.	Re-download the correct file.
2	Checking the connection between PC and printer. Are your PC and the printer correctly connected by USB or LAN? Disconnect and reconnect the USB or network cable. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after reseating the PWBA ESS SFP. Reseat the PWBA ESS SFP. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking re-downloading the correct file for 2150cn/cdn. Re-download the correct file from Dell web site. Does the error still occur when the power is turned OFF and ON?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.26 016-520: Ipsec Certificate Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7) PWBA MCU (PL8.2.13)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking after replacing the PWBA ESS SFP. Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.) Does the error still occur when the power is turned off and on?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.27 016-700: Memory Over flow

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: MEMORY CARD (OPTION) (PL8.1.15)		
1	Checking for memory expansion. Is additional memory installed? Is the additional memory installed properly?	Go to step 2.	Install additional memory.Or, re-install it properly.
2	Checking after setting the Print Mode to "Standard" via the printer driver Set the Print Mode of the printer driver to "Standard". Does the error persist during printing?	Go to step 3.	End of work.
3	Deleting the data by executing Clear Storage.Execute "Clear Storage"under [Maintenance] in the Control Panel. Does the error persist during printing?	The current printing job process cannot be continued because the memory capacity is exceeded.	End of work.

FIP-1.28 016-720: PDL Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking cable plug/unplug. Plug and unplug the cable. (USB cable or I/F cable) Does the error still occur when printing?	Go to step 2.	End of work.
2	Checking after replacing the Cable. Replace the cable. (USB cable or I/F cable) Does the error still occur when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.29 016-753 / 016-755: PDF password error / PDF print disabled error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the PDF data. -Enter the correct PDF document password again. -Change the PDF document security setting. Does the error still occur when printing?	End of work.	Upgrade the firmware.

FIP-1.30 016-756: Auditron -Print Prohibited time

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the "Available Time" setting. Set the correct "Available Time" again. Does the error still occur when printing?	End of work.	Upgrade the firmware.

FIP-1.31 016-757: Auditron - Invalid User

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the user's account setting. Set the correct user's account (user name and password). Does the error still occur when printing?	End of work.	Upgrade the firmware.

FIP-1.32 016-758: Auditron - Disabled Function

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the "Black&White" setting. Set the [Color Mode] to the [Color]. Does the error still occur when printing?	End of work.	Upgrade the firmware.

FIP-1.33 016-759: Auditron - Reached Limit

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the "Dell Color Track" setting. Set the correct value of [User Registration] exceed the limitation. Does the error still occur when printing?	End of work.	Upgrade the firmware.

FIP-1.34 016-799: Job Environment Violation

Step	Check	Remedy Yes	Remedy No
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the paper size. Does the paper size in use meet the specifications?	Go to step 3.	Use the paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking the paper size setup. Does the using paper size match the printer setup value?	Go to step 5.	Go to step 4.
4	Setup the paper size through your PC. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the printing job. Does the error still occur when printing the Windows test print?	Go to step 6.	End of work.
6	Checking the firmware version. Is the firmware the latest version?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	Upgrade the firmware.

FIP-1.35 016-920: Wireless Setting Error Time-out Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the wireless LAN access point (Registrar). Try connecting again. Does the error still occur when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.36 016-921: Wireless Setting Error Download Error

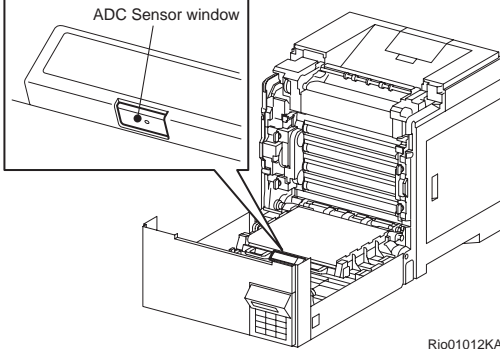| Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the wireless LAN access point (Registrar) in WPS mode. Try connecting again. Does the error still occur when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.37 016-922: Wireless Setting Error Session Overlap Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the wireless LAN access point (Registrar) in the WPS-PBC mode. Set only one wireless access point (Registrar) to operate in the WPS-PBC mode, and execute the process again according to the procedure. Does the error still occur when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.38 016-980: Disc Full

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7) MEMORY CARD (OPTION) (PL8.1.15)		
1	Checking the file data in the printer. Print or clear the stored files and data at the printer memory. Does the error still occur when printing?	Go to step 2.	End of work.
2	Checking the memory capacity for print. Print the small size file (like a Windows test page). Does the error still occur when printing?	Go to step 3.	Add the MEMORY CARD or divide the printing job.
3	Is the customer using the recommended memory card?	Go to step 4.	Replace to the recommended memory card.
4	Checking the MEMORY CARD (OPTION) installation. Reseat the MEMORY CARD (OPTION). Does the error still occur when turning on the power?	Go to step 5.	End of work.
5	Checking after resetting the MEMORY CARD (OPTION). Replace the MEMORY CARD.(Refer to Removal 55/ Replacement 55.) Does the error still occur when turning on the power?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	End of work.

FIP-1.39 016-981: Collate Full

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the error. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking RAM Disk size settings. Does the error occur when printing after reducing the size setting of the RAM Disk?	Split the document into blocks to decrease the number of pages to be collated.	End of work.

FIP-1.40 024-360: MCU DownLoad Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA MCU (PL8.2.13)		
1	Checking the firmware version. Is the firmware the latest version?	Go to step 2.	Upgrade the firmware,then go step 2.
2	Checking the error. Does the error still occur when printing?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.41 024-362: IOT Start Image Marking Time-out

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the firmware version. Is the firmware the latest version?	Go to step 2.	Upgrade the firmware,then go step 2.
2	Checking the error. Does the error still occur when printing?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/Replacement 12)	End of work.

FIP-1.42 024-985: Waiting for "Continue" key to be pressed after reloading paper to the SSF

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the firmware version. Is the firmware the latest version?	Replace the KIT PWBA ESS SFP. (Refer to Removal 42/ Replacement 12.)	Upgrade the firmware.

FIP-1.43 027-446 / 027-452: IPv6 duplicate / IPv4 duplicate

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: -		
1	Checking the IP addresses. Remove the duplicate IP addresses. Does the error still occur when the power is turned off and on?	End of work.	Upgrade the firmware.

FIP-1.44 042-700:IOT Over Heat Stop
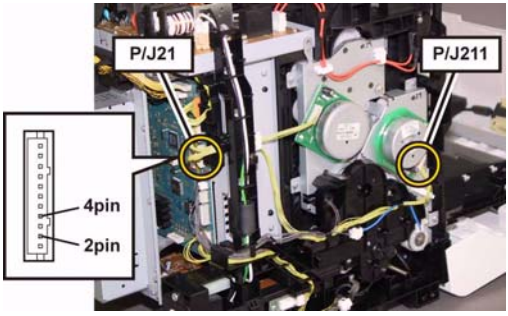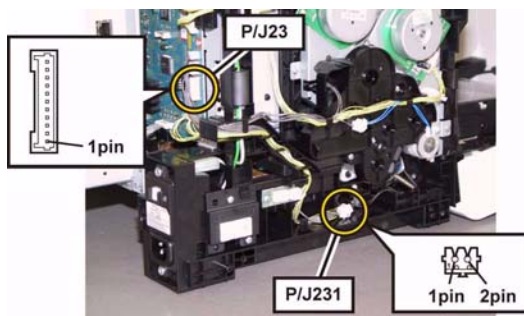
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: SENSOR HUM (PL8.2.7) PWBA MCU (PL8.2.13) HARN ASSY HUM (PL9.1.6)		
1	Checking the connectors for connection. Check the connections between the PWBA MCU and SENSOR HUM. Are P/J20 and P/J201 connected surely?	Go to step 3.	Reconnect the connector(s) P/J20 and/or P/J201 surely, then go to step 2
2	Does the error still occur when the power is turned off and on?	Go to step 3.	End of work.
3	Checking the HARN ASSY HUM for continuity. Disconnect P/J20 from the PWBA MCU. Disconnect P/J201 from the SENSOR HUM. Is each cable of P/J20 <=> P/J201 continuous?	Go to step 4.	Replace the HARN ASSY HUM.
4	Checking the output power of SENSOR HUM. Disconnect P/J20 on the PWBA MCU. Is the voltage across ground <=> J20-4pin on the PWBA MCU, about +5VDC?	Replace the SENSOR HUM.(Refer to Removal 18/ Replacement 36)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11)
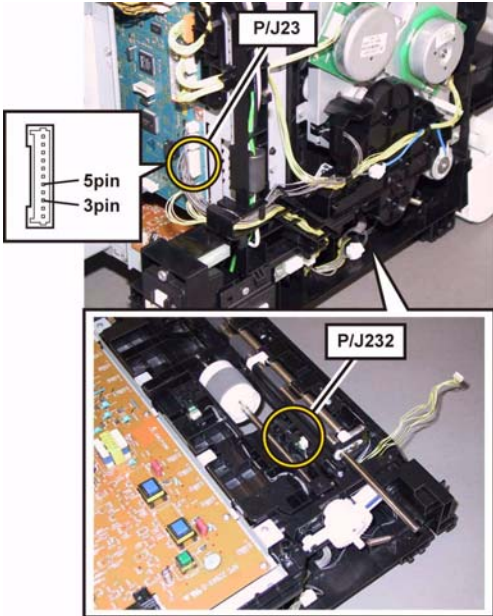
FIP-1.45 071-100: IOT Tray1 Misfeed JAM

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: CASSETTE ASSY 250 (PL2.1.1) HOLDER ASSY SEPARATOR (PL2.1.5) CLUTCH ASSY DRV (PL3.1.1) SOLENOID FEED MSI (PL3.1.11) HARN ASSY L SIDE (PL3.1.18) ROLL ASSY FEED (PL3.2.4) ACTUATOR REGI ROLL M (PL3.2.8) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) DRIVE ASSY MAIN (PL7.1.2) DRIVE ASSY PH (PL7.1.4) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Checking the paper condition. Is the paper in the Tray 1 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after reloading a new paper. Reload a new paper in the Tray 1. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the Main Motor (DRIVE ASSY MAIN) for operation. Does the Main Motor (DRIVE ASSY MAIN) operate properly? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis. During this check, close the COVER ASSY FRONT MG.	Go to step 6.	Go to step 19.
6	Checking the DRIVE ASSY PH for operation. Does the ROLL ASSY FEED, ROLL ASSY REGI and ROLL REGI METAL rotate properly? Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Reseat or replace the KIT DRIVE ASSY PH. (Refer to Removal 31/ Replacement 23.)
7	Checking the paper feeding position. Is the paper not fed from the Tray 1?	Go to step 8.	Go to step 12.
8	Checking after resetting the Guide Sides and End Guide on the Tray 1. Reset the Guide Sides and End Guide, and reseat the Tray 1 to the printer correctly. Does the error still occur when printing?	Go to step 9.	End of work.

Step	Check	Remedy	
		Yes	**No**
9	Checking the HOLDER ASSY SEPARATOR on the Tray 1 for shape and rotation. Pull the Tray 1 out from the printer. Is the HOLDER ASSY SEPARATOR not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the KIT HOLDER ASSY SEPARATOR. (Refer to Removal 2/ Replacement 52.)
10	Checking the ROLL ASSY FEED for shape and rotation. Pull the Tray 1 out from the printer. Is the ROLL ASSY FEED not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)
11	Checking the Tray 1 Feed Solenoid (SOLENOID FEED MSI) for operation. Does the Tray 1 Feed Solenoid (SOLENOID FEED MSI) operate properly? Check by [Digital Output] - [DO-b] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Replace the CASSETTE ASSY 250. (Refer to Removal 1/ Replacement 53.)	Go to step 22.
12	Checking the paper lead edge staying position. Does the paper lead edge stay before the ROLL ASSY REGI and ROLL REGI METAL?	Go to step 13.	The paper lead edge stay after the ROLL ASSY REGI and ROLL REGI METAL, then go to step 16.
13	Checking the paper transfer path between the ROLL ASSY FEED and ROLL ASSY REGI. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Checking the ACTUATOR REGI IN for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI IN normal?	Go to step 15.	Reseat the ACTUATOR REGI IN. If broken or deformed, replace it.
15	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis.	Go to step 16.	Go to step 26.
16	Checking the Regi. Clutch (CLUTCH ASSY DRV) for operation, and ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. Does the Regi. Clutch (CLUTCH ASSY DRV) operate properly, and the ROLL ASSY REGI and ROLL REGI METAL rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 17.	Go to step 30.

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Step	Check	Remedy	
		Yes	**No**
17	Checking the ACTUATOR REGI ROLL M for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI ROLL M normal?	Go to step 18.	Reseat the ACTUATOR REGI ROLL M. If broken or deformed, replace it with a new one.
18	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 26.
19	Checking the connectors for connection. Check the connections between the PWBA MCU and DRIVE ASSY MAIN (Main Motor). Are P/J21 and P/J211 connected correctly? 	Go to step 20.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
20	Checking the HARN ASSY MAIN MOT MG SFP for continuity. Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 21.	Replace the HARN ASSY MAIN MOT MG SFP.
21	Checking the power to the DRIVE ASSY MAIN. Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
22	Checking the connectors of the SOLENOID FEED MSI (Tray 1 Feed Solenoid) for connection. Check the connections between the PWBA MCU and SOLENOID FEED MSI. Are P/J23 and P/J231 connected correctly? 	Go to step 23.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.

Step	Check	Remedy	
		Yes	**No**
23	Checking the HARN ASSY L SIDE for continuity Disconnect J23 from the PWBA MCU. Disconnect P231 from the SOLENOID FEED MSI. Is each cable of J23 <=> P231 continuous?	Go to step 24.	Replace the HARN ASSY L SIDE.
24	Checking the power to the SOLENOID FEED MSI. Disconnect J23 from the PWBA MCU. Is the voltage across P23-1pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 25.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
25	Checking the SOLENOID FEED MSI for resistance. Disconnect P/J231 of the SOLENOID FEED MSI. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT FEED ROLL/SOL/ CLUTCH. (Refer to Removal 35/ Replacement 19.)
26	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly? 	Go to step 27.	Reconnect the connector(s) P/ J23 and/or P/J232 correctly.
27	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 28.	Replace the HARN ASSY L SIDE.
28	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 29.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
29	Checking the SENSOR PHOTO for operation. Check the voltage across J23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO:REGI. (Refer to Removal 49/ Replacement 5.)

Step	Check	Remedy	
		Yes	**No**
30	Checking the connectors of the CLUTCH ASSY DRV (Regi Clutch) for connection. Check the connections between the PWBA MCU and CLUTCH ASSY DRV. Are P/J26 and P/J262 connected correctly? 	Go to step 31.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
31	Checking the HARN ASSY KSNR REGCL for continuity. Disconnect J26 from the PWBA MCU. Disconnect P262 from the CLUTCH ASSY DRV. Is each cable of J26 <=> P262 continuous?	Go to step 32.	Replace the HARN ASSY KSNR REGCL.
32	Checking the power to the CLUTCH ASSY DRV. Disconnect J26 from the PWBA MCU. Is the voltage across P26-4pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 33.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
33	Checking the CLUTCH ASSY DRV for resistance. Disconnect P/J262 of the CLUTCH ASSY DRV. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the CLUTCH ASSY DRV. (Refer to Removal 30/ Replacement 24.)

FIP-1.46 072-100: IOT Tray2 Misfeed JAM

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA MCU (PL8.2.13) HARNESS ASSY TEAY MOT (PL12.2.2) HARNESS ASSY TEAY COMP (PL12.2.20) PWBA FEED H (PL12.2.1) SOLENOID FEED MSI (PL12.2.15) CLUTCH ASSY DRV (PL12.2.6) MOTOR ASSY SUB (PL12.2.16) ROLL ASSY FFED (PL12.4.4) SENSOR PHOTO (12.4.13) CASSETTE ASSY 250 OPT (PL12.5.1) HOLDER ASSY SEPARATOR (12.5.5)		
1	Checking the paper condition. Is the paper in the Tray 2 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after reloading a new paper. Reload a new paper in the Tray 2. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the Paper Path Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Checked by [Digital Input] - [DI-a] in [IOT Diag] of diagnosis.	Go to step 6.	Go to step 15.
6	Checking the MOTOR ASSY SUB for operation. Does the MOTOR ASSY SUB operate properly? Checked by [Digital Output]-[DO-5] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Go to step 19.
7	Checking the paper feeding. Is the paper fed from the Tray 2?	Go to step 12.	Go to step 8.
8	Checking after resetting the Guide Sides and End Guide on the Tray 2. Reset the Guide Sides and End Guide, and reseat the Tray2 to the printer correctly. Does the error still occur when printing?	Go to step 9.	End of work.
9	Checking the HOLDER ASSY SEPARATOR on the Tray 2 for shape and rotation. Pull the Tray 2 out from the printer. Is the HOLDER ASSY SEPARATOR not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the KIT HOLDER ASSY SEPARATOR. (Refer to Removal 2/ Replacement 52.)

Step	Check	Remedy	
		Yes	**No**
10	Checking the ROLL ASSY FEED for shape and rotation Pull the Tray 2 out from the printer. Is the ROLL ASSY FEED not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the ROLL ASSY FEED. (Refer to Removal 59/ Replacement 58.)
11	Checking the Tray 2 Feed Solenoid (SOLENOID FEED MSI) for operation. Does the Tray 2 Feed Solenoid (SOLENOID FEED MSI) operate properly? Checked by [Digital Output] - [DO-31] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Replace the CASSETTE ASSY 250 OPT.	Go to step 22.
12	Checking the Tray 2 Turn Clutch (CLUTCH ASSY DRV) for operation. Does the Tray 2 Turn Clutch (CLUTCH ASSY DRV) operate properly? Checked by [Digital Output] - [DO-33] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 13.	Go to step 26.
13	Checking the paper lead edge staying position. Does the paper lead edge stay before the ROLL ASSY REGI and ROLL REGI METAL?	Go to step 14.	Replace the KIT FEEDER ASSY OPT.(Refer to Removal 58/ Replacement 59.)
14	Checking the paper path. Remove the Tray 1 and Tray 2 paper cassettes. Are there any obstacles on the paper transfer path between the Tray 2 and the Regi Assy?	Remove the obstacles or stains from the paper transfer path.	Replace the KIT FEEDER ASSY OPT.(Refer to Removal 58/ Replacement 59.)
15	Checking the connectors of the SENSOR PHOTO (Paper Path Sensor) for connection. Check the connections between the PWBA FFE D and SENSOR PHOTO. Are P/J420 and P/J4200 connected correctly?	Go to step 16.	Reconnect the connector(s) P/J420 and/or P/J4200 correctly.
16	Checking the HARNESS ASSY TRAY COMP for continuity. Disconnect J420 from the PWBA FEED H. Disconnect J4200 from the SENSOR PHOTO. Is each cable of J420 <=> J4200 continuous?	Go to step 17.	Replace the HARNESS ASSY TRAY COMP
17	Checking the power to the SENSOR PHOTO. Disconnect J420 from the PWBA FEED H. Is the voltage across P420-6pin <=> ground on the PWBA FEED H, about +3.3 VDC?	Go to step 18.	Replace the PWBA FEED H.
18	Checking the SENSOR PHOTO for operation. Check the voltage across J420-5pin <=> ground on the PWBA FEED H. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA FEED H.	Replace the SENSOR PHOTO (Paper Path Sensor).
19	Checking the connectors for connection. Check the connections between the PWBA FEED H and MOTOR ASSY SUB. Are P/J422 and P/J4211 connected correctly?	Go to step 20.	Reconnect the connector(s) P/J422 and/or P/J4211 correctly.
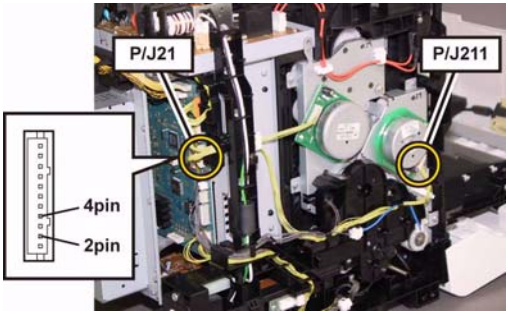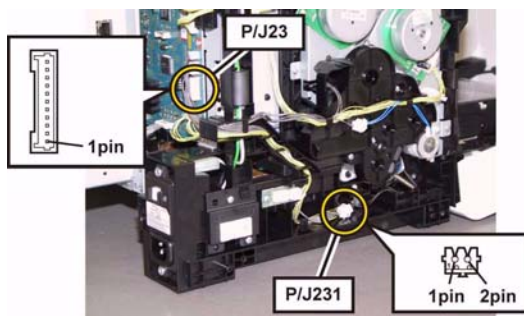
Step	Check	Remedy	
		Yes	**No**
20	Checking the HARNESS ASSY TEAY MOT for continuity. Disconnect J422 from the PWBA FEED H. Disconnect J4211 from the MOTOR ASSY SUB. Is each cable of J422 <=> J4211 continuous?	Go to step 21.	Replace the HARNESS ASSY TRAY MOT.
21	Checking the power to the MOTOR. Disconnect J422 from the PWBA FEED H. Are the voltages across J422-6pin <=> ground on the PWBA FEED H, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the MOTOR ASSY SUB.	Replace the PWBA FEED H.
22	Checking the connectors of the SOLENOID FEED for connection. Check the connections between the PWBA FEED H and SOLENOID FEED. Are P/J421 and P/J4211 connected correctly?	Go to step 23.	Reconnect the connector(s) P/ J421 and/or P/ J4211 correctly.
23	Checking the HARNESS ASSY TRAY COMP for continuity. Disconnect J421 from the PWBA FEED H. Disconnect P4211 from the SOLENOID FEED. Is each cable of J421 <=> P4211 continuous?	Go to step 24.	Replace the HARNESS ASSY TRAY COMP.
24	Checking the power to the SOLENOID FEED MSI. Disconnect J421 from the PWBA FEED H. Is the voltage across P421-1pin <=> ground on the PWBA FEED H, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 25.	Replace the PWBA FEED H.
25	Checking the SOLENOID FEED MSI for resistance. Disconnect P/J4211 of the SOLENOID FEED MSI. Is the resistance across J4211-1 and J4211-2 approximately 96 ohm?	Replace the PWBA FEED H.	Replace the SOLENOID FEED MSI.
26	Checking the connectors of the Feed Clutch (CLUTCH ASSY DRV) for connection. Check the connections between the PWBA FEDD H and Feed Clutch. Are P/J420 and P/J4201 connected correctly?	Go to step 27.	Reconnect the connector(s) P/ J420 and/or P/ J4201 correctly.
27	Checking the HARNESS ASSY TRAY COMP for continuity. Disconnect J420 from the PWBA FEED H. Disconnect P4201 from the Feed Clutch. Is each cable of J420 <=> P4201 continuous?	Go to step 28.	Replace the HARNESS ASSY TRAY COMP.
28	Checking the power to the Feed Clutch. Disconnect J420 from the PWBA FEED H. Is the voltage across P420-1pin <=> ground on the PWBA FEED H, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 29.	Replace the PWBA FEED H.
29	Checking the Feed Clutch for resistance. Disconnect P/J4201 of the Feed Clutch. Is the resistance across J4201-1 and J4201-2 approximately 280-ohm?	Replace the PWBA FEED H.	Replace the Feed Clutch (CLUTCH ASSY DRV).
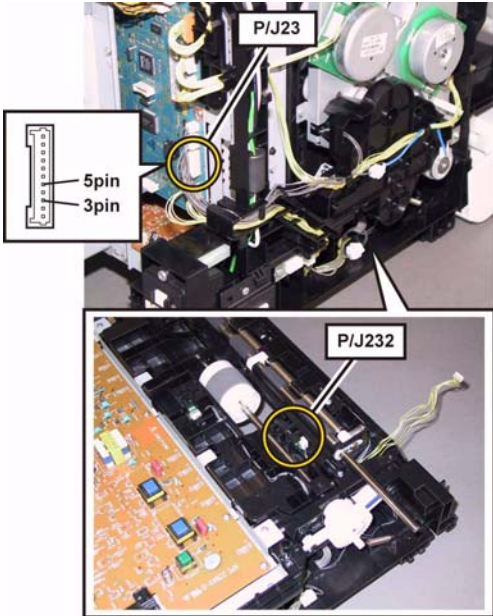
FIP-1.47 072-101: IOT Feeder 2 JAM
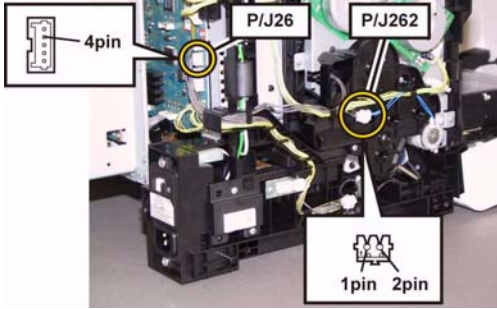
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: CASSETTE ASSY 250 (PL2.1.1) HOLDER ASSY SEPARATOR (PL2.1.5) CLUTCH ASSY DRV (PL3.1.1) SOLENOID FEED MSI (PL3.1.11) HARN ASSY L SIDE (PL3.1.18) ROLL ASSY FEED (PL3.2.4) ACTUATOR REGI ROLL M (PL3.2.8) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) DRIVE ASSY MAIN (PL7.1.2) DRIVE ASSY PH (PL7.1.4) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Checking the paper condition. Is the paper in the Tray 1 or Tray 2 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after reloading a new paper. Reload a new paper in the Tray 1 or Tray 2. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the Main Motor (DRIVE ASSY MAIN) for operation. Does the Main Motor (DRIVE ASSY MAIN) operate properly? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 6.	Go to step 19.
6	Checking the DRIVE ASSY PH for operation. Does the ROLL ASSY FEED, ROLL ASSY REGI and ROLL REGI METAL rotate properly? Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Reseat or replace the KIT DRIVE ASSY PH. (Refer to Removal 31/ Replacement 23.)
7	Checking the paper feeding position Is the paper not fed from the Tray 1 or Tray 2?	Go to step 8.	Go to step 12.
8	Checking after resetting the Guide Sides and End Guide on the Tray 1 or Tray 2. Reset the Guide Sides and End Guide, and reseat the Tray 1 or Tray 2 to the printer correctly. Does the error still occur when printing?	Go to step 9.	End of work.

Step	Check	Remedy	
		Yes	**No**
9	Checking the HOLDER ASSY SEPARATOR on the Tray 1 or Tray 2 for shape and rotation. Pull the Tray 1 or Tray 2 out from the printer. Is the HOLDER ASSY SEPARATOR not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the KIT HOLDER ASSY SEPARATOR.(Refer to Removal 2/Replacement 52.)
10	Checking the ROLL ASSY FEED for shape and rotation. Pull the Tray 1 or Tray 2 out from the printer. Is the ROLL ASSY FEED not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the KIT ROLL ASSY FEED.(Refer to Removal 9/Replacement 45.)
11	Checking the Cassette Feed Solenoid (SOLENOID FEED MSI) for operation. Does the Cassette Feed Solenoid (SOLENOID FEED MSI) operate properly? Checked by [Digital Output] - [DO-b] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Replace the CASSETTE ASSY 250. (Refer to Removal 1/Replacement 53.)	Go to step 22.
12	Checking the paper lead edge staying position. Does the paper lead edge stay before the ROLL ASSY REGI and ROLL REGI METAL?	Go to step 13.	The paper lead edge stay after the ROLL ASSY REGI and ROLL REGI METAL, then go to step 16.
13	Checking the paper transfer path between the ROLL ASSY. FEED and ROLL ASSY REGI. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Checking the ACTUATOR REGI IN for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI IN normal?	Go to step 15.	Reseat the ACTUATOR REGI IN. If broken or deformed, replace it.
15	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis.	Go to step 16.	Go to step 26.
16	Checking the Regi. Clutch (CLUTCH ASSY DRV) for operation, and ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis. Does the Regi. Clutch (CLUTCH ASSY DRV) operate properly, and the ROLL ASSY REGI and ROLL REGI METAL rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 17.	Go to step 30.

Step	Check	Remedy	
		Yes	**No**
17	Checking the ACTUATOR REGI ROLL M for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI ROLL M normal?	Go to step 18.	Reseat the ACTUATOR REGI ROLL M. If broken or deformed, replace it with a new one.
18	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 26.
19	Checking the connectors for connection Check the connections between the PWBA MCU and DRIVE ASSY MAIN (Main Motor). Are P/J21 and P/J211 connected correctly? 	Go to step 20.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
20	Checking the HARN ASSY MAIN MOT MG SFP for continuity Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 21.	Replace the HARN ASSY MAIN MOT MG SFP.
21	Checking the power to the DRIVE ASSY MAIN Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
22	Checking the connectors of the SOLENOID FEED MSI (Cassette Feed Solenoid) for connection Check the connections between the PWBA MCU and SOLENOID FEED MSI. Are P/J23 and P/J231 connected correctly? 	Go to step 23.	Reconnect the connector(s) P/J23 and/or P/J231 correctly.

Step	Check	Remedy	
		Yes	**No**
23	Checking the HARN ASSY L SIDE for continuity Disconnect J23 from the PWBA MCU. Disconnect P231 from the SOLENOID FEED MSI. Is each cable of J23 <=> P231 continuous?	Go to step 24.	Replace the HARN ASSY L SIDE.
24	Checking the power to the SOLENOID FEED MSI Disconnect J23 from the PWBA MCU. Is the voltage across P23-1pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 25.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
25	Checking the SOLENOID FEED MSI for resistance. Disconnect P/J231 of the SOLENOID FEED MSI. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT FEED ROLL/SOL/ CLUTCH. (Refer to Removal 35/ Replacement 19.)
26	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly? 	Go to step 27.	Reconnect the connector(s) P/ J23 and/or P/J232 correctly.
27	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 28.	Replace the HARN ASSY L SIDE.
28	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 29.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
29	Checking the SENSOR PHOTO for operation. Check the voltage across J23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO:REGI.(Re fer to Removal 49/ Replacement 5.)

Step	Check	Remedy	
		Yes	**No**
30	Checking the connectors of the CLUTCH ASSY DRV (Regi Clutch) for connection. Check the connections between the PWBA MCU and CLUTCH ASSY DRV. Are P/J26 and P/J262 connected correctly? 	Go to step 31.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
31	Checking the HARN ASSY KSNR REGCL for continuity. Disconnect J26 from the PWBA MCU. Disconnect P262 from the CLUTCH ASSY DRV. Is each cable of J26 <=> P262 continuous?	Go to step 32.	Replace the HARN ASSY KSNR REGCL.
32	Checking the power to the CLUTCH ASSY DRV. Disconnect J26 from the PWBA MCU. Is the voltage across P26-4pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 33.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
33	Checking the CLUTCH ASSY DRV for resistance. Disconnect P/J262 of the CLUTCH ASSY DRV. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the CLUTCH ASSY DRV. (Refer to Removal 30/ Replacement 24.)

FIP-1.48 072-908: IOT Remain Option Feeder JAM
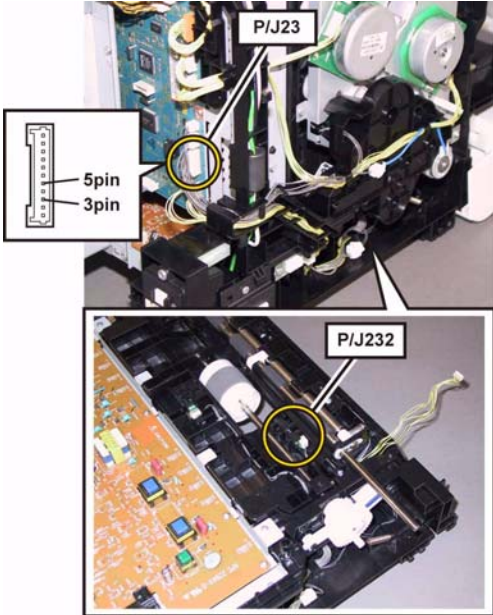
Step	Check	Remedy	
		Yes	No
	Possible causative parts: SENSOR PHOTO (PL12.4.13) PWBA MCU (PL8.2.13) HARNESS ASSY TRAY COMP (PL12.2.20)		
1	Checking the Paper Path Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Checked by [Digital Input] - [DI-a] in [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 2.
2	Checking the connectors for connection. Check the connections between the PWBA FEED H and Paper Path Sensor. Are P/J420 and P/J4200 connected correctly?	Go to step 3.	Reconnect the connector(s) P/J420 and/or P/J4200 correctly.
3	Checking the HARNESS ASSY TRAY COMP for continuity. Disconnect J420 from the PWBA FEED H. Disconnect J4200 from the Paper Path Sensor. Is each cable of J420 <=> J4200 continuous?	Go to step 4.	Replace the HARNESS ASSY TRAY COMP.
4	Checking the power to the SENSOR PHOTO. Disconnect J420 from the PWBA FEED H. Is the voltage across P420-6pin <=> ground on the PWBA FEED H, about +3.3 VDC?	Replace the KIT FEEDER ASSY OPT.(Refer to Removal 58/ Replacement 59)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11)

FIP-1.49 075-101 / 075-102 / 075-923: IOT SSF Insert JAM / IOT SSF Paper Pullout JAM / Waiting for reseat paper of SSF

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARNESS ASSY L SIDE (PL3.1.18) SENSOR PHOTO (PL3.2.13) PWBA MCU (PL8.2.13)		
1	Checking the customer operation. Did the customer insert the paper to the SSF during print?	After print completion, insert the paper to the SSF.	Go to step 2.
2	Checking the SSF No Paper Sensor for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR SSF) is operated by paper. Checked by [Digital Input] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 3.	Go to step 4.
3	Checking the error. Does the error still occur when printing?	Replace the PWBA MCU. (Refer to Removal 43/Replacement 11)	End of work.
4	Checking the connectors of the SENSOR PHOTO (SSF No Paper Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J233 connected correctly?	Go to step 6.	Reconnect the connector(s) P/J23 and/or P/J233 correctly, then go to step 5.
5	Does the error still occur when printing?	Go to step 6.	End of work.
6	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J233 from the SENSOR PHOTO. Is each cable of J23 <=> J233 continuous?	Go to step 7.	Replace the HARN ASSY L SIDE.
7	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-6pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 8.	Replace the PWBA MCU. (Refer to Removal 43/Replacement 11)
8	Checking the SENSOR PHOTO for operation. Check the voltage across J23-8pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the ACTUATOR SSF is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO.

FIP-1.50 077-100: IOT Reg On early JAM

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARN ASSY L SIDE (PL3.1.18) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) PWBA MCU(PL8.2.13)		
1	Checking the error. Replace to known good paper. Does the error still occur when printing?	Go to step 2.	End of work.
2	Checking the Regi Rolls installation. Open the Front Cover and check the Regi Rolls installation. Is the ROLL REGI METAL pressed against the ROLL ASSY REGI by the spring pressure?	Go to step 3.	Replace the printer.
3	Checking the Regi Clutch. Does the clutch noise occur? Checked by [Digital Output]-[DO-29] in [IOT Diag] of diagnosis.	Go to step 4.	Replace the printer.
4	Checking the Regi Sensor for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Checked by [Digital Input]-[DI-2] on [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 5.
5	Checking the ACTUATOR REGI IN for shape and operation. Remove the CHUTE LOW CST (PL3.2.35) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI IN normal?	Go to step 6.	Reseat the ACTUATOR REGI IN. (Refer to Removal 51/ Replacement 3) If broken or deformed, replace it.
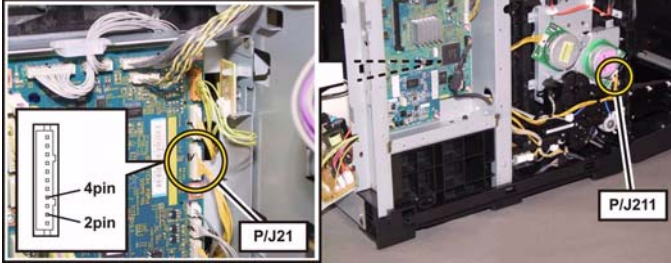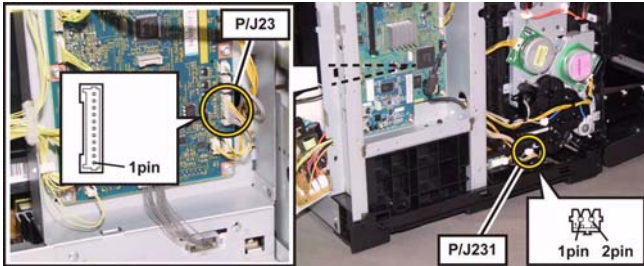
Step	Check	Remedy	
		Yes	**No**
6	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly? 	Go to step 7.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
7	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 8.	Replace the HARN ASSY L SIDE.
8	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 9.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
9	Checking the SENSOR PHOTO for operation. Check the voltage across J23-5pin <=> ground on the PWBA MCU. Remove the CHUTE LOW CST (PL3.2.35) once to check the operation. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO:REGI. (Refer to Removal 49/ Replacement 5.)
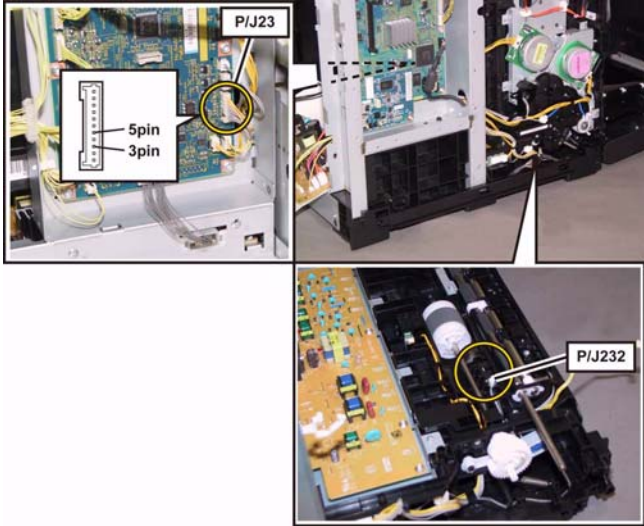
FIP-1.51 077-101: IOT Reg OFF Jam

Step	Check	Remedy	
		Yes	No
	Possible causative parts: CASSETTE ASSY 250 (PL2.1.1) HOLDER ASSY SEPARATOR (PL2.1.5) CLUTCH ASSY DRV (PL3.1.1) SOLENOID FEED MSI (PL3.1.11) HARN ASSY L SIDE (PL3.1.18) ROLL ASSY FEED (PL3.2.4) ACTUATOR REGI ROLL M (PL3.2.8) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) DRIVE ASSY MAIN (PL7.1.2) DRIVE ASSY PH (PL7.1.4) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Checking the paper condition. Is the paper in the Tray 1 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after reloading a new paper. Reload a new paper in the Tray 1. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the Main Motor (DRIVE ASSY MAIN) for operation. Does the Main Motor (DRIVE ASSY MAIN) operate properly? Checked by [Digital Output]-[DO-0] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 6.	Go to step 18.
6	Checking the DRIVE ASSY PH for operation. Does the ROLL ASSY FEED, ROLL ASSY REGI and ROLL REGI METAL rotate properly? Checked by [Digital Output]-[DO-29] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Reseat or replace the KIT DRIVE ASSY PH. (Refer to Removal 31/ Replacement 23.)
7	Checking the paper feeding position. Is the paper not fed from the Tray 1?	Go to step 8.	Go to step 12.
8	Checking after resetting the Guide Sides and End Guide on the Tray 1. Reset the Guide Sides and End Guide, and reseat the Tray 1 to the printer correctly. Does the error still occur when printing?	Go to step 9.	End of work.

Step	Check	Remedy	
		Yes	**No**
9	Checking the HOLDER ASSY SEPARATOR on the Tray 1 for shape and rotation. Pull the Tray 1 out from the printer. Is the HOLDER ASSY SEPARATOR not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the KIT HOLDER ASSY SEPARATOR. (Refer to Removal 2/ Replacement 52.)
10	Checking the ROLL ASSY FEED for shape and rotation. Pull the Tray 1 out from the printer. Is the ROLL ASSY FEED not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)
11	Checking the Cassette Feed Solenoid (SOLENOID FEED) for operation. Does the Cassette Feed Solenoid (SOLENOID FEED) operate properly? Checked by [Digital Output] - [DO-b] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Replace the CASSETTE ASSY 250. (Refer to Removal 1/ Replacement 53.)	Go to step 21.
12	Checking the paper lead edge staying position. Does the paper lead edge stay before the ROLL ASSY REGI and ROLL REGI METAL?	Go to step 13.	The paper lead edge stay after the ROLL ASSY REGI and ROLL REGI METAL, then go to step 16.
13	Checking the paper transfer path between the ROLL ASSY FEED and ROLL ASSY REGI. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Checking the ACTUATOR REGI IN for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI IN normal?	Go to step 15.	Reseat the ACTUATOR REGI IN.(Refer to Removal 51/ Replacement 3) If broken or deformed, replace it.
15	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis.	Go to step 16.	Go to step 25.
16	Checking the Regi. Clutch (CLUTCH ASSY DRV) for operation, and ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. Does the Regi. Clutch (CLUTCH ASSY DRV) operate properly, and the ROLL ASSY REGI and ROLL REGI METAL rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 17.	Go to step 29.

Step	Check	Remedy	
		Yes	**No**
17	Checking the ACTUATOR REGI ROLL M for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI ROLL M normal?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Reseat the ACTUATOR REGI ROLL M. If broken or deformed, replace it with a new one.
18	Checking the connectors for connection. Check the connections between the PWBA MCU and DRIVE ASSY MAIN (Main Motor). Are P/J21 and P/J211 connected correctly? 	Go to step 19.	Reconnect the connector(s) P/ J21 and/or P/J211 correctly.
19	Checking the HARN ASSY MAIN MOT MG SFP for continuity. Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 20.	Replace the HARN ASSY MAIN MOT MG SFP.
20	Checking the power to the DRIVE ASSY MAIN. Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
21	Checking the connectors of the SOLENOID FEED (Cassette Feed Solenoid) for connection. Check the connections between the PWBA MCU and SOLENOID FEED. Are P/J23 and P/J231 connected correctly? 	Go to step 22.	Reconnect the connector(s) P/ J23 and/or P/J231 correctly.
22	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect P231 from the SOLENOID FEED. Is each cable of J23 <=> P231 continuous?	Go to step 23.	Replace the HARN ASSY L SIDE.
23	Checking the power to the SOLENOID FEED. Disconnect J23 from the PWBA MCU. Is the voltage across P23-1pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 24.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

Step	Check	Remedy	
		Yes	**No**
24	Checking the SOLENOID FEED for resistance. Disconnect P/J231 of the SOLENOID FEED. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT FEED ROLL/SOL/ CLUTCH. (Refer to Removal 35/ Replacement 19.)
25	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly? 	Go to step 26.	Reconnect the connector(s) P/ J23 and/or P/J232 correctly.
26	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 27.	Replace the HARN ASSY L SIDE.
27	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 28.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
28	Checking the SENSOR PHOTO for operation. Check the voltage across J23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO:REGI. (Refer to Removal 49/ Replacement 5)

FIP-1.52 077-102 / 077-103 / 077-106: IOT Exit On JAM / IOT Exit On early JAM / IOT Stop Reservation JAM

Step	Check	Remedy Yes	Remedy No
	Possible causative parts: CASSETTE ASSY 250 (PL2.1.1) HOLDER ASSY SEPARATOR (PL2.1.5) CLUTCH ASSY DRV (PL3.1.1) SOLENOID FEED MSI (PL3.1.11) HARN ASSY L SIDE (PL3.1.18) ROLL ASSY FEED (PL3.2.4) ACTUATOR REGI ROLL M (PL3.2.8) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) DRIVE ASSY MAIN (PL7.1.2) DRIVE ASSY PH (PL7.1.4) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Checking the paper condition. Is the paper in the Tray 1 wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 2.	Go to step 3.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after reloading a new paper. Reload a new paper in the Tray 1. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 5.	End of work.
5	Checking the Main Motor (DRIVE ASSY MAIN) for operation. Does the Main Motor (DRIVE ASSY MAIN) operate properly? Checked by [Digital Output]-[DO-0] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 6.	Go to step 18.
6	Checking the DRIVE ASSY PH for operation. Does the ROLL ASSY FEED, ROLL ASSY REGI and ROLL REGI METAL rotate properly? Checked by [Digital Output]-[DO-29] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Reseat or replace the KIT DRIVE ASSY PH. (Refer to Removal 31/Replacement 23.)
7	Checking the paper feeding position. Is the paper not fed from the Tray 1?	Go to step 8.	Go to step 12.
8	Checking after resetting the Guide Sides and End Guide on the Tray 1. Reset the Guide Sides and End Guide, and reseat the Tray 1 to the printer correctly. Does the error still occur when printing?	Go to step 9.	End of work.

Step	Check	Remedy	
		Yes	**No**
9	Checking the HOLDER ASSY SEPARATOR on the Tray 1 for shape and rotation. Pull the Tray 1 out from the printer. Is the HOLDER ASSY SEPARATOR not contaminated and/or damaged, and rotated smoothly?	Go to step 10.	Replace the KIT HOLDER ASSY SEPARATOR. (Refer to Removal 2/ Replacement 52.)
10	Checking the ROLL ASSY FEED for shape and rotation. Pull the Tray 1 out from the printer. Is the ROLL ASSY FEED not contaminated and/or damaged, and rotated smoothly?	Go to step 11.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)
11	Checking the Cassette Feed Solenoid (SOLENOID FEED) for operation. Does the Cassette Feed Solenoid (SOLENOID FEED) operate properly? Checked by [Digital Output] - [DO-b] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Replace the CASSETTE ASSY 250. (Refer to Removal 1/ Replacement 53.)	Go to step 21.
12	Checking the paper lead edge staying position. Does the paper lead edge stay before the ROLL ASSY REGI and ROLL REGI METAL?	Go to step 13.	The paper lead edge stay after the ROLL ASSY REGI and ROLL REGI METAL, then go to step 16.
13	Checking the paper transfer path between the ROLL ASSY FEED and ROLL ASSY REGI. Are there any obstacles on the paper transfer path?	Remove the obstacles or stains from the paper transfer path.	Go to step 14.
14	Checking the ACTUATOR REGI IN for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI IN normal?	Go to step 15.	Reseat the ACTUATOR REGI IN.(Refer to Removal 51/ Replacement 3) If broken or deformed, replace it.
15	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [DI-2] in [IOT Diag] of diagnosis.	Go to step 16.	Go to step 25.
16	Checking the Regi. Clutch (CLUTCH ASSY DRV) for operation, and ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. Does the Regi. Clutch (CLUTCH ASSY DRV) operate properly, and the ROLL ASSY REGI and ROLL REGI METAL rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 17.	Go to step 29.

Step	Check	Remedy	
		Yes	**No**
17	Checking the ACTUATOR REGI ROLL M for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the shape and operation. Are the shape and operation of the ACTUATOR REGI ROLL M normal?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Reseat the ACTUATOR REGI ROLL M. If broken or deformed, replace it with a new one.
18	Checking the connectors for connection. Check the connections between the PWBA MCU and DRIVE ASSY MAIN (Main Motor). Are P/J21 and P/J211 connected correctly? 	Go to step 19.	Reconnect the connector(s) P/ J21 and/or P/J211 correctly.
19	Checking the HARN ASSY MAIN MOT MG SFP for continuity. Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 20.	Replace the HARN ASSY MAIN MOT MG SFP.
20	Checking the power to the DRIVE ASSY MAIN. Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
21	Checking the connectors of the SOLENOID FEED (Cassette Feed Solenoid) for connection. Check the connections between the PWBA MCU and SOLENOID FEED. Are P/J23 and P/J231 connected correctly? 	Go to step 22.	Reconnect the connector(s) P/ J23 and/or P/J231 correctly.
22	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect P231 from the SOLENOID FEED. Is each cable of J23 <=> P231 continuous?	Go to step 23.	Replace the HARN ASSY L SIDE.
23	Checking the power to the SOLENOID FEED. Disconnect J23 from the PWBA MCU. Is the voltage across P23-1pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 24.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

Step	Check	Remedy	
		Yes	**No**
24	Checking the SOLENOID FEED for resistance. Disconnect P/J231 of the SOLENOID FEED. Is the resistance across J231-1 and J231-2 about 96 ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the KIT FEED ROLL/SOL/ CLUTCH. (Refer to Removal 35/ Replacement 19.)
25	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly? 	Go to step 26.	Reconnect the connector(s) P/ J23 and/or P/J232 correctly.
26	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 27.	Replace the HARN ASSY L SIDE.
27	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 28.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
28	Checking the SENSOR PHOTO for operation. Check the voltage across J23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator (ACTUATOR REGI IN) is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO:REGI. (Refer to Removal 49/ Replacement 5)

FIP-1.53 077-104 / 077-105: IOT Exit Off JAM / IOT Exit Off early JAM

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) PWBA MCU (PL8.2.13) HARNESS ASSY FUSER MG SFP (PL6.1.2)		
1	Checking the error. Replace to known good paper. Does the error still occur when printing?	Go to step 2.	End of work.
2	Checking the Exit Sensor for operation. Does the number on the screen increase by one, when the actuator of the Exit Sensor in the FUSER ASSY is operated? Checked by [Digital Input]-[DI-3] on [IOT Diag] of diagnosis. Warning: Start the operation after the FUSER ASSY has cooled down.	Go to step 7.	Go to step 3.
3	Checking the connectors of the Exit Sensor in the FUSER ASSY for connection. Check the connections between the PWBA MCU and FUSER ASSY. Are P/J17 and P/J171 connected correctly? 	Go to step 4.	Reconnect the connector(s) P/J17 and/or P/J171 correctly.
4	Checking the HARNESS ASSY FUSER MG SFP for continuity. Remove the FUSER ASSY. Disconnect J17 from the PWBA MCU. Is each cable of J17 <=> P171 continuous? NOTE: P171 is attached to the frame.	Go to step 5.	Replace the HARNESS ASSY FUSER MG SFP.
5	Checking the power to the Exit Sensor in the FUSER ASSY. Disconnect the connector of J17 on the PWBA MCU. Is the voltage across J17-1pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 6.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
6	Checking the Exit Sensor for operation. Check the voltage across J17-3pin <=> ground on the PWBA MCU. Does the voltage change, when the actuator of the Exit Sensor is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.
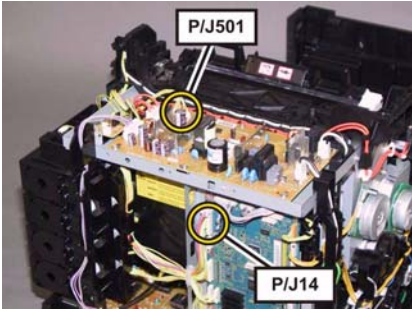
Step	Check	Remedy	
		Yes	**No**
7	Checking the Regi Rolls installation. Open the Front Cover and check the Regi Rolls installation. Is the ROLL REGI METAL pressed against the ROLL ASSY REGI by the spring pressure?	Go to step 8.	Replace the printer.
8	Checking the Regi Clutch. Does the clutch noise occur? Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis.	Replace the printer.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
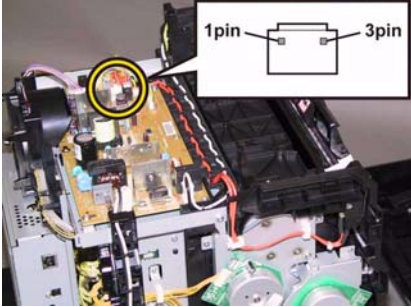
FIP-1.54 077-107 / 077-108: IOT Duplex Misfeed JAM / IOT Duplex JAM (2150cdn only)

Step	Check	Remedy	
		Yes	No
	Possible causative parts: HARN ASSY DUP RELAY (PL1.2.13) HARN ASSY L SIDE (PL3.1.18) HARN ASSY OPTION (PL3.1.20) ROLL ASSY REGI (PL3.2.9) ROLL REGI METAL (PL3.2.10) ROLLER ASSY DUP (PL11.2.9) SENSOR PHOTO(Regi Sensor) (PL3.2.13) FUSER ASSY (PL6.1.1) PWBA MCU (PL8.2.13) FEEDER ASSY DUP SFP STD (PL11.1.1)		
1	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, then check the latching. Does the error still occur when printing?	Go to step 2.	End of work.
2	Checking after resetting the FUSER ASSY. Reseat the FUSER ASSY. Warning: Start the operation after the FUSER ASSY has cooled down. Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking after resetting the Duplex. Reseat the Duplex. Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the DRIVE ASSY EXIT for operation. Does the DRIVE ASSY EXIT operate properly? Checked by [Digital Output]-[DO-D] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 5.	Replace FEEDER ASSY DUP SFP STD (Refer to Removal 56/ Replacement 57).
5	Checking the DRIVE ASSY DUP for operation. Does the DRIVE ASSY DUP operate properly? Checked by [Digital Output]-[DO-12] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 6.	Replace FEEDER ASSY DUP SFP STD (Refer to Removal 56/ Replacement 57).
6	Checking the Duplex Clutch for operation. Does the Duplex Clutch operate properly? Checked by [Digital Output]-[DO-35] on [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 7.	Replace FEEDER ASSY DUP SFP STD (Refer to Removal 56/ Replacement 57).
7	Checking the SENSOR PHOTO (REGI SENSOR) for operation. Does the number on the screen increase by one, every time the actuator of the SENSOR PHOTO (REGI SENSOR) is operated? Checked by [Digital Input]-[DI-2] in [IOT Diagnosis] of diagnosis.	Go to step 8.	Go to step 10.
8	Checking the ROLLER ASSY DUP for shape and operation. Are ROLLER ASSY DUP seated correctly? Also, are they not contaminated and/or damaged, and rotated smoothly? Check these items by turning with your finger.	Go to step 9.	Replace ROLLER ASSY DUP (Refer to Removal 57/ Replacement 56).
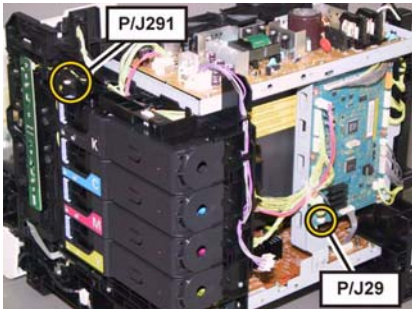
Step	Check	Remedy	
		Yes	**No**
9	Checking the HARN ASSY DUP RELAY for continuity Disconnect J27 from PWBA MCU. Disconnect P272 from HARN ASSY DUP RELAY. Is each cable of J27 <=> P272 continuous?	Go to step 14.	Replace HARN ASSY DUP RELAY(Refer to Removal 28/ Replacement 26).
10	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly?	Go to step 11.	Reconnect the connector(s) P/ J23 and/or P/J232 correctly.
11	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 12.	Replace the HARN ASSY L SIDE.
12	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 13.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
13	Checking the SENSOR PHOTO for operation. Check the voltage across 23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator of the SENSOR PHOTO is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the Regi Sensor.
14	Checking after replacing FEEDER ASSY DUP SFP STD. Replace FEEDER ASSY DUP SFP STD. Does the error still occur when printing?	Go to step 15.	End of work.
15	Checking after replacing FUSER ASSY. Replace FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when printing? NOTE: After replacement, be sure to clear life counter value.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.55 077-300: IOT Cover Front Open

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: COVER ASSY FRONT MG (PL1.2.1) PWBA LVPS (PL8.2.1) HARN ASSY INTERLOCK (PL8.2.5) PWBA MCU (PL8.2.13) HARNESS ASSY LVPS MAIN MG SFP (PL9.1.3)		
1	Checking the COVER ASSY FRONT MG (Front Cover) for shape. Are there any damages on the COVER ASSY FRONT MG?	Replace the COVER ASSY FRONT MG. (Refer to Removal 24/ Replacement 30.)	Go to step 2.
2	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG. Is the COVER ASSY FRONT MG latched correctly?	Go to step 3.	Reseat or replace the COVER ASSY FRONT MG. (Refer to Removal 24/ Replacement 30.)
3	Checking the interlock switch for operation. Does the number on the screen increase by one, when the COVER ASSY FRONT MG is closed and opened? Checked by [Digital Input] - [DI-7] in [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 4.
4	Checking the connectors for connection. Check the connections between PWBA MCU and PWBA LVPS. Are P/J14 and P/J501 connected correctly? 	Go to step 6.	Reconnect the connector(s) P/J14 and/or P/J501 correctly, then go to step 5.
5	Does the error still occur when the power is turned OFF and ON?	Go to step 6.	End of work.
6	Checking the HARNESS ASSY LVPS MAIN MG SFP for continuity. Disconnect J14 from the PWBA MCU. Disconnect J501 from the PWBA LVPS. Is each cable of J14 <=> J501 continuous?	Go to step 7.	Replace the HARNESS ASSY LVPS MAIN MG SFP.

Step	Check	Remedy	
		Yes	**No**
7	Checking the power to the Interlock Switch Disconnect the connector of J44 on the PWBA LVPS. Is the voltage across P44-1 <=> ground on the PWBA LVPS, about +24 VDC? 	Go to step 8.	Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.)
8	Checking the Interlock Switch for operation Check the voltage across P44-3pin <=> ground on the PWBA LVPS. Does the voltage change, when the Interlock Switch is turned ON/OFF?	Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.)	Replace the HARN ASSY INTERLOCK. (Refer to Removal 17/ Replacement 37.)
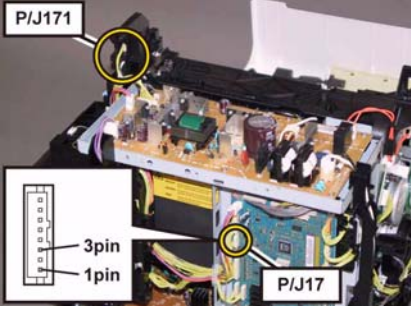
FIP-1.56 077-301: IOT Side Cover Open

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: COVER ASSY WINDOW TNR (PL1.1.7) SWITCH (PL5.1.9) HARN ASSY SIDE SW (PL5.1.27) PWBA MCU (PL8.2.13)		
1	Checking the COVER ASSY WINDOW TNR (Side Cover) for shape. Are there any damages on the COVER ASSY WINDOW TNR?	Replace the KIT COVER ASSY WINDOW TNR. (Refer to Removal 8/ Replacement 46.)	Go to step 2.
2	Checking the COVER ASSY WINDOW TNR for latching. Open and close the COVER ASSY WINDOW TRN. Is the COVER ASSY WINDOW TNR latched correctly?	Go to step 3.	Reseat or replace the KIT COVER ASSY WINDOW TNR. (Refer to Removal 8/ Replacement 46.)
3	Checking the Side R Switch (SWITCH) for operation. Does the number on the screen increase by one, when the COVER ASSY WINDOW TRN is closed and opened? Checked by [Digital Input] - [DI-6] in [IOT Diag] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 4.
4	Checking the HARN ASSY SIDE SW for continuity. Disconnect J29 from the PWBA MCU. Disconnect J291 from the SIDE R SWITCH. Is each cable of J29 <=> J291 continuous? P/J291 P/J29	Go to step 5.	Replace the HARN ASSY SIDE SW.
5	Checking after replacing the Side R Switch (SWITCH). Replace the Side R Switch (SWITCH). (Refer to Removal 13/ Replacement 41.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.57 077-900: IOT Exit JAM
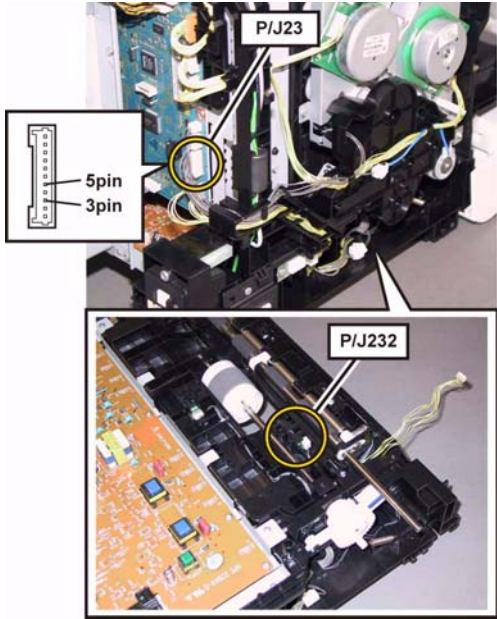
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FUSER ASSY (PL6.1.1) HARNESS ASSY FUSER MG SFP (PL6.1.2) PWBA MCU (PL8.2.13)		
1	Checking the paper feeding Was a paper fed from SSF?	Go to step 2.	Go to step 4.
2	Checking the paper setting Was the paper correctly set to SSF without slant?	Go to step 4.	Set the paper to SSF correctly, and go to step 3.
3	Does the error still occur when printing?	Go to step 4.	End of work.
4	Checking the paper condition Is the paper wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 5.	Go to step 6.
5	Does the error still occur when printing?	Go to step 7.	End of work.
6	Checking after reloading a new paper Reload a new paper. Does the error still occur when printing?	Go to step 7.	End of work.
7	Checking the COVER ASSY FRONT MG for latching Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 8.	End of work.
8	Checking the FUSER ASSY Are there any remaining paper and/or foreign substance in the FUSER ASSY? **Warning: Start the operation after the FUSER ASSY has cooled down.**	Remove the paper and/or substance, then go to step 9.	Go to step 9.
9	Checking after resetting the FUSER ASSY Reseat the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the error still occur when printing?	Go to step 10.	End of work.
10	Checking the Exit Sensor for operation Does the number on the screen increase by one, when the actuator of the Exit Sensor in the FUSER ASSY is operated? Checked by [Digital Input] - [DI-3] in [IOT Diag] of diagnosis. **Warning: Start the operation after the FUSER ASSY has cooled down.**	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 11.
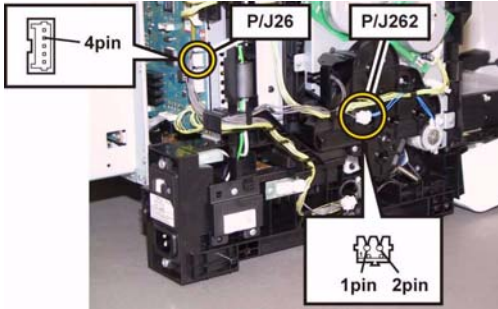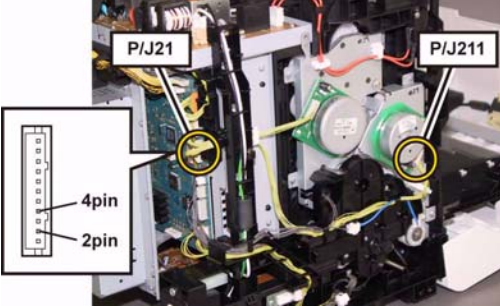
Step	Check	Remedy	
		Yes	**No**
11	Checking the connectors of the Exit Sensor in the FUSER ASSY for connection. Check the connections between the PWBA MCU and FUSER ASSY. Are P/J17 and P/J171 connected correctly? 	Go to step 12.	Reconnect the connector(s) P/J17 and/or P/J171 correctly.
12	Checking the HARNESS ASSY FUSER MG SFP for continuity. Remove the FUSER ASSY. Disconnect J17 from the PWBA MCU. Is each cable of J17 <=> P171 continuous? **NOTE: P171 is attached to the frame.**	Go to step 13.	Replace the HARNESS ASSY FUSER MG SFP.
13	Checking the power to the Exit Sensor in the FUSER ASSY. Disconnect the connector of J17 on the PWBA MCU. Is the voltage across J17-1pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 14.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
14	Checking the Exit Sensor for operation. Check the voltage across J17-3pin <=> ground on the PWBA MCU. Does the voltage change, when the actuator of the Exit Sensor is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

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FIP-1.58 077-901: IOT Remain Registration JAM

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: CLUTCH ASSY DRV (PL3.1.1) HARN ASSY L SIDE (PL3.1.18) ACTUATOR REGI ROLL M (PL3.2.8) ROLL ASSY REGI (PL3.2.9) ROLL REGI METAL (PL3.2.10) ACTUATOR REGI IN (PL3.2.11) SENSOR PHOTO (PL3.2.13) TRANSFER ASSY (PL6.1.7) DRIVE ASSY MAIN (PL7.1.2) PWBA MCU (PL8.2.13) HARN ASSY MAIN MOT MG SFP (PL9.1.7) HARN ASSY KSNR REGCL (PL9.1.9)		
1	Checking the paper size. Does the using paper size meet the specification?	Go to step 3.	Use the paper that meets the specifications, then go to step 2.
2	Does the error still occur when printing?	Go to step 3.	End of work.
3	Checking the paper condition. Is the paper wrinkled or damaged?	Replace the paper with a new and dry one, then go to step 4.	Go to step 5.
4	Does the error still occur when printing?	Go to step 6.	End of work.
5	Checking after reloading a new paper. Reload a new paper. Does the error still occur when printing?	Go to step 6.	End of work.
6	Checking the COVER ASSY FRONT MG for latching. Open and close the COVER ASSY FRONT MG, and then latch correctly. Does the error still occur when printing?	Go to step 7.	End of work.
7	Checking around the Regi Sensor. Are there any remaining paper and/or foreign substance around the Regi Sensor?	Remove the paper and/or substance, then go to step 8.	Go to step 9.
8	Does the error still occur when printing?	Go to step 9.	End of work.
9	Checking the TRANSFER ASSY. Are there any remaining paper and/or damage on the belt of the TRANSFER ASSY?	Remove the remaining paper. If the belt is damaged, replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	Go to step 10.
10	Checking the ROLL ASSY REGI and ROLL REGI METAL for shape and operation. Remove the PHD ASSY once to check the followings. Are ROLL ASSY REGI and ROLL REGI METAL seated correctly? Also, are they not contaminated and/or damaged, and rotated smoothly? Check these items by turning with your finger.	Go to step 11.	Clean or replace the defective ROLL(s).

Step	Check	Remedy	
		Yes	**No**
11	Checking the ACTUATOR REGI IN and ACTUATOR REGI ROLL M for shape and operation. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the following. Are the shape and operation of the ACTUATOR REGI IN and ACTUATOR REGI ROLL M normal?	Go to step 12.	Reseat the ACTUATOR REGI IN and/or ACTUATOR REGI ROLL M. If broken or deformed, replace it or they.
12	Checking the Regi. Sensor (SENSOR PHOTO) for operation. Does the number on the screen increase by one, when the actuator (ACTUATOR REGI IN) of the Regi. Sensor (SENSOR PHOTO) is operated? Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Checked by [Digital Input] - [D-2] in [IOT Diag] of diagnosis.	Go to step 13.	Go to step 16.
13	Checking the Regi. Clutch (CLUTCH ASSY DRV) for operation, and ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. Does the Regi. Clutch (CLUTCH ASSY DRV) operate properly, and the ROLL ASSY REGI and ROLL REGI METAL rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 14.	Go to step 20.
14	Checking the Main Motor (DRIVE ASSY MAIN) for operation. Does the Main Motor (DRIVE ASSY MAIN) operate properly? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 15.	Go to step 24.
15	Checking after resetting the TRANSFER ASSY Reseat the TRANSFER ASSY. Does the error still occur when printing? 	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34)	End of work.

Step	Check	Remedy	
		Yes	**No**
16	Checking the connectors of the SENSOR PHOTO (Regi Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J232 connected correctly?	Go to step 17.	Reconnect the connector(s) P/J23 and/or P/J232 correctly.
17	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J232 from the SENSOR PHOTO. Is each cable of J23 <=> J232 continuous?	Go to step 18.	Replace the HARN ASSY L SIDE.
18	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-3pin <=> ground on the PWBA MCU, about +3.3 VDC?	Go to step 19.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
19	Checking the SENSOR PHOTO for operation. Check the voltage across 23-5pin <=> ground on the PWBA MCU. Remove the CHUTE ASSY LOW (PL3.2.27) once to check the operation. Does the voltage change, when the actuator of the SENSOR PHOTO is operated?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the SENSOR PHOTO.
20	Checking the connectors of the CLUTCH ASSY DRV (Regi Clutch) for connection. Check the connections between the PWBA MCU and CLUTCH ASSY DRV (Regi Clutch). Are P/J26 and P/J262 connected correctly? 	Go to step 21.	Reconnect the connector(s) P/J26 and/or P/J262 correctly.
21	Checking the HARN ASSY KSNR REGCL for continuity. Disconnect J26 from the PWBA MCU. Disconnect P262 from the CLUTCH ASSY DRV. Is each cable of J26 <=> P262 continuous?	Go to step 22.	Replace the HARN ASSY KSNR REGCL.
22	Checking the power to the CLUTCH ASSY DRV. Disconnect J26 from the PWBA MCU. Is the voltage across P26-4pin <=> ground on the PWBA MCU, about +24 VDC when the Interlock Switch (HARN ASSY INTERLOCK) is pushed?	Go to step 23.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
23	Checking the CLUTCH ASSY DRV for resistance. Disconnect P/J262 of the CLUTCH ASSY DRV. Is the resistance across J262-1 and J262-2 approximately 280-ohm?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Replace the CLUTCH ASSY DRV. (Refer to Removal 30/ Replacement 24.)

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Step	Check	Remedy	
		Yes	**No**
24	Checking the connectors for connection. Check the connections between the PWBA MCU and DRIVE ASSY MAIN (Main Motor). Are P/J21 and P/J211 connected correctly? P/J21 P/J211 4pin 2pin	Go to step 25.	Reconnect the connector(s) P/J21 and/or P/J211 correctly.
25	Checking the HARN ASSY MAIN MOT MG SFP for continuity. Disconnect J21 from the PWBA MCU. Disconnect J211 from the DRIVE ASSY MAIN. Is each cable of J21 <=> J211 continuous?	Go to step 26.	Replace the HARN ASSY MAIN MOT MG SFP.
26	Checking the power to the DRIVE ASSY MAIN. Disconnect J21 from the PWBA MCU. Are the voltages across J21-2pin/J21-4pin <=> ground on the PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed?	Replace the KIT DRIVE ASSY MAIN. (Refer to Removal 32/ Replacement 22.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.59 077-907: IOT Remain Duplex JAM (2150cdn only)

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARN ASSY L SIDE (PL3.1.18) SENSOR PHOT (SSF No Paper Sensor) (PL3.2.13) PWBA MCU (PL8.2.13)		
1	Checking the SENSOR PHOTO (SSF No Paper Sensor) for operation. Does the number on the screen increase by one, every time the actuator of the SENSOR PHOTO (SSF No Paper Sensor) is operated? Checked by [Digital Input]-[DI-0] in [IOT Diagnosis] of diagnosis.	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	Go to step 2.
2	Checking the connectors of the SENSOR PHOTO (SSF No Paper Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J233 connected correctly?	Go to step 3.	Reconnect the connector(s) P/J23 and/or P/J233 correctly.
3	Checking the connectors of the SENSOR PHOTO (SSF No Paper Sensor) for connection. Check the connections between the PWBA MCU and SENSOR PHOTO. Are P/J23 and P/J233 connected correctly?	Go to step 4.	Reconnect the connector(s) P/J23 and/or P/J233 correctly.
4	Checking the HARN ASSY L SIDE for continuity. Disconnect J23 from the PWBA MCU. Disconnect J233 from the SENSOR PHOTO. Is each cable of J23 <=> J233 continuous?	Go to step 5.	Replace the HARN ASSY L SIDE.
5	Checking the power to the SENSOR PHOTO. Disconnect J23 from the PWBA MCU. Is the voltage across P23-6pin <=> ground on the PWBA MCU, about +3.3 VDC?	Replace the SENSOR PHOTO(SSF No Paper Sensor)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.60 091-402: IOT PHD Life Pre Warning

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13)		
1	Checking the life counter value of the PHD ASSY. Does the life count value show the near of the end?	Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.)	Go to step 2.
2	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) **CAUTION: Be sure to pull eight sealing tapes out from a new PHD ASSY before installation.** Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.61 091-912: PHD Tape Staying
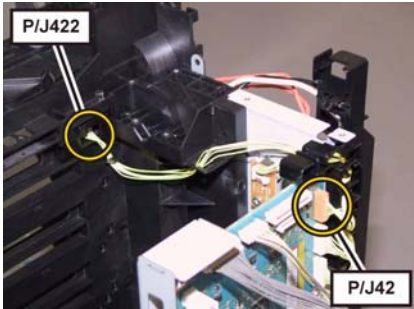
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13)		
1	Checking the sealing tapes of the PHD ASSY staying. Turn off the power, and open the COVER ASSY FRONT MG. Remove the PHD ASSY. Has the sealing tapes (total eight sealing tapes) been pulled out? After checking, reseat the PHD ASSY correctly.	Go to step 3.	Pull the sealing tapes out, then go to step 2.
2	Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) **CAUTION: Be sure to pull eight sealing tapes out from a new PHD ASSY before installation.** Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.62 091-935: IOT PHD Life Over

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13)		
1	Checking the life counter value of the PHD ASSY. Does the life count value show the near of the end?	Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.)	Go to step 2.
2	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 3.	End of work.
3	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) **CAUTION: Be sure to pull eight sealing tapes out from a new PHD ASSY before installation.** Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.63 091-972: IOT PHD Detached

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13) HARN ASSY PHD XPRO (PL9.1.11)		
1	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the connectors for connection. Check the connectors between the PWBA MCU and PHD ASSY. Are P/J42 and P/J422 connected correctly? P/J422 P/J42	Go to step 4.	Reconnect the connector(s) P/J42 and/or P/J422 surly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking the HARN ASSY PHD XPRO for continuity. Disconnect P422 from the PHD ASSY. Disconnect J42 from the PWBA MCU. Is each cable of P422 <=> J42 continuous?	Go to step 5.	Replace the HARN ASSY PHD XPRO.
5	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) **CAUTION: Be sure to pull eight sealing tapes out from a new PHD ASSY before installation.** Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.64 092-310 / 092-910: IOT CTD (ADC) Sensor Dustiness / CTD (ADC) Sensor Dustiness Warning
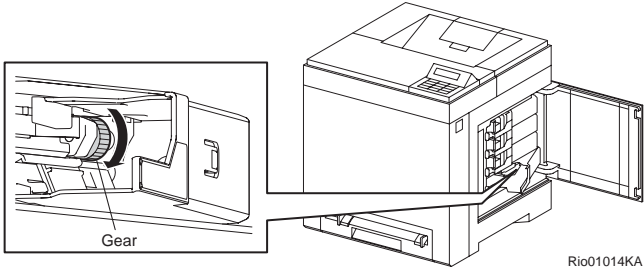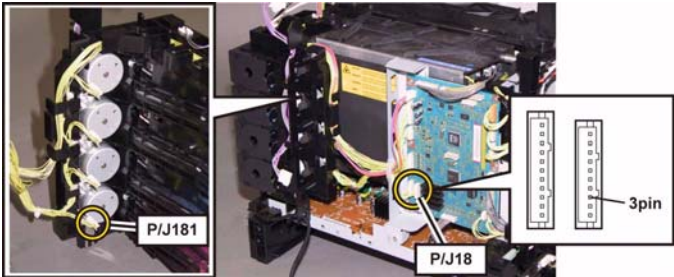
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HARN ASSY L SIDE (PL3.1.18) TRANSFER ASSY (PL6.1.7) PWBA MCU (PL8.2.13)		
1	Turn OFF the power, and gently wipe the CTD (ADC) Sensor window with a clean dry cloth or cotton swab. After wiping the window, close the COVER ASSY FRONT MG. Does the error still occur when the power is turned OFF and ON? ADC Sensor window Rio01012KA	Go to step 2.	End of work.
2	Checking the connectors for connection. Check the connectors between the PWBA MCU and CTD (ADC) Sensor. Are P/J28 and P/J281connected correctly? P/J28 1pin P/J281	Go to step 4.	Reconnect the connector(s) P/J28 and/or P/J281 correctly, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking the HARN ASSY L SIDE for continuity. Disconnect J28 from the PWBA MCU. Disconnect J281 from the TRANSFER ASSY. Is each cable of J28 <=> J281 continuous?	Go to step 5.	Replace the HARN ASSY L SIDE.
5	Checking the surface of the belt on the TRANSFER ASSY. Is the belt dirty?	Clean the belt with a clean dry cloth, then go to step 6.	Go to step 7.
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.
7	Checking after replacing the KIT TRANSFER ASSY. Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.65 093-423 / 093-424 / 093-425 / 093-426: IOT Toner Cartridge Near Life

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) PWBA MCU (PL8.2.13)		
1	Checking after replacing the Dell-TONER CARTRIDGE (Y, M, C or K). Replace the Dell-TONER CARTRIDGE (Y, M, C or K). (Refer to Removal 6/Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.66 093-919 / 093-920 / 093-921 / 093-922: IOT YMCK Toner Low Density

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PHD ASSY (PL4.1.21) DISPENSER ASSY (PL5.1.1) FRAME ASSY MOT (PL5.1.2) MOTOR ASSY DISP (PL5.1.3) GEAR IDLER (PL5.1.6) GEAR IDLER AUG (PL5.1.7) GEAR IDLER AGI (PL5.1.8) TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) HARN ASSY TNR MOT (PL5.1.25) TRANSFER ASSY (PL6.1.7) PWBA MCU (PL8.2.13)		
1	Checking the Toner Type. Is the Dell Toner seated?	Go to step 2.	Go to step 5.
2	Checking the sealing tapes on the PHD UNIT staying. Are there sealing tapes on the PHD UNIT? 	Pull the tape out.	Go to step 3.
3	Checking the life count value of the TONER CARTRIDGE (Y, M, C or K). Check the life count value of the TONER CARTRIDGE (Y, M, C or K) in [Parameter] in [IOT Diag] of diagnosis. Does the remainder value shows the near of the end? (Refer to Chapter 2 for details of the life counter value.)	Replace the TONER CARTRIDGE (Y, M, C or K), then go to step 4. (Refer to Removal 6/ Replacement 48.)	Go to step 7.
4	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.
5	Checking the toner remainder in the Non-Dell Toner Cartridge (Y, M, C or K). Is the toner that remains in the Non-Dell Toner Cartridge (Y, M, C or K) a little?	Replace the Non-Dell Toner Cartridge (Y, M, C or K), then go to step 6.	Go to step 7.
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.

Step	Check	Remedy	
		Yes	**No**
7	Checking the sealing tapes for yellow toner of the PHD ASSY staying. Turn off the power, and open the COVER ASSY FRONT MG. Remove the PHD ASSY. Has the sealing tapes for yellow toner been pulled out? After checking, reseat the PHD ASSY.	Go to step 9.	Pull the sealing tapes out, then go to step 8.
8	Does the error still occur when the power is turned OFF and ON?	Go to step 9.	End of work.
9	Checking after resetting the TONER CARTRIDGE (Y, M, C or K). Remove the TONER CARTRIDGE (Y, M, C or K), and shake it from side to side. Reseat the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned OFF and ON?	Go to step 10.	End of work.
10	Checking the DISPENSE MOTOR (Y, M, C and K) for rotation. Does the DISPENSE MOTOR (Y, M, C and K) function normally? Checked by [Digital Output] - [DO-21(Y),DO-23(M),DO-25(C),DO-27(K)] in [IOT Diag] of diagnosis. During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	Go to step 11.	Go to step 12.
11	Checking the gears of the DISPENSER ASSY for shape and operation. Are the shape and operation of the gears of the DISPENSER ASSY normal? Example: For Yellow Gear Rio01014KA	Go to step 16.	Replace the defective gear(s) or DISPENSER ASSY. (Refer to Removal 44/ Replacement 10.)
12	Checking the connector for connection. Check the connectors between the PWBA MCU and DISPENSE MOTOR (Y, M, C and K). Are P/J18 and P/J181(Y)/P/J182(M) connected correctly? Are P/J19 and P/J191(C)/P/J192(K) connected correctly? Example: For Yellow P/J181 P/J18 3pin	Go to step 14.	Reconnect the connector(s) P/J18 and P/J181 surly, then go to step 8. or reconnect the connector(s) P/J19 and P/J191 surly, then go to step 8.

Step	Check	Remedy	
		Yes	**No**
13	Does the error still occur when the power is turned OFF and ON?	Go to step 14.	End of work.
14	Checking the HARN ASSY TNR MOT for continuity. Disconnect J18 from the PWBA MCU. Disconnect J181(Y)/J182(M)/J191(C)/J192(K) from the DISPENSE MOTOR (YMCK) MOT. Is each cable of J18 <=> J181/182 continuous? or Is each cable of J19 <=> J191/192 continuous?	Go to step 15.	Replace the HARN ASSY TNR MOT.
15	Checking the power to TNR (Y) MOT (MOTOR ASSY DISP). Disconnect J18/J19 from the PWBA MCU. Is the voltage across P18P/19-3pin <=> ground on PWBA MCU, about +24 VDC when the interlock switch (HARN ASSY INTERLOCK) is pushed.	Replace the MOTOR ASSY DISP or FRAME ASSY MOT. (Refer to Removal 44/ Replacement 10.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)
16	Checking after replacing the TONER CARTRIDGE (Y, M, C or K). Replace the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. (Refer to Removal 6/ Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Go to step 17.	End of work.
17	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Does the error still occur when the power is turned OFF and ON?	Go to step 18.	End of work.
18	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Does the error still occur when the power is turned OFF and ON?	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	End of work.

FIP-1.67 093-930 / 093-931 / 093-932 / 093-933: IOT Toner Cartridge Life Over
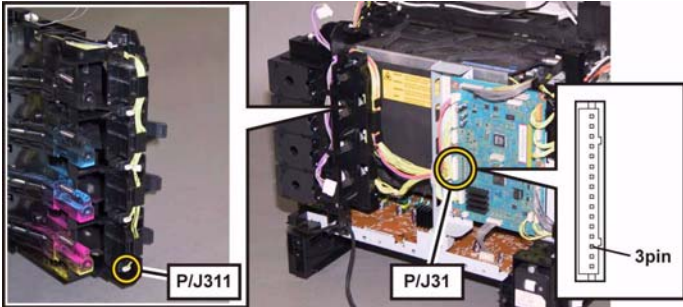
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) PWBA MCU (PL8.2.13)		
1	Checking after replacing the Dell-TONER CARTRIDGE (Y, M, C or K). Replace the Dell-TONER CARTRIDGE (Y, M, C or K). (Refer to Removal 6/Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.68 093-934 / 093-935 / 093-936 / 093-937: IOT CRU Waste (YMCK) Full
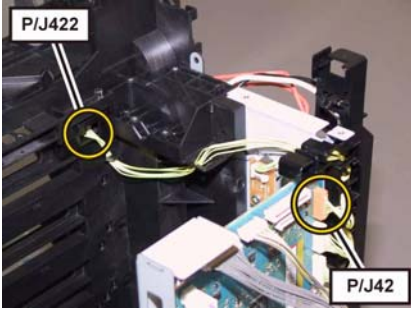
Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) PWBA MCU (PL8.2.13)		
1	Checking after replacing the Dell-TONER CARTRIDGE (Y, M, C or K). Replace the Dell-TONER CARTRIDGE (Y, M, C or K). (Refer to Removal 6/Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.69 093-960 / 093-961 / 093-962 / 093-963: IOT (YMCK) CRUM ID Error

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: CONNECTOR CRUM (PL5.1.14) TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) HARN ASSY TONER CRUM (PL5.1.26) PWBA MCU (PL8.2.13)		
1	Close the COVER ASSY WINDOW TNR correctly. Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the Toner Type. Is the Dell Toner seated?	Go to step 3.	Change the Toner Type setting to Non-Dell Toner.
3	Checking after resetting the TONER CARTRIDGE (Y, M, C or K). Reseat the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking after replacing the TONER CARTRIDGE (Y, M, C or K). Replace the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. (Refer to Removal 6/ Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Checking the connector for connection. Check the connectors between the PWBA MCU and CONNECTOR CRUM. Are P/J31 and P/J311(Y),P/J312(M),P/J313(C),P/J314(K) connected correctly? Example: For Yellow 	Go to step 7.	Reconnect the connector(s) P/J31 and/or P/J311 (Y),P/J312 (M),P/J313 (C),P/J314 (K) surly, then go to step 6.
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.
7	Checking the HARN ASSY TONER CRUM for continuity. Disconnect J31 from the PWBA MCU. Disconnect J311 from the CONNECTOR CRUM. Is each cable of J31 <=> J311/J312/J313/J314 continuous?	Go to step 8.	Replace the HARN ASSY TONER CRUM(Y, M, C or K).

Step	Check	Remedy	
		Yes	**No**
8	Checking the power to CONNECTOR CRUM. Disconnect J31 from the PWBA MCU. Is the voltage across P31-3pin(Y)/-7pin(M)/-11pin(C)/-15pin <=> ground on the PWBA MCU, about +3.3 VDC?	Replace the CONNECTOR CRUM(Y, M, C or K).	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.70 093-965: IOT PHD CRUM ID Error

Step	Check	Remedy	
		Yes	No
	Possible causative parts: PHD ASSY (PL4.1.21) PWBA MCU (PL8.2.13) HARN ASSY PHD XPRO (PL9.1.11)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the PHD ASSY type. Is the seated PHD ASSY for 2150cn/cdn?	Go to step 4.	Replace the PHD ASY for 2150cn/cdn, then go to step 3.
3	Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Checking the connectors for connection. Check the connectors between the PWBA MCU and PHD ASSY. Are P/J42 and P/J422 connected correctly?	Go to step 7.	Reconnect the connector(s) P/J42 and/or P/J422 surly, then go to step 6.
6	Does the error still occur when the power is turned OFF and ON?	Go to step 7.	End of work.
7	Checking the HARN ASSY PHD XPRO for continuity. Disconnect P422 from the PHD ASSY. Disconnect J42 from the PWBA MCU. Is each cable of P422 <=> J42 continuous? 	Go to step 8.	Replace the HARN ASSY PHD XPRO.
8	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)	End of work.

FIP-1.71   093-970 / 093-971 / 093-972 / 093-973: IOT Print Cartridge Detached

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TONER CARTRIDGE (Y) (PL5.1.24) TONER CARTRIDGE (M) (PL5.1.23) TONER CARTRIDGE (C) (PL5.1.22) TONER CARTRIDGE (K) (PL5.1.21) HARN ASSY TONER CRUM (PL5.1.26) PWBA MCU (PL8.2.13)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the Toner Type. Is the Dell Toner seated?	Go to step 3.	Change the Toner Type setting to Non-Dell Toner.
3	Checking after resetting the TONER CARTRIDGE (Y, M, C or K). Reseat the TONER CARTRIDGE (Y, M, C or K), and check that the lock key is in the lock position. Does the error still occur when the power is turned OFF and ON?	Go to step 4.	End of work.
4	Checking after replacing the TONER CARTRIDGE (Y, M, C or K). Replace the TONER CARTRIDGE (Y, M, C or K). (Refer to Removal 6/Replacement 48.) Does the error still occur when the power is turned OFF and ON?	Go to step 5.	End of work.
5	Checking the HARN ASSY TONER CRUM for continuity. Disconnect J31 from the PWBA MCU. Disconnect J311 (Y) from the connector CRUM. Are P/J31 and P/J311(Y),P/J312(M),P/J313(C),P/J314(K) connected correctly?	Go to step 6.	Replace the HARN ASSY TONER CRUM.
6	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. (Refer to Removal 43/Replacement 11.) Does the error still occur when the power is turned OFF and ON?	Replace the PWBA MCU. (Refer to Removal 43/Replacement 11.)	End of work.

FIP-1.72 094-422: IOT Belt Unit Near Life

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TRANSFER ASSY (PL6.1.7) PWBA MCU (PL8.2.13)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the life counter value of the TRANSFER ASSY. Does the life counter value show the near of the end? (Refer to Chapter 2 for details of the life counter value.)	Initialize the life counter value at the Customer Diag, after replacing the TRANSFER ASSY. (Refer to Removal 20/ replacement 34.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.73 094-911: IOT Belt Unit Life Over

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: TRANSFER ASSY (PL6.1.7) PWBA MCU (PL8.2.13)		
1	Does the error still occur when the power is turned OFF and ON?	Go to step 2.	End of work.
2	Checking the life counter value of the TRANSFER ASSY. Does the life counter value show the near of the end? (Refer to Chapter 2 for details of the life counter value.)	Initialize the life counter value at the Customer Diag, after replacing the TRANSFER ASSY. (Refer to Removal 20/ replacement 34.)	Replace the PWBA MCU. (Refer to Removal 43/ Replacement 11.)

FIP-1.74 193-700: Custom Toner Mode

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the Toner Cartridge. Is the installed toner cartridge to the printer the DELL toner?	Go to step 2.	End of work.
2	Checking the printer setting. Is the [Non-Dell Toner] of the [Maintenance] on the [Admin Menu] of the [SET UP] the [On]?	Set to the [Off].	Go to step 3.
3	Checking the Toner Cartridge. Replace to the known good toner cartridges. Does the error still occur when turning on the power?	Replace the KIT PWBA ESS SFP.(Removal 42/ Replacement 12).	End of work.

4. Image Quality Trouble

4.1   Entry Chart for Image Quality Troubleshooting

```
                    ┌─────────────────────────┐
                    │         Start           │
                    └─────────────────────────┘
                                 │
                    ┌─────────────────────────┐
                    │      Test Printing       │
                    └─────────────────────────┘
                                 │
                        ◇ Is there a corresponding FIP? ◇ ──── No ────┐
                                 │                                      │
                                Yes                                     │
      ┌──────────────────────────────────────┐      ┌────────────────────────────────────────┐
      │ Carry out the corresponding           │      │ Replace TONER CARTRIDGE, PHD ASSY        │
      │ troubleshooting.                      │      │ TRANSFER ASSY and FUSER ASSY.            │
      └──────────────────────────────────────┘      └────────────────────────────────────────┘
                                 │                                      │
   No ──── ◇ The trouble is restored? ◇          No ──── ◇ The trouble is restored? ◇
                                 │                                      │
                                Yes                                    Yes
                    ┌─────────────────────────┐      ┌─────────────────────────┐
                    │          End            │      │          End            │
                    └─────────────────────────┘      └─────────────────────────┘
```
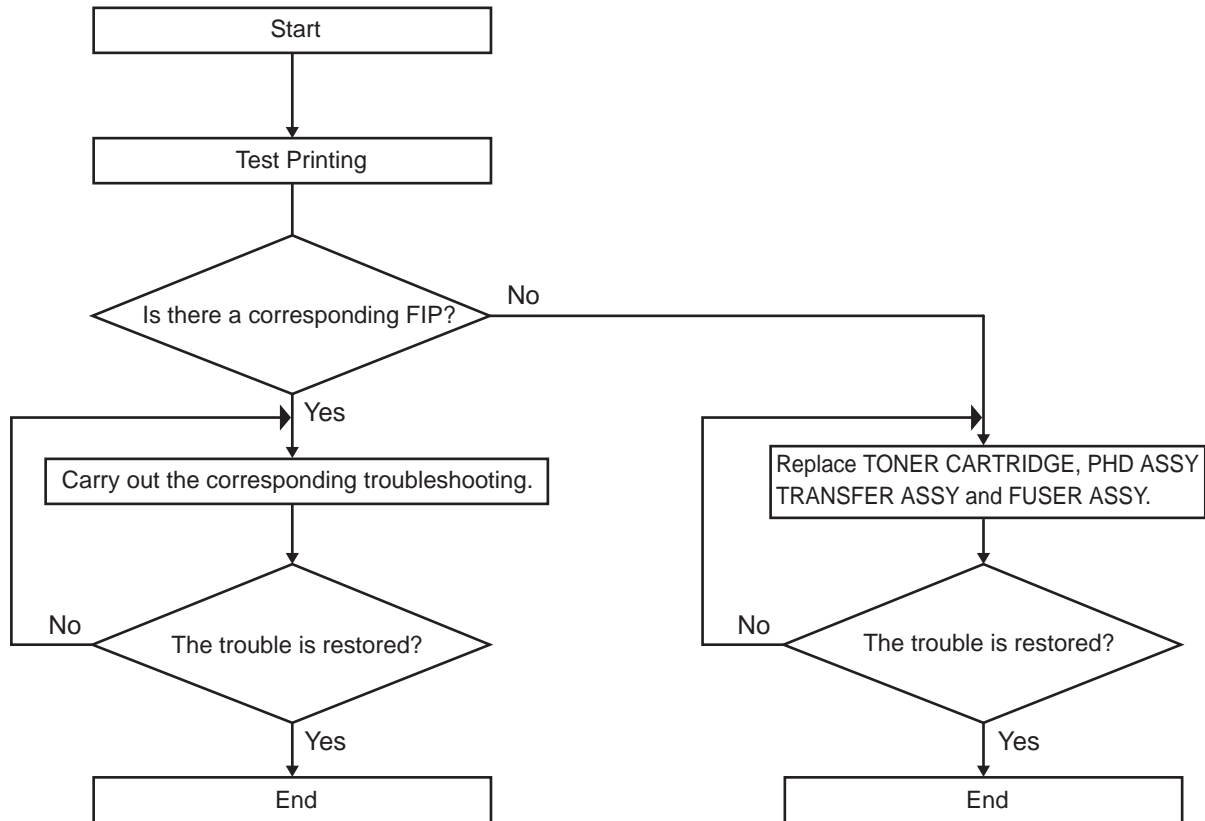
Leg_Sec001_001FA

NOTE

It is stated as the ESS is normal. By operating test print with the Printer Engine only, if the trouble is on ESS side or the Printer Engine side can simply be diagnosed, except those phenomena that are not able to be diagnosed by test print.

- Test print result with the Printer Engine only is normal. --- >Malfunction on ESS side

- Test print result with the Printer Engine only is also abnormal. ---> Malfunction on the Printer Engine side

When it is the case of [Malfunction on ESS side], replace with normal ESS and normal Interface Cable, and check.

When the trouble still occurs after replacement, check the host computer side, and operate Troubleshooting efficiently, using the following image quality FIP according to each phenomenon.

When an image quality problem occurs, output a sample print to grasp the nature of the problem, and then perform troubleshooting using "Image Quality FIP List".
If the problem persists even after a troubleshooting with the Image Quality FIP, check using the FIP again, and then replace the Possible causative parts listed in the relevant FIP one by one.

Image Quality FIP List

-FIP-1.P1 The output is too light

-FIP-1.P2 The entire output is blank

-FIP-1.P3 Part or the entire output is black.

-FIP-1.P4 Toner smears

-FIP-1.P5 Random spots

-FIP-1.P6 Streaks appear on the output

-FIP-1.P7 Pitched color dots

-FIP-1.P8 Vertical blanks

-FIP-1.P9 Ghosting

-FIP-1.P10 Light-Induced Fatigue

-FIP-1.P11 Fog

-FIP-1.P12 Bead-Carry-Out (BCO)

-FIP-1.P13 Jagged characters

-FIP-1.P14 Banding/Horizontal band cross out

-FIP-1.P15 Auger mark

-FIP-1.P16 Wrinkled/Stained paper (Envelope Wrinkle)

-FIP-1.P17 The top margin is incorrect / The side margin is incorrect

-FIP-1.P18 Color registration is out of alignment

-FIP-1.P19 Images are skewed

-FIP-1.P20 Paper Damage

-FIP-1.P21 Unfusing

-FIP-1.P22 Label Stuck

NOTE

When horizontal lines and/or spot occur periodically, it is possibly caused by the trouble of a particular roll. In this case, compare the trouble intervals on the test print with the Pitch Chart. The interval does not necessarily match circumference of the roll. The trouble may be solved easily by the check.
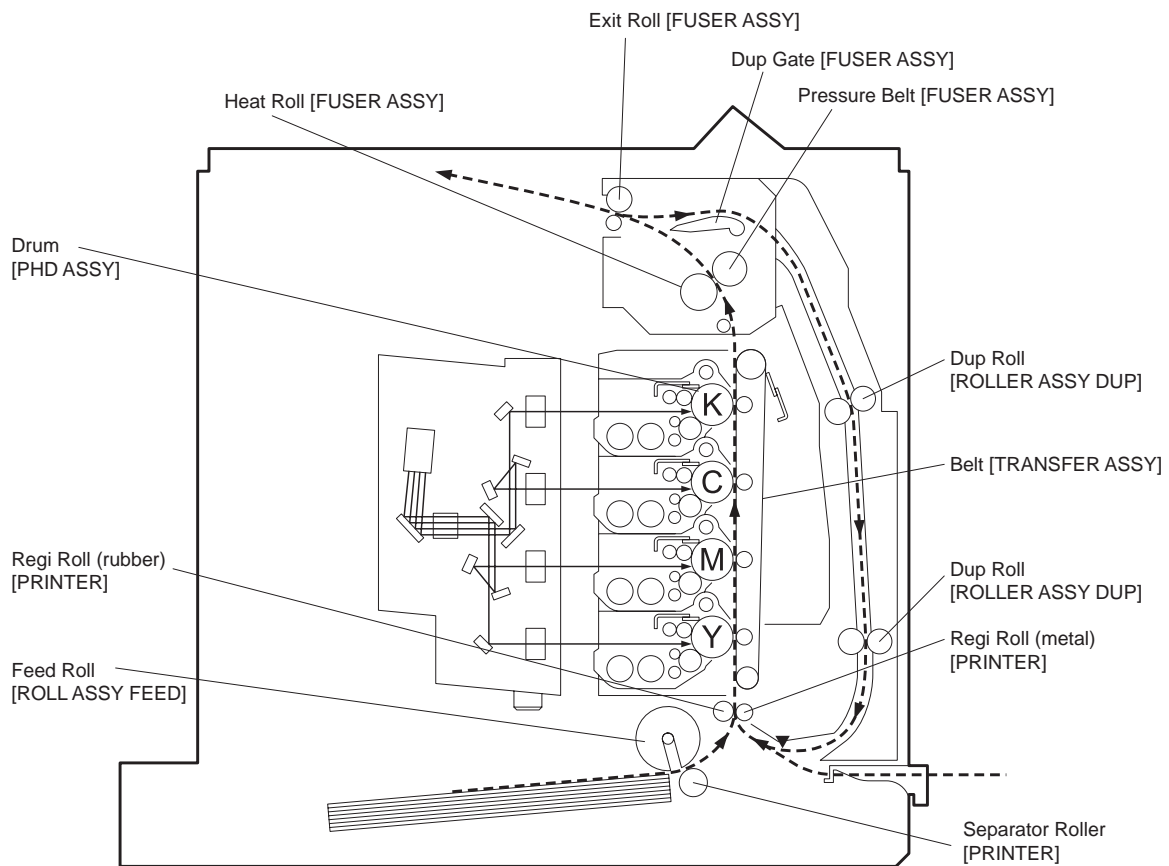
No	Roll Parts	Period (mm)	Replaceable parts
1	Heat Roll	67	FUSER ASSY
2	Pressure Belt	63	FUSER ASSY
3	Drum	76	PHD ASSY
4	Belt	410	TRANSFER ASSY
5	Regi Roll (rubber)	37	PRINTER

-Pitch Chart

The chart is printed [Contamination Check] in the [Test Print] of the [Diagnosis].

Page 1
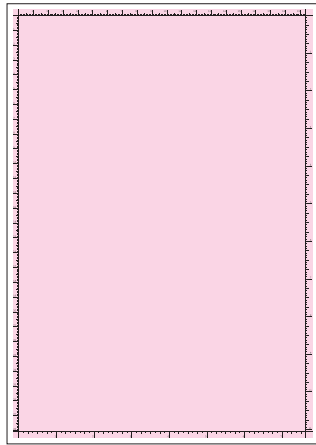
Wsb02028KA

Page 2
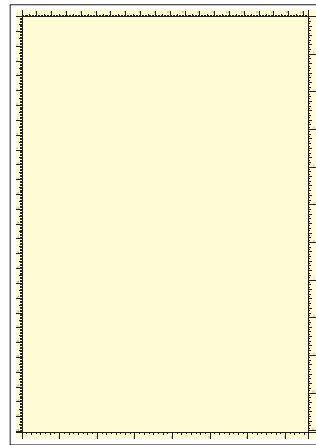
Wsb02027KA

Page 3
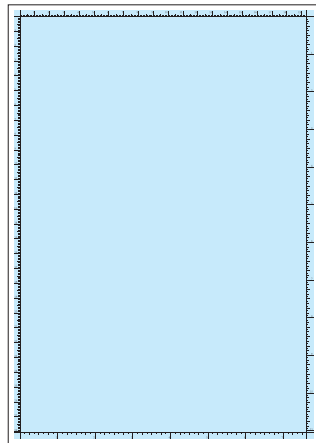
Wsb02029KA

Page 4

Wsb02030KA

Page 5

Wsb02025KA

1 - 299
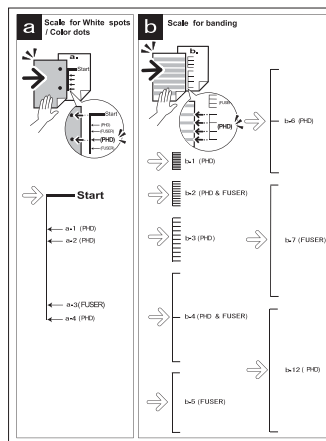
4.2 Print Image Quality Specifications

Image Quality Guarantee Conditions

The image quality is specified and guaranteed under the following conditions.

1) Environmental Condition

   Temperature: 5°C - 32°C

   Humidity:15% RH - 85% RH (85% RH at 28°C)

   Note that defect may occur due to condensation after around 30 minutes if the printer is turned on in a critical environment.

2) Guaranteed Paper

   The print image quality specified in this chapter should be guaranteed when the standard paper is fed from the cassette tray. The print image quality is evaluated on the maximum size of each standard paper.

   Color print quality: X-Pression 24 lb paper

   Black and White quality: 4200 paper

3) Paper condition

   The paper used is flesh paper immediately after unpacked, which has been left in the operating environment for 12 hours before unpacking.

4) Printer condition

   The print image quality specified in this chapter is guaranteed with the printer in normal condition.

5) Criterion for judgment

   The print image quality is guaranteed with Spec. In rate = 90% (λ =90%).

6) For Color chart, Parallelism, Perpendicularity, Skew, Linearity, Magnification Error, Registration and Printed Guaranteed Area, refer to each chart below.
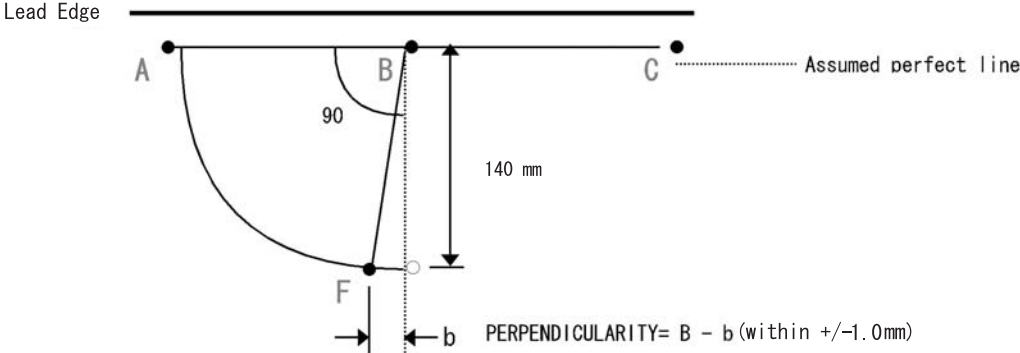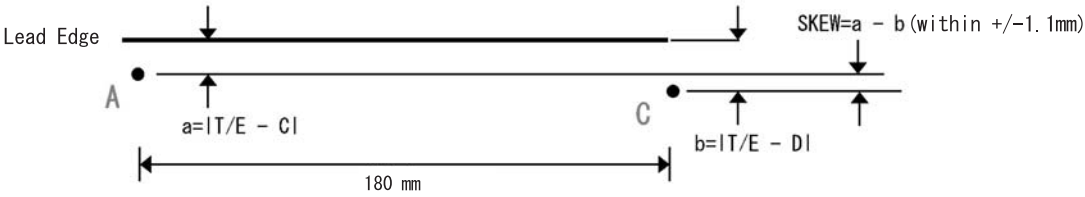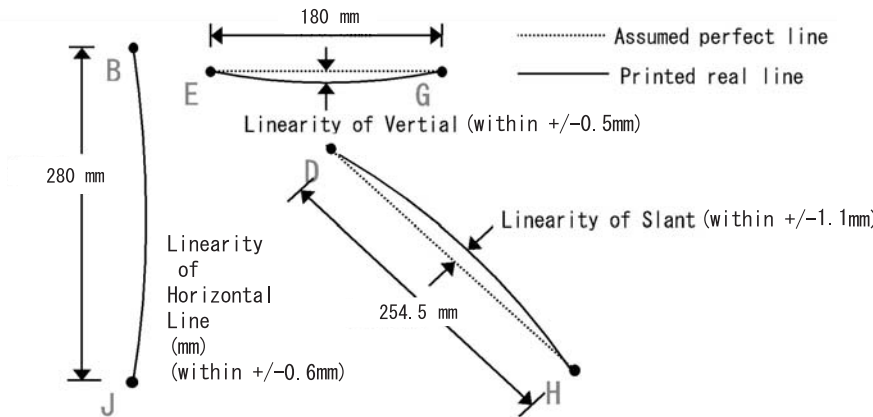
Chart

Parallelism

PARALLELISM (within +/-1.3mm)

Perpendicularity

Lead Edge

Assumed perfect line

PERPENDICULARITY= B - b (within +/-1.0mm)

Skew

Lead Edge

SKEW=a - b (within +/-1.1mm)

A

a=|T/E - C|

C

b=|T/E - D|

180 mm

Linearity

180 mm

·············· Assumed perfect line

———— Printed real line

B

E   G

Linearity of Vertial (within +/-0.5mm)

280 mm

D

Linearity of Slant (within +/-1.1mm)

Linearity
of
Horizontal
Line
(mm)
(within +/-0.6mm)

254.5 mm

J

H

Magnification Error

Magnification=measured length ÷ Nominal

(within +/-0.5%)

B

Nominal= 280 mm

Nominal= 180 mm

E   G

(within +/-0.5%)

J

Registration

Registaration=measured length - Nominal

Side Edge (Left)

Lead Edge

Nominal= 10.0 mm
(within +/-2mm)

Nominal=8.5 mm
(within +/-2.5mm)

B

F

Guaranteed Printing Area
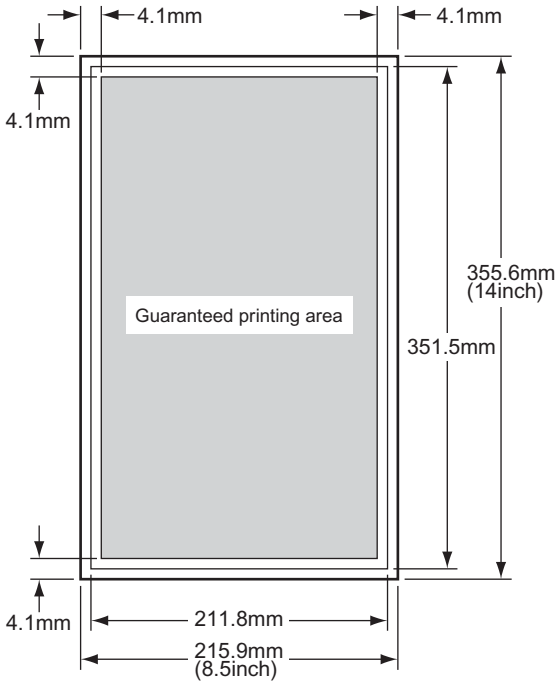
Rio01001KA

4.3 Image Quality FIP

FIP-1.P1 The output is too light

Faint

Mnt01100KA   Mnt01101KA

ESS and possible causative parts
- TRANSFER ASSY (PL6.1.7)

- PHD ASSY (PL4.1.21)

- DISPENSER ASSY (PL5.1.1)

- ROS ASSY (PL4.1.1)

- PWBA HVPS (PL4.1.19)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the printing. Checked by [Test Print]-[Gradation] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2.
2	Changing the printer driver setting. 1.Reset Image Settings (Brightness/Contrast) to defaults. - Click [Restore Defaults] in [Image Settings] on the [Graphics] tab. 2.Disable Toner Saving Mode. - Deselect the [Toner Saving Mode] check box on the [Advanced] tab. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 4.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Step	Check	Remedy	
		Yes	**No**
4	Checking the TONER CARTRIDGE (Y, M, C or K) for installation. Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K). Is the image printed correctly?	End of work.	Go to step 5
5	Checking the TONER CARTRIDGE (Y,M,C or K). Is the toner cartridges installed to the printer the DELL toner?	Go to step 7	Go to step 6
6	Set the Non-Dell toner option to [Off]. (Refer to [Non-Dell Toner] in "18 Understanding the Tool Box Menus".) Is the image printed correctly?	End of work.	Go to step 7
7	Checking the PHD ASSY sealing ribbon. After turning the printer off, open the front cover and remove the PHD ASSY from the printer.Remove any of the 8 pieces of sealing ribbon that may be left on the PHD ASSY.Then, install the PHD ASSY into the printer.If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD ASSY to another one. Is the image printed correctly?	End of work.	Go to step 8
8	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the right side of the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? 	Clean or replace the TRANSFER ASSY or SPRING(s), then go to step 9.	Go to step 9.

Step	Check	Remedy	
		Yes	**No**
9	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? Spring HV terminal HV terminal	Clean and/or replace the PHD ASSY or SPRING(s),then go to step 5.	Go to step 10.
10	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 10.
11	Checking the laser beam windows of the ROS ASSY. Are the laser beam windows on the ROS ASSY clean? Laser beam window	Go to step 12.	Clean the window(s) with soft cloth or cotton swab gently.
12	Checking the laser beam path. Are there any foreign substances between the ROS ASSY and PHD ASSY? Laser beam path Laser beam path	Remove the foreign substances.	Go to step 13.

Step	Check	Remedy	
		Yes	**No**
13	Does the Toner Dispenser Motor function normally? Checked by [Digital Output] - [DO-21(Y), DO-23(M), DO-25(C), DO-27(K)] in [IOT Diag] of diagnosis.	Go to step 15.	Replace the DISPENSER ASSY (refer to Removal 44/Replacement 10), then go to step 14.
14	Is the image printed correctly?	End of work.	Replace the printer.
15	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. Is the image printed correctly?	End of work.	Go to step 16.
16	Checking after resetting the PWBA ESS SFP. Reseat the PWBA ESS SFP. Is the image printed correctly?	End of work.	Go to step 17.
17	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Is the image printed correctly?	End of work.	Go to step 18.
18	Checking after replacing the TRANSFER ASSY. Replace the TRANSFER ASSY. (Refer to Removal 20/Replacement 34.) Is the image printed correctly?	End of work.	Go to step 19.
19	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Go to step 20.
20	Checking after resetting the PWBA HVPS. Reseat the PWBA HVPS. Is the image printed correctly?	End of work.	Go to step 21.
21	Checking after replacing the DISPENSER ASSY. Replace the DISPENSER ASSY. (Refer to Removal 44/Replacement 10.) Is the image printed correctly?	End of work.	Go to step 22.
22	Checking after replacing the KIT ROS. Replace the KIT ROS. (Refer to Removal 45/Replacement 9.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)
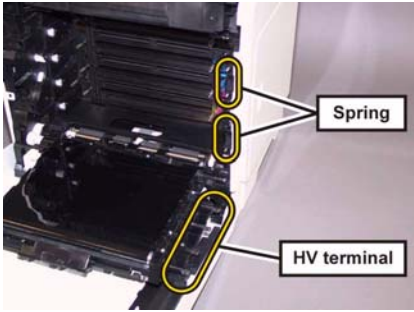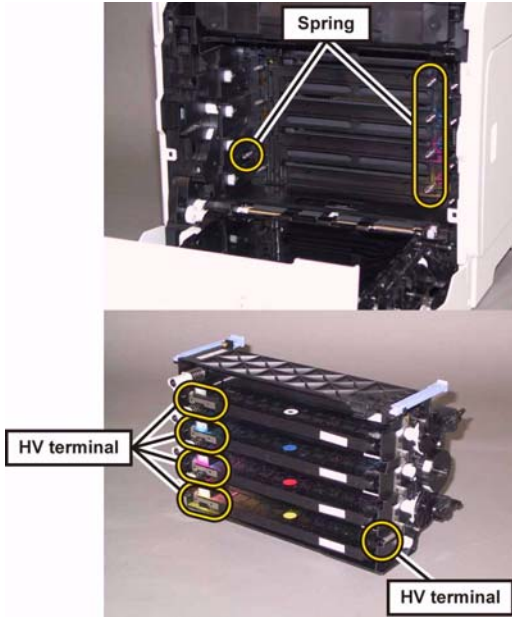
FIP-1.P2 The entire output is blank
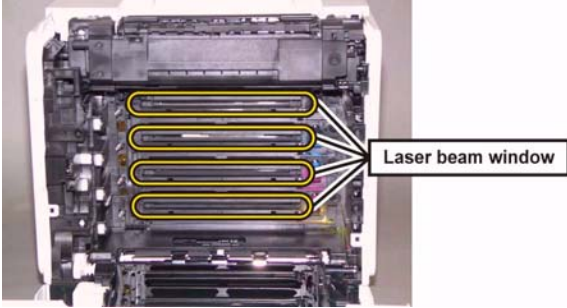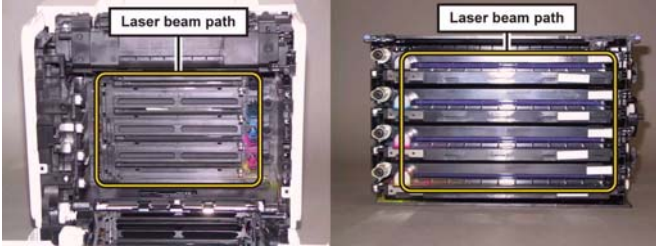
ESS and possible causative parts
- TRANSFER ASSY (PL6.1.7)

- PHD ASSY (PL4.1.21)

- DISPENSER ASSY (PL5.1.1)

- ROS ASSY (PL4.1.1)

- PWBA HVPS (PL4.1.19)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the blank print. Print the Windows test page. Is the image printed correctly?	Printing data form is not suitable for the printer, then check the printing data which the problem generated.	Go to step 2.
2	Checking the TONER CARTRIDGE (Y, M, C or K) for installation. Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K). Is the image printed correctly?	End of work.	Go to step 3
3	Checking the TONER CARTRIDGE (Y,M,C or K). Is the toner cartridges installed to the printer the DELL toner?	Go to step 5	Go to step 4
4	Set the Non-Dell toner option to [Off]. (Refer to [Non-Dell Toner] in "18 Understanding the Tool Box Menus".) Is the image printed correctly?	End of work.	Go to step 5
5	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 6.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)

Step	Check	Remedy	
		Yes	**No**
6	Checking the PHD ASSY sealing ribbon. After turning the printer off, open the front cover and remove the PHD ASSY from the printer.Remove any of the 8 pieces of sealing ribbon that may be left on the PHD ASSY. Then, install the PHD ASSY into the printer.If the ribbon is found, it takes a long time until the density is recovered. To use the printer immediately, change the PHD ASSY to another one. Is the image printed correctly?	End of work.	Go to step 7
7	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the right side of the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? Spring HV terminal	Clean or replace the TRANSFER ASSY or SPRING(s), then go to step 8.	Go to step 8.
8	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? Spring HV terminal HV terminal	Clean and/or replace the PHD ASSY or SPRING(s),then go to step 9.	Go to step 9.
9	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 10.

Step	Check	Remedy	
		Yes	**No**
10	Checking the laser beam windows of the ROS ASSY. Are the laser beam windows on the ROS ASSY clean? Laser beam window	Go to step 11.	Clean the window(s) with soft cloth or cotton swab gently.
11	Checking the laser beam path. Are there any foreign substances between the ROS ASSY and PHD ASSY? Laser beam path / Laser beam path	Remove the foreign substances.	Go to step 12.
12	Does the Toner Dispenser Motor function normally? Checked by [Digital Output] - [DO-21(Y), DO-23(M), DO-25(C), DO-27(K)] in [IOT Diag] of diagnosis.	Go to step 14.	Replace the DISPENSER ASSY (refer to Removal 44/ Replacement 10), then go to step 13.
13	Is the image printed correctly?	End of work.	Replace the printer.
14	Checking after resetting the PWBA MCU. Reseat the PWBA MCU. Is the image printed correctly?	End of work.	Go to step 15.
15	Checking after resetting the PWBA ESS SFP. Reseat the PWBA ESS SFP. Is the image printed correctly?	End of work.	Go to step 16.
16	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Is the image printed correctly?	End of work.	Go to step 17.
17	Checking after replacing the TRANSFER ASSY. Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.) Is the image printed correctly?	End of work.	Go to step 18.
18	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Go to step 19.
19	Checking after resetting the PWBA HVPS. Reseat the PWBA HVPS. Is the image printed correctly?	End of work.	Go to step 20.

Step	Check	Remedy	
		Yes	**No**
20	Checking after replacing the DISPENSER ASSY. Replace the DISPENSER ASSY. (Refer to Removal 44/ Replacement 10.) Is the image printed correctly?	End of work.	Go to step 21.
21	Checking after replacing the KIT ROS. Replace the KIT ROS. (Refer to Removal 45/Replacement 9.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)

FIP-1.P3 Part or the entire output is black.

ESS and possible causative parts
- PWBA HVPS (PL4.1.19)

- PHD ASSY (PL4.1.21)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the solid black. Checked by [Test Print]-[Test Pattern 600] in diagnostic. Is the image printed correctly?	Printing data is incorrect, then check the printing data which the problem generated.	Go to step 2.
2	Checking the printer driver setting. Is the [Output Color] option under the [Graphics] tab set to "Color (Auto)"?	Go to step 3.	Set the option to "Color (Auto)".
3	Checking the Toner Type. Is the Dell Toner seated?	Go to step 4.	Replace the toner with the Dell toner.
4	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 5.
5	Checking after resetting the PWBA HVPS. Reseat the PWBA HVPS. Is the image printed correctly?	End of work.	Go to step 6.
6	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)

FIP-1.P4 Toner smears
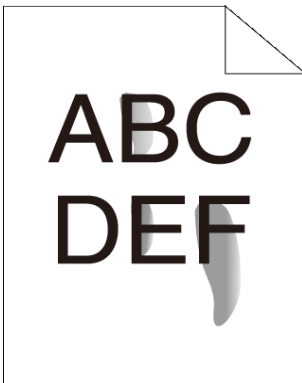
Possible causative parts
- PHD ASSY (PL4.1.21)

- TRANSFER ASSY (PL6.1.7)

- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the printer environment. Check that the printer is in a room where air conditioner is operating. If the air conditioner is not operating, turn it on or move the printer to a room with an air conditioner. Are printouts still toner smears after turning on the air conditioner?	Go to step 2.	End of work.
2	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 3.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)
3	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.) Is the image printed correctly?	End of work.	Go to step 4.
4	Checking after replacing the FUSER ASSY. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49) Is the image printed correctly? **Warning: Start the operation after the FUSER ASSY has cooled down.** **NOTE: After replacement, be sure to clear the life counter value.**	End of work.	Replace the TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)
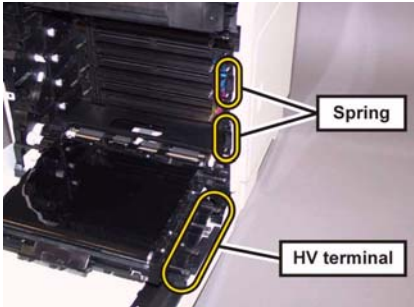
FIP-1.P5　Random spots

ESS and possible causative parts
- TRANSFER ASSY (PL6.1.7)
- PHD ASSY (PL4.1.21)
- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the Print. Checked by [Test-Print]-[Contamination check] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2
2	Checking after cleaning Inside the Printer. Is the image printed correctly?	End of work.	Go to step 3.
3	Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K) Is the image printed correctly?	End of work.	Go to step 4.
4	Checking the belt surface of the TRANSFER ASSY. Are there any damages on the belt surface of the TRANSFER ASSY?	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	Go to step 5.
5	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? 	Clean or replace the TRANSFER ASSY or SPRING(s).	Go to step 6.

Step	Check	Remedy	
		Yes	**No**
6	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? 	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 7.
7	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

FIP-1.P6 Streaks appear on the output

ESS and possible causative parts
- TRANSFER ASSY (PL6.1.7)

- PHD ASSY (PL4.1.21)

- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the Print. Checked by [Test-Print]-[Contamination check] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2
2	Checking after cleaning Inside the Printer. Is the image printed correctly?	End of work.	Go to step 3.
3	Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K) Is the image printed correctly?	End of work.	Go to step 4.
4	Checking the belt surface of the TRANSFER ASSY. Are there any damages on the belt surface of the TRANSFER ASSY?	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	Go to step 5.
5	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? 	Clean or replace the TRANSFER ASSY or SPRING(s).	Go to step 6.

Step	Check	Remedy	
		Yes	**No**
6	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? 	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 7.
7	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

FIP-1.P7 Pitched color dots

ESS and possible causative parts
- TRANSFER ASSY (PL6.1.7)

- PHD ASSY (PL4.1.21)

- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the defective parts. Print the [Pitch Configuration Chart] in [Chart Print] in [Diagnosis] tab of [Tool Box]. When the partial lacks of periodicity are observed, check the defective parts by comparing the printed partial lacks with the Pitch Chart. Are there any partial lackes matching the chart?	Replace the corresponding parts.	Go to step 2.
2	Checking after cleaning Inside the Printer. Is the image printed correctly?	End of work.	Go to step 3.
3	Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K) Is the image printed correctly?	End of work.	Go to step 4.
4	Checking the belt surface of the TRANSFER ASSY. Are there any damages on the belt surface of the TRANSFER ASSY?	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	Go to step 5.
5	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the TRANSFER ASSY or SPRING(s).	Go to step 6.

Step	Check	Remedy	
		Yes	**No**
6	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? 	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 7.
7	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

FIP-1.P8 Vertical blanks
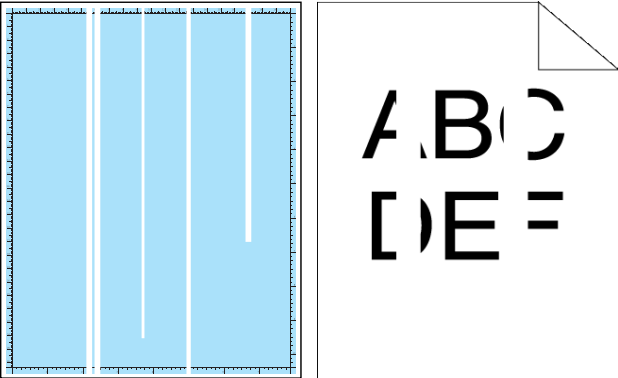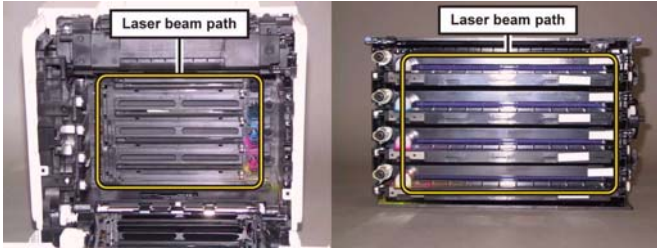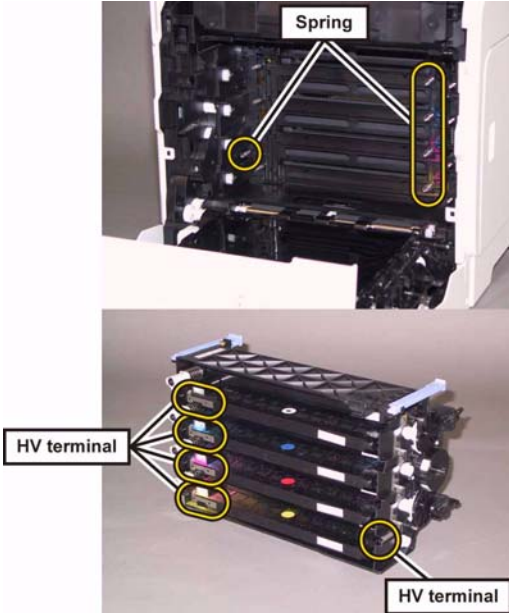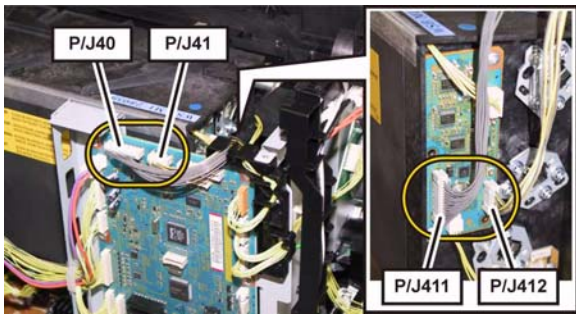
ESS and possible causative parts
- PHD ASSY (PL4.1.21)

- TRANSFER ASSY (PL6.1.7)

- ROS ASSY (PL4.1.1)

- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the Print. Checked by [Test-Print]-[Contamination check] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2
2	Checking the belt surfaces of the TRANSFER ASSY. Are there any damages on the belt surface of the TRANSFER ASSY?	Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.)	Go to step 3.
3	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? 	Clean or replace the TRANSFER ASSY or SPRING(s).	Go to step 4.

Step	Check	Remedy	
		Yes	**No**
4	Checking the laser beam path. Are there any foreign substances between the ROS ASSY and PHD ASSY? Laser beam path Laser beam path	Remove the foreign substances.	Go to step 5.
5	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? Spring HV terminal HV terminal	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 6.
6	Checking the ROS ASSY for connection. Check the connections between the ROS ASSY and PWBA MCU. Are P/J40, P/J 41, P/J411 and P/J 412 connected correctly? P/J40 P/J41 P/J411 P/J412	Go to step 8.	Reconnect the connector(s) P/J40, P/J41, P/J411 and/or P/J412 surely, then go to step 7.
7	Is the image printed correctly?	End of work.	Go to step 8.
8	Checking after replacing the KIT ROS. Replace the KIT ROS. (Refer to Removal 45/Replacement 9.) Is the image printed correctly?	End of work.	Go to step 9.

Step	Check	Remedy	
		Yes	**No**
9	1 - 322 Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

FIP-1.P9 Ghosting

Mnt01114KA
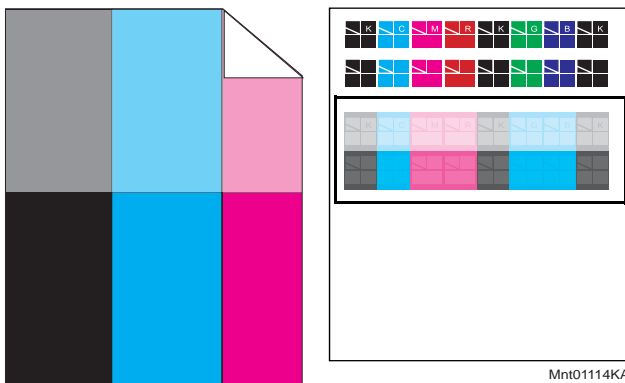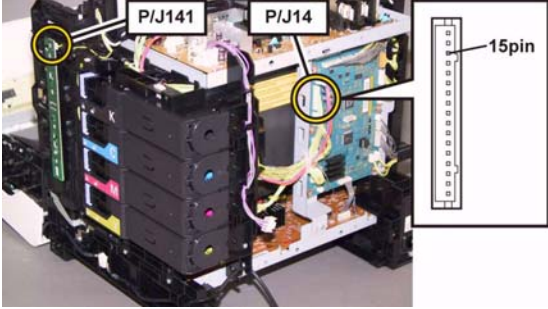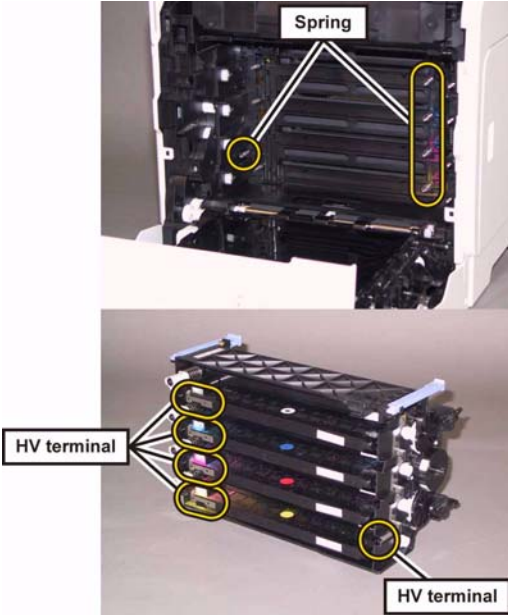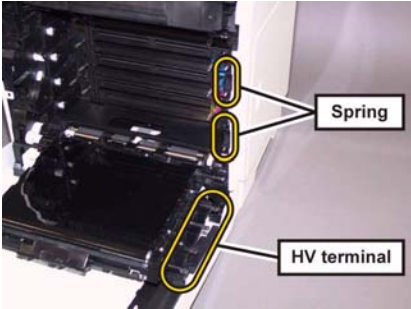
ESS and possible causative parts
- LED ASSY ERASE (PL4.1.8)

- HARNESS ASSY LVPS MAIN MG SFP (PL9.1.3)

- PHD ASSY (PL4.1.21)

- TRANSFER ASSY (PL6.1.7)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the Afterimage (Ghost). Print the Ghost Configuration Chart Page. - To print "Ghost Configuration Chart", click [Ghost Configuration Chart] in [Chart Print] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 2.
2	Checking the paper. Does the paper satisfy the specification?	Go to step 3.	Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)
3	Adjusting the transfer bias. Adjust the voltage value of the BTR. - To adjust the voltage value of the BTR, use [Adjust BTR] on the Printer Maintenance tab of Web Tool. Is the image printed correctly?	End of work.	Go to step 4.
4	Checking after "Drum Refresh Mode". Execute the "Drum Refresh Mode". - To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 5.
5	Checking the erase lamps. Open the COVER ASSY FRONT, and remove the PHD ASSY. Cheat the safety interlock switch. Does the four erase LEDs light correctly?	Go to step 8.	Go to step 6.

Step	Check	Remedy	
		Yes	**No**
6	Checking the connectors for connection. Check the connections between the PWBA MCU and LED ASSY ERASE. Are P/J141 and P/J14 connected correctly? P/J141 P/J14 15pin	Go to step 7.	Reconnect the connector(s) P/J141 and/or P/J14 surely, then go to step 7.
7	Checking the HARNESS ASSY LVPS MAIN MG SFP for continuity. Disconnect J14 from the PWBA MCU. Disconnect J141 from the LED ASSY ERASE. Is each cable of J14 <=> J141 continuous?	Replace the LED ASSY ERASE (Refer to Removal 14/ Replacement 40.),then go to step 8.	Replace the HARNESS ASSY LVPS MAIN MG SFP.
8	Checking the PHD ASSY for connection Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? Spring HV terminal HV terminal	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 9.
9	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 10.

Step	Check	Remedy	
		Yes	**No**
10	Checking the TRANSFER ASSY for connection.Open the COVER ASSY FRONT. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? 	Clean or replace the TRANSFER ASSY or SPRING(s).	Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.)

FIP-1.P10 Light-Induced Fatigue

Possible causative parts
- PHD ASSY (PL4.1.21)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking after "Drum Refresh Mode". Execute the "Drum Refresh Mode". - To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 2.
2	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.) Does the error still occur when printing?	Replace the Printer.	End of work.

FIP-1.P11 Fog

Mnt01115KA

ESS and possible causative parts
- PWBA HVPS (PL4.1.19)

- PHD ASSY (PL4.1.21)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the printing. Checked by [Test Print]-[Gradation] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2.
2	Changing the printer driver setting. Reset Image Settings (Brightness/Contrast) to defaults. - Click [Restore Defaults] in [Image Settings] on the [Graphics] tab. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 4.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)
4	Checking after "Drum Refresh Mode". Execute the "Drum Refresh Mode". - To execute the "Drum Refresh Mode", click [Drum Refresh Mode] in [Refresh Mode] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 5.
5	Checking the Toner Type Is the Dell Toner seated?	Go to step 6.	Replace the toner with the Dell toner.
6	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 7.
7	Checking after resetting the PWBA HVPS. Reseat the PWBA HVPS. Is the image printed correctly?	End of work.	Go to step 8.

Step	Check	Remedy	
		Yes	**No**
8	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)

FIP-1.P12 Bead-Carry-Out (BCO)

ESS and possible causative parts
- PWBA HVPS (PL4.1.19)

- PHD ASSY (PL4.1.21)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Setting the altitude. Set the altitude. - To set the altitude, use [Adjust Altitude] on the Printer Maintenance tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 2.
2	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking after resetting the PWBA HVPS. Reseat the PWBA HVPS. Is the image printed correctly?	End of work.	Go to step 4.
4	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)

FIP-1.P13 Jagged characters

Possible causative parts
- ROS ASSY (PL4.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	No
1	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 2.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)
2	Checking the printer setting. Change the Screen setting to "Fineness" via the printer driver. - To change the Screen settings, use [Screen] on the Advanced Property tab of the printer driver. NOTE: If using a downloaded font, ensure that the font is recommended for the printer, operating system, and the application being used. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the printer setting. Change the Print Mode setting to "High Quality" via the printer driver. - To change the Print Mode settings, use [Print Mode] on the Graphics Property tab of the printer driver. Is the image printed correctly?	End of work.	Go to step 4.
4	Checking the printer setting. Change the Bitmap Smoothing setting to On via the printer driver. - To change the Bitmap Smoothing setting,use [Bitmap Smoothing] on the Advanced Property tab of the printer driver. Is the image printed correctly?	End of work.	Go to step 5.

Step	Check	Remedy	
		Yes	**No**
5	Checking the Toner Type Is the Dell Toner seated?	Go to step 6.	Replace the toner with the Dell toner.
6	Checking after resetting the KIT ROS ASSY. Reseat the KIT ROS ASSY. Is the image printed correctly?	End of work.	Replace the KIT ROS. (Refer to Removal 45/ Replacement 9.)
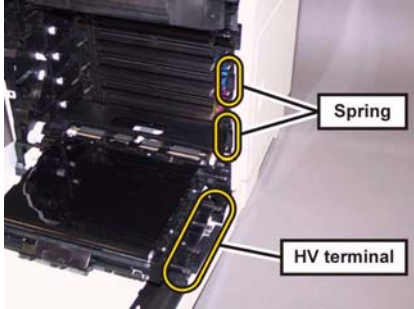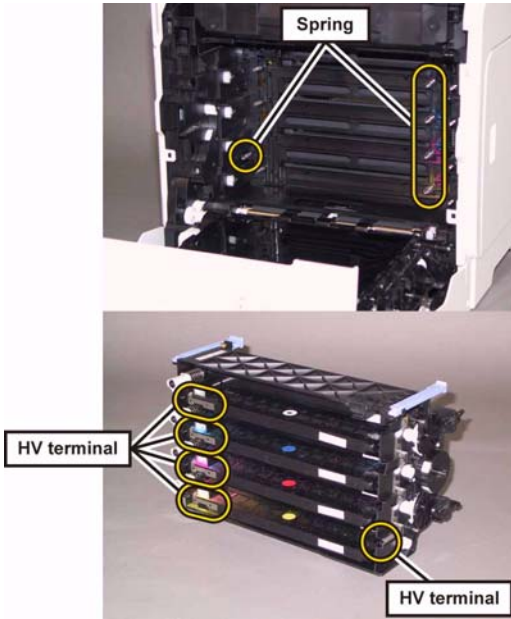
FIP-1.P14 Banding/Horizontal band cross out
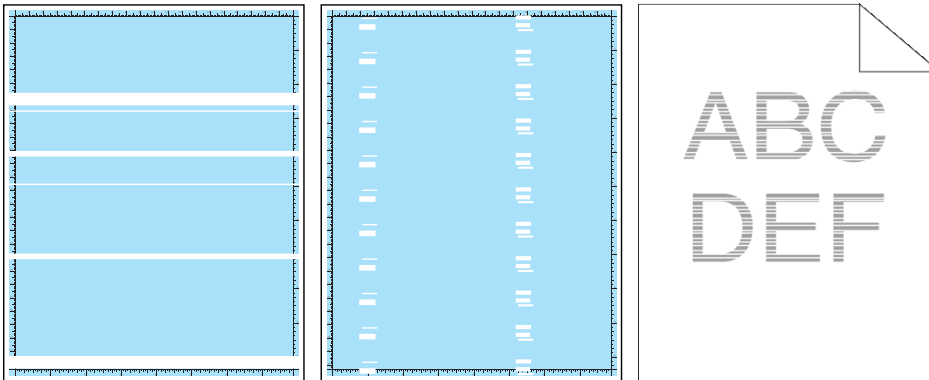
Possible causative parts
- ROS ASSY (PL4.1.1)

- PHD ASSY (PL4.1.21)

- TRANSFER ASSY (PL6.1.7)

- PWBA HVPS (PL4.1.19)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the Print. Checked by [Test-Print]-[Contamination check] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2
2	Checking the paper. Is the installed paper with a new and dry one? or does the paper satisfy the specification?	Go to step 3.	Replace the paper with a new and dry one. or Change the paper to the one that satisfies the specification. (Refer to "14 Print Media Guidelines" in the User Guide.)
3	Checking for foreign objects in the paper transfer path. Remove any foreign objects in the paper transfer path between the KIT TRANSFER ASSY and the FUSER ASSY. Does the printout have Banding/Horizontal band cross out?	Go to step 4.	End of work.
4	Checking the defective parts. Print the [Pitch Configuration Chart] in [Chart Print] in [Diagnosis] tab of [Tool Box]. When the vertical stripes of periodicity are observed, check the defective parts by comparing the printed vertical stripes with the Pitch Chart. Are there any vertical stripes matching the chart?	Replace the corresponding parts.	Go to step 5.

Step	Check	Remedy	
		Yes	**No**
5	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed? Spring HV terminal	Clean or replace the TRANSFER ASSY or SPRING(s).	Go to step 6.
6	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? Spring HV terminal HV terminal	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 7.
7	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Go to step 8.
8	Checking after replacing the TRANSFER ASSY. Replace the KIT TRANSFER ASSY. (Refer to Removal 20/Replacement 34.) Is the image printed correctly?	End of work.	Go to step 9.
9	Checking after replacing the ROS ASSY. Replace the ROS ASSY. (Refer to Removal 45/Replacement 9.) Is the image printed correctly?	End of work.	Replace the PWBA HVPS. (Refer to Removal 47/Replacement 7.)
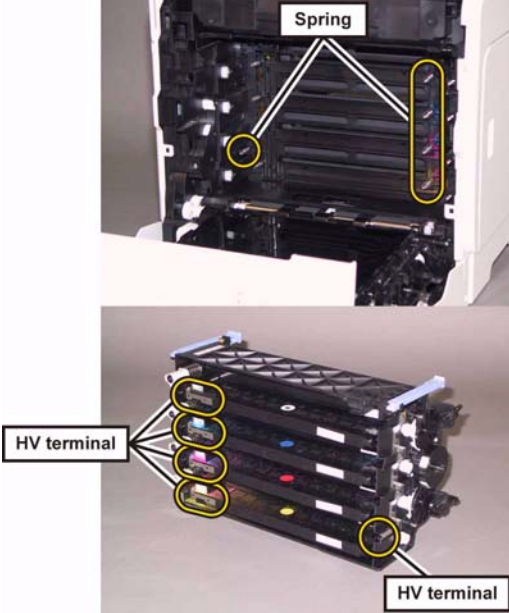
FIP-1.P15 Auger mark
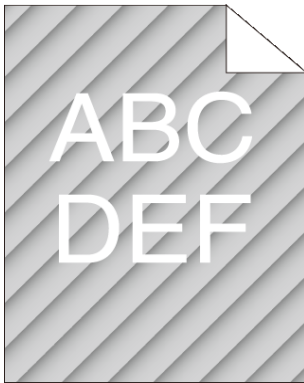
Possible causative parts
- PHD ASSY (PL4.1.21)

- DISPENSER ASSY (PL5.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the TONER CARTRIDGE (Y, M, C or K) for installation. Shake and reseat the suspected TONER CARTRIDGE (Y, M, C, or K) Is the image printed correctly?	End of work.	Go to step 2
2	Checking the Toner Type Is the Dell Toner seated?	Go to step 3.	Replace the toner with the Dell toner.
3	Checking Dispense Motor (Y, M, C or K) for operation. Operate the Dispense Motor (Y, M, C or K) for the color in which the problem lies. - To check the operation of the Dispense Motor (Y, M, C or K), click [Dispense Motor (Y, M, C or K)] in [Machine Check] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 4
4	Execute the "Clean Developer" - To execute the "Clean Developer", click Start in [Clean Developer] on the diagnosis tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 5

Step	Check	Remedy	
		Yes	**No**
5	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed? 	Clean and/or replace the PHD ASSY or SPRING(s).	Go to step 6.
6	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Is the image printed correctly?	End of work.	Go to step 7.
7	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Is the image printed correctly?	End of work.	Replace the DISPENSER ASSY (refer to Removal 44/ Replacement 10)

FIP-1.P16 Wrinkled/Stained paper (Envelope Wrinkle)

.Possible causative parts
- HOLDER ASSY SEPARATOR (PL2.1.5)

- ROLL ASSY FEED (PL3.2.4)

- ROLL ASSY REGI (PL3.2.9)

- ROLL REGI METAL (PL3.2.10)

NOTE	**Tray is recommended for paper feeding because sheets fed via SSF is prone to skew depending on how the sheet is placed on SSF.**

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	No
1	Checking the paper feeding tray. Is the skewed paper fed from the SSF?	Go to step 2.	Go to step 6.
2	Checking the side guides setting of SSF. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	End of work.	Go to step 5.
5	Checking the ROLL ASSY REGI and ROLL ASSY METAL for rotation. Checked by [Digital Output] - [DO-0] in [IOT Diag], and then enter the [Digital Output] - [DO-29] in [IOT Diag]. Does the Roll Assy Regi and Roll Regi Metal rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	End of work.	Replace the ROLL ASSY REGI and/ or ROLL REGI METAL.
6	Checking after resetting the Paper Cassette. Reseat the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 7.
7	Checking after resetting the paper. Reseat the paper in the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 8.
8	Checking the side guides of the Paper Cassette. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 9.

Step	Check	Remedy	
		Yes	**No**
9	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 10.	Go to step 11.
10	Is the image printed correctly?	End of work.	Go to step 11.
11	Checking after resetting the HOLDER ASSY SEPARATOR. Reseat the HOLDER ASSY SEPARATOR. Is the image printed correctly?	End of work.	Go to step 12.
12	Checking after replacing the HOLDER ASSY SEPARATOR. Replace the HOLDER ASSY SEPARATOR. (Refer to Removal 2/Replacement 52.) Is the image printed correctly?	End of work.	Go to step 13.
13	Checking after resetting the ROLL ASSY FEED. Reseat the ROLL ASSY FEED. Is the image printed correctly?	End of work.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)

FIP-1.P17 The top margin is incorrect / The side margin is incorrect

ESS and possible causative parts
- PHD UNIT (PL4.1.21)

- TRANSFER ASSY (PL6.1.7)

- ROS ASSY (PL4.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the printing. Checked by [Test Print]-[Gradation] in diagnosis. Is the image printed correctly?	Printing data is incorrect,then check the printing data which the problem generated.	Go to step 2.
2	Checking after replacing the PHD ASSY. Replace the PHD ASSY. (Refer to Removal 4/Replacement 50.) Does the error appear on the printed material when printing?	Go to step 3.	End of work.
3	Checking after replacing the TRANSFER ASSY. Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.) Does the error appear on the printed material when printing?	Go to step 4.	Replace the KIT ROS ASSY. (Refer to Removal 45/ Replacement 9.)

FIP-1.P18 Color registration is out of alignment

Mnt01119KA
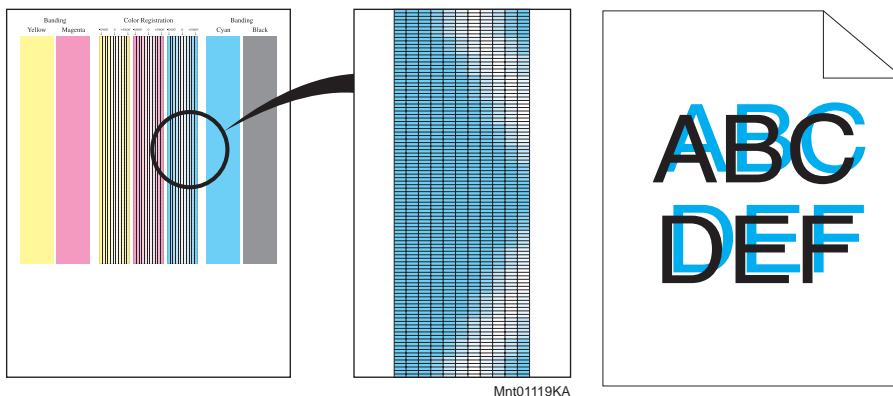
Possible causative parts
- TRANSFER ASSY (PL6.1.7)

- PHD UNIT (PL4.1.21)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	No
1	Checking the Color registration. Print the Color Regi Chart. - To print "Color Regi Chart", click [Color Regi Chart] in [Color Registration Adjustments] on the Printer Maintenance tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 2.
2	Checking after cleaning the CTD (ADC) Sensor. Clean the CTD (ADC) Sensor, and print the Color Regi Chart. - For details on how to clean the CTD (ADC) Sensor, refer to "Appendix_3.2 Cleaning the CTD (ADC) Sensor". Is the image printed correctly?	End of work.	Go to step 3.
3	Checking after automatic color registration. Execute the automatic color registration. - To execute the automatic color registration, click [Auto Correct] in [Color Registration Adjustments] on the Printer Maintenance tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 4.
4	Checking after manual color registration. Manually adjust the color registration. - To adjust the color registration manually, use [Color Registration Adjustment 1 or 2] in [Color Registration Adjustments] on the Printer Maintenance tab of Tool Box. Is the image printed correctly?	End of work.	Go to step 5.
5	Checking after Replacing the TRANSFER ASSY. Replace the KIT TRANSFER ASSY. (Refer to Removal 20/ Replacement 34.) Does the color registration appear on the printed material when printing?	Replace the PHD ASSY. (Refer to Removal 4/ Replacement 50.)	End of work.

FIP-1.P19 Images are skewed

Mnt01116KA

ESS and possible causative parts
- HOLDER ASSY SEPARATOR (PL2.1.5)

- ROLL ASSY FEED (PL3.2.4)

- ROLL ASSY REGI (PL3.2.9)

- ROLL REGI METAL (PL3.2.10)

| NOTE | **Tray is recommended for paper feeding because sheets fed via SSF is prone to skew depending on how the sheet is placed on SSF.** |

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the paper feeding tray. Is the skewed paper fed from the SSF?	Go to step 2.	Go to step 6.
2	Checking the side guides setting of SSF. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	End of work.	Go to step 5.
5	Checking the ROLL ASSY REGI and ROLL ASSY METAL for rotation. Checked by [Digital Output] - [DO-0] in [IOT Diag], and then enter the [Digital Output] - [DO-29] in [IOT Diag]. Does the Roll Assy Regi and Roll Regi Metal rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	End of work.	Replace the ROLL ASSY REGI and/ or ROLL REGI METAL.
6	Checking after resetting the Paper Cassette. Reseat the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 7.
7	Checking after resetting the paper. Reseat the paper in the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 8.
8	Checking the side guides of the Paper Cassette. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 9.
9	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 10.	Go to step 11.
10	Is the image printed correctly?	End of work.	Go to step 11.

Step	Check	Remedy	
		Yes	**No**
11	Checking after resetting the HOLDER ASSY SEPARATOR. Reseat the HOLDER ASSY SEPARATOR. Is the image printed correctly?	End of work.	Go to step 12.
12	Checking after replacing the HOLDER ASSY SEPARATOR. Replace the HOLDER ASSY SEPARATOR. (Refer to Removal 2/Replacement 52.) Is the image printed correctly?	End of work.	Go to step 13.
13	Checking after resetting the ROLL ASSY FEED. Reseat the ROLL ASSY FEED. Is the image printed correctly?	End of work.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)

FIP-1.P20 Paper Damage

Mnt01117KA

.**Possible causative parts**
- HOLDER ASSY SEPARATOR (PL2.1.5)

- ROLL ASSY FEED (PL3.2.4)

- ROLL ASSY REGI (PL3.2.9)

- ROLL REGI METAL (PL3.2.10)

NOTE | **Tray is recommended for paper feeding because sheets fed via SSF is prone to skew depending on how the sheet is placed on SSF.**

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the paper feeding tray. Is the skewed paper fed from the SSF?	Go to step 2.	Go to step 6.
2	Checking the side guides setting of SSF. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 3.
3	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 4.	Go to step 5.
4	Is the image printed correctly?	End of work.	Go to step 5.
5	Checking the ROLL ASSY REGI and ROLL ASSY METAL for rotation. Checked by [Digital Output] - [DO-0] in [IOT Diag], and then enter the [Digital Output] - [DO-29] in [IOT Diag]. Does the Roll Assy Regi and Roll Regi Metal rotate? During this check, cheat the interlock switch (HARN ASSY INTERLOCK).	End of work.	Replace the ROLL ASSY REGI and/ or ROLL REGI METAL.
6	Checking after resetting the Paper Cassette. Reseat the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 7.
7	Checking after resetting the paper. Reseat the paper in the Paper Cassette. Is the image printed correctly?	End of work.	Go to step 8.
8	Checking the side guides of the Paper Cassette. Reset the side guides. Is the image printed correctly?	End of work.	Go to step 9.
9	Checking the paper path. Are there any foreign substances on the paper path?	Remove the foreign substances, then go to step 10.	Go to step 11.

Step	Check	Remedy	
		Yes	**No**
10	Is the image printed correctly?	End of work.	Go to step 11.
11	Checking after resetting the HOLDER ASSY SEPARATOR. Reseat the HOLDER ASSY SEPARATOR. Is the image printed correctly?	End of work.	Go to step 12.
12	Checking after replacing the HOLDER ASSY SEPARATOR. Replace the HOLDER ASSY SEPARATOR. (Refer to Removal 2/Replacement 52.) Is the image printed correctly?	End of work.	Go to step 13.
13	Checking after resetting the ROLL ASSY FEED. Reseat the ROLL ASSY FEED. Is the image printed correctly?	End of work.	Replace the KIT ROLL ASSY FEED. (Refer to Removal 9/Replacement 45.)

FIP-1.P21 Unfusing

Mnt01118KA

Possible causative parts
- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking the using paper Does the using paper meet the specifications?	Go to step 3.	Use the paper that meets the specifications,then go to step 2.
2	Is the image printed correctly?	End of work.	Go to step 3.
3	Checking after resetting the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Reseat the FUSER ASSY. Is the image printed correctly?	End of work.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

FIP-1.P22 Label Stuck

.Possible causative parts
- FUSER ASSY (PL6.1.1)

Before commencing troubleshooting, check the paper transfer path. Make sure there is no foreign materials on the transfer path, such as staples, paper clips, scraps of paper and so on.

Step	Check	Remedy	
		Yes	**No**
1	Checking for foreign materials around the paper transfer path. Are there any foreign materials such as precut adhesive labels in the paper transfer path?	Remove the foreign materials.	Warning: Start the operation after the FUSER ASSY has cooled down. Replace the FUSER ASSY. (Refer to Removal 5/ Replacement 49.) After replacement, be sure to clear the life counter value.

5. Abnormal Noise Trouble

5.1 Entry Chart for Abnormal Noise Troubleshooting

```
┌─────────────────────────────┐                    ┌─────────────────────────────────┐
│ Does abnormal noise arise   │                    │ Check the Operation Mode Table  │
│ during adjustment after     │──────────────────▶ │ of Power ON. Check the          │
│ Power ON?                   │        Y           │ components are normal without   │
│                             │                    │ any stains and/or damages.      │
└─────────────────────────────┘                    │ (Refer to FIP1 N1.)             │
              │ N                                   └─────────────────────────────────┘
              ▼
┌─────────────────────────────┐                    ┌─────────────────────────────────┐
│ Does abnormal noise arise   │                    │ Check the Operation Mode Table  │
│ during Standby?             │──────────────────▶ │ of Standby. Check the           │
│                             │        Y           │ components are normal without   │
│                             │                    │ any stains and/or damages.      │
└─────────────────────────────┘                    │ (Refer to FIP1 N2.)             │
              │ N                                   └─────────────────────────────────┘
              ▼
┌─────────────────────────────┐                    ┌─────────────────────────────────┐
│ Does abnormal noise arise   │                    │ Check the Operation Mode Table  │
│ during printing?            │──────────────────▶ │ of Printing. Check the          │
│                             │        Y           │ components are normal without   │
│                             │                    │ any stains and/or damages.      │
└─────────────────────────────┘                    │ (Refer to FIP1 N3.)             │
                                                    └─────────────────────────────────┘
```

5.2 Operation Mode Table

FIP-1.N1 Noise: When Power is Turned On

Step	Check	Remedy	
		Yes	No
	Possible causative parts: PHD ASSY (PL4.1.21) FUSER ASSY (PL6.1.1) TRANSFER ASSY (PL6.1.7) DRIVE ASSY SUB (PL7.1.1) DRIVE ASSY MAIN (PL7.1.2)		
1	Checking the Main Motor. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [CE Diag] tab of [CE Diag].	Go to step 2.	Go to step 5.
2	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 3.	End of work.
3	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 4.	End of work.
4	Checking after resetting the DRIVE ASSY MAIN. Reseat the DRIVE ASSY MAIN. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Try replacing the PHD ASSY (refer to Removal 4/ Replacement 50), KIT TRANSFER ASSY (refer to Removal 20/ Replacement 34) and KIT DRIVE ASSY MAIN (refer to Removal 32/ Replacement 22) one after another.	End of work.
5	Checking the Sub Motor. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 6.	Check the installation situation of printer.
6	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 7.	End of work.
7	Checking after resetting the FUSER ASSY. Reseat the FUSER ASSY. **Warning: Start the operation after the FUSER ASSY has cooled down.** Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 8.	End of work.

Step	Check	Remedy	
		Yes	**No**
8	Checking after resetting the DRIVE ASSY SUB. Reseat the DRIVE ASSY SUB. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Try replacing the PHD UNIT (refer to Removal 4/ Replacement 50), FUSER ASSY (refer to Removal 5/ Replacement 49) after replacement, be sure to clear the life counter value, and DRIVE ASSY SUB (refer to Removal 33/ Replacement 21) one after another.	End of work.

FIP-1.N2 Noise: During Standby

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: FAN (PL8.1.1) PWBA LVPS (PL8.2.1)		
1	Checking the FAN. Does the noise arise from the Fan? Checked by [Digital Output] - [DO-1e] in [IOT Diag] of diagnosis.	Replace the FAN. (Refer to Removal 40/ Replacement 14.)	Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.)

FIP-1.N3 Noise: During Printing (Checking for other items than "power on noise")

Step	Check	Remedy	
		Yes	No
	Possible causative parts: HOLDER ASSY SEPARATOR (PL2.1.5) ROLL ASSY FEED (PL3.2.4) ROLL ASSY REGI (PL3.2.9) ROLL REGI METAL (PL3.2.10) PHD ASSY (PL4.1.21) FUSER ASSY (PL6.1.1) TRANSFER ASSY (PL6.1.7) DRIVE ASSY SUB (PL7.1.1) DRIVE ASSY MAIN (PL7.1.2) FAN (PL8.1.1) FEEDER ASSY DUP SFP STD (PL11.1.1)		
1	Checking the paper feeding. Does the noise arise from the printer when the paper is fed from the Tray 1?	Go to step 2.	Go to step 6.
2	Checking the paper condition in the Paper Cassette. Is the paper dry and recommended paper?	Go to step 4.	Replace the paper with a new dry and recommended one, then go to step 3.
3	Checking noise when the paper is fed from the Tray 1. Does the noise arise from the printer?	Go to step 4.	End of work.
4	Checking the HOLDER ASSY SEPARATOR in the Paper Cassette for rotation. Remove the Paper Cassette from the printer. Does the SEPARATOR ROLLER rotate smoothly? Turning it with your finger.	Go to step 5.	Replace the KIT HOLDER ASSY SEPARATOR. (Refer to Removal 2/ Replacement 52.)
5	Checking the ROLL ASSY FEED for rotation. Remove the Paper Cassette from the printer. Checked by [Digital Output] - [DO-0] in [IOT Diag] and then enter the [Digital Output] - [DO-b] in [IOT Diag] of diagnosis. Does the noise arise from this Roller?	Replace the ROLL ASSY FEED. (Refer to Removal 9/ Replacement 45.)	Go to step 9.
6	Checking the paper guide sides setting and paper setting of SSF. Were the paper guide sides of SSF correctly set, and was the paper correctly inserted into SSF?	Go to step 7.	Reset the paper guide sides, and correctly insert the paper to SSF, then go to step 7.
7	Checking the paper condition. Is the paper dry and recommended paper?	Go to step 9.	Replace the paper with a new dry and recommended one, then go to step 8.
8	Checking noise when the paper is fed from the SSF. Does the noise arise from the printer?	Go to step 9.	End of work.
9	Checking the Duplex. Does the noise arise when feeding the paper from the Duplex?	Go to step 10.	Go to step 12.

Step	Check	Remedy	
		Yes	**No**
10	Checking the FEEDER ASSY DUP SFP STD for installation. Reseat the FEEDER ASSY DUP SFP STD. Does the noise arise from the printer?	Go to step 11.	End of work.
11	Checking the Duplex Motor (MOTOR ASSY DUP). Does the noise arise from the printer? Checked by [Digital Output] - [DO-12] in [IOT Diag] of diagnosis.	Replace FEEDER ASSY DUP SFP STD (Refer to Removal 56/ Replacement 57).	End of work.
12	Checking the Main Motor. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 13.	Go to step 19.
13	Checking after resetting the PHD UNIT. Reseat the PHD UNIT. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 14.	End of work.
14	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Go to step 15.	End of work.
15	Checking the foreign substances on the surfaces of the ROLL ASSY REGI and ROLL REGI METAL. Are there any foreign substances on the surfaces of these parts?	Remove the foreign substances, then go to step 16.	Go to step 17.
16	Checking noise when printing. Does the noise arise from the printer?	Go to step 17.	End of work.
17	Checking the ROLL ASSY REGI and ROLL REGI METAL for rotation. Checked by [Digital Output] - [DO-0] in [IOT Diag] and then enter the [Digital Output] - [DO-29] in [IOT Diag] of diagnosis. Does the noise arise from the Roller(s)?	Replace the ROLL ASSY REGI and/ or ROLL REGI METAL.	Go to step 18.
18	Checking the DRIVE ASSY MAIN for installation. Reseat the DRIVE ASSY MAIN. Does the noise arise from the printer? Checked by [Digital Output] - [DO-0] in [IOT Diag] of diagnosis.	Try replacing the PHD ASSY (refer to Removal 4/ Replacement 50), KIT TRANSFER ASSY (refer to Removal 20/ Replacement 34) and KIT DRIVE ASSY MAIN (refer to Removal 32/ Replacement 22) one after another.	End of work.
19	Checking the Sub Motor. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 20.	Check the installation situation of the printer.

Step	Check	Remedy	
		Yes	**No**
20	Checking the PHD ASSY for installation. Reseat the PHD ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 21.	End of work.
21	Checking the FUSER ASSY for installation. Reseat the FUSER ASSY. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Go to step 22.	End of work.
22	Checking the DRIVE ASSY SUB for installation. Reseat the DRIVE ASSY SUB. Does the noise arise from the printer? Checked by [Digital Output] - [DO-5] in [IOT Diag] of diagnosis.	Try replacing the PHD UNIT (refer to Removal 4/ Replacement 50), FUSER ASSY (refer to Removal 5/ Replacement 49) after replacement, be sure to clear the life counter value, and DRIVE ASSY SUB (refer to Removal 33/ Replacement 21) one after another.	End of work.

6. Other FIP

Other FIP covers the Electrical Noise FIP, Power Supply FIP and Multiple Feed FIP, except Error Code FIP, Abnormal Noise FIP and Image Quality FIP.

FIP-Electrical Noise

Step	Check	Remedy	
		Yes	No
	Possible causative parts: PHD ASSY (PL4.1.21) TRANSFER ASSY (PL6.1.7) PWBA HVPS (PL4.1.19)		
1	Checking the external noise. Are there any other electrical appliances within 3 meters form the printer, such as generators, radio and appliances with motors? Either turn off the other electrical appliances, or relocate the printer at least 6 meters away from other appliances. Does the electrical noise error still occur?	Go to step 2.	End of work.
2	Checking the AC ground. Is AC power supply outlet wired and grounded appropriately?	Go to step 3.	Request the client to fix AC power supply outlet.
3	Checking the TRANSFER ASSY for connection. Open the COVER ASSY FRONT MG. Are four HV terminals on the TRANSFER ASSY, and four springs on the frame (PL4.1.11, 12, 13 and 14) dirty and/or deformed?	Clean or replace the TRANSFER ASSY (refer to Removal 20/ Replacement 34) or SPRING(s).	Go to step 4.
4	Checking the PHD ASSY for connection. Remove the PHD ASSY. Are five HV terminals on the PHD ASSY, and five springs on the frame (PL4.1.10 and PL4.1.15 to 18) dirty and/or deformed?	Clean or replace the PHD ASSY (refer to Removal 4/ Replacement 50) or SPRING(s).	Go to step 5.
5	Checking after resetting the PHD ASSY. Reseat the PHD ASSY. Does the electrical noise error still occur?	Go to step 6.	End of work.
6	Checking after resetting the TRANSFER ASSY. Reseat the TRANSFER ASSY. Does the electrical noise error still occur?	Reseat the PWBA HVPS.(refer to Removal 47/ Replacement 7)	End of work.

FIP-AC Power

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: SWITCH ASSY INLET MG SFP (PL8.2.9) PWBA LVPS (PL8.2.1)		
1	Checking the printer. Does the motor noise arise when turning on the power? During this test, close the COVER ASSY FRONT MG.	Go to FIP-DC.	Go to step 2.
2	Checking the power supply on wall outlet. Connect the power cord with other wall outlet. Does the printer operate normally?	End of work.	Go to step 3.
3	Checking the power code for connection. Reconnect the power cord. Does the printer operate normally?	End of work.	Go to step 4.
4	Checking the connector of SWITCH ASSY INLET MG SFP for connection. Disconnect the power cord and wait for one minute. Reconnect the connector of SWITCH ASSY INLET MG SFP. Does the printer operate normally?	End of work.	Replace the SWITCH ASSY INLET MG SFP ,then go to step 5.
5	Checking the connector of PWBA LVPS for connection. Disconnect the power cord and wait for one minute. Reconnect the all connectors of PWBA LVPS. Does the printer operate normally?	End of work.	Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.)

FIP-DC Power

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA LVPS (PL8.2.1) PWBA MCU (PL8.2.13) PWBA ESS SFP (PL8.1.17)		
1	Checking the connector of the PWBA LVPS for connection. Disconnect the power cord and wait for one minute. Reconnect the all connectors of the PWBA LVPS. Does the printer operate normally?	End of work.	Go to step 2.
2	Checking the connector of the CONSOLE ASSY PANEL for connection. Reconnect the connector (P/J202) of the CONSOLE ASSY PANEL. Does the CONSOLE ASSY PANEL operate normally?	End of work.	Go to step 3.
3	Checking after resetting the PWBA MCU and PWBA ESS SFP. Reseat the PWBA MCU and PWBA ESS SFP. Does the printer operate normally?	End of work.	Replace the PWBA LVPS. (Refer to Removal 11/ Replacement 43.)

FIP-Multiple Feed
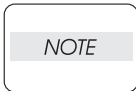
| NOTE | **This multiple feed trouble occurs only when the paper is fed from the Paper Cassette.** |

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: HOLDER ASSY SEPARATOR (PL2.1.5) ROLL ASSY FEED (PL3.2.4) ROLL ASSY REGI (PL3.2.9) ROLL REGI METAL (PL3.2.10)		
1	Checking the using paper. Does the using paper meet the specifications?	Go to step 3.	Use the paper that meets the specifications, then go to step 2.
2	Does the multi feed still occur when printing?	Go to step 3.	End of work.
3	Checking paper condition. Is the paper dry and recommended paper?	Go to step 5.	Replace the paper with a new dry and recommended one, then go to step 4.
4	Does the multi feed still occur when printing?	Go to step 5.	End of work.
5	Checking the ROLL ASSY FEED and HOLDER ASSY SEPARATOR for rotation. Does the ROLL ASSY FEED and HOLDER ASSY SEPARATOR rotate smoothly and operate correctly?	End of work.	Replace the KIT ROLL ASSY FEED (refer to Removal 9/ Replacement 45) or KIT HOLDER ASSY SEPARATOR (refer to Removal 2/ Replacement 52).

FIP-Control Panel Freezes

Step	Check	Remedy	
		Yes	**No**
	Possible causative parts: PWBA ESS SFP (PL8.1.7)		
1	Checking the operating environment. Is the printer connected to the Network?	Go to step 2.	Replace the Printer.
2	Checking the IP address. Can you change the IP address?	Go to step 5.	Go to step 3.
3	Checking the internet connectivity. Is there any internet connection available for your PC?	Go to step 4.	Replace the KIT PWBA ESS SFP. (Removal 42/ Replacement 12)
4	Updating the firmware to the latest version. Download the latest version of the firmware from the DELL Support Web site, and execute the update. **NOTE: Before updating the firmware to the latest version, reset the error following the steps of procedure described below. In addition, update the firmware by way of a USB storage.** **1) Remove the network cable.** **2) Connect the USB cable.** **3) Turn the power off and on.** Does the error persist when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Removal 42/ Replacement 12)	End of work.
5	Changing the IP address. Contact your system administrator for obtaining a new IP address. Refer to Reference_1 for details of how to change the IP address. Does the error persist when the power is turned off and on?	Replace the KIT PWBA ESS SFP. (Removal 42/ Replacement 12)	End of work.

Reference_1:Changing the IP address

1) Remove the network cable, and power off the printer and then on

2) Change the IP address on the Control Panel.

3) Plug the network cable back into the printer, and then turn the power on.

4) On the Control Panel, open [Admin] > [Network] > [TCP/IP], and confirm that the IP address has been changed.

Appendix

This section describes procedure of clearing paper jams, procedure of replacing the main parts, and procedure of cleaning the printer.

Appendix_1 Clearing Jams

1.1 Clearing Paper Jams From the SSF

1) Pull the jammed paper out of the single sheet feeder. If no jammed paper can be found or you are unable to remove the paper, go to the next step to remove the jammed paper from the inside of the printer.
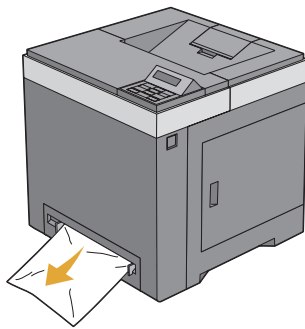
2) Remove the standard 250-sheet tray from the printer, and then pull out the jammed paper remaining inside the printer. If no jammed paper can be found or you are unable to remove the paper, go to the next step to remove the jammed paper from the inside of the printer.
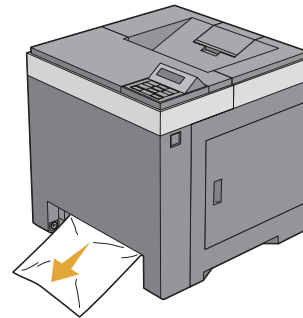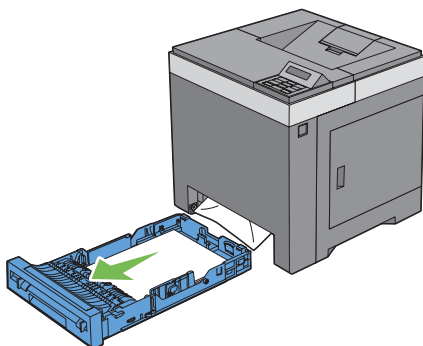
3) Push the side button to open the front cover.
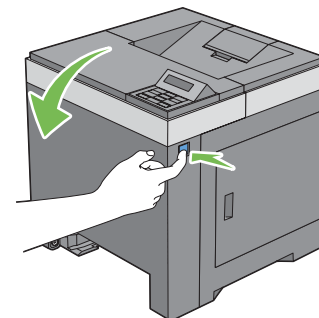
4) Open the belt unit until it stops and remove the jammed paper. Confirm that there are no scraps of paper remaining inside the printer.
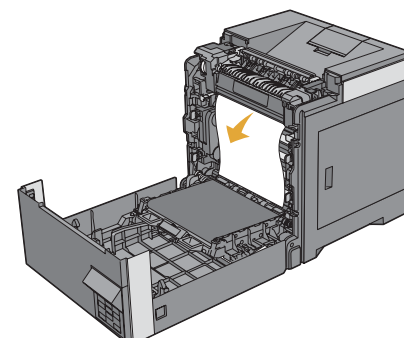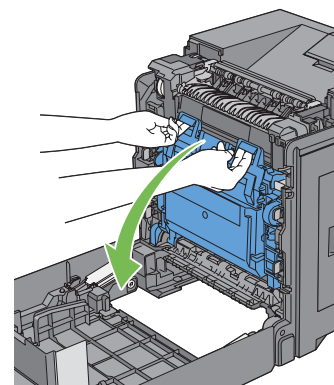
5) Close the belt unit, and push at the top of the unit until it clicks.
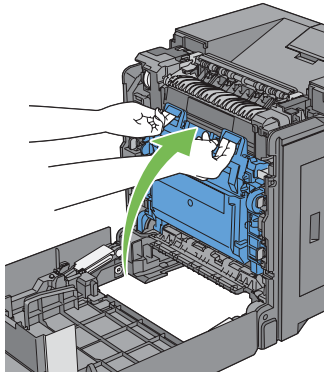
6) Close the front cover.
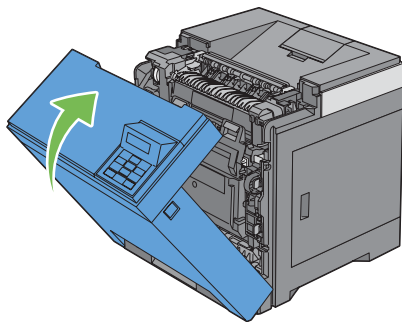
7) Insert the standard 250-sheet tray into the printer, and push until it stops.
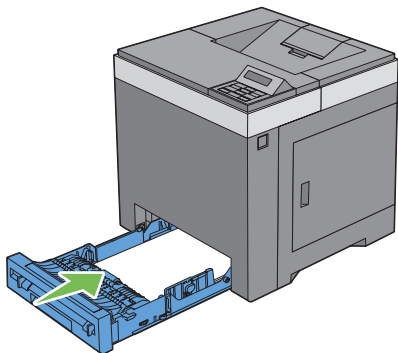
1.2 Clearing Paper Jams From the Standard 250-Sheet Tray

1) Pull the standard 250-sheet tray out of the printer carefully. Hold the tray with both hands, lift the front slightly, and remove it from the printer.
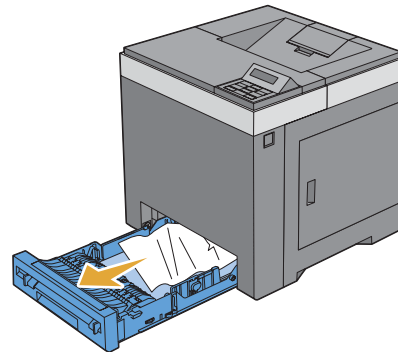
2) Remove all the jammed and/or creased paper from the tray.
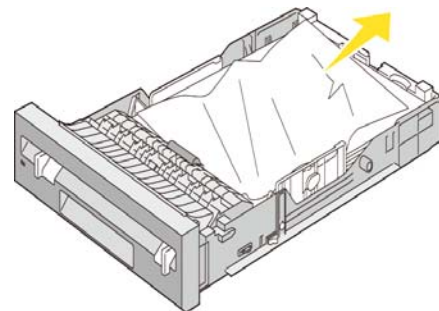
3) Pull the jammed paper out carefully to avoid tearing it. If you are still unable to remove the paper, go to the next step to remove the jammed paper from the inside of the printer.
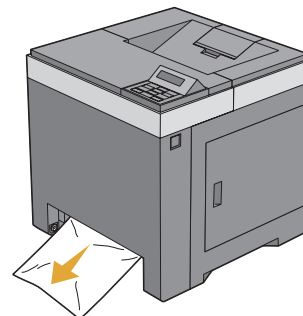
4) Push the side button to open the front cover.

5) Open the belt unit until it stops and remove the jammed paper. Confirm that there are no scraps of paper remaining inside the printer.

6) Close the belt unit, and push at the top of the unit until it clicks.

7) Close the front cover.

8) Insert the standard 250-sheet tray into the printer, and push until it stops.

1 - 360
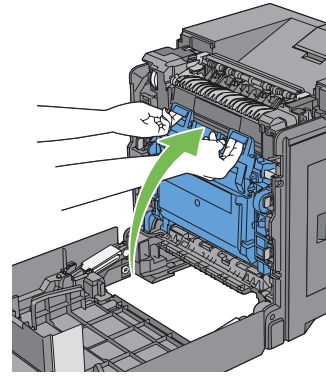
1.3 Clearing Paper Jams From the Fuser

1) Turn off the printer and wait for 30 minutes.

2) Push the side button to open the front cover.
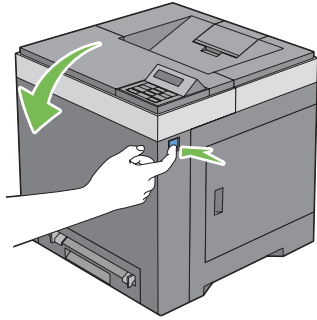
3) Open the belt unit.
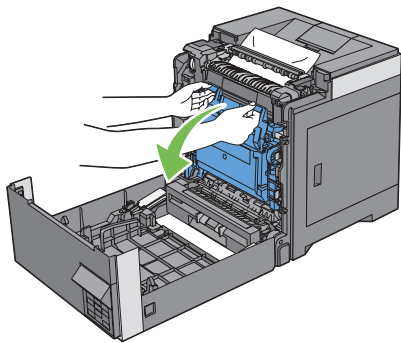
4) Lift the levers at both ends of the fuser, and remove the jammed paper. If you are still unable to remove the paper, go to the next step.
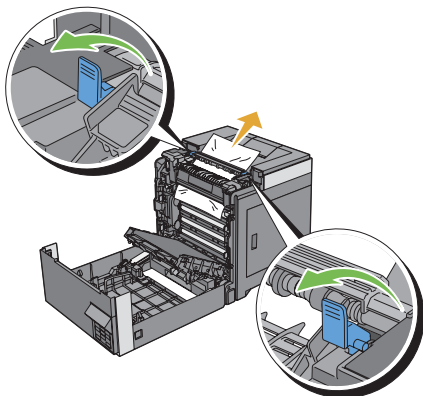
5) Open the cover of the fuser and remove the jammed paper.
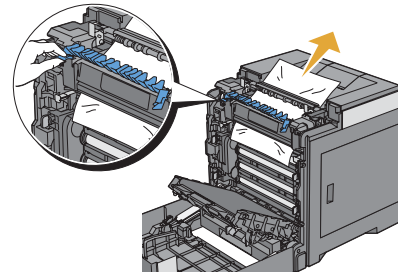
6) Close the cover of the fuser and press down the levers at both ends of the fuser.
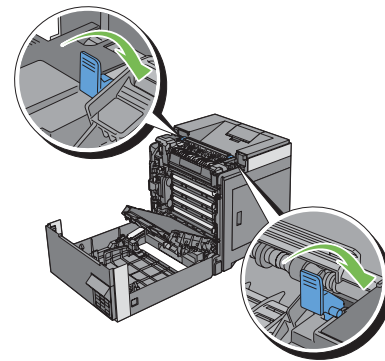
7) Confirm that there are no scraps of paper remaining inside the printer, and then close the belt unit.
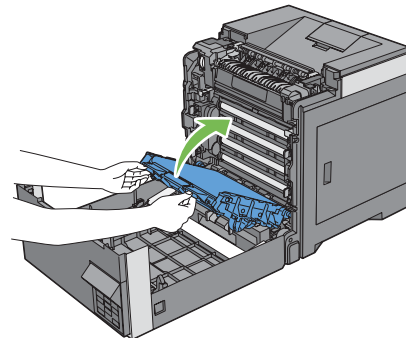
8) Close the front cover.
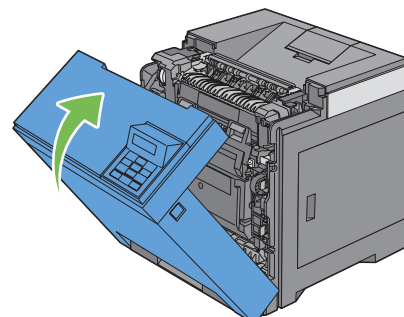
1.4 Clearing Paper Jams From the Duplexer

1)   Push the side button to open the front cover.
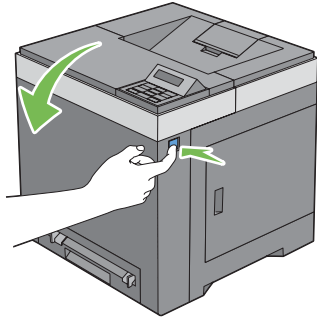
2)   Open the cover of the duplexer.
3)   Remove the jammed paper from the duplexer.
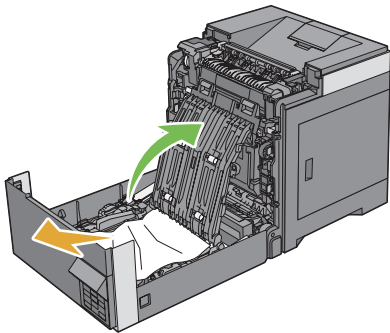
4)   Close the cover of the duplexer.
5)   Close the front cover.
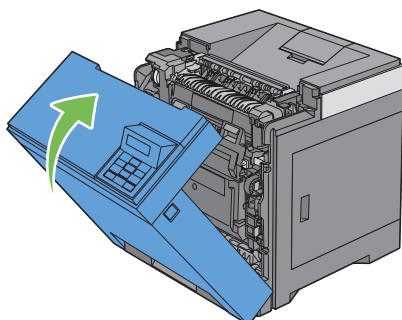
1.5 Clearing Paper Jams From the Optional 250-Sheet Feeder

1)   Pull the optional 250-sheet feeder out of the printer carefully. Hold the feeder with both hands, and remove it from the printer.
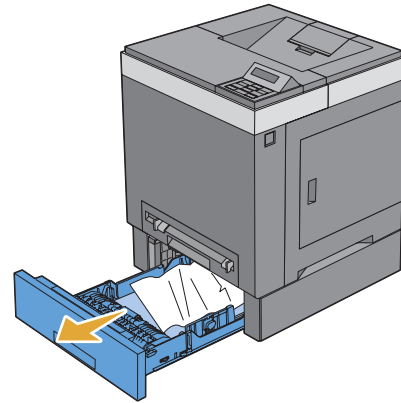
2)   Remove all jammed and/or creased paper from the feeder.
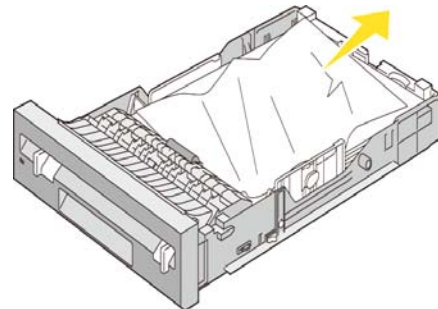
3)   Pull the jammed paper out carefully to avoid tearing it. If you are still unable to remove the paper, go to the next step to remove the jammed paper from the inside of the printer.
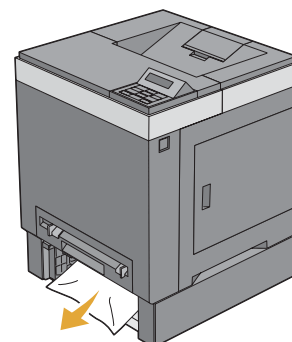
4) Push the side button to open the front cover.
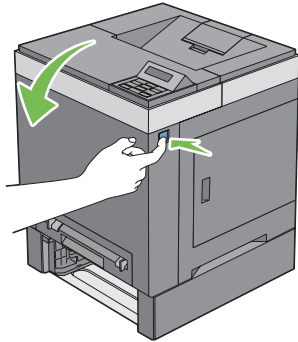
6) Close the belt unit, and push at the top of the unit until it clicks.
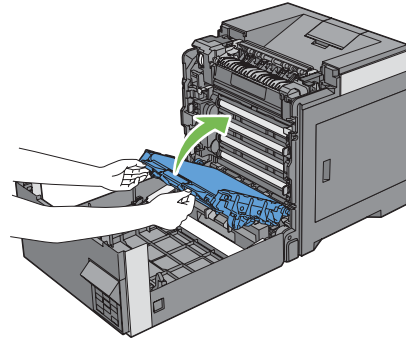
5) Open the belt unit until it stops and remove the jammed paper. Confirm that there are no scraps of paper remaining inside the printer.
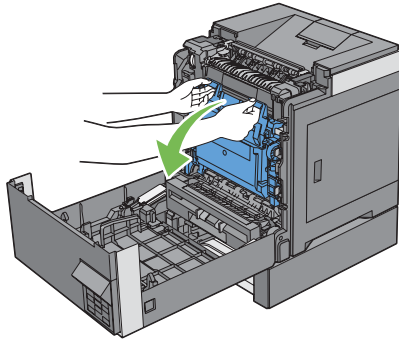
7) Close the front cover.
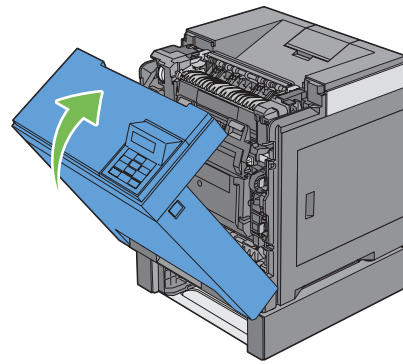
8) Insert the optional 250-sheet feeder into the printer, and push until it stops.
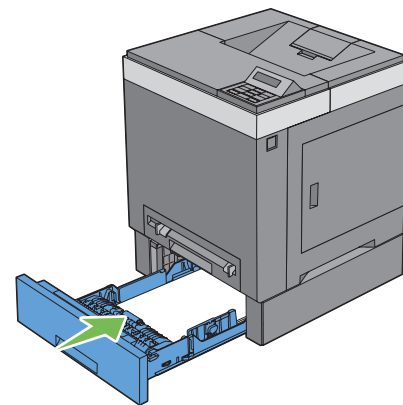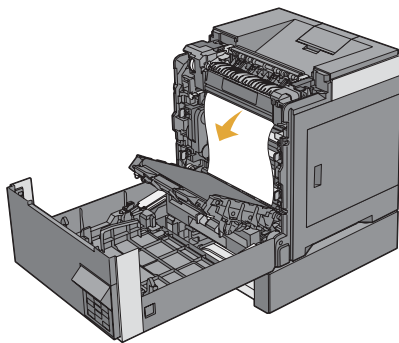
Appendix_2 Replacing the Main Parts

2.1 Consumables and Periodic Replacement Parts Life

2.1.1 Replacement Timing of Consumables and Periodic Replacement Parts

(1) Types of Consumables and Periodic Replacement Parts

Listed below are the consumables and periodic replacement parts for this printer (including options).

	Product Name	Life span (approximate)*1
Consumables	TONER CARTRIDGE (K) (Starter capacity)	1,200 pages
	TONER CARTRIDGE (YMC) (Starter capacity)	1,200 pages
	TONER CARTRIDGE (K) (Standard capacity)	3,000 pages
	TONER CARTRIDGE (YMC) (Standard capacity)	2,500 pages
Periodic Replacement Parts	FUSER	100,000 pages
	PHD ASSY	24,000 pages
	SEPARATOR ROLLERS (Retard Roller)	150,000 pages

*1: The page counts are for reference only.

The actual page count may vary greatly depending on conditions such as print settings, document contents, or power-on/off frequency.

(2) Replacement Timing of Consumables

When a consumable part is about to reach its replacement period, one of the following messages appears on the Operator Panel:

	Message	Meaning	Detection device
TONER CARTRIDGE (YMCK)	<Near Life> Ready to Print 093-XXX*1 ↕ Flip YYY*1 Cartridge Is close to life	The TONER CARTRIDGE (Y, M, C, or K) is near its replacement period. Have ready a new TONER CARTRIDGE (Y, M, C, or K). You can still print approximately another 900 pages (Standard capacity: 1,800 pages) in K, and 600 (Standard capacity: 1,200 pages) in Y, M, and C.	The TONER CRUM detects the replacement period from the remaining toner amount. The CTD (ADC) Sensor detects the life end.
	<Life Over> Replace Cart. 093-XXX*2 ↕ Flip Replace YYY*2 Cartridge	The TONER CARTRIDGE (Y, M, C, or K) has reached its replacement period. The printer stops operating. Immediately replace the TONER CARTRIDGE (Y, M, C, or K) with a new one.	

*1-*2: XXX/YYY in the message denotes the following.

  *1: 423/Yellow, 424/Magenta, 425/Cyan, 426/Black

  *2: 930/Yellow, 931/Magenta, 932/Cyan, 933/Black

(3) Replacement Timing of Periodic Replacement Parts

When a periodic replacement part is about to reach its replacement period, one of the following messages appears on the Operator Panel:

	Message	Meaning	Detection device
FUSER ASSY	<Near Life> Ready to Print 010-421 ↕ Flip Ready to Print Contact Support	The FUSER ASSY is near its replacement period. Have ready a new FUSER ASSY. You can still print approximately another 5,000 pages before the Life Over message appears.	The replacement period is detected with the operation counter of the FUSER ASSY.
	<Life Over> Replace FUSER 010- 351 ↕ Flip Replace FUSER Contact Support	The FUSER ASSY has reached its replacement period. You can still print some more pages, but the print quality will not be assured. It is recommended that you replace the FUSER ASSY with a new one immediately.	
PHD ASSY	<Near Life> Ready to Print 091-402 ↕ Flip Ready to Print Contact Support	The PHD ASSY is near its replacement period. Have ready a new PHD ASSY. You can still print approximately another 2,400 pages before the Life Over message appears.	The replacement period is detected with the operation counter of the PHD ASSY.
	<Life Over> Replace PHS 091-935 ↕ Flip Replace PHD Contact Support	The PHD ASSY has reached its replacement period. You can still print some more pages, but the print quality will not be assured. It is recommended that you replace the PHD ASSY with a new one immediately.	

2.2 Replacing the Toner Cartridges

- Removing the Toner Cartridges

   1)   Open the toner access cover.
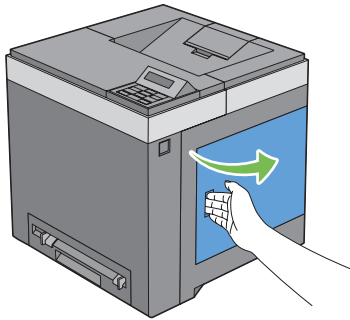
   2)   Push the latch(es) backwards to pop open the toner cartridge(s) that you want to replace.
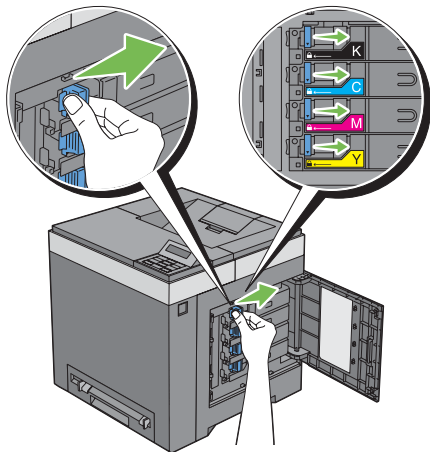
   3)   Pull the cartridge holder until it clicks, and then pull out the toner cartridge.
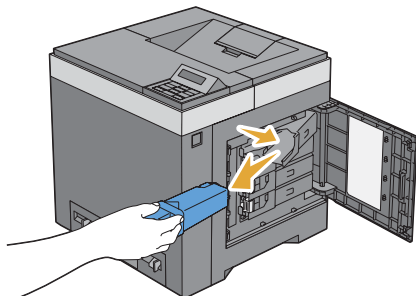
- Installing a Toner Cartridge

   1)   Ensure that the color of the new toner cartridge matches that on the handle before replacing it. Shake the new toner cartridge five or six times to distribute the toner evenly.
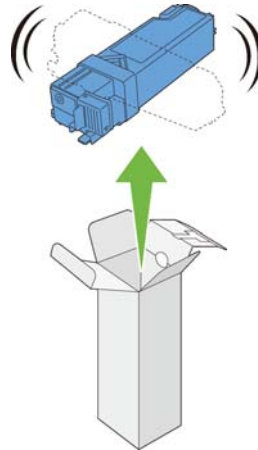
   2)   Insert the toner cartridge into the associated cartridge holder, and then slide the latch of the toner cartridge.
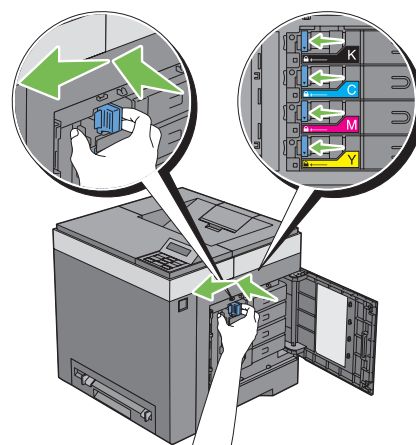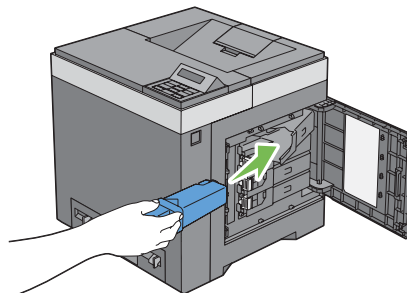
3)   Close the toner access cover.
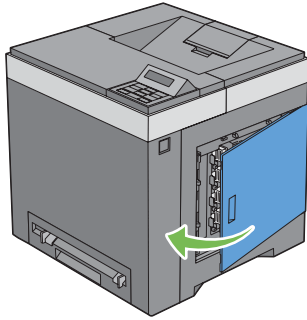
2.3 Replacing the Print Head Device (PHD) Unit

- Removing the PHD Unit

1)   Ensure that the printer is turned off.

2)   Pull the standard 250-sheet tray out of the printer about 200 mm. Hold the standard 250-sheet tray with both hands, and remove it from the printer.
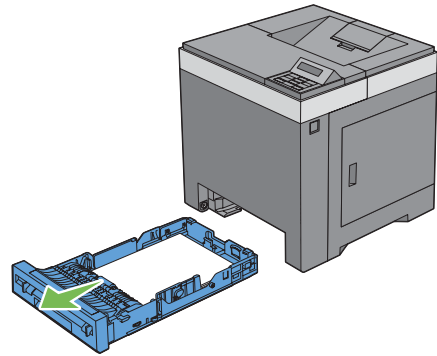
3)   Push the side button to open the front cover.
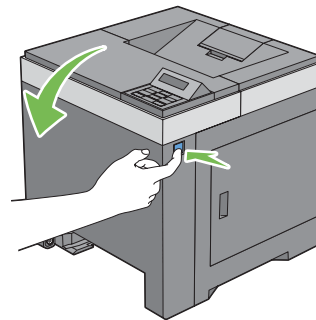
4)   Open the belt unit.
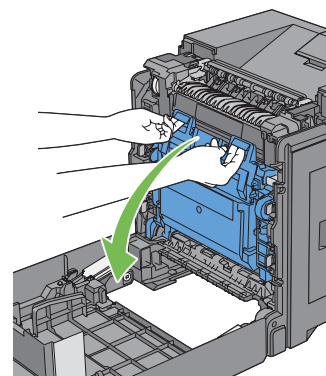
5) Turn the four PHD lock levers 90-degrees counterclockwise.
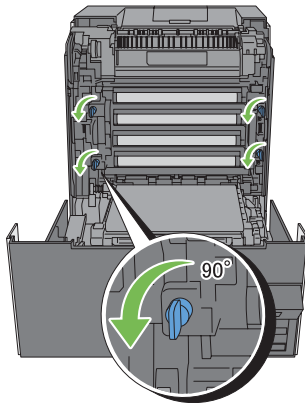
6) Hold the gray tabs, and then pull the PHD unit out of the printer.
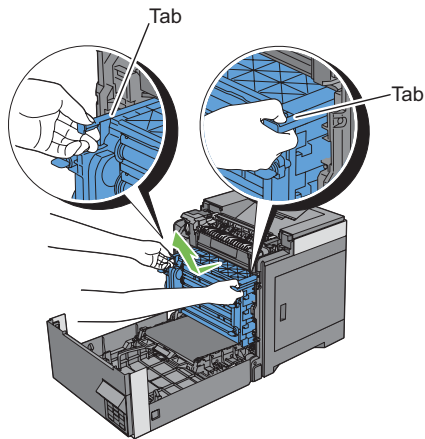
- Installing a PHD Unit

1) Open the PHD packaging.

2) Take out the PHD unit from the packaging.

3) Completely pull out the eight yellow ribbons from the PHD unit.
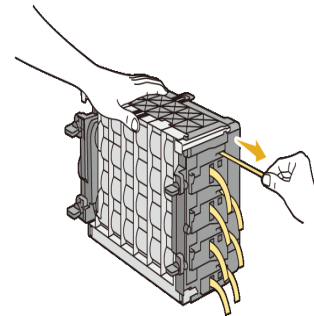
4) Remove the rear protective cover from the PHD unit.
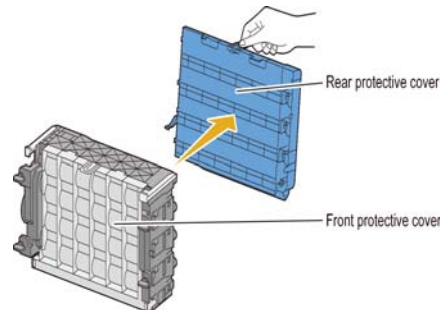
5) Insert the PHD unit until the line on the handle aligns with the white line on the printer.
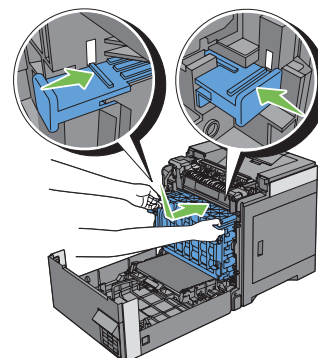
6) Turn the four PHD lock levers 90-degrees clockwise to lock the PHD unit.
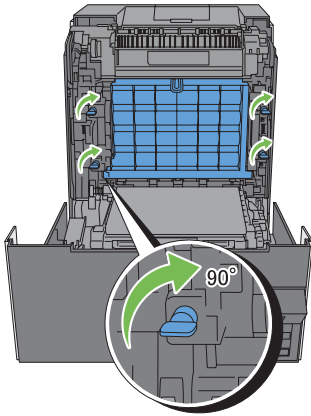
7) Remove the front protective cover from the PHD unit.
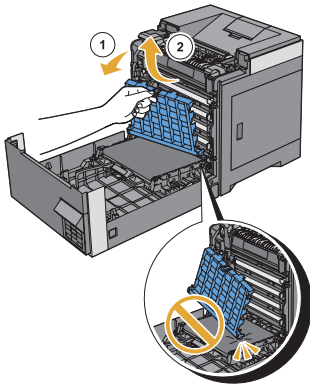
8) Close the belt unit, and push at the top of the unit until it clicks.

9) Close the front cover.
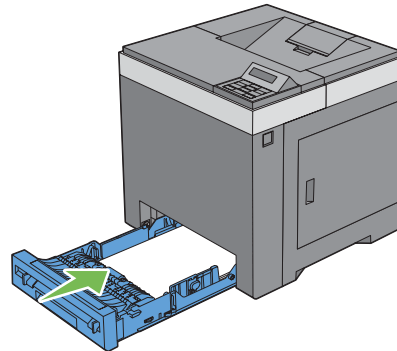
10) Insert the standard 250-sheet tray into the printer, and push until it stops.
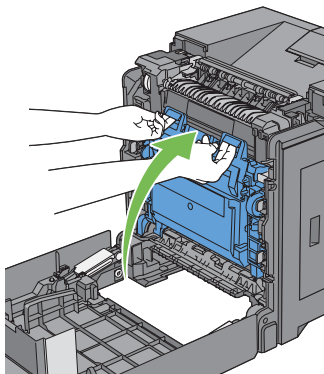
2.4 Replacing the Retard Roller

- Removing the Retard Roller in the Standard 250-Sheet Tray

1) Pull the standard 250-sheet tray out of the printer about 200 mm. Hold the standard 250-sheet tray with both hands, and remove it from the printer.
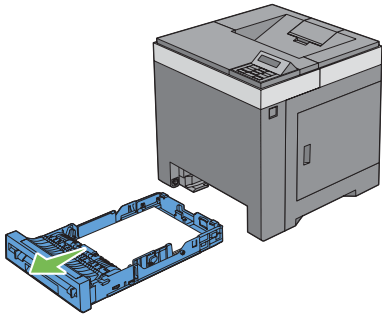
2) Holding the retard roller tabs with your fingers, pull the retard roller out of the groove in the axle.
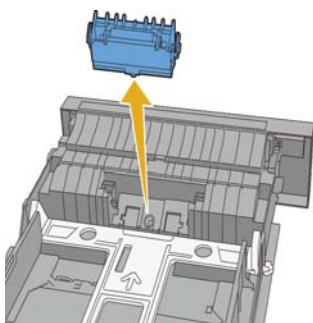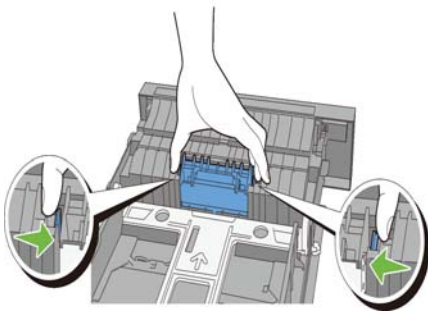
- Installing a Retard Roller in the Standard 250-Sheet Tray

1) Align the new retard roller with the groove on the axle.
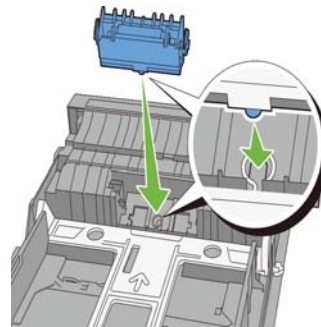
2) Insert the retard roller into the axle until it snaps. The protrusions fit completely into the slots and the roller hook reseats into the groove on the axle.
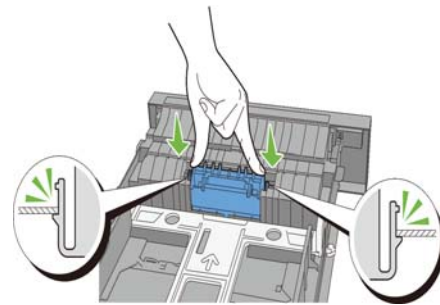
3) Load paper in the standard 250-sheet tray, and then insert the tray into the printer and push until it stops.
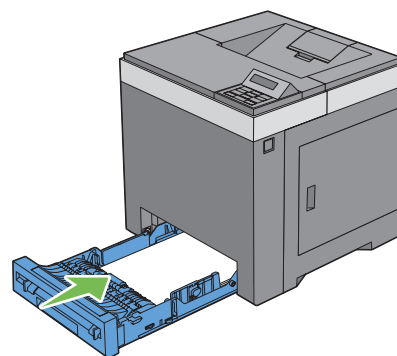
Appendix_3 Cleaning the Printer

3.1 Cleaning Inside the Printer

1) Ensure that the printer is turned off.

2) Pull the standard 250-sheet tray out of the printer about 200 mm. Hold the standard 250-sheet tray with both hands, and remove it from the printer.
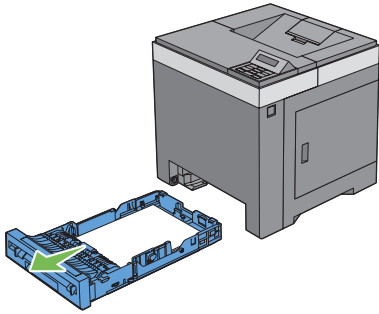
3) Push the side button to open the front cover.
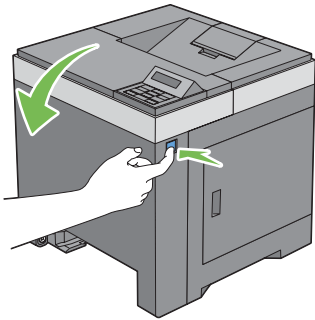
4) Open the belt unit.
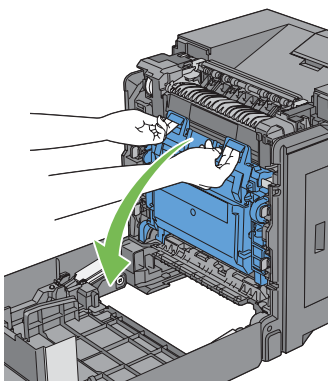
5) Turn the four PHD lock levers 90-degrees counterclockwise.
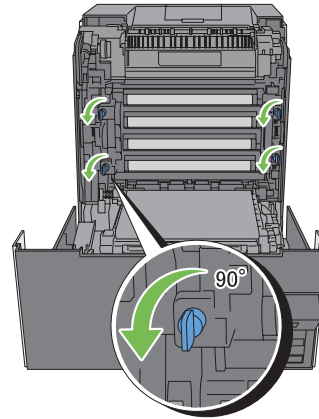
6) Hold the gray tabs, and then pull out the PHD unit.
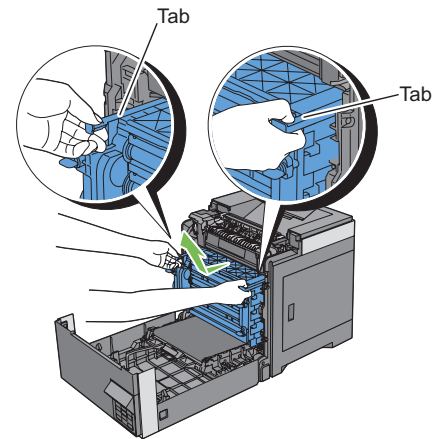
7) Clean the feed roller inside the printer with a dry cloth.
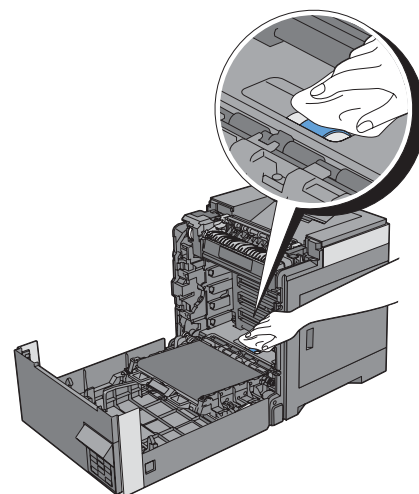
8) Insert the PHD unit until it stops, and then turn the four PHD lock levers 90-degrees clockwise to lock the PHD unit.
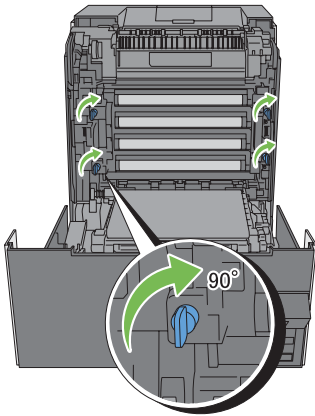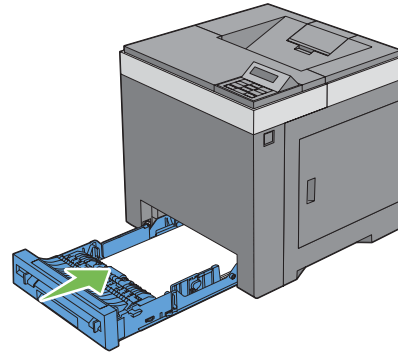
9) Close the belt unit, and push at the top of the unit until it clicks.

10) Close the front cover.

11) Insert the standard 250-sheet tray into the printer, and push until it stops.
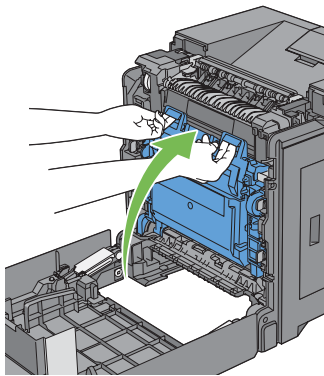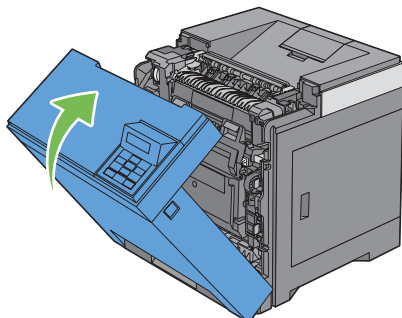
3.2 Cleaning the CTD (ADC) Sensor

1) Ensure that the printer is turned off.
2) Pull the standard 250-sheet tray out of the printer about 200 mm. Hold the standard 250-sheet tray with both hands, and remove it from the printer.
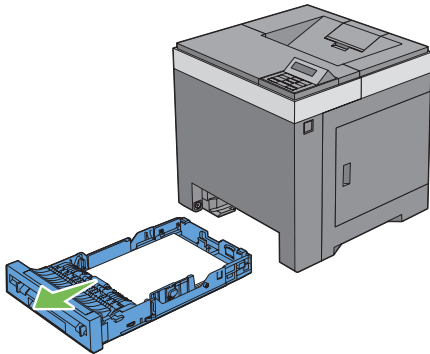
3) Push the side button to open the front cover.
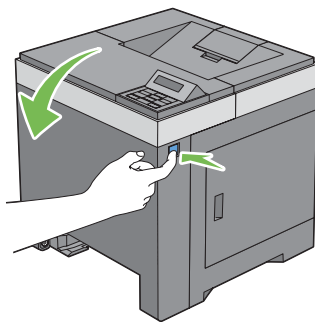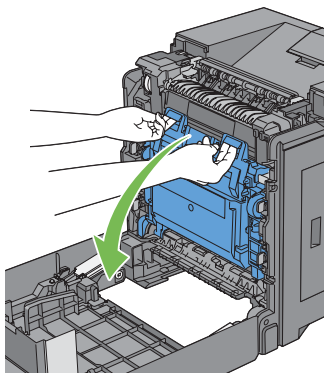
4) Open the belt unit.

5) Clean the CTD (ADC) sensor inside the printer with a clean dry cotton swab.
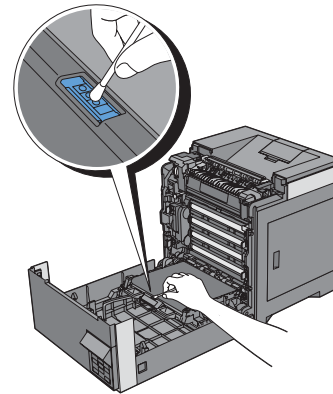
6) Close the belt unit, and push at the top of the unit until it clicks.
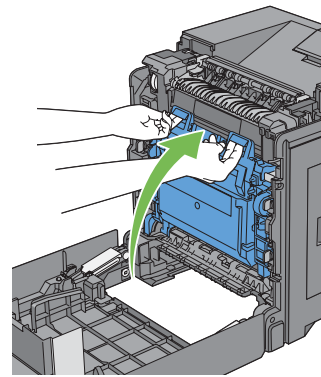
7) Close the front cover.

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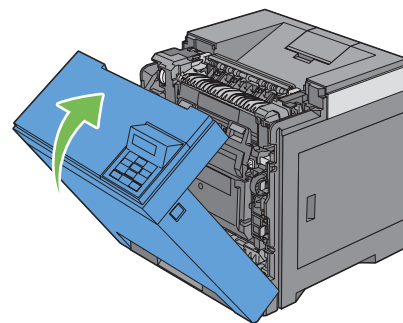
8)   Insert the standard 250-sheet tray into
     the printer, and push until it stops.

Chapter 2 Operation of Diagnostic CONTENTS
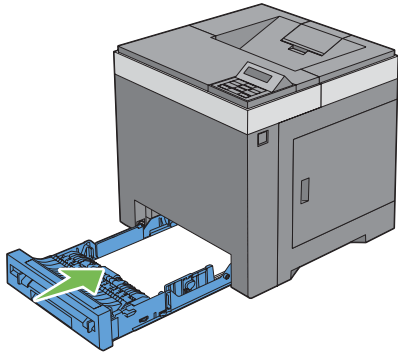
Chapter 2 Operation of Diagnostic CONTENTS

1. Overview

1.1 Purpose of This Software

This software is mainly intended for the following purposes:

・ESS diagnosis to locate a chip which causes a problem

・ Diagnosing IOT

・ Setting parameters such as registration in the feeding direction.

1.2 Operating Methods

This software can be operated via the Control Panel.

2. Configuration

The operation of this Diag can be selected from the following three modes according to the purpose, target user, and function.
Only "Customer Mode" is detailed in this manual.

Customer Mode:
    This mode is intended for the end user to use for isolating a problem to a replaceable unit level.
    This mode allows operations such as ESS diagnostic, test printing, and parameter setting to be performed via the Control Panel.

CE (Customer Engineer) Mode:
    This mode is intended for the customer engineer (CE) to use for isolating a problem to a replace-able unit level. This mode allows operations such as ESS diagnostic, test printing, and parameter setting to be performed via the Control Panel.
    This mode is protected by password.

Production Line Mode:
    This mode is intended for the production line to use for isolating a problem.
    The diag is executed by sending commands via a serial debug terminal.
    This mode is protected by password.

3. How to use Diag in Customer Mode

3.1 Control Panel Functions for Diag

Rio02001KA
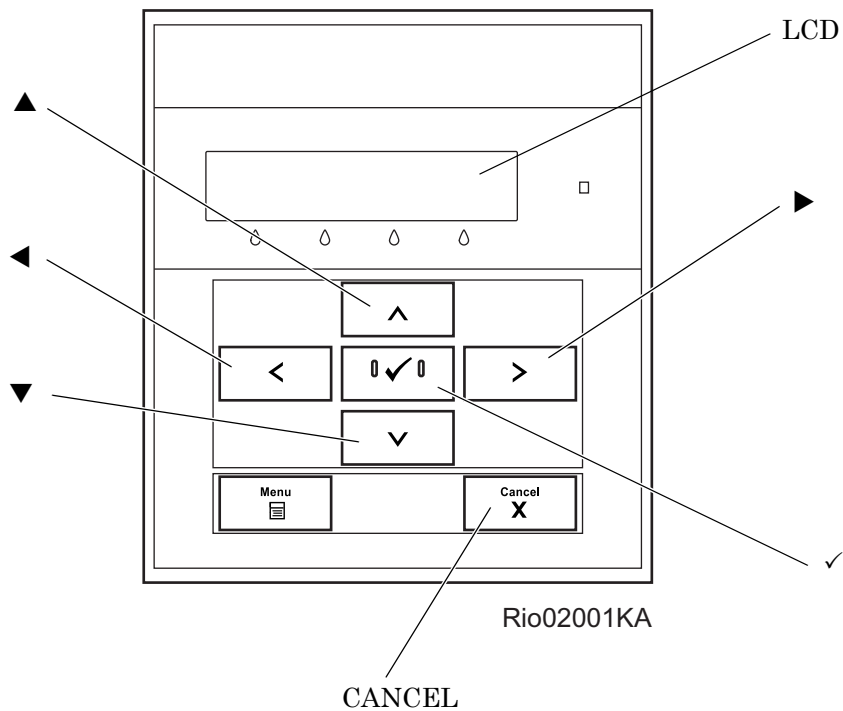
LCD： Displays the Diag item and its results.

▲, ▼： Selects the Diag item or parameter value.

◀, ▶： Moves the cursor to the left or right.

✓： Confirms or executes the Diag item or parameter value selected.

MENU： Returns to the previous menu from any test item of the Digital Input or Digital Output test.

Cancel： Cancels the Diag menu (Returns to the menu one level higher).

3.2 Entering Customer Mode

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)

3.3 Selecting Diag Item

The Diag setting menu can be operated via the control panel keys.
Select the menu item with the arrow keys, and press "✓" key to execute the operation.

3.4 Changing Parameter Values

To change the parameter setting, select the currently set value and press "✓" key. Select a numeric value using "▼" and "▲" keys, and then press "✓" key to write the value into the NVM (Non-Volatile Memory).

3.5 Executing/Exiting Diag Mode

To execute the Diag, use the following procedure:
1) A test item is displayed. Press "✓" key to confirm the selection.
2) The display prompts the user to start the test. Press "✓" key to start the test.

To exit the Diag, use the following procedure:
1) During the Diag test, press the "Cancel" key.
2) The Diag is stopped, and the display moves to a menu one level higher.

3.6 Diag Mode Menu Tree

The menu tree of the Customer Mode is as follows:

```
┌──────────────────┐
│  Customer Mode   │
└──────────────────┘
         │                      Press the ✓ key
         │                   ─────────────────▶
         │     ┌──────────────────┐        ┌──────────────────┐
         ├─────│    IOT Diag      │────────│  Digital Input   │
         │     └──────────────────┘        └──────────────────┘
  Press the   Press the
  ▲ key       ▼ key                        ┌──────────────────┐
         │                                 │  Digital Output  │
         │                                 └──────────────────┘
         │                   ◀─────────────────
         │                   Press the CANCEL key
         │
         │     ┌──────────────────┐        ┌──────────────────┐
         ├─────│    Print Info    │────────│   Config Page    │
         │     └──────────────────┘        ├──────────────────┤
         │                                 │  Print Settings  │
         │                                 └──────────────────┘
         │
         │     ┌──────────────────┐        ┌──────────────────┐
         ├─────│    Test Print    │────────│  No Image [IOT]  │
         │     └──────────────────┘        ├──────────────────┤
         │                                 │ TestPat600 [IOT] │
         │                                 ├──────────────────┤
         │                                 │      Grid2       │
         │                                 ├──────────────────┤
         │                                 │     Cyan20%      │
         │                                 ├──────────────────┤
         │                                 │    Magenta20%    │
         │                                 ├──────────────────┤
         │                                 │     Yellow20%    │
         │                                 ├──────────────────┤
         │                                 │     Black20%     │
         │                                 ├──────────────────┤
         │                                 │      CMY20%      │
         │                                 ├──────────────────┤
         │                                 │    Gradation     │
         │                                 ├──────────────────┤
         │                                 │ TonerPaletteCheck│
         │                                 ├──────────────────┤
         │                                 │ ContaminationChk │
         │                                 └──────────────────┘
         │
        ①
```

①

Parameter
Slow Scan KtoP
Slow Scan 600M
Slow Scan 600Y
Slow Scan 600C
Fast Scan KtoM
Fast Scan KtoY
Fast Scan KtoC
Fast Scan SSF
Fast Scan Tray1
Fast Scan Tray2
Fast Scan Duplex
Fast Scan 2 KtoM
Fast Scan 2 KtoY
Fast Scan 2 KtoC
Life Y Toner
Life M Toner
Life C Toner
Life K Toner
Life Fuser Sheet
Life Print Sheet
Life DTB Waste
Life YWaste Toner
Life MWaste Toner
Life CWaste Toner
Life KWaste Toner
Life Drum Y Time
Life Drum M Time
Life Drum C Time
Life Drum K Time
Life Drum Xero
Life Drum Deve K
Life SSF Feed
Life Tray1 Sheet
Life Tray2 Sheet
Life Duplex Sheet
Life Custom In
Life Custom Out
Print

Complete	Complete

4. Diag Types and Test Contents

4.1 IOT Diag

4.1.1 Digital Input (DI) Test

This function checks whether the DI components operate normally.

The DI test is performed for all DI components.

Exiting the DI Test moves the Control Panel display to the Customer Diag Functions menu.
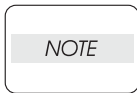
> **NOTE** During the DI test, other Customer Diag functions cannot be performed simultaneously. Therefore, the printer does not accept any operation except operations for the DI components and exit operation of the DI test.

At the start of the DI test, number "0" is displayed on the control panel. This number is counted up when a DI component is turned on from off, allowing the user to know that the component is active.

When a paper jam has occurred, or an error message or code is displayed, execute this test to locate the faulty parts.

Before executing the test, isolate the faulty parts by examining the jam or error in detail. (Refer to the FIP in Chapter 1.)

Test Result: NG (Go to the FIP or replace the parts.)

OK (Power off the printer and then on.)

4.1.2 Executing Digital Input (DI) Test

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press "✓" key.
6) Press "▼" key to select "Digital Input", and then press "✓" key.
7) Press "▲" or "▼" key to select the test item.
8) Press "✓" key twice to execute the test.
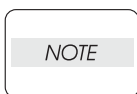
> **NOTE** To exit the test, press the "Cancel" key. To return to the previous menu, press the "Menu" key.

<Example of Digital Input Test Operation>

Checking Interlock Switch (DI-7) via Digital Input Test

    This test is intended for checking whether the Interlock (open/close detection) Switch of the Front Cover functions properly.

1)   Power on the machine and enter the Diag mode.

2)   Execute Interlock Switch (DI-7).

    The LCD Panel displays the following:

Displays the test item name of the IOT Diag.

```
Digital  Input
 DI- 7 L  -  0
```

Displays the test count.

Displays the status (L or H) of the sensor, etc.

Displays the Diag Code Number of the target component.
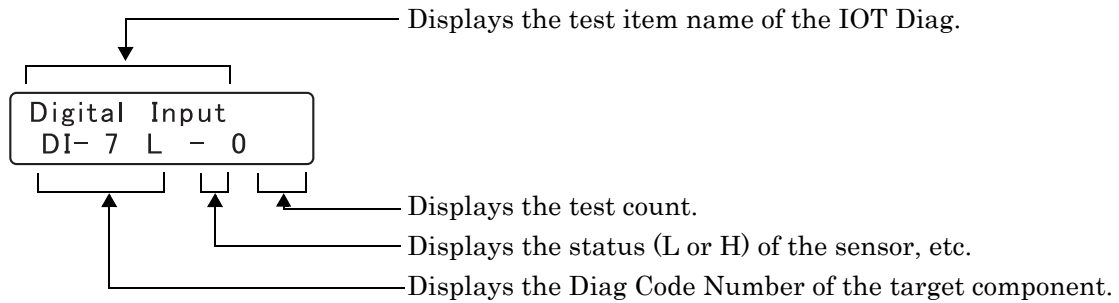
3)   Check the operation of the sensor.

    Opening the Front Cover turns off the Interlock Switch, changing "H" in the bottom line of the display to "L".

```
Digital  Input
 DI- 7 L  -  0
```
➡
```
Digital  Input
 DI- 7 H  -  0
```

    Closing the Front Cover turns on the Interlock Switch, changing "L" in the bottom line to "H". Meanwhile, the rightmost number in the bottom line changes from "0" to "1", indicating that the sensor check has been completed once.

```
Digital  Input
 DI- 7 H  -  0
```
➡
```
Digital  Input
 DI- 7 L  -  1
```

NOTE

When the rightmost number in the bottom line of the display changes from "0" to "1", the Interlock Switch is functioning properly.

Otherwise, it is suspected that a component related to the Interlock Switch is faulty.

Parameters for the Digital Input Test are as follows.

Code	Component
DI-0	SSF No Paper Sensor
DI-1	Tray 1 No Paper Sensor
DI-2	Regi Sensor
DI-3	Exit Sensor
DI-4	K Mode Sensor
DI-6	Side Cover Switch
DI-7	Interlock Switch
DI-9	Tray 2 No Paper Sensor
DI-a	Tray 2 Paper Path Sensor

Interlock Switch
[DI-7]

Exit Sensor
[DI-3]

Side Cover Switch
[DI-6]

K Mode Sensor
[DI-4]

Regi Sensor
[DI-2]

SSF No Paper Sensor
[DI-0]

Tray 1 No Paper Sensor
[DI-1]

Tray 2 Paper Path Sensor
[DI-a]

Tray 2 No Paper Sensor
[DI-9]
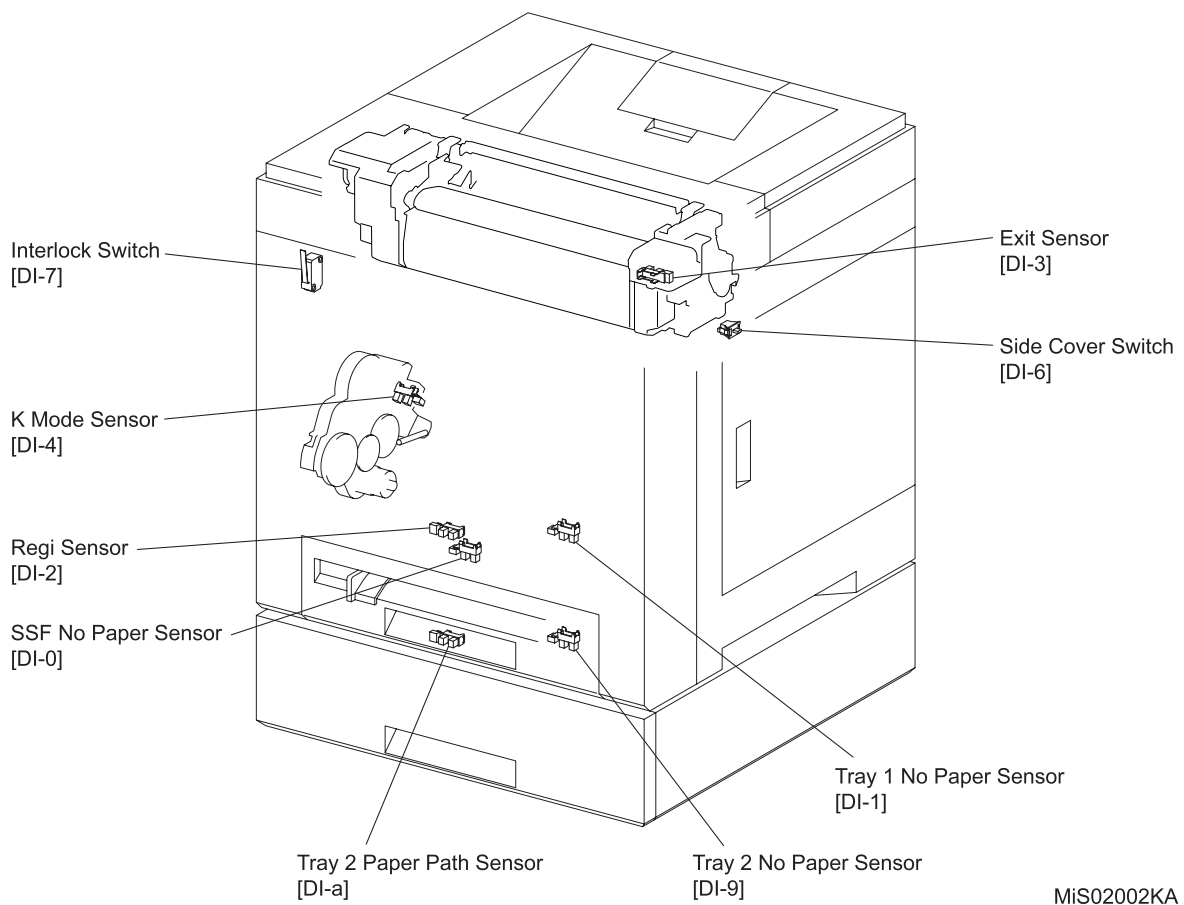
MiS02002KA

- About Sensor

A transmission type sensor is composed of the light-emitting side and the light-receiving side that are placed opposite to each other, allowing the light to pass from the former to the latter. On the basis of whether or not the light path is blocked by the actuator, etc., the sensor detects the paper absence/presence or the moving part position such as at the home position or elsewhere.
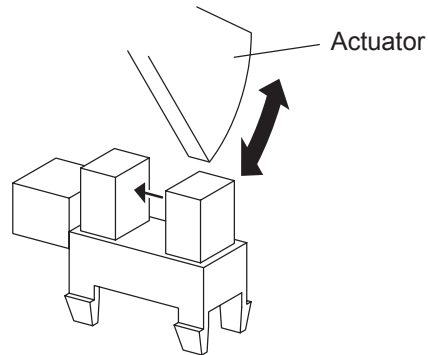
Actuator

Leg_Sec02_016FA

- About Switch
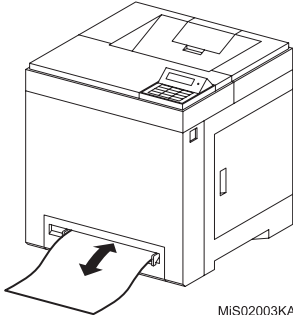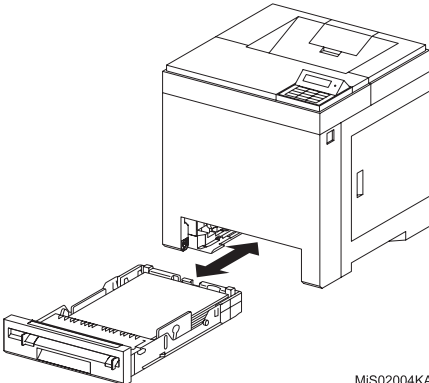
A micro-switch closes the internal contacts via the button which is pushed down under the provided leaf spring which is held down by the actuator of the cover or door that is being closed. When the door or cover is opened, the leaf spring returns to its original position, and the button is pushed up by the spring in the switch, allowing the internal contacts to open.

Actuator

Button

Contact

Blade
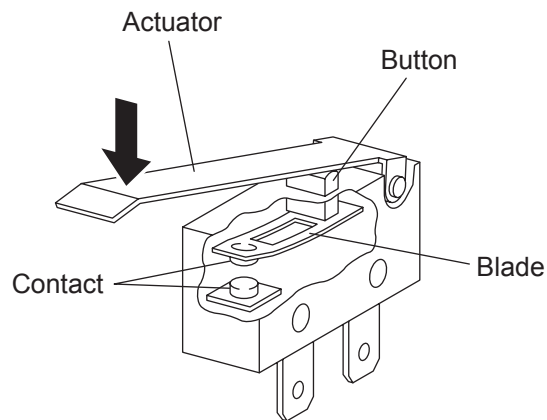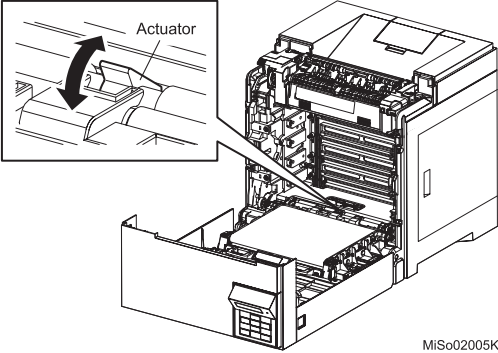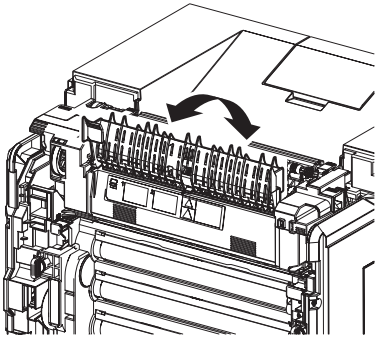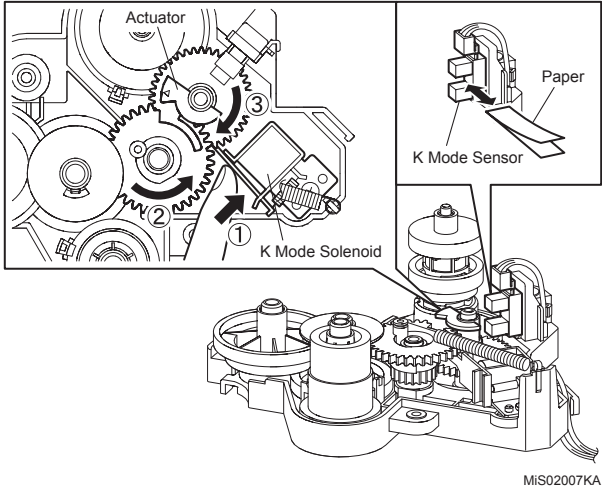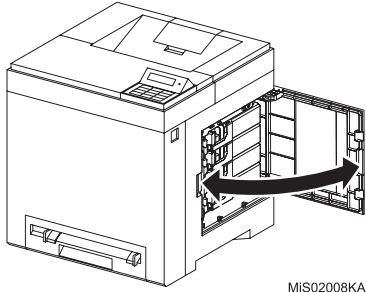
Leg_Sec02_018FA
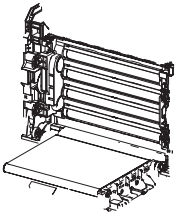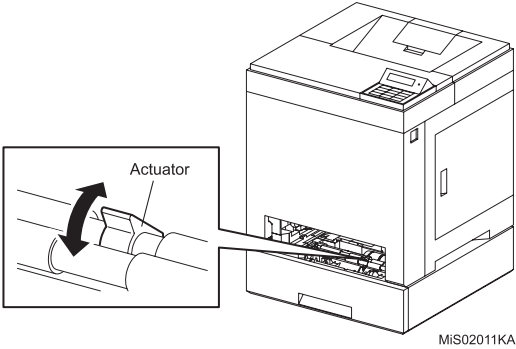
- Printer
Checking the Sensor and Switch

Sensor Name (Diag. Code)	Check Procedure
SSF No Paper Sensor (DI-0)	1) Power on the printer, and enter the Diag Mode. 2) Execute DI-0. The bottom line of the LCD displays: [DI-0 H 0] 3) Insert a sheet into the SSF to check whether the sensor functions properly. MiS02003KA 4) Confirm that the number shown on the bottom of the display increases each time the sheet is inserted. [DI-0 H 1] 5) Press the "Cancel" key to stop the test.
Tray 1 No Paper Sensor (DI-1)	1) Power on the printer, and enter the Diag Mode. 2) Remove the paper from Tray1. 3) Execute the DI-1. The bottom line of the LCD displays: [DI-1 L 0] 4) Check whether the sensor functions properly by removing and replacing the Tray1. MiS02004KA 5) Confirm that the number in the lower section of the display increases each time the Tray1 is removed and replaced. [DI-1 L 1] 6) Press the "Cancel" key to stop the test.

Sensor Name (Diag. Code)	Check Procedure

Regi Sensor
(DI-2)
	NOTE: When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light.
	
	1) Power on the printer, and enter the Diag Mode.
	2) Open the Front Cover.
	3) Execute DI-2.
	   The bottom line of the LCD displays: [DI-2 H 0]
	4) Manually operate the actuator to check whether the sensor functions properly.
	
	MiSo02005KA
	
	5) Check that the number in the bottom line of the display increases by one every time the actuator is operated.
	   [DI-2 H 1]
	6) Press the "Cancel" key to stop the test.
	7) Close the Front Cover.

Exit Sensor
(DI-3)
	NOTE: Because the Fuser is very hot, be careful not to burn yourself.
	1) Power on the printer, and enter the Diag Mode.
	2) Open the Front Cover.
	3) Execute DI-3.
	   The bottom line of the LCD displays: [DI-3 H 0]
	4) Manually operate the actuator to check whether the sensor functions properly.
	
	MiS02006KA
	
	5) Check that the number in the bottom line of the display increases by one every time the actuator is operated.
	   [DI-3 H 1]
	6) Press the "Cancel" key to stop the test.
	7) Close the Front Cover.

2 - 12

Sensor Name (Diag. Code)	Check Procedure
K Mode Sensor (DI-4) (Color Mode Switching Sensor)	NOTE: These procedures are for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. 1) Remove the KIT DRIVE ASSY PH (Refer to Removal 31). (Step 1 to 9, and Step 11 to 14). 2) Power on the printer, and enter the Diag Mode. 3) Execute the DI-4. The bottom line of the LCD displays: [DI-4 H 0] 4) Block the sensor light path by placing a piece of paper or the like between the light emitting unit and the light receiving unit to check whether the sensor functions properly. MiS02007KA 5) Check that the number in the bottom line of the display increases by one every time the sensor light path is blocked. [DI-4 H 1] 6) Press the "Cancel" key to stop the test. 7) Replace the KIT DRIVE ASSY PH (Refer to Replacement 23). (Step 3 to 6).
Side Cover Switch (DI-6) (Toner Access Cover Switch)	1) Power on the printer, and enter the Diag Mode. 2) Execute DI-6. The bottom line of the LCD displays: [DI-6 L 0] 3) Open or close the Toner Access Cover to check whether the sensor functions properly. MiS02008KA 4) Check that the number in the bottom line of the display increases by one every time the Front Cover is opened or closed. [DI-6 L 1] 5) Press the "Cancel" key to stop the test. 6) Close the Toner Access Cover.

Sensor Name (Diag. Code)	Check Procedure
Interlock Switch (DI-7) (Front Cover Switch)	1) Power on the printer, and enter the Diag Mode. 2) Execute DI-7. The bottom line of the LCD displays: [DI-7 L 0] 3) Open or close the Front Cover to check whether the sensor functions properly. 4) Check that the number in the bottom line of the display increases by one every time the Front Cover is opened or closed. [DI-7 L 1] 5) Press the "Cancel" key to stop the test. 6) Close the Front Cover.
Tray 2 No Paper Sensor (DI-9)	1) Power on the printer, and enter the Diag Mode. 2) Remove the paper from Tray2. 3) Execute the DI-9. The bottom line of the LCD displays: [DI-9 L 0] 4) Check whether the sensor functions properly by removing and replacing the Tray2. 5) Confirm that the number in the lower section of the display increases each time the Tray2 is removed and replaced. [DI-9 L 1] 6) Press the "Cancel" key to stop the test.

Sensor Name (Diag. Code)	Check Procedure
Tray 2 Paper Path Sensor (DI-a)	NOTE: This procedure is for the technical staff. 1) Remove the COVER CHUTE (PL12.1.5). NOTE: To remove the COVER CHUTE, remove the Optional 250-Sheet Feeder from the printer. 2) Remove the Tray 1. 3) Power on the printer, and enter the Diag Mode. 4) Execute the DI-a. The bottom line of the LCD displays: [DI-a L 0] 5) Manually operate the actuator to check whether the sensor functions properly. 6) Check that the number in the bottom line of the display increases by one every time the actuator is operated. [DI-a L 1] 7) Press the "Cancel" key to stop the test. 8) Replace the Tray 1. 9) Replace the COVER CHUTE.

4.1.3 Digital Output (DO) Test of Customer Mode

This function checks whether the DO components operate normally.

The DO test is performed for some of DO components in Customer Mode.

If the interlock is opened during the DO test, each component comes to rest.
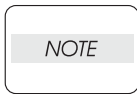
> NOTE
>
> In this Test Mode, each DO component can be turned on individually.
> When all the Diag functions are stopped, all DO components can be turned off.
> DO test can operate all components at the same time.

When a paper jam or PQ problem occurs, or an error message or code is displayed, this test enables to pinpoint the faulty part.

Before executing the test, examine the details of the jam, PQ problem, or error, and isolate the faulty parts. (Refer to the FIP in Chapter 1.)

Test result: NG (Go to the FIP or replace the parts.)

OK (Power off the printer and then on.)

4.1.4 Executing Digital Output (DO) Test of Customer Mode

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press "✓" key.
6) Press "▼" key to select "Digital Output", and then press "✓" key.
7) Press "▲" or "▼" key to select the test item.
8) Press "✓" key twice to execute the test.
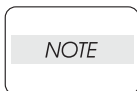
> NOTE
>
> To exit the test, press the "Cancel" key. To return to the previous menu, press the "Menu" key.

<Example of Digital Output Test Operation>

Checking Fan Motor (DO-1e) via Digital Output Test

    This test is intended for checking whether the Fan functions properly.

1)   Power on the printer, and enter the Customer Diag Mode.

2)   Execute Fan Motor (DO-1e) to check whether the Fan Motor is rotating. If rotating, the Fan is functioning properly. Otherwise, it is suspected that a component related to the Fan Motor is faulty.

Rio02015KA
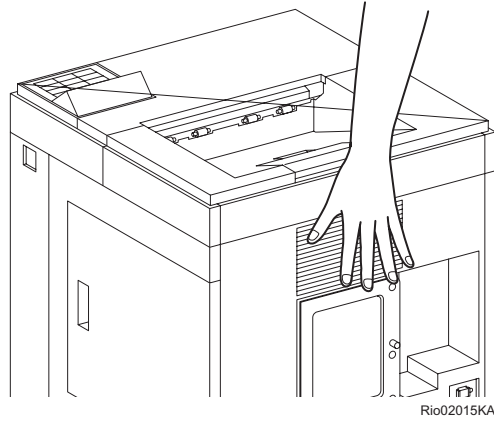
Parameters for the Digital Output Test are as follows.

Code	Component
DO-0,1	Main Motor (Full Rotation)
DO-2	Main Motor (Half Rotation)
DO-5,6	Sub Motor (Full Rotation)
DO-7	Sub Motor (Half Rotation)
DO-a	K Mode Solenoid
DO-b	Tray1 Feed Solenoid (Half Rotation)
DO-c	Tray1 Feed Solenoid (Initial Position Rotation)
DO-d,e,f	Exit Motor (Full Rotation)
DO-10	Exit Motor (Half Rotation)
DO-12,13,14	Duplex Motor (Full Rotation)
DO-15	Duplex Motor (Half Rotation)
DO-17,18,19	Tray 2 Feed Motor (Full Rotation)
DO-1a	Tray 2 Feed Motor (Half Rotation)
DO-1e	Fan Motor (Full Rotation)
DO1f	Fan Motor (Half Rotation)
DO-21	Yellow Toner Motor
DO-23	Magenta Toner Motor
DO-25	Cyan Toner Motor
DO-27	Black Toner Motor
DO-29	Regi Clutch
DO-2f	Tray 1 Feed Solenoid (Auto OFF)
DO-31	Tray 2 Feed Solenoid (Auto OFF)
DO-33	Tray 2 Turn Clutch
DO-35	Duplex Clutch
DO-3d	Black Drum Erase Lamp
DO-3f	Yellow, Magenta and Cyan Drum Erase Lamp

Fan Motor
[DO-1e/1f]

Black Toner Motor
[DO-27]

Cyan Toner Motor
[DO-25]

Magenta Toner Motor
[DO-23]

Yellow Toner Motor
[DO-21]

Black Drum Erase Lamp
[DO-3d]

Yellow, Magenta and
Cyan Drum Erase Lamp
[DO-3f]

Sub Motor
[DO-5/6/7]

Main Motor
[DO-0/1/2]

K Mode Solenoid
[DO-a]

Regi Clutch
[DO-29]

Tray 2 Feed Motor
[DO-17/18/19/1a]

Tray 2 Turn Clutch
[DO-33]

Tray 2 Feed Solenoid (Auto OFF)
[DO-31]

Tray 1 Feed Solenoid (Half / Initial Position Rotation)
[DO-b /c]
Tray 1 Feed Solenoid (Auto OFF)
[DO-2f]

MiS02012KA

Duplex Clutch
[DO-35]

Exit Motor
[DO-d/e/f/10]

Duplex Motor
[DO-12/13/14/15]

MiS02013KA

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- About Clutch

The electromagnetic clutch in the printer controls the rotation of the roller by allowing or interrupting the torque transmission from the motor to the roller.

By the passage of electric current through the coil inside the case, the electromagnetic clutch becomes an electromagnet, and attracts the armature and gear to the rotating rotor, thereby rotating the gear.

Upon the loss of power to the coil, electromagnetic force is lost and the armature comes off the rotor, and the gear comes to rest.

The clutch makes so soft noises that you must be close the component to audibly confirm the operation of the component.
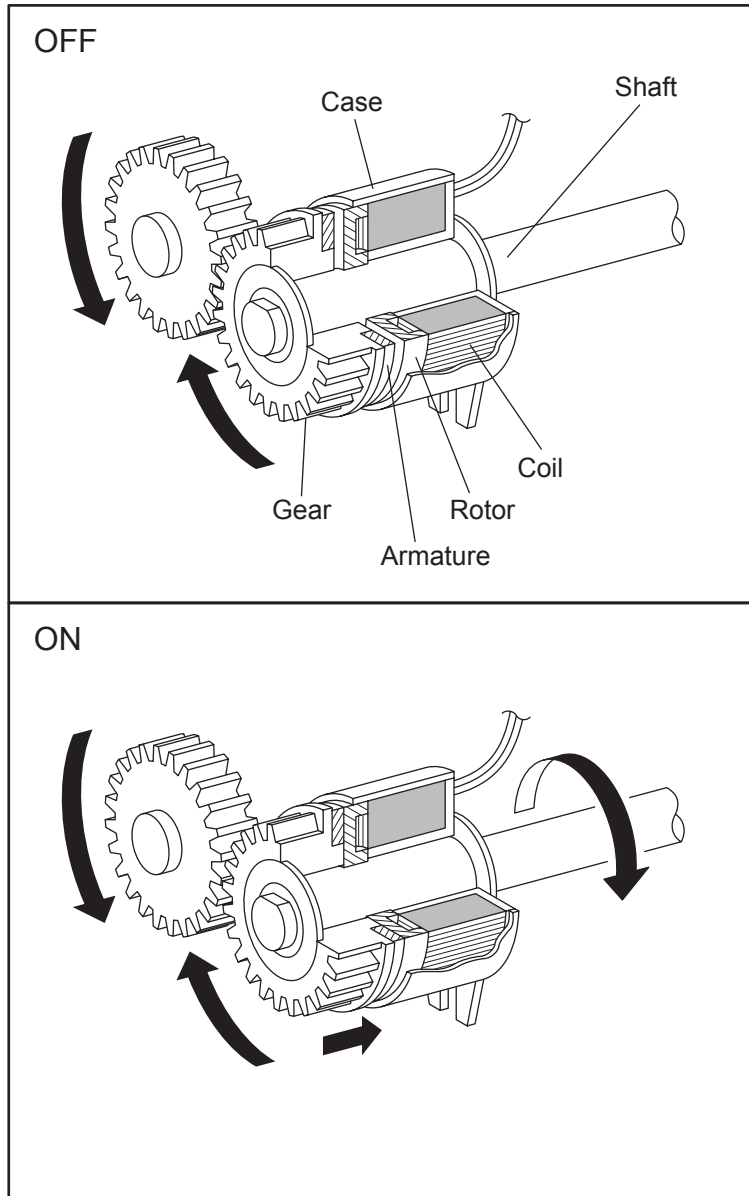
Leg_Sec02_050FA

- About Solenoid

The solenoid in the printer opens or closes the shutter, or controls the position of the gear for transferring the torque of the motor to the roller.

By the passage of electric current through the coil inside the case, the solenoid becomes an electro-magnet and attracts the plunger.

Upon the loss of power to the coil, electromagnetic force is lost, and the plunger returns to its original position by spring action, thereby allowing the shutter to operate or the gear to move to the predefined position.

Unlike a clutch, a solenoid generates a loud operation noise.

Plunger

Magnetic coil

Leg_Sec02_051FA
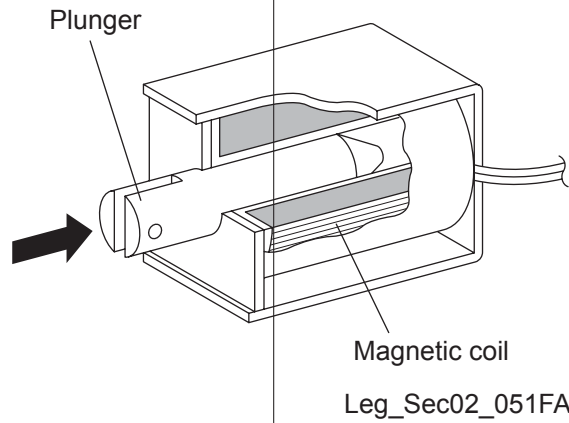
- About Interlock
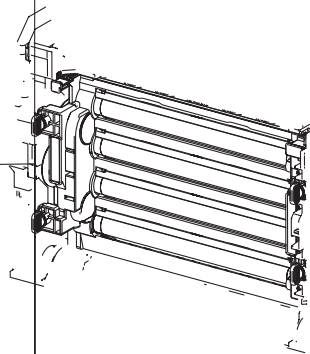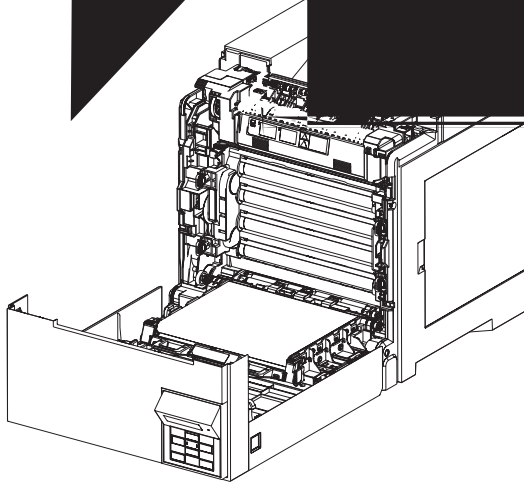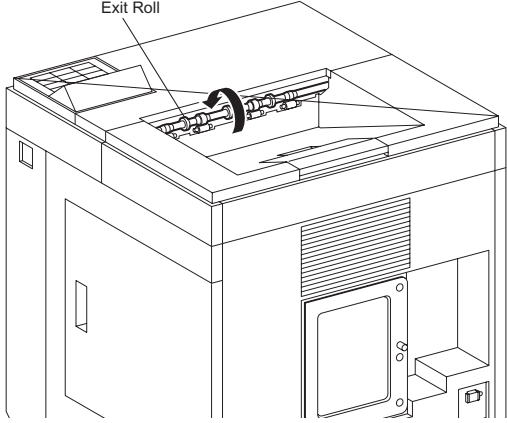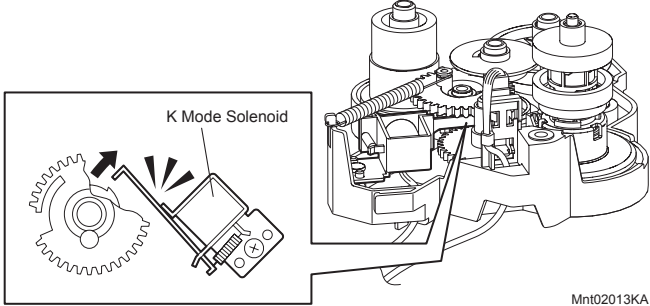
MiS02014KA

- Checking Motor, Clutch and Solenoid
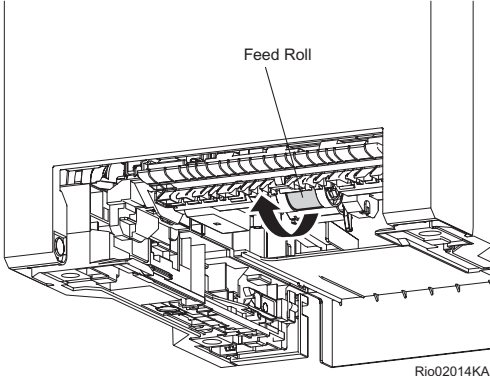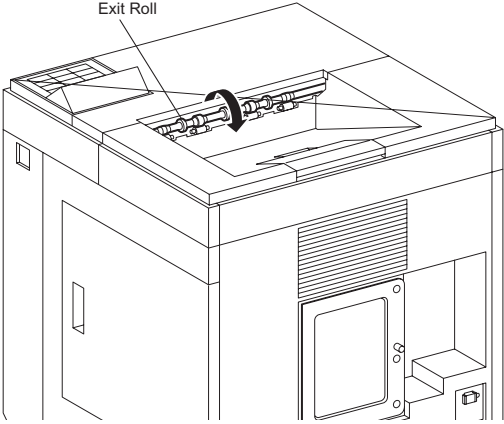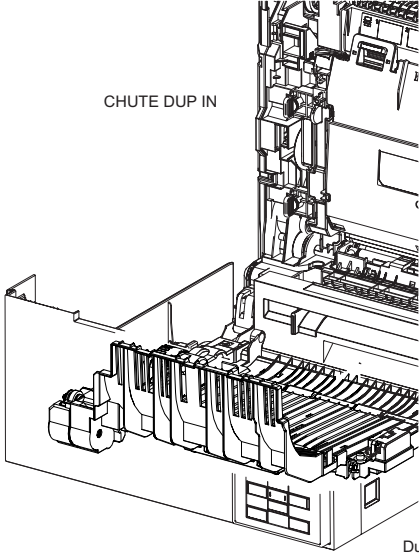
Before executing the DO test, close all
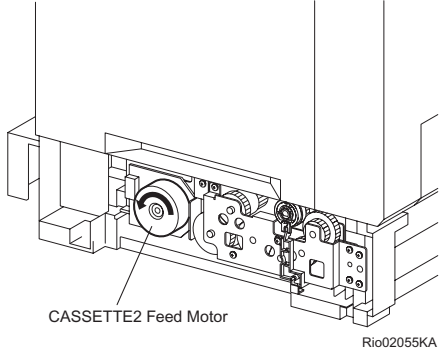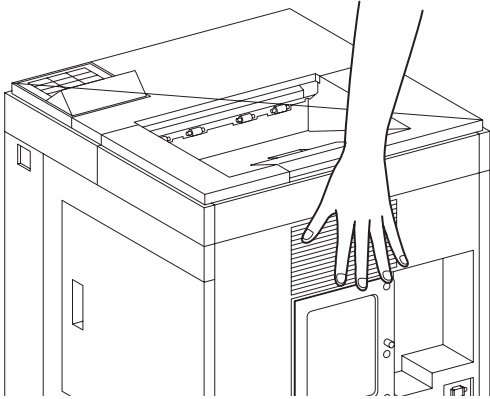
Motor/Clutch/Solenoid Name (Diag. Code)	
Main Motor (DO-0/DO-1/DO-2)	NOTE: This proce 1) Power on the 2) Execute the noise of the 3) Press the "Ca NOTE: This proce When performing cover open, remo exposure to light. 1) Power on the 2) Open the Fro 3) Cheat the Sa 4) Execute DO- 5) Check that t ates. 6) Press the "Cancel" key to stop the test. 7) Remove the cheater. 8) Close the Front Cover.

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Sub Motor (DO-5/DO-6/DO-7)	1) Power on the printer, and enter the Diag Mode. 2) Execute DO-5. 3) Check that the Exit Roll rotates. Exit Roll Rio02012KA 4) Press the "Cancel" key to stop the test.
K Mode Solenoid (DO-a)	NOTE: This procedure is for the Customer. Since the solenoid noise is so soft that it may be hard to recognize, the noise check described below should be performed in as silent an environment as possible. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-a. Upon pressing the "✓" key, the operating noise of the solenoid will be heard. 3) Press the "Cancel" key to stop the solenoid. NOTE: This procedure is for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. 1) Remove the KIT DRIVE ASSY PH (Refer to Removal 31). (Step 1 to 9, and Step 11 to 14). 2) Cheat the safety Interlock System. 3) Power on the printer, and enter the Diag Mode. 4) Execute the DO-a. 5) Check the K Mode Solenoid movement. K Mode Solenoid Mnt02013KA 6) Press the "Cancel" key to stop the test. 7) Remove the cheater. 8) Replace the KIT DRIVE ASSY PH (Refer to Replacement 23). (Step 3 to 6).
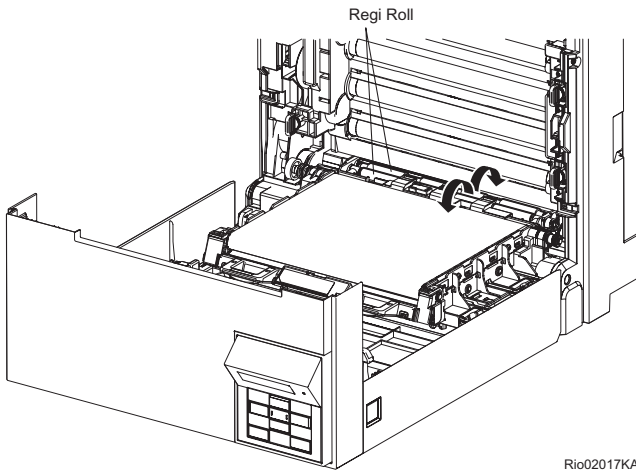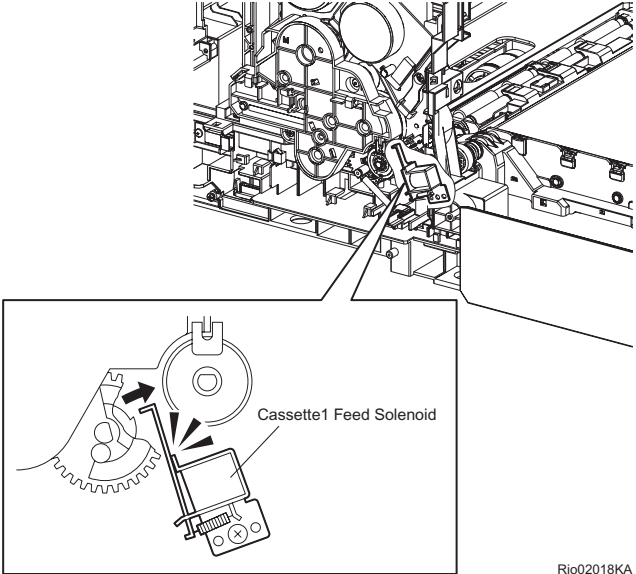
Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Tray1 Feed Solenoid (Half / Initial position) (DO-b/DO-c)	1) Power on the printer, and enter the Diag Mode. 2) Open the Tray 1. 3) Execute DO-c. 4) Check that the Feed Roll rotates. Feed Roll Rio02014KA 5) Press the "Cancel" key to stop the test. 6) Replace the Tray 1.
Exit Motor (DO-d/DO-e/DO-f/DO-10)	1) Power on the printer, and enter the Diag Mode. 2) Execute DO-d. 3) Check that the Exit Roll rotates. Exit Roll Rio02053KA 4) Press the "Cancel" key to stop the test.
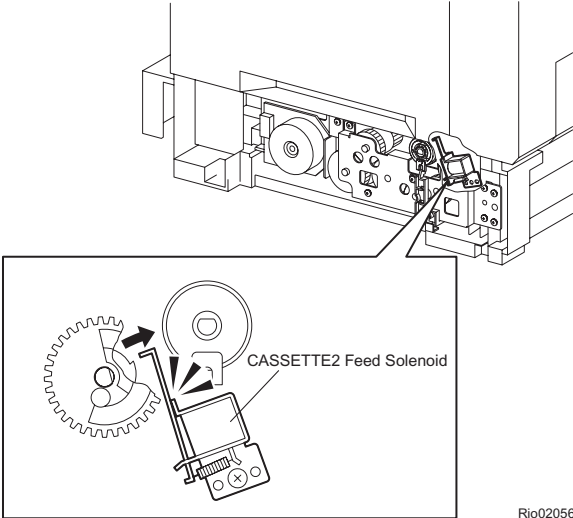
Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Duplex Motor (DO-12/DO-13/DO-14/DO-15)	NOTE: This procedure is for the Custome 1) Power on the printer, and enter the Mo 2) Execute DO-12. Upon pressing the ' y, t noise of the motor will be heard. 3) Press the "Cancel" key to stop the m NOTE: This procedure is for the technical When performing operation for five minute ng cover open, remove the PHD ASSY, and he exposure to light. 1) Power on the printer, and enter the Mo 2) Open the Front Cover and CHUTE N 3) Cheat the Safety Interlock System. 4) Execute DO-12. 5) Check that the Duplex Roller rotate CHUTE DUP IN Duplex Roll 6) Press the "Cancel" key to stop the te 7) Remove the cheater. 8) Close the CHUTE DUP IN (PL11.1. d Fr

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Tray 2 Feed Motor (DO-17/DO-18/DO-19/DO-1a)	NOTE: This procedure is for the Customer. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-17. Upon pressing the "✓" key, the operating noise of the motor will be heard. 3) Press the "Cancel" key to stop the motor. NOTE: This procedure is for the technical staff. 1) Remove the Tray 2. 2) Remove the COVER REAR OPT (PL12.1.6) and COVER SIDE L OPT (PL12.1.4). 3) Power on the printer, and enter the Diag Mode. 4) Execute DO-17. 5) Check that the Tray 2 Feed Motor rotates. CASSETTE2 Feed Motor Rio02055KA 6) Press the "Cancel" key to stop the clutch. 7) Replace the COVER REAR OPT (PL12.1.6) and COVER SIDE L OPT (PL12.1.4). 8) Replace the Tray 2.
Fan Motor (DO-1e/DO-1f)	1) Power on the printer, and enter the Diag Mode. 2) Execute DO-1e. 3) Check that the Fan rotates. Rio02015KA 4) Press the "Cancel" key to stop the clutch.

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Yellow Toner Motor (DO-21) / Magenta Toner Motor (DO-23) / Cyan Toner Motor (DO-25) / Black Toner Motor (DO-27)	NOTE: This procedure is for the Customer. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-21, DO-23 DO-25 or DO-27. Upon pressing the "✓" key, the operating noise of the motor will be heard. 3) Press the "Cancel" key to stop the motor. NOTE: These procedures are for the technical staff. Described below is the check procedure common among the four toner motor. Note the operation for the toner in the PHD ASSY spills if the motor is rotated for a long time. 1) Power on the printer, and enter the Diag Mode. 2) Open the Toner Access Cover and remove the toner cartridge. 3) Execute DO-21, DO-23 DO-25 or DO-27. 4) Check that the Gear rotates. Gear Rio02016KA 5) Press the "Cancel" key to stop the clutch. 6) Replace the toner cartridge and close the Toner Access Cover.

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Regi Clutch (DO-29)	NOTE: This procedure is for the Customer. Since the clutch noise is so soft that it may be hard to recognize, the noise check described below should be performed in as silent an environment as possible. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-29. Upon pressing the "✓" key, the operating noise of the clutch will be heard. 3) Press the "Cancel" key to stop the clutch. NOTE: This procedure is for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. Combination test is as follows: The Regi Roll rotates when the D-0(Main Motor) and the D-29 are executed. 1) Power on the printer, and enter the Diag Mode. 2) Open the Front Cover. 3) Cheat the Safety Interlock System. 4) Execute DO-0 and DO-12. 5) Check that the Regi Roll rotates. Regi Roll Rio02017KA 6) Press the "Cancel" key to stop the clutch. 7) Press the "▼" key to display DO-0. 8) Press the "Cancel" key to stop the motor. 9) Remove the cheater. 10) Close the Front Cover.

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Tray 1 Feed Solenoid (Auto OFF) (DO-2f/DO-31)	NOTE: This procedure is for the Customer. Since the solenoid noise is so soft that it may be hard to recognize, the noise check described below should be performed in as silent an environment as possible. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-2f. Upon pressing the "✓" key, the operating noise of the solenoid will be heard. 3) Press the "Cancel" key to stop the solenoid. NOTE: This procedure is for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. 1) Remove the COVER SIDE L (Refer to Removal 17). 2) Power on the printer, and enter the Diag Mode. 3) Cheat the Safety Interlock System. 4) Execute DO-2f. 5) Check that the Feed Solenoid movement. Cassette1 Feed Solenoid Rio02018KA 6) Press the "Cancel" key to stop the test. 7) Remove the cheater. 8) Replace the COVER SIDE L (Refer to Replacement 37).
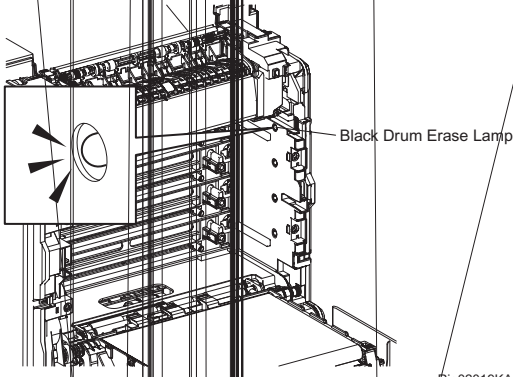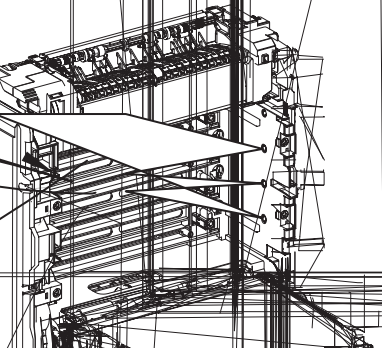
Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Tray 2 Feed Solenoid :Auto OFF (DO-31)	NOTE: This procedure is for the Customer. Since the solenoid noise is so soft that it may be hard to recognize, the noise check described below should be performed in as silent an environment as possible. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-31. Upon pressing the "✓" key, the operating noise of the solenoid will be heard. 3) Press the "Cancel" key to stop the solenoid. NOTE: This procedure is for the technical staff. 1) Remove the COVER REAR OPT (PL12.1.6) and COVER SIDE L OPT (PL12.1.4). 2) Power on the printer, and enter the Diag Mode. 3) Execute DO-31. 4) Check that the Feed Solenoid movement. CASSETTE2 Feed Solenoid Rio02056KA 5) Press the "Cancel" key to stop the test. 6) Replace the COVER REAR OPT (PL12.1.6) and COVER SIDE L OPT (PL12.1.4).

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Tray 2 Turn Clutch (DO-33)	NOTE: This procedure is for the Customer. Since the clutch noise is so soft that it may be hard to recognize, the noise check described below should be performed in as silent an environment as possible. 1) Power on the printer, and enter the Diag Mode. 2) Execute DO-33. Upon pressing the "✓" key, the operating noise of the clutch will be heard. 3) Press the "Cancel" key to stop the clutch. NOTE: This procedure is for the technical staff. Combination test is as follows: Tray 2 turn roll rotates when the DO-17 and the DO-33 are executed. 1) Remove the COVER CHUTE (PL12.1.5). 2) Power on the printer, and enter the Diag Mode. 3) Remove the Tray 1 and Tray 2. 4) Execute DO-17 and the DO-33. 5) Check that the Turn Roll rotates. CASSETTE2 Turn Roll Rio02057KA 6) Press the "Cancel" key to stop the clutch. 7) Press the "▼" key to display DO-17. 8) Press the "Cancel" key to stop the motor. 9) Replace the COVER CHUTE (PL12.1.5), Tray 1 and Tray 2.

Motor/Clutch/Solenoid N
(Diag. Code)

Duplex

Motor/Clutch/Solenoid Name (Diag. Code)	Check procedure
Black Drum Erase Lamp (DO-3d)	NOTE: This procedure is for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. 1) Power on the printer, and enter the Diag Mode. 2) Open the Front Cover. 3) Remove the PHD ASSY. 4) Cheat the Safety Interlock System. 5) Execute the DO-3d. 6) Check that the ERASE LAMP (Black) illuminates. Black Drum Erase Lamp Rio02019KA 7) Press the "Cancel" key to stop the test. 8) Replace the PHD ASSY. 9) Remove the cheater. 10) Close the Front Cover.
Yellow, Magenta and Cyan Drum Erase Lamp (DO-3f)	NOTE: This procedure is for the technical staff. When performing operation for five minutes or longer with the front cover open, remove the PHD ASSY, and cover the drum to avoid exposure to light. 1) Power on the printer, and enter the Diag Mode. 2) Open the Front Cover. 3) Remove the PHD ASSY. 4) Cheat the Safety Interlock System. 5) Execute the DO-3f. 6) Check that the ERASE LAMP (YMC) illuminates. 7) Press the "Cancel" key to stop the test. 8) Replace the PHD ASSY. 9) Remove the cheater. 10) Close the Front Cover.

4.2 Print Info

Outputs the detailed information on the printer settings and configuration.

4.2.1 Executing Print Info

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press "▼" key to select "Print Info", and then press "✓" key.
6) Press "▲" or "▼" key to select an item from "Print Info".
7) Press "✓" key twice to execute the process.
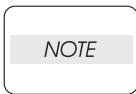
NOTE | To exit the print or to return to one step higher menu, press the "Cancel" key.
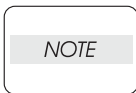
NOTE | A test is not performed when an obstacle is in IOT.

4.2.2 Config Page

Allows you to check the IOT software version or printer configuration.

4.2.3 Print Settings

Allows you to check the service tag, print count, and error count.

4.3 Test Print

Outputs test patterns stored in the printer. If an error such as paper jam or paper out occurs during printing, the test is suspended until the problem is solved.

4.3.1 Executing Test Print

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press "▼" key to select "Test Print", and then press "✓" key.
6) Press "▲" or "▼" key to select an item from "Test Print".
7) Press "✓" key twice to execute the process.
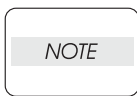
| NOTE | To stop the test or to return to one step higher menu, press "Cancel" key. |

| NOTE | A test is not performed when an obstacle is in IOT. |
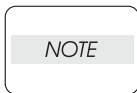
4.3.2 No Image [IOT]

Outputs a blank sheet.

4.3.3 Test Pattern 600 [IOT]

Outputs the 600dpi pattern stored in the IOT.
When a PQ problem occurs, this test isolates the problem to the print process or PWBA ESS by comparing the print with the sample chart.
Check result: NG (Check the print process.)   OK (Check the PWBA ESS.)
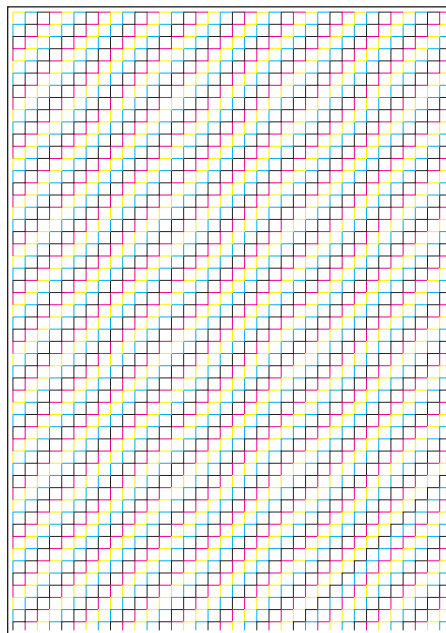
Kmy02001KA

4.3.4 Grid 2

Outputs the grid pattern stored in the ESS.

When a PQ problem occurs, this test isolates the trouble to the printer or other causes by comparing the print with the sample chart.

Check result: NG (Check the print process and PWBA ESS.) OK (Check the network, cable, PC, etc.)

Leg_Sec02_004FA

4.3.5 Cyan 20%

Outputs the cyan 20% density solid pattern on the whole area of an A4 sheet.

When a PQ problem occurs, this test isolates the problem to the cyan toner or other color toners by comparing the print with the sample chart.

Check result: NG (Check the cyan toner.)   OK (Check other color toners.)
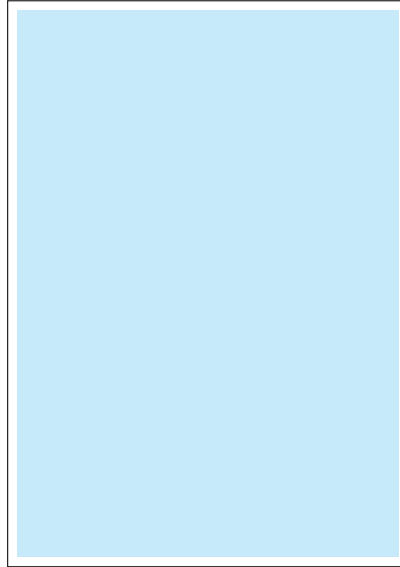
Leg_Sec02_005FA

4.3.6 Magenta 20%

Outputs the magenta 20% density solid pattern on the whole area of an A4 sheet.

When a PQ problem occurs, this test isolates the problem to the magenta toner or other color toners by comparing the print with the sample chart.

Check result: NG (Check the magenta toner.)   OK (Check other color toners.)
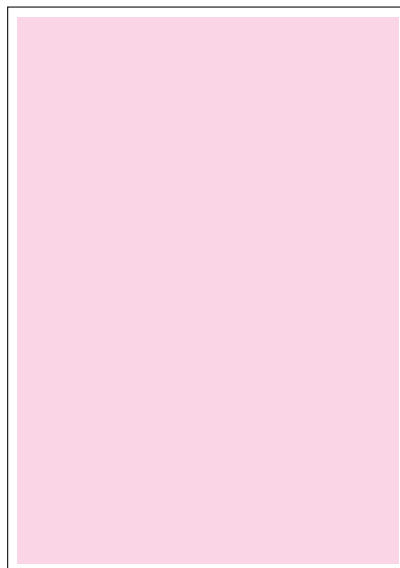
Leg_Sec02_006FA

4.3.7 Yellow 20%

Outputs the yellow 20% density solid pattern on the whole area of an A4 sheet.

When a PQ problem occurs, this test isolates the problem to the yellow toner or other color toners by comparing the print with the sample chart.

Check result: NG (Check the yellow toner.)   OK (Check other color toners.)
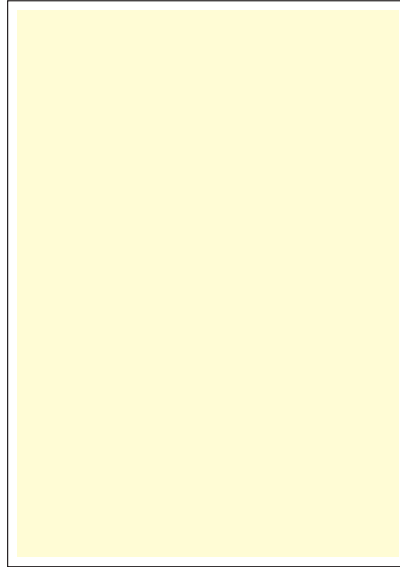
Leg_Sec02_007FA

4.3.8 Black 20%

Outputs the black 20% density solid pattern on the whole area of an A4 sheet.

When a PQ problem occurs, this test isolates the problem to the black toner or other color toners by comparing the print with the sample chart.

Check result: NG (Check the black toner.)   OK (Check other color toners.)
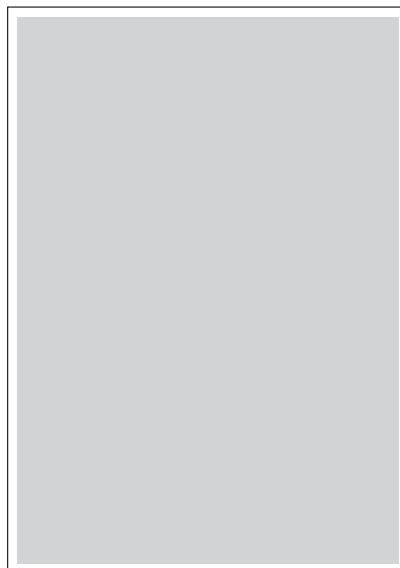
Leg_Sec02_008FA

4.3.9 CMY 20%

Outputs C/M/Y 20% density solid pattern on the whole area of an A4 sheet.

When a PQ problem occurs, this test isolates the problem to the imbalance of C/M/Y toners or the black toner by comparing the print with the sample chart.

Check result: NG (Check the yellow, magenta, and cyan toners.)   OK (Check the black toner.)
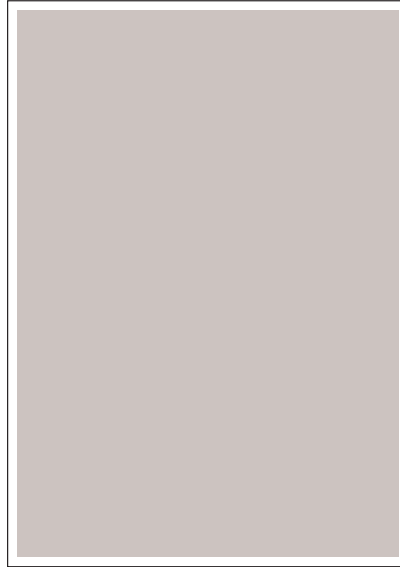
Leg_Sec02_009FA

4.3.10 Gradation

Outputs the gradation pattern of 2 to 100% density on an A4 sheet for each of the four colors.
When a PQ problem occurs, this test isolates the problem to the print process or PWBA ESS by comparing the sample chart with the print.
Check result: NG (Check the print process.)   OK (Check the PWBA ESS.)

Leg_Sec02_010FA

2 - 40

4.3.11 Toner Pallet Check

Outputs the 100% density color pattern of C/M/Y/K.

When a PQ problem occurs, this test isolates the problem to the toner or otherwise by comparing the sample chart with the print.

Check result: NG (Check the toner.)   OK (Check the print job or print data.)
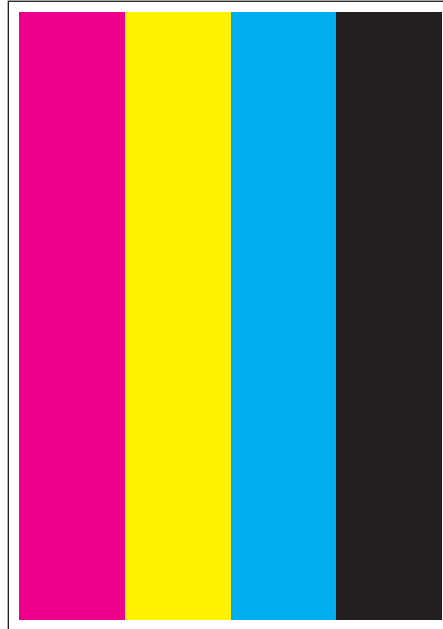
Leg_Sec02_011FA

4.3.12 Contamination Check

Allows you to check the print for any regular lines or toner spots when encountering PQ problems. From the interval of regular lines or spots, you can determine the parts that have caused the problem.

Page 1 to 4: Outputs the scale patterns in vertical and horizontal directions for evaluating regularity and intervals.

Page 5: Outputs the correspondence between interval and faulty component.

Page 1

Wsb02027KA

Page 2

Wsb02028KA

Page 3

Wsb02029KA

Page 4

Wsb02030KA

Page 5

Tbt02072KA
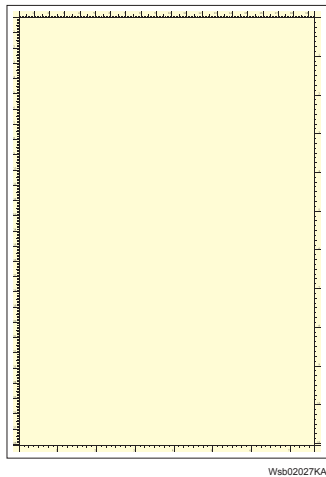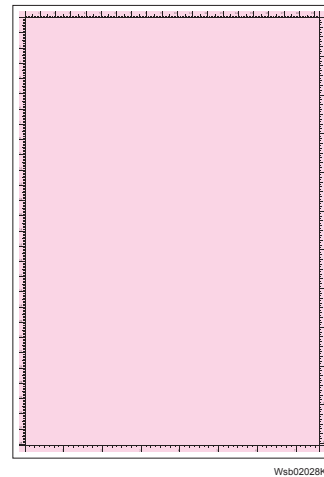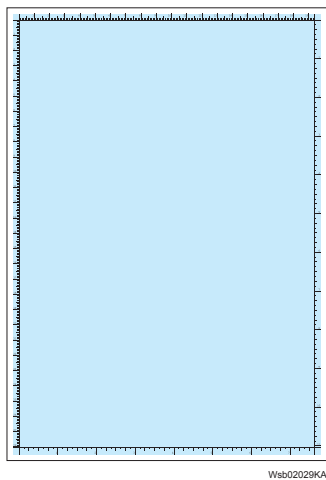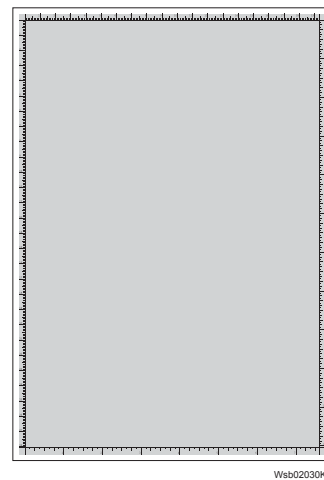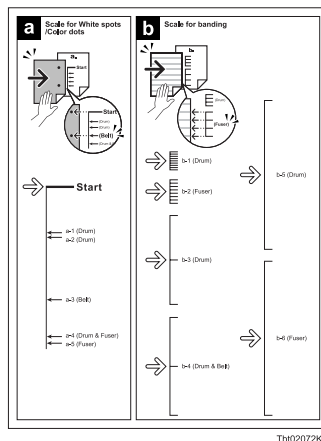
4.4 Parameter

This function reads/writes the following parameters stored in the printer.

4.4.1 Executing Parameter (Registration Adjustment)

1) Turn off the power.
2) Turn on the power while holding down " ▲ " and " ▼ " keys.
3) Release the fingers from these keys when "Diagnosing..." is displayed.
4) The "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press " ▼ " to select " Parameter ", and then press " ✓ " key.
6) Press " ▲ " and " ▼ " key to select the Adjustment item , and then press " ✓ " key.
   The current registration adjustment value is displayed.(The value is changed with " ▲ " and " ▼ " key.)
7) Press " ✓ " key to execute the setting.
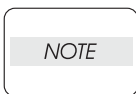
| NOTE | To exit the test or to returning to one step higher menu, press "CANCEL" key. |

Item	Range	Description
Slow Scan K to P	-128 to 127	Sets the registration in the paper feeding direction.
Slow Scan 600 M,Y,C		
First Scan K to M,Y or C	-128 to 127	Sets the registration in the scanning direction.
First Scan SSF, Tray 1, Tray 2, Duplex	-30 to 30	
First Scan 2 K to M,Y or C	-1 to 2	
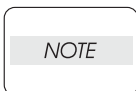
| NOTE | Print the parameter list using the Print function of Parameter Menu in diagnosis before changing the value of the registration. |

← Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value. →

Fast Scan K to M, Y, C
Fast Scan 2 K to M, Y, C
Fast Scan SSF, Tray1, Tray2, Duplex

Slow Scan K to P
Slow Scan 600 M, Y, C

Default Value

↑
Shifts the print area in this direction by reducing the value.

Shifts the print area in this direction by increasing the value.
↓

Image Side

Default Value

MiS02071KA

2 - 44

4.4.2 Executing Parameter (Life Counter)

1) Turn off the power.

2) Turn on the power while holding down " ▲ " and " ▼ " keys.

3) Release the fingers from these keys when "Diagnosing..." is displayed.

4) The "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)

5) Press " ▼ " to select " Parameter ", and then press " ✓ " key.

6) Press " ▲ " and " ▼ " key to select the Life Counter item, and then press " ✓ " key .

7) Press " ✓ " key to execute the setting.
   The current life counter value is displayed.

NOTE | To exit the test or to returning to one step higher menu, press "CANCEL" key.

- Reference Counter Values

NOTE | These counter values are reference only. Do not use as the official value.

Counter Name	Value of life warning
Life Y Toner	Std.:1000/High:2500
Life M Toner	Std.:1000/High:2500
Life C Toner	Std.:1000/High:2500
Life K Toner	Std.:1000/High:3000
Life Fuser	50000
Life Printer	100000
Life DTB (Transfer Belt)	-
Life Y Waste Toner	-
Life M Waste Toner	-
Life C Waste Toner	-
Life K Waste Toner	-
Life Y Drum	24000
Life M Drum	24000
Life C Drum	24000
Life K Drum	24000
Life Drum Xero	-
Life Drum Deve K	-
Life SSF (MPF) Sheet	-
Life Tray 1 Sheet	-
Life Tray 2 Sheet	-
Life Duplex Sheet	-
Life Custom In	-
Life Custom Out	-

4.4.3 Executing Parameter (Printing the parameter list)

1) Turn off the power.

2) Turn on the power while holding down " ▲ " and " ▼ " keys.

3) Release the fingers from these keys when "Diagnosing..." is displayed.

4) The "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)

5) Press " ▼ " to select " Parameter ", and then press " ✓ " key.

6) Press " ▼ " key to select the " Print ", and then press " ✓ " key.

   The parameter list is printed.

NOTE
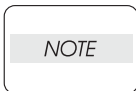
To exit the test or to returning to one step higher menu, press "CANCEL" key.

4.5 Complete

Completes the Diag operation and reloads the data.

4.5.1 Executing Complete

1) Power off the printer.
2) Power on the printer while pressing "▲" and "▼" keys.
3) Release the keys when "Diagnosing..." is displayed.
4) "Customer Mode" and "IOT Diag" are displayed. (Now in the Customer Diag mode.)
5) Press "▼" key to select "Complete", and then press "✓" key.
6) Press "✓" key twice to execute the process.
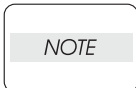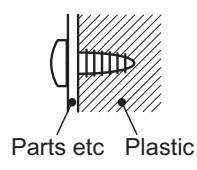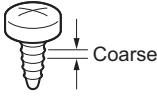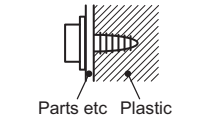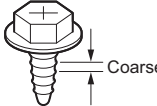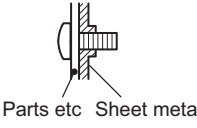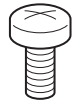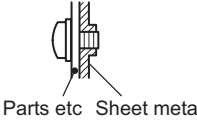
NOTE	To exit the print or to return to one step higher menu, press the "Cancel" key.

1. Removal and Replacement Procedures (RRPs)

1.1 Before starting service procedure

- Start the procedure after turning off the power and removing the power cord from the outlet.
- When performing the service operation around the FUSER ASSY, ensure that FUSER ASSY and its surrounding area have cooled down sufficiently.
- Pay sufficient attention to the parts during the procedure because they may be broken or may not perform their functions properly if unreasonable force is applied.
- Since various types of screws are used, ensure that the right screws are used in their right positions. Use special caution not to confuse the screws for plastic and the ones for sheet metal, because using the wrong type of screw may result in damage to the screw threads or other troubles.

No.	Type	Application	Shape	How to distinguish	Points to be noted	Major application locations
1	Screw for plastic Silver, tap	Plastic Parts etc Plastic	Coarse	·Silver-colored ·Thread is coarser than that of the sheet metal type. ·Screw tip is thin.	Oblique screwing damages the thread because this screw cuts female threads in the base material as it goes in.	-
2	Screw for plastic Silver, tap, with flange	Plastic Parts etc Plastic	Coarse	·Silver-colored ·It has a flange. ·Screw thread is coarse comparing to the sheet metal type. ·Screw tip is thin.	As it has a function to cut the thread by itself, if the screw is inserted in an angle and tightened, the screw thread will be damaged.	·FUSER ASSY
3	Screw for metal sheet Silver	Sheet metal Parts etc Sheet metal		·Silver-colored ·Diameter of the thread section is uniform.		-
4	Screw for metal sheet Silver, with an external tooth washer	Sheet metal Parts etc Sheet metal		·Silver-colored ·Provided with an external tooth washer. ·Diameter of the thread section is uniform.		·Mounting positions of the ground wires.

- Wear a wristband or the like as far as possible to remove static electricity of the human body.
- Keep the front cover closed. Buzzer goes off when the machine is left powered on with the front cover open for five minutes or longer to prevent the drum deterioration due to exposure to light.
- When opening the front door in a removal/replacement operation, cover the drum to keep it from being exposed to light.
- Remove CASSETTE ASSY 250, PHD ASSY, TONER CARTRIDGE and FUSER ASSY, and put them in a place where they do not affect the procedure. (Note that the service procedures can be performed with those parts in place depending on the target section of removal/replacement.)

FUSER ASSY

PHD ASSY

TONER CARTRIDGE (K)

TONER CARTRIDGE (C)

TONER CARTRIDGE (M)

TONER CARTRIDGE (Y)

CASSETTE ASSY 250
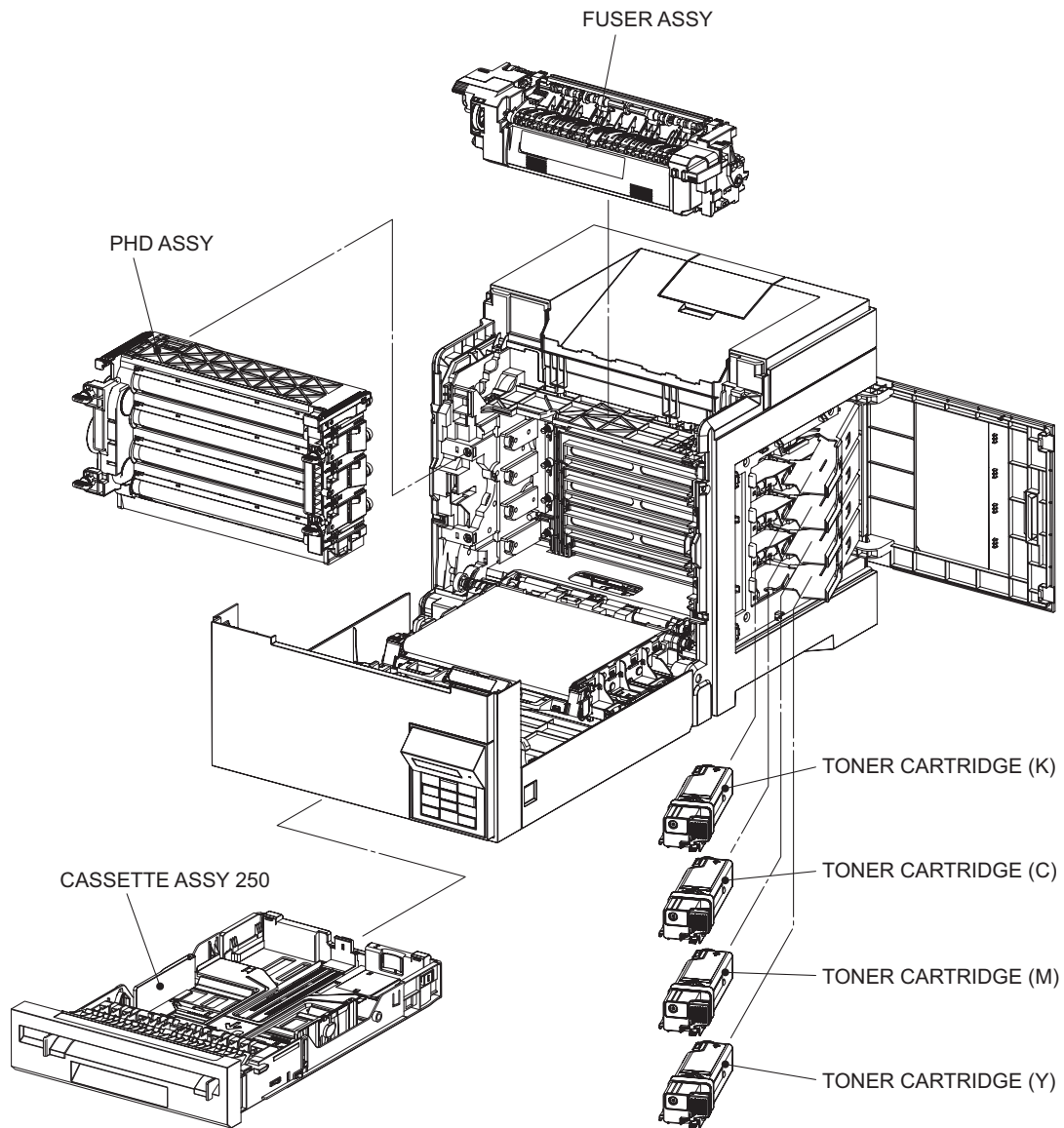
MiS03001KA

1.2 General notes

- The string "(PL X.Y.Z)" suffixed to the part name in the procedure denotes that the part corresponds to the plate (PL) "X.Y", item "Z" of [Engineering Parts list], and its shape and fitting position can be checked in [Engineering Parts list].
- Directional descriptions used in the procedures are defined as follows:
    - -Front : Direction toward you when facing the front of the printer.
    - -Rear : Direction opposite to the front when facing the front of the printer.
    - -Left : Left-hand direction when facing the front of the printer.
    - -Right : Right-hand direction when facing the front of the printer.

REAR

LEFT

RIGHT

FRONT

Rio03002KA
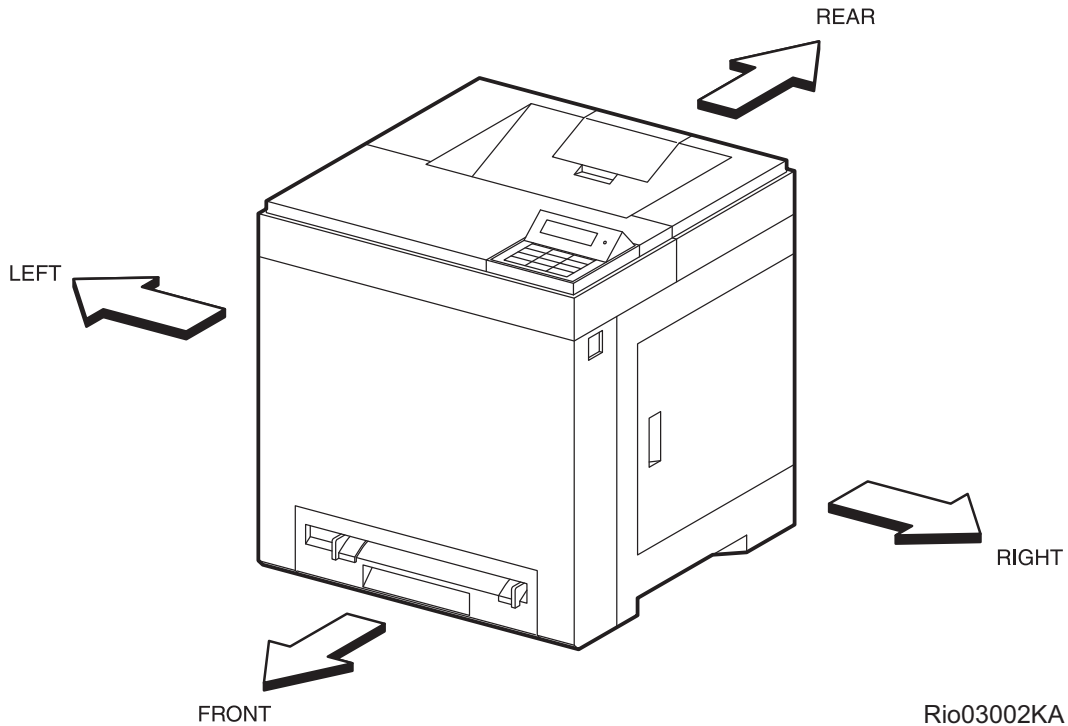
Figure: Definitions of Printer Orientation

- The string "(RRP X.Y)" that appears in or at the end of the procedure denotes that the related service procedure is described in [RRP X.Y].
- Screws shown in the illustrations are to be unscrewed and removed using a Phillips head (cross-slot) screwdriver, unless otherwise specified.
- Black arrows shown in the illustrations denote moving directions. When numbers are assigned to these arrows, they refer to the order in the procedure.
- Refer to [Chapter 4 Plug/Jack (P/J) Connector Locations] for the positions of connectors (P/J).

Removal Flows

The components not connected with arrows in the flow below can be removed independently.

Removal FLOW (Removal 1~45)

CASSETTE ASSY 250 (Removal 1)

Opening COVER ASSY FRONT MG

Opening COVER ASSY WINDOW TNR

KIT HOLDER ASSY SEPARATOR (Removal 2)

HANDLE ASSY CST (Removal 3)

FUSER ASSY (Removal 5)

TONER CARTRIDGE (K), (C), (M), (Y) (Removal 6)

Opening COVER ASSY FRONT MG

TRAY EXT (Removal 7)

PHD ASSY (Removal 4)

KIT COVER ASSY WINDOW TNR (Removal 8)

FUSER ASSY (Removal 5)

KIT ROLL ASSY FEED (Removal 9)

COVER ASSY TOP (Removal 10)

KIT COVER ASSY WINDOW TNR (Removal 8)

PWBA LVPS (Removal 11)

COVER SIDE L (Removal 16)

COVER SIDE R (Removal 12)

SWITCH (Removal 13)

COVER SIDE L (Removal 16)

LED ASSY ERASE (Removal 14)

KIT PIVOT (Removal 19)

KIT BLOCK PHD RIGHT (Removal 15)

KIT TRANSFER ASSY (Removal 20)

HARN ASSY INTERLOCK (Removal 17)

SENSOR PHOTO: SSI NO PAPER (Removal 21)

SENSOR HUM (Removal 18)

ACTUATOR SSI (Removal 22)

KIT SHAFT PIVOT (Removal 23)

COVER REAR (Removal 29)

COVER ASSY FRONT MG (Removal 24)

CLUTCH ASSY DRV, BEARING REGI (Removal 30)

SWITCH ASSY INLET MG SFP, COVER INLET (Removal 36)

FEEDER ASSY DUP SFP STD (Removal 56) [2150cdn Only]

KIT DRIVE ASSY PH (Removal 31)

CONSOLE ASSY PANEL (Removal 25)

KIT DRIVE ASSY MAIN (Removal 32)

COVER CST (Removal 37)

LATCH ASSY FRONT, BUTTON LATCH FRONT (Removal 26)

DRIVE ASSY SUB (Removal 33)

STOPPER CST (Removal 38)

HARNESS ASSY PNL A (Removal 27)

KIT BLOCK PHD LEFT (Removal 34)

HOLDER ASSY TCRU (K), (C), (M), (Y) (Removal 39)

HARN ASSY DUP RELAY (Removal 28)

KIT FEED ROLL/SOL/CLUTCH (Removal 35)

FAN (Removal 40)

DUCT FAN (Removal 41)

KIT PWBA ESS SFP (Removal 42)

KIT PWBA MCU (Removal 43)

DISPENSER ASSY (Removal 44)

KIT ROS (Removal 45)

Removal FLOW (Removal 46~59)

CASSETTE ASSY 250 (Removal 1)

↓

Opening COVER ASSY FRONT MG

↓

PHD ASSY (Removal 4)

↓

FUSER ASSY (Removal 5)

↓

TONER CARTRIDGE (K), (C), (M), (Y) (Removal 6)

↓

COVER ASSY TOP (Removal 10)

↓

KIT COVER ASSY WINDOW TNR (Removal 8)

↓

COVER SIDE R (Removal 12)

↓

COVER SIDE L (Removal 16)

↓

COVER REAR (Removal 29)

↓

SWITCH ASSY INLET MG SFP, COVER INLET (Removal 36)

↓

FAN (Removal 40)

↓

KIT PWBA ESS SFP (Removal 42)

↓

KIT PWBA MCU (Removal 43)

↓

CLUTCH ASSY DRV, BEARING REGI (Removal 30)

↓

KIT TRANSFER ASSY (Removal 20)

↓

UPPER UNIT (Removal 46)

PWBA HVPS (Removal 47)	SENSOR PHOTO: REGI (Removal 49)	ROLL ASSY REGI (Removal 50)	SENSOR PHOTO: CST NO PAPER (Removal 52)
COVER ASSY FRONT MG (Removal 24)		ACTUATOR REGI IN (Removal 51)	ACTUATOR ASSY NO PAPER (Removal 53)
FEEDER ASSY MG SFP (Removal 48)			

WIRELESS ADAPTER (Removal 54)	MEMORY CARD (Removal 55)	FEEDER ASSY DUP SFP STD (Removal 56)	KIT FEEDER ASSY OPT (Removal 58)
		ROLLER ASSY DUP (Removal 57)	ROLL ASSY FEED (Removal 59)

Replacement Flows

The components not connected with arrows in the flow below can be replaced independently.
However, the rear cover is an exception when it was removed together with other parts.

Replacement FLOW (Replacement 1~8)

```
                                              FEEDER ASSY MG SFP (Replacement 6)
                                                        │
ACTUATOR ASSY NO PAPER (Replacement 1)   ACTUATOR REGI IN (Replacement 3)   COVER ASSY FRONT MG (Replacement 30)
            │                                      │                                  │
SENSOR PHOTO: CST NO PAPER (Replacement 2)   ROLL ASSY REGI (Replacement 4)   SENSOR PHOTO: REGI (Replacement 5)   PWBA HVPS (Replacement 7)
```

UPPER UNIT (Replacement 8)

KIT TRANSFER ASSY (Replacement 34)

CLUTCH ASSY DRV, BEARING REGI (Replacement 24)

KIT PWBA MCU (Replacement 11)

KIT PWBA ESS SFP (Replacement 12)

FAN (Replacement 14)

SWITCH ASSY INLET MG SFP, COVER INLET (Replacement 18)

COVER REAR (Replacement 25)

COVER SIDE L (Replacement 38)

COVER SIDE R (Replacement 42)

KIT COVER ASSY WINDOW TNR (Replacement 46)

COVER ASSY TOP (Replacement 44)

TONER CARTRIDGE (K), (C), (M), (Y) (Replacement 48)

FUSER ASSY (Replacement 49)

PHD ASSY (Replacement 50)

Closing COVER ASSY FRONT MG

CASSETTE ASSY 250 (Replacement 53)

Replacement FLOW (Replacement 9~59)

KIT ROS (Replacement 9)

DISPENSER ASSY (Replacement 10)

KIT PWBA MCU (Replacement 11)

KIT PWBA ESS SFP (Replacement 12)

DUCT FAN (Replacement 13)

FAN (Replacement 14)

HOLDER ASSY TCRU (K), (C), (M), (Y) (Replacement 15)

STOPPER CST (Replacement 16)

COVER CST (Replacement 17)

SWITCH ASSY INLET MG SFP, □ COVER INLET (Replacement 18)

WIRELESS ADAPTER (Replacement 54)

MEMORY CARD (Replacement 55)

ROLLER ASSY DUP (Replacement 56)

FEEDER ASSY DUP SFP STD (Replacement 57)

ROLL ASSY FEED (Replacement 58)

KIT FEEDER ASSY OPT (Replacement 59)

KIT FEED ROLL/SOL/CLUTCH (Replacement 19)

KIT BLOCK PHD LEFT (Replacement 20)

DRIVE ASSY SUB (Replacement 21)

KIT DRIVE ASSY MAIN (Replacement 22)

KIT DRIVE ASSY PH (Replacement 23)

CLUTCH ASSY DRV, BEARING REGI (Replacement 24)

HARN ASSY DUP RELAY (Replacement 26)

HARNESS ASSY PNL A (Replacement 27)

LATCH ASSY FRONT, □ BUTTON LATCH FRONT (Replacement 28)

CONSOLE ASSY PANEL (Replacement 29)

FEEDER ASSY DUP SFP STD (Replacement 57) [2150cdn Only]

COVER ASSY FRONT MG (Replacement 30)

COVER REAR (Replacement 25)

KIT SHAFT PIVOT (Replacement 31)

ACTUATOR SSI (Replacement 32)

SENSOR PHOTO: SSI NO PAPER (Replacement 33)

KIT TRANSFER ASSY (Replacement 34)

KIT PIVOT (Replacement 35)

COVER SIDE L (Replacement 38)

SENSOR HUM (Replacement 36)

HARN ASSY INTERLOCK (Replacement 37)

KIT BLOCK PHD RIGHT (Replacement 39)

LED ASSY ERASE (Replacement 40)

SWITCH (Replacement 41)

COVER SIDE R (Replacement 42)

COVER SIDE L (Replacement 38)

PWBA LVPS (Replacement 43)

KIT COVER ASSY WINDOW TNR (Replacement 46)

COVER ASSY TOP (Replacement 44)

KIT ROLL ASSY FEED (Replacement 45)

FUSER ASSY (Replacement 49)

KIT COVER ASSY WINDOW TNR (Replacement 46)

PHD ASSY (Replacement 50)

TRAY EXT (Replacement 47)

Closing COVER ASSY FRONT MG

TONER CARTRIDGE (K), (C), (M), (Y) (Replacement 48)

FUSER ASSY (Replacement 49)

HANDLE ASSY CST (Replacement 51)

KIT HOLDER ASSY□ SEPARATOR (Replacement 52)

Closing COVER ASSY WINDOW TNR

Closing COVER ASSY FRONT MG

CASSETTE ASSY 250 (Replacement 53)

Removal 1 CASSETTE ASSY 250 (PL2.1.1)

1) Pull out the CASSETTE ASSY 250 (PL2.1.1) from the printer.	

Removal 2 KIT HOLDER ASSY SEPARATOR (PL2.1.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Release the two hooks of the HOLDER ASSY SEPARATOR (PL2.1.5).	
3) Pull up the HOLDER ASSY SEPARATOR to remove the HOLDER ASSY SEPARATOR from the CASSETTE ASSY 250 (PL2.1.1).	

3 - 9
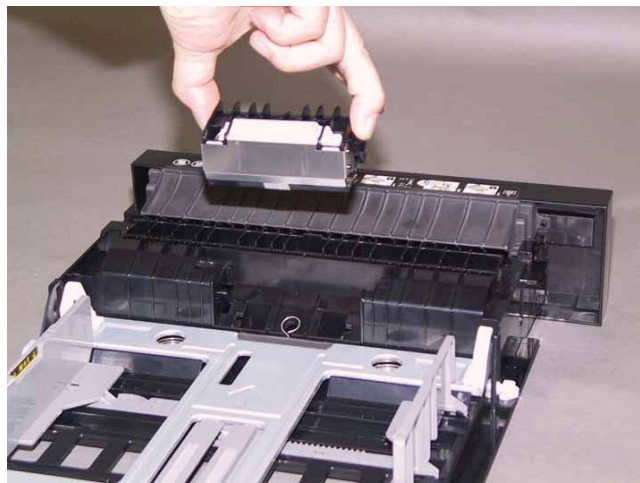
Removal 3 HANDLE ASSY CST (PL2.1.19)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Release the left side holes of the HANDLE ASSY CST (PL2.1.19) from the bosses of the CASSETTE ASSY 250 (PL2.1.1), using a miniature screwdriver.	
3) Release the right side holes of the HANDLE ASSY CST from the bosses of the CASSETTE ASSY 250, remove the HANDLE ASSY CST.	
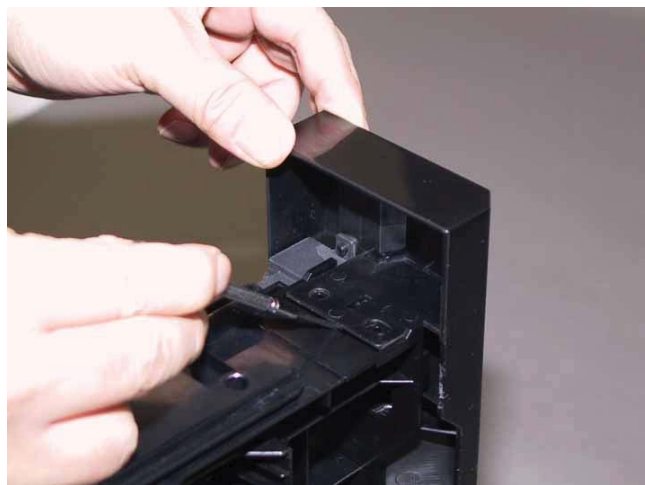
Removal 4 PHD ASSY (PL4.1.21)

Note: Remove the CASSETTE ASSY 250 before working.

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

3) Open the TRANSFER ASSY (PL6.1.7).	
4) Put the paper on the TRANSFER ASSY to protect the belt. **Note: When carrying out the work this procedure, take care not to cover the left and right of the belt guards with the paper.**	
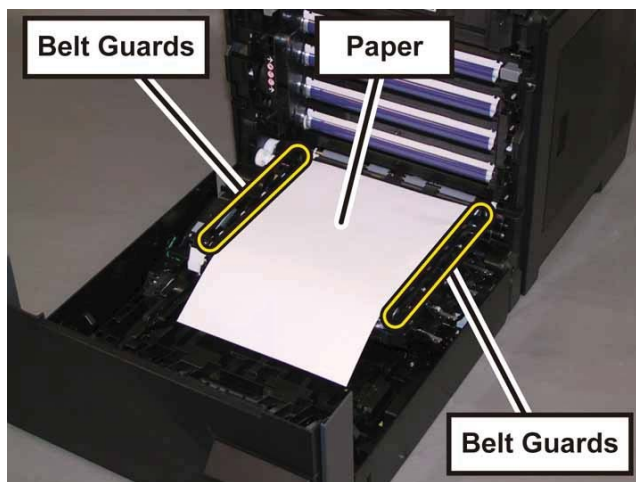
5) Rotate the four stoppers of the PHD ASSY (PL4.1.21) to the counter clock wise direction, to release the lock.	
6) Remove the PHD ASSY toward you by pulling it by the left and right handles.	
7) Lift up the PHD ASSY from the printer.	

Removal 5 FUSER ASSY (PL6.1.1)

1) Open the COVER ASSY FRONT MG (PL1.2.1).
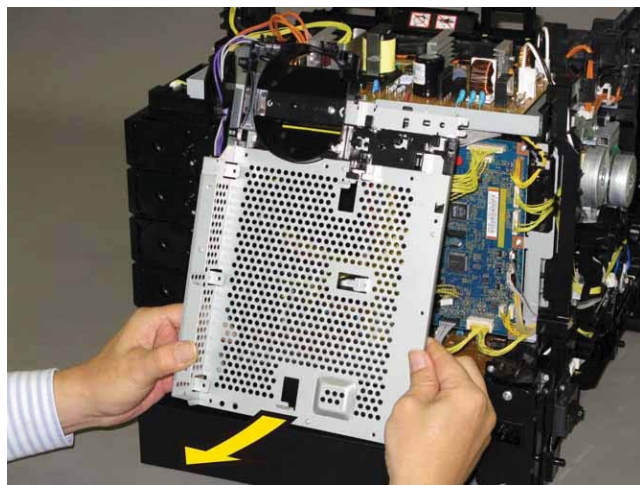
Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.
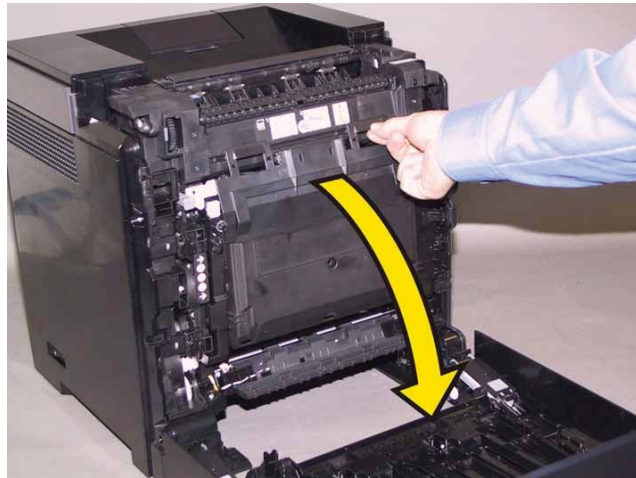
2) Open the TRANSFER ASSY (PL6.1.7).	
3) Remove the one screw (silver, with flange, tap, 10mm) that fixes the FUSER ASSY (PL6.1.1) to the printer.	
4) Pull the LEVER to release the lock.	
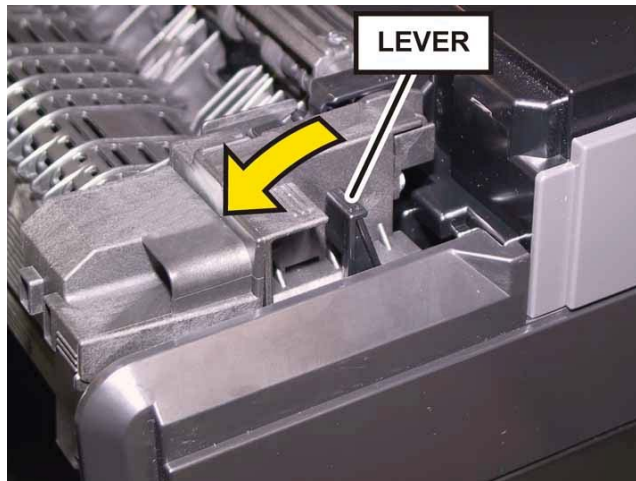
5) Disengage the connector of the FUSER ASSY by pulling the right side of the FUSER ASSY toward you with the LEVER released.	
6) Lift up the FUSER ASSY, move the FUSER ASSY to the right side.	
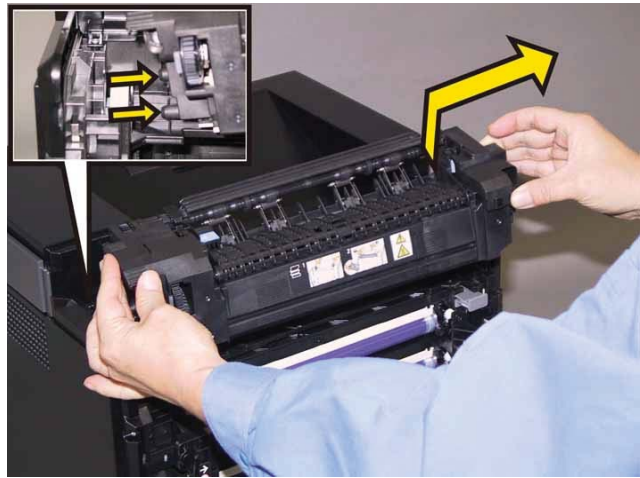
Removal 6 TONER CARTRIDGE (K), (C), (M), (Y) (PL5.1.21~24)

Note: Described below is the removal procedure common among the four TONER CARTRIDGEs.

1) Open the COVER ASSY WINDOW TNR (PL1.1.7).

2) Move the handle of the TONER CARTRIDGE to backward, to release the lock.	
3) Open the HOLDER ASSY TCRU K (PL5.1.17).	
4) Remove the TONER CARTRIDGE from the HOLDER ASSY TCRU.	

Removal 7 TRAY EXT (PL1.1.2)

1) Open the TRAY EXT (PL1.1.2).	
2) Release the boss of the TRAY EXT from the hole of the COVER ASSY TOP (PL1.1.1), using a miniature screwdriver.	
3) Remove the TRAY EXT.	
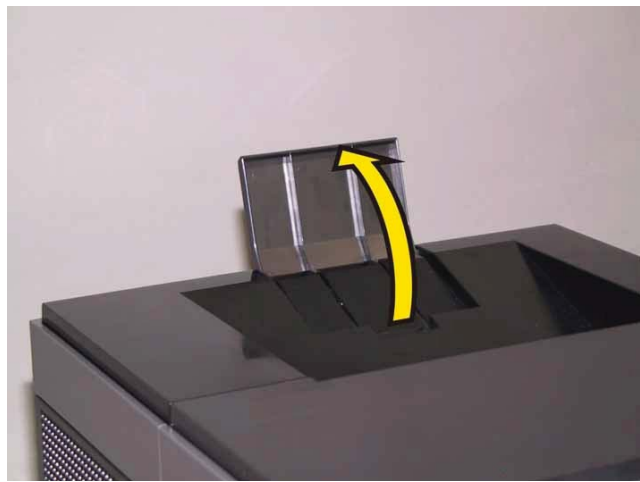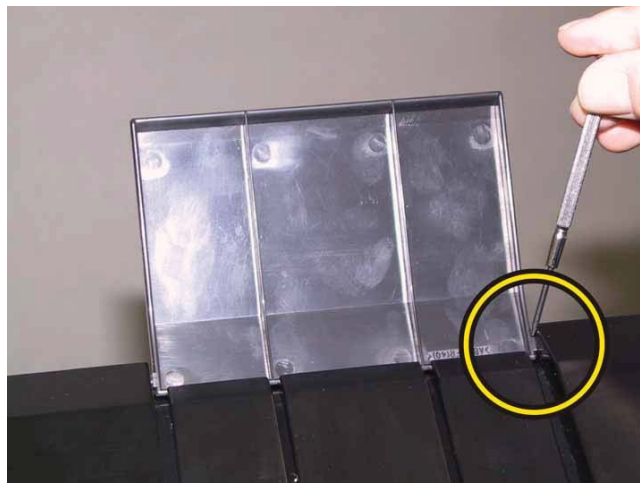
3 - 16
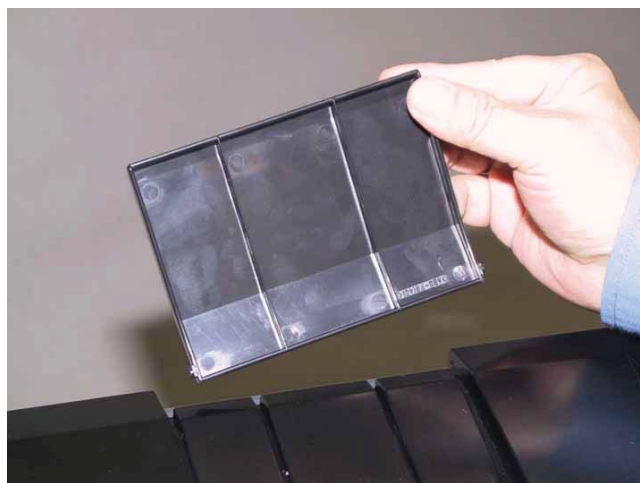
Removal 8 KIT COVER ASSY WINDOW TNR (PL1.1.99)

1) Open the COVER ASSY WINDOW TNR (PL1.1.7).	
2) Press the upper hinge of the COVER ASSY WINDOW TNR to release the boss on the hinge from the hole of the printer, move the COVER ASSY WINDOW TNR to arrow direction.	
3) Remove the COVER ASSY WINDOW TNR.	

3 - 17
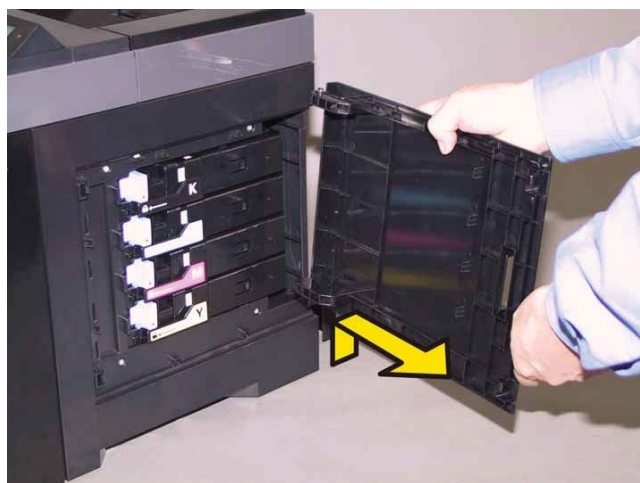
Removal 9 KIT ROLL ASSY FEED (PL3.2.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)
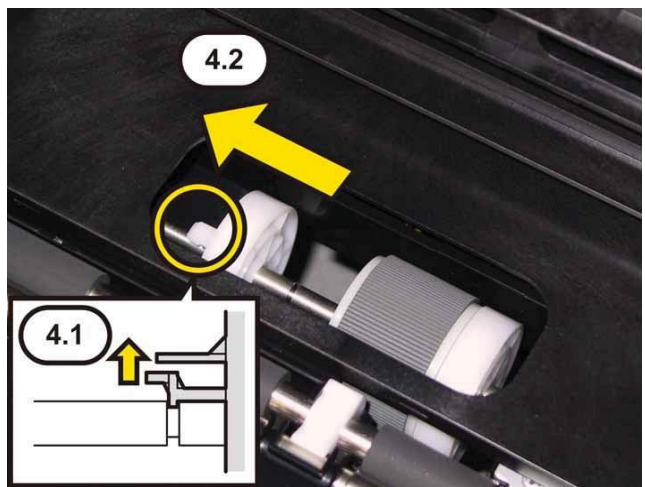
4) Release the hook of the ROLL CORE MSI (PL3.2.3) on the left of the ROLL ASSY FEED (PL 3.2.4), and move the ROLL CORE MSI to left until it stops.	
5) Release the groove on the ROLL ASSY FEED from the vertical pin mounted on the SHAFT ASSY FEED (PL3.2.2) by sliding the ROLL ASSY FEED to the left.	

6) Close the COVER ASSY FRONT MG.

7) Remove the ROLL ASSY FEED from the SHAFT ASSY FEED by rotating the ROLL ASSY FEED 180 degrees.
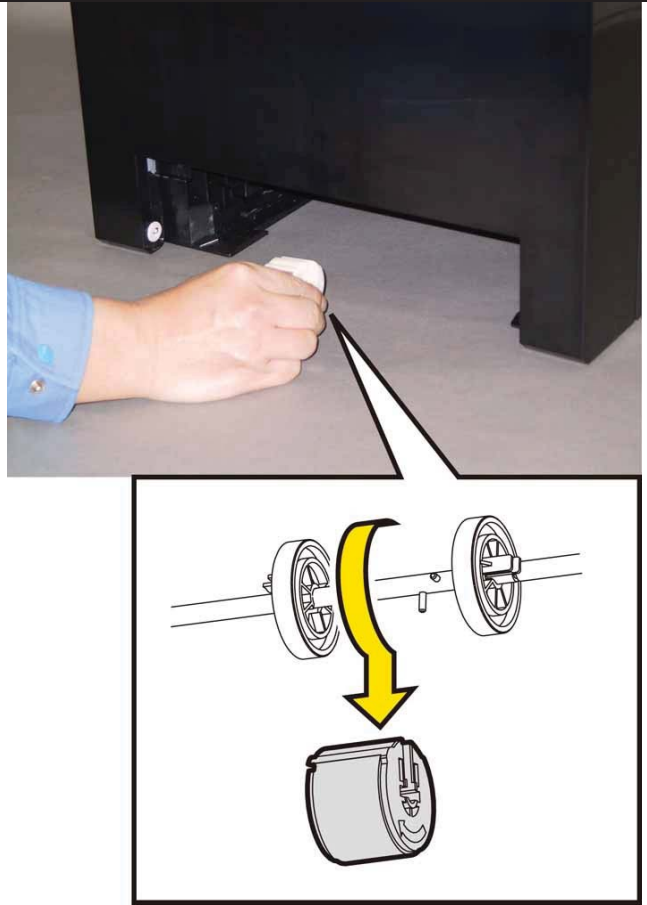
Removal 10 COVER ASSY TOP (PL1.1.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the two screws (silver, tap, 8mm) that fix the COVER ASSY TOP (PL1.1.1) to the printer.	
6) Lift up the front side of the COVER ASSY TOP to release the COVER ASSY TOP from the two pegs on the printer.	
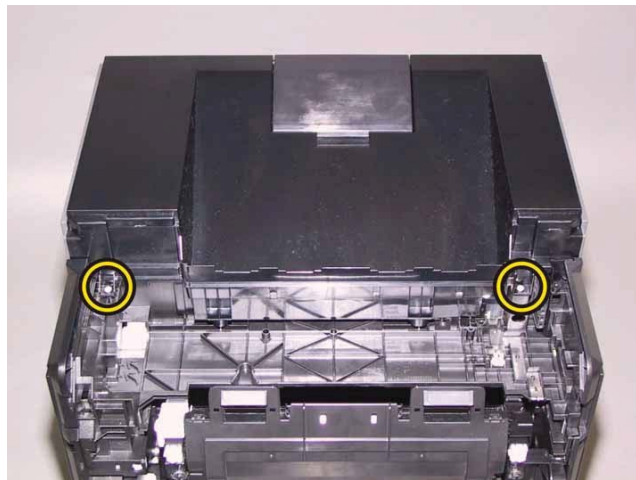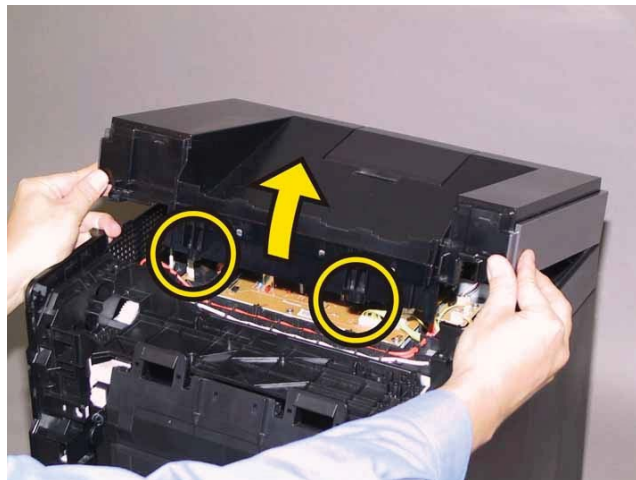
7) Release the inside hooks of the COVER ASSY TOP from the COVER REAR (PL1.1.3), remove the COVER ASSY TOP from the printer.

Removal 11 PWBA LVPS (PL8.2.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Disengage all the connectors of the PWBA LVPS (PL8.2.1).	
7) Remove the six screws (silver, 6mm) that fix the PWBA LVPS to the printer.	

8) Remove the PWBA LVPS from the printer.	
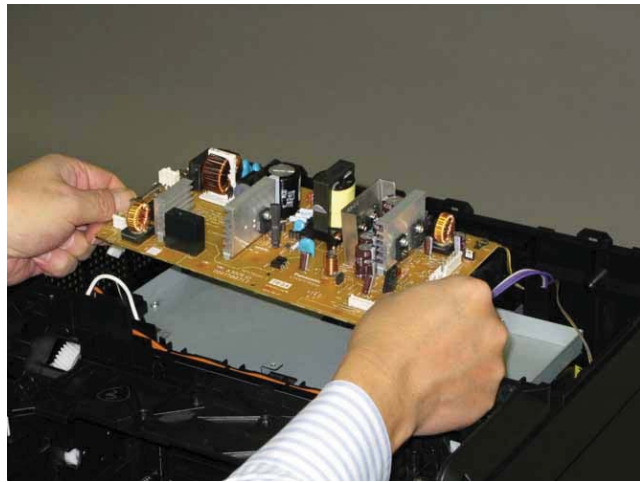
Removal 12 COVER SIDE R (PL1.1.6)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

Accesses Position (The 8) show the procedure number.)
Front 8)
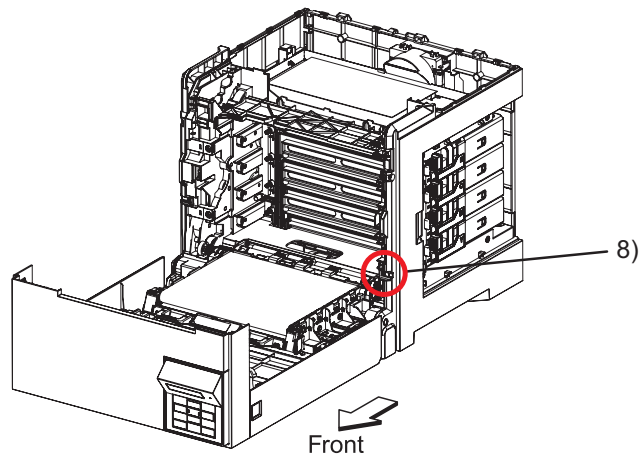
7) Remove the six screws (silver, tap, 8mm) that fix the COVER SIDE R (PL1.1.6) to the printer.	
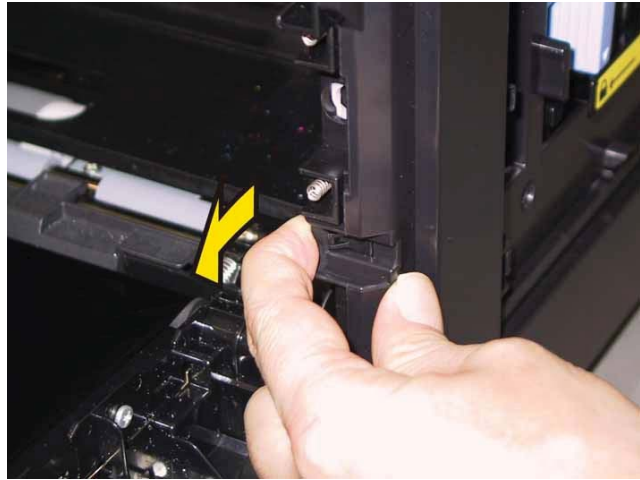
8) Release the front hook of the COVER SIDE R.	
9) Release the inside hooks of the COVER SIDE R from the COVER REAR (PL1.1.3), remove the COVER SIDE R from the printer.	

Removal 13 SWITCH (PL5.1.9)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Release the hooks of the SWITCH (PL5.1.9) by using the miniature screwdriver, remove the SWITCH from the printer.	
9) Disengage the connector (P/J291) of the SWITCH.	
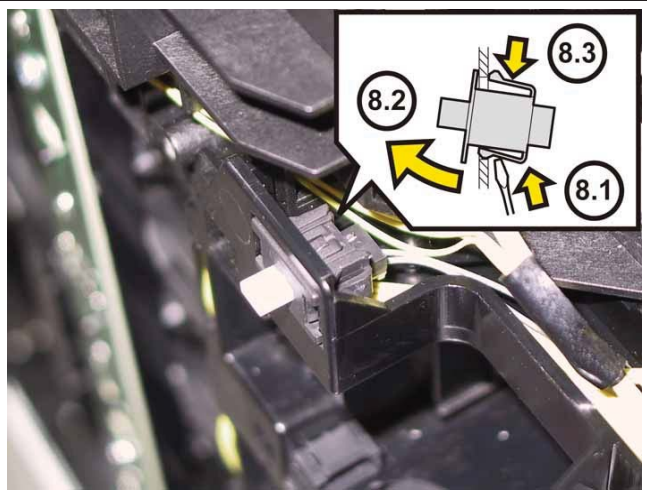
Removal 14 LED ASSY ERASE (PL4.1.8)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the two screws (silver, tap, 8mm) that fix the LED ASSY ERASE (PL4.1.8) to the printer.	
9) Remove the LED ASSY ERASE from the printer.	
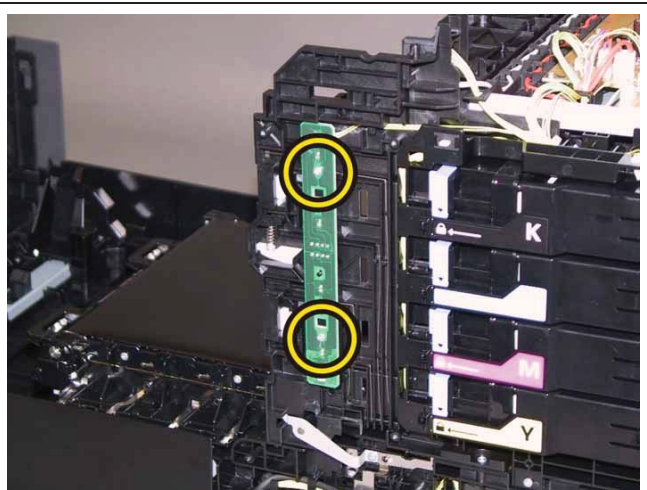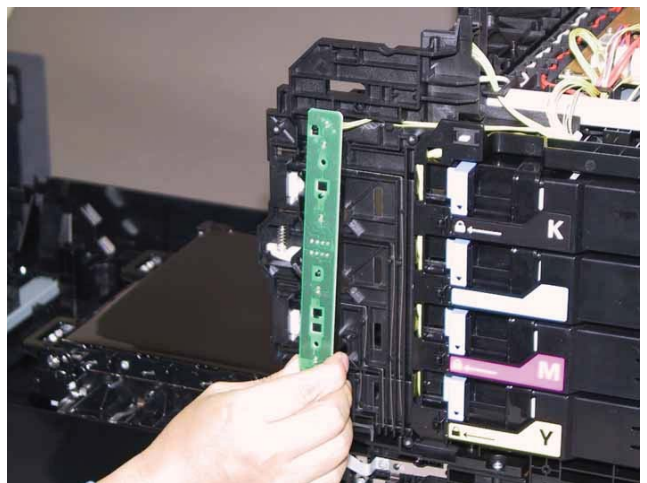
10) Disengage the connector (P/J141) of the LED ASSY ERASE.
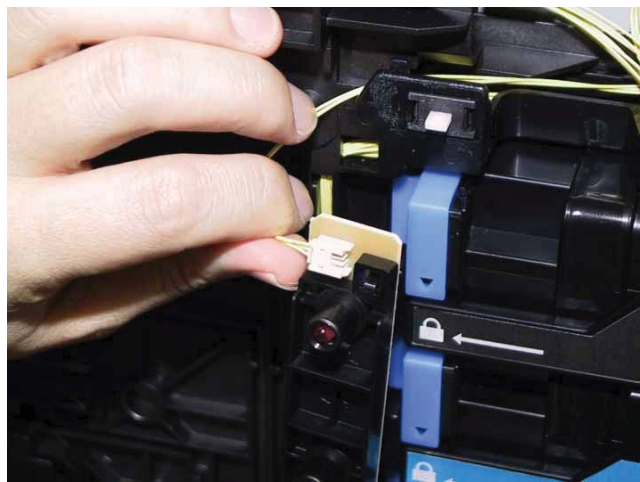
Removal 15 KIT BLOCK PHD RIGHT (PL4.1.97)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the LED ASSY ERASE. (Removal 14)

Accesses Position (The 9), 10), 11) and 12) show the procedure number.)
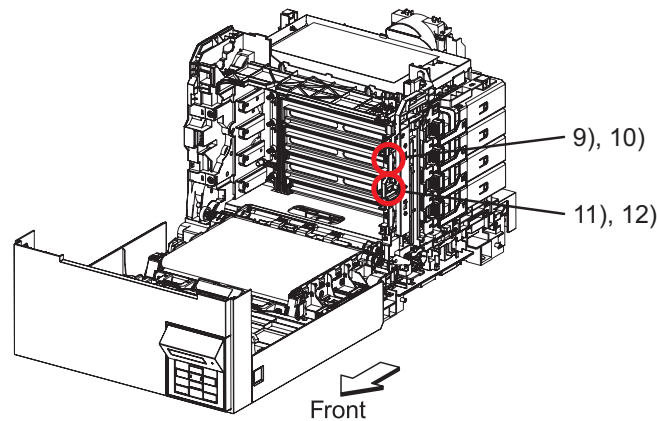
9), 10)

11), 12)

Front

Note: Described below is the removal procedure common among the upper and lower BLOCK STOPPER PHD ADs (PL4.1.7).

9) Release the hook of the BLOCK STOPPER PHD AD (PL4.1.7), using a miniature screwdriver.	
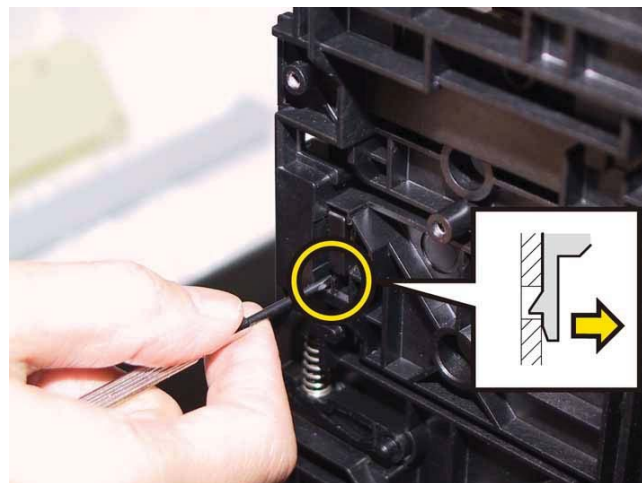
10) Remove the BLOCK STOPPER PHD AD from the printer.	
11) Remove the SPRING PHD (PL4.1.4) from the printer.	
12) Rotate the LEVER PHD (PL4.1.5) slightly, remove the LEVER PHD from the printer.	
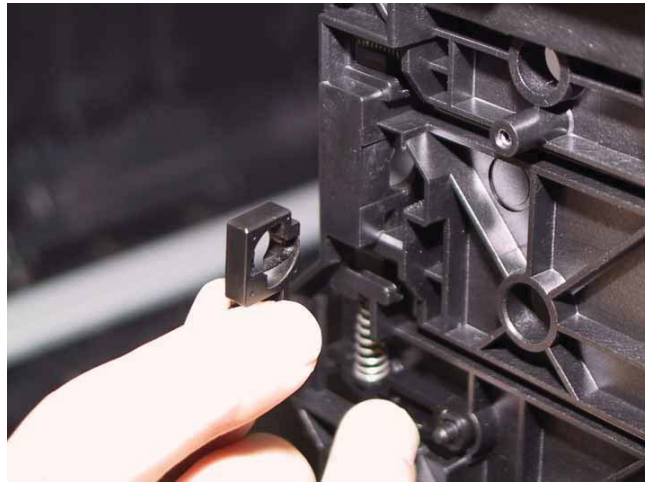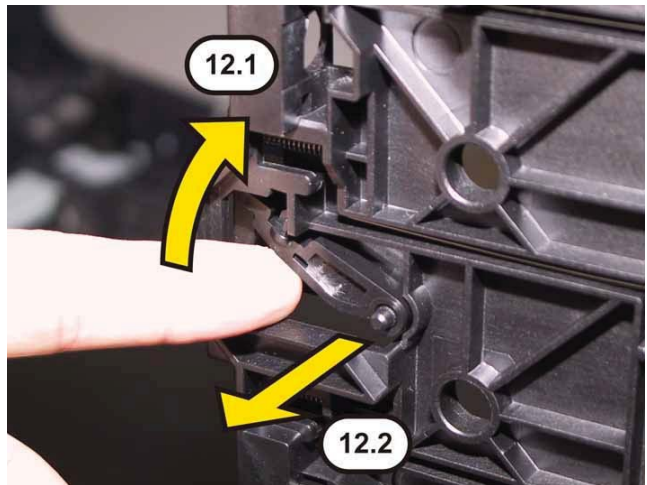
Removal 16 COVER SIDE L (PL1.1.19)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

Accesses Position (The 7) show the procedure number.)
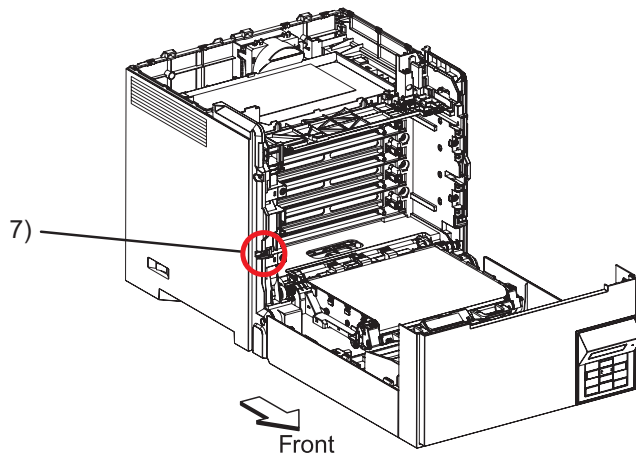
6) Remove the two screws (silver, tap, 8mm) that fix the COVER SIDE L (PL1.1.19) to the printer.	
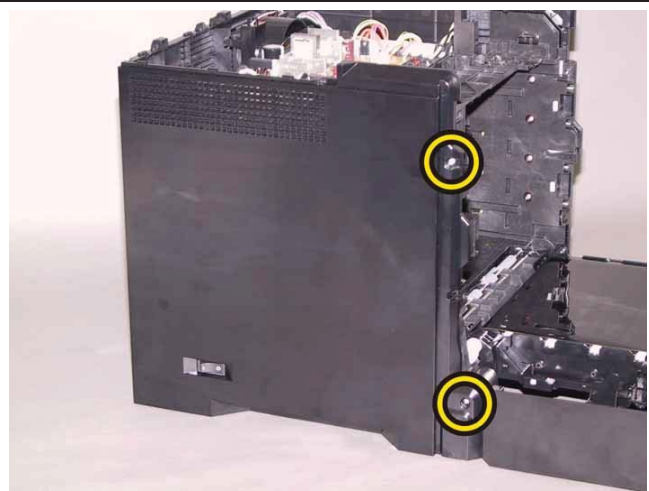
| 7) Release the front hook of the COVER SIDE L. | |
| 8) Release the inside hook of the COVER SIDE L from the COVER REAR (PL1.1.3), remove the COVER SIDE L from the printer. | |
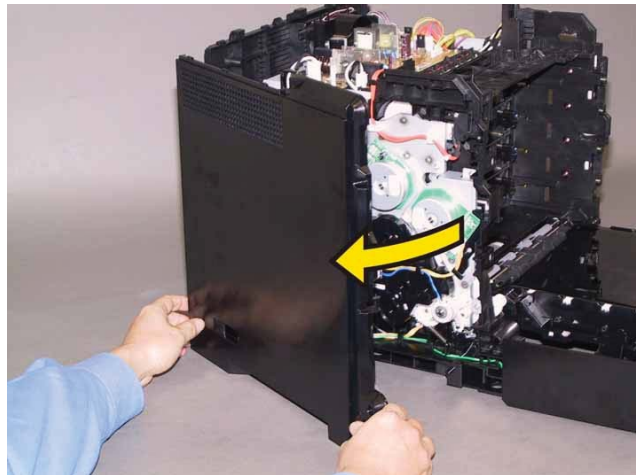
Removal 17 HARN ASSY INTERLOCK (PL8.2.5)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER SIDE L. (Removal 16)

Note: Release only the HARN ASSY INTERLOCK from the GUIDE HARNESS FSR to prevent the faulty wiring when it assembles it. 7) Disengage the connector (P/J44) of the HARN ASSY INTERLOCK (PL8.2.5) on the PWBA LVPS (PL8.2.1), release the harness of the HARN ASSY INTERLOCK from the GUIDE HARNESS FSR (PL8.2.2).	
8) Release the clamps that fix the harness of the HARN ASSY INTERLOCK, remove the harness.	
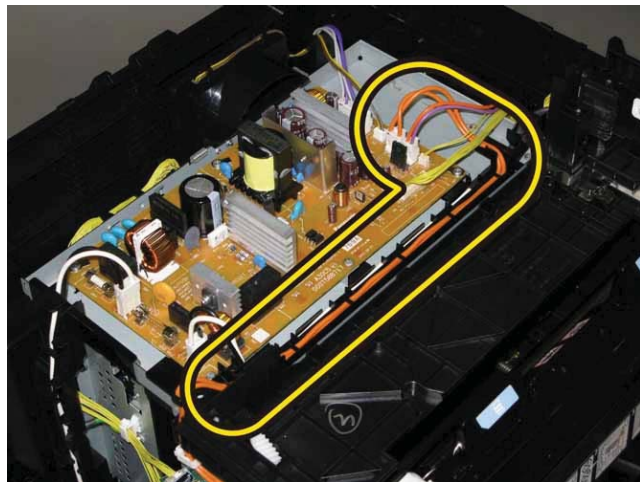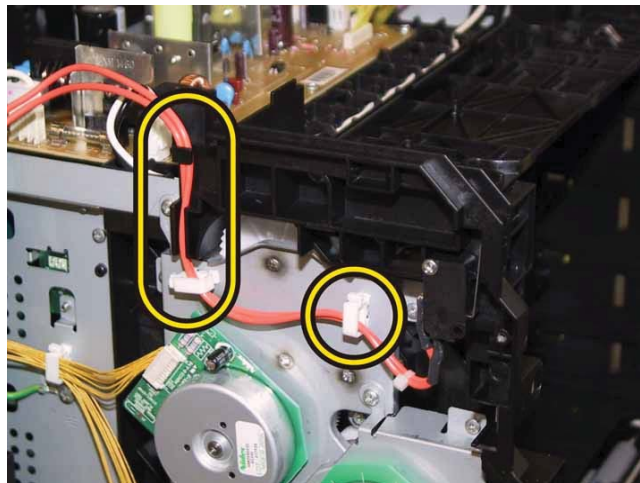
9) Remove the one screw (sliver, tap, 16mm) that fixes the HARN ASSY INTERLOCK to the printer, remove the HARN ASSY INTERLOCK.
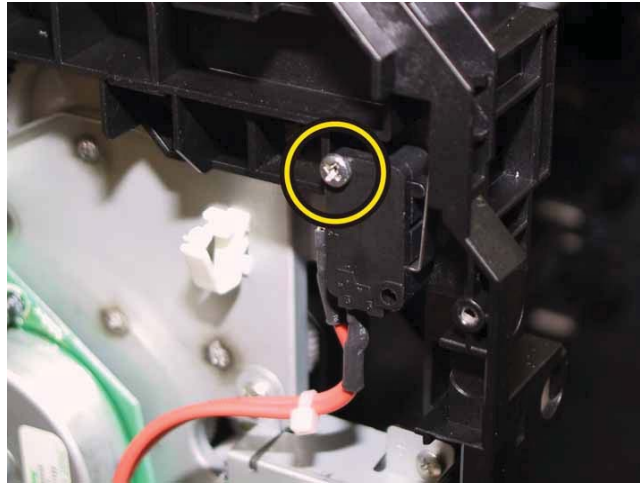
Removal 18 SENSOR HUM (PL8.2.7)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER SIDE L. (Removal 16)

7) Remove the one screw (silver, tap, 8mm) that fixes the SENSOR HUM (PL8.2.7) to the printer, remove the SENSOR HUM.	
8) Disengage the connector (P/J201) of the SENSOR HUM.	
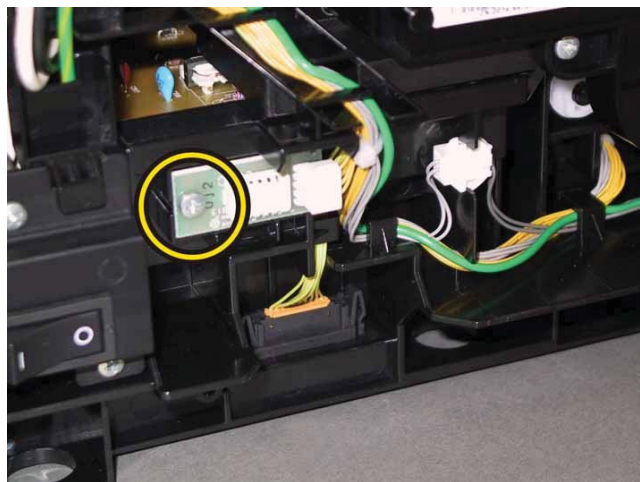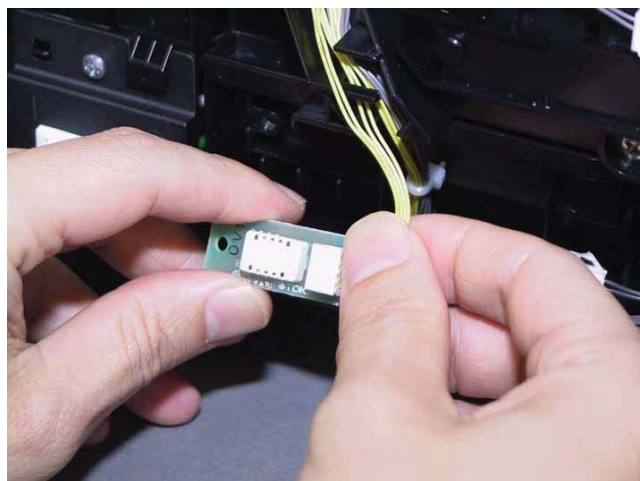
Removal 19 KIT PIVOT (PL6.1.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

Accesses Position (All the numbers show the procedure number.)

14), 15)

9), 10), 11), 12), 13)

Front

Note: When performing the step described below, it is not necessary to disengage the connector of the CLUTCH ASSY DRV.

9) Release the harness of the CLUTCH ASSY DRV (PL3.1.1) from the hook of the DRIVE ASSY PH (PL7.1.4).	
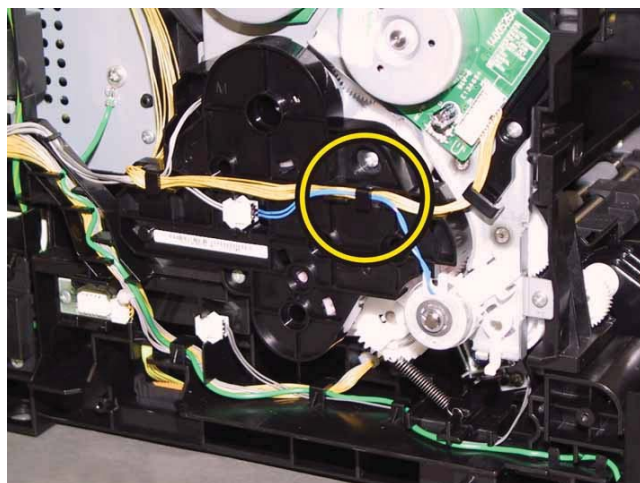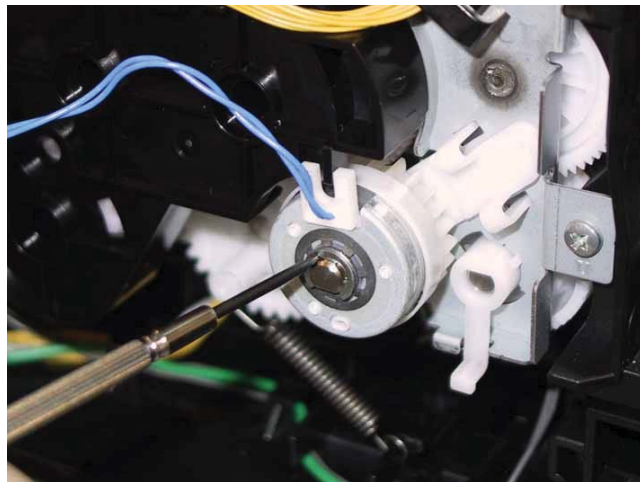
10) Remove the E-ring that fixes the CLUTCH ASSY DRV to the shaft, using a miniature screwdriver, remove the CLUTCH ASSY DRV.	
11) Rotate the STOPPER PIVOT (PL6.1.3), mate the tabs of the STOPPER PIVOT with the notches of the DRIVE ASSY MAIN (PL7.1.2).	
12) Remove the STOPPER PIVOT from the printer.	
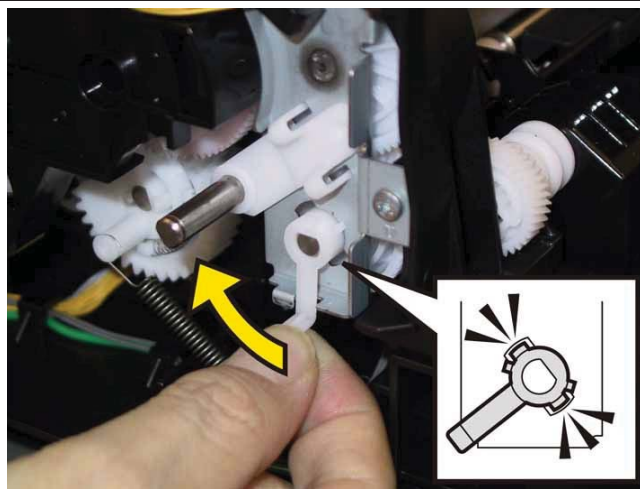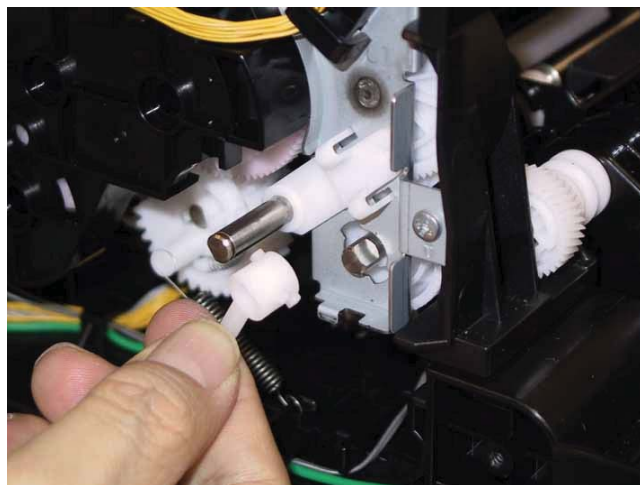
Note: When carrying out the work described next procedure, take care not to drop the GEAR T4.

13) Pull out the PIVOT TRANS L (PL6.1.4), remove the GEAR T4 (PL6.1.5) from the printer.	
14) Remove the one screw (silver, tap, 8mm) that fixes the SHAFT ASSY PIVOT (PL6.1.6) to the printer.	
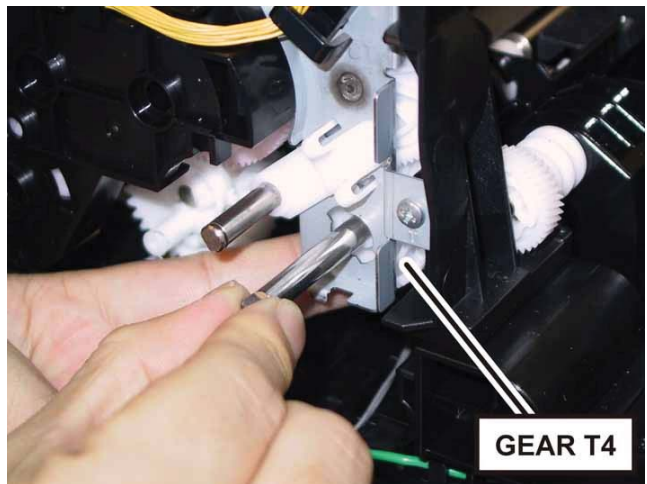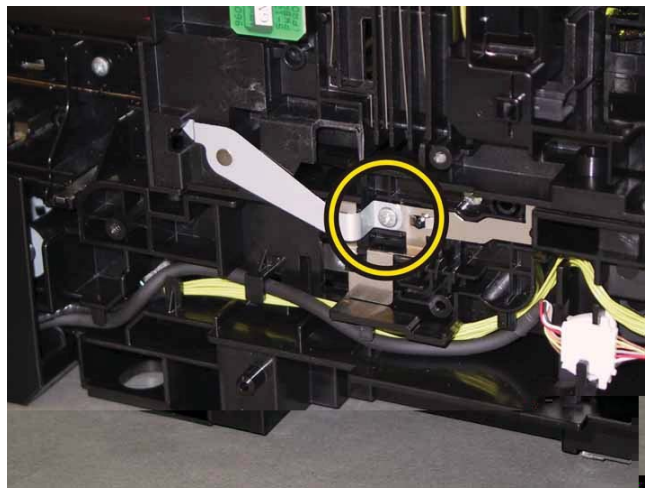
Note: When carrying out the work described next procedure, keep the TRANSFER ASSY slightly lifted for ease of work.

15) Pull out the SHAFT ASSY PIVOT from the printer.	
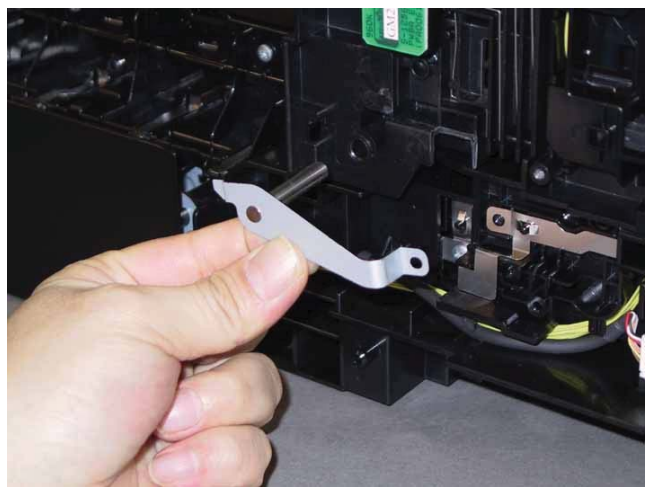
Removal 20 KIT TRANSFER ASSY (PL6.1.98)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.
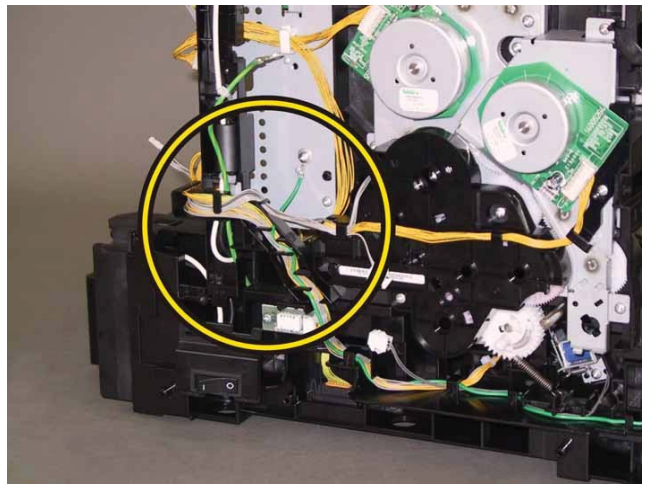
3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Close the TRANSFER ASSY (PL6.1.7).

Note: When carrying out the work described next procedure, take care not to scratch the belt surface of the TRANSFER ASSY.

10) Release the hooks of the COVER HARNESS (PL6.1.8), using a miniature screwdriver, and then remove the COVER HARNESS.	
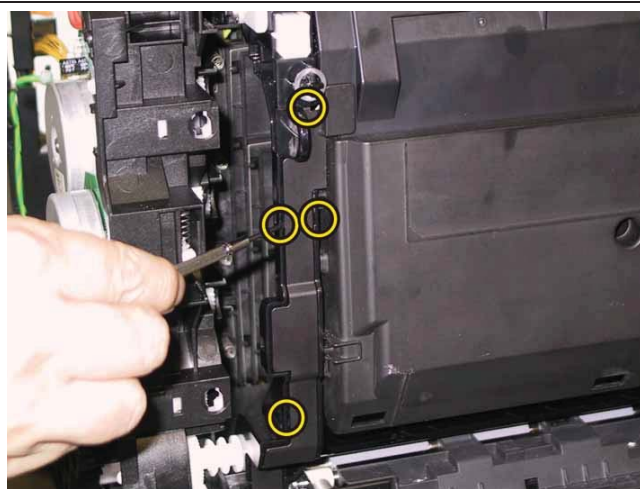
Note: When carrying out the work described below, leave the relay connector on the TRANSFER ASSY harness side.

11) Release the harness from the pegs of he TRANSFER ASSY, disengage the connector (P/J281) of the TRANSFER ASSY.	Relay connector
12) Release the harness coming from printer from hook of the TRANSFER ASSY.	
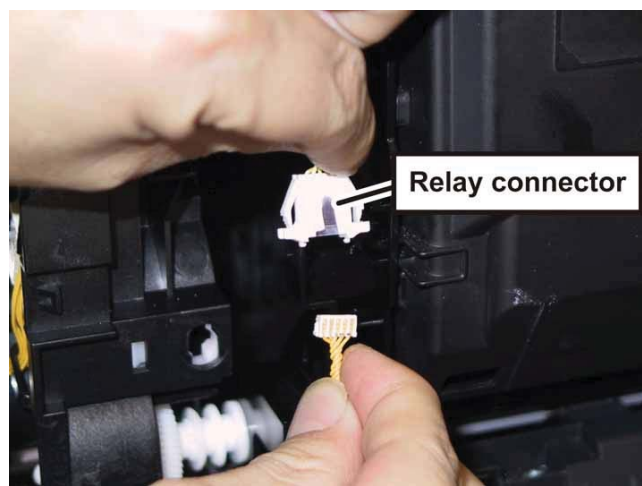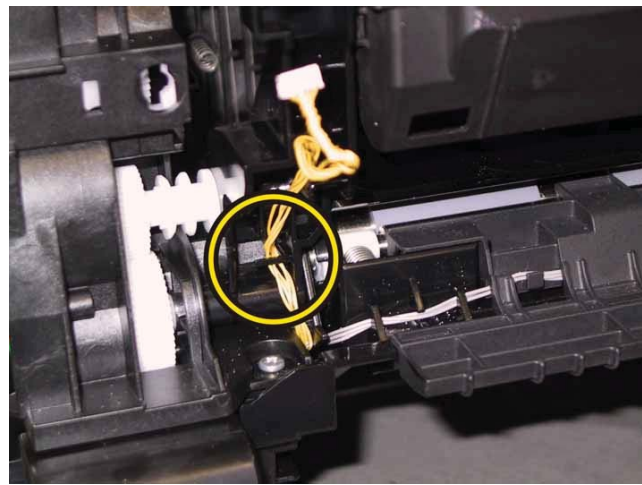
13) Tilt the TRANSFER ASSY slowly.

14) Remove the KIT PIVOT. (Removal 19)

15) Remove the TRANSFER ASSY from the printer.	

Removal 21 SENSOR PHOTO: SSI NO PAPER (PL3.2.13)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the KIT TRANSFER ASSY. (Removal 20)

Note: When carrying out the work described next procedure, take care not to move the BRACKET SNS from the printer too far because they are connected with the harness.

10) Remove the two screws (silver, tap, 8mm) that fix the BRACKET SNS (PL3.2.28) to the printer, remove the BRACKET SNS.	
11) Lift the rear part of the BRACKET SNS up to release the two holes of the BRACKET SNS from the bosses of the printer.	

12) Shift the BRACKET SNS to frontward, release the five tabs of the BRACKET SNS from the printer. Remove the BRACKET SNS.	
13) Release the three hooks that fix the SENSOR PHOTO: SSI NO PAPER (PL3.2.13) to the BRACKET SNS, and remove the SENSOR PHOTO: SSI NO PAPER.	
14) Disengage the connector (P/J233) of the SENSOR PHOTO: SSI NO PAPER.	
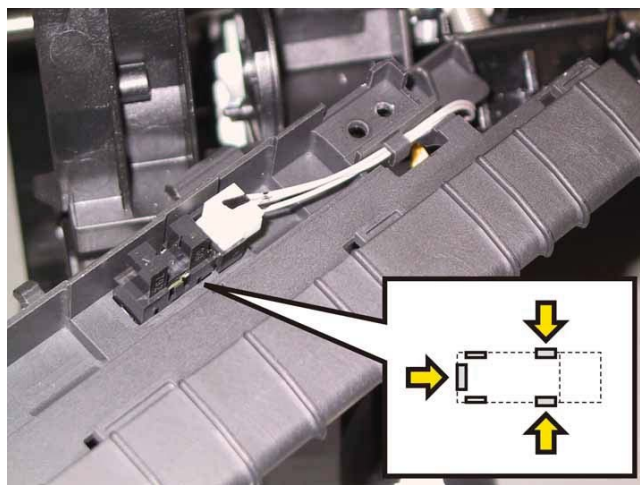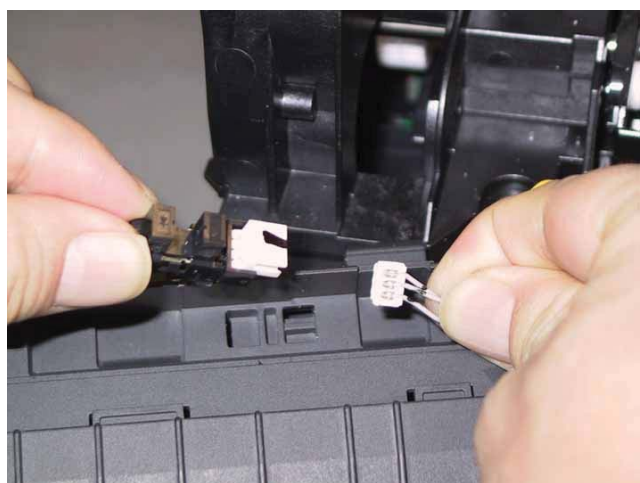
Removal 22 ACTUATOR SSI (PL3.2.14)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

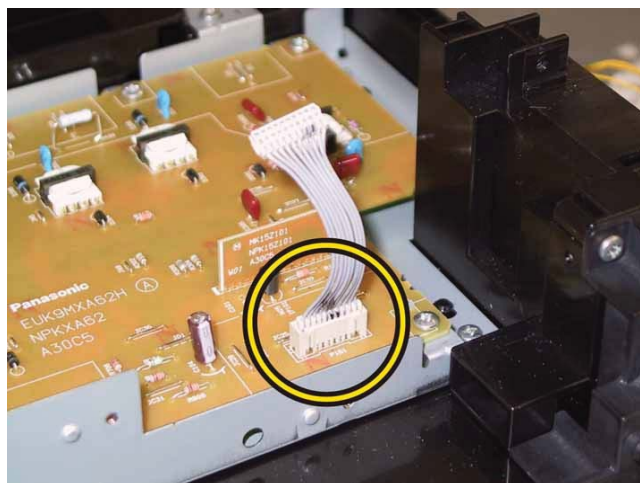**Note: Cover the drum of the PHD ASSY to avoid exposure to light.**

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the KIT TRANSFER ASSY. (Removal 20)

Note: When carrying out the work described next procedure, take care not to move the BRACKET SNS from the printer too far because they are connected with the harness.

10) Remove the two screws (silver, tap, 8mm) that fix the BRACKET SNS (PL3.2.28) to the printer, remove the BRACKET SNS.	
11) Lift the rear part of the BRACKET SNS up to release the two holes of the BRACKET SNS from the bosses of the printer.	

12) Shift the BRACKET SNS to frontward, release the five tabs of the BRACKET SNS from the printer. Remove the BRACKET SNS.	
13) Release the left shaft of the ACTUATOR SSI (PL3.2.14) from the hook of the CHUTE UP (PL3.2.26).	
14) Remove the ACTUATOR SSI and the SPRING ACT SSI (PL3.2.15) by releasing the right shaft of the ACTUATOR SSI from the hole of the CHUTE UP.	
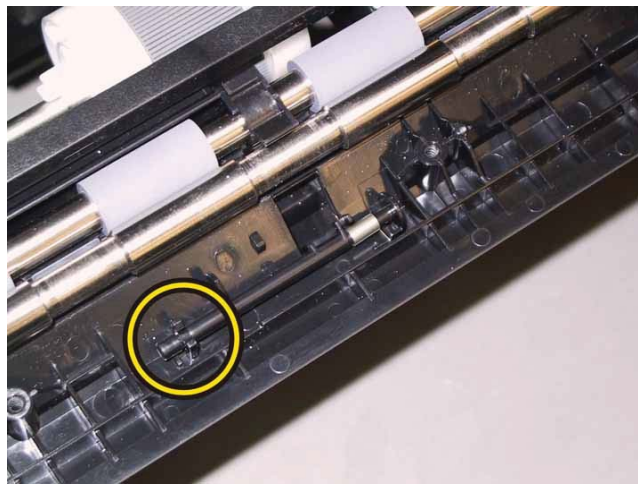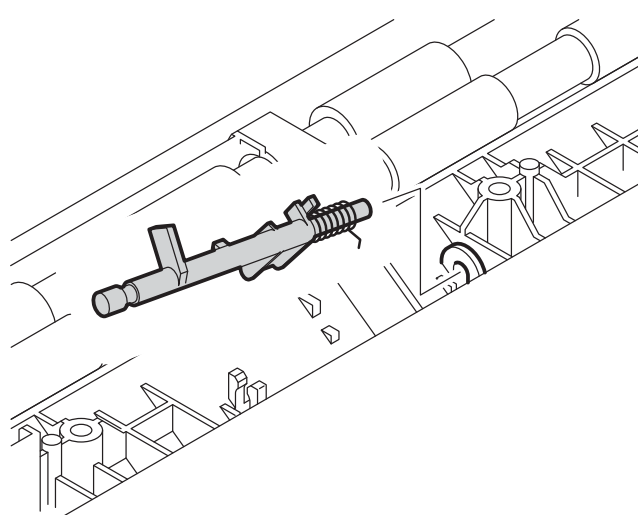
15) Remove the SPRING ACT SSI from the ACTUATOR SSI.	
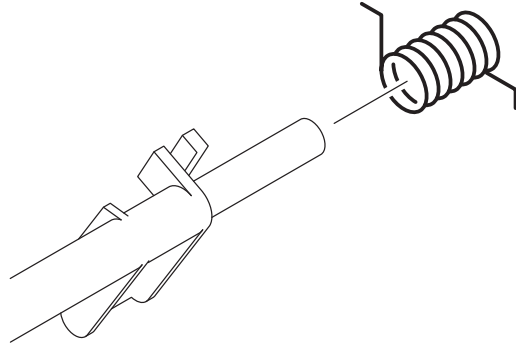
Removal 23 KIT SHAFT PIVOT (PL1.2.98)

Note: Described below is the removal procedure common among the left and right SHAFT PIVOTs (PL1.2.23).

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Release the hook of the SHAFT PIVOT (PL1.2.23) to pull out the SHAFT PIVOT.	
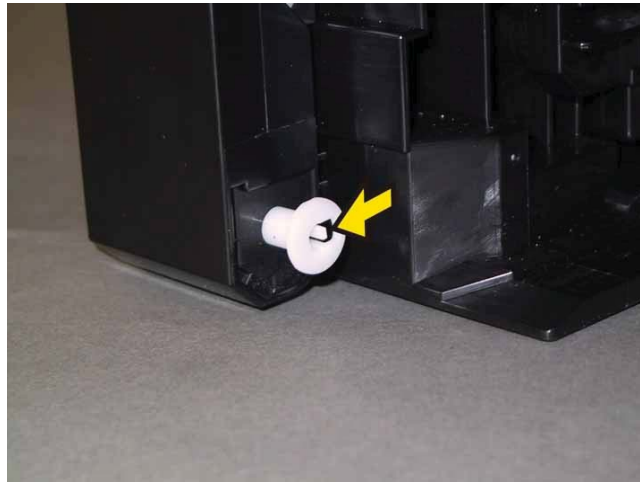
Removal 24 COVER ASSY FRONT MG (PL1.2.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

3) Remove the FEEDER ASSY DUP SFP STD. (Removal 56) [2150cdn Only]

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

4) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

5) Remove the FUSER ASSY. (Removal 5)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

Accesses Position (All the numbers show the procedure number.)

13)

Front

10), 11), 12)

Front

Note: When carrying out the work described next procedure, leave the relay connector on the printer harness side.

10) Release the relay connector from the rib of the printer, disengage the connecter (P/J271) of the HARN ASSY DUP RELAY (PL1.2.13). **Note: This step is only 2150cdn.**	
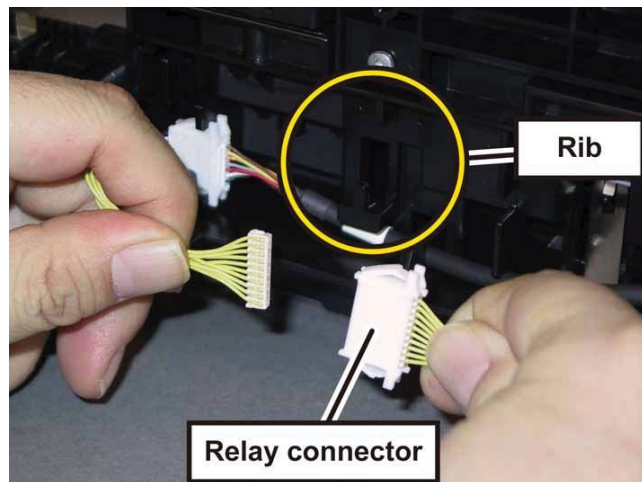
Note: When carrying out the work described below, leave the relay connector on the COVER ASSY FRONT MG side.

11) Release the harness of the HARNESS ASSY PNL A (PL1.1.12) from the rib of the printer, disengage the connector (P/J5301) of the HARNESS ASSY B (PL9.1.12).	
12) Release the HARN ASSY DUP RELAY and the HARNESS ASSY PNL A from the hooks of the printer.	
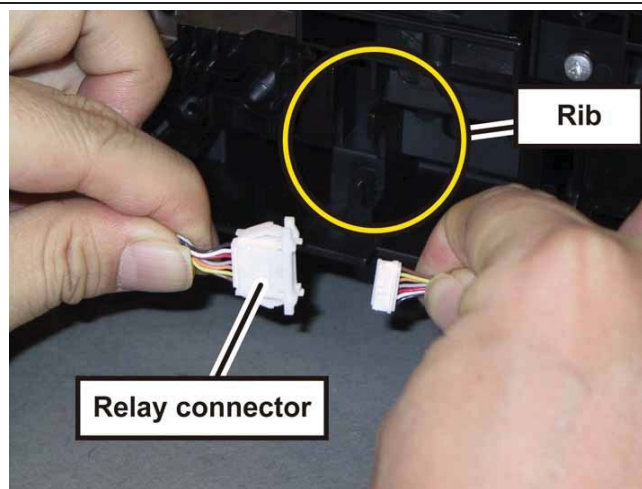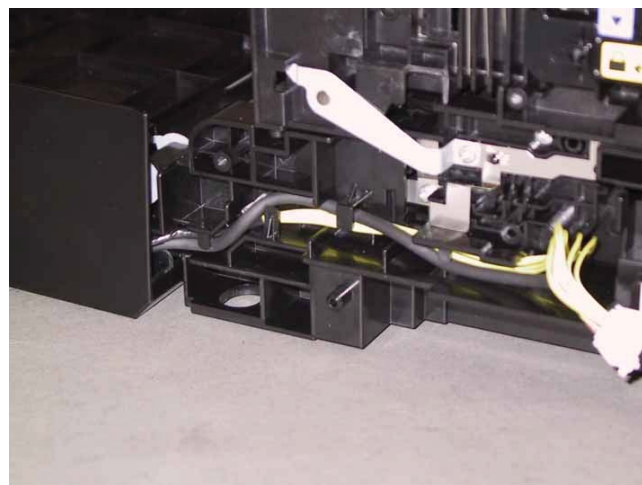
13) Remove the one screw (silver, 6mm) that fixes the grounding terminal of the HARN ASSY GND (PL1.2.22), release the HARN ASSY GND from the GUIDE HARNESS AC (PL8.2.6) and the hooks of the printer. **Note: This step is only 2150cdn.**	
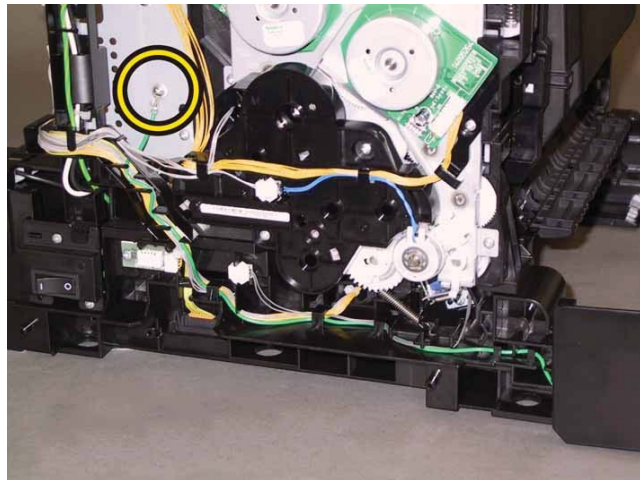
Note: Described below is the removal procedure common among the left and right COVER LINK FRONTs (PL1.2.30).

14) Release the two hooks of the COVER LINK FRONT (PL1.2.30), using a miniature screwdriver.	
15) Shift the COVER LINK FRONT to front, remove the COVER LINK FRONT from the LINK ASSY FRONT (PL1.2.18).	
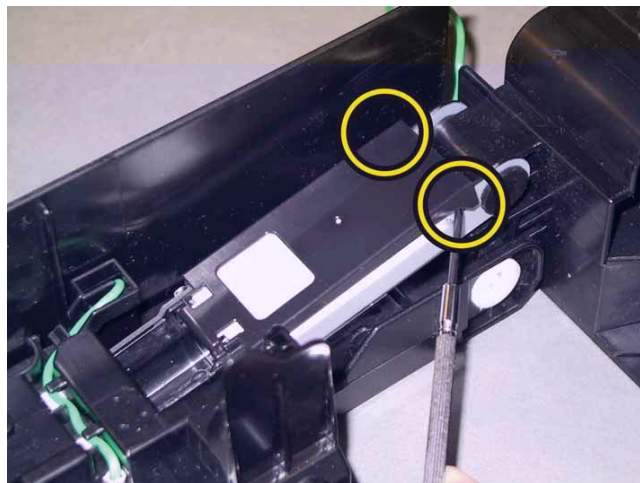
Note: Described below is the removal procedure common among the left and right SPRING LINK FRONTs (PL1.2.24).

16) Lift the COVER ASSY FRONT MG slightly up to remove the SPRING LINK FRONT (PL1.2.24) from the LINK ASSY FRONT, using a miniature screwdriver.	
17) Remove the SPRING LINK FRONT from the printer.	
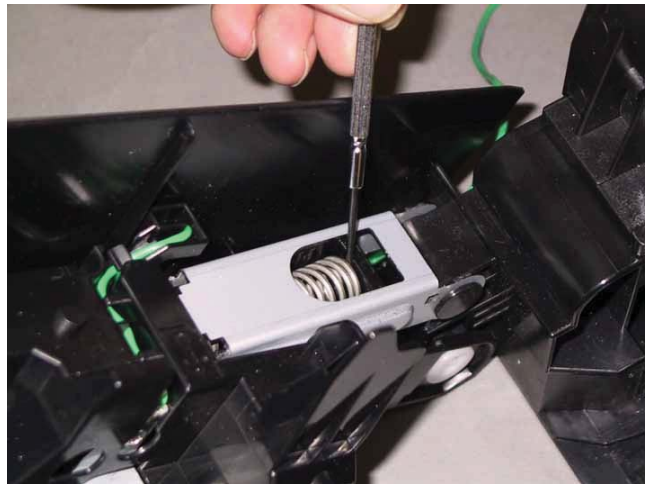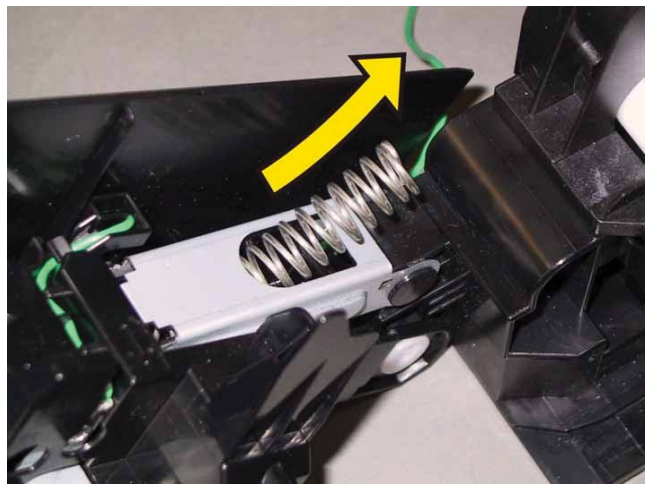
Note: Described below is the removal procedure common among the left and right SHAFT LINK FRONT FDRs (PL1.2.26).

18) Release the hook of the SHAFT LINK FRONT FDR (PL1.2.26) using a miniature screwdriver, to pull out the SHAFT LINK FRONT FDR.	
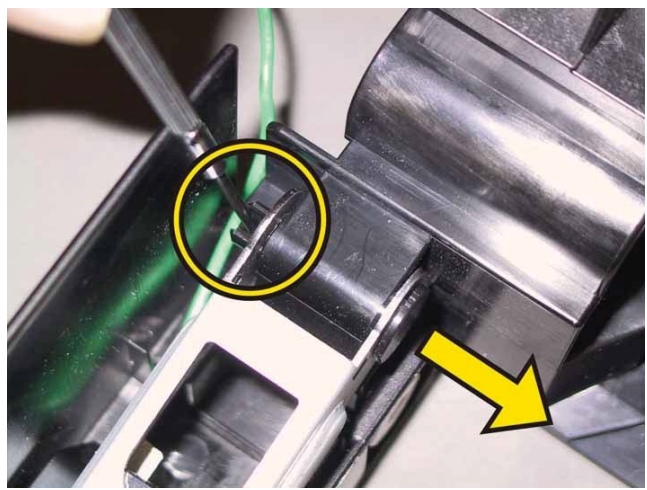
Note: Described below is the removal procedure common among the left and right SHAFT PIVOTs (PL1.2.23).
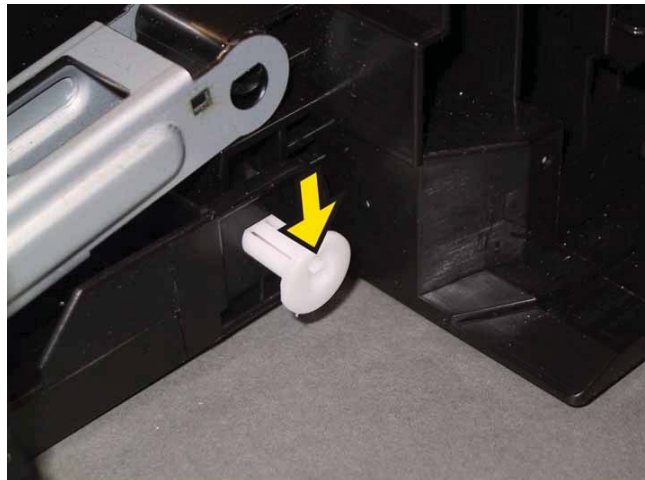
19) Release the hook of the SHAFT PIVOT (PL1.2.23) to pull out the SHAFT PIVOT.	
20) Lift the COVER ASSY FRONT MG slightly up to remove the COVER ASSY FRONT MG from the printer.	
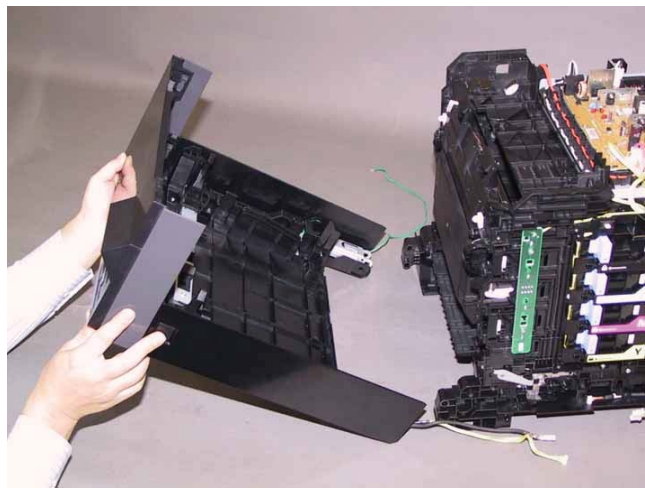
Removal 25 CONSOLE ASSY PANEL (PL1.2.3)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

3) Remove the FEEDER ASSY DUP SFP STD. (Removal 56) [2150cdn Only]

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

4) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

5) Remove the FUSER ASSY. (Removal 5)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER ASSY FRONT MG. (Removal 24)

11) Release the two hooks of the COVER CONNECTOR (PL1.2.4).	
12) Remove the COVER CONNECTOR from the COVER ASSY FRONT MG.	

13) Disengage the connector (P/J202) of the CONSOLE ASSY PANEL (PL1.2.3).	
14) Release the four hooks of the COVER FRONT BAND.	
15) Release the left and right hooks of the COVER FRONT BAND.	
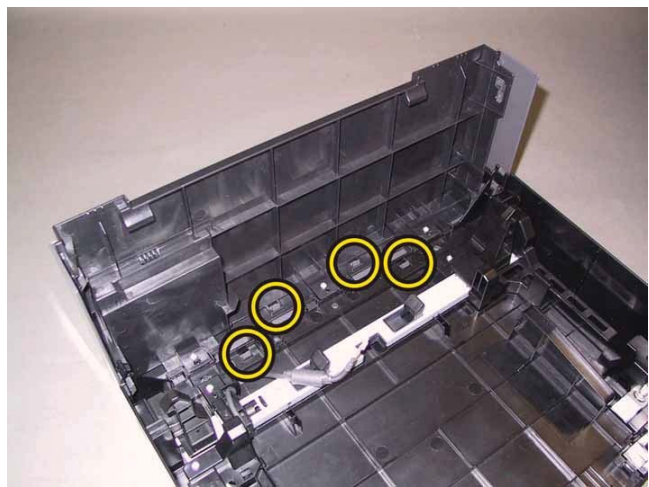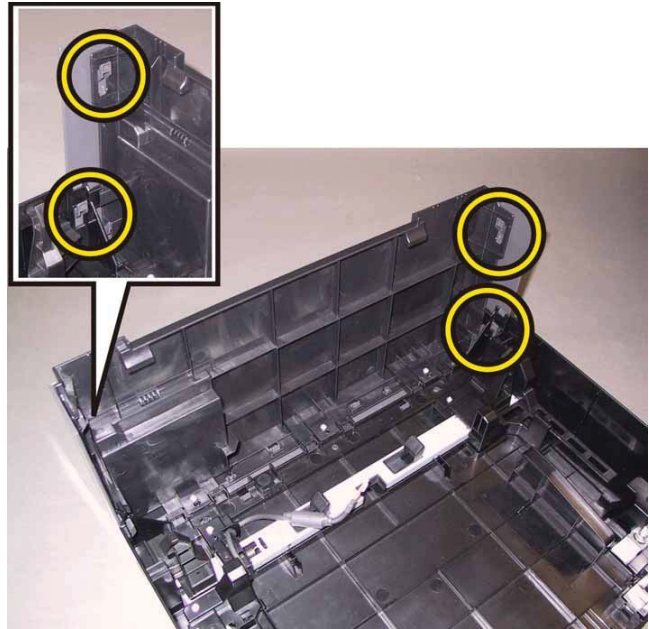
16) Remove the COVER FRONT BAND from the COVER ASSY FRONT MG.	
17) Release the two hooks of the CONSOLE ASSY PANEL, using a miniature screwdriver.	
18) Release the tab of the CONSOLE ASSY PANEL from the hole of the COVER ASSY FRONT MG, remove the CONSOLE ASSY PANEL.	
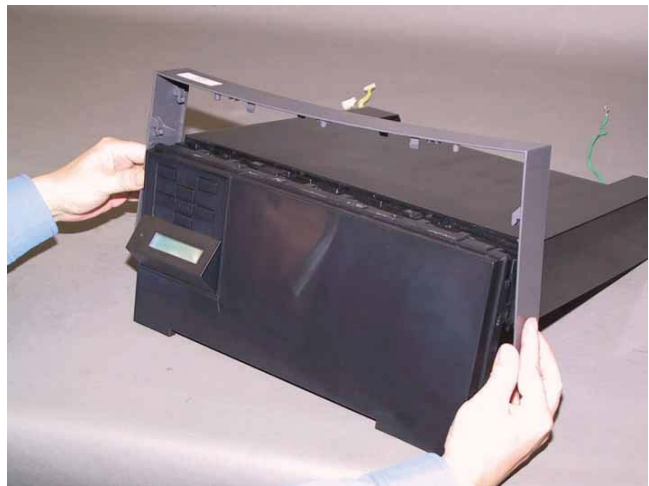
3 - 54

Removal 26 LATCH ASSY FRONT (PL1.2.5), BUTTON LATCH FRONT (PL1.2.11)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

3) Remove the FEEDER ASSY DUP SFP STD. (Removal 56) [2150cdn Only]

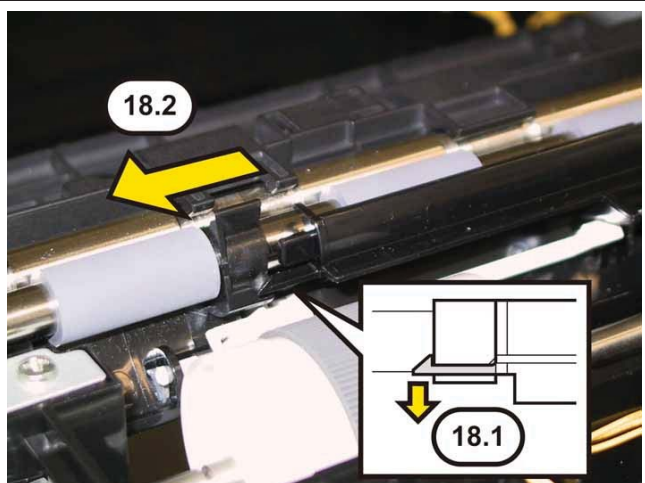**Note: Cover the drum of the PHD ASSY to avoid exposure to light.**

4) Remove the PHD ASSY. (Removal 4)

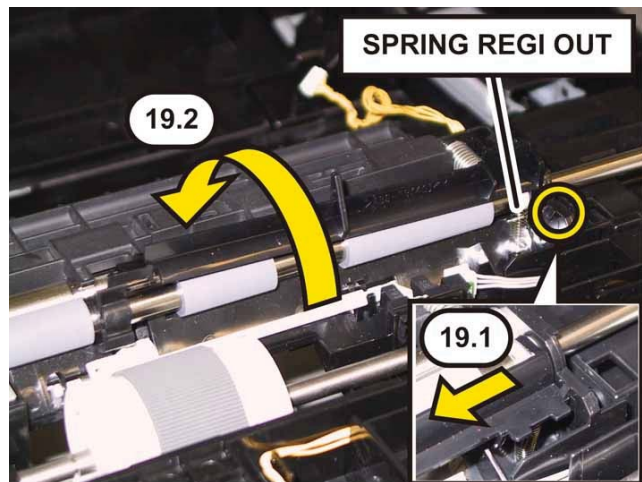**Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.**

5) Remove the FUSER ASSY. (Removal 5)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER ASSY FRONT MG. (Removal 24)

11) Remove the three screws (silver, tap, 8mm) that fix the HOLDER ASSY FRONT R (PL1.2.28) to the COVER ASSY FRONT MG.	
12) Release the one hook of the HOLDER ASSY FRONT R, using a miniature screwdriver.	
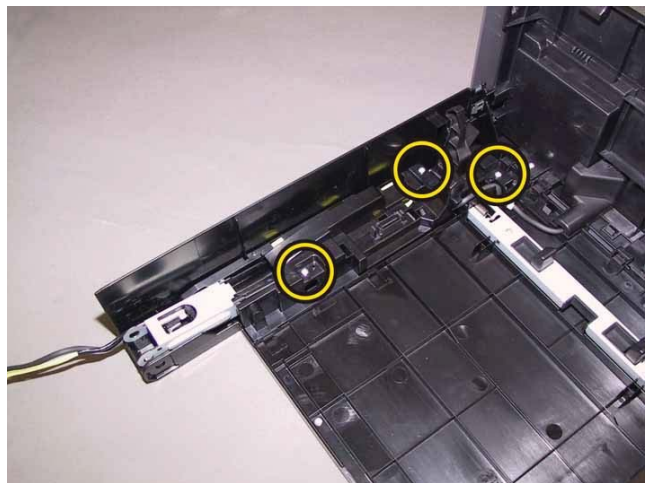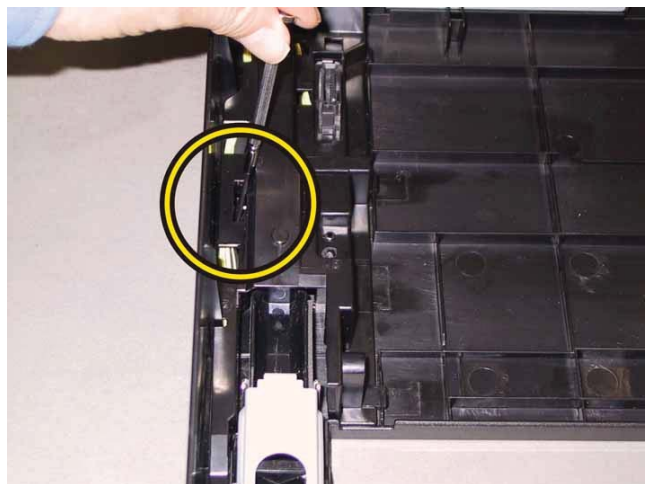
13) Remove the HOLDER ASSY FRONT R from the COVER ASSY FRONT MG.	
14) Remove the three screws (silver, tap, 8mm) that fix the HOLDER ASSY FRONT L (PL1.2.29) to the COVER ASSY FRONT MG.	
15) Release the two hooks of the HOLDER ASSY FRONT L, using a miniature screwdriver.	
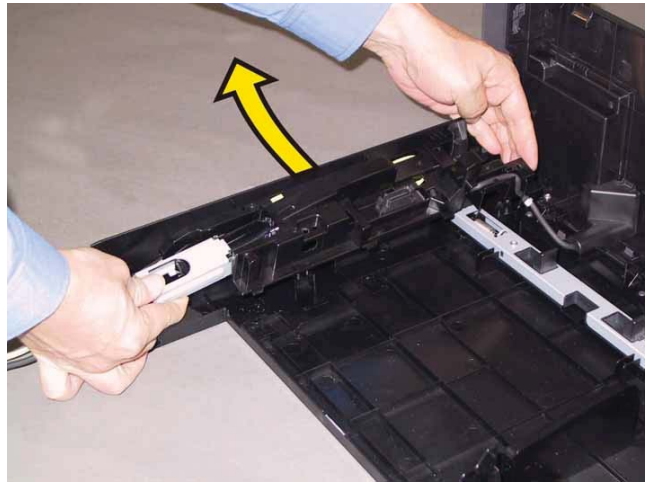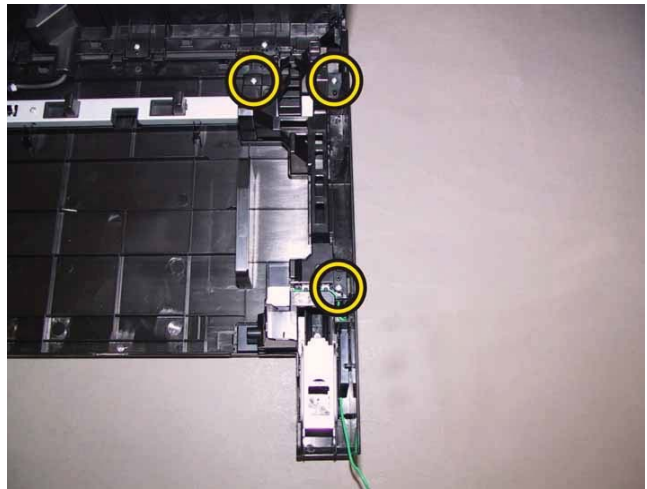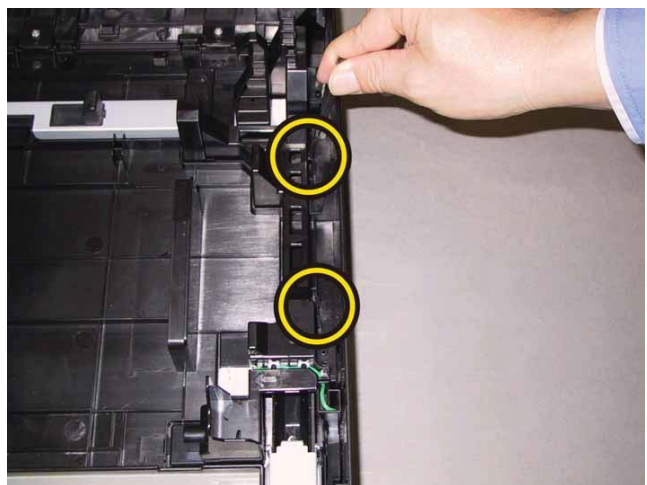
16) Remove the HOLDER ASSY FRONT L from the COVER ASSY FRONT MG.	
17) Remove the SPRING LATCH FRONT (PL1.2.10) from the LATCH ASSY FRONT (PL1.2.5).	
18) Remove the LATCH ASSY FRONT from the COVER ASSY FRONT MG together with the BUTTON LATCH FRONT (PL1.2.11).	
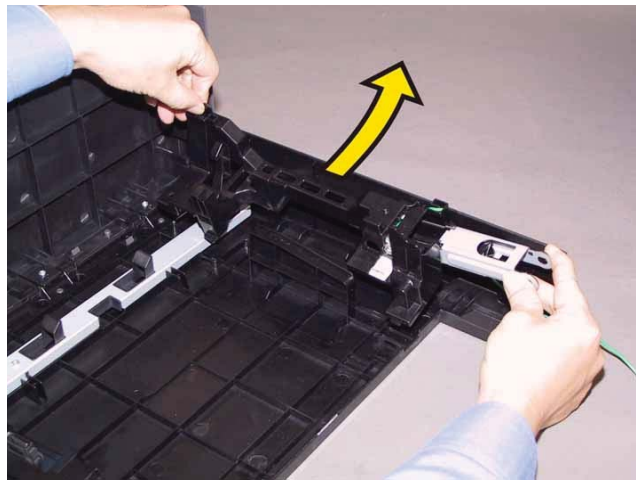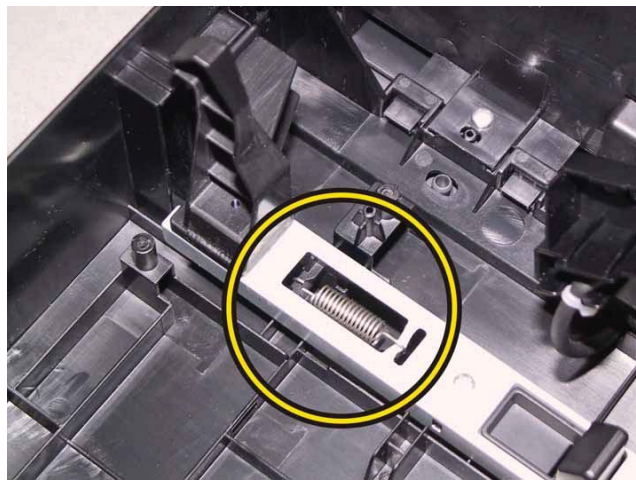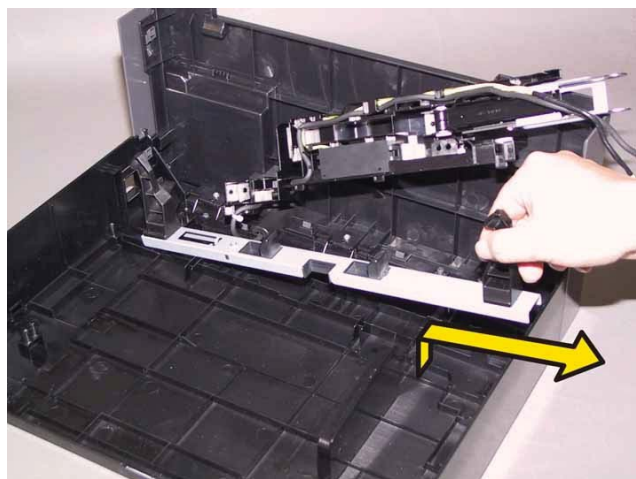
19) Remove the BUTTON LATCH FRONT from the LATCH ASSY FRONT.
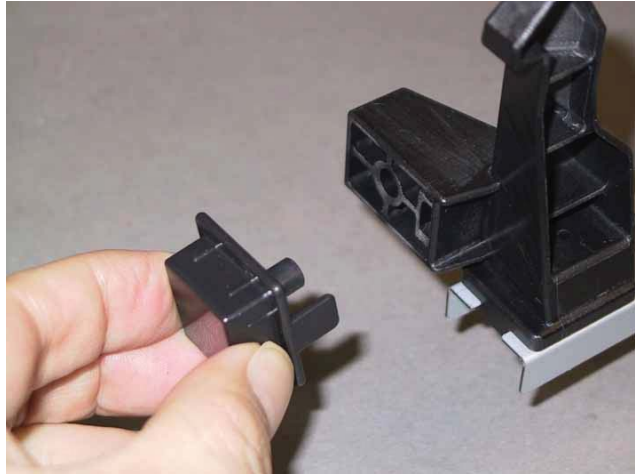
Removal 27 HARNESS ASSY PNL A (PL1.2.12)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

3) Remove the FEEDER ASSY DUP SFP STD. (Removal 56) [2150cdn Only]

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

4) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

5) Remove the FUSER ASSY. (Removal 5)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER ASSY FRONT MG. (Removal 24)

11) Release the two hooks of the COVER CONNECTOR (PL1.2.4).	
12) Remove the COVER CONNECTOR from the COVER ASSY FRONT MG.	

13) Disengage the connector (P/J202) of the CONSOLE ASSY PANEL (PL1.2.3).	
14) Remove the three screws (silver, tap, 8mm) that fix the HOLDER ASSY FRONT R (PL1.2.28) to the COVER ASSY FRONT MG.	
15) Release the one hook of the HOLDER ASSY FRONT R, using a miniature screwdriver.	

16) Remove the HOLDER ASSY FRONT R from the COVER ASSY FRONT MG.	
17) Release the HARNESS ASSY PNL A (PL1.2.12) from the hooks of the HOLDER ASSY FRONT R, remove the HARNESS ASSY PNL A.	

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Removal 28 HARN ASSY DUP RELAY (PL1.2.13) [2150cdn Only]

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

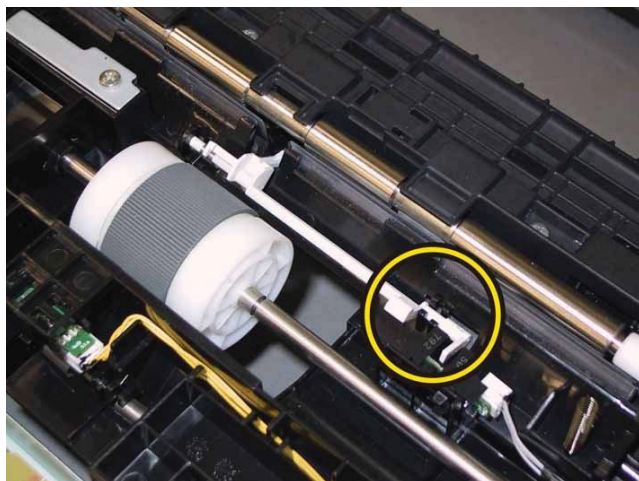3) Remove the FEEDER ASSY DUP SFP STD. (Removal 56) [2150cdn Only]

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

4) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

5) Remove the FUSER ASSY. (Removal 5)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER ASSY FRONT MG. (Removal 24)

11) Release the two hooks of the COVER CONNECTOR (PL1.2.4).	
12) Remove the COVER CONNECTOR from the COVER ASSY FRONT MG.	

13) Disengage the connector (P/J202) of the CONSOLE ASSY PANEL (PL1.2.3).	
14) Remove the three screws (silver, tap, 8mm) that fix the HOLDER ASSY FRONT R (PL1.2.28) to the COVER ASSY FRONT MG.	
15) Release the one hook of the HOLDER ASSY FRONT R, using a miniature screwdriver.	

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16) Remove the HOLDER ASSY FRONT R from the COVER ASSY FRONT MG.	
17) Release the two hooks of the COVER DRAWER (PL1.2.4), remove the COVER DRAWER from the HOLDER ASSY FRONT R.	
18) Release the harness of the HARN ASSY DUP RELAY (PL1.2.13) from the hooks of the HOLDER ASSY FRONT R.	
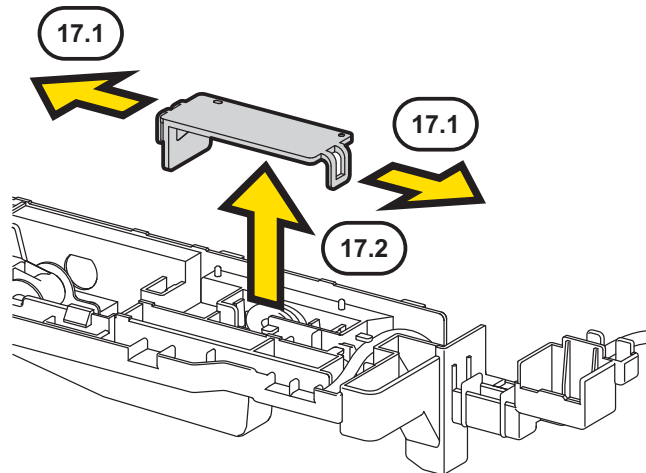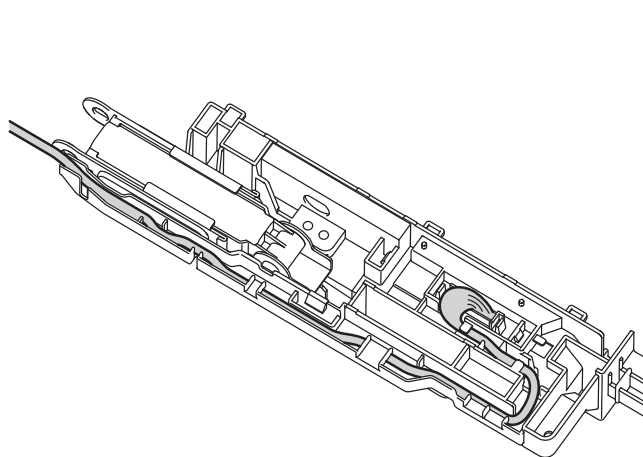
19) Release the two hooks on the connector (P272) of the HARN ASSY DUP RELAY, pull out the harness and connector (J271) through the hole on the HOLDER ASSY FRONT R, and remove the HARN ASSY DUP RELAY.

19.1

19.2
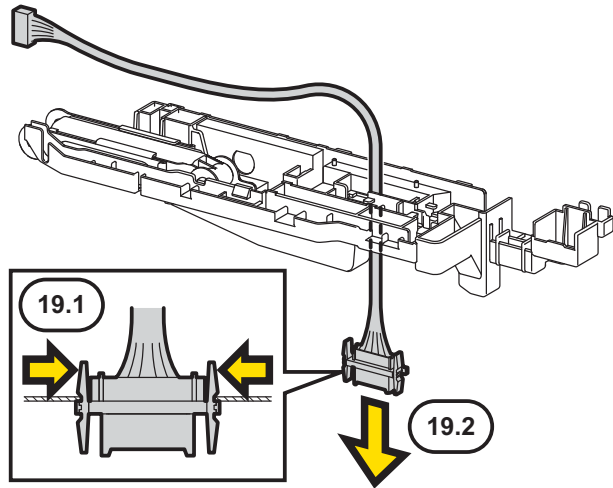
Removal 29 COVER REAR (PL1.1.3)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the two screws (silver, tap, 8mm) that fix the COVER REAR (PL1.1.3) to the printer.	
10) Remove the COVER REAR from the printer.	
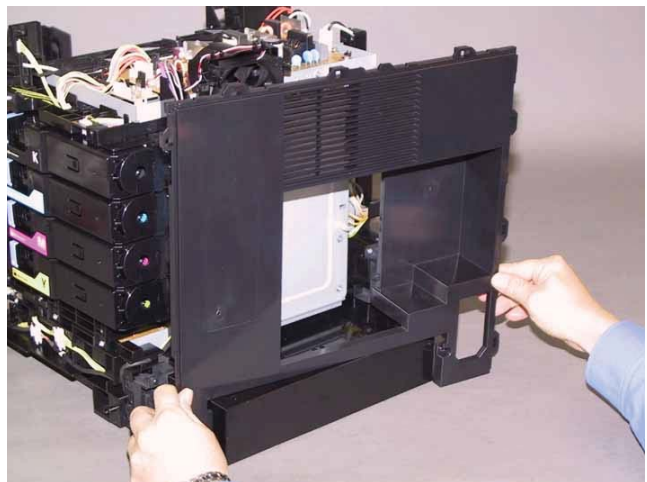
Removal 30 CLUTCH ASSY DRV (PL3.1.1), BEARING REGI (PL3.1.2)

1) Remove the CASSETTE ASSY 250. (Removal 1)
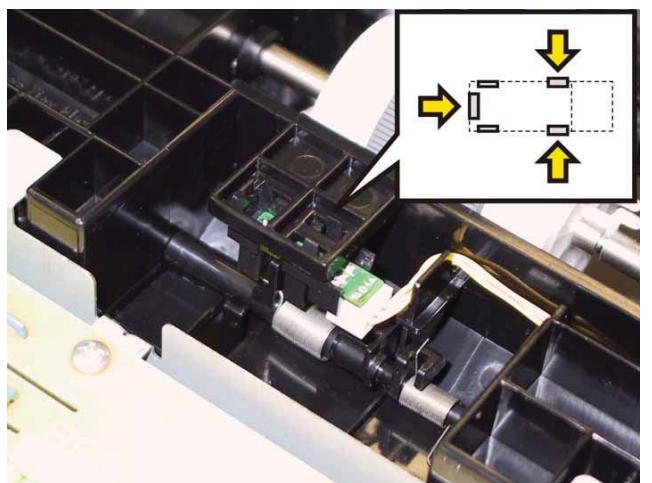
2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Release the harness of the CLUTCH ASSY DRV (PL3.1.1) from the hook of the DRIVE ASSY PH (PL7.1.4).	
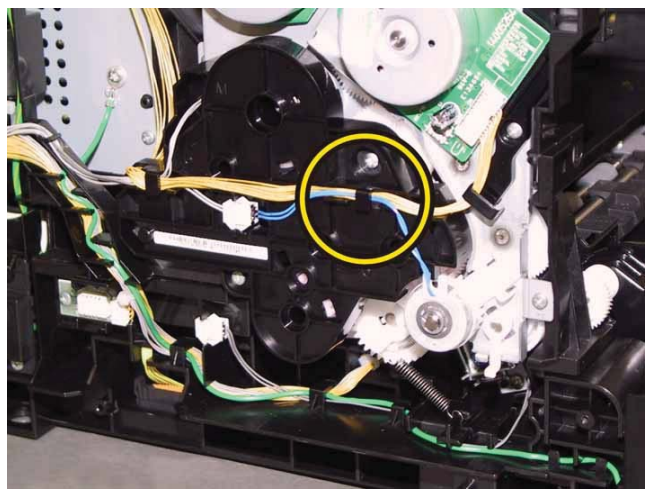
Note: When carrying out the work described below, leave the relay connector on the printer harness side.

11) Disengage the connector (P/J262) of the CLUTCH ASSY DRV.	Relay connector
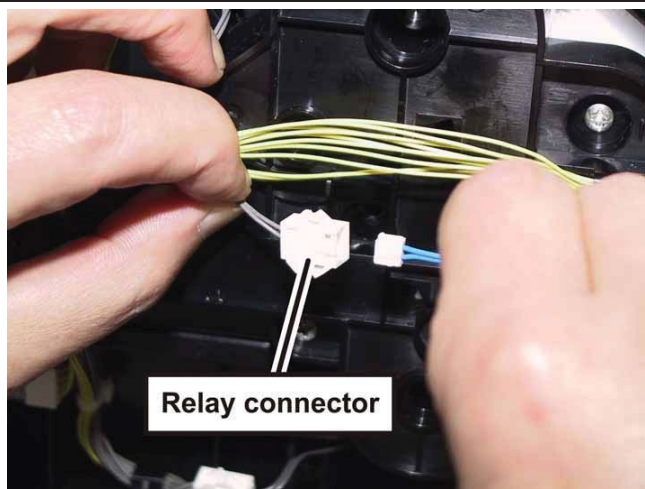
12) Remove the E-ring that fixes the CLUTCH ASSY DRV to the shaft, using a miniature screwdriver, remove the CLUTCH ASSY DRV.	
13) Release the two hooks of the BEARING REGI (PL3.1.2), remove the BEARING REGI from the shaft.	
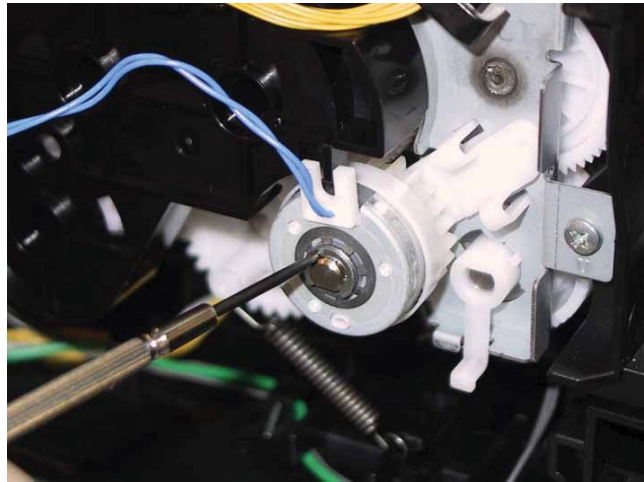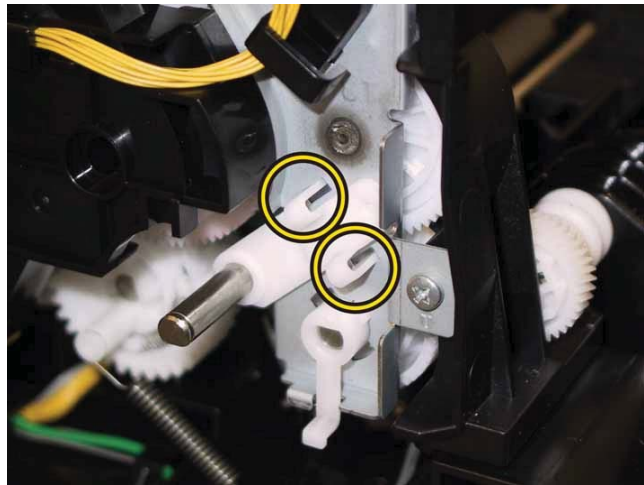
Removal 31 KIT DRIVE ASSY PH (PL7.1.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

Accesses Position (All the numbers show the procedure number.)

Front

11)
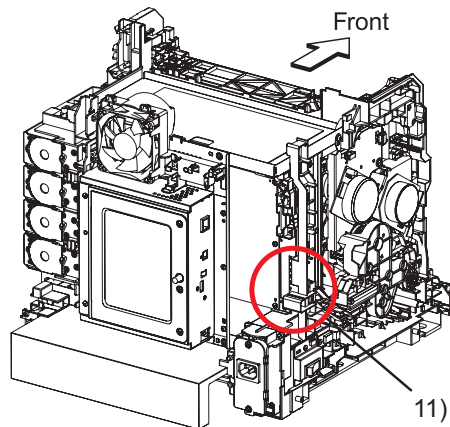
11) Disengage the two connectors (P/J24, 26) on the PWBA MCU (PL8.2.13), release the harness from the GUIDE HARNESS AC (PL8.2.6).
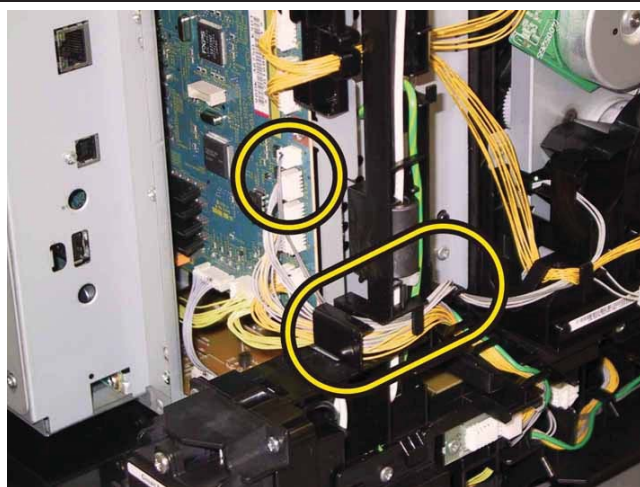
12) Disengage the connector (P/J211) of the DRIVE ASSY MAIN (PL7.1.2), release all the harness from the hooks of the DRIVE ASSY PH.	
13) Remove the one screw (silver, M4, 6mm), the one screw (silver, M3, 6mm) and the one screw (silver, tap, 8mm) that fix the DRIVE ASSY PH to the printer.	 Silver, M4, 6mm Silver, M3, 6mm Silver, tap, 8mm
Note: When carrying out the work described next procedure, take care not to drop the coupling gear to inside.	
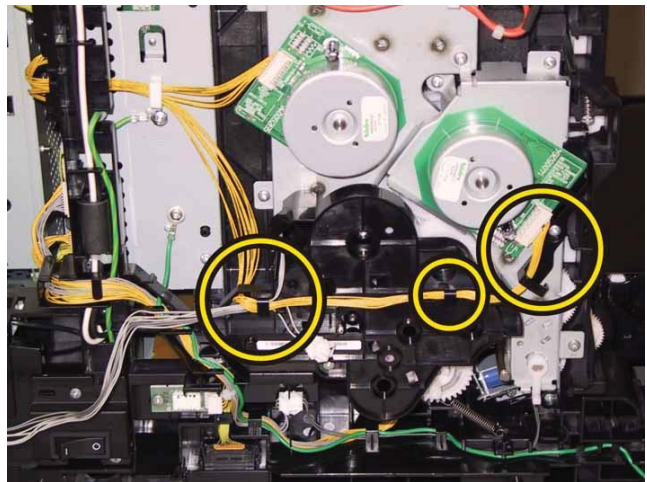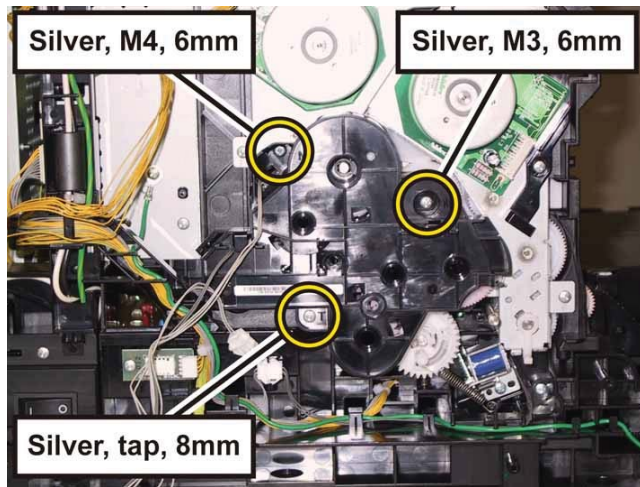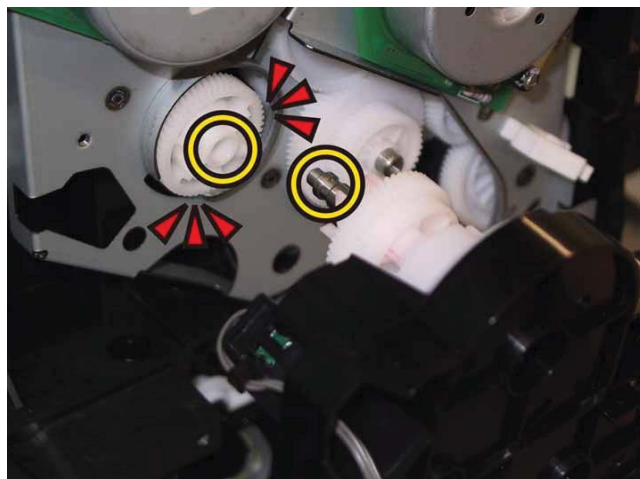
14) Remove the DRIVE ASSY PH from the printer.
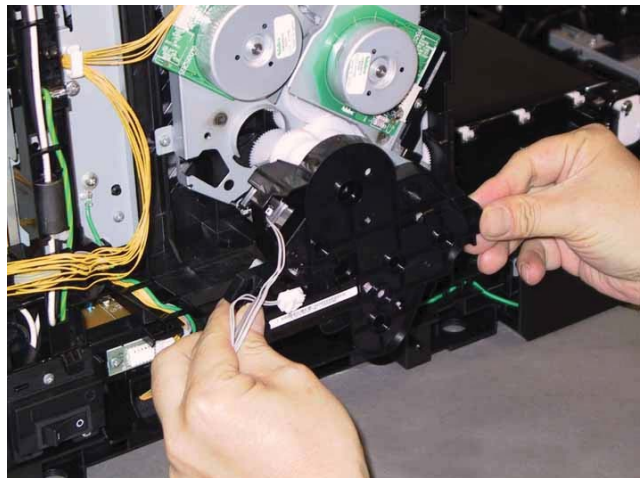
15) Disengage the connector (P/J261) of the color mode sensor on the DRIVE ASSY PH, release the HARN ASSY KSNR REGCL (PL9.1.9) from the hook of the DRIVE ASSY PH.
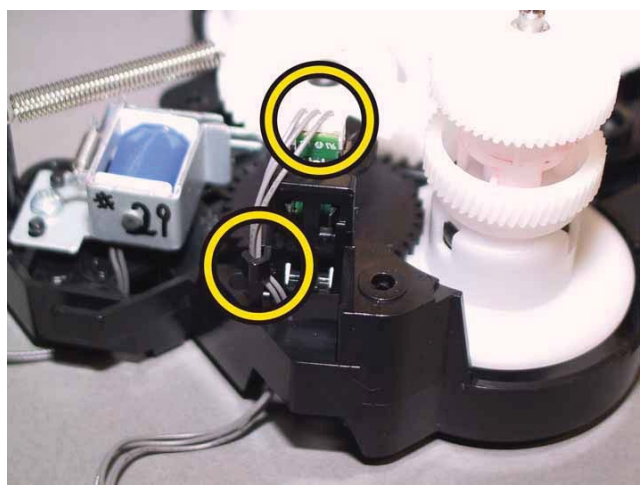
16) Remove the GEAR P2 (PL7.1.3) from the shaft of the DRIVE ASSY SUB (PL7.1.1).

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Removal 32 KIT DRIVE ASSY MAIN (PL7.1.98)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

11) Remove the KIT DRIVE ASSY PH. (Removal 31)

12) Rotate the STOPPER PIVOT (PL6.1.3), mate the tabs of the STOPPER PIVOT with the notches of the DRIVE ASSY MAIN (PL7.1.2).	
13) Remove the STOPPER PIVOT from the printer.	
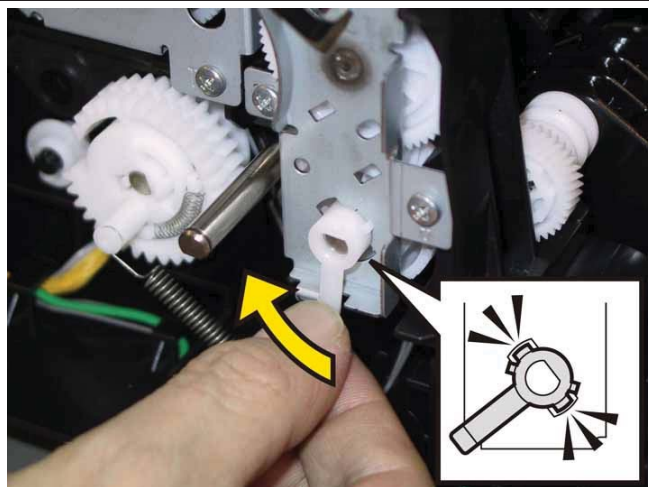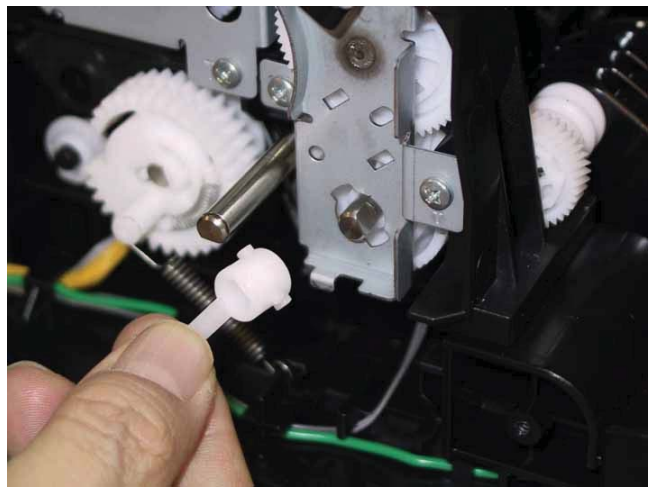
14) Remove the one screw (silver, M4, 6mm) and the five screws (silver, tap, 8mm) that fix the DRIVE ASSY MAIN to the printer.	Silver, M4, 6mm
15) Remove the DRIVE ASSY MAIN from the printer.	
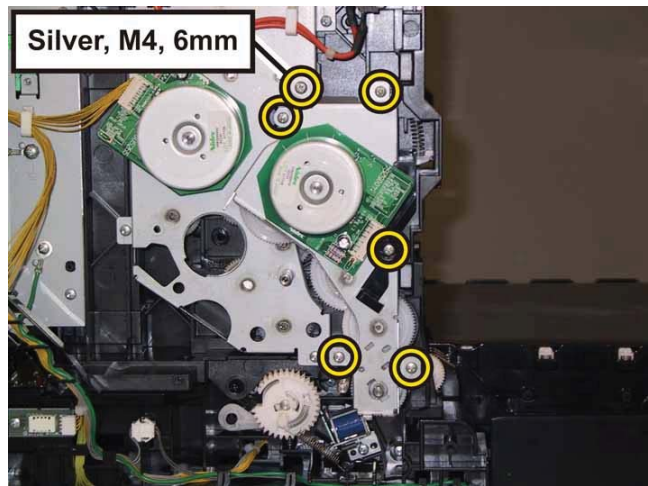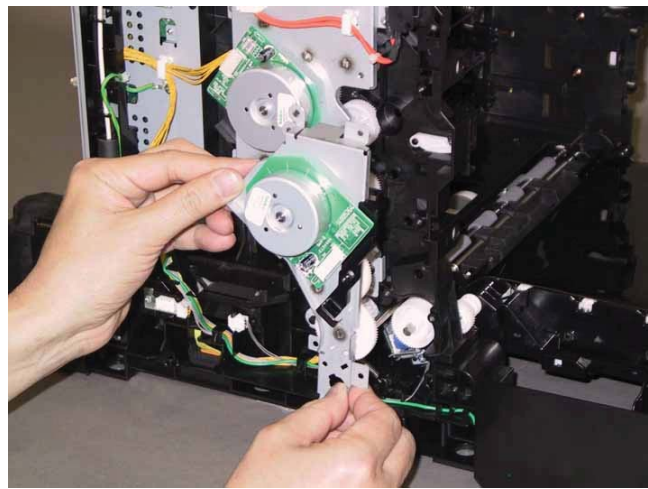
Removal 33 DRIVE ASSY SUB (PL7.1.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

11) Remove the KIT DRIVE ASSY PH. (Removal 31)

12) Remove the KIT DRIVE ASSY MAIN. (Removal 32)

Note: When performing the step described below, it is not necessary to disengage the connector of the HARN ASSY INTERLOCK.

13) Remove the HARN ASSY INTERLOCK. (Removal 17)

14) Disengage the connector (P/J221) of the DRIVE ASSY SUB (PL7.1.1).	
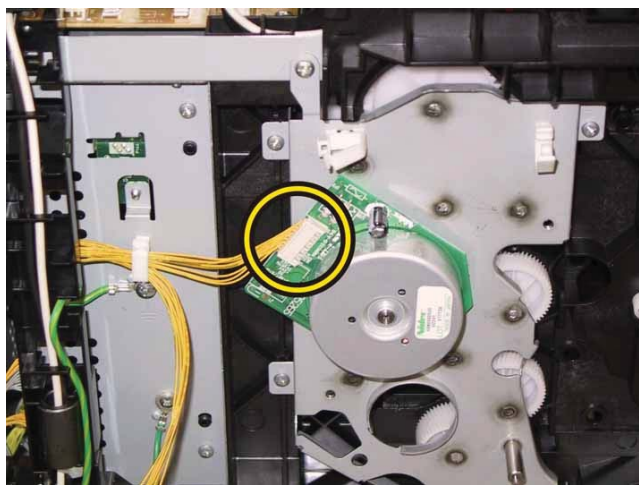
15) Remove the one screw (silver, M4, 6mm) and the four screws (silver, tap, 8mm) that fix the DRIVE ASSY SUB to the printer.	Silver, M4, 6mm
16) Remove the DRIVE ASSY SUB from the printer.	
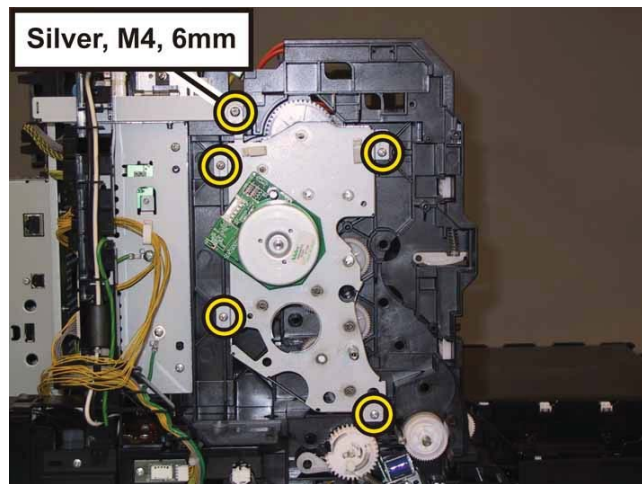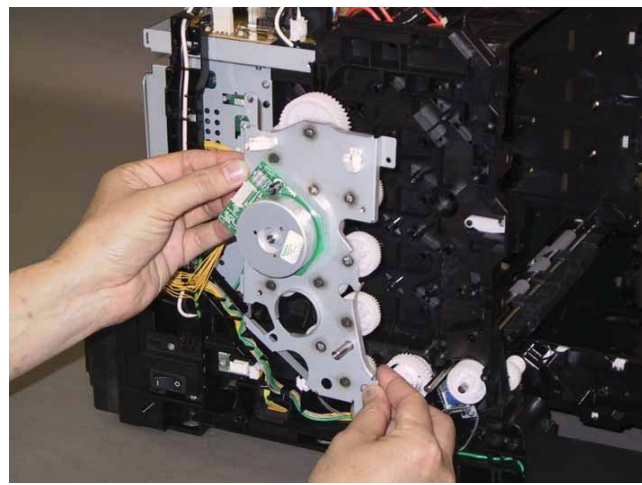
Removal 34 KIT BLOCK PHD LEFT (PL4.1.98)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

11) Remove the KIT DRIVE ASSY PH. (Removal 31)

12) Remove the KIT DRIVE ASSY MAIN. (Removal 32)

Accesses Position (All the numbers show the procedure number.)

13), 14)

15), 16)

Front
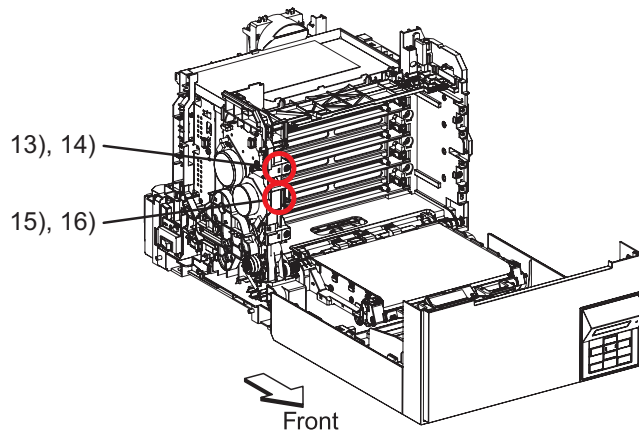
Note: Described next procedure is the removal procedure common among the upper and lower BLOCK STOPPER PDH Ds (PL4.1.7).

13) Release the hook of the BLOCK STOPPER PHD D (PL4.1.6), using a miniature screwdriver.	
14) Remove the BLOCK STOPPER PHD D from the printer.	
15) Remove the SPRING PHD (PL4.1.4) from the printer.	
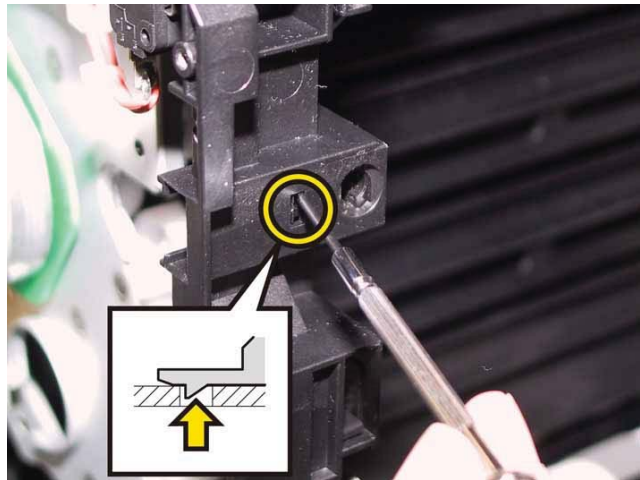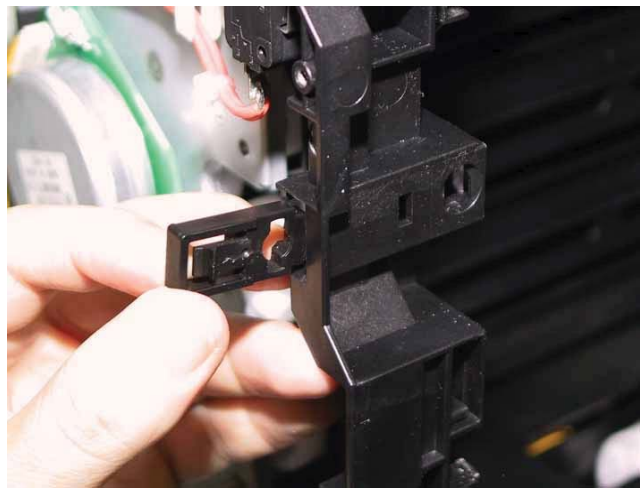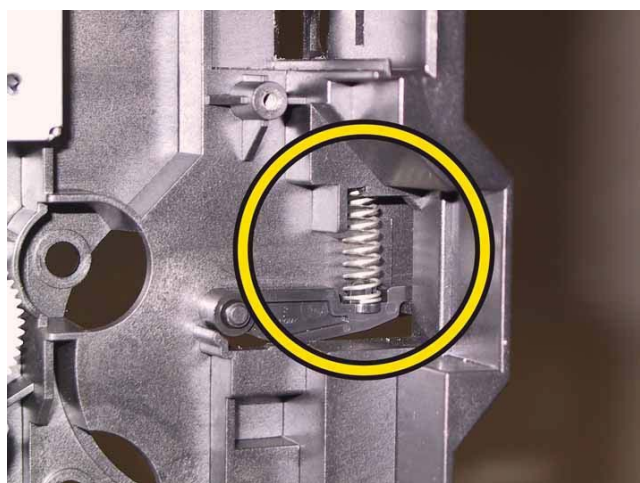
16) Rotate the LEVER PHD (PL4.1.5) slightly, remove the LEVER PHD from the printer.
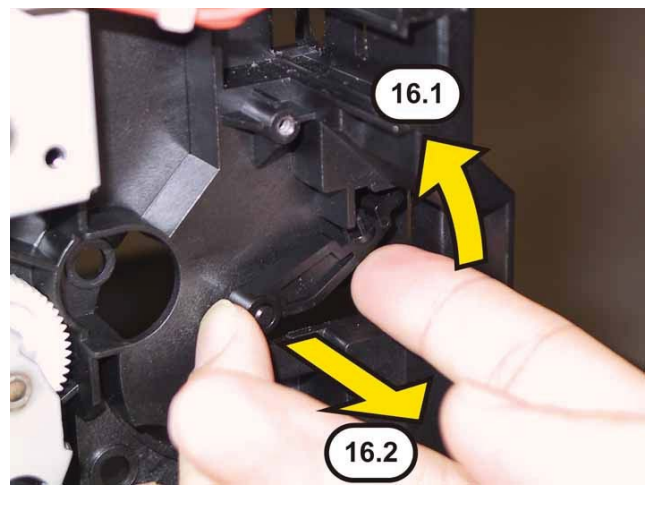
Removal 35 KIT FEED ROLL/SOL/CLUTCH (PL3.1.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

11) Remove the KIT DRIVE ASSY PH. (Removal 31)
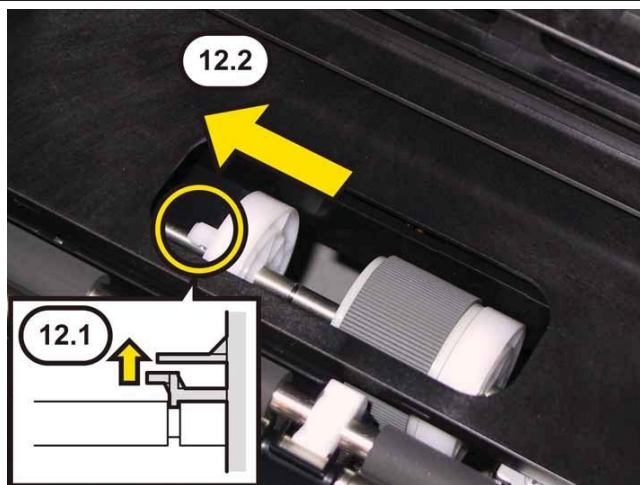
12) Release the hook of the ROLL CORE MSI (PL3.2.3) on the left of the ROLL ASSY FEED (PL 3.2.4), and move the ROLL CORE MSI to left until it stops.	
13) Release the groove on the ROLL ASSY FEED from the vertical pin mounted on the SHAFT ASSY FEED (PL3.2.2) by sliding the ROLL ASSY FEED to the left.	

14) Close the COVER ASSY FRONT MG.

15) Remove the ROLL ASSY FEED from the SHAFT ASSY FEED by rotating the ROLL ASSY FEED 180 degrees.	
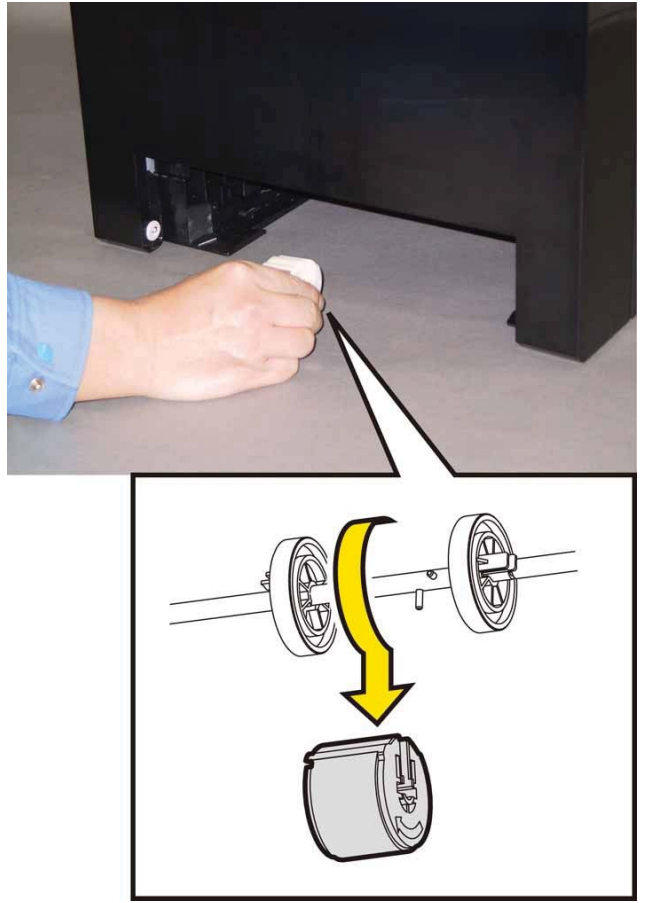
16) Open the COVER ASSY FRONT MG.

17) Remove the SPRING FEED OUT (PL3.1.15) from the printer.	
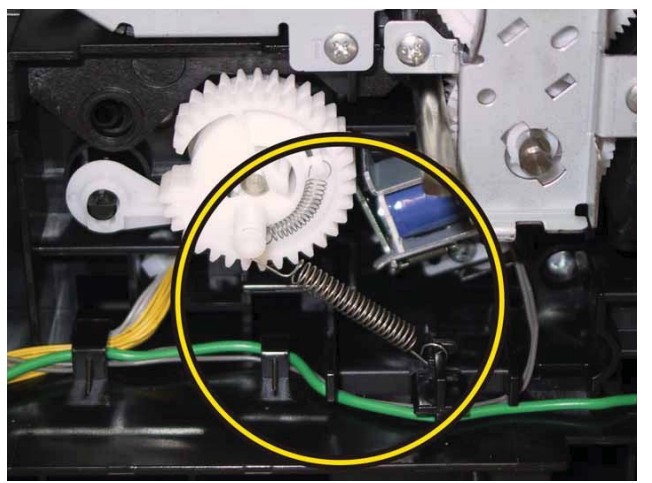
18) Release the hook of the GEAR ASSY FEED (PL3.1.19), remove the GEAR ASSY FEED from the SHAFT ASSY FEED (PL3.2.2). **Note: When carrying out the work this procedure, pushing down the LEVER FEED (PL3.1.13).**	
19) Release the harness of the SOLENOID FEED MSI (PL3.1.11) from the hooks of the printer.	
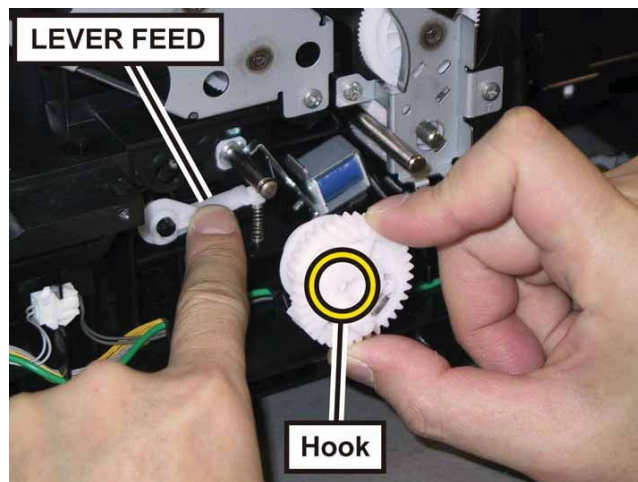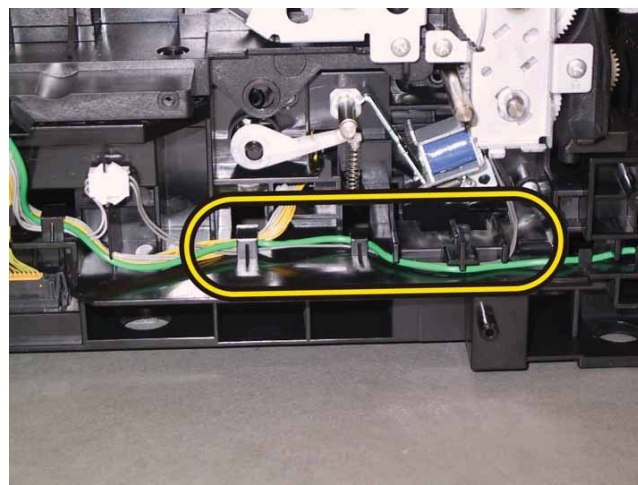
Note: When carrying out the work described next procedure, leave the relay connector on the printer harness side.

20) Release the relay connector from the rib of the printer, disengage the connecter (P/J231) of the SOLENOID FEED MSI.	
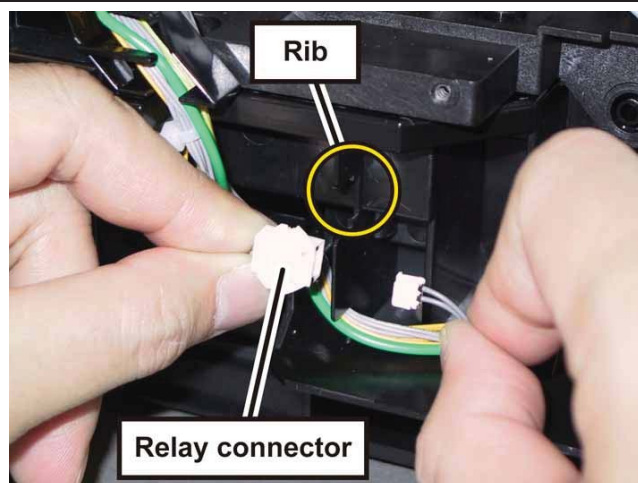
21) Remove the one screw (silver, tap, 8mm) that fixes the SOLENOID FEED MSI to the printer, remove the SOLENOID FEED MSI.
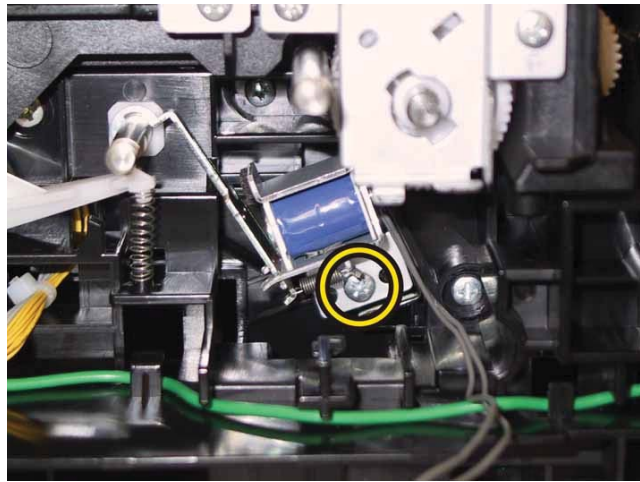
Removal 36 SWITCH ASSY INLET MG SFP (PL8.2.9), COVER INLET (PL8.2.22)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Disengage the five connectors (P/J20, 23, 24, 26 and 28) on the PWBA MCU (PL8.2.13), release the harness from the GUIDE HARNESS AC (PL8.2.6).	
11) Disengage the connector (P/J48) of the SWITCH ASSY INLET MG SFP (PL8.2.9) from the PWBA LVPS (PL8.2.1). Remove the one screw (silver, with washer, 6mm) that fixes the grounding terminal of the SWITCH ASSY INLET MG SFP, release the harness of the SWITCH ASSY INLET MG SFP from the GUIDE HARNESS AC.	

12) Remove the two screws (silver, tap, 8mm) that fix the BRACKET SW (PL8.2.8) to the printer.	

Note: The MAIN SWITCH and the printer are connected with the harness, so they should not be far apart when carrying out the work described next procedure.

13) Release the BRAKET SW from the hook together with the MAIN SW.	

14) Remove the two screws (silver, tap, 12mm) that fix the COVER INLET (PL8.2.22) to the printer.	

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15) Release the hooks of the SWITCH POWER, remove the SWITCH POWER of the SWITCH ASSY INLET MG SFP from the BRACKET SW.	
16) Remove the COVER INLET from the printer, pull out the harness and SWITCH POWER through the hole on the printer, and remove the SWITCH ASSY INLET MG SFP from the printer.	
17) Release the hooks of the AC INLET, remove the AC INLET of the SWITCH ASSY INLET MG SFP from the COVER INLET.	
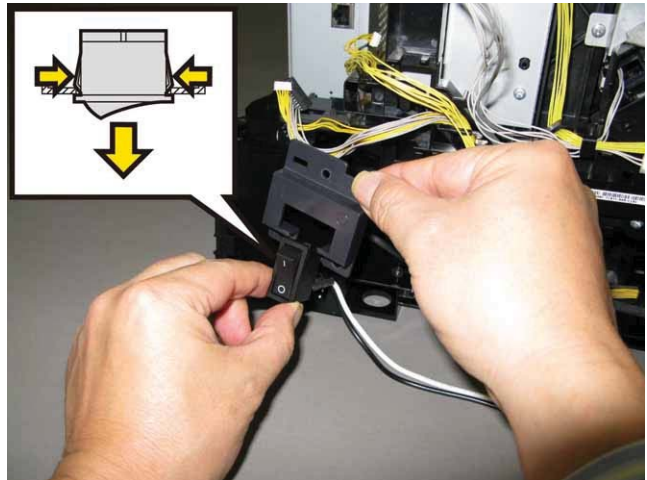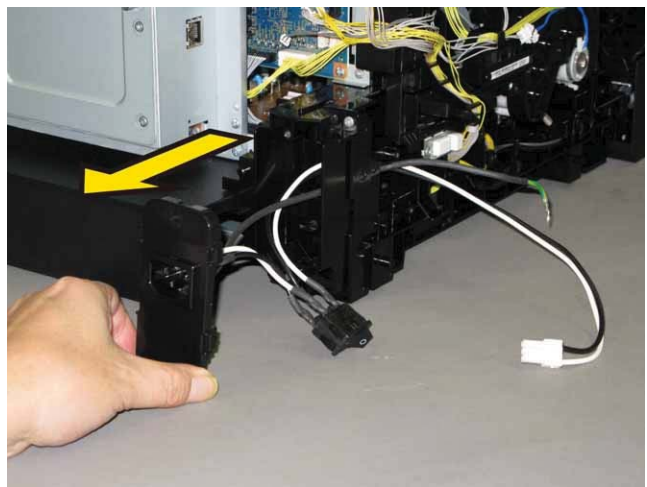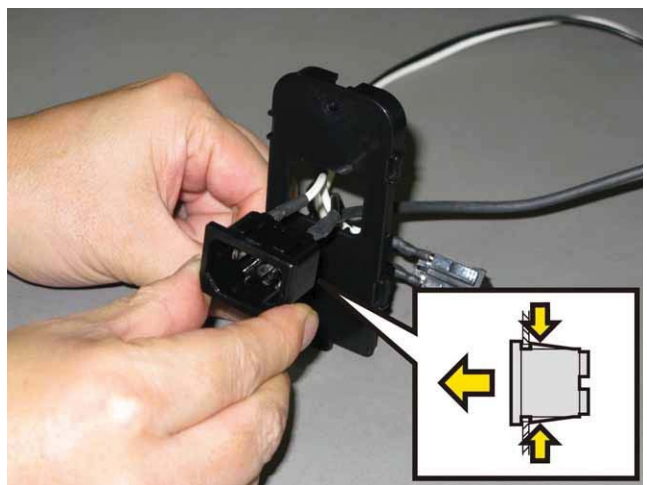
| 18) Pull out the harness and SWITCH POWER through the hole of the COVER INLET. | |
| 19) Pull out the connector (J48) through the hole of the COVER INLET, and remove the SWITCH ASSY INLET MG SFP from the COVER INLET. | |
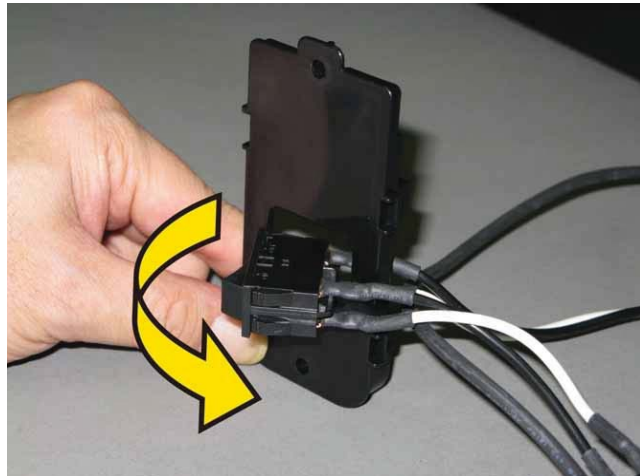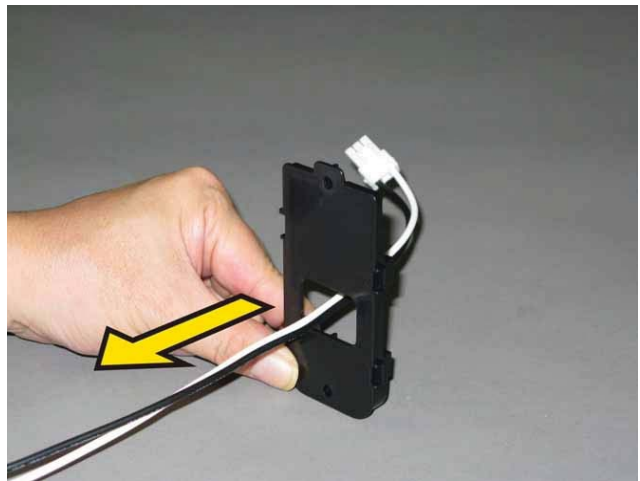
Removal 37 COVER CST (PL3.1.22)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

11) Remove the two screws (silver, tap, 8mm) that fix the BRACKET GFI (PL3.1.21) to the printer.	
12) Release the two hooks of the BRACKET GFI, using a miniature screwdriver.	
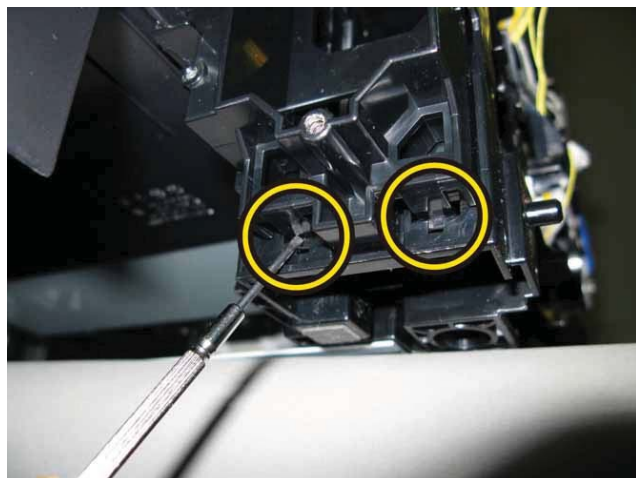
13) Release the tab of the BRACKET GFI from the COVER CST (PL3.1.22), remove the BRACKET GFI from the printer.	
14) Depress the COVER CST to release the hook of the COVER CST. Remove the COVER CST from the printer.	
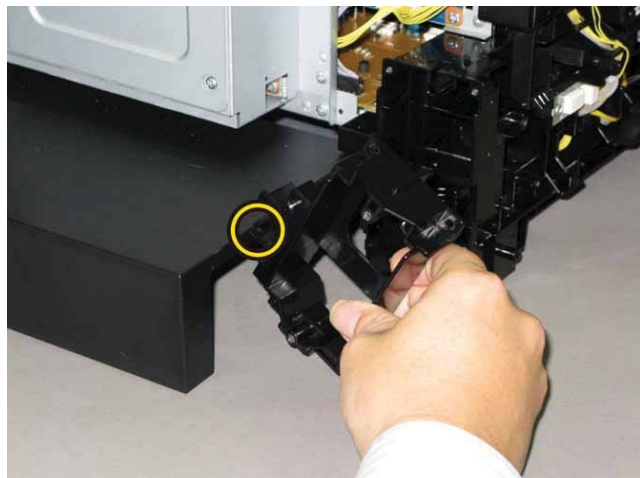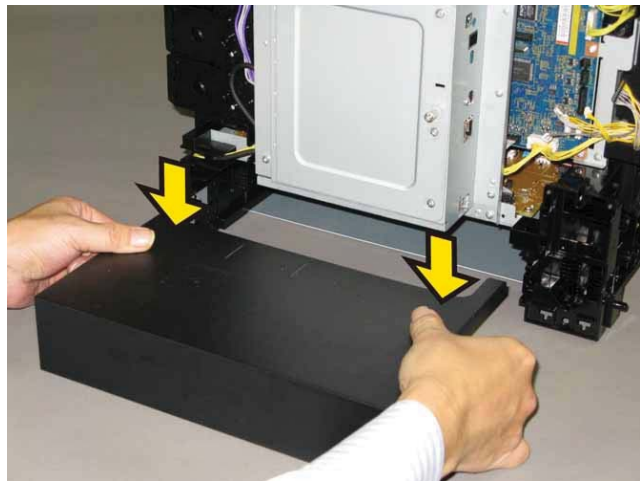
Removal 38 STOPPER CST (PL3.1.10)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

11) Remove the COVER CST. (Removal 37)

12) Remove the one screw (silver, tap, 8mm) that fixes the STOPPER CST (PL3.1.10) to the printer.	
13) Remove the STOPPER CST from the printer.	
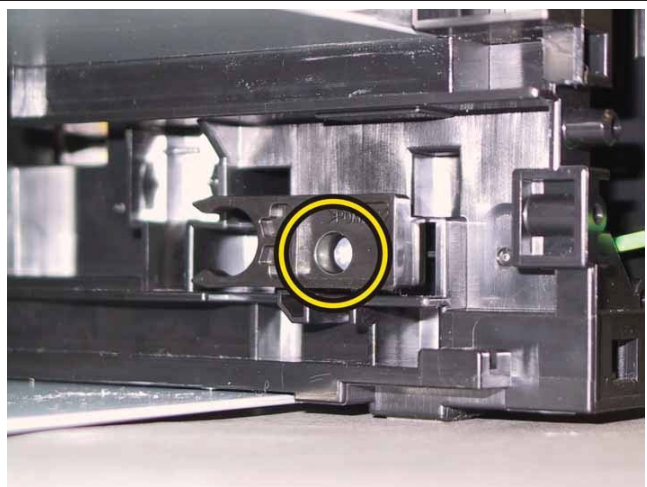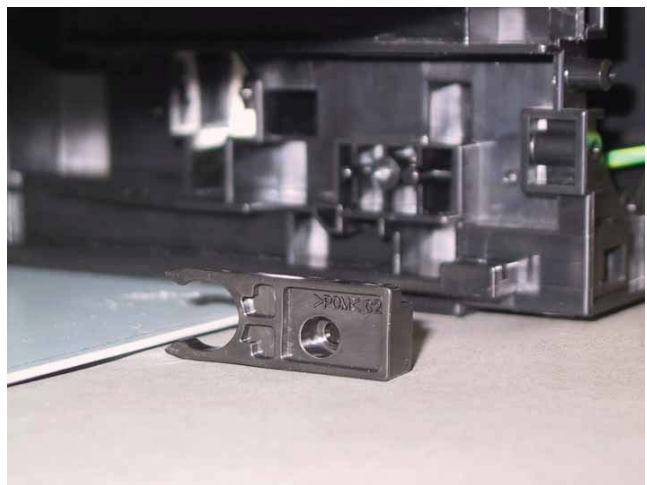
Removal 39 HOLDER ASSY TCRU (K), (C), (M), (Y) (PL5.1.17~20)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

Note: Described below is the removal procedure common among the four HOLDER ASSY TCRU.

10) Press the central part of the HOLDER ASSY TCRU to release the hole of the HOLDER ASSY TCRU from the boss of the FRAME DISP (PL5.1.12). Open the HOLDER ASSY TCRU by 90 degrees.	
11) Press the boss part of the HOLDER ASSY TCRU, remove the HOLDER ASSY TCRU from the printer.	
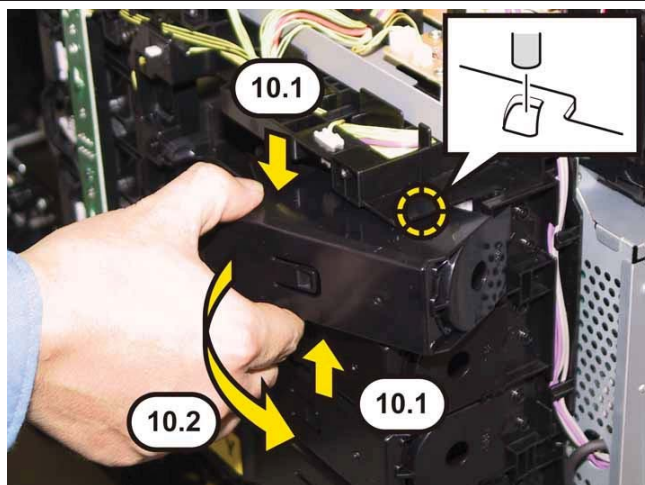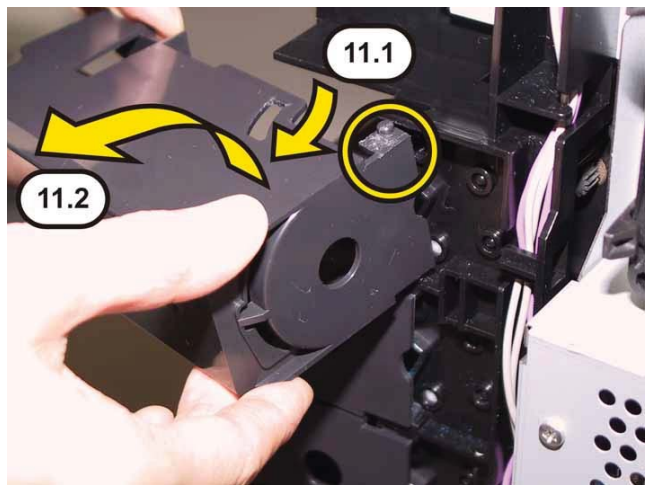
Removal 40 FAN (PL8.1.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Disengage the FAN (PL8.1.1) connector (P/J503) on the PWBA LVPS (PL8.2.1), release the harness of the FAN from the hooks of the DUCT FAN (PL8.1.2).	
11) Release the four hooks of the DUCT FAN, remove the FAN from the printer.	

Removal 41 DUCT FAN (PL8.1.2)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the FAN. (Removal 40)

11) Loosen the SCREW KNURLING (PL8.1.13) and then open the PLATE ESS (PL8.1.12).	
12) Swing the PLATE ESS to upward slightly, to release the upper tab of the PLATE ESS from the slit of the SHIELD ASSY ESS (PL8.1.3) after releasing the lower tab of the PLATE ESS from the slit of the SHIELD ASSY ESS. Remove the PLATE ESS from the printer.	

13) Remove the eleven screws (silver, 6mm) that fix the SHIELD ASSY ESS to the printer.	
14) Remove the SHIELD ASSY ESS from the printer.	

15) Disengage the two connectors (P/J101, 111) on the PWBA ESS SFP (PL8.1.7), release the harness from the hooks of the DUCT FAN (PL8.1.2).	
16) Remove the one screw (silver, 6mm) that fixes the DUCT FAN to the printer.	
17) Release the two hooks of the DUCT FAN, using a miniature screwdriver, and then remove the DUCT FAN from the printer.	
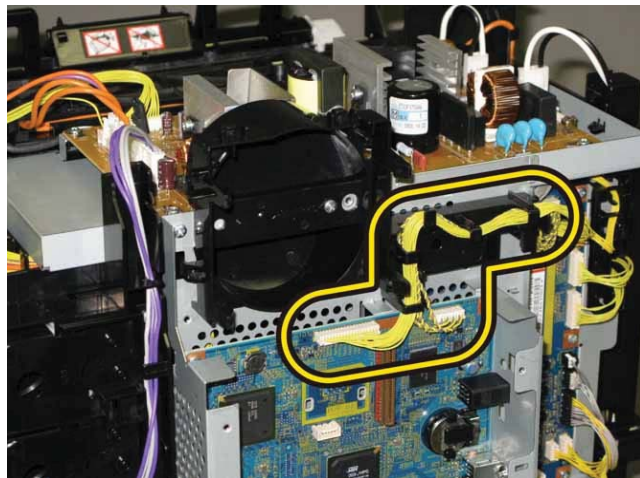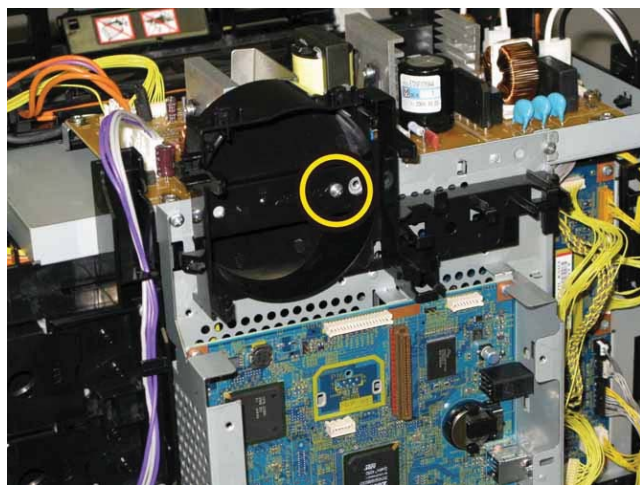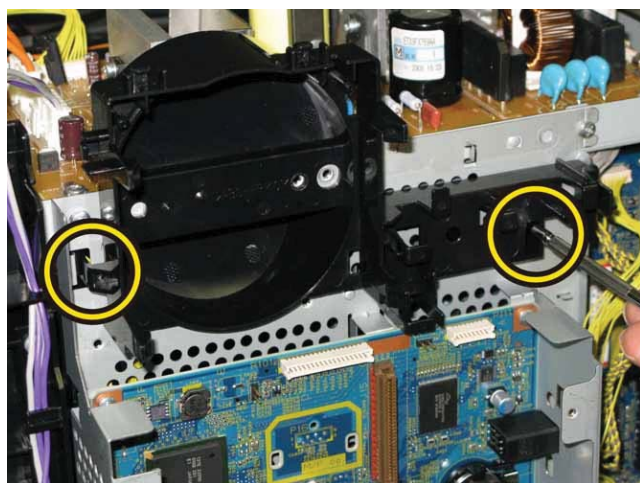
Removal 42 KIT PWBA ESS SFP (PL8.1.99)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the FAN. (Removal 40)

11) Loosen the SCREW KNURLING (PL8.1.13) and then open the PLATE ESS (PL8.1.12).	
12) Swing the PLATE ESS to upward slightly, to release the upper tab of the PLATE ESS from the slit of the SHIELD ASSY ESS (PL8.1.3) after releasing the lower tab of the PLATE ESS from the slit of the SHIELD ASSY ESS. Remove the PLATE ESS from the printer.	

13) Remove the eleven screws (silver, 6mm) that fix the SHIELD ASSY ESS to the printer.	
14) Remove the SHIELD ASSY ESS from the printer.	

15) Disengage all the connectors of the PWBA ESS SFP (PL8.1.7).	
16) Pull out the connector (J401) of the HARN ASSY ESS POWER (PL9.1.10) and the connector (J29) of the HARNESS ASSY B (PL9.1.12) through the hole of the FRAME ESS (PL8.1.5).	
17) Remove the six screws (silver, 6mm) that fix the PWBA ESS SFP and the PLATE IF M (PL8.1.6) to the printer, remove the PWBA ESS SFP from the printer together with the PLATE IF M.	
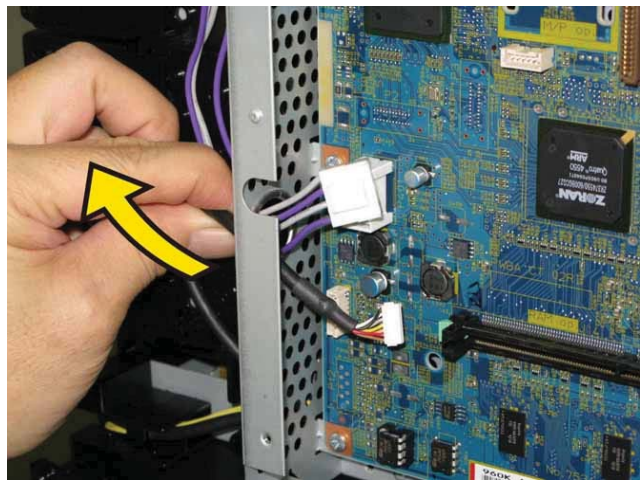
18) Remove the one screw (silver, 4mm) that fixes the USB connector of the PWBA ESS SFP to the PLATE IF M.	
19) Remove the two screws (silver, 6mm) that fix the PWBA ESS SFP to the PLATE IF M, remove the PWBA ESS SFP from the PLATE IF M.	
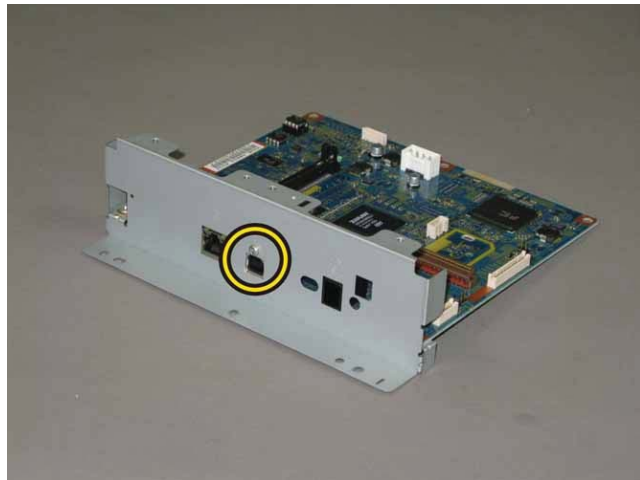
Removal 43 KIT PWBA MCU (PL8.2.99)

Note: Never fail to perform the diagnostic operation. Otherwise the data will be lost in the worst case.

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Perform the NVM Save to evacuate the MCU data.

2) Turn on the power while pressing the "►" key, "◄" key, and [MENU] key on the control panel.

3) Enter the password, press the "▲" key twice, and press the " ✓ " key once. The diagnostic screen comes up.

4) Press the " ✓ " key once.

5) Press the "▼" key several times until "IOT Diag" is displayed. Press the " ✓ " key once.

6) Press the "▼" key several times until "NVM Settings" is displayed. Press the " ✓ " key once.

7) Press the "▼" key several times until "SaveNVM to ESS" is displayed. Press the " ✓ " key once.

8) Press the " ✓ " key once, and NVM Save is performed.

9) After NVM Save is complete, press the [CANCEL] key several times until "IOT Diag" is displayed.

10) Press the "▼" key several times until "Complete" is displayed.

11) Press the " ✓ " key two times. "COPY, SCAN and FAX" are displayed.

12) Turn off the power to exit.

13) Remove the POWER CORD from outlet.

14) Remove the CASSETTE ASSY 250. (Removal 1)

15) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

16) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

17) Remove the FUSER ASSY. (Removal 5)

18) Remove the COVER ASSY WINDOW TNR. (Removal 8)

19) Remove the COVER ASSY TOP. (Removal 10)

20) Remove the COVER SIDE R. (Removal 12)

21) Remove the COVER SIDE L. (Removal 16)

22) Remove the COVER REAR. (Removal 29)

23) Remove the FAN. (Removal 40)

24) Remove the KIT PWBA ESS SFP. (Removal 42)

25) Remove the five screws (silver, 6mm) that fix the FRAME ESS (PL8.1.5) to the printer.	
26) Swing the FRAME ESS slightly up and back as if it were hinged at the top.	
27) Remove the hole of the FRAME ESS from the hook of the FRAME ASSY LVPS (PL8.2.3) by lifting the FRAME ESS slightly. Remove the FRAME ESS from the printer together with the DUCT FAN (PL8.1.2).	
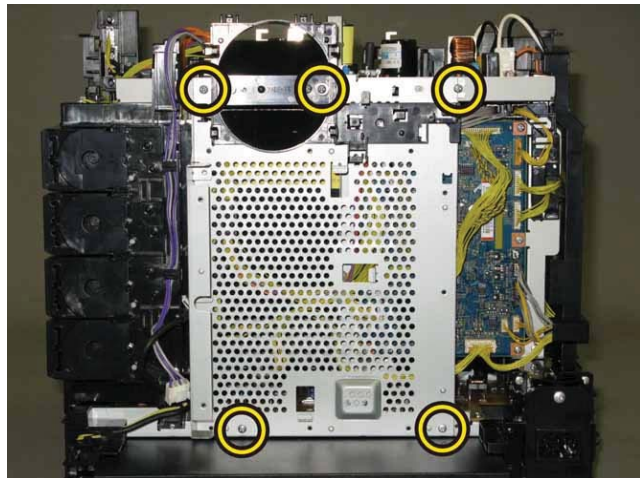
28) Disengage all the connectors of the PWBA MCU (PL8.2.13).

29) Remove the six screws (silver, 6mm) that fix the PWBA MCU to the printer.
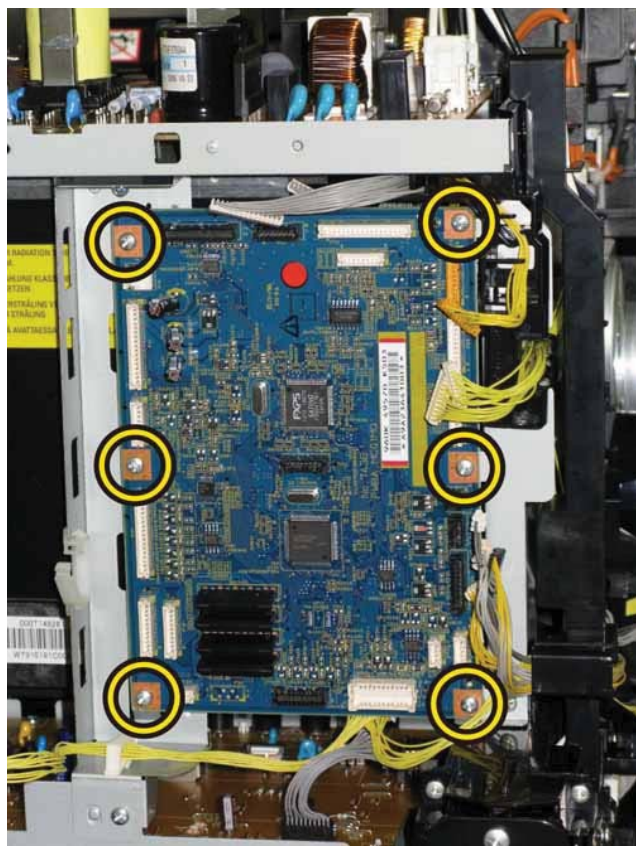
| 30) Remove the PWBA MCU from the printer. | |
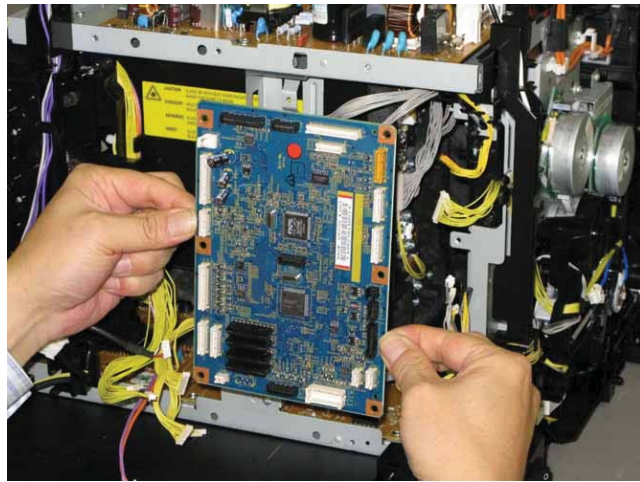
Removal 44 DISPENSER ASSY (PL5.1.1)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the HOLDER ASSY TCRU (K), (C), (M), (Y). (Removal 39)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the PWBA LVPS. (Removal 11)

Accesses Position (All the numbers show the procedure number.)
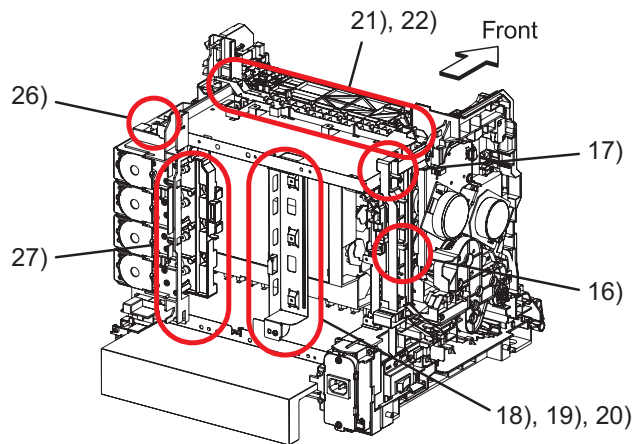
16) Remove the one screw (silver, with washer, 6mm) that fixes the grounding terminal of the SWITCH ASSY INLET MG SFP (PL8.2.9).	

Note: The GUIDE HARNESS AC and the printer are connected with the harness, so they should not be far apart when carrying out the work described next procedure.
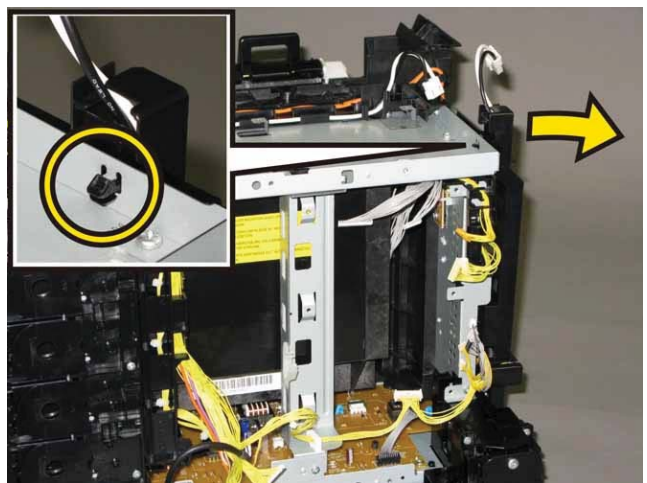
17) Release the hook of the GUIDE HARNESS AC (PL8.2.6), remove the GUIDE HARNESS AC from the printer.	
18) Release the harness of the HARN ASSY OPTION (PL3.1.20) from the clamp on the BRACKET MCU R (PL8.2.15).	
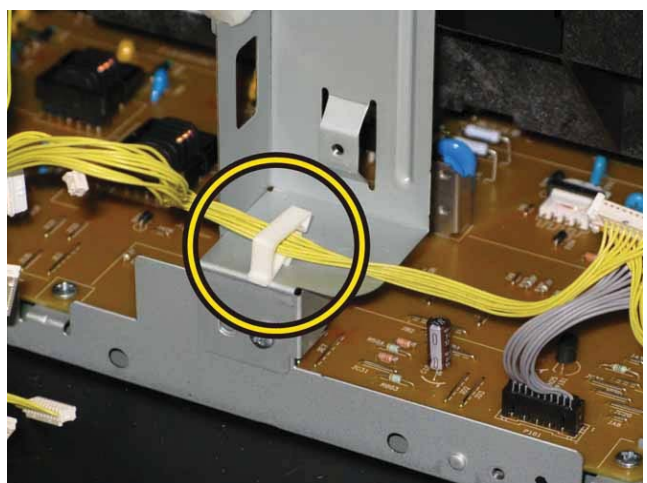
19) Remove the two screws (silver, 6mm) that fix the BRACKET MCU R to the printer.	
20) Remove the BRACKET MCU R from the printer.	
Note: Release only the HARN ASSY INTERLOCK from the GUIDE HARNESS FSR to prevent the faulty wiring when it assembles it. 21) Release the harness of the HARN ASSY INTERLOCK (PL8.2.5) from the GUIDE HARNESS FSR (PL8.2.2).	 HARN ASSY INTERLOCK HARNESS ASSY FUSER MG SFP (Not release.)
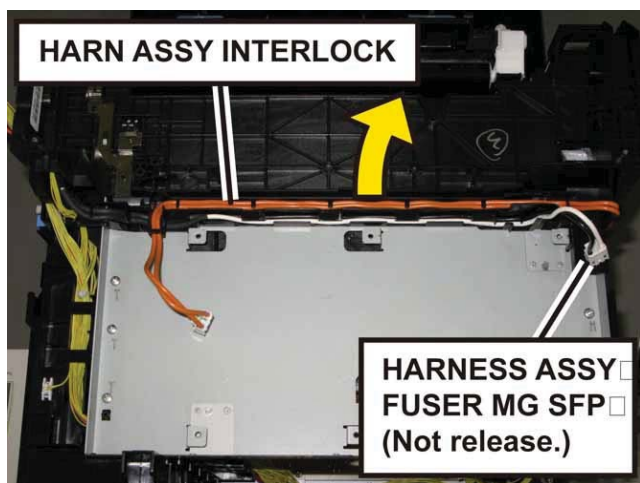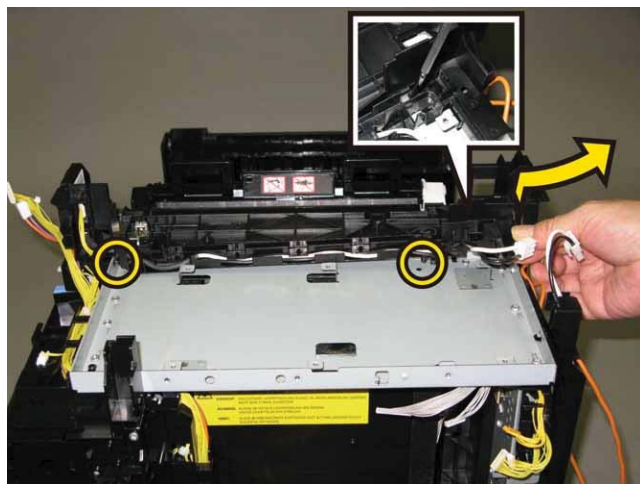
22) Release the hook of the GUIDE HARNESS FSR, to release the boss and tab of the GUIDE HARNESS FSR. Remove the GUIDE HARNESS FSR from the printer.	
23) Remove two screw (silver, M4, 6mm) and six screws (silver, tap, 8mm) that fix the FRAME ASSY LVPS (PL8.2.3) to the printer.	Silver, M4, 6mm
24) Remove the one screw (silver, M4, 6mm) that fixes the DRIVE ASSY SUB (PL7.1.1) to the FRAME ASSY LVPS.	Silver, M4, 6mm
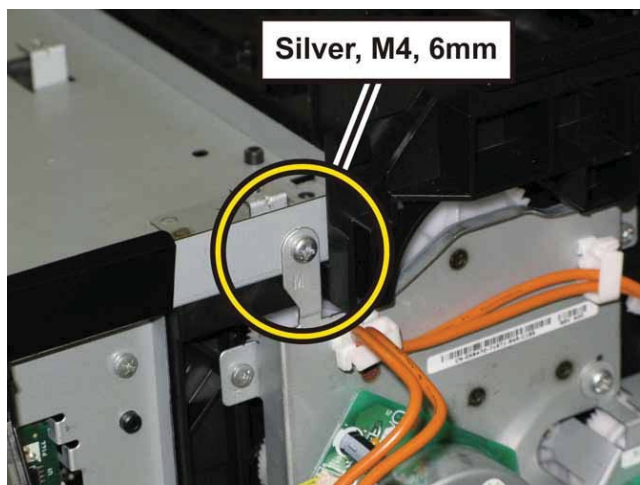
25) Remove the FRAME ASSY LVPS from the printer.	
26) Release the hook of the connector (P5041) of the HARNESS ASSY LVPS MAIN MG SFP (PL9.1.3), using pliers, and then remove it from the DISPENSER ASSY (PL5.1.1).	
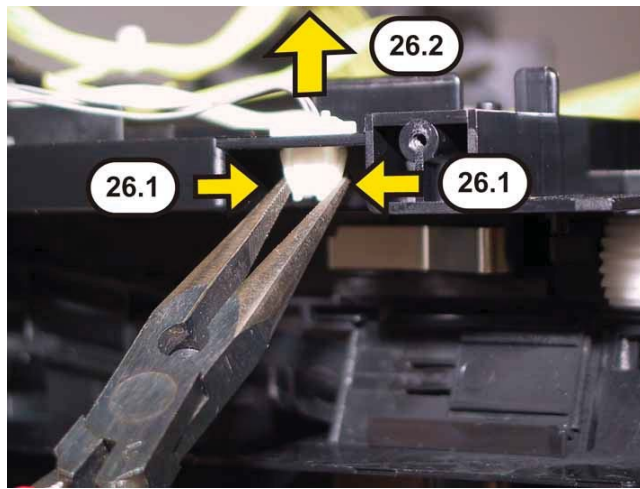
27) Remove the HARNESS ASSY FUSER MG SFP (PL6.1.2), HARNESS ASSY LVPS MAIN MG SFP, HARN ASSY ESS POWER (PL9.1.10), HARNESS ASSY B (PL9.1.12) and HARN ASSY OPTION (PL3.1.20) from the hooks of the DISPENSER ASSY.
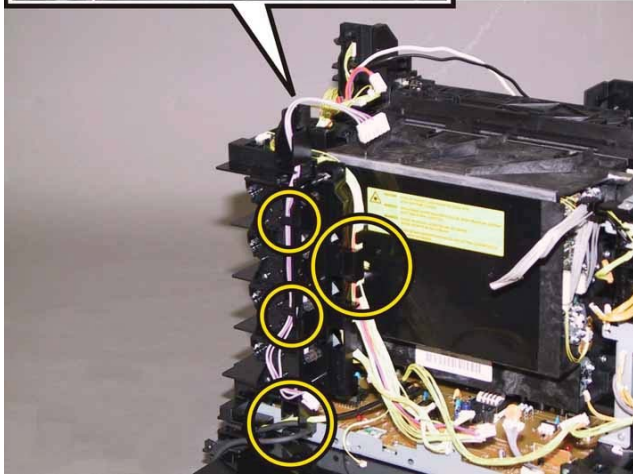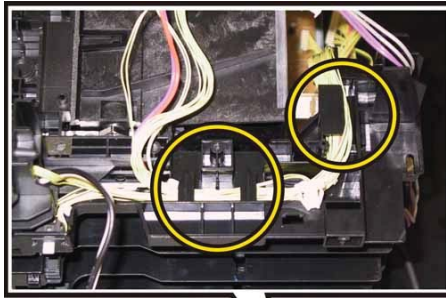
28) Remove the four screws (silver, tap, 8mm) that fix the DISPENSER ASSY to the printer.
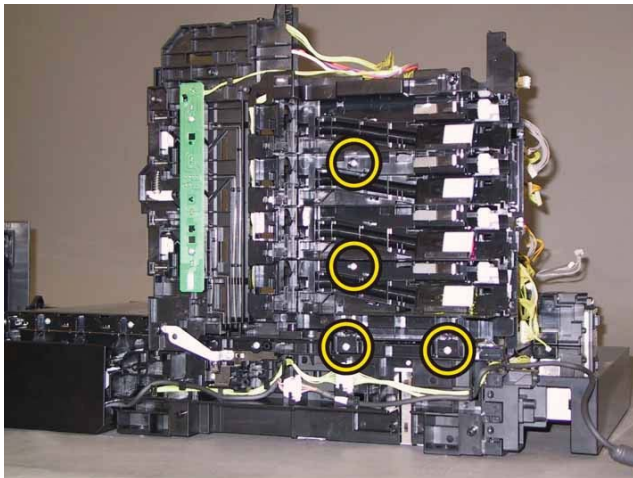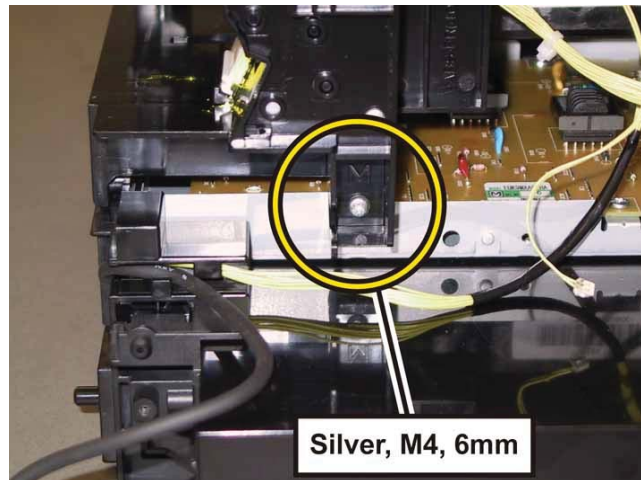
29) Remove the one screw (silver, M4, 6mm) that fixes the rear side of the DISPENSER ASSY to the printer.	 Silver, M4, 6mm
30) Release the hole of the DISPENSER ASSY from the boss of the printer, move the DISPENSER ASSY to backward. Remove the DISPENSER ASSY from the printer.	
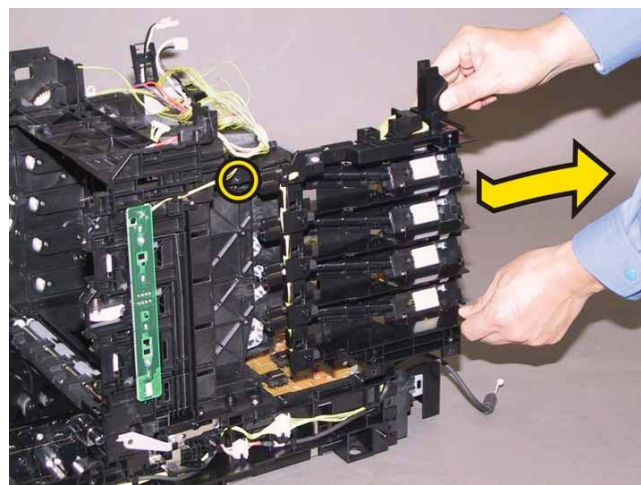
Removal 45 KIT ROS (PL4.1.99)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the COVER ASSY TOP. (Removal 10)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER SIDE R. (Removal 12)

8) Remove the COVER SIDE L. (Removal 16)

9) Remove the COVER REAR. (Removal 29)

10) Remove the FAN. (Removal 40)

11) Remove the KIT PWBA ESS SFP. (Removal 42)

12) Remove the KIT PWBA MCU. (Removal 43)

13) Remove the PWBA LVPS. (Removal 11)

Accesses Position (All the numbers show the procedure number.)
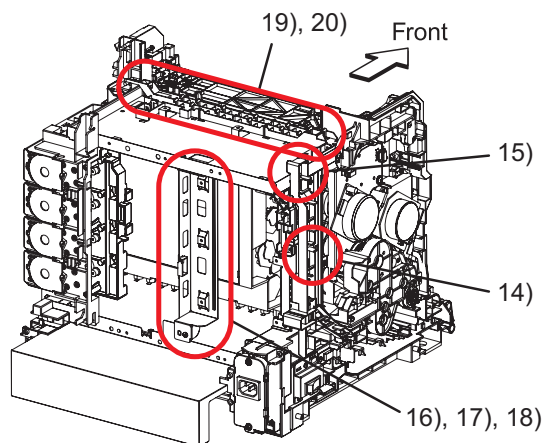
| 14) Remove the one screw (silver, with washer, 6mm) that fixes the grounding terminal of the SWITCH ASSY INLET MG SFP (PL8.2.9). | |

Note: The GUIDE HARNESS AC and the printer are connected with the harness, so they should not be far apart when carrying out the work described next procedure.

| 15) Release the hook of the GUIDE HARNESS AC (PL8.2.6), remove the GUIDE HARNESS AC from the printer. | |

| 16) Release the harness of the HARN ASSY OPTION (PL3.1.20) from the clamp on the BRACKET MCU R (PL8.2.15). | |
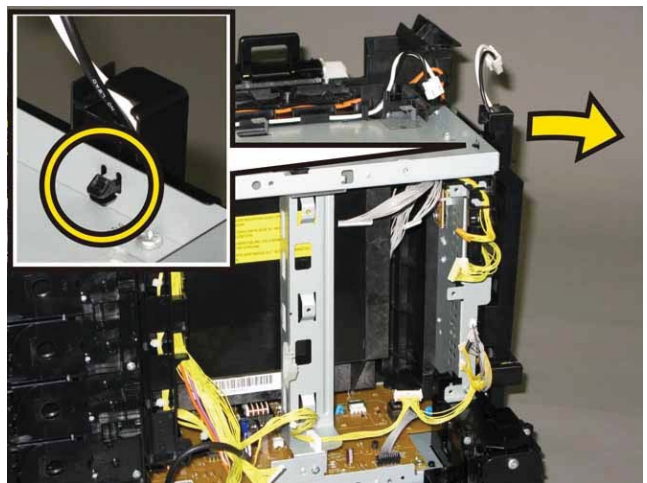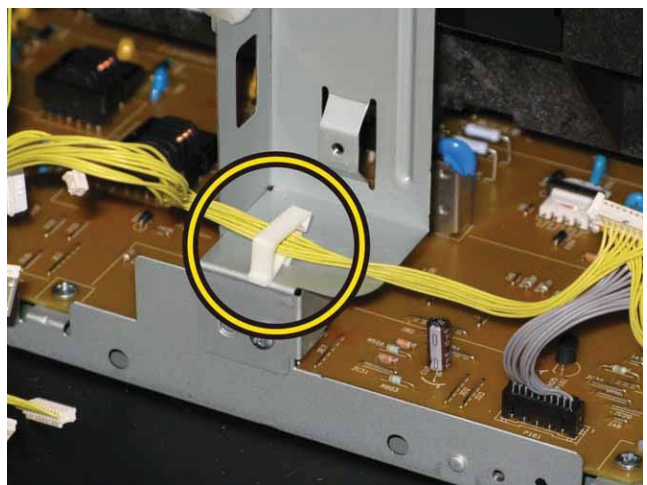
17) Remove the two screws (silver, 6mm) that fix the BRACKET MCU R to the printer.	
18) Remove the BRACKET MCU R from the printer.	
Note: Release only the HARN ASSY INTERLOCK from the GUIDE HARNESS FSR to prevent the faulty wiring when it assembles it. 19) Release the harness of the HARN ASSY INTERLOCK (PL8.2.5) from the GUIDE HARNESS FSR (PL8.2.2).	 HARN ASSY INTERLOCK HARNESS ASSY FUSER MG SFP (Not release.)
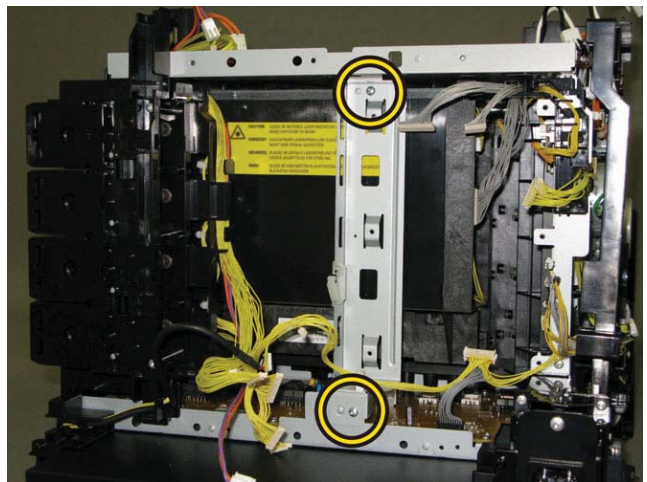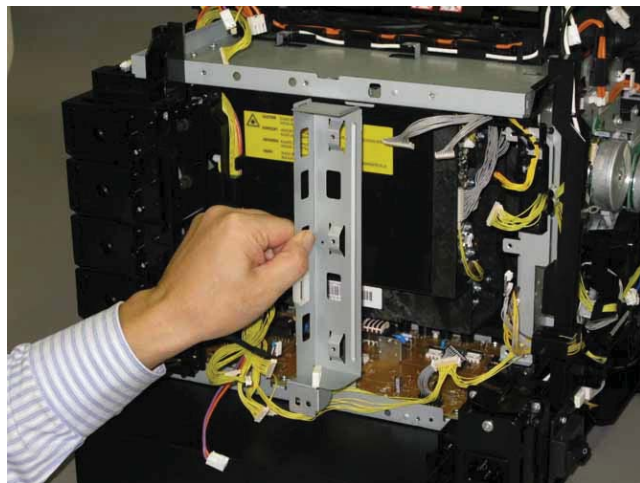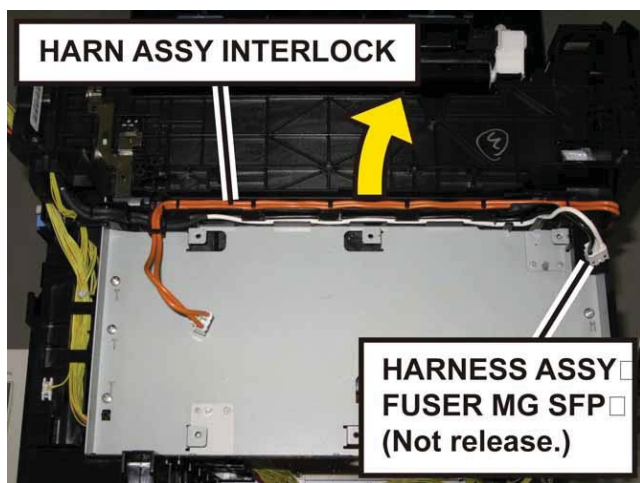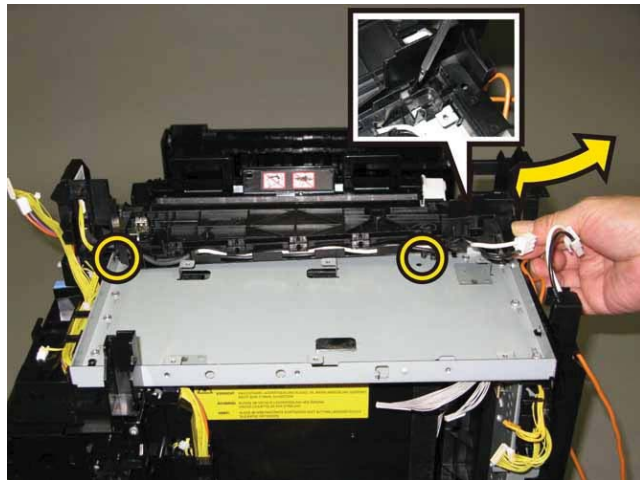
20) Release the hook of the GUIDE HARNESS FSR, to release the boss and tab of the GUIDE HARNESS FSR. Remove the GUIDE HARNESS FSR from the printer.	
21) Remove two screw (silver, M4, 6mm) and six screws (silver, tap, 8mm) that fix the FRAME ASSY LVPS (PL8.2.3) to the printer.	Silver, M4, 6mm
22) Remove the one screw (silver, M4, 6mm) that fixes the DRIVE ASSY SUB (PL7.1.1) to the FRAME ASSY LVPS.	Silver, M4, 6mm
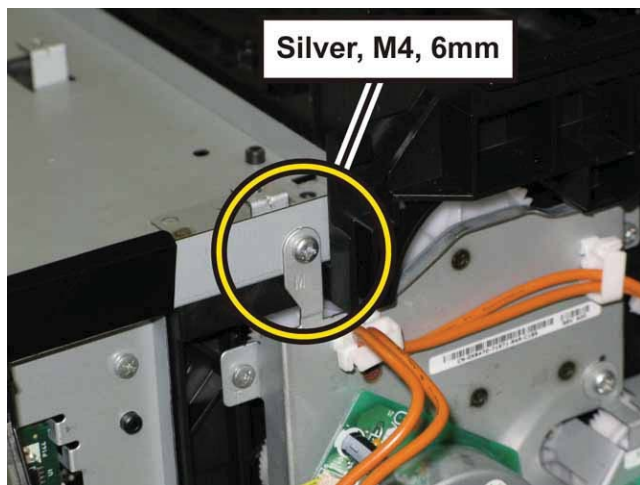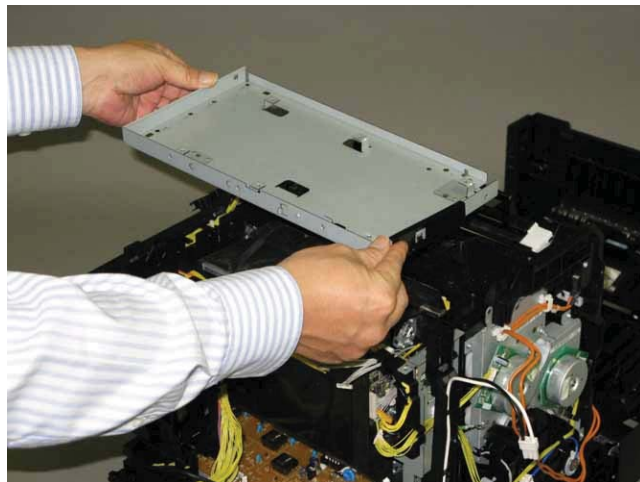
23) Remove the FRAME ASSY LVPS from the printer.	
24) Disengage the two connectors (P/J411, 412) of the ROS ASSY (PL4.1.1).	
25) Remove the four screws (silver, tap, 8mm) that fix the left and right sides of the SPRING ROSs (PL4.1.2) to the printer. Remove the SPRING ROSs from the printer.	
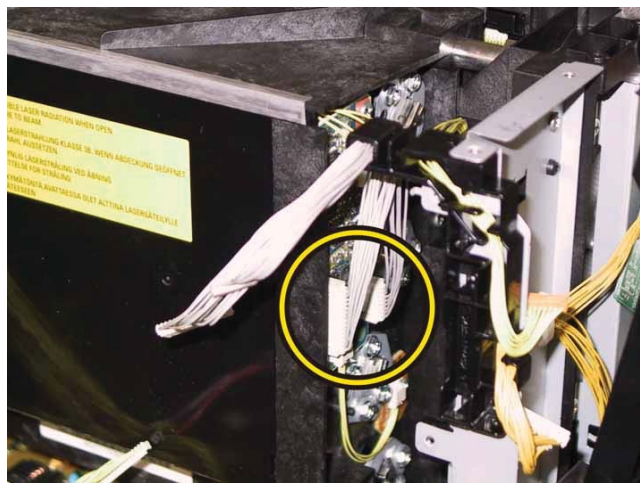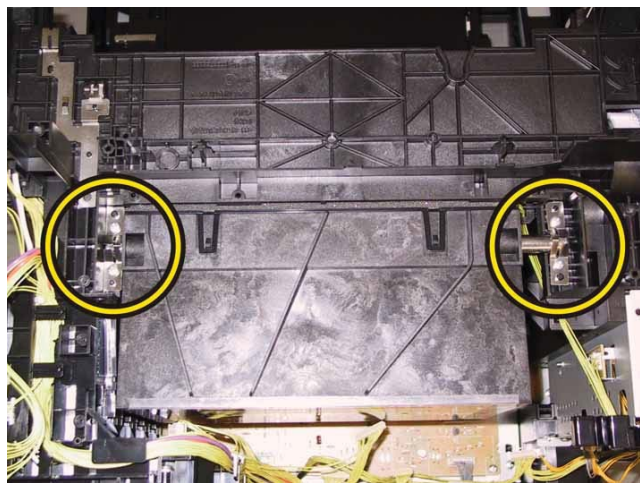
26) Lift up the ROS ASSY slowly from the printer.

Removal 46 UPPER UNIT (Reference only)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

Accesses Position (All the numbers show the procedure number.)
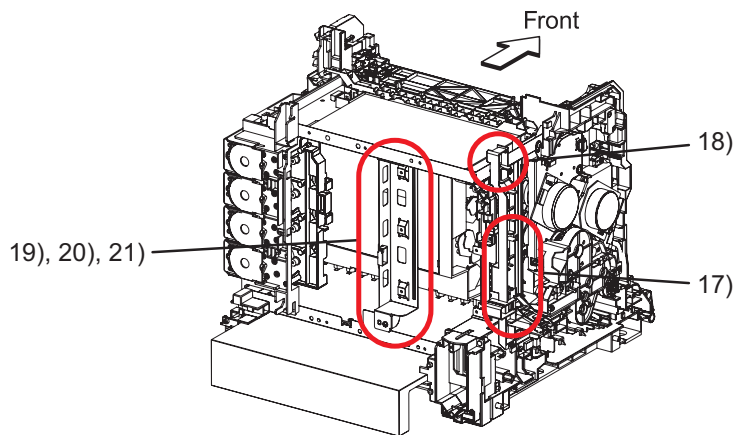
17) Remove the one screw (silver, 6mm) that fixes the grounding terminal of the HARN ASSY GND (PL1.2.22), release the HARN ASSY GND and all the harnesses from the GUIDE HARNESS AC (PL8.2.6). **Note: This step is only 2150cdn.**	
18) Release the hook of the GUIDE HARNESS AC , remove the GUIDE HARNESS AC from the printer	
19) Release the harness of the HARN ASSY OPTION (PL3.1.20) from the clamp on the BRACKET MCU R (PL8.2.15).	
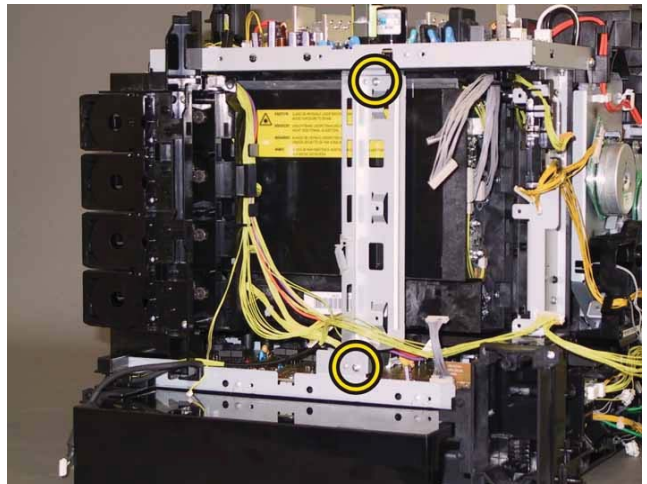
20) Remove the two screws (silver, 6mm) that fix the BRACKET MCU R to the printer.	
21) Remove the BRACKET MCU R from the printer.	
22) Remove the two screws (silver, tap, 8mm) that fix the front side of the printer frame.	
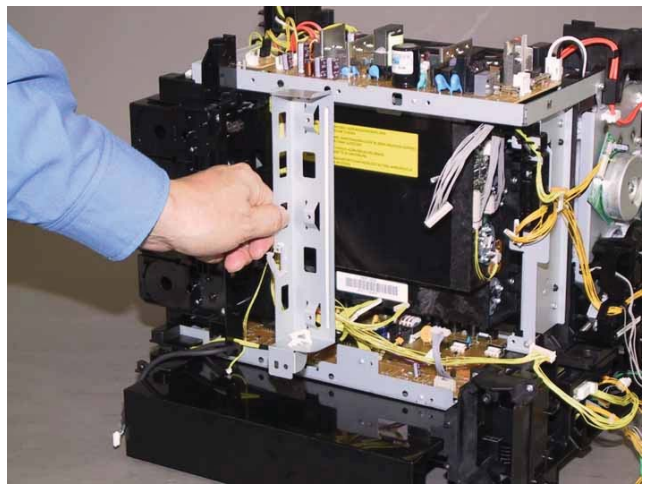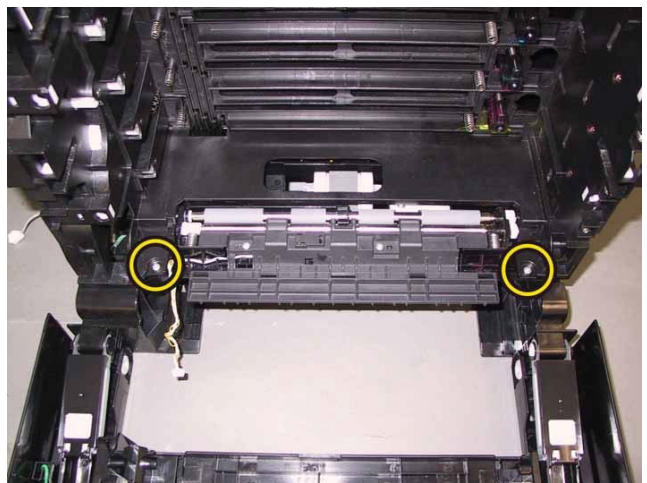
23) Remove the two screws (silver, tap, 8mm) that fix the under part of the DISPENSER ASSY.	
24) Open the HOLDER TCRU (K), (C), (M), and (Y), remove the one screw (silver, tap, 8mm) that fixes the right side of the printer frame.	
25) Remove the HARNESS ASSY B (PL9.1.12) and HARN ASSY OPTION (PL3.1.20) from the hooks of the DISPENSER ASSY.	
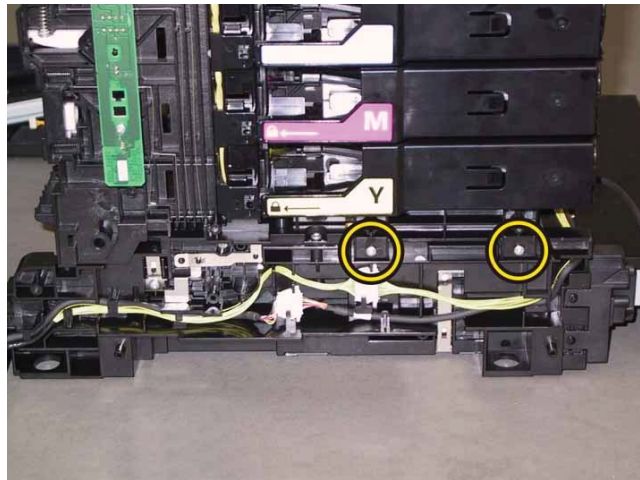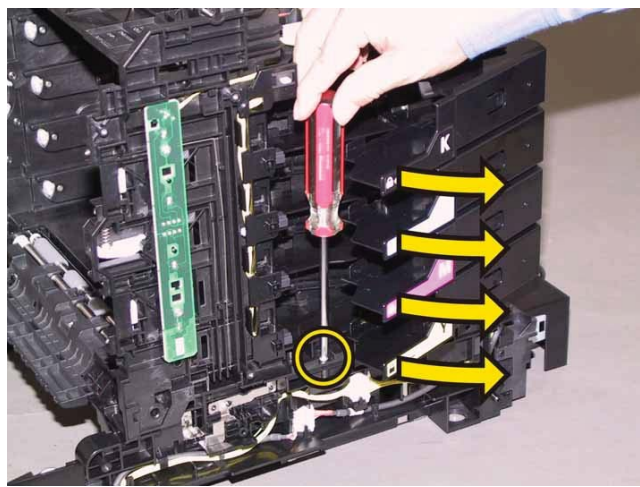
3 - 119
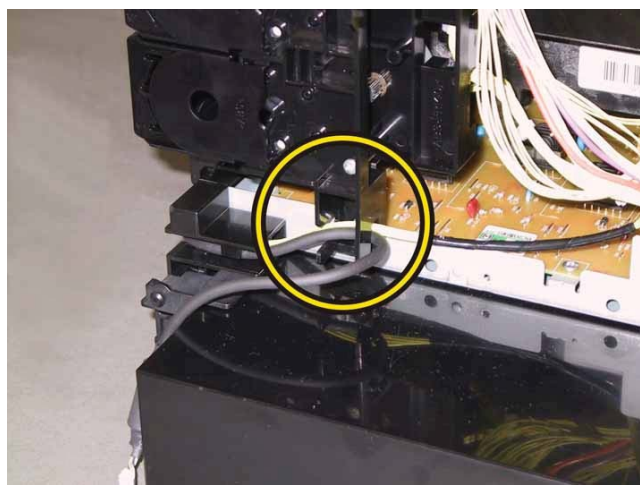
26) Remove the one screw (silver, M4, 6mm) that fixes the rear side of the DISPENSER ASSY and the one screw (silver, tap, 8mm) that fixes the BRACKET MCU L (PL8.2.18).	 Silver, M4, 6mm
27) Remove the one screw (silver, tap, 8mm) that fixes the left side of the printer frame and the one screw (silver, tap, 8mm) that fixes the BRACKET MCU L.	
28) Remove the UPPER UNIT.	
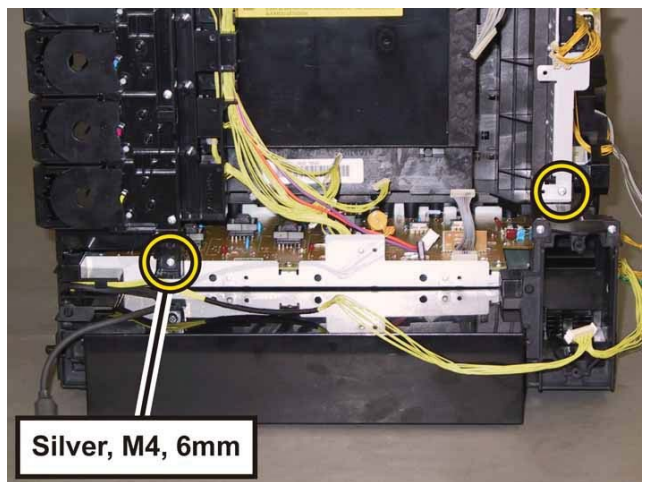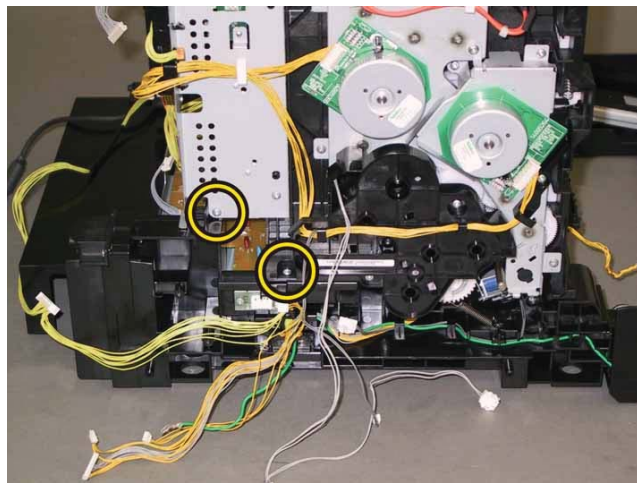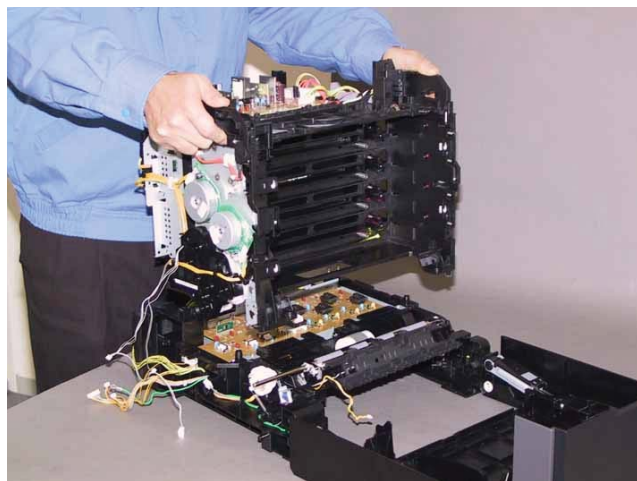
Removal 47 PWBA HVPS (PL4.1.19)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Remove the HARN ASSY HVPS (PL9.1.5) from the PWBA HVPS (PL4.1.19).	

19) Remove the seven screws (silver, 6mm) that fix the PWBA HVPS to the FRAME HVPS (PL4.1.20).	
20) Remove the PWBA HVPS from the FRAME HVPS.	
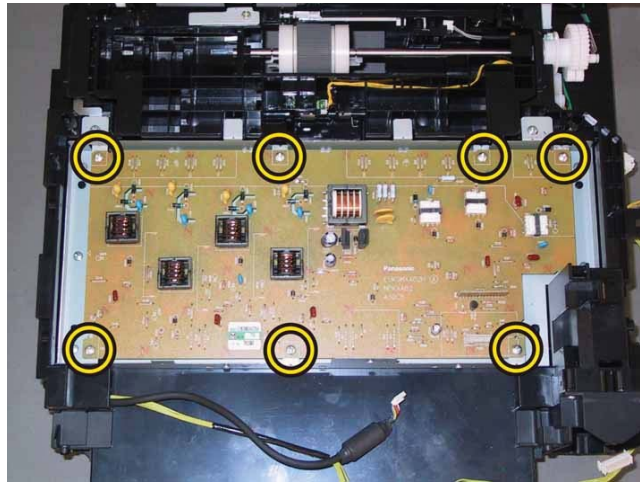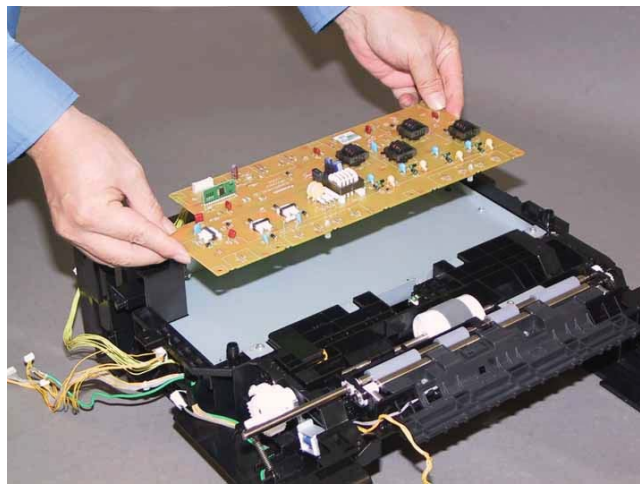
Removal 48 FEEDER ASSY MG SFP (PL3.1.98)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1)

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY WINDOW TNR. (Removal 8)

7) Remove the COVER ASSY TOP. (Removal 10)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Remove the COVER ASSY FRONT MG. (Removal 24)

19) Remove the eight screws (silver, tap, 8mm) that fix the FRAME HVPS (PL4.1.20) to the FEEDER ASSY MG SFP (PL3.1.98).	
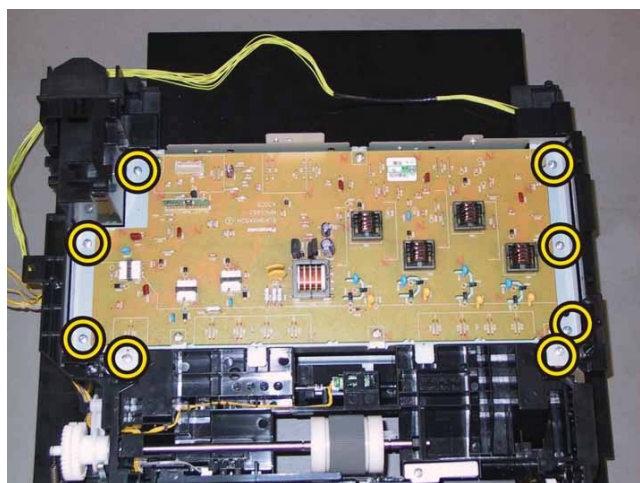
20) Remove the FRAME HVPS from the FEEDER ASSY MG SFP together with the PWBA HVPS (PL4.1.19), remove the FEEDER ASSY.
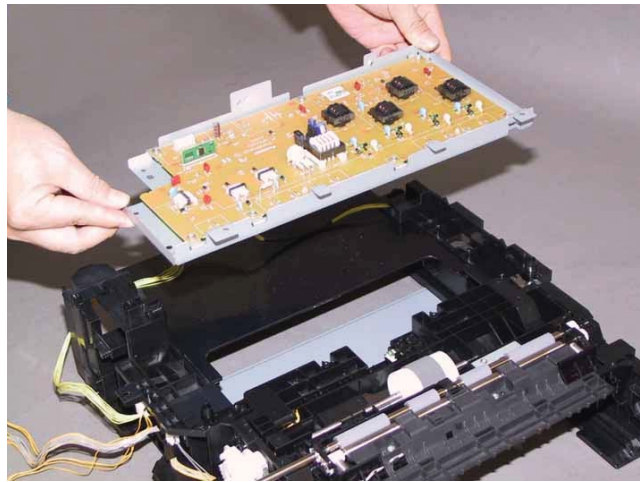
Removal 49 SENSOR PHOTO: REGI (PL3.2.13)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Release the hook of the ACTUATOR REGI OUT (PL3.2.6), shift the ACTUATOR REGI ROLL M (PL3.2.8) to right side.	

Note: When carrying out the work described next procedure, take care not to drop and lose the SPRING REGI OUT (PL3.2.7).

19) Release the ACTUATOR REGI OUT from the hook on the CHUTE UP (PL3.2.26), open the ACTUATOR REGI OUT.	
20) Release the three hooks that fix the SENSOR PHOTO: REGI (PL3.2.13) to the FEEDER ASSY MG SFP (PL3.1.98), and remove the SENSOR PHOTO: REGI. **Note: When carrying out the work this procedure, it is easier to push the ACTUATOR.**	
21) Disengage the connector (P/J232) of the SENSOR PHOTO: REGI.	
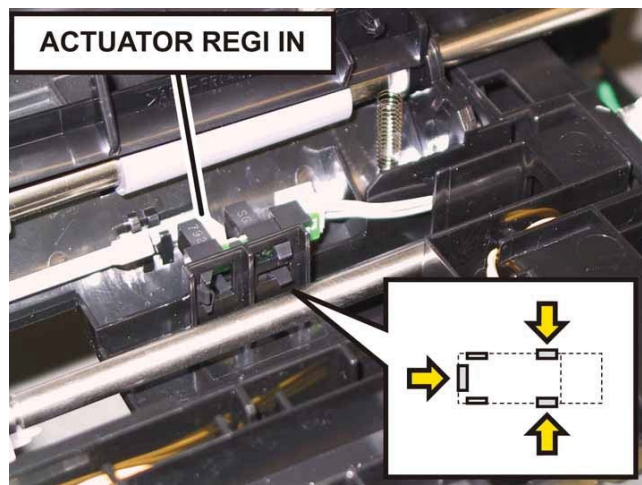
Removal 50 ROLL ASSY REGI (PL3.2.9)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Release the hook of the ACTUATOR REGI OUT (PL3.2.6), shift the ACTUATOR REGI ROLL M (PL3.2.8) to right side.	

Note: When carrying out the work described next procedure, take care not to drop and lose the SPRING REGI OUT (PL3.2.7).

19) Release the ACTUATOR REGI OUT from the hook on the CHUTE UP (PL3.2.26), open the ACTUATOR REGI OUT.	
20) Remove the E-ring that fixes the GEAR REGI R (PL3.2.22) to the ROLL ASSY REGI (PL3.2.9), using a miniature screwdriver.	
21) Remove the GEAR REGI R from the ROLL ASSY REGI. **Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.**	
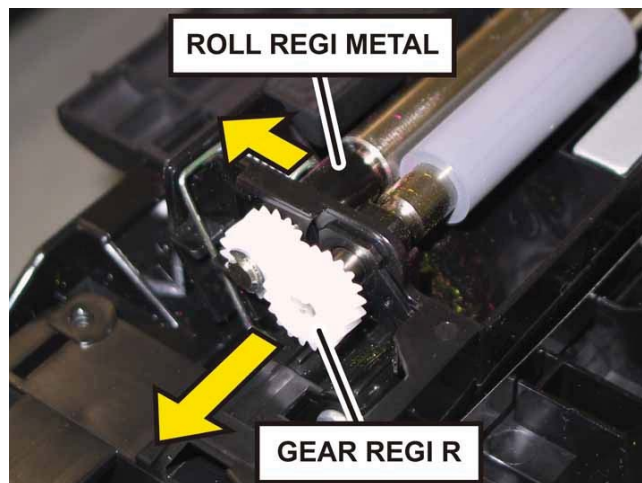
22) Remove the BEARING EARTH REGI (PL3.2.21) from the ROLL ASSY REGI. **Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.**	 **BEARING EARTH REGI**
23) Remove the E-ring that fixes the BEARING R (PL3.2.31) to the ROLL ASSY REGI, using a miniature screwdriver.	
24) Remove the BEARING R from the ROLL ASSY REGI. **Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.**	 **BEARING R**
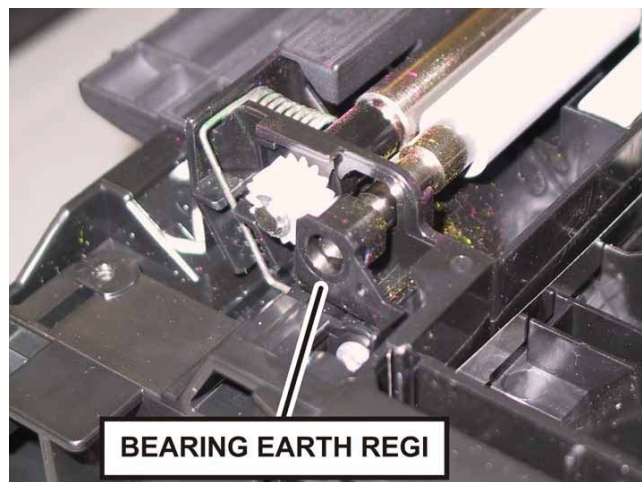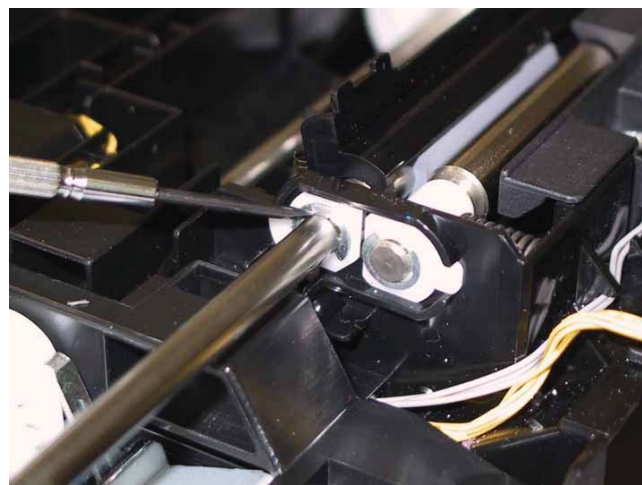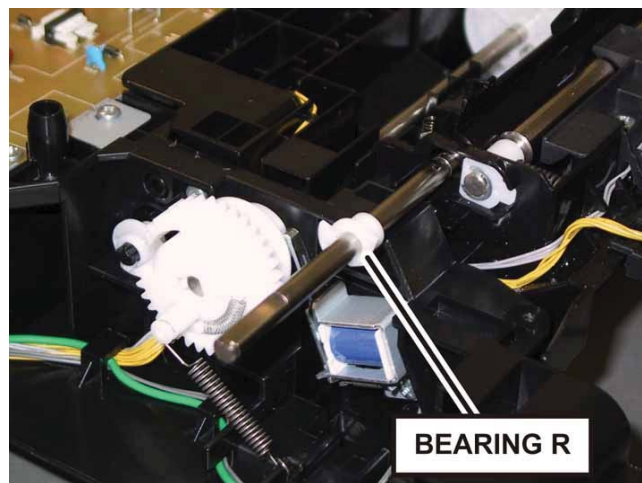
25) Shift the ROLL ASSY REGI to left to remove the right shaft of the ROLL ASSY REGI, remove the ROLL ASSY REGI from the FEEDER ASSY MG SFP (PL3.1.98) together with the ACTUATOR REGI OUT and the ACTUATOR REGI ROLL M.

Note: When carrying out the work this procedure, move the ACTUATOR REGI OUT to right until it stops.
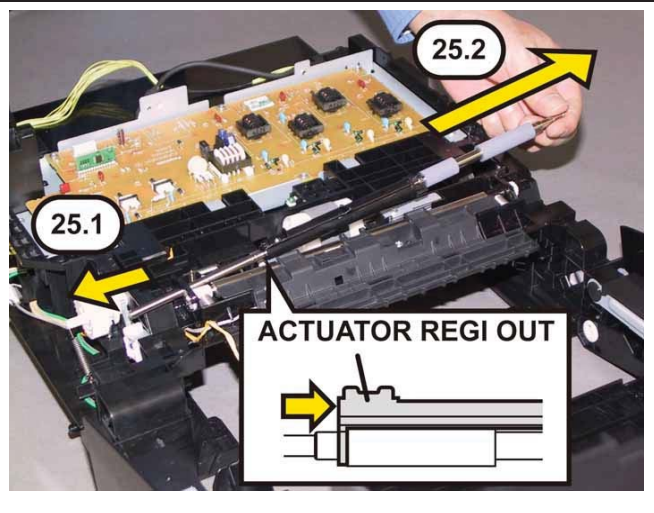
Removal 51 ACTUATOR REGI IN (PL3.2.11)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16 Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Remove the ROLL ASSY REGI. (Removal 50)

19) Release the left shaft of the ACTUATOR REGI IN (PL3.2.11) from the hook of the CHUTE UP (PL3.2.26).	

20) Remove the ACTUATOR REGI IN and the SPRING ACT REGI (PL3.2.12) by releasing the right shaft of the ACTUATOR REGI IN from the hole of the CHUTE UP.	
21) Remove the SPRING ACT REGI from the ACTUATOR REGI IN.	
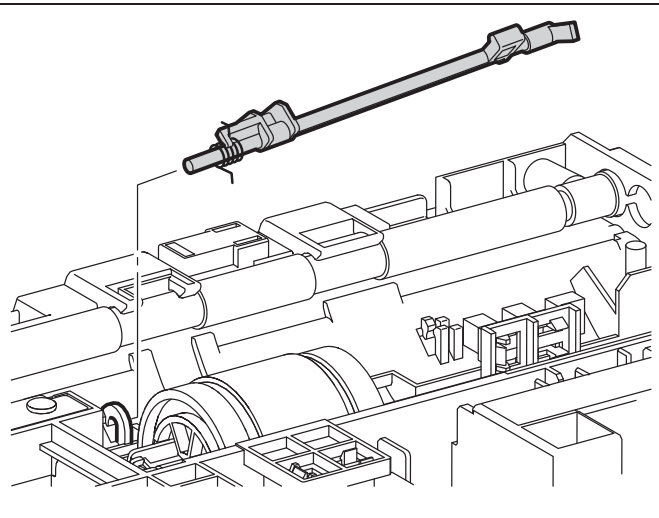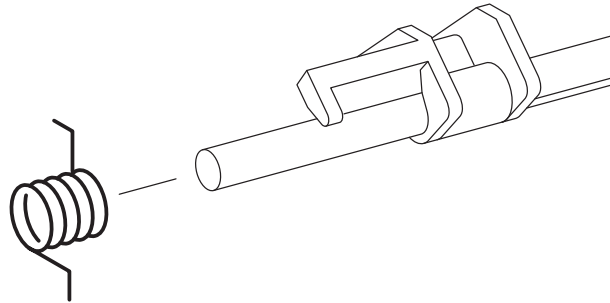
Removal 52 SENSOR PHOTO: CST NO PAPER (PL3.2.13)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Release the three hooks that fix the SENSOR PHOTO: CST NO PAPER (PL3.2.13) to the FEEDER ASSY MG SFP (PL3.1.98), and remove the SENSOR PHOTO: CST NO PAPER.	

19) Disengage the connector (P/J234) of the SENSOR PHOTO: CST NO PAPER.	

Removal 53 ACTUATOR ASSY NO PAPER (PL3.2.32)

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Open the COVER ASSY FRONT MG (PL1.2.1).

Note: Cover the drum of the PHD ASSY to avoid exposure to light.

3) Remove the PHD ASSY. (Removal 4)

Note: The FUSER part is very hot. Take added care not to get burned when performing the service operation.

4) Remove the FUSER ASSY. (Removal 5)

5) Remove the TONER CARTRIDGE (K), (C), (M), (Y). (Removal 6)

6) Remove the COVER ASSY TOP. (Removal 10)

7) Remove the COVER ASSY WINDOW TNR. (Removal 8)

8) Remove the COVER SIDE R. (Removal 12)

9) Remove the COVER SIDE L. (Removal 16)

10) Remove the COVER REAR. (Removal 29)

11) Remove the SWITCH ASSY INLET MG SFP, COVER INLET. (Removal 36)

12) Remove the FAN. (Removal 40)

13) Remove the KIT PWBA ESS SFP. (Removal 42)

14) Remove the KIT PWBA MCU. (Removal 43)

15) Remove the CLUTCH ASSY DRV and BEARING REGI. (Removal 30)

16) Remove the KIT TRANSFER ASSY. (Removal 20)

17) Remove the UPPER UNIT. (Removal 46)

18) Remove the SENSOR PHOTO: CST NO PAPER. (Removal 52)

19) Release the right shaft of the ACTUATOR ASSY NO PAPER (PL3.2.32) from the hole of the CHUTE UP (PL3.2.26), using a miniature screwdriver.	
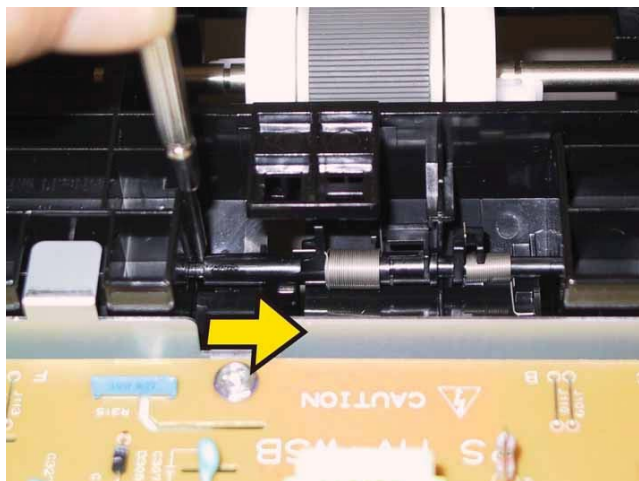
20) Remove the ACTUATOR ASSY NO PAPER and the SPRING STP (PL3.2.16) by releasing the left shaft of the ACTUATOR ASSY NO PAPER from the hole of the CHUTE UP.	
21) Remove the SPRING STP from the ACTUATOR ASSY NO PAPER.	
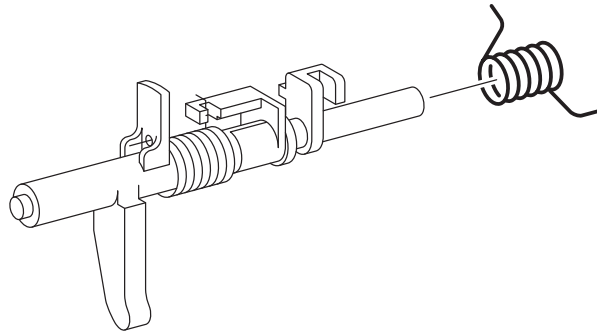
Removal 54 WIRELESS ADAPTER (PL8.1.16)

1) Loosen the SCREW KNURLING (PL8.1.13) and then open the PLATE ESS (PL8.1.12).	
2) Release the one hook of the WIRELESS ADAPTER (PL8.1.16).	
3) Remove the WIRELESS ADAPTER.	
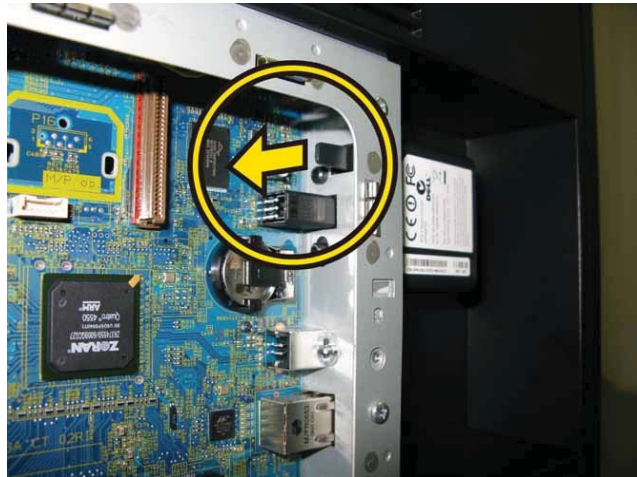
Removal 55 MEMORY CARD (PL8.1.15)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Loosen the SCREW KNURLING (PL8.1.13) and then open the PLATE ESS (PL8.1.12).	
2) Push the release latches of the socket to release the MEMORY CARD (PL8.1.15).	
3) Remove the MEMORY CARD.	
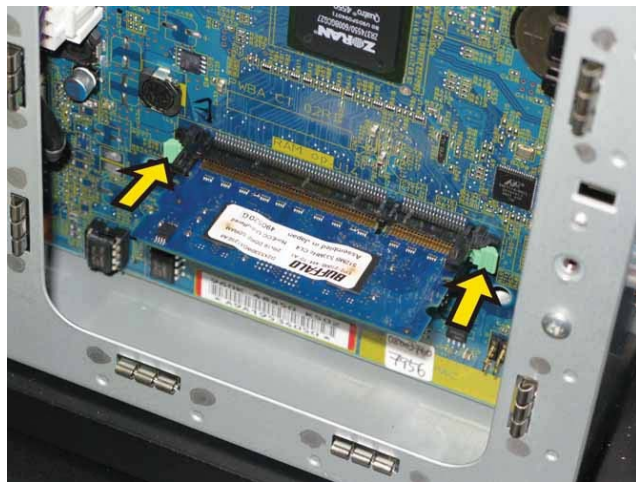
Removal 56 FEEDER ASSY DUP SFP STD (PL11.1.1)

1) Open the COVER ASSY FRONT MG (PL1.2.1).

2) Open the CHUTE DUP IN (PL11.1.2).	
3) Through the hole indicated by the arrow, insert a screwdriver and press the LATCH BUTTON to unlock the FEEDER ASSY DUP SFP STD (PL11.1.1).	3.1 3.2
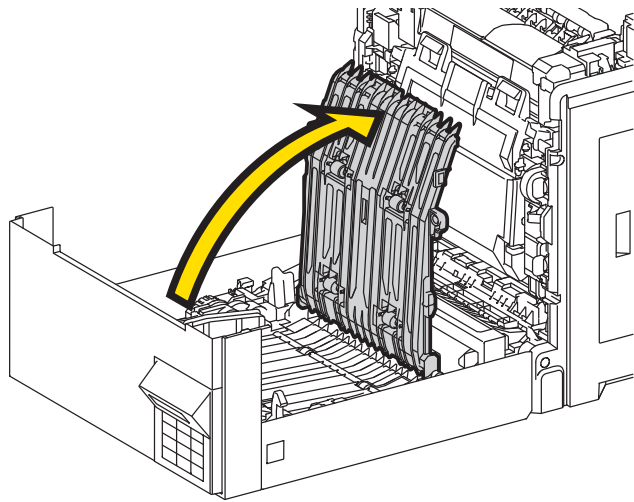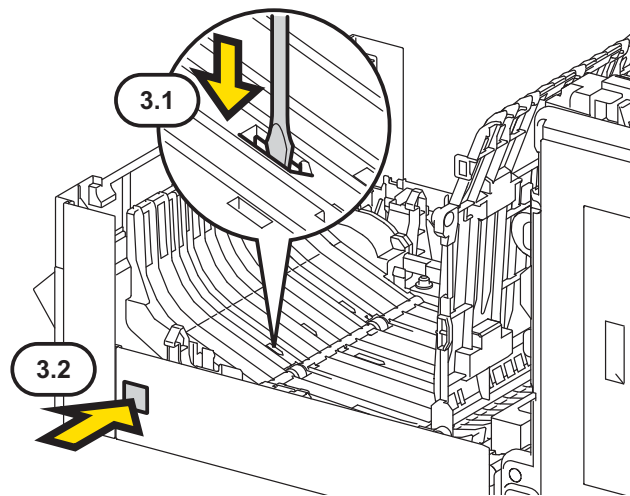
4) Lift up the FEEDER ASSY DUP SFP
STD from the printer.
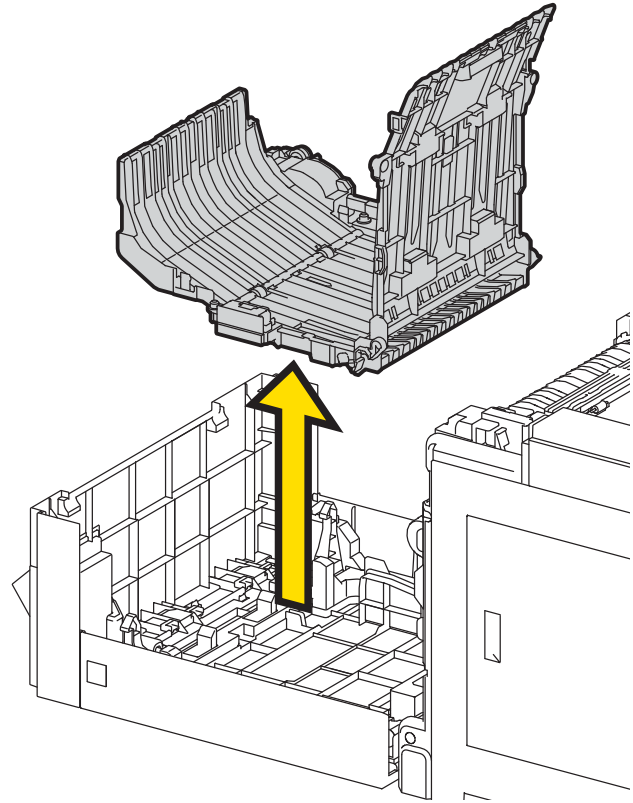
Removal 57 ROLLER ASSY DUP (PL11.2.9)

1) Open the COVER ASSY FRONT MG (PL1.2.1).

2) Remove the FEEDER ASSY DUP SFP STD. (Removal 56)

3) Release the six hooks that fixes the COVER PWBA DUP (PL11.1.15), remove the COVER PWBA DUP from the FEEDER ASSY DUP SFP STD (PL11.1.1).	
4) Disengage the connector (P/J603) of the DRIVE ASSY DUP (PL11.2.5) on the PWBA DUP (PL11.1.16), release the harness of the DRIVE ASSY DUP from the hooks of the COVER DRIVE DUP (PL11.2.3).	
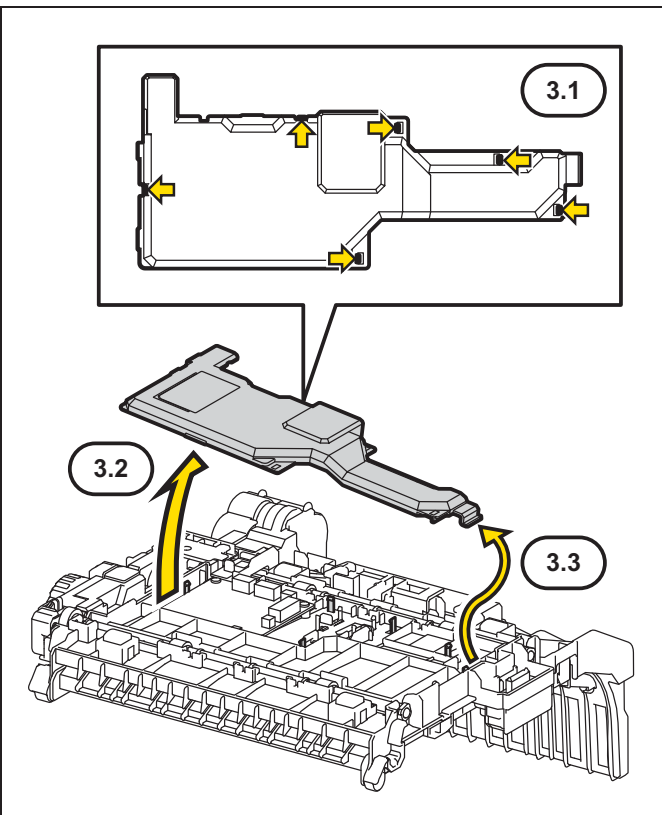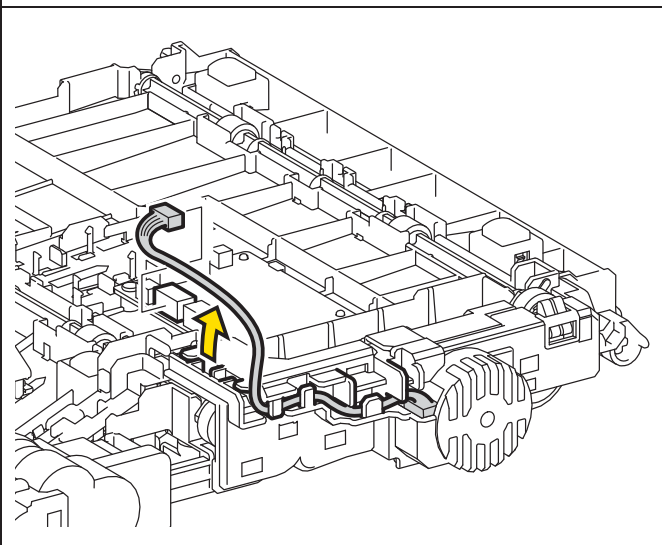
5) Release the five hooks of the COVER DRIVE DUP. Draw out the connector of the DRIVE ASSY DUP from the hole of the COVER DRIVE DUP, and then remove the COVER DRIVE DUP from the FEEDER ASSY DUP SFP STD.
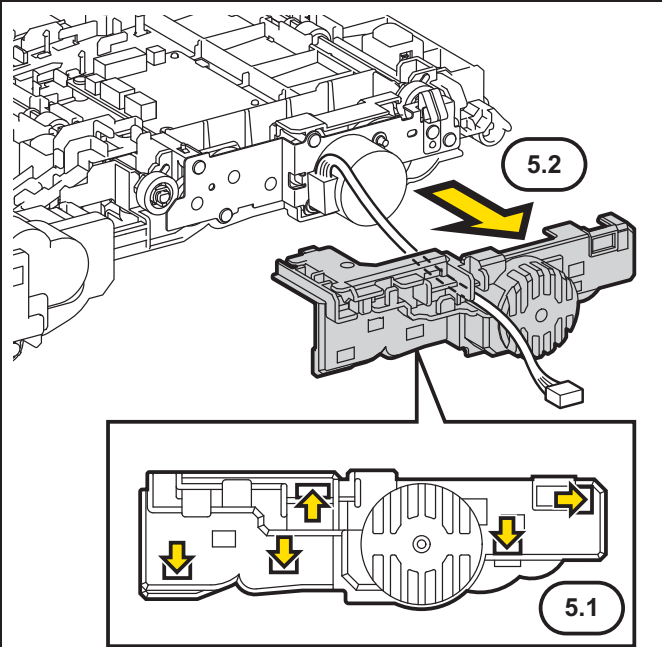
6) Remove the four screws (silver, tap, 8mm) that fix the DRIVE ASSY DUP to the FEEDER ASSY DUP SFP STD, remove the DRIVE ASSY DUP.
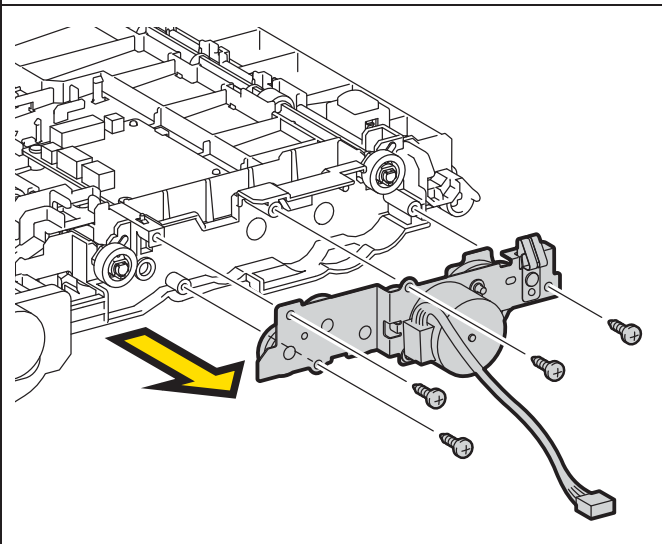
7) Release the hook of the GEAR ROLL DUP (PL11.2.6), remove the GEAR ROLL DUP from the ROLLER ASSY DUP (PL11.2.9).	
8) Remove the BEARING DUP (PL11.2.7) that fixes the right and left sides of the ROLLER ASSY DUP by rotating in the direction shown by the arrow.	
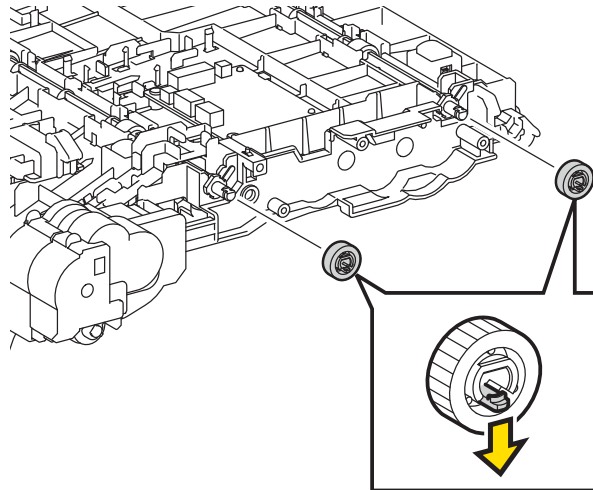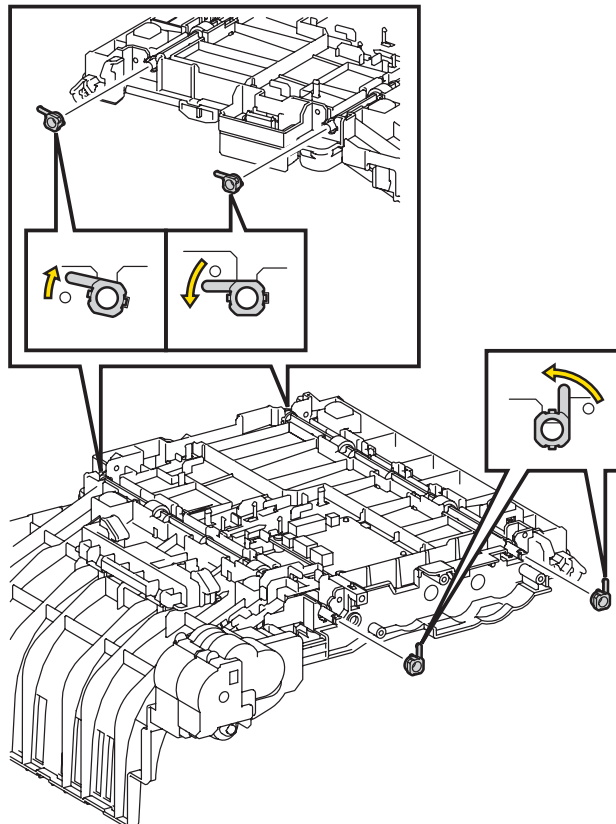
9) Remove the ROLLER ASSY DUP from the FEEDER ASSY DUP SFP STD.
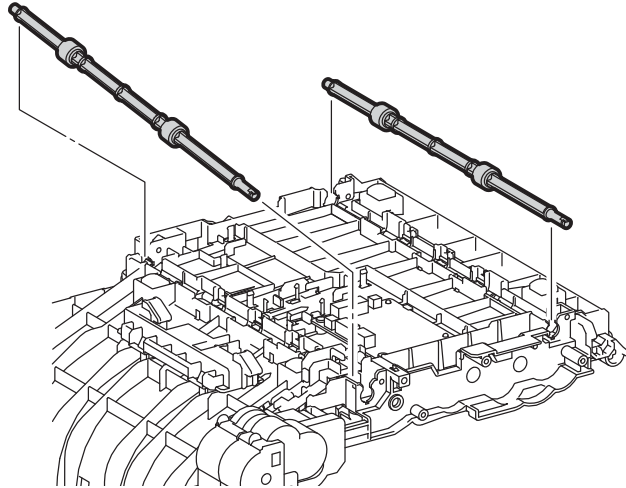
Removal 58 KIT FEEDER ASSY OPT (PL12.1.99)

Note: The printer must be lifted by two people.

1) Remove the CASSETTE ASSY 250. (Removal 1)

2) Remove the CASSETTE ASSY 250 OPT.

3) Remove the two SCREW JOINTs (PL12.1.2) that fix the FEEDER ASSY OPT (PL12.1.3) to the printer.	
4) Lift up the printer to separate it from the FEEDER ASSY OPT.	
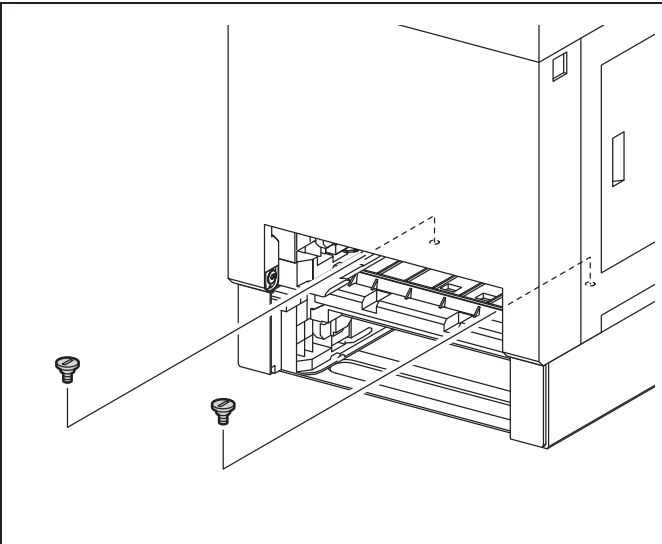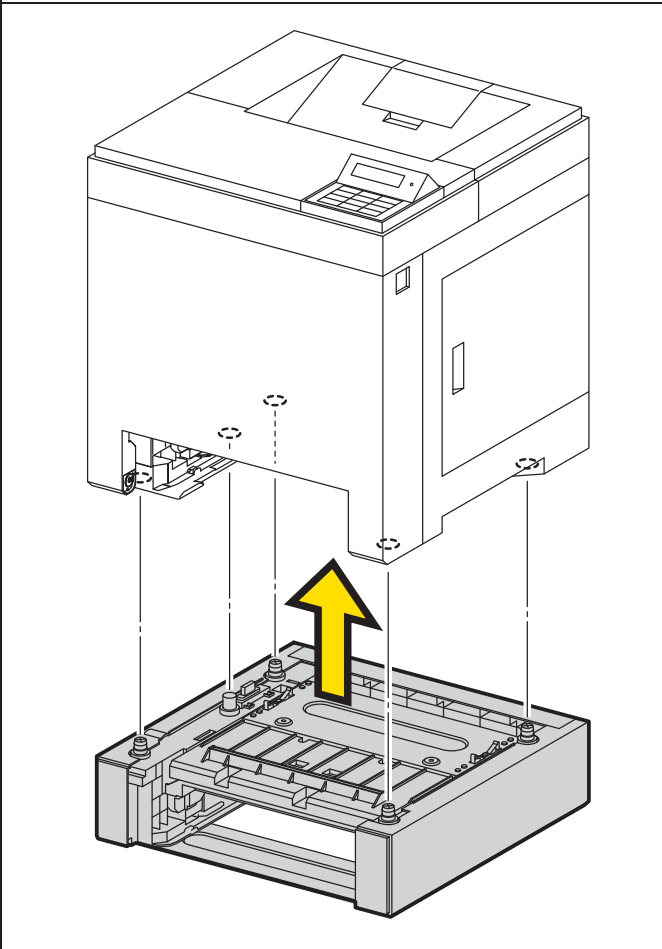
Removal 59 ROLL ASSY FEED (Parts of the FEEDER ASSY OPT) (PL12.4.4)

1) Remove the CASSETTE ASSY 250 OPT.

2) Release the hook of the ROLL CORE
MSI (PL12.4.3) on the left of the ROLL
ASSY FEED (PL 12.4.4), and move the
ROLL CORE MSI to left until it stops.

4) Remove the ROLL ASSY FEED from the SHAFT ASSY FEED by rotating the ROLL ASSY FEED 180 degrees.
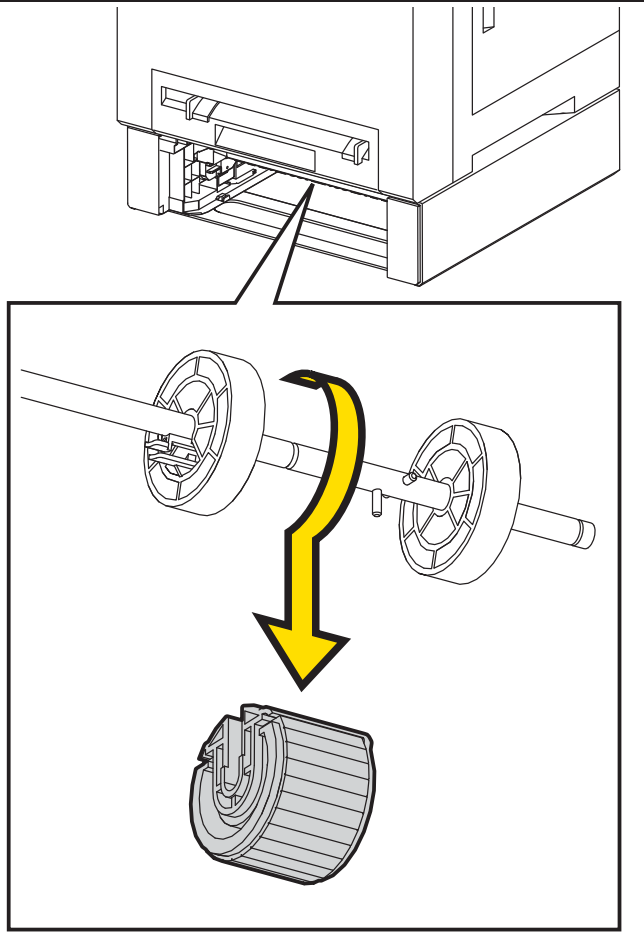
Replacement 1 ACTUATOR ASSY NO PAPER (PL3.2.32)

1) Attach the SPRING STP to the ACTUATOR ASSY NO PAPER.	
Note: When carrying out the work described next procedure, ensure that the SPRING STP is hung to ACTUATOR NO PAPER and the CHUTE UP correctly.	
2) Insert the left shaft of the ACTUATOR ASSY NO PAPER into the hole of the CHUTE UP, hang the SPRING STP to the CUHTE UP.	
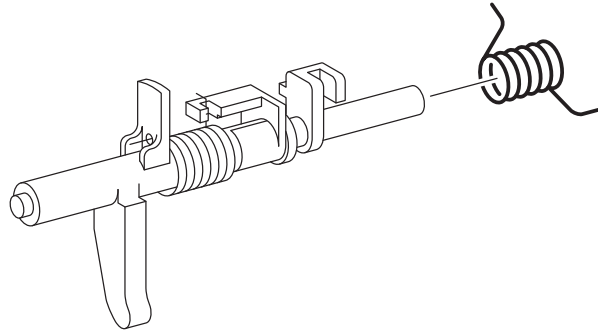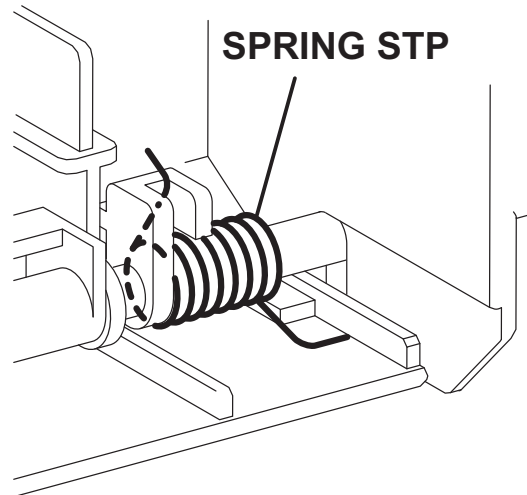
3) Insert the right shaft of the ACTUATOR ASSY NO PAPER into the hole of the CHUTE UP. Attach the ACTUATOR ASSY NO PAPER.
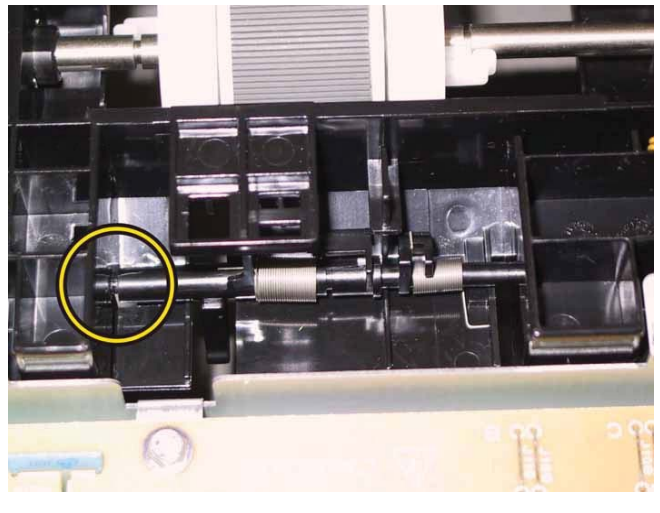
Check the ACTUATOR ASSY NO PAPER movement, after the procedure 3 is completed.

Go to the next replacement step:

Replacement 2 SENSOR PHOTO: CST NO PAPER (PL3.2.13)

Replacement 2 SENSOR PHOTO: CST NO PAPER (PL3.2.13)
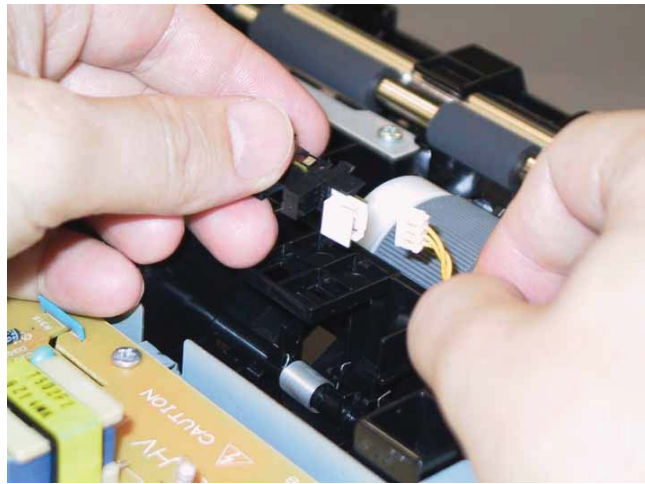
1) Engage the connector (P/J234) of the SENSOR PHOTO: CST NO PAPER.	
2) Replace the SENSOR PHOTO: CST NO PAPER to the FEEDER ASSY MG SFP V by mating the hook of the SENSOR PHOTO: CST NO PAPER with its mounting position.	
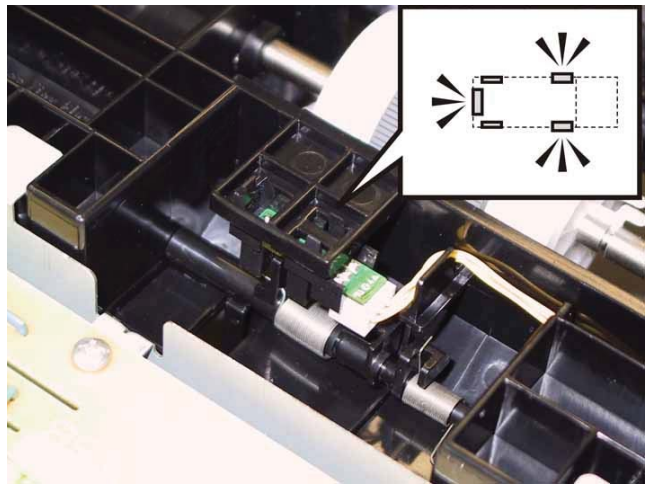
Go to the next replacement step:

Replacement 8 UPPER UNIT (Reference only)

Replacement 3 ACTUATOR REGI IN (PL3.2.11)

1) Attach the SPRING ACT REGI to the ACTUATOR REGI IN.	
Note: When carrying out the work described next procedure, ensure that the SPRING ACT REGI is hung to ACTUATOR REGI IN and the CHUTE UP correctly.	**SPRING ACT REGI**
2) Insert the right shaft of the ACTUATOR REGI IN into the hole of the CHUTE UP, hang the SPRING ACT REGI to the CUHTE UP.	
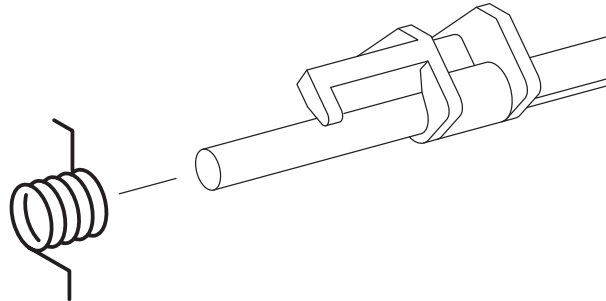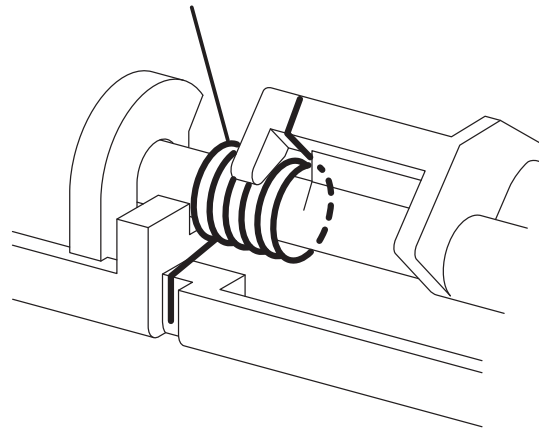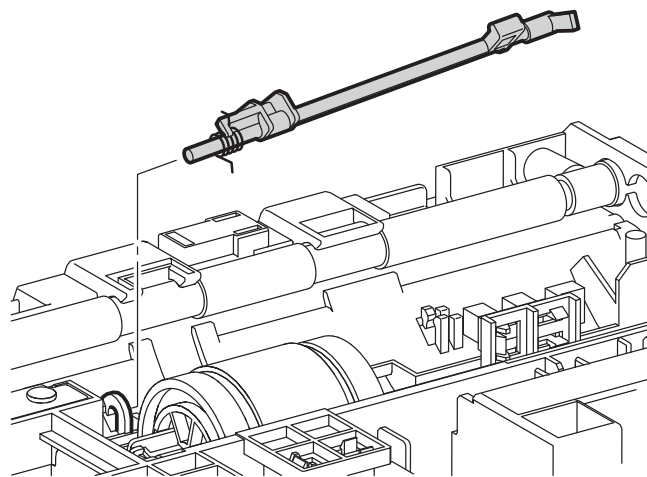
3) Fix the left shaft of the ACTUATOR REGI IN with the hook of the CHUTE UP to attach the ACTUATOR REGI IN.
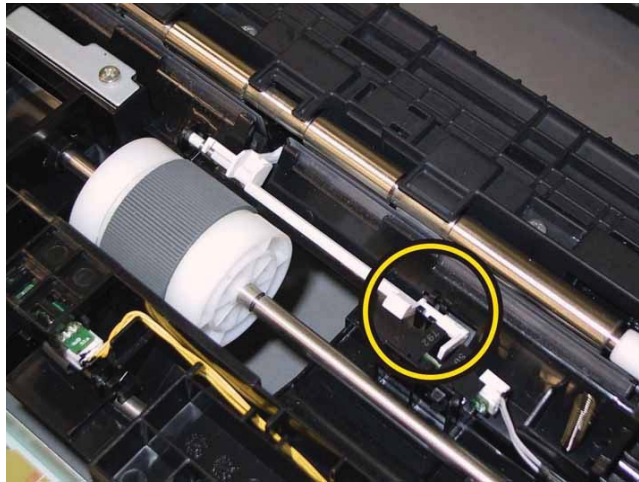
Check the ACTUATOR REGI IN movement, after the procedure 3 is completed.

Go to the next replacement step:

Replacement 4 ROLL ASSY REGI (PL3.2.9)

Replacement 4 ROLL ASSY REGI (PL3.2.9)

1) After the inserting the left shaft of the ROLL ASSY REGI into the hole of the FEEDER ASSY MG SFP, insert the right shaft of the ROLL ASSY REGI into the hole. Attach the ROLL ASSY REGI together with the ACTUATOR REGI OUT and the ACTUATOR REGI ROLL M. **Note: When carrying out the work this procedure, move the ACTUATOR REGI OUT to right until it stops.**	
2) Attach the BEARING R to the ROLL ASSY REGI. **Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.**	
3) Secure the BEARING R to the ROLL ASSY REGI with the E-ring by using the pliers.	
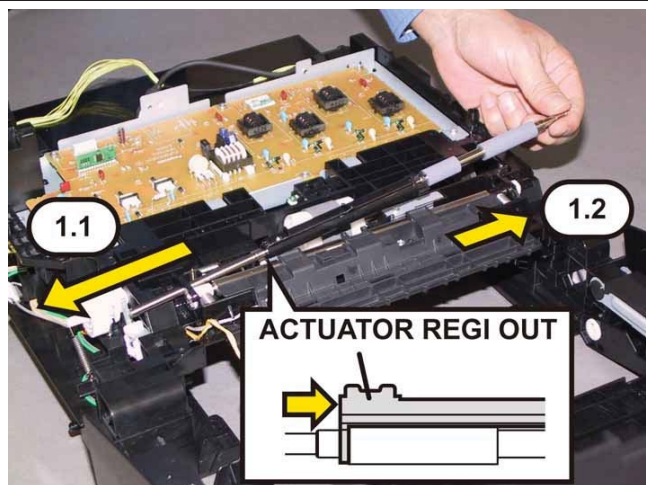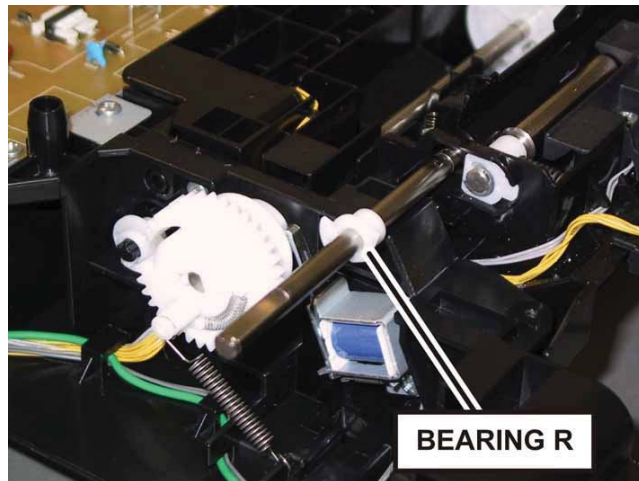
4) Attach the BEARING EARTH REGI to the ROLL ASSY REGI.

Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.

BEARING EARTH REGI

5) Attach the GEAR REGI R to the ROLL ASSY REGI.

Note: When carrying out the work this procedure, it is easier to push the ROLL REGI METAL (PL3.2.10) to frontward.
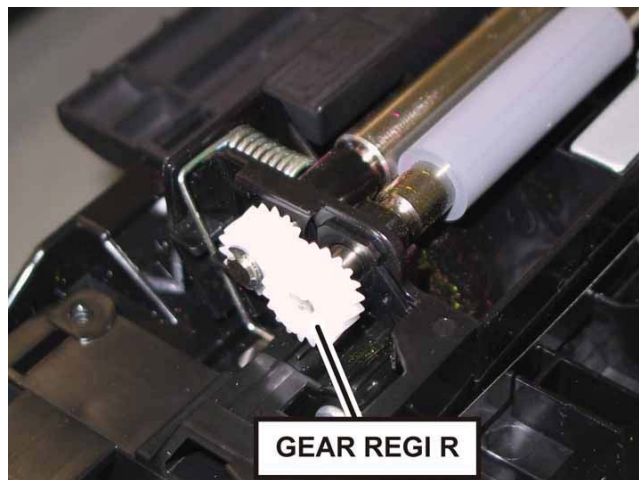
GEAR REGI R

6) Secure the GEAR REGI R to the ROLL ASSY REGI with the E-ring by using the pliers.
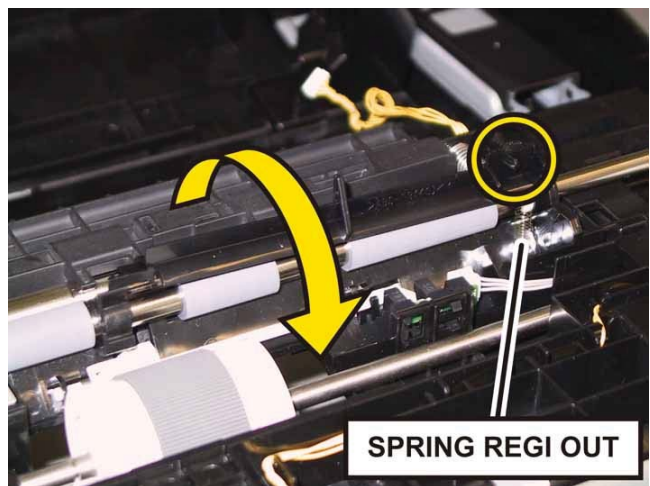
7) Close the ACTUATOR REGI OUT by inserting the boss of the ACTUATOR REGI OUT into the SPRING REGI OUT.	
8) Shift the ACTUATOR REGI OUT to left, fix the CHUTE UP using the hook.	
9) Attach the ACTUATOR REGI ROLL M by mating the hole of the ACTUATOR REGI ROLL M with the tab of the ACTUATOR REGI OUT. Fix it using the hook of the ACTUATOR REGI OUT.	
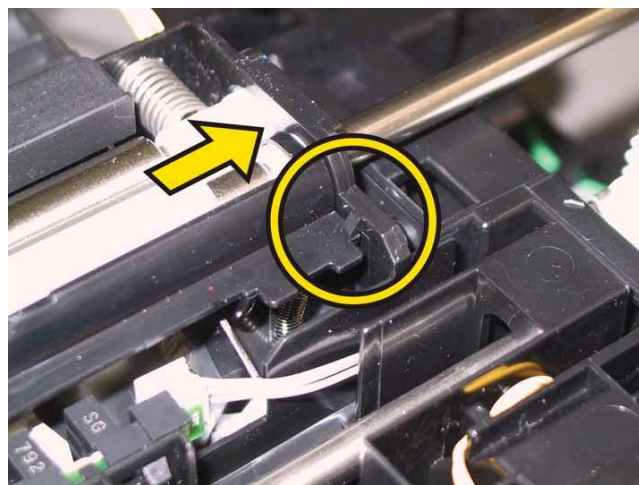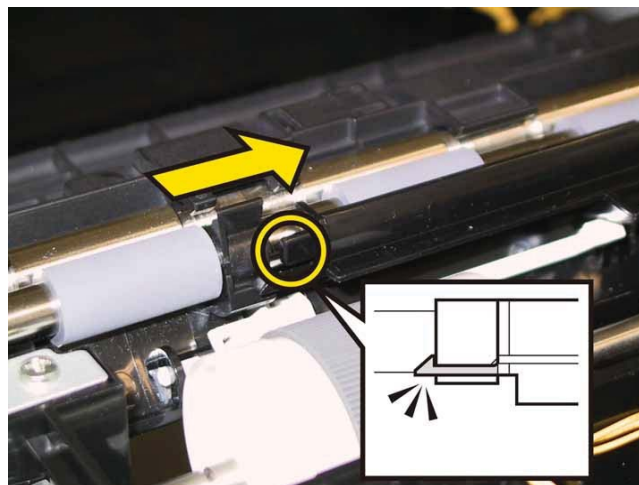
Note: Check the ACTUATOR REGI OUT and the ACTUATOR REGI IN movement, after the procedure 9 is completed.

Go to the next replacement step:

Replacement 8 UPPER UNIT (Reference only)

3 - 155

Replacement 5 SENSOR PHOTO: REGI (PL3.2.13)

1) Engage the connector (P/J232) of the SENSOR PHOTO: REGI.	
2) Replace the SENSOR PHOTO: REGI to the FEEDER ASSY MG SFP V by mating the three hooks of the SENSOR PHOTO: REGI. **Note: When carrying out the work this procedure, it is easier to push the ACTUATOR REGI IN (PL3.2.11) to downward.**	
3) Close the ACTUATOR REGI OUT by inserting the boss of the ACTUATOR REGI OUT into the SPRING REGI OUT.	
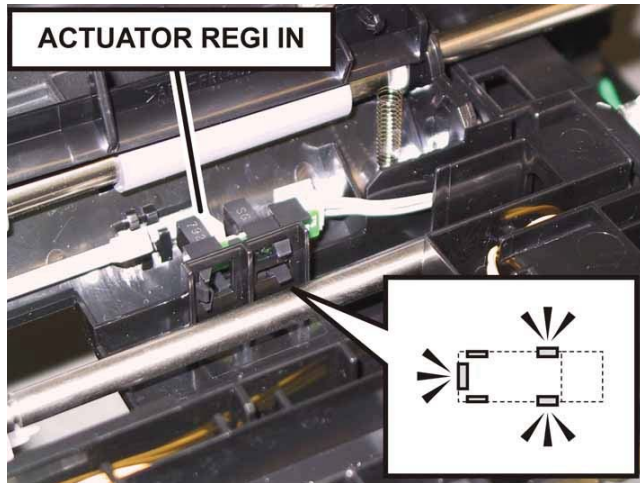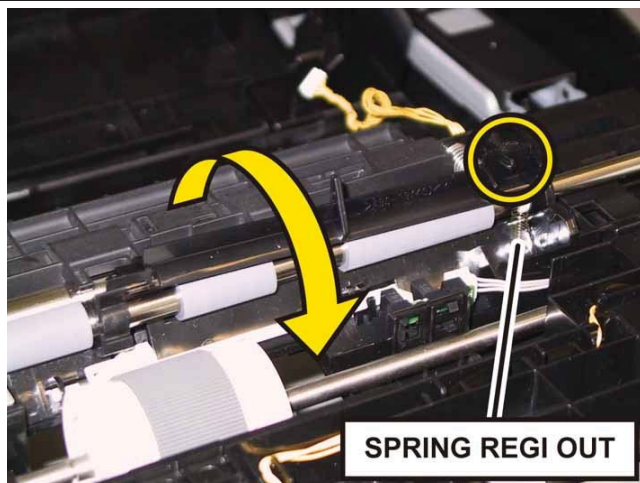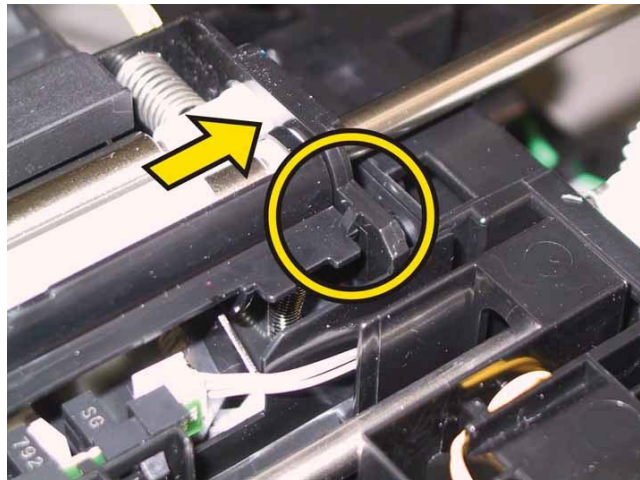
4) Shift the ACTUATOR REGI OUT to left, fix the CHUTE UP using the hook.	
5) Attach the ACTUATOR REGI ROLL M by mating the hole of the ACTUATOR REGI ROLL M with the tab of the ACTUATOR REGI OUT. Fix it using the hook of the ACTUATOR REGI OUT.	
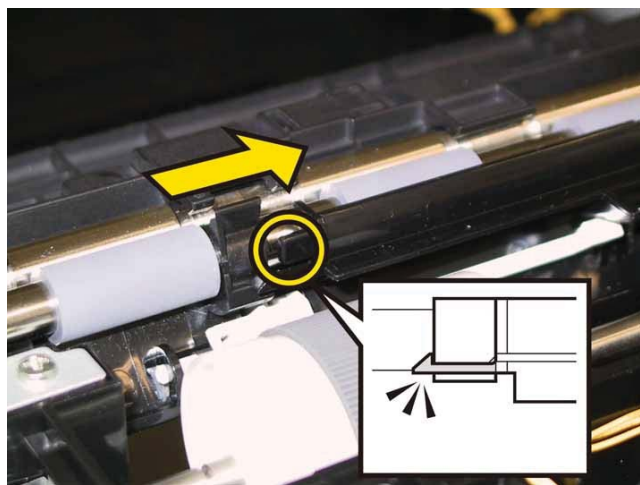
Note: Check the ACTUATOR REGI OUT and the ACTUATOR REGI IN movement, after the procedure 5 is completed.

Go to the next replacement step:

Replacement 8 UPPER UNIT (Reference only)

Replacement 6 FEEDER ASSY MG SFP (PL3.1.98)

1) Mate the four holes of the FRAME HVPS with the bosses of the FEEDER ASSY MG SFP, attach the FRAME HVPS to the FEEDER ASSY MG SFP together with the PWBA HVPS.	
2) Secure the FRAME HVPS to the FEEDER ASSY MG SFP with the eight screws (silver, tap, 8mm).	
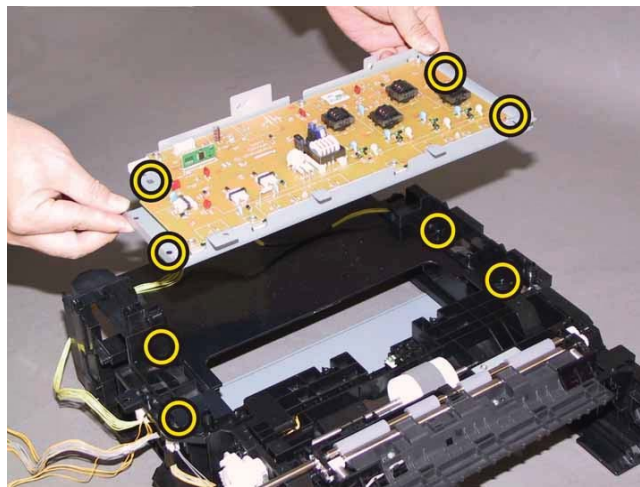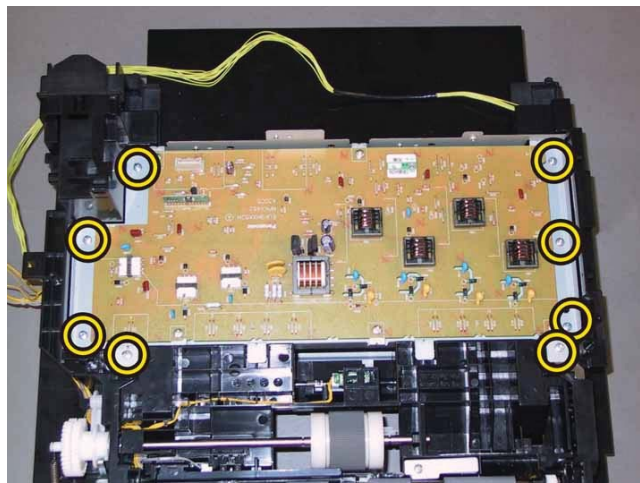
Go to the next replacement step:

Replacement 8 UPPER UNIT (Reference only)

Replacement 7 PWBA HVPS (PL4.1.19)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Mate the notch and hole of the PWBA HVPS with the tabs of the FRAME HVPS, attach the PWBA HVPS.	
2) Secure the PWBA HVPS to the FRAME HVPS with the seven screws (silver, 6mm).	
3) Engage the connector (P/J161) of the HARN ASSY HVPS to the PWBAHVPS.	
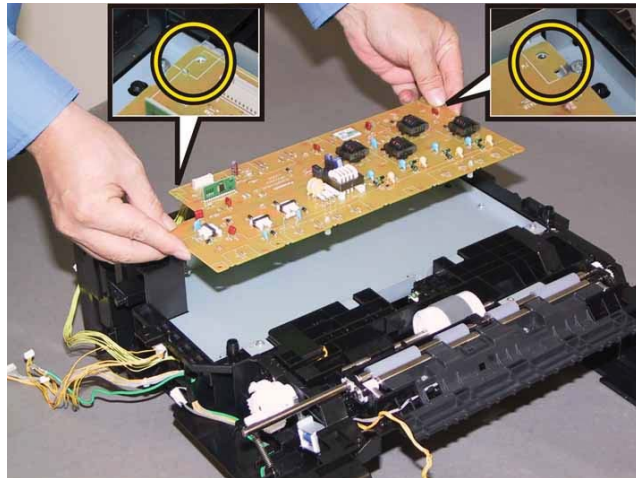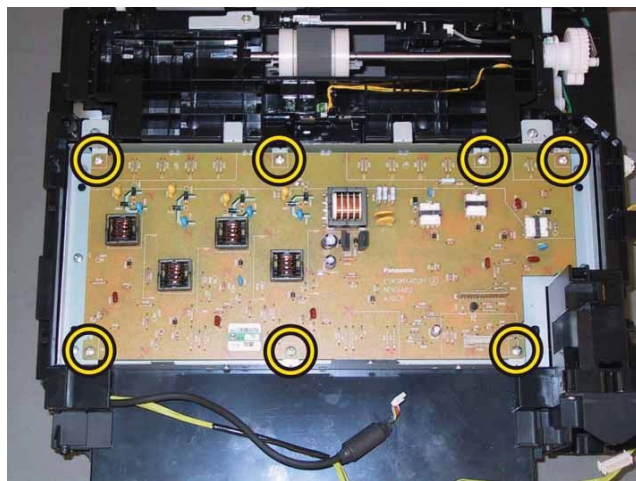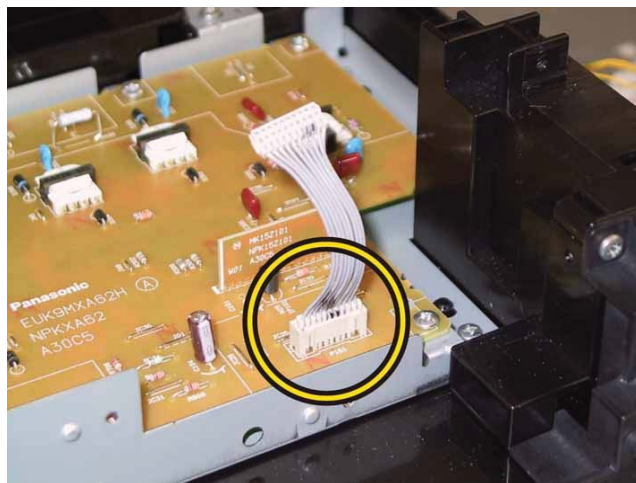
Go to the next replacement step:

Replacement 8 UPPER UNIT (Reference only)

Replacement 8 UPPER UNIT (Reference only)

Accesses Position (All the numbers show the procedure number.)

Front

8), 9)

11)

12)

10)
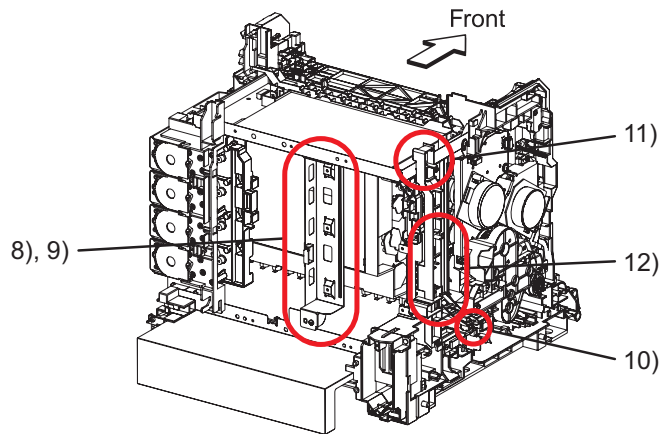
Note: When carrying out the work described next procedure, route the harness of the TRANSFER ASSY through the groove of the UPPER UNIT.	
1) Mate the two holes of the UPPER UNIT with the bosses of the FEEDER ASSY MG SFP and attach it.	
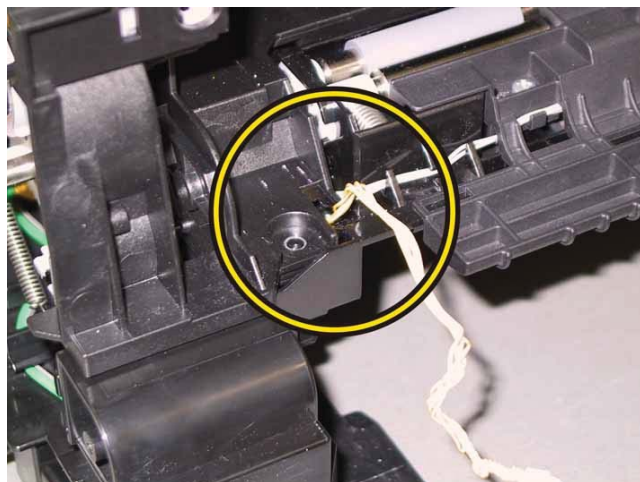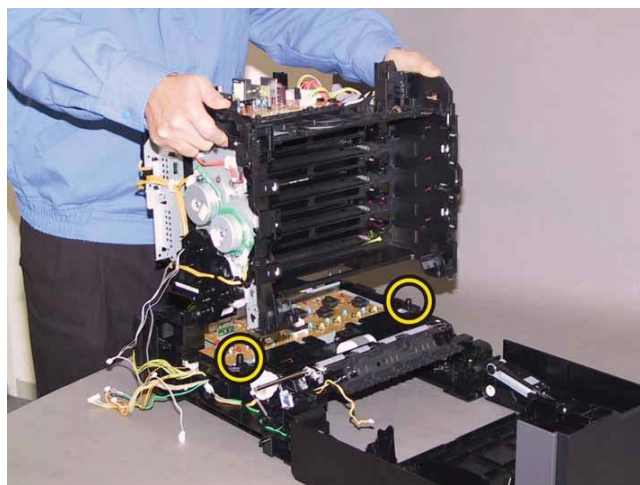
2) Secure the BRACKET MCU L and the left side of the printer frame with the two screws (silver, tap, 8mm).	
3) Secure the rear side DISPENSER ASSY with the one screw (silver, M4, 6mm) and BRACKET MCU L with the one screw (silver, tap, 8mm).	Silver, M4, 6mm
4) Route the HARNESS ASSY B and the HARN ASSY OOPTION to the DISPENSER ASSY. Secure the harnesses using the hooks on the DISPENSER ASSY.	
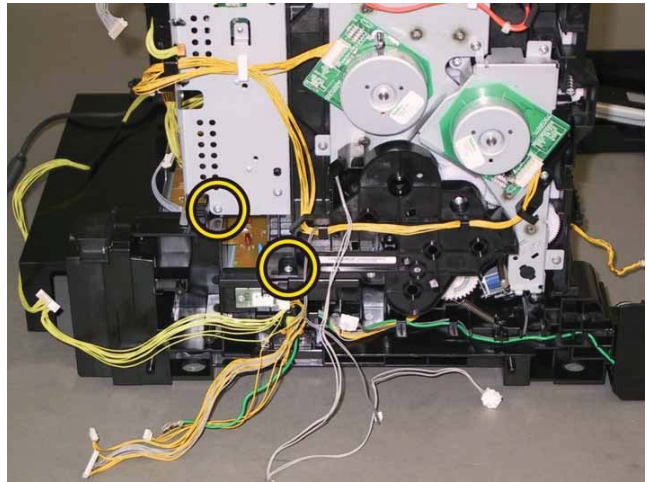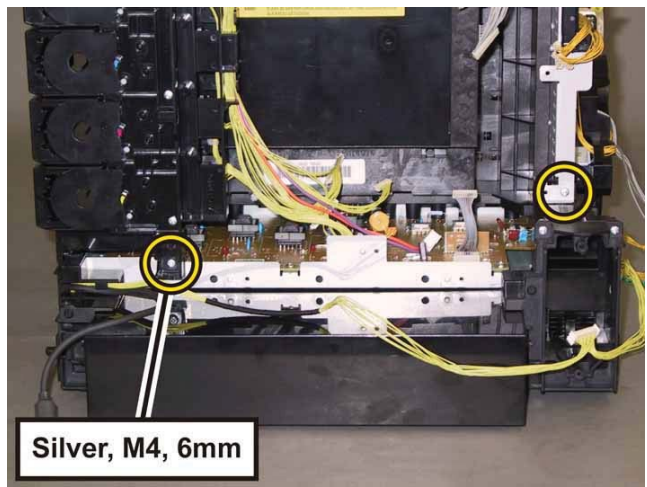
5) Open the HOLDER TCRU (K), (C), (M) and (Y), secure the right side of the printer frame with the one screw (silver, tap, 8mm).	
6) Secure the under side of the DISPENSER ASSY with the two screws (silver, tap, 8mm).	
7) Secure the front side of the printer frame with the two screws (silver, tap, 8mm).	
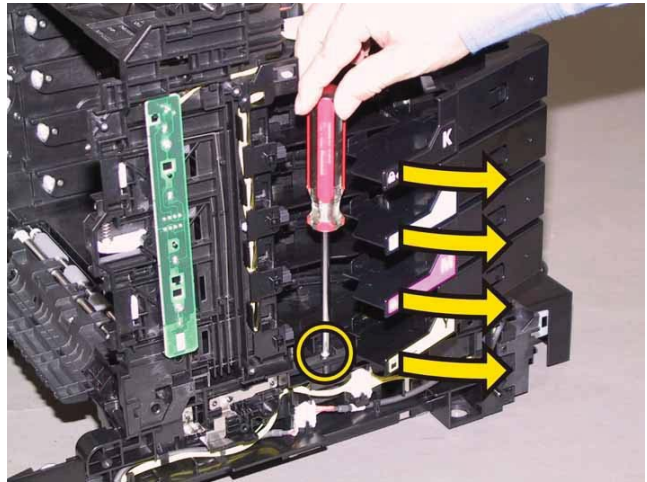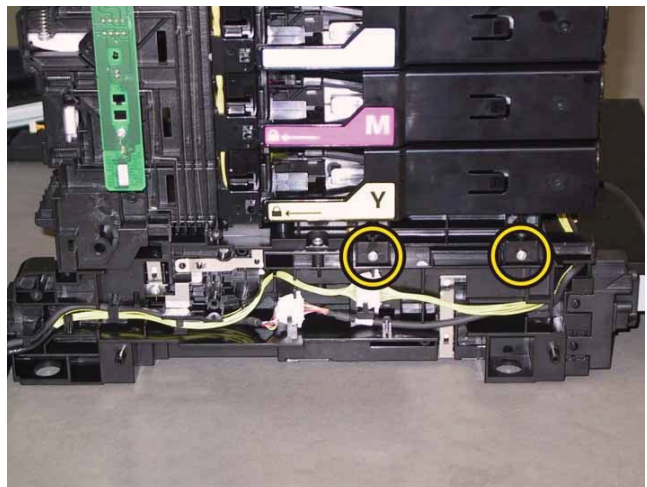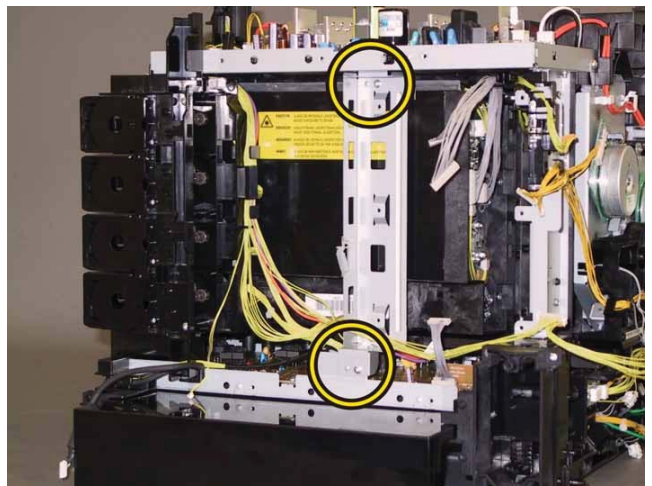
8) Mate the two holes of the BRACKET MCU R with the bosses of the printer, secure it with the two screws (silver, 6mm).	
9) Secure the harness of the HARN ASSY OPTION with the clamp on the BRACKET MCU R.	
10) Insert the tab on the under side of the GUIDE HARNESS AC into the hole of the printer, attach the GUIDE HARNESS AC to the printer.	
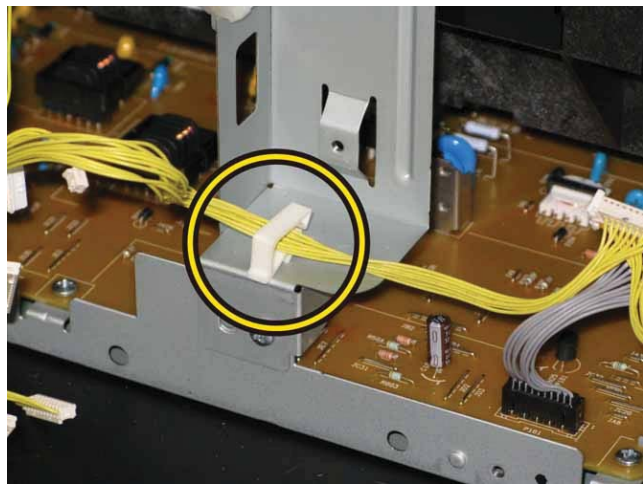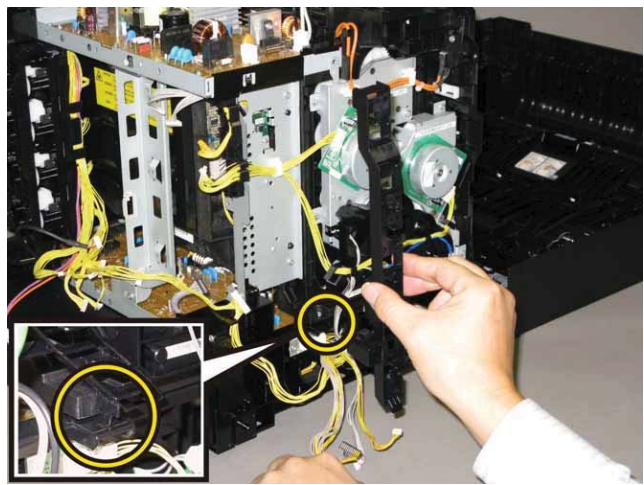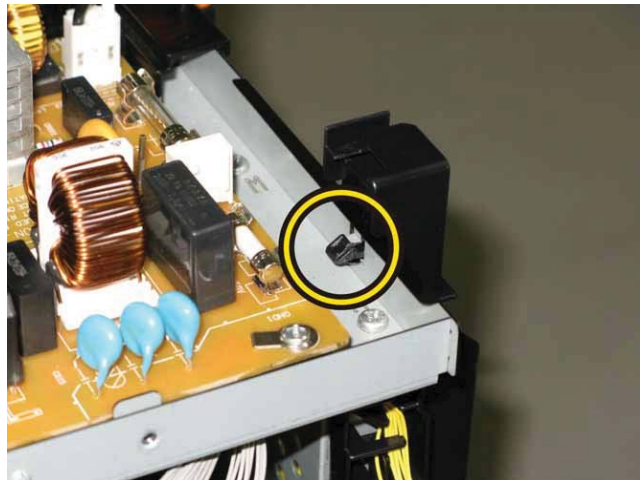
11) Secure the hook of the GUIDE HARNESS AC to the printer.	
12) Route the HARN ASSY GND and all the harnesses along the GUIDE HARNESS AC, secure the grounding terminal of the HARN ASSY GND with the one screw (silver, 6mm). **Note: This step is only 2150cdn.**	
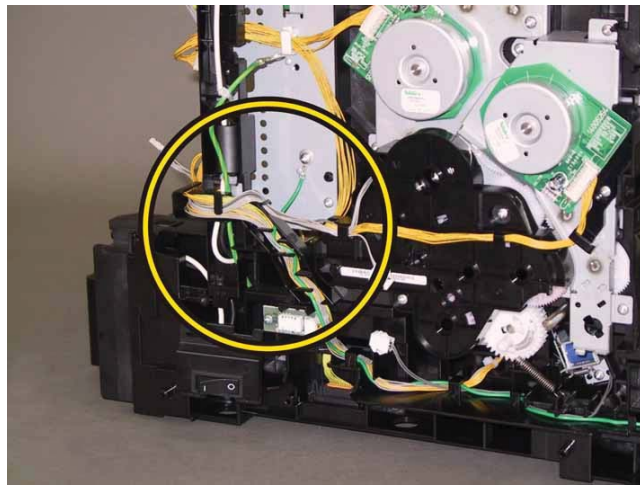
Go to the next replacement step:

Replacement 34 KIT TRANSFER ASSY

Replacement 9 KIT ROS (PL4.1.99)

Accesses Position (All the numbers show the procedure number.)

7), 8)

Front

11)

12)

9), 10)
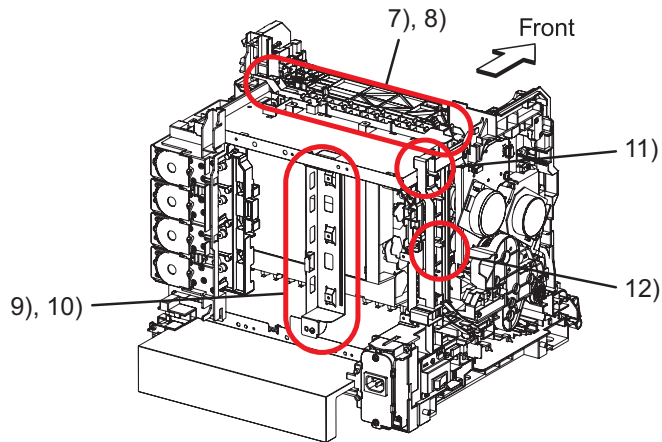
1) Mate the under side boss of the ROS ASSY with the hole of the printer, attach the ROS ASSY.	
Note: When carrying out the work described next procedure, ensure that the SPRING ROS is oriented to the direction shown in the right.	
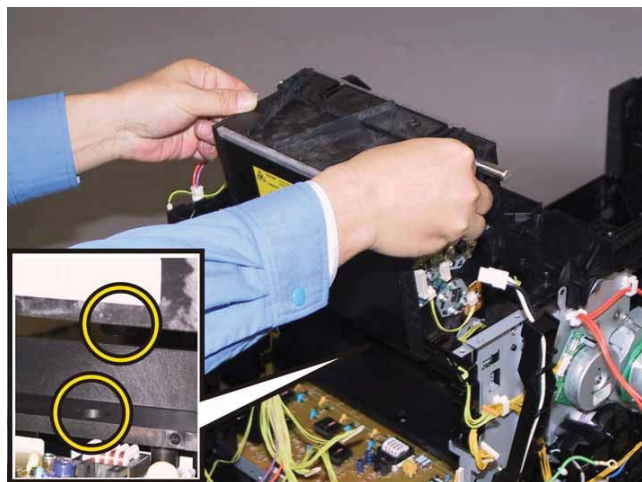
3 - 165
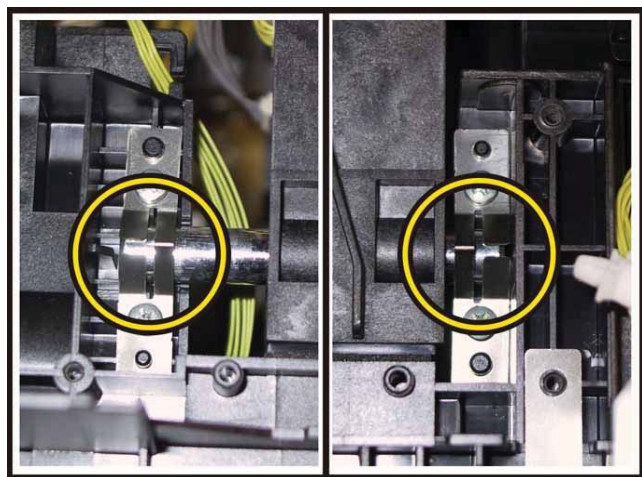
2) Mate the holes of the SPRING ROSs with the bosses of the printer, secure it with the four screws (silver, tap, 8mm).	
3) Engage the two connectors (P/J411, 412) of the ROS ASSY.	
4) Mate the three holes of the FRAME ASSY LVPS with the bosses of the printer, attach the FRAME ASSY LVPS to the printer.	
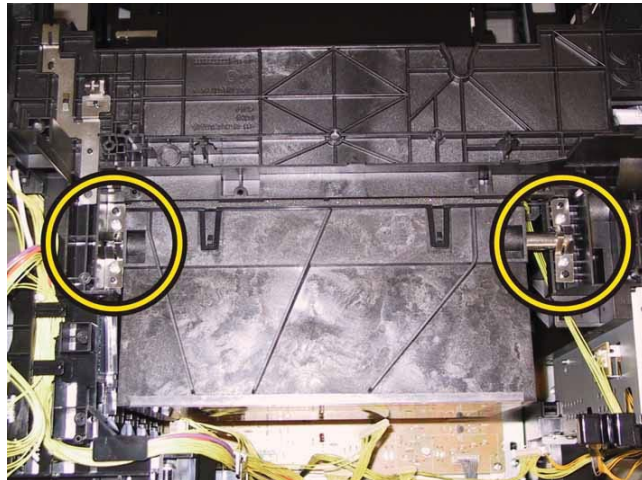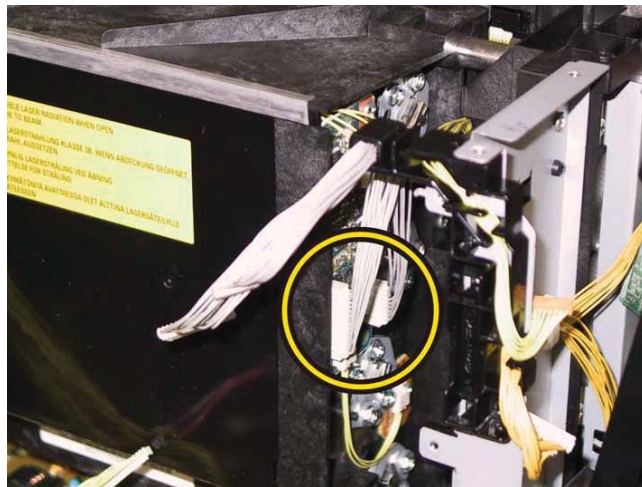
Note: Since two types of screws are used for securing the FRAME ASSY LVPS, ensure that the right screws are used at their right securing positions.

The securing positions for tap screws are marked with [T].

The securing positions for metal screws are marked with [M].
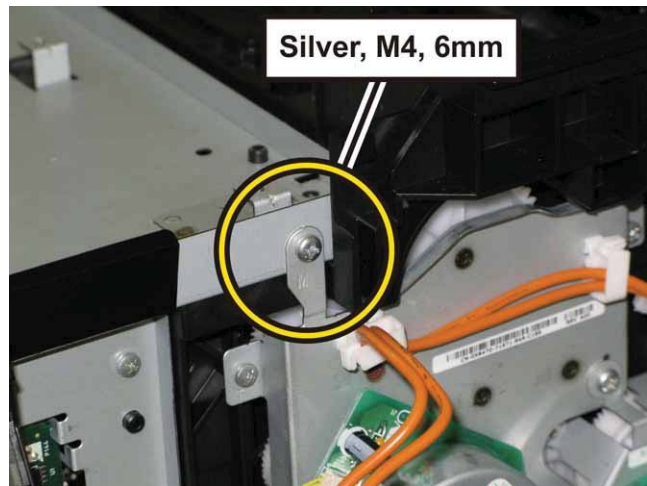
5) Secure the DRIVE ASSY SUB to the FRAME ASSY LVPS with the one screw (silver, M4, 6mm).	Silver, M4, 6mm
6) Secure the FRAME ASSY LVPS to the printer with the two screws (silver, M4, 6mm) and the six screws (silver, tap, 8mm).	Silver, M4, 6mm
7) Mate the tab and boss of the GUIDE HARNESS FSR with the holes of the FRAME ASSY LVPS, move the GUIDE HARNESS FSR to secure it.	
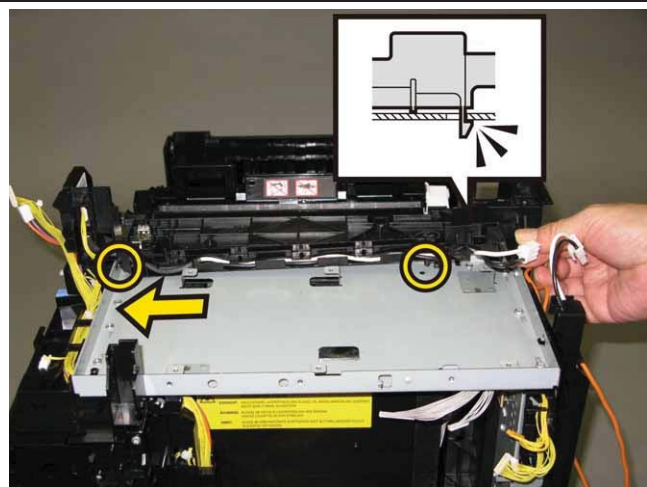
Note: Ensure that the harnesses of the HARN ASSY INTERLOCK and HARNESS ASSY FUSER MG SFP are kept apart so that they do not contact each other. 8) Route the harness of the HARN ASSY INTERLOCK along the GUIDE HARNESS FSR.	
9) Mate the two holes of the BRACKET MCU R with the bosses of the printer, secure it with the two screws (silver, 6mm).	
10) Secure the harness of the HARN ASSY OPTION with the clamp on the BRACKET MCU R.	
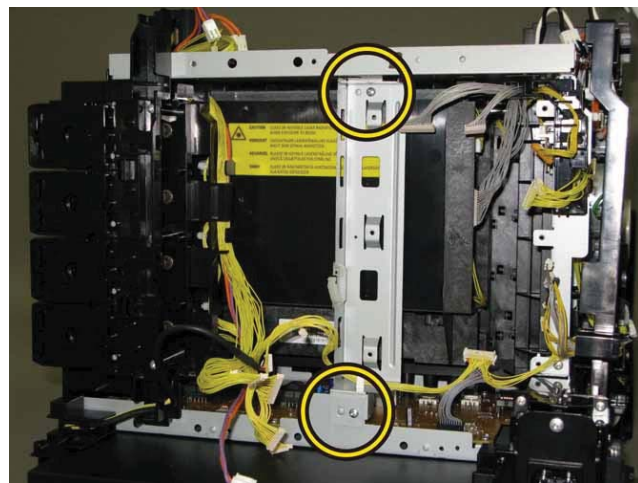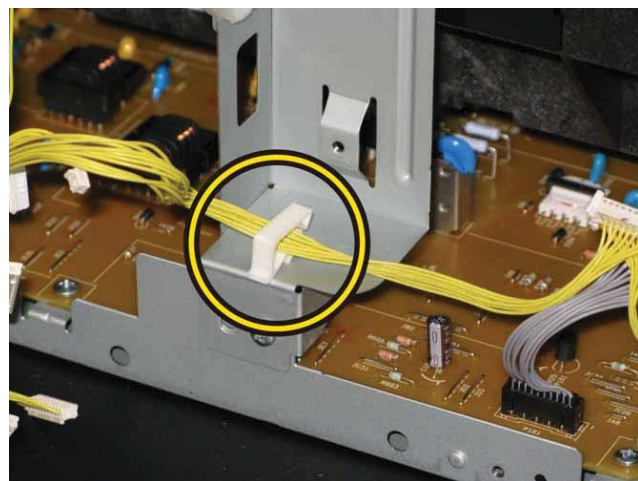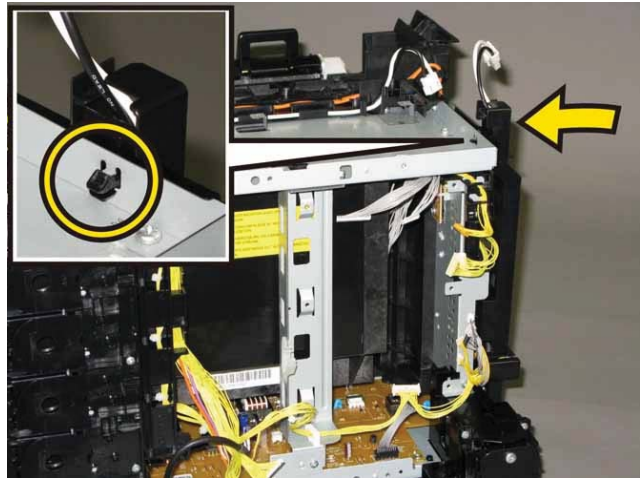
| 11) Secure the hook of the GUIDE HARNESS AC to the printer. | |
| 12) Secure the grounding terminal of the SWITCH ASSY INLET MG SFP with the one screw (silver, with washer, 6mm). | |

Go to the next replacement step:

Replacement 43 PWBA LVPS (PL8.2.1)

Replacement 10 DISPENSER ASSY (PL5.1.1)

Accesses Position (All the numbers show the procedure number.)

9), 10)

Front

5)

13)

4)

14)

11), 12)
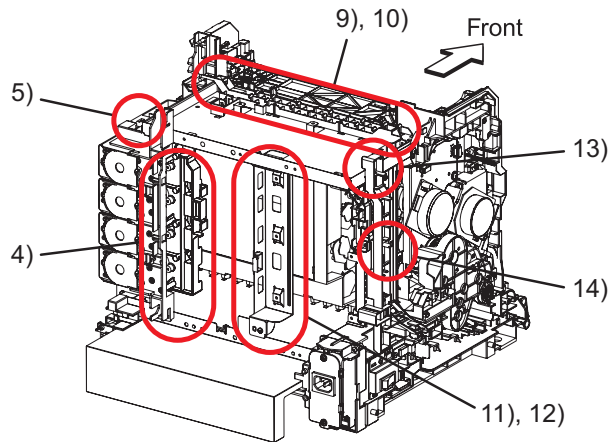
1) Insert the AUGER part of the DISPENSER ASSY into the hole of the printer, mate the hole of the DISPENSER ASSY with the boss of the printer, and then attach the DISPENSER ASSY.	
2) Secure the rear side of DISPENSER ASSY to the printer with the one screw (silver, M4, 6mm).	Silver, M4, 6mm
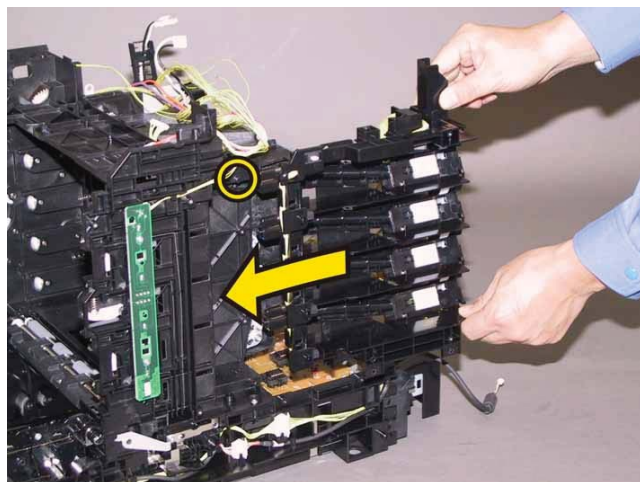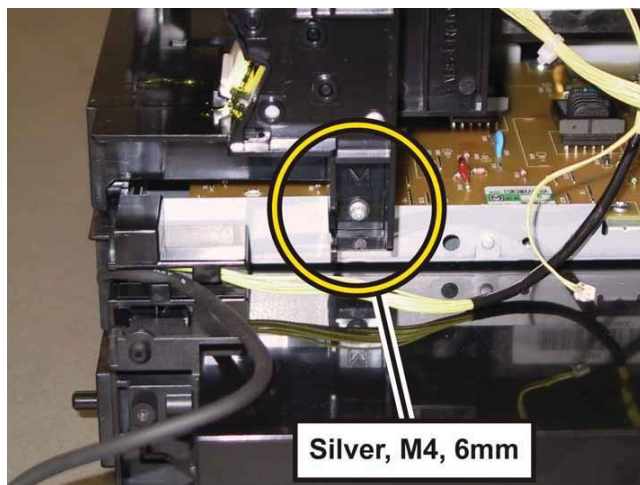
| 3) Secure the DISPENSER ASSY to the printer with the four screws (silver, tap, 8mm). | |
| 4) Route the HARNESS ASSY FUSER MG SFP, HARNESS ASSY LVPS MAIN MG SFP, HARN ASSY ESS POWER, HARNESS ASSY B and HARN ASSY OPTION through the hooks of the DISPENSER ASSY. | |
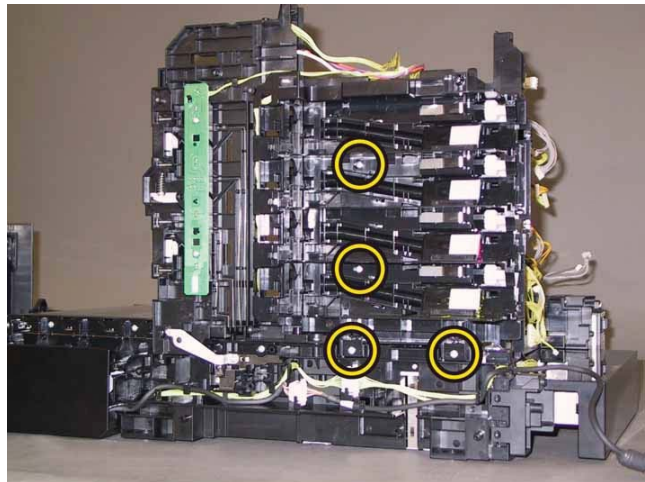
3 - 171
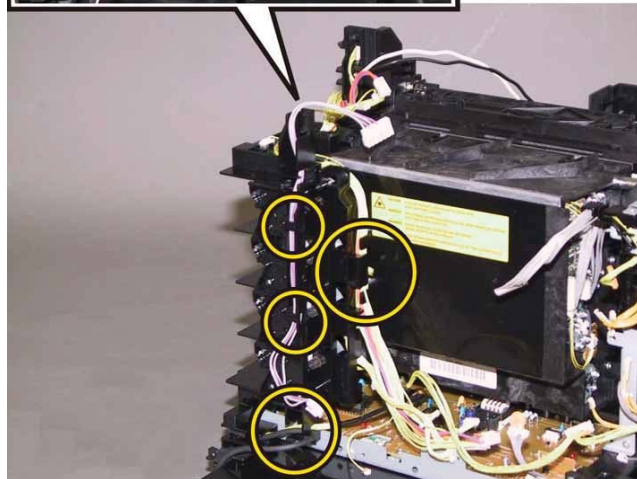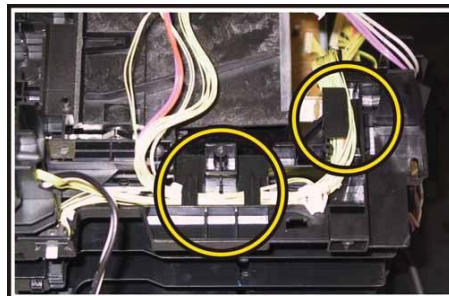
| 5) Attach the connector (P5041) of the HARNESS ASSY LVPS MAIN MG SFP to the DISPENSER ASSY. | |
| 6) Mate the three holes of the FRAME ASSY LVPS with the bosses of the printer, attach the FRAME ASSY LVPS to the printer. | |
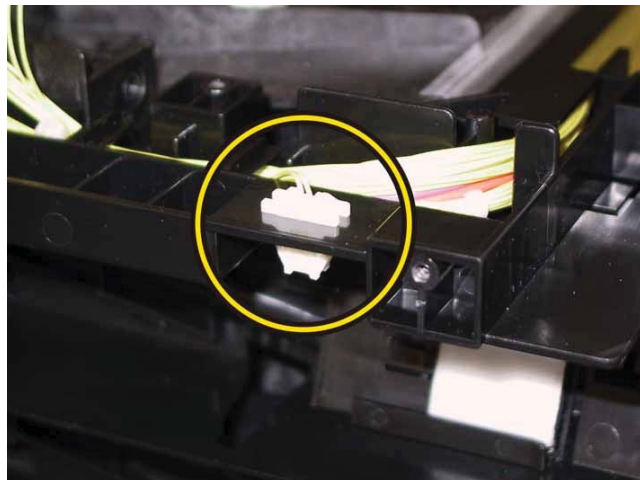
Note: Since two types of screws are used for securing the FRAME ASSY LVPS, ensure that the right screws are used at their right securing positions.

The securing positions for tap screws are marked with [T].

The securing positions for metal screws are marked with [M].

| 7) Secure the DRIVE ASSY SUB to the FRAME ASSY LVPS with the one screw (silver, M4, 6mm). | Silver, M4, 6mm |
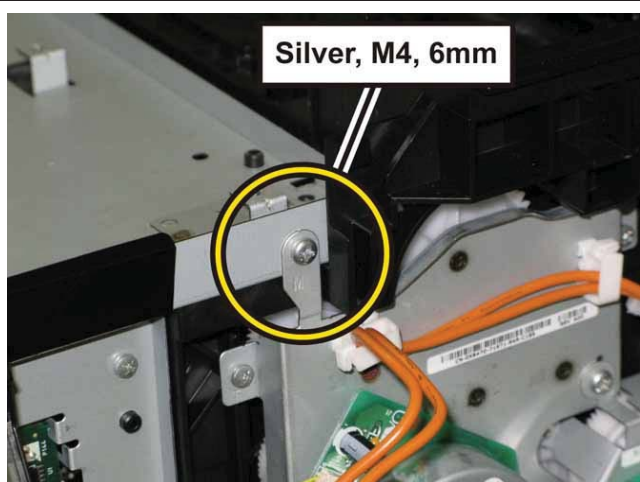
8) Secure the FRAME ASSY LVPS to the printer with the two screws (silver, M4, 6mm) and the six screws (silver, tap, 8mm).

Silver, M4, 6mm

9) Mate the tab and boss of the GUIDE HARNESS FSR with the holes of the FRAME ASSY LVPS, move the GUIDE HARNESS FSR to secure it.
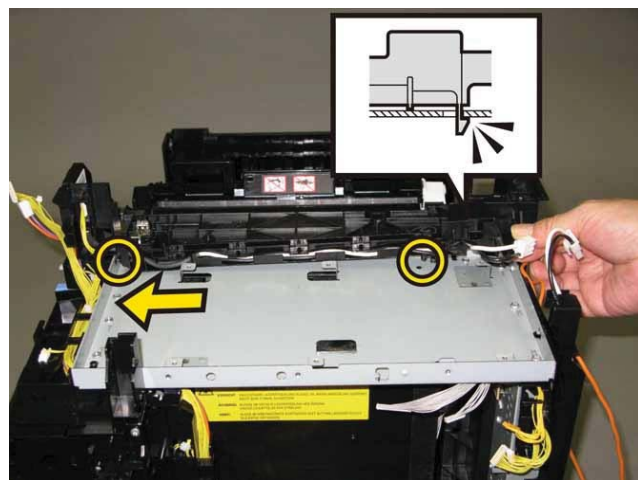
Note: Ensure that the harnesses of the HARN ASSY INTERLOCK and HARNESS ASSY FUSER MG SFP are kept apart so that they do not contact each other.
10) Route the harness of the HARN ASSY INTERLOCK along the GUIDE HARNESS FSR.

HARN ASSY INTERLOCK

HARNESS ASSY☐
FUSER MG SFP
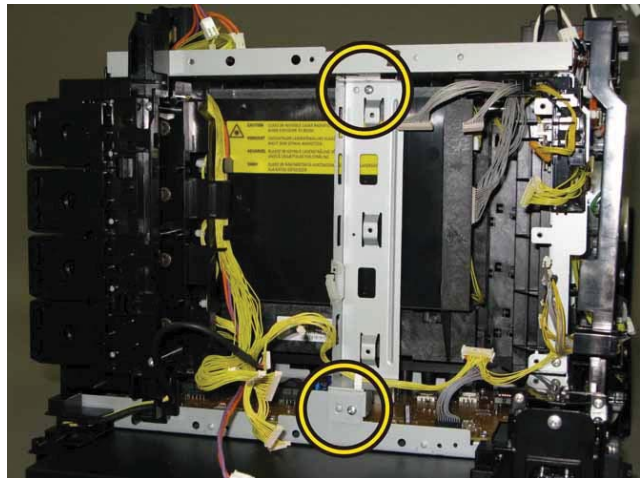
11) Mate the two holes of the BRACKET MCU R with the bosses of the printer, secure it with the two screws (silver, 6mm).	
12) Secure the harness of the HARN ASSY OPTION with the clamp on the BRACKET MCU R.	
13) Secure the hook of the GUIDE HARNESS AC to the printer.	
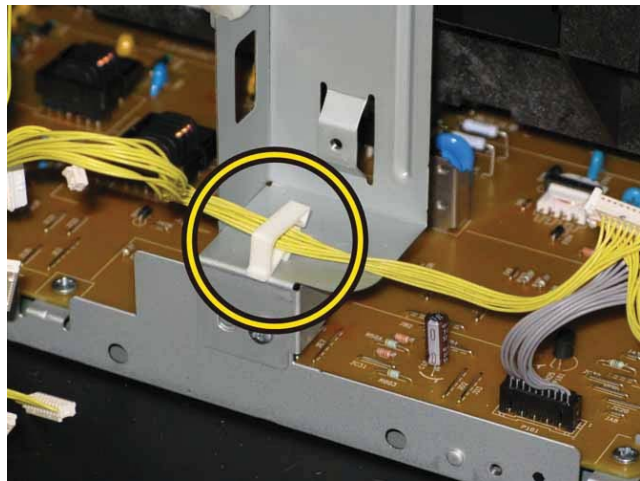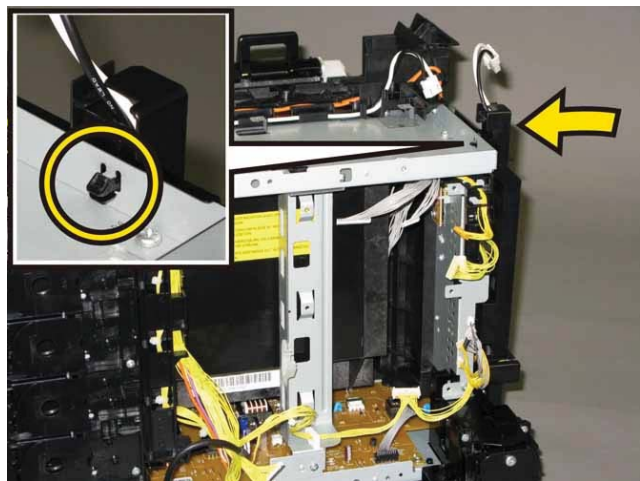
| 14) Secure the grounding terminal of the SWITCH ASSY INLET MG SFP with the one screw (silver, with washer, 6mm). | |

Go to the next replacement step:

Replacement 43 PWBA LVPS (PL8.2.1)

Replacement 11 KIT PWBA MCU (PL8.2.99)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Mate the holes of the PWBA MCU with the tabs of the printer, attach it.	
2) Secure the PWBA MCU to the printer with the six screws (silver, 6mm).	
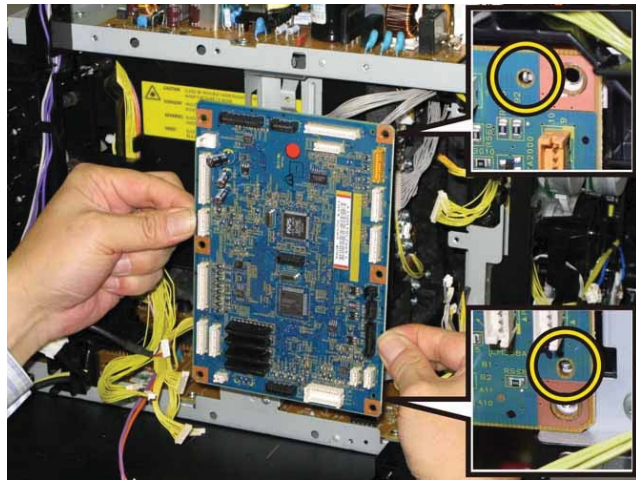
3 - 176
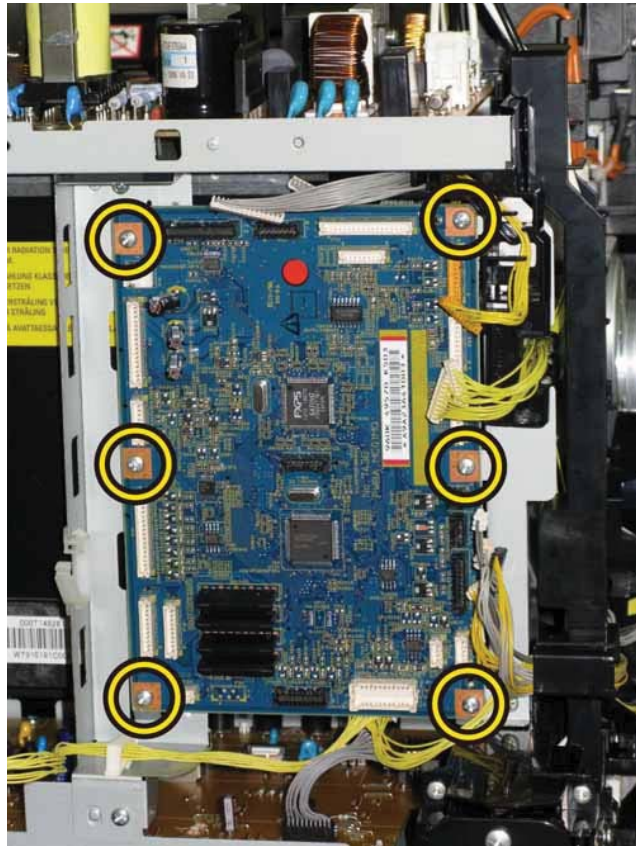
3) Engage all the connectors of the PWBA MCU.	
4) Mate the hole of the FRAME ESS with the hook of the FRAME ASSY LVPS.	

5) Attach the DUCT FAN to the printer together with the FRAME ESS.	
6) Secure the FRAME ESS to the printer with the five screws (silver, 6mm).	
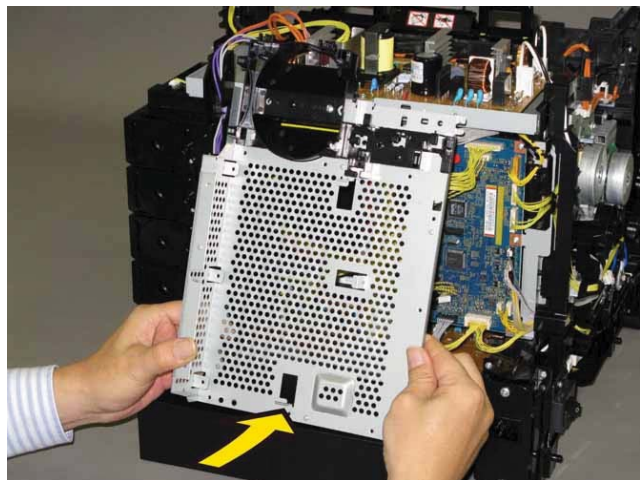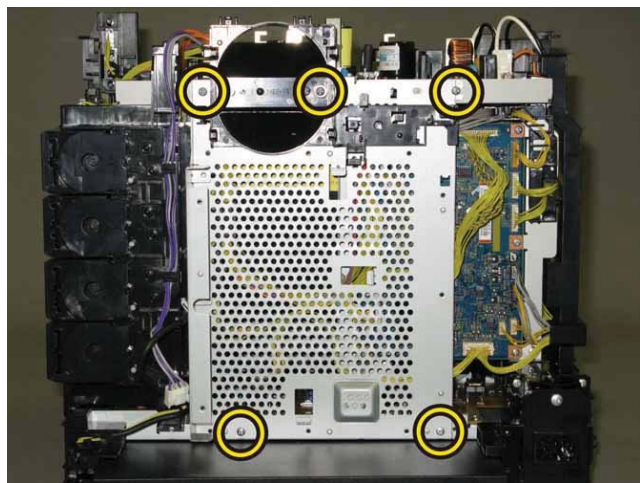
Go to the next replacement step:

Replacement 12 KIT PWBA ESS SFP (PL8.1.99)

Note: When the PWBA MCU is replaced with a new one, perform the following steps.

(After completing all steps up to Replacement 59.)

7) Plug in the power cord to the printer.

8) Execute diagnostic operation of NVM Load, and write the data into PWBA MCU.

9) Turn off the power.

10) Perform the diagnostic operation of NVM Load, and write the data into the MCU.

11) Turn on the power while pressing the "►" key, "◄" key, and [MENU] key on the control panel.

12) Enter the password, press the "▲"key twice, and press the " ✓ " key once. The diagnostic screen comes up.

13) Press the "▼" key several times until "IOT Diag" is displayed. Press the " ✓ " key once.

14) Press the "▼" key several times until "NVM Settings" is displayed. Press the " ✓ " key once.

15) Press the "▼" key several times until "LoadNVM from ESS" is displayed. Press the " ✓ " key once.

16) Press the " ✓ " key once, and NVM Load is performed.

17) After NVM Load is complete, press the [CANCEL] key several times until "IOT Diag" is displayed.

18) Press the "▼" key several times until "Complete" is displayed.

19) Press the " ✓ " key twice. "Ready to Print" is displayed.

20) Turn off the power to exit.

Replacement 12 KIT PWBA ESS SFP (PL8.1.99)

Note: Ensure proper electrostatic discharge procedures are followed to prevent damage to the PWBA ESS SFP and options during replacement.

Note: The replacement steps of procedure 1) to 3) are to be required for changing the PWBA ESS SFP. Those steps are not required for only removing it.

Note: There are two ROM chips that must be moved from the original PWBA ESS SFP to the replacement PWBA. Ensure both these chips are installed into the same locations on the replacement PWBA.

Note: Avoid applying excessive pressure when removing and replacing the ROM chips.

Note: Take care not to bend the terminal section of ROM when carrying out the job described below.

1) Remove the ROM, using a miniature screwdriver or the like, from the IC sockets on old PWBA ESS SFP that was removed from the printer.	 Old PWBA ESS SFP
2) Remove the ROM from IC socket on new PWBA ESS SFP using a miniature screwdriver or the like.	 New PWBA ESS SFP
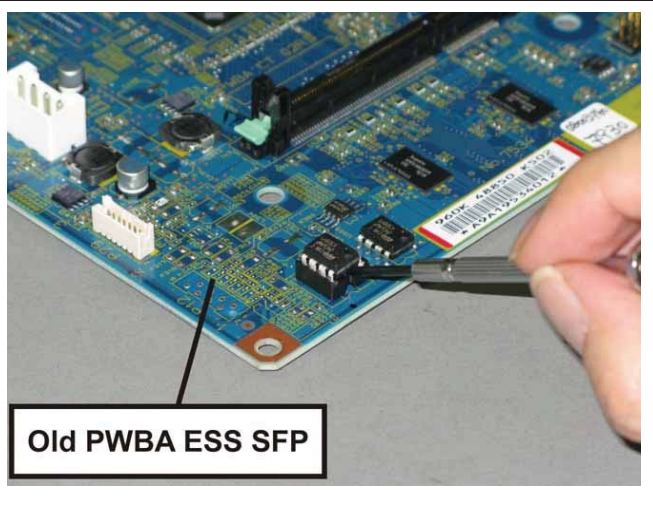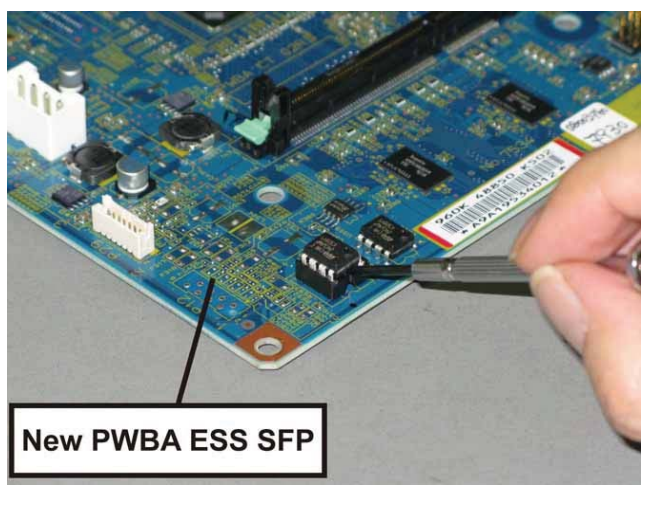
Note: Do not use ROMs removed from new PWBA ESS SFP.

3) Attach the ROM that were removed from old PWBA ESS SFP on IC sockets of new PWBA ESS SFP with its notch aligned with the notch in IC socket.	notch
4) Secure the PLATE IF M to the PWBA ESS SFP with the two screws (silver, 6mm).	
5) Secure the USB connector of the PWBA ESS SFP to the PLATE IF M with the one screw (silver, 4mm).	
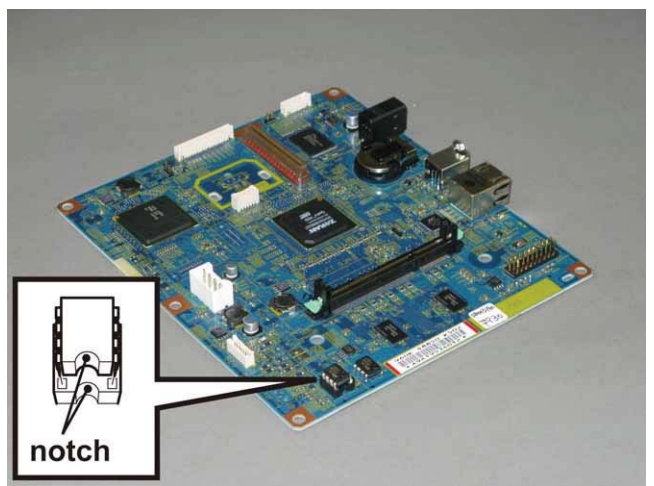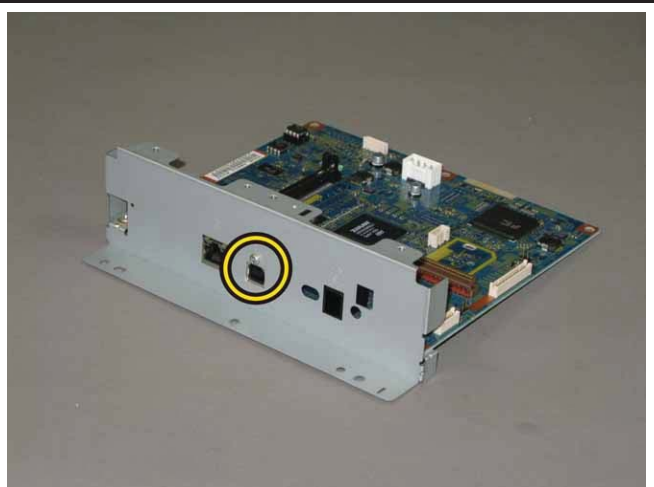
6) Mate the hole of the PLATE IF M with the tab of the printer, attach the PWBA ESS SFP together with the PLATE IF M.	
7) Secure the PWBA ESS SFP to the printer with the six screws (silver, 6mm).	
8) Insert the connector (J401) of the HARN ASSY ESS POWER and the connector (J29) of the HARNESS ASSY B into the FRAME ESS through the hole.	

9) Engage all the connectors of the PWBA ESS SFP.	
10) Mate the five bosses of the printer with the holes of the SHIELD ASSY ESS, secure it with the eleven screws (silver, 6mm).	
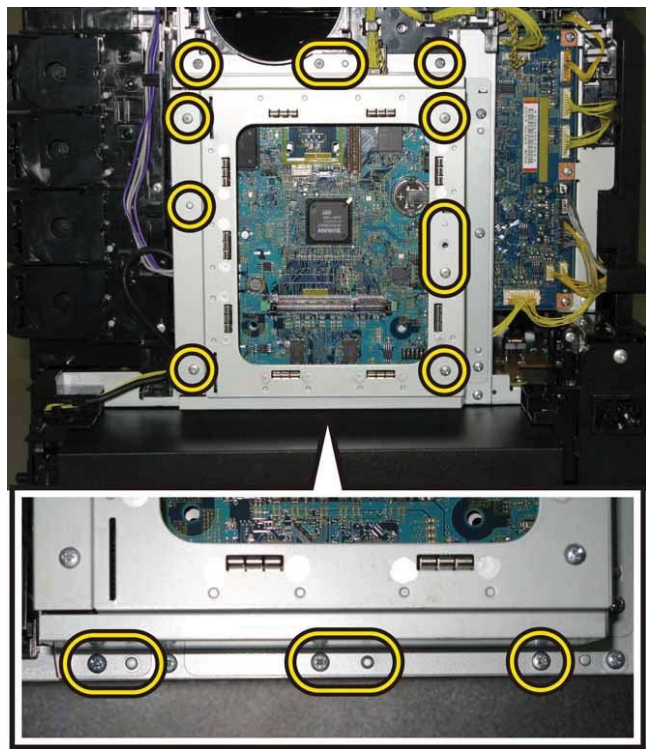
11) Insert the lower tab of the PLATE ESS into the slit of the SHIELD ASSY ESS, after inserting the upper tab of the PLATE ESS into the slit of the SHIELD ASSY ESS.	
12) Close the PLATE ESS and secure the SCREW KNURLING.	
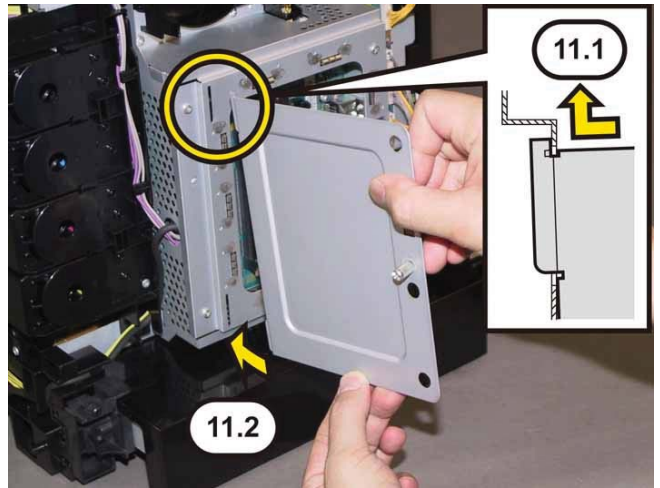
Go to the next replacement step:

Replacement 14 FAN (PL8.1.1)

Replacement 13 DUCT FAN (PL8.1.2)

1) Secure the DUCT FAN to the printer with the two hooks.	
2) Secure the DUCT FAN to the printer with the one screw (silver, 6mm).	
3) Route the HARN ASSY ESS and HARN ASSY ESS VIDEO through the hooks of the DUCT FAN, engage the two connectors (P/J101, 111) on the PWBA ESS SFP.	
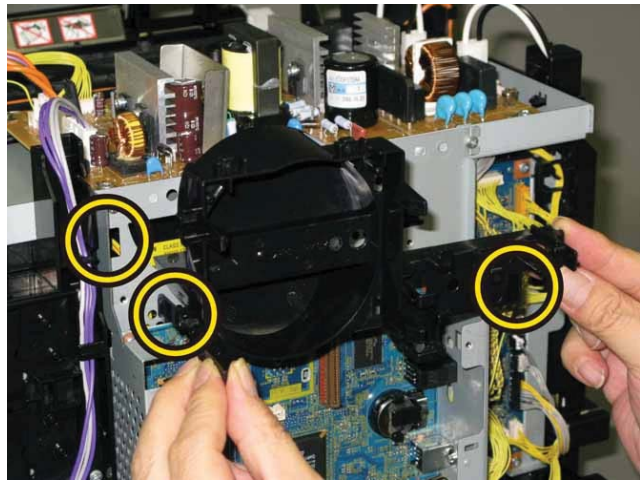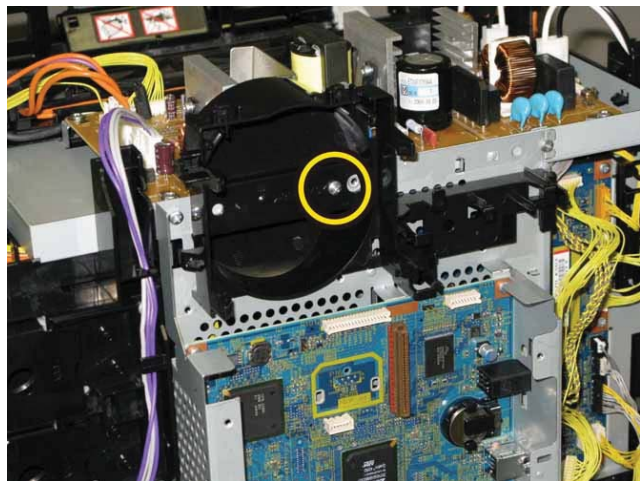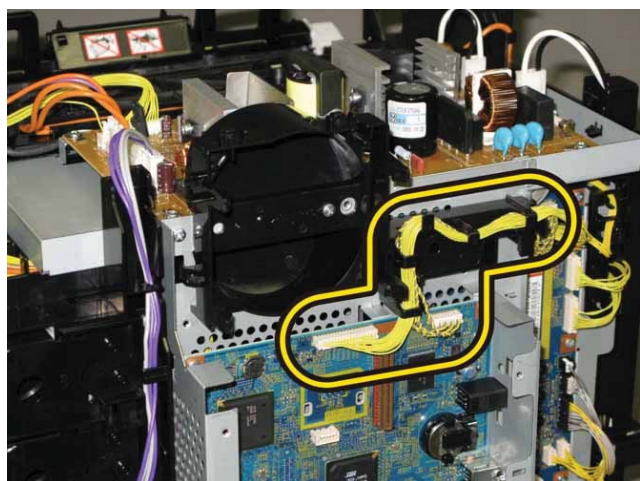
4) Mate the five bosses of the printer with the holes of the SHIELD ASSY ESS, secure it with the eleven screws (silver, 6mm).
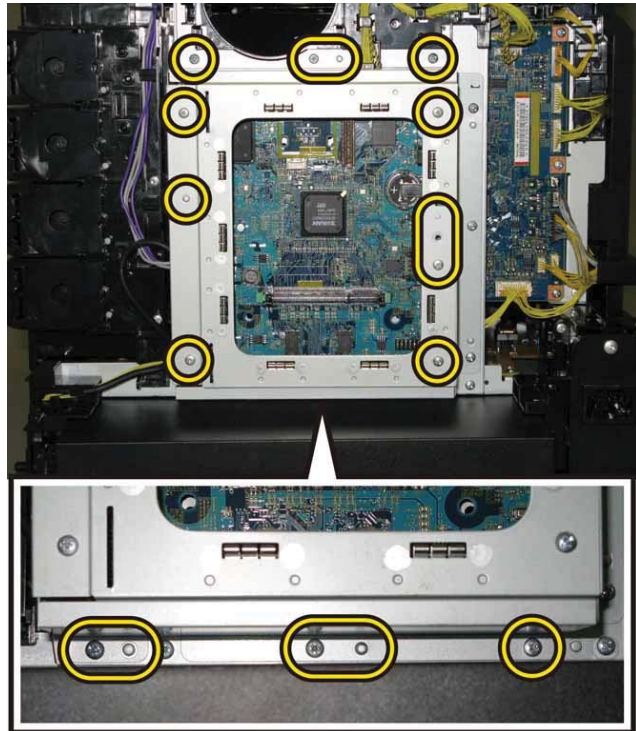
5) Insert the lower tab of the PLATE ESS into the slit of the SHIELD ASSY ESS, after inserting the upper tab of the PLATE ESS into the slit of the SHIELD ASSY ESS.
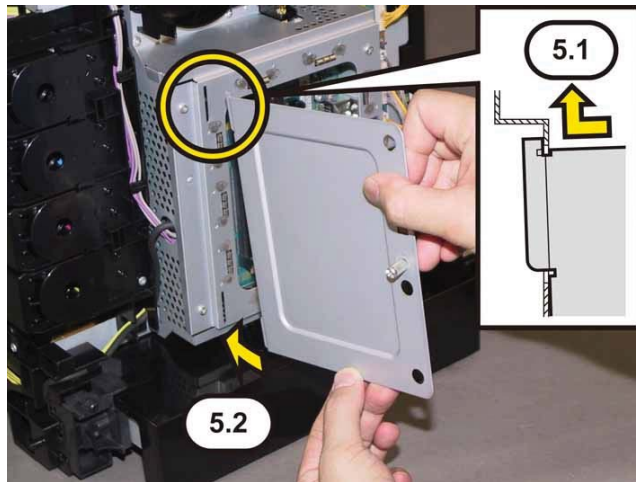
6) Close the PLATE ESS and secure the SCREW KNURLING.	
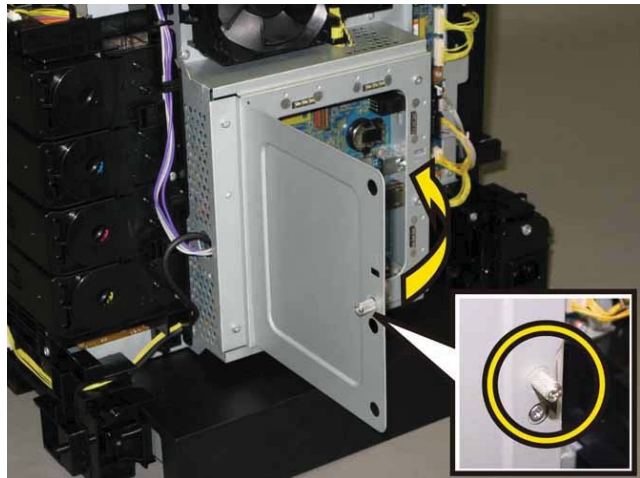
Go to the next replacement step:

Replacement 14 FAN (PL8.1.1)

Replacement 14 FAN (PL8.1.1)

Note: When carrying out the work described next procedure, take care to check the orientation of the FAN. (Attach the FAN so that its labeled surface faces front.)

1) Secure the FAN to the DUCT FAN with the four hooks.	
2) Route the harness of the FAN through the hooks of the DUCT FAN, engage the connector (P/J503) of the FAN to the PWBA LVPS.	

Go to the next replacement step:

Replacement 25 COVER REAR (PL1.1.3)

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Replacement 15 HOLDER ASSY TCRU (K), (C), (M), (Y) (PL5.1.17~20)

Note: Described below is the replacement procedure common among the four HOLDER ASSY TCRU.

1) Mate the lower boss of the HOLDER ASSY TCRU with the hole of the FRAME DISP.	
2) Bend the HOLDER ASSY TCRU, mate the upper boss of the HOLDER ASSY TCRU with the hole of the FRAME DISP.	
3) Press the central part of the HOLDER ASSY TCRU, mate the hole of the HOLDER ASSY TCRU with the boss of the FRAME DISP.	
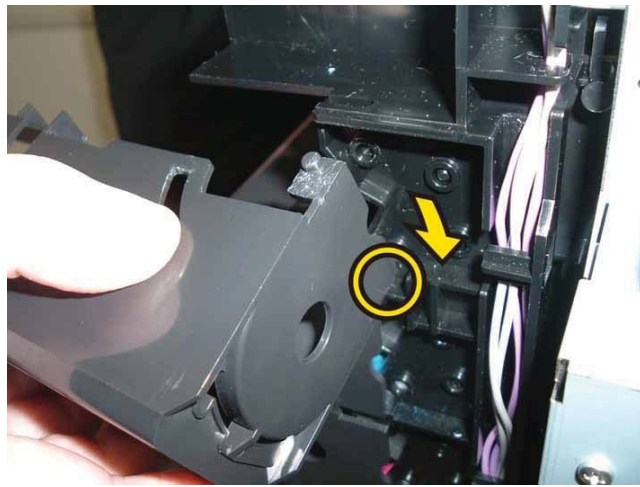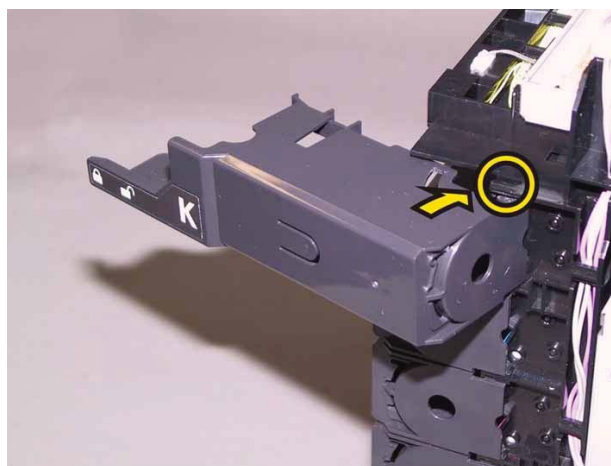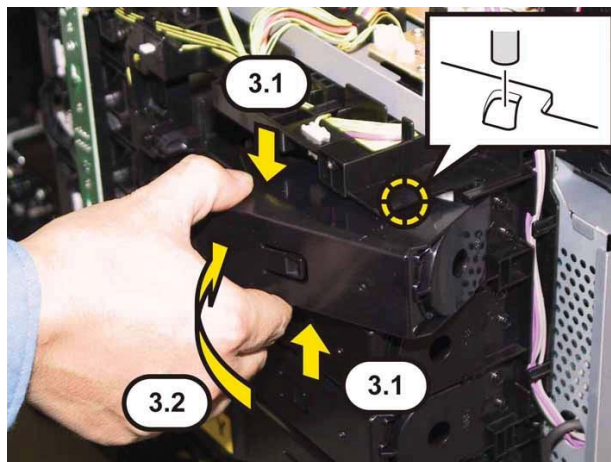
Go to the next replacement step:

Replacement 25 COVER REAR (PL1.1.3)

Replacement 16 STOPPER CST (PL3.1.10)

1) Mate the two holes of the STOPPER CST with the bosses of the printer, attach the STOPPER CST.	
2) Secure the STOPPER CST to the printer with the one screw (silver, tap, 8mm).	
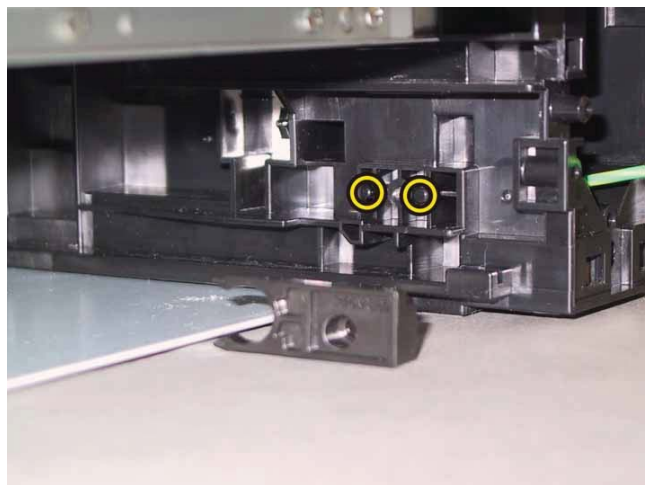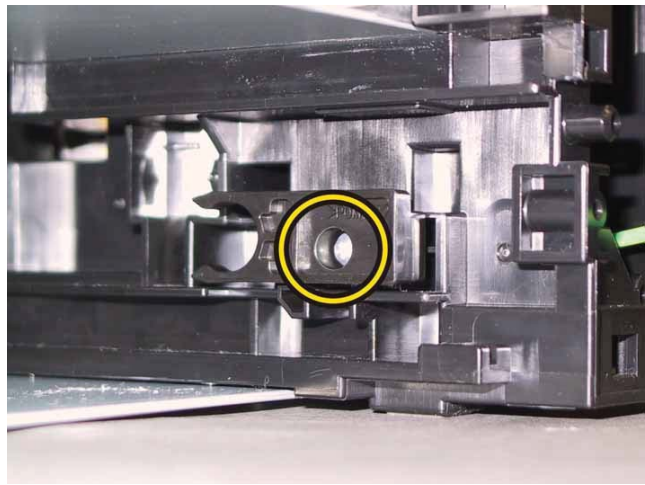
Go to the next replacement step:

Replacement 17 COVER CST (PL3.1.22)

Replacement 17 COVER CST (PL3.1.22)

1) Attach the COVER CST to the printer.	
2) Attach the BRACKET GFI to the COVER CST.	
3) Secure the two hooks of the BRACKET GFI to the printer.	
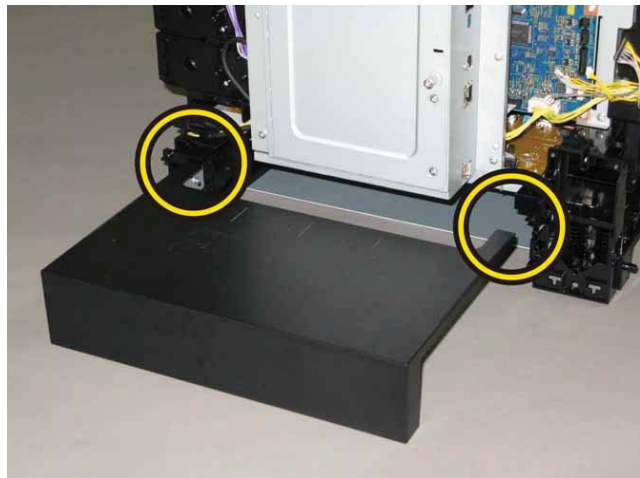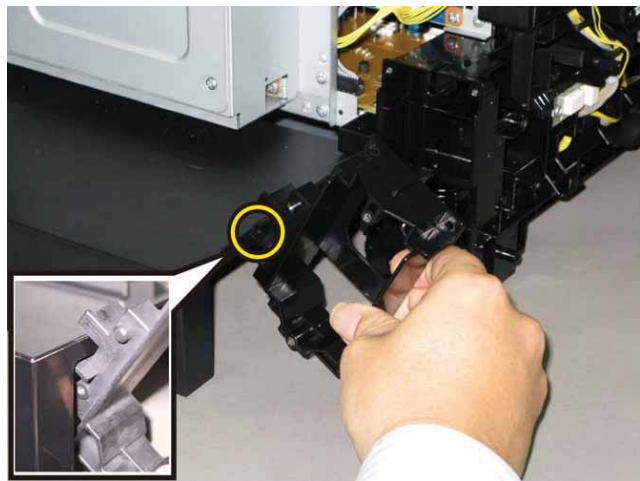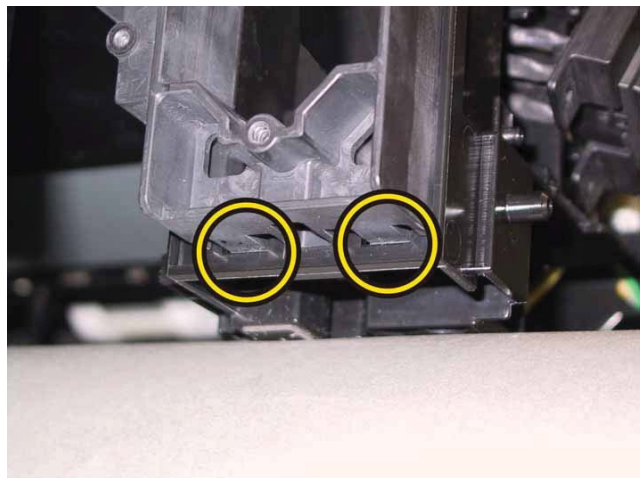
4) Secure the BRACKET GFI to the printer with the two screws (silver, tap, 8mm).

Go to the next replacement step:

Replacement 18 SWITCH ASSY INLET MG SFP (PL8.2.9), COVER INLET (PL8.2.22)

Replacement 18 SWITCH ASSY INLET MG SFP (PL8.2.9), COVER INLET (PL8.2.22)

1) Route the connector (J48) of the SWITCH ASSY INLET MG SFP through the hole of the COVER INLET.	
2) Route the harness and SWITCH POWER of the SWITCH ASSY INLET MG SFP through the hole of the COVER INLET.	
3) Attach the AC INLET of the SWITCH ASSY INLET MG SFP to the COVER INLET, and secure it with the hooks.	
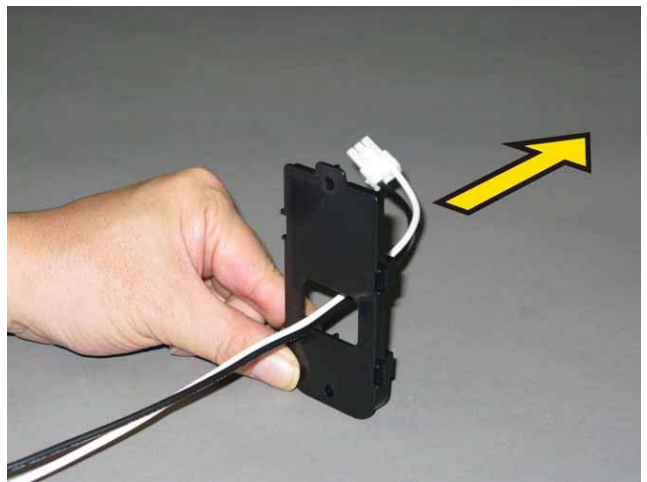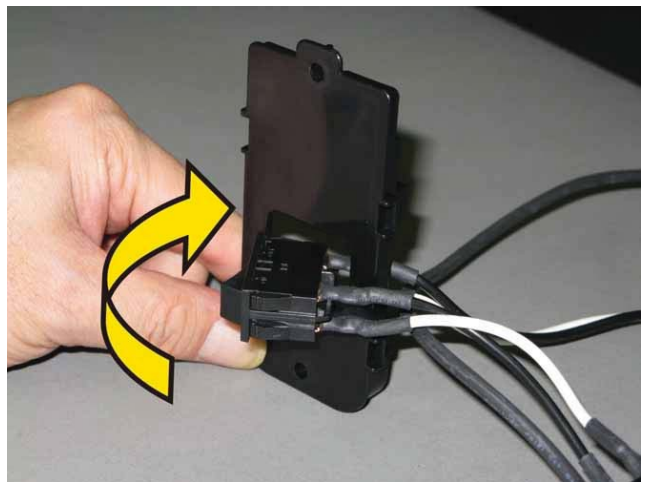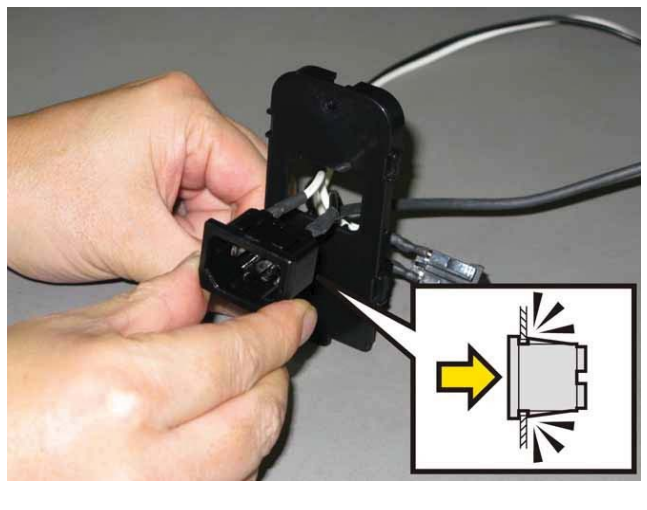
4) Route the harness and SWITCH POWER of the SWITCH ASSY INLET MG SFP through the hole of the printer.
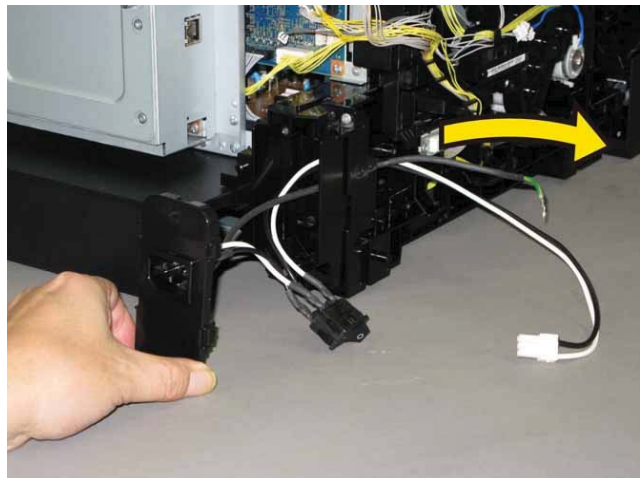
Note: When replacing the SWITCH ASSY INLET MG SFP, match the ON/OFF mark of the SWITCH POWER with the mark on the BRACKET SW.
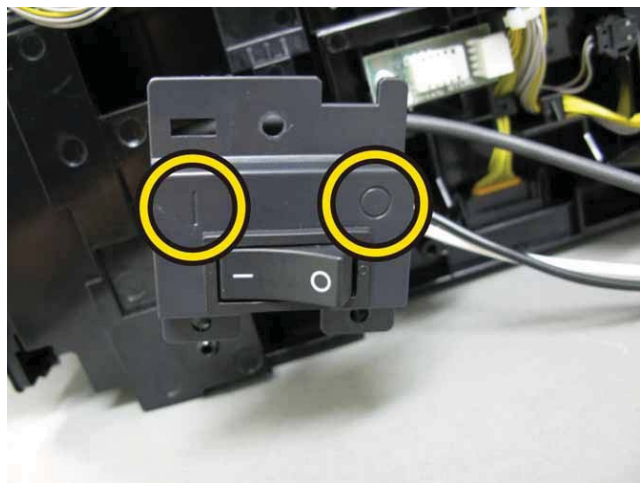
5) Attach the SWITCH POWER of the SWITCH ASSY INLET MG SFP to the BRACKET SW, and secure it with the hooks.

3 - 194
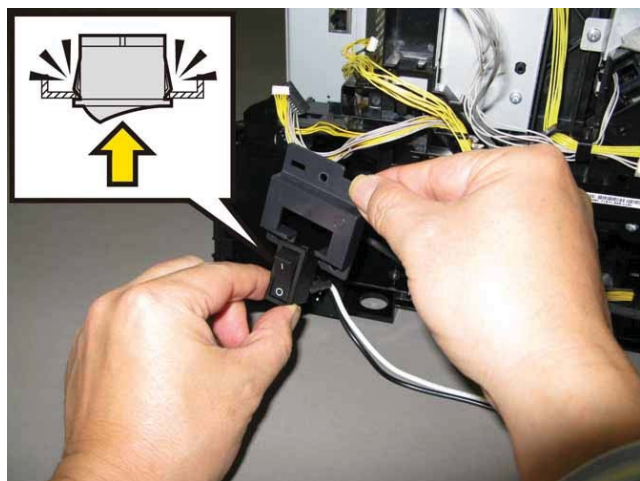
6) Secure the COVER INLET to the printer with the two screws (silver, tap, 12mm).	
7) Mate the notch of the BRACKET SW with the hook of the GUIDE HARNESS AC.	
8) Mate the holes of the BRACKET SW with the two bosses of the printer, secure the BRACKET SW with the two screws (silver, tap, 8mm).	

9) Route the harness of the SWITCH ASSY INLET MG SFP along the GUIDE HARNESS AC, secure the grounding terminal of the SWITCH ASSY INLET MG SFP with the one screw (silver, with washer, 6mm). Engage the connector (P/J48) of the SWITCH ASSY INLET MG SFP to the PWBA LVPS.	
10) Route the harness along the GUIDE HARNESS AC, engage the five connectors (P/J20, 23, 24, 26 and 28) with the PWBA MCU.	

Go to the next replacement step:

Replacement 25 COVER REAR (PL1.1.3)

Replacement 19 KIT FEED ROLL/SOL/CLUTCH

1) Mate the holes of the SOLENOID FEED MSI with the two bosses of the printer, secure the SOLENOID FEED MSI with the one screw (silver, tap, 8mm).	
2) Engage the connecter (P/J231) of the SOLENOID FEED MSI, secure the relay connector with the rib of the printer.	
3) Route the harness of the SOLENOID FEED MSI through the hooks of the printer.	
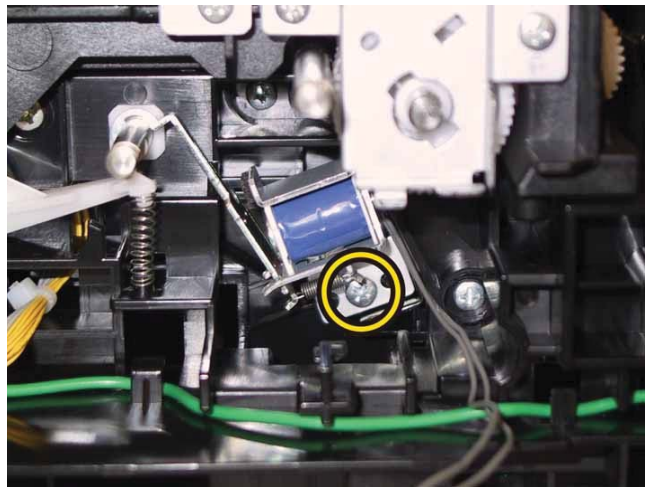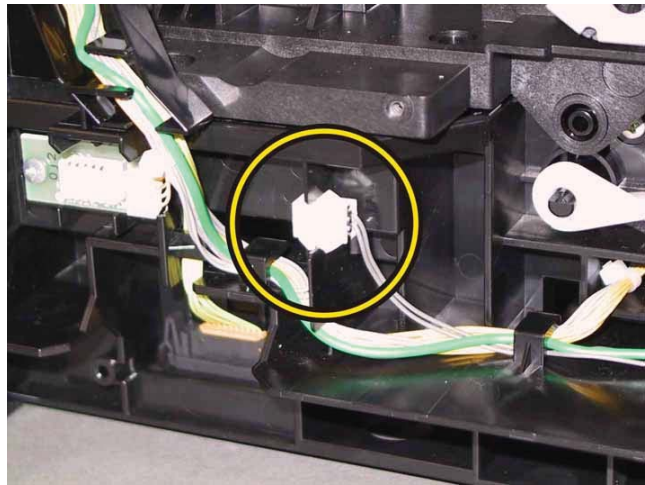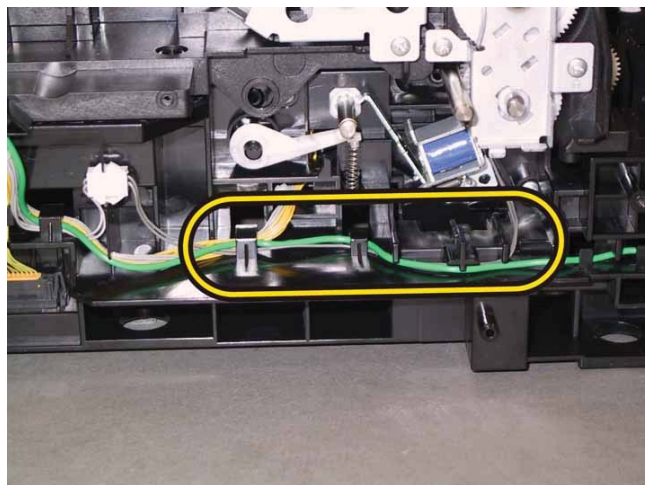
Note: When carrying out the work described next procedure, it is easier to put the D-cut surface of the SHAFT ASSY FEED on the front.

4) Attach the GEAR ASSY FEED to the SHAFT ASSY FEED by pushing down the LEVER FEED, mate the hook of the GEAR ASSY FEED with the groove of the SHAFT ASSY FEED.	
5) Hang the SPRING FEED OUT to the GEAR ASSY FEED and the printer. **Note: Ensure that the SPRING FEED OUT is oriented to the direction shown in the right.**	
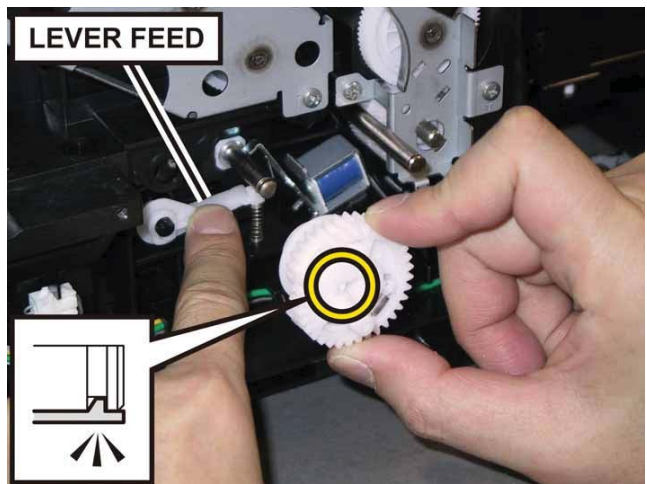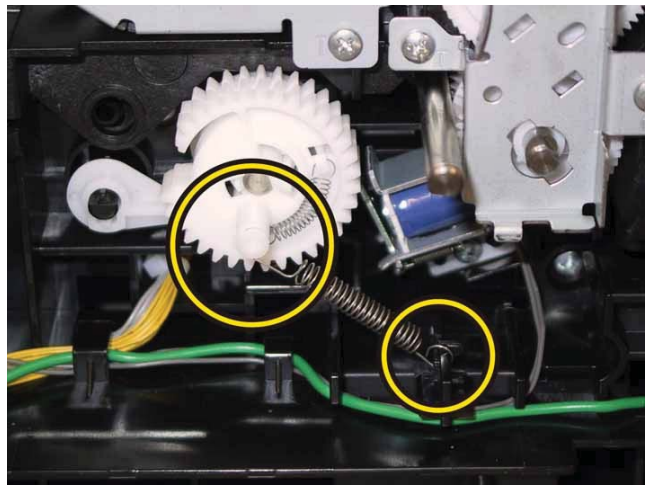
6) Close the COVER ASSY FRONT MG.

7) Fit the ROLL ASSY FEED to the SHAFT ASSY FEED with the groove of the ROLL ASSY FEED facing upward, rotate the ROLL ASSY FEED 180 degrees so that the pin on the SHAFT ASSY FEED is aligned with the groove on the ROLL ASSY FEED.
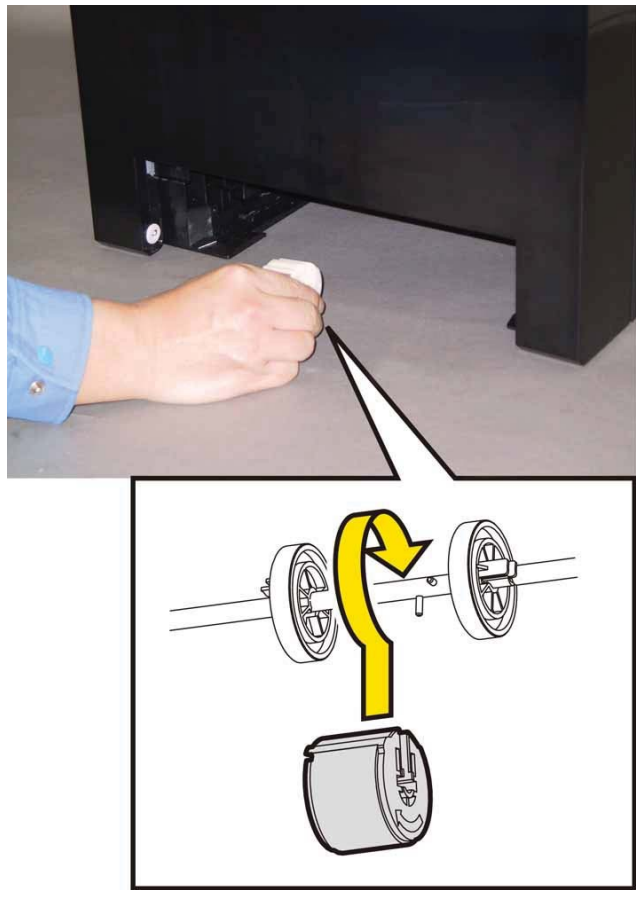
8) Open the COVER ASSY FRONT MG.

9) Move the ROLL ASSY FEED to the right side, put the groove of the ROLL ASSY FEED on the pin of the SHAFT ASSY FEED.
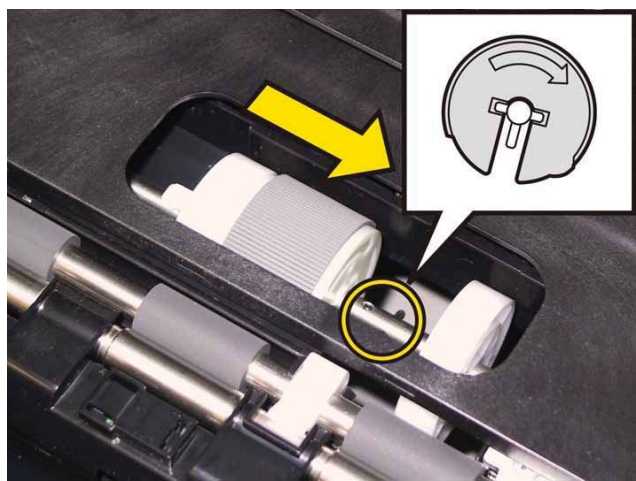
| 10) Move the ROLL CORE MSI to the right side, to secure the hook of the ROLL CORE MSI with the groove of the SHAFT ASSY FEED. | |
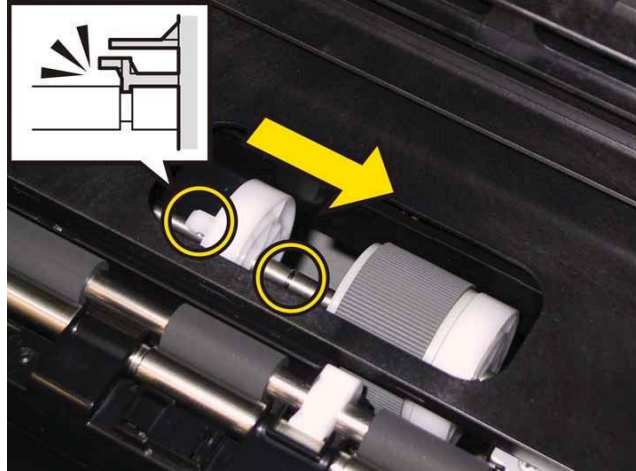
Go to the next replacement step:

Replacement 23 KIT DRIVE ASSY PH (PL7.1.99)

Replacement 20 KIT BLOCK PHD LEFT (PL4.1.98)

Accesses Position (The 1), 2) and 3) show the procedure number.)
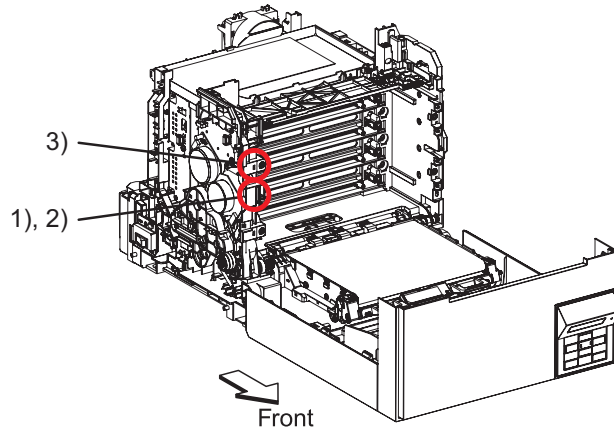
1) Tilt the LEVER PHD slightly, attach the LEVER PHD to the printer.	
2) Attach the SPRING PHD to the printer.	
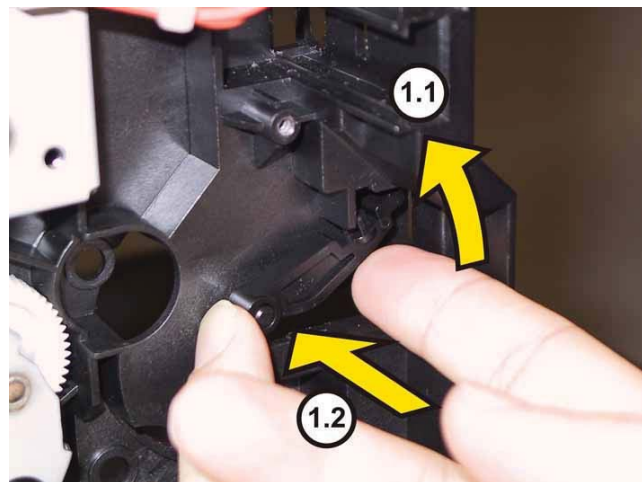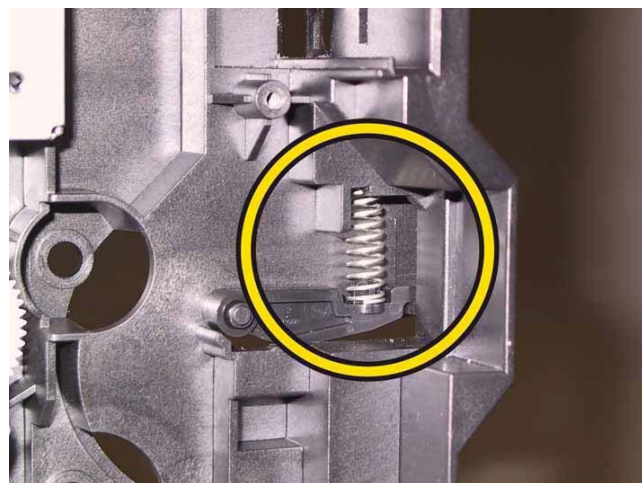
Note: Described below is the replacement procedure common among the upper and lower of the BLOCK STOPPER PHD Ds.

3) Push the BLOCK STOPPER PHD D to the printer until it is locked.	
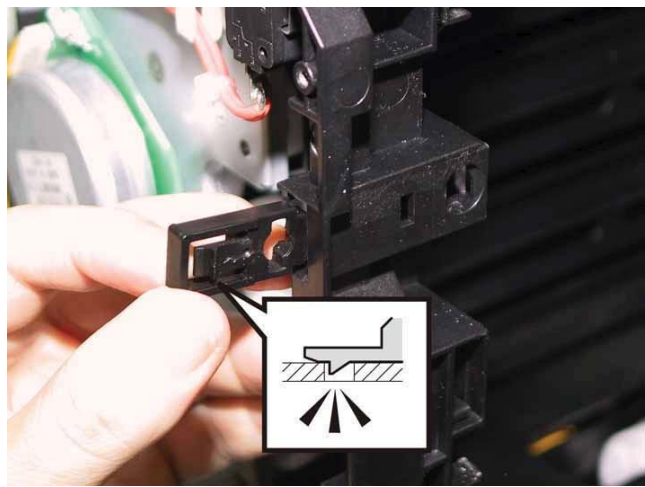
Go to the next replacement step:

Replacement 22 KIT DRIVE ASSY MAIN (PL7.1.98)

Replacement 21 DRIVE ASSY SUB (PL7.1.1)

1) Attach the DRIVE ASSY SUB to the printer.	
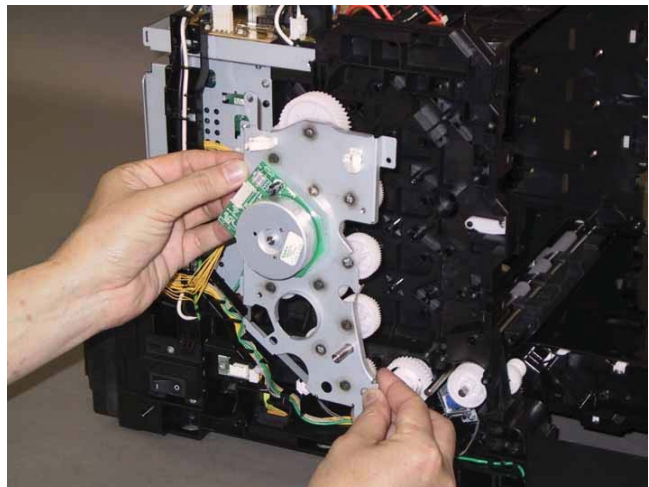
Note: Since two types of screws are used for securing the DRIVE ASSY SUB, ensure that the right screws are used at their right securing positions.

The securing positions for tap screws are marked with [T].

The securing positions for metal screws are marked with [M].

2) Secure the DRIVE ASSY SUB to the printer with the one screw (silver, M4, 6mm) and the four screws (silver, tap, 8mm).	Silver, M4, 6mm
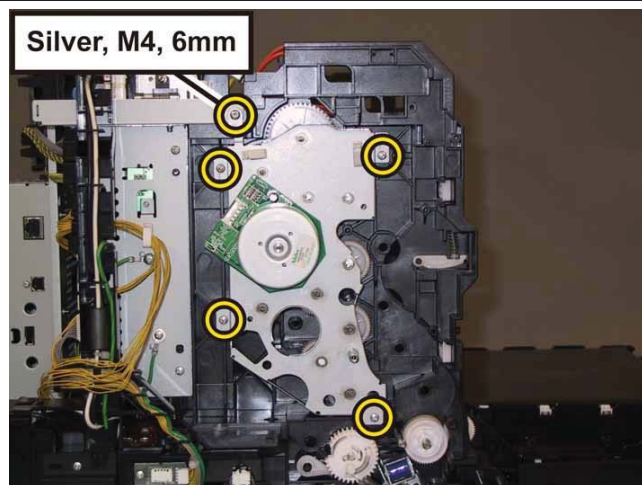
3) Engage the connecter (P/J221) of the DRIVE ASSY SUB.
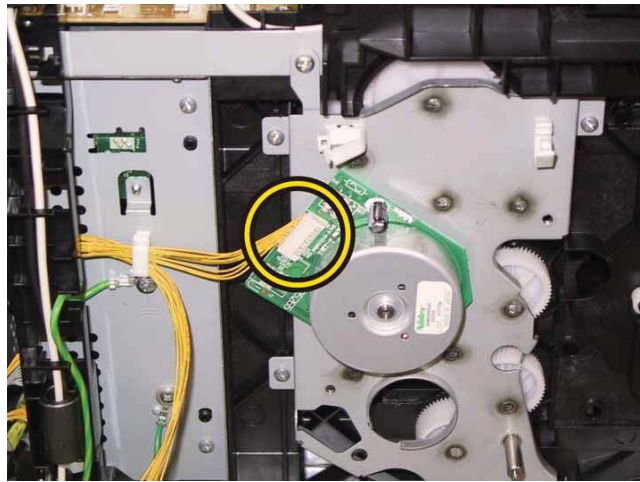
Go to the next replacement step:

Replacement 22 KIT DRIVE ASSY MAIN (PL7.1.98)

Replacement 22 KIT DRIVE ASSY MAIN (PL7.1.98)

1) Attach the DRIVE ASSY MAIN to the printer.	
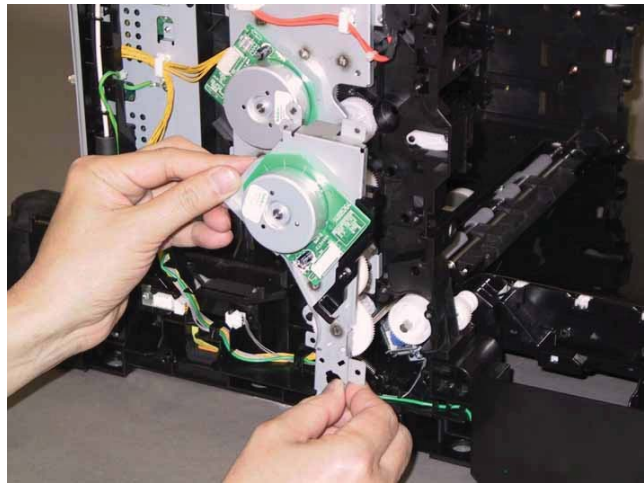
Note: Since two types of screws are used for securing the DRIVE ASSY MAIN, ensure that the right screws are used at their right securing positions.

The securing positions for tap screws are marked with [T].

The securing positions for metal screws are marked with [M].

2) Secure the DRIVE ASSY MAIN to the printer with the one screw (silver, M4, 6mm) and the five screws (silver, tap, 8mm).	Silver, M4, 6mm
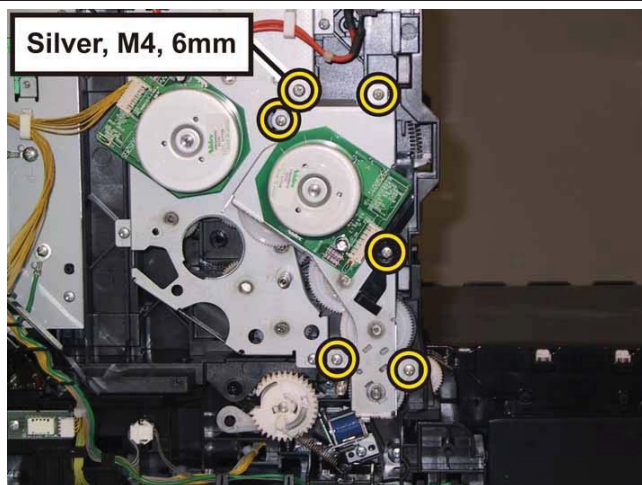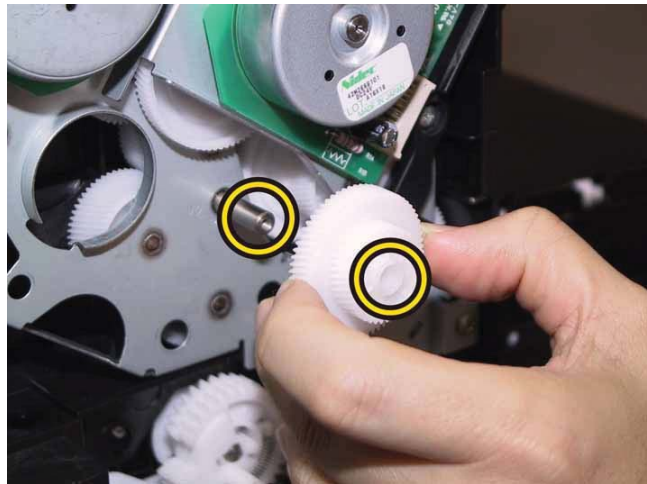
3) Attach the GEAR P2 to the shaft of DRIVE ASSY SUB. **Note: Ensure that the GEAR P2 is oriented to the direction shown in the right.**	
Note: When carrying out the work described next procedure, ensure that the flat face of the PIVOT TRANS L is oriented to the direction shown in the right.	
4) Mate the tab of the STOPPER PIVOT with the notch of the DRIVE ASSY MAIN, attach the STOPPER PIVOT to the PIVOT TRANS L.	
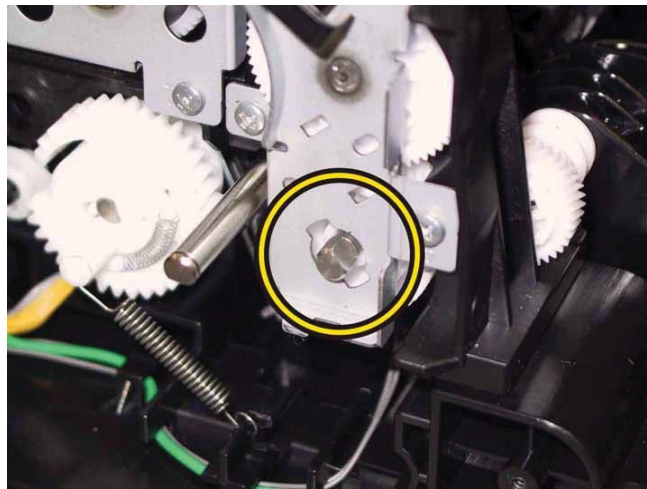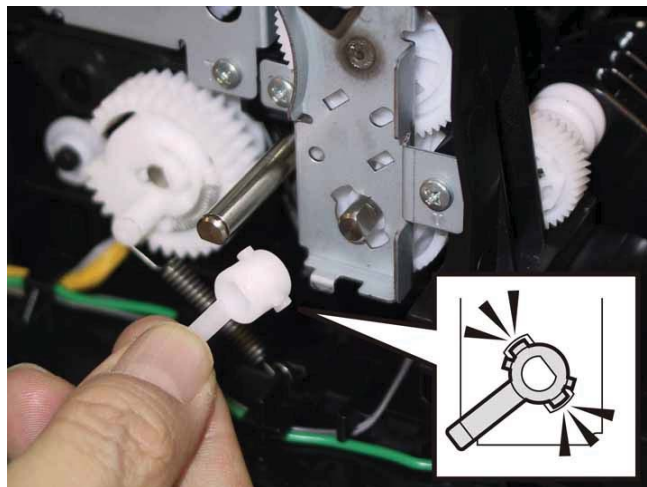
5) Rotate the STOPPER PIVOT to the left, secure the STOPPER PIVOT to the DRIVE ASSY MAIN frame.
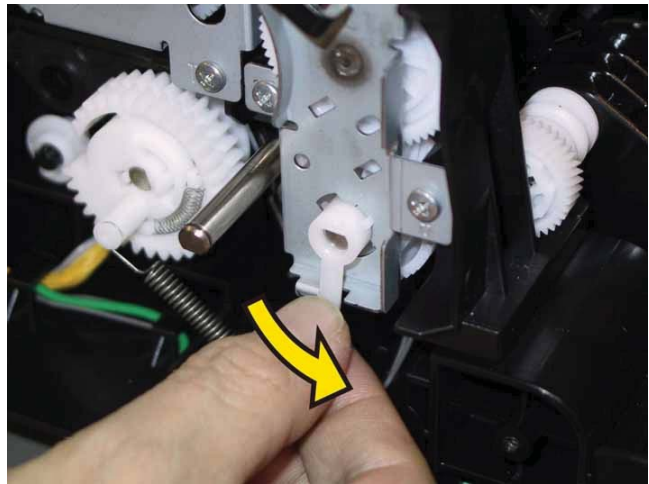
Go to the next replacement step:

Replacement 23 KIT DRIVE ASSY PH (PL7.1.99)

Replacement 23 KIT DRIVE ASSY PH (PL7.1.99)

Accesses Position (All the numbers show the procedure number.)

Front

6)
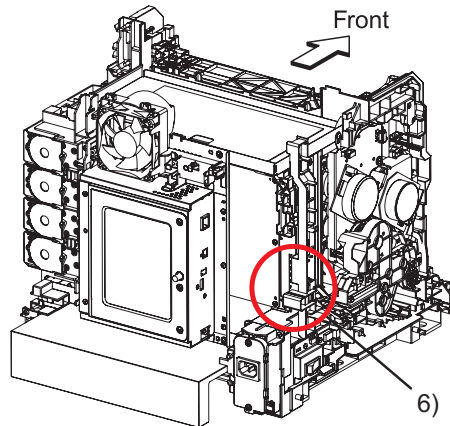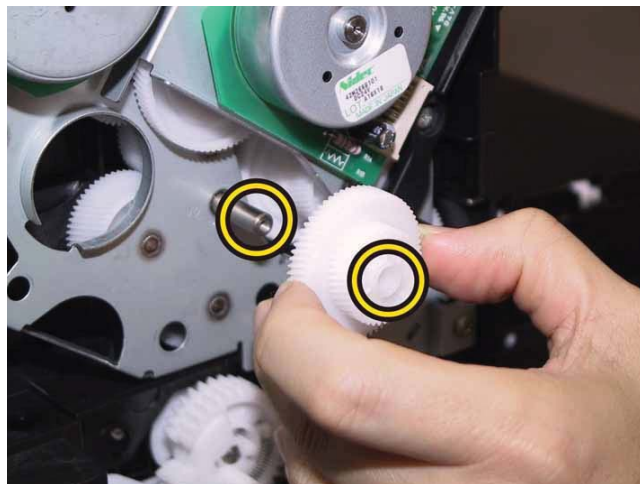
1) Attach the GEAR P2 to the shaft of DRIVE ASSY SUB. **Note: Ensure that the GEAR P2 is oriented to the direction shown in the right.**	
2) Engage the connector (J261) of the HARN ASSY KSNR REGCL with the Color mode switching sensor of the DRIVE ASSY PH, route the HARN ASSY KSNR REGCL through the hook of the DRIVE ASSY PH.	
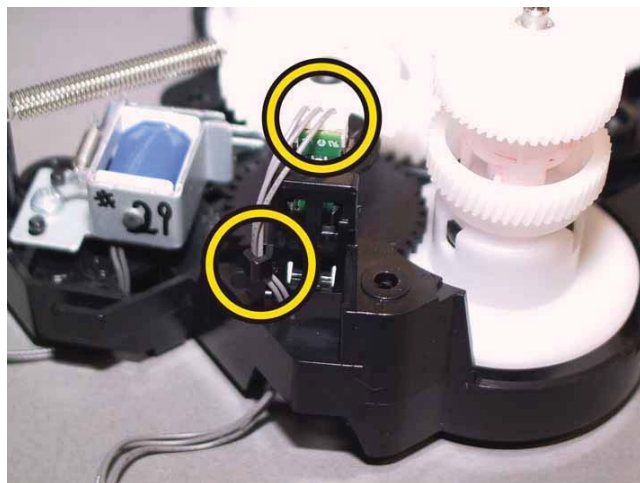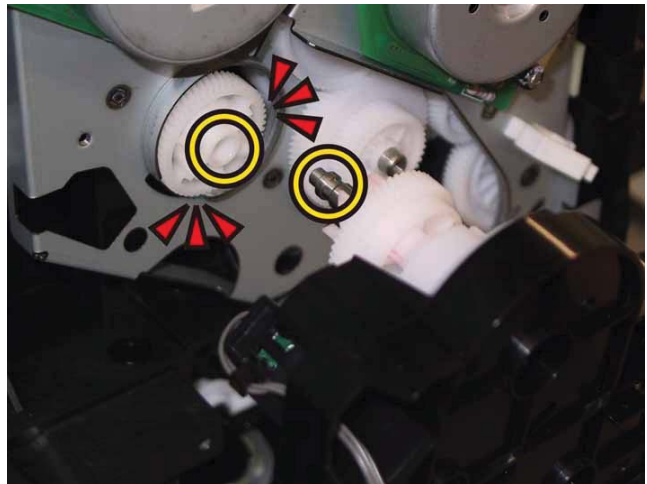
| **Note: When carrying out the work described next procedure, take care not to drop the coupling gear to inside.** | |
| 3) Attach the DRIVE ASSY PH to the printer. | |
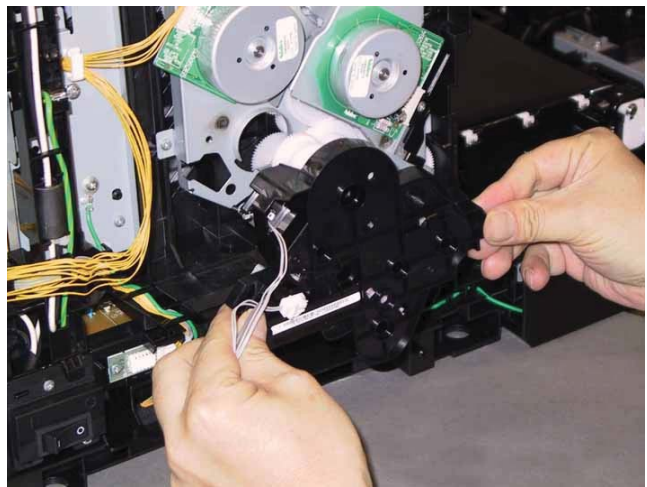
Note: Since three types of screws are used for securing the DRIVE ASSY PH, ensure that the right screws are used at their right securing positions.

The securing positions for tap screws are marked with [T].

The securing positions for metal screws are marked with [M].

| 4) Secure the DRIVE ASSY PH to the printer with the one screw (silver, M4, 6mm), the one screw (silver, M3, 6mm) and the one screw (silver, tap, 8mm). | |
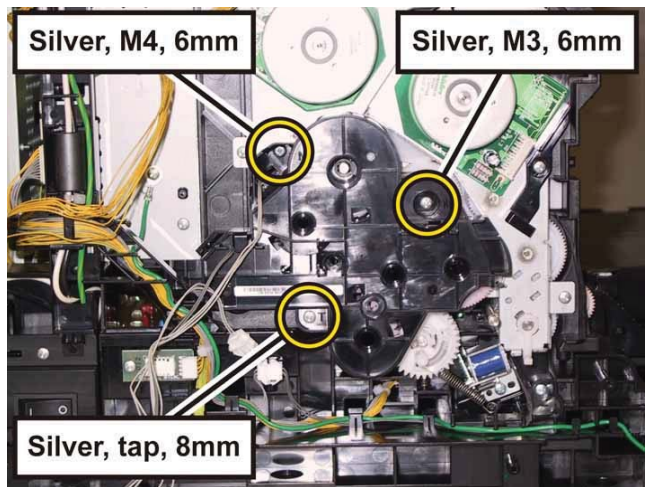
5) Route all the harness through the hooks of the DRIVE ASSY PH, engage the connector (P/J211) of the DRIVE ASSY MAIN.	
6) Route the harness of the DRIVE ASSY PH and HARN ASSY KSNR REGCL along the GUIDE HARNESS AC, engage the two connectors (P/J24, 26) with the PWBA MCU.	
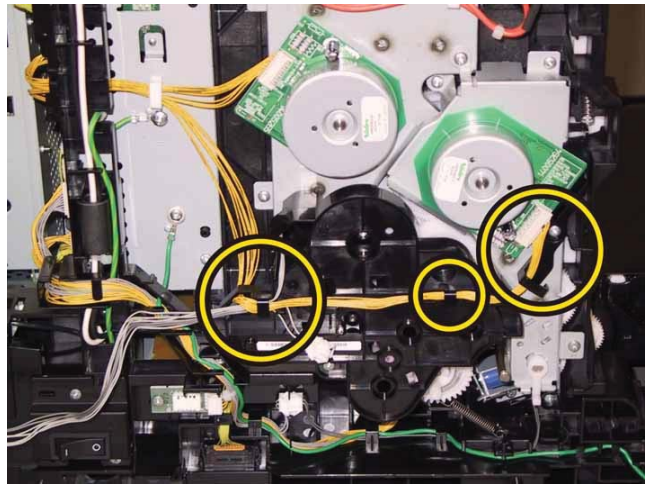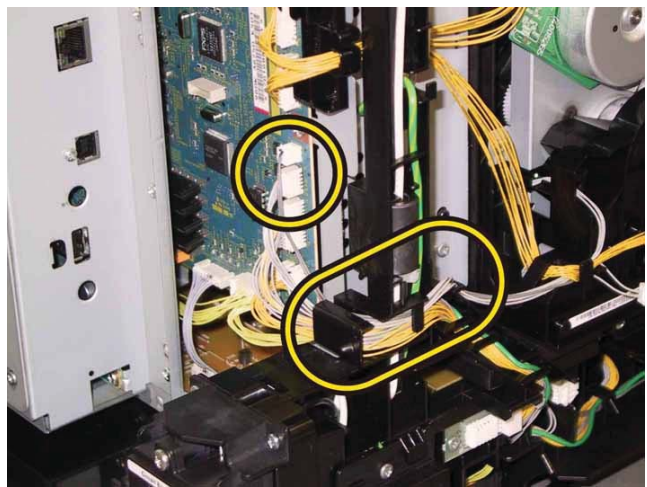
Go to the next replacement step:

Replacement 24 CLUTCH ASSY DRV (PL3.1.1), BEARING REGI (PL3.1.2)

Replacement 24 CLUTCH ASSY DRV (PL3.1.1), BEARING REGI (PL3.1.2)

1) Attach the BEARING REGI to the shaft of the ROLL ASSY REGI, secure the BEARING REGI with the hooks.	
2) Mate the notch of the CLUTCH ASSY DRV with the rib of the DRIVE ASSY PH, secure the CLUTCH ASSY DRV to the ROLL ASSY REGI with the E-ring by using a pliers.	
3) Route the harness of the CLUTCH ASSY DRV through the hook of the DRIVE ASSY PH.	
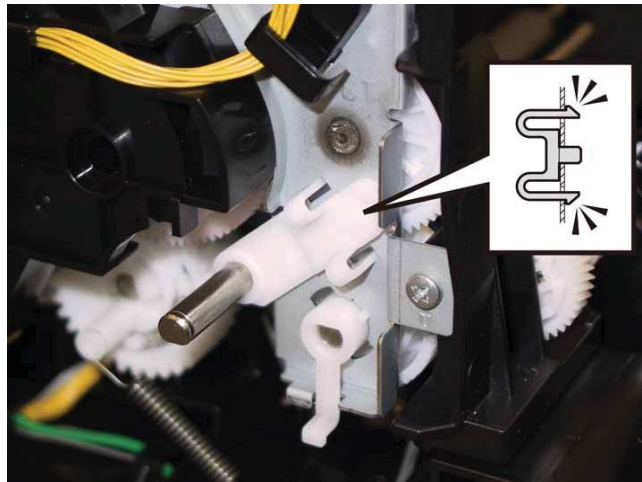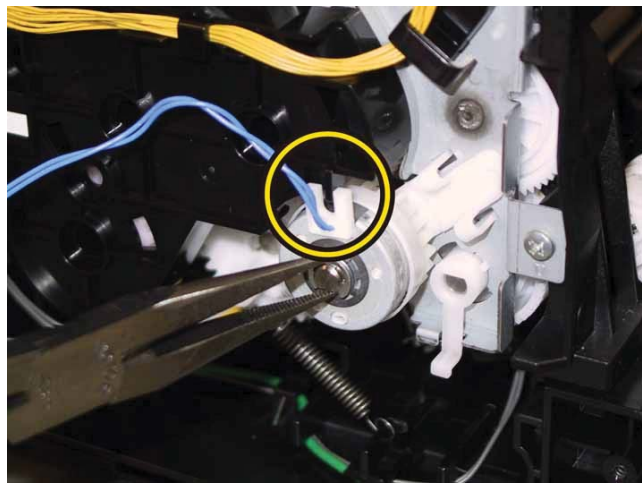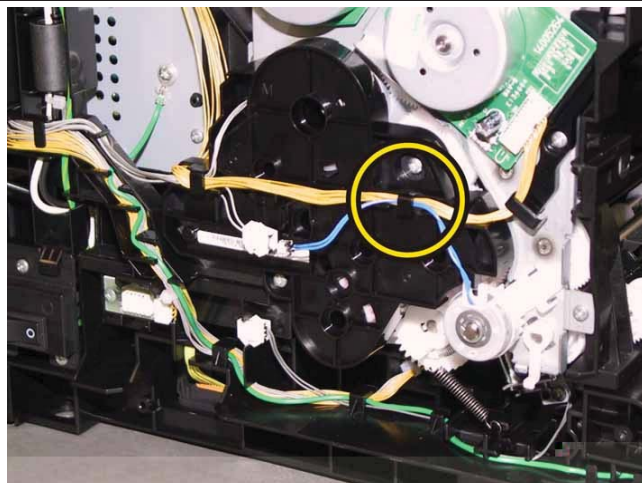
4) Engage the connector (P/J262) of the CLUTCH ASSY DRV, secure the relay connector with the pegs of the DRIVE ASSY PH.
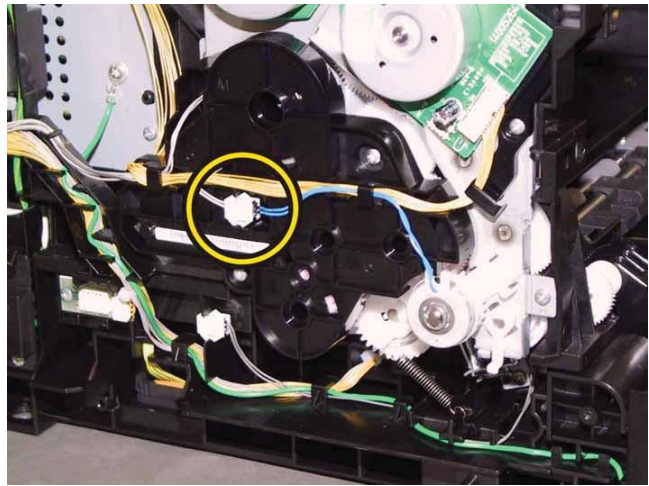
Go to the next replacement step:

Replacement 25 COVER REAR (PL1.1.3)

Replacement 25 COVER REAR (PL1.1.3)

1) Attach the COVER REAR to the printer.	
2) Secure the COVER REAR to the printer with the two screws (silver, tap, 8mm).	
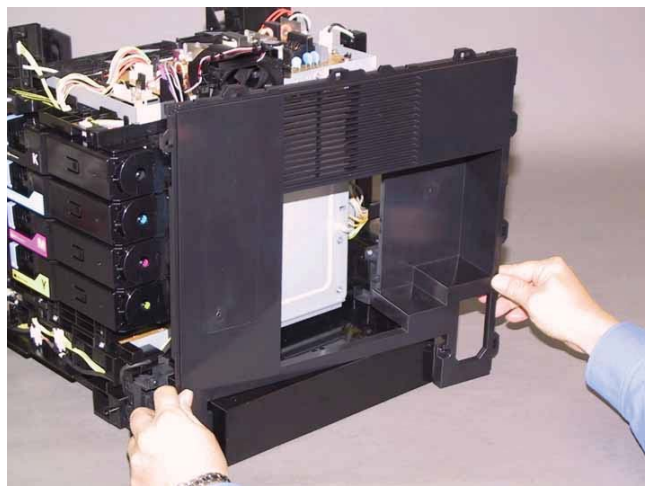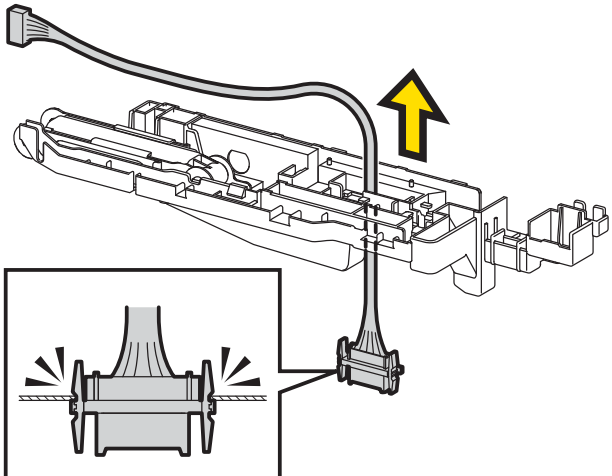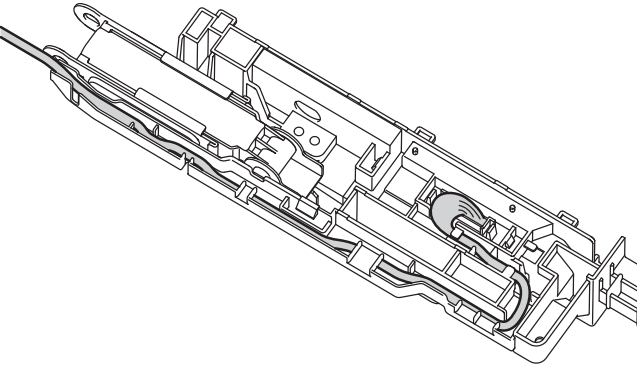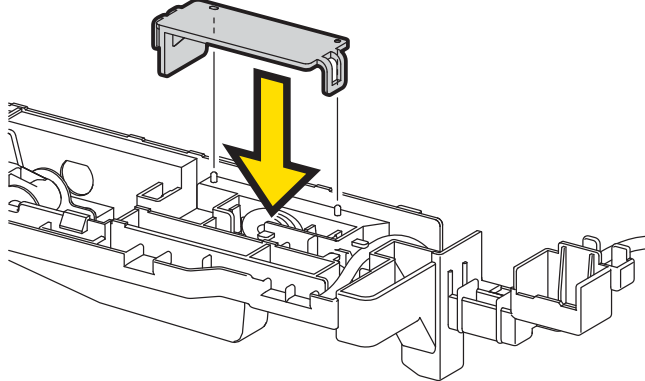
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 26 HARN ASSY DUP RELAY (PL1.2.13) [2150cdn Only]

1) Pass the connector (P271) and the harness of the HARN ASSY DUP RELAY through the hole on the HOLDER ASSY FRONT R, and secure the connector (P272) of the HARN ASSY DUP RELAY to the HOLDER ASSY FRONT R with the two hooks.	
2) Route the harness of the HARN ASSY DUP RELAY along the hooks of the HOLDER ASSY FRONT R.	
3) Attach the COVER DRAWER to the HOLDER ASSY FRONT R, secure the COVER DRAWER with the two hooks.	

4) Mate the three tabs of the HOLDER ASSY FRONT R with the hole of the COVER ASSY FRONT MG, attach the HOLDER ASSY FRONT R. **Note: When carrying out the work this procedure, take care not to damage the harness by pinching it between the HOLDER ASSY FRONT R and the COVER ASSY FRONT MG.**	
5) Secure the one hook of the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG.	
6) Secure the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG with the three screws (silver, tap, 8mm).	
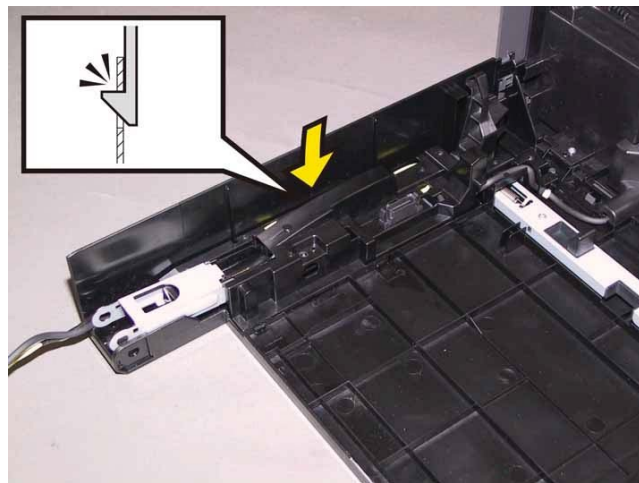
3 - 215
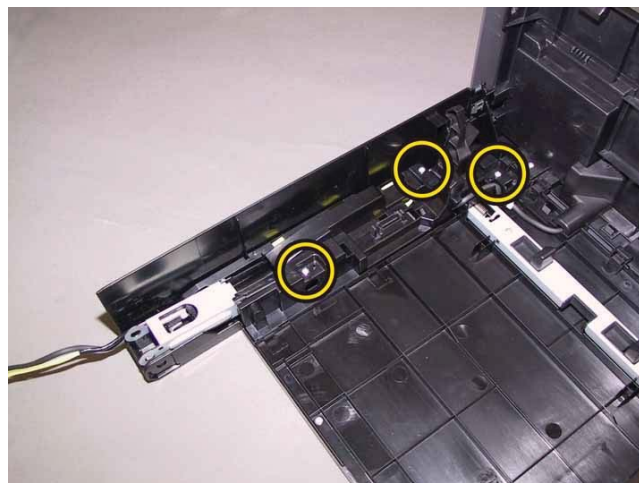
7) Engage the connector (P/J202) of the CONSOLE ASSY PANEL.

Note: When carrying out the work this procedure, route the HARNESS ASSY PNL A so that the core on the HARNESS ASSY PNL A fits into the housing space located on the COVER ASSY FRONT MG.
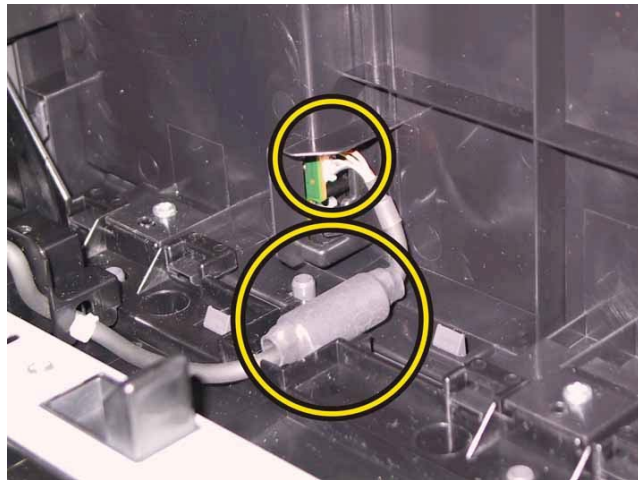
8) Attach the COVER CONNECTOR to the COVER ASSY FRONT MG.

9) Secure the two hooks of the COVER CONNECTOR to the COVER ASSY FRONT MG.

Go to the next replacement step:

Replacement 30 COVER ASSY FRONT MG (PL1.2.1)

3 - 216
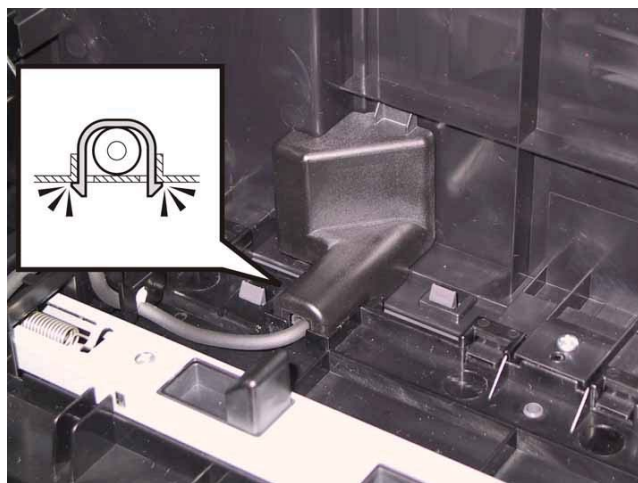
Replacement 27 HARNESS ASSY PNL A (PL1.2.12)

1) Route the HARNESS ASSY PNL A through the hooks of the HOLDER ASSY FRONT R.	
2) Mate the three tabs of the HOLDER ASSY FRONT R with the hole of the COVER ASSY FRONT MG, attach the HOLDER ASSY FRONT R. **Note: When carrying out the work this procedure, take care not to damage the harness by pinching it between the HOLDER ASSY FRONT R and the COVER ASSY FRONT MG.**	
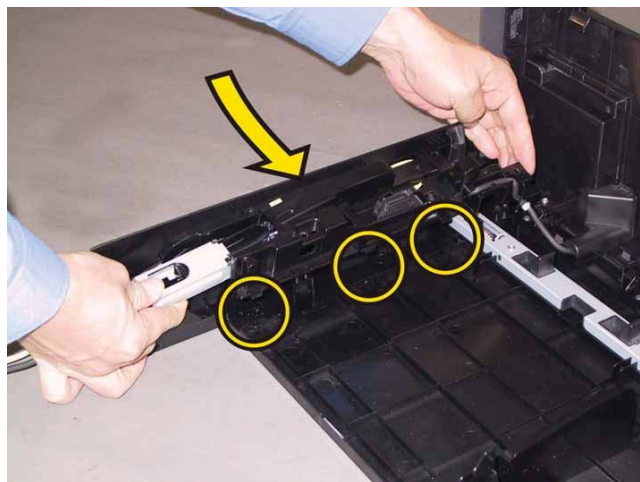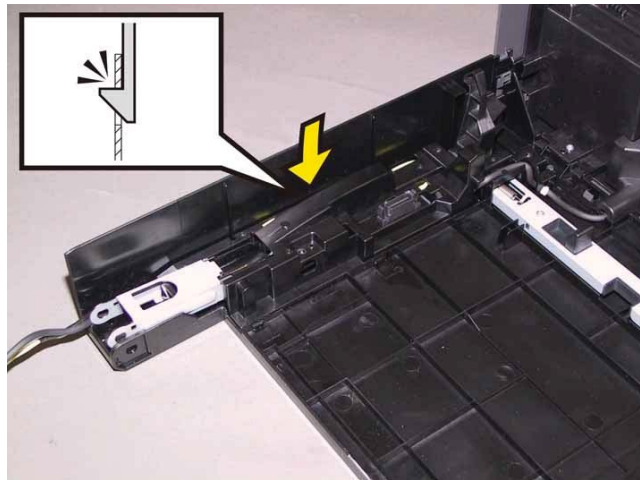
3) Secure the one hook of the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG.	
4) Secure the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG with the three screws (silver, tap, 8mm).	
5) Engage the connector (P/J202) of the CONSOLE ASSY PANEL. **Note: When carrying out the work this procedure, route the HARNESS ASSY PNL A so that the core on the HARNESS ASSY PNL A fits into the housing space located on the COVER ASSY FRONT MG.**	
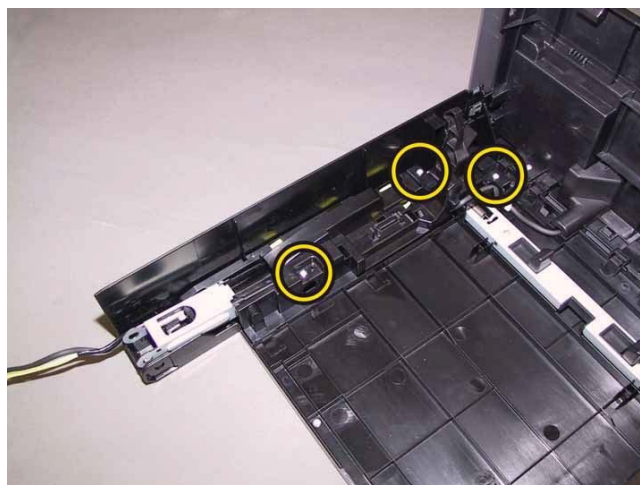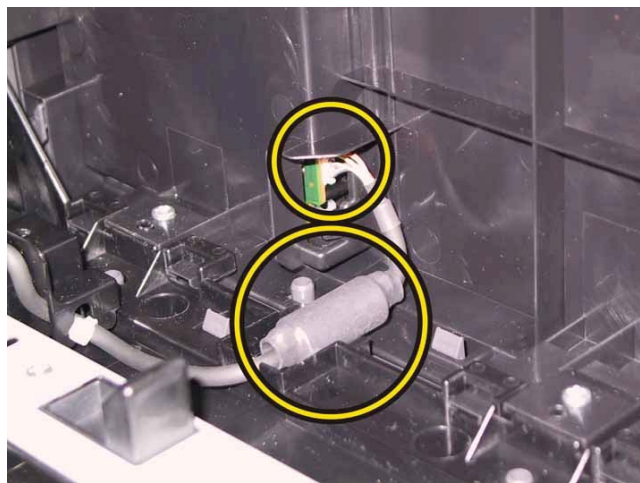
6) Attach the COVER CONNECTOR to the COVER ASSY FRONT MG.	
7) Secure the two hooks of the COVER CONNECTOR to the COVER ASSY FRONT MG.	
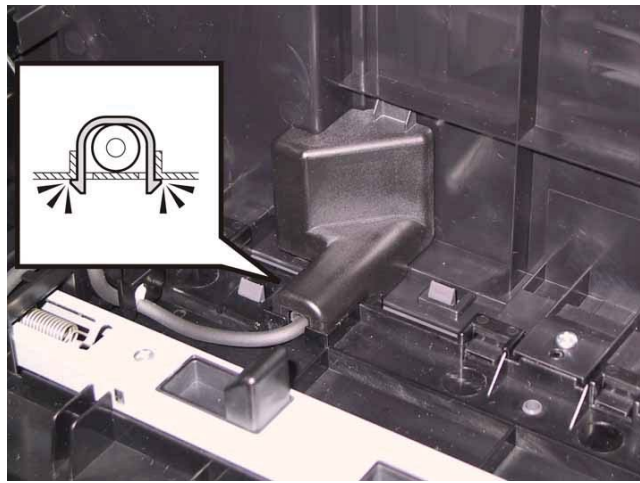
Go to the next replacement step:

Replacement 30 COVER ASSY FRONT MG (PL1.2.1)

Replacement 28 LATCH ASSY FRONT (PL1.2.5), BUTTON LATCH FRONT (PL1.2.11)

1) Mate the boss of the BUTTON LATCH FRONT with the hole of the LATCH ASSY FRONT.	
2) Attach the LATCH ASSY FRONT to the COVER ASSY FRONT MG together with the BUTTON LATCH FRONT.	
3) Attach the SPRING LATCH FRONT to the LATCH ASSY FRONT.	
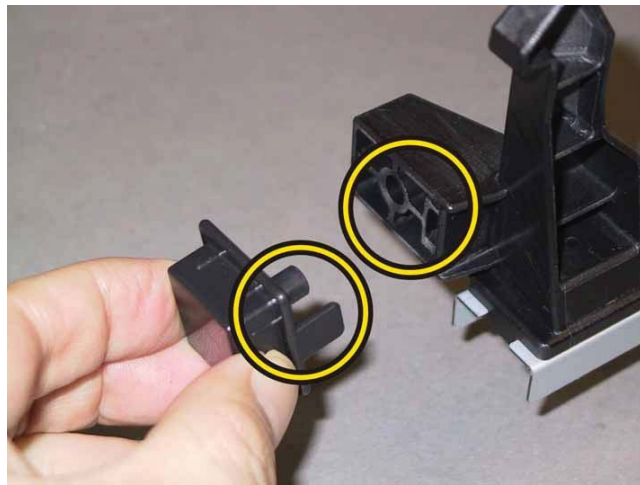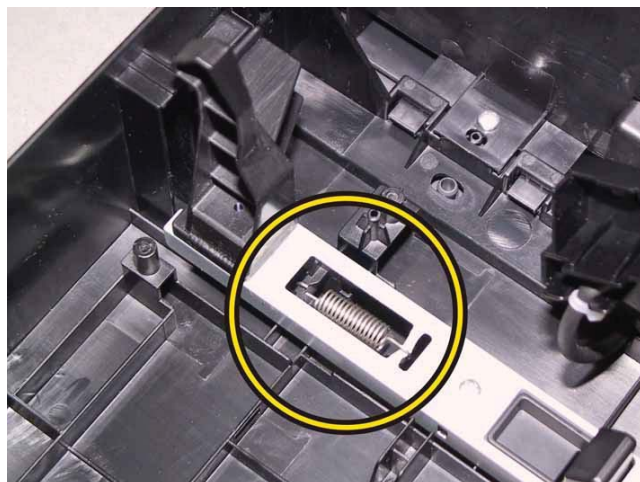
4) Mate the two tabs of the HOLDER ASSY FRONT L with the hole of the COVER ASSY FRONT MG, attach the HOLDER ASSY FRONT L. **Note: When carrying out the work this procedure, take care not to damage the harness by pinching it between the HOLDER ASSY FRONT L and the COVER ASSY FRONT MG.**	
5) Secure the two hooks of the HOLDER ASSY FRONT L to the COVER ASSY FRONT MG.	
6) Secure the HOLDER ASSY FRONT L to the COVER ASSY FRONT MG with the three screws (silver, tap, 8mm).	
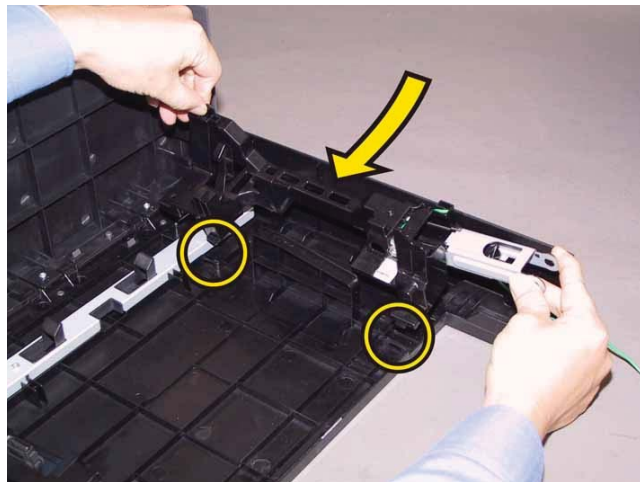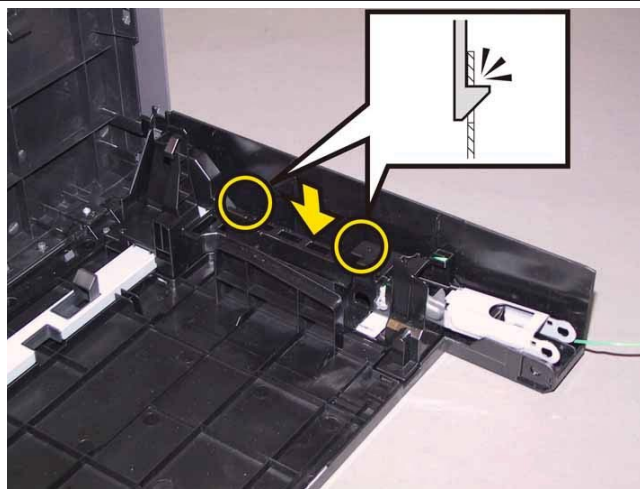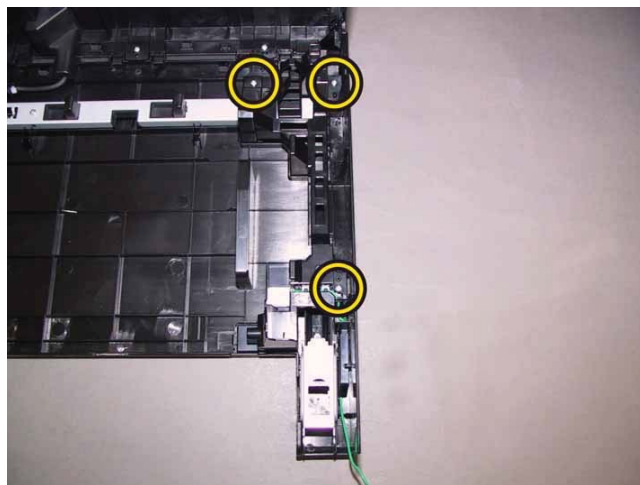
7) Mate the three tabs of the HOLDER ASSY FRONT R with the hole of the COVER ASSY FRONT MG, attach the HOLDER ASSY FRONT R. **Note: When carrying out the work this procedure, take care not to damage the harness by pinching it between the HOLDER ASSY FRONT R and the COVER ASSY FRONT MG.**	
8) Secure the one hook of the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG.	
9) Secure the HOLDER ASSY FRONT R to the COVER ASSY FRONT MG with the three screws (silver, tap, 8mm).	
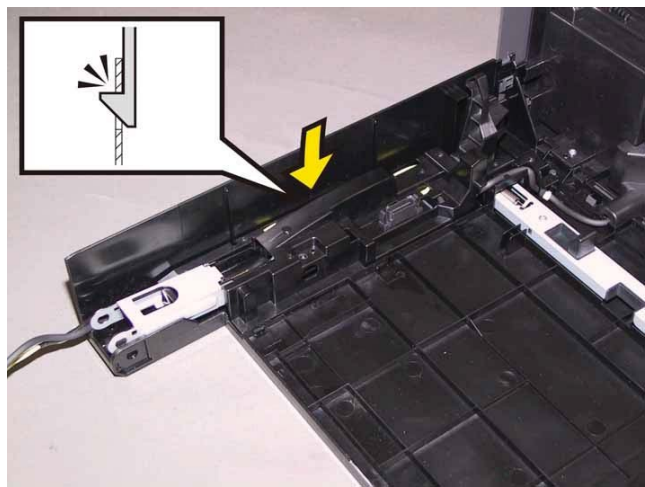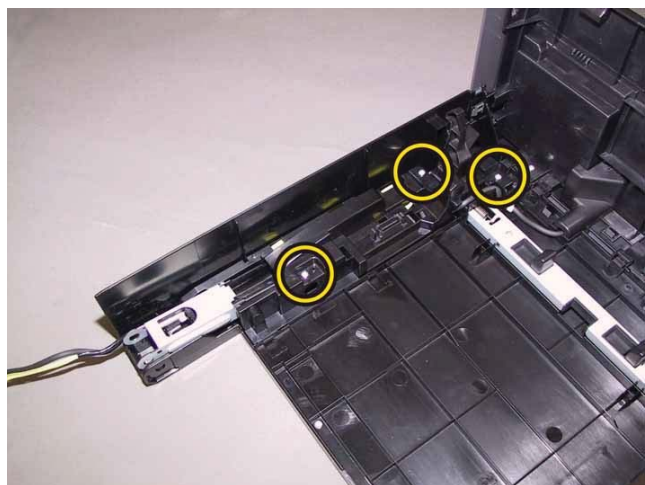
Go to the next replacement step:

Replacement 30 COVER ASSY FRONT MG (PL1.2.1)

Replacement 29 CONSOLE ASSY PANEL (PL1.2.3)

1) Mate the tab of the CONSOLE ASSY PANEL with the holes of the COVER ASSY FRONT MG, attach it.	
2) Secure the CONSOLE ASSY PANEL to the COVER ASSY FRONT MG with the two hooks.	
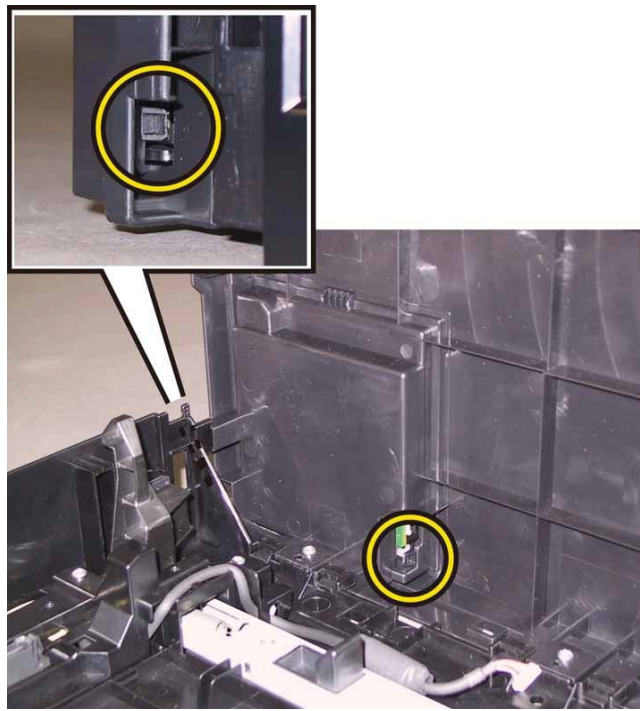
3) Attach the COVER FRONT BAND to the COVER ASSY FRONT MG.	
4) Secure the left and right hooks of the COVER FRONT BAND to the COVER ASSY FRONT MG.	
5) Secure the four hooks of the COVER FRONT BAND.	
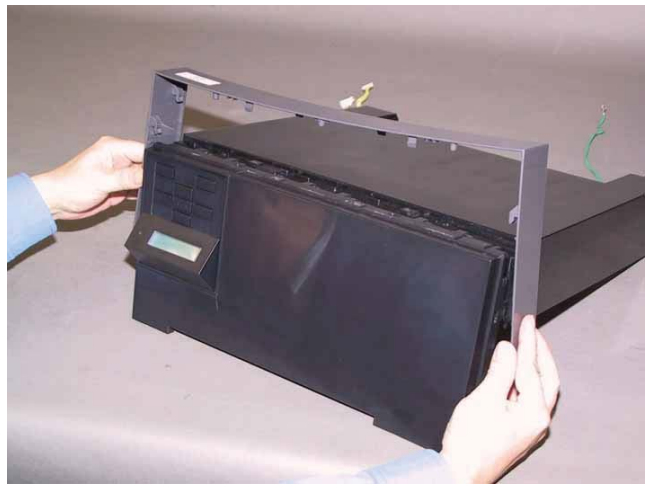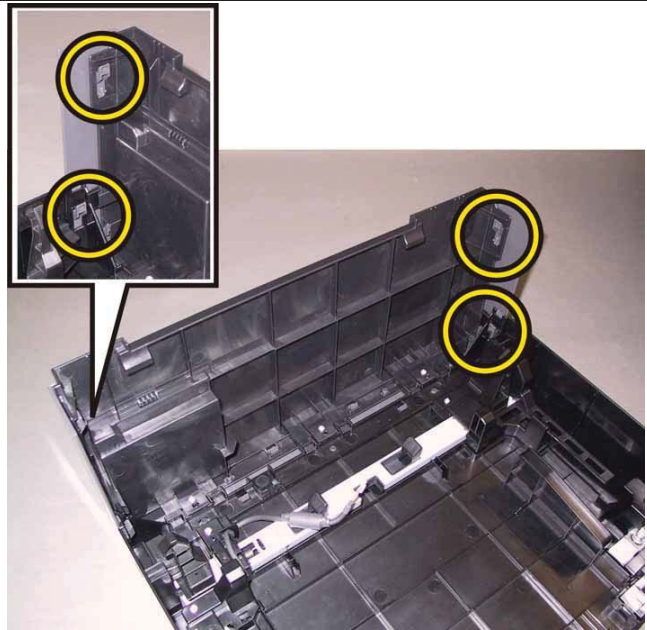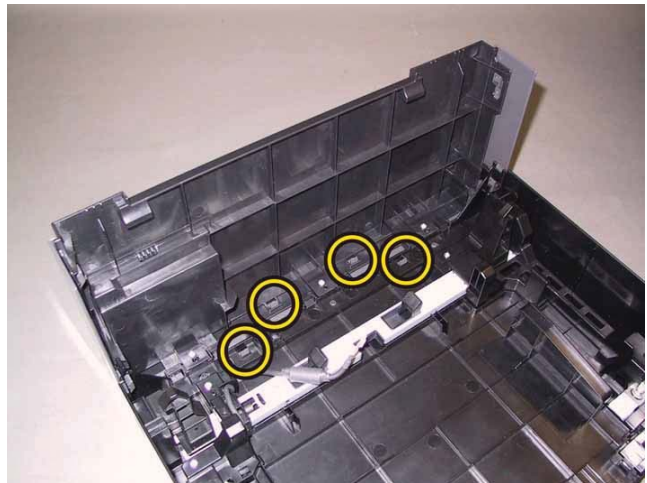
6) Engage the connector (P/J220) of the CONSOLE ASSY PANEL. **Note: When carrying out the work this procedure, route the HARNESS ASSY PNL A so that the core on the HARNESS ASSY PNL A fits into the housing space located on the COVER ASSY FRONT MG.**	
7) Attach the COVER CONNECTOR to the COVER ASSY FRONT MG.	
8) Secure the two hooks of the COVER CONNECTOR to the COVER ASSY FRONT MG.	
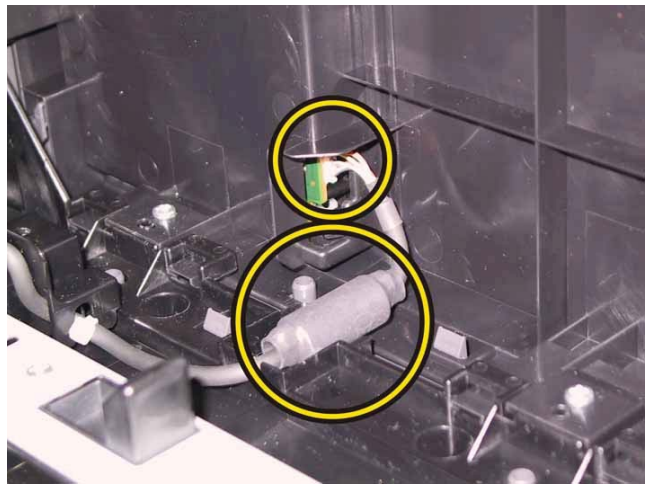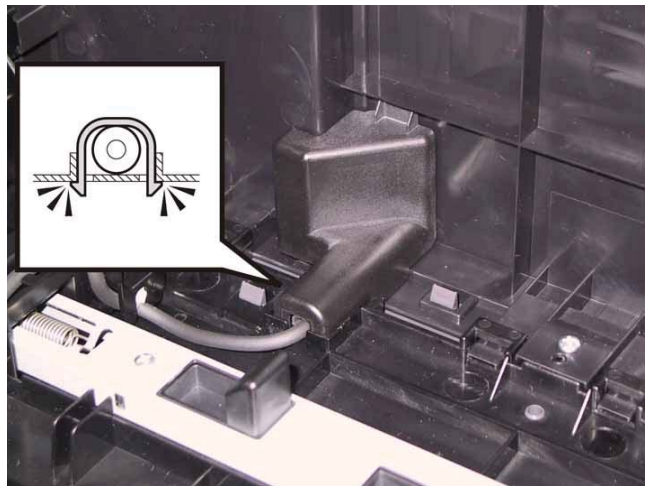
Go to the next replacement step:

Replacement 30 COVER ASSY FRONT MG (PL1.2.1)

Replacement 30 COVER ASSY FRONT MG (PL1.2.1)

Accesses Position (All the numbers show the procedure number.)
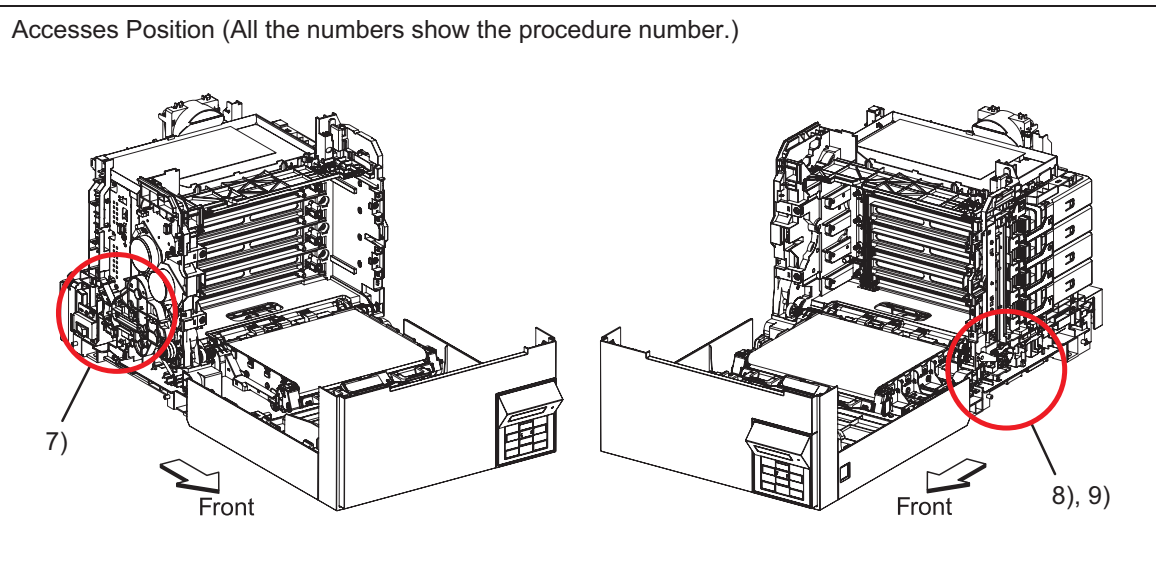
1) Lift the COVER ASSY FRONT MG slightly up to attach it to the printer.	
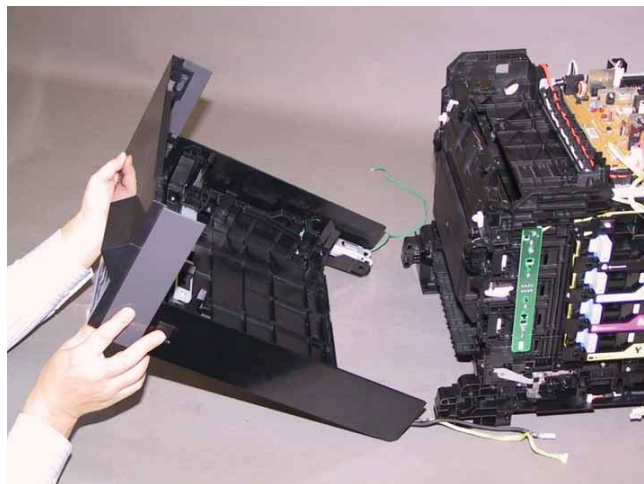
Note: Described below is the replacement procedure common among the left and right sides of the SHAFT PIVOTs (PL1.2.23).

2) Mate the flat face of the SHAFT PIVOT with the hole of the COVER ASSY FRONT MG, push the SHAFT PIVOT until the hook is locked.
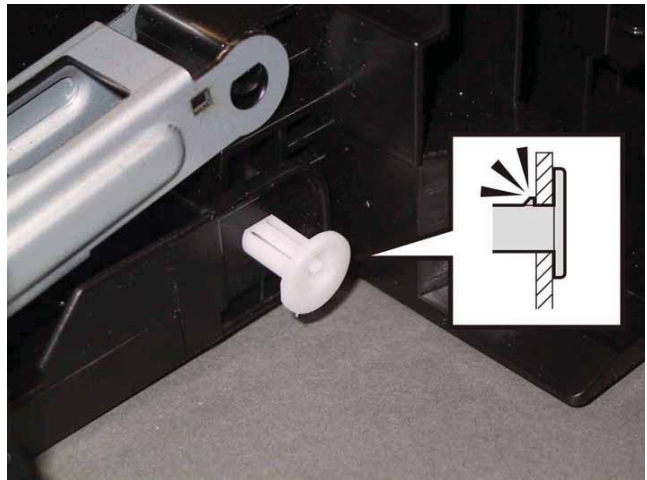
Note: Described below is the replacement procedure common among the left and right sides of the SHAFT LINK FRONT FDRs (PL1.2.26).

3) Mate the flat face of the SHAFT LINK FRONT FDR with the hole of the COVER ASSY FRONT MG, push the SHAFT LINK FRONT FDR until the hook is locked.
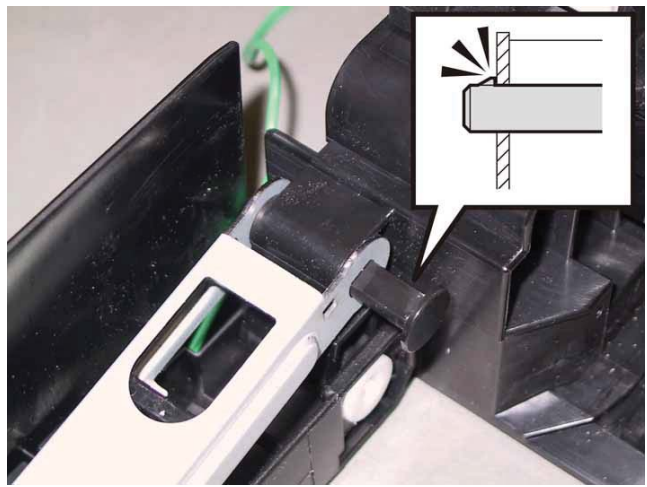
Note: Described below is the replacement procedure common among the left and right SPRING LINK FRONTs (PL1.2.24).

| 4) Lift the COVER ASSY FRONT MG slightly up to insert the SPRING LINK FRONT into the LINK ASSY FRONT. | |
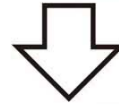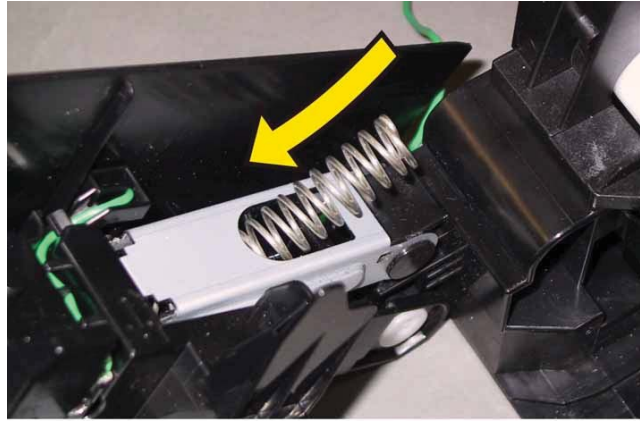
Note: Described below is the replacement procedure common among the left and right COVER LINK FRONTs (PL1.2.30).

| 5) Attach the COVER LINK FRONT to the LINK ASSY FRONT. | |
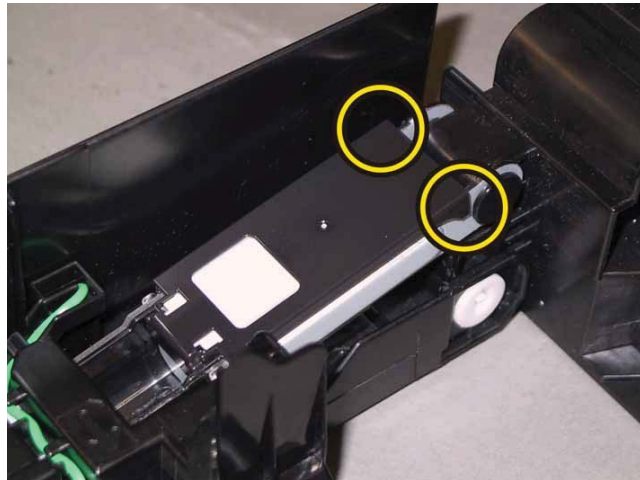
6) Secure the two hooks of the COVER LINK FRONT to the LINK ASSY FRONT.	
7) Route the HARN ASSY GND along the GUIDE HARNESS AC, secure the grounding terminal of the HARN ASSY GND with the one screw (silver, 6mm). **Note: This step is only 2150cdn.**	
8) Route the HARN ASSY DUP RELAY and the HARNESS ASSY PNL A through the hooks of the printer.	
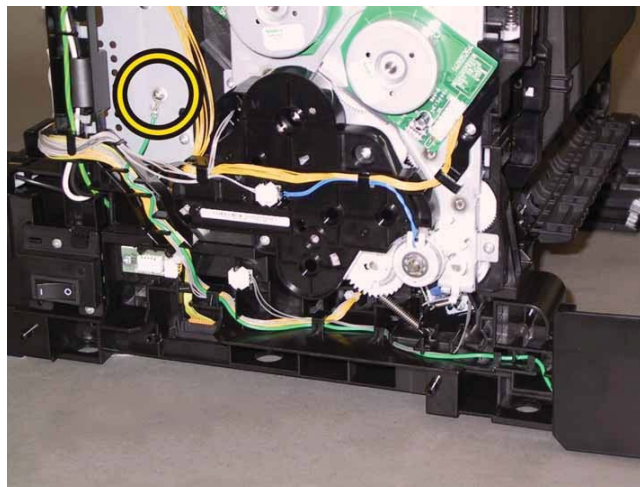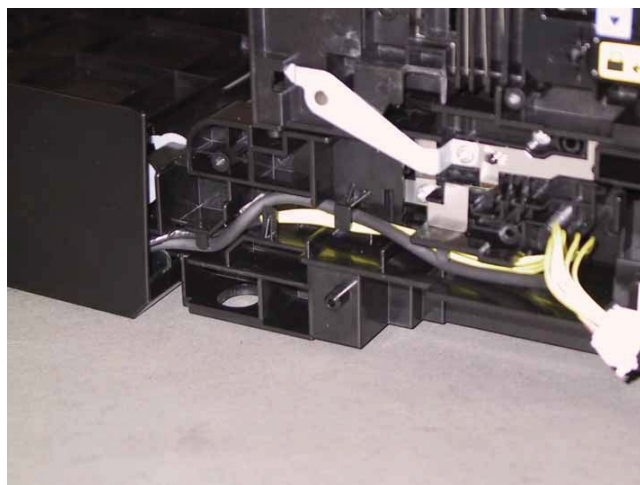
9) Engage the connector (P/J5301) of the HARNESS ASSY PNL A and engage the connector (P/J271) of the HARN ASSY DUP RELAY. Secure the two connectors to the printer.
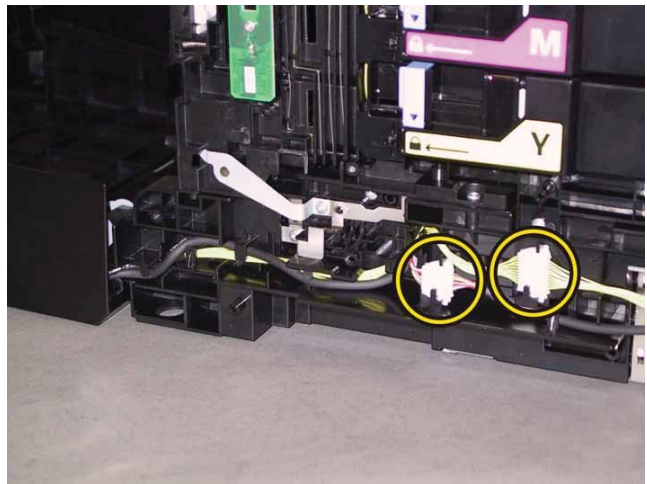
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 31 KIT SHAFT PIVOT (PL1.2.98)

Note: Described below is the replacement procedure common among the left and right sides of the SHAFT PIVOTs (PL1.2.23).

1) Mate the flat face of the SHAFT PIVOT with the hole of the COVER ASSY FRONT MG, push the SHAFT PIVOT until the hook is locked.	
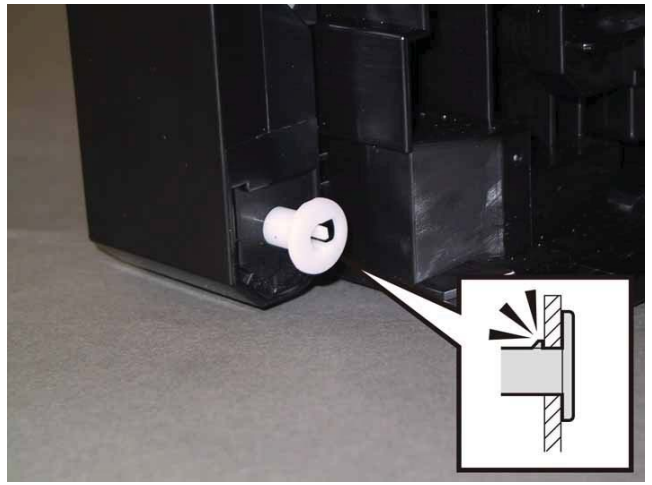
Go to the next replacement step:

Replacement 53 CASSETTE ASSY 250 (PL2.1.1)

Replacement 32 ACTUATOR SSI (PL3.2.14)

1) Attach the SPRING ACT SSI to the ACTUATOR SSI.	
Note: When carrying out the work described next procedure, ensure that the SPRING ACT SSI is hung to ACTUATOR SSI and the CHUTE UP correctly.	**SPRING ACT SSI**
2) Insert the right shaft of the ACTUATOR SSI into the hole of the CHUTE UP, hang the SPRING ACT SSI to the CUHTE UP.	
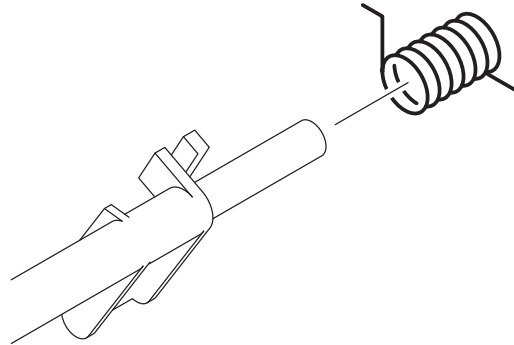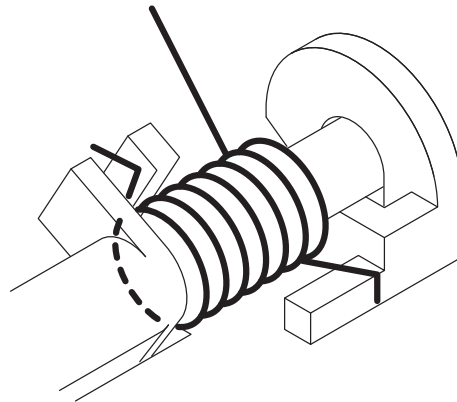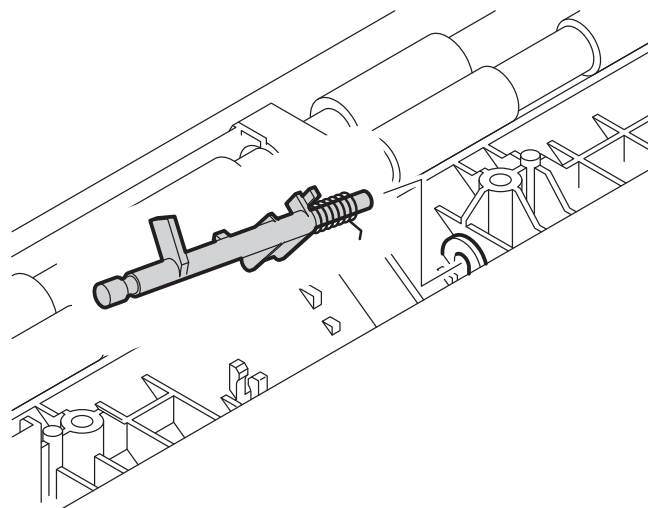
3) Secure the left shaft of the ACTUATOR SSI with the hook of the CHUTE UP, attach the ACTUATOR SSI.	
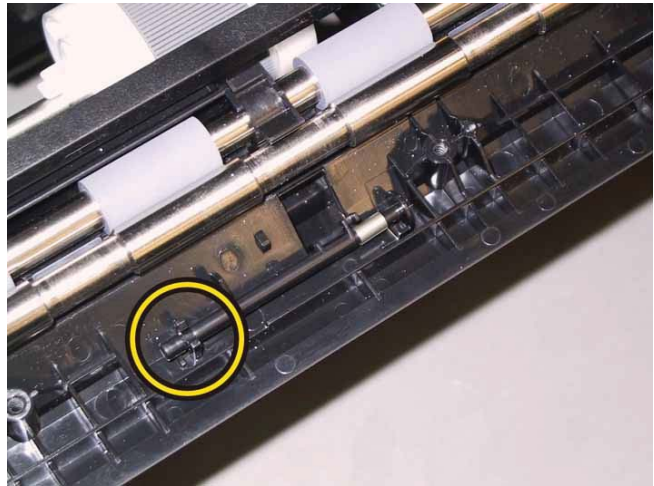
Check the ACTUATOR SSI movement, after the procedure 3 is completed.
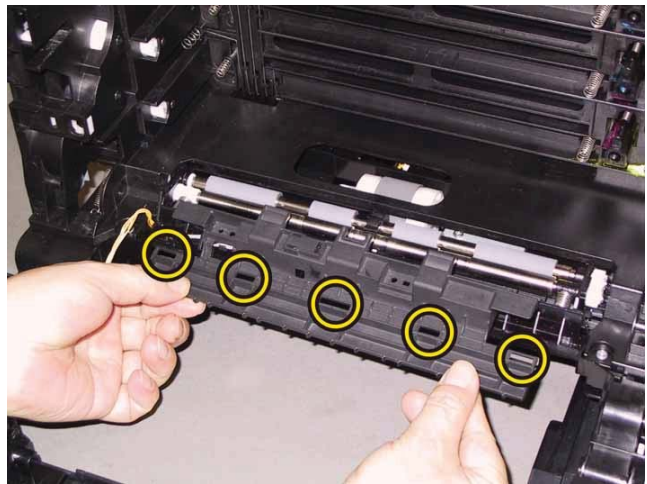
4) Mate the five tabs of the BRACKET SNS with the printer.	
5) Mate the two holes of the BRACKET SNS with the bosses of the printer.	
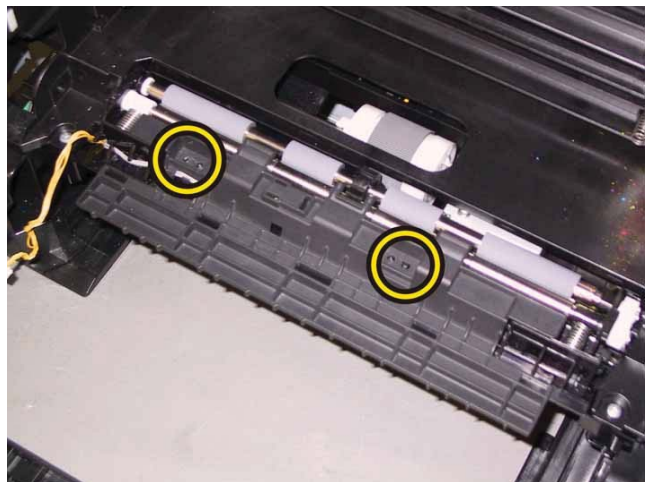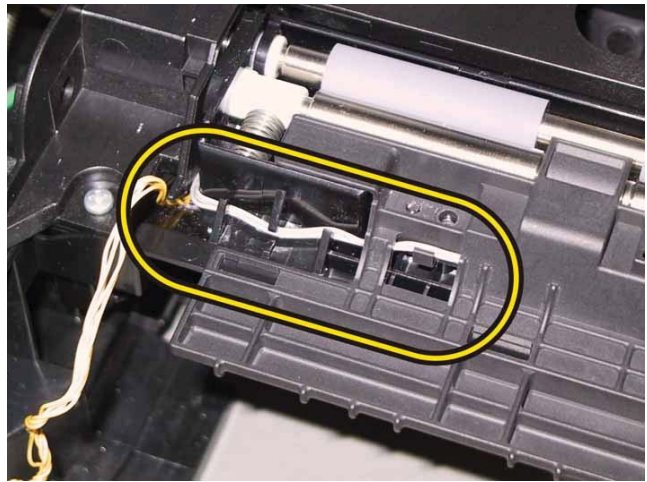
6) Route the harness of the BRACKET SNS through the hooks of the printer.	
7) Secure the BRACKET SNS to the printer with the two screws (silver, tap, 8mm).	
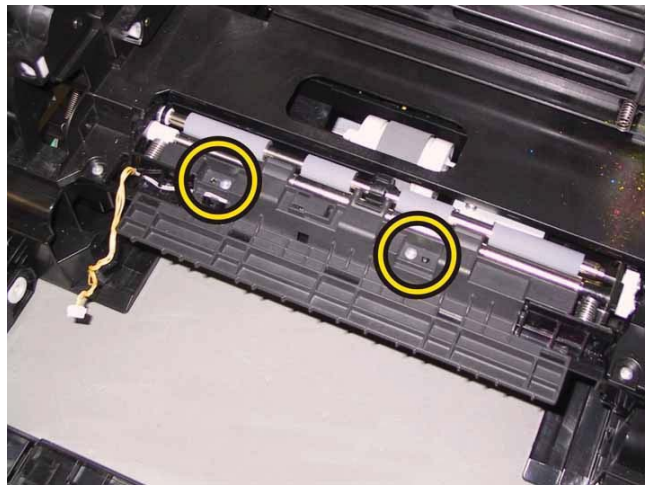
Go to the next replacement step:

Replacement 34 KIT TRANSFER ASSY (PL6.1.98)

Replacement 33 SENSOR PHOTO: SSI NO PAPER (PL3.2.13)
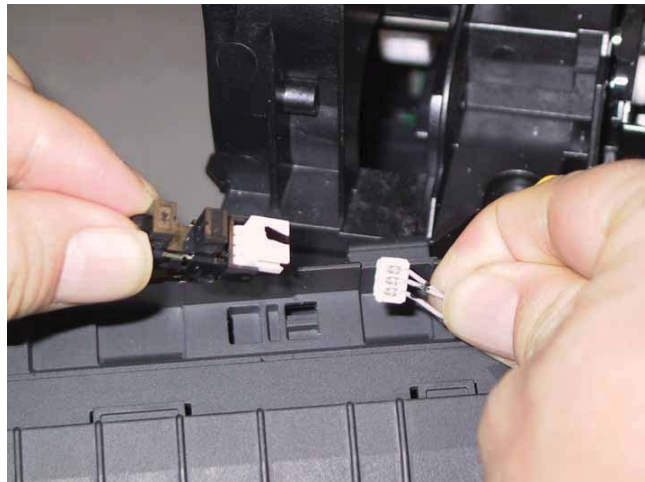
1) Engage the connector (P/J233) of the SENSOR PHOTO: SSI NO PAPER.	
2) Replace the SENSOR PHOTO: SSI NO PAPER to the BRACKET SNS by mating the hook of the SENSOR PHOTO: SSI NO PAPER with its mounting position.	
3) Mate the five tabs of the BRACKET SNS with the printer.	
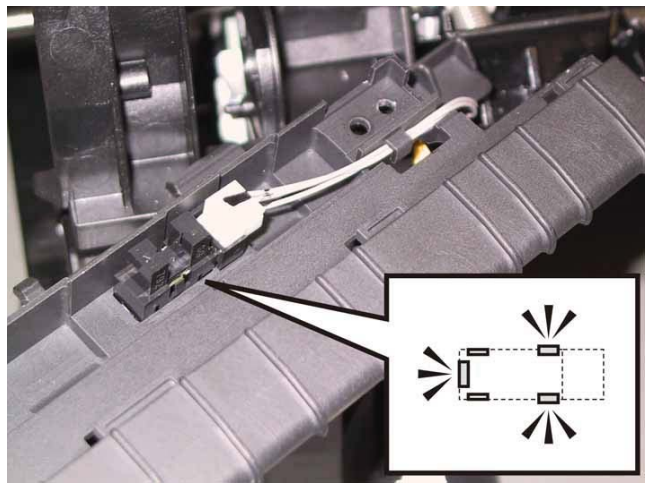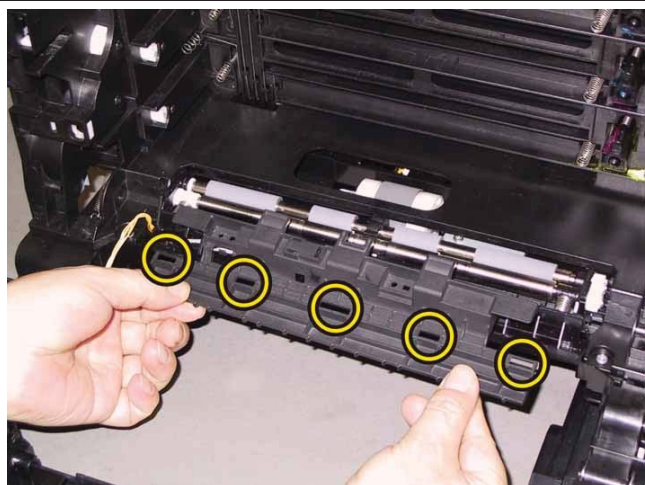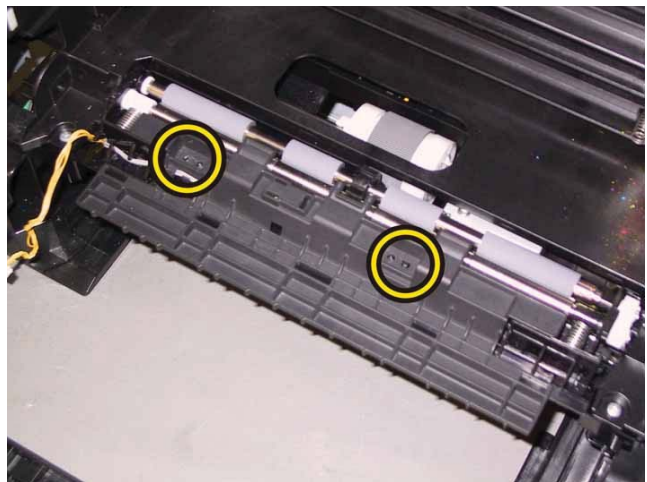
4) Mate the two holes of the BRACKET SNS with the bosses of the printer.	
5) Route the harness of the BRACKET SNS through the hooks of the printer.	
6) Secure the BRACKET SNS to the printer with the two screws (silver, tap, 8mm).	
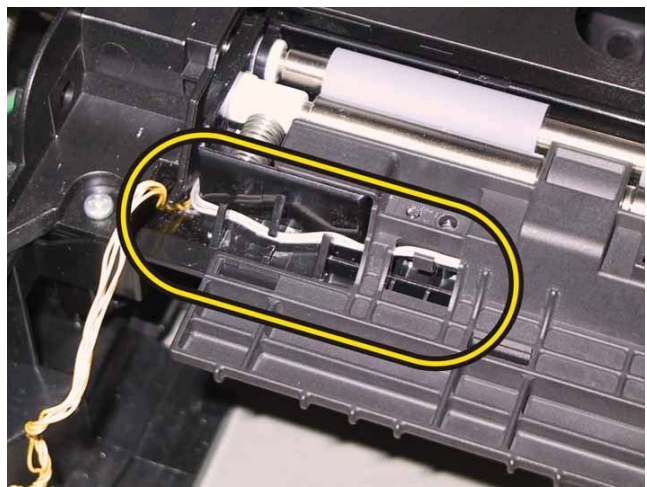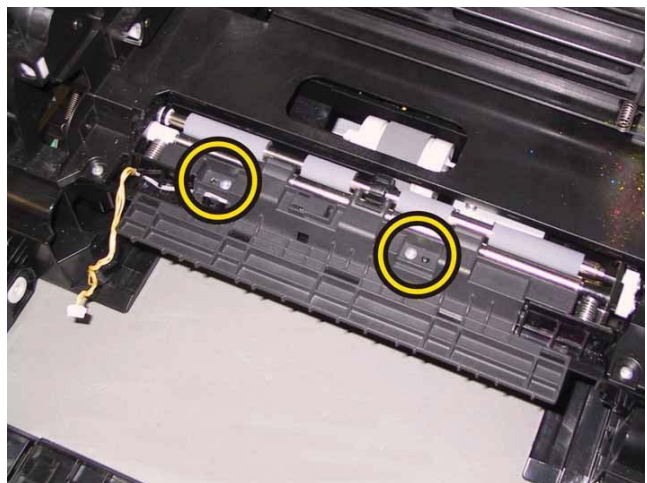
Go to the next replacement step:

Replacement 34 KIT TRANSFER ASSY (PL6.1.98)

Replacement 34 KIT TRANSFER ASSY (PL6.1.98)

1) Attach the TRANSFER ASSY to the printer.	
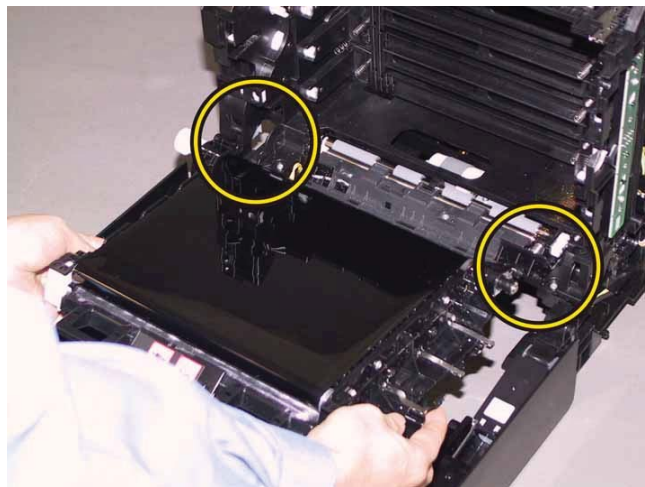
2) Replacement the KIT PIVOT. (Replacement 35)

3) Close the TRANSFER ASSY.

Note: When carrying out the work described next procedure, take care not to scratch the belt surface of the TRANSFER ASSY.

4) Route the harness of the printer through the hooks of the TRANSFER ASSY.	
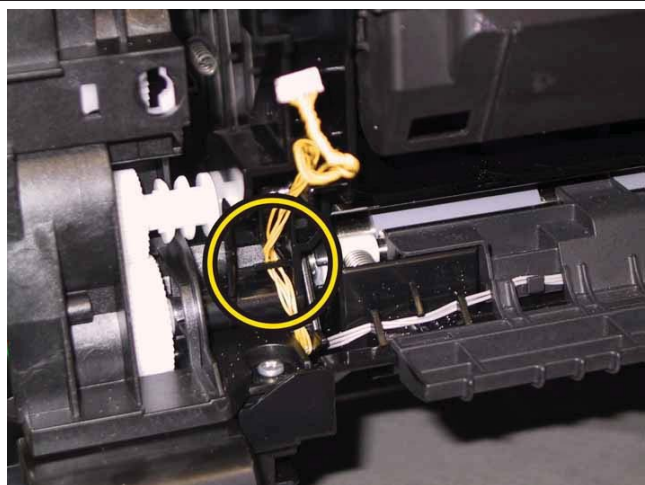
5) Engage the connector (P/J281) of the TRANSFER ASSY, secure the relay connector with the pegs of the TRANSFER ASSY.	
5) Attach the COVER HARNESS to the TRANSFER ASSY.	
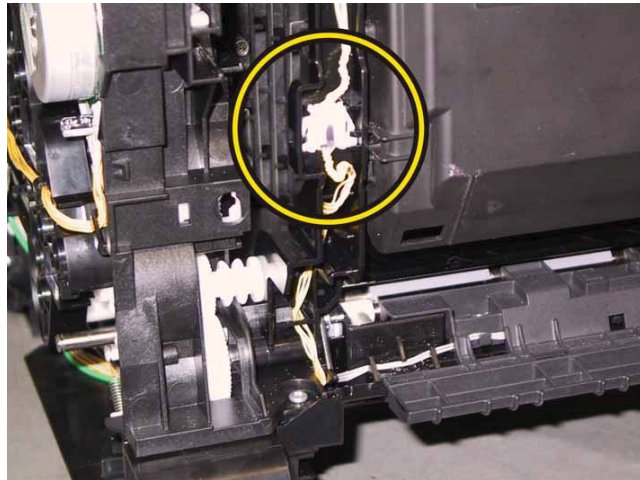
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 35 KIT PIVOT (PL6.1.99)

Accesses Position (All the numbers show the procedure number.)

1), 2)

3), 4), 5), 6), 7)

Front
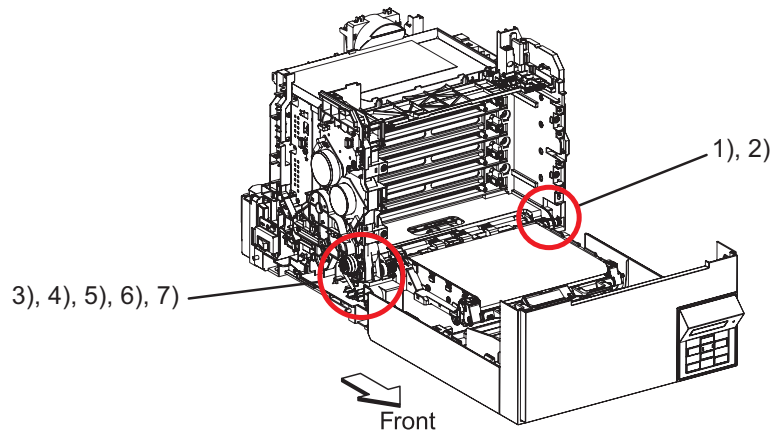
1) Mate the hole of the TRANSFER ASSY with the hole of the printer frame, attach the SHAFT ASSY PIVOT.	
2) Secure the SHAFT ASSY PIVOT to the printer with the one screw (silver, tap, 8mm).	

3 - 239
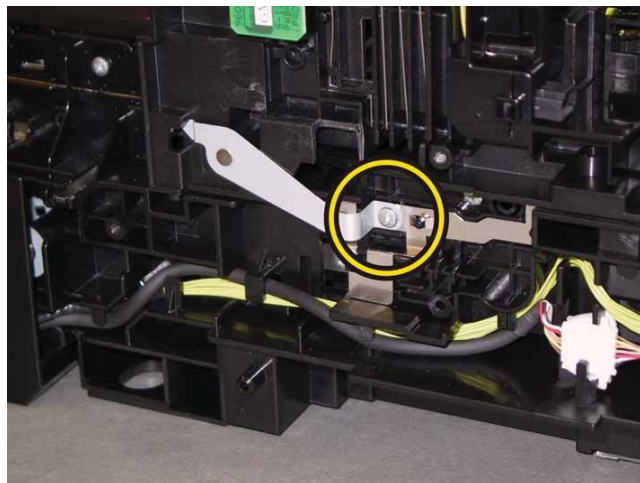
Note: When carrying out the work described next procedure, make sure that the position of the GEAR T4 is correctly.	**TRANSFER ASSY Side** wide narrow **DRIVE ASSY MAIN Side**
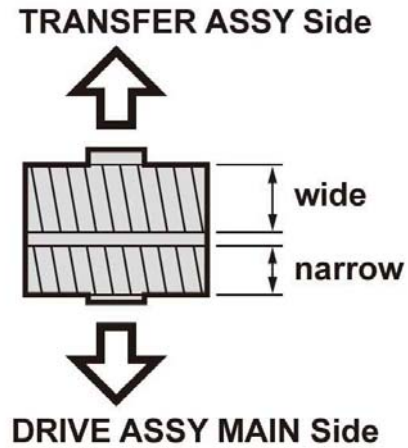
Note: When carrying out the work described next procedure, keep the TRANSFER ASSY slightly lifted for ease of work.

3) Attach the GEAR T4 to the printer, align the holes of the GEAR T4, the printer frame, and the TRANSFER ASSY, and then insert the PIVOT TRANS L.	GEAR T4
Note: When carrying out the work described next procedure, ensure that the flat face of the PIVOT TRANS L is oriented to the direction shown in the right.	
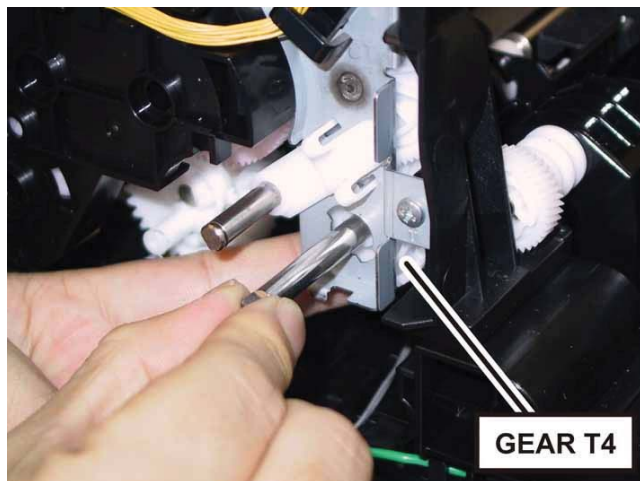
3 - 240

4) Mate the tab of the STOPPER PIVOT with the notch of the DRIVE ASSY MAIN, attach the STOPPER PIVOT to the PIVOT TRANS L.
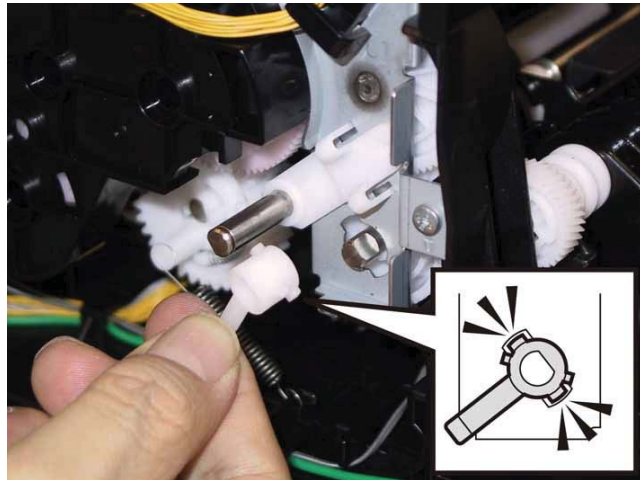
5) Rotate the STOPPER PIVOT to the left, secure the STOPPER PIVOT to the DRIVE ASSY MAIN frame.
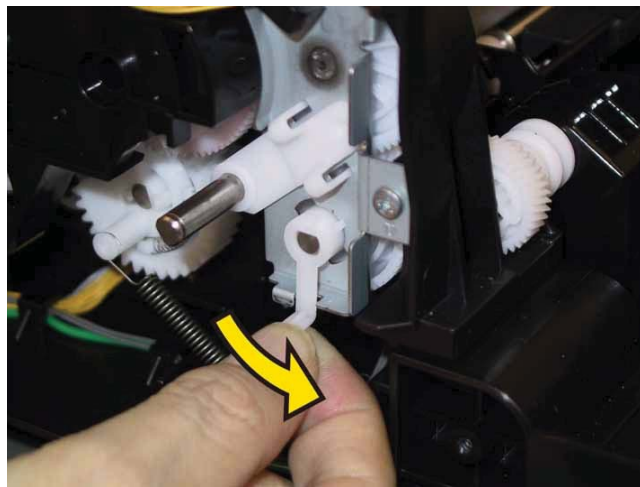
6) Mate the notch of the CLUTCH ASSY DRV with the rib of the DRIVE ASSY PH, secure the CLUTCH ASSY DRV to the ROLL ASSY REGI with the E-ring by using a pliers.

3 - 241
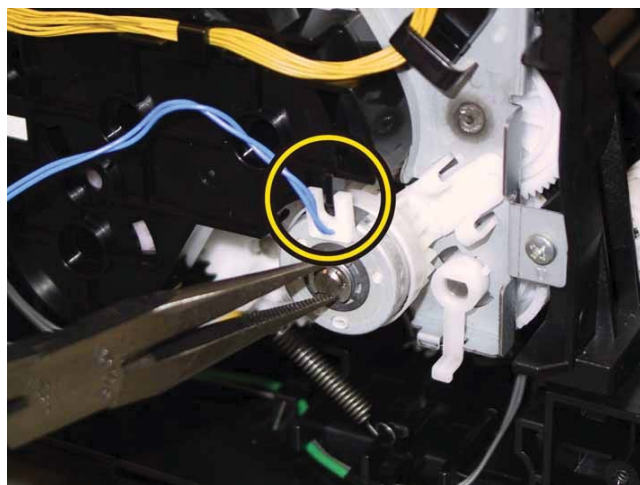
7) Route the harness of the CLUTCH ASSY DRV through the hook of the DRIVE ASSY PH.
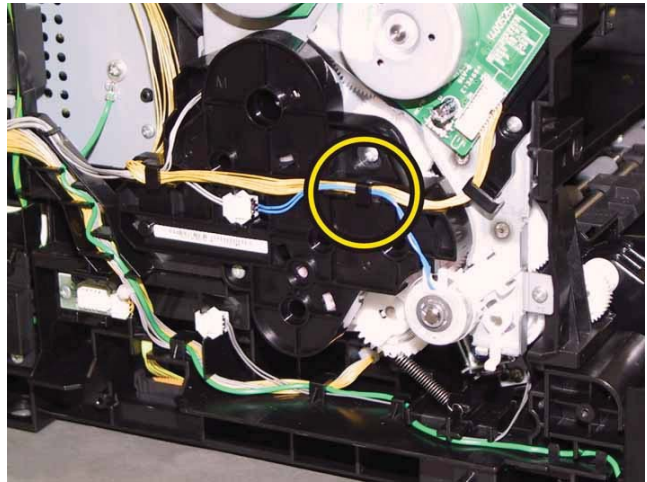
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 36 SENSOR HUM (PL8.2.7)

1) Engage the connecter (P/J201) of the SENSOR HUM.	
2) Secure the SENSOR HUM to the printer with the one screw (silver, tap, 8mm).	
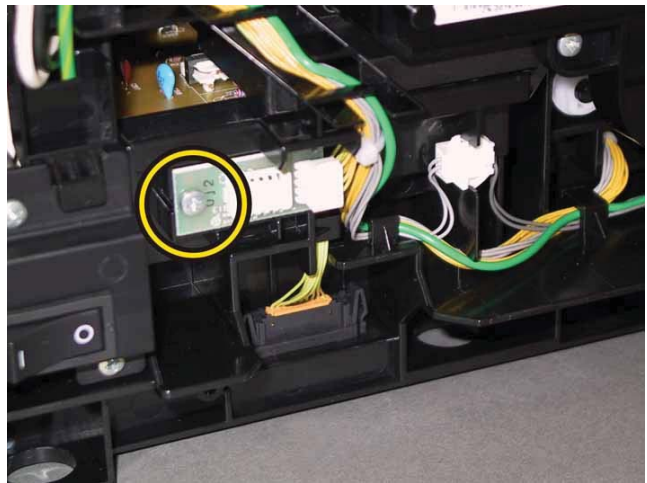
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 37 HARN ASSY INTERLOCK (PL8.2.5)

1) Mate the hole of the switch with the boss of the printer, secure the switch with the one screw (silver, tap, 16mm).	
2) Secure the harness of the HARN ASSY INTERLOCK with the clamps.	
Note: Ensure that the harnesses of the HARN ASSY INTERLOCK and HARNESS ASSY FUSER MG SFP are kept apart so that they do not contact each other. 3) Route the harness of the HARN ASSY INTERLOCK along the GUIDE HARNESS FSR, engage the connector (P/J44) of the HARN ASSY INTERLOCK to the PWBA LVPS.	
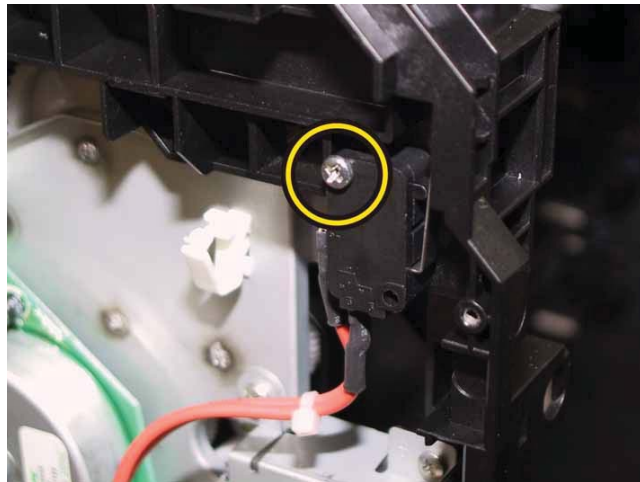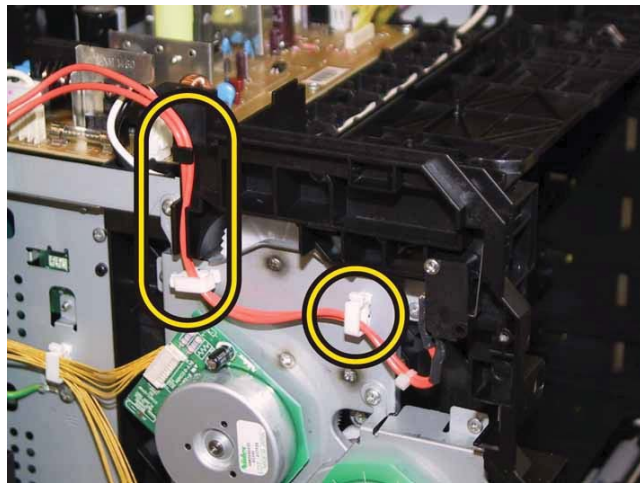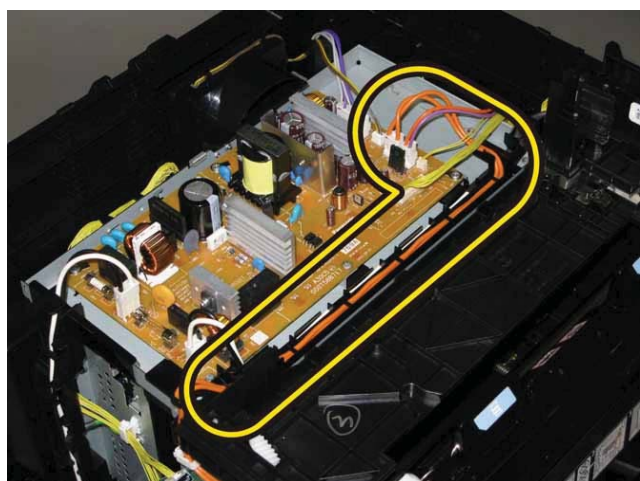
Go to the next replacement step:

Replacement 38 COVER SIDE L (PL1.1.19)

Replacement 38 COVER SIDE L (PL1.1.19)

Accesses Position (The 2) shows the procedure number.)

2)
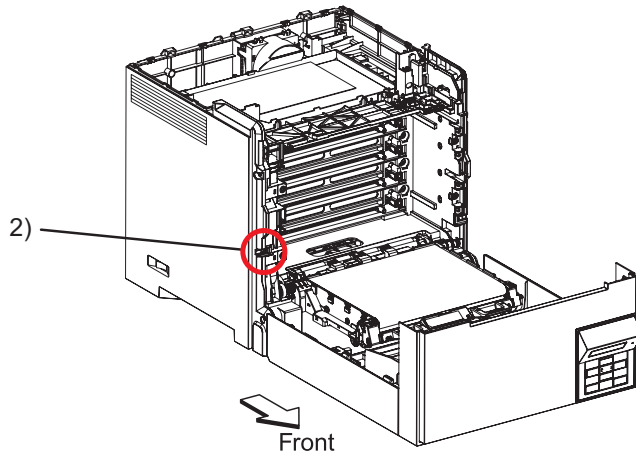
Front

1) Insert the inside hooks of the COVER SIDE L into the hole of the COVER REAR, attach the COVER SIDE L to the printer.	
2) Secure the front hook of the COVER SIDE L to the printer.	

3 - 245
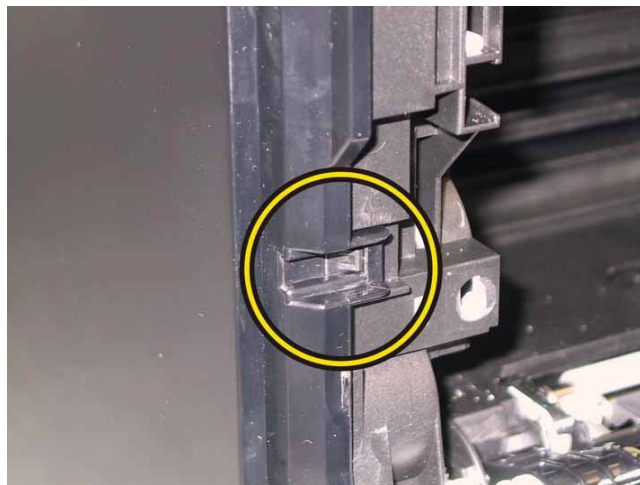
| 3) Secure the COVER SIDE L to the printer with the two screws (silver, tap, 8mm). | |
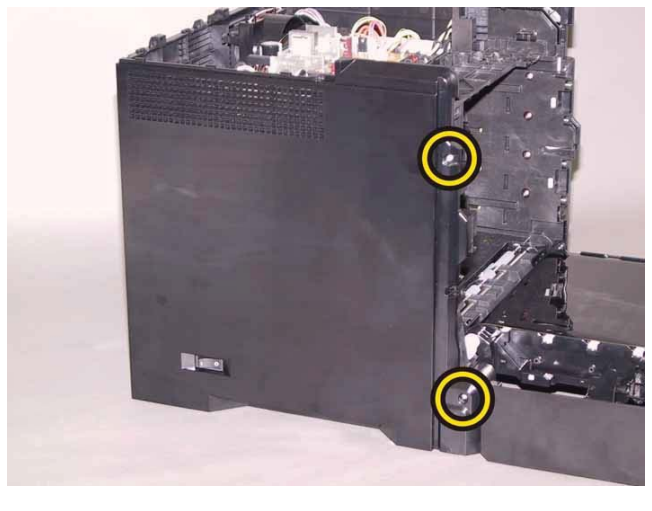
Go to the next replacement step:

Replacement 44 COVER ASSY TOP (PL1.1.1)

Replacement 39 KIT BLOCK PHD RIGHT (PL4.1.97)

Accesses Position (The 1), 2) and 3) show the procedure number.)

Note: Described below is the replacement procedure common among the upper and lower of the BLOCK STOPPER PHD ADs.

3) Push the BLOCK STOPPER PHD AD to the printer until it is locked.	
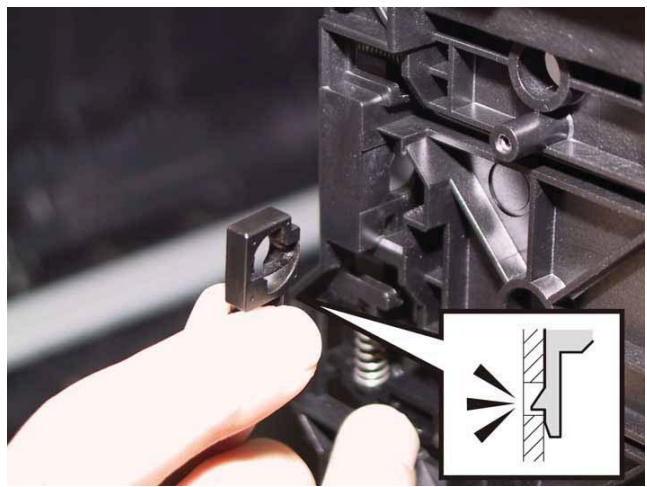
Go to the next replacement step:

Replacement 40 LED ASSY ERASE (PL4.1.8)

Replacement 40 LED ASSY ERASE (PL4.1.8)
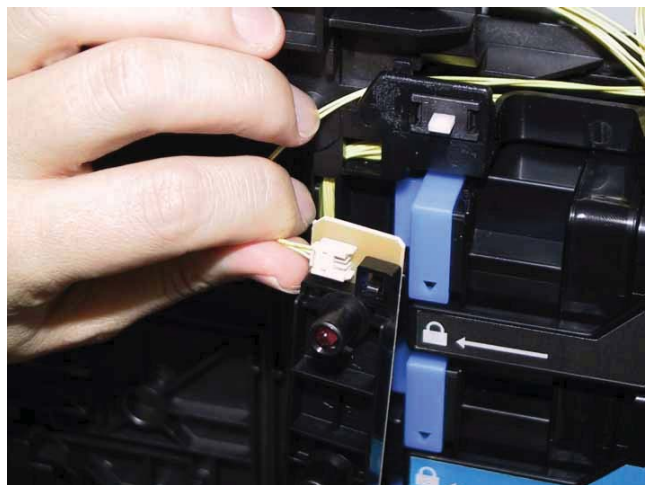
1) Engage the connecter (P/J141) of the LED ASSY ERASE.	
2) Attach the LED ASSY ERASE to the printer.	
3) Secure the LED ASSY ERASE to the printer with two screws (silver, tap, 8mm).	
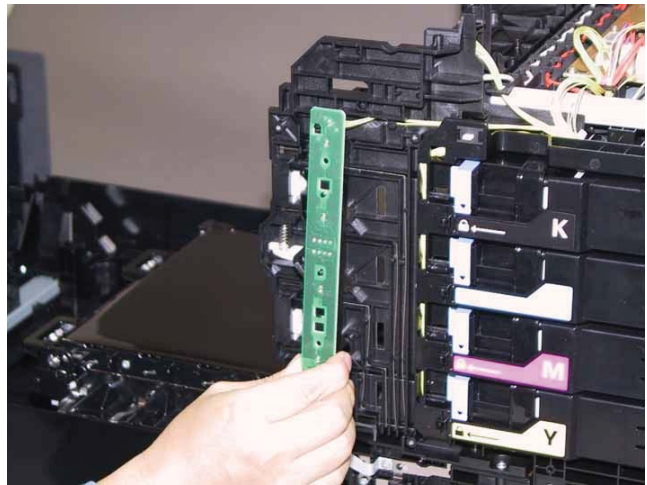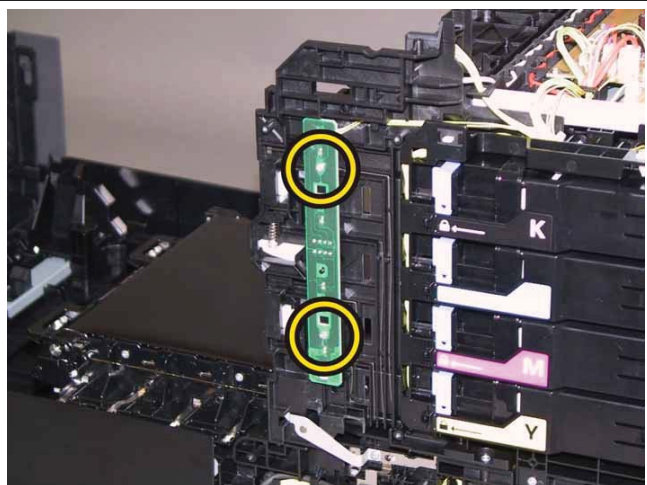
Go to the next replacement step:

Replacement 42 COVER SIDE R (PL1.1.6)

Replacement 41 SWITCH (PL5.1.9)

1) Engage the connecter (P/J291) of the SWITCH.	
2) Attach the SWITCH to the printer, secure the SWITCH with the two hooks.	
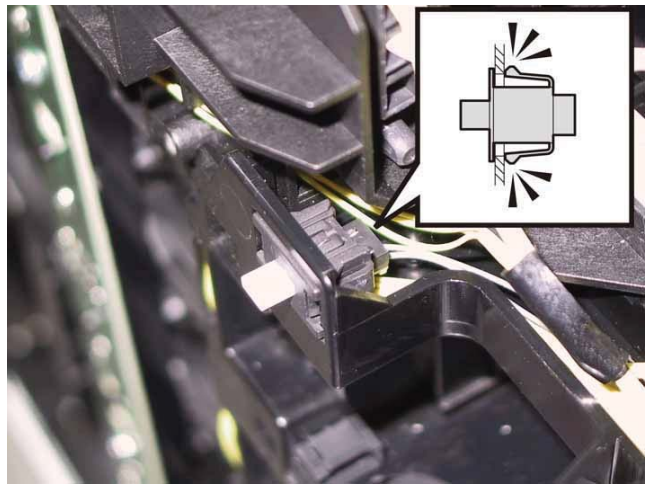
Go to the next replacement step:

Replacement 42 COVER SIDE R (PL1.1.6)

Replacement 42 COVER SIDE R (PL1.1.6)

Accesses Position (The 2) shows the procedure number.)
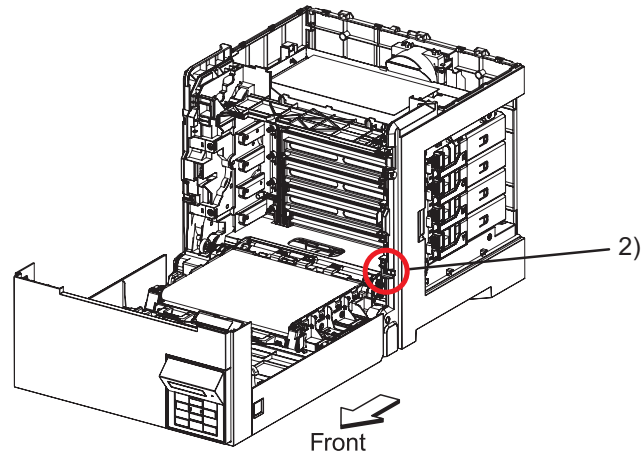
Front

1) Insert the inside hooks of the COVER SIDE R into the hole of the COVER REAR, attach the COVER SIDE R to the printer.	
2) Secure the front hook of the COVER SIDE R to the printer.	
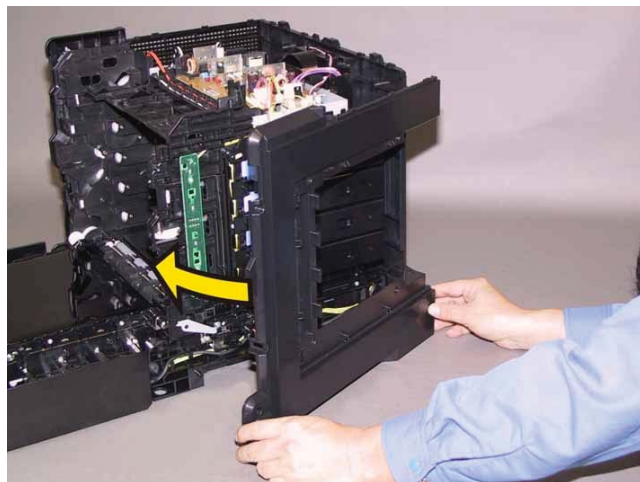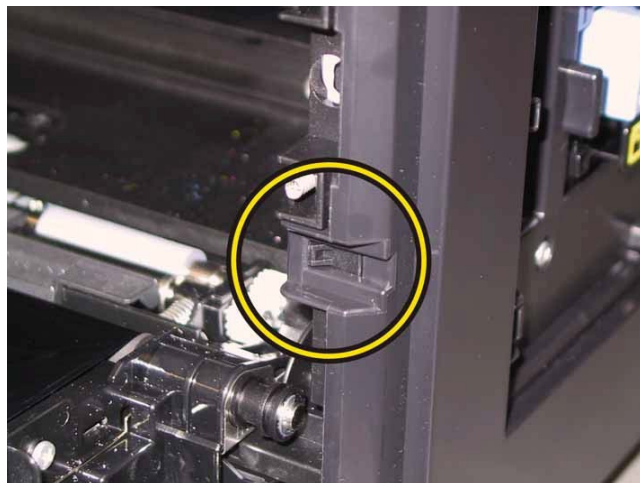
3) Secure the COVER SIDE R to the printer with the six screws (silver, tap, 8mm).	

Go to the next replacement step:

Replacement 46 KIT COVER ASSY WINDOW TNR (PL1.1.99)

Replacement 43 PWBA LVPS (PL8.2.1)

1) Attach the PWBA LVPS to the printer.	
2) Secure the PWBA LVPS to the printer with the six screws (silver, 6mm).	
3) Engage all the connectors of the PWBA LVPS.	
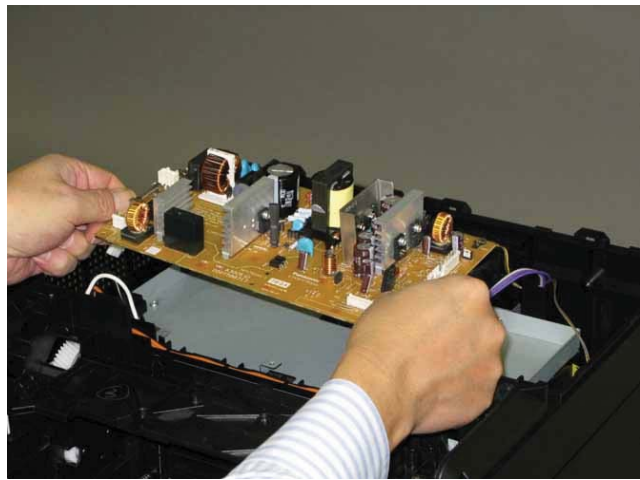
Go to the next replacement step:

Replacement 44 COVER ASSY TOP (PL1.1.1)

Replacement 44 COVER ASSY TOP (PL1.1.1)

1) Mate the hooks of the COVER TOP with the notch of the COVER REAR.	
2) Mate the two holes of the COVER TOP with the pegs of the printer by pulling down the COVER TOP.	
3) Secure the COVER TOP to the printer with the two screws (silver, tap, 8mm).	
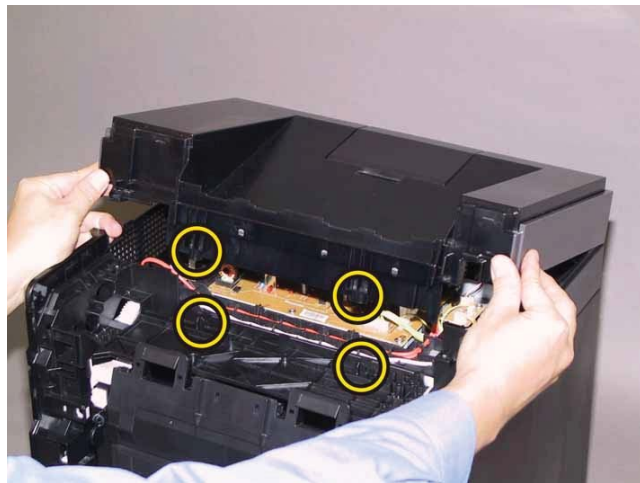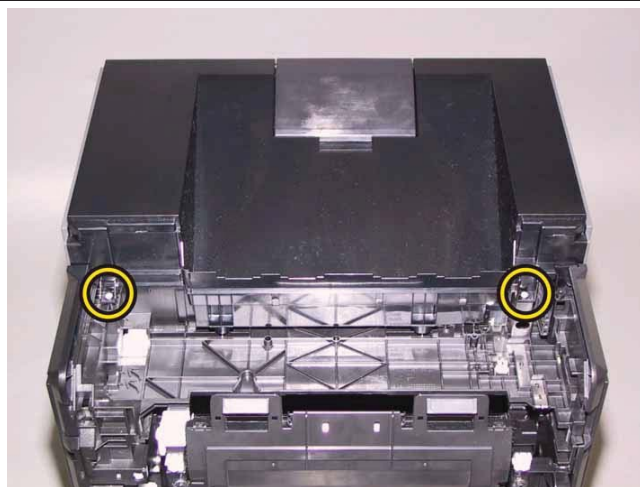
Go to the next replacement step:

Replacement 49 FUSER ASSY (PL6.1.1)

Replacement 45 KIT ROLL ASSY FEED (PL3.2.99)

1) Close the COVER ASSY FRONT MG.

2) Fit the ROLL ASSY FEED to the SHAFT ASSY FEED with the groove of the ROLL ASSY FEED facing upward, rotate the ROLL ASSY FEED 180 degrees so that the pin on the SHAFT ASSY FEED is aligned with the groove on the ROLL ASSY FEED.	
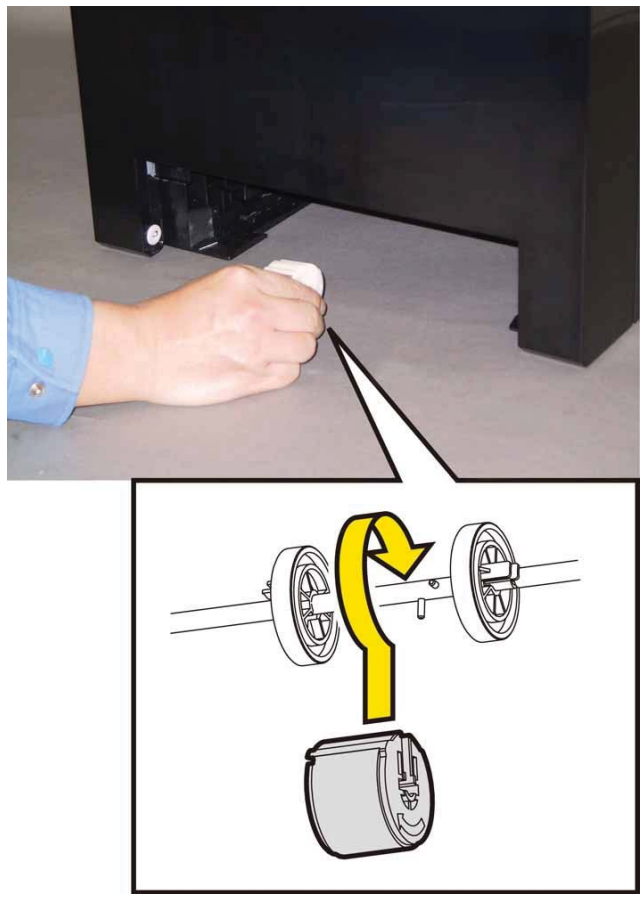
3) Open the COVER ASSY FRONT MG.

4) Move the ROLL ASSY FEED to the right side, put the groove of the ROLL ASSY FEED on the pin of the SHAFT ASSY FEED.	
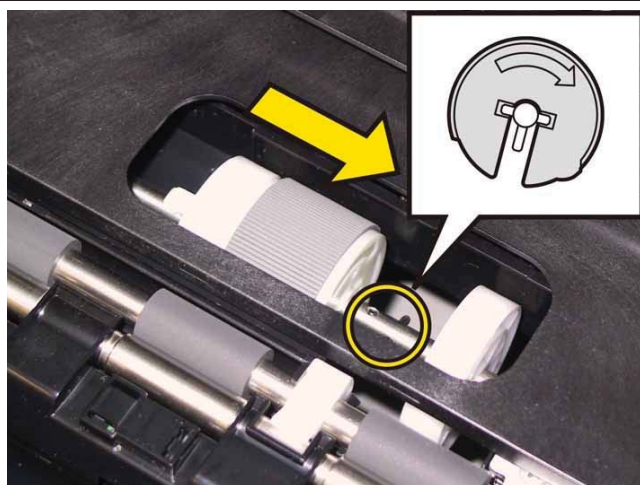
5) Move the ROLL CORE MSI to the right side, to secure the hook of the ROLL CORE MSI with the groove of the SHAFT ASSY FEED.
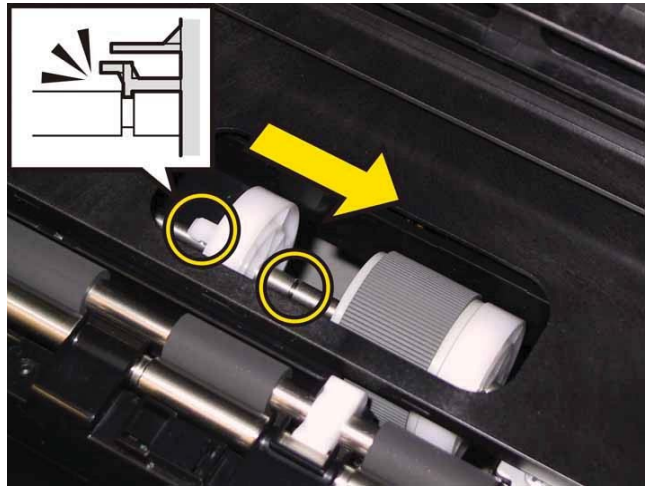
Go to the next replacement step:

Replacement 50 PHD ASSY (PL4.1.21)

Replacement 46 KIT COVER ASSY WINDOW TNR (PL1.1.99)

1) Mate the lower boss of the COVER ASSY WINDOW TNR with the hole of the COVER REAR.	
2) Bend the upper hinge of the COVER ASSY WINDOW TNR, mate the upper boss of the COVER ASSY WINDOW TNR with the hole of the COVER REAR. Attach the COVER ASSY WINDOW TNR.	
3) Close the COVER ASSY WINDOW TNR.	
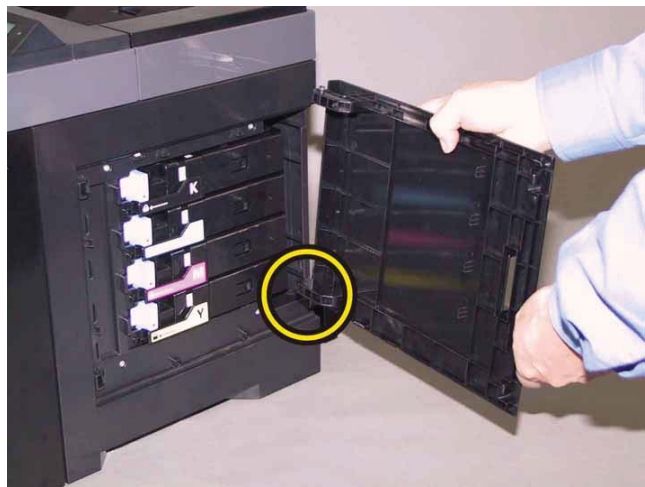
Replacement 47 TRAY EXT (PL1.1.2)

1) Mate the boss of the TRAY EXT with the hole of the COVER ASSY TOP.	
2) Mate the other boss of the TRAY EXT with the hole of the COVER ASSY TOP.	
3) Close the TRAY EXT.	
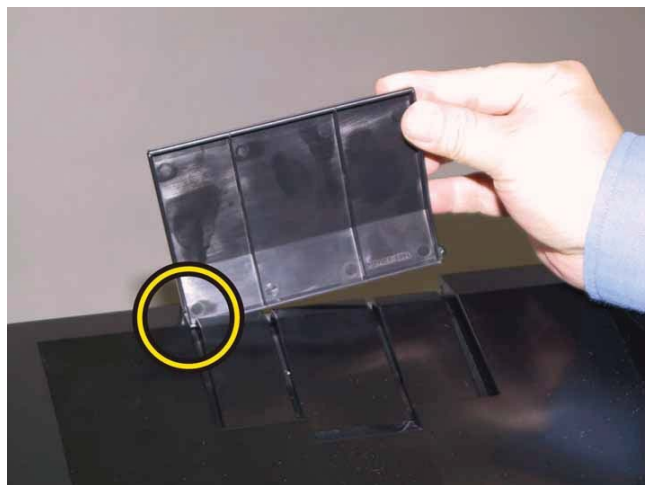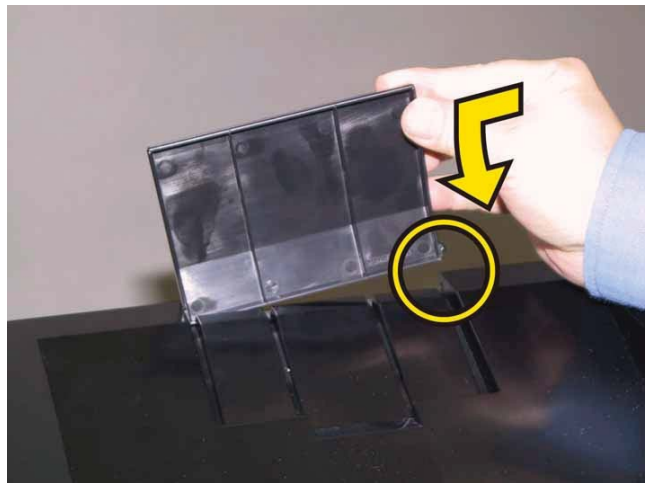
Replacement 48 TONER CARTRIDGE (K), (C), (M), (Y) (PL5.1.21~24)

Note: Described below is the replacement procedure common among the four TONER CARTRIDGEs.

1) Shake the TONER CARTRIDGE five or six times for the distributing toner evenly.	
2) Insert the TONER CARTRIDGE into the HOLDER ASSY TCRU slowly, attach it.	

Note: Check that the TONER CARTRIDGE is secured.

3) Close the HOLDER ASSY TCRU.	

Note: When performing the step described next procedure, mate the delta mark of the Handle with the lock mark on the cartridge holder.	
4) Move the handle to the front.	
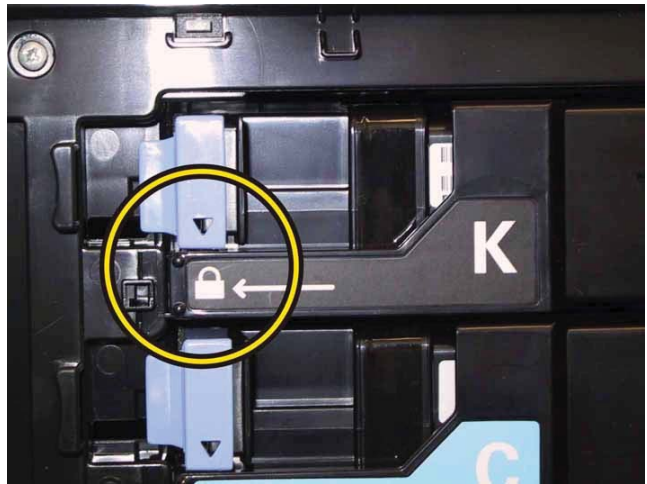
5) Close the COVER ASSY WINDOW TNR.

Replacement 49 FUSER ASSY (PL6.1.1)

1) Insert the two studs of the FUSER ASSY into the holes of the printer.	
2) Engage the connector (P/J171) of the FUSER ASSY by pushing the FUSER ASSY.	
3) Secure the FUSER ASSY to the printer with the one screw (silver, with flange, tap, 10mm).	
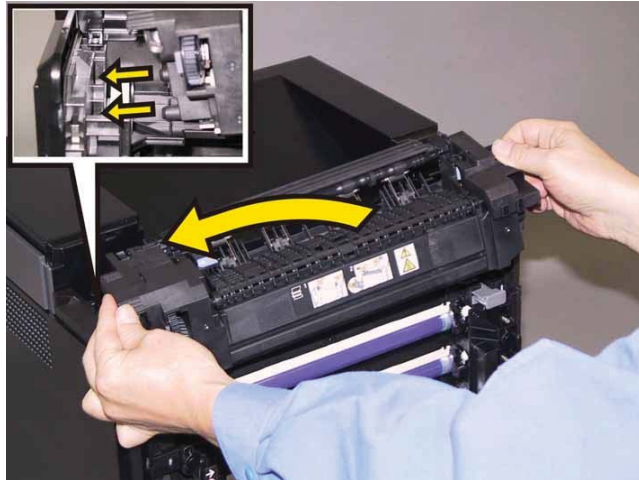
3) Close the TRANSFER ASSY.

4) Close the COVER ASSY FRONT MG.

Note: When the FUSER ASSY is replaced with a new one, perform the following steps.

5) Plug in the power cord to the printer.

6) Initialize the Life Counter of the FUSER ASSY.

7) Turn off the power.

8) Turn on the power while pressing the "▲" key and"▼" key on the control panel.

9) Press the "▼" key several times until "Parameter" is displayed. Press the " ✓ " key once.

10) Press the "▼" key several times until "Life Fuser Sheet" is displayed. Press the " ✓ " key once.

11) Press the "▼" key several times until "Initializing" is displayed. Press the " ✓ " key once.

12) Press the " ✓ " key once, and Initializing the Life Counter of the FUSER ASSY is performed.

13) Turn off the power to exit.

Replacement 50 PHD ASSY (PL4.1.21)

1) Put the paper on the TRANSFER ASSY (PL6.1.7) to protect the belt. **Note: When carrying out the work this procedure, take care not to cover the left and right of the belt guards with the paper.**	 Paper
2) Mate the left and right arrows on the Handle of the PHD ASSY with the guides of the printer.	
3) Push the PHD ASSY into the printer until it is stopped.	
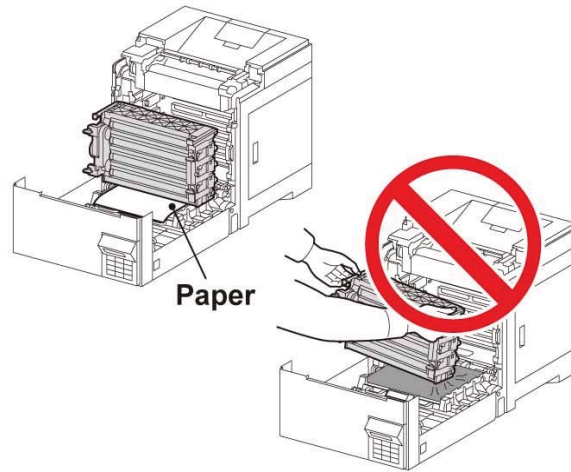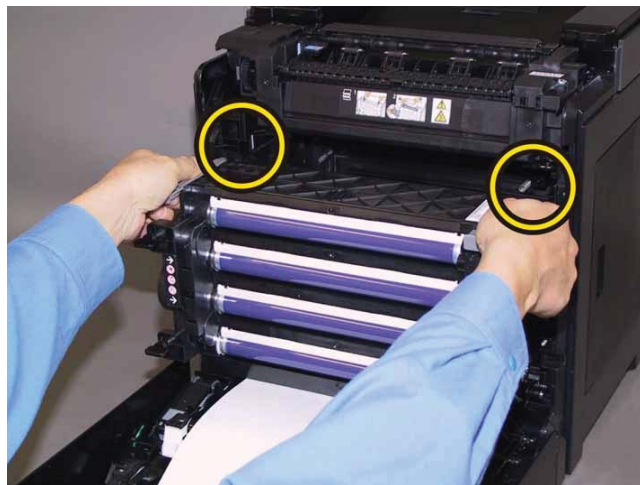
Note: Check that the PHD ASSY is secured.

4) Rotate the four Stoppers of the PHD ASSY to clockwise.	
5) Remove the paper from the TRANSFER ASSY.	
6) Close the TRANSFER ASSY.	
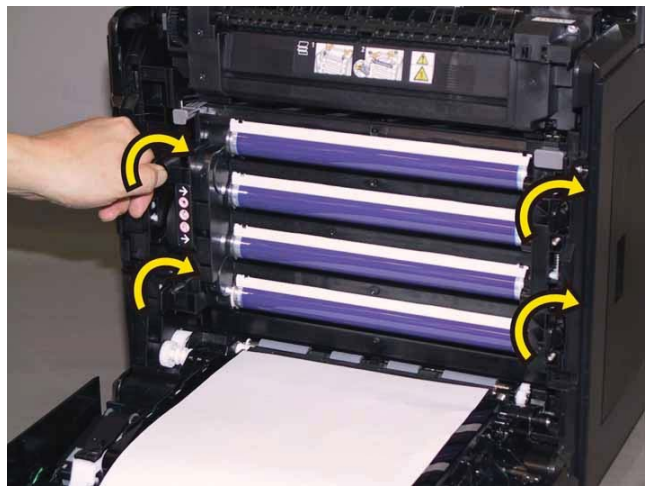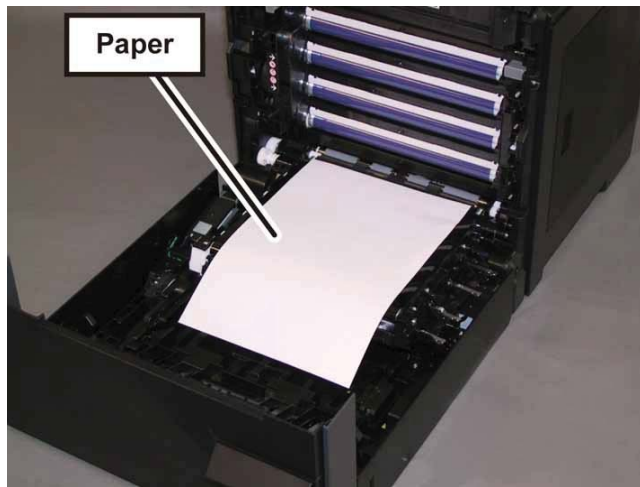
7) Close the COVER ASSY FRONT MG.

8) Insert the CASSETTE ASSY 250 into the printer.

Replacement 51 HANDLE ASSY CST (PL2.1.19)

1) Mate the right side holes of the HANDLE ASSY CST with the bosses of the CASSETTE ASSY 250.	
2) Mate the left side holes of the HANDLE ASSY CST with the bosses of the CASSETTE ASSY 250, attach the HANDLE ASSY CST.	
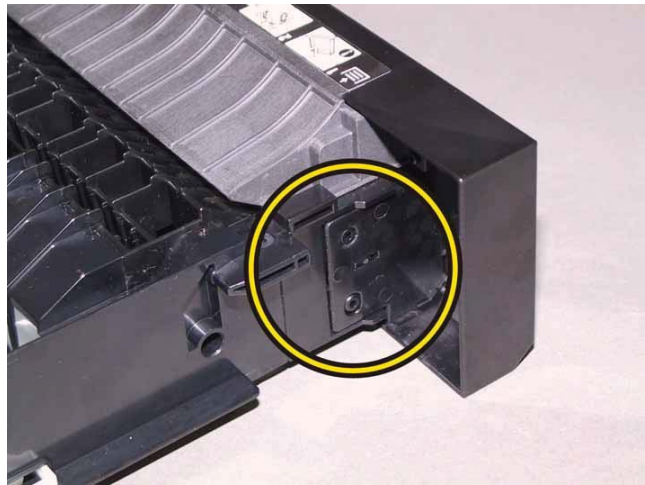
Go to the next replacement step:

Replacement 53 CASSETTE ASSY 250 (PL2.1.1)

Replacement 52 KIT HOLDER ASSY SEPARATOR (PL2.1.99)

1) Mate the under tab of the HOLDER ASSY SEPARATOR with the hole of the CASSETTE ASSY 250.	
2) Secure the left and right hooks of the HOLDER ASSY SEPARATOR.	
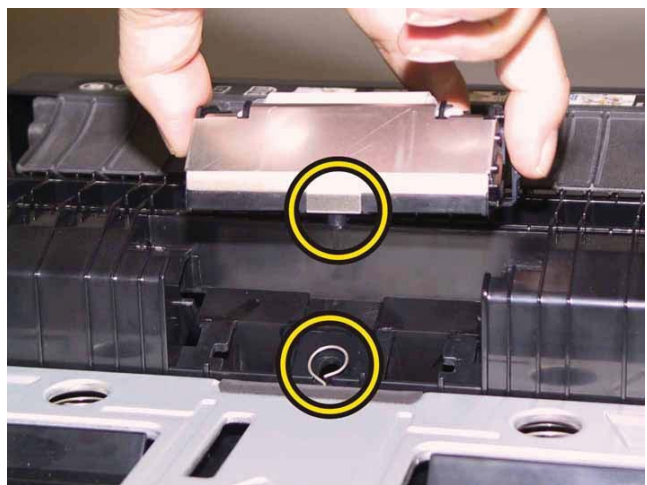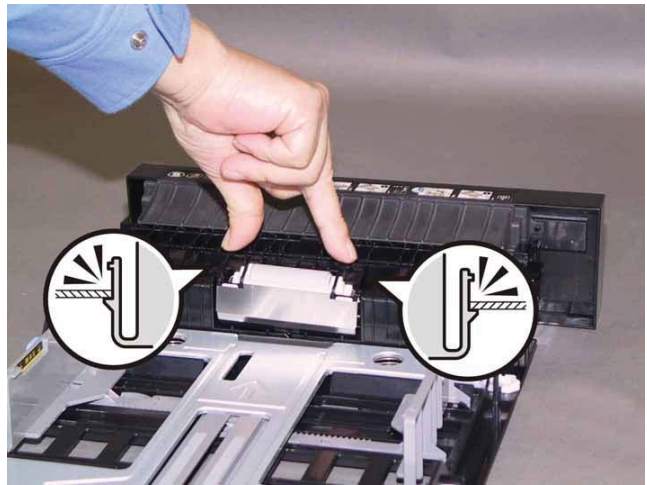
Go to the next replacement step:

Replacement 53 CASSETTE ASSY 250 (PL2.1.1)

Replacement 53 CASSETTE ASSY 250 (PL2.1.1)

1) Insert the CASSETTE ASSY 250 into the printer.	

Replacement 54 WIRELESS ADAPTER (PL8.1.16)

1) Attach the WIRELESS ADAPTER to the PWBA ESS SFP and fix it.	

Replacement 55 MEMORY CARD (PL8.1.15)

Note: Use the wrist strap to protect the PWB from the electrostatic.

1) Fit the MEMORY CARD into the socket by mating the notch of the MEMORY CARD with the lug on the socket.	
2) Insert the MEMORY CARD to the socket until it locks.	
3) Close the PLATE ESS and secure the SCREW KNURLING.	
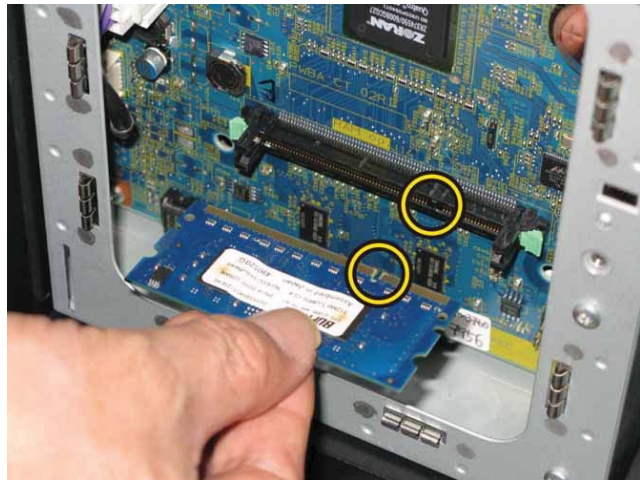
Replacement 56 ROLLER ASSY DUP (PL11.2.9)

1) Attach the ROLLER ASSY DUP to the FEEDER ASSY DUP SFP STD.	
2) Replace the BEARING DUP on both the right and left sides of the ROLLER ASSY DUP by matching the tab of the BEARING DUP with the notch of the FEEDER ASSY DUP SFP STD. Clamp the BEARING DUP firmly to the FEEDER ASSY DUP SFP STD.	
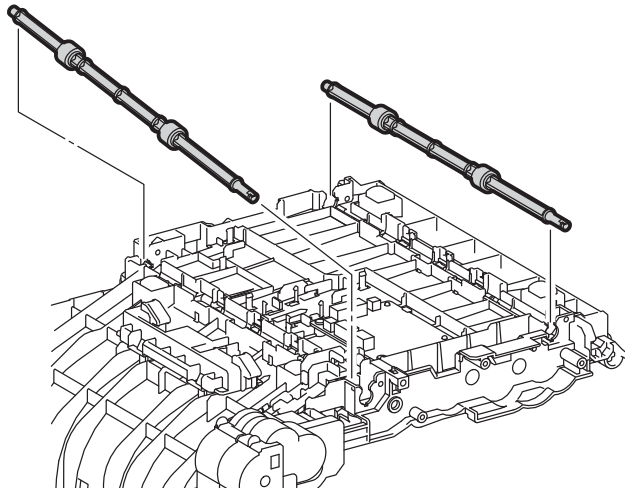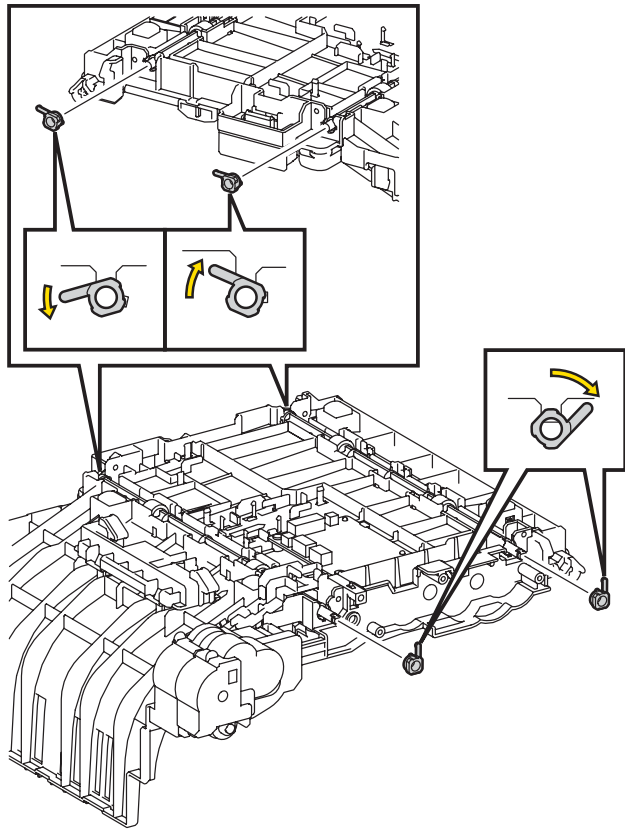
3) Attach the GEAR ROLL DUP to the ROLLER ASSY DUP, mate the hook of the GEAR ROLL DUP with the groove of the FEEDER ASSY DUP SFP STD.	
4) Attach the DRIVE ASSY DUP to the FEEDER ASSY DUP SFP STD, secure the DRIVE ASSY DUP with the four screws (silver, tap, 8mm).	
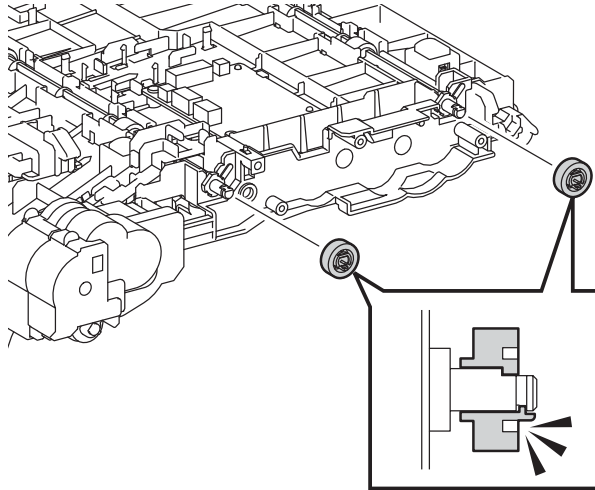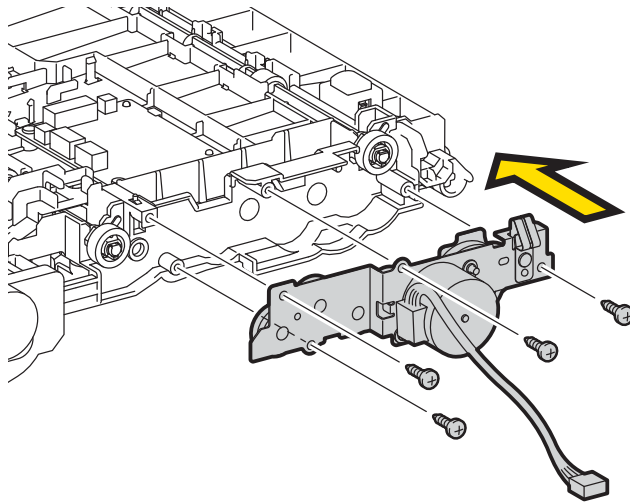
5) Draw the connector of the DRIVE ASSY DUP through the hole of the COVER DRIVE DUP. Then fix the COVER DRIVE DUP to the FEEDER ASSY DUP SFP STD using the five hooks.	
6) Route the harness of the DRIVE ASSY DUP along the hooks of the COVER DRIVE DUP, engage the connector (P/J603) of the DRIVE ASSY DUP to the PWBA DUP.	
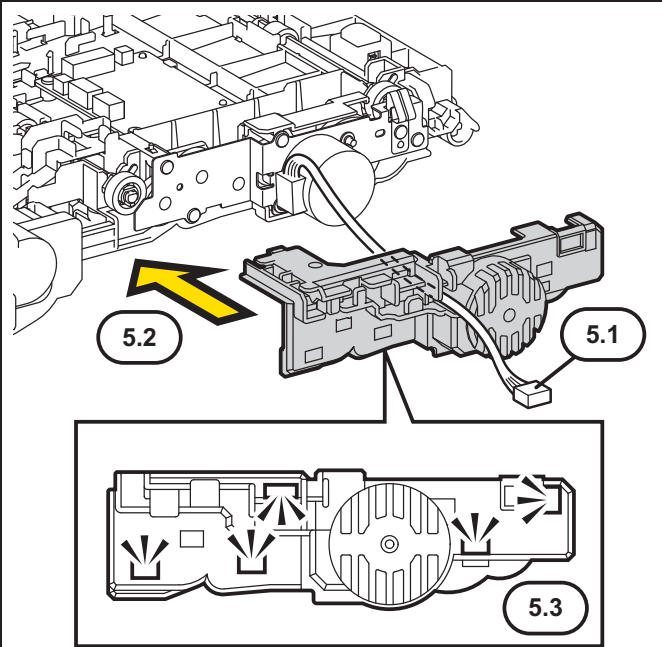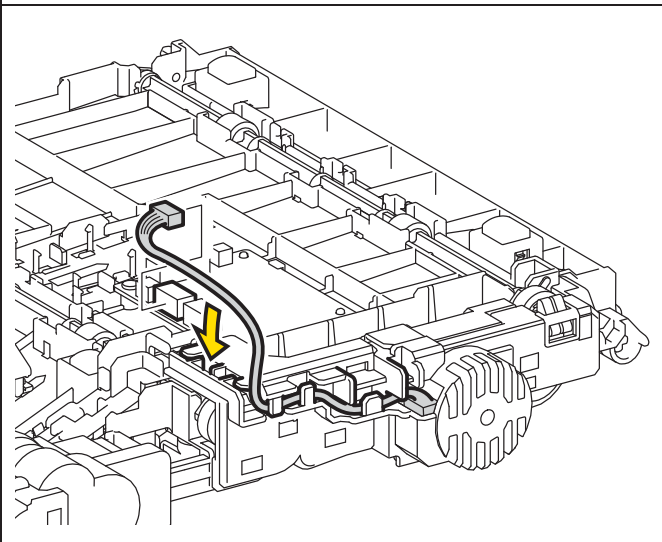
Note: When carrying out the steps described below, insert the right edge of the COVER PWBA DUP into the clearance of the CHUTE DUP FRAME. 7) Attach the COVER PWBA DUP to the FEEDER ASSY DUP SFP STD, secure the COVER PWBA DUP with the six hooks.	
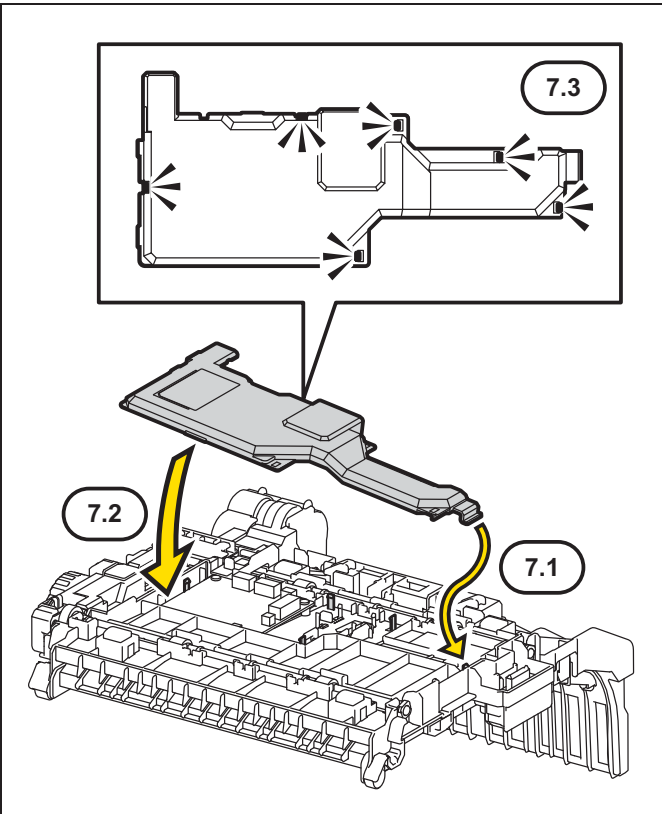
8) Replace the FEEDER ASSY DUP SFP STD. (Replacement 57)

9) Close the COVER ASSY FRONT MG.

Replacement 57 FEEDER ASSY DUP SFP STD (PL11.1.1)

1) Align the arrow on the FEEDER ASSY DUP SFP STD with the one on the COVER ASSY FRONT MG, attach the FEEDER ASSY DUP SFP STD.	
2) Push the FEEDER ASSY DUP SFP STD to secure it.	
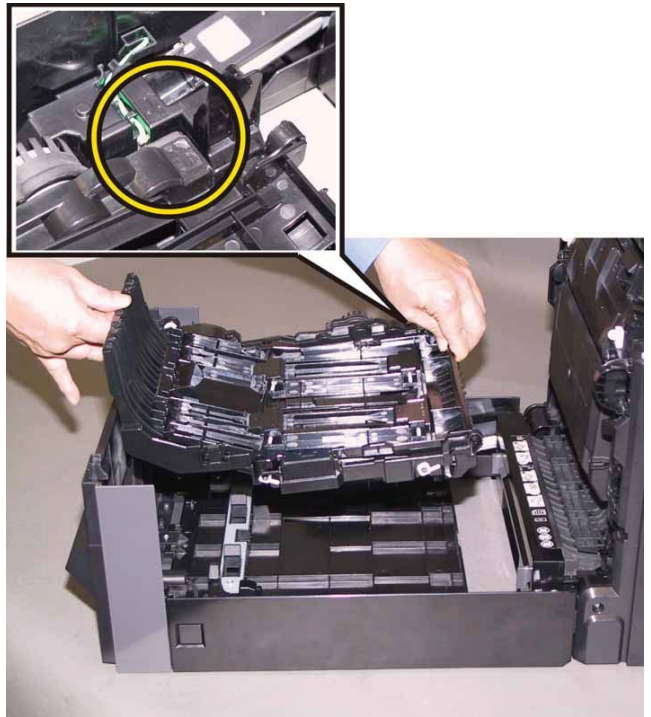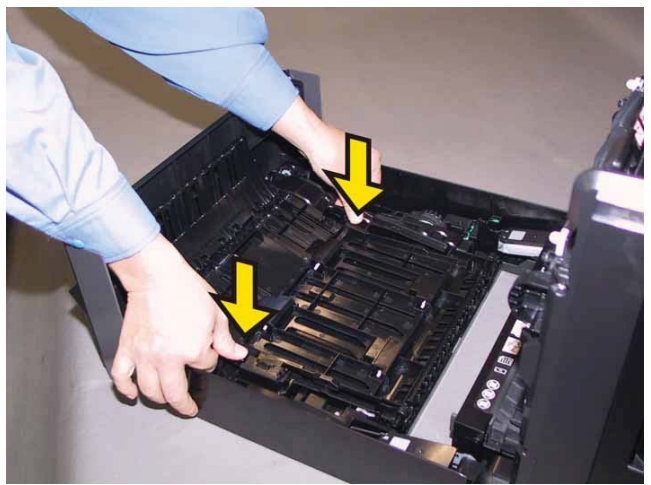
3) Close the COVER ASSY FRONT MG.

Replacement 58 ROLL ASSY FEED (Parts of the FEEDER ASSY OPT) (PL12.4.4)

1) Fit the ROLL ASSY FEED to the SHAFT ASSY FEED with the groove of the ROLL ASSY FEED facing upward, rotate the ROLL ASSY FEED 180 degrees so that the pin on the SHAFT ASSY FEED is aligned with the groove on the ROLL ASSY FEED.
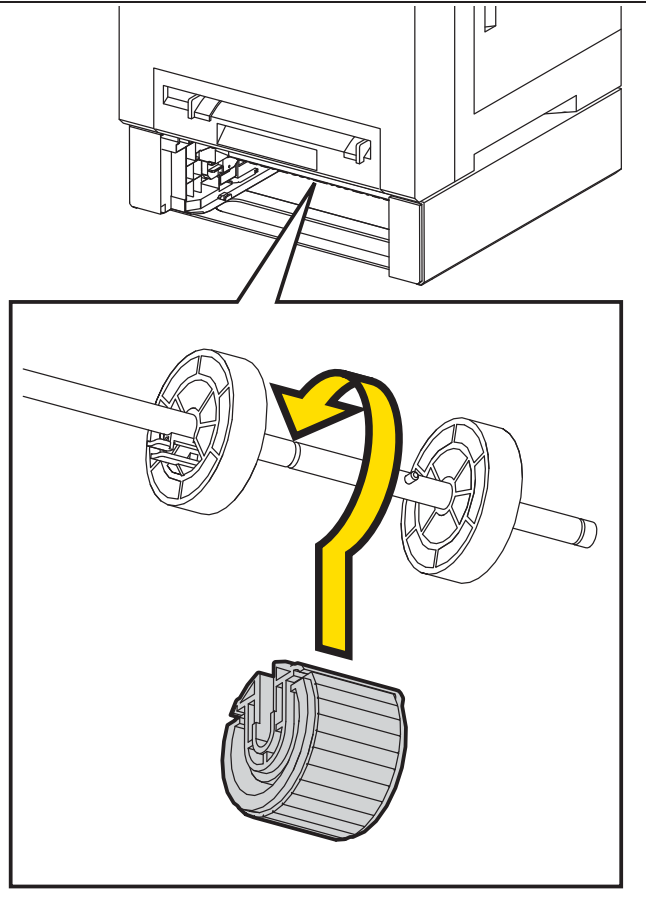
2) Move the ROLL ASSY FEED to the right side, put the groove of the ROLL ASSY FEED on the pin of the SHAFT ASSY FEED.
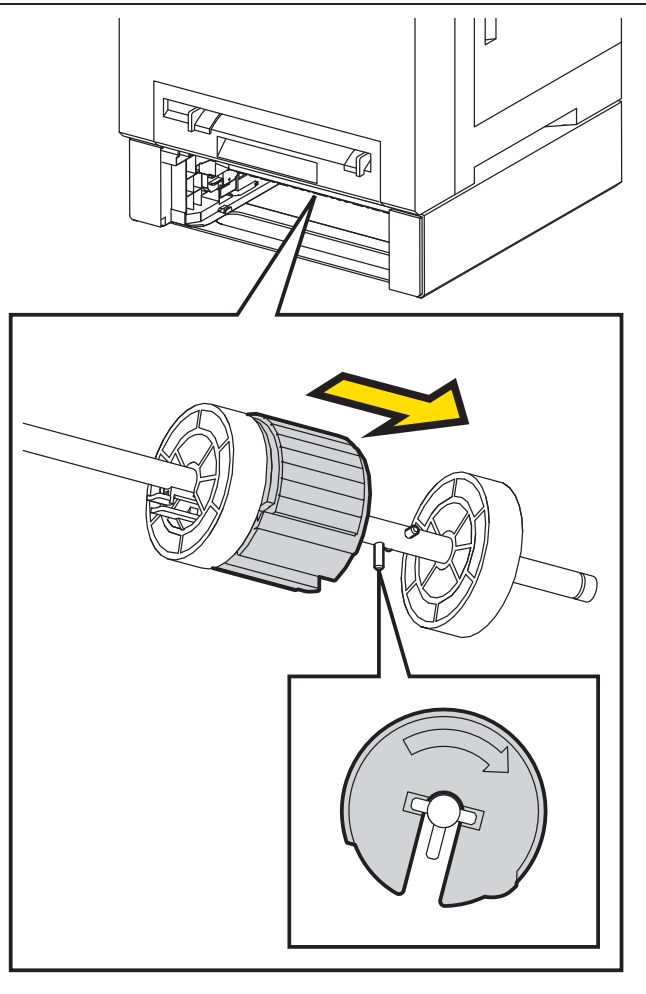
3) Move the ROLL CORE MSI to the right side, to secure the hook of the ROLL CORE MSI with the groove of the SHAFT ASSY FEED.
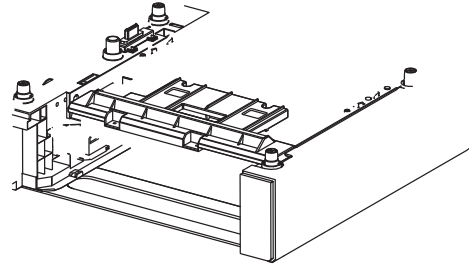
Replacement 59 KIT FEEDER ASSY OPT (PL12.1.99)

Note: The printer must be lifted by two people.

1) Place the printer on the FEEDER ASSY OPT with the five holes on the bottom of the printer aligned with the studs on the FEEDER ASSY OPT.	
2) Secure the printer to the FEEDER ASSY OPT using the two SCREW JOINTs.	
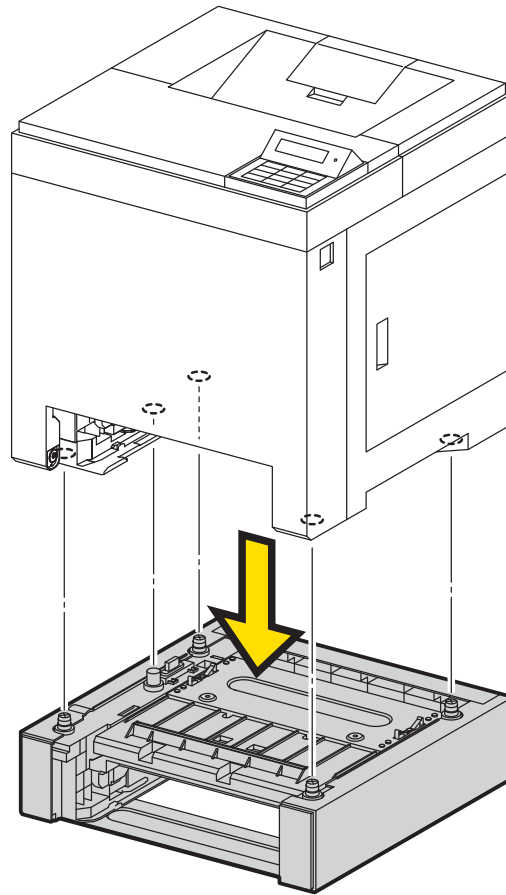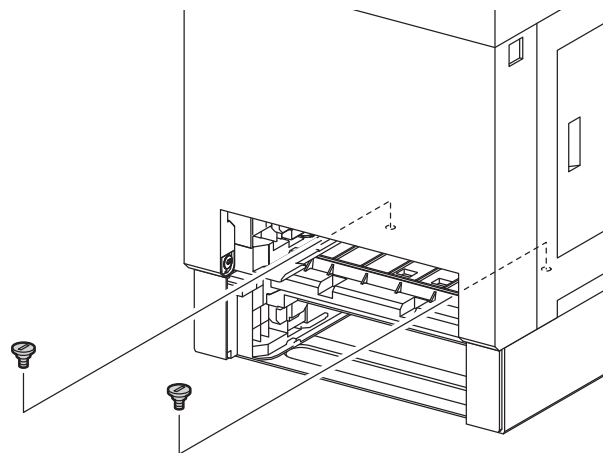
3) Insert the CASSETTE ASSY 250 OPT into the FEEDER ASSY OPT.

4) Insert the CASSETTE ASSY 250 into the printer.

Chapter 4 Plug/Jack(P/J) Connector Locations CONTENTS

1. Connector [P (plug) / J (jack)]

1.1 List of P/J

Printer

P/J	Coordiates	Remarks
10	I-156	Connects PWBA MCU and HARNESS ASSY ESS MG SFP
11	I-156	Connects PWBA MCU and HARNESS ASSY ESS VIDEO
14	H-157	Connects PWBA MCU and HARNESS ASSY LVPS MAIN MG SFP
15	H-156	Connects PWBA MCU and HARNESS ASSY LVPS MAIN MG SFP
16	I-158	Connects PWBA MCU and HARNESS ASSY HVPS
17	H-157	Connects PWBA MCU and HARNESS ASSY FUSER MG SFP
18	H-158	Connects PWBA MCU and HARNESS ASSY TNR MOT
19	H-158	Connects PWBA MCU and HARNESS ASSY TNR MOT
20	J-158	Connects PWBA MCU and HARNESS ASSY HUM
21	J-157	Connects PWBA MCU and HARNESS ASSY MAIN MOT MG SFP
22	J-157	Connects PWBA MCU and HARNESS ASSY SUB MOT MG SFP
23	J-158	Connects PWBA MCU and HARNESS ASSY L SIDE
24	J-158	Connects PWBA MCU and DRIVE ASSY PH (Color Mode Switching sole-noid)
26	J-158	Connects PWBA MCU and HARNESS ASSY KSNR REGCL
27	I-158	Connects PWBA MCU and HARNESS ASSY OPTION (2150cdn Only)
27	I-158	Connects PWBA MCU and HARNESS ASSY OPTION D-LESS MG SFP (2150cn Only)
28	J-158	Connects PWBA MCU and HARNESS ASSY L SIDE
29	C-140	Connects PWBA ESS SFP and HARNESS ASSY B
29	H-158	Connects PWBA MCU and HARNESS ASSY SIDE SW
31	H-157	Connects PWBA MCU and HARNESS ASSY TONER CRUM
40	D-133	Connects PWBA LVPS and HARNESS ASSY ESS POWER
40	I-156	Connects PWBA MCU and HARNESS ASSY ROS RE
41	I-156	Connects PWBA MCU and HARNESS ASSY ROS VIDEO
42	J-157	Connects PWBA MCU and HARNESS ASSY PHD XPRO
44	D-133	Connects PWBA LVPS and INTERLOCK SWITCH
47	G-133	Connects PWBA LVPS and HARNESS ASSY FUSER MG SFP
48	G-133	Connects PWBA LVPS and SWITCH ASSY INLET MG SFP
101	D-139	Connects PWBA ESS SFP and HARNESS ASSY ESS MG SFP
101	I-157	Not Connect (Debug only)
111	E-139	Connects PWBA ESS SFP and HARNESS ASSY ESS VIDEO
141	H-107	Connects LED ASSY ERASE and HARNESS ASSY LVPS MAIN MG SFP
144	G-151	Connects PWBA EEPROM and HARNESS ASSY PHD XPRO
161	F-153	Connects PWBA HVPS and HARNESS ASSY HVPS
171	H-107	Connects FUSER ASSY and HARNESS ASSY FUSER MG SFP
181	C-152	Connects DISPENSER ASSY (Motor Assy DISP Y) and HARNESS ASSY TNR MOT
182	C-151	Connects DISPENSER ASSY (Motor Assy DISP M) and HARNESS ASSY TNR MOT
191	C-151	Connects DISPENSER ASSY (Motor Assy DISP C) and HARNESS ASSY TNR MOT
192	C-150	Connects DISPENSER ASSY (Motor Assy DISP K) and HARNESS ASSY TNR MOT
201	H-141	Connects FEEDER ASSY MG SFP (HUM Sensor) and HARNESS ASSY HUM
202	F-106	Connects CONSOLE ASSY PANEL and HARNESS ASSY PNL A

| P/J	Coordiates	Remarks
211	I-139	Connects DRIVE ASSY MAIN (Main Motor) and HARNESS ASSY MAIN MOT MG SFP
221	H-139	Connects DRIVE ASSY SUB (Sub Motor) and HARNESS ASSY SUB MOT MG SFP
231	C-125	Connects FEEDER ASSY MG SFP (Feed Solenoid) and HARNESS ASSY L SIDE
232	F-125	Connects FEEDER ASSY MG SFP (REGI Sensor) and HARNESS ASSY L SIDE
233	G-125	Connects FEEDER ASSY MG SFP (SSI No Paper Sensor) and HAR-NESS ASSY L SIDE
234	F-124	Connects FEEDER ASSY MG SFP (Tray No Paper Sensor) and HAR-NESS ASSY L SIDE
261	H-140	Connects DRIVE ASSY PH (Color Mode Switching Sensor) and HAR-NESS ASSY KSNR REGCL
262	I-140	Connects CLUTCH ASSY DRV and HARNESS ASSY KSNR REGCL
271	I-110	Connects HARNESS ASSY DUP RELAY and HARNESS ASSY OPTION (2150cdn Only)
272	F-109	Connects HARNESS ASSY DUP RELAY and FEEDER ASSY DUP SFP STD (HARNESS ASSY DUP) (2150cdn Only)
273	H-142	Connects HARNESS ASSY OPTION and 250 OPTION FEEDER (HAR-NESS ASSY TRAY) (2150cdn Only)
273	H-142	Connects HARNESS ASSY OPTION D-LESS MG SFP and 250 OPTION FEEDER (HARNESS ASSY TRAY) (2150cn Only)
281	C-108	Connects TRANSFER ASSY (Harness Assy CTD SNR2) and HARNESS ASSY L SIDE
291	H-107	Connects DISPENSER ASSY (Side Cover Switch) and HARNESS ASSY SIDE SW
311	H-110	Connects DISPENSER ASSY (Connector CRUM Y) and HARNESS ASSY TONER CRUM
312	H-109	Connects DISPENSER ASSY (Connector CRUM M) and HARNESS ASSY TONER CRUM
313	H-108	Connects DISPENSER ASSY (Connector CRUM C) and HARNESS ASSY TONER CRUM
314	H-108	Connects DISPENSER ASSY (Connector CRUM K) and HARNESS ASSY TONER CRUM
401	C-140	Connects PWBA ESS SFP and HARNESS ASSY ESS POWER
411	D-122	Connects ROS ASSY and HARNESS ASSY ROS RE
412	D-123	Connects ROS ASSY and HARNESS ASSY ROS VIDEO
422	G-150	Connects PHD ASSY (Eeprom PHD) and HARNESS ASSY PHD XPRO
501	E-133	Connects PWBA LVPS and HARNESS ASSY LVPS MAIN MG SFP
502	D-133	Connects PWBA LVPS and HARNESS ASSY LVPS MAIN MG SFP
503	D-133	Connects PWBA LVPS and FAN
504	D-133	Connects PWBA LVPS and HARNESS ASSY LVPS MAIN MG SFP
2811	D-107	Connects ADC Sensor and HARNESS ASSY CTD SNR2 (TRANSFER ASSY)
5041	I-107	Not Connect (Used in production process only)
5301	H-111	Connects HARNESS ASSY PNL A and HARNESS ASSY B

Duplex

| P/J	Coordiates	Remarks
272	I-169	Connects FEEDER ASSY DUP SFP STD (HARNESS ASSY DUP) and PRINTER
601	E-169	Connects PWBA DUP and HARNESS ASSY DUP
602	D-168	Connects PWBA DUP and DRIVE ASSY EXIT (Exit Motor)
603	D-168	Connects PWBA DUP and DRIVE ASSY DUP (DUP Motor)
604	E-168	Connects PWBA DUP and DRIVE ASSY EXIT (DUP Clutch)
605	E-169	Not Connect

Option Feeder

P/J	Coordiates	Remarks
273	D-184	Connects 250 OPTION FEEDER (HARNESS ASSY TRAY) and PRINTER
419	C-179	Connects PWBA FEED H and HARNESS ASSY TRAY
420	D-179	Connects PWBA FEED H and HARNESS ASSY TRAY COMP
421	C-180	Connects PWBA FEED H and HARNESS ASSY TRAY COMP
422	D-180	Connects PWBA FEED H and HARNESS ASSY TRAY MOT
4201	H-181	Connects Turn Clutch and HARNESS ASSY TRAY COMP
4202	D-185	Connects Paper Paht Senser and HARNESS ASSY TRAY COMP
4211	F-180	Connects Feed Solenoid and HARNESS ASSY TRAY COMP
4212	F-185	Connects Tray2 No PaperSenser and HARNESS ASSY TRAY COMP
4221	E-179	Connects MOTOR ASSY SUB (OPT FDR Motor) and HARNESS ASSY TRAY MOT

1.2   IOT P/J layout diagram
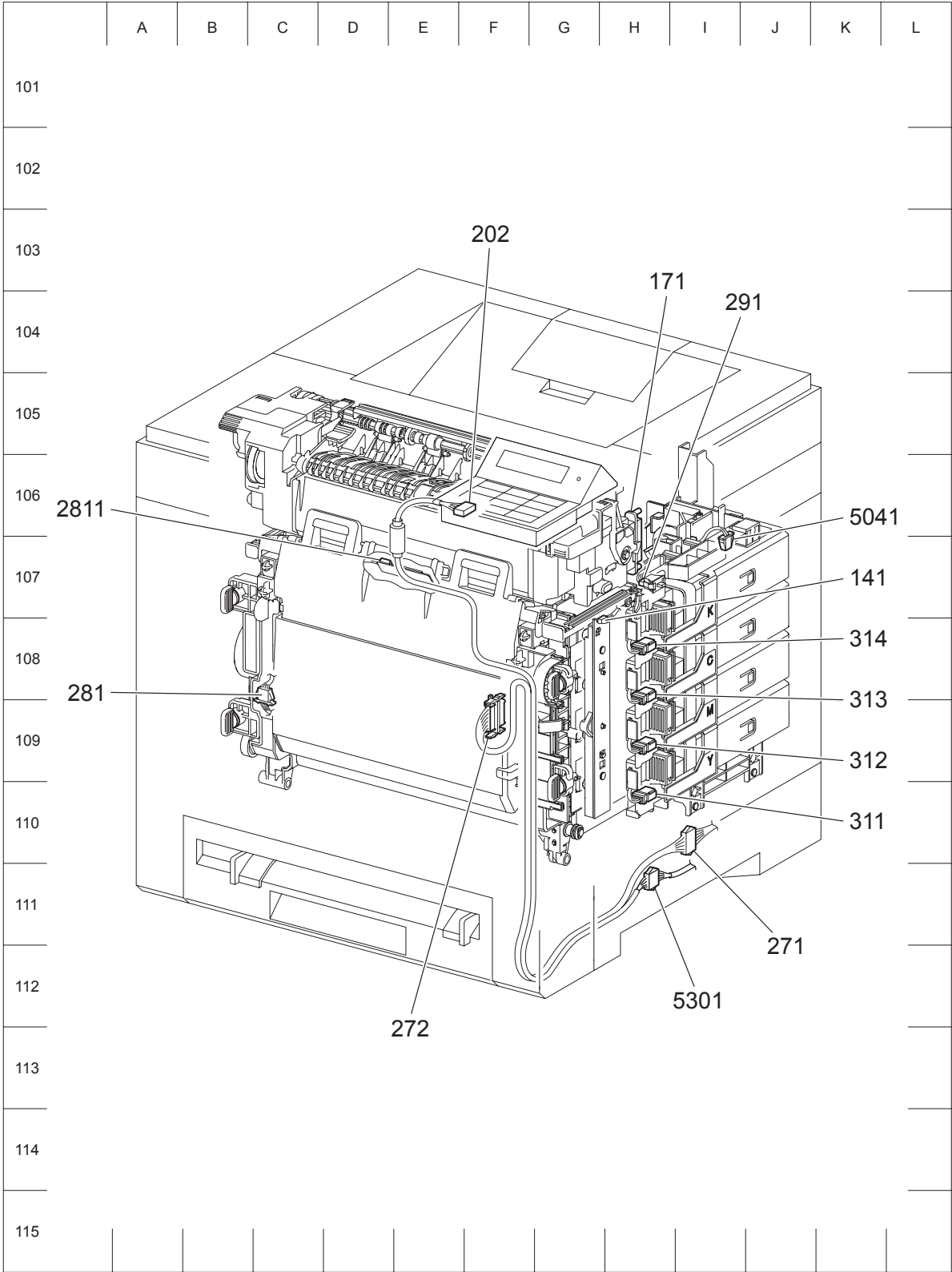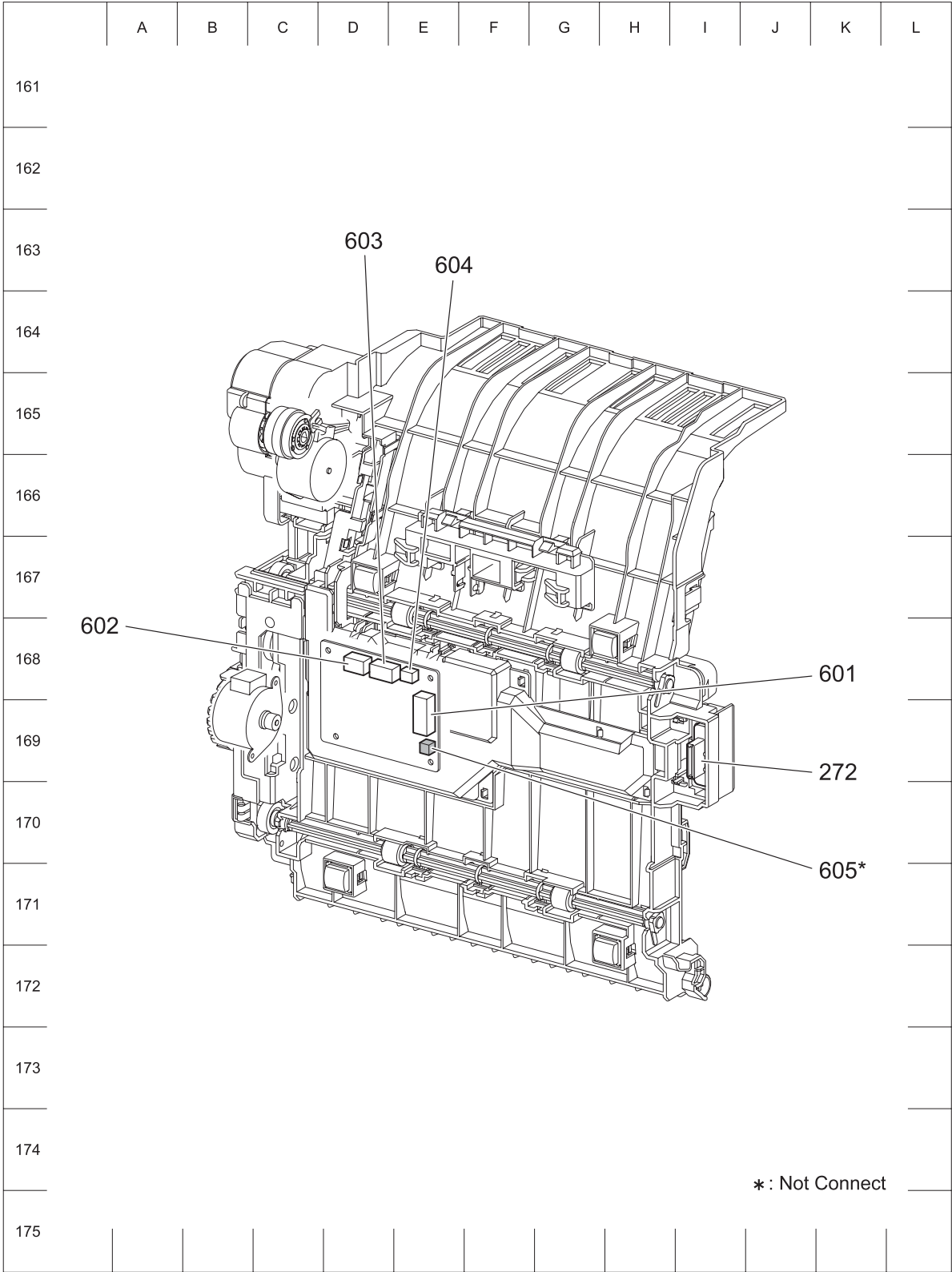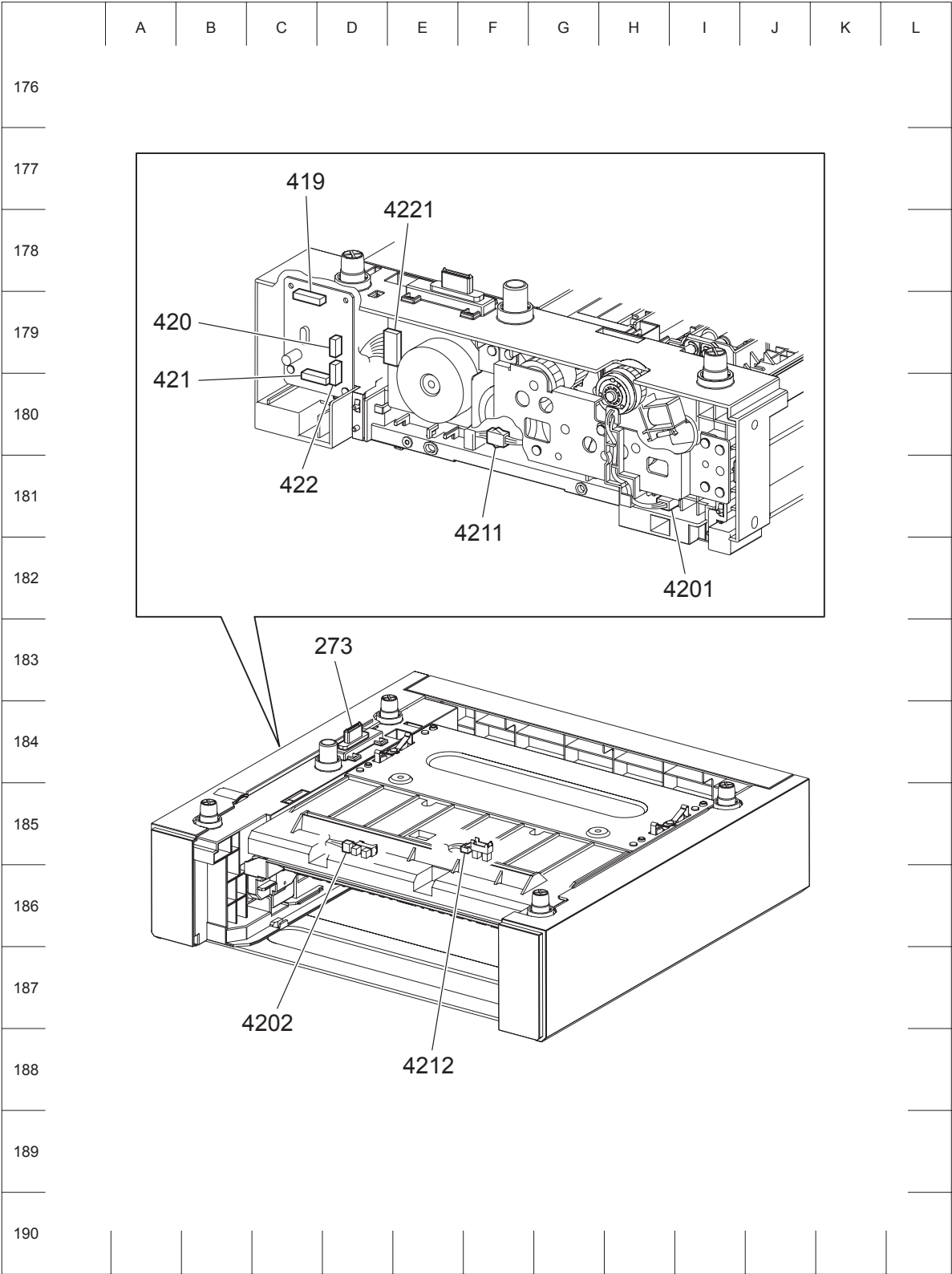

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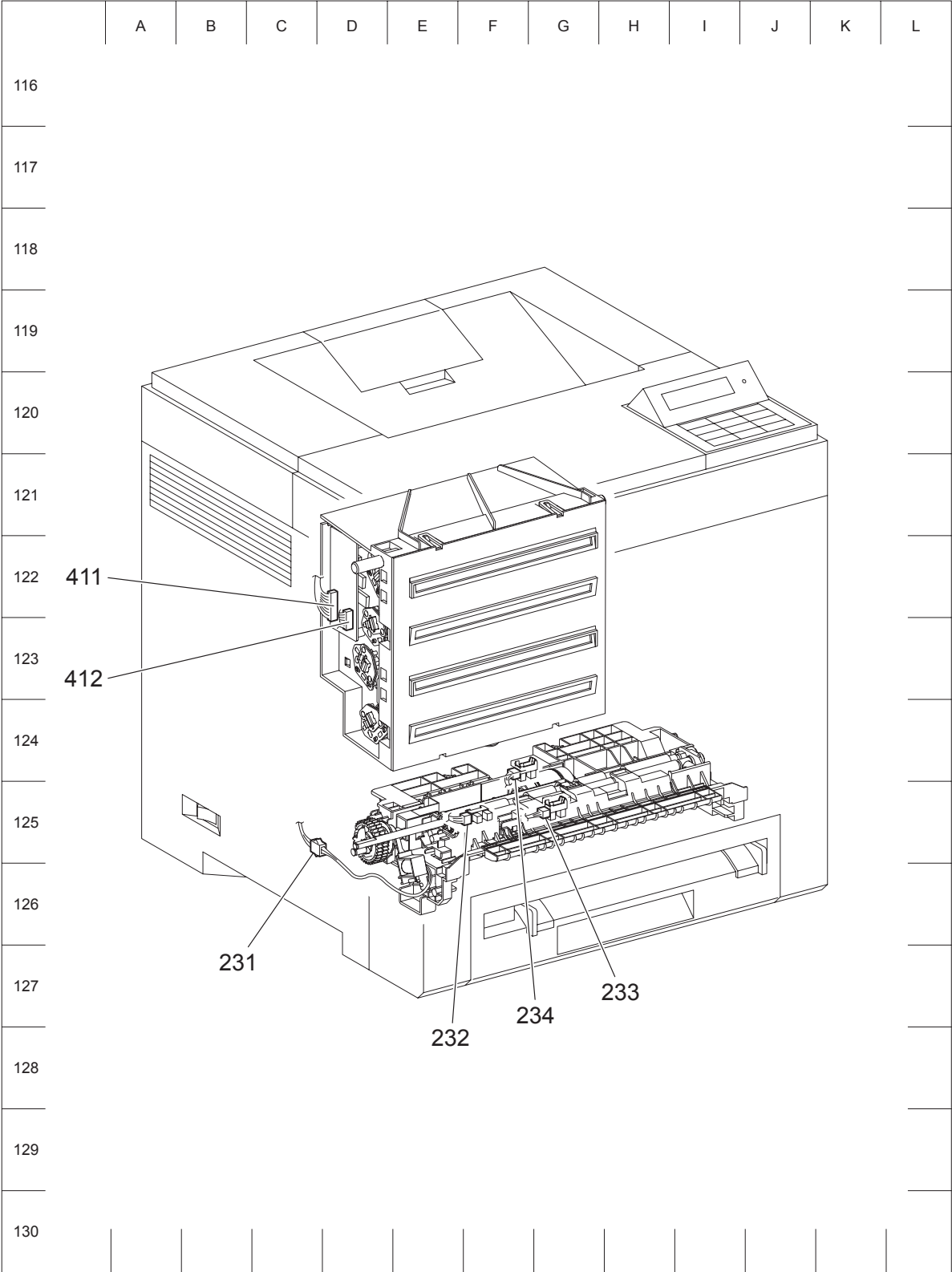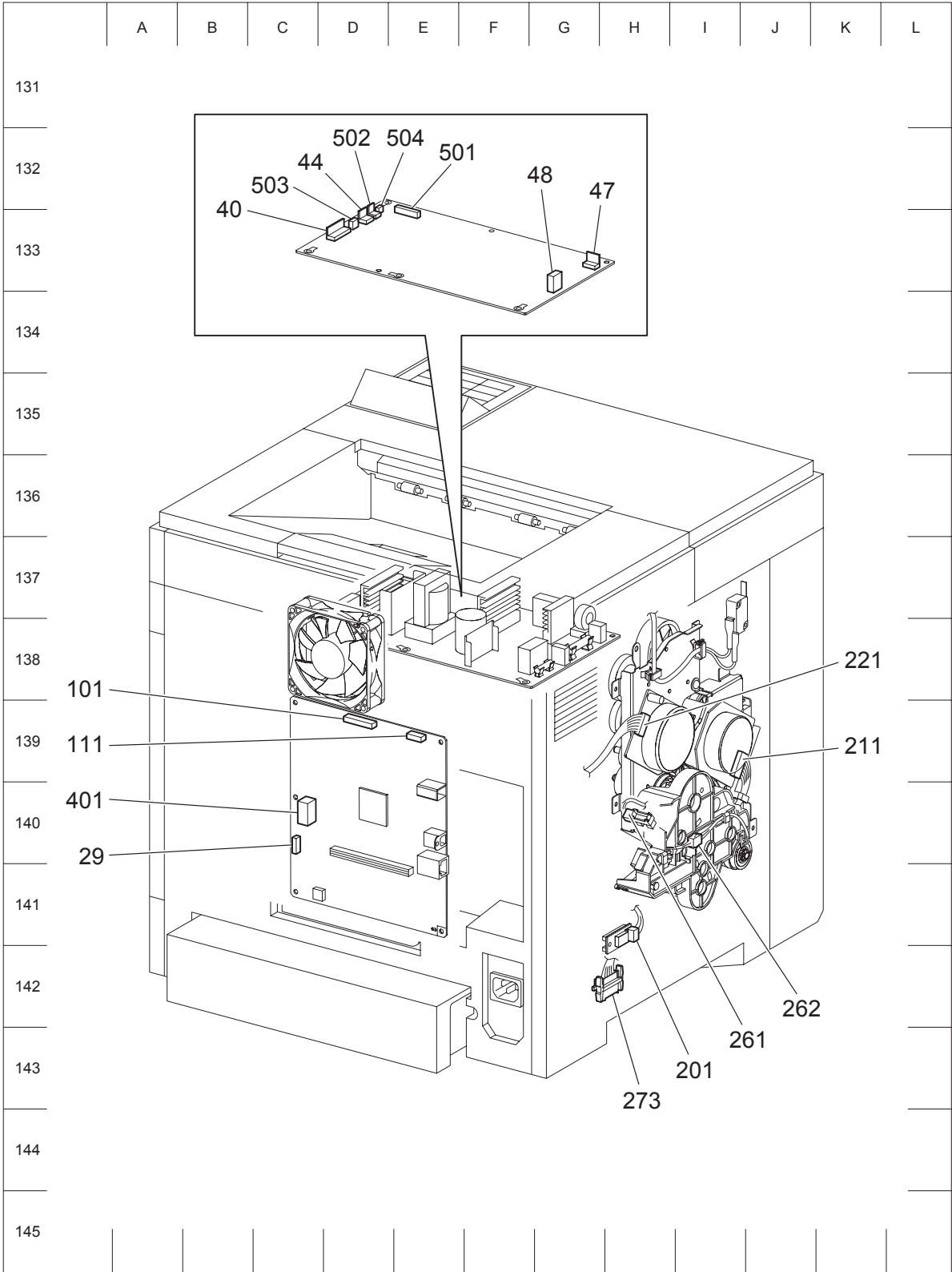
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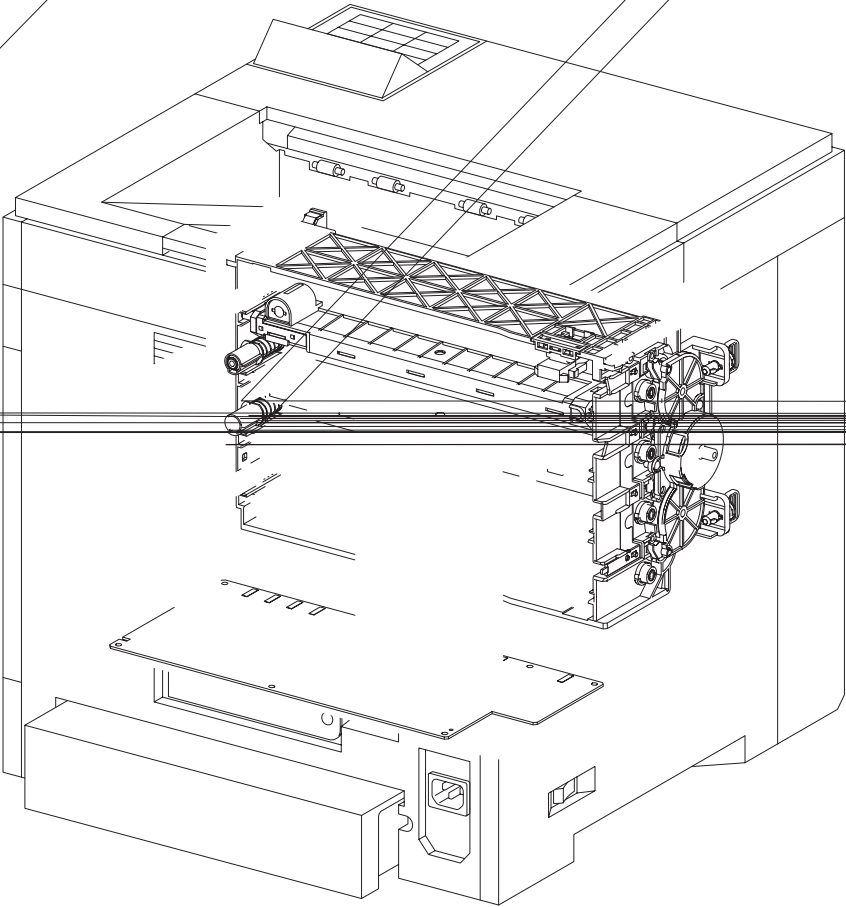
1.3   DUPLEX P/J layout diagram

MiS04005KA

1.4   OPTION FEEDER P/J layout diagram

MiS04006KA

Chapter 5 Parts List CONTENTS

Chapter 5 Parts List CONTENTS

1. Parts List

1.1 Caution for use of spare parts illustration

- Available spare parts are shown in the illustration by name.
- [Ref PL X.Y.Z] shown below the part name denotes the item is "Z" in the plate "PL X.Y" of the engineering part list.
- For the detailed composition of the KIT parts, check with the engineering part list.

1.2 Caution for use of engineering parts list

- The figures indicating the illustrations are the item No. in the list and present correspondence between the illustrations and parts.
- The notation of PL "X.Y.Z" is composed of the plate (PL), item "X.Y", and parts "Z".
- The alphabet characters in the illustrations represent screws and clips as follows:

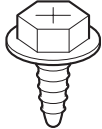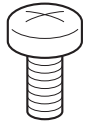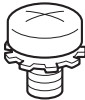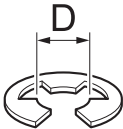| Type	Shape	PL No.	Size	PARTS No.
Screw for plastic Silver, tapping		ST1	M3X8mm	153W27878
		ST2	M3X16mm	826E17350
		ST3	M4X12mm	826E34160
Screw for plastic Silver, tapping, with flange		ST10	M3X10mm	153W18088
Screw for metal sheet Silver		SM1	M3X4mm	113W27488
		SM2	M3X6mm	826E12480
		SM3	M4X6mm	113W35688
Screw for metal sheet Silver, with an external tooth washer		SM5	M4X6mm	826E25760
Ring-E		E1	D3	354W21278
		E2	D4	354W24278

- "▼" mark in the illustrations are attached to items indicating assembly parts in the illustrations.
- Encircled alphabetical figures in the illustrations indicate interrupted leader lines. Same characters in the illustrations represent lines to be connected.
- The mark "(with 2-5)" attached to assembly parts on the illustrations and lists represents that the items "2, 3, 4, and 5" of that plate are contained and the mark "(with 2-5, PL6.1.1) represent that the item "2, 3, 4, and 5" of that plate and the item "1" of the plate "6.1" are contained.
- The mark "[Ref PLX.Y.Z]" attached to parts in the illustrations and lists resents that the parts is the same as the parts of the item "Z" of the plate "X.Y".
- The mark "∗" attached to parts in the list represents "Note" or "Reference" about that parts is contained in the same page.

| NOTE | **For spare parts, refer to the "Spare parts list" which is issued separately.** |

| NOTE | **For the connector (P/J), parts such as harness, wire, etc. in the list, refer to "Chapter 7, Electric wiring"** |

| NOTE | **It should be noted that configuration of parts may be different or some parts are not used depending on specifications of OEM.** |

CONSOLE ASSY PANEL
[Ref PL1.2.3]

TRAY EXT
[Ref PL1.1.2]

COVER ASSY TOP
[Ref PL1.1.1]

HARNESS ASSY PNL A
[Ref PL1.2.12]

PLATE NAME KM
[Ref PL1.2.31]

LATCH ASSY FRONT
[Ref PL1.2.5]

BUTTON LATCH FRONT
[Ref PL1.2.11]

COVER ASSY FRONT MG
[Ref PL1.2.1]

KIT COVER ASSY
WINDOW TNR
[Ref PL1.1.99]

HARN ASSY DUP RELAY
[Ref PL1.2.13]

COVER SIDE R
[Ref PL1.1.6]

KIT SHAFT PIVOT
[Ref PL1.2.98]

COVER REAR
[Ref PL1.1.3]

COVER SIDE L
[Ref PL1.1.19]

MiS05102KA

KIT ROS
[Ref PL4.1.99]

HARN ASSY INTERLOCK
[Ref PL8.2.5]

SWITCH
[Ref PL5.1.9]

KIT BLOCK PHD LEFT
[Ref PL4.1.98]

LED ASSY ERASE
[Ref PL4.1.8]

KIT PIVOT
[Ref PL6.1.99]

KIT BLOCK PHD RIGTH
[Ref PL4.1.97]

KIT TRANSFER ASSY
[Ref PL6.1.98]

PWBA LVPS
[Ref PL8.2.1]

FAN
[Ref PL8.1.1]

KIT PWBA MCU
[Ref PL8.2.99]

WIRELESS ADAPTER
[Ref PL8.1.16]

KIT PWBA ESS SFP
[Ref PL8.1.99]

PWBA HVPS
[Ref PL4.1.19]

SENSOR HUM
[Ref PL8.2.7]

MEMORY CARD
[Ref PL8.1.15]

COVER INLET
[Ref PL8.2.22]

MiS05103KA

5 – 5

FEEDER ASSY DUP
SFP STD
[Ref PL11.1.1]

ROLLER ASSY DUP
[Ref PL11.2.9]

KIT HOLDER ASSY
SEPARATOR
[Ref PL12.5.99]

KIT FEEDER ASSY OPT
[Ref PL12.1.99]

ROLL ASSY FEED
[Ref PL12.4.4]

CASSETTE ASSY 250 OPT
[Ref PL12.5.1]

250 OPTION FEEDER
[Ref PL12.1.1]

MiS05105KB

Engineering parts list

PL1.1 Cover (1/1) [Illustration]
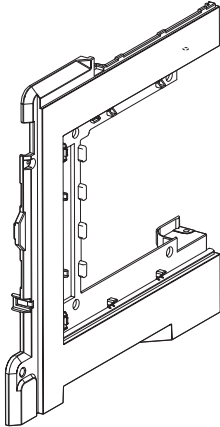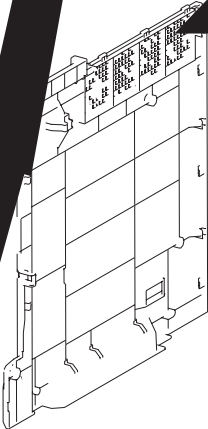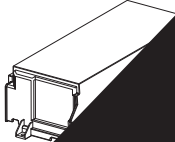
PL1.1 Cover (1/2) [List]

Item	Parts name
1	COVER ASSY TOP
2	TRAY EXT
3	COVER REAR
4	- -
5	- -
6	COVER SIDE R
7	COVER ASSY WINDOW TNR
8	- -
9	- -
10	- -
11	- -
12	- -
13	- -
14	- -
15	- -
16	- -
17	- -
18	- -
19	COVER SIDE L
20	- -
21	- -
99	KIT COVER ASSY WINDOW TNR (with 7, Instruction)

PL1.2 Cover (2/2) [Illustration]
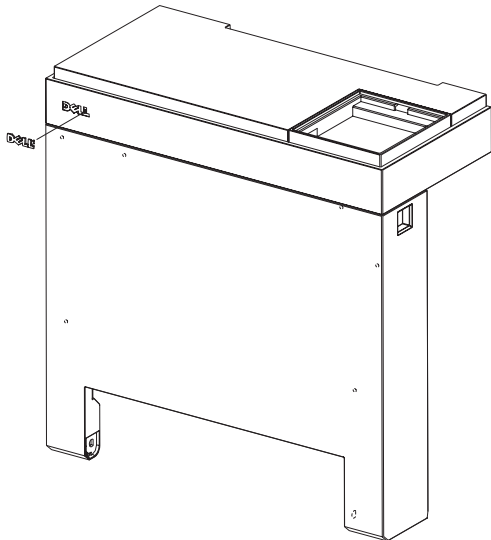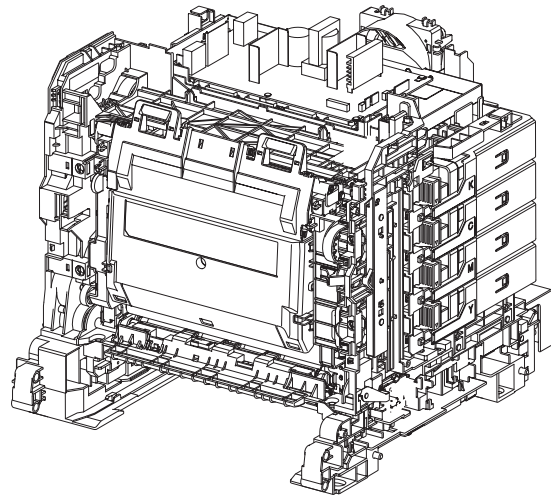
PL1.2 Cover (2/2) [List]

Item	Parts name
1	COVER ASSY FRONT MG (with 2,5,10,11,28,29,31)
2	COVER FRONT
3	CONSOLE ASSY PANEL
4	COVER CONNECTOR
5	LATCH ASSY FRONT (with 6-9)
6	LATCH FRONT L
7	LATCH FRONT DUP
8	PLATE LATCH
9	LATCH FRONT R
10	SPRING LATCH FRONT
11	BUTTON LATCH FRONT
12	HARNESS ASSY PNL A (J202-J5301)
13	HARN ASSY DUP RELAY (J271-P272) (2150cdn Only)
14	HOLDER FRONT R
15	COVER DRAWER (2150cdn Only)
16	BRACKET HOLDER R
17	SHAFT LINK FRONT
18	LINK ASSY FRONT
19	HOLDER FRONT L
20	BRACKET HOLDER L
21	- -
22	HARN ASSY GND (2150cdn Only)
23	SHAFT PIVOT
24	SPRING LINK FRONT
25	- -
26	SHAFT LINK FRONT FDR
27	- -
28	HOLDER ASSY FRONT R (with 12-18) (2150cdn Only)
	HOLDER ASSY FRONT R CN (with 12,14,16-18) (2150cn Only)
29	HOLDER ASSY FRONT L (with 17-20,22) (2150cdn Only)
	HOLDER ASSY FRONT L CN (with 17-20) (2150cn Only)
30	COVER LINK FRONT
31	PLATE NAME KM
98	KIT SHAFT PIVOT (with 23x2pcs)

PL2.1 Paper Cassette [Illustration]

1 (with 19,21)

2

21 (with 2-8,14-18,20)

99
(with 5, Instruction)

3

4

5

Ⓐ

6

7

8

17

14

16

15

16

Ⓐ

20

18

19

Front
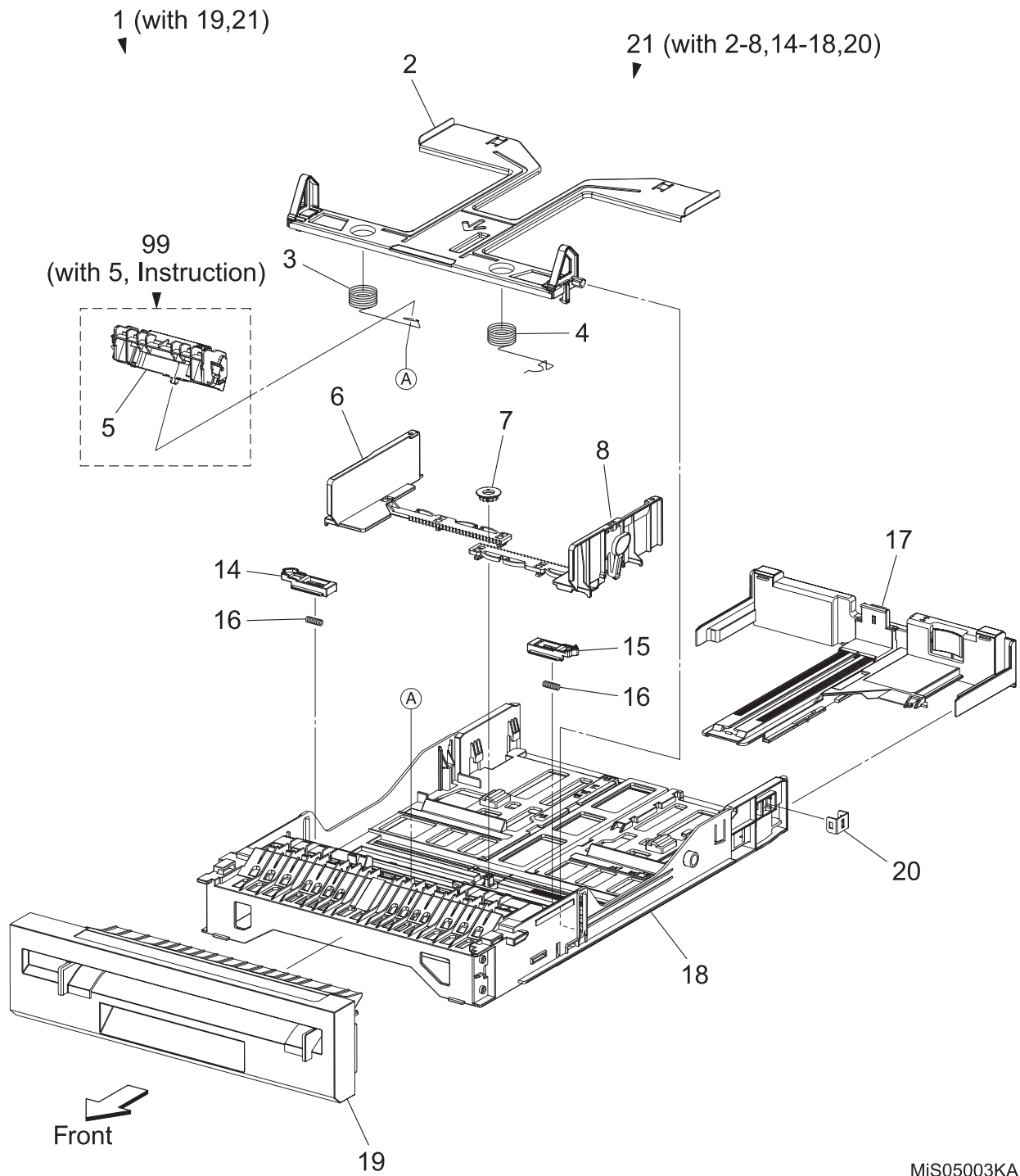
MiS05003KA

PL2.1 Paper Cassette [List]

Item	Parts name
1	CASSETTE ASSY 250 (with 19,21)
2	PLATE ASSY BOTTOM
3	SPRING N/F L
4	SPRING N/F R
5	HOLDER ASSY SEPARATOR
6	GUIDE SIDE L
7	GEAR PINION
8	GUIDE SIDE ASSY R
9	- -
10	- -
11	- -
12	- -
13	- -
14	LATCH BOTTOM L
15	LATCH BOTTOM R
16	SPRING LATCH B
17	TRAY ASSY EXTENSION
18	HOUSING CASSETTE 250
19	HANDLE ASSY CST
20	PLATE LOCK KST CST
21	TRAY ASSY CST 250 (with 2-8,14-18,20)
99	KIT HOLDER ASSY SEPARATOR (with 5, Instruction)

PL3.1 Paper Feeder (1/2) [Illustration]

99
(with 1,2,11,15,PL3.2.4)
▼

(J262)

1
2

19 (wit

15
16
17

E2

14 13

12

(J231)

ST1
ST1
ST1

ST1

ST1

11

ST1

ST1

ST1

25

5

4

S

6

Front
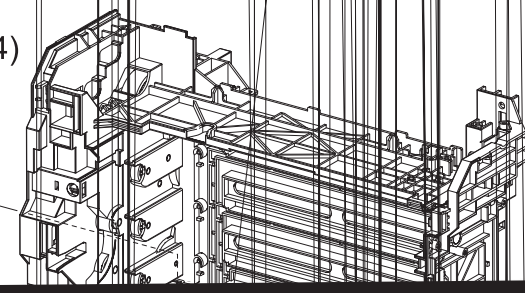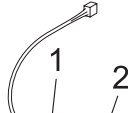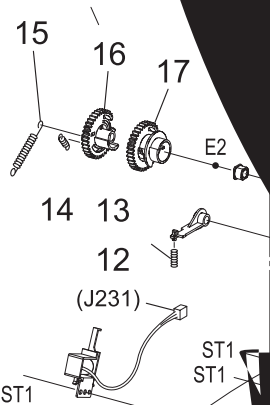
98 (with 4-6   5   3.2.7,PL9.1.6) (2150cdn)
(with 4-6   30 PL3.2.1,PL8.2.7,PL9.1.6) (2150cn)

MiS05004KB

5 — 14

PL3.1 Paper Feeder (1/2) [List]

Item	Parts name
1	CLUTCH ASSY DRV
2	BEARING REGI
3	- -
4	CHASSIS FDR R
5	FOOT ASSY
6	PLATE EARTH PH
7	- -
8	CHASSIS FDR L
9	BEARING
10	STOPPER CST
11	SOLENOID FEED MSI
12	SPRING LEVER
13	LEVER FEED
14	SPRING FEED IN
15	SPRING FEED OUT
16	GEAR FEED OUT
17	GEAR FEED IN
18	HARN ASSY L SIDE (J23,J28-P231,J232,J233,J234,J281)
19	GEAR ASSY FEED (with 16,17)
20	HARN ASSY OPTION (J27-P271,P273) (2150cdn Only)
21	BRACKET GFI
22	COVER CST
23	PLATE LOCK KST FDR
24	BRACKET FDR R
25	PLATE EARTH FDR R
26	- -
27	PLATE TIE
28	- -
29	- -
30	HARNESS ASSY OPTION D-LESS MG SFP (J27-J271,P273) (2150cn Only)
98	FEEDER ASSY MG SFP DN (with 4-6,8-15,18-25,27,PL3.2.1,PL8.2.7,PL9.1.6) (2150cdn Only)
	FEEDER ASSY MG SFP N (with 4-6,8-15,18,19,21-25,27,30,PL3.2.1,PL8.2.7,PL9.1.6) (2150cn Only)
99	KIT FEED ROLL/SOL/CLUTCH (with 1,2,11,15,PL3.2.4)

PL3.2 Paper Feeder (2/2) [Illustration]

1 (with 2-16,20-33,36)

99 (with 4, Instruction)

3

4

3

2

5
E2

6

7

8

9

ST2

33

10

32 (with 17-19)

11

12

16

17

18

19

(P232)

13
REGI
SENSOR

31

14

15

13
CST NO PAPER
SENSOR

(P234)

E2

E2

30

29

20

21

22
E2

26

24

23
E1

ST1

ST1

36

36

28

25

(P233)

13
SSI NO PAPER
SENSOR

34

35

Front

27 (with 34,35)
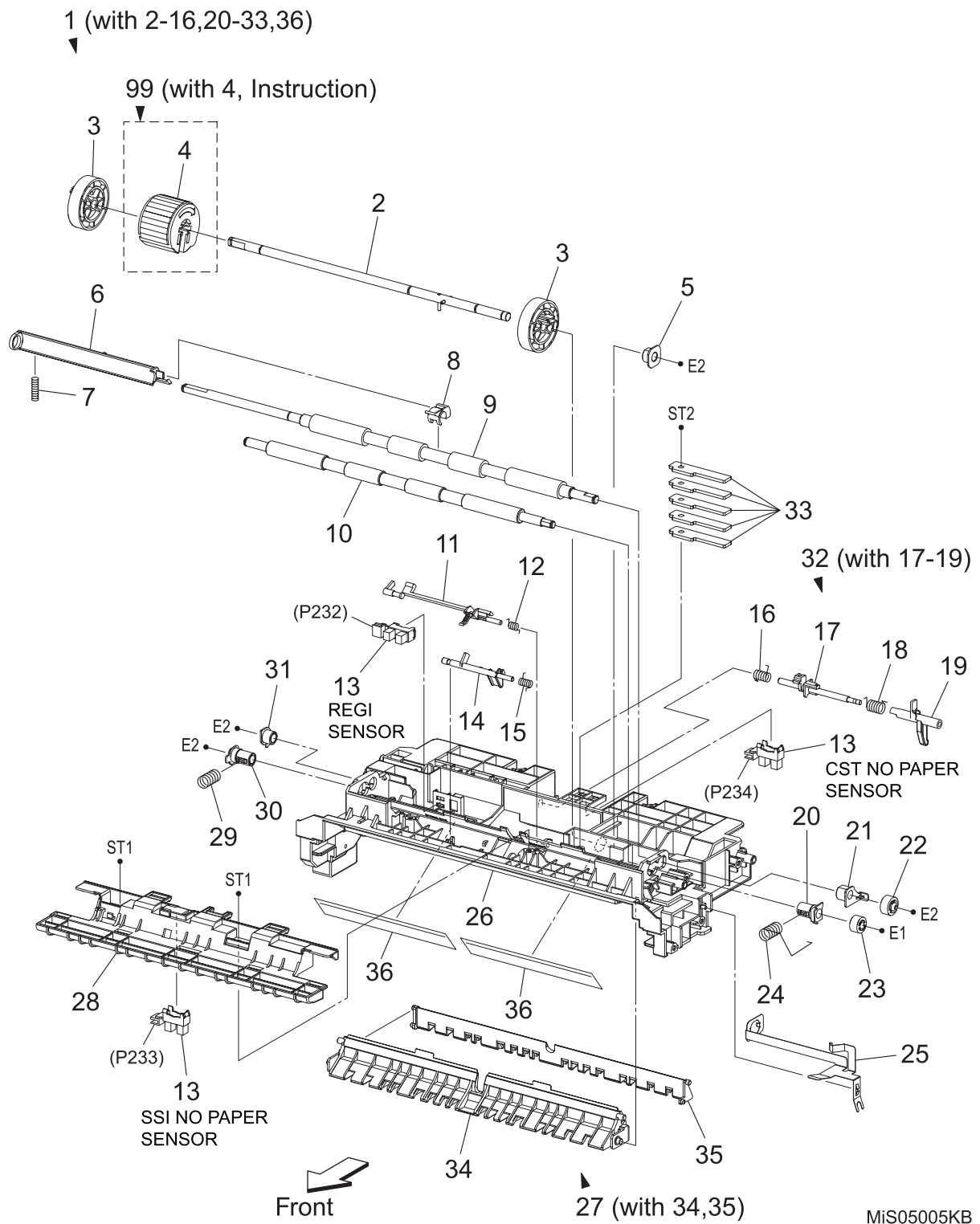
MiS05005KB

PL3.2 Paper Feeder (2/2) [List]

Item	Parts name
1	CHUTE ASSY FDR REGI (with 2-16,20-33, 36)
2	SHAFT ASSY FEED
3	ROLL CORE MSI
4	ROLL ASSY FEED
5	BEARING EARTH
6	ACTUATOR REGI OUT
7	SPRING REGI OUT
8	ACTUATOR REGI ROLL M
9	ROLL ASSY REGI
10	ROLL REGI METAL
11	ACTUATOR REGI IN
12	SPRING ACT REGI
13	SENSOR PHOTO
14	ACTUATOR SSI
15	SPRING ACT SSI
16	SPRING STP
17	STOPPER ACT
18	SPRING ACT NP
19	ACTUATOR NO PAPER
20	BEARING M EARTH
21	BEARING EARTH REGI
22	GEAR REGI R
23	GEAR REGI M
24	SPRING REGI R MG
25	PLATE EARTH REGI
26	CHUTE UP
27	CHUTE ASSY LOW (with 34,35)
28	BRACKET SNS
29	SPRING REGI L MG
30	BEARING M
31	BEARING R
32	ACTUATOR ASSY NO PAPER (with 17-19)
33	PLATE WEIGHT
34	CHUTE ASSY LOW SSI
35	CHUTE LOW CST
36	FILM CHUTE UP
99	KIT ROLL ASSY FEED (with 4, Instruction)

PL4.1 Xerographics [Illustration]
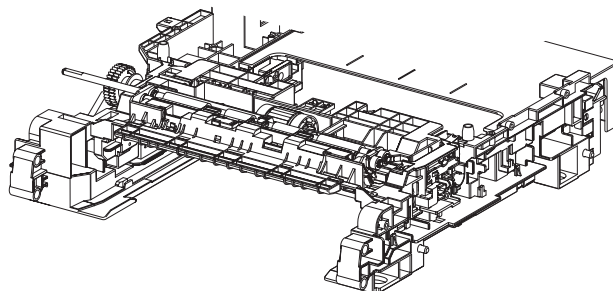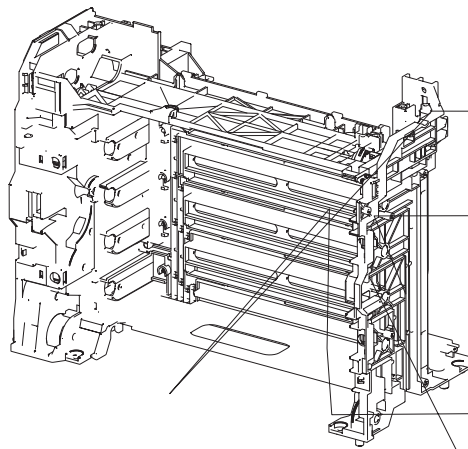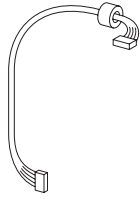
PL4.1 Xerographics [List]

Item	Parts name
1	ROS ASSY
2	SPRING ROS
3	HOLDER CRUM
4	SPRING PHD
5	LEVER PHD
6	BLOCK STOPPER PHD D
7	BLOCK STOPPER PHD AD
8	LED ASSY ERASE
9	SPRING TRACKING
10	SPRING CF
11	SPRING TR4
12	SPRING TR3
13	SPRING TR2
14	SPRING TR1
15	SPRING D4
16	SPRING D3
17	SPRING D2
18	SPRING D1
19	PWBA HVPS
20	FRAME HVPS
21	PHD ASSY
22	HARN ASSY ROS RE (J40-J411)
23	HARN ASSY ROS VIDEO (J41-J412)
97	KIT BLOCK PHD RIGHT (with 4,5,7 x 2pcs)
98	KIT BLOCK PHD LEFT (with 4,5,6 x 2pcs)
99	KIT ROS (with 1,2 x 2pcs)

PL5.1 Dispenser [Illustration]

ST1

ST1

SM3

ST1

Front
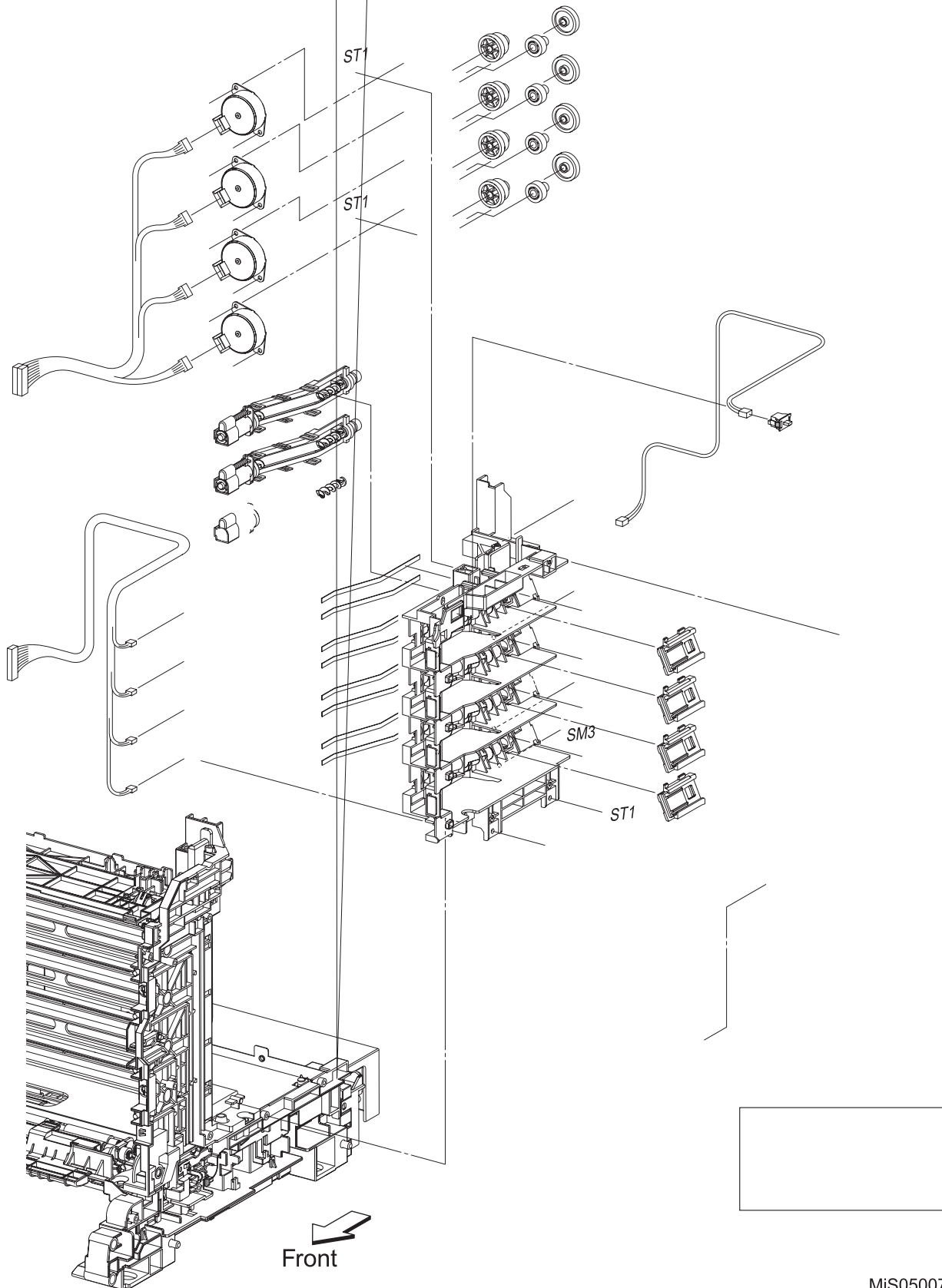
MiS05007KB

PL5.1 Dispenser [List]

Item	Parts name
1	DISPENSER ASSY (with 2,9-11,14-16,25-27)
2	FRAME ASSY MOT (with 3-8)
3	MOTOR ASSY DISP
4	CONDUCTOR MOTOR
5	FRAME MOTOR
6	GEAR IDLER
7	GEAR IDLER AUG
8	GEAR IDLER AGI
9	SWITCH
10	HOUSING ASSY AUGER
11	FRAME ASSY DISP (with 12,13)
12	FRAME DISP
13	SEAL DISP AUG
14	CONNECTOR CRUM
15	SPRING DISP
16	JOINT ASSY DISP
17	HOLDER ASSY TCRU K
18	HOLDER ASSY TCRU C
19	HOLDER ASSY TCRU M
20	HOLDER ASSY TCRU Y
21	TONER CARTRIDGE (K)
22	TONER CARTRIDGE (C)
23	TONER CARTRIDGE (M)
24	TONER CARTRIDGE (Y)
25	HARN ASSY TNR MOT (J18,J19-J181,J182,J191,J192)
26	HARN ASSY TONER CRUM (J31-J311,J312,J313,J314)
27	HARN ASSY SIDE SW (J29-J291)
28	- -
29	LABEL HOLDER

PL6.1 Transfer & Fuser [Illustration]
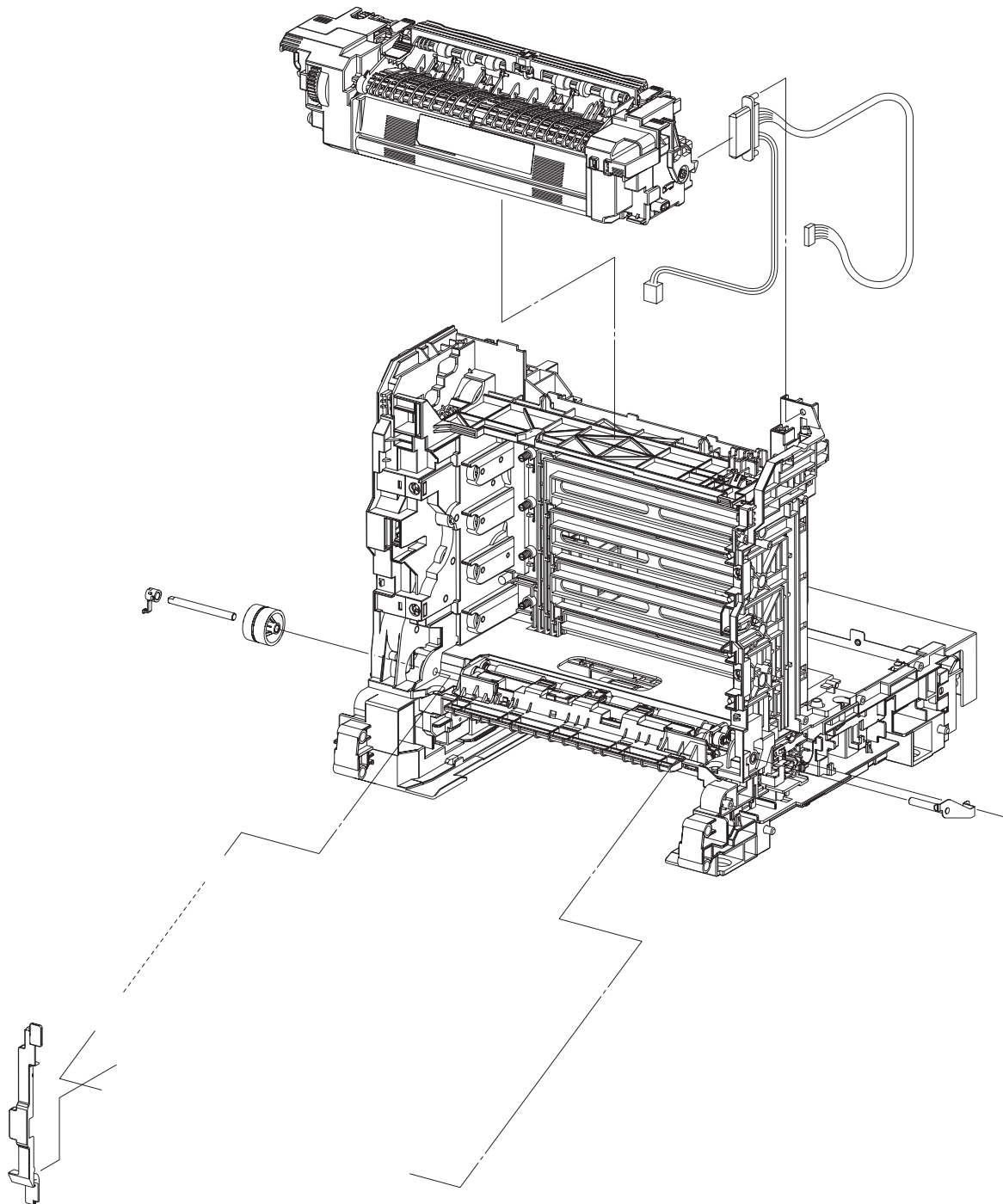
Front

MiS05008KB

PL6.1 Transfer & Fuser [List]

Item	Parts name
1	FUSER ASSY
2	HARNESS ASSY FUSER MG SFP (J17,47-P171)
3	STOPPER PIVOT
4	PIVOT TRANS L
5	GEAR T4
6	SHAFT ASSY PIVOT
7	TRANSFER ASSY
8	COVER HARNESS
98	KIT TRANSFER ASSY (with 3-8)
99	KIT PIVOT (with 3-6)

PL7.1 Drive [Illustration]

Front

1

98 (with 2,3)

2

ST1

SM3

(P221)

ST1

ST1

SM3

ST1

ST1

(P211)

ST1

ST1

ST1

ST1

3

ST1

ST1

COLOR MODE
SWITCHING SENSOR

SM2

SM3

(P261)

(J24)

ST1

4

99 (with 3,4)

MiS05009KB

5 – 24
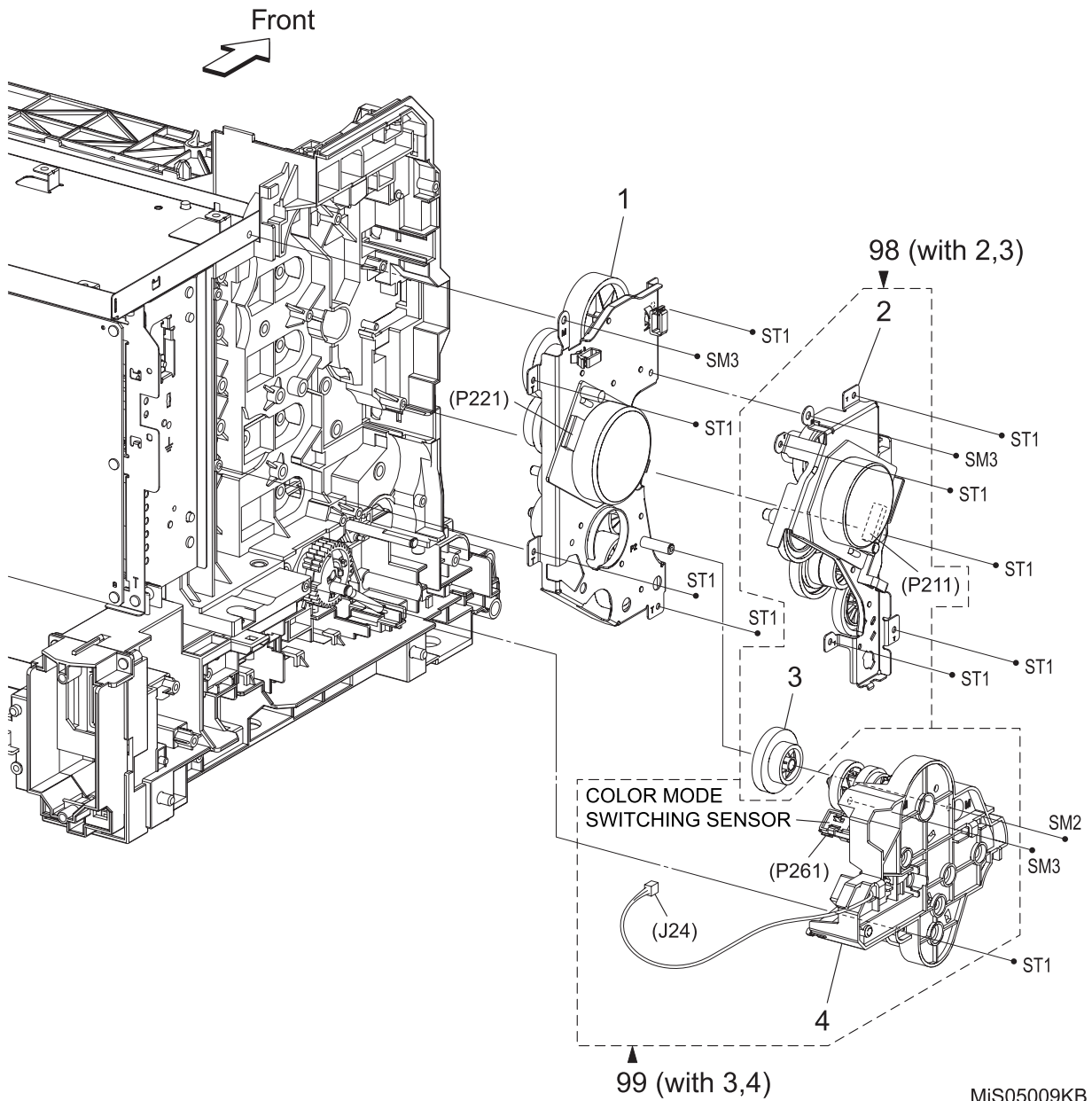
PL7.1 Drive [List]

Item	Parts name
1	DRIVE ASSY SUB
2	DRIVE ASSY MAIN
3	GEAR P2
4	DRIVE ASSY PH
98	KIT DRIVE ASSY MAIN (with 2,3)
99	KIT DRIVE ASSY PH (with 3,4)

PL8.1 Electrical (1/2) [Illustration]

Front

MiS05010KB

5 – 26
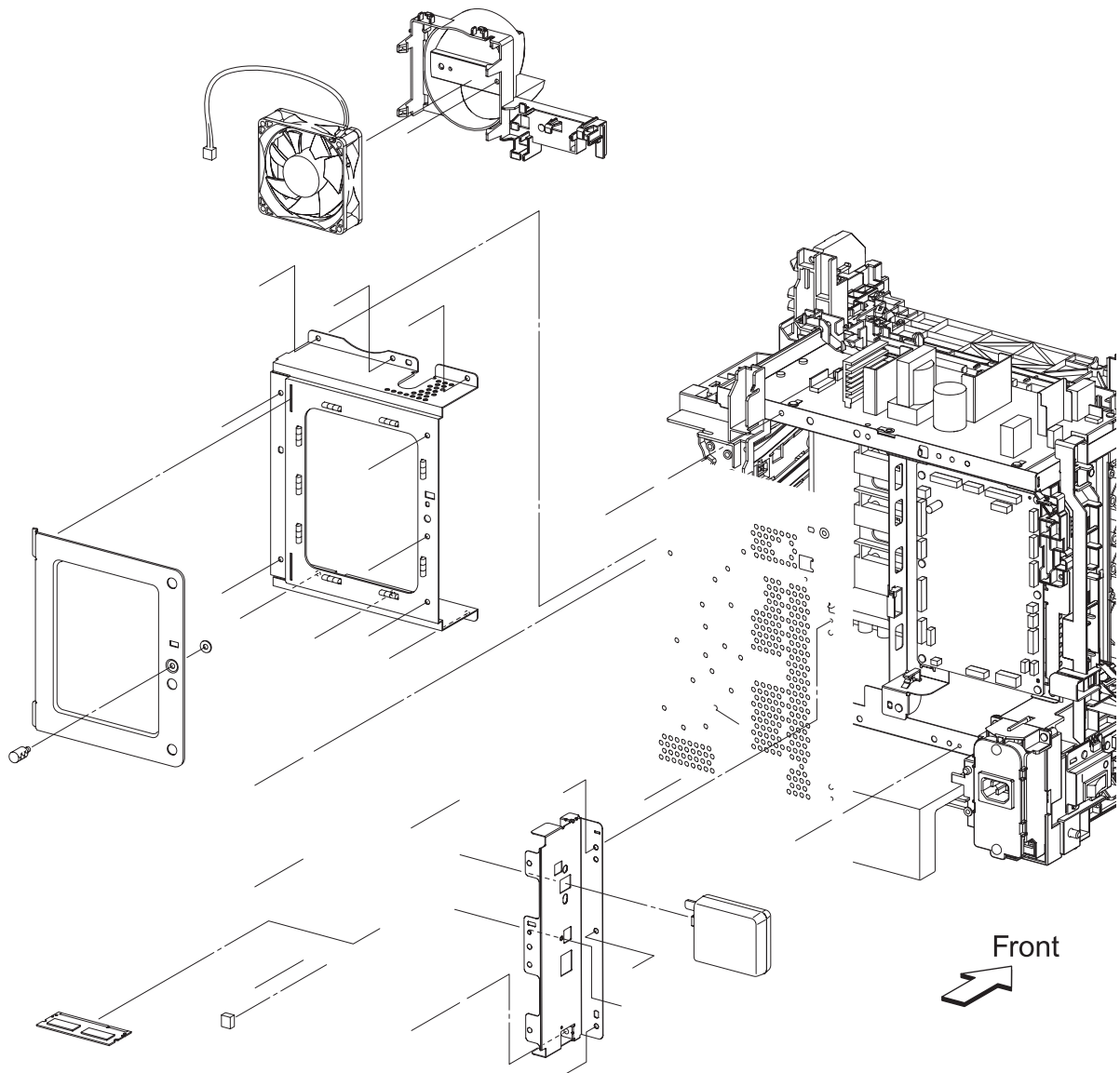
PL8.1 Electrical (1/2) [List]

Item	Parts name
1	FAN
2	DUCT FAN
3	SHIELD ASSY ESS
4	- -
5	FRAME ESS
6	PLATE IF M
7	PWBA ESS SFP (with 8)
8	NVM ROM
9	- -
10	- -
11	- -
12	PLATE ESS
13	SCREW KNURLING
14	WASHER
15	MEMORY CARD (OPTION)
16	WIRELESS ADAPTER (OPTION)
17	- -
18	- -
19	- -
99	KIT PWBA ESS SFP (with 7, Instruction)

PL8.2 Electrical (2/2) [Illustration]

MiS05011KB
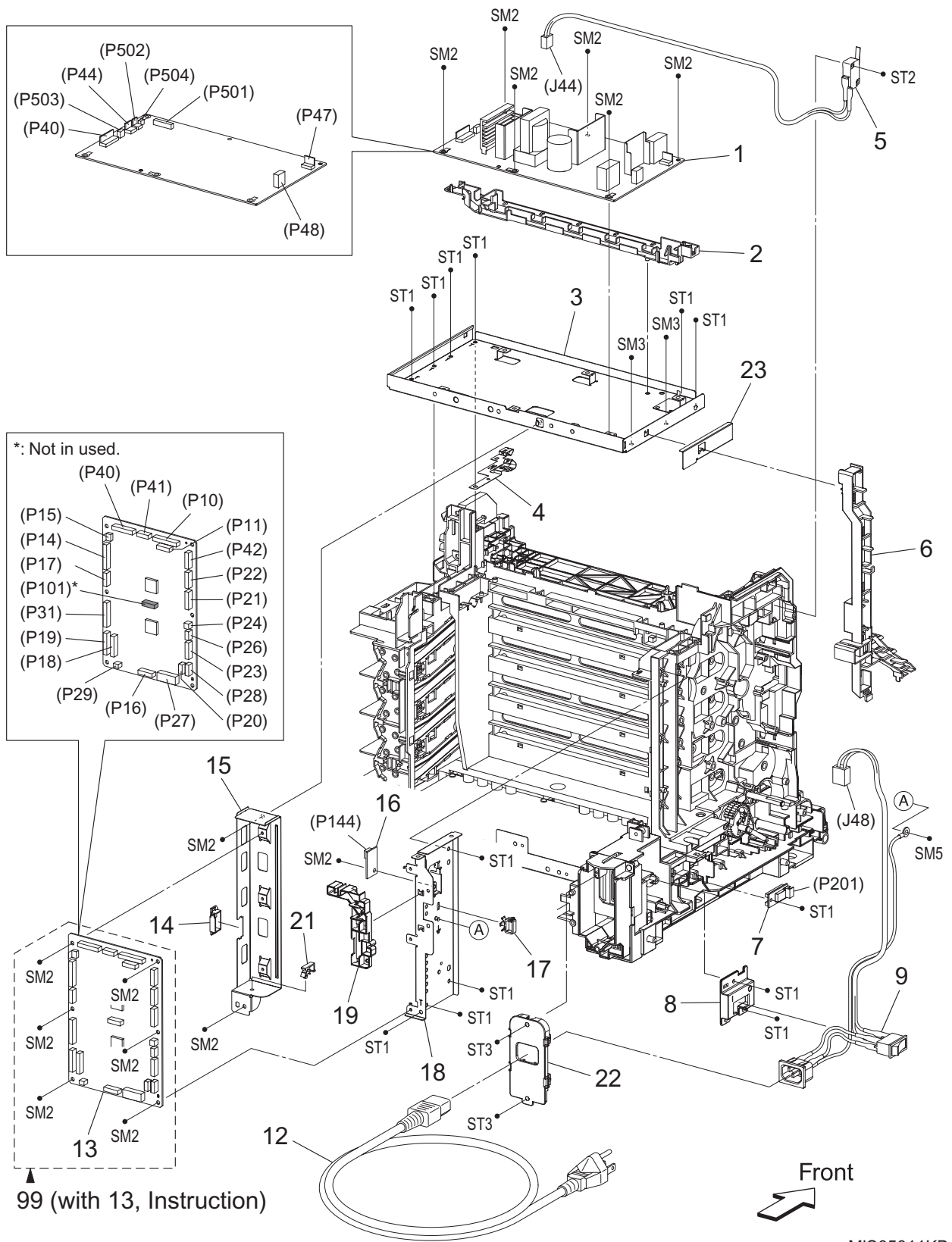
PL8.2 Electrical (2/2) [List]

Item	Parts name
1	PWBA LVPS
2	GUIDE HARNESS FSR
3	FRAME ASSY LVPS
4	PLATE EARTH
5	HARN ASSY INTERLOCK (SW-J44)
6	GUIDE HARNESS AC
7	SENSOR HUM
8	BRACKET SW
9	SWITCH ASSY INLET MG SFP (AC INLET-MAIN SW,J48)
10	- -
11	- -
12	POWER CORD
13	PWBA MCU
14	EDGING SADDLE
15	BRACKET MCU R
16	PWBA EEPROM (XPRO)
17	CLAMP
18	BRACKET MCU L
19	GUIDE HARNESS MCU
20	- -
21	CLAMP MST-10V0
22	COVER INLET
23	GUIDE HARNESS FILM
99	KIT PWBA MCU (with 13, Instruction)

PL9.1 Harness [Illustration]

*: Not in used.

(P502)
(P44)   (P504)
(P503)   (P501)   [Ref PL8.2.1]
(P40)   (P47)

(P48)

(P40) (P41)   [Ref PL8.2.13]
(P15)   (P10)
(P14)   (P11)
(P17)   (P42)
(P101)*   (P22)
(P31)   (P21)
(P19)   (P24)
(P18)   (P26)
(P29)   (P23)
(P16) (P27) (P20)   (P28)

1   (J10)

(J101)

2   (J11)

(J111)

3   (J14)   (J15)

(J501)
(P5041)
(J141)   (J504)   (J502)

5   (J16)

(J161)

6   (J20)

(J201)

7   (J21)

(J211)

8   (J22)

(J221)

9   (J26)

(J261)
(P262)

10   (J40)

(J401)

11   (J42)

(P422)
(J144)

(J29)

12

(P5301)

MiS05012KC
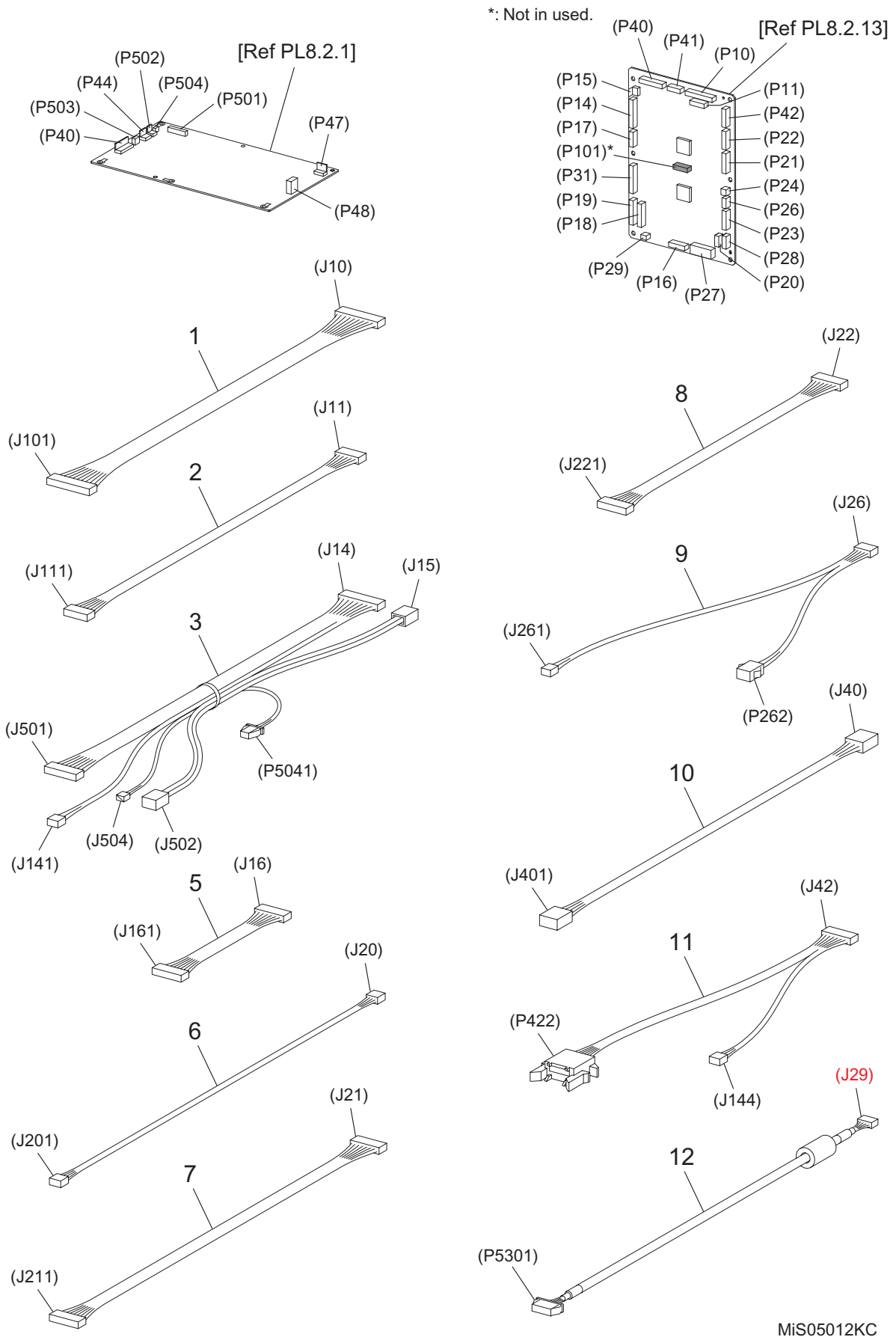
PL9.1 Harness [List]

Item	Parts name
1	HARNESS ASSY ESS MG SFP (J10-J101)
2	HARN ASSY ESS VIDEO (J11-J111)
3	HARNESS ASSY LVPS MAIN MG SFP (J14,J15,P5041-J141,J501,J502,J504)
4	- -
5	HARN ASSY HVPS (J16-J161)
6	HARN ASSY HUM (J20-J201)
7	HARNESS ASSY MAIN MOT MG SFP (J21-J211)
8	HARNESS ASSY SUB MOT MG SFP (J22-J221)
9	HARN ASSY KSNR REGCL (J26-J261,P262)
10	HARN ASSY ESS POWER (J40-J401)
11	HARN ASSY PHD XPRO (J42-J144,P422)
12	HARNESS ASSY B (J29-P5301)
13	- -

PL11.1 Duplex (2150cdn Only) (1/2) [Illustration]

Front

MiS05013KB

5 – 32
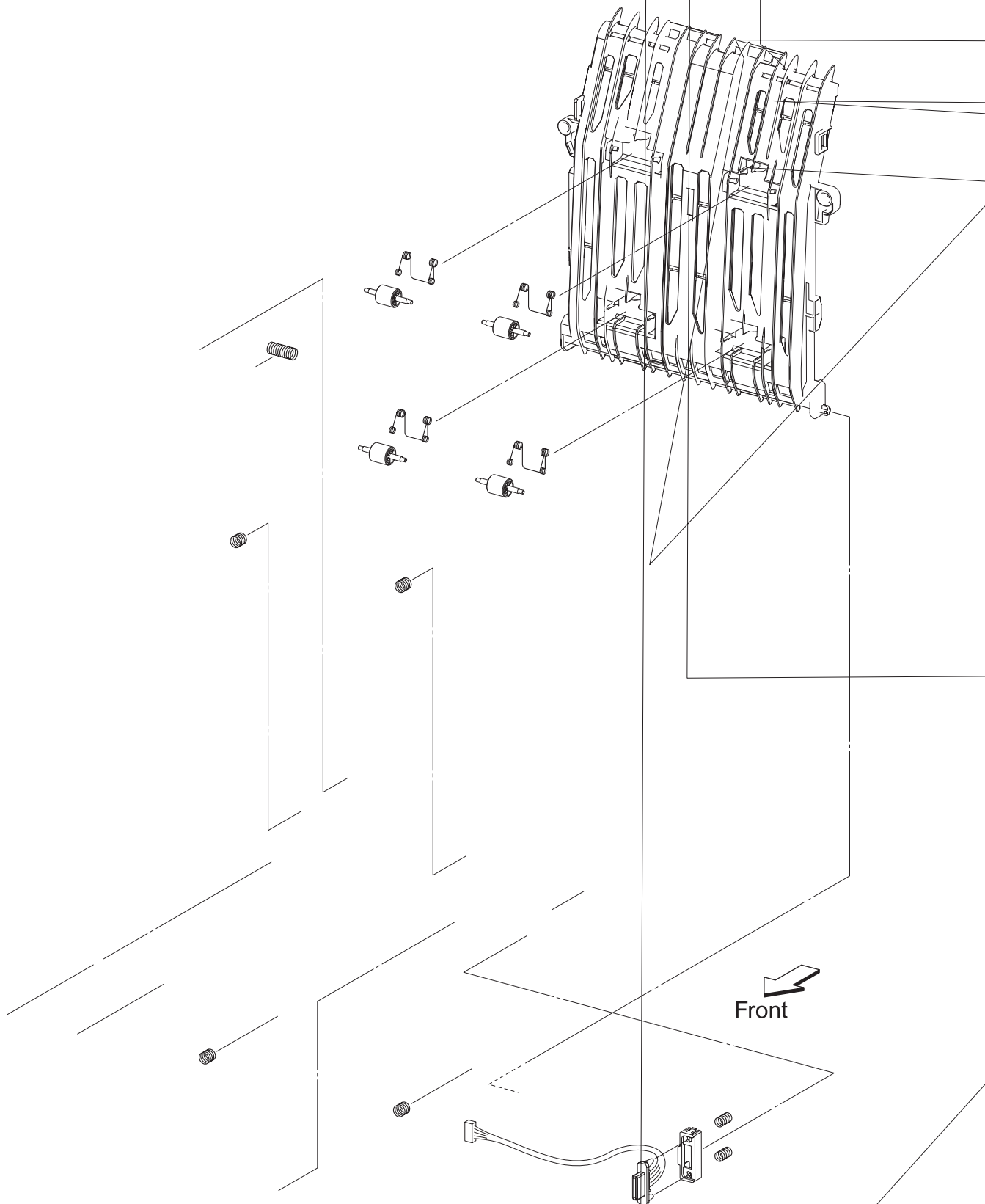
PL11.1 Duplex (2150cdn Only) (1/2) [List]

Item	Parts name
1	FEEDER ASSY DUP SFP STD (with 2-6,8-16)
2	CHUTE DUP IN
3	SPRING PINCH DUP
4	ROLL PINCH DUP
5	SPRING LATCH DUP
6	LATCH DUP
7	- -
8	HOLDER CHUTE DUP
9	SPRING CHUTE DUP
10	HOLDER HARNESS DUP
11	COVER CONNECT DUP
12	SPRING CONNECT DUP
13	HOLDER CONNECT DUP
14	HARNESS ASSY DUP (J272-J601)
15	COVER PWBA DUP
16	PWBA DUP

PL11.2 Duplex (2150cdn Only) (2/2) [Illustration]

MiS05014KB
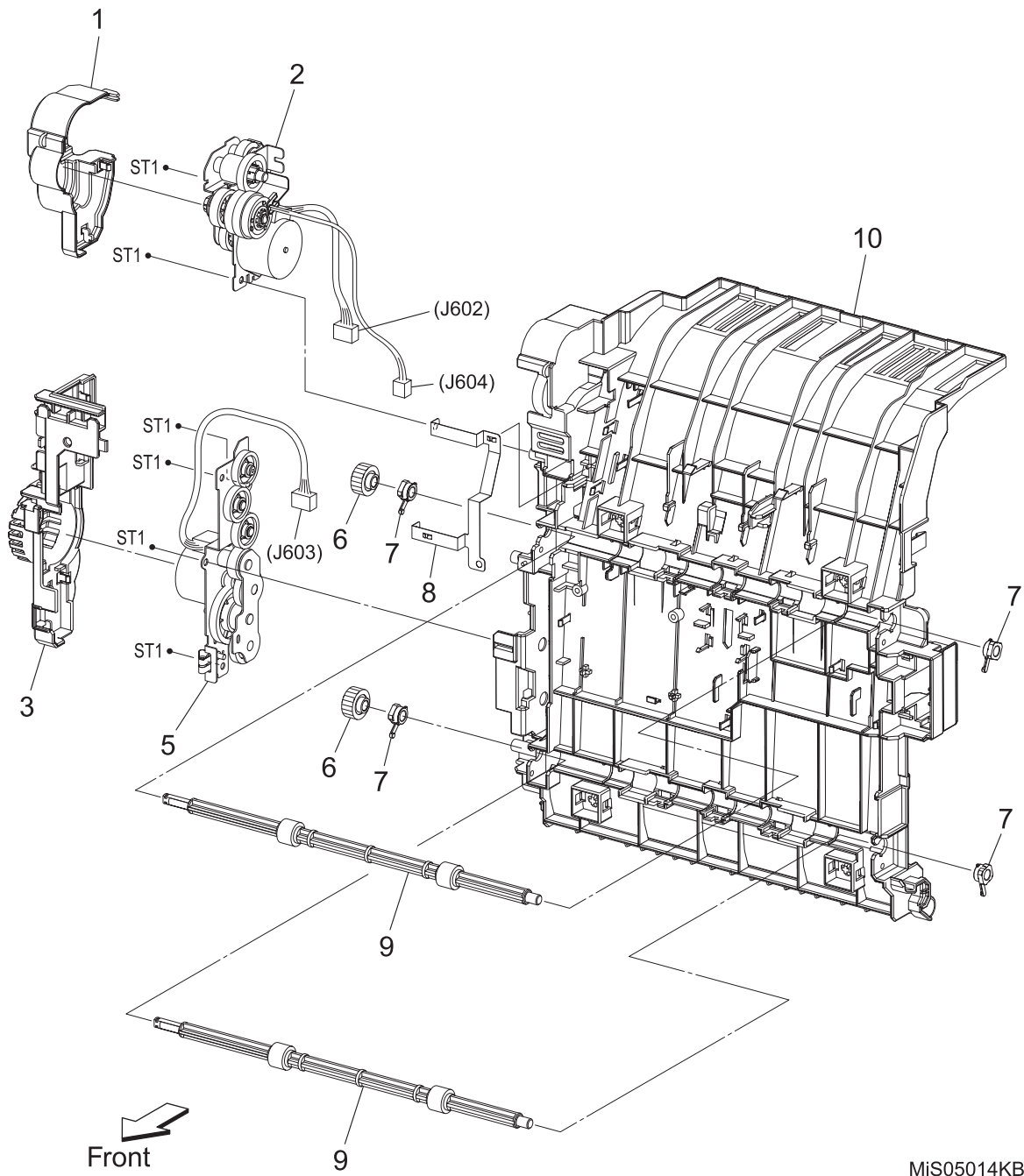
PL11.2 Duplex (2150cdn Only) (2/2) [List]

Item	Parts name
1	COVER DRIVE EXIT
2	DRIVE ASSY EXIT
3	COVER DRIVE DUP
4	- -
5	DRIVE ASSY DUP
6	GEAR ROLL DUP
7	BEARING DUP
8	PLATE EARTH PWBA
9	ROLLER ASSY DUP
10	CHUTE DUP FRAME

PL12.1 250 Feeder (Option) (1/5) [Illustration]

Front
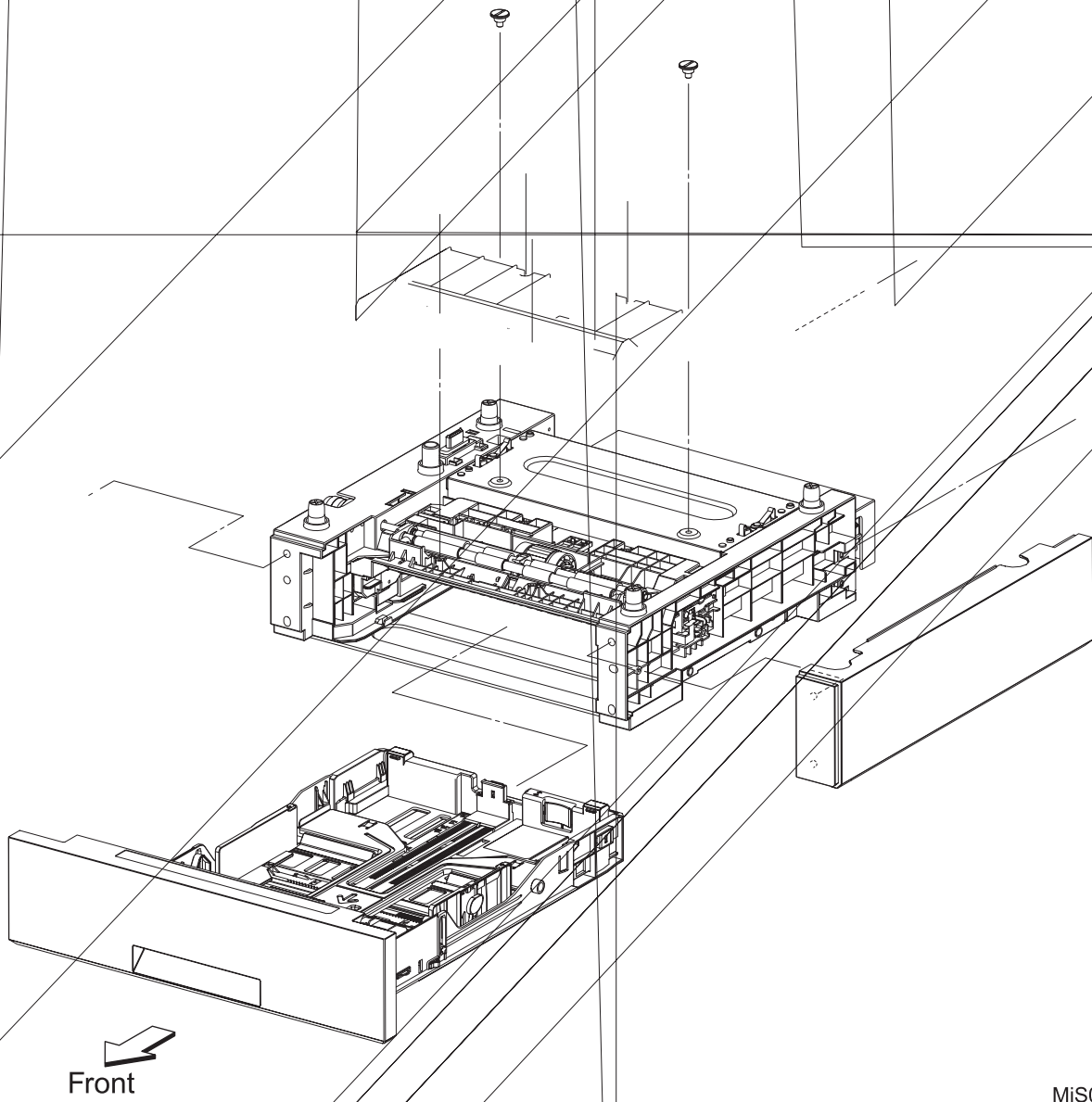
MiS05015KB

PL12.1 250 Feeder (Option) (1/5) [List]

Item	Parts name
1	250 OPTION FEEDER (with 2,3,PL12.5.1)
2	SCREW JOINT
3	FEEDER ASSY OPT (with 4-7,PL12.2-12.4)
4	COVER SIDE L OPT
5	COVER CHUTE
6	COVER REAR OPT
7	COVER SIDE R OPT
99	KIT FEEDER ASSY OPT (with 3, Instruction)

PL12.2 250 Feeder (Option) (2/5) [Illustration]
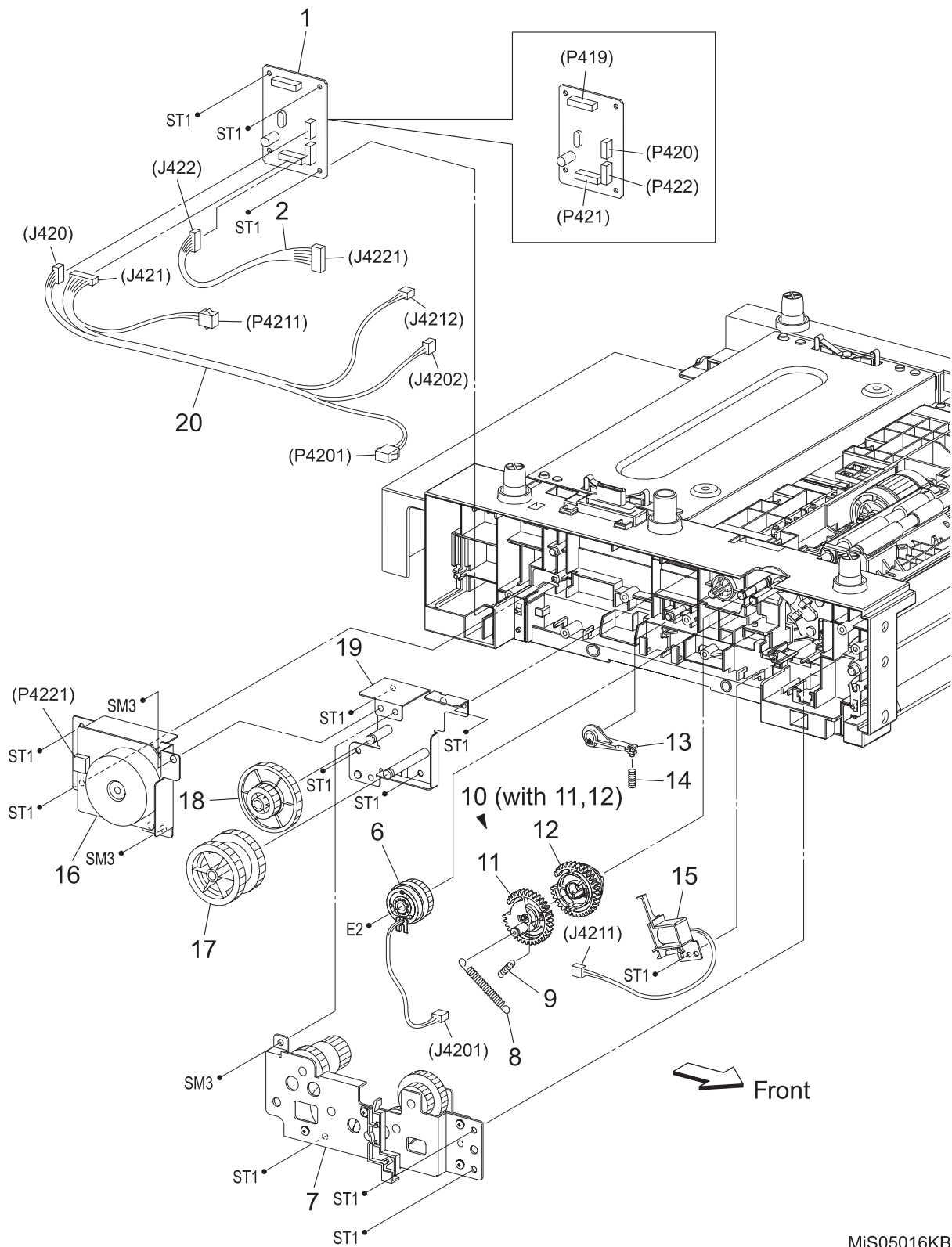
MiS05016KB

PL12.2 250 Feeder (Option) (2/5) [List]

Item	Parts name
1	PWBA FEED H
2	HARNESS ASSY TRAY MOT (J422-J4221)
3	- -
4	- -
5	- -
6	CLUTCH ASSY DRV [Same as PL3.1.1]
7	GEAR ASSY IDLER
8	SPRING FEED OUT [Same as PL3.1.15]
9	SPRING FEED IN [Same as PL3.1.14]
10	GEAR ASSY FEED (with 11,12) [Same as PL3.1.19]
11	GEAR FEED OUT [Same as PL3.1.16]
12	GEAR FEED IN [Same as PL3.1.17]
13	LEVER FEED [Same as PL3.1.13]
14	SPRING LEVER [Same as PL3.1.12]
15	SOLENOID FEED MSI [Same as PL3.1.11]
16	MOTOR ASSY SUB
17	GEAR IDLE 40Z
18	GEAR IDLE 86-20Z
19	PLATE ASSY IDLE 1
20	HARNESS ASSY TRAY COMP (J420,J421-P4201,J4202,P4211,J4212)

PL12.3 250 Feeder (Option) (3/5) [Illustration]

Front

MiS05017KB
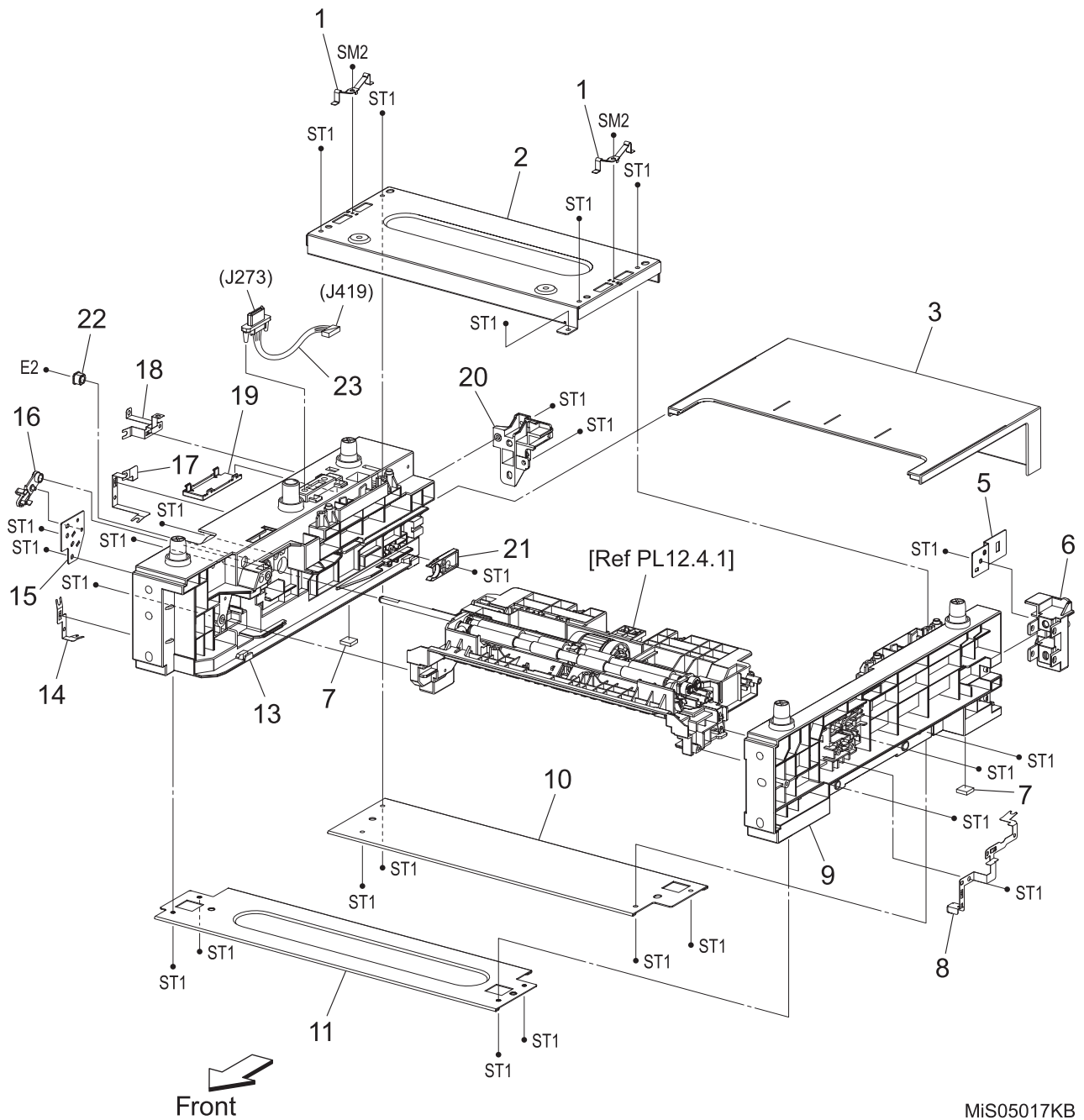
PL12.3 250 Feeder (Option) (3/5) [List]

Item	Parts name
1	SPRING EARTH OPT
2	PLATE REAR TOP
3	COVER CST [Same as PL3.1.22]
4	- -
5	PLATE LOCK KST FDR [Same as PL3.1.23]
6	BRACKET FDR R [Same as PL3.1.24]
7	FOOT ASSY [Same as PL3.1.5]
8	PLATE EARTH PH [Same as PL3.1.6]
9	CHASSIS FDR R OPT
10	PLATE REAR BOTTOM
11	PLATE FRONT BOTTOM
12	- -
13	CHASSIS FDR L OPT
14	PLATE EARTH FRONT BOTTOM
15	BRACKET SUP REGI
16	BEARING REGI [Same as PL3.1.2]
17	PLATE EARTH REAR BOTTOM
18	PLATE EARTH REAR TOP
19	COVER HARNESS DRAWER
20	BRACKET CVR REAR
21	STOPPER CST [Same as PL3.1.10]
22	BEARING [Same as PL3.1.9]
23	HARNESS ASSY TRAY (J273-J419)

PL12.4 250 Feeder (Option) (4/5) [Illustration]

1 (with 2-13,16,20-27,29-33)

3
4
2
3
5
6
7
8
9
10
11
12
ST2
33
32 (with 17-19)
16
17
18
19
(P4202)
31
E2
13
PAPER PAHT
SENSOR
E2
30
29
13
CST2 NO PAPER
SENSOR
(P4212)
20
21
22
E2
E1
24
23
26
25
27
Front
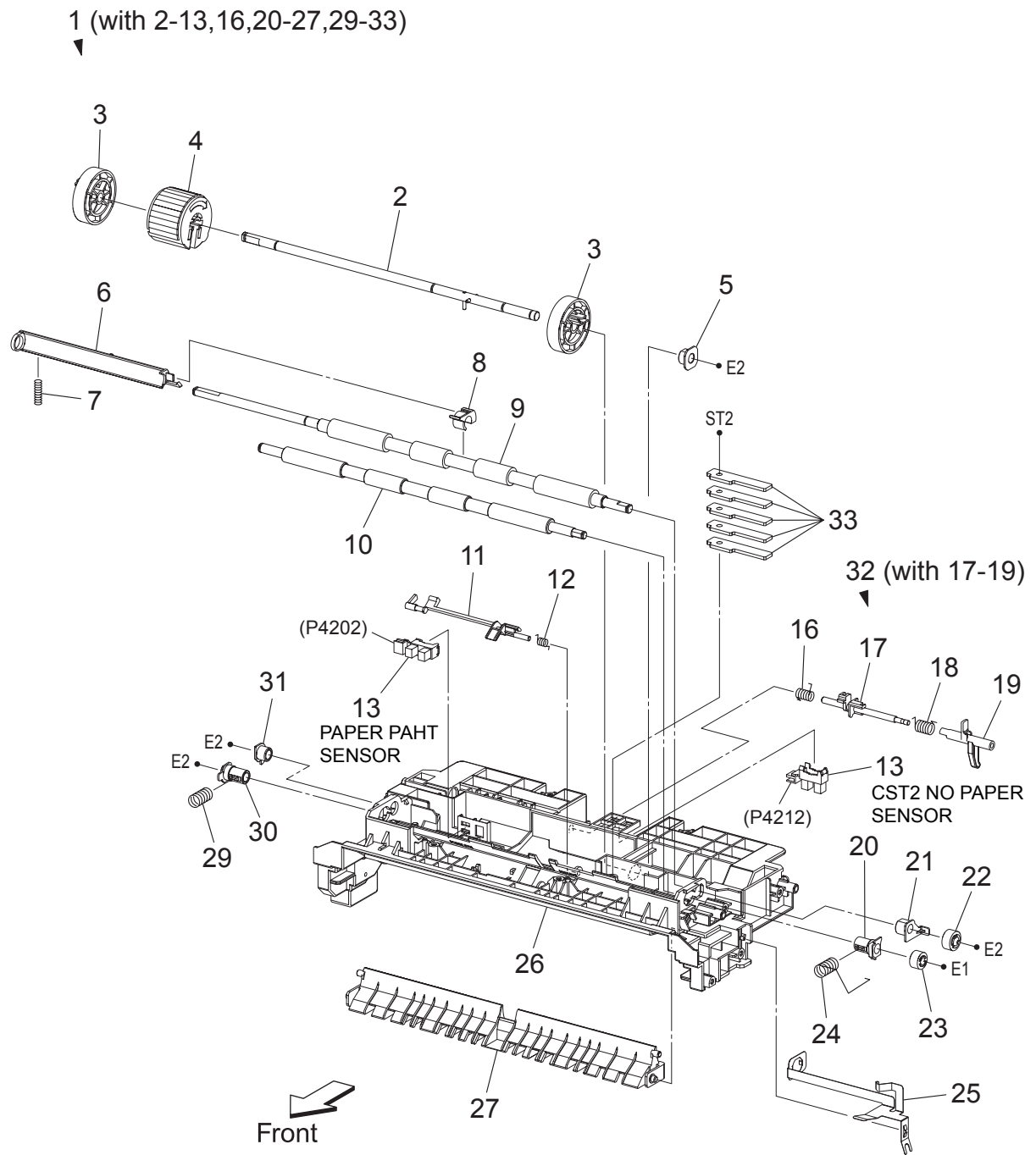
MiS05018KB

PL12.4 250 Feeder (Option) (4/5) [List]

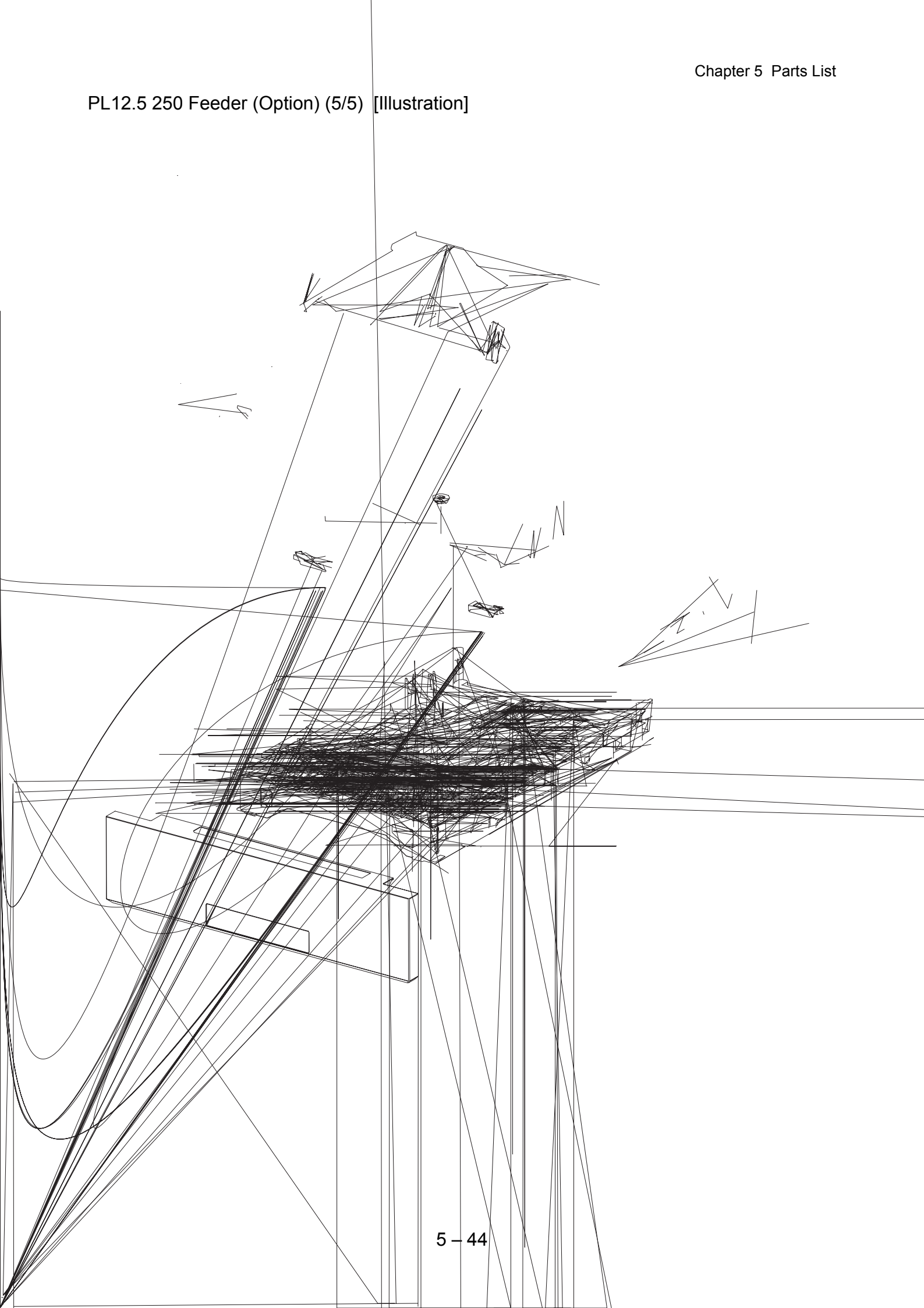| Item	Parts name
1	CHUTE ASSY TURN (with 2-13,16,20-27,29-33)
2	SHAFT ASSY FEED [Same as PL3.2.2]
3	ROLL CORE MSI [Same as PL3.2.3]
4	ROLL ASSY FEED [Same as PL3.2.4]
5	BEARING EARTH [Same as PL3.2.5]
6	ACTUATOR REGI OUT [Same as PL3.2.6]
7	SPRING REGI OUT [Same as PL3.2.7]
8	ACTUATOR REGI ROLL
9	ROLL ASSY REGI
10	ROLL REGI METAL [Same as PL3.2.10]
11	ACTUATOR REGI IN
12	SPRING ACT REGI [Same as PL3.2.12]
13	SENSOR PHOTO [Same as PL3.2.13]
14	- -
15	- -
16	SPRING STP [Same as PL3.2.16]
17	STOPPER ACT [Same as PL3.2.17]
18	SPRING ACT NP [Same as PL3.2.18]
19	ACTUATOR NO PAPER [Same as PL3.2.19]
20	BEARING M EARTH [Same as PL3.2.20]
21	BEARING EARTH REGI [Same as PL3.2.21]
22	GEAR REGI R [Same as PL3.2.22]
23	GEAR REGI M [Same as PL3.2.23]
24	SPRING REGI R M
25	PLATE EARTH REGI [Same as PL3.2.25]
26	CHUTE UP [Same as PL3.2.26]
27	CHUTE LOW
28	- -
29	SPRING REGI L M
30	BEARING M [Same as PL3.2.30]
31	BEARING R [Same as PL3.2.31]
32	ACTUATOR ASSY NO PAPER (with 17-19) [Same as PL3.2.32]
33	PLATE WEIGHT [Same as PL3.2.33]

PL12.5 250 Feeder (Option) (5/5) [Illustration]

PL12.5 250 Feeder (Option) (5/5) [List]

Item	Parts name
1	CASSETTE ASSY 250 OPT (with 19,21)
2	PLATE ASSY BOTTOM [Same as PL2.1.2]
3	SPRING N/F L [Same as PL2.1.3]
4	SPRING N/F R [Same as PL2.1.4]
5	HOLDER ASSY SEPARATOR [Same as PL2.1.5]
6	GUIDE SIDE L [Same as PL2.1.6]
7	GEAR PINION [Same as PL2.1.7]
8	GUIDE SIDE ASSY R [Same as PL2.1.8]
9	- -
10	- -
11	- -
12	- -
13	- -
14	LATCH BOTTOM L [Same as PL2.1.14]
15	LATCH BOTTOM R [Same as PL2.1.15]
16	SPRING LATCH B [Same as PL2.1.16]
17	TRAY ASSY EXTENSION [Same as PL2.1.17]
18	HOUSING CASSETTE 250 [Same as PL2.1.18]
19	HANDLE ASSY CST OPT
20	PLATE LOCK KST CST [Same as PL2.1.20]
21	TRAY ASSY CST 250 (with 2-8,14-18,20) [Same as PL2.1.21]
99	KIT HOLDER ASSY SEPARATOR (with 5, Instruction)

Chapter 6 Principles of Operation CONTENTS

Chapter 6 Principles of Operation CONTENTS

1. Printing Process

1.1 Summary of Printing Process

This printer is a "Full-color laser printer" which applies the principle of an electrophotographic recording system. The tandem system comprising the four color PHD ASSY of yellow, magenta, cyan and black (Y, M, C and K) creates the toner image.

Printing processes of this printer is composed of the basic steps as follows.

(1) Charge: .... Drum surface is charged with electricity.
(2) Exposure: .... Image unit is exposed to laser beams.
(3) Development: .... Image is developed with toner.
(4) Transfer: .... Four-color finished toner image on the Drum is transferred onto the paper.
(5) Cleaning: .... Remaining toner on the drum is collected.
(6) Fusing: .... Toner on the paper is fixed by heat and pressure.
(7) Cleaning: .... Remaining toner on the belt is collected.

```
┌─ PHD ASSY ─┐      ┌─ TRANSFER ASSY ─┐      ┌─ Paper ─┐

   (1) Charge
      ↓
   (2) Exposure
      ↓
   (3) Development
      ↓
   (4) Transfer (Drum → Paper)
      ↓                    ↓                    ↓
   (5) Cleaning        (7) Cleaning         (6) Fusing
```
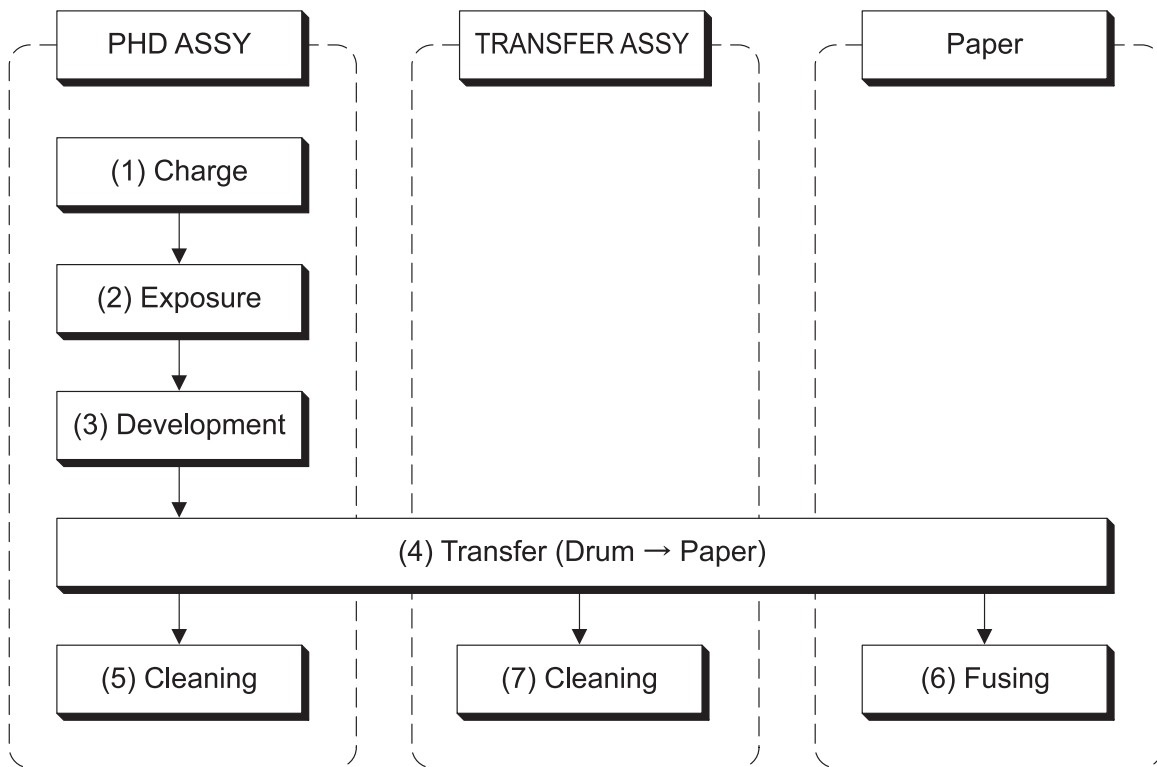
MiS06001KA

1.2 Schematic Diagram for Printing Processes

Outline of printing processes is shown in the figure below.

: Laser beam

: Paper transfer

ROS ASSY
[(2) Exposure]

PHD ASSY
[(1) Charge]
[(3) Development]
[(4) Transfer]
[(5) Cleaning]

FUSER ASSY
[(6) Fusing]

TRANSFER ASSY
[(4) Transfer]
[(7) Cleaning]
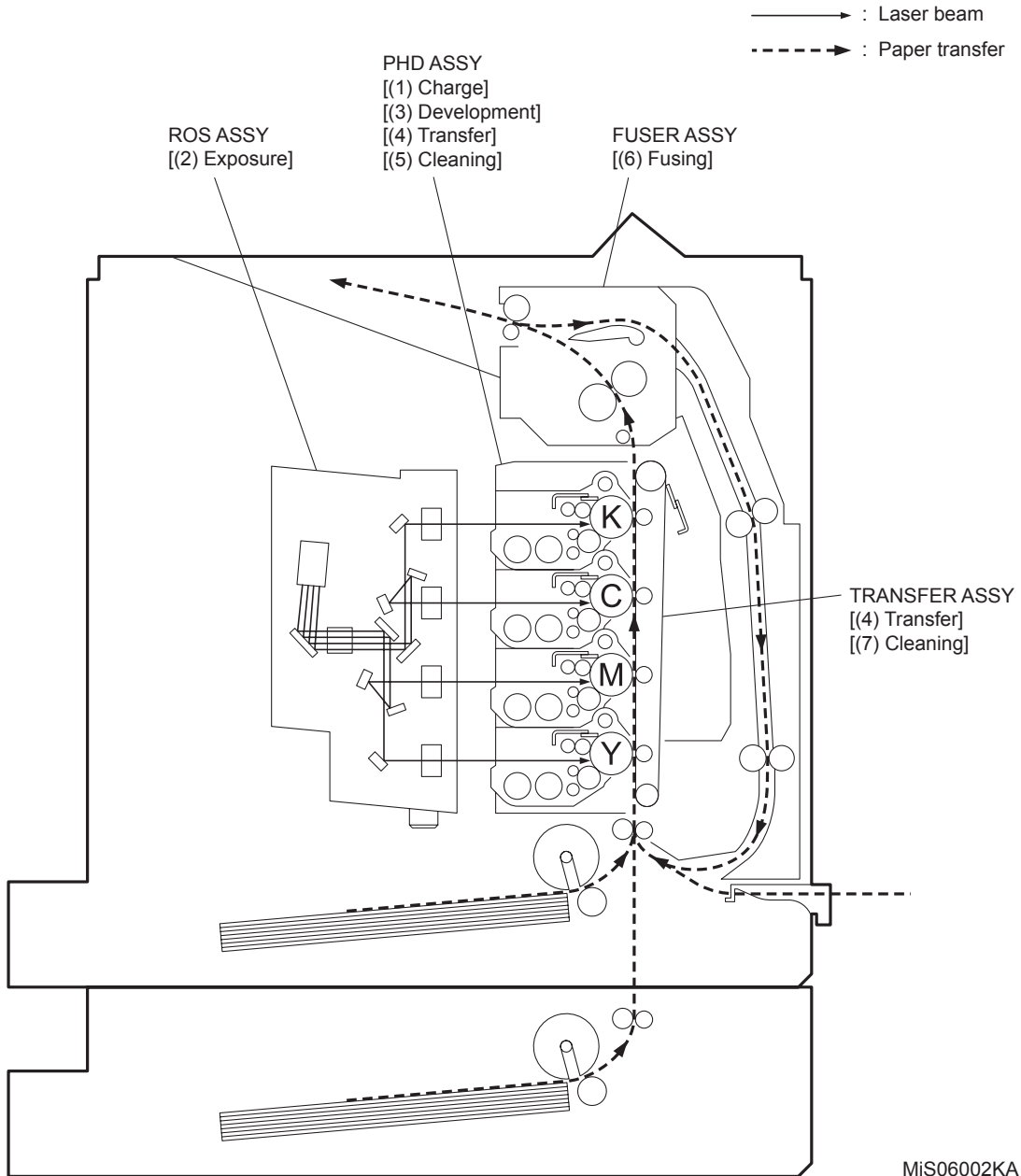
MiS06002KA

1.3 Description of Printing Process Techniques

1.3.1 Charge

In the charging process, the drum surface rotating at a constant speed is charged uniformly with negative electricity by the discharge from BCR (Bias Charge Roll).

This process is performed in parallel for yellow, magenta, cyan and black colors.

- BCR (Bias Charge Roll)

  The BCR is kept in contact with the drum and rotates following the rotations of the drum. The BCR is a conductive roll that uniformly and negatively charges the drum surface with the negative voltage applied by the HVPS.

- Drum

  The drum surface is uniformly and negatively charged with DC bias voltage.

  The drum surface consists of a photoreceptor (which is an insulator in the dark and a conductor in the light) backed with a conductor.

- Cleaning Roll

  The Cleaning Roll contacts with the BCR to remove the toner from it.
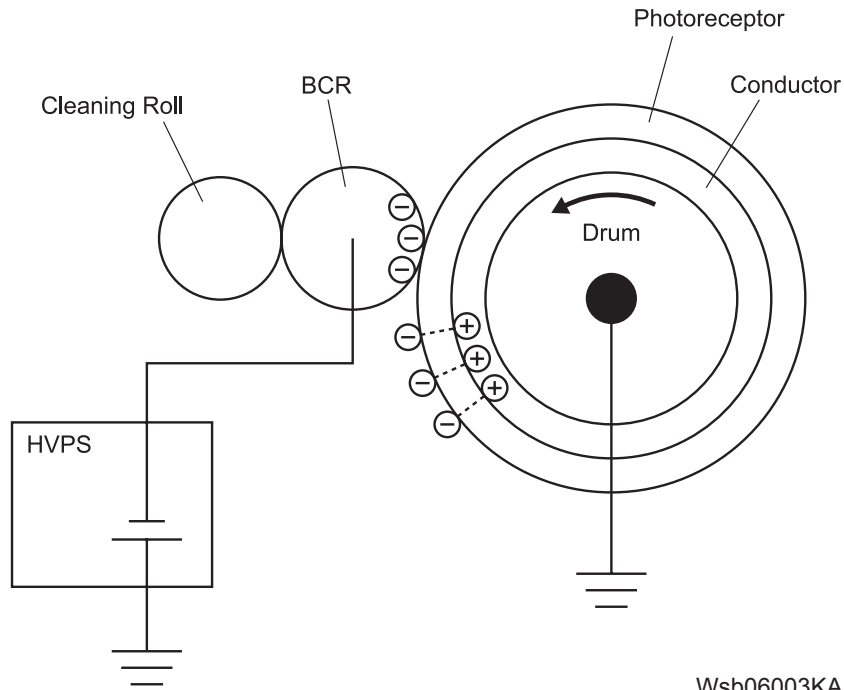
Wsb06003KA
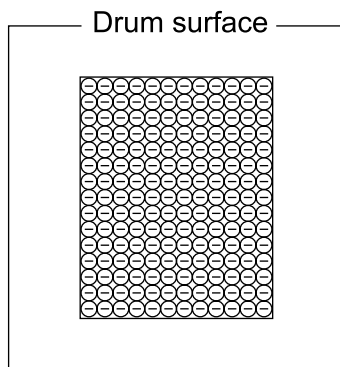
engine principle0005FA
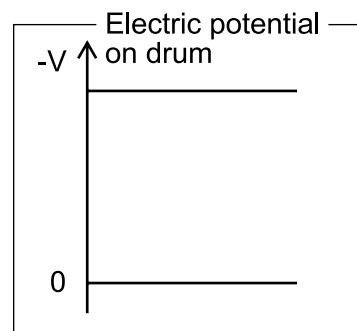
engine principle0006FA

1.3.2 Exposure

The exposure process forms an invisible electrostatic latent image on the negatively charged drum surface by scanning it with laser beams.
This process is performed in parallel for yellow, magenta, cyan and black colors.

- Laser beams are emitted from the laser diode in the ROS ASSY. The surface of each color drum is scanned from end to end in the axial direction by the rotating polygon mirror, the fixed mirror, and the lens attached to the Scanner Motor Assy of the ROS ASSY.
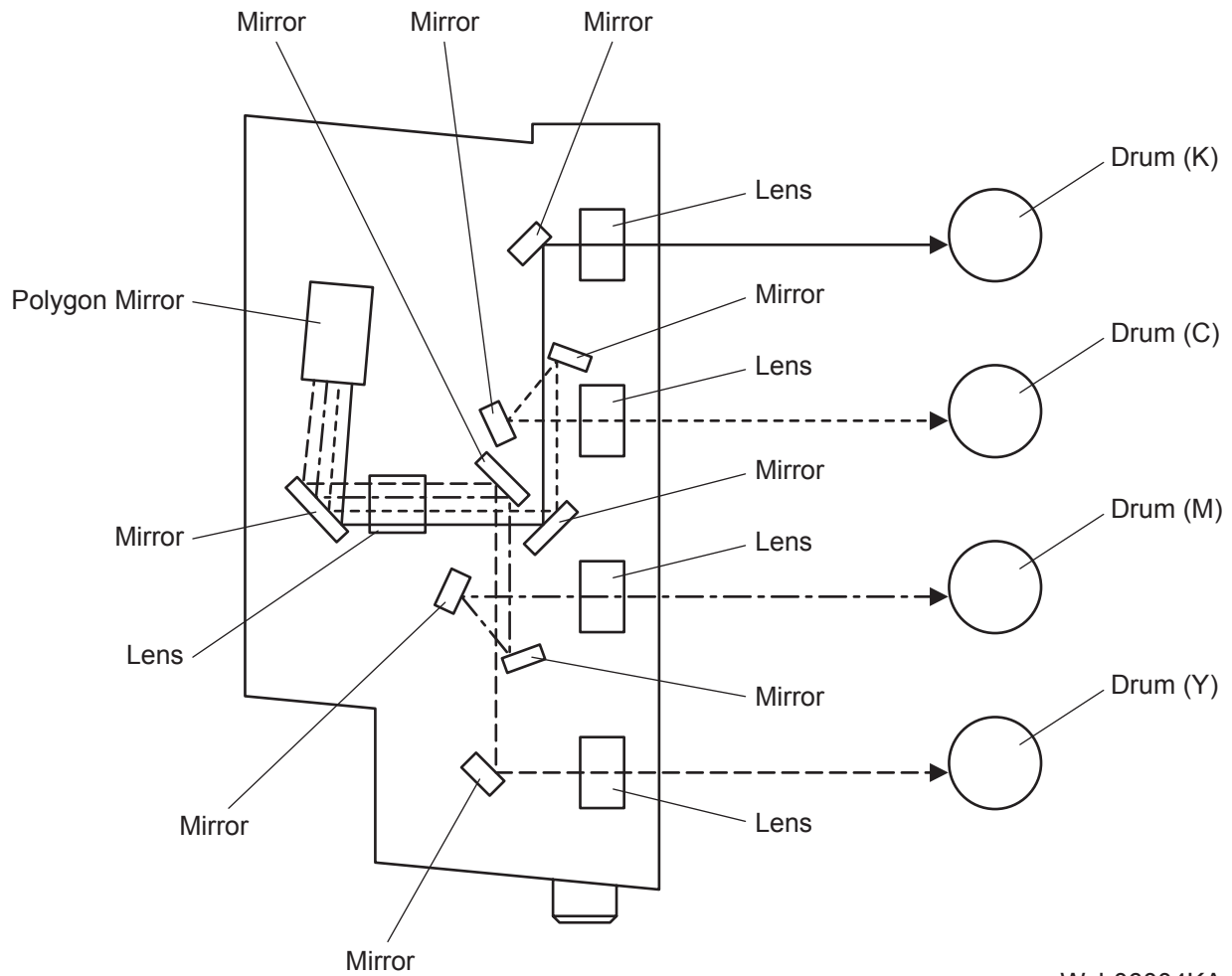
Wsb06004KA

- The laser beam is irradiated according to the printing data (image data) output from the printer controller. The laser beam is output only when printing data is pixels (micro points composing characters or pictures). (The laser diode lights up for parts to be developed by toner, and not for parts that are not to be developed.)

The drum surface irradiated by the laser beam becomes a conductor, and the negative charge on the drum surface flows to the positive side and the charges cancel each other out so that the potential on the drum surface drops. The part on the surface where potential drops becomes the electrostatic latent image.

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Leg_Sec06_011FA

Ten06011KA

Leg_Sec06_012FA
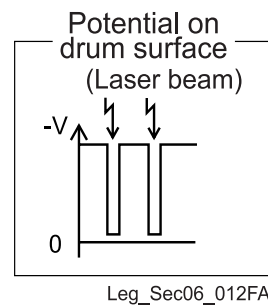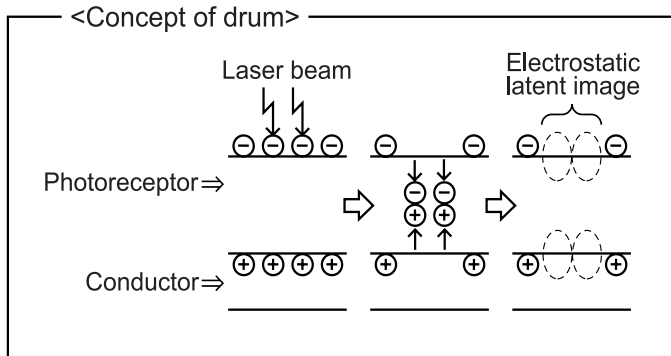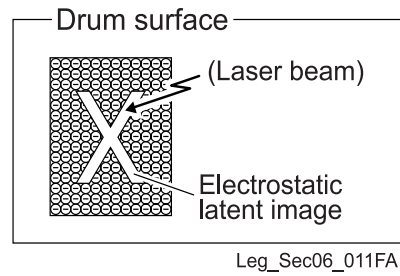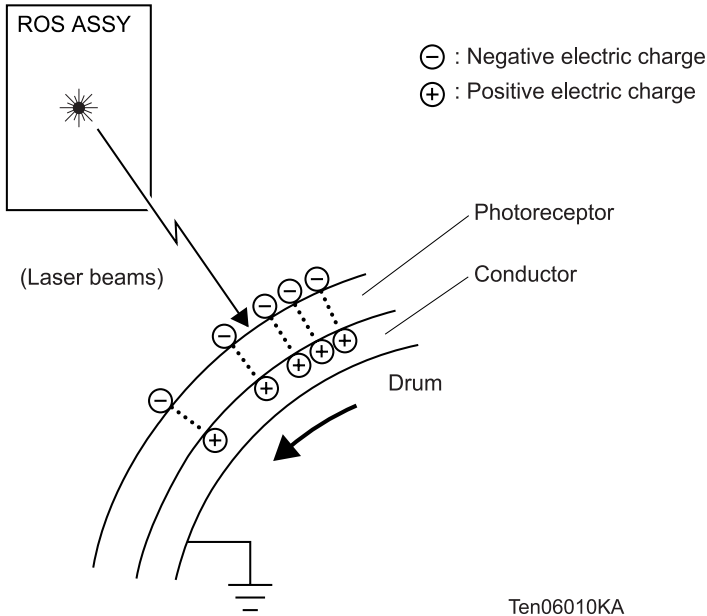
1.3.3 Development

In the development process, toner is electrically attached to the invisible electrostatic latent image on the drum surface to form visible toner image on the drum.

This process is performed in parallel for yellow, magenta, cyan and black color independently.

- The toner in the toner cartridge is agitated by the built-in Agitator and fed into the developer. The Auger is driven by the toner motor.The amount of toner to be consumed according to the print count is calculated and that amount is fed into the developer. (Refer to "Toner Dispense Mechanism".) This is called "toner dispensation", which is controlled by two types of control, "PCDC" and "ADC". (Refer to 5.3.2 Toner Density Control)

- In the developer section, the incoming toner is mixed with the existing developer (toner/carrier mixture) by the Auger, and then supplied to the Magnet Roll located near the drum surface. The toner and carrier are charged by friction due to agitation (toner in negative, carrier in positive), and they attract each other electrically. The carrier, due to its magnetic properties, is attracted to the Magnet Roll, and then uniformly leveled by the Trimmer Rod.

- The magnet roll is covered by a thin semi-conductive sleeve all over the surface. The DB (Developing Bias) voltage is supplied to this semiconductor sleeve from the High Voltage Power Supply (HVPS). The DB voltage is negative DC voltage combined with AC voltage. The DC voltage keeps the magnet roll at a constant negative voltage against the photoreceptor layer of the drum. Therefore, at the area where the negative electric charge on the drum surface does not decrease, the potential is lower than that of the magnet roll, while the potential is higher than that of the magnet roll at the area where the negative charge on the drum surface decreases. The AC voltage shakes the developer on the surface of the magnet roll so that the toner easily flies to the drum. Thus, only the portions of the drum surface where the negative charge has decreased below that of the magnet roll (electrostatic latent image) attract the toner to form an image on the drum. Once the toner is deposited on the drum, the potential and the toner-attracting force of the corresponding portion decreases because the increase of negative charge lowers the potential at that portion.

6 – 7

⊖ : Negative electric charge
⊕ : Positive electric charge
● : Toner
○ : Carrier

Toner Cartridge

Agitator

Paddle

Trimmer Rod

Drum

Auger

Auger

Magnet Roll

HVPS

Wsb06005KA

Dram surface

Toner image

engine principle0013FA

Electric potention on drum

-V

Developing bias

0
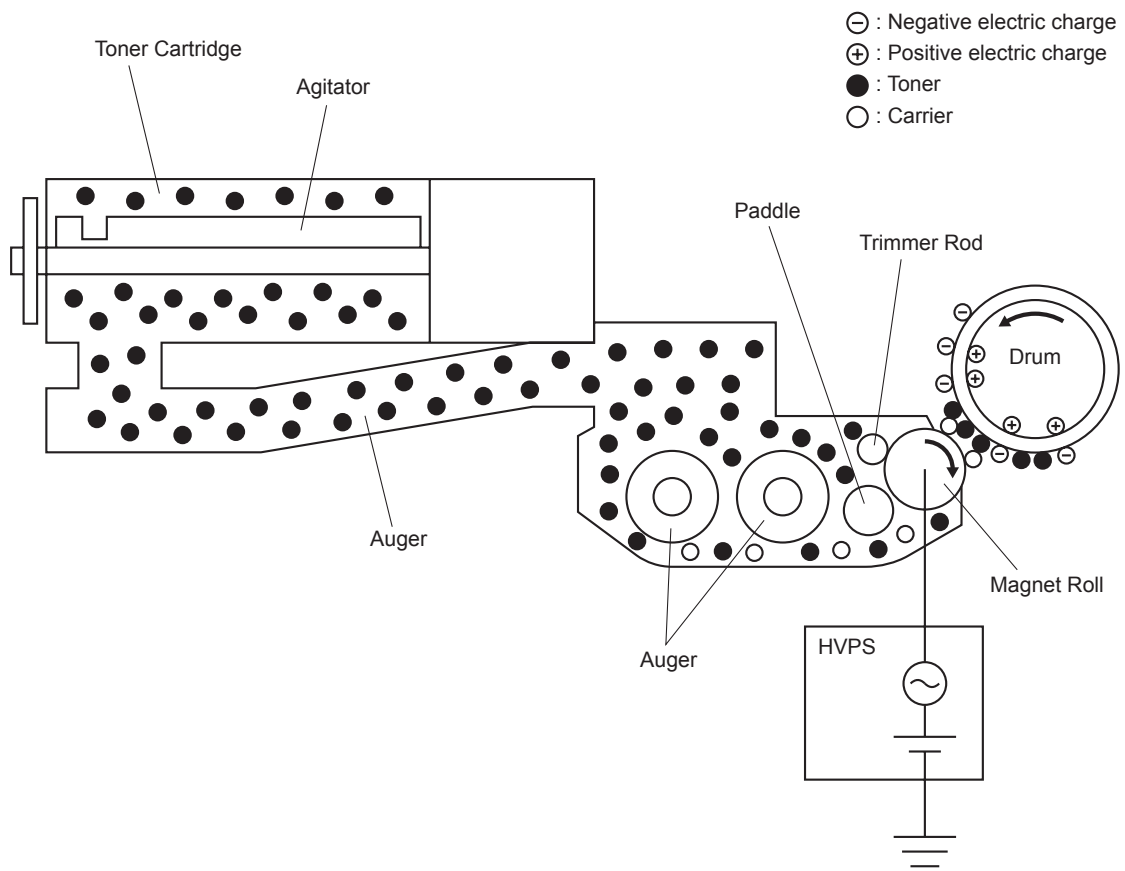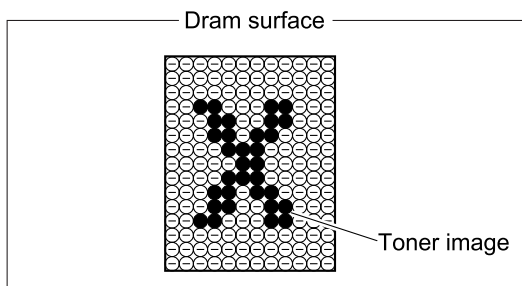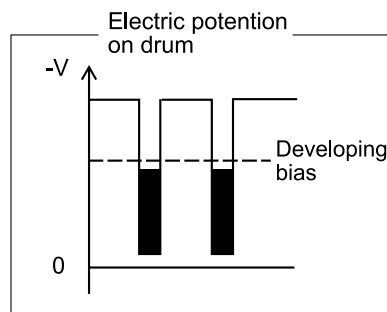
engine principle0014FA

-   Toner Dispense Mechanism
    The toner in the toner cartridge goes through the following steps before reaching the developer.

    Once the toner cartridge is set and the lever is moved toward the lock position, the JOINT ASSY DISP and the toner cartridge shutter move frontward, opening the toner supply port.
    The toner supplied from the toner cartridge is carried toward the developer by the Auger in the HOUSING ASSY AUGER.
    The Auger is a spiral-shaped part that carries toner forward as it rotates driven by the Dispense Motor in the FRAME ASSY MOT.
    After being carried to the front side of the HOUSING ASSY AUGER, the toner is fed to the developer via the port of the HOUSING ASSY AUGER.
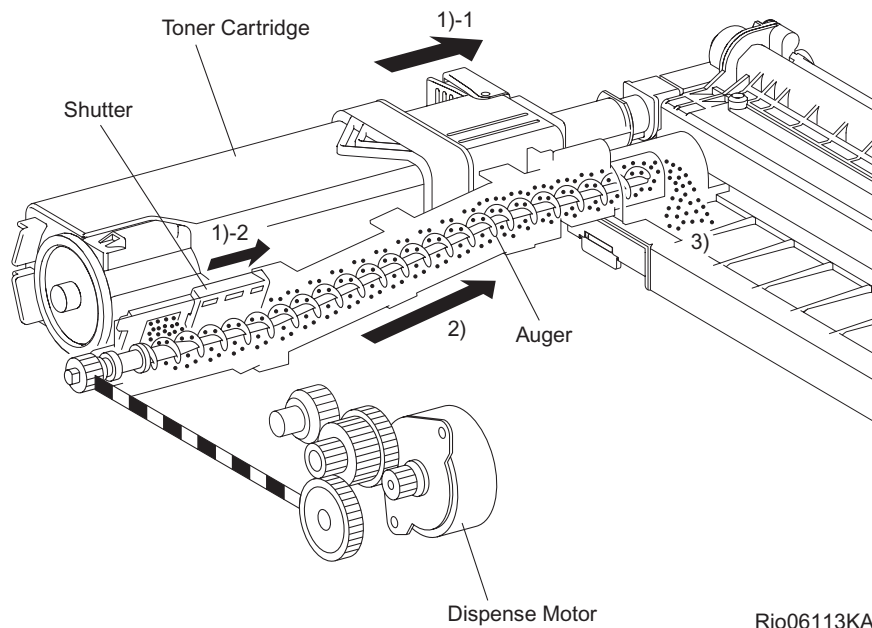
Rio06113KA

Blank Page

6 – 9

1.3.4 Transfer (Drum -> Paper)

In the transfer process, toner image formed on the drum surface is transferred onto the surface of the paper. The toner is transferred onto the paper in the order of Y, M, C, and K.

- BTR

   The BTR (Bias Transfer Roll) is a conductive roll, to which the positive voltage is applied from the High Voltage Power Supply (HVPS). The BTR contacts the rear side of the Belt and applies the positive voltage to the Belt.

- Belt

   The Belt is a conductive belt, to which the positive voltage is applied from the BTR. After the negatively charged toner image on the drum surface is drawn by the positive charge on the belt, it is transferred from the drum to the paper. The Belt feeds the paper to the direction of FUSER.

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6 – 10
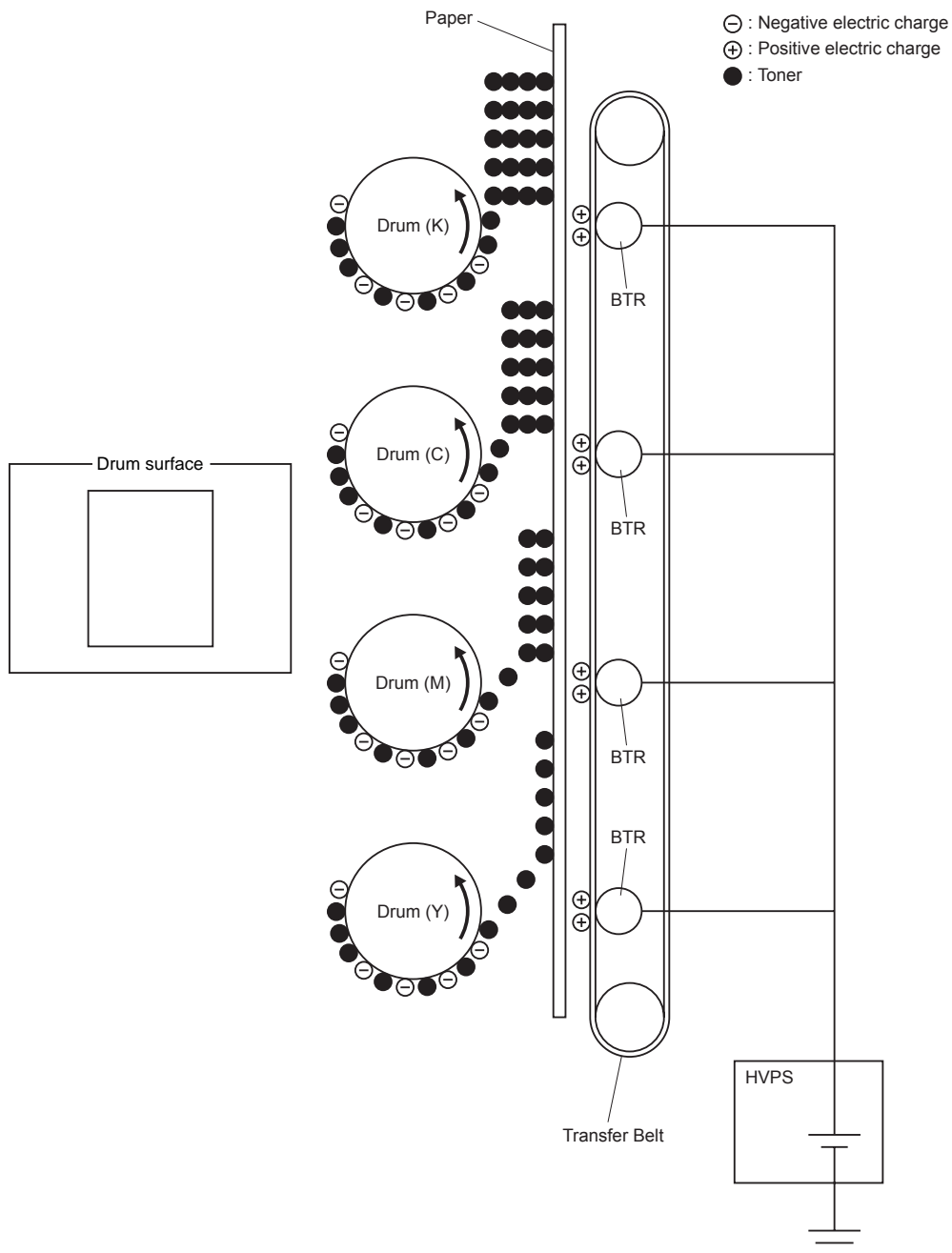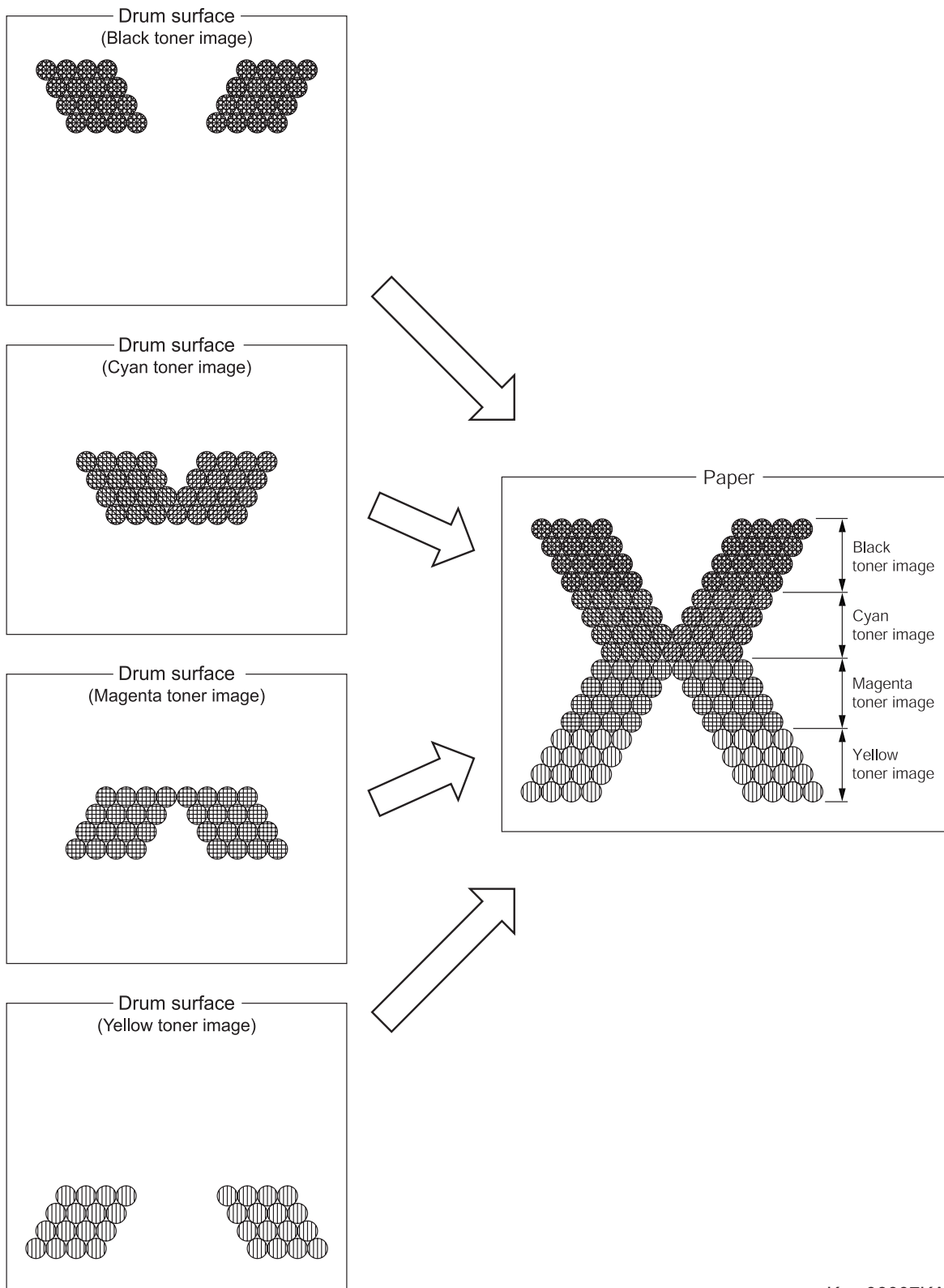
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1.3.5 Cleaning (DRUM)

In the Cleaning process, excess toner and charge is removed from the drum and BCR surfaces.

- Drum cleaning

  The excess toner that was not transferred to the Transfer Belt remains on the drum surface. To prevent troubles in the subsequent processes, the excess toner is scraped off by the Cleaning Blade in contact with the drum, and then collected into the collection box as described in "1.3.8 Waste Toner Collection".

- BCR cleaning

  The excess toner remaining on the BCR is wiped off by the Cleaning Roll made of spongy material, and then collected into the collection box as described in "1.3.8 Waste Toner Collection".

- Charge cleaning

  When the drum is charged by BCR, any excess charge hinders the drum surface from being uniformly charged, which may lead to print quality problems.

  The excess charge on the surface of the drum is eliminated by irradiating the light of the Erase Lamp (LED ASSEMBLY).

⊕ : Positive electlic charge
⊖ : Negative electric charge
● : Toner

Erase Lamp (LED ASSEMBLY)

Blade

Conductor

Photoreceptor

Drum

Cleaning Roll   BCR

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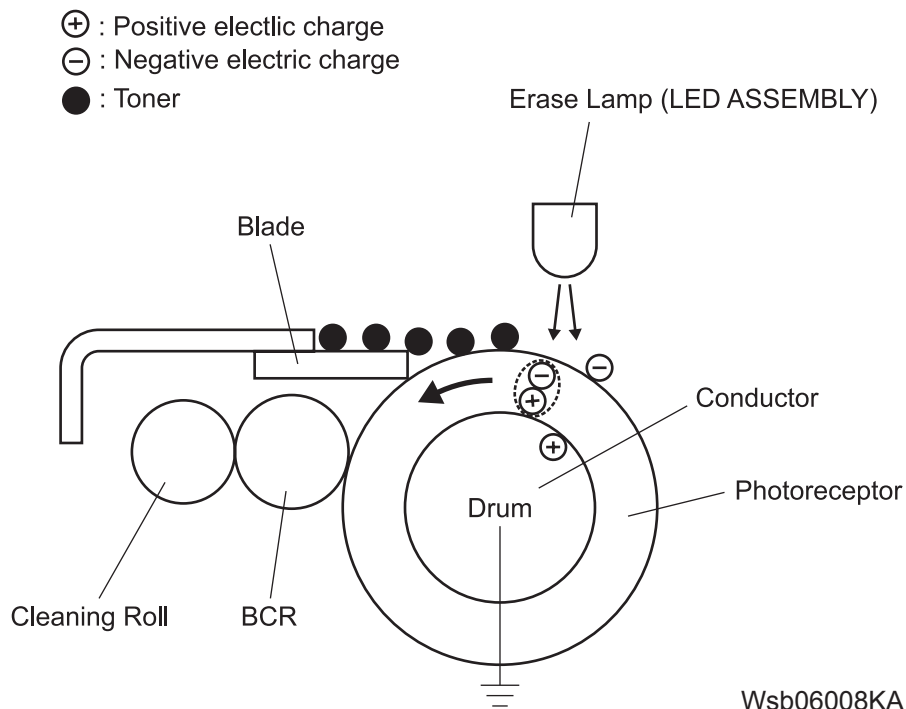
1.3.6 Fusing

In the fusing process, toner is fixed on the paper by heat and pressure.

- The toner particles are melted by the Heat Roll heated by the Heater lamp, and fused onto the print medium by the pressure between the Heat Roll and the Belt.

- The Belt friction-driven by the Heat Roll nips the print media against the Heat Roll using the pressurizing mechanism it contains.

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6 – 13
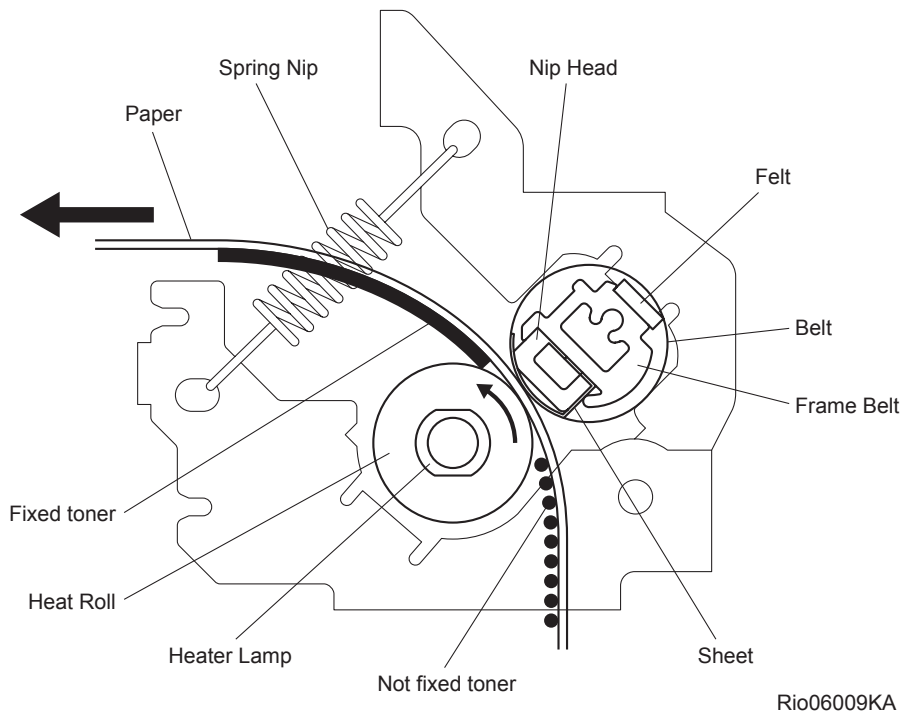
1.3.7 Cleaning (TRANSFER ASSY)

In the "Cleaning (TRANSFER ASSY)" process, the transfer belt is cleaned by removing the excess toner on its surface (for the density measurement of ADC toner patch).

- Collecting excess toner from the transfer belt
(1) Toner on the BELT is scraped off by the Cleaner Blade that is in contact with the Drum.
(2) The removed toner is dropped into the Cleaner BOX.
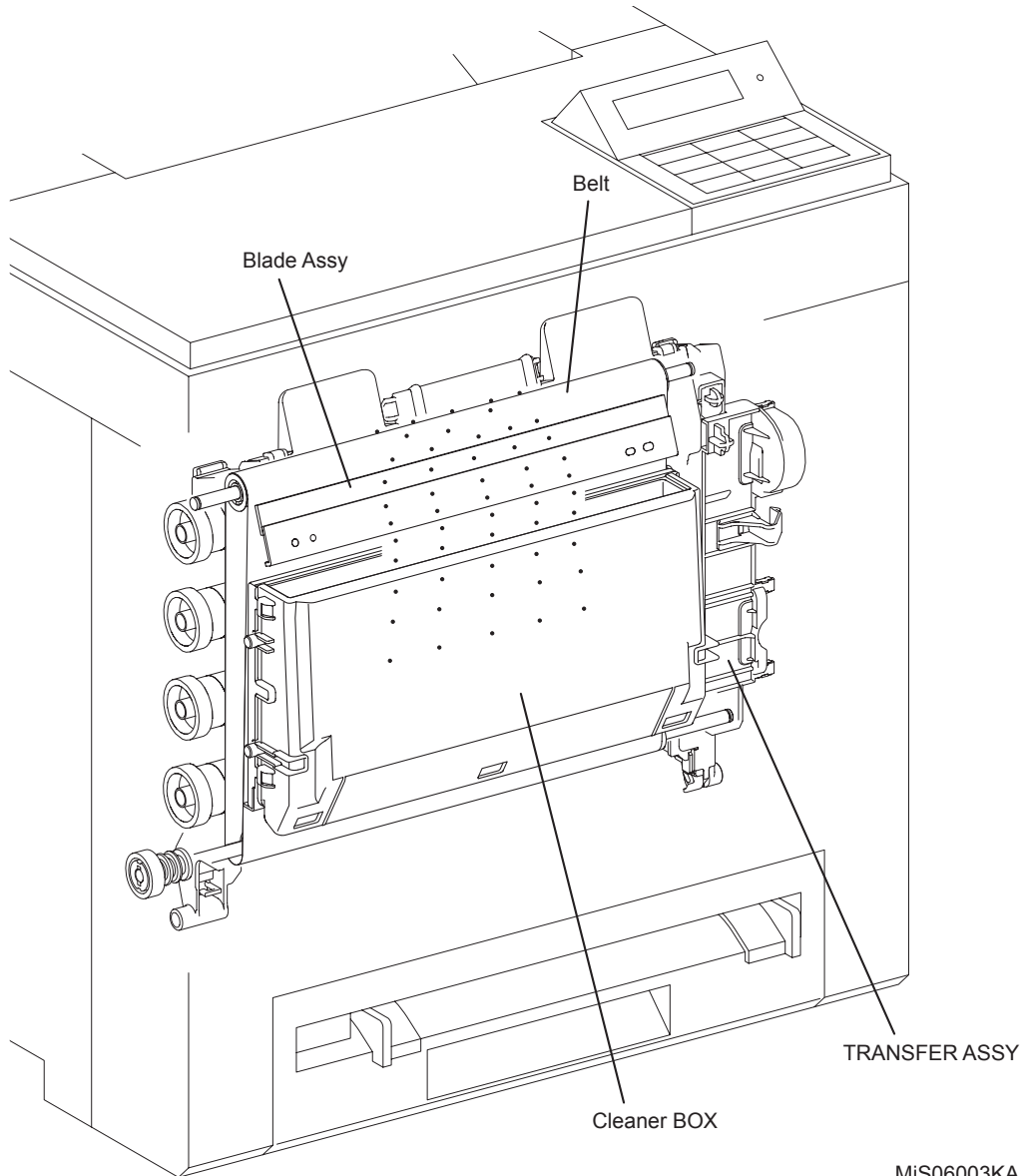
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1.3.8 Waste Toner Collection

(1) The excess toner is collected by the cleaner blade contacting the drum, and then carried to the AUGER CLNG SIDE by the Auger.

(2) The toner is carried by the AUGER CLNG SIDE to the joint to the collection box in the toner cartridge.

(3) The toner then falls into the collection box in the toner cartridge.

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6 – 15
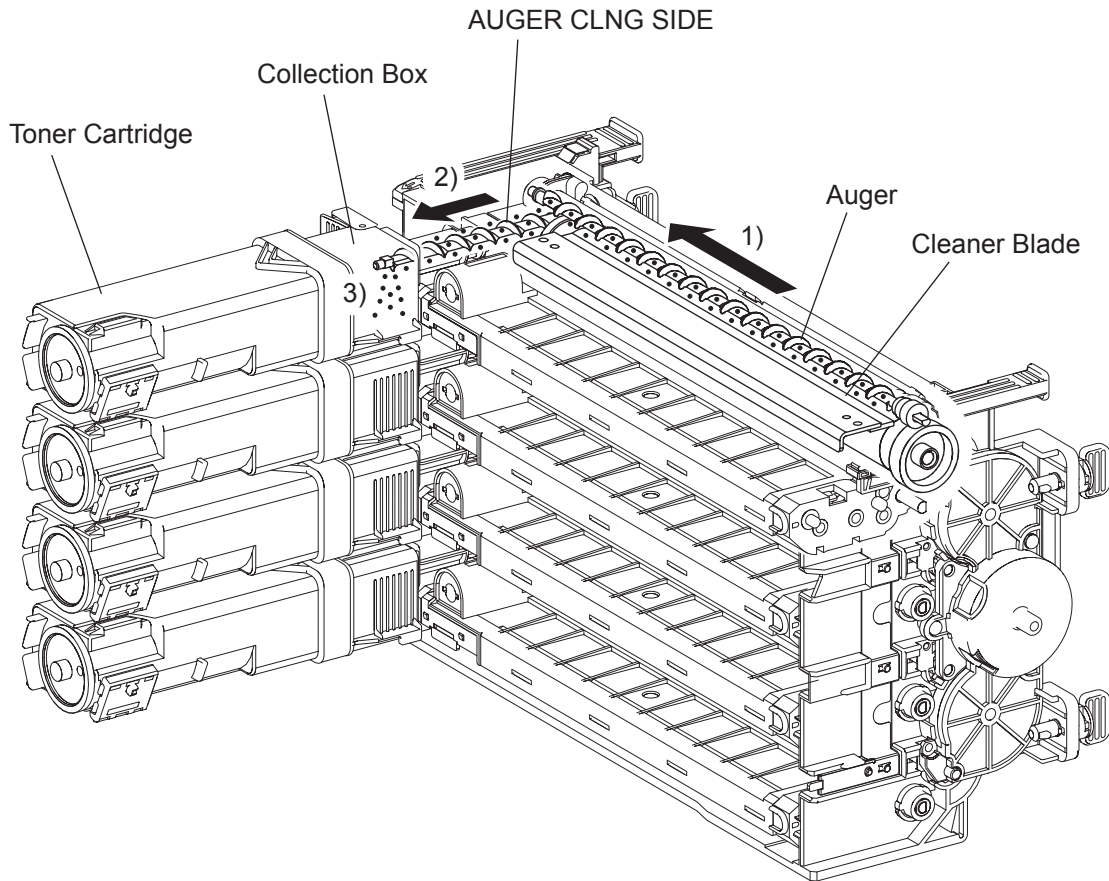
2. Paper Path

2.1 Paper Path
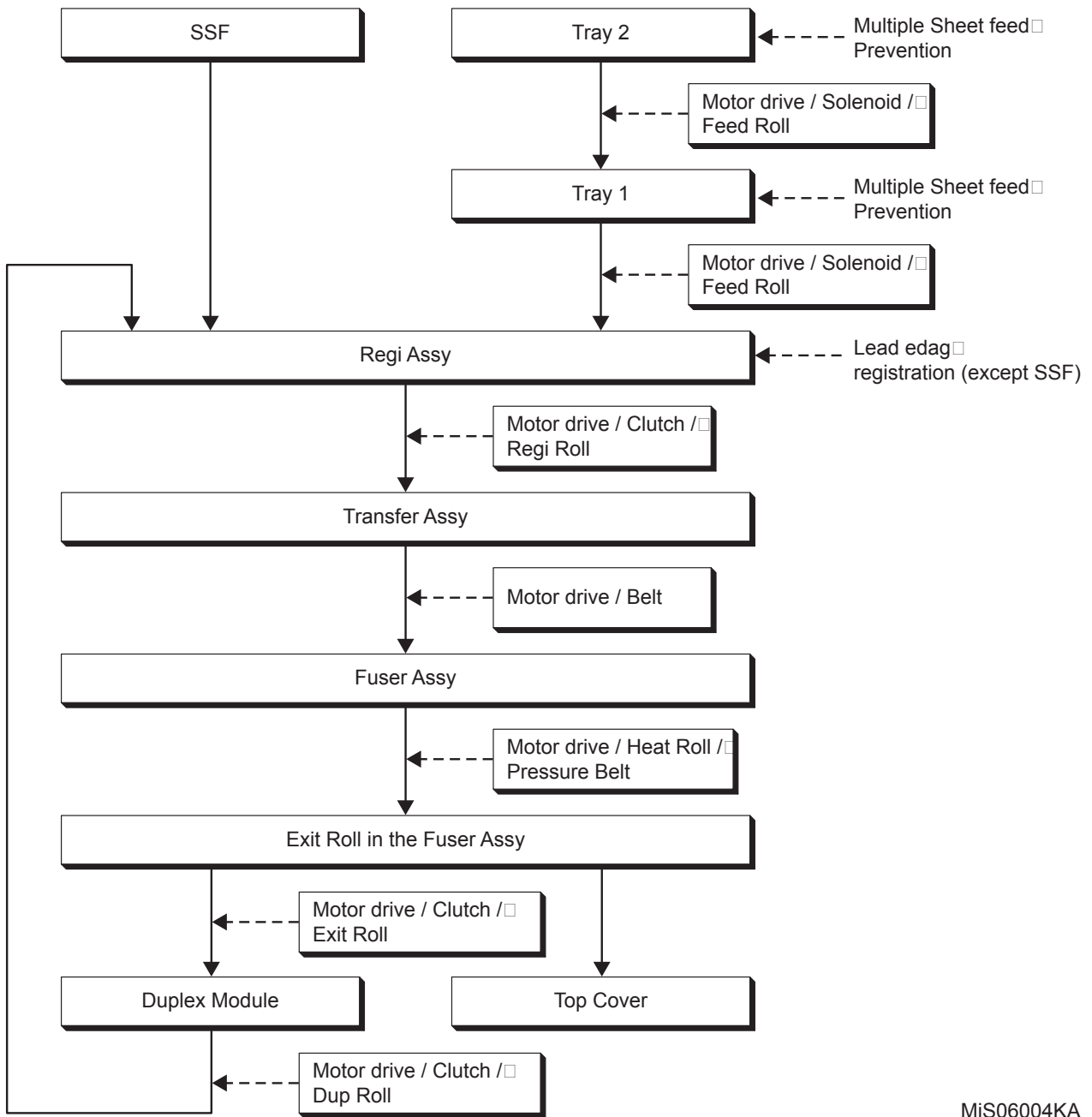
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2.2   Layout of Paper Path

: Laser beam
: Paper transfer
▼ : Paper sensors

Exit Roll [Fuser Assy]
Exit Sensor [Fuser Assy]
Dup Gate [Fuser Assy]
Pressure Belt [Fuser Assy]

Heat Roll [Fuser Assy]

Dup Roll [Duplex Module]

Belt [Transfer Assy]

K
C
M
Y

Regi Roll (rubber) [Regi Assy]
Feed Roll [Feeder Assy]
Tray1 No Paper Sensor [Feeder Assy]

Dup Roll [Duplex Module]
Regi Roll (metal) [Regi Assy]
SSF No Paper Sensor [Regi Assy]

Regi Sensor [Regi Assy]

Feed Roll [Feeder Assy Opt.]

Separator Roller [Tray 1]
Turn Roll (metal) [Regi Roll (metal)]
Turn Roll (rubber) [Regi Roll (rubber)]

Tray2 No Paper Sensor [Feeder Assy Opt.]
Separator Roller [Tray 2]
Paper Path Sensor [Regi Sensor]

MiS06005KA

6 – 17

OLLER

PLATE ASSY BOTTOM

SPRING N/F L

2.3.1 Multiple Sheet Feed Prevention

The sheets set in a tray or cassette is occasionally stuck together along the edges. The stuck sheets cause a multiple sheet feed or a jam. The sheets are fed by the ROLL ASSY FEED(PL3.2.4) to a position between the ROLL ASSY FEED and the SEPARATOR ROLLER(HOLDER ASSY SEPARATOR : PL2.1.5). Normally, when only one sheet is fed, both the ROLL ASSY FEED and SEPARATOR ROLLER rotate to allow the sheet to pass. However, when two sheets are fed concurrently, only the ROLL ASSY FEED rotates and the SEPARATOR ROLLER is locked thereby allowing the upper sheet to pass by being separated from the lower sheet that is stopped by the friction with the SEPARATOR ROLLER at rest.

The SEPARATOR ROLLER is being pushed toward the ROLL ASSY FEED by spring pressure, and controlled by the torque limiter (Clutch Assy Friction) with which it is coupled.
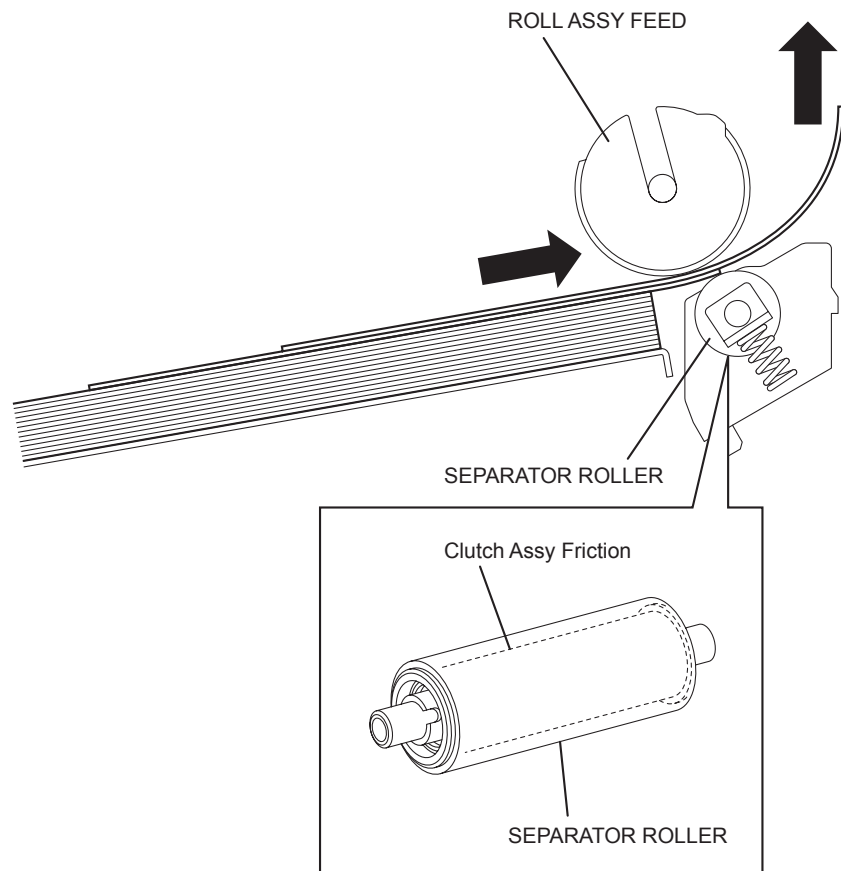
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2.4 Feeding from Single Sheet Feeder (SSF)

When a sheet is loaded on the SSF, the REGI ROLL (ROLL ASSY REGI : PL3.2.9) rotates by the torque from the DRIVE ASSY MAIN (PL7.1.2) under control of the CLUTCH ASSY DRV (PL3.1.1) to feed the sheet to the toner transfer section (TRANSFER ASSY : PL6.1.7).

Paper

REGI ROLL

REGI ROLL

CLUTCH ASSY DRV

MiS06008KA
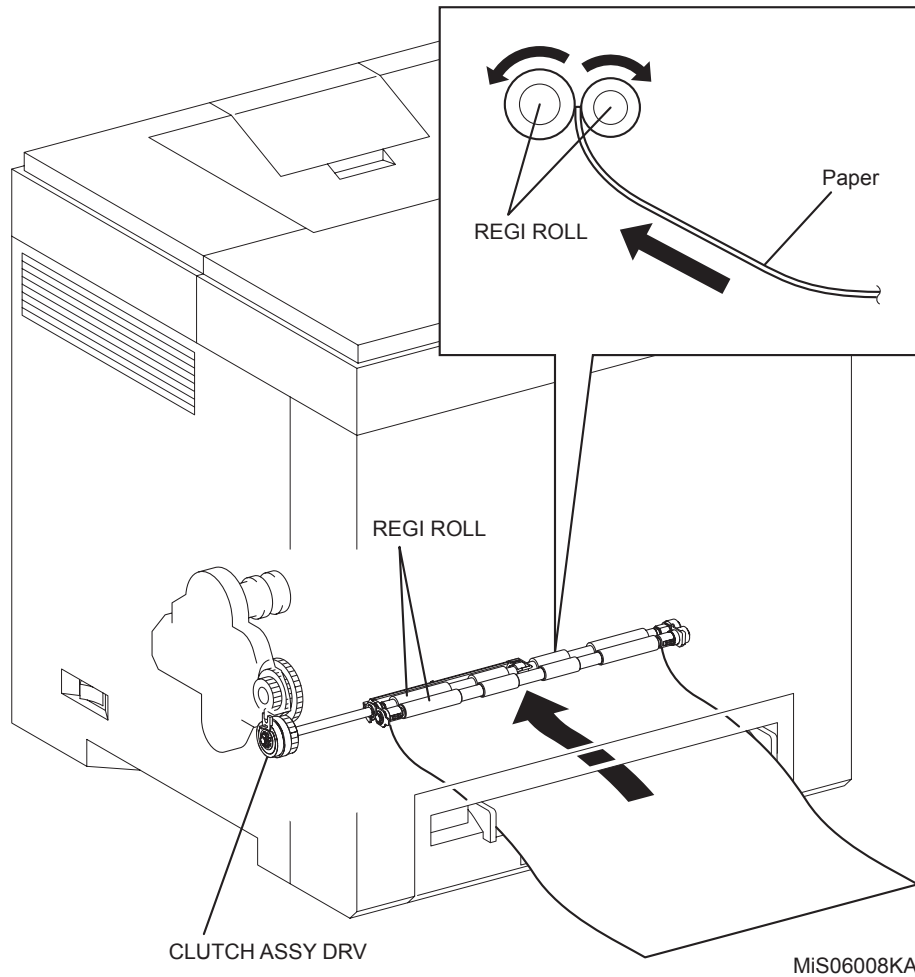
2.5 Feeding in Registration Section

The sheet fed to the registration section from the paper cassette, SSF, or duplex section is fed to the toner transfer section (TRANSFER ASSY : PL6.1.7) by the REGI ROLL (ROLL ASSY REGI : PL3.2.9) that rotates by the torque from the DRIVE ASSY MAIN (PL7.1.2) under control of the CLUTCH ASSY DRV (PL3.1.1).

From the duplex section to the registration section, the sheet is fed by the rotation of the ROLL ASSY DUP (PL11.2.9). (Refer to "2.7 Feeding in Duplex Section")
At the registration section, the lead edge position of the sheet is corrected (Refer to "Lead-edge Registration") before the sheets are fed to the toner transfer section (TRANSFER ASSY : PL6.1.7).
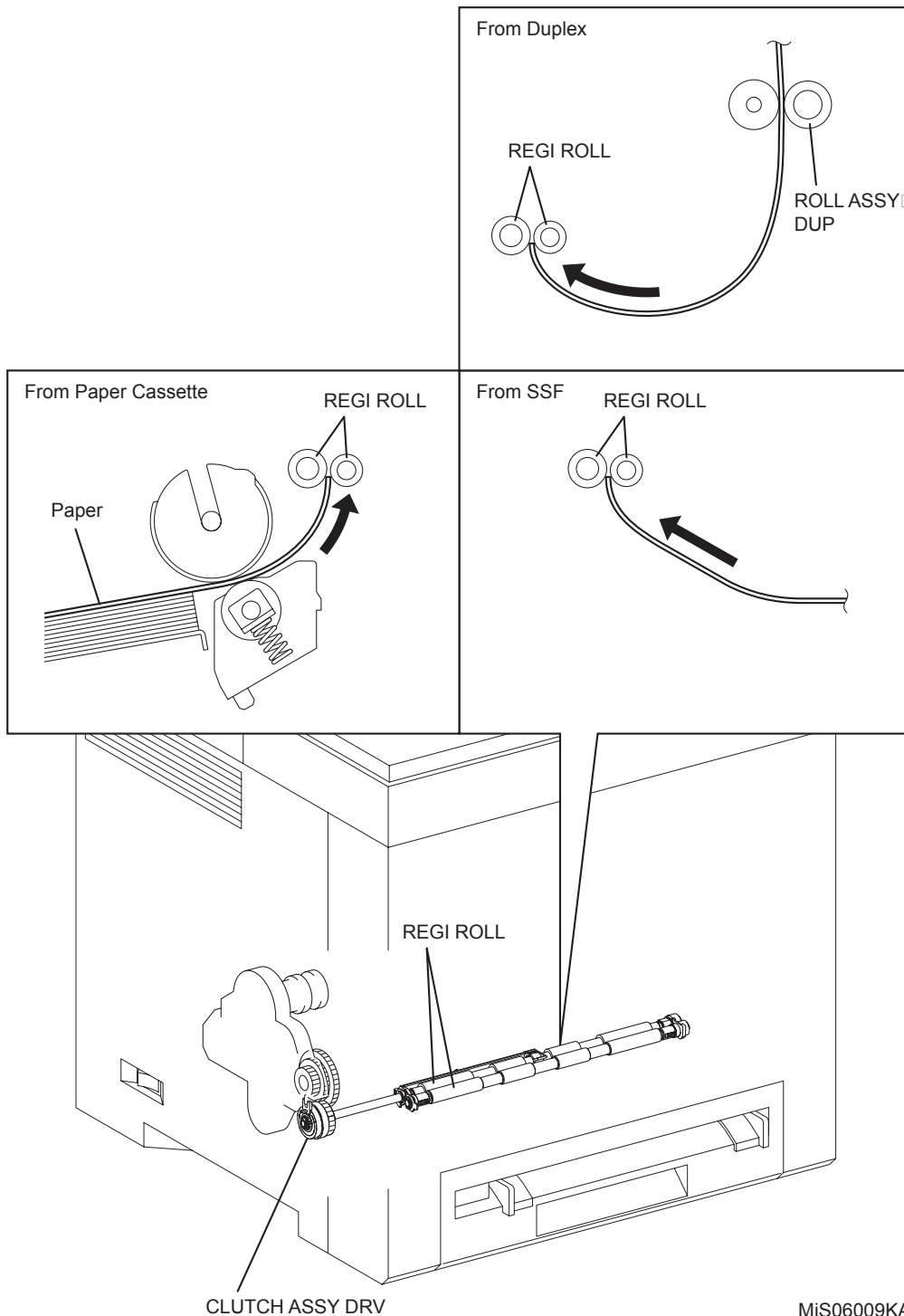
MiS06009KA

2.5.1 Lead-edge Registration

When a sheet is fed from the SSF, paper cassette or Duplex to the toner transfer position, the registration of the sheet may not be correctly maintained due to such troubles as misalignment of lead edges in the paper cassette. To avoid this trouble, the lead edge position needs to be aligned at the registration section before the sheet is fed to the toner transfer position.

By thrusting the edge of the sheet coming out of the SSF or paper cassette against the REGI ROLL (ROLL REGI METAL : PL 3.2.10 / ROLL ASSY REGI : PL 3.2.9) that is locked, the lead edge of the sheet is registered.

ROLL REGI METAL

ROLL ASSY REGI

REGI ROLL

Skewed Paper
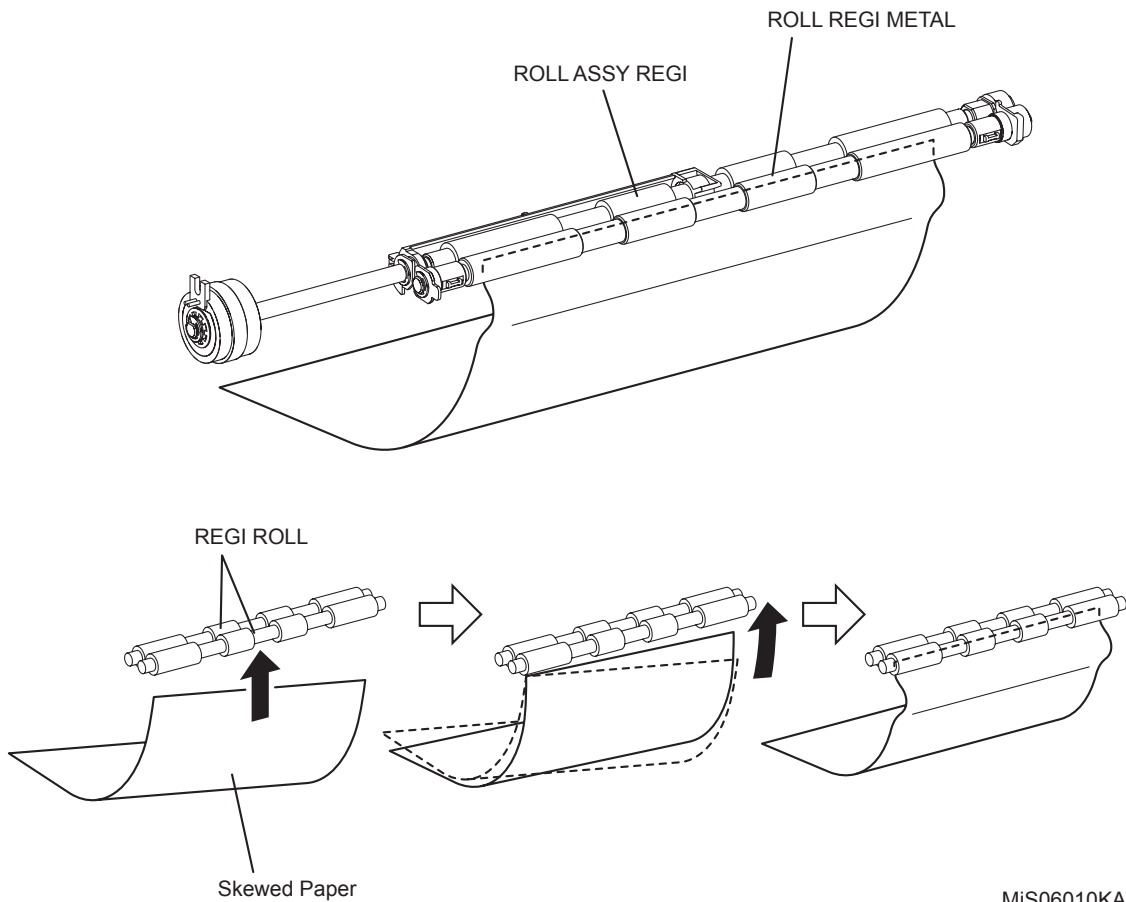
MiS06010KA

2.6 Transfer/Fusing/Exit

The sheet that has passed through the REGI ROLL goes into the TRANSFER ASSY (PL6.1.7) that rotates by the torque from the DRIVE ASSY MAIN (PL7.1.2), where the toner image is transferred from the belt to the sheet. Then, the sheet is fed to the exit section while its toner image is being fused in the FUSER ASSY (PL6.1.1) by the Heat Roll that rotates by the torque from the DRIVE ASSY SUB (PL7.1.1).

The print-completed sheet (1 side-printed or 2 side-printed) is ejected from the printer by the ROLL ASSY EXIT that rotates in the exit direction by the torque from the DRIVE ASSY SUB.

MiS06011KA
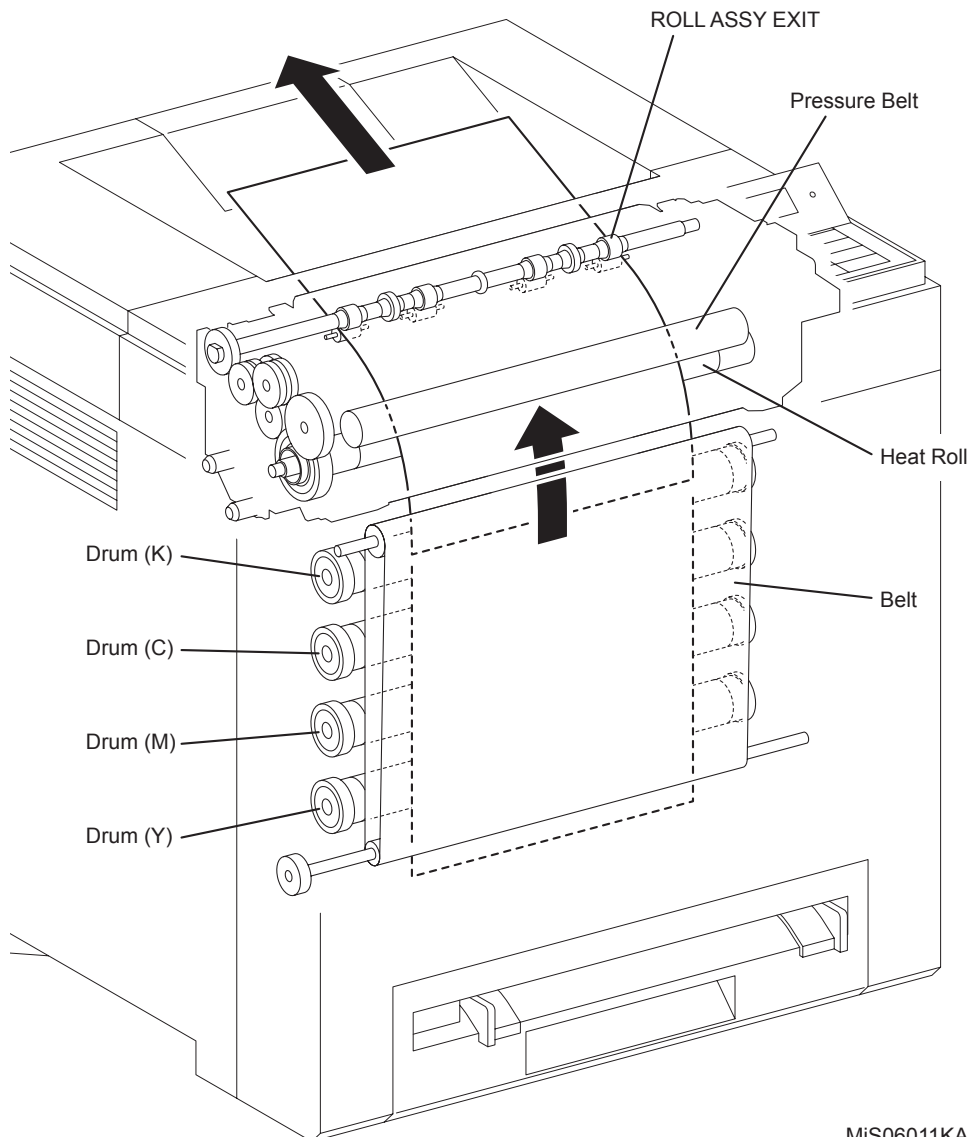
2.7 Feeding in Duplex Section

After the 1 side-printed sheet is ejected from the Fuser, the ROLL ASSY EXIT guides the sheet to the duplex section by rotating in the reverse direction by the torque from the ROLL ASSY EXIT under control of CLUTCH ASSY EXIT.

From the duplex section, the 1 side-printed sheet is fed to the registration section by the ROLLER ASSY DUP (PL11.2.9) that rotates by the torque from the DRIVE ASSY DUP (PL11.2.5).
After the printing on the side 2 is completed, the sheet exits in the same manner as it does after the printing on the side 1 is completed.

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6 – 24

Blank Page

6 – 25
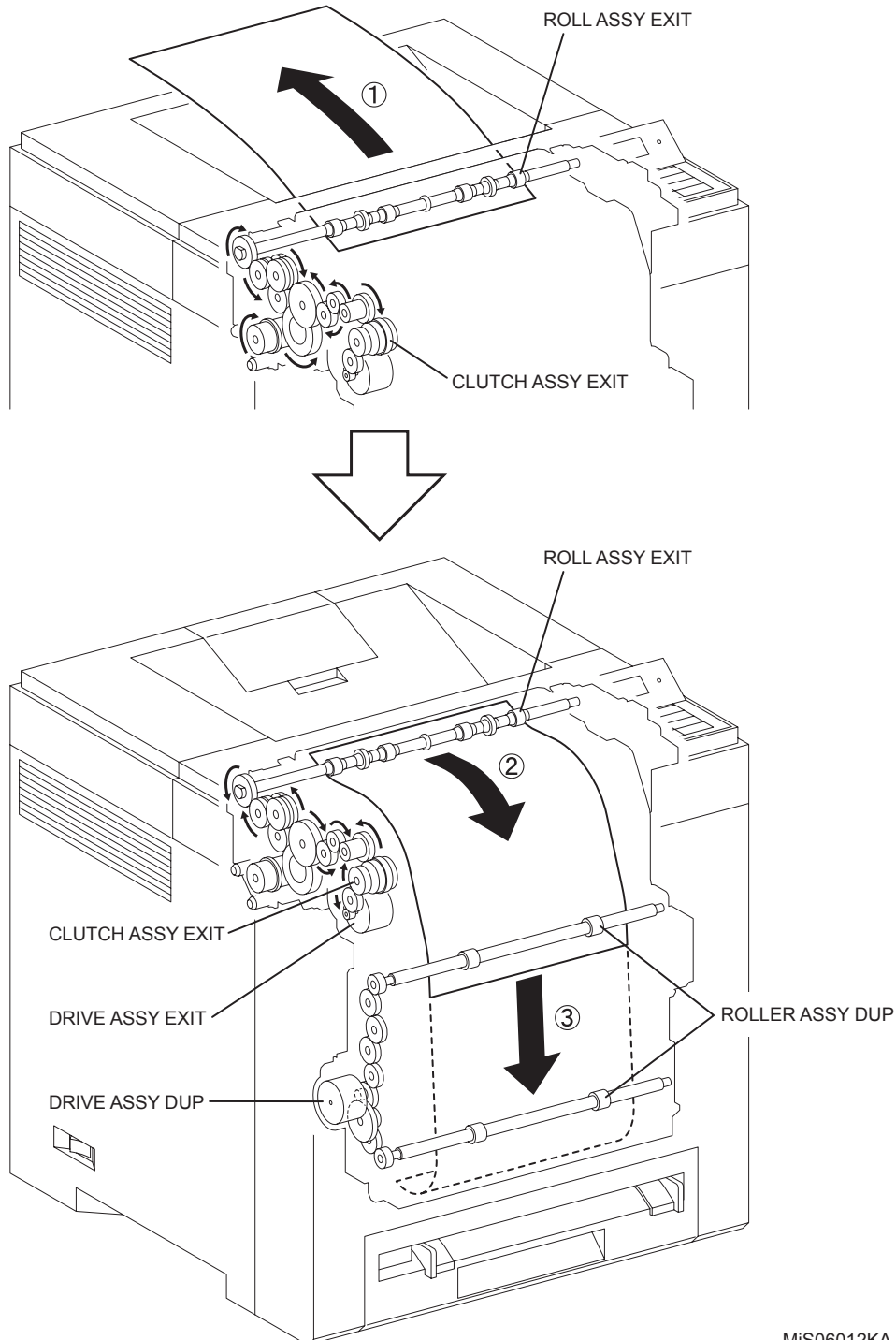
3. Functions of Major Functional Components

Major functional components of the printer are described below with illustrations.

These components are classified into the following blocks based on the configuration of the printer.

- • Paper tray
- • Paper Feeder
- • SSF & Regi Assy
- • TRANSFER ASSY & FUSER ASSY
- • ROS ASSY
- • TONER CARTRIDGE & Dispenser
- • PHD ASSY
- • Drive
- • Electrical
- • Duplex
- • 250 Paper Tray (Option)

3.1 Paper Tray

3.1.1 Major functions

- GUIDE SIDE ASSY R (PL2.1.8) / GUIDE SIDE L (PL2.1.6)

  The GUIDE SIDE ASSY R and GUIDE SIDE L can move in the paper transfer direction to determine the paper size.

- END GUIDE

  The END GUIDE can move in the paper transfer direction to determine the paper size.

- HOLDER ASSY SEPARATOR (PL2.1.5)

  The HOLDER ASSY SEPARATOR and the FEED ROLLER pinch the paper to prevent multiple sheet feed.

- PLATE ASSY BOTTOM (PL2.1.2)

  PLATE ASSY BOTTOM is locked to the bottom side when paper tray is pulled out from the paper feeder and unlocked when paper tray is installed to the paper feeder. Pushes the paper against the feed roll using a spring tension.

PLATE ASSY BOTTOM

END GUIDE

GUIDE SIDE ASSY R

GUIDE SIDE L

HOLDER ASSY SEPARATOR
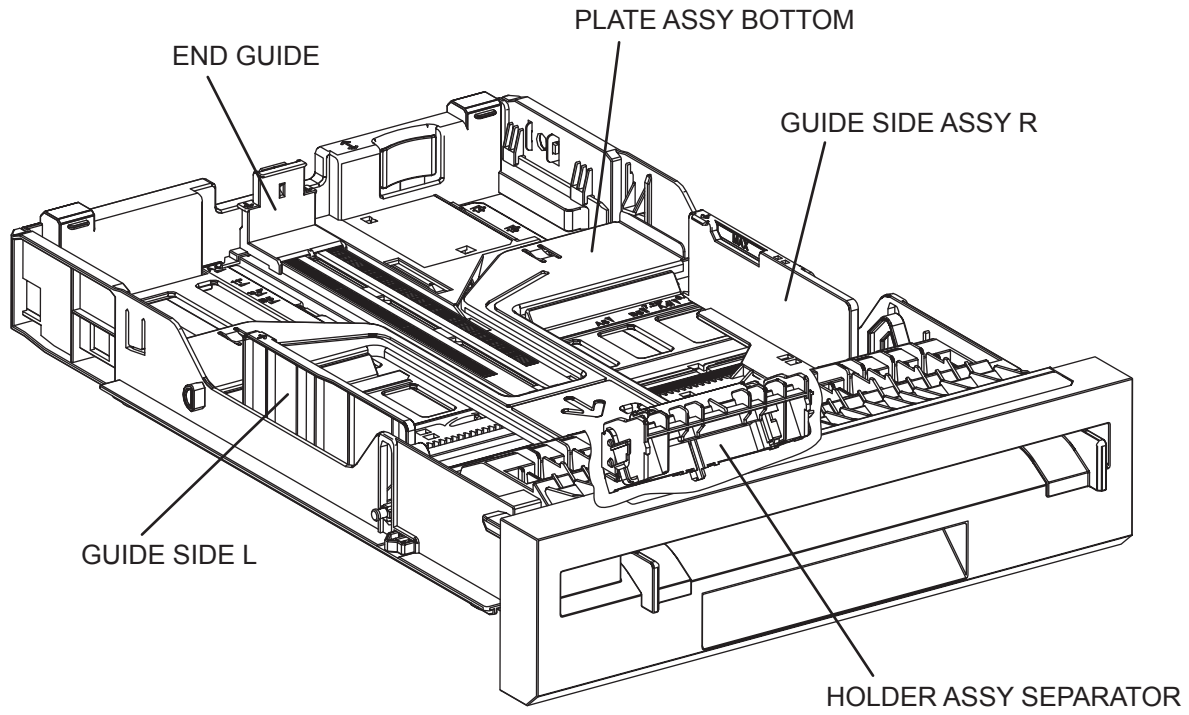
MiS06013KA

3.2 Paper Feeder

3.2.1 Major functions

- CST No Paper Sensor (SENSOR PHOTO : PL3.2.13)
  The CST No Paper Sensor detects the presence/absence of print media in the paper tray based on the position of ACTUATOR NO PAPER. (No paper: Sensor beam is blocked)

CST No Paper Sensor

PLATE ASSY BOTTOM

ACTUATOR NO PAPER
(No Paper Position)

CST No Paper Sensor

Paper

ACTUATOR NO PAPER

CST No Paper Sensor

ACTUATOR NO PAPER
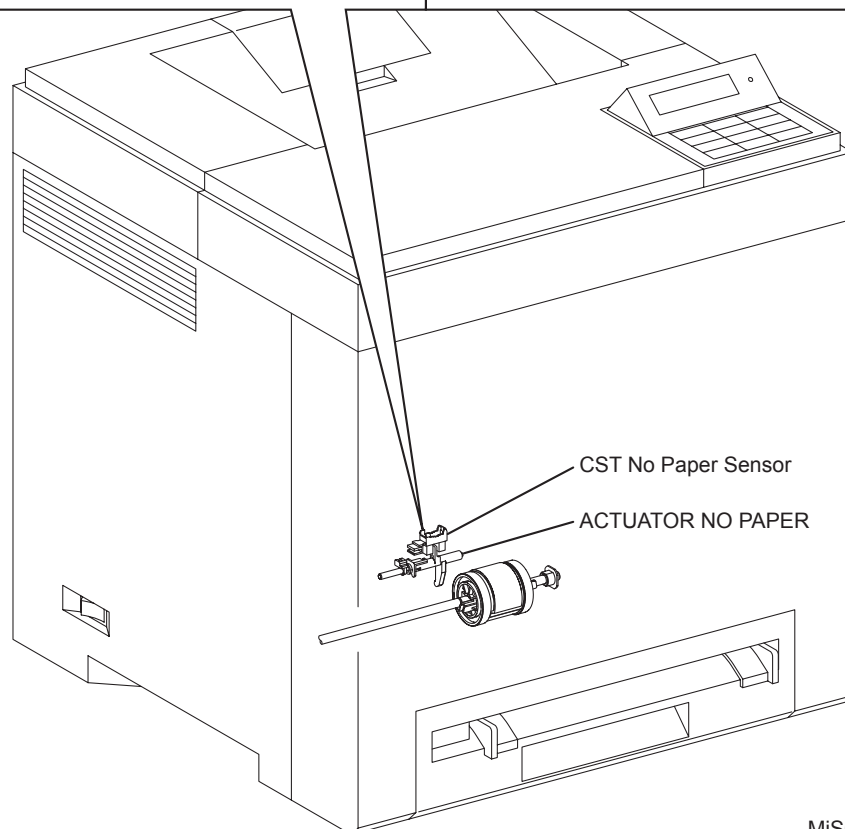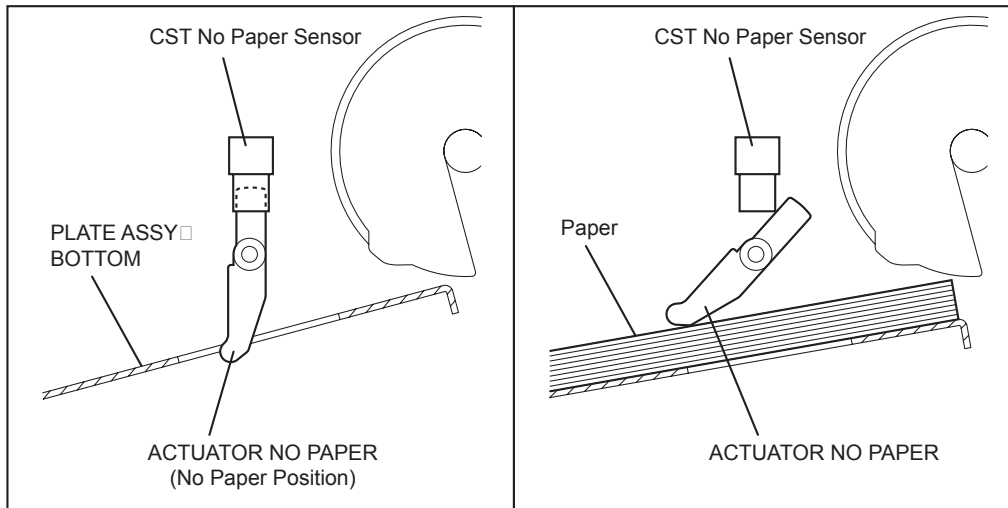
MiS06014KA

- SOLENOID FEED MSI (PL3.1.11)
  Transmits the drive from the DRIVE ASSY MAIN to FEED ROLLER. (Refer to 6.4 DRIVE ASSY SUB)

- ROLL ASSY FEED (PL3.2.4)

  When the SOLENOID FEED MSI operates, the ROLL ASSY FEED starts rotating and the ROLL ASSY FEED feeds the paper. (Refer to 6.4 DRIVE ASSY SUB)

ROLL ASSY FEED

SOLENOID FEED MSI

DRIVE ASSY MAIN

DRIVE ASSY PH

SOLENOID FEED MSI

ROLL ASSY FEED

MiS06015KA

6 – 29
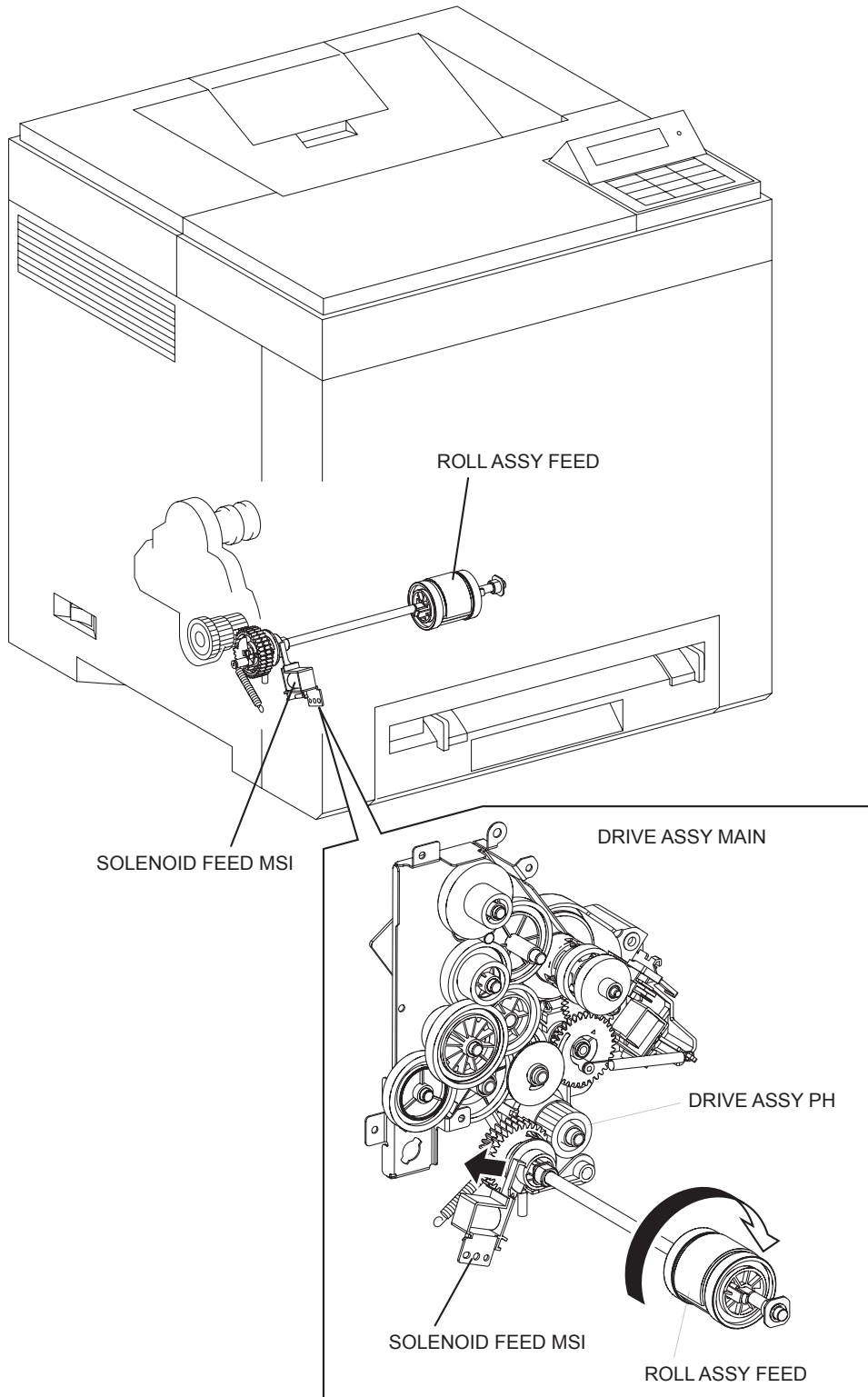
3.3 SSF & Regi Assy

- SENSOR PHOTO (SSI No Paper Sensor : PL3.2.13)

  The SSF No Paper Sensor detects the presence/absence of print media in the SSF tray by the change in the actuator position.

  Upon detecting the sheet, the Regi Roll rotates for a predetermined duration to feed the sheet. The sheet is fixed between the Rolls so that it may not fall from the SSF.

  The Rolls stop immediately when the Regi Sensor detects the presence of paper.

MiS06016KA

6 – 30
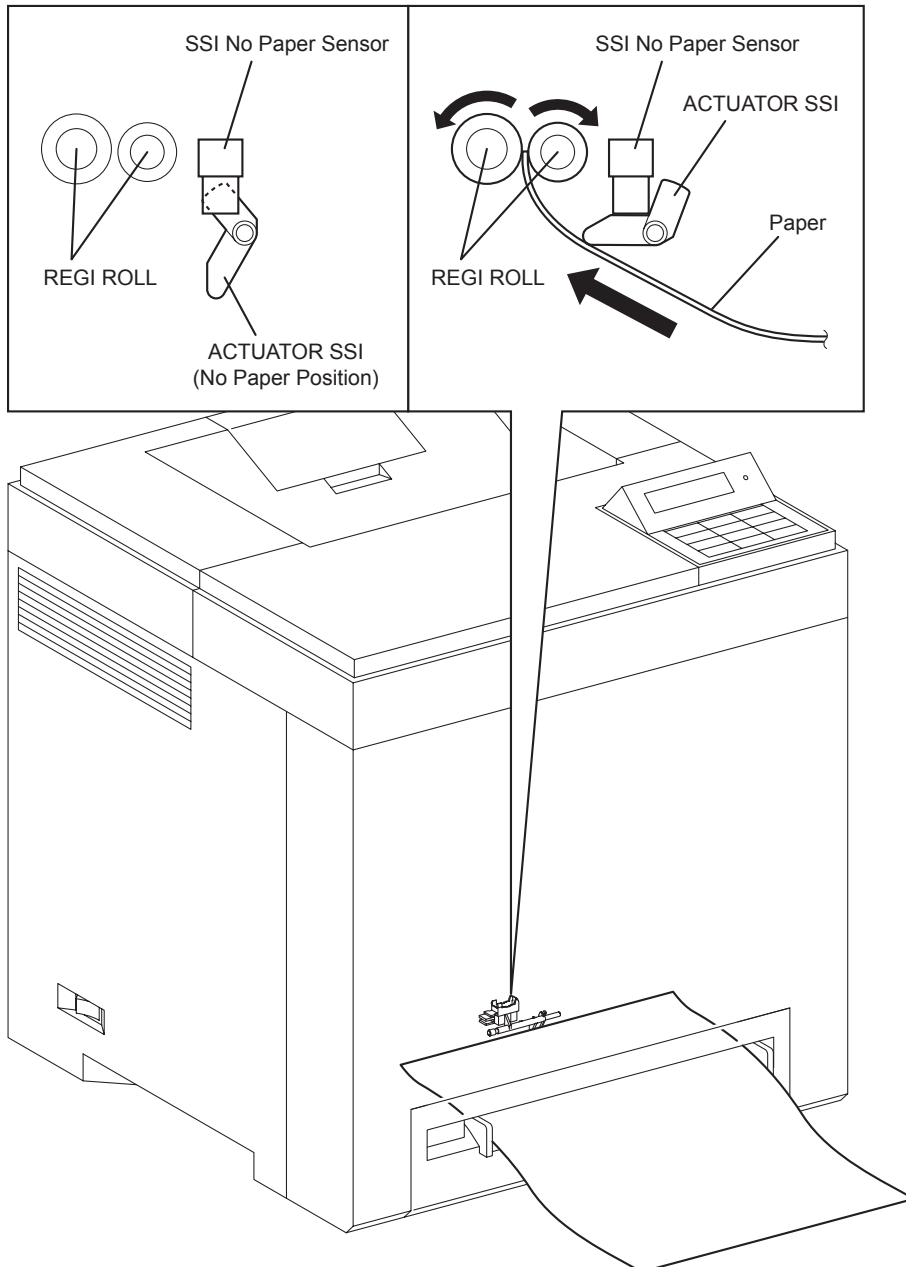
- SENSOR PHOTO (Regi Sensor : PL3.2.13)
  The Regi Sensor detects that the lead edge of the print medium has reached the registration section. (No paper: Sensor beam is blocked)
  When the print medium is fed from the SSF, the Regi Sensor measures the sheet length (size).
  The duration for which the Regi Sensor is ON is converted into the paper length.
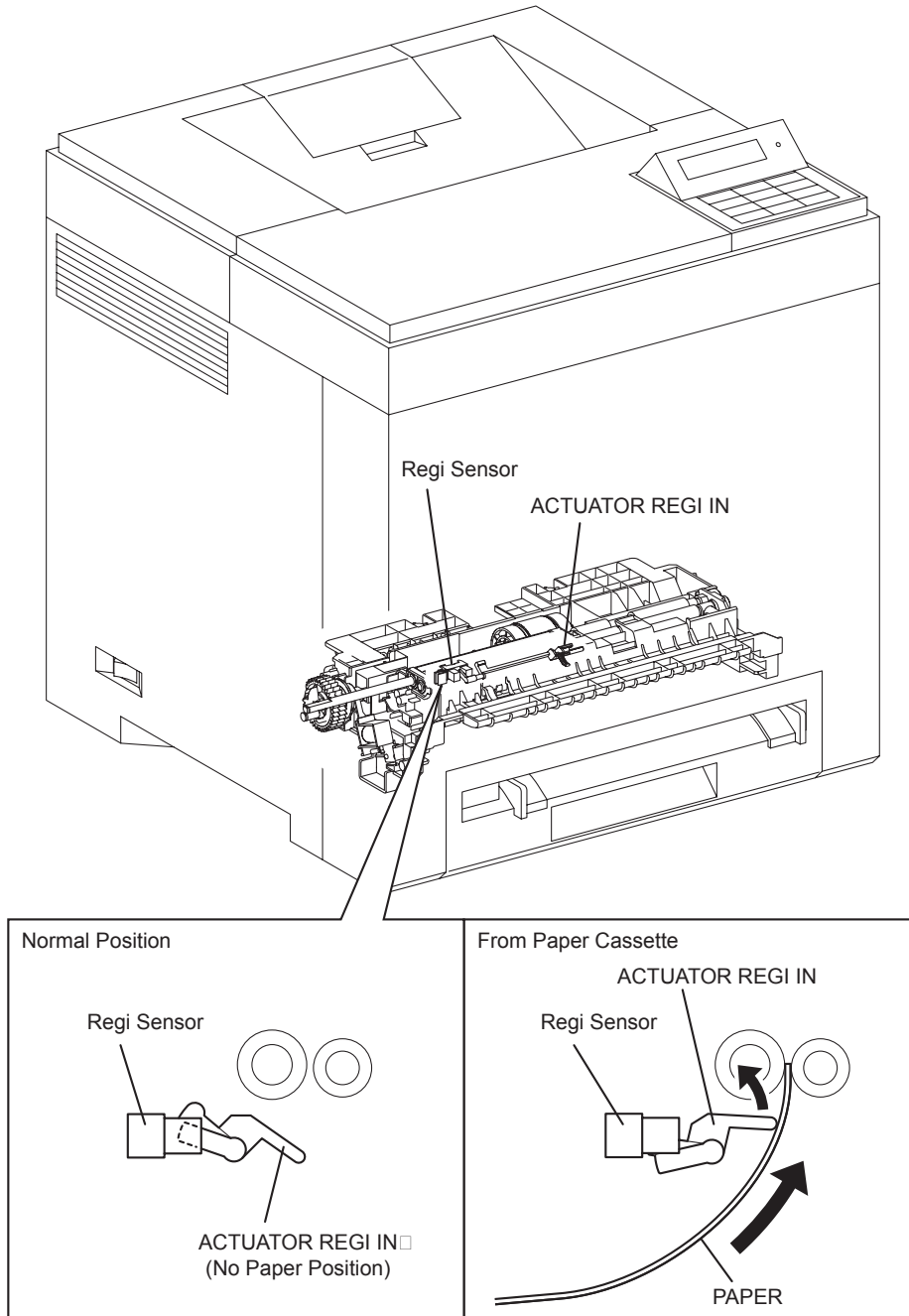
MiS06017KA

- CLUTCH ASSY DRV(PL3.1.1)

  The CLUTCH ASSY DRV transmits the driving torque from the DRIVE ASSY MAIN to ROLL ASSY REGI(PL3.2.9) to feed the print medium to the Fuser section from the paper tray, SSF, or Duplex section. (Refer to 6.1 DRIVE ASSY MAIN)

  To place the toner image at an appropriate position on the print medium, the timing of feeding from the Regi Assy is adjusted by the duration for which the CLUTCH ASSY DRV operates.

ROLL ASSY REGI (Rubber)

ROLL REGI METAL

CLUTCH ASSY DRV

MiS06018KA

6 – 32
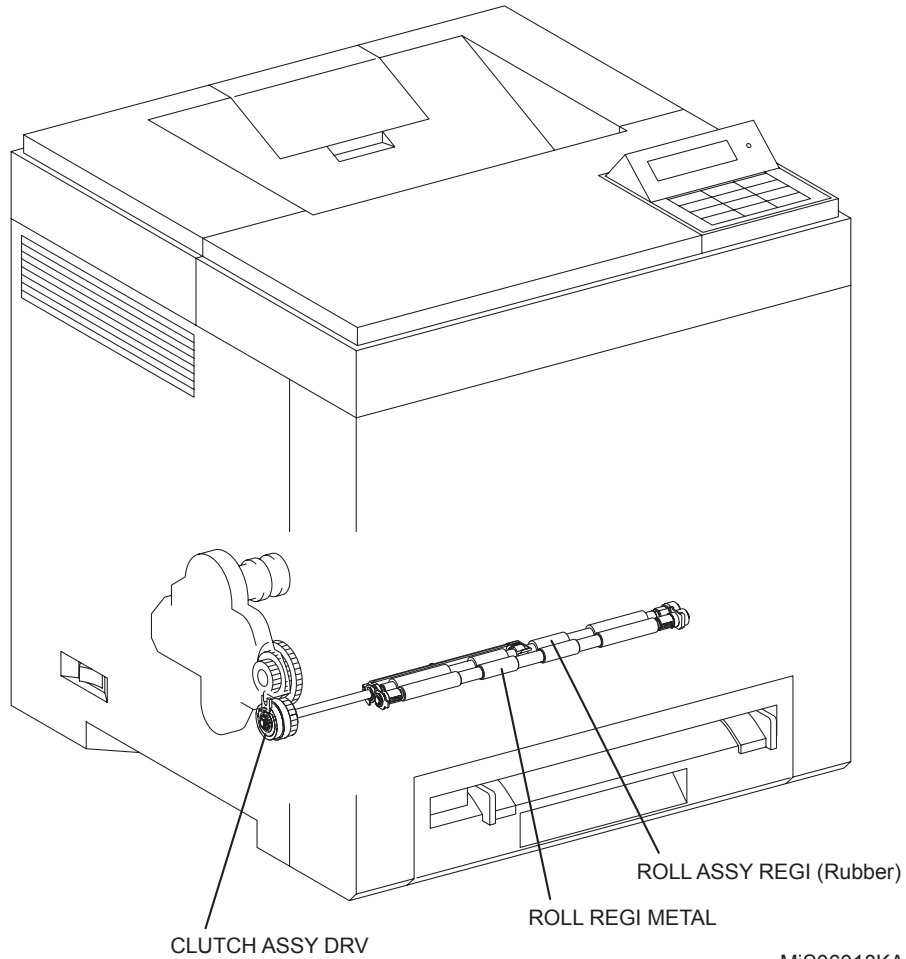
3.3.1 Control of paper size

The printer doesn't have switches for detecting paper size, and only length of paper is detected by the Regi Sensor when feeding paper. If printing data and paper size don't match, error is sent to the ESS.

3.3.2 Paper detection by the Regi Sensor

Since the paper path from the SSF to the Regi Sensor and that from the Paper Tray to the Regi Sensor are different, the Regi Sensor is provided with the ACTUATOR REGI IN (PL3.2.11) and the ACTUATOR REGI ROLL (PL3.2.8). The ACTUATOR REGI ROLL detects the sheet from the SSF and detects the tail edge of the paper from the paper tray. The ACTUATOR REGI IN detects the lead edge of the paper from the paper tray. However, the movement of ACTUATOR REGI IN does not affect that of ACTUATOR REGI ROLL.

MiS06019KA

6 – 33
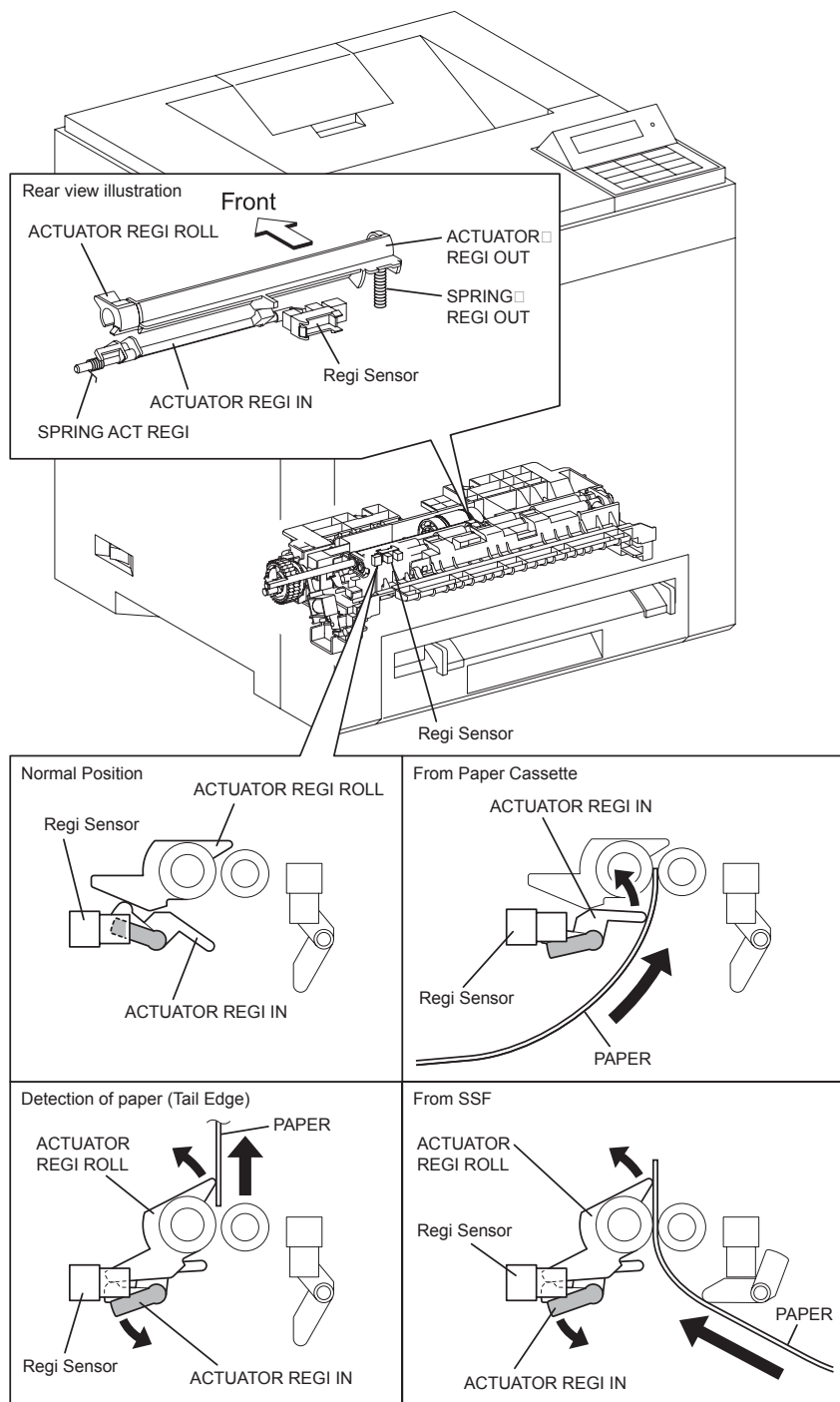
3.4 TRANSFER ASSY & FUSER ASSY

3.4.1 Major functions

- TRANSFER ASSY (PL6.1.7)

  • Belt

  Belt feeds the paper to the direction of FUSER

  • SENSOR ADC

  SENSOR ADC reads the toner patch on the BELT, and converts it to voltage value. Voltage value is used to control the density of toner. (Refer to 5.3.1 Potential Control)

- FUSER ASSY (PL6.1.1)

  The FUSER fixes toner which was transferred onto the paper but not fixed by the heat and pressure and feeds paper before and after being fixed.

  The FUSER mainly consists of the following parts:

• Heat Roll	• Pressure Belt
• Heater Lamp	• Roll Assy Exit
• Thermostat	• Exit Sensor
• Temp. Sensor	

  - EXIT SENSOR

    Detects passage of print after fixed based on the change of position of the actuator.

Rear view illustration

Exit Sensor

Pressure BELT

Heat Roll

Front

Thermostat

Heater Lamp

Temp. Sensor
(Un-contacting type)

Temp. Sensor
(Contacted type)

Roll Assy Exit

FUSER ASSY

SENSOR ADC

Blade Assy

TRANSFER ASSY

Belt

MiS06020KA
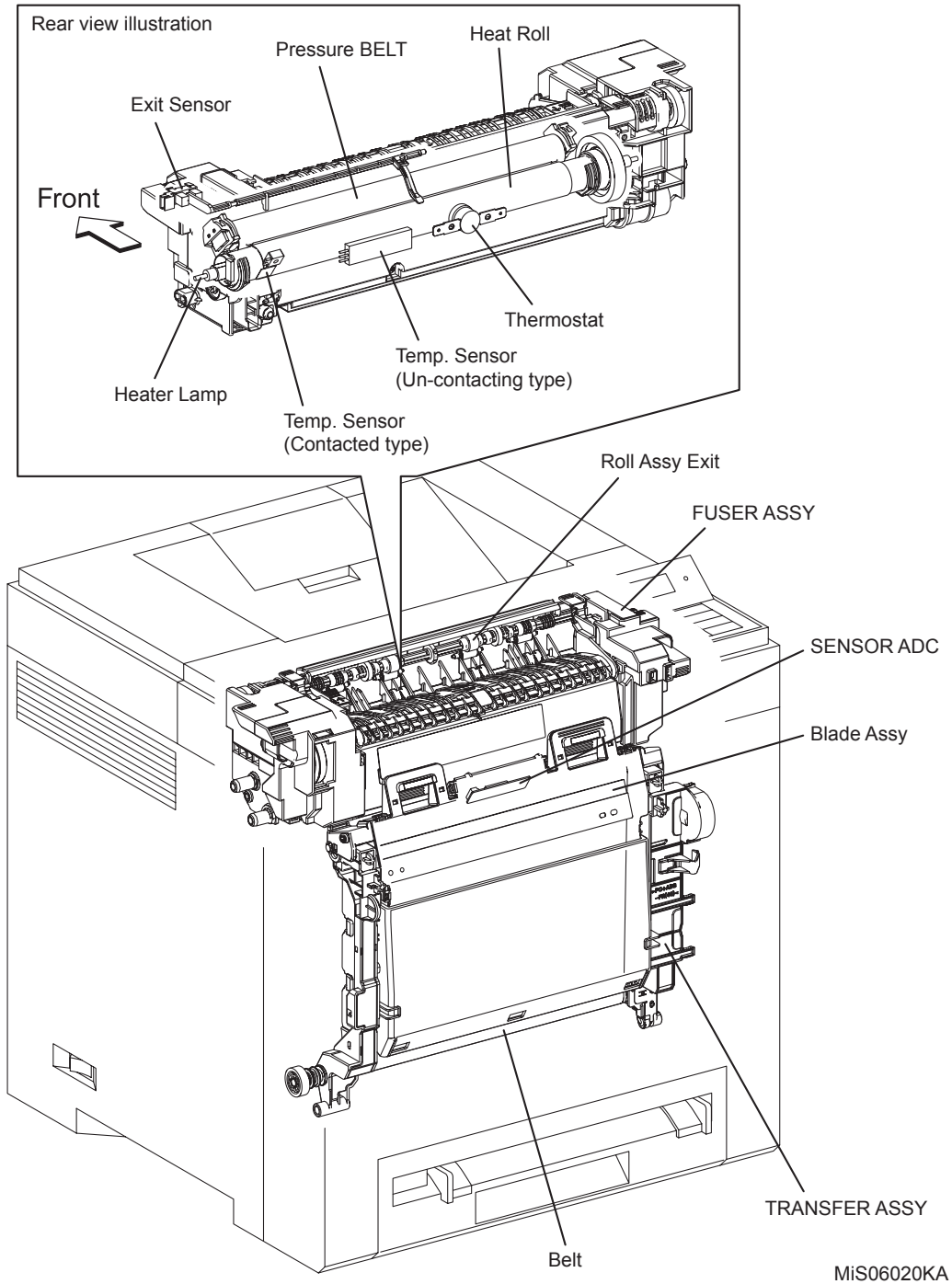
3.5 ROS ASSY

3.5.1 Major functions

- ROS ASSY

  ROS ASSY is an exposure unit that generates laser beams to form electrostatic latent image on the drum surface.

  In this manual, the ROS ASSY is referred to as ROS.

  The ROS mainly consists of the following parts:

  - LD PWB
  - Scanner ASSY
  - SOS PWB
  - Lens
  - Mirror
  - Window

  • LD PWB

  The LD PWB is comprised of four LDs (laser diodes) corresponding to Y, M, C, and K.

  Each LD converts the electric signals of incoming image data into laser wave or pulse. In order to stabilize the laser light quantity during formation of an electrostatic latent image, the LD PWB always monitors the laser light quantity to adjust it to the appropriate level. This is called "APC (auto power control)".

  • Scanner Assy

  The Scanner Assy is comprised of the Scanner Motor that rotates at a constant speed and the Polygon Mirror that is mounted on the motor shaft.

  The laser light output from the LD is irradiated onto the Polygon Mirror via the Mirror.

  The Polygon Mirror, provided with six reflecting mirror faces, changes the reflection angle of the laser light as it rotates by the Scanner Motor, thereby allowing the laser light to scan the drum along its axial direction. Scanning is performed using one reflecting mirror face for each line.

  • SOS PWB

  The SOS sensor on the SOS (start of scan) PWB converts an incoming laser beam, upon detection, to an electric signal as the reference signal for starting scanning and transmits this signal to the PWBA MCU.

  The SOS sensor signals are used to synchronize the starting point of the laser-beam scanning with the starting point of the image writing.

  • Lens
  • Mirror
  • Window

  The laser light reflected from the Polygon Mirror reaches the drum surface via the Lens, Mirror, and Window. The Lens corrects aberration, the Mirror secures an optical path, and the Window prevents foreign matters from entering the ROS.
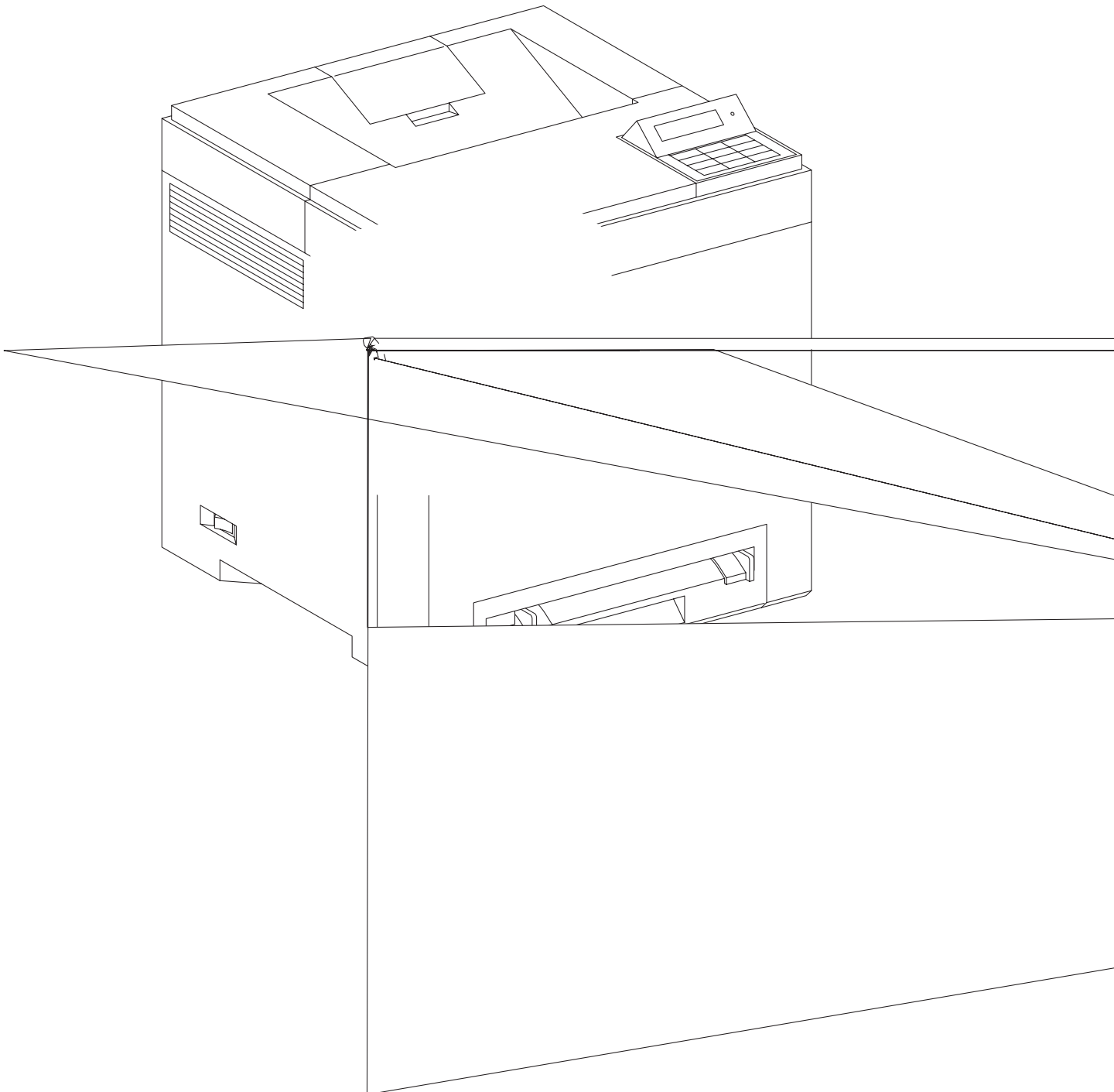
3.6   TONER CARTRIDGE & DISPENSER

3.6.1 Major functions

- CONNECTOR CRUM (PL5.1.14)

  The CONNECTOR CRUM reads and writes the data of the CRUM.

  Printer specific information is stored.

- MOTOR ASSY DISP YMCK (PL5.1.3)

  The dispense motor supplies the drive to the Agitator and Auger in the TONER CARTRIDGE, and supplies toner to the developer.

TONER CARTRIDGE (K)
CONNECTOR CRUM (K)

TONER CARTRIDGE (C)
CONNECTOR CRUM (C)

TONER CARTRIDGE (M)
CONNECTOR CRUM (M)

TONER CARTRIDGE (Y)
CONNECTOR CRUM (Y)

MOTOR ASSY DISP (K)
MOTOR ASSY DISP (C)
MOTOR ASSY DISP (M)
MOTOR ASSY DISP (Y)

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6 – 39
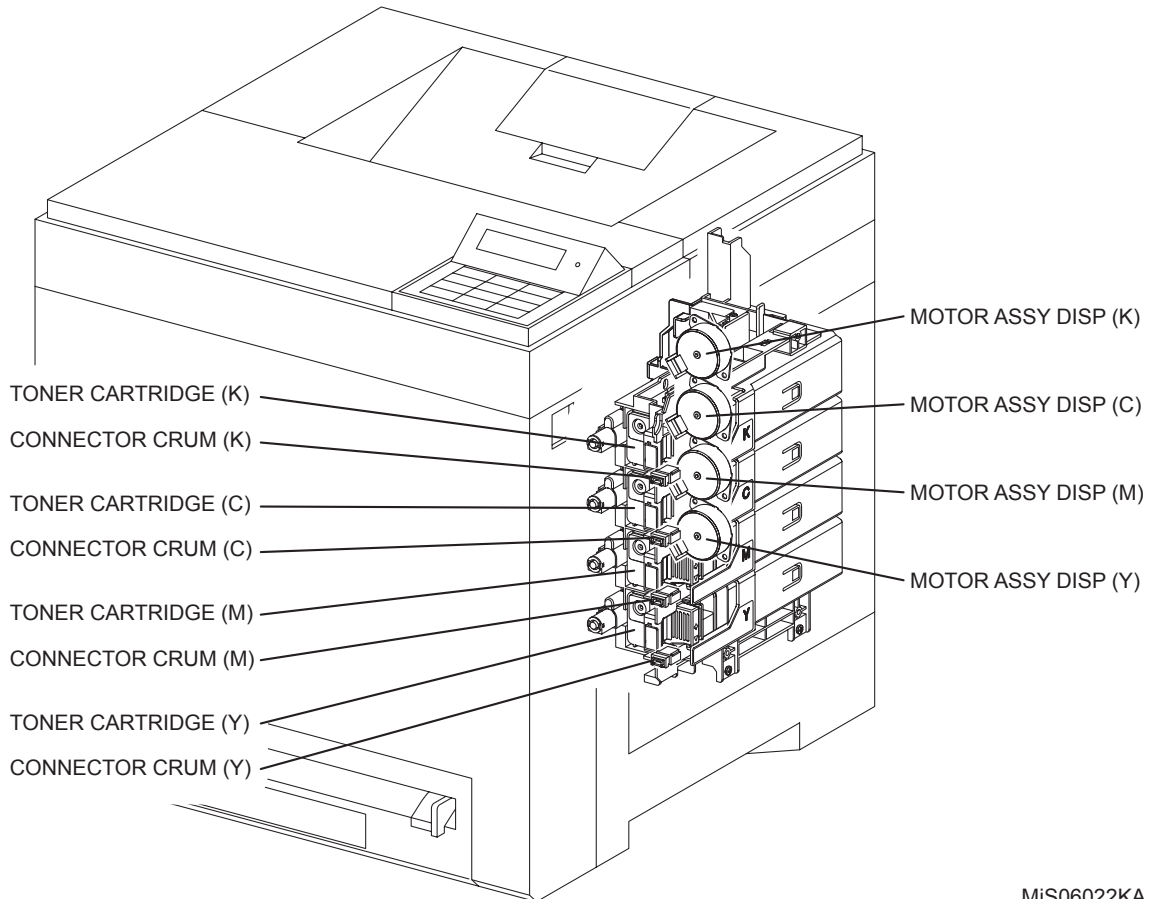
3.7 PHD ASSY

3.7.1 Major functions

- PHD ASSY (PL4.1.21)

  PHD ASSY carries out a series of operation in the print process such as charging, and transfer.

  PHD ASSY mainly consists of the following parts.

  Developer is an equipment which develops images in the print process.

• Drum (Y)	• Developer (Y)
• Drum (M)	• Developer (M)
• Drum (C)	• Developer (C)
• Drum (K)	• Developer (K)

- CRUM

  PHD specific information is stored.

- Erase Lamp (LED ASSEMBLY)

  The light of the LED is reflected by the HOLDER ASSY Erase.

  The light of the LED eliminates the charge on the drum.

MiS06023KA

Rear view illustration

CRUM

Front

Developer (K)

Developer (C)

Developer (M)

Developer (Y)

PHD ASSY

Drum (K)

Drum (C)

Drum (M)

Drum (Y)

LED ASSY ERASE
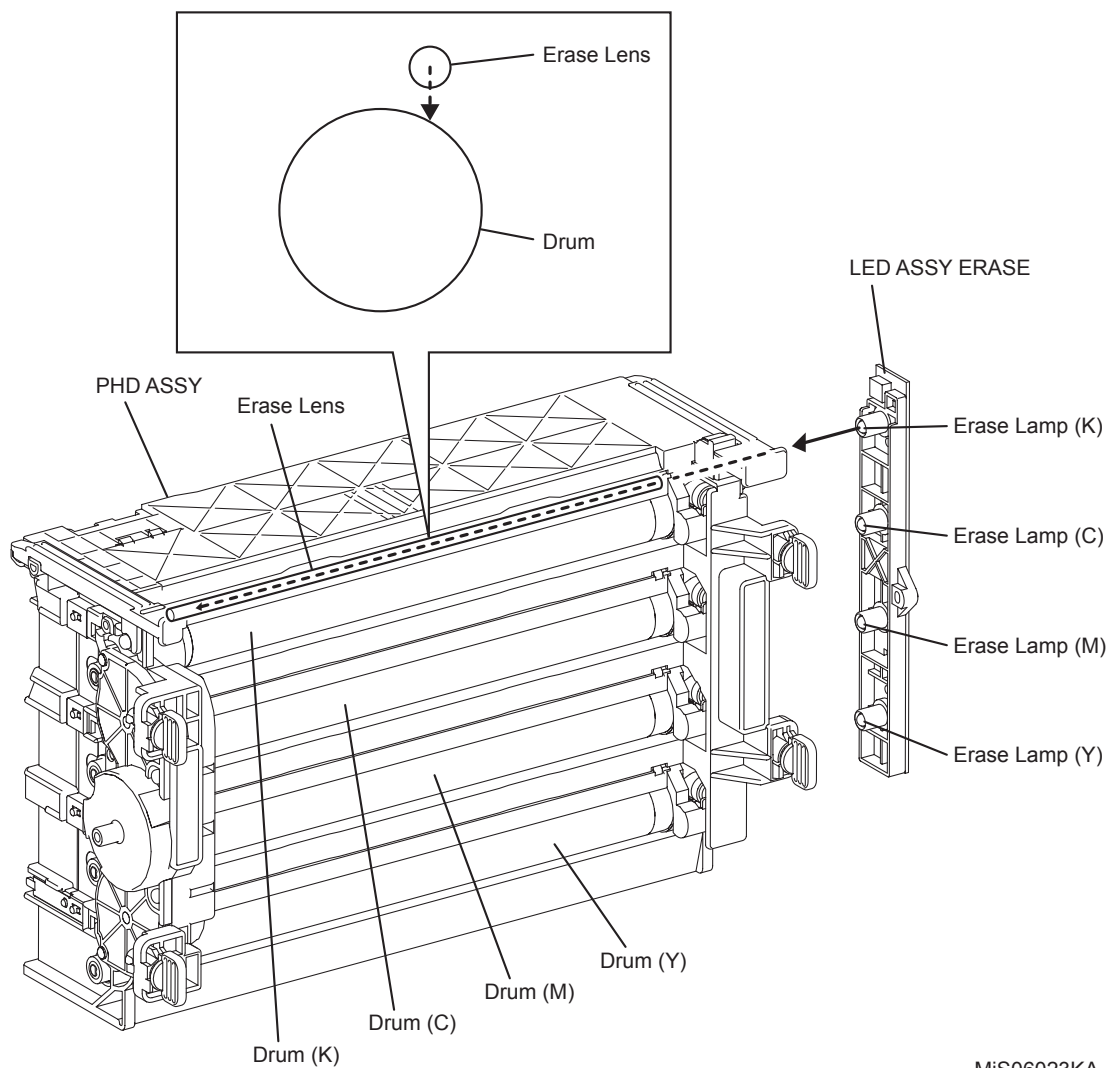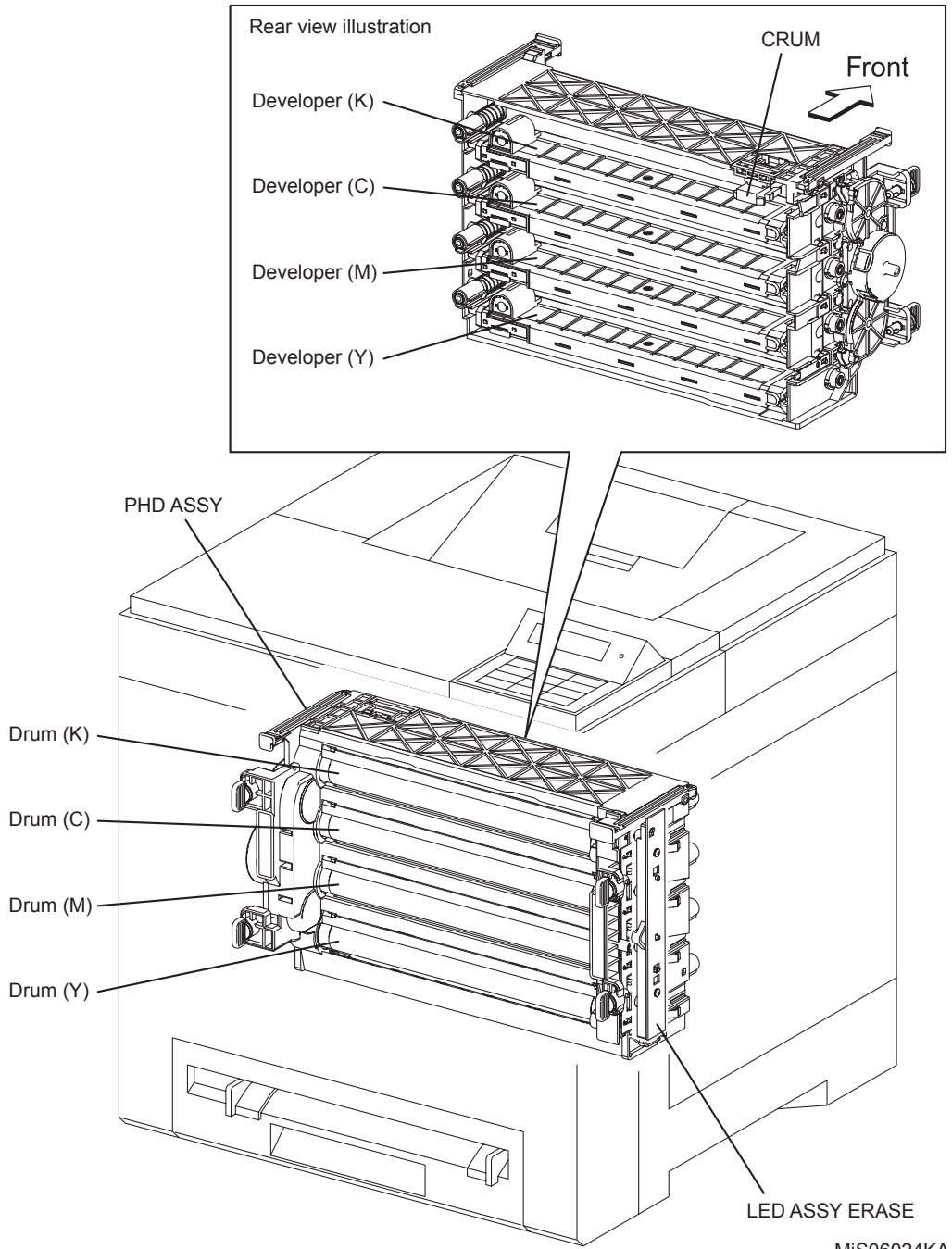
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3.8   Drive

3.8.1 Major functions

- DRIVE ASSY MAIN (PL7.1.2)
  Supplies the drive to parts as follows.

  - DRIVE ASSY PH
  - TRANSFER ASSY
  - CHUTE ASSY FDR REGI
  - PHD ASSY
  - DRUM (Y, M, C, K)

- DRIVE ASSY SUB
  Supplies the drive to parts as follows.
  - FUSER ASSY
  - DEVELOPER (YMCK)
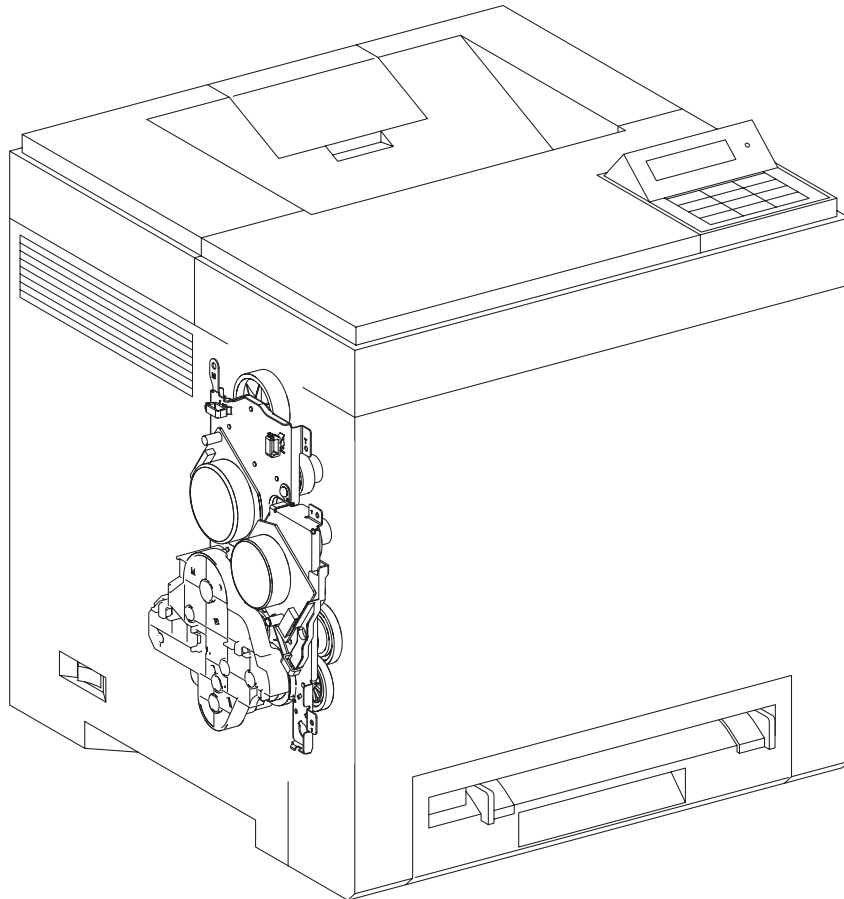
- DRIVE ASSY PH (PL7.1.4)

  DRIVE ASSY PH transmits the driving force from the DRIV ASSY SUB (PL7.1.1) to relevant parts. The transmission channel is changed by the COLOR MODE SWITCHING SOLENOID in the DRIVE ASSY PH to allow the driving force of the DRIVE ASSY MAIN (PL7.1.2) to reach the Black Developer only.

  This is performed to ensure that the Yellow, Magenta, and Cyan Developers cannot be rotated by the DRIVE ASSY SUB during B/W printing.

  The COLOR MODE SWITCHING SENSOR detects the status of the transmission route (whether it is set for B/W or full color).

[FULL COLOR MODE]

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[BLACK and WHITE MODE]

DRIVE ASSY SUB

Sub Motor

MAGNET ROLL (K)

COLOR MODE
SWITCHING SENSOR

③

GEAR C

CAM C

①

②

COLOR MODE
SWITCHING SOLENOID

DRIVE ASSY PH

FLANGE D3

④

CAM C

GEAR D3 OUT

Cutting of drive

Drive from
Sub Motor

GEAR D4

GEAR D2

GEAR D3 IN
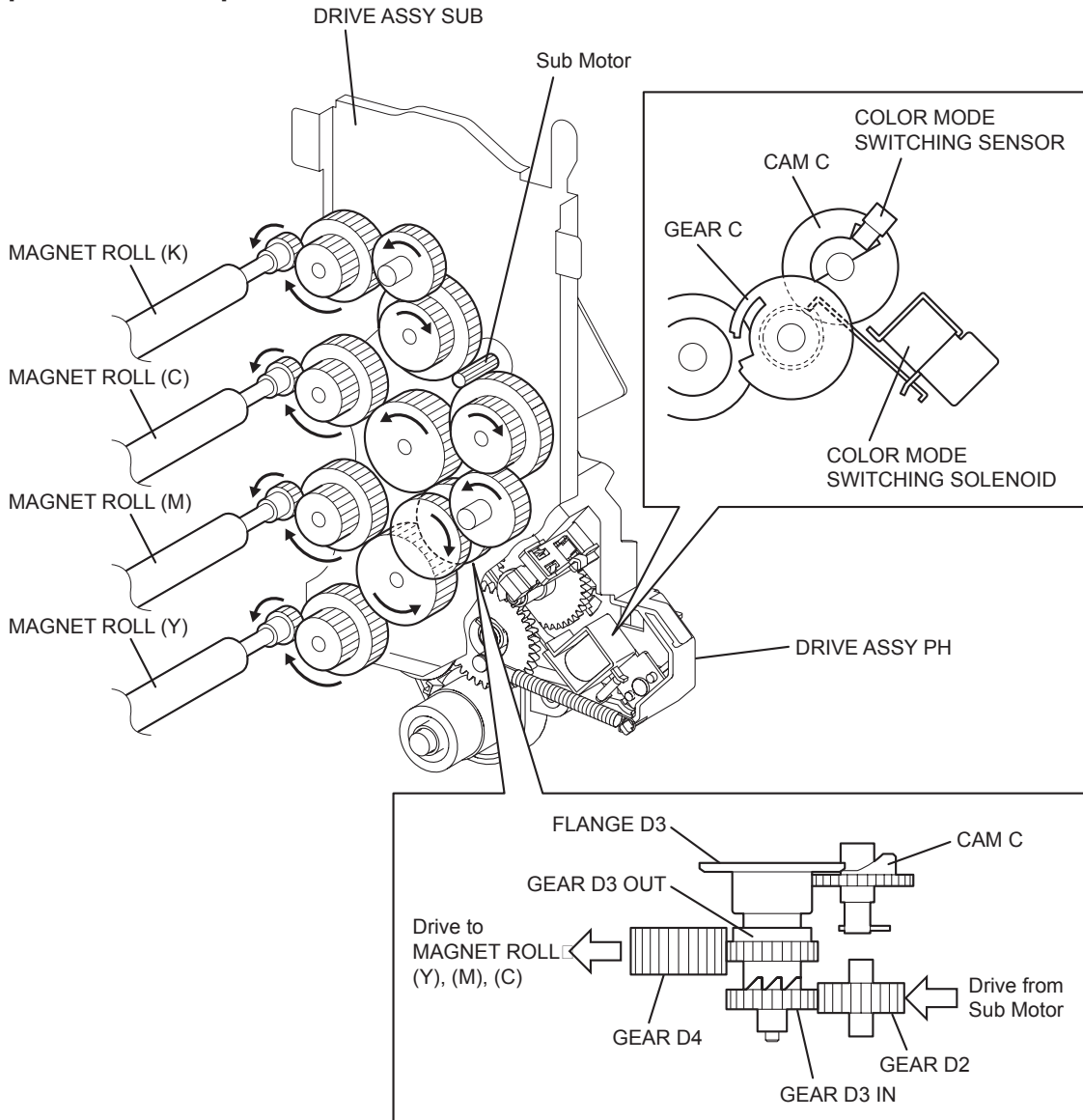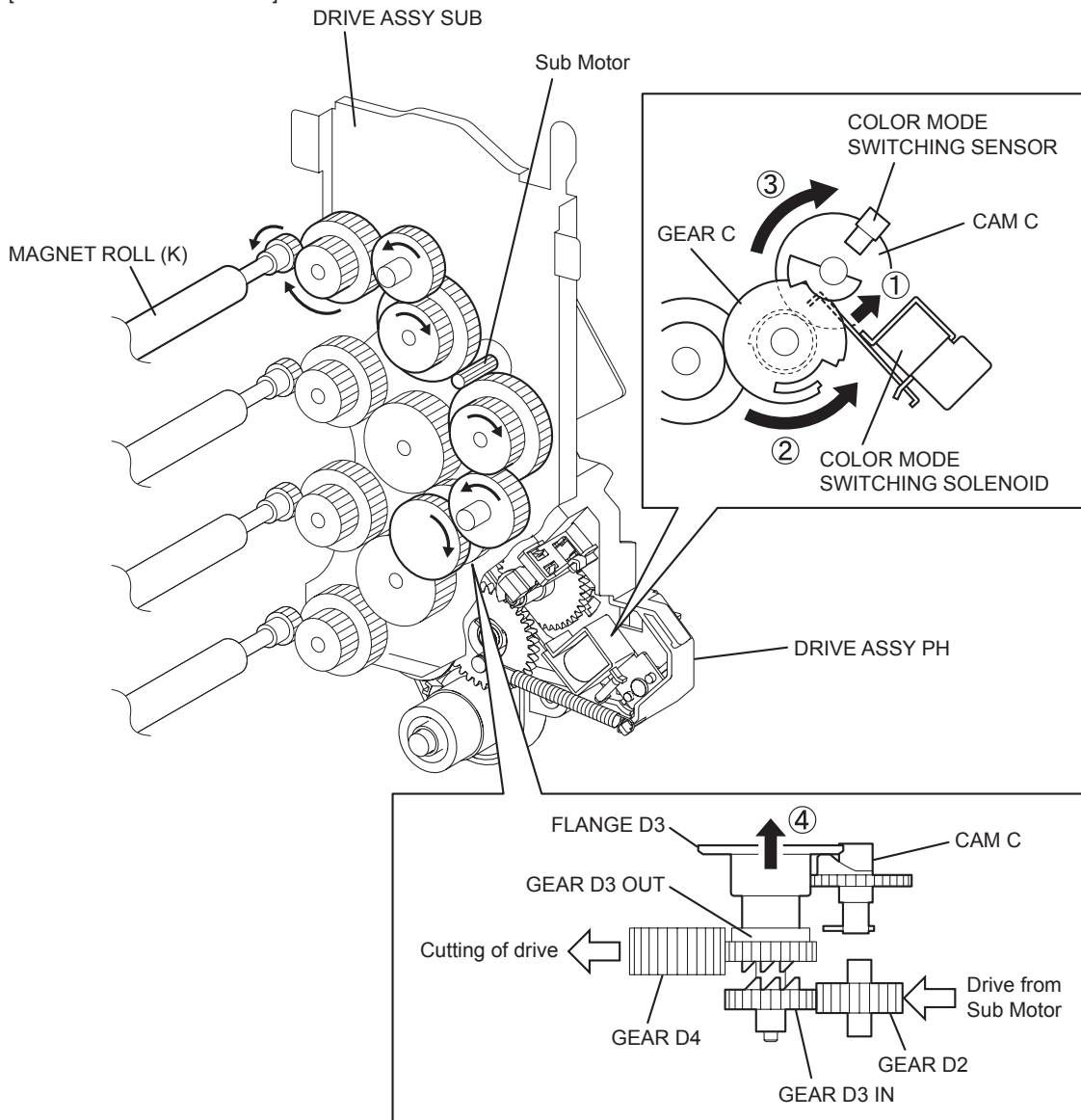
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3.9 Electrical

3.9.1 Major functions

- FAN (PL8.1.1)

  Dissipates heat out of the printer to prevent the printer from overheating.

- SWITCH

  The SWITCH turns ON/OFF the AC power supply of the printer.

- Low Voltage Power Supply (LVPS:PL8.2.1)

  The LVPS is provided in two types, 120V and 240V.

  Supplies AC power from the power source to the FUSER heater and generates and supplies stable low voltage DC power used for the logic circuit, etc.

  LVPS contains control circuit for the heater of the FUSER, in addition to the power circuit.

- Machine Control Unit (MCU:PL8.2.13)

  Controls printing operation based on the communication with the print controller and information from the sensor/switch.

  Major functions are as follows:

  - • Communication with the ESS.
  - • Receive of information from the sensors or switches.
  - • Control of Motor in DRIVE ASSY MAIN and DRIVE ASSY SUB.
  - • Distributing low voltage DC power output from LVPS to each component
  - • Control of ROS ASSY

- High Voltage Power Supply (HVPS:PL4.1.19)

  Supplies high voltage to the following parts in the TRANSFER ASSY and Developer to perform charging, development, and primary transfer.

  - • BCR
  - • BTR
  - • Developer

- PWBA EEPROM (PL8.2.16)

  Information unique to the printer is stored.

- Electronic Sub System (ESS:PL8.1.7)

  The ESS connected to the MCU controls the entire system (Diagnostic, Interface and Image processing).

- HUMIDITY SENSOR (SENSOR HUM :PL8.2.7)

  HUMIDITY SENSOR reads the temperature/humidity within the printer and converts the values to voltage values.

- OPERATOR PANEL (CONSOLE ASSY PANEL:PL1.2.3)

  OPERATOR PANEL displays the state of the printer using LED.

- INTERLOCK SWITCH (HARN ASSY INTERLOCK:PL8.2.5)

  INTERLOCK SWITCH is a switch that cuts the +24VDC power supply to the HVPS or Motor, etc. upon the opening of the Front Cover.

- WIRELESS ADAPTER (PL8.1.16)
  An adapter for enabling the network connectivity of the printer by wireless.

- SIDE COVER SWITCH (PL5.1.9)
  SIDE COVER SW is a switch that detects the right side cover open.

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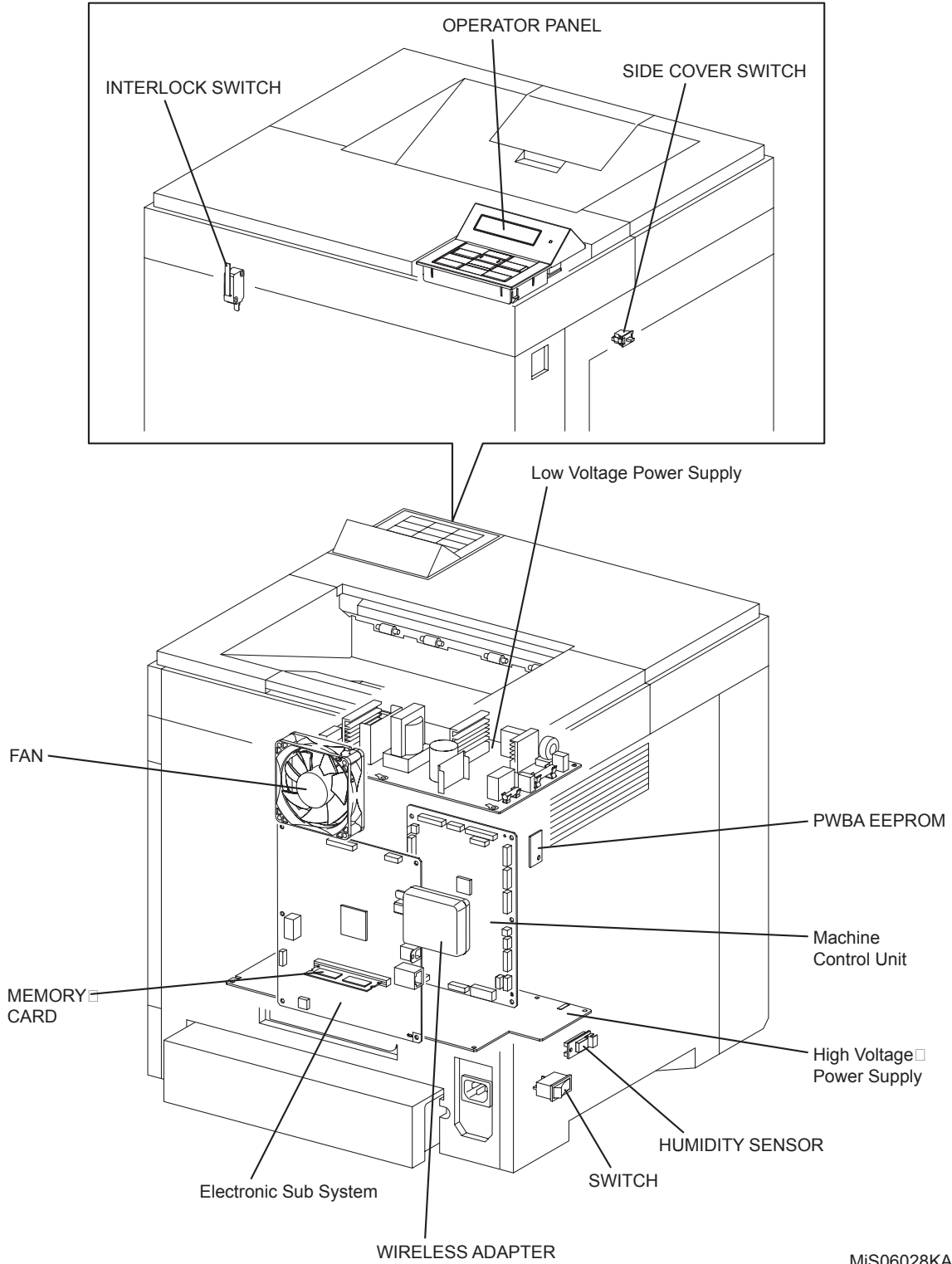
3.9.2 Data Flow

Print data (electric signal) from the printer controller flows as shown below until it is turned into a print.

```
┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐
           Host (electric signal)
└ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
  ELECTRONIC SUB-SYSTEM CONTROL BOARD (electric signal)
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
      MACHINE CONTROL UNIT (electric signal)
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
               ROS (laser beams)
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
   Electrostatic latent on drum (invisible image)
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
             Toner image on drum
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
             Toner image on paper
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
             Print image on paper
└─────────────────────────────────────────────────┘
```
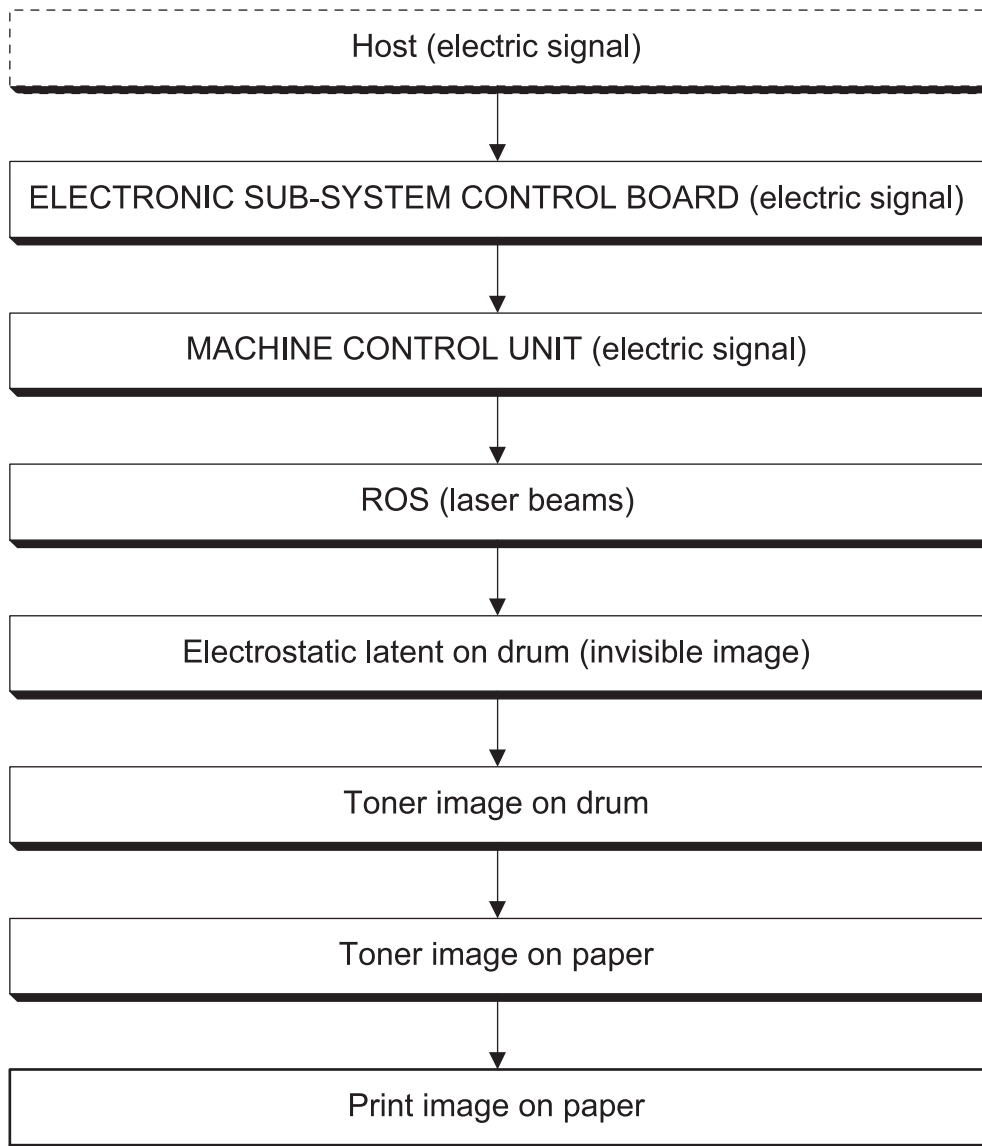
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3.10 Duplex 2150cdn : Standard / 2150cn : Option

3.10.1 Major functions

- CLUTCH ASSY EXIT

  Transmits the drive from the DRIVE ASSY EXIT to Roll Assy Exit in the FUSER.

  When the clutch operates, the Roll Assy Exit rotates in the reverse direction.

  The clutch is stopped when the paper reached the Duplex.

- DRIVE ASSY DUP (PL11.2.5)

  The DRIVE ASSY DUP supplies the driving power to the Lower Roll (ROLLER ASSY DUP) and Upper Roll (ROLL ASSY DUP1). (Refer to 6.5 DRIVE ASSY DUP)

- DRIVE ASSY EXIT (PL11.2.2)

  The DRIVE ASSY EXIT supplies the driving power to the Roll Assy Exit in the FUSER. (Refer to 6.5 DRIVE ASSY DUP)

- PWBA DUP (PL11.1.16)

  The PWBA DUP controls motor and clutch.

ROLLER ASSY DUP (Upper Roll)

CLUTCH ASSY EXIT

DRIVE ASSY EXIT

DRIVE ASSY DUP

PWBA DUP

ROLLER ASSY DUP (Lower Roll)
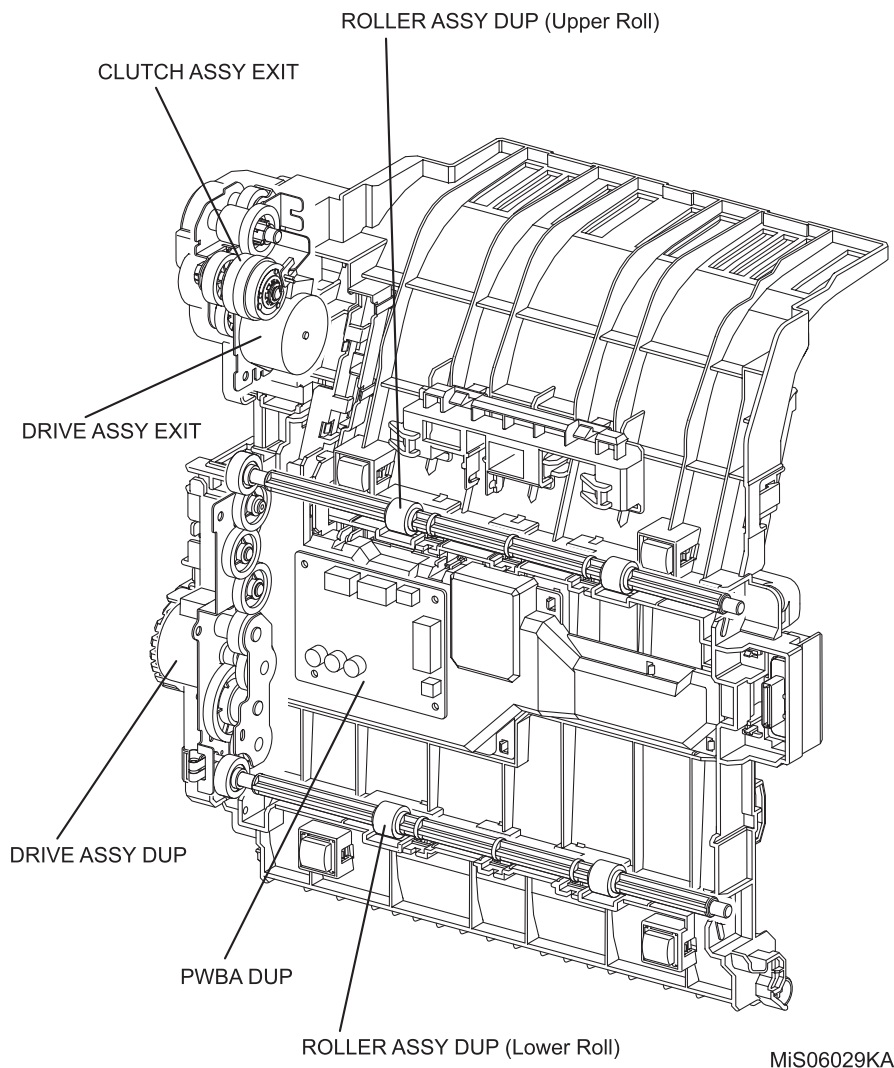
MiS06029KA

3.11 250 Paper Tray

3.11.1 Major functions 250 Paper Tray

- GUIDE SIDE ASSY R (PL12.5.8) / GUIDE SIDE L (PL12.5.6)
  The GUIDE SIDE ASSY R and GUIDE SIDE L can move at a right angle to the paper transfer direction to align the paper width.

- END GUIDE
  The END GUIDE can move in the paper transfer direction to determine the paper size.

- HOLDER ASSY SEPARATOR (PL12.5)
  The HOLDER ASSY SEPARATOR and the FEED ROLLER pinch the paper to prevent multiple sheet feed.

- PLATE ASSY BOTTOM (PL12.5.2)
  PLATE ASSY BOTTOM is locked to the bottom side when paper tray is pulled out from the paper feeder and unlocked when paper tray is installed to the paper feeder. Pushes the paper against the feed roll using a spring tension.
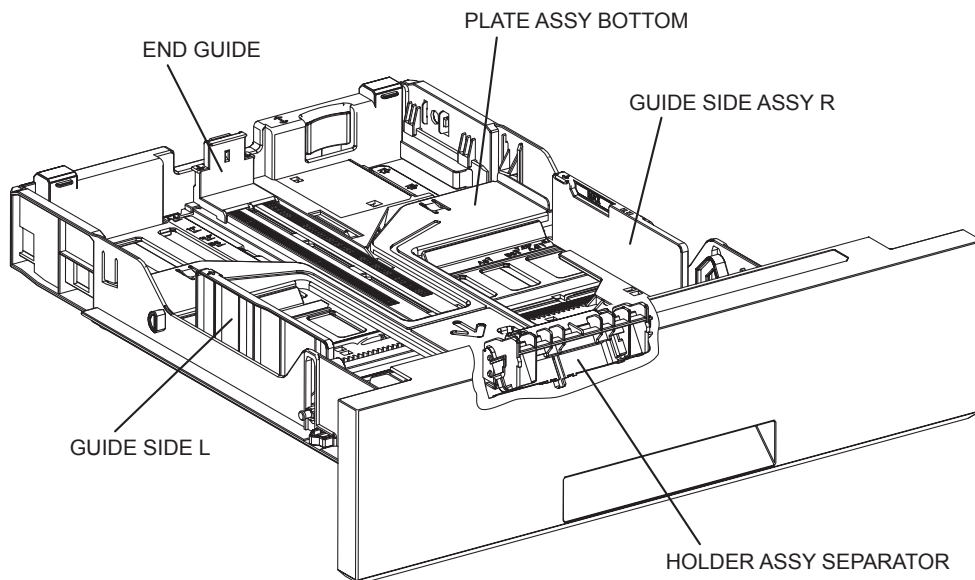
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3.11.2 Major functions (Paper Feeder)

- SENSOR PHOTO (No Paper Sensor:PL12.4.13)
  Detects the presence/absence of paper in the paper tray based on the position of ACTUATOR NO PAPER (PL12.4.19). (No paper: Sensor beam is intercepted)

- SOLENOID FEED MSI (PL12.2.15)
  Transmits the drive from the MOTOR ASSY SUB (PL12.2.16) to ROLL ASSY FEED. (Refer to 6.6 MOTOR ASSY SUB)

- ROLL ASSY FEED (PL12.4.4)
  When the SOLENOID FEED MSI operates, the ROLL ASSY FEED starts rotating and the ROLL ASSY FEED feeds the paper. (Refer to 6.6 MOTOR ASSY SUB)

- SENSOR PHOTO (PAPER PATH SENSOR:PL12.4.13)
  It detects when the paper front end reaches the CHUTE ASSY TURN (PL12.4.1).
  ON: The paper activates the actuator.

- CLUTCH ASSY DRV (PL12.2.6)
  Transmits the drive from the MOTOR ASSY SUB (PL12.2.16) to ROLL ASSY REGI (PL12.4.9) and ROLL REGI METAL (PL12.4.10).

- MOTOR ASSY SUB (PL12.2.16)
  The MOTOR ASSY SUB is driving the rolls of the option feeder. (Refer to 6.6 MOTOR ASSY SUB)

- PWBA FEED H (PL12.2.1)
  The PWBA FEED H controls motor, sensor and clutch.

4. Operation Modes / Consumables and Periodic Replacement Parts

4.1 Operation Modes

For the operation of the printer, the following four modes are provided.

- READY mode

  The printer is ready for printing.

- PRINTING mode

  The printer is under printing.

- Sleep mode (Energy star)

  The printer is under power saving.

- Deep sleep mode

  The printer is under power saving.

4.2 Replacement Timing of Consumables and Periodic Replacement Parts

4.2.1 Types of Consumables and Periodic Replacement Parts

Listed below are the consumables and periodic replacement parts for this printer (including options).

	Product Name	Lifespan (approximate)*1
Consumables	TONER CARTRIDGE (K) (Starter capacity)	1,200 pages
	TONER CARTRIDGE (YMC) (Starter capacity)	1,200 pages
	TONER CARTRIDGE (K) (Standard capacity)	3,000 pages
	TONER CARTRIDGE (YMC) (Standard capacity)	2,500 pages
Periodic Replacement Parts	FUSER ASSY	50,000 pages
	PHD ASSY	24,000 pages
	SEPARATOR ROLL (HOLDER ASSY SEPARATOR)	50,000 pages

*1: The page counts are for reference only.
The actual page count may vary greatly depending on conditions such as print settings, document contents, or power-on/off frequency.

4.2.2 Replacement Timing of Consumables

When a consumable part is about to reach its replacement period, one of the following messages appears on the Operator Panel:

	Message	Meaning	Detection device
TONER CARTRIDGE (YMCK)	<Near Life> Ready to Print 093-XXX*1 ↕ Flip YYY*1 Cartridge Is close to life	The TONER CARTRIDGE (Y, M, C, or K) is near its replacement period. Have ready a new TONER CARTRIDGE (Y, M, C, or K). You can still print approximately another 150 pages in K,and 125 pages in Y, M, and C.	The TONER CRUM detects the replacement period from the remaining toner amount.
	<Life Over> Replace Cart. 093- XXX*2 ↕ Flip Replace YYY*2 Cartridge	The TONER CARTRIDGE (Y, M, C, or K) has reached its replacement period. The printer stops operating. Immediately replace the TONER CARTRIDGE (Y, M, C, or K) with a new one.	

*1-*4: XXX/YYY in the message denotes the following.
*1: 23/Yellow, 424/Magenta, 425/Cyan, 426/Black
*2: 930/Yellow, 931/Magenta, 932/Cyan, 933/Black

4.2.3 Replacement Timing of Periodic Replacement Parts

When a periodic replacement part is about to reach its replacement period, one of the following messages appears on the Operator Panel:
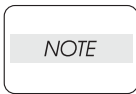
| NOTE | **No message is displayed regarding the replacement timing of the SEPARATOR ROLL.** |

	Message	Meaning	Detection device
FUSER ASSY	\<Near Life\> Ready to Print 010- 421 ⬍ Flip Ready to Print Contact Support	The FUSER ASSY is near its replacement period. Have ready a new FUSER ASSY. You can still print approximately another 5,000 pages before the Life Over message appears.	The replacement period is detected with the operation counter of the FUSER ASSY.
	\<Life Over\> Replace FUSER 010- 351 ⬍ Flip Replace FUSER Contact Support	The FUSER ASSY has reached its replacement period. You can still print some more pages, but the print quality will not be assured. It is recommended that you replace the FUSER ASSY with a new one immediately.	
PHD ASSY	\<Near Life\> Ready to Print 091- 402 ⬍ Flip Ready to Print Contact Support	The PHD ASSY is near its replacement period. Have ready a new PHD ASSY. You can still print approximately another 2,400 pages before the Life Over message appears.	The replacement period is detected with the operation counter of the PHD ASSY.
	\<Life Over\> Replace PHD 091- 935 ⬍ Flip Replace PHD Contact Support	The PHD ASSY has reached its replacement period. You can still print some more pages, but the print quality will not be assured. It is recommended that you replace the PHD ASSY with a new one immediately.	

5. Control

5.1 Control of Paper Size

The printer doesn't have switches for detecting paper size, and only length of paper is detected by the Regi Sensor when feeding paper. If printing data and paper size don't match, error is sent to the ESS.

5.2 ROS Light Quantity Control

The image data are entered to the laser diodes in the ROS as electric signals (data are expressed with high and low voltage values), and the laser diodes convert the image data from electric signals to optical signals (data are expressed with blinking laser beams).

Variations in light quantity of laser beams or variations in optical system (such as lenses) or drum sensitivity cannot attain a proper electrostatic image, therefore, the laser beam light quantity is monitored and controlled by the laser diodes.

The ROS in this printer has four laser diodes for yellow, magenta, cyan, and black respectively, and the light quantity is automatically adjusted for each color.

5.3 Process Control

For a stable printing, the parameters related to the image forming must be corrected as necessary. The control of the entire printing process including parameter correction control is called "process control". Mainly, the process control is performed in the following two methods, both of which are performed after every 25 cumulative prints upon termination of a print run or during a continuous run.:

- Potential control
- Toner density control

To supplement these two controls, the following controls are provided:

- High Area Coverage Mode
- Admix Mode

5.3.1 Potential Control

To attain stable printing image density, the drum charging voltage, the developing DC voltage and the ROS light amount are adjusted according to the developing capability of each color carrier that varies momentarily. The adjusted drum charging voltage, the developing DC voltage and the ROS light amount are fed back to keep the printing image density constant.

The outline of control is as follows.

1) The HUMIDITY SENSOR (temperature and humidity sensor) detects the temperature and humidity.
2) The patches of respective colors (yellow, magenta, cyan, and black) for the potential control are generated and transferred on the Belt.
3) The ADC Sensor (density sensor) detects the density of the patch on Belt.
4) The drum charging voltage, the developing DC voltage and the ROS light amount are adjusted for each color according to the detected patch density.

5.3.2 Toner Density Control

The toner density must be kept constant to attain stable printing image. The control system for this purpose is called toner density control.

1) PCDC (Pixel Count Dispense Control)

The quantity of the toner to be consumed in the developing process is calculated by counting the video signals entered to the ROS. The quantity of the toner to be consumed is calculated by the toner dispensing time. The toner motor is driven based on the calculated toner dispensing time when supplying the toner to the developer.

2) ADC (Auto Density Control)

The patches of respective colors (yellow, magenta, cyan, and black) for the toner density control are generated under specified potential condition, and transferred on the Belt. The ADC Sensor measures this density. The measured value is compared with the reference value. If the toner density is lower, the toner dispense quantity is increased at the next printing, or if the toner density is higher, the toner dispense quantity is reduced at the next printing. The toner dispense quantity is calculated by the toner dispense time. This calculation is made for each color.

5.3.3 High Area Coverage Mode

A continuous printing of any image of area coverage exceeding extra toner dispense capability causes the toner density in the developer to be lowered.
The High Area Coverage Mode postpones the next page feed and dispenses the toner during this time, if the toner dispense time reached the specified value during a continuous printing.

5.3.4 Admix Mode

This mode prevents the toner density from being lowered, whenever the value of the toner density control patch measured by the ADC Sensor falls far below the standard value, by performing extra toner dispensation. If the toner density level cannot be recovered even after this operation, it is judged that the toner has run out.

5.3.5 ADC Sensor Adjustment

The ADC Sensor is a reflection type sensor that irradiates the light from its LED onto the target and detects the reflected light at its photoreceptor and outputs electric signals responsive to the amount of the detected light. To ensure an accurate patch density measurement, the surfaces of the ADC Sensor is cleaned to remove soil due to toner, etc., and the light amount adjustment is made so that the reflected light amount satisfies the prescribed value, when creating the patch for potential control and toner density control.

5.4 Color Registration Control

The printer uses a tandem system where the drums and developers are arranged respectively for each of yellow, magenta, cyan, and black colors. Since the images are formed on the drum of each color to be overlaid one another, a color shift may occur. The color registration control calculates how much the registration is shifted, and adjusts the ROS write timing.
The lateral registration control adjusts all of four colors in lateral directions.

The color registration control is made from a change in inside temperature and the print count at the execution of the process control.
The control is outlined below:

    1) With no toner on the Belt, the output value of ADC Sensor is measured to determine the threshold value.

    2) The patches for color registration control are generated on the Belt. These patches are composed of 10mm lines of K, C, K, M, K, and Y in this order.

KMY06047KA
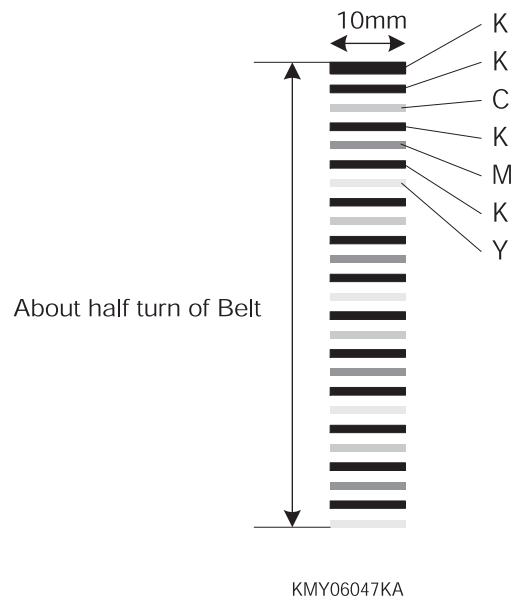
    3) The density of patches generated by the ADC Sensor is read.

    4) The shift correction amount is calculated from the threshold value determined in 1) and the patch density measured in 3).

    5) The ROS write timing is changed according to the shift correction amount.

5.5 Fuser Control

5.5.1 Fuser temperature control

As for the fuser temperature control, the target temperature is set, then the Heat Roll surface temperature is controlled so that it can meet the target value by turning on/off the Heater Lamp.

Temperature of individual area of the Heat Roll is detected by the Fuser Non-Contact Sensor (NCS) in the middle of the Heat Roll and the Temp Sensor at the edge of it. When the temperature detected is higher than the target value, the Heater Lamp will be turned OFF. When the temperature is below the target value, the Heater Lamp will be turned ON.

The target temperature setting varies depending on the time of Warm-up, Printing, or Process Control. The target temperature varies according to such environmental factors as the interior temperature detected by the Sensor Hum Temp.

5.5.2 Cooling down

As the printing continues, the temperature distribution in the Heat Roll becomes uneven both in the paper feed and non-paper feed areas. Cooling Down suspends paper feeling for a certain period of time so that the Heat Roll temperature distribution can be uniform.
When the temperature of the Heat Roll edge is high, cooling down is performed to lower the temperature to the target value.

5.5.3 Sensor Warm-up

The Fuser NCS (Non Contact Sensor) at the center of the Heat Roll will be lose its accuracy of detecting temperature when the temperature of the Sensor itself is below -5°C. Therefore, the Sensor will be warmed up when the temperature is below -5°C. This action is called Sensor Warm-up.

6. Drive Transmission Route

6.1 DRIVE ASSY MAIN

Rotation power of the DRIVE ASSY MAIN is transmitted through the route below.

[PAPER FEED DRIVE] / [DRUM and BELT DRIVE]

[Name of moving parts]

MiS06032KA

6 – 62
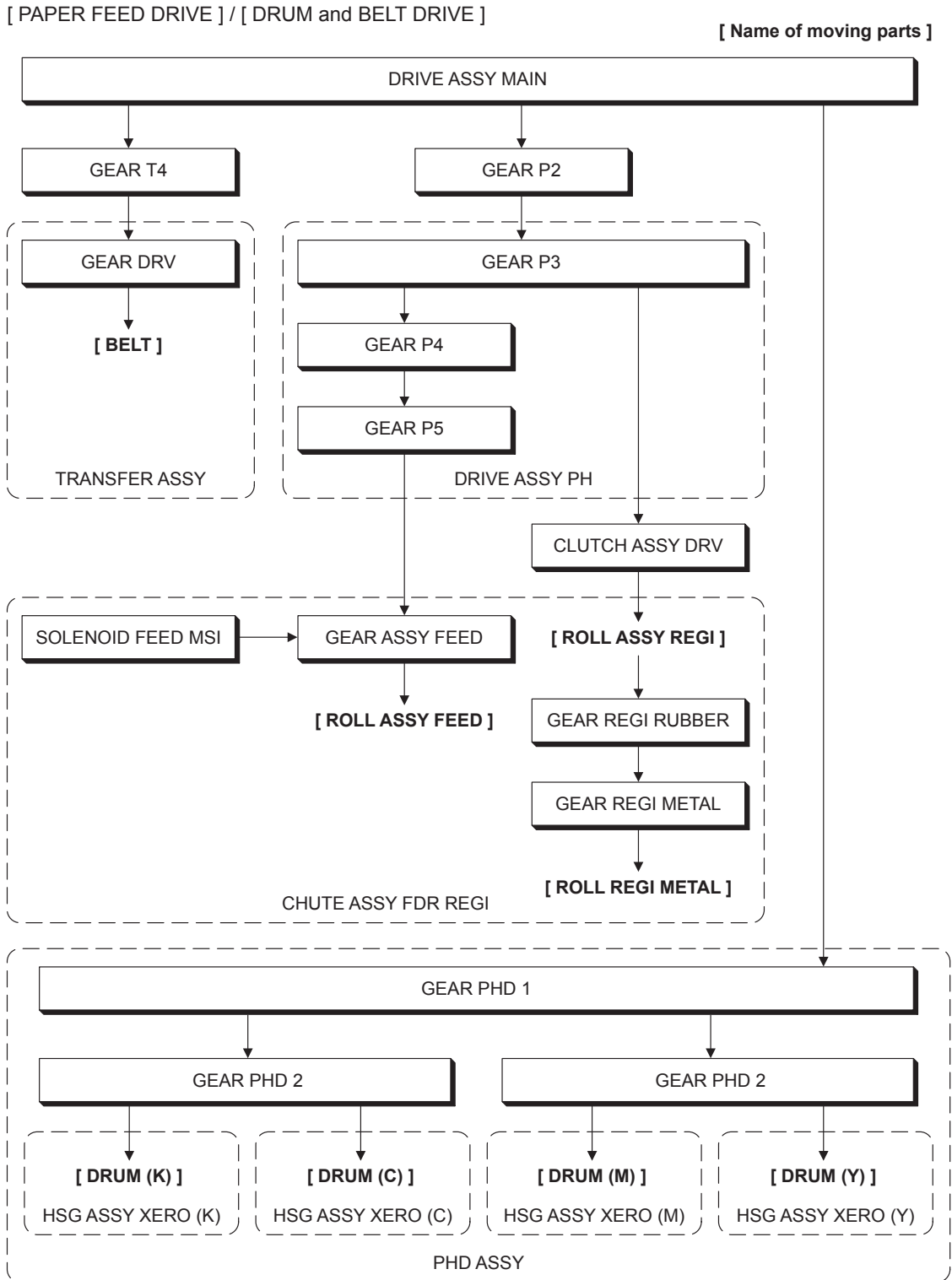
[PAPER FEED DRIVE]

[Name of moving parts]
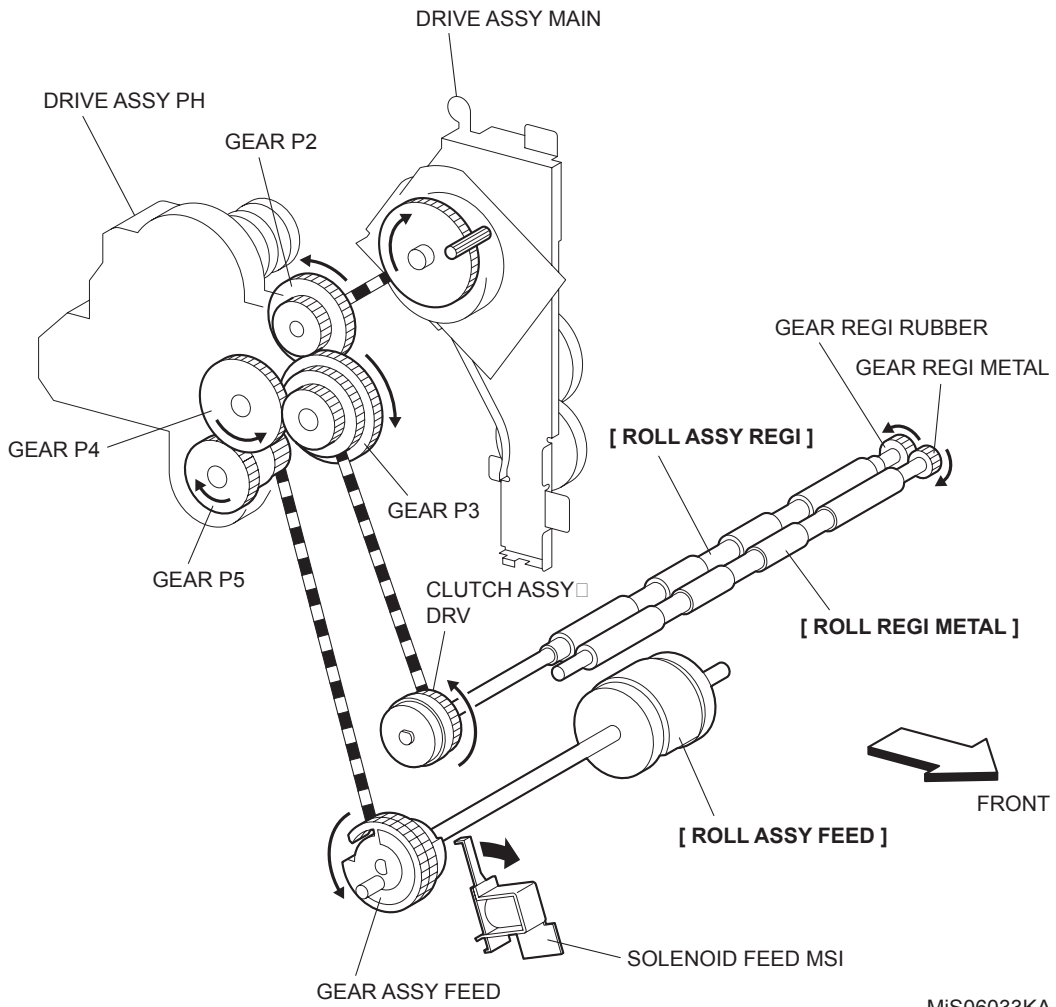
▨▨▨▨▨ : Indicates the engagement of gears.

DRIVE ASSY MAIN

DRIVE ASSY PH

GEAR P2

GEAR P4

GEAR P5

GEAR P3

GEAR REGI RUBBER

GEAR REGI METAL

[ROLL ASSY REGI]

[ROLL REGI METAL]

CLUTCH ASSY DRV

FRONT

[ROLL ASSY FEED]

SOLENOID FEED MSI

GEAR ASSY FEED

MiS06033KA

6 – 63

[DRUM and BELT DRIVE]

[Name of moving parts]

▮▮▮▮▮ : Indicates the engagement of gears.

PHD ASSY

[DRUM (K)]

[DRUM (C)]

GEAR PHD 2

GEAR PHD 1

DRIVE ASSY MAIN

GEAR PHD 2

[BELT]

[DRUM (M)]

[DRUM (Y)]

GEAR DRV

GEAR T4

FRONT

MiS06034KA

Blank Page

6 – 65
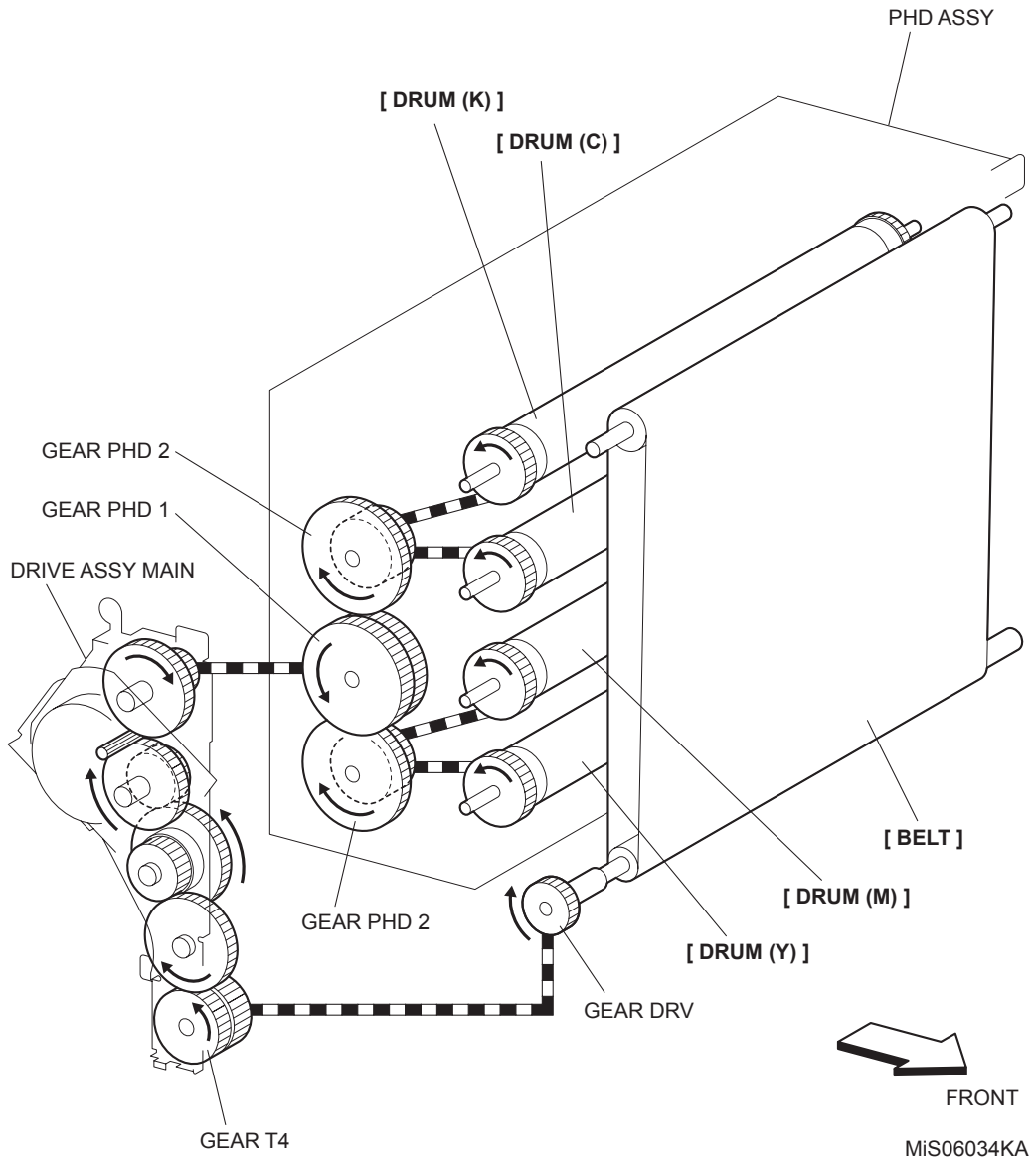
6.2 DRIVE ASSY MAIN and DRIVE ASSY SUB DRIVE

Rotation power of the DRIVE ASSY MAIN and DRIVE ASSY SUB are transmitted through the route below.

[BLACK and WHITE MODE]

[Name of moving parts]

MiS06035KA

6 – 66

[BLACK and WHITE MODE]

[Name of moving parts]

▬▬▬▬▭ : Indicates the engagement of gears.

GEAR D5

DRIVE ASSY SUB

GEAR DK

GEAR D1

[MAGNET ROLL (K)]

SUB MOTOR

GEAR MAG (K)

GEAR D1

GEAR D2

DRIVE ASSY PH

FRONT

FLANGE D3   CAM C

GEAR D4

DRIVE ASSY MAIN

GEAR D3 OUT   GEAR D2

GEAR D3 IN

FLANGE D3

GEAR P2

CAM C

GEAR P3

DRIVE ASSY PH

GEAR P4

COLOR MODE
SWITCHING SOLENOID

GEAR P4-2   GEAR C

MiS06036KA

6 – 67

[DEVELOPMENT and EXCESS TONER COLLECTING]

[Name of moving parts]

```
+------------------------+          +------------------------+
|    DRIVE ASSY MAIN     |          |    DRIVE ASSY SUB      |
+------------------------+          +------------------------+
            |                                   |
            v                                   |
+------------------------+                      |
|       GEAR PHD 1        |                      |
+------------------------+                      |
            |                                   |
            v                                   v
+------------------------+          +------------------------+
|       GEAR PHD 2        |          |   GEAR MAG (Y, M, C, K) |
+------------------------+          +------------------------+
            |                                   |
            v                                   v
        [ DRUM ]                          [ MAGNET ROLL ]
          |    |                                |
    +-----+    +-----+                          v
    |                |                +------------------------+
    v                v                |     GEAR MAG IDLR      |
+---------------+  +------------------+---------------------+--+
| GEAR AUGER    |  | GEAR IDLER AUGER SIDE |                 |
| CLNG          |  +---------------------+ |                 |
+---------------+            |              +------------------------+
    |                        v              |   GEAR IDLER PADDLE    |
    |              +---------------------+   +------------------------+
    |              |   GEAR AUGER SIDE   |               |
    |              +---------------------+               v
    |                        |              +------------------------+
    v                        v              |     GEAR PADDLE        |
[ AUGER ]        [ AUGER CLNG SIDE ]        +------------------------+
                                              |                |
                                              v                v
                                      [ PADDLE DEVE ]   +--------------+
                                                        |  GEAR AUGER  |
                                                        +--------------+
                                                              |
                                                              v
                                                      [ AUGER FRONT ]
                                                              |
                                                              v
                                                        +--------------+
                                                        |  GEAR AUGER  |
                                                        +--------------+
                                                              |
                                                              v
                                                      [ AUGER REAR ]
```

HSG ASSY XERO (Y, M, C, K)   HSG ASSY DEVE (Y, M, C, K)

PHD ASSY

MiS06037KA

[EXCESS TONER COLLECTING DRIVE]

[Name of moving parts]

◼◼◼◼◼▭ : Indicates the engagement of gears.

[AUGER CLNG SIDE]

HSG ASSY XERO

GEAR AUGER SIDE

[AUGER]

GEAR AUGER CLNG

GEAR IDLER AUGER SIDE

[DRUM]

GEAR PHD 2

GEAR PHD 1

DRIVE ASSY MAIN

FRONT

PHD ASSY

GEAR PHD 2

MiS06038KA

6 – 69
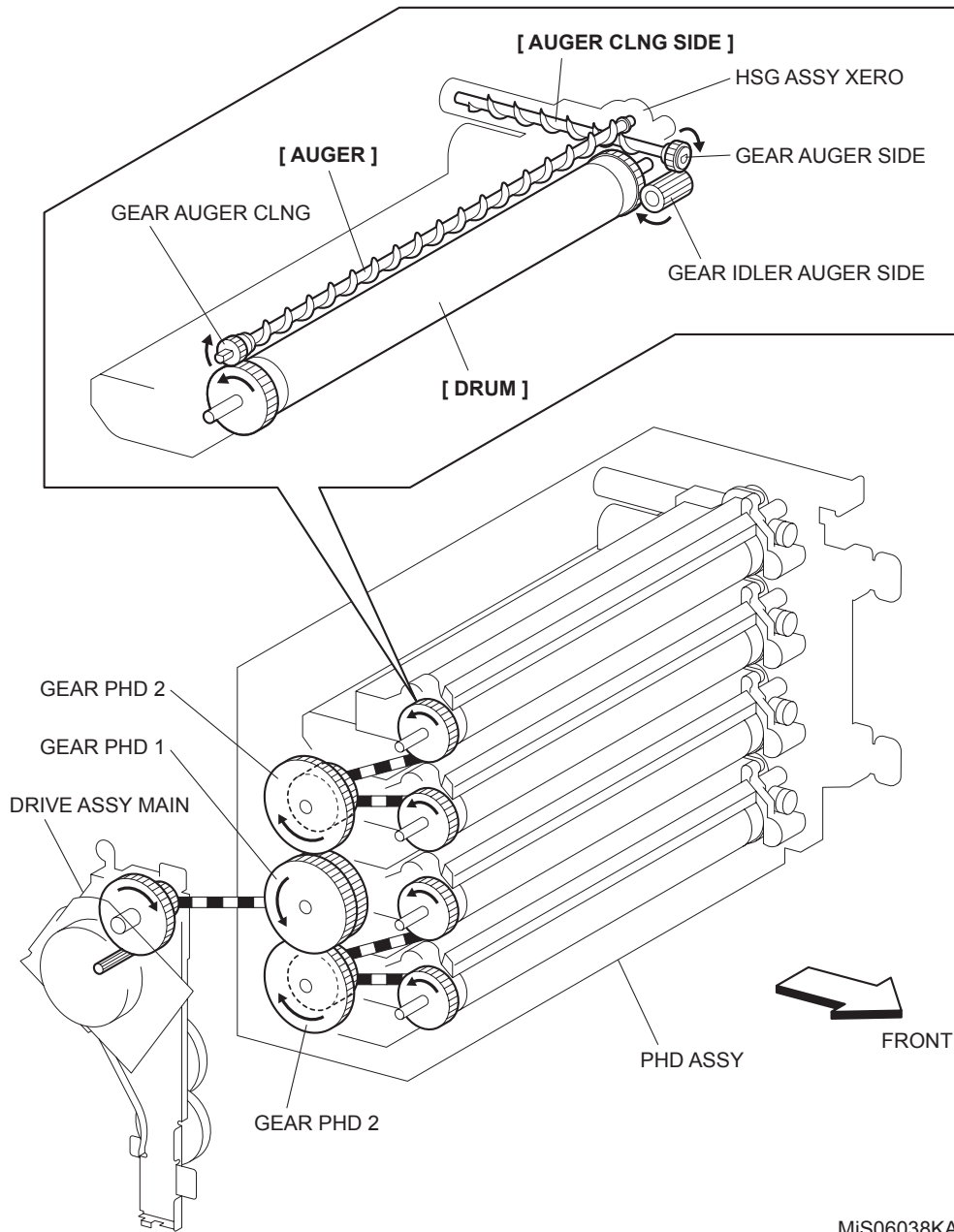
[DEVELOPMENT DRIVE]

[Name of moving parts]

■■■■■□ : Indicates the engagement of gears.

[PADDLE DEVE]
[AUGER FRONT]
[AUGER REAR]
GEAR IDLER PADDLE
GEAR PADDLE
HSG ASSY DEVE

[MAGNET ROLL]

GEAR AUGER
GEAR MAG IDLR
GEAR MAG
GEAR AUGER

FRONT

PHD ASSY

DRIVE ASSY SUB

MiS06039KA

6 – 70

Blank Page

6 – 71
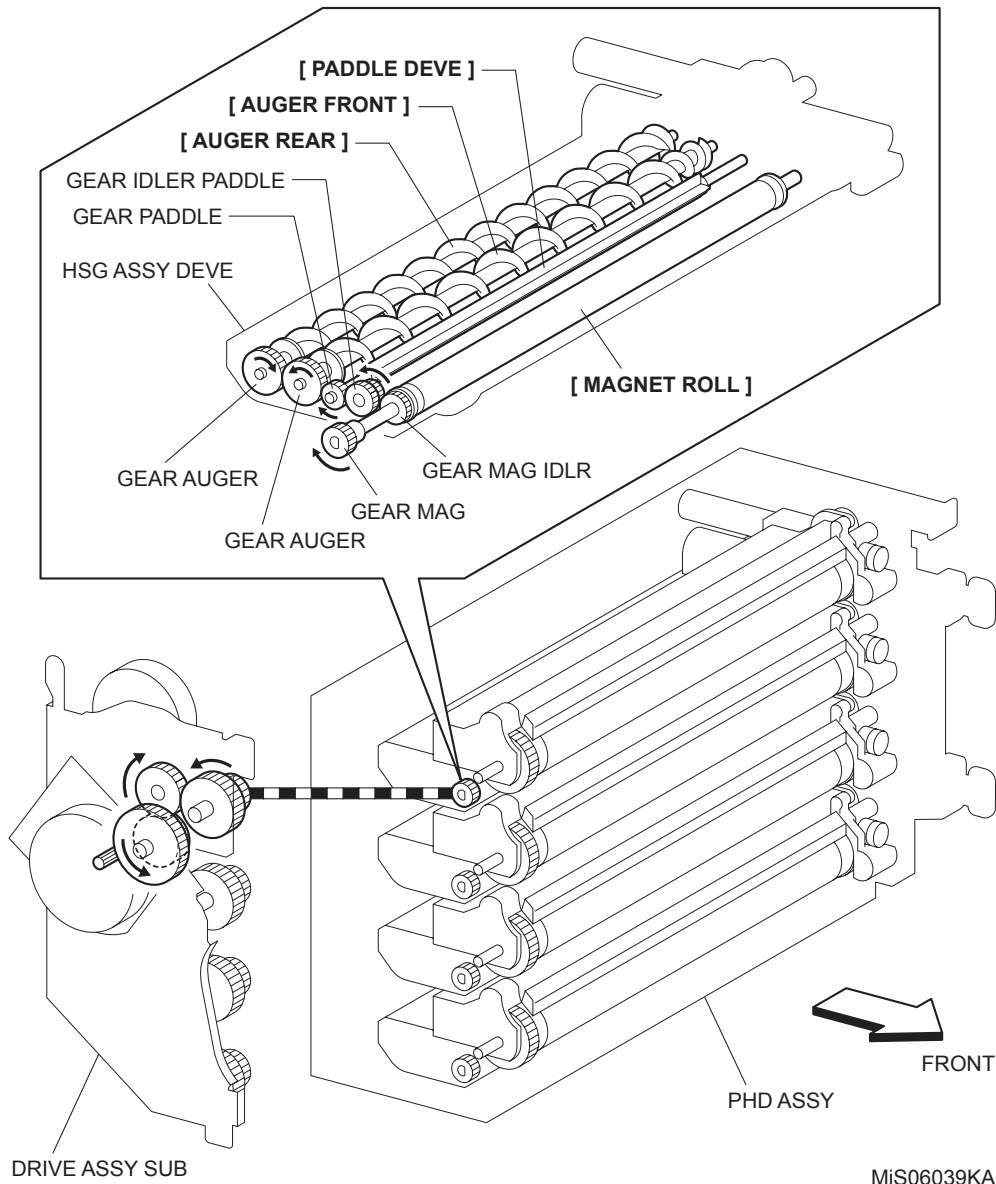
6.3 TONER DISPENSER (Y, M, C, K)

Rotation power of the TONER DISPENSER drives the agitator and the auger in the TONER CARTRIDGE.

[TONER CARTRIDGE]

[TONER DISPENSER]   **[Name of moving parts]**

MOTOR ASSY DISP (K)	MOTOR ASSY DISP (C)	MOTOR ASSY DISP (M)	MOTOR ASSY DISP (Y)
GEAR IDLER (K)	GEAR IDLER (C)	GEAR IDLER (M)	GEAR IDLER (Y)
GEAR IDLER AUG (K)	GEAR IDLER AUG (C)	GEAR IDLER AUG (M)	GEAR IDLER AUG (Y)
GEAR AUGER (K)	GEAR AUGER (C)	GEAR AUGER (M)	GEAR AUGER (Y)
[AUGER (K)]	**[AUGER (C)]**	**[AUGER (M)]**	**[AUGER (Y)]**
GEAR IDLER AGI (K)	GEAR IDLER AGI (C)	GEAR IDLER AGI (M)	GEAR IDLER AGI (Y)

DISPENSER ASSY

GEAR AGITATOR (K)	GEAR AGITATOR (C)	GEAR AGITATOR (M)	GEAR AGITATOR (Y)
[AGITATOR (K)]	**[AGITATOR (C)]**	**[AGITATOR (M)]**	**[AGITATOR (Y)]**
TONER CARTRIDGE (K)	TONER CARTRIDGE (C)	TONER CARTRIDGE (M)	TONER CARTRIDGE (Y)

MiS06040KA

[TONER CARTRIDGE]

[TONER DISPENSER]

[Name of moving parts]

■■■■■□ : Indicates the engagement of gears.

TONER CARTRIDGE

[AUGER]

[AGITATOR]

GEAR IDLER AGI

GEAR IDLER

FRONT

GEAR AGITATOR

GEAR AUGER

MOTOR ASSY DISP

GEAR IDLER AUG

MiS06041KA

6 – 73
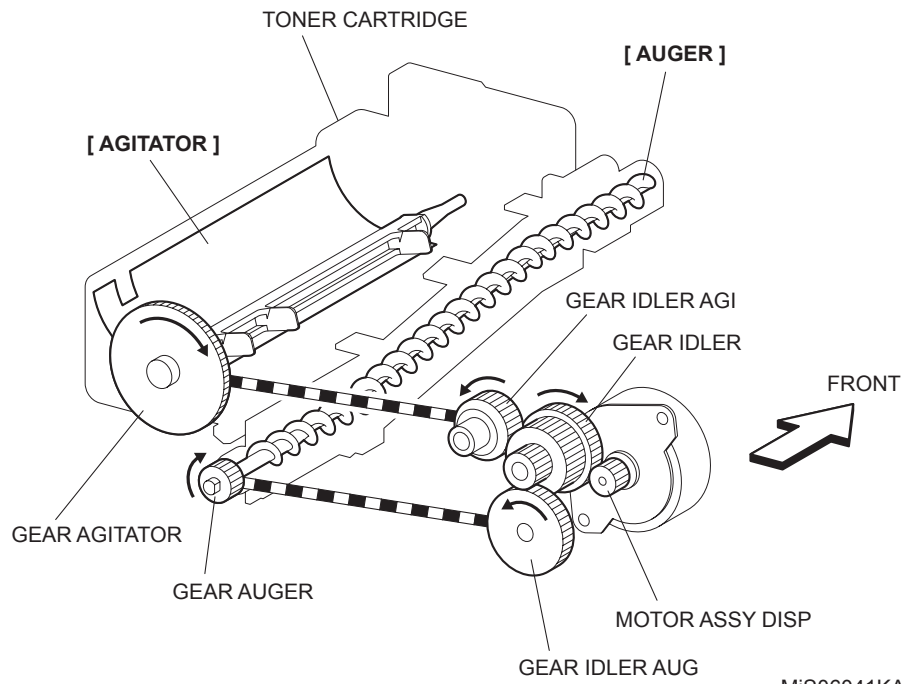
6.4 DRIVE ASSY SUB

Rotation power of the DRIVE ASSY SUB is transmitted through the route below.

[PAPER HANDLING]

[FULL COLOR MODE]

[Name of moving parts]
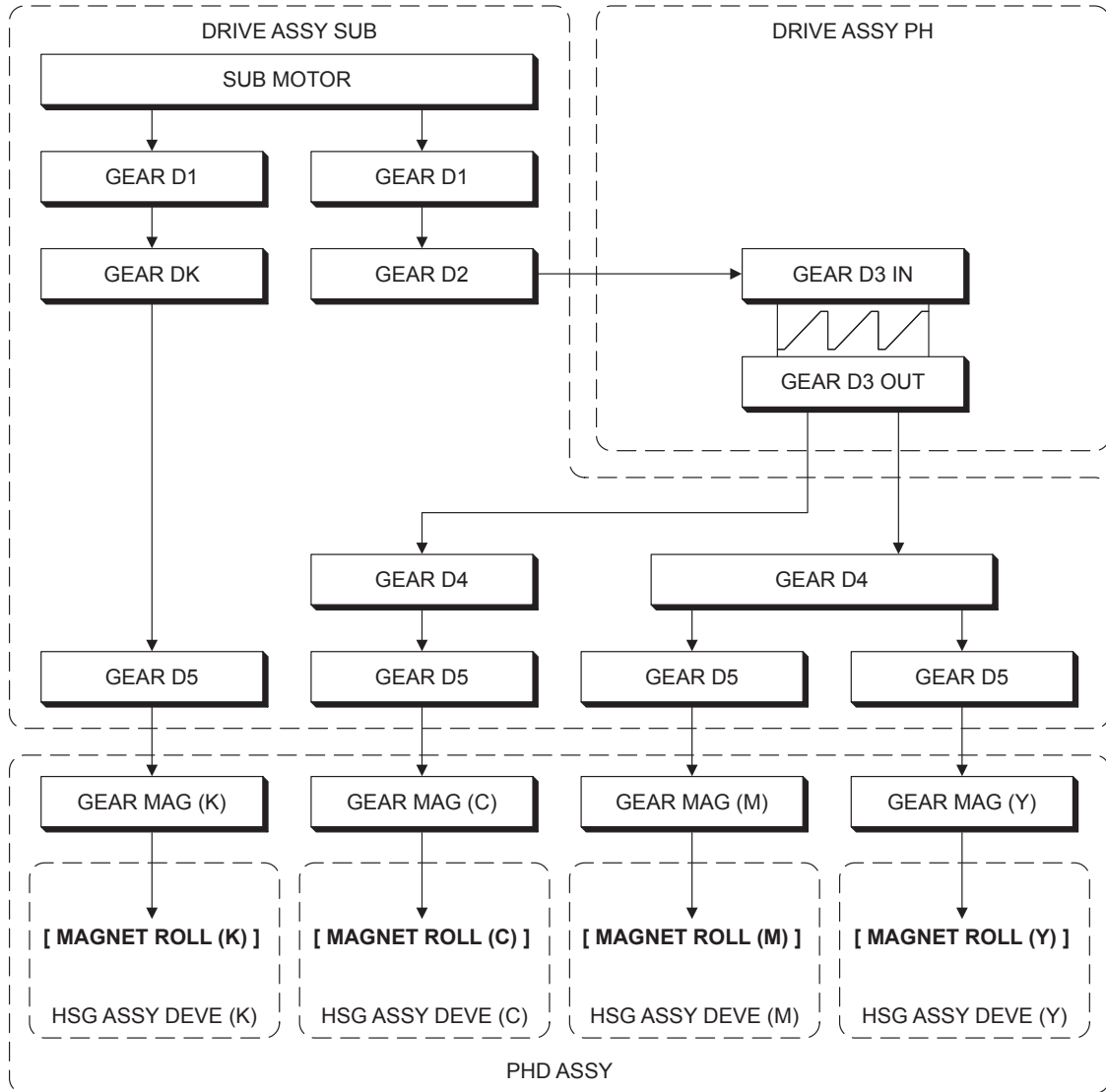
MiS06042KA

[PAPER HANDLING]

[FULL COLOR MODE]

[Name of moving parts]

▬▬▬▬▬ : Indicates the engagement of gears.

DRIVE ASSY SUB

GEAR DK

GEAR D1

GEAR MAG (K)

[MAGNET ROLL (K)]

GEAR D5

SUB MOTOR

GEAR MAG (C)

[MAGNET ROLL (C)]

GEAR D5

GEAR D4

GEAR D1

GEAR MAG (M)

[MAGNET ROLL (M)]

GEAR D5

GEAR D4

GEAR D2

DRIVE ASSY PH

GEAR MAG (Y)

[MAGNET ROLL (Y)]

GEAR D5

FRONT

GEAR D3 OUT

GEAR D4

GEAR D2

GEAR D3 IN

MiS06043KA

[SIMPLEX MODE]

[**Name of moving parts**]

```
DRIVE ASSY SUB
        │
        ▼
┌─────────────────────────────────────────┐
│   GEAR IDLER HR                          │
│        │                                 │
│        ▼                                 │
│   GEAR HR                                │
│     │        │                           │
│     ▼        ▼                           │
│ [ HEAT ROLL ]   GEAR IDLER EXIT          │
│                      │                   │
│                      ▼                   │
│                 GEAR CLUTCH INPUT        │
│                      │                   │
│                      ▼                   │
│   GEAR CLUTCH OUT                        │
│     │        │                           │
│     ▼        ▼                           │
│ GEAR EXIT   GEAR IDLER DELAY             │
│     │            │                       │
│     ▼            ▼                       │
│[ ROLL ASSY EXIT ] GEAR IDLER DELAY       │
│                      │                   │
│                      ▼                   │
│                 GEAR IDLER DUP           │
│              FUSER ASSY                  │
└─────────────────────────────────────────┘
                       │
┌─────────────────────────────────────────┐
│                 GEAR OUTPUT DUP          │
│                      │                   │
│                      ▼                   │
│                 GEAR ODLER 16            │
│                      │                   │
│                      ▼                   │
│                 GEAR E1                  │
│                      │                   │
│                      ▼                   │
│                 CLUTCH ASSY DUP          │
│              FEEDER ASSY DUP             │
└─────────────────────────────────────────┘
```

MiS06044KA

[SIMPLEX MODE]

[Name of moving parts]

▆▬▮▬▭ : Indicates the engagement of gears.

[ROLL ASSY EXIT]

FUSER ASSY

GEAR IDLER DELAY

GEAR CLUTCH INPUT

GEAR IDLER DUP

GEAR IDLER 16

GEAR E1

GEAR EXIT

GEAR CLUTCH OUT

CLUTCH ASSY DUP

GEAR IDLER DELAY

GEAR IDLER EXIT

[HEAT ROLL]

GEAR HR

GEAR OUTPUT DUP

GEAR IDLER HR
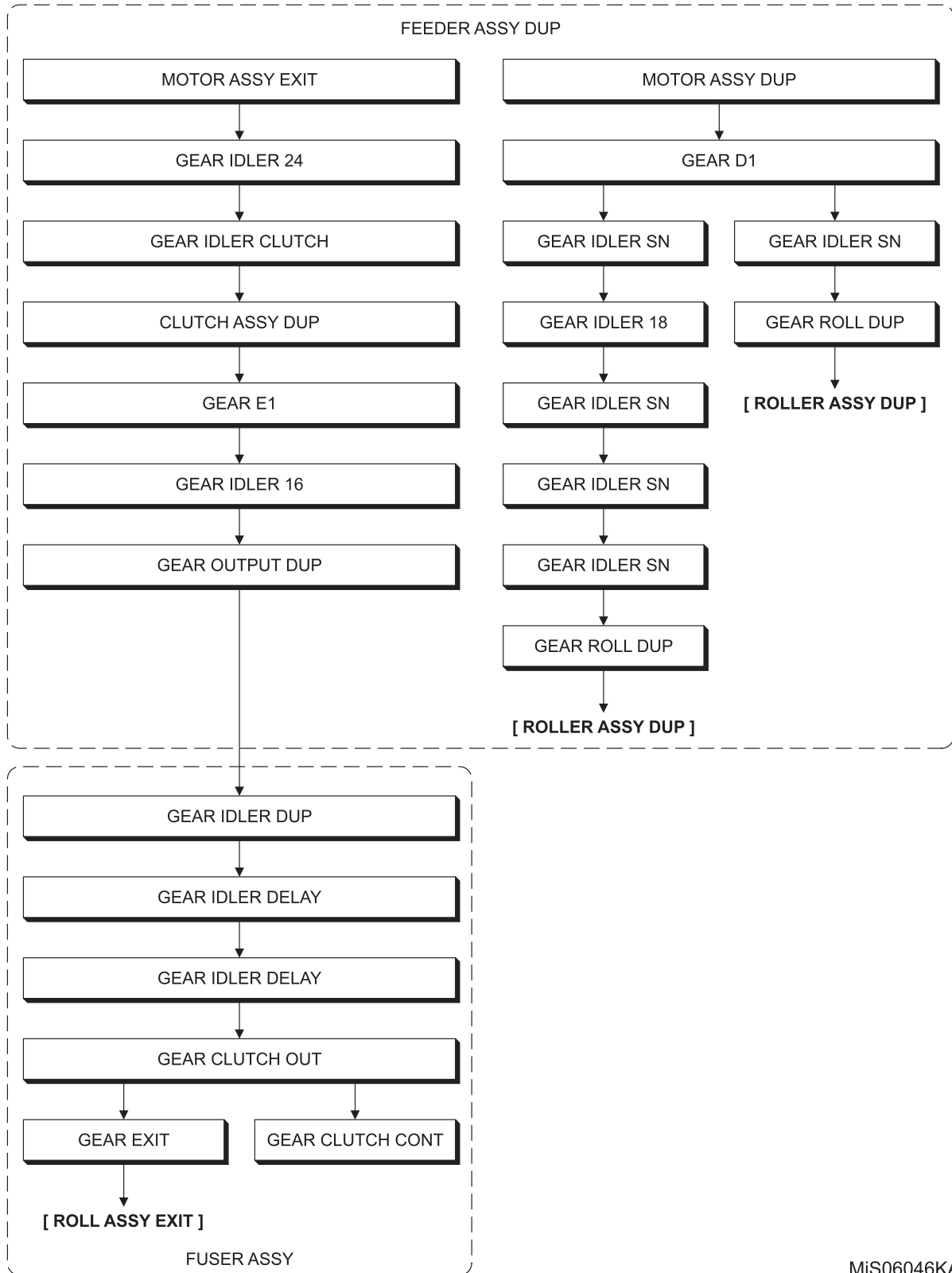
FEEDER ASSY DUP

FRONT

DRIVE ASSY SUB

MiS06045KA

6 – 77
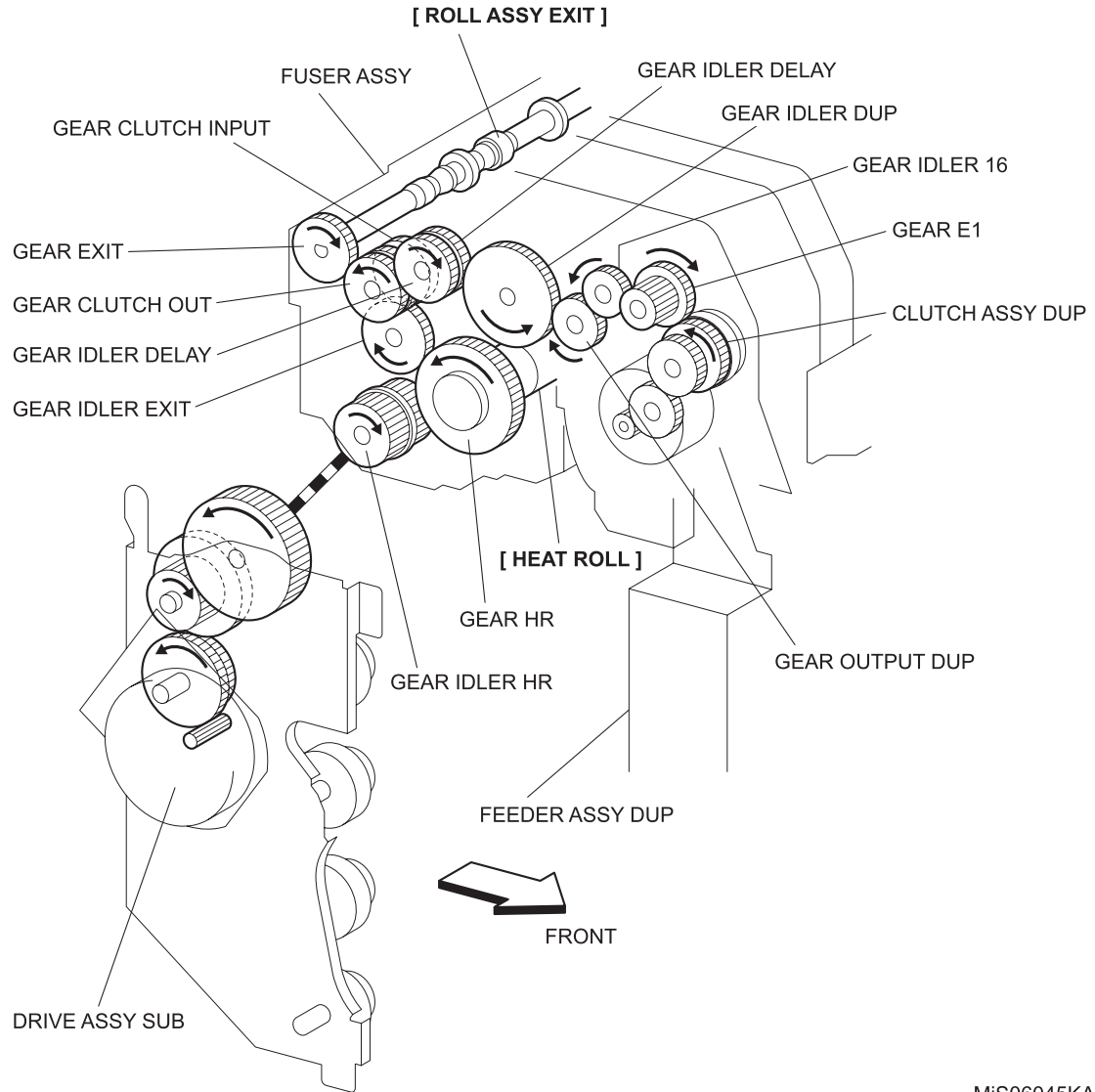
6.5 DRIVE ASSY DUP

Rotation power of the DRIVE ASSY DUP is transmitted through the route below.

[DUPLEX MODE]

[Name of moving parts]

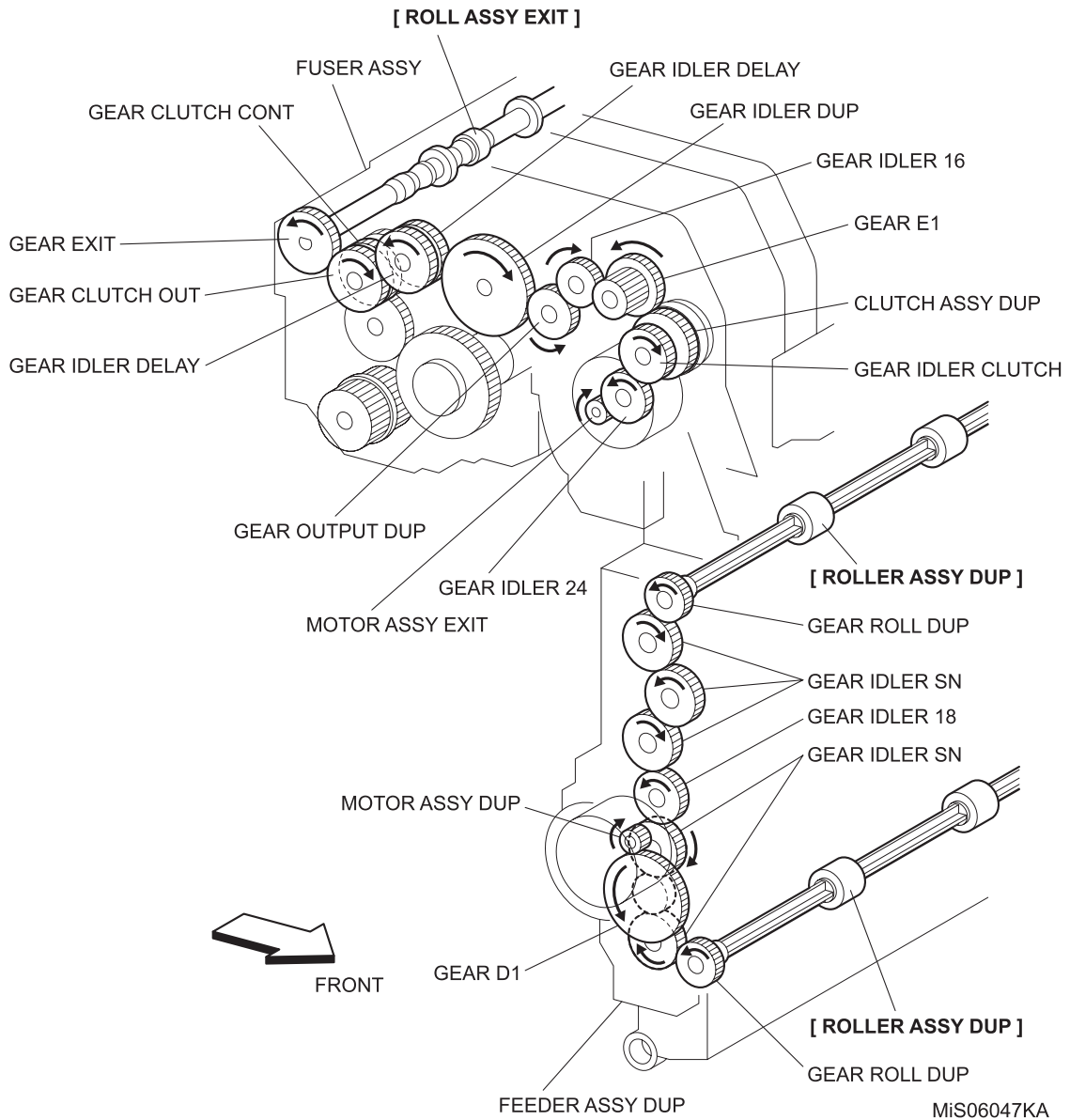FEEDER ASSY DUP

MOTOR ASSY EXIT		MOTOR ASSY DUP	

GEAR IDLER 24 → GEAR D1

GEAR IDLER CLUTCH → GEAR IDLER SN / GEAR IDLER SN

CLUTCH ASSY DUP → GEAR IDLER 18 / GEAR ROLL DUP

GEAR E1 → GEAR IDLER SN

[ROLLER ASSY DUP]

GEAR IDLER 16 → GEAR IDLER SN

GEAR OUTPUT DUP → GEAR IDLER SN

GEAR ROLL DUP

[ROLLER ASSY DUP]

GEAR IDLER DUP

GEAR IDLER DELAY

GEAR IDLER DELAY

GEAR CLUTCH OUT

GEAR EXIT   GEAR CLUTCH CONT

[ROLL ASSY EXIT]

FUSER ASSY

MiS06046KA

[DUPLEX MODE]   **[Name of moving parts]**

▮▭▮▭▯ : Indicates the engagement of gears.

[ROLL ASSY EXIT]

FUSER ASSY   GEAR IDLER DELAY

GEAR CLUTCH CONT   GEAR IDLER DUP

                                          GEAR IDLER 16

GEAR EXIT   GEAR E1

GEAR CLUTCH OUT   CLUTCH ASSY DUP

GEAR IDLER DELAY   GEAR IDLER CLUTCH

GEAR OUTPUT DUP

                                          [ROLLER ASSY DUP]

GEAR IDLER 24   GEAR ROLL DUP

MOTOR ASSY EXIT

                                          GEAR IDLER SN

                                          GEAR IDLER 18

                                          GEAR IDLER SN

MOTOR ASSY DUP

                                          [ROLLER ASSY DUP]

GEAR D1

FRONT   GEAR ROLL DUP

FEEDER ASSY DUP   MiS06047KA

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6.6 MOTOR ASSY SUB

Rotation power of the MOTOR ASSY SUB is transmitted through the route below.

[250 OPTION FEEDER DRIVE]

[Name of moving parts]

```
┌─────────────────────────────────────────────────────────────────┐
│                                                                   │
│              ┌──────────────────────────────┐                     │
│              │        MOTOR ASSY SUB        │                     │
│              └──────────────────────────────┘                     │
│                             │                                     │
│              ┌──────────────────────────────┐                     │
│              │       GEAR IDLE 86-20Z       │                     │
│              └──────────────────────────────┘                     │
│                             │                                     │
│              ┌──────────────────────────────┐                     │
│              │        GEAR IDLE 40Z         │                     │
│              └──────────────────────────────┘                     │
│                             │                                     │
│              ┌──────────────────────────────┐                     │
│              │       GEAR IDLE 28-20Z       │                     │
│              └──────────────────────────────┘                     │
│                   │                    │                          │
│         ┌──────────────┐      ┌──────────────┐    ┌──────────────────┐
│         │ GEAR IDLE 36Z│      │GEAR ASSY FEED│◄───│ SOLENOID FEED MSI│
│         └──────────────┘      └──────────────┘    └──────────────────┘
│                │                      │                            │
│         ┌──────────────┐      [ ROLL ASSY FEED ]                   │
│         │ GEAR IDLE 25Z│                                           │
│         └──────────────┘                                           │
│                │                                                   │
│         ┌──────────────┐                                           │
│         │ GEAR IDLE 25Z│                                           │
│         └──────────────┘                                           │
│                │                                                   │
│         ┌──────────────┐                                           │
│         │GEAR IDLE 22-33Z│                                         │
│         └──────────────┘                                           │
│                │                                                   │
│      ┌──────────────────────────────┐                             │
│      │  TURN CLUTCH (CLUTCH ASSY DRV)│                            │
│      └──────────────────────────────┘                             │
│                │                      │                            │
│      [ TURN ROLL RUBBER ]    ┌──────────────┐                      │
│       (ROLL ASSY REGI)       │GEAR REGI RUBBER│                    │
│                              └──────────────┘                      │
│                                     │                              │
│                              ┌──────────────┐                      │
│                              │GEAR REGI METAL│                     │
│                              └──────────────┘                      │
│                                     │                              │
│                              [ TURN ROLL METAL ]                   │
│                               (ROLL REGI METAL)                    │
│                          250 OPTION FEEDER                         │
└───────────────────────────────────────────────────────────────────┘
```
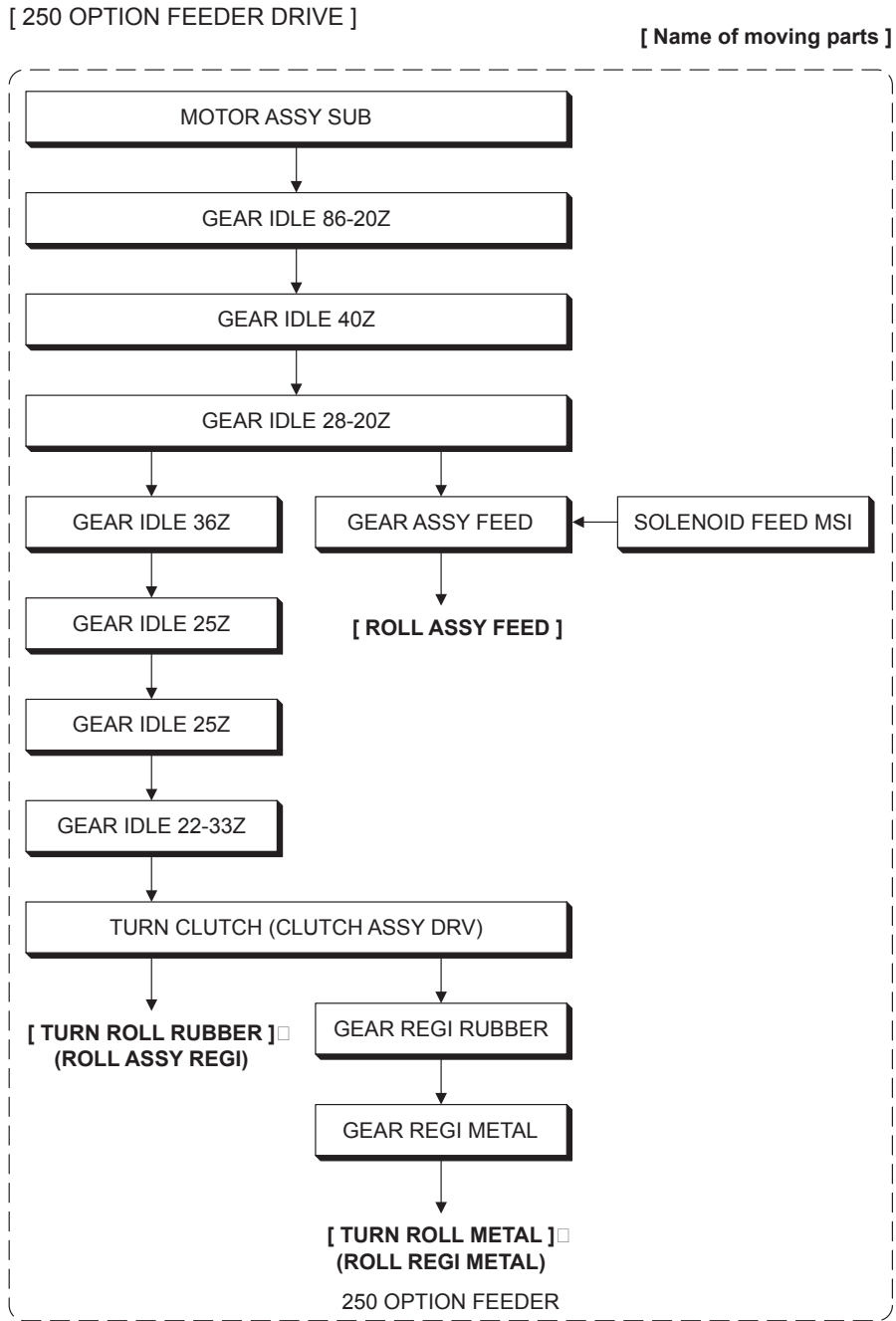
MiS06048KA

[250 OPTION FEEDER DRIVE]

[Name of moving parts]

■■■■■■ : Indicates the engagement of gears.

[ROLL ASSY FEED]

GEAR REGI RUBBER

GEAR REGI METAL

GEAR ASSY FEED

[TURN ROLL RUBBER]

SOLENOID FEED MSI

[TURN ROLL METAL]

GEAR IDLE 28-20Z

GEAR IDLE 86-20Z

TURN CLUTCH

FRONT

GEAR IDLE 22-33Z

GEAR IDLE 40Z

GEAR IDLE 25Z

MOTOR ASSY SUB

GEAR IDLE 25Z

GEAR IDLE 36Z
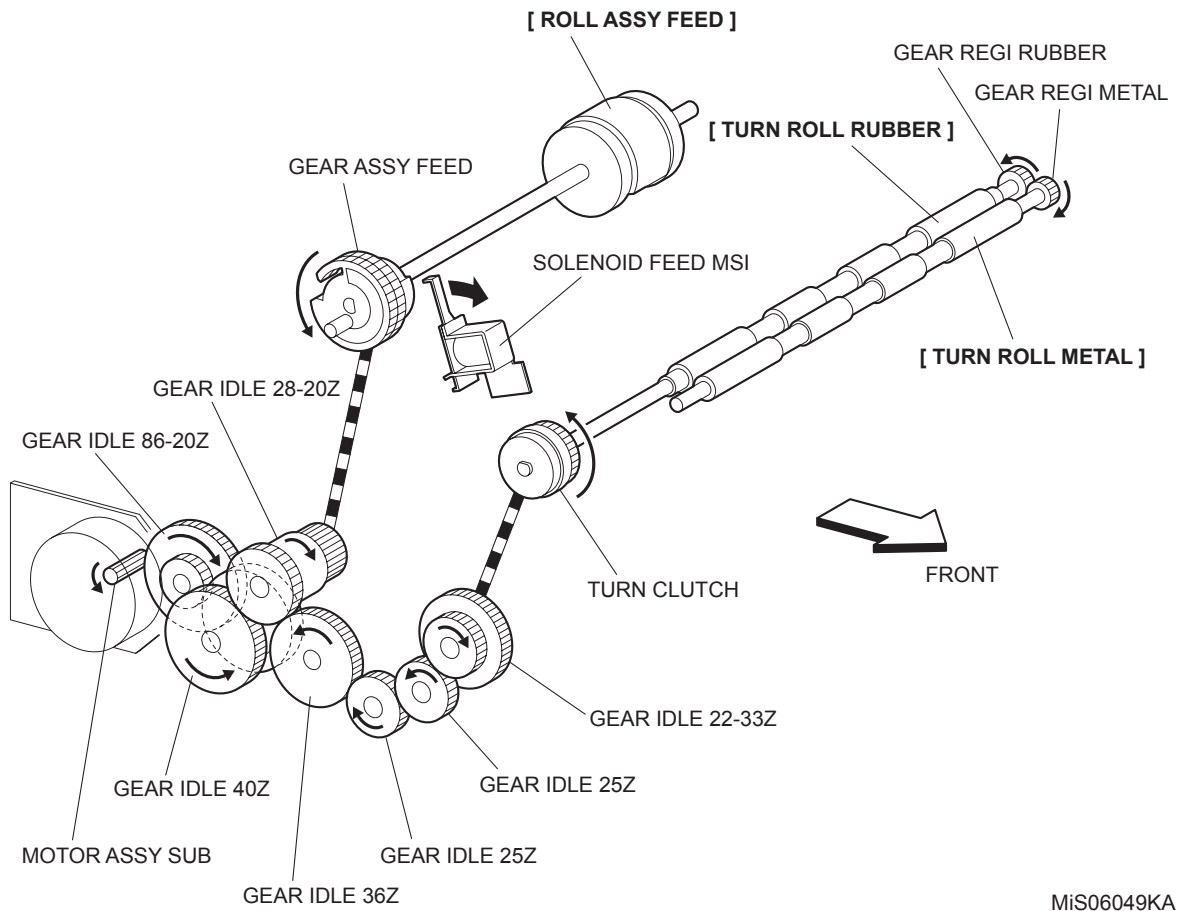
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Chapter 7 Wiring Diagrams and Signal Information CONTENTS

1. Connection Wiring Diagram

1.1 Symbols in the General Connection Wiring Diagram

The symbols in the general connection wiring diagram are described below.

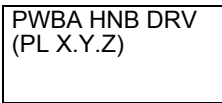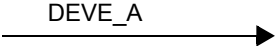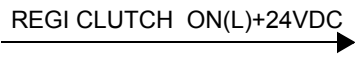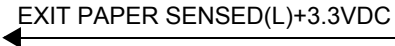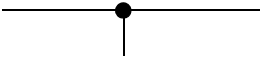| Symbol	Description
▬▬▬▬	Represents an interconnection between parts using wiring harness or wire.
▲ ▬ ▬ ▼	Represents an interconnection which differs according to the specifications.
▬▬▬▬	Represents an interconnection between parts using a conductive member such as a plate spring.
✕━	Represents a connection between parts by tightening of a screw.
⏚	Indicates a frame ground.
P/J X X	Represents a connector. The connector No. is indicated inside the box.
JP X X	Represents a connection terminal with a plate spring on the printed circuit board. The connector (terminal) No. is indicated inside the box.
P X X	Represents a connector directly connected to the printed circuit board. The connector No. is indicated inside the box.
POWER SUPPLY A PL X.Y.Z	The box containing a part name represents a part. "PL X.Y.Z" indicates the item "Z" of the plate (PL) "X.Y" described in Chapter 5 "Parts List."
Main Motor	Represents a functional part within a part, and indicates the name of the functional part.
§ 1	Represents a section in "2. Interconnection Wiring Diagram of Parts," and indicates its section No.
⊤	Represents a screw for fixing wiring harness and a conductive member such as a plate spring.
)	Represents a conductive member such as a plate spring.

1.2　General Wiring Diagram
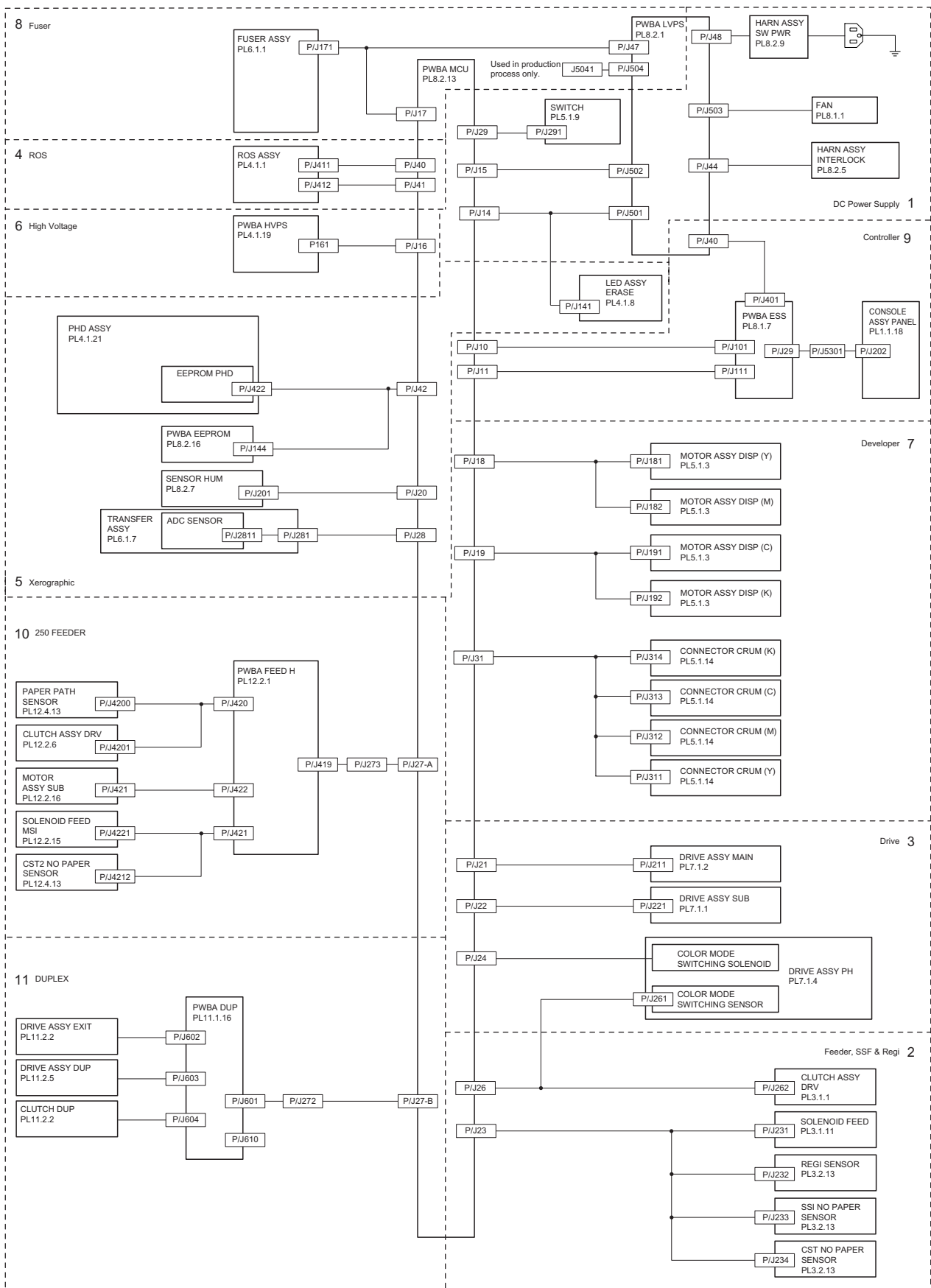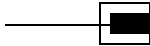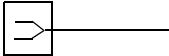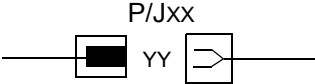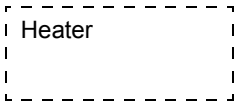
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2. Interconnection Wiring Diagram of Parts

2.1 Notes on Using the Wiring Diagram between Parts

The following describes the legend of the wiring diagrams between parts shown on the following pages.

Symbols	Description
	Denotes a plug.
	Denotes a jack.
P/Jxx YY	Denotes Pin yy and Jack yy of the connector Pxx and Jxx.
PWBA HNB DRV (PL X.Y.Z)	Denotes the parts. PL X.Y.Z implies the item "Z" of plate (PL) "X.Y" in Chapter 5. Parts List.
Heater	Denotes functional parts attached with functional parts name.
Control	Denotes the control and its outline in PWB.
DEVE_A	Denotes a connection between parts with harnesses or wires, attached with signal name/contents.
REGI CLUTCH ON(L)+24VDC	Denotes the function, and logic value of the signal to operate the function (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.
EXIT PAPER SENSED(L)+3.3VDC	Denotes the function, and logic value of the signal when the function operated (Low: L, High: H). The given voltage is for signal in high status. The arrow indicates the direction of signal.

Symbols	Description
	Denotes a connection between wires.
I/L +24VDC	Denotes DC voltage when the interlock switch in HNB MCU WITH CPU turns on.
+5VDC +3.3VDC	Denotes DC voltage.
SG	Denotes signal ground.
AG	Denotes analog ground.
RTN	Denotes the return.

2.2 Configuration of the Interconnection Wiring Diagram of Parts

The interconnection wiring diagram is divided into 11 sections.
§ 1 to § 11 indicate details of the interconnections of parts.

§ 1   DC POWER SUPPLY
Connections of PWBA LVPS with PWBA MCU.
Connections of HARN ASSY SW PWR with PWBA LVPS.
Connections of HARN ASSY INTERLOCK with PWBA LVPS.
Connections of SWITCH with PWBA MCU.

§ 2   FEEDER, SSF & REGI
Connections of SOLENOID FEED with PWBA MCU.
Connections of REGI SENSOR with PWBA MCU.
Connections of SSI NO PAPER SENSOR with PWBA MCU.
Connections of CST NO PAPER SENSOR with PWBA MCU.
Connections of CLUTCH ASSY DRV with PWBA MCU.

§ 3   DRIVE
Connections of DRIVE ASSY PH with PWBA MCU.
Connections of DRIVE ASSY MAIN with PWBA MCU.
Connections of DRIVE ASSY SUB with PWBA MCU.

§ 4   ROS
Connections of ROS ASSY with PWBA MCU.

§ 5   XEROGRAPHIC
Connections of PWBA EEPROM with PWBA MCU.
Connections of PHD ASSY with PWBA MCU.
Connections of SENSOR HUM with PWBA MCU.
Connections of LED ASSY ERASE with PWBA MCU.
Connections of TRANSFER ASSY with PWBA MCU.

§ 6   HIGH VOLTAGE
Connections of PWBA HVPS with PWBA MCU.

§ 7   DEVELOPER
Connections of DISPENSE MOTOR (Y) with PWBA MCU.
Connections of DISPENSE MOTOR (M) with PWBA MCU.
Connections of DISPENSE MOTOR (C) with PWBA MCU.
Connections of DISPENSE MOTOR (K) with PWBA MCU.
Connections of CONNECTOR CRUM (Y) with PWBA MCU.
Connections of CONNECTOR CRUM (M) with PWBA MCU.
Connections of CONNECTOR CRUM (C) with PWBA MCU.
Connections of CONNECTOR CRUM (K) with PWBA MCU.

§ 8   FUSER
Connections of FUSER ASSY with PWBA MCU.
Connections of FUSER ASSY with PWBA LVPS.
Connections of PWBA MCU with PWBA LVPS.

§ 9   CONTROLLER
Connections of PWBA ESS with PWBA MCU.
Connections of CONSOLE ASSY PANEL with PWBA ESS.
Connections of PWBA LVPS with PWBA ESS.

§ 10　250 FEEDER
Connections of PWBA FEEDER H with PWBA MCU.
Connections of PWBA FEEDER H with CLUTCH ASSY PH TURN.
Connections of PWBA FEEDER H with PATH SENSOR.
Connections of PWBA FEEDER H with SOLENOID FEED.
Connections of PWBA FEEDER H with CST NO PAPER SENSOR.
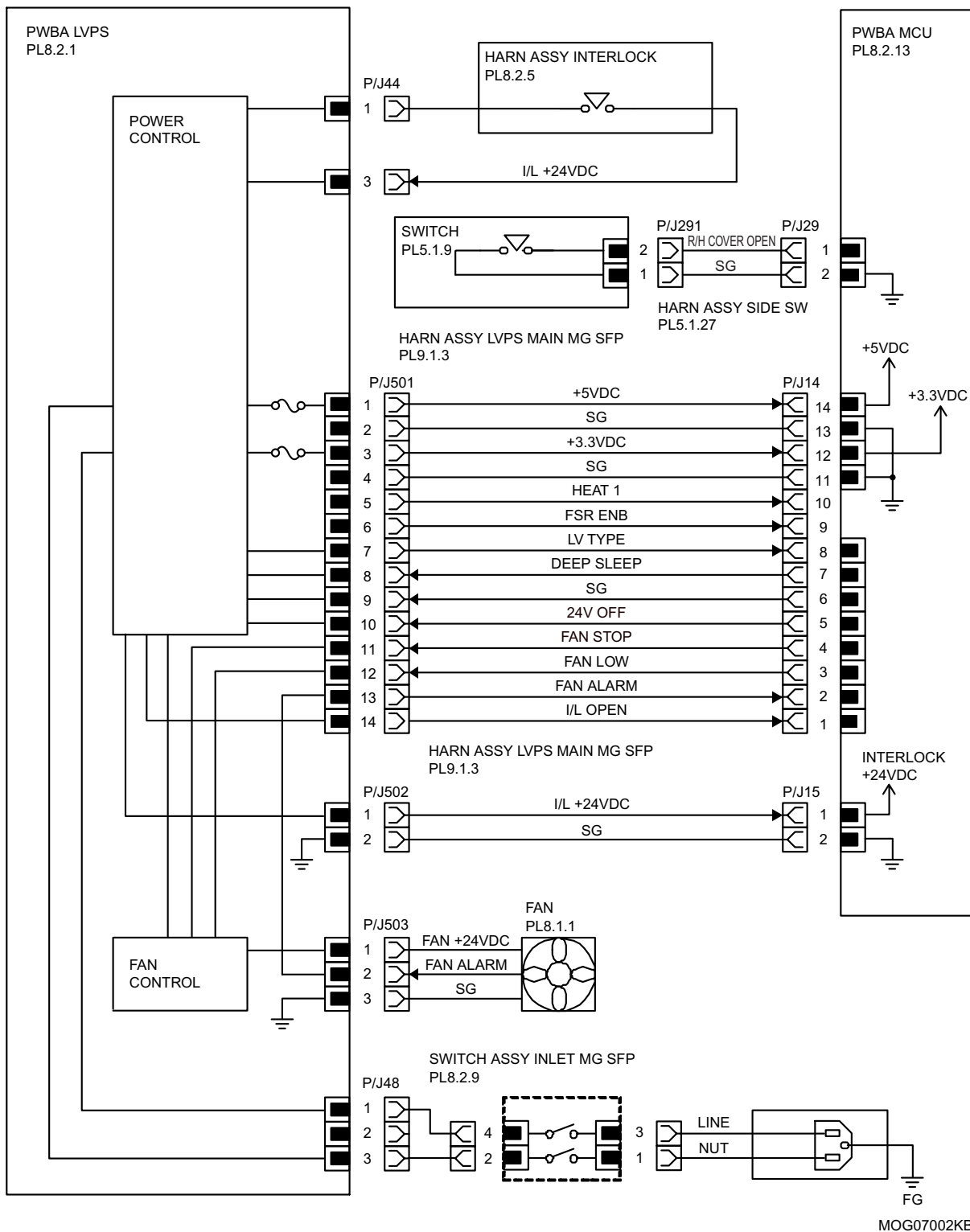Connections of PWBA FEEDER H with DRIVE ASSY OPTION.

§ 11　DUPLEX
Connections of PWBA DUP with PWBA MCU.
Connections of PWBA DUP with MOTOR ASSY DUP-UP.
Connections of PWBA DUP with MOTOR ASSY DUP-DN.
Connections of PWBA DUP with CLUTCH DUP.

§ 1 DC POWER SUPPLY

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7 - 7

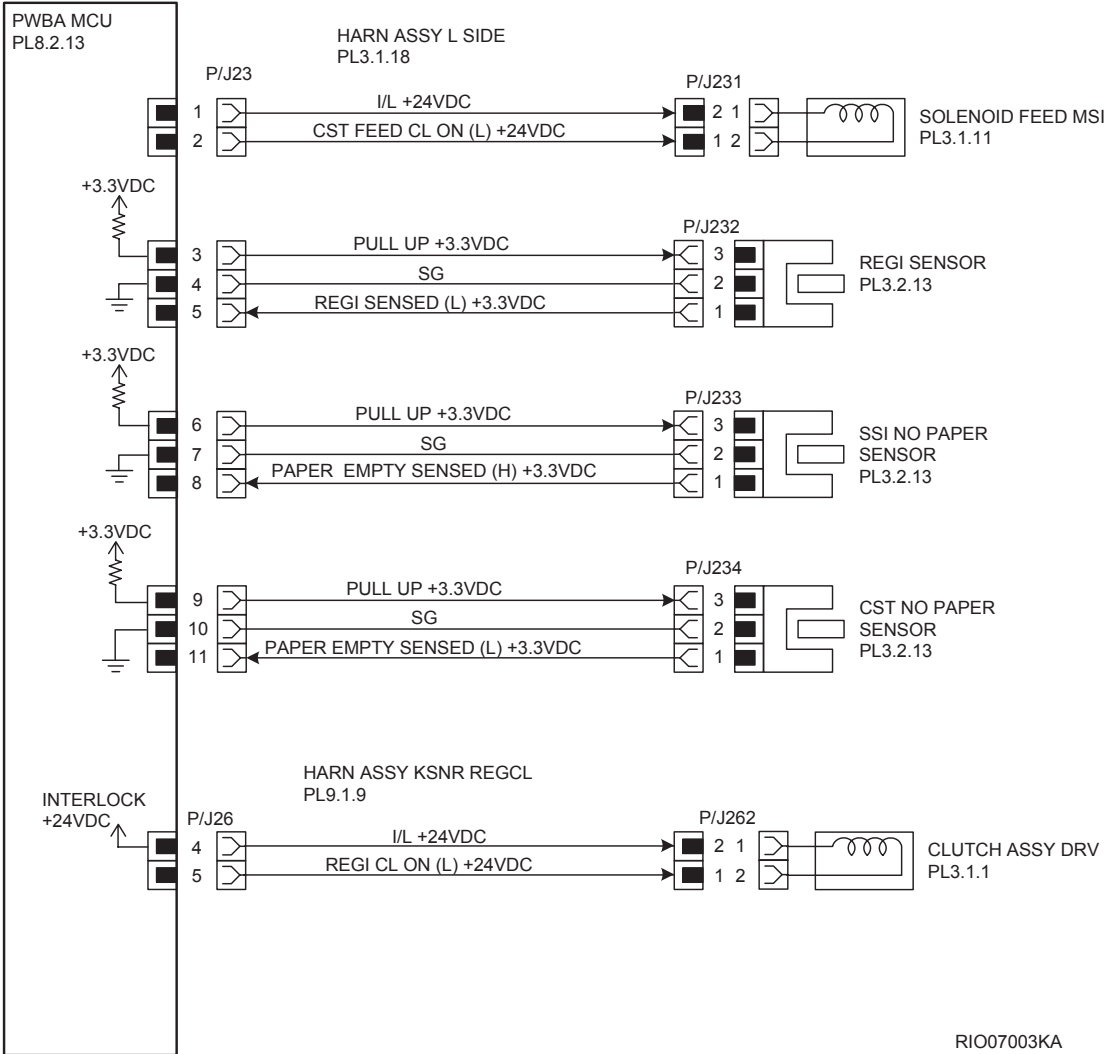| Signal line name	Description
LV TYPE 24V ON	Control signal of the LVPS
FAN LOW FAN STOP ALARM FAN	Drive control signal of the SIDE FAN

- LVPS overcurrent protection circuit

This circuit stops all outputs, if the power supply voltage 24VDC, 5VDC, or 3.3VDC is shorted.

- LVPS overvoltage protection circuit

This circuit stops all outputs, if the power supply voltage 24VDC, 5VDC, or 3.3VDC exceeds the specified voltage respectively.

At this time, the operating point is 36VDC or less for 24VDC, 7VDC or less for 5VDC and 3.3VDC.

§ 2 FEEDER, SSF & REGI

PWBA MCU
PL8.2.13

HARN ASSY L SIDE
PL3.1.18

P/J23

I/L +24VDC
CST FEED CL ON (L) +24VDC

P/J231

SOLENOID FEED MSI
PL3.1.11

+3.3VDC

PULL UP +3.3VDC
SG
REGI SENSED (L) +3.3VDC

P/J232

REGI SENSOR
PL3.2.13

+3.3VDC

PULL UP +3.3VDC
SG
PAPER EMPTY SENSED (H) +3.3VDC

P/J233

SSI NO PAPER
SENSOR
PL3.2.13

+3.3VDC

PULL UP +3.3VDC
SG
PAPER EMPTY SENSED (L) +3.3VDC

P/J234

CST NO PAPER
SENSOR
PL3.2.13

HARN ASSY KSNR REGCL
PL9.1.9

INTERLOCK
+24VDC

P/J26

I/L +24VDC
REGI CL ON (L) +24VDC

P/J262

CLUTCH ASSY DRV
PL3.1.1

RIO07003KA

Chapter 7 Wiring Diagrams and Signal Information

Signal line name	Description
CST FEED CL ON (L) +24VDC	ON/OFF signal of the SOLENOID FEED
REGI SENSED (L) +3.3VDC	Paper detect signal of the Regi part by the Sensor Photo (REGI SENSOR)
PAPER EMPTY SENSED (H) +3.3VDC	Paper detect signal of the SSI by the Sensor Photo (SSI NO PAPER SENSOR)
PAPER EMPTY SENSED (L) +3.3VDC	Paper detect signal of the Paper Cassette by the Sensor Photo (CST NO PAPER SENSOR)
REGI CL ON (L) +24VDC	ON/OFF signal of the CLUTCH ASSY DRV

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§ 3 DRIVE

MOG07004KB

7 - 11
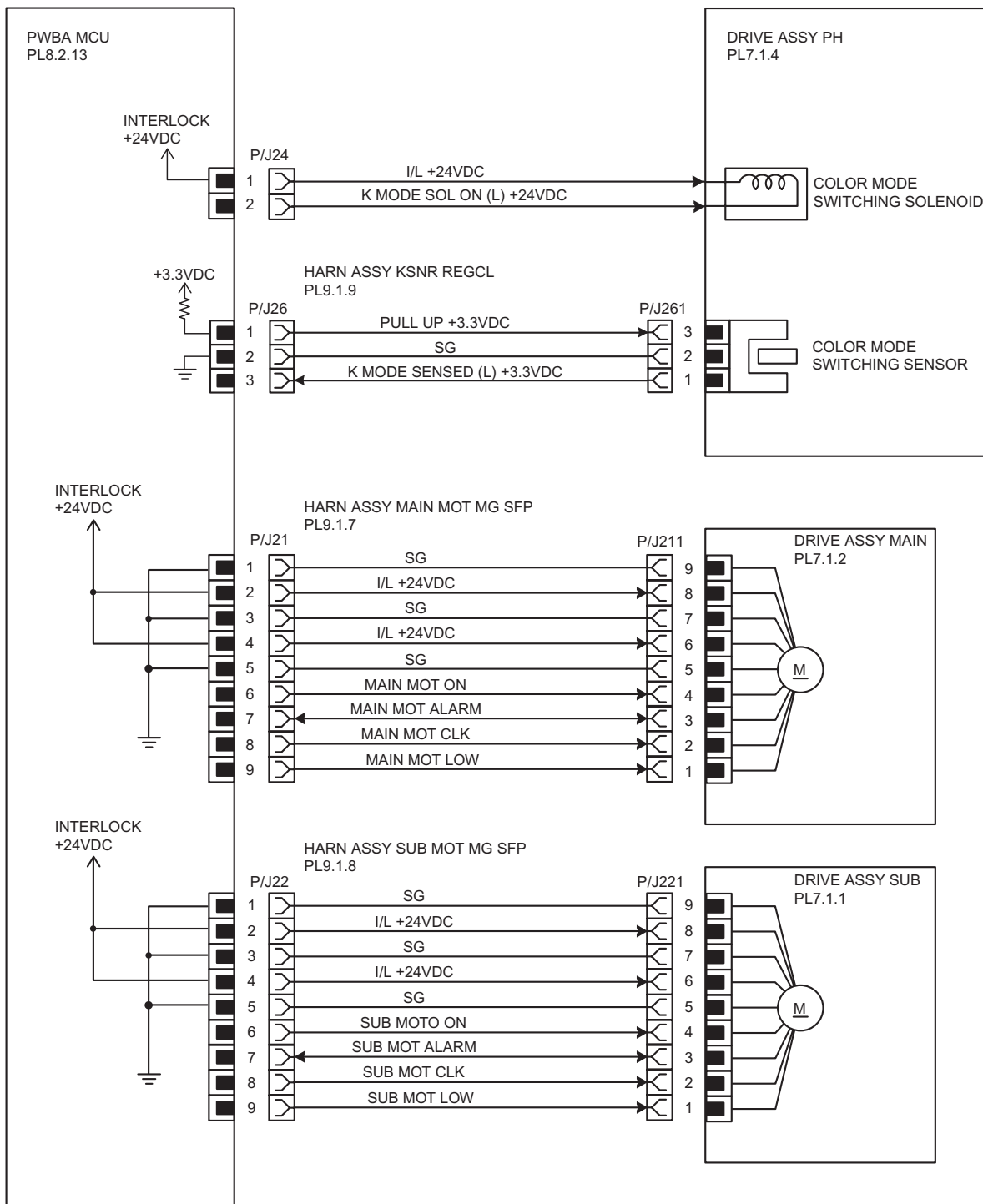
Signal line name	Description
K MODE SOL ON (L) +24VDC	ON/OFF signal of the COLOR MODE SWITCHING SOLENOID
K MODE SENSED (L) +3.3VDC	Color mode detect signal of the DRIVE ASSY PH by the Sensor Photo (COLOR MODE SWITCHING SENSOR)
MAIN MOT ON MAIN MOT ALARM MAIN MOT CLK MAIN MOT LOW	Drive control signal of the DRIVE ASSY MAIN
SUB MOT ON SUB MOT ALARM SUB MOT CLK SUB MOT LOW	Drive control signal of the DRIVE ASSY SUB

§ 4 ROS

PWBA MCU
PL8.2.13

ROS ASSY
PL4.1.1

INTERLOCK
+24VDC

HARN ASSY ROS RE
PL4.1.22

P/J40 — P/J411

1	ROS MOT ON	15
2	SG	14
3	I/L +24VDC	13
4	ROS MOT CLK	12
5	SOS	11
6	LD ERR	10
7	PCONT	9
8	SG	8
9	V REF K	7
10	V REF C	6
11	V REF M	5
12	V REF Y	4
13	ENB	3
14	SG	2
15	+3.3V LD	1

from Xerography

SCANNER MOT

1	CLK	5
2	LOCK	4
3	ROS MOT ON	3
4	SG	2
5	+24VDC	1

PWBA SOS

1	+5VDC	3
2	SOS	2
3	SG	1

HARN ASSY ROS VIDEO
PL4.1.23

P/J41 — P/J412

1	SG	8
2	DATA K	7
3	SG	6
4	DATA C	5
5	SG	4
6	DATA M	3
7	SG	2
8	DATA Y	1

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Signal line name	Description
ROS MOT ON ROS MOT CLK	Drive control signal of the ROS MOTOR
SOS	Reference signal for scan start of LASER
V REF K V REF C V REF M V REF Y	Emission control signal of the laser diode
LD ERR	Error signal of the laser diode
PCONT	Power control signal of the laser diode
DATA K DATA C DATA M DATA Y	Video signal of the laser diode

§ 5 XEROGRAPHIC
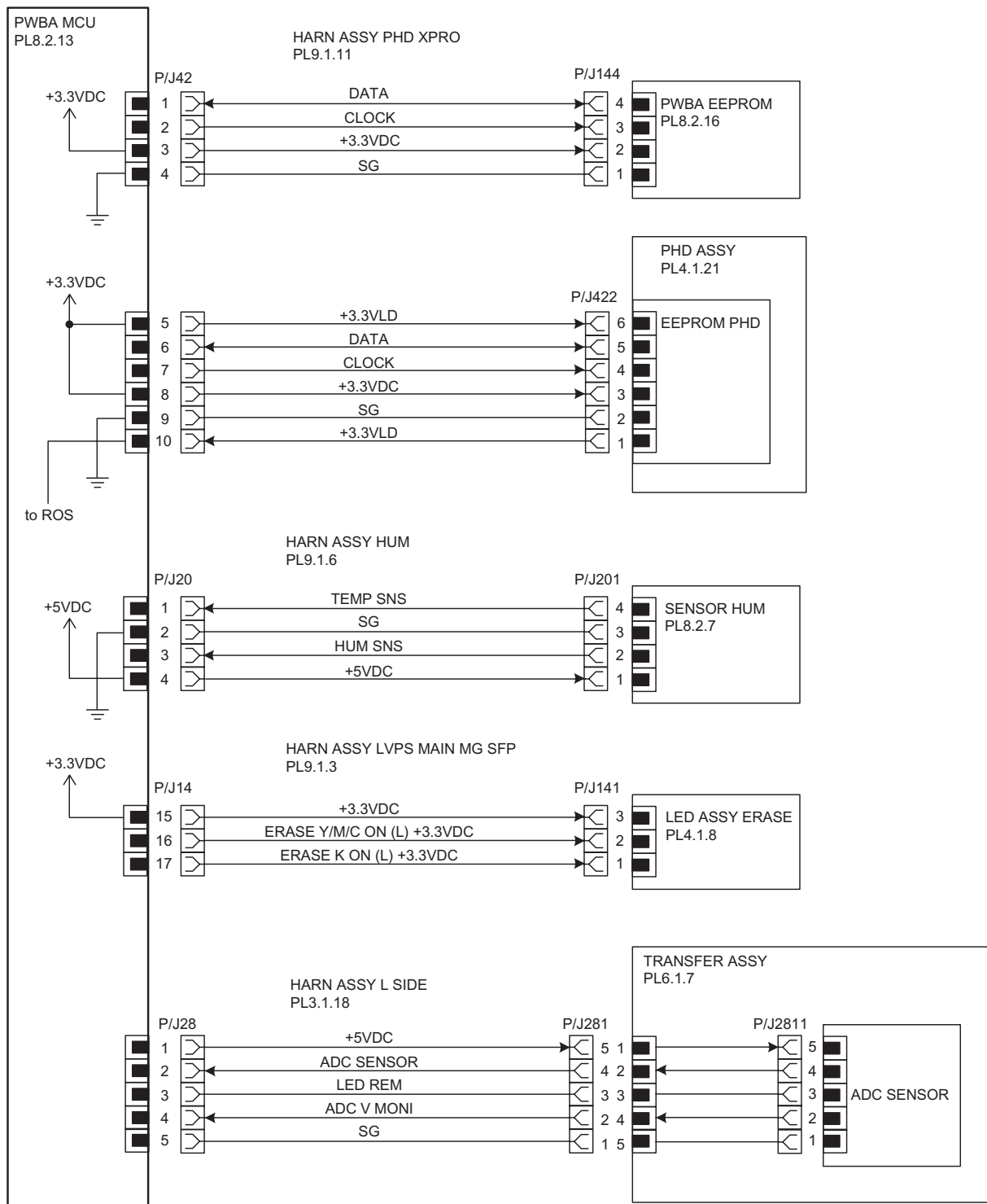
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Signal line name	Description
CLOCK DATA	Control signal of the PWBA EEPROM
CLOCK DATA	Control signal of the EEPROM PHD
TEMP SNS	Temperature data in the printer by the SENSOR HUM (Analog value)
HUM SNS	Humidity data in the printer by the SENSOR HUM (Analog value)
ERASE K ON (L) +3.3VDC ERASE Y/M/C ON (L) +3.3VDC	ON/OFF signal of the LED ASSY ERASE
ADC SENSOR	Toner patch density data measured by the ADC SENSOR (Analog value)
LED REM	Remote signal of the LED of ADC SENSOR
ADC V MONI	Control signal of the ADC SENSOR

§ 6 HIGH VOLTAGE
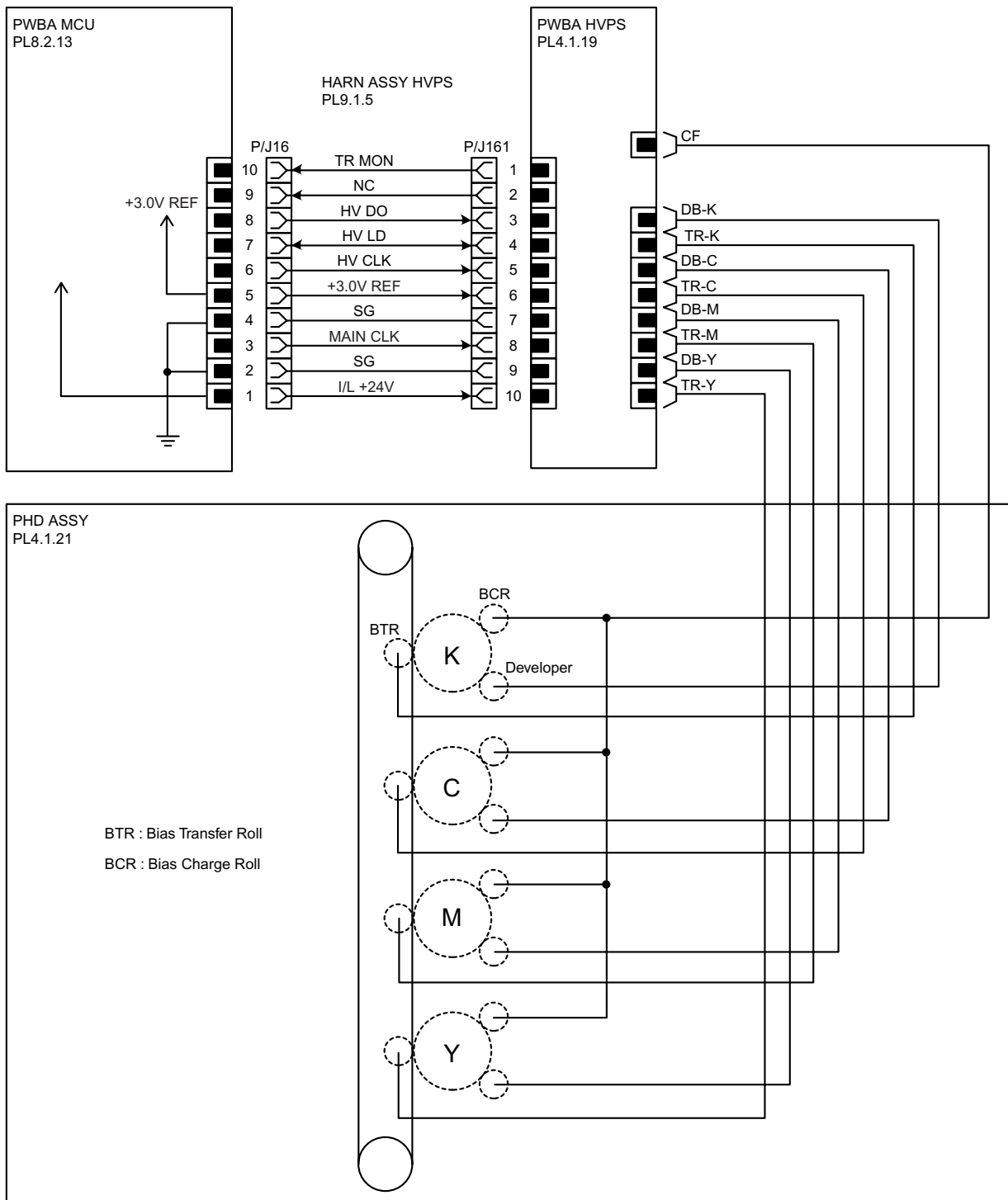
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Signal line name	Description
TR MON HV DO HV LD HV CLK MAIN CLK	Control signal of the HVPS

§ 7 DEVELOPER
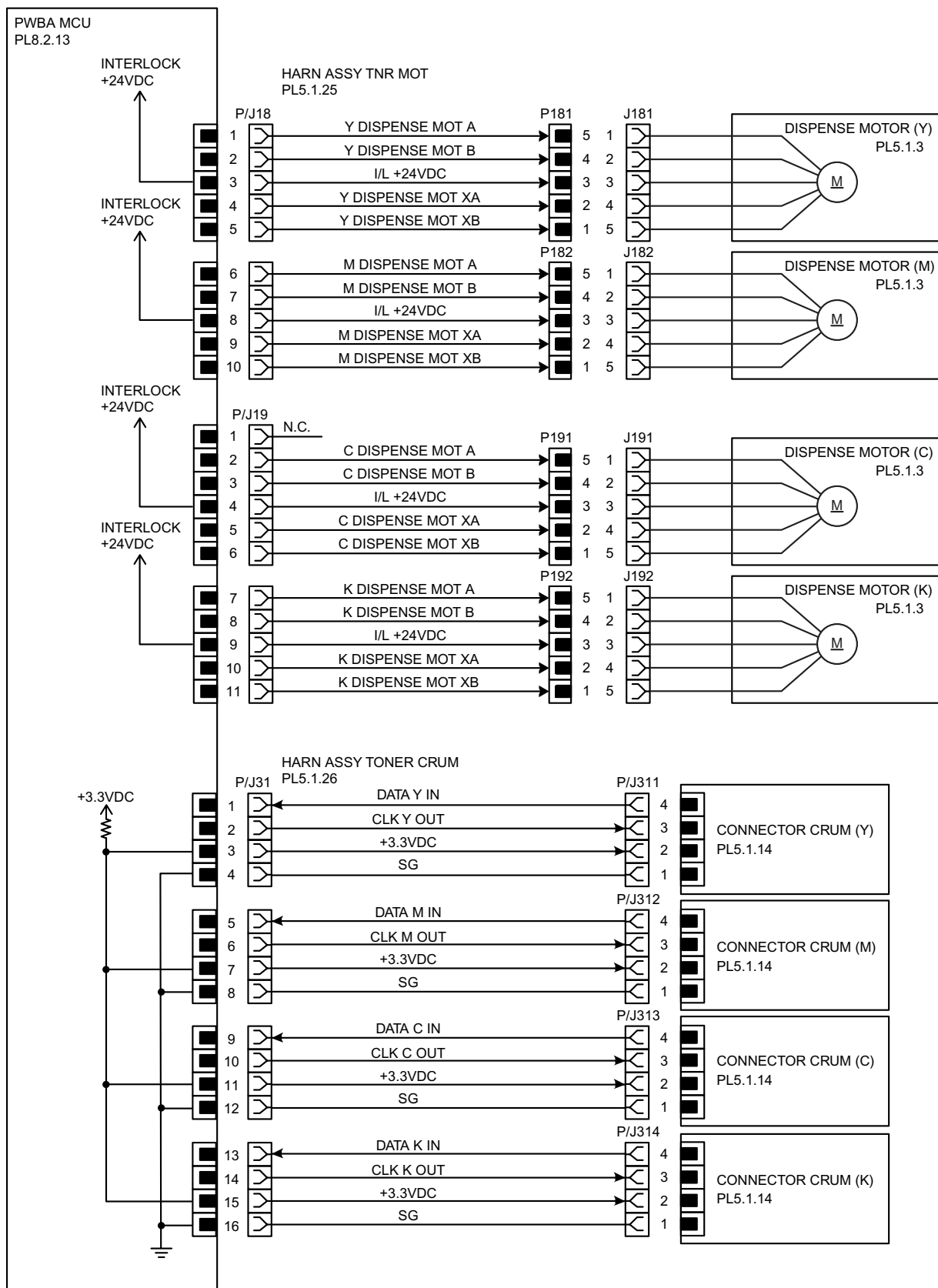
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Signal line name	Description
Y DISPENSE MOT A Y DISPENSE MOT B Y DISPENSE MOT XA Y DISPENSE MOT XB	Drive control signal of the DISPENSE MOTOR (Y)
M DISPENSE MOT A M DISPENSE MOT B M DISPENSE MOT XA M DISPENSE MOT XB	Drive control signal of the DISPENSE MOTOR (M)
C DISPENSE MOT A C DISPENSE MOT B C DISPENSE MOT XA C DISPENSE MOT XB	Drive control signal of the DISPENSE MOTOR (C)
K DISPENSE MOT A K DISPENSE MOT B K DISPENSE MOT XA K DISPENSE MOT XB	Drive control signal of the DISPENSE MOTOR (K)
DATA Y IN CLK Y OUT	Control signal of the CONNECTOR CRUM (Y)
DATA M IN CLK M OUT	Control signal of the CONNECTOR CRUM (M)
DATA C IN CLK C OUT	Control signal of the CONNECTOR CRUM (C)
DATA K IN CLK K OUT	Control signal of the CONNECTOR CRUM (K)

§ 8 FUSER
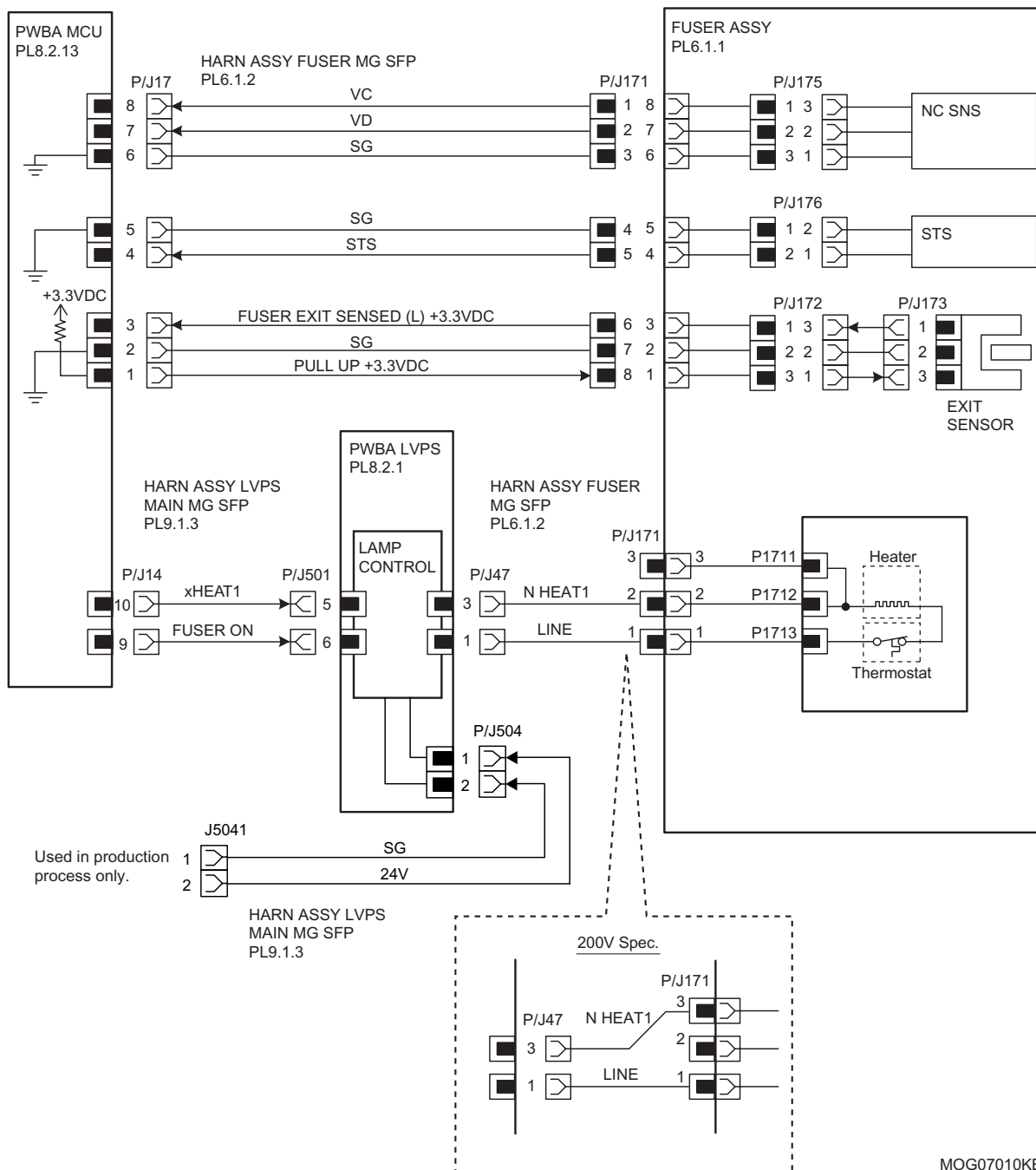
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Signal line name	Description
VC VD	Temperature data measured by Temp. Sensor for controlling temperature (analog value)
STS	Heat Roll surface temperature data measured by Temp. Sensor for detecting high temperature (analog value)
FUSER EXIT SENSED (L) +3.3VDC	Paper detect signal of the Fuser Exit by the Sensor Photo (EXIT SENSOR)
FUSER ON	Lighting signal of Fuser Lamp
RELAY TEST LOW RELAY TEST HIGH	Test signal of the LVPS (Used in production process only)

§ 9 CONTROLLER

PWBA ESS
PL8.1.7

HARNESS ASSY ESS MG SFP
PL9.1.1

PWBA MCU
PL8.2.13

+3.3VDC

P/J101

P/J10

+3.3VDC

1	TEST PRINT	18
2	SG	17
3	+3.3VDC	16
4	DEEP SLEEP	15
5	SG	14
6	STS	13
7	CMD	12
8	CREADY	11
9	SREADY	10
10	SG	9
11	VSYNC K	8
12	VSYNC C	7
13	VSYNC M	6
14	VSYNC Y	5
15	SG	4
16	HSYNC	3
17	SG	2
18	NC	1

HARN ASSY ESS VIDEO
PL9.1.2

P/J111

P/J11

1	SG	8
2	DATA K	7
3	SG	6
4	DATA C	5
5	SG	4
6	DATA M	3
7	SG	2
8	DATA Y	1

HARN ASSY ESS POWER
PL9.1.10

PWBA LVPS
PL8.2.1

+5VDC

+5VDC

+3.3VDC

P/J401

P/J40

+3.3VDC

1	+5VDC	1
2	SG	2
3	+3.3VDC	3
4	SG	4

HARNESS ASSY B
PL9.1.12

HARNESS ASSY PNL A
PL1.2.12

CONSOLE ASSY PANEL
PL1.2.3

P/J29

P/J5301

P/J202

+5VDC

+5VDC

14	1	14	SG	1		
13	2	13	UI-RESET	2		
12	3	12	LED	3		
11	4	11	+3.3VDC	4		
10	5	10	WKUPL	5		
9	6	9	SG	6		
8	7	8	RXD	7		
7	8	7	TXD	8		
6	9	6	SG	9		
5	10	5	SPEAKER	10		
4	11	4	SG	11		
3	12	3	+5VDC	12		
2	13	2	SG	13		
1	14	1	SG	14		

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Signal line name	Description
TEST PRINT	Control signal for the TEST PRINT mode
STS	Status signal transmitted fro the PWBA MCU to the PWBA ESS
CMD	Command signal transmitted from the PWBA ESS to the PWBA MCU
CREADY SREADY	Signal for indicating weather or not the printer is ready for receiving command signal
VSYNC K VSYNC C VSYNC M VSYNC Y	Signal for indicating registration position of each of images Y, M, C and K
HSYNC	Signal for data
DATA K DATA C DATA M DATA Y	Video data of four colors
UI-RESET LED WKUPL RXD TXD SPEAKER	Control signal of the CONSOLE ASSY

§ 10 250 FEEDER
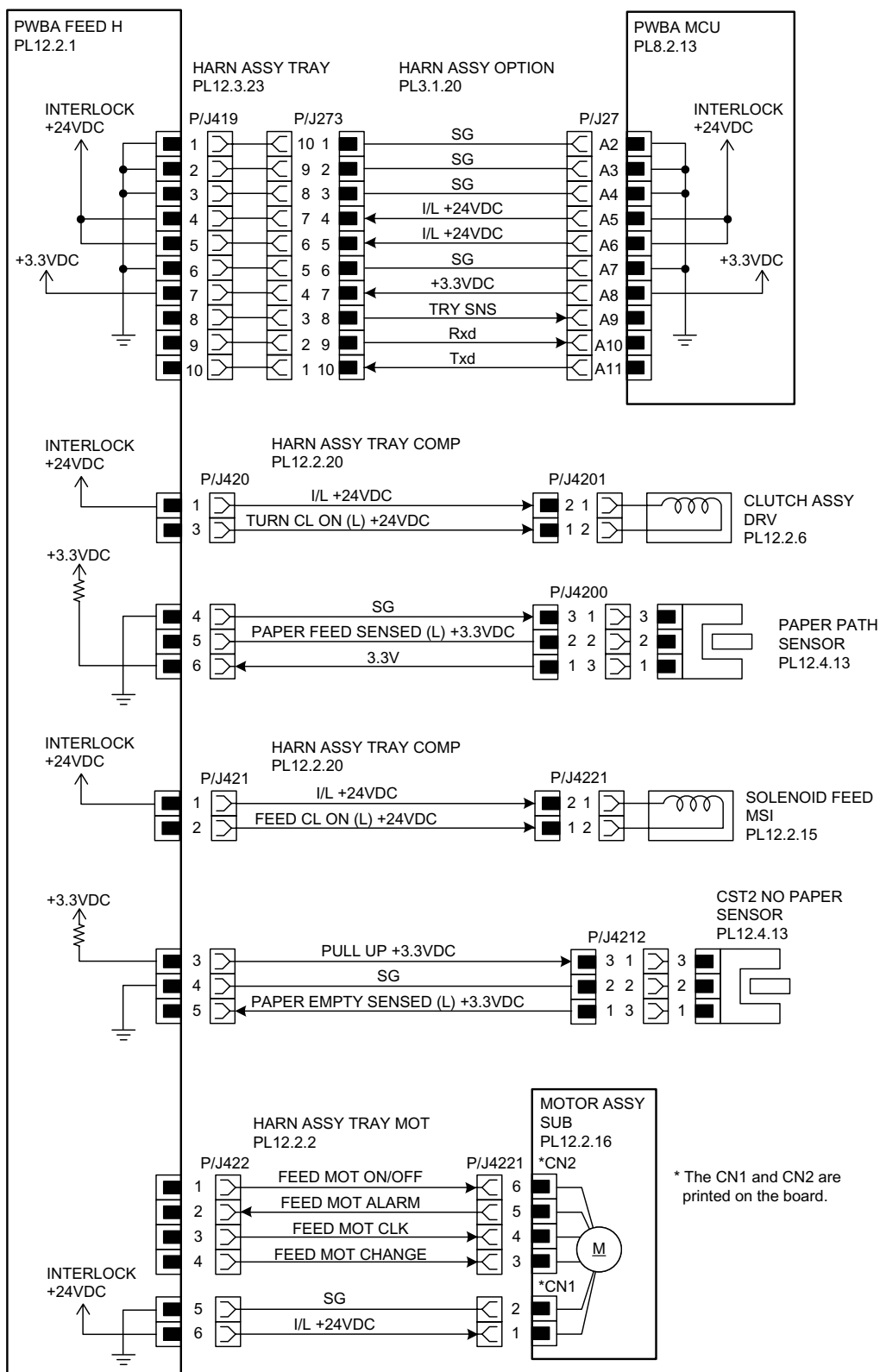
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Signal line name	Description
TRY SNS Rxd Txd	Control signal of the PWBA FEEDER
TURN CL ON (L) +24VDC	ON/OFF signal of the TURN CLUTCH
FEED CL ON (L) +24VDC	ON/OFF signal of the FEED CLUTCH
PAPER EMPTY SENSED (L) +3.3VDC	Paper detect signal of the Feeder by the Sensor Photo (NO PAPER SENSOR)
FEED MOT ON/OFF FEED MOT ALARM FEED MOT CLK FEED MOT CHANGE	Drive control signal of the FEED MOTOR

§ 11 DUPLEX
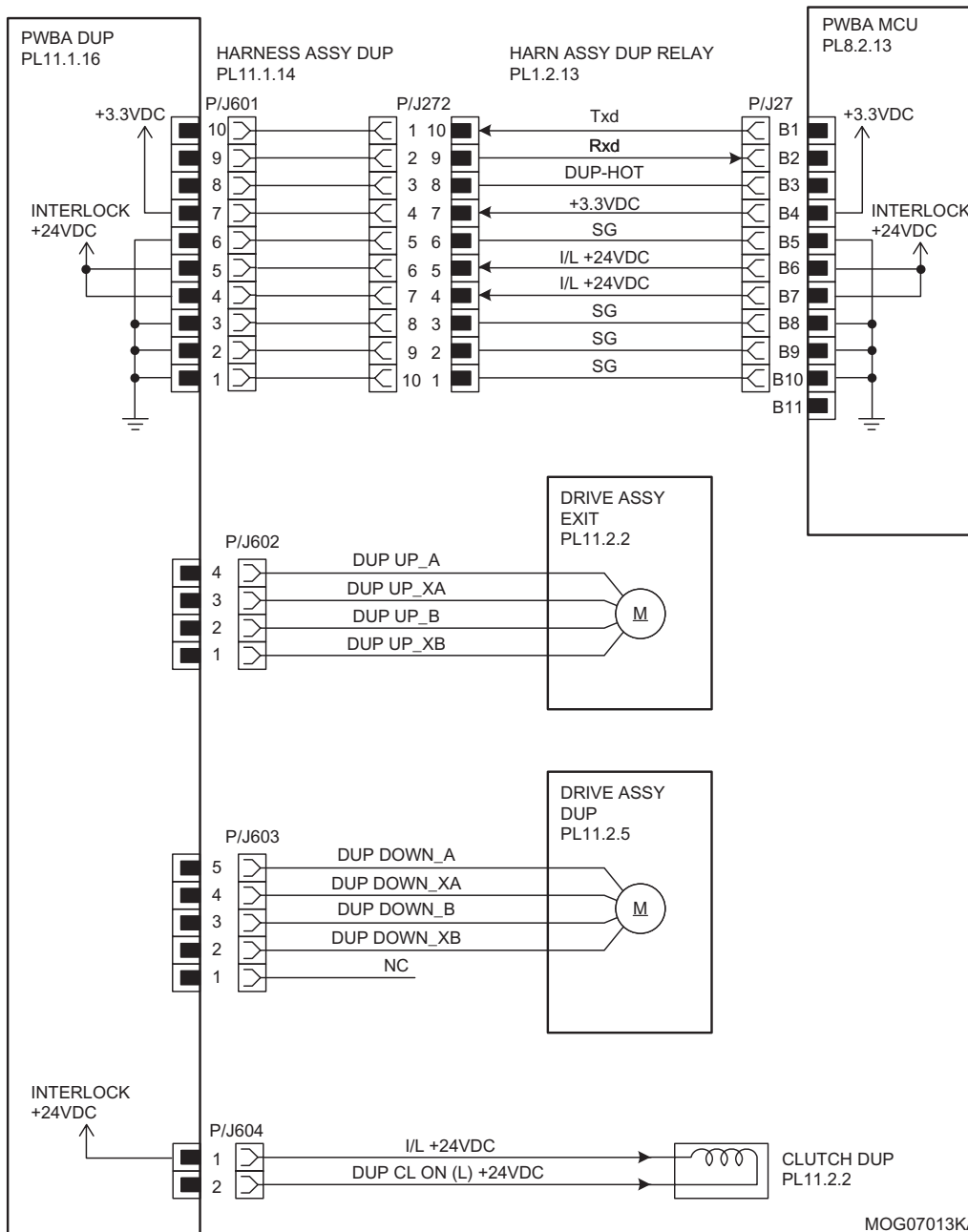
MOG07013KA

Signal line name	Description
DUP-HOT Txd Rxd	Control signal of the PWBA DUP
DUP UP_A DUP UP_XA DUP UP_B DUP UP_XB	Drive control signal of the DUP MOTOR UP
DUP DOWN_A DUP DOWN_XA DUP DOWN_B DUP DOWN_XB	Drive control signal of the DUP MOTOR DOWN
DUP CL ON (L) +24VDC	ON/OFF signal of the DUP CLUTCH
FAN +24VDC FAN ALARM	Drive control signal of the DUP FAN

Chapter 8 Printer Specifications CONTENTS

Chapter 8 Printer Specifications CONTENTS

Chapter 8 Printer Specifications CONTENTS

Chapter 8 Printer Specifications CONTENTS

1. Configuration of Printer

1.1 Basic Configuration

The printer has the following basic configurations depending on the destination.
- print engine main unit (SSF and 250 feeder unit as the standard paper feeding)
- consumables (CRU)

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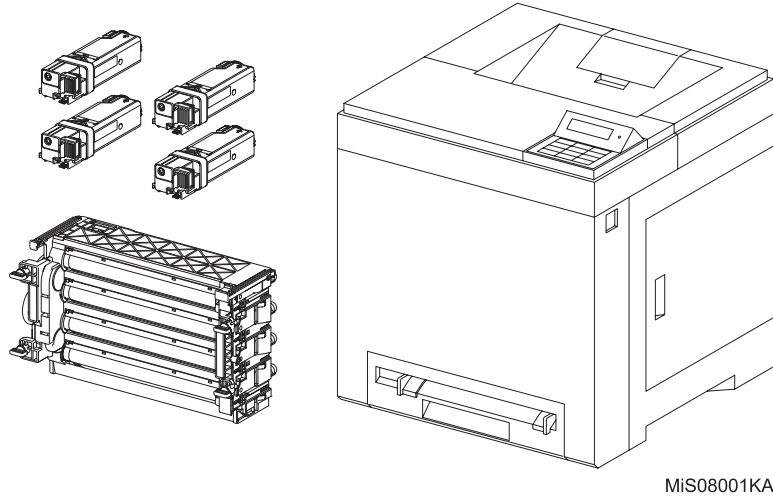
1.2 Functional Configuration

Functional configuration of this printer is shown below.

Wsb08002KA
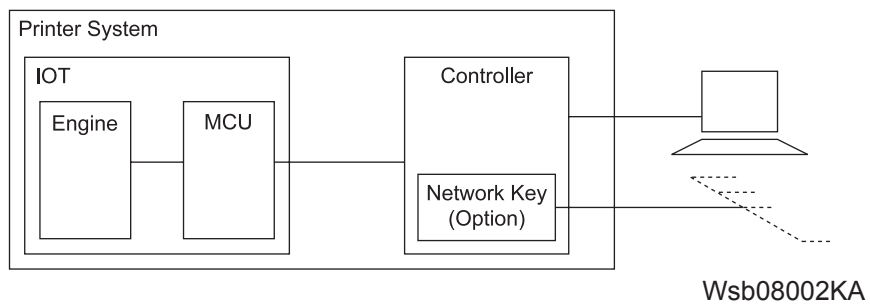
2. Electrical Properties

2.1 Power Source

Two types of power source as follows are available for this printer, which are selected according to the specifications.

- 110V printer: .... voltage: 100-127VAC ±10% (90 ~ 140V), frequency: 50/60Hz ± 3Hz
current capacity: 9A or less
- 220 printer: .... voltage: 220-240VAC ±10% (198 ~ 264V), frequency: 50/60Hz ± 3Hz
current capacity: 5A or less

2.2 Power Consumption

Power consumption in each operation mode at rated voltage input

Operation mode	Average (Wh/h)
Running mode (Ave.)	520 or less
Running mode (MAX.)	1100 or less
Standby mode	43 or less
Sleep mode	15 or less
Deep sleep mode	8 or less

2.3 Rush Current

When the power switch is turned on, the inrush current shall be maximum 120A, 10ms (half cycle) or less.

3. Mechanical Properties

3.1 Dimensions/Mass of Printer

Model	Width(mm)	Depth(mm)	Height(mm)	Mass(kg)
2150cn	400	460.9[*1]	436.4	19.8[*2]
2150cdn				18.6[*2]

*1: Depth of M/C is with paper tray.
*2: Mass of M/C is with CRU.

Rio08003KA

3.2 Dimensions/Mass of 250 Feeder (Option)

Width(mm)	Depth(mm)	Height(mm)	Mass(kg)
400	450.9	106	4.4
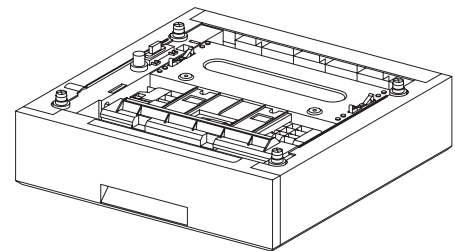
Rio08013KA

3.3 Dimensions/Mass of Consumables and CRUs

3.3.1 PHD Unit

Width: 332mm

Depth: 138mm

Height: 196mm

Mass: 3.37kg

Reference: The PHD Unit has CRUM (CRU memory) to record information.
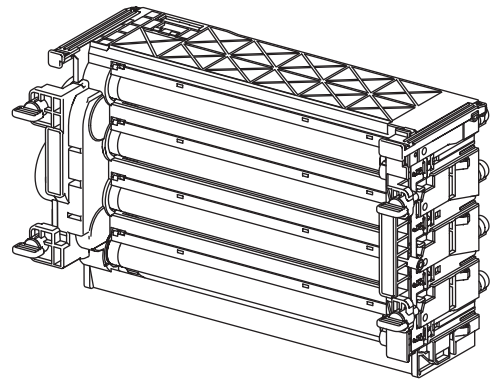
Wsb08006KA

3.3.2 Black toner cartridge

Width: 185.8mm

Depth: 63mm

Height: 40.5mm

Mass: 0.1K kg

Reference:The Black toner cartridge has CRUM (CRU memory) to record information.
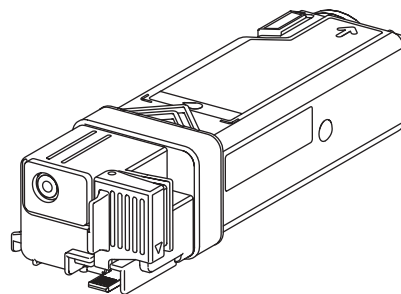
Wsb08005KA

3.3.3 Cyan toner cartridge

Width: 185.8mm

Depth: 63mm

Height: 40.5mm

Mass: 0.1 kg

Reference:The Cyan toner cartridge has CRUM (CRU memory) to record information.
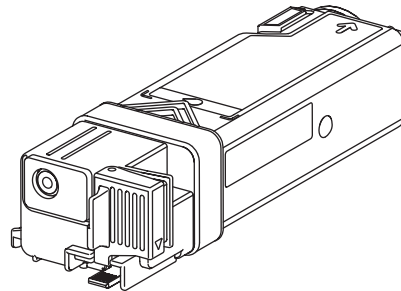
Wsb08005KA

3.3.4 Magenta toner cartridge

Width: 185.8mm

Depth: 63mm

Height: 40.5mm

Mass: 0.1 kg

Reference:The Magenta toner cartridge has CRUM (CRU memory) to record information.
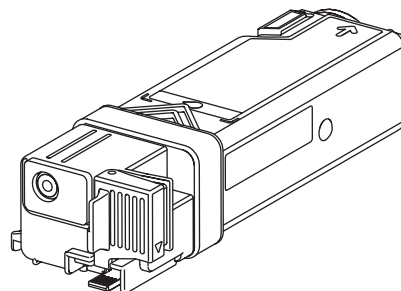
Wsb08005KA

3.3.5 Yellow toner cartridge

Width: 185.8mm

Depth: 63mm

Height: 40.5mm

Mass: 0.1 kg

Reference:The Yellow toner cartridge has CRUM (CRU memory) to record information.

Wsb08005KA

8 – 5
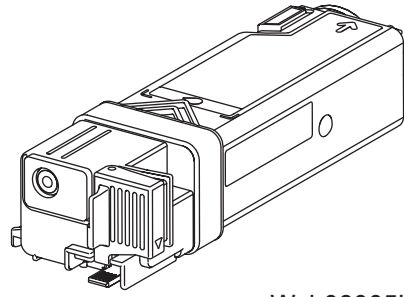
3.4 Installation Space (min. installation space)

Minimum space as shown below is required to install the printer when it is used for normal objects. (Space occupied by the operator is not included.)

Top view

100mm

100mm   250mm

600mm

Rio08007KA

8 – 6

Front view

200mm

100mm

250mm

MiS08008KA

Side view

200mm

600mm

100mm

Front Cover

MiS08009KA

8 − 7
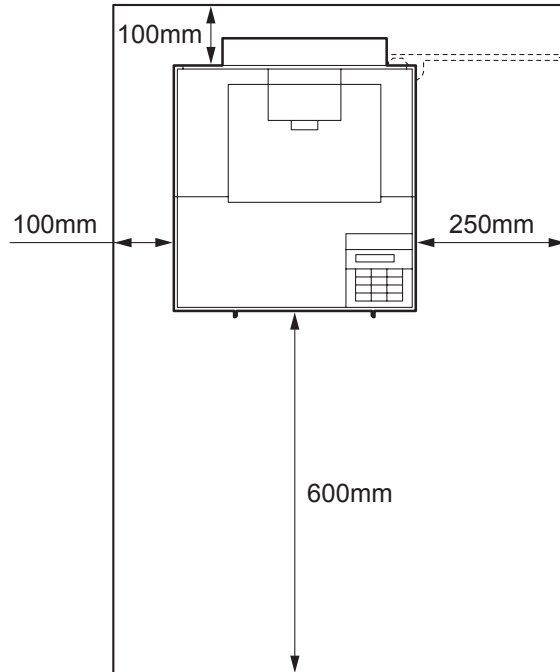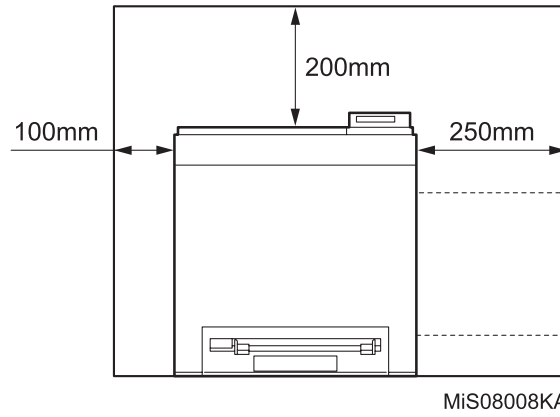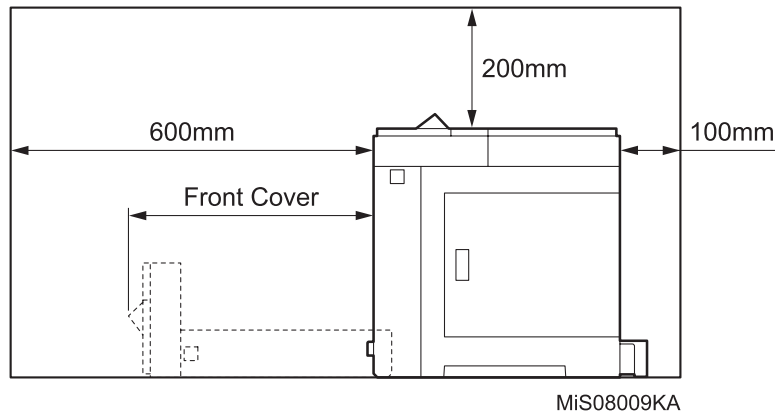
4. Functions

4.1 Recording System

Tandem electro-photographic system employing OPC drum and direct transfer by the transport belt

4.2 Exposure System

Four laser beams semiconductor scanning system

4.3 Development System

Development with 2-component developer

4.4 Fixing System

Thermal fixing system

4.5 Resolution

600 dpi x 600 dpi

4.6 Operation Mode

The printer can be operated in either of 5 operation modes. The modes are switched over by command from the printer controller or change of printer operation, etc.
Proceeding from power ON, low power mode or sleep mode to standby mode will take place after going through a warm up stage.

- Initializing mode
    State in initializing.
        Fixing system: Stop status
        Exposure system: Operating status (during calibration)
        Recording system: Operating status (during calibration)
- Running mode
    State in running or recording operation.
        Fixing system: Held at operating temperature.
        Exposure system: Operating status
        Recording system: Operating status
- Ready mode
    Ready state
        Fixing system: Held at ready temperature.
        Exposure system: Stop status
        Recording system: Stop status
- Sleep mode
    Complete resting state. Compatible to E-Star and BAM requirement.
        Fixing system: Stop status
        Exposure system: Stop status
        Recording system: Stop status
- Deep sleep mode
    Resting state from the sleep state.
        Fixing system: Stop status
        Exposure system: Stop status
        Recording system: Stop status

4.7 Warm-up Time

When nominal voltage (110V, 220V) is applied, the printer will proceed to standby mode from POWER-ON within 16.5 seconds.
Reference: Measured at 22°C, 55% RH, nominal voltage, plain paper mode.

4.8 FPOT (First Print Output Time)

FPOT time of the printer is shown in the table below.
The time required for the first sheet of paper to be delivered after the PRINT indication is given is calculated on the following conditions (rounded to one decimal place).
   • IOT performance that the controller does not have IOT wait.
   • The printer is in the standby mode. (ROS MOTOR OFF, FUSER READY)
   • Paper is A4 SEF
   • Except when process control is operating*1

   *1:Process controller operation is process controls such as TC control, electric potential control, cleaning cycle, registration control, and so on. Sometimes, the engine stops feeding papers for a certain period of time while continuous printing for these operations.

Color Mode	Paper Tray	FPOT (Sec.)		
		Ready mode	Deep sleep mode	Just after power on
B/W	Standard tray	15.5 sec. or less	31 sec. or less	31.5 sec. or less
	SSF	15.5 sec. or less	31 sec. or less	31.5 sec. or less
	Optional tray	15.5 sec. or less	31 sec. or less	31.5 sec. or less
Color	Standard tray	15.5 sec. or less	31 sec. or less	31.5 sec. or less
	SSF	15.5 sec. or less	31 sec. or less	31.5 sec. or less
	Optional tray	15.5 sec. or less	31 sec. or less	31.5 sec. or less

4.9 Continuous Printing Speed

The continuous printing speed is shown in the below.

OS	Paper Type/Size	Input Tray	Color Mode	Print Speed	
				Simplex	**Duplex**
Win	Plain/A4	Standard Tray	Color	43 sec or less	56 sec or less
			B/W	40 sec or less	56 sec or less
		Option Tray	Color	43 sec or less	56 sec or less
			B/W	43 sec or less	56 sec or less
Mac	Plain/A4	Standard Tray	Color	110 sec or less	130 sec or less
			B/W	90 sec or less	105 sec or less

NOTE

Measurement is conducted five times. Print speed is calculated as average of the three values after the maximum and minimum values are excluded.

4.10 Input Properties

4.10.1 Paper pick-up system

- Paper pick-up with paper tray
  Feeding method of this printer is ARRF method.

4.10.2 Paper pick-up capacity

- Paper pick-up with paper tray
  • 250 sheet Paper Tray   : 250 sheets or below 27.6mm of standard paper

- SSI paper pick-up
  1 sheet

4.11 Output Properties

4.11.1 Paper delivery system
Paper can be delivered by the following method.
- FACE DOWN delivery

4.11.2 Paper delivery capacity
- FACE DOWN delivery
  150 sheets (Letter/A4 standard paper)*

4.11.3 Delivery paper size/mass
- FACE DOWN delivery
  All paper sizes applicable to this printer

4.11.4 Full stack detection
non

4.12 Paper

4.12.1 Paper type

Paper which can be used with this printer is classified into standard paper, general paper and special paper.

- Standard paper

Using this type of paper is recommended. Reliability, operability and print image quality are the application range of the specifications.

Following paper is the standard paper.

	B/W	F/C
For overseas market	4200MP	X-pressions

- General paper

General paper is plain paper except standard paper and special paper, and its reliability and running performance are within the specification, but the print image quality is out of the specification.

- Special paper

Special paper except for plain paper. Reliability and operability are the applicable range of specifications but the print image quality is out of the applicable range of specifications.

4.12.2 Paper mass

- Paper feed from paper tray

"60 to 216 gsm" (16 lb to 80 lb)

4.12.3 Paper size

Paper size which can be set to each paper pick-up unit is shown in the table below.

Cassette	Paper size
250 Sheet Paper Tray / SSF	A5, B5 , A4, Letter, Executive, Legal, Folio, Monarch, DL, C5, Com-10 Minimum size Width 76.2mm × Length 127mm Maximum size Width 215.9mm × Length 355.6mm

5. Consumables

Consumables are usually replaced by costumers. In the event of recovery of failure attributable to consumables or isolation of failure, you may replace them.

5.1   Items of Consumables

- Black toner cartridge
  Cartridge to supply black toner to the development unit.
  Black toner cartridge has CRUM (CRU memory) to record information.
- Yellow toner cartridge
  Cartridge to supply yellow toner to the development unit.
  Yellow toner cartridge has CRUM (CRU memory) to record information.
- Magenta toner cartridge
  Cartridge to supply magenta toner to the development unit.
  Magenta toner cartridge has CRUM (CRU memory) to record information.
- Cyan toner cartridge
  Cartridge to supply cyan toner to the development unit.
  Cyan toner cartridge has CRUM (CRU memory) to record information.

5.2   Consumable Life

- Black toner cartridge:	1.2k / 3kPV
- Yellow toner cartridge:	1.2k / 2.5kPV
- Magenta toner cartridge:	1.2k / 2.5kPV
- Cyan toner cartridge:	1.2k / 2.5kPV

5.3   Periodic Replacing Parts (Reference)

- PHD	24kPV
- FUSER	50kPV or 5 years
- Separator Roller	50kPV or 5 years

Fuser

PHD

Separator Roller

Feed Roller

Black toner cartridge

Cyan toner cartridge

Magenta toner cartridge

Yellow toner cartridge

MiS08010KA
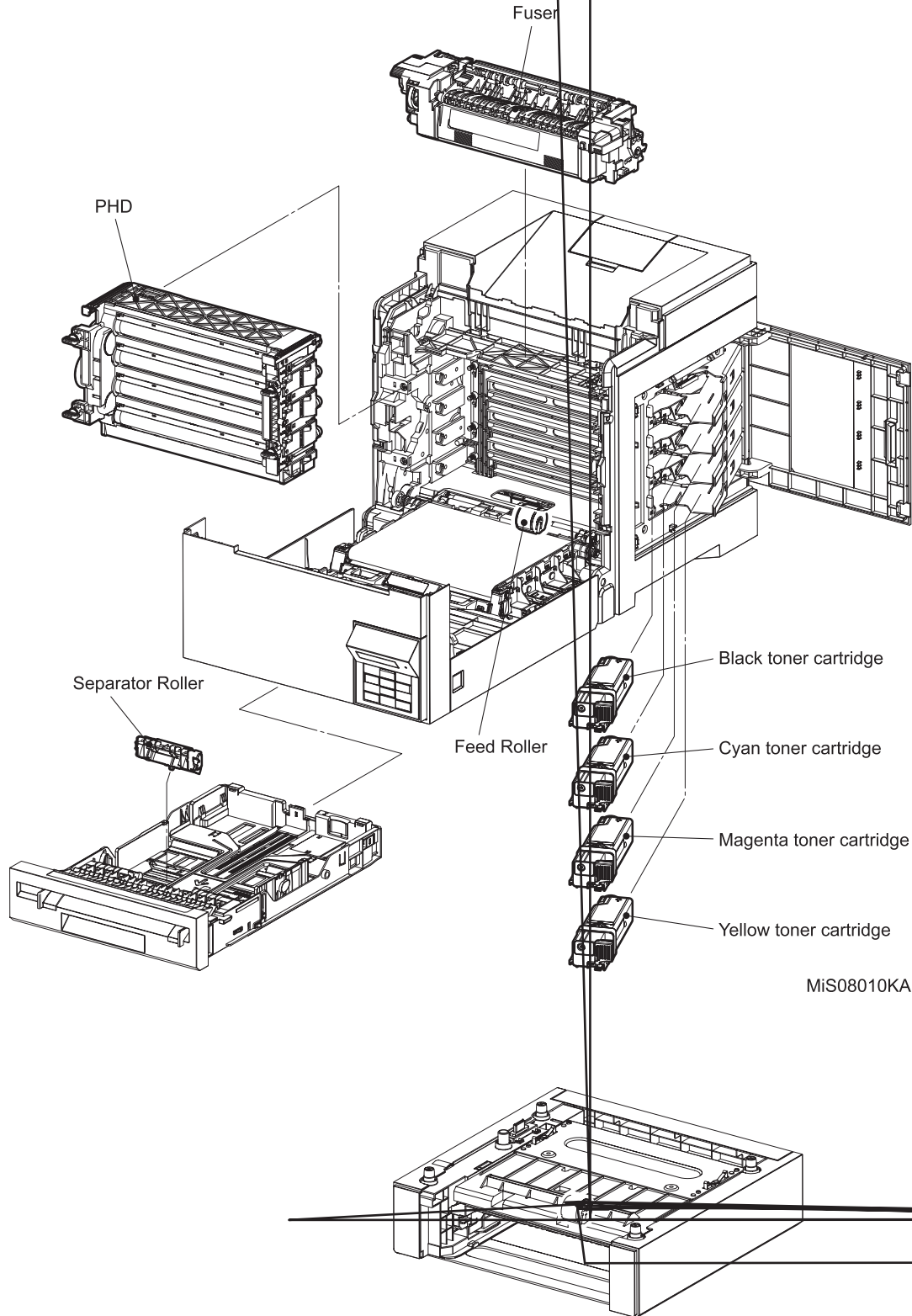
MiS08011KA

6. Operating Environment

6.1 Installation Temperature / Humidity

Installation temperature and humidity on the condition without condensation is as follows.
At operating: 5-32 °C, 15-85%RH (No condensation)

6.2 Installation Altitude

0 to 3,100m

6.3 Installation Horizontality

Longitudinal levelness of table surface on which the printer is installed:1 degree or under
Lateral levelness of table surface on which the printer is installed   :1 degree or under

6.4 Ambient Lighting

3,000 Lux or less (without no direct sun beams)

6.5 Storage Temperature of a Toner Cartridge

The guaranteed period of the print cartridge before unpacked is as follows:
Normal conditions: 24 months under 0 to 35°C, 15 to 80% RH.
Harsh conditions: Up to one month under -20 to 0°C and 35 to 40°C, 5 to 15% RH and 80 to 95% RH.

The storage altitude shall be 0 to 3,100m. Can be extended to 0 to 15,000m when shipped by air.
(Provided that the cargo bay is pressurized to 70.9275Kpa or higher.)

7. Safety / Environment Conditions

7.1 Safety Standard

- 110V system

UL60950-1, CSA 22.2 60950

- 220V system

IEC60950-1 / EN60950-1,

7.2 Laser Safety Standard

- 110V system

FDA21CFR Chapter 1, Subchapter J, Section 1010, 1040

- 220V system

IEC60825-1 Amendment 1 + Amendment 2 ,

EN60825-1 Amendment 1 + Amendment 2 Class 1 Laser Product

7.3 EMI

- 110V system (US)

FCC Part 15, Subpart B, Class B

- 220V system (EC)

EN55022 (CISPR Publication 22), Class B

7.4 Noise

Noise of printing is as follows.

Mode		Sound Power Level (B)	
		LWA	LWAD
Running	Color	6.49	6.79
	B&W	6.41	6.71
Standby	Color	4.0	4.3
	B&W	4.0	4.3

8. Print image Quality

8.1   Image Quality Guarantee Conditions

The image quality is specified and guaranteed under the following conditions.

8.1.1 Environmental conditions

Environment condition for evaluating image quality

Temperature: 15-28 °C

Humidity: 20-70%RH

8.1.2 Guaranteed paper

The print image quality specified here is guaranteed with standard paper fed from the paper tray.

Evaluation is performed with the maximum size of each standard paper.

- Fuji Xerox C2 paper (Color print)

- Fuji Xerox P paper (B&W print)

8.1.3 Paper condition

The paper used is fresh paper immediately after unpacked, which has been left in the operating environment for 12 hours before unpacking.

8.1.4 Printer condition

The print image quality specified in this section is guaranteed with the printer in normal condition.

8.1.5   Image quality guaranteed area

The print image quality specified in this section is guaranteed in the guaranteed image quality area specified in this manual. (Refer to Chapter 1)

8.1.6 Criterion

The print image quality is guaranteed with the Spec. In rate = 90% (γ = 90%).

9. Option

9.1   Option to be Installed by Users

Users can install the following unit.
- 250 Sheet Feeder
- Expansion memory (512MB)
- Wireless Printer Adapter

10. ESS Specification

10.1 External Interface

10.1.1 USB

Item	Specification
Connector	Type-B x 1
Protocol	USB2.0, High Speed

10.1.2 Ethernet

Item	Specification
Connection	One RJ-45 connector
Protocol	10Base-T / 100Base-TX / 1000BASE-TX

10.1.3 Wireless

Item	Specification
Connection	IEEE802.11b / 802.11g / 802.11n
Protocol	See "10.2 Network Protocol" for details

10.2 Network Protocol

10.2.1 Printing Protocol

Protocol	Transport	Maximum Session	Supported Client
Port9100	TCP/IP	1	Windows XP / Vista / 7 / Server2003 / Server2008 / Server2008 R2
LPD	TCP/IP	1	Windows XP / Vista / 7 / Server2003 / Server2008 / Server2008 R2 Mac OS X Linux
IPP	TCP/IP	5	Windows XP / Server2003 Mac OS X 10.3
SMB	TCP/IP	5	Windows XP / Vista / 7 / Server2003 / Server2008
WSD	TCP/IP	2	Windows Vista / 7 / Server2008 / Server2008 R2

10.2.2 Other Protocols

Protocol	Transport	Support
HTTP / HTTPS	TCP/IP	EWS
SMTP	TCP/IP	E-Mail Alert
SNMP	UDP/IP	Driver, Installer
DHCP	UDP/IP	IP setup
BOOTP	UDP/IP	IP setup
RARP	TCP/IP	IP management
AutoIP	TCP/IP	Installer (device discovery)
WINS	TCP/IP	IP setup
Telnet	TCP/IP	IP management
Bonjour(mDNS)	UDP/IP	IP setup for Mac
DDNS	TCP/IP	IP management

10.2.3 MIB

The printer supports following MIB.

- RFC1213 MIB-II

- RFC1514 HostResources

- RFC1759 Printer MIB

- Printer port monitor MIB

- Dell Private MIB

10.3 Decomposer

10.3.1 PDL

PDL	Interface port	Operating system
PCL 5c	USB, TCP/IP	
PCL 6	USB, TCP/IP	Windows XP / Vista / 7 / Server2003 / Server2008 / Server2008 R2
HBPL	USB, TCP/IP	Mac OS X (10.3/10.4/10.5/10.6), Linux, Windows Vista / 7 / Server2008 / Server2008 R2

10.3.2 Font

- PCL Font

    81 Fonts

- PDF Font

Type	Font Name
TrueType	ITC Zapf Dingbats
	Arial
	Arial Bold
	Arial Italic
	Arial Bold Italic
	Courier
	Courier Bold
	Courier Italic
	Courier Bold Italic
	Times New Roman
	Times New Roman Bold
	Times New Roman Italic
	Times New Roman Bold Italic
	Symbol
Multiple master	GoldSEMM
	GoldSAMM

10.3.3 Image Area

Usable Area Size	Maximum : 215.9mm (8.5 in.) x 355.6mm (14 in.)
Unprintable Area	4.1 mm each from four edges (left, right, top and bottom) of paper
Printable Area	Maximum : 207.9mm (8.18 in.) x 347.6mm (13.68 in.)
Print Image Quality Guaranteed Area	Same as Printable Area

10.4 Job Control

10.4.1 Cancel Print

A print job in process can be cancelled at the operation panel.

10.4.2 Job Recovery

When a job fails due to recoverable error like a paper jam, the printer automatically restarts the job after the jammed paper is removed.

10.4.3 Job Time Out

When job transmission is interrupted for a certain period of time (Time can be changed at the operation panel and unlimited time can be selected), the print data is deleted as an error.

10.4.4 Dell Color Track

Dell Color Track is a function to specify the availability of color print and to limit print volume per user. Only administrators are allowed to make limitation settings from the EWS.
User name and password is embedded in the print job in order to identify who the job is sent from. User name and password are entered by user from the printer driver.
The printer can support maximum 50 accounts.

10.4.5 Secure Print (/Store Print)

When memory is expanded (512MB or more), the printer holds print data, including a user password (12 digits) specified in the printer driver, user name and document name, in memory. The data is not printed until the same password, user name and document name are specified at the printer UI.
The user can select whether the data is cleared or not after being printed. The data remains in the printer as long as it is not cleared. The data on the memory is cleared when the printer is turned off.
The user can omit entering a password (This is called Store Print).

10.4.6 Proof Print

When memory is expanded (512MB or more), proof print can be selected only when multiple sets of prints are specified in the printer driver. The printer prints only the first set of the print data. Then the user can select whether the remaining sets are printed or not (the remaining data is cleared) when the same user name and document name are entered at the printer UI. The data remains in the printer as long as it is not cleared. The data on the memory is cleared when the printer is turned off.

10.4.7 IP Filter

The user can select to accept or reject jobs for the specified IP address. Up to 5 IP addresses can be specified. IP filter is available only to LPD and Port9100 printing protocol.

10.4.8 Virtual Mail Box

There are two type of Virtual Mail Box.
[Public Virtual Mail Box] When print job is selected Public (password not needed) in the Stored Print menu on the driver, everyone can print job from operator panel if know user name or file name. And this print job remains till deleted intentionally.
[Private Virtual Mail Box] When print job is selected Private (password needed) in the Stored Print menu on the driver, everyone cannot print job from operator panel if unknown password.
And this print job remains till deleted intentionally.

10.5 Logging

10.5.1 Job Logging

The printer can retain up to 20 job logs. Job log can be printed instantly according to the user's request or automatically printed when the number of the retained job logs has reached 20. Job log includes the following information:

• Job sent date and time

• Input interface (USB, Lpd, Port9100)

• Document name (File name)

• Output color

• User name/Host name

• Number of printed pages (Color, B/W)

• Number of printed impressions (Color, B/W)

• Paper size

• Result (Successful, Error, etc.)

10.5.2 Error Logging

The printer can retain up to 42 jam errors and up to 42 fatal errors.

The user can print error log by the panel operation.

Jam error log includes the following information:

• PV counter when jam has occurred

• Name of Jam

Fatal error log includes the following information:

• PV counter when error has occurred

• Error code

10.5.3 Billing Count

NOTE	• **The same data is stored in two or more addresses in one IC. Data check (checksum etc.) is conducted.**

NOTE	• **When ESS is replaced, IC can be transferred. (IC is mounted on socket)**

Counter	Description
Color Print Counter	Count the number of paper printed in color
B/W Print Counter	Count the number of paper printed in B/W
Total Print Counter	Count the total number of paper printed in color and B/W

10.6 ID Print

User name can be printed. The printing position can be selected from upper right, upper left, lower right and lower left (Only for PCL6).
The user selects using the operation panel whether user name is printed or not and where it is printed.

10.7 Non DELL Toner Mode

When life of toner cartridge has ended, the printer stops accepting print request (life of toner cartridge is counted by the counter in CRUM). Taking into consideration that some users use refilled toner cartridges, the printer can accept print request by the user's panel operation even if life of toner cartridge has ended. When the mode has changed so that the printer does not stop even after life of toner cartridge ends, the printer displays a message on the operation panel to inform the user of the mode change. When the printer operates in this mode, print image quality is not guaranteed. Also, remaining toner level is not displayed (as CRUM data can not be guaranteed).

10.8 Report Function

10.8.1 Printer Setting List

This list shows SFP controller, hardware configuration, and host interface.

Manual print: List is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.2 Panel Setting List

This list shows function details set from the SFP control panel.

Manual print: List is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.3 PCL Fonts List

This list shows PCL Fonts.

Manual print: List is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.4 PCL Macros List

This list shows PCL Macros.

Manual print: List is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.5 Job History Report

This report shows Job History.

Manual print: Report is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.6 Error History Report

This report shows Error History.

Manual print: Report is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.7 Printer Meter

This report shows Print Volume.

Manual print: Report is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.8 Color Test Page

This Page shows Demo Print Page.

Manual print: Demo Page is printed by instructing from the operator panel, EWS, or ToolBox.

Auto print: Not supported.

10.8.9 Stored Document List

This report shows information such as accepted time, sender/receiver, contents of document, document size, and the number of pages, for each of incomplete jobs and stored jobs per document No. in a table format.

10.8.10 PIN Code Print (*At the time of Wireless Option connection)

This report shows the PIN code set up by Wireless setup.

Manual print: PIN Code Print is printed by instructing from the operator panel.

Auto print: Not supported.

10.8.11 ColorTrack Error Report

This report is printed out automatically when ColorTrack Error happend. This report is the same as Job History.

User can select from the following two options on the menu in advance.

Print only at Color Track Error.

Not print (Not print out ColorTrack Error Report)

10.9 Utility Print

10.9.1 Printer Settings List

Printer Settings List can be printed according to the user's request.

Printer Settings List is printed in B/W on A4 size paper (Letter size paper for US) in the automatically selected paper tray.

Printer Settings List includes the following information:

[Title]

Printer name, Company Logo

[General]

Printer name, Service tag, Asset Number, Total Impressions, Color Impressions, Black Impressions, Serial Number, Memory capacity, Printer Language , Number of Fonts Available, Firmware version, Boot version, Engine Version, Default Paper, Default Plain, Default Label, Default Language

[Wired Network]

Firmware version, MAC address, Ethernet Setting

TCP/IP, LPD, Port9100, SNMP, E-Mail Alert, EWS, IP Filter, IPv4, IPv6, IPsec, WSD, HTTP-SSL/TLS

[Wireless]

Wireless Setting* (SSID,Network Type,Quality,Link Channel)

* Listed when wireless LAN option is installed

[Printer Options]

Duplexer

Optional Tray

Wireless Printer Adapter

Network Protocol Adapter

[Print Volume]

Print volume for each paper size

10.9.2 Panel Settings List Print

Panel Settings List can be printed by the user's request.

Panel Settings List is printed in B/W on A4 size paper (Letter size paper for the US) in the automatically selected paper tray.

10.9.3 Font List Print

PCL Font List can be printed by the user's operation.

PCL Font List is printed in B/W in the automatically selected paper tray.

10.9.4 Macros List Print

PCL Macros List can be printed by the user's operation.

PCL Macros List is printed in B/W in the automatically selected paper tray.

10.9.5 Job History Report

The user can print Job History Report by requesting instant print or by setting auto print.

Job History Report in B/W on A4 size (Letter size for the US) in the automatically selected paper tray.

- Date
- Time
- Input Port
- Host/User Name
- Document Name
- Output Color
- Paper Size
- Pages
- Sheets
- Result

10.9.6 Error History Report

Error History Report can be printed according to the user's request.

Error History Report in B/W on A4 size (Letter size for the US) in the automatically selected paper tray.

- System Fail History:
  Total Print Count
  Chain-Link (Error Code)
- Paper Jam History:
  Total Print Count
  Type of Jam

10.9.7 Demo Page Print

Demo page can be printed by the user's operation.

Demo page is printed in B/W in the automatically selected paper tray.

Dell 2150cn : recommended spare-part list

06 Oct 2010

MFG P/N	Part Description	Dell P/N	CRU or FRU
TONER / INK			
675K 92610	KIT PKG TN KM 3K-K	N51XP	CRU
675K 92620	KIT PKG TN KM 2.5K-C	769T5	CRU
675K 92630	KIT PKG TN KM 2.5K-M	8WNV5	CRU
675K 92640	KIT PKG TN KM 2.5K-Y	NPDXG	CRU
675K 92570	KIT PKG TN KM 1.2K-K	2FV35	CRU
675K 92580	KIT PKG TN KM 1.2K-C	WHPFG	CRU
675K 92590	KIT PKG TN KM 1.2K-M	9M2WC	CRU
675K 92600	KIT PKG TN KM 1.2K-Y	NT6X2	CRU
675K 96490	KIT PKG TN DUAL KM 3K-K	899WG	CRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
DEVELOPERS			
675K 92520	PHD ASSY REORDER	KGR81	CRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
FUSER AND ACESSORIES			
126K 27840	FUSER ASSY 115V	YPKFP	FRU
126K 27850	FUSER ASSY 220V	PC5HW	FRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
OPTIONS			
675K 84661	WIRELESS ADAPTER	P624N	CRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
DUPLEXER			
059K 68860	FEEDER ASSY DUP SPF STD (with 2-16,PL11.2)	WDHW4	FRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
TRANSFER BELT			
604K 59850	KIT TRANSFER ASSY (with 3-7)	RKN5T	FRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
ROLLER			
604K 49601	ROLL ASSY FEED (with 4 + Instruction)	G866F	CRU
604K 50081	KIT HOLDER ASSY SEPARATOR	M312F	CRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
FEEDER, TRAY AND TRAY HOUSING			
050K 61450	CASSETTE ASSY 250 (with19,21)	D498F	CRU
059K 60651	KIT FEEDER ASSY OPT (with 4-7,PL12.2-12.4,Instruction)	X920D	CRU
050K 63310	CASSETTE ASSY 250 OPT (with 19,21)	C660D	CRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
PLASTICS			
604K 50060	KIT COVER ASSY WINDOW TNR (with 7, Instruction)	F122F	CRU
848K 45850	COVER ASSY-FRONT MG CDN (with 2,5,10,11,28,29)	N4MMN	FRU
848K 45840	COVER ASSY-FRONT MG CN (with 2,5,10,11,28,29)	23H2K	FRU

MFG P/N	Part Description	Dell P/N	CRU or FRU
ELECTRICAL / ELECTRONICS BOARDS AND CARDS			
604K 60040	KIT PWBA ESS SPF(with 7, Instruction)	RHX7T	FRU
105K 24450	PWBA LVPS 100V	VJ1N9	FRU
105K 24460	PWBA LVPS 220V	Y5DMC	FRU
604K 59951	KIT PWBA MCU (with 6, Instruction)	7KV9X	FRU

FAN AND ACESSORIES			
127E 86270	FAN	MT4HH	FRU

MEMORY			
675K 92450	KIT PACKAGE DDR2 512MB	T4NTT	CRU

MISCELLANOUS HARDWARE			
604K 49490	KIT FEED ROLL/SOL/CLUTCH (with 1,2,11,15,PL3.2.4)	P376C	FRU
604K 50081	KIT HOLDER ASSY SEPARATOR (with 5, Instruction)	M312F	CRU
604K 49601	ROLL ASSY FEED (with 4 + Instruction)	G866F	CRU
007K 17800	DRIVE ASSY SUB	THMDN	FRU
848K 21710	CONSOLE ASSY PANEL 110V	Y564D	FRU
848K 21720	CONSOLE ASSY PANEL 220V	Y563D	FRU
962K 68760	HARN ASSY INTERLOCK (SW-J44)	Y565D	FRU
604K 59910	KIT ROS (with 1,2 x 2pcs)	RFR9G	FRU

BASE UNIT			
998S 65258	SVC PRINTER N 110V (Spare)	CYK47	CRU
998S 65259	SVC PRINTER DN 110V (Spare)	DKJT4	CRU
998S 65260	SVC PRINTER N 220V EMEA (Spare)	148V6	CRU
998S 65261	SVC PRINTER DN 220V EMEA (Spare)	X89PG	CRU
998S 65262	SVC PRINTER N 220V AUS (Spare)	35MM9	CRU
998S 65263	SVC PRINTER DN 220V AUS (Spare)	D1NVH	CRU

Notes
CRU : Customer Replaceable Units - refers to parts that can easily be replaced by the customer without sending an onsite technician.
FRU : Field Replaceable Unit - a part that can be replaced or added by onsite technician.