



SAMSUNG

Mono Laser MFP

MultiXpress M5370 / M4370
series / M536x series

SL-M5370LX, SL-M4370LX,

SL-M5360RX

(Ver.1.12)

SERVICE MANUAL

Mono Laser MFP

Contents



**SL-M5370LX
SL-M4370LX**

SL-M5360RX

1. Precautions
2. Product Specifications and Description
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Refer to the service manual in the GSPN (see the rear cover) for more information.

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1. Precautions

In order to prevent accidents and damages to the equipment please read the precautions listed below carefully before servicing the product and follow them closely.

1.1. Safety warning

1) Only to be serviced by a factory trained service technician.

High voltages and lasers inside this product are dangerous. This product should only be serviced by a factory trained service technician.

2) Use only Samsung replacement parts.

There are no user serviceable parts inside the product. Do not make any unauthorized changes or additions to the product as these could cause the product to malfunction and create an electric shocks or fire hazards.

3) Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I(1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC/EN 60825-1:2014. Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance or prescribed service condition.

- Wavelength: 800 nm
- Beam divergence
 - Parallel: 11 degrees
 - Perpendicular: 35 degrees
- Maximum power of energy output: 12 mW



WARNING

Never operate or service the product with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes.

When using this product, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and personal injury.



4) Lithium battery not replaceable by user

1.2. Caution for safety

1.2.1. Toxic material

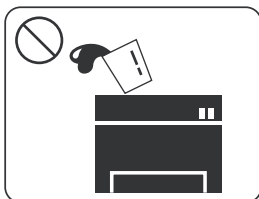
This product contains toxic materials that could cause illness if ingested.

- 1) Please keep imaging unit and toner cartridge away from children. The toner powder contained in the imaging unit and toner cartridge may be harmful, and if swallowed, you should contact a doctor.

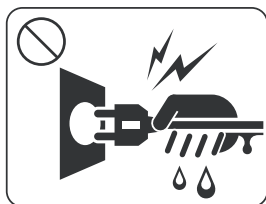
1.2.2. Electric shock and fire safety precautions

Failure to follow the following instructions could cause electric shock or potentially cause a fire.

- 1) Use only the correct voltage, failure to do so could damage the product and potentially cause a fire or electric shock.
- 2) Use only the power cable supplied with the product. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.
- 3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.
- 4) Do not allow water or other liquids to spill into the product, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the product, these could cause a short circuit leading to an electric shock or fire hazard.

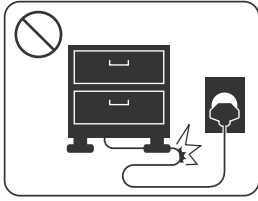


- 5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the product, remove the power plug from the wall socket.

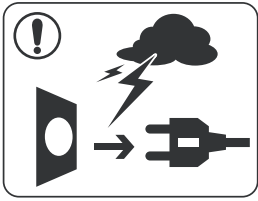


- 6) Use caution when inserting or removing the power cord. When removing the power cord, grip it firmly and pull. The power cord must be inserted completely, otherwise a poor contact could cause overheating leading to a fire.
- 7) Take care of the power cable. Do not allow it to become twisted, bent sharply around corners or power cable may be damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a fire. Exposed cables could cause an electric shock. Replace the damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can attack the coating on the power cable, weakening the cover or exposing cables causing fire and shock risks.

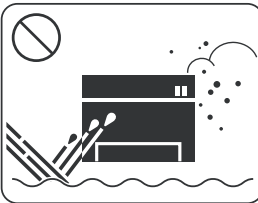
1. Precautions



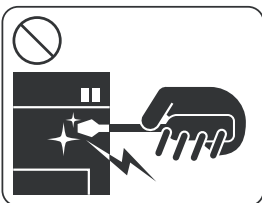
- 8) Ensure that the power sockets and plugs are not cracked or broken in any way. Any such defects should be repaired immediately. Take care not to cut or damage the power cable or plugs when moving the machine.
- 9) Use caution during thunder or lightning storms. Samsung recommends that this machine be disconnected from the power source when such weather conditions are expected. Do not touch the machine or the power cord if it is still connected to the wall socket in these weather conditions.




- 10) Avoid damp or dusty areas, install the product in a clean well ventilated location. Do not position the machine near a humidifier or in front of an air conditioner. Moisture and dust built up inside the machine can lead to overheating and cause a fire or cause parts to rust.



- 11) Do not position the product in direct sunlight. This will cause the temperature inside the product to rise possibly leading to the product failing to work properly and in extreme conditions could lead to a fire.
- 12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.



- 13)  When replacing the SMPS board, please wait 5 minutes after unplugging the power cord, then replace it. You can get a shock by the electric discharge.

1.2.3. Handling precautions

The following instructions are for your own personal safety to avoid injury and so as not to damage the product.

- 1) Ensure the product is installed on a level surface, capable of supporting its weight. Failure to do so could cause the product to tip or fall.
- 2) The product contains many rollers, gears and fans. Take great care to ensure that you do not catch your fingers, hair or clothing in any of these rotating devices.
- 3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the product which if spilled could get into the machine and cause damage or a shock or fire hazard.
- 4) Do not install the machine in areas with high dust or moisture levels, beside an open window or close to a humidifier or heater. Damage could be caused to the product in such areas.
- 5) Do not place candles, burning cigarettes, etc on the product, These could cause a fire.
- 6) Ensure that the machine is installed and used in proper area to meet the temperature and humidity specifications.
 - If the machine is stored at below zero Celsius for a long time, do not use the machine instantly after movement. It can malfunction. Take care of the machine storage. If the machine is stored at below zero Celsius for a long time, keep the machine at room temperature and install it.

1.2.4. Assembly and Disassembly precautions

- 1) Replace parts carefully and always use Samsung parts. Take care to note the exact location of parts and also cable routing before dismantling any part of the machine. Ensure all parts and cables are replaced correctly. Please carry out the following procedures before dismantling the product or replacing any parts.
- 2) Ensure that power is disconnected before servicing or replacing any electrical parts.
- 3) Disconnect interface cables and power cables.
- 4) Only use approved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct.
- 5) When removing or re-fitting any parts do not use excessive force, especially when fitting screws into plastic.
- 6) Take care not to drop any small parts into the machine.
- 7) Handling of the OPC Drum
 - The OPC Drum can be irreparably damaged if it is exposed to light. Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 minutes can damage the surface of the photoconductive properties and will result in print quality degradation. Take extra care when servicing the product. Remove the OPC Drum and store it in a black bag or other lightproof container. Take care when working with the Covers (especially the top cover) open as light is admitted to the OPC area and can damage the OPC Drum.
 - Take care not to scratch the green surface of the OPC Drum Unit. If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

1.2.5. Disregarding this warning may cause bodily injury

- 1) Be careful with the high temperature part.

The fuser unit works at a high temperature. Use caution when working on the printer. Wait for the fuser unit to cool down before disassembly.



- 2) Do not put fingers or hair into the rotating parts.

When operating a printer, do not put hand or hair into the rotating parts (Paper feeding entrance, motor, fan, etc.). If do, you can get harm.



- 3) When you move the printer, use safe lifting and handling techniques.

This printer is heavy. Use the lifting handles located on each side of the machine. Back injury could be caused if you do not lift carefully.

- 4) Ensure the printer is installed safely.

Ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

- 5) Do not install the printer on a sloping or unstable surface. After installation, double check that the printer is stable.

1.3. ESD precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices” or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components. The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.



CAUTION

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.


- 1) Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, which should be removed for your personal safety reasons prior to applying power to the unit under test.
- 2) After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
- 3) Use only a grounded tip soldering iron to solder or desolder ESDs.
- 4) Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
- 5) Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
- 6) Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
- 7) Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
- 8) Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
- 9) Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one’s foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

1.4. Caution for Data Loss

To prevent loss of customers data the SVC engineer provides end-user with relevant information in advance.

2. Product Specifications and Description

2.1. Product Overview

 <p>SL-M5370LX SL-M4370LX</p> <p>SL-M5360RX</p>	<ul style="list-style-type: none"> • Printing Speed <ul style="list-style-type: none"> • M5370/M5360 series : Up to 53 ppm in A4 (55 ppm in Letter) • M4370 series : Up to 43 ppm in A4 (45 ppm in Letter) • Processor <ul style="list-style-type: none"> • M5370/M4370 series : Dual Core 1 GHz • M5360 series : Quad Core 1.5 GHz • Memory <ul style="list-style-type: none"> • 4GB (2GB for Android OS) • Document Feeder <ul style="list-style-type: none"> • M5370/M4370 series : DSDF (Dual Scan Document Feeder) • M5360 series : RADF (Reverse Automatic Document Feeder) • UI <ul style="list-style-type: none"> • M5370/M4370 series : 10.1 inch C-Type TSP • M5360 series : 7 inch IR Type TSP • 320 GB HDD
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2.2. Specifications

Product Specifications are subject to change without notice.

2.2.1. General Specification

Item		Specification
Processor	Main Controller	<ul style="list-style-type: none"> M5370/M4370 series : Dual Core 1 GHz M5360 series : Quad Core 1.5 GHz
	Operational Panel	1 GHz (Quad Core)
User Interface	Operational Panel	<ul style="list-style-type: none"> M5370/M4370 series : 10.1 inch C-Type TSP M5360 series : 7 inch IR Type TSP
	LED	3 EA
	Key / Button	1 EA (Power)
Memory	Total (with Android OS)	4 GB
	Standard (without Android OS)	2 GB
	Max. (Option)	N/A
Storage	Standard	320 GB HDD
Interface	USB (Device)	Std (Hi-Speed USB 2.0)
	USB (Host)	Std (Hi-Speed USB 2.0)
	USB (EDI)	N/A
	Wired LAN	Std (Ethernet 10/100/1000 Base TX)
	Additional Wired LAN Support	N/A
	Wireless LAN	Opt (IEEE 802.11b/g/n + NFC Active Type)
	NFC	Opt (IEEE 802.11b/g/n + NFC Active Type)
	RJ11 Connector	Opt(Fax)
Warm-up Time	From Power-Off	Less than 60 sec
	From Sleep	<ul style="list-style-type: none"> M5370/M5360 series : Less than 26 sec M4370 series : Less than 27 sec
Power Consumption	Ready	Less than 30 W
	Normal operation	<ul style="list-style-type: none"> M5370/M5360 series : Less than 900 W M4370 series : Less than 800 W
	Max/Peak	Less than 1000 W
	Sleep	<ul style="list-style-type: none"> M5370/M4370 series : Less than 1.5 W M5360 series : Less than 2.0 W
	Power Off	Less than 0.5 W
	TEC	<ul style="list-style-type: none"> M5370/M5360 series : Less than 3.9 kWh M4370 series : Less than 3.4 kWh

Item		Specification
Sleep Delay Time	Default	1 min
	Range	1 - 120 min
Power	Korea	220~240V / 50/60Hz / 4.5A
	USA	100~127V / 60Hz / 9A
	Europe	220~240V / 50Hz / 4.5A
Acoustic Noise Level (Sound Power / Pressure)	Printing	<ul style="list-style-type: none"> • Tray 1 : Less than 56 dBA • Tray 2~ 4 : Less than 57 dBA • MP : Less than 57 dBA • HCF : Less than 57 dBA
	Copying	<ul style="list-style-type: none"> • Tray 1 : Less than 58 dBA • Tray 2~ 4 : Less than 59 dBA • MP : Less than 59 dBA • HCF : Less than 59 dBA
	Standby (Fuser off)	37 dBA
	Sleep	Background Noise Level
Dimension (W x D x H)	Set (mm) (without any options)	<ul style="list-style-type: none"> • M5370/M4370 series : 630 x 506 x 636 mm (24.8 x 19.9 x 25.0 Inches) • M5360 series : 630 x 501 x 645 mm (24.8 x 19.7 x 25.4 Inches)
Weight	Set (Kg) (with supplies / without any options)	<ul style="list-style-type: none"> • M5370/M4370 series : 48.97 Kg (108 lb) • M5360 series : 46.2 Kg (101.9 lbs)
Reliability & Service	Recommended Monthly Print Volume	<ul style="list-style-type: none"> • M5370/M5360 series : 15,000 Images • M4370 series : 10,000 Images
	Max Monthly Duty Cycle	<ul style="list-style-type: none"> • M5370/M5360 series : 300,000 Images • M4370 series : 250,000 Images
Temperature	Operating	10 to 32 °C (50 to 90 °F)
	Storage	-20 to 40 °C (-4 to 104 °F)
Humidity	Operating	20 to 80% RH
	Storage	10 to 90% RH

2.2.2. Print Specification

Item		Specification
Print Speed	Simplex	<ul style="list-style-type: none"> M5370/M5360 series <ul style="list-style-type: none"> Up to 53 ppm in A4 (55 ppm in Letter) M4370 series <ul style="list-style-type: none"> Up to 43 ppm in A4 (45 ppm in Letter)
	Duplex	<ul style="list-style-type: none"> M5370/M5360 series <ul style="list-style-type: none"> Up to 48 ppm in A4 (50 ppm in Letter) M4370 series <ul style="list-style-type: none"> Up to 38 ppm in A4 (40 ppm in Letter)
FPOT	From Ready	<ul style="list-style-type: none"> M5370/M5360 series : Less than 7.5 sec M4370 series : Less than 8.0 sec
	From Sleep @2hr	Less than 35 sec
Resolution	Optical	Up to 1200 x 600 dpi
	Enhanced	Up to 1200 x 1200 dpi Effective Output (1200 x 600 x 2 bit)
Printer Languages		PCL5C / PCL6 / PS3 / PDF V1.7
Font	PCL	93 Scalable Fonts / 1 Bitmap
	Postscript3	136 Scalable Fonts
Client OS Support	Windows	XP (32 / 64 bit) / 2003 Server (32 / 64 bit) / Vista (32 / 64 bit) / 2008 server (32 / 64 bit) / 7 (32 / 64 bit) / 2008 Server R2 / Win8 (32 / 64 bit) / 2012 (64bit)
	Linux	<ul style="list-style-type: none"> Red Hat Enterprise Linux 5 / 6 Fedora 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 openSUSE 11.0 / 11.1 / 11.2 / 11.3 / 11.4 / 12.1 / 12.2 / 12.3 Ubuntu 10.04 / 10.10 / 11.04 / 11.10 / 12.04 / 12.10 / 13.04 SUSE Linux Enterprise Desktop 10 / 11 Debian 5.0 / 6.0 / 7.0 / 7.1 Mint 13 / 14 / 15
	UNIX	Sun Solaris 9 / 10 / 11 (x86 / SPARC) / HP-UNIX 11.0 / 11i v1 / 11i v2 / 11i v3 (PA-RISC / Itanium) / IBM AIX 5.1 / 5.2 / 5.3 / 5.4 / 6.1 / 7.1 (PowerPC)
	Mac OS	Mac OS X 10.5 - 10.9
Network Protocol		TCP/IPv4 / HTTP / HTTPS / SNMP (v1.2/v3) / LDAP / LDAPS / SMTP / SSL/TLS / IPSec / DNS / WINS / SLP / Bonjour / SSDP / DDNS / DHCP/BOOTP / IPv6 / NetBIOS over TCP/IP
Duplex Print		Built-in
Direct Print		PDF
Print Features		Proof Print / ECO Print / Auto Continue / Skip Blank Pages / Air Print / Google Cloud Print

2.2.3. Scan specification

Item		Specification
Scan Speed	B/W (Lineart, Halftone)	<ul style="list-style-type: none"> • M5370/M4370 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 80 ipm (@ 300 dpi) • M5360 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 35 ipm (@ 300 dpi)
	Gray	<ul style="list-style-type: none"> • M5370/M4370 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 80 ipm (@ 300 dpi) • M5360 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 35 ipm (@ 300 dpi)
	Color	<ul style="list-style-type: none"> • M5370/M4370 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 80 ipm (@ 300 dpi) • M5360 series <ul style="list-style-type: none"> • Simplex: Up to 55 ipm (@ 300 dpi) • Duplex: Up to 35 ipm (@ 300 dpi) • Duplex: Up to 80 ipm (@ 300 dpi)
Color Mode		Mono / Gray / Color
Compatibility		TWAIN(Only for USB), WIA(N/A)
Scan method		White-LED Scan Lamp Type of CCD
File Formats		TIFF-S / TIFF-M / JPEG / PDF / Compact PDF / XPS
Resolution	Optical (ADF)	Up to 600 x 600 dpi
	Optical (Platen)	Up to 600 x 600 dpi
	Enhanced (ADF)	Up to 4800 x 4800 dpi
	Enhanced (Platen)	Up to 4800 x 4800 dpi
Scan Destinations		Email / FTP / SMB / HDD / USB / Client
Multi Destinations		No
Communication Protocol		SMTP / MIME(Base 64) / SMB / FTP / WebDAV
Scan Size	ADF	Max. 216 x 356 mm (8.5" x 14")
	Platen	Max. 216 x 356 mm (8.5" x 14")
Scan Original Types		Text , Text/Photo , Photo

2.2.4. Copy specification


Item		Specification
Copy Speed	SDMC (Single Document Multiple Copy)	<ul style="list-style-type: none"> M537x/M5360 series <ul style="list-style-type: none"> Up to 53 cpm @ A4 (Up to 55 cpm in Letter) M437x series <ul style="list-style-type: none"> Up to 43 cpm @ A4 (Up to 45 cpm in Letter)
	MDMC (Multiple Document Multiple Copy)	<ul style="list-style-type: none"> M537x series <ul style="list-style-type: none"> Simplex to Duplex (1-2) : up to 48 cpm in A4 Duplex to Simplex (2-1) : up to 53 cpm in A4 Duplex to Duplex (2-2) : up to 48 cpm in A4 M5360 series <ul style="list-style-type: none"> Simplex to Duplex (1-2) : up to 48 cpm in A4 Duplex to Simplex (2-1) : up to 35 cpm in A4 Duplex to Duplex (2-2) : up to 35 cpm in A4 M437x series <ul style="list-style-type: none"> Simplex to Duplex (1-2) : up to 38 cpm in A4 Duplex to Simplex (2-1) : up to 43 cpm in A4 Duplex to Duplex (2-2) : up to 38 cpm in A4
FCOT	From Ready @ Platen	<ul style="list-style-type: none"> M537x/M5360 series : Less than 4.5 sec M437x series : Less than 5 sec
	From Ready @ ADF	Less than 8 sec
	From Sleep @ Platen, 2hr	Less than 40 sec
	From Cold start @ Platen	Less than 60 sec
Resolution	ADF	<ul style="list-style-type: none"> Scan: 600 x 600 dpi (Optical) Printing: 600 x 600 dpi
	Platen	<ul style="list-style-type: none"> Scan: 600 x 600 dpi (Optical) Printing: 600 x 600 dpi
Reduce / Enlarge	ADF	25 - 200 %
	Platen	25 - 400 %
	Preset	Original (100 %) / Auto Fit / A4 → A5 (71 %) / LGL → LTR (78 %) / LGL → A4 (83 %) / A4 → LTR (94 %) / EXE → LTR (104 %) / A5 → A4 (141 %) / 25 % / 50 % / 150 % / 200 % / 400 % / Custom (25 - 400 %)
Darkness Control		11 Levels
Contrast Control		11 Levels
Multi Copy		1 - 9999
Duplex Copy		Built-in
Copy Original Type		Text / Text/Photo / Photo
Copy Features		Erase Edge / Margin Shift (Auto Center / Custom Margin) / Book Center Erase / Form Copy / Watermark Copy / Page Numbering / Time & Date Stamp / ID Stamp / Job Program / Background Density (Auto / Erase 7 Levels / Enhance 3 Levels) / Erase Backside Image (10 Levels) / Sharpness (11 Levels) / Negative Image (On/Off) / Job Build / Mirror

2.2.5. Fax specification

Item		Specification
Compatibility		ITU-T G3 / Super G3
Communication System		PSTN / PABX
Modem Speed		33.6 Kbps
TX Speed		Approx. 3 Sec
Scan speed	Standard	1.5 sec / LTR
	Fine	4 sec/LTR
	S.Fine	Depends on Document
Resolution (Mono)	Std	203 x 98 dpi
	Fine	203 x 196 dpi
	S.Fine	300 x 300 dpi
Compression Method		MH / MR / MMR / JBIG
Fax Memory (Standard / Max.)		HDD Stored
Dual Lines		N/A
Fax Features	Handset	N/A
	On hook Dial	Yes
	Search	Yes (Address Book)
	1-Touch Dial	N/A
	Speed Dial	500 Locations
	TAD I/F	Yes
	Tone/Pulse	Yes
	Pause	Yes
	Auto Redial	Yes
	Last Number Redial	Yes
	Distinctive Ring	Yes
	Caller ID	Yes
	External Phone Interface	Yes
	Fax Forward to E-Mail	Yes
	Fax to PC	N/A
	Broadcasting	500 Locations
	Delayed Fax	Yes
Color Fax	N/A	
Report & List Print out	Tx/Rx Journal	Yes
	Confirmation	1 Type (without Image TCR)
	Auto Dial List	N/A
	System Data List	Yes

2.2.6. Paper Handling specification

Item		Specification
Input Capacity	Standard	520-Sheet Cassette Tray
	Multipurpose	100-Sheet MP Tray
	Other Options	<ul style="list-style-type: none"> 520-Sheet SCF x 3 2,100-Sheet HCF + 520-Sheet SCF
	Maximum	3,240-Sheet Cassette Tray (520 Std + 100 MP + 520 SCF + 2,100 HCF)
Standard Cassette Tray	Capacity	520 sheets @ 20 lb (75 g/m ²)
	Media sizes	Letter / Legal / Oficio / Folio / A4 / JIS B5 / ISO B5 / Executive / A5 / Statement / A6 / PostCard 4x6 / Envelope B5 / Envelope Monarch / Envelope COM-10 / Envelope DL / Envelope C5 / Envelope C6 / Custom [Min: 98 mm x 148 mm (3.85" x 5.83") / Max: 216 x 356 mm (8.5" x 14")]
	Media types	Plain Paper / Thin Paper / Bond / Punched / Pre-Printed / Recycled / Envelope / Label / CardStock / Letterhead / Thick / Colored / Archive / Cotton
	Media weight	<ul style="list-style-type: none"> Supported Weight : 60 - 163 g/m² (16 - 39 lb) Duplex Supported Weight : 60 - 90 g/m² (16 - 24 lb) Plain Paper: 70 - 90 g/m² (18 - 24 lb) Thin Paper: 60 - 69 g/m² (16 - 18 lb) Bond: 105 - 120 g/m² (28 - 32 lb) Punched: 60 - 90 g/m² (16 - 24 lb) Pre-Printed: 75 - 85 g/m² (20 - 23 lb) Recycled: 60 - 85 g/m² (16 - 23 lb) Envelope: 75 - 90 g/m² (20 - 24 lb) Label: 120 - 150 g/m² (32 - 40 lb) CardStock: 106 - 163 g/m² (28 - 43 lb) Letterhead: 75 - 90 g/m² Thick Paper: 91 - 105 g/m² (24 - 28 lb) Colored: 75 - 85 g/m² (20 - 23 lb) Cotton Paper: 75 - 85 g/m² (20 - 23 lb)
	Sensing	<ul style="list-style-type: none"> H/W Install Detect: Yes Paper Empty & Low Level Detect: Yes Paper Type Detect: No Paper Size Detect: Yes
MP Tray	Capacity	<ul style="list-style-type: none"> Plain Paper: 100 sheets Envelopes: 10 sheets Labels: 10 sheets
	Media sizes	<ul style="list-style-type: none"> Min : 98 x 148 mm (3.85" x 5.83") Max : 216 x 356 mm (8.5" x 14")
	Media type	Plain Paper / Thin Paper / Bond / Punched / Pre-Printed / Recycled / Envelope / Label / Cotton / CardStock / Letterhead / Thick / Colored / Archive
	Media weight	60 - 163 g/m ² (16 - 43 lb)

Item		Specification
	Sensing	<ul style="list-style-type: none"> • H/W Install Detect : No • Paper Empty Detect : Yes • Paper Type Detect : No • Paper Size Detect : No
DSDF (Dual Scan Document Feeder)	Capacity	100 sheets @ 75 g/m ² (20 lb)
	Duplex Document Scanning	Yes (Dual scan)
	Document Size	<ul style="list-style-type: none"> • Width : 145 - 216 mm (5.7" - 8.5") • Length : 145 - 356 mm (5.7" - 14.0")
	Document Weight	50 - 105 g/m ² (12.5 - 28 lb)
	Sensor	<ul style="list-style-type: none"> • Paper Empty Detect : Yes • Paper Width Detect : Yes • Paper Length Detect : Yes
	Auto Detected Size	N/A
 NOTE For M537x/M437x	Capacity	100 sheets @ 80 g/m ²
	Duplex Document Scanning	Yes
	Document Size	<ul style="list-style-type: none"> • Width : 145 - 216 mm (5.7" - 8.5") • Length : 145 - 356 mm (5.7" - 14.0")
	Document Weight	50 - 105 g/m ² (12.5 - 28 lb)
	Sensor	<ul style="list-style-type: none"> • Paper Empty Detect : Yes • Paper Width Detect : Yes • Paper Length Detect : Yes
	Auto Detected Size	N/A
RADF (Reverse Automatic Document Feeder)	Capacity	100 sheets @ 80 g/m ²
	Duplex Document Scanning	Yes
	Document Size	<ul style="list-style-type: none"> • Width : 145 - 216 mm (5.7" - 8.5") • Length : 145 - 356 mm (5.7" - 14.0")
	Document Weight	50 - 105 g/m ² (12.5 - 28 lb)
	Sensor	<ul style="list-style-type: none"> • Paper Empty Detect : Yes • Paper Width Detect : Yes • Paper Length Detect : Yes
	Auto Detected Size	N/A
Output Stacking	Standard	500-Sheet @ 75 g/m ² (20 lb) Face Down
	Maximum	1,000 Sheets [600 Sheets (2-bin Finisher) + 400 Sheets (4-bin Mailbox)]
Printing size	Max. Size	216 x 356 mm (8.5" x 14")
	Min. Size	98 x 148 mm (3.85" x 5.83")
Max. Printing Area	Simplex	Top: +/- 4.3 mm / Side: +/- 4.3 mm
	Duplex	Top: +/- 4.3 mm / Side: +/- 4.3 mm
Duplex Printing	Support	Built-in
	Media Size	Min: 98 mm x 148 mm (3.85" x 5.83") / Max: 216 x 356 mm (8.5" x 14")
	Media Type	Plain Paper / Thin Paper / Bond / Punched / Pre-Printed / Recycled / Letterhead / Colored
	Media weight	<ul style="list-style-type: none"> • Supported Weight: 60 - 105 g/m² (16 - 28 lb) • Plain Paper: 70 - 90 g/m² (18 - 24 lb) • Plain Paper (Duplex): 60 - 105 g/m² (16 - 28 lb) • Thin Paper: 60 - 69 g/m² (16 - 18 lb) • Punched: 60 - 90 g/m² (16 - 24 lb) • Pre-Printed: 75 - 85 g/m² (20 - 23 lb) • Recycled: 60 - 85 g/m² (16 - 23 lb) • Letterhead: 90 g/m² cotton paper (24 lb)

2.2.7. Software and Solution specification

Item		Specification
Application	Anyweb Print	Yes
	Easy Printer Manager	Windows / Mac
	Easy Color Manager	N/A
	Easy Document Creator	Windows
	Net PC Fax	Windows / Mac
	Direct Printing Utility	Windows
	Easy Deployment Manager	Windows
	Easy Eco Driver	Windows
	Universal Printer Driver	Windows
	Universal Scan Driver	Windows / Mac
Mobile Printing	GCP (Google Cloud Print)	Yes
	AirPrint	Yes
Solution	Device Management	SyncThru Admin 6.0
	Output Management	CounThru Enterprise / CounThru Pro
	Document Management and Distribution	SmarThruWorkFlow Lite 1.0
	Security	SecuThru Lite 1.0 / 2.0
	Mobility	SCP 1.0
Security	Authentication (Local)	Yes
	Authentication (Network)	Yes (Kerberos / SMB / LDAP)
	IP Address Filtering	Yes (IPv4 Filtering / IPv6 Filtering / MAC Filtering)
	HDD Overwrite (Standard)	Yes (MIO only) * Manual Image Overwrite
	HDD Overwrite (Max. Overwrites)	9
	Secure Print	Yes
	Encrypted Secure Print	Yes

Item		Specification
	Encrypted PDF Mode (Encrypted Scanning)	Yes
	IP Sec	Yes
	Smart Card Authentication	N/A

2.2.8. Supplies

Item	Model Name	Average yield	Conditions for yield
Toner Cartridge	MLT-D358S	Approx. 30,000 pages	Declared yield value in accordance with ISO/IEC 19752
Imaging Unit	MLT-R358	Approx. 100,000 pages	@ A4/Letter LEF , 4 pages/job , Simplex Mode , ISO chart



NOTE

- Depending on the print pattern and job mode used, the consumable's lifespan may differ.

2.2.9. Maintenance Parts

Items	Part Code	Life	Remark
Fuser Unit	<ul style="list-style-type: none"> • JC91-01160A (220V) • JC91-01159A (110V) 	250,000 pages	
Transfer roller Assy	JC97-02287A	125,000 pages	
Pick up/ Reverse/ Forward roller (Tray 1,2,3,4)	JC97-02259A	250,000 pages	
MP pick up roller Assy	JC96-03533A	100,000 pages	
MP friction pad	JC93-00937A	50,000 pages	
DSDF Pick-Up roller Assy	JC97-04428A	150,000 pages	For M5370/M4370 series
DSDF Reverse roller	JC97-04135A	100,000 pages	For M5370/M4370 series
RADF Pick-Up roller Assy	JC97-03099A	120,000 pages	For M536x series
RADF Friction Pad	JC97-03097A	50,000 pages	For M536x series





NOTE

Depending on the print patterns and job mode used, the lifespan may differ.

2.2.10. Option

Option List

Image	Item	Model
	Second Cassette Feeder	SL-SCF5300
	High Capacity Feeder	SL-HCF001B
	Cabinet Stand (Tall)	SL-DSK001T
	Cabinet Stand (Short)	SL-DSK002S
	Fax kit	SL-FAX1001
	1-bin Finisher (Stacker & Stapler)	SL-FIN001M
	2-bin Finisher (Stacker & Stapler)  NOTE Production of 2-bin Finisher is discontinued.(’16.Dec) / Please check inventory availability of your region.	SL-FIN002M

Image	Item	Model
	4-bin Mailbox NOTE Production of Mailbox is discontinued.(16.Dec) / Please check inventory availability of your region.	SL-MBT0401
	Wireless Kit	SL-NWE001X
-	Staple Cartridge	SCX-STP000
-	FDI (Foreign Device Interface) kit	SCX-KIT20F

Option Specification

Model	Item	Specification
Second Cassette Tray(Feeder)	Model Name	SL-SCF5300
	Capacity	520 Sheets @ 75 g/m ² (20 lb)
	Media Size	Letter / Legal / Oficio / Folio / A4 / JIS B5 / ISO B5 / Executive / A5 / Statement / Envelope Monarch / Envelope COM-10 / Envelope DL / Envelope C5 / Envelope C6 / Custom [Min: 98 mm x 152 mm (3.85" x 6") / Max: 216 x 356 mm (8.5" x 14")]
	Media Type	Plain Paper / Thin Paper / Bond / Punched / Pre-Printed / Recycled / Envelope / Label / Cotton / CardStock / Letterhead / Thick / Colored / Archive
	Media Weight	<ul style="list-style-type: none"> • Plain Paper: 70 - 90 g/m² (18 - 24 lb) • Plain Paper (Duplex): 60 - 105 g/m² (16 - 28 lb) • Thin Paper: 60 - 69 g/m² (16 - 18 lb) • Bond: 105 - 120 g/m² (28 - 32 lb) • Punched: 60 - 90 g/m² (16 - 24 lb) • Pre-Printed : 75 - 85 g/m² (20 - 23 lb) • Recycled : 60 - 85 g/m² (16 - 23 lb) • Envelope : 75 - 90 g/m² (20 - 24 lb)
	Sensing	<ul style="list-style-type: none"> • H/W Install Detect: Yes • Paper Empty & Low Level Detect: Yes • Paper Type Detect: N/A • Paper Size Detect: Yes
	Dimension	554 x 454 x 138 mm (21.8" x 17.9" x 5.4")
	Weight	11.84 kg (26.1 lb)

2. Product Specifications and Description

Model	Item	Specification
High-Capacity Feeder	Model Name	SL-HCF001B
	Capacity	2,100 Sheets @ 75 g/m ² (20 lb)
	Media Size	A5 / Statement / JIS B5 / Executive / Letter / A4 / Folio / Oficio / Legal
	Media Type	Plain Paper / Thin Paper / Bond / Punched / Pre-Printed / Recycled / Cotton / CardStock / Letterhead / Thick / Colored / Archive
	Media Weight	<ul style="list-style-type: none"> • Plain Paper: 70 - 90 g/m² (18 - 24 lb) • Plain Paper (Duplex): 60 - 105 g/m² (16 - 28 lb) • Thin Paper: 60 - 69 g/m² (16 - 18 lb) • Bond: 105 - 120 g/m² (28 - 32 lb) • Punched: 60 - 90 g/m² (16 - 24 lb) • Pre-Printed : 75 - 85 g/m² (20 - 23 lb) • Recycled : 60 - 85 g/m² (16 - 23 lb) • Letterhead : 90 g/m² Cotton Paper
	Sensing	<ul style="list-style-type: none"> • H/W Install Detect : Yes • Paper Level Detect : Yes (Empty, 4 Level) • Paper Type Detect: N/A • Paper Size Detect: Yes
	Dimension	554 x 454 x 387 mm (21.8" x 17.9" x 15.2")
	Weight	27.98 kg (61.68 lb)
Short Stand	Model Name	SL-DSK002S
	Capacity	INA
	Dimension	554 x 482 x 147 mm (21.8" x 19.0" x 5.8")
	Weight	11.3 kg
Cabinet Stand	Model Name	SL-DSK001T
	Capacity	INA
	Dimension	554 x 491 x 371 mm (21.8" x 19.3" x 14.6")
	Weight	15.5 kg
1-bin Finisher	Model Name	SL-FIN001M
	Finishing Mode	INA
	Number of Bin	1
	Finishing Capacity	500 Sheets @ 75 g/m ² (20 lb)
	Staple Cartridge Capacity	5000 EA
	Stacking Top Tray	N/A
	Stacking Finishing Tray	500 Sheets @ 75 g/m ² (20 lb)
	Stapling Max. Number of Sheets	50 Sheets @ 75 g/m ² (20 lb)
	Stapling Positions	1 Position
	Stapling Tray	1
	Offline Stapling	N/A
	Offset at Non Staple Job	Yes

Model	Item	Specification
	Offset at Staple Job	N/A
	Output Stacking	500 Sheets @ 75 g/m ² (20 lb)
	Finishing Paper Size	INA
	Finishing Paper Type	INA
	Finishing Paper Weight	INA
	Dimension	435 x 386 x 282 mm (17.1" x 15.2" x 11.1")
	Weight	10.4 kg (23.02 lb)
2-bin Finisher	Model Name	SL-FIN002M
	Finishing Mode	INA
	Number of Bin	2
	Finishing Capacity	Main tray : 500 Sheets @ 75 g/m ² (20 lb) / Top tray : 100 Sheets @ 75 g/m ² (20 lb)
	Staple Cartridge Capacity	5,000
	Stacking Top Tray	100 Sheets @ 75 g/m ² (20 lb)
	Stacking Finishing Tray	500 Sheets @ 75 g/m ² (20 lb)
	Stapling Max. Number of Sheets	50 Sheets @ 75 g/m ² (20 lb)
	Stapling Positions	1 Position
	Stapling Tray	1
	Offline Stapling	N/A
	Offset at Non Staple Job	Yes
	Offset at Staple Job	N/A
	Output Stacking	500 Sheets @ 75 g/m ² (20 lb)
	Finishing Paper Size	INA
	Finishing Paper Type	INA
	Finishing Paper Weight	INA
	Dimension	502 x 386 x 320 mm (19.8" x 15.2" x 12.6")
Weight	12.82 kg (28.26 lb)	
Multi-bin Mailbox	Model Name	SL-MBT0401
	Number of Bin	4
	Capacity	400 Sheets @ 75 g/m ² (20 lb) (100 Sheets / Bin)
	Sensing	N/A
	Dimension	360 x 110 x 368 mm (14.2" x 4.3" x 14.5")
	Weight	4.44 kg (9.79 lb)
Working Table	Model Name	CLX-WKT000
	Dimension	55 x 205 x 145 mm (2.2" x 8.1" x 5.7")
	Weight	0.17 kg (0.37 lb)

2. Product Specifications and Description

Model	Item	Specification
Foreign Device Interface	Model Name	SCX-KIT20F
	Dimension	40 x 2 x 63 mm (1.6" x 0.1" x 2.5")
	Weight	0.03 kg (0.07 lb)
Fax	Model Name	SL-FAX1001
	Compatibility	ITU-T G3 / Super G3
	Modem Speed	33.6 Kbps
	Memory	HDD Stored
	Resolution	300 x 300 dpi (Mono)
	Auto Dial	Yes
	Fax Feature	Auto Redial, Caller ID, Fax Forward to Fax/Email/SMB/Box, Job Build
Wireless LAN	Model Name	SL-NWE001X
	Connectivity	IEEE 802.11 b/g/n + NFC Active Type
	Host Interface	High-Speed USB 2.0
	Security	INA
Parallel (IEEE 1284) Interface		N/A

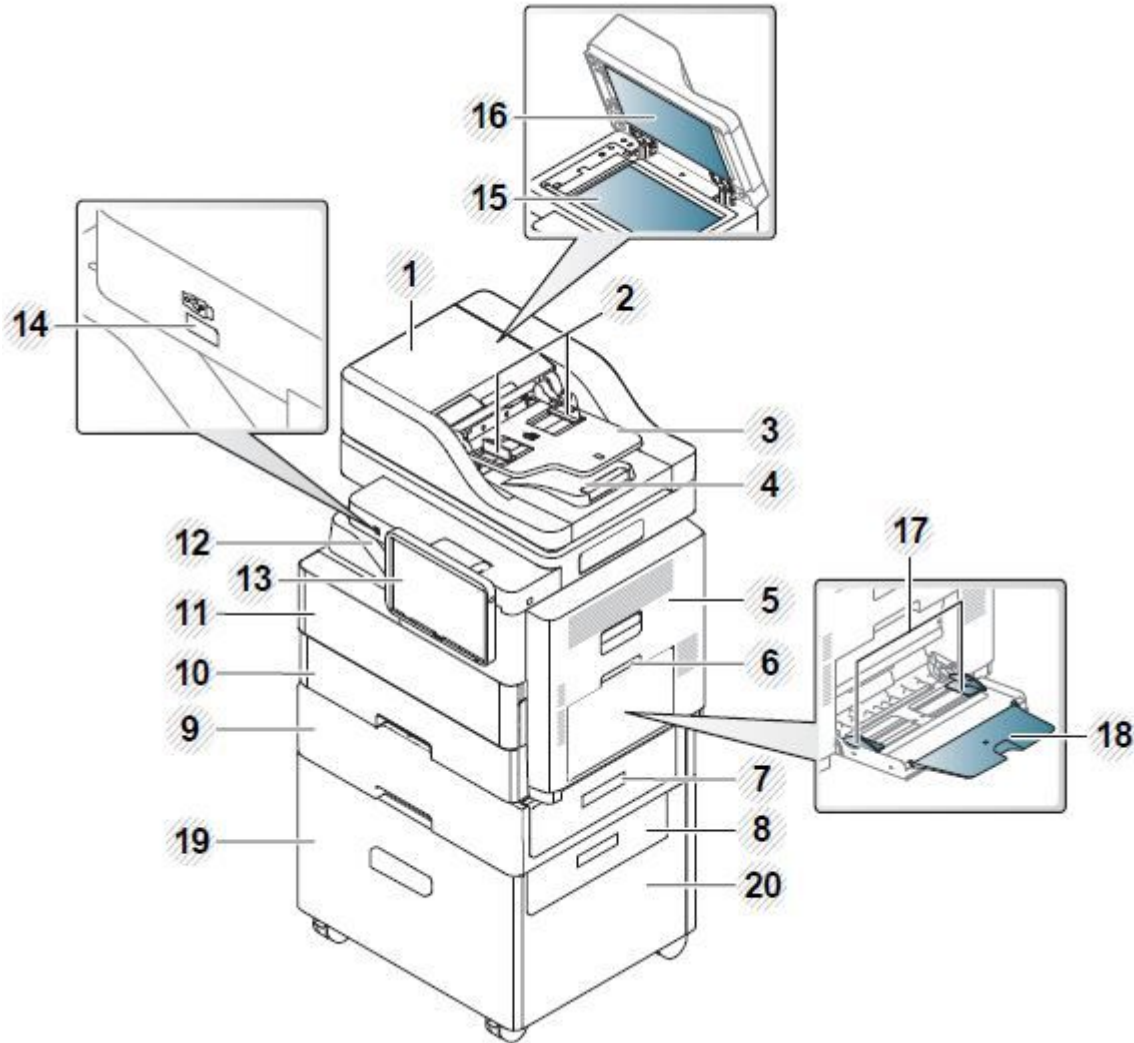
2.3. System Configuration

1) Front View



NOTE

This illustration may differ from your machine depending on your model.



1	Document feeder cover
2	Document feeder width guides
3	Document feeder input tray
4	Document feeder output tray
5	Right door (Side cover)
6	Right door handle
7	Second Cassette Feeder tray handle
8	High Capacity Feeder handle
9	Second Cassette Feeder door
10	Standard tray (Tray 1)
11	Front door

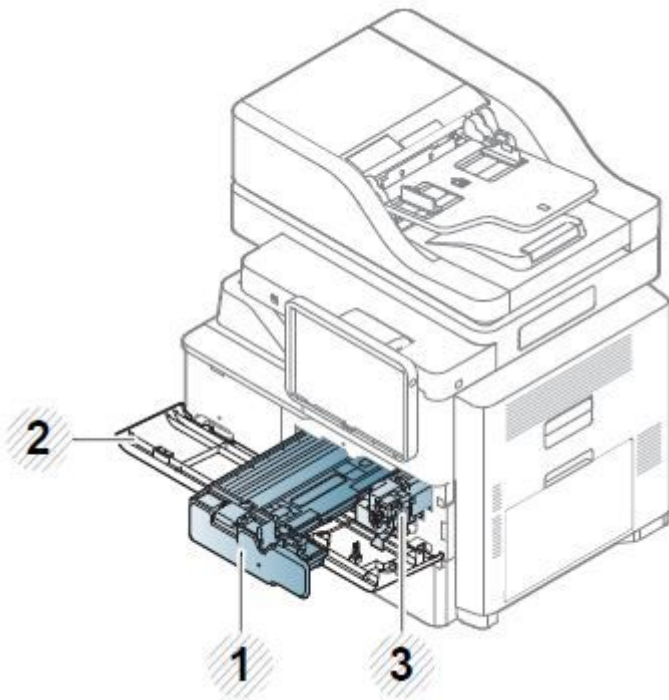
12	Center tray
13	Control panel
14	USB port
15	Scanner glass
16	White sheet
17	Multi-purpose tray paper width guide
18	Multi-purpose tray support
19	High Capacity Feeder door
20	High Capacity Feeder



NOTE

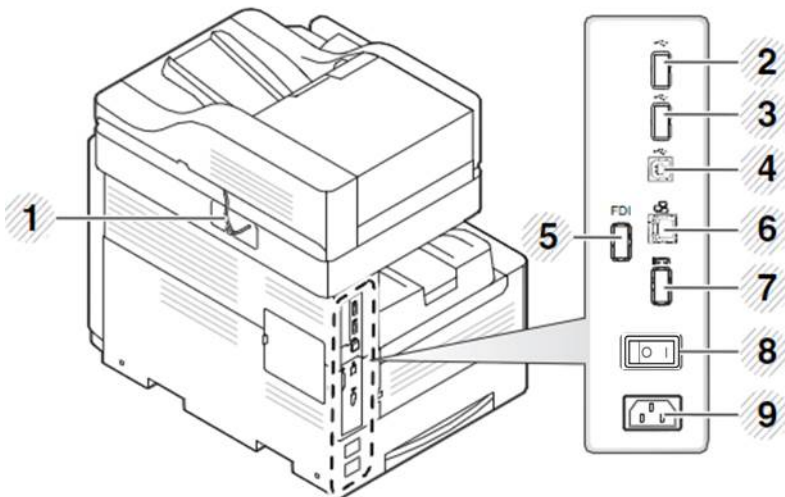
- Document Feeder : DSDF(M5370/M4370), RADF(M5360)
- Control Panel(UI) : 10.1 inch C-Type TSP(M5370/M4370), 7 inch IR Type TSP(M5360)

2) Inner view



1	Toner cartridges
2	Front cover door
3	Imaging unit

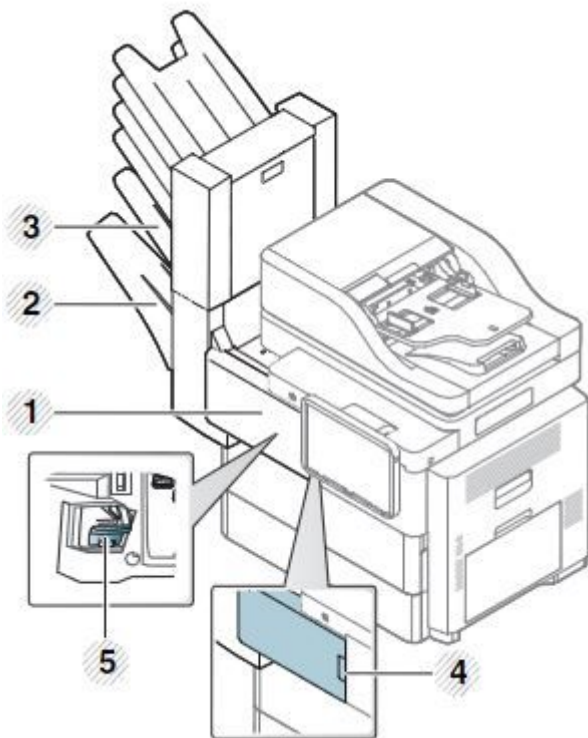
3) Rear View



1	Dual scan document feeder cable
2	USB port
3	USB port
4	USB printer port
5	FDI (Foreign Device Interface)

6	Network port
7	Finisher Port
8	Power switch
9	Power receptacle

Standard 2 Bin Finisher view(optional)

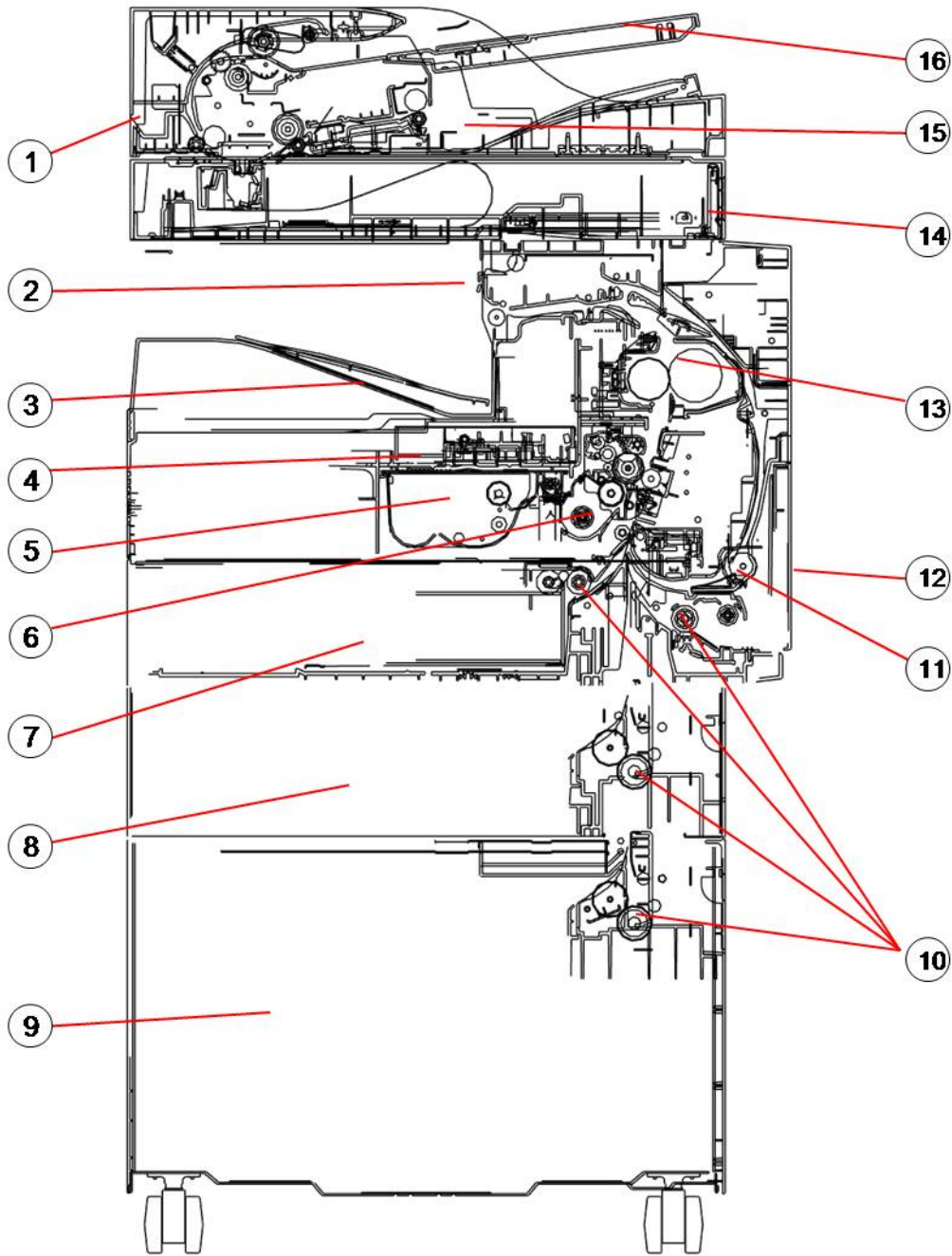



1	Standard 2Bin Finisher front door
2	Finishing tray
3	Top tray
4	Standard 2Bin Finisher front door handle
5	Staple

System Layout

 **NOTE**

This illustration may differ from your machine depending on your model.



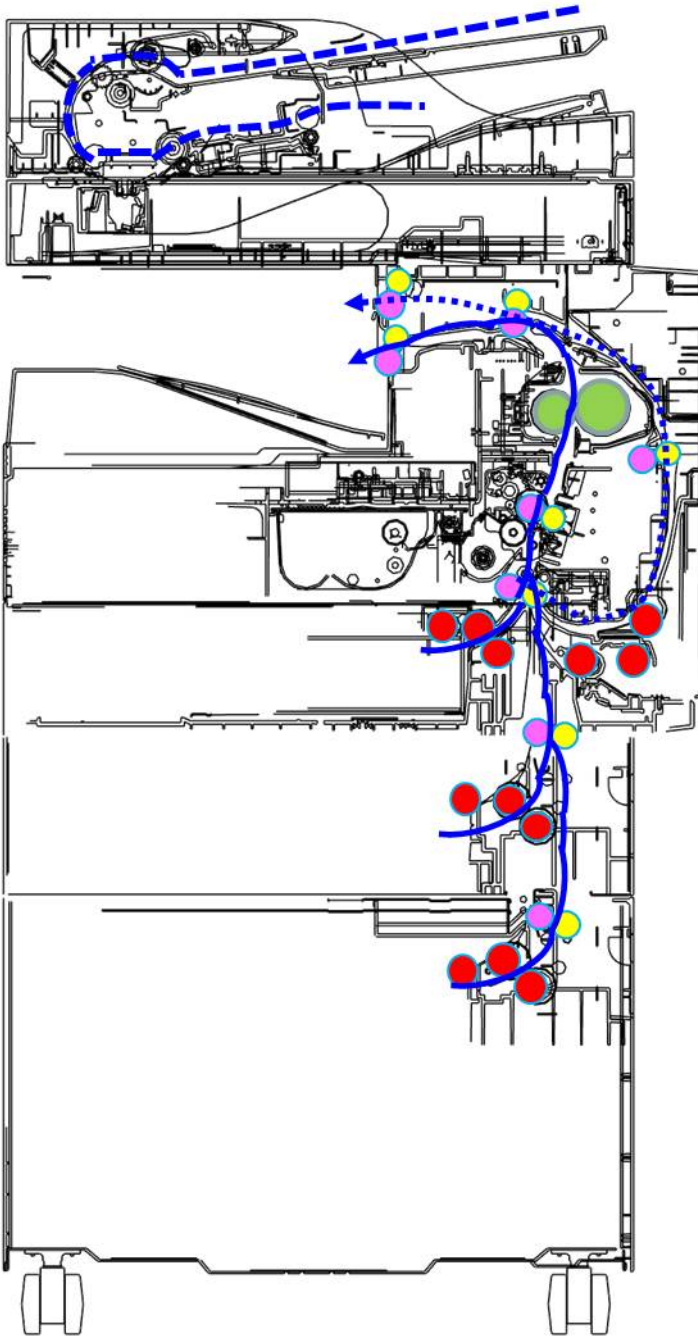
1	Document Feeder Unit <div style="background-color: #cccccc; padding: 5px;">  NOTE • Document Feeder : DSDF(M5370/M4370), RADF(M5360) </div>
2	Duplex guide
3	Face down output tray
4	Laser scanning unit
5	Toner cartridge
6	Imaging unit
7	Tray 1

8	Optional tray (Tray 2 / Tray 3 / Tray 4)
9	Optional tray (Stand short&tall / HCF)
10	Pick up roller / Reverse roller / Forward roller
11	Transfer roller unit
12	MP tray
13	Fuser unit
14	Platen unit
15	Document output tray
16	Document input tray

Paper Path

NOTE

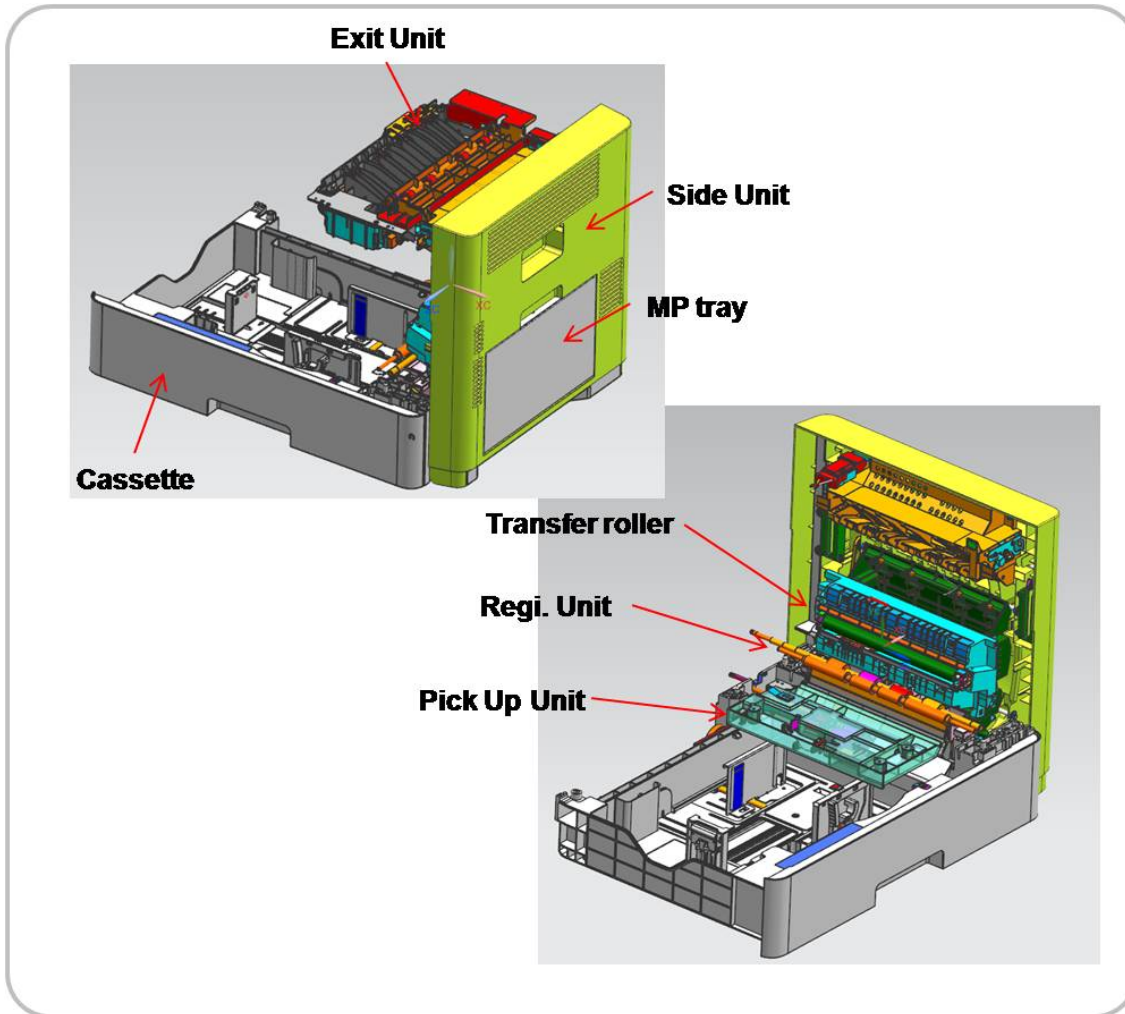
For RADF paper path of the M5360RX, refer to 2.11. RADF section.



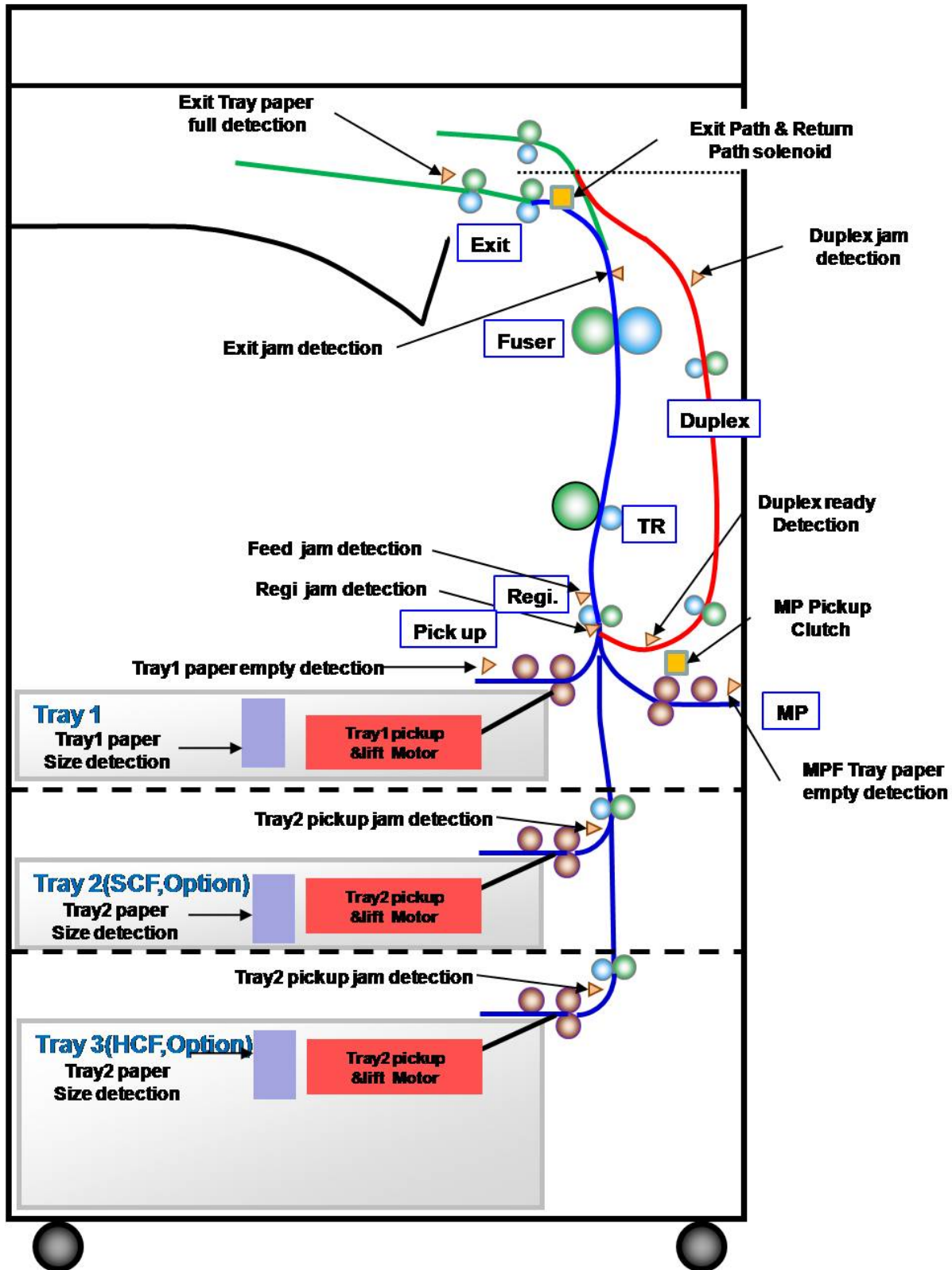
2.4. Feeding System

2.4.1. Feeding System Overview

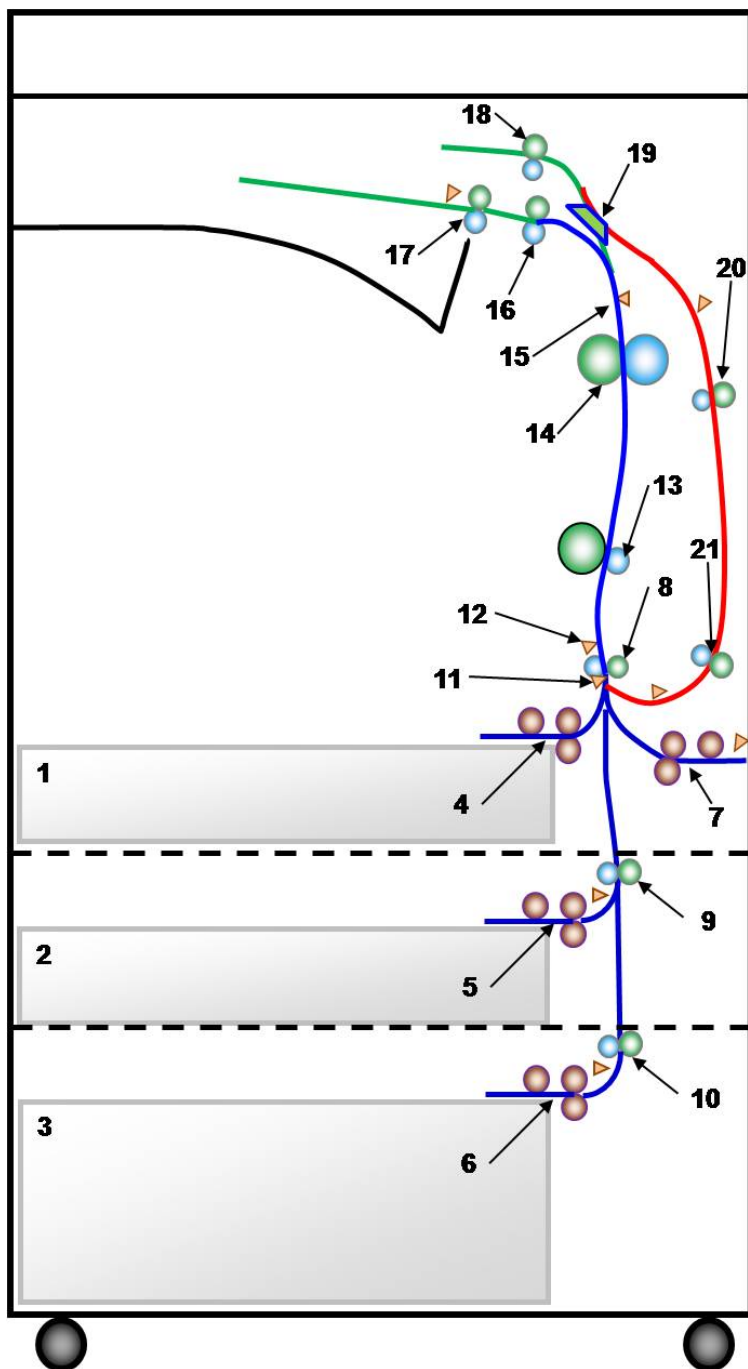
The feeding system picks up a paper from the cassette or MP tray and transports it to the machine inside. It Mainly consists of the cassette, pick up unit, registration unit, transfer roller unit, Exit unit.



[Feeding System Component]



Description	Function	Connector Information
Tray1 paper size sensor	Tray1 paper size detection	CN29@ Main board, 5Pin~7Pin
Tray1 paper empty sensor	Tray1 paper empty detection	CN19@ Main board, 5Pin
Tray1 paper low sensor	Tray1 paper low detection	CN29@ Main board, 3Pin
Tray1 lifting sensor	Tray1 paper position detection	CN19@ Main board, 8Pin
Tray2 paper size sensor	Tray2 paper size detection (SCF)	CN9@ SCF board, 6Pin ~8Pin
Tray2 paper empty sensor	Tray2 paper empty detection (SCF)	CN5@ SCF board, 5Pin
Tray2 paper low sensor	Tray2 paper low detection (SCF)	CN7@ SCF board, 1Pin
Tray2 lifting sensor	Tray2 paper position detection (SCF)	CN5@ SCF board, 1Pin
Tray3 paper size sensor	Tray3 paper size detection (HCF)	CN9@ HCF board, 6Pin ~8Pin
Tray3 paper empty sensor	Tray3 paper empty detection (HCF)	CN5@ HCF board, 5Pin
Tray3 paper level sensor	Tray3 paper remaining detection (HCF)	CN6@ HCF board, 1Pin, 4Pin, 7Pin
Tray3 lifting sensor	Tray3 paper position detection (HCF)	CN5@ HCF board, 1Pin
Paper regi. time sensor	Paper regi time detection	CN27@ Main board, 13Pin
Paper feed sensor	Paper leading edge detection	CN27@ Main board, 10Pin
Exit jam sensor	Exit jam detection	CN2@ Main board, 8Pin
Exit tray paper full sensor	Exit tray paper full detection	CN2@ Main board, 5Pin
Exit tray path & Return path solenoid	Paper direction switching	CN2@ Main board, 1Pin
Duplex motor	Duplex printing driving control	CN28@ Main board, 1Pin~4Pin
Duplex jam sensor	Duplex jam detection (entrance)	CN31@ Main board, 5Pin
Duplex ready sensor	Duplex jam detection (exit)	CN27@ Main board, 7Pin
MPF paper empty sensor	MPF paper empty detection	CN21@ Main board, 3Pin
MPF Pickup clutch	MPF pick up roller moving control	CN21@ Main board, 4Pin
Tray1 Lift Motor	Knock up plate control	CN19@ Main board, 2Pin
Tray2 Lift Motor	Knock up plate control	CN5@ SCF board, 7Pin~8Pin
Tray3 Lift Motor	Knock up plate control	CN5@ HCF board, 7Pin~8Pin



No.	Description
1	Tray 1 Paper tray
2	Tray 2 Paper tray (Option)
3	Tray 3 Paper tray (Option)
4	Tray 1 pick up / retard / forward rollers
5	Tray 2 pick up / retard / forward rollers (Option)
6	Tray 3 pick up / retard / forward rollers (Option)
7	MP Tray pick up / retard / forward rollers
8	Registration roller
9	Tray 2 feed roller (Option)
10	Tray 3 feed roller (Option)

No.	Description
11	Registration sensor
12	Feed sensor
13	Transfer roller
14	Fuser roller
15	Exit sensor
16	1st Exit roller
17	2nd Exit roller
18	Duplex roller
19	Duplex Gate

No.	Description
20	Duplex 1 roller
21	Duplex 2 roller

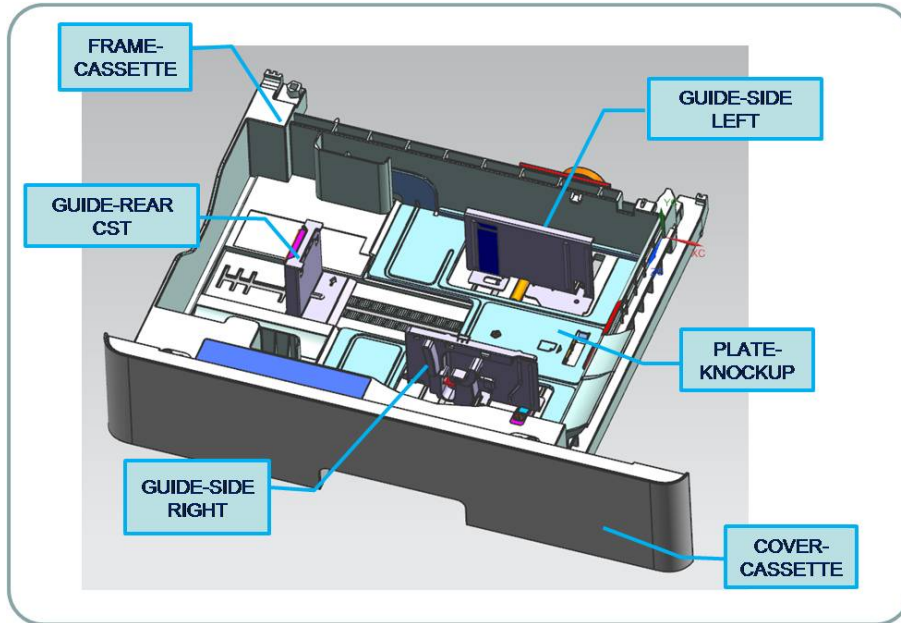
- **Pick-Up roller (Tray 1,2,3,4 and MP Tray)**
 - This roller picks up the paper from the tray.
- **Forward roller (Tray 1,2,3,4 and MP Tray)**
 - This roller is placed against the reverse roller. It transports the paper from the pick up roller to feed roller.
- **Reverse roller (Tray 1,2,3,4 and MP Tray)**
 - This roller is placed against the forward roller and transports only one sheet to the feed roller. When two sheets of paper or more are transported from the pick up roller, the load of the torque limiter of the reverse roller is heavier than the frictional force between the sheets. As a result, the reverse roller is stopped and the lower paper does not advance any further.
- **Feed roller**
 - This roller transports the paper sent from the forward/reverse roller to the registration roller.
- **Registration roller**
 - This roller aligns the leading edge of the paper and transports the paper to the transfer roller Assy.

2.4.2. Cassette

The cassette stores papers.

Paper size is set using the paper guide in tray.

Basic Cassette

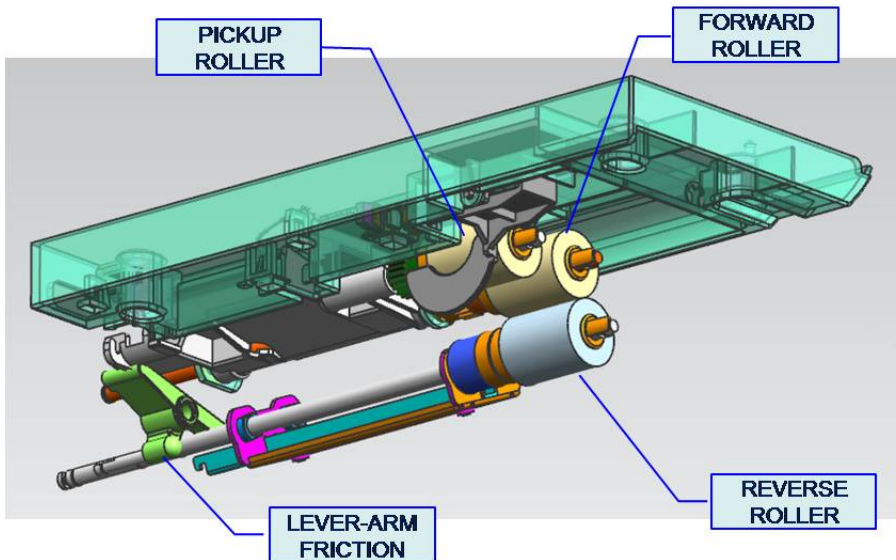


- **Specification**

- 1) Structure : Drawer Type
- 2) Capacity : 520 Sheets (75 g/m² paper standard)
- 3) Paper
 - Plain paper : A5, A4, Executive, Statement, B5, Letter, Oficio, Folio, Legal
 - Special Paper : Transparency, Label, Envelope
- 4) Weight : plain paper 60 ~ 163 g/m²
- 5) Plate knock up lift type : Lift Motor + Up Limit Sensor

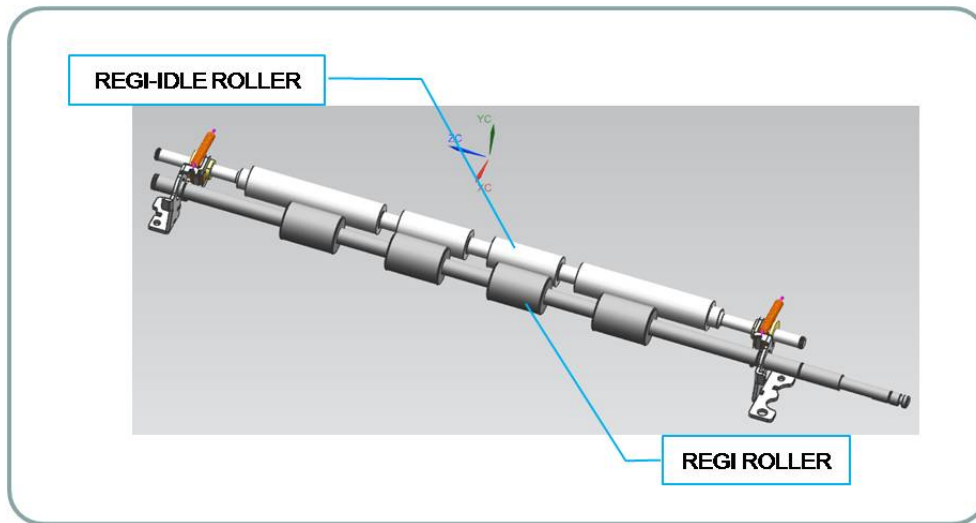
2.4.3. Pick-Up Unit

When pick-up takes place, the pickup roller moves down to come into contact with the surface of the paper. If the cassette is installed, the LEVER-ARM FRICTION is pushed and pick up roller moves down. The forward roller and the reverse roller serve to make sure that a single sheet of paper is moved to the paper path, and the paper is moved as far as the registration roller by the work of the feed roller.



2.4.4. Registration Unit

The registration(Regi.) roller is driven by the Regi. clutch. The Regi. clutch is located to the Regi. roller shaft and it aligns the paper leading edge to prevent the image skew.

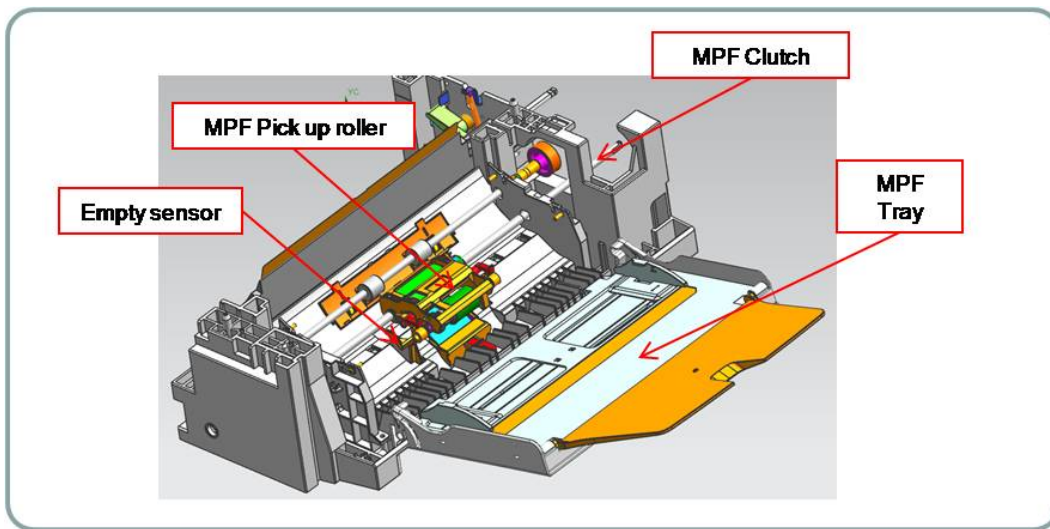


■ Specification

- 1) Skew in simplex
 - Top Skew : 1.5 mm @ Tray 1
 - Side Skew : 2.0 mm @ Tray 1
- 2) Dog Ear, Trees, Nicks, Wrinkling
 - Special Media : 1/500
- 3) Margin
 - Top Margin : 12.7 ± 1.5 mm (Tray3, 4, HCF : 12.7 ± 1.5 mm)
 - Side Margin : 12.7 ± 2.0 mm (Tray3, 4, HCF : 12.7 ± 2.5 mm)
 - Duplex Top Margin : 12.7 ± 2.0 mm (Tray3, 4, HCF : 12.7 ± 2.5 mm)
 - Duplex Side Margin : 12.7 ± 2.5 mm (Tray3, 4, HCF : 12.7 ± 3.0 mm)

2.4.5. MPF(Multi-Purpose Feeder) Unit

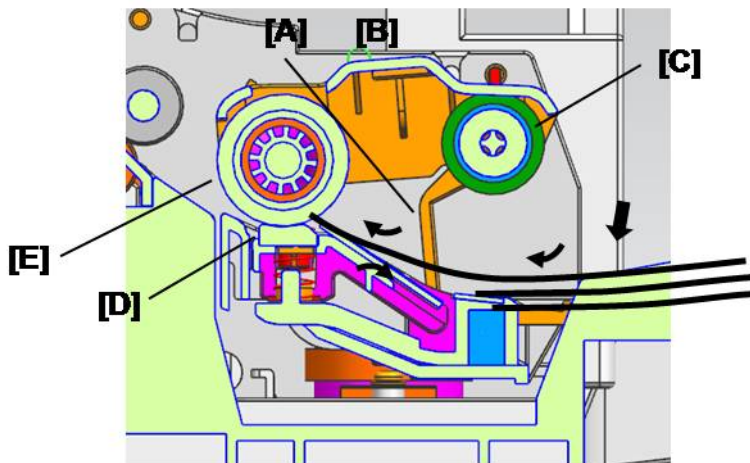
The MPF Unit allows feeding of specialty media stock, envelopes, and custom size paper.



■ Specification

- 1) Capacity : 100 sheets (75g/ paper standard)
- 2) Media Size : Max 8.5" × 14" (216 × 356) / Min 3.85"× 5.83" (98 × 148)
- 3) Media Weight : Plain paper 60 ~ 163 g/m²

■ Paper Separation



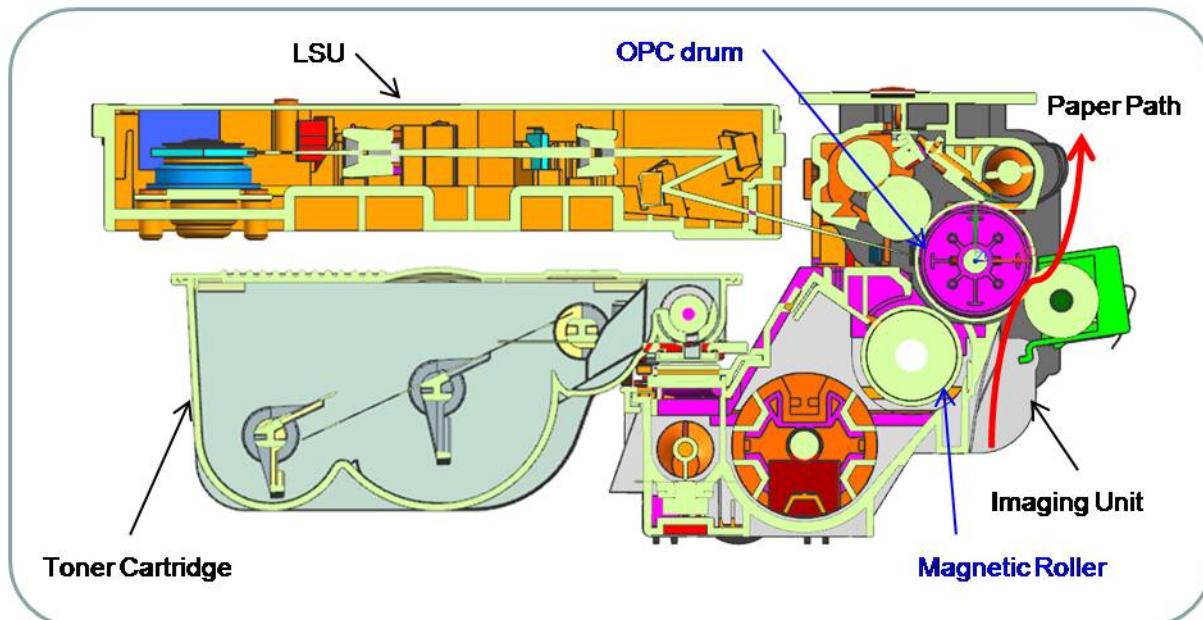
When the MP paper detection[A] sensor detects paper and the machine gets a MP printing job, the MP solenoid[B] drops the pick-up roller[C] onto the top of the paper stack on the MP tray.

This machine uses an friction pad system for feeding paper. The friction between the reverse roller[E] and friction pad [D] separates a top sheet of paper from the stack.

2.5. Image Creation

2.5.1. Printing process overview

This machine uses a toner cartridge, an imaging unit and a laser beam in the LSU for mono printing.



The OPC drum is charged with a negative voltage and is exposed by the light from the LSU (Laser Scanning unit).

The light produced by a laser creates a latent image by discharging on the surface of the OPC drum. The negatively charged toners are attracted to the latent image due to the electric field. The toner (real image) on the OPC drum is moved to the paper by the positive bias applied to the transfer roller.

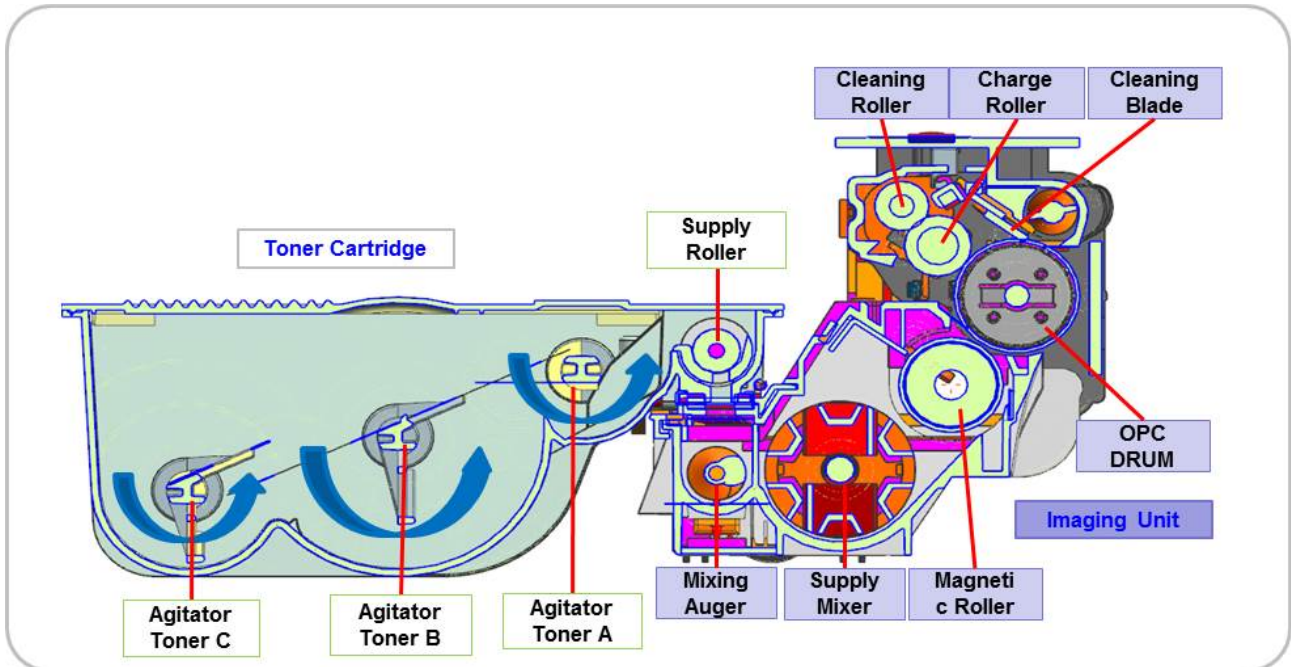
- 1) **OPC drum charge** : The charge roller gives the OPC drum a negative charge.
- 2) **Laser exposure** : Light produced by a laser diode (LD) hits the charged OPC drum through the lens and mirrors. The machine controls the laser beam on/off for the latent image.
- 3) **Development** : The magnetic roller carries the negatively charged toner to the latent image on the OPC drum surface.
- 4) **Transfer** : Toner image on the OPC drum moves to the paper by the transfer roller that is charged with the positive voltage.
- 5) **Cleaning for OPC drum** : The cleaning blade removes remaining toner on the OPC drum surface after image transfer to the paper.
- 6) **Quenching for OPC drum** : Quenching is done by illuminating the whole area of the OPC drum with the laser at the end of every job.

2.5.2. Toner Cartridge

The illustration below shows the toner movement.

The toner moves from Agitator-C to Agitator-B, from Agitator-B to Agitator-A sequentially.

Toner arrived to Agitator-A moves the developer unit of the imaging unit by the mixing auger.



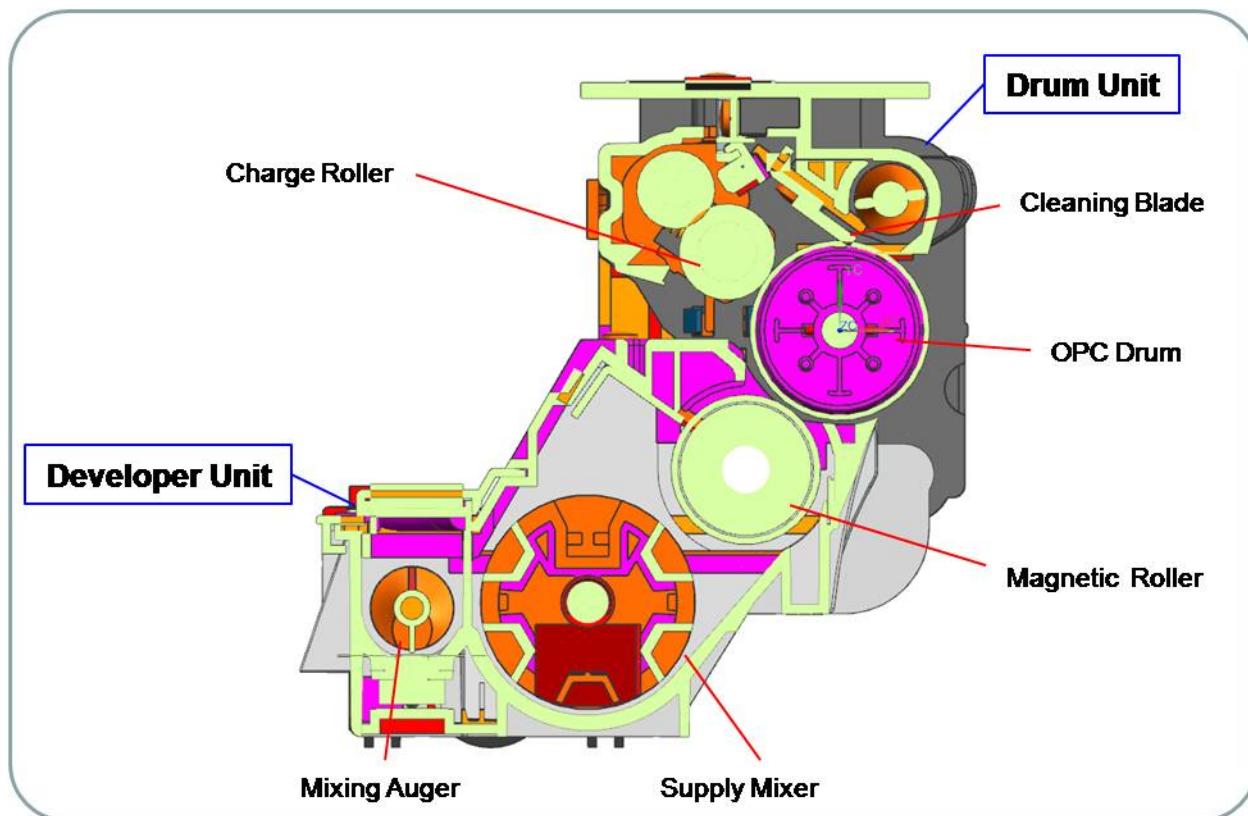
2.5.3. Imaging Unit

The imaging unit is not the separated type but integrated type. It consists of the drum unit and developer unit. But they can not be replaced separately.

The imaging unit has the CRUM that stores the information for corresponding the drum unit and developer unit.

The OPC drum diameter is 30 mm (circumference: about 94.2 mm).

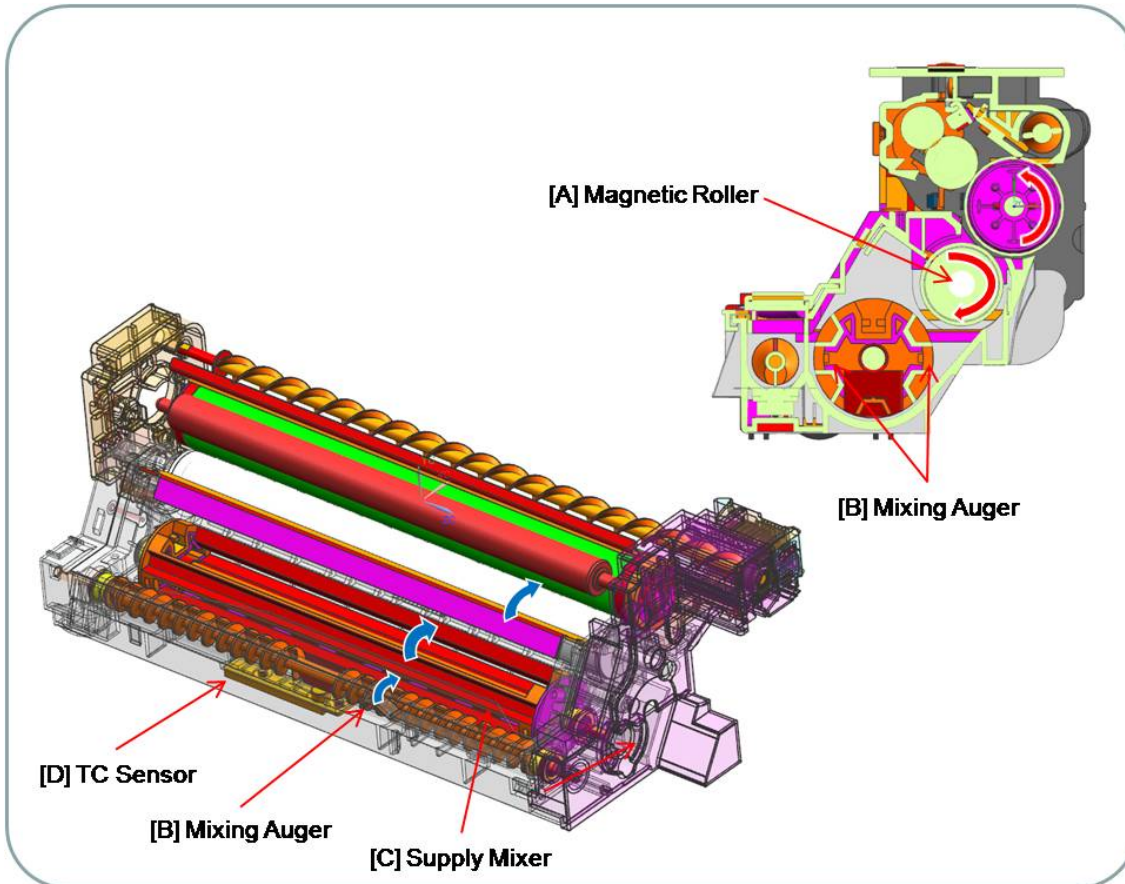
The developing gap between a OPC drum and the magnetic roller can not be adjusted.



2.5.3.1. Developer Unit

The developer unit contains 330g of developer(Carrier+Toner) that is supplied to the magnetic roller[A] by the mixing augers[B] and the supply mixer[C].

The developer unit has a TC(Toner Concentration) sensor[D]that is used for controlling the operating range of toner density.

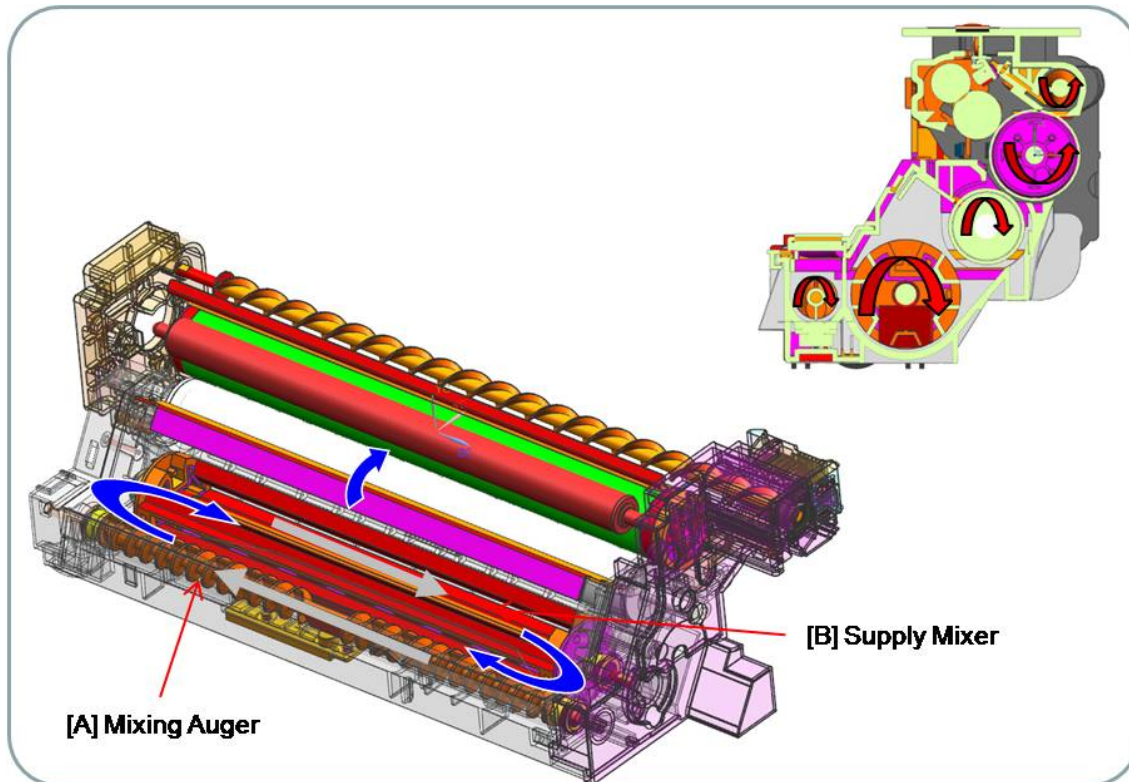


■ Developer Circulation

The mixing auger[A] and supply mixer[B] make toner is mixed evenly. And they circulate the developer forward and backward to charge the toner negatively.

This occurs at the following times :

- During warming-up
- During toner supply job
- During printing job (development job)

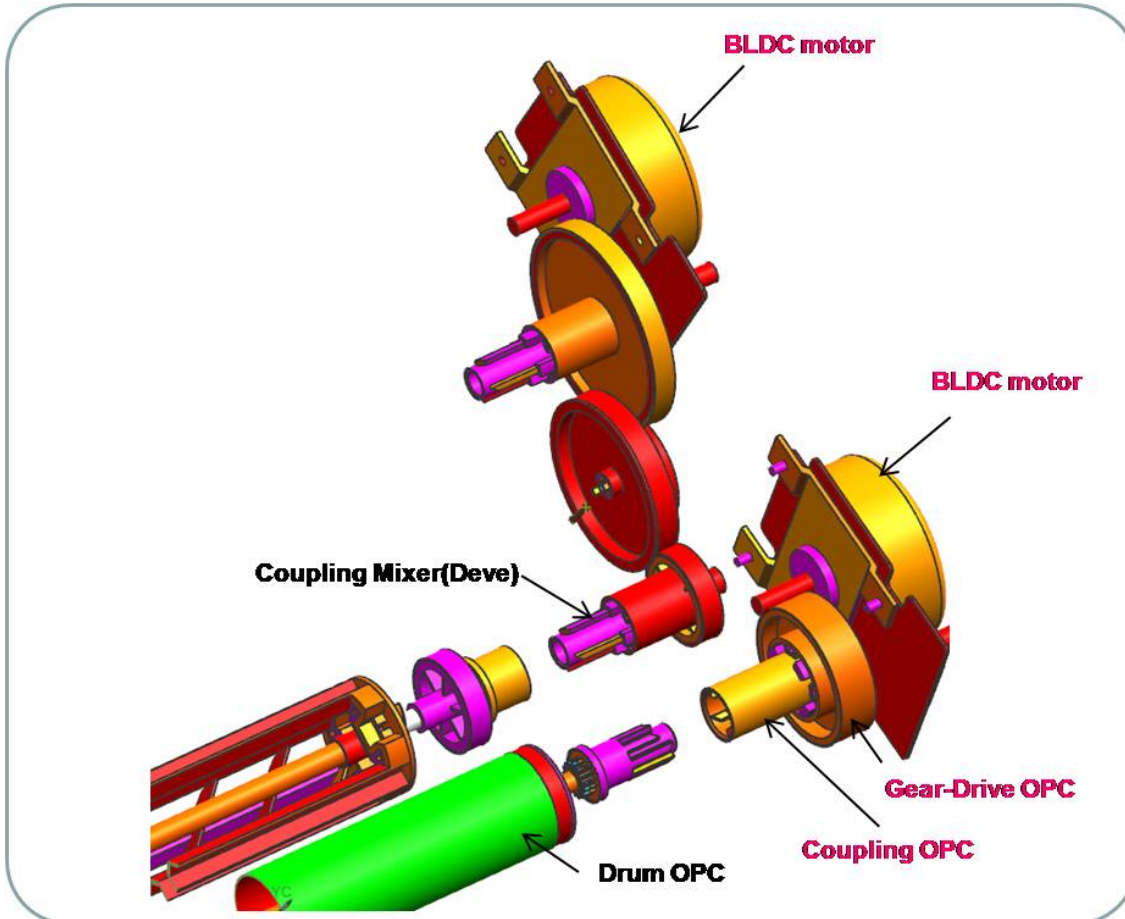


2.5.4. Drum drive

The OPC drum and magnetic roller are driven by 2 BLDC motors.

The OPC drum is supplied with power from the coupling OPC.

The magnetic roller is supplied with power from the coupling mixer.

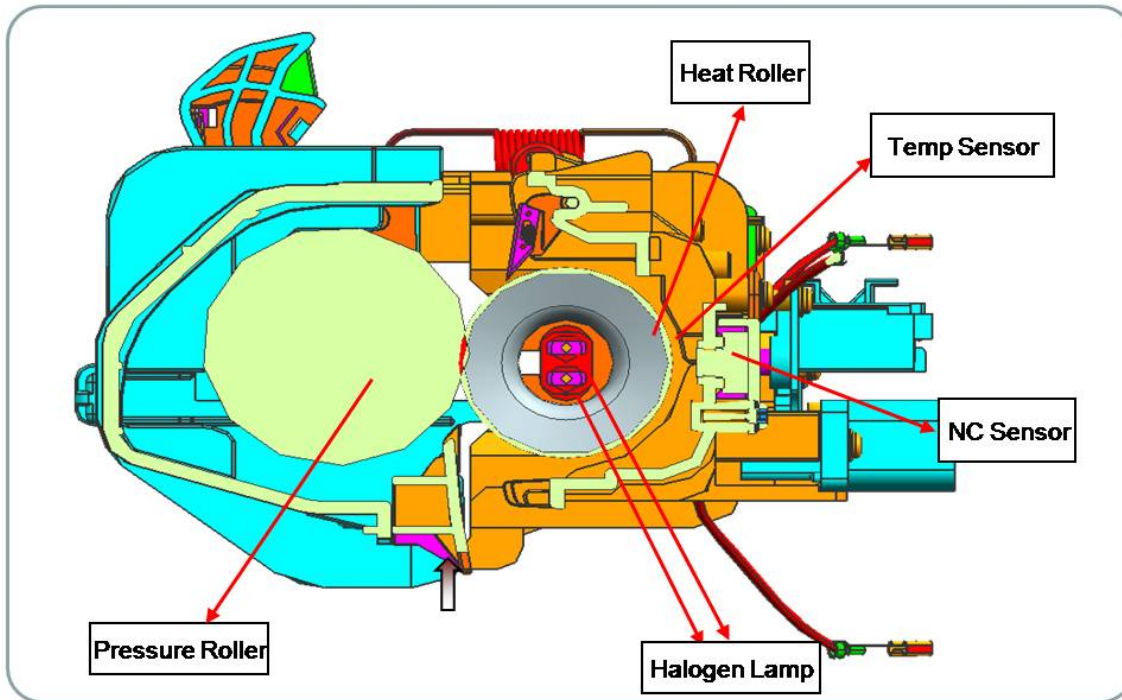


2.6. Fuser unit

This section describes the fuser unit structure and the image fusing process.

2.6.1. Fuser unit overview

The fuser unit fuses the toner that was transferred by the transfer roller onto the paper, by applying heat and pressure to complete fusing process.



1) **Halogen Lamp**

The fuser unit has two halogen lamps. One heats the center of the heat roller, the other heats the end of axial direction. These halogen lamps are lit alternately to heat the heat roller. Each lamp has its coil in a different location. The coil of the center heater lamp is in the center, those of the side heater lamp are on both sides. The lamps are fixed inside of the heat roller. When rotating the heat roller, these lamps does not rotate.

2) **Heat Roller**

The heat roller is made by the aluminum and gets heat from the halogen lamp and transfer it to toner and paper. To prevent the heat roller from adhering to the toner, its surface includes the fluoridation. And to keep the proper nip width between the pressure roller and heat roller, the pressure roller Assy pushes the heat roller by using the spring.

3) **Pressure Roller**

The pressure roller is a silicon rubber roller which ensures proper nip width between the pressure roller and heat roller.

4) **NC sensor**

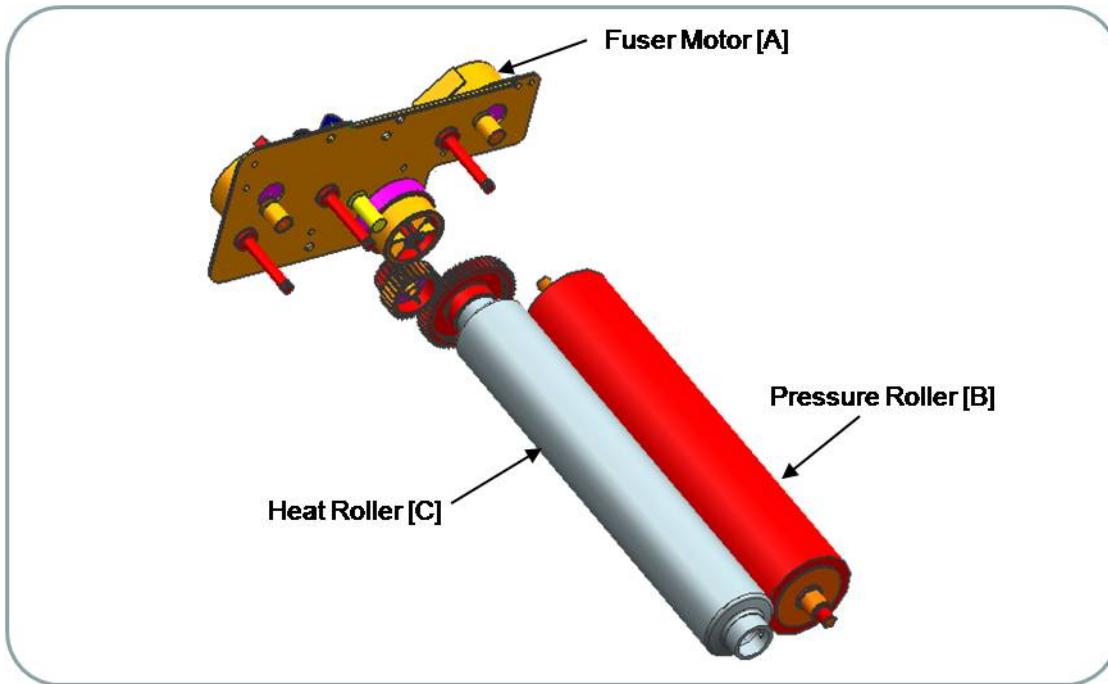
NC sensor (non-contact type thermistor), located near the center of the heat roller, controls the temperature.

5) **Thermostat**

Thermostats cut off the power supply to the halogen lamp by opening the circuit when the heat roller becomes abnormally hot as a result of problems such as NC sensor malfunction. These thermostats are used to prevent abnormal operation. When the thermostat is triggered, it must be replaced (as well as the other damaged parts in the fuser unit).

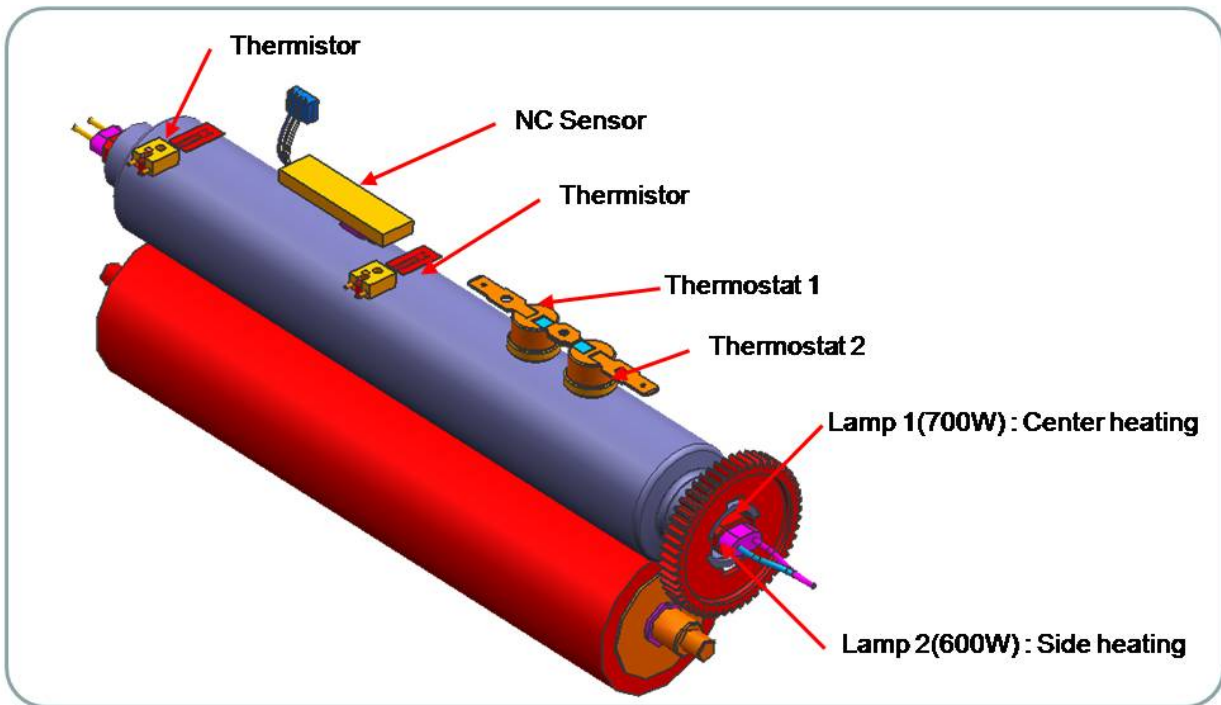
2.6.2. Fuser unit drive

The fuser motor[A] drives the heat roller[C] through the gear train. The pressure roller[B] pressurized by the heat roller[C] is rotated by driving it.



2.6.3. Fuser unit temperature control

When the main switch turns on, the CPU turns on the fusing lamp. The lamp stays on until the NC sensors detect the standby temperature. Then the CPU raises the temperature up to the printing temperature.



■ Overheat Protection

The CPU cuts power to the fusing lamp in the following cases :

- The temperature detected by the NC sensors keeps higher than 220°C for 20 sec.

The following components are used when thermistor overheat protection fails :

- Two thermostats get into line with the common ground wire of the fusing lamp.
- If one of the thermostat temperatures becomes higher than 195°C, it opens and cuts power to the fusing lamp. If the other thermostat temperature becomes higher than 195°C, it also opens and cuts power to the fusing lamp.

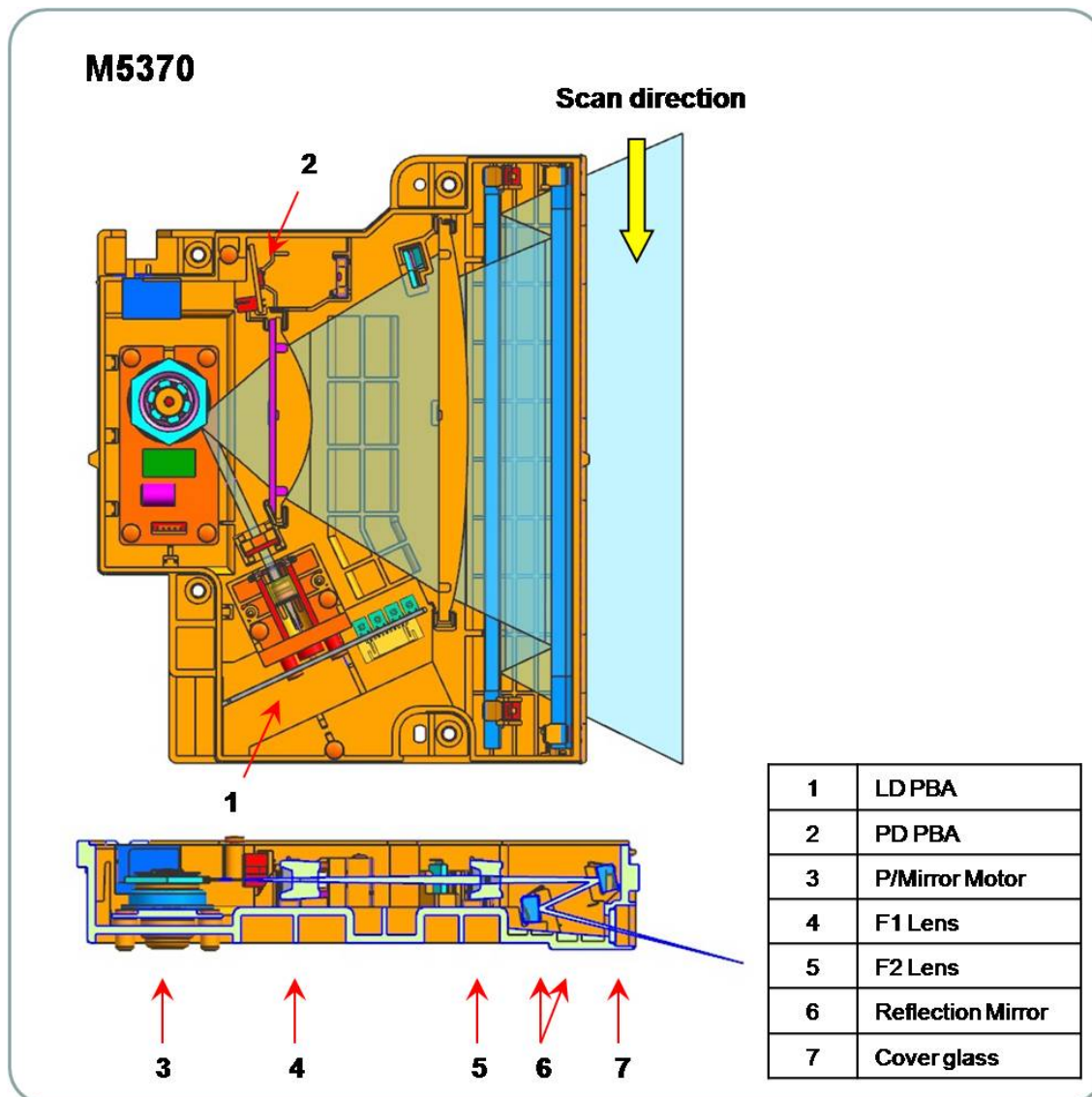
2.7. Laser Scanning Unit (LSU)

2.7.1. LSU overview

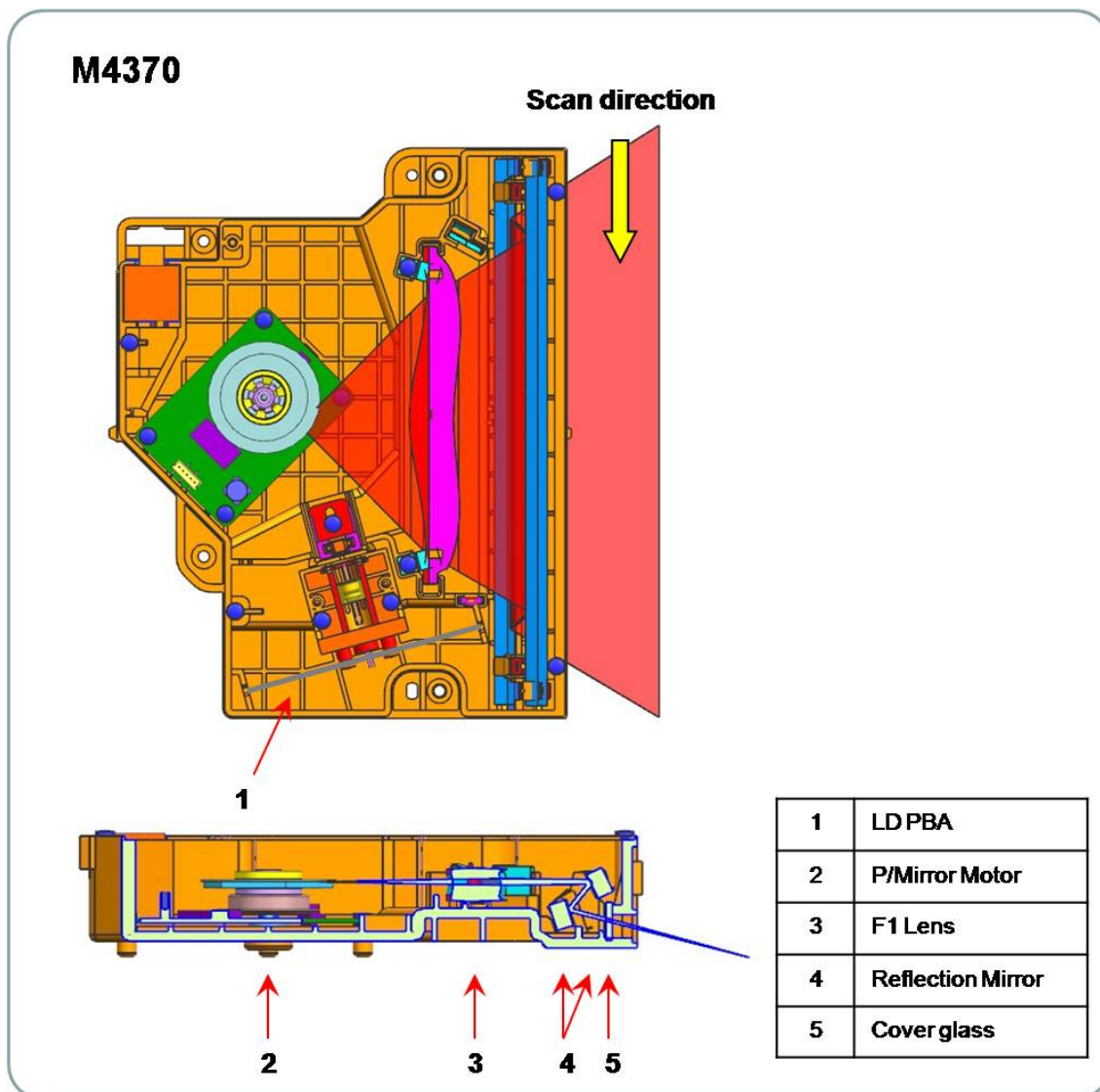
The LSU, consisted of 1 polygon motor and 1 LD unit, forms a latent image on the surface of the OPC drum. For this process, there are collimator lens, cylindrical lens and F-Theta Lens on optical path.

Also, LSU has the cover glass device to protect the LSU from the contamination. For interface with set, LSU has the LD PBA inside.

[M5370]

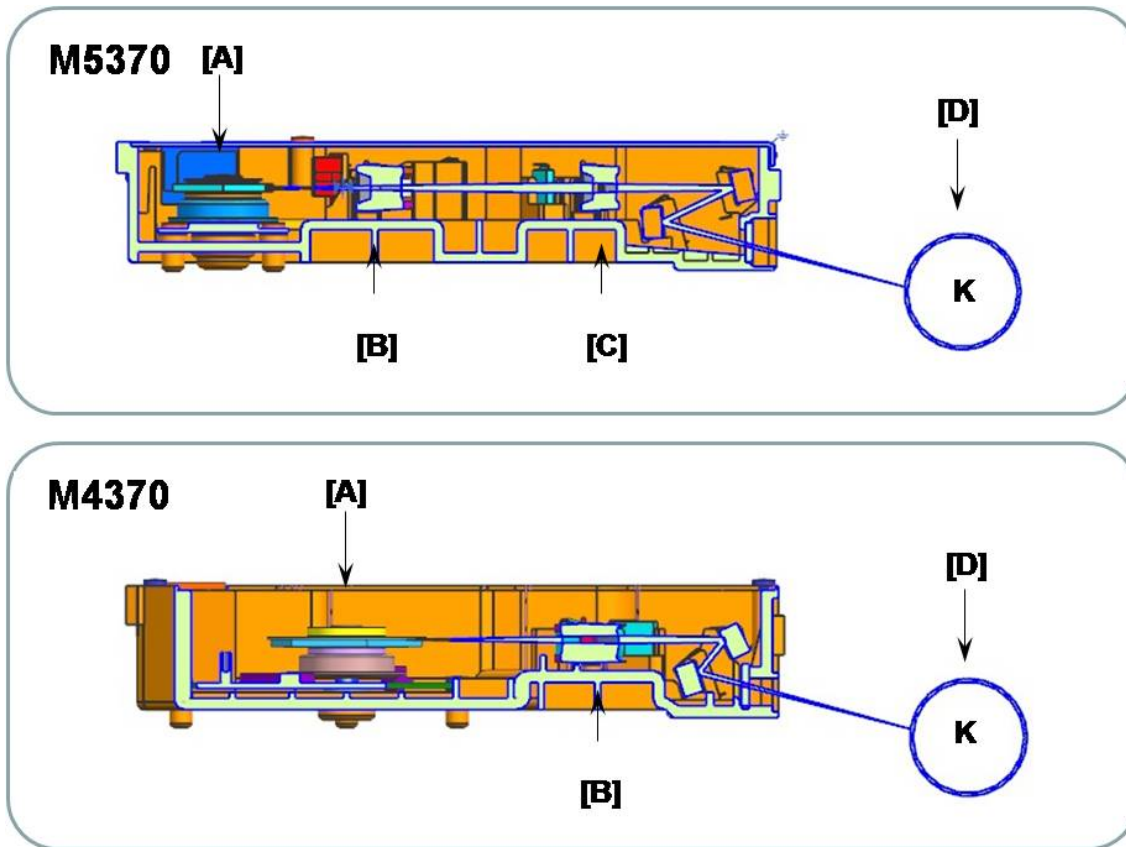


[M4370]



2.7.2. Laser Scanning Optical path

The laser beam is emitted directly from a polygon motor [A] to OPC [D]. F1 Lens [B] and F2 Lens [C] determine the scanning line and image position. This is adjusted at the factory.



The LSU has 2 types depending on printing speed. The difference between 2 types is shown in the table below.

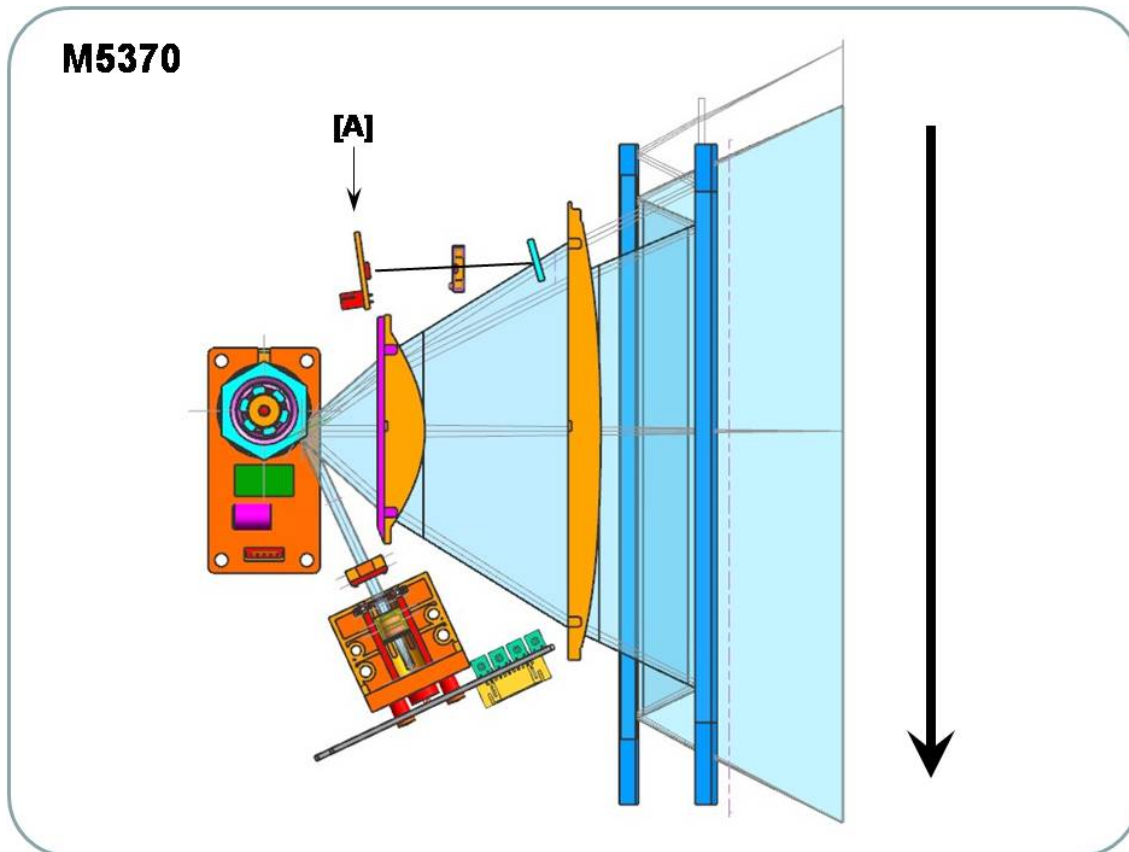
	M4370	M5370
LD Unit	<ul style="list-style-type: none"> • Laser Diode : Dual Beam • Driving IC for Dual LD 	<ul style="list-style-type: none"> • Laser Diode : Quad Beam • Driving IC for Quad LD
P/Motor speed	33,598.8 rpm	20,532.9 rpm
Process Speed	284.47 mm/sec	347.69 mm/sec
H/W interface	Harness : 20 Pin (Interface with set)	Harness : 32 Pin (Interface with set)

2.7.3. Laser synchronizing detectors

[M5370]

The machine has a beam detector sensor board (PD PBA). It is located on the corner (mark “A”)

The PD board detects the point of scanning start.



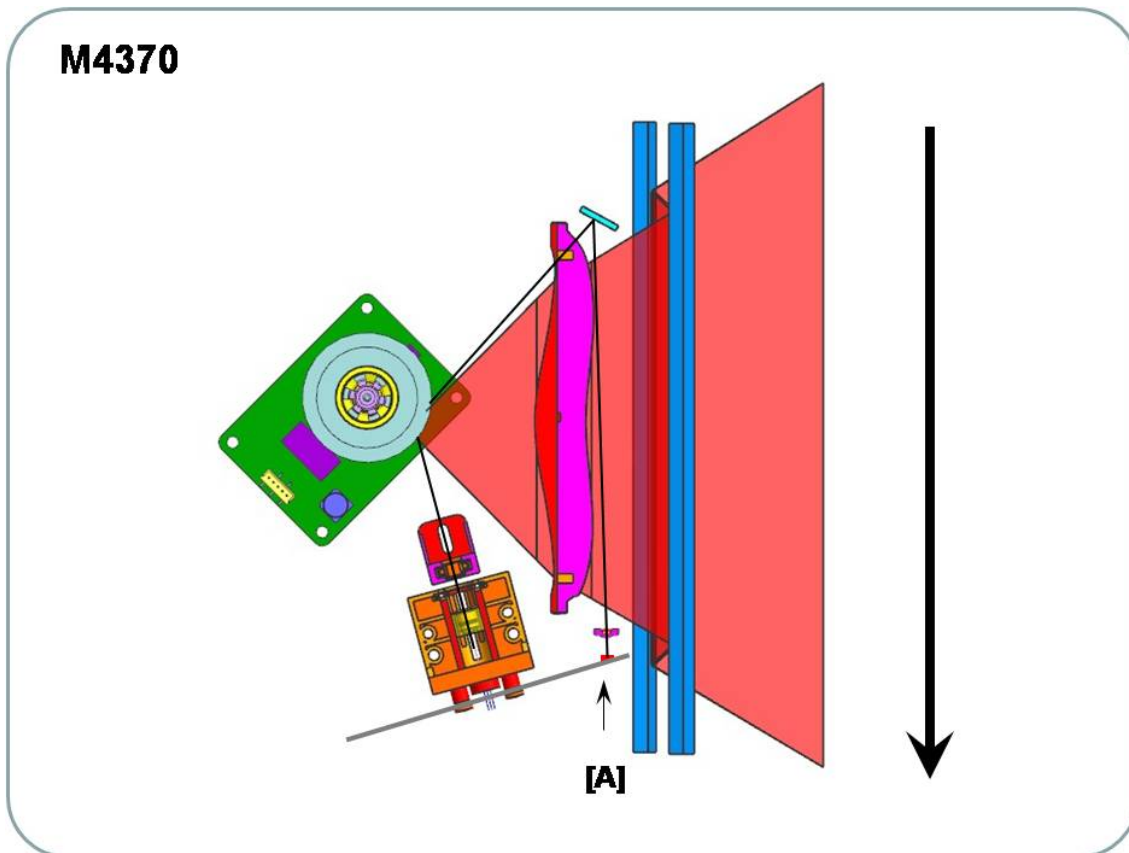
- **Main Scan Start Detection**

- A beam is detected by the PD PBA at the scanning start point and creates the horizontal sync signal (Hsync).
- The picture above shows the data scanning direction.

[M4370]

The machine has a beam detector sensor. It is located on the corner (mark "A")

The photo sensor detects the point of scanning start.



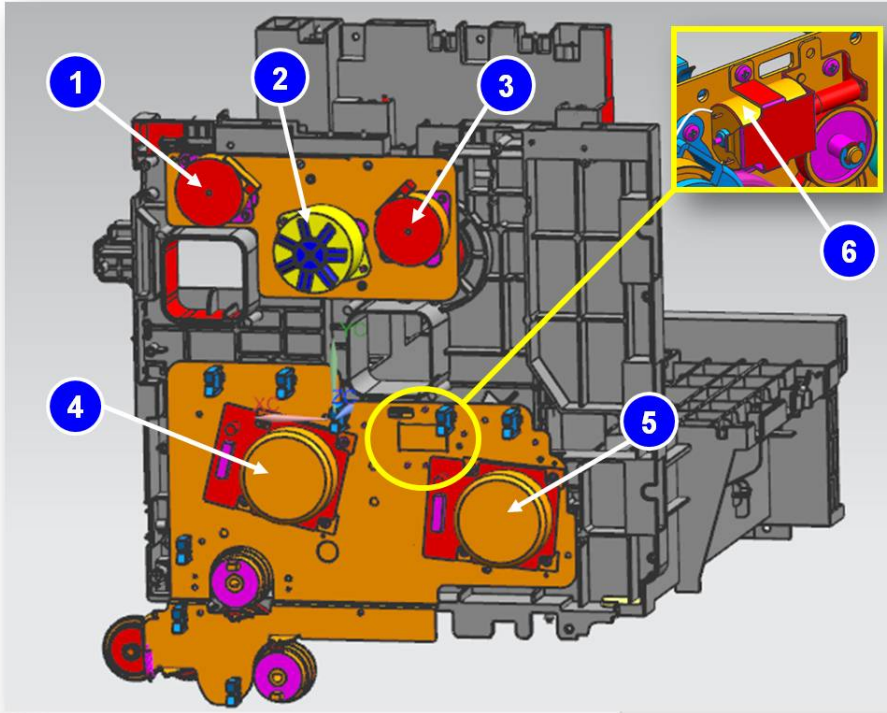
- **Main Scan Start Detection**

- A beam is detected by the photo sensor at the scanning start point and creates the horizontal sync signal (Hsync).
- The picture above shows the data scanning direction.

2.8. Drive System

2.8.1. Drive Motors

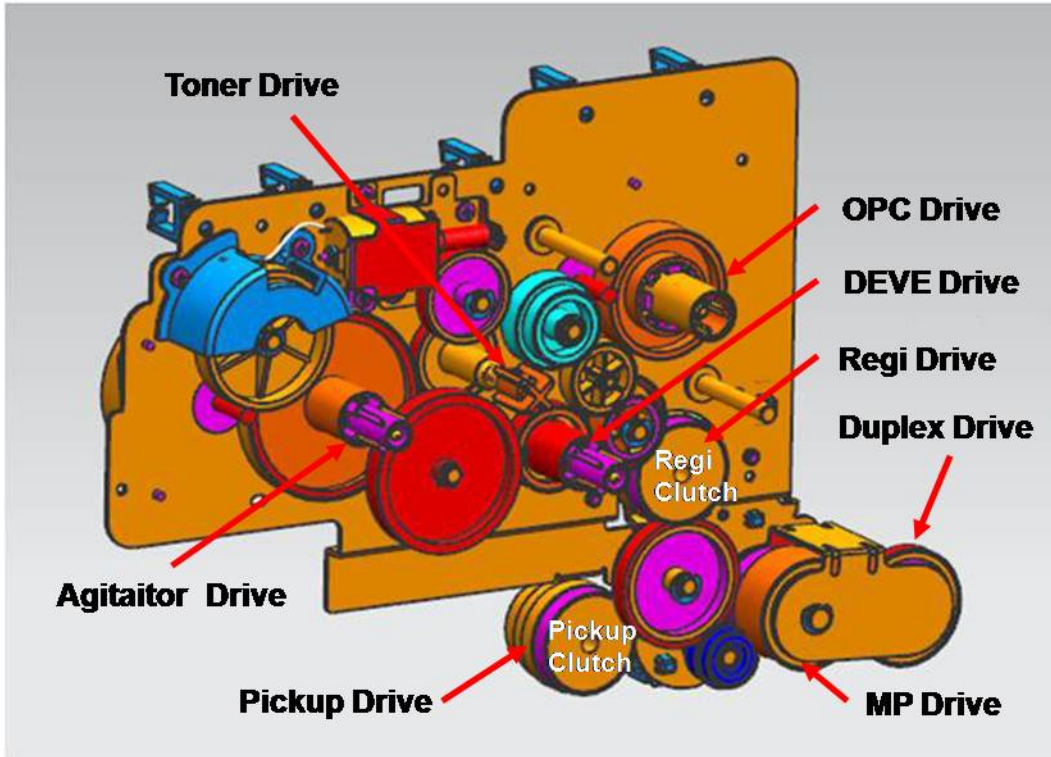
The following diagram displays the locations of the printer drive motors.



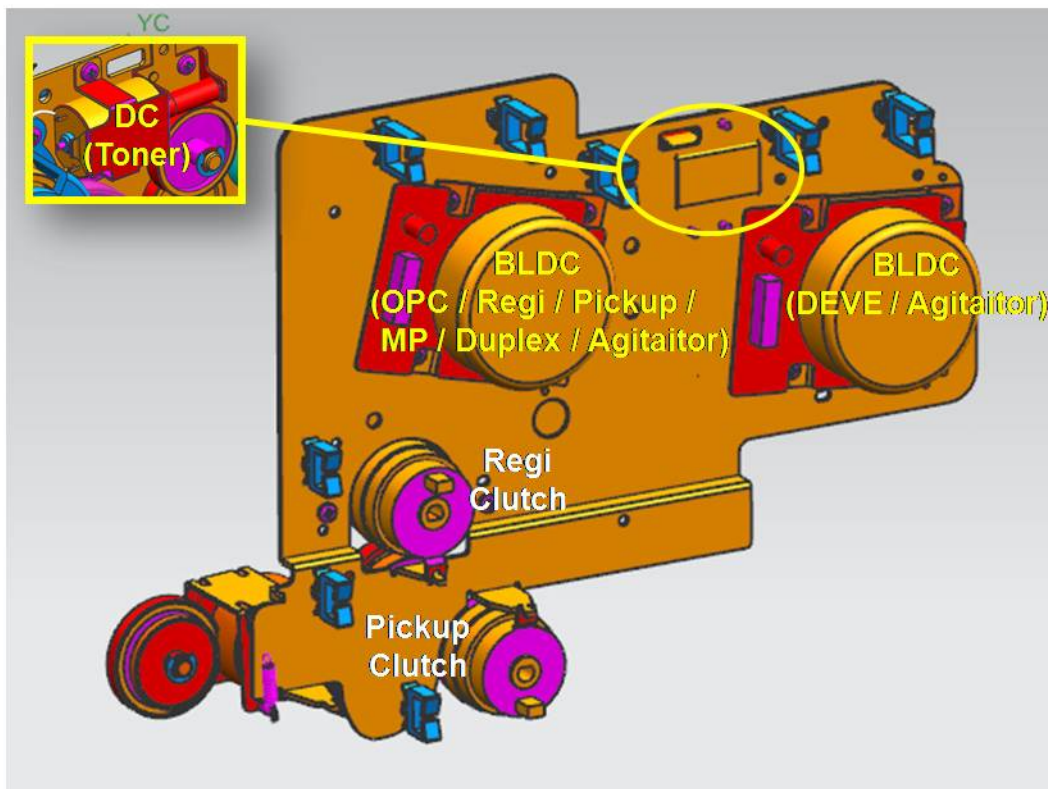
No.	Motor	Motor type	Qty	Function
1	Exit	STEP	1	Exit driving (Reverse driving @ duplex job)
2	Fuser	STEP	1	Fuser driving
3	Exit	STEP	1	Exit driving (Reverse driving @ duplex job)
4	OPC	BLDC	1	OPC driving Regi driving Pickup driving MP driving Duplex driving
5	DEVE	BLDC	1	DEVE Agitator driving
6	Toner	DC	1	Toner Supply driving

2.8.2. Main Drive Unit

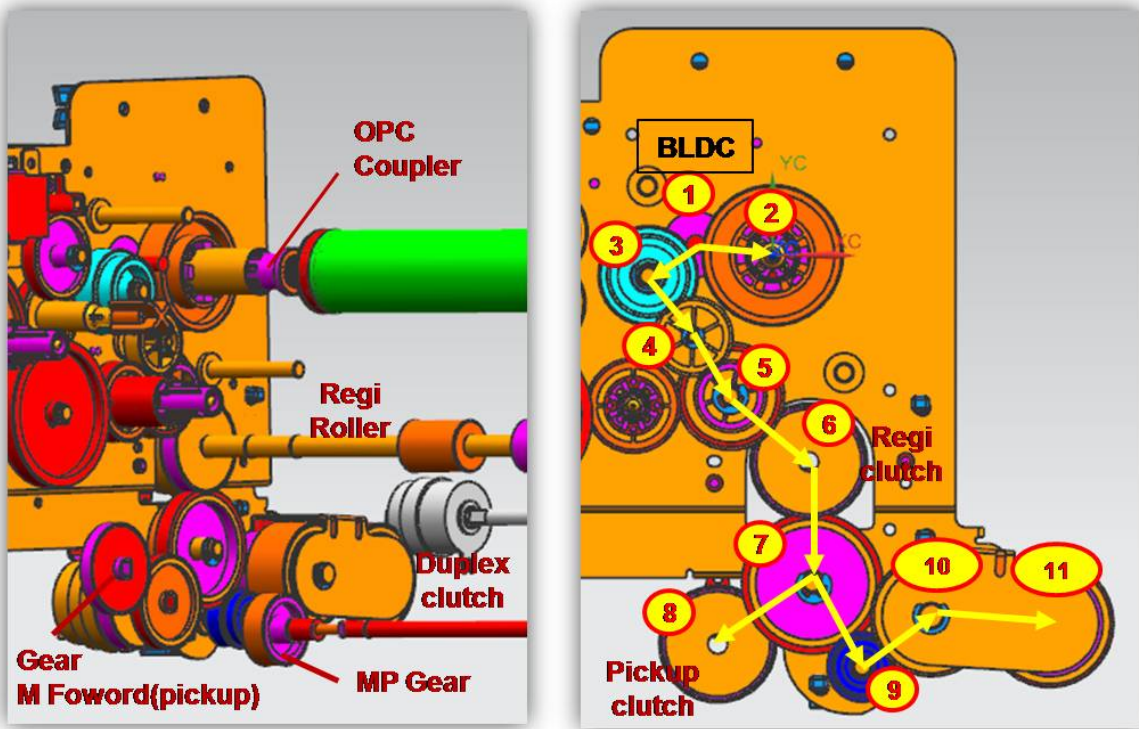
Front View



Rear View

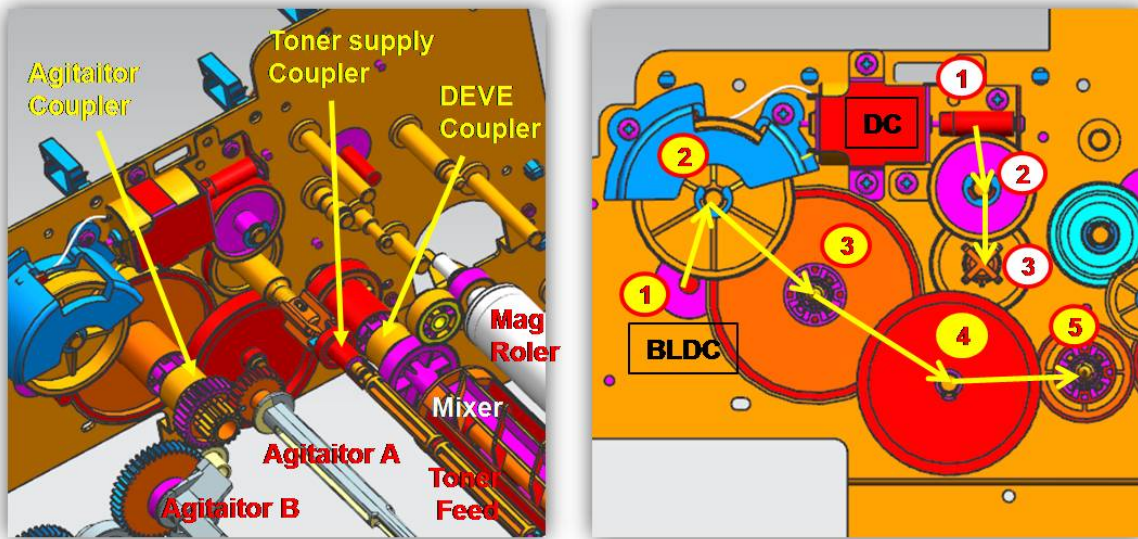


2.8.2.1. Main Drive (OPC_Regi._Pick-up_MP_Duplex)



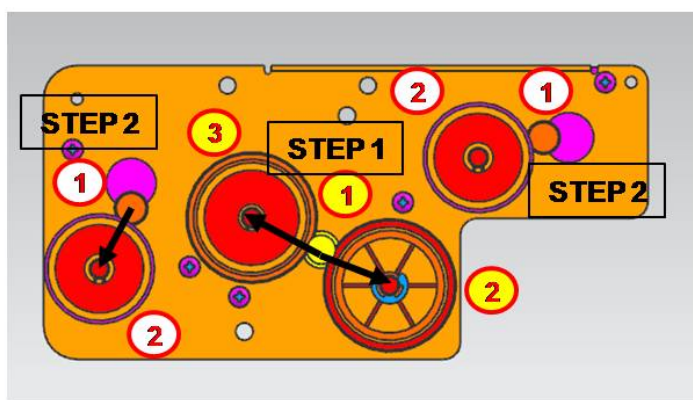
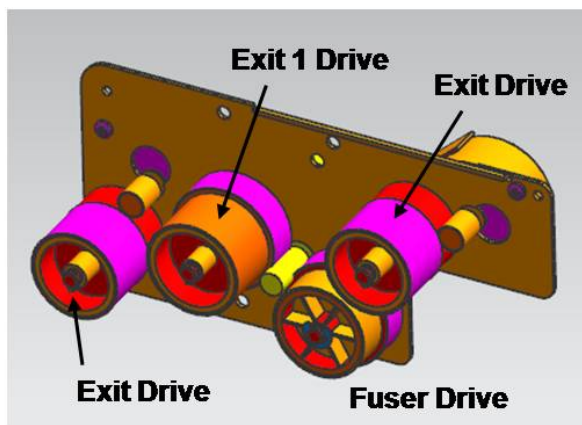
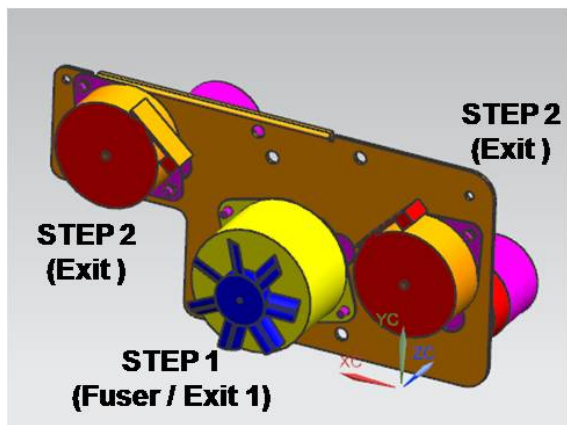
Power Train	OPC/Regi/Pickup/MP/Duplex : Driving by BLDC motor
<ul style="list-style-type: none"> • 1 → 2 (OPC driving) • 1 → 3 → 4 → 5 → 6 Clutch/Gear (Regi. Input) → 7 → 8 Clutch/Gear (Pick-up Input) • 1 → 3 → 4 → 5 → 6 Clutch/Gear (Regi. Input) → 9 → 10 Gear(MP Input) → 11 Gear/Clutch (Duplex Input) 	

2.8.2.2. Main Drive (Deve_Agitaitor_Toner Supply)



Power Train	<ul style="list-style-type: none"> • Deve/Agitaitor : Driving by BLDC motor • Toner Supply : Driving by DC motor
<p>< BLDC ></p> <ul style="list-style-type: none"> • 1 → 2 → 3 (Agitaitor driving) → 4 → 5 (Mag. roler driving) <p>< DC ></p> <ul style="list-style-type: none"> • 1 → 2 → 3 (Toner supply driving) 	

2.8.3. Fuser_Exit Drive



Power Train	<ul style="list-style-type: none"> • Fuser / Exit1 : Driving by STEP motor • Exit : Driving by STEP motor
<p><STEP1></p> <ul style="list-style-type: none"> • 1 → 2 (Fuser driving) → 3 (Exit1 driving) <p><STEP2></p> <ul style="list-style-type: none"> • 1 → 2 (Exit driving) 	

2.9. Scanner System

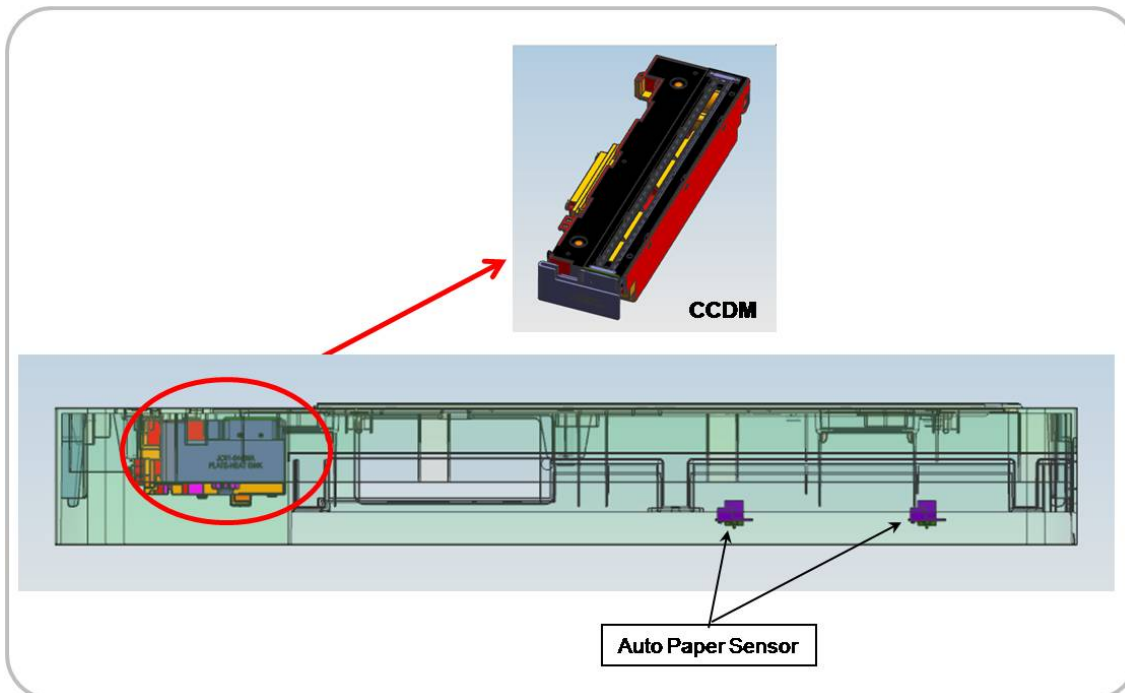
2.9.1. Scanner System overview

The surface of paper is exposed by the light. And the light reflected from the paper is sent to the sensor in the CCDM (Charge coupled device module) through CCDM where optical-to-electrical conversion is performed, converting the optical image data into an electrical (analog) signal.

The analog signal is generated to the digital signal and then the image process starts.

Finally, the digital signal is processed by the algorithm and moves to the data writing section.

This machine uses the reduction-type CCD for color processing.



2.9.2. Scanning System Components

The following shows the construction and purpose of the scanning system :

1) **CCDM**

The CCDM reads the original on the scan glass. The CCD board in the CCDM changes the reflected light to the electrical signal. It consists of the CCD, ADC, Logic IC. The CCD changes the reflected light to 3-color(Red, Green, Blue) analog signal. The ADC changes the analog signal to the digital signal.

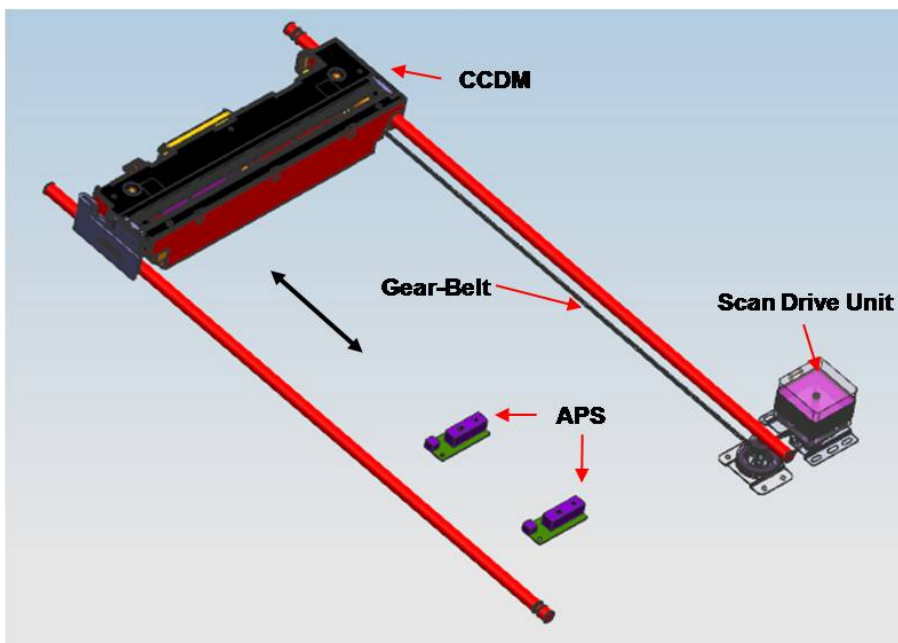
2) **Drive Unit**

The drive unit consists of the step motor, pulley, and belt.

The CCDM movement by driving the belt scans the document on the glass.

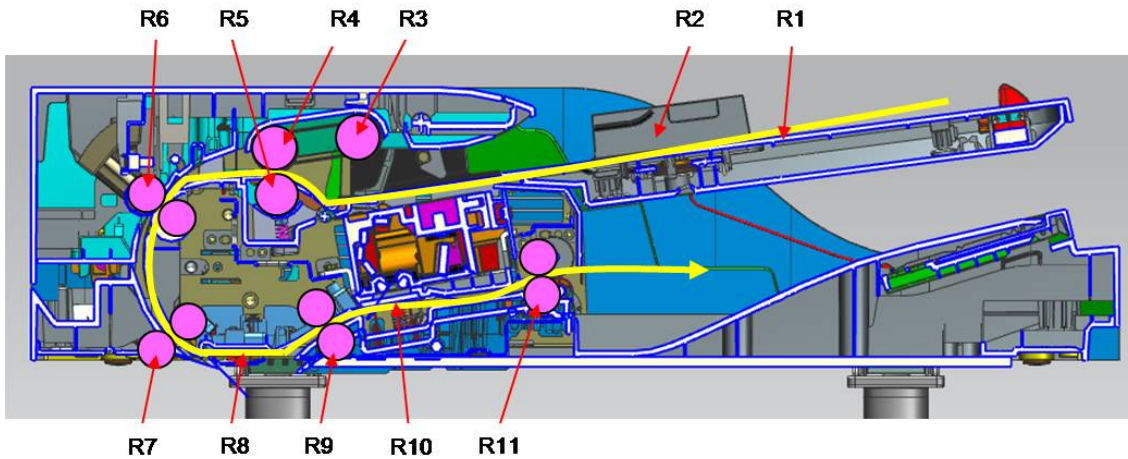
3) **Auto Paper Sensor**

The APS sensor detects the original size.



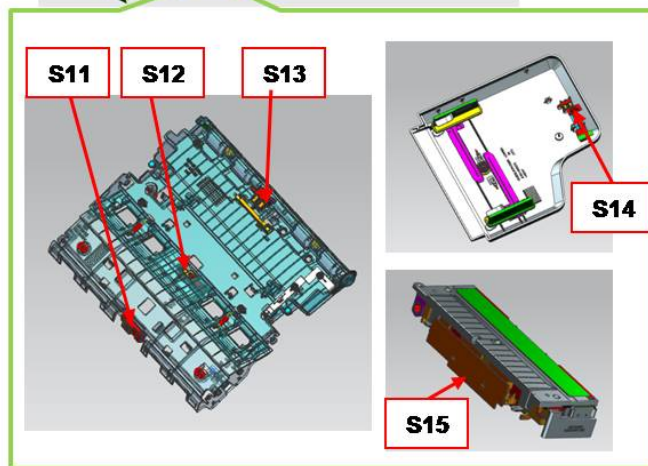
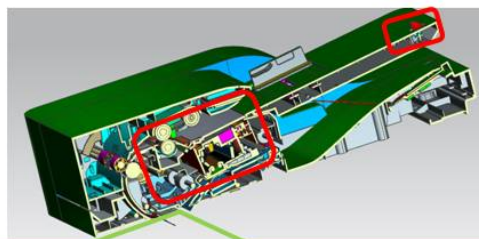
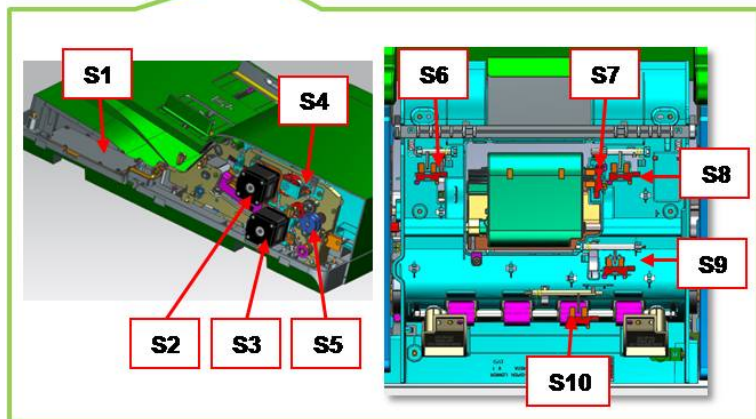
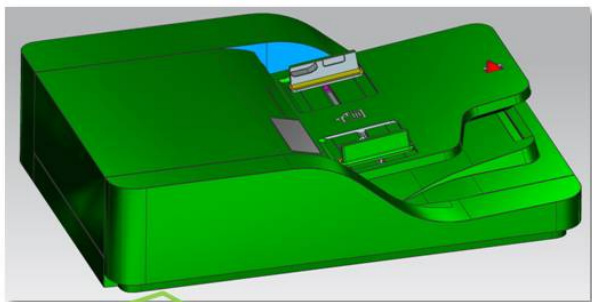
2.10. Dual Scan Document Feeder(DSDF) (M5370LX_M4370LX)

2.10.1. DSDF(Dual Scan Document Feeder) overview



Symbol	Part Name	Function
R1	DSDF-Cover Stacker	Paper input tray
R2	GUIDE-DOCU L&R	Paper guide for skew prevention
R3	Pick-Up roller	Picks up an original from the tray.
R4	Separation roller	Separates an original from the tray and transfers it to the paper path.
R5	Reverse roller	Prevent the multi-feeding.
R6	Regi. roller	Aligns the leading edge of the paper for registration.
R7	Simplex Scan roller	Feeds an original before simplex scanning.
R8	White-Bar	Supports a stable scanning.
R9	Duplex Scan roller	Feeds an original before duplex scanning.
R10	Duplex CCDM	Scans a back page of original.
R11	Feed-Out roller	Transfers a scanned original to the exit tray.

2.10.2. Electrical parts location

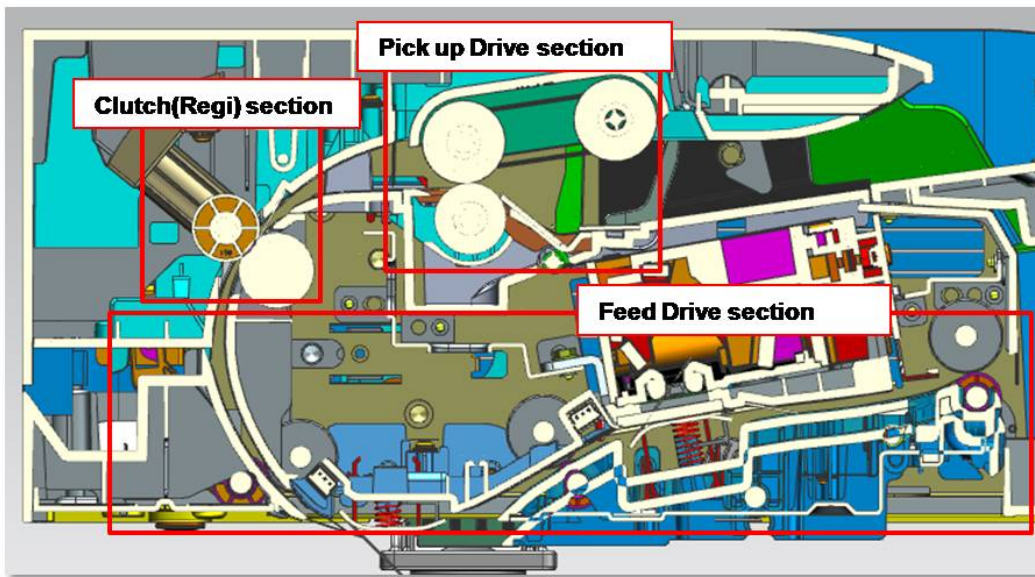


Ref.	Description	Part Code	Controller board
S1	ADF-PBA	JC92-02509A	
S2	STEP-MOTOR(PICK-UP)	JC31-00163A	ADF-PBA
S3	STEP-MOTOR(FEED)	JC31-00163A	ADF-PBA
S4	PHOTO-INTERRUPTER(COVER-OPEN)	0604-001415	ADF-PBA
S5	CLUTCH-ELECTRIC	JC47-00033A	ADF-PBA
S6	PHOTO-INTERRUPTER(PAPER-WIDTH)	0604-001415	ADF-PBA

Ref.	Description	Part Code	Controller board
S7	PHOTO-INTERRUPTER(PICK-UP)	0604-001415	ADF-PBA
S8	PHOTO-INTERRUPTER(PAPER-DETECT)	0604-001415	ADF-PBA
S9	PHOTO-INTERRUPTER(PAPER-FEED)	0604-001415	ADF-PBA
S10	PHOTO-INTERRUPTER(REGI)	0604-001415	ADF-PBA
S11	PHOTO-INTERRUPTER(SIMPLEX SCAN)	0604-001381	ADF-PBA
S12	PHOTO-INTERRUPTER(DUPLEX SCAN)	0604-001381	ADF-PBA
S13	PHOTO-INTERRUPTER(FEED-OUT)	0604-001415	ADF-PBA
S14	PHOTO-INTERRUPTER(PAPER-LENGTH)	0604-001415	ADF-PBA
S15	DUAL-CCDM PBA	JC92-02537A	SET-Main Board

2.10.3. DSDF Drive System

DSDF drive system consists of two motors and one clutch to transfer paper.

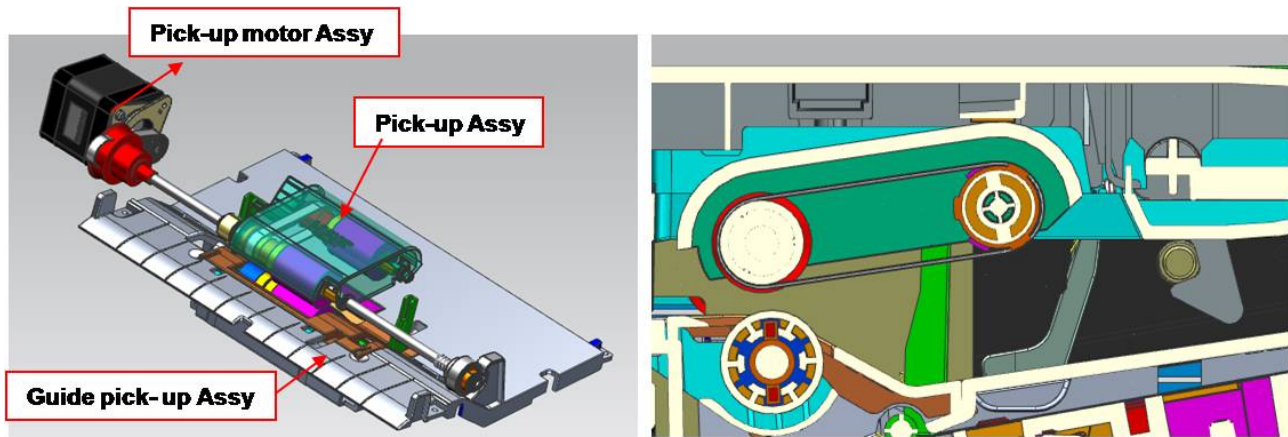


Two step motors drive the system for simplex and duplex job.

- Pick up motor is used for picking up and transferring paper.
- Feed motor and clutch are used for regi. scan, feed.

a) DSDF Original Pick-Up Drive

DSDF Original Pick-Up Drive consists of Pick-up Motor Assy, Pick-up Assy, Guide Pick-up Assy, and Cover-Open Assy

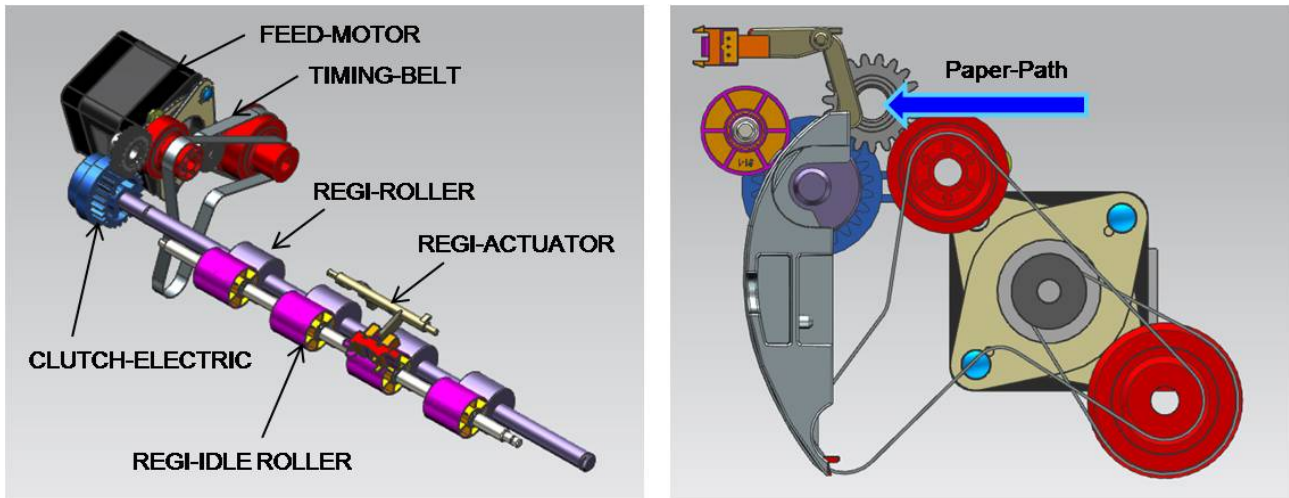


• Operation Procedure

- 1) Checks a paper detection.
- 2) Checks the original width size.
- 3) Holds the original not to be moved in paper path before pick up driving.
- 4) Starts pick up driving.
- 5) Separates an original.

b) DSDF Original Regi. Drive

DSDF Original Regi Drive consists of Feed Motor, Electric Clutch, Regi roller, Regi-Idle roller, Resi sensor

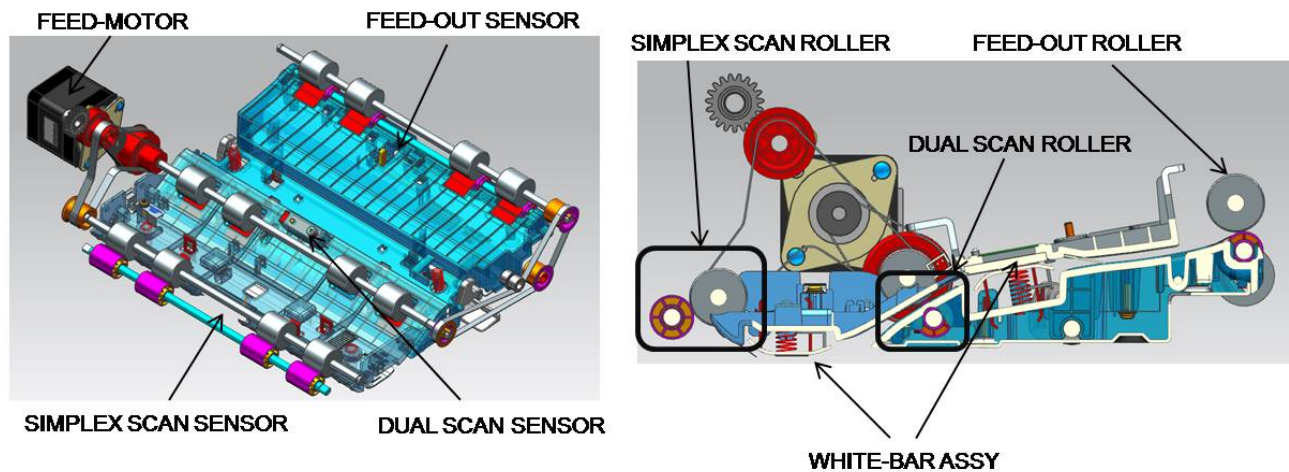


• Operation Procedure

- 1) Original is detected by Regi-Actuator.
- 2) Original aligns for registration.
- 3) Original passes the regi. roller by clutch on/off.

c) Original Scanning and Feed-Out Drive

Feed-Out Drive consists of Feed motor, Timing-Belt, Simplex&Duplex scan roller, White-Bar Assy, Simplex&Duplex Scan sensor.

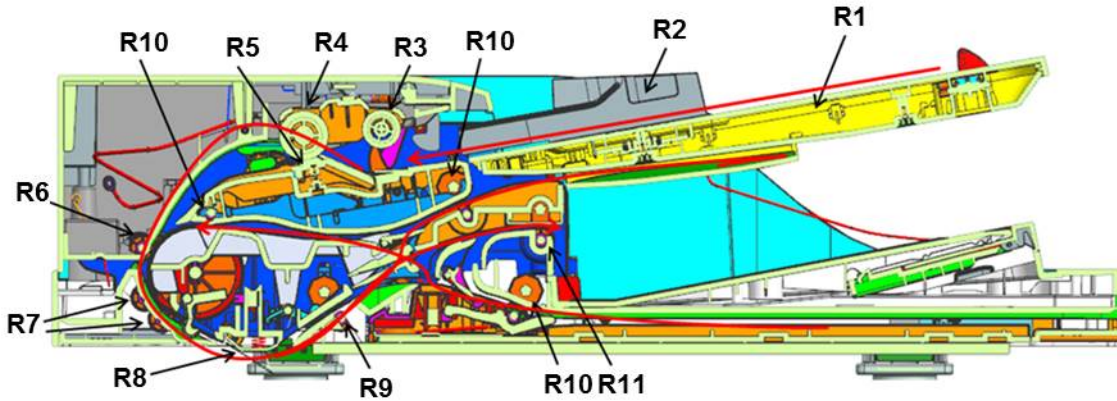


• Operation Procedure

- 1) The power from the feed motor is transferred to simplex and duplex roller.
- 2) When original passes the simplex scan actuator, simplex scan starts. White-Bar functions to prevent the wrinkle.
- 3) When original passes the duplex scan actuator, duplex scan starts.
- 4) Original is transferred to exit tray.

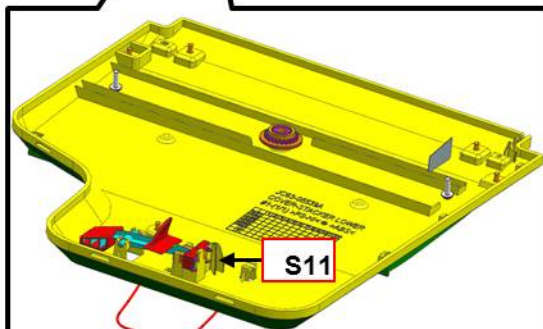
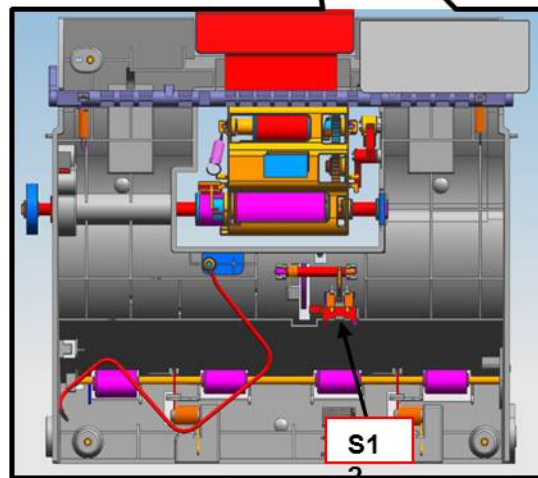
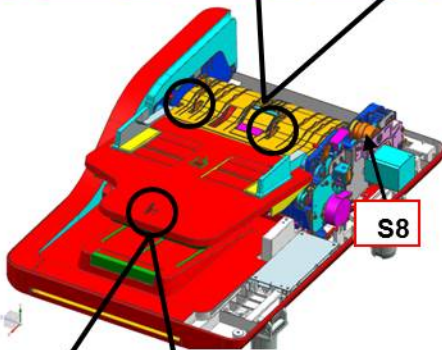
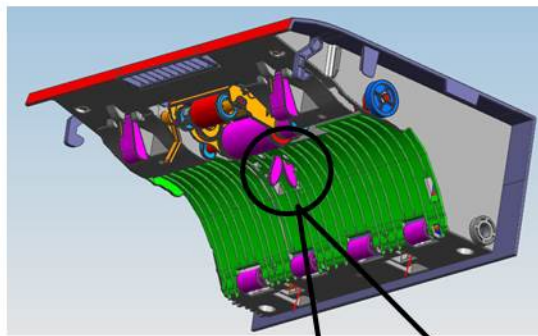
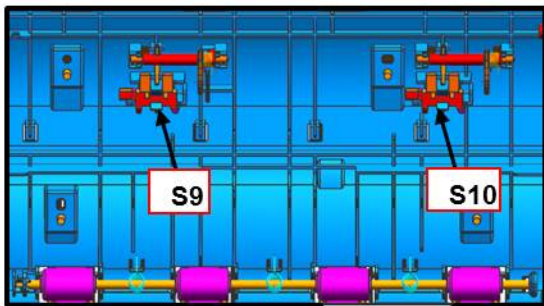
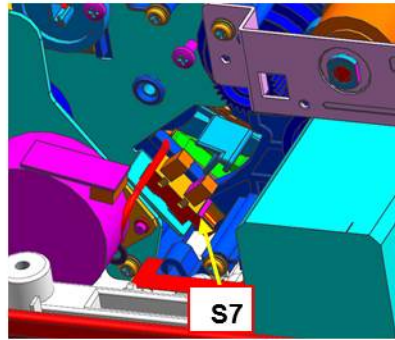
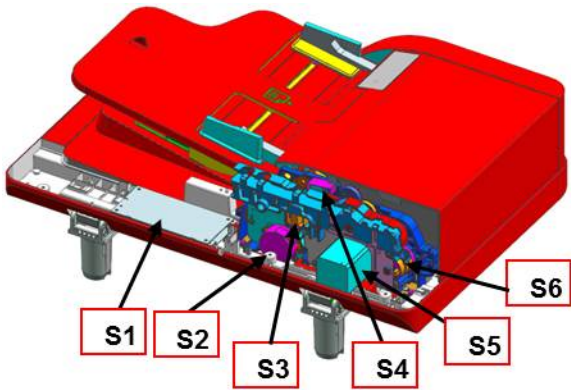
2.11. Reverse Automatic Document Feeder(RADF) (M5360RX)

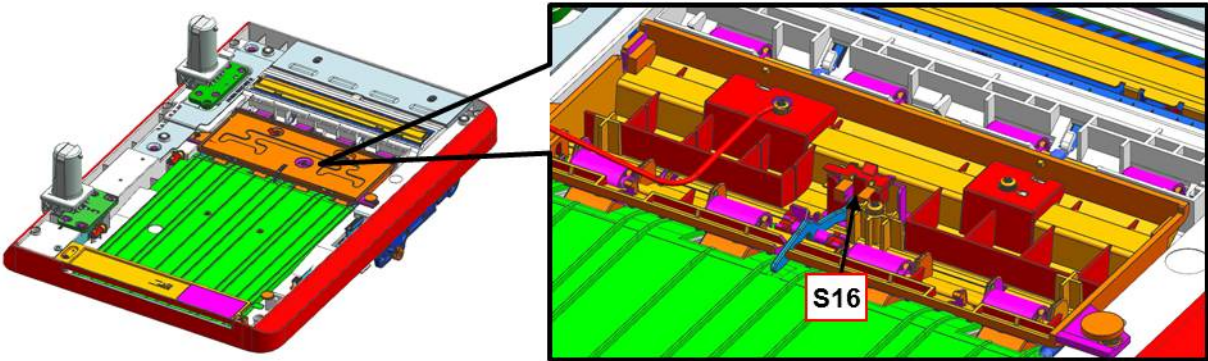
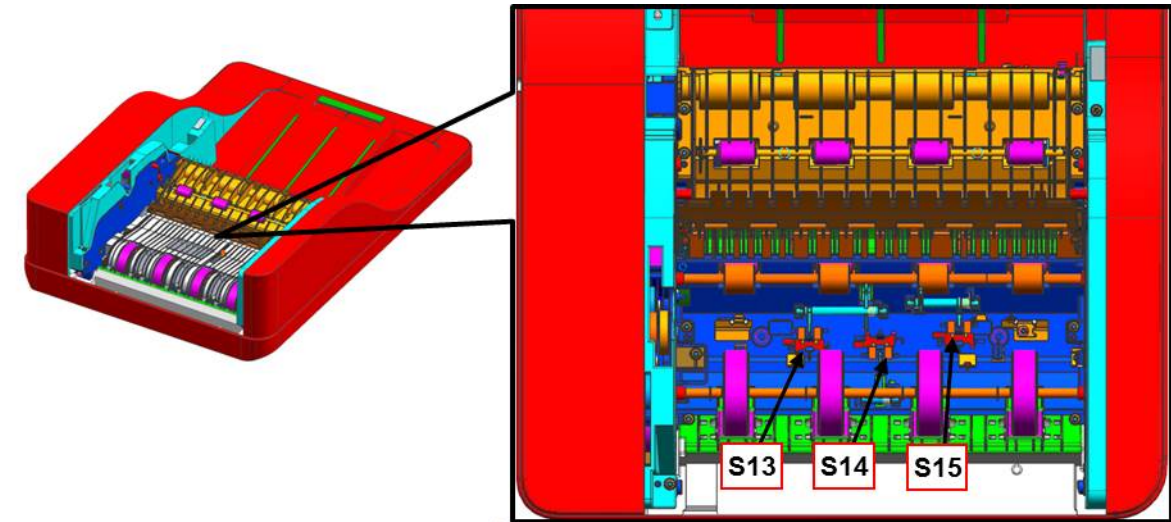
2.11.1. RADF overview



Symbol	Part	Function
R1	RADF Cover Stacker	Paper input tray
R2	Guide-DOCU L&R	Paper guide for skew prevention
R3	Pick-Up roller	Picks up an original from the tray.
R4	Separation roller	Separates an original from the tray to prevent multi-feeding.
R5	Separation pad	Separates an original from the tray to prevent multi-feeding.
R6	Regi. roller	Aligns the leading edge of the paper for registration.
R7	Simplex Scan roller	Feeds an original before simplex scanning.
R8	White-Bar	Supports an original for stable scanning.
R9	Feed roller	Transfers an original to the reverse or exit roller.
R10	Reverse roller	Feeds an original before duplex scanning.
R11	Exit roller	Sends an original to the exit tray.

2.11.2. Electrical parts location

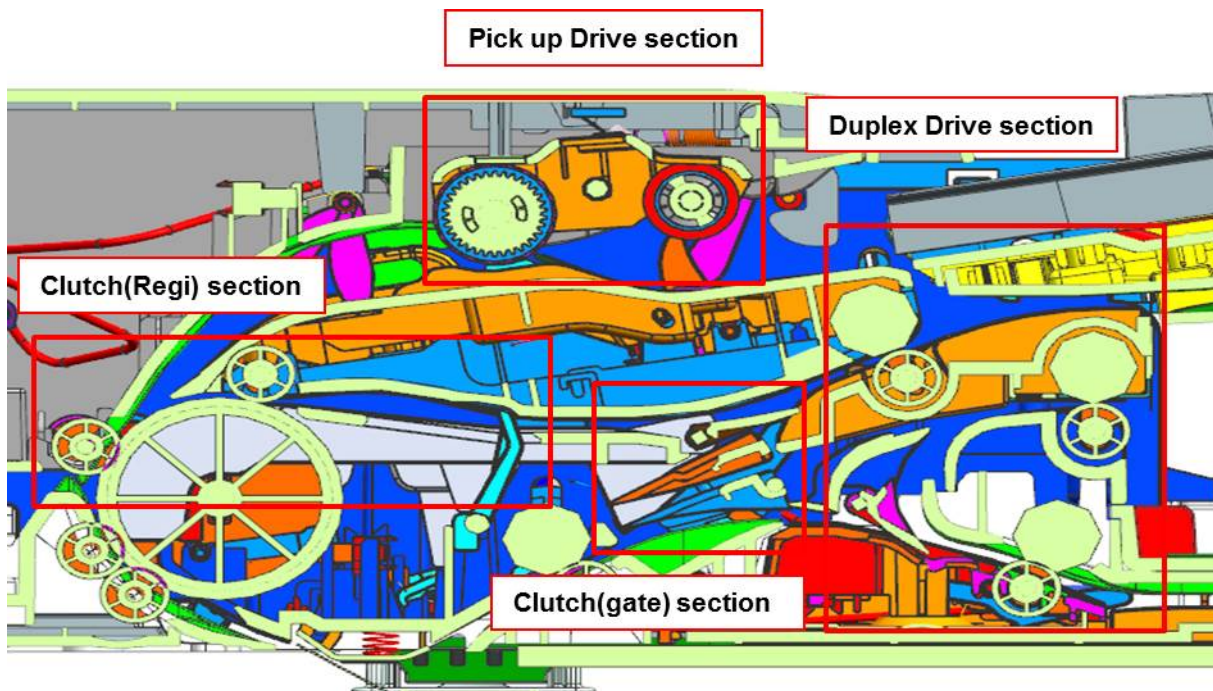




Symbol	Description	Controller board
S1	PBA-ADF	-
S2	MOTOR (Pick-Up)	PBA-ADF
S3	SOLENOID (Pick-Up)	PBA-ADF
S4	PHOTO-INTERRUPTER (Cover-Open)	PBA-ADF
S5	MOTOR (Duplex)	PBA-ADF
S6	CLUTCH-REGI	PBA-ADF
S7	PHOTO-INTERRUPTER (Gate)	PBA-ADF
S8	CLUTCH-PICK UP	PBA-ADF
S9	PHOTO-INTERRUPTER (Detect)	PBA-ADF
S10	PHOTO-INTERRUPTER (Width)	PBA-ADF
S11	PHOTO-INTERRUPTER (Length)	PBA-ADF
S12	PHOTO-INTERRUPTER (Regi_Simplex)	PBA-ADF
S13	PHOTO-INTERRUPTER (Feed)	PBA-ADF
S14	PHOTO-INTERRUPTER (Scan)	PBA-ADF
S15	PHOTO-INTERRUPTER (Regi_Duplex)	PBA-ADF
S16	PHOTO-INTERRUPTER (Reverse)	PBA-ADF

2.11.3. RADF Drive System

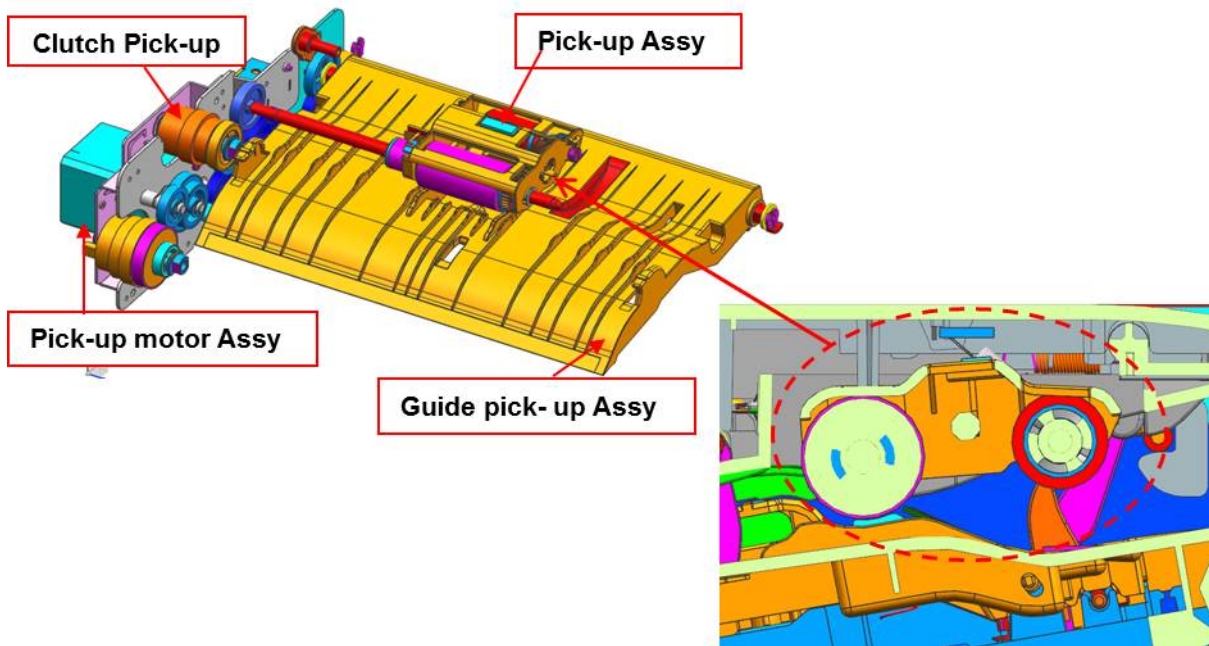
RADF drive system consists of two motors and three clutches to transfer the paper.



- Two motors drive the system for simplex and duplex job.
- The pick up drive section transfers an original using pick up motor and clutch.
- The clutch controls the paper registration and gate change.
- The duplex motor is used for duplex reverse.

a) RADF Original Pick-Up Drive

RADF Original Pick-Up Drive consists of Pick-up Motor Assy, Pick-up Assy, Guide Pick-up Assy, and Cover-Open Assy

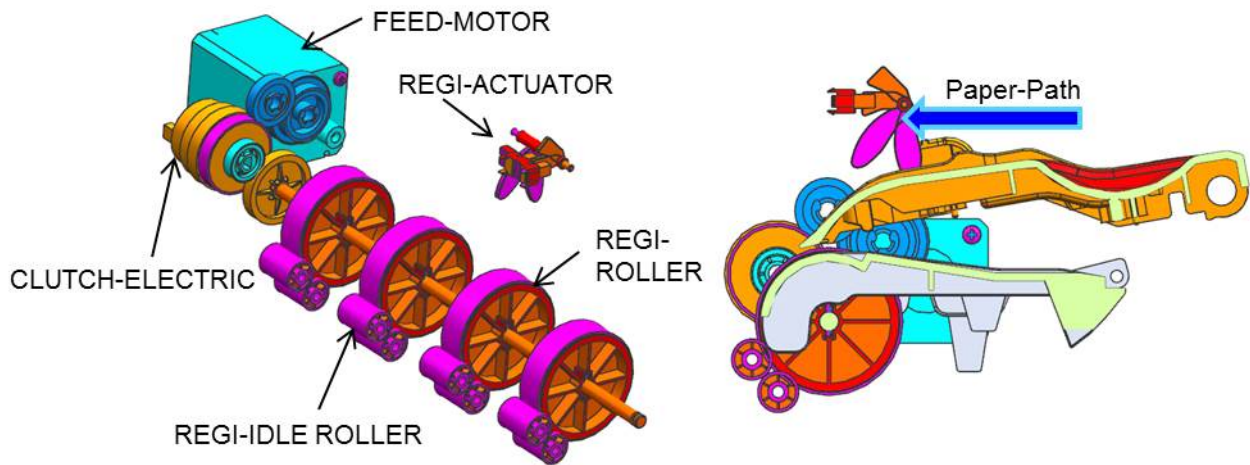


- **Operation Procedure**

- 1) Checks an original detection.
- 2) Checks the original width size.
- 3) The stopper holds the original not to be moved in paper path before pick up driving.
- 4) Starts pick up driving.
- 5) The separation pad separates an original.

b) RADF Original Regi. Drive

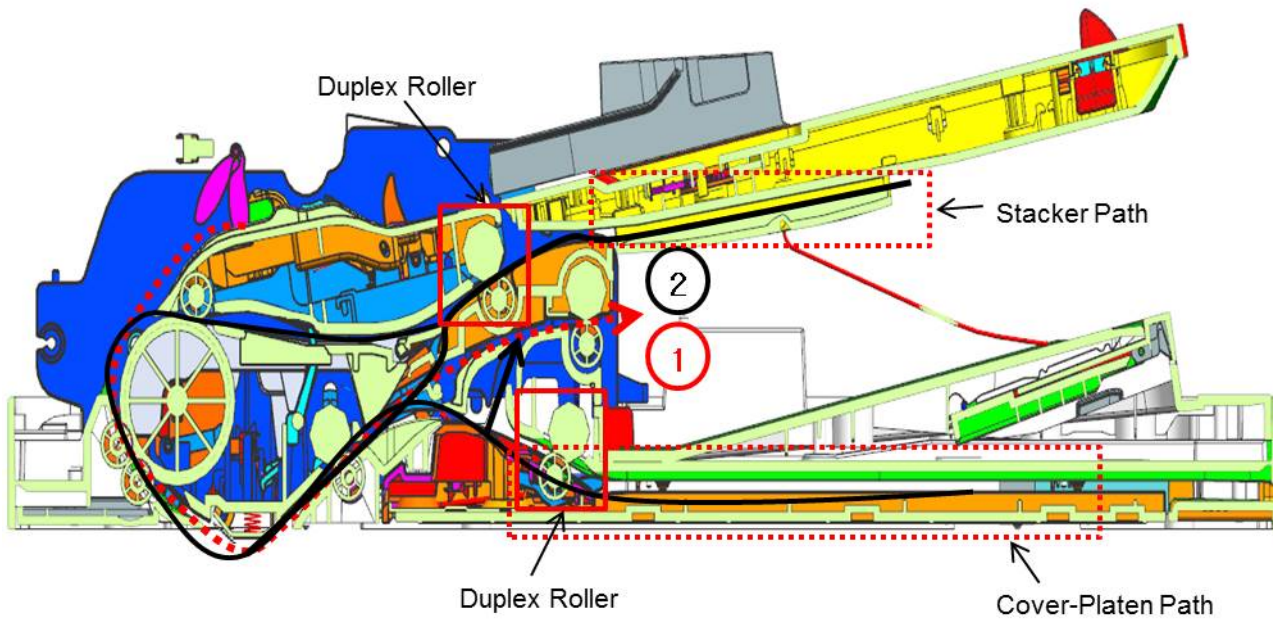
RADF Original Regi. Drive consists of Feed Motor, Electric Clutch, Regi roller, Regi-Idle roller, Resi sensor.

**• Operation Procedure**

- 1) Original is detected by Regi-Actuator.
- 2) Original aligns for registration.
- 3) Original passes the regi. roller by clutch on/off.

c) Original Scanning and Feed-Out Drive

Feed-Out Drive consists of pick up motor, reverse motor, duplex roller, scan roller, feed roller, white-bar, regi sensor, regi actuator.



- **Operation Procedure**

- Simplex

- 1) The power from the feed motor is transferred to timing-belt.
- 2) When original passes the simplex scan actuator, simplex scan starts.
- 3) White-Bar functions to prevent the wrinkle and background problem.
- 4) Original is transferred by exit roller.

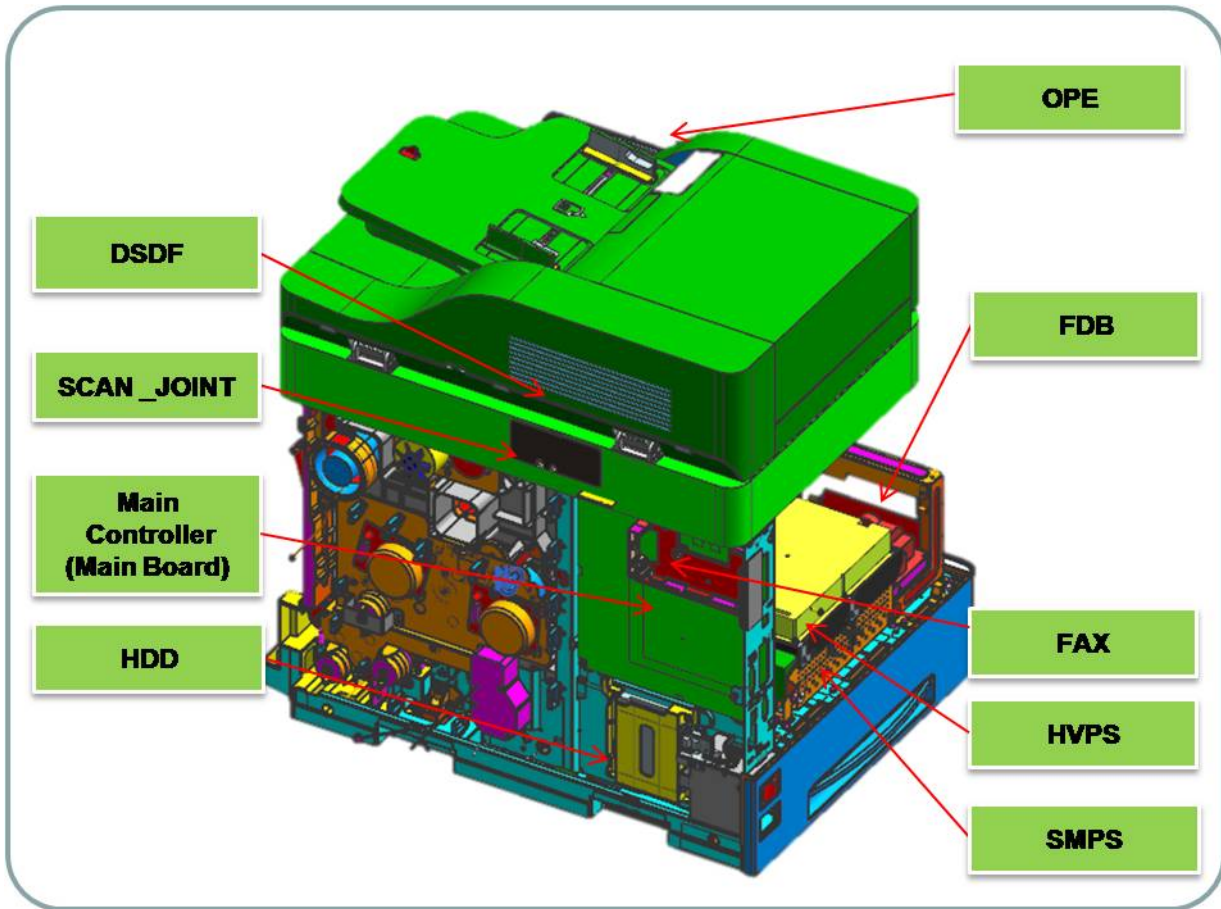
- Duplex

- 1) The power from the feed motor is transferred to timing-belt.
- 2) When original passes the simplex scan actuator, simplex scan starts.
- 3) White-Bar functions to prevent the wrinkle and background problem.
- 4) The original passes from the duplex roller to the path of the stacker bottom.
- 5) The duplex motor controls the duplex-regi actuator and skew correction.
- 6) White-Bar functions to prevent the wrinkle and background problem.
- 7) The original transfers to the path of the cover-platen bottom. And then, the original is transferred to the exit tray by exit roller.

A MICOM of the main board controls the fuser lamp on/off and system power according to an optimized energy-saving algorithm for optimal efficiency.

Circuit Board Locations

The following diagrams show the locations of the printer circuit boards:

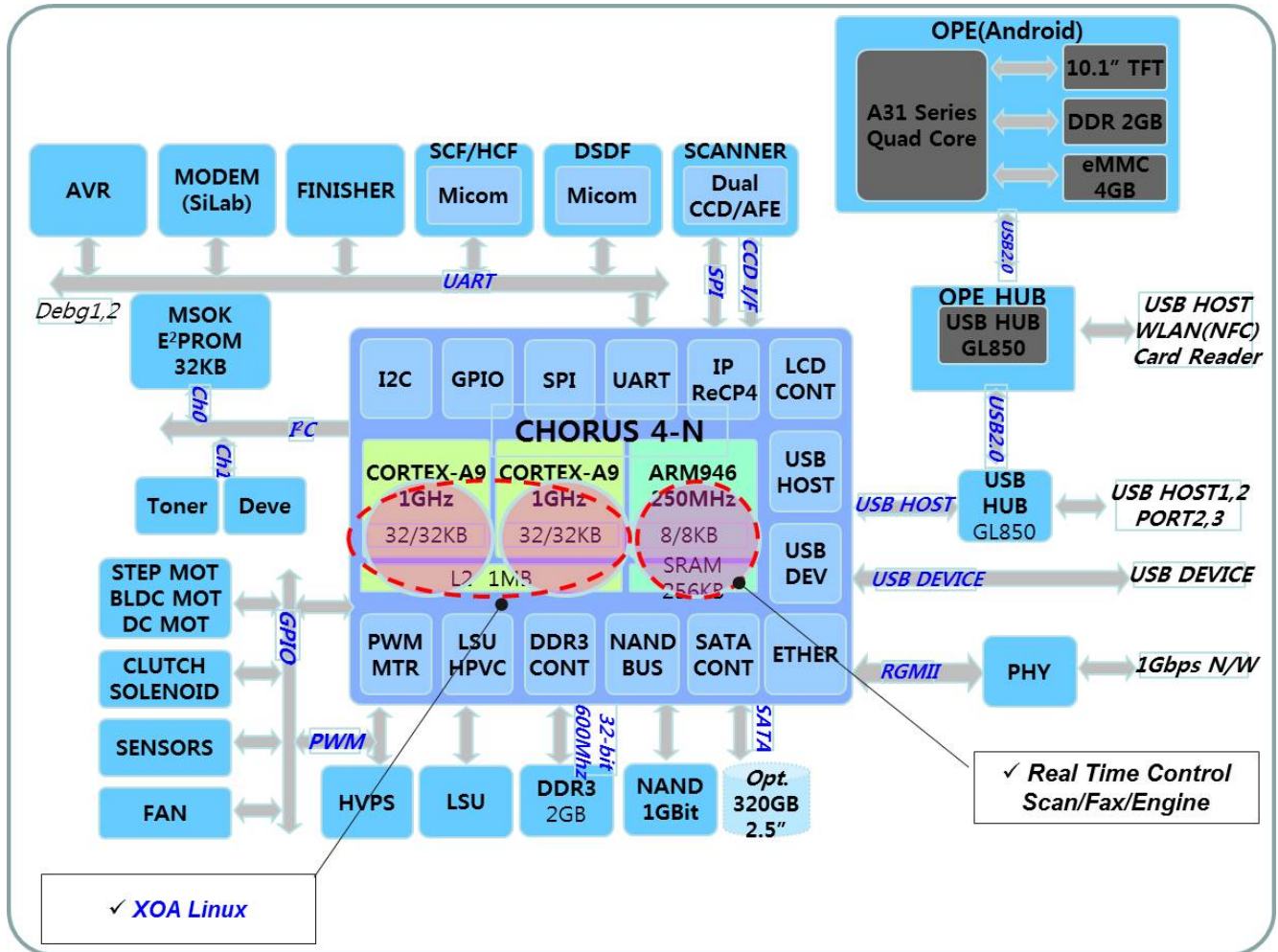


2.12.1. Main board

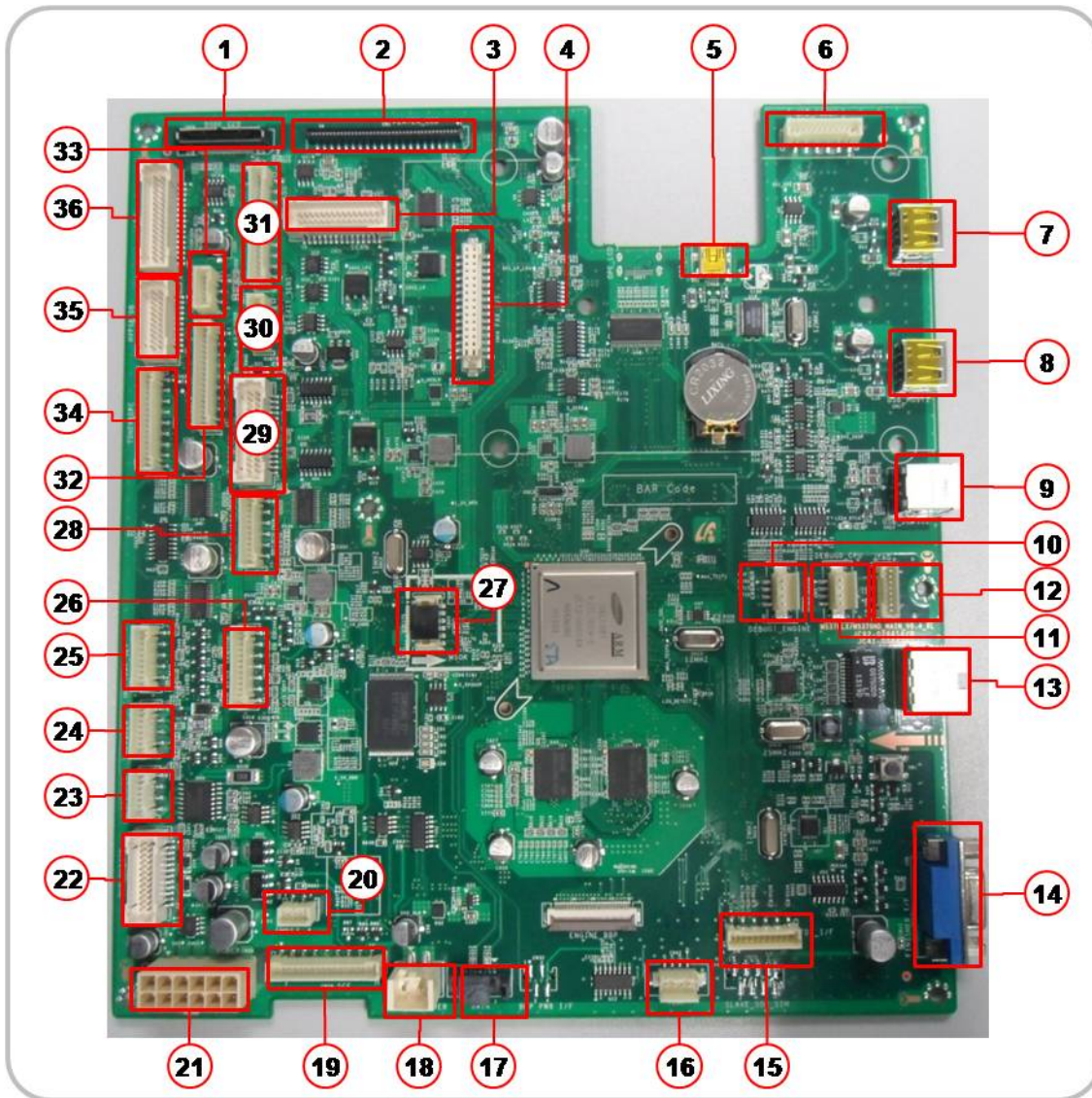
The main board consists of the main processor(1GHz dual core CPU), memory(DDR3 1GB), flash(128MB), 1G Ethernet PHY, USB2.0 HUB, Micom(power/fuser control), scan/video/UI/fax signal interface connection, motor driving IC, engine signal interface connection, power interface.

The main processor controls video, engine, UI display and communicates with various devices. The HDD is connected to the main board by SATA2 and to the other device (DSDF, SCF, finisher, and fax modem) by UART.

1) Main Board Diagram



2) Main Board Connection Information (M5370LX / M4370LX)



• Connection

1	ADF CCDM
2	Platen CCDM
3	Scan Interface
4	Fax Joint
5	USB Host (OPE)
6	OPE Interface
7	USB Host Jack
8	USB Host Jack
9	USB Device Jack
10	Engine Debug
11	Video Debug
12	JTAG
13	Giga RJ45

14	Finisher Interface
15	FDI
16	Temp. Sensor
17	SATA Signal
18	SATA Power
19	SCF
20	SMPS Interface (24V)
21	SMPS
22	Duplex / CTD
23	Speaker
24	Paper
25	Tray Set
26	Regi Sensor

27	MSOK
28	Duplex / Fuser / Exit Motor
29	BLDC Motor / Fan
30	Exit Sensor
31	LSU (45PPM)
32	Fuser
33	Cover Open
34	Toner / OPC Motor
35	HVPS / FDB
36	LSU (55PPM)

• Information

2. Product Specifications and Description

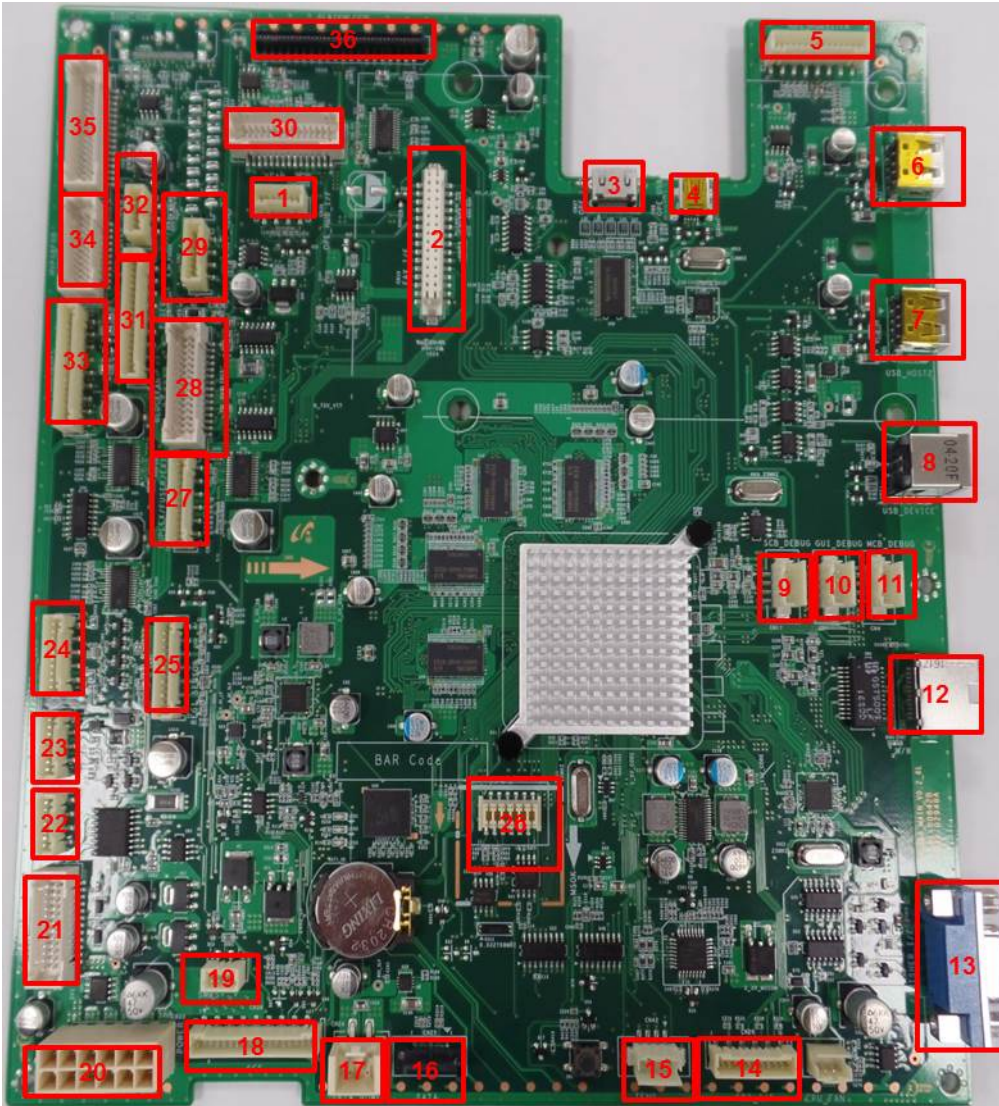
- Part Code : JC92-02661A

NOTE

This main board is for all models of the M4370 / M5370 series

- Part Name : PBA-MAIN

3) Main Board Connection Information (M5360RX)



• Connection

No	Part	Disconnection Problem
1	OPE I/F	UI malfunction
2	FAX JOINT I/F	Fax is unavailable
3	HDMI(OPE) I/F	UI malfunction
4	USB HOST (OPE) I/F	UI malfunction
5	OPE I/F	UI malfunction
6	USB HOST JACK I/F	Can't use USB thumb drive
7		

No	Part	Disconnection Problem
8	USB DEVICE JACK I/F	Can't print via USB cable
9	DEBUG I/F	Can't see debug message with Hyper terminal
10		
11		
12	Network Jack I/F	No N/W connectivity

No	Part	Disconnection Problem
13	FINISHER I/F	Can't use or malfunctioning finisher
14	FDI I/F	Can't use FDI
15	TEMP SENSOR I/F	Humidity Sensor Error
16	SATA SIGNAL I/F	Will not boot properly
17	SATA POWER I/F	Will not boot properly
18	SCF I/F	Can't use Tray 2~4
19	SMPS I/F(24V)	24 V components will not function
20	SMPS I/F	No Power
21	DUPLEX / CTD I/F	Duplex Fan Error
22	SPEAKER I/F	No Sound
23	PAPER I/F	Can't check Paper Size
24	TRAY SET I/F	Paper Empty Error
25	REGI SENSOR I/F	Regi Sensor Error
26	MSOK I/F	Will not boot properly
27	DUPLEX/FUSER/EXIT MOTOR I/F	Prevents ready-state
28	BLDC MOTOR / FAN I/F	Prevents ready-state
29	EXIT SENSOR I/F	Exit jam
30	SCAN I/F	Scanner Locked
31	FUSER I/F	Prevents ready-state
32	COVER OPEN I/F	Prevents ready-state
33	TONER / OPC MOTOR I/F	Prevents ready-state
34	HVPS / FDB I/F	Print White paper
35	LSU I/F	Hsync Error
36	PLATEN CCDM I/F	Simplex scan/copy is blank

- **Information**

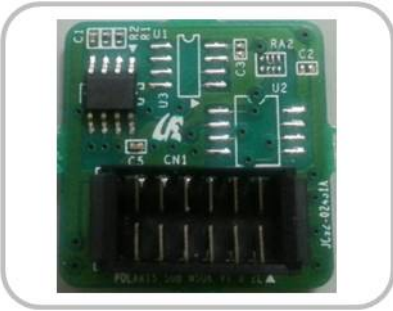
- Part Code : JC92-02948A
- Part Name : PBA-MAIN

2.12.2. MSOK

MSOK PBA consists of a EEPROM(256K-bit) that is stored for all system operation information like a system parameter, device status, tech information, and service information.

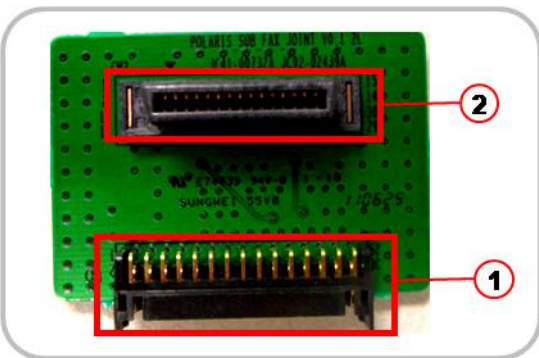
NOTE

When a main board needs to be exchanged, the MSOK PBA should be re-installed to the new main board to retain the system information.



2.12.3. Fax Joint PBA

The fax joint PBA is used for interfacing between the main board and modem PBA(fax card). It uses UART for interface.



- **Information**
 - Part Code : JC92-02439A
 - Part Name : PBA-FAX JOINT

• **Connection**

1	Main Board Interface Connector
2	Modem (Fax) Card Interface Connector

2.12.4. Fax Card (Optional)

The fax(modem) card is used to transfer and receive the fax data through a telephone line. This PBA is controlled by the main board and has two connectors, connectors, one for the telephone line connection and the other for an external phone connection.



- **Information**

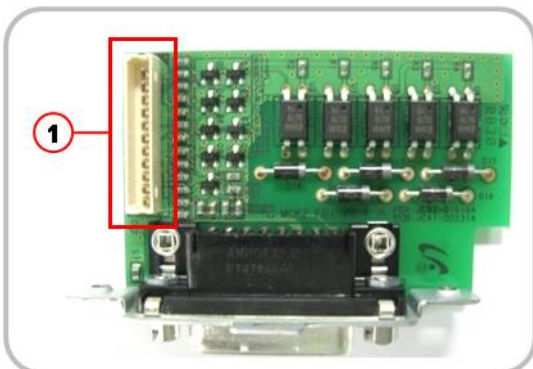
- Fax Kit Model : SL-FAX1001
- Part Code : JC92-02558B
- PBA name : PBA-FAX CARD

- **Connection**

1	Fax Joint Interface Connector
2	Tel Line Interface Connector
3	External Phone Interface Connector

2.12.5. FDI (Optional)

The FDI(Foreign Device Interface) module as a option is used to track machine usage such as the number of print or copy pages for some special users. This module interfaces to the main board.



- **Information**

- Part Code : JC92-01616A
- PBA name : PBA-SUB FDI

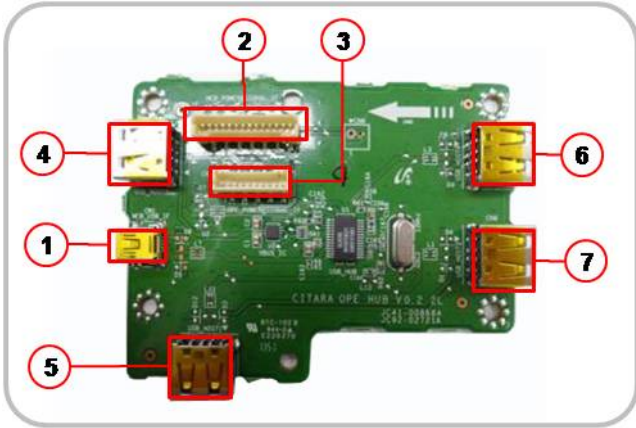
- **Connection**

1	Connector to Main board
---	-------------------------

2.12.6. OPE Hub PBA and OPE Joint Board

[M5370LX / M4370LX]

OPE Hub PBA is used to interface with main board, UI board, USB memory, NFC, wireless.



• **Information**

- Part Code : JC92-02721A
- Part Name : PBA-OPE HUB

• **Connection**

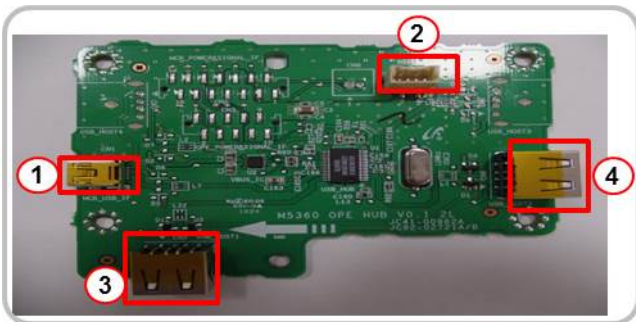
1	Main Board Interface Connector
2	Power Input Connector
3	Power Output Connector
4	Card Reader
5	External USB Connector
6	UI Interface Connector
7	NFC + Wifi Connector

[M5360RX]

• **OPE Hub Board**

It is used to interface with Main PBA, USB Memory stick, NFC, Wireless module.

It interfaces through USB communication.



- **Information**

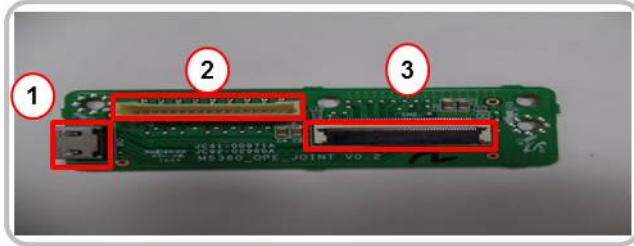
- Part Code : JC92-02950A
- Part Name : PBA-OPE HUB

- **Connection**

1	Main PBA I/F(USB)
2	MAIN I/F
3	USB HOST I/F
4	NFC, Wireless I/F

- **OPE Joint Board**

It is used to interface with Main PBA, UI.



- **Information**

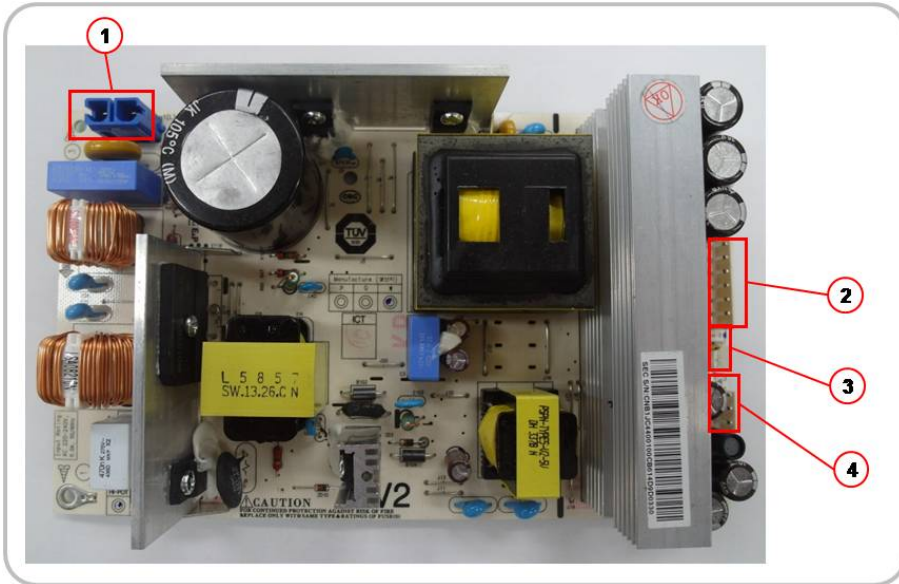
- Part Code : JC92-02960A
- Part Name : PBA-OPE JOINT

- **Connection**

1	MAIN I/F
2	MAIN PBA I/F
3	UI I/F

2.12.7. SMPS board

SMPS (Switching Mode Power Supply) board supplies electric power to the main board and other boards. The voltage provided includes +5V, and +24V from a 110V/220V power input. It has safety protection modes for over-current and overload.



• **Specification**

General Input/ Output Voltage

- 1) AC 110V (110V ~ 127V)
- 2) AC 220V (220V ~ 240V)
- 3) Input Current: 5.8A (110V) / 2.9A (220V)
- 4) Output Power: 275W
 - DC 5V : 35W / DC 24V : 240W

• **Information**

	110V	220V
Part Code	JC44-00093C	JC44-00100C
Part Name	SMPS Type 5 V1	SMPS Type 5 V2

• **Connection**

1	Input_AC
2	Output_24V1/2/3/4 (to DC Power PBA)
3	24V Enable
4	Output_5V1/2 (to DC Power PBA)

- **Input / Output connector**

- **AC Input Connector (CN1)**

Description	PIN NAME	PIN ASSIGN
AC Input	AC_L	1
AC Input	AC_N	2

- **DC Output Connector (CN2)**

Description	PIN NAME	PIN ASSIGN
Power	+5V1	1
5V Ground	GND	2
Power	+5V2	3
5V Ground	GND	4

- **DC Output Connector (CN3)**

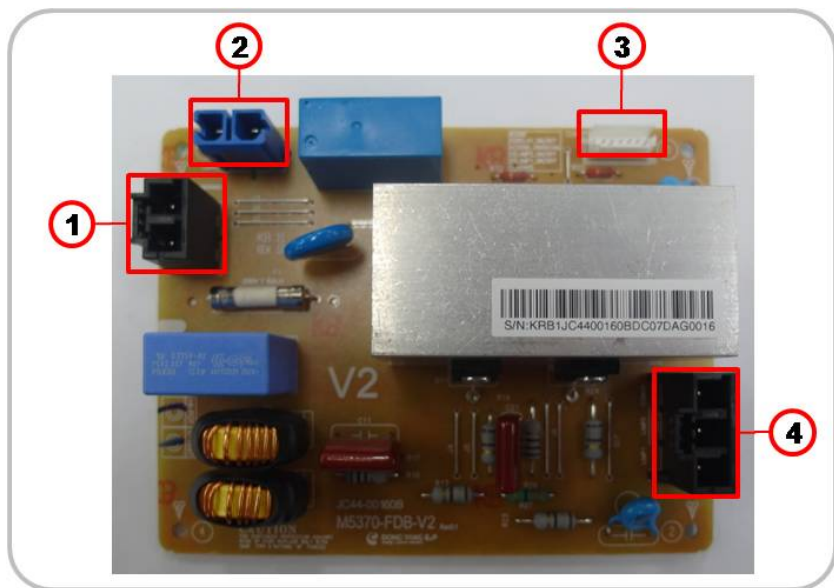
Description	PIN NAME	PIN ASSIGN
Power	+24V1	1
24V Ground	GND	2
Power	+24V2	3
24V Ground	GND	4
Power	+24V3	5
24V Ground	GND	6
Power	+24V4	7
24V Ground	GND	8

- **Signal Connector (CN4)**

Description	PIN NAME	PIN ASSIGN
Signal Ground	GND	1
On/Off signal	24V_ON/OFF	2
Signal Ground	GND	3

2.12.8. Fuser Drive Board (FDB)

The primary purpose of this board is to provide AC Power [neutral side] to the Fuser Lamp based on an on/off signal provided by the Main Board. It also supplies 110V/220V power to the SMPS board.



• **Information**

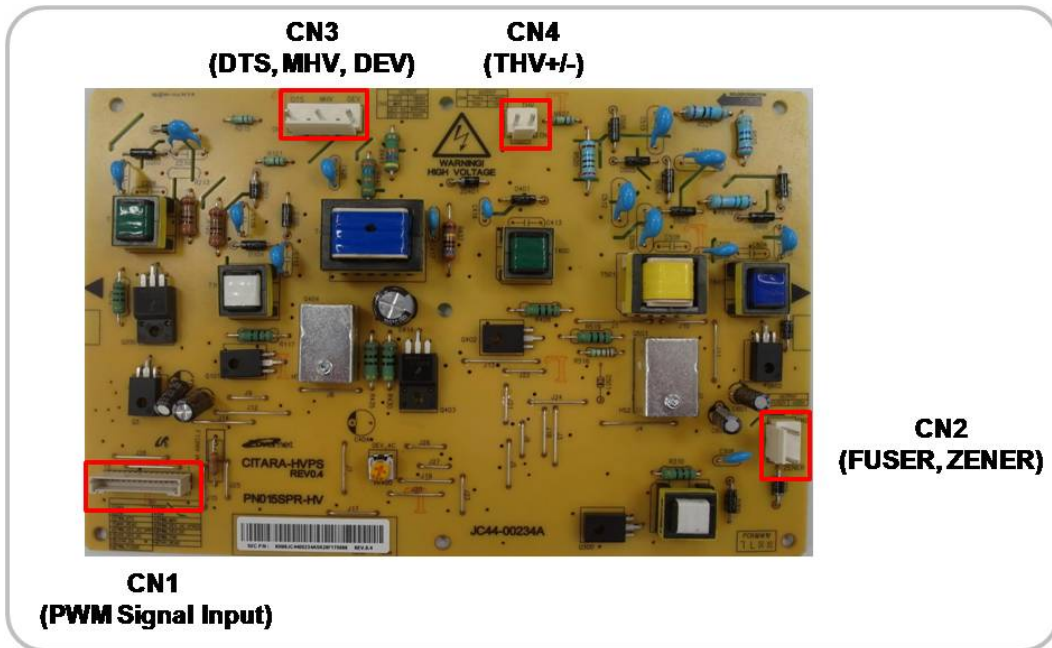
	110V	220V
Part Code	JC44-00159B	JC44-00160B
Part Name	M5370-FDB-V1	M5370-FDB-V2

• **Connection**

1	AC inlet
2	SMPS(TYPE5)
3	Control signal(FDB I/F)
4	Fuser AC

2.12.9. HVPS board

HVPS(High Voltage Power Supply) board generates 7 high-voltage channels, which include MHV , DEV AC+DC, THV+/-, SAW(DTS), FUSER .



- **Specification**

- 1) Input Voltage : DC 24V, 3.3V
- 2) Output Voltage :
 - MHV : -1205V
 - DTS : -1820V
 - DEV DC : -500V, AC : 900Vpp
 - THV+ : 1425V
 - THV- : —1300V
 - FUSER : 220V

- **Information**

- Part Code : JC44-00234A
- Part Name : HVPS

- **Connection**

- CN1

Description	PIN NAME	PIN ASSIGN
Input Voltage	24V	1
GND	GND	2
GND	GND	3
Input Voltage	5V	4
PWM signal	PWM DTS	5
PWM signal	PWM MHV	6
Output voltage	MHV Read	7

Description	PIN NAME	PIN ASSIGN
PWM signal	PWM DEV AC VFREQ	8
PWM signal	PWM DEV AC Vpp	9
PWM signal	PWM DEV DC	10
nEN signal	nEN DEV AC	11
PWM signal	PWM THV	12
nEN signal	nTHV EN	13
Output voltage	THV Read	14
PWM signal	PWM FUSER	15

- CN2

Description	PIN NAME	PIN ASSIGN
Output Voltage	FUSER	1
Output Voltage	ZENER	2

- CN3

Description	PIN NAME	PIN ASSIGN
Output Voltage	DTS	1
Output Voltage	MHV	2
Output Voltage	DEV	3

- CN4

Description	PIN NAME	PIN ASSIGN
Output Voltage	THV	1,2

2.12.10. Finisher PBA

Finisher PBA controls the finisher operation. it consists of a controller(STM32F101VCT6), Two motor drive IC. It interfaces with man board through UART.

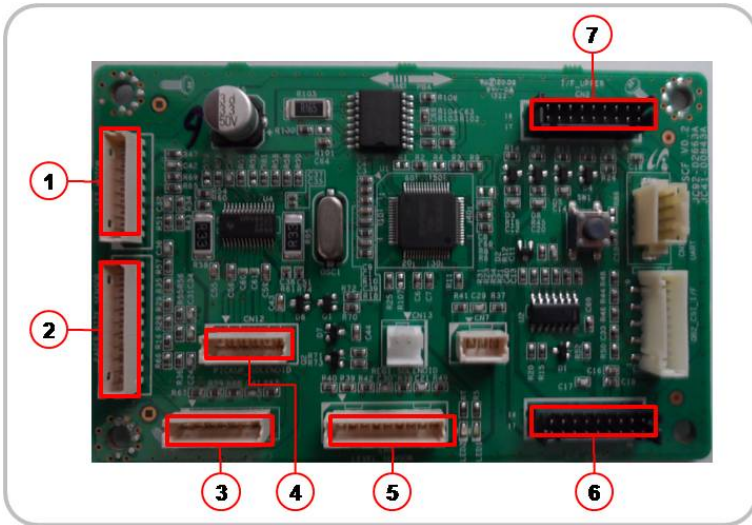


- **Information**

- Part Code : JC81-07242A (2-Bin finisher) / JC81-07242C (1-Bin finisher)
- PBA Name : PBA-FINISHER

2.12.11. SCF_HCF board

SCF/HCF board controls the optional cassette. It consists of a controller(UPD70F3824GB), two motor drive IC for controlling the feeding timing with the main board.



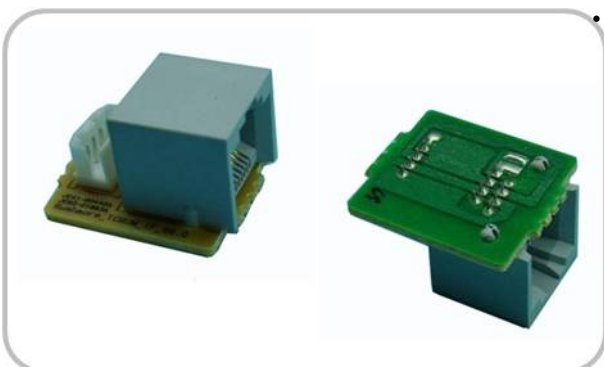
- **Information**
 - Part Code : JC92-02663A
 - PBA Name : PBA-SCF

- **Connection**

1	P_Sen
2	P_Size
3	Feed_Sen
4	Feed_Motor
5	P_Lev
6	IF_Lower
7	IF_Upper

2.12.12. CRUM Joint PBA

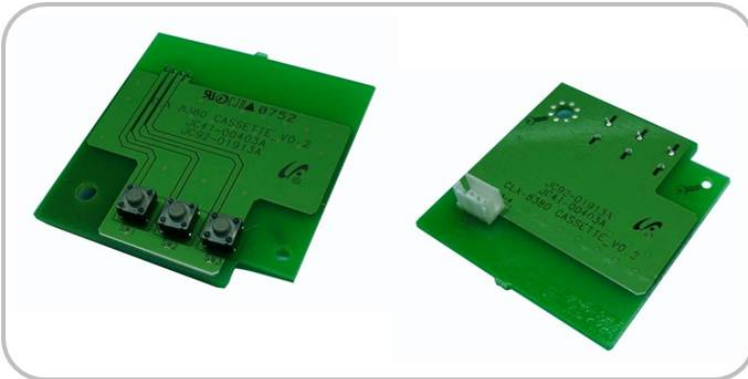
The CRUM Joint PBA is the interface board between the main board and toner cartridge.



- **Information**
 - Part Code : JC92-01963A
 - Part Name : PBA-TCRUM IF

2.12.13. Sub-Cassette PBA

This board detects the paper size in the cassette.



- **Information**

- Part Code : JC92-01913A
- Part Name : PBA SUB-CASSETTE

2.12.14. CRUM PBA

CRUM PBA includes CRU memory for imaging unit, toner cartridge life cycle counting.

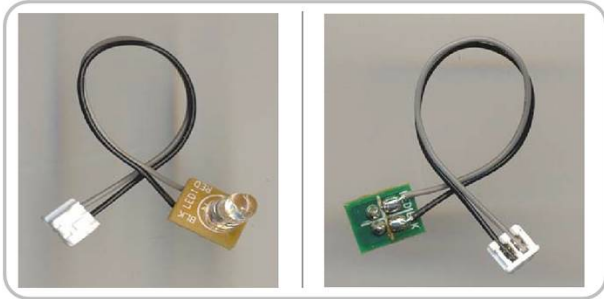


- **Information**

- Part Code : JC92-02456A
- Part Name : PBA-CRUM

2.12.15. Eraser PBA

Eraser PBA has one LED. This LED is used for erasing the negative charges on the surface of the drum after printing.

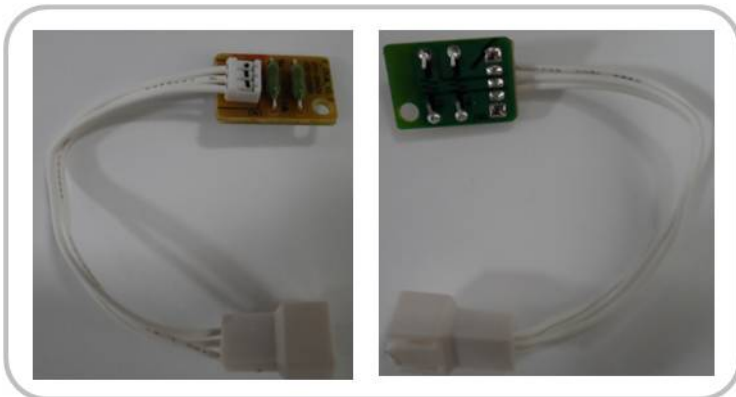


- **Information**

- Part Code : JC92-01959B
- Part Name : PBA-ERASER

2.12.16. Fuser CRUM PBA

This board has the fuse. The main board detects that the fuser unit is new or not depending on fuse status.



- **Information**

- Part Code : JC92-02008A
- Part Name : PBA-FUSER CRUM

3. Disassembly and Reassembly

3.1. Precautions when replacing parts

3.1.1. Precautions when assembling and disassembling

- Use only approved Samsung spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct. Failure to do so could result in damage to the machine, circuit overload, fire or electric shock.
- Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire hazards.
- Take care when dismantling the unit to note where each screw goes. There are 19 different screws. Use of the wrong screw could lead to system failure, short circuit or electric shock.
- Do not disassemble the LSU unit. Once it is disassembled dust is admitted to the mirror chamber and will seriously degrade print quality. There are no serviceable parts inside.
- Regularly check the condition of the power cord, plug and socket. Bad contacts could lead to overheating and fire. Damaged cables could lead to electric shock or unit malfunction.

3.1.2. Precautions when handling PBA

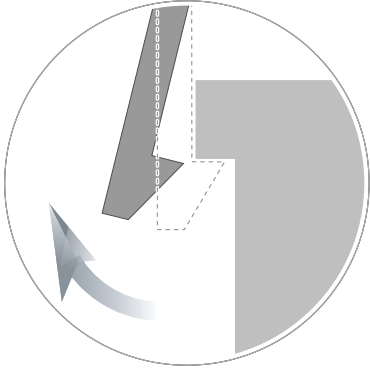
Static electricity can damage a PBA, always use approved anti-static precautions when handling or storing a PBA.

- **Precautions when moving and storing PBA**
 - 1) Please keep PBA in a conductive case, anti-static bag, or wrapped in aluminum foil.
 - 2) Do not store a PBA where it is exposed to direct sunlight.
- **Precautions when replacing PBA**
 - 1) Disconnect power connectors first, before disconnecting other cables.
 - 2) Do not touch any soldered connections, connector terminals or other electronic parts when handling insulated parts.
- **Precautions when checking PBA**
 - 1) Before touching a PBA, please touch other grounded areas of the chassis to discharge any static electrical charge on the body.
 - 2) Take care not to touch the PBA with your bare hands or metal objects as you could create a short circuit or get an electric shock. Take extra care when handling PBAs with moving parts fitted such as sensors, motors or lamps as they may get hot.
 - 3) Take care when fitting, or removing, screws. Look out for hidden screws. Always ensure that the correct screw is used and always ensure that when toothed washers are removed they are refitted in their original positions.

3.1.3. Releasing Plastic Latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully.

To remove such parts, press the hook end of the latch away from the part to which it is latched.

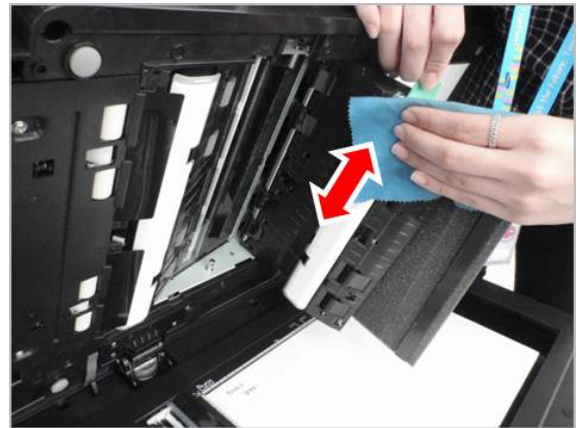


3.2. Maintenance

3.2.1. Machine Cleaning for maintenance

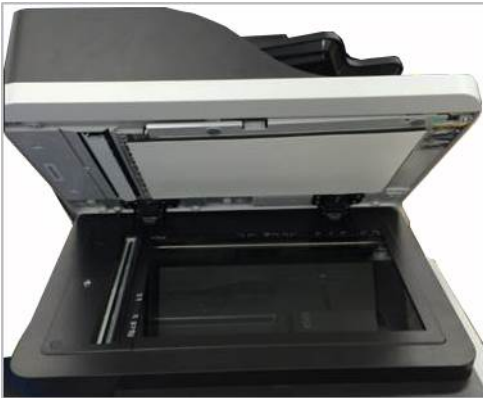
3.2.1.1. Cleaning the DSDF white bar (M5370LX_M4370LX)

1. Open the DSDF unit.
2. Clean the simplex white bar by using a soft cloth.
3. Open the guide-exit. Clean the duplex white bar by using a soft cloth.



3.2.1.2. Cleaning the RADF white bar and Platen glass (M5360RX)

1. Open the RADF unit.



3. Clean the scan glass by using a soft cloth.



2. Clean the RADF white bar by using a soft cloth.



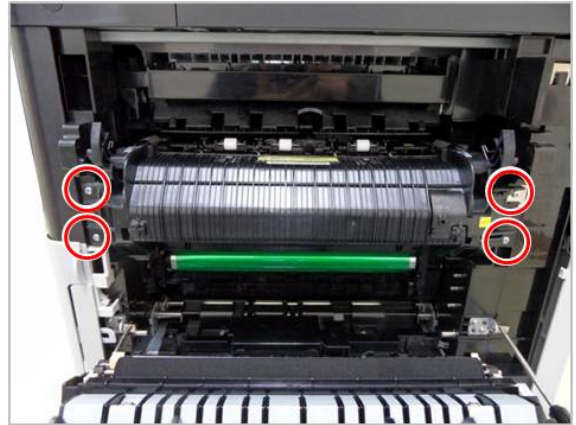
3.2.2. Replacing the maintenance part

3.2.2.1. Fuser Unit

1. Turn the machine off.
2. Open the side cover.



3. Remove 4 screws.



NOTE

When removing these screws, use a short screwdriver.



4. Remove the fuser unit.



CAUTION

The fuser area is hot. Take care when removing paper from the machine.

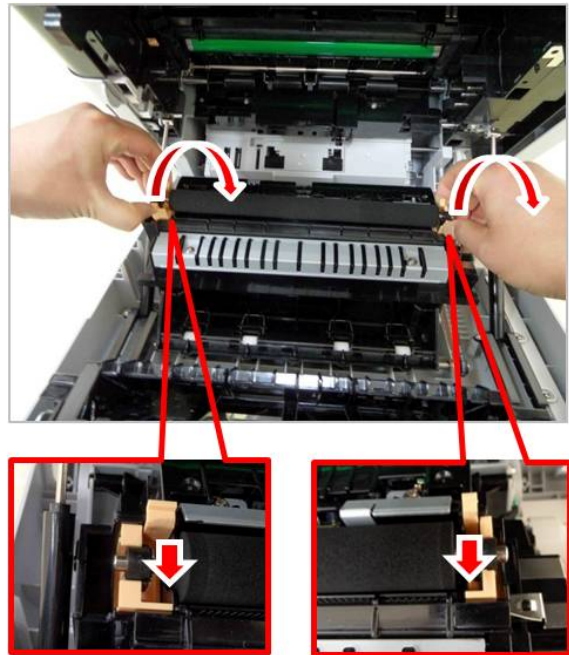
5. Install new fuser unit.
6. Turn the machine on.

3.2.2.2. Transfer Roller

1. Turn the machine off.
2. Open the side cover.



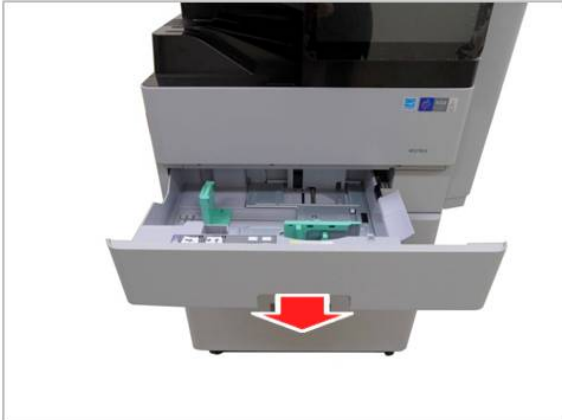
3. Release the transfer roller Assy while pushing the both side holder to the direction of arrow.



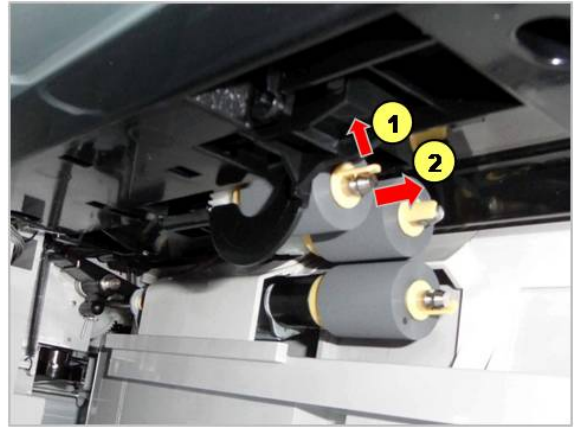
4. Install the new transfer roller Assy.
5. Close the side cover.
6. Turn the machine on.

3.2.2.3. Pick-Up_Reverse_Forward roller

1. Remove the cassette.



2. Lift small tap, remove the pick up / reverse/ forward roller.



 **NOTE**

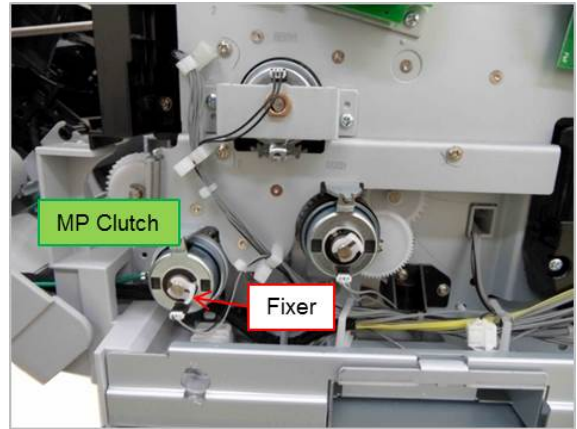
When replacing these rollers, it is recommended that you replace all three rollers at the same time.

3.2.2.4. MP pad and MP Unit

1. Open the side cover.



4. Remove the MP clutch.



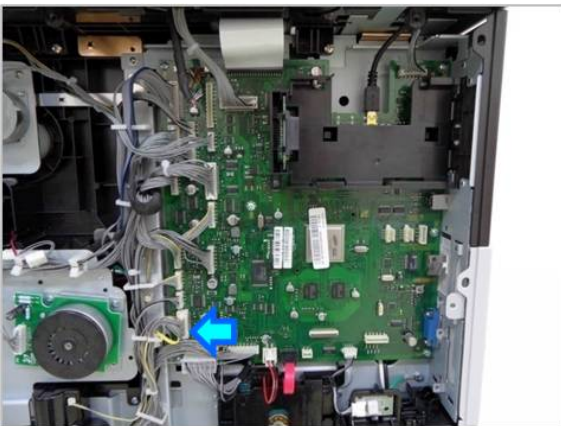
2. Remove the rear cover after removing 6 screws.



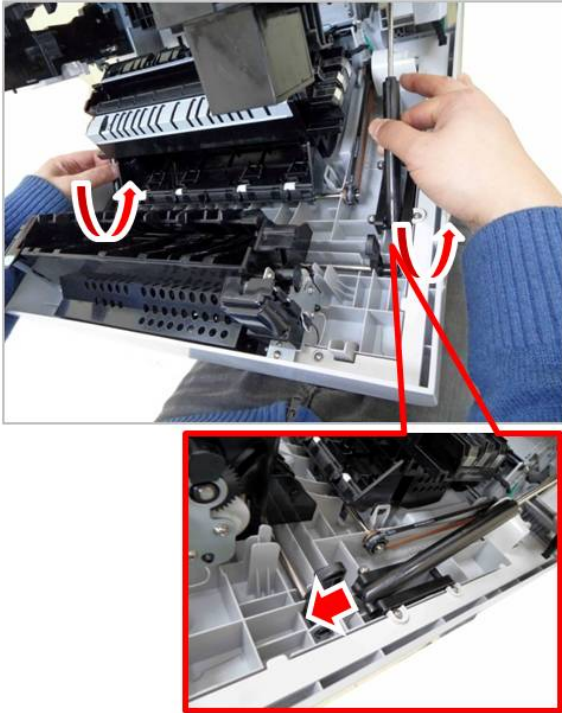
5. Remove 2 screws.



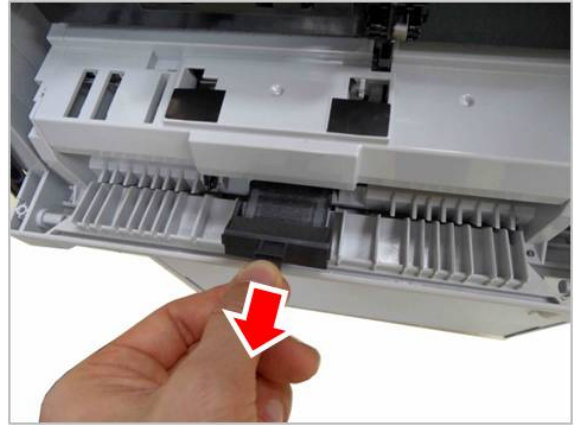
3. Unplug the side unit connector from the main board.



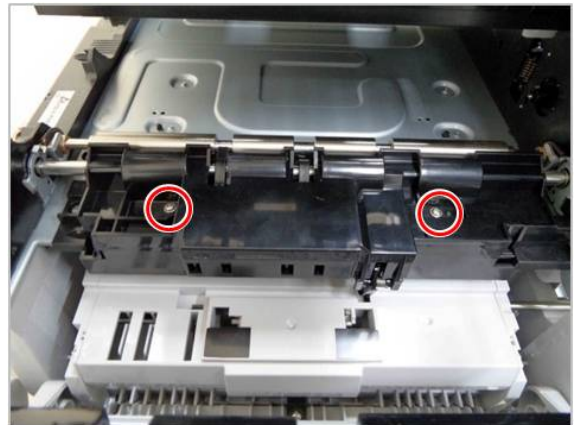
6. Release both stoppers.



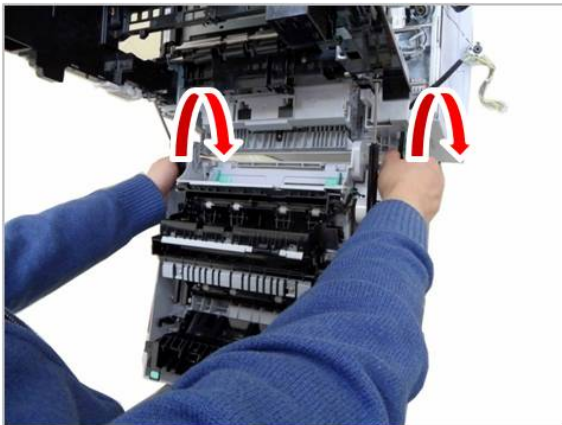
9. Remove the MP pad.



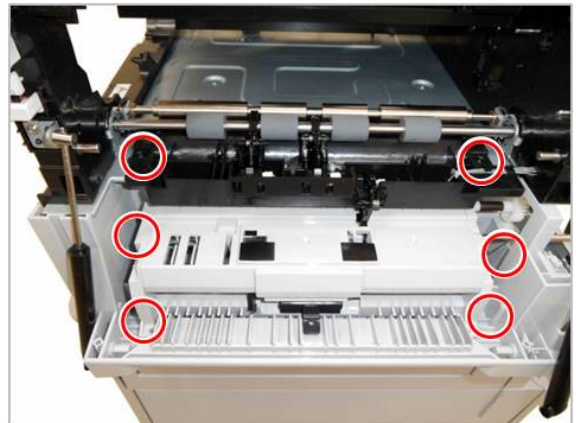
10. Remove the regi sensor cover after removing 2 screws.



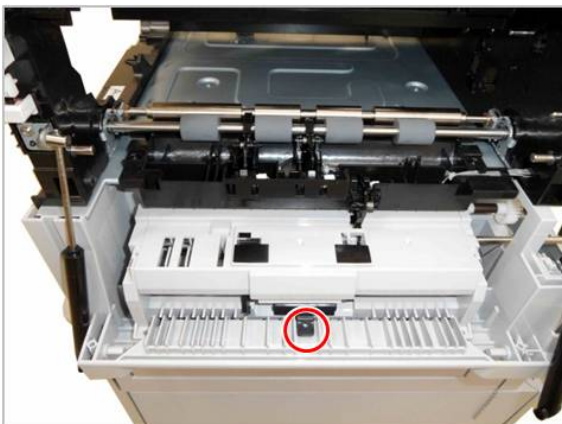
7. Lift up and release the side unit.



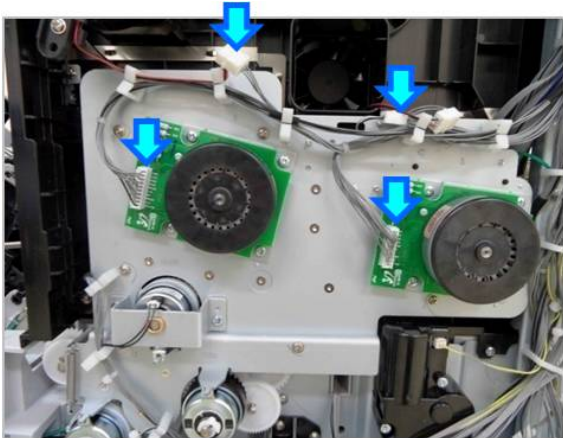
11. Remove 6 screws.



8. Remove 1 screw.



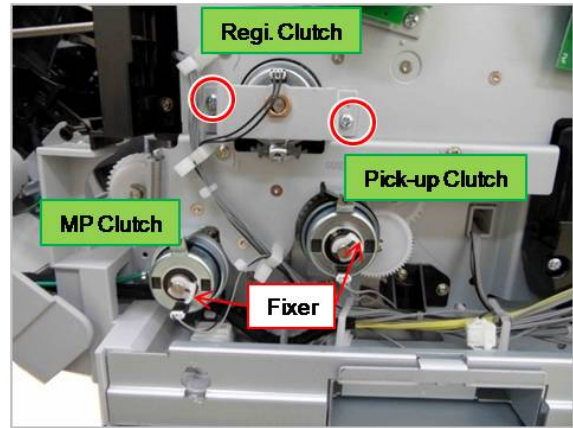
12. Unplug 4 connectors. Release the harness from its holder.



13. Remove the regi clutch shield after removing 2 screws.

14. Remove the fixer for Pick up clutch.

15. Release 3 clutches without unplugging harness.

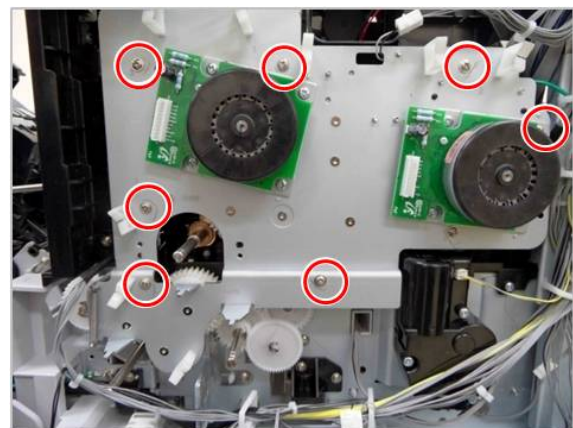


! NOTE

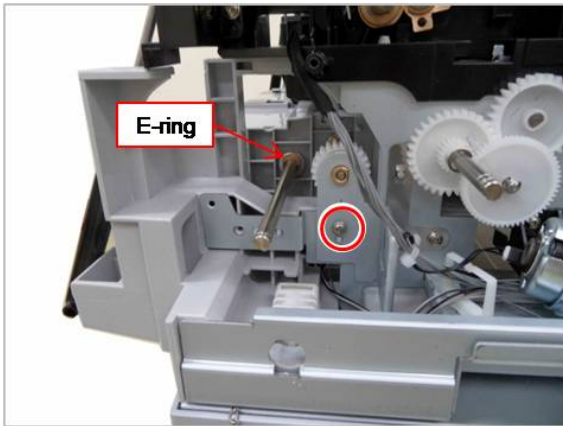
When replacing the clutch, unplug the harness. When reassembling clutch and harness, refer to the below information about the harness and clutch colors.

- Registration Clutch
 - 1) Clutch gear color : White
 - 2) Harness color : Black / Black
- MP Clutch
 - 1) Clutch gear color : White
 - 2) Harness color : Black / Gray
- Pick-up Clutch
 - 1) Clutch gear color : Black
 - 2) Harness color : Gray / Gray

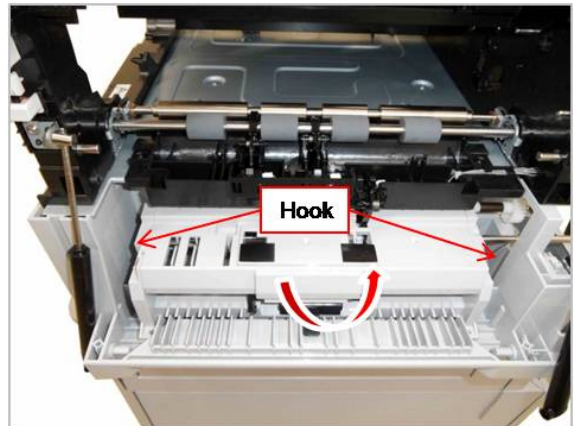
16. Remove the main drive unit after removing 7 screws.



17. Remove 1 screw. Remove the E-ring and bush.



18. Remove the MP unit after releasing 2 hooks.

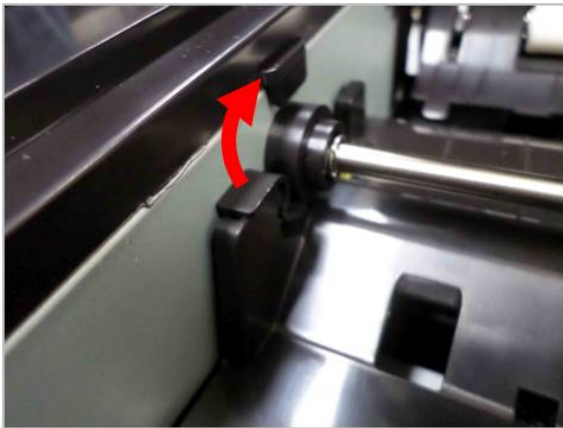


3.2.2.5. DADF pick up roller Assy (M5370LX_M4370LX)

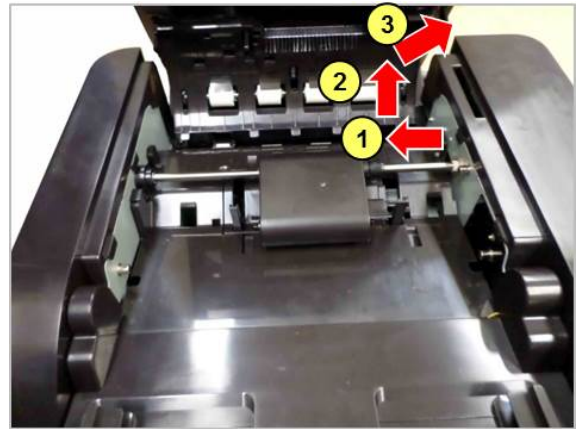
1. Open the DADF cover-open.



2. Pull up and release the holder pick-up.

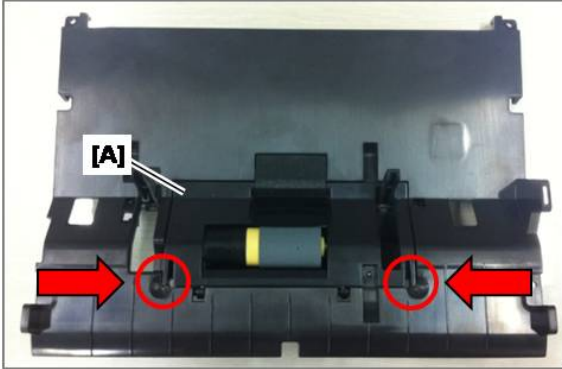


3. Release the DADF pick-up roller Assy by pulling the shaft to the direction of arrow.

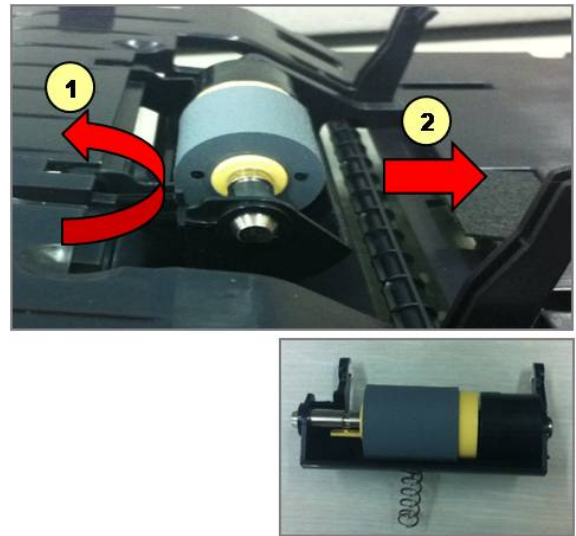


3.2.2.6. DSDF Reverse roller Assy (M5370LX_M4370LX)

1. Remove the DSDF pick up roller Assy. (Refer to 3.2.2.5)
2. Release the reverse roller cover[A] by pushing both hooks.

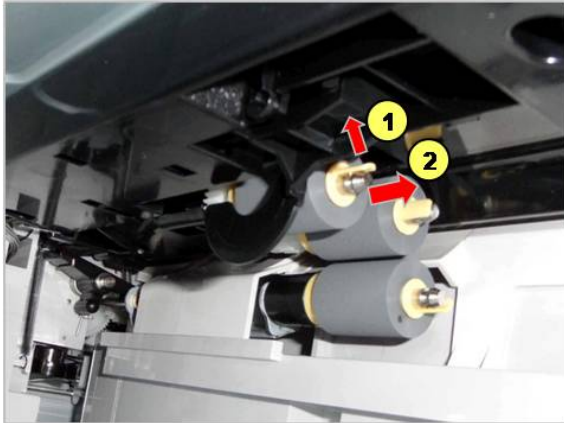


3. Release the DSDF reverse roller Assy.



3.2.2.7. SCF Pick-Up_Reverse_Forward roller

1. Remove the SCF cassette.
2. Lift small tap, remove the pick up / reverse/ forward roller.



3.2.2.8. HCF Pick-Up_Reverse_Forward roller

1. Pull the HCF cassette.



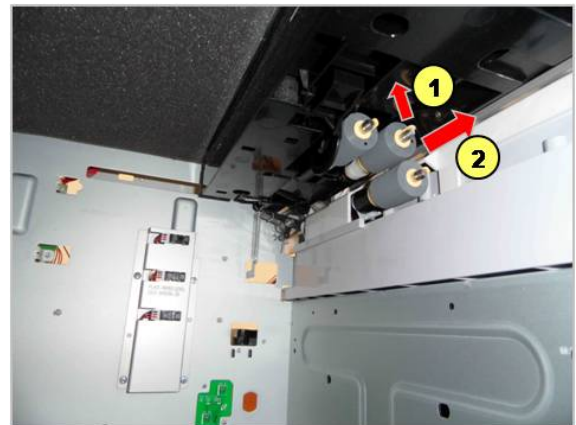
2. Move the lever down to the left of the HCF cassette.



3. Release the HCF cassette while pushing the lever of the right rail.

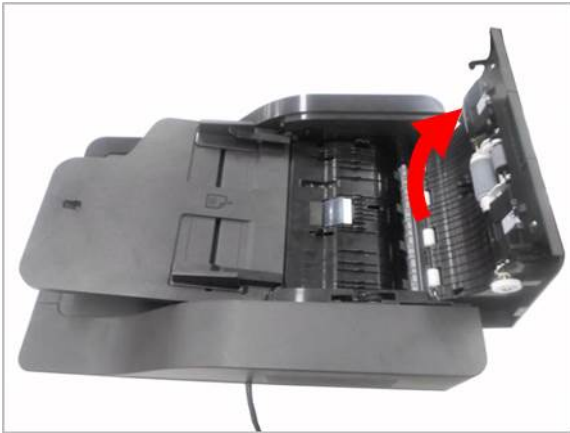


4. Lift small tap, remove the pick up / reverse/ forward roller.

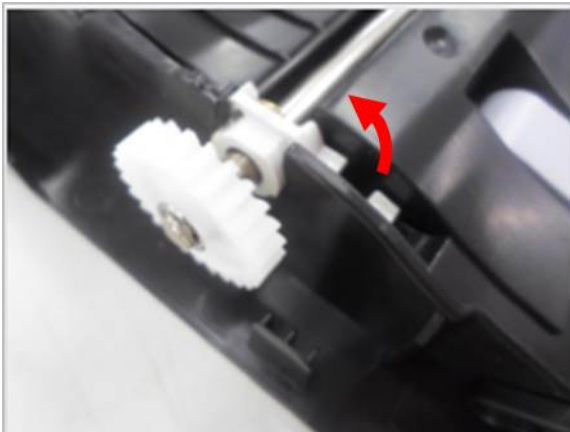


3.2.2.9. RADF pick up roller Assy (M5360RX)

1. Open the RADF cover-open.



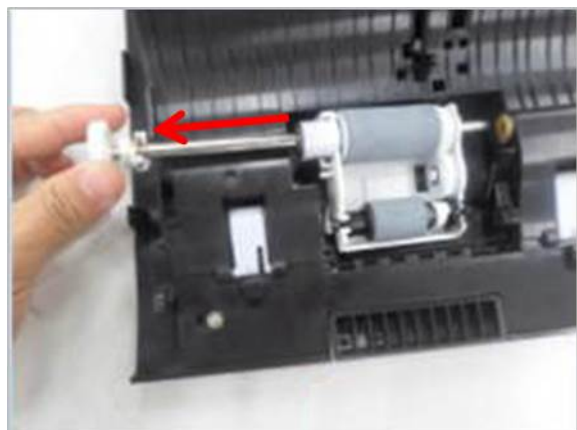
2. Pull the lever in the direction of arrow.



3. Release the spring with tweezers.

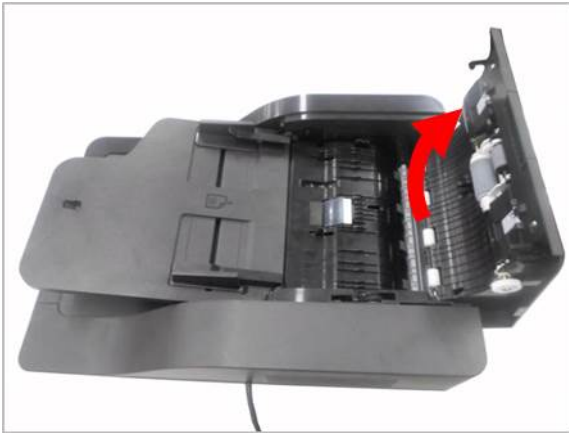


4. Remove the RADF pick up roller Assy.

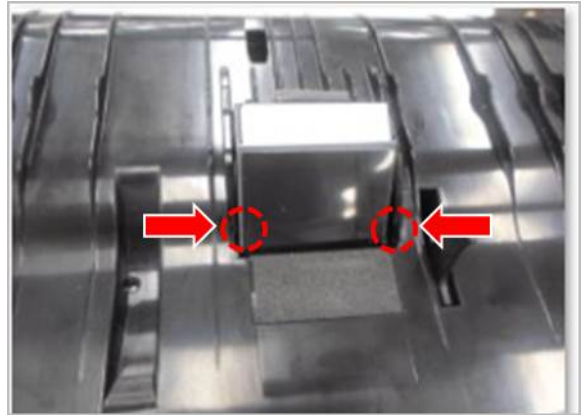


3.2.2.10. RADF friction pad Assy (M5360RX)

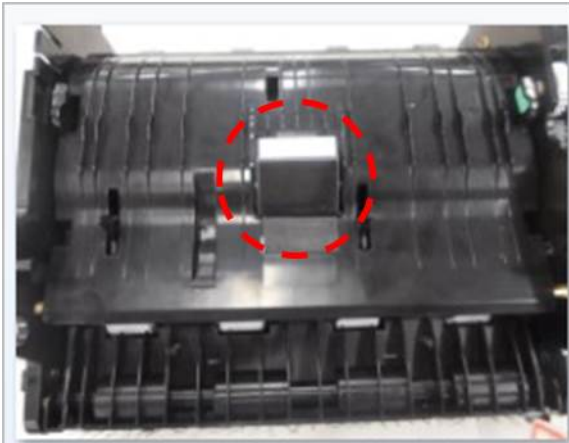
1. Open the RADF cover-open.



3. Push the both side of the RADF friction pad Assy to the direction of arrow and release it.



2. Pull up the rear of the RADF friction pad Assy.



3.3. Replacing the main SVC part

3.3.1. Left Cover

1. Remove 2 screw cap stickers. Then remove 2 screws.



2. Open the front cover. Then remove the left cover and exit tray.



3.3.2. Rear Cover

1. Remove the rear cover after removing 6 screws.



3.3.3. Front Cover

1. Remove the toner cartridge, imaging unit, and cassette.
2. Open the side cover.



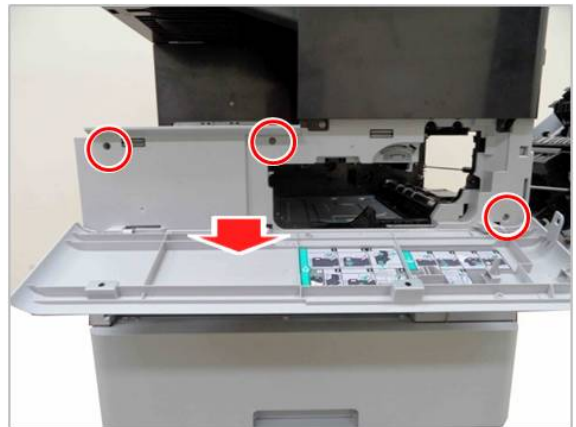
3. Remove the front cover after removing 2 screws.



4. Remove 3 screws.

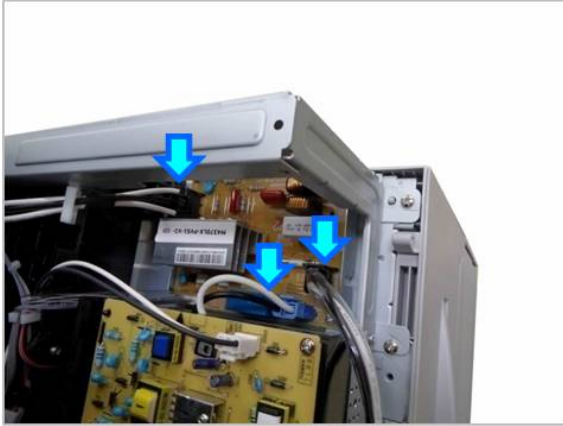


5. Remove the front cover after removing 3 screws.

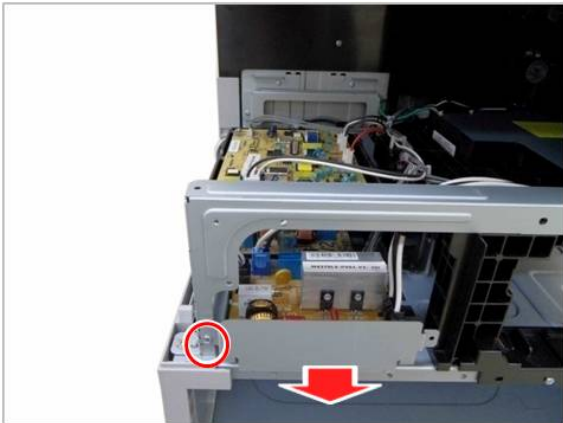


3.3.4. Fuser Drive Board (FDB)

1. Remove the left and front cover. (Refer to 3.3.1, 3.3.3.)
2. Unplug all harness from the FDB.
4. Release the FDB after removing 4 screws.

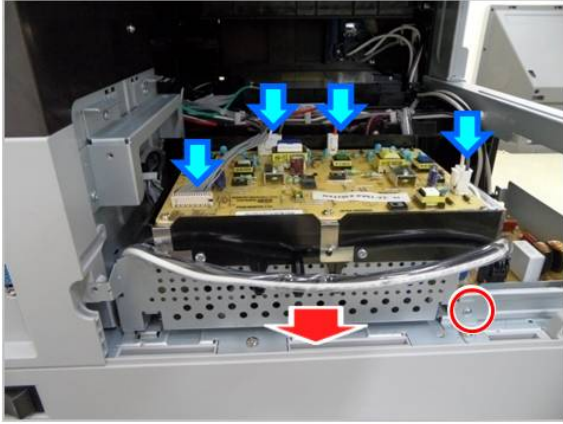


3. Release the FDB with shield after removing 1 screw.

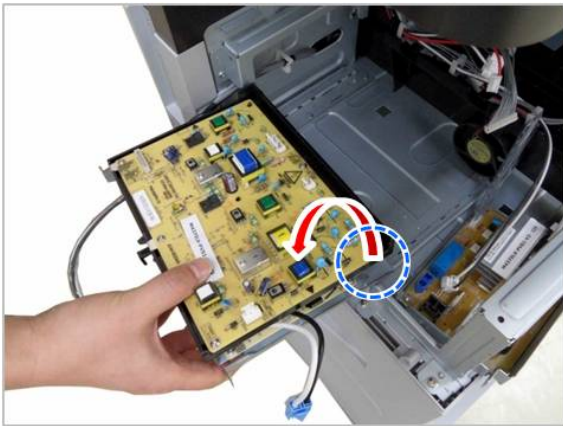


3.3.5. HVPS board

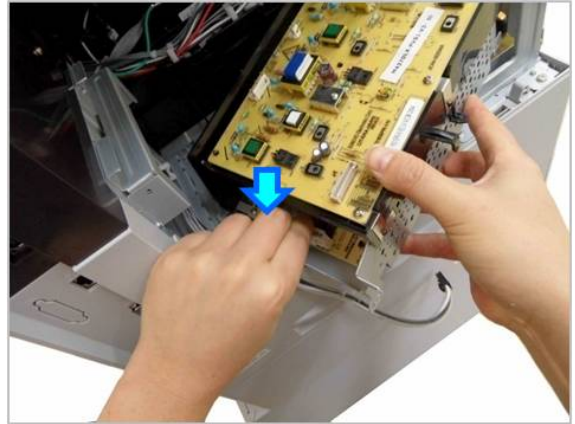
1. Remove the left and front cover. (Refer to 3.3.1, 3.3.3.)
2. Unplug all harness from the HVPS board. Remove 1 screw. And pull the power unit.



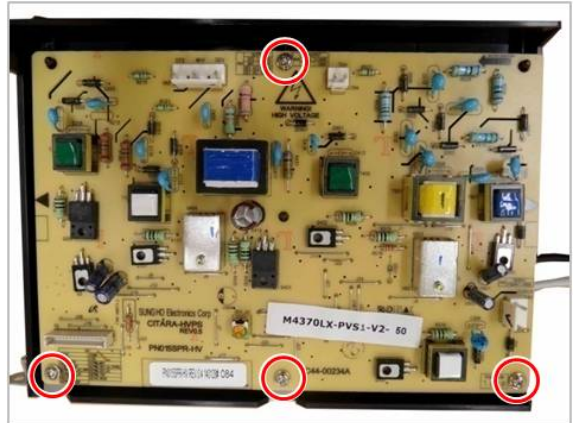
3. Release the power unit from the left rail.



4. Unplug the harness from the SMPS board.

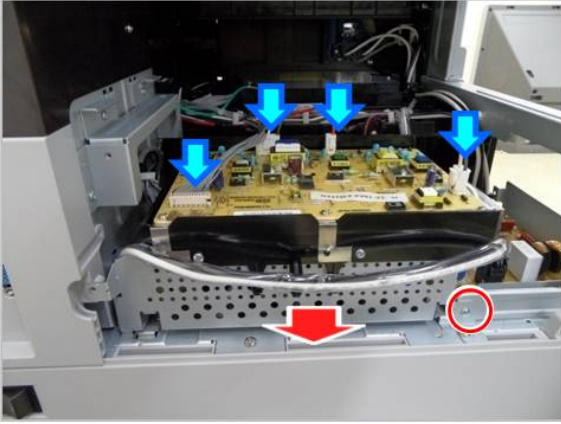


5. Remove the HVPS board with its holder after removing 4 screws.

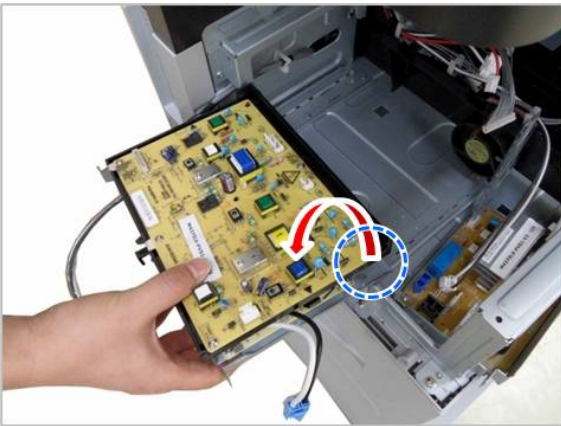


3.3.6. SMPS board

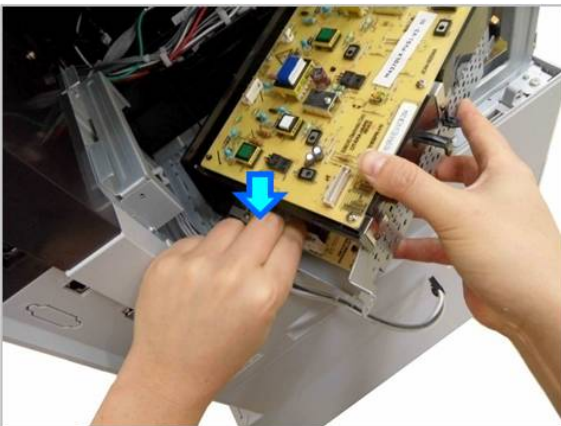
1. Remove the left and front cover. (Refer to 3.3.1, 3.3.3.)
2. Unplug all harness from the HVPS board. Remove 1 screw. And pull the power unit.



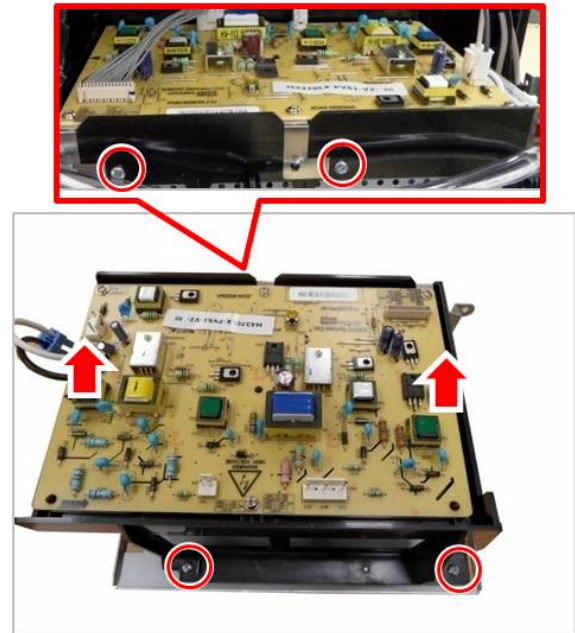
3. Release the power unit from the left rail.



4. Unplug the harness from the SMPS board.



5. Remove the HVPS board with its holder after removing 4 screws.



6. Unplug all harness. Remove 4 screws. And release the SMPS board.

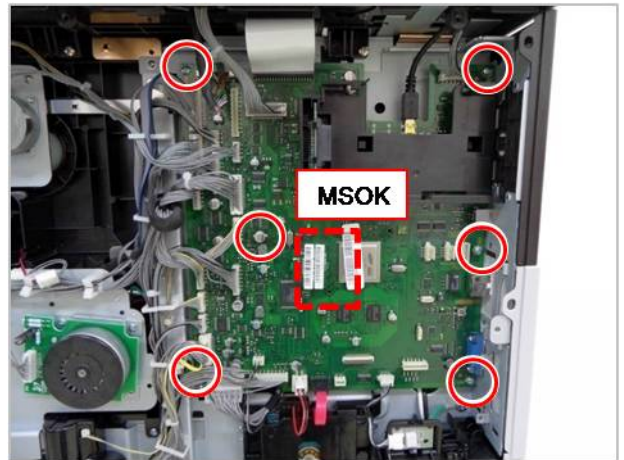


3.3.7. Main Board

1. Remove the rear cover after removing 6 screws.



2. Unplug all harness. Remove 6 screws. And release the main board.



! NOTE

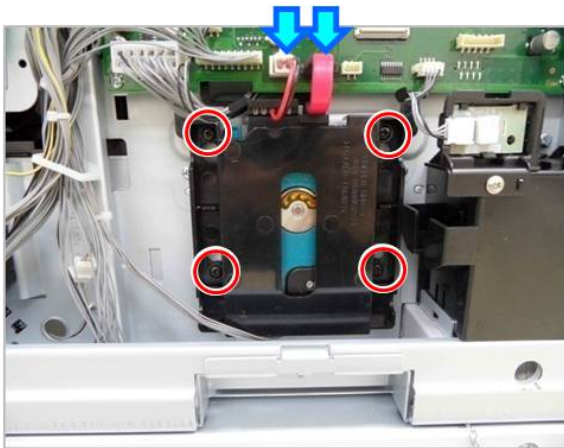
When installing the new main board, remove the MSOK from old board and insert it to new one.

3.3.8. Hard Disk Drive(HDD)

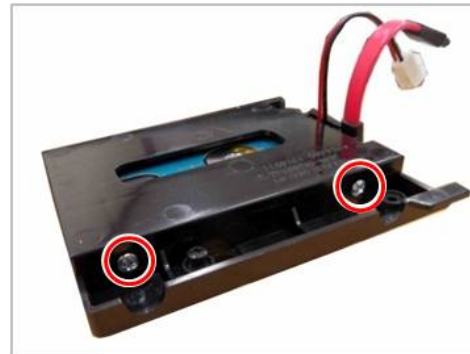
1. Remove the rear cover after removing 6 screws.



2. Unplug 2 cables. Remove 4 screws. And release the HDD with holder.



3. Remove 4 screws. Then release the HDD from its holder.

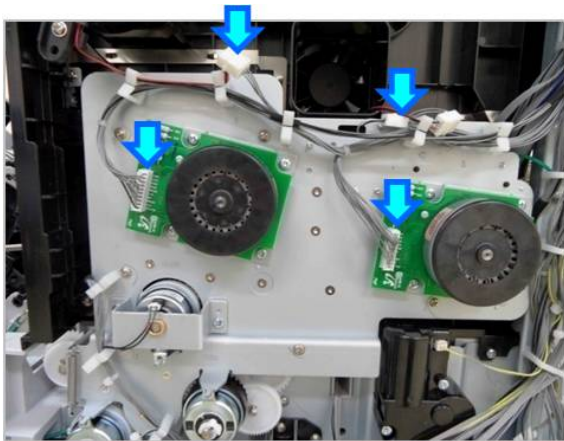


3.3.9. Main Drive Unit

1. Remove the rear cover after removing 6 screws.

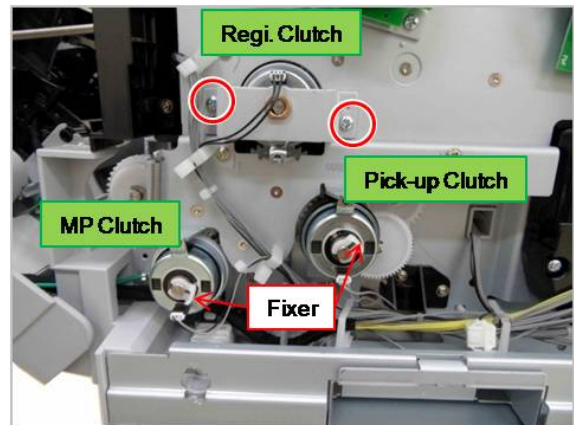


2. Unplug 4 connectors. Release the harness from its holder.



3. Remove the regi clutch shield after removing 2 screws.
4. Remove the fixer for MP and Pick up clutch.

5. Release 3 clutches without unplugging harness.

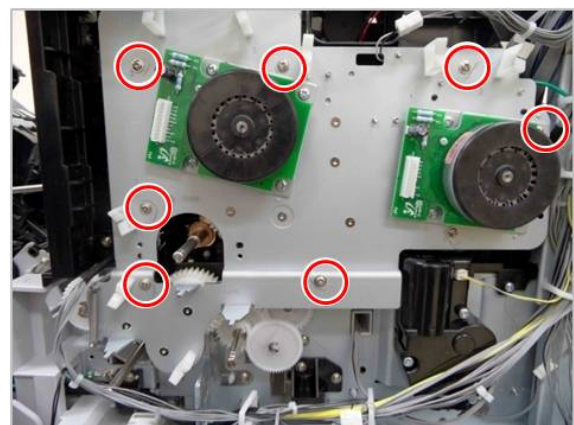


NOTE

When replacing the clutch, unplug the harness. When reassembling clutch and harness, refer to the below information about the harness and clutch colors.

- Registration Clutch
 - 1) Clutch gear color : White
 - 2) Harness color : Black / Black
- MP Clutch
 - 1) Clutch gear color : White
 - 2) Harness color : Black / Gray
- Pick-up Clutch
 - 1) Clutch gear color : Black
 - 2) Harness color : Gray / Gray

6. Remove the main drive unit after removing 7 screws.



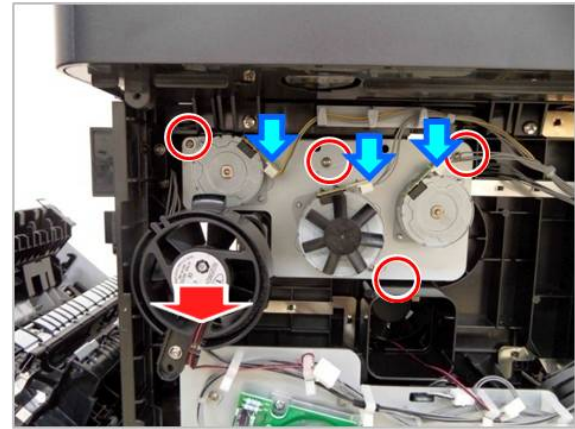
3.3.10. Fuser_Exit Drive Unit

1. Remove the rear cover after removing 6 screws.



2. Pull the fuser fan to the direction of arrow.

3. Unplug 3 motor connector. Remove 4 screws. And release the fuser/exit drive unit.

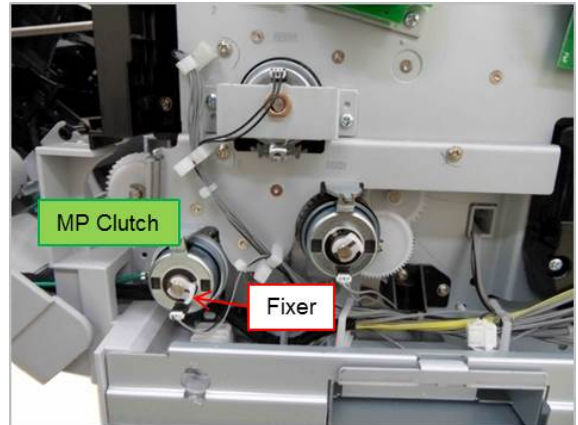


3.3.11. Side Unit

1. Open the side cover.



4. Remove the MP clutch.



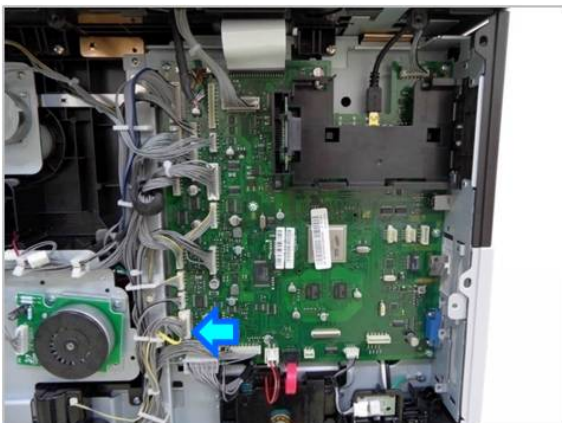
2. Remove the rear cover after removing 6 screws.



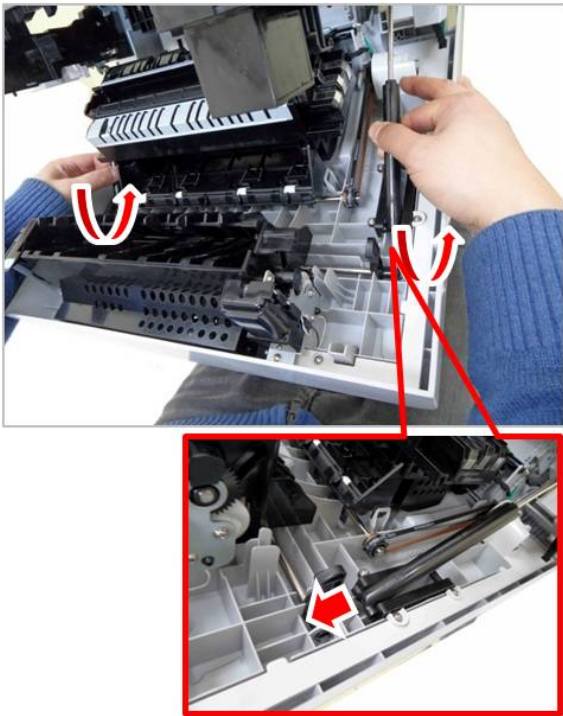
5. Remove 2 screws.



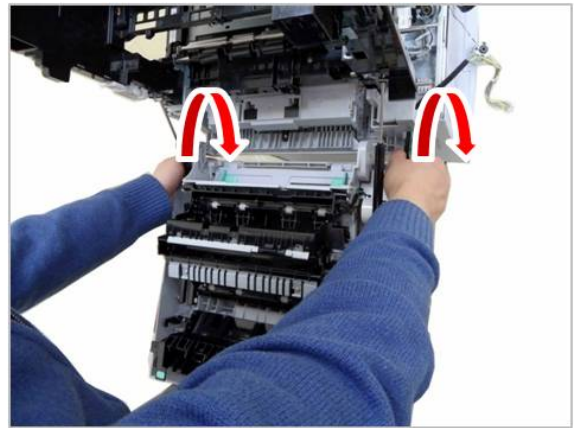
3. Unplug the side unit connector from the main board.



6. Release both stoppers.

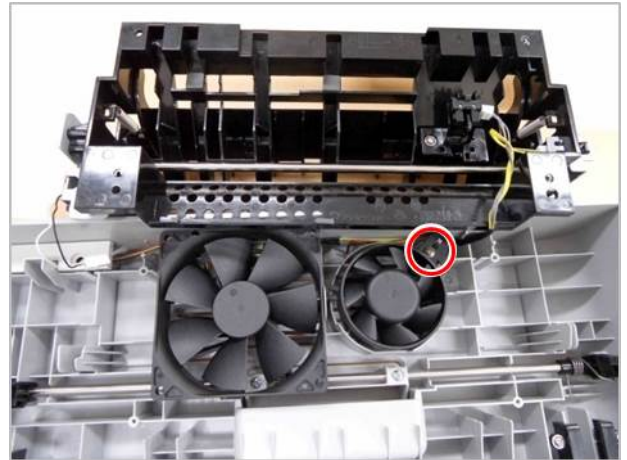
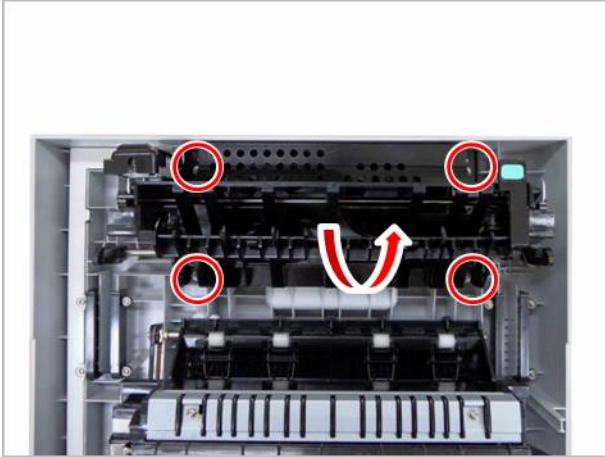


7. Lift up and release the side unit.



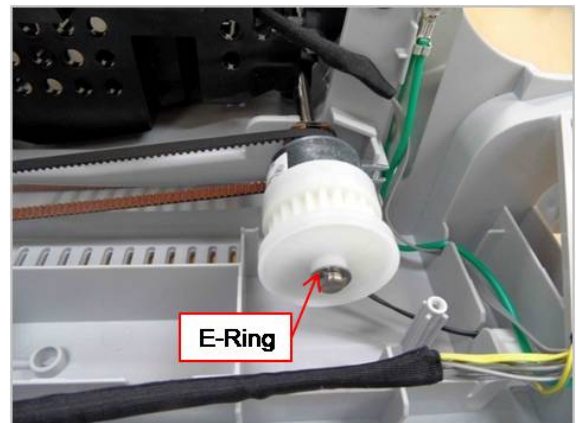
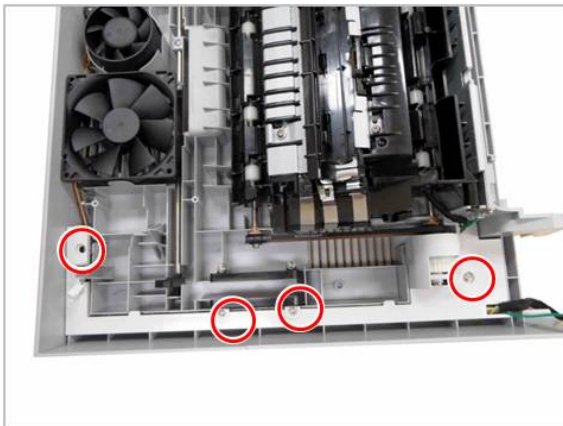
3.3.11.1. Duplex Fan

1. Remove the side unit. (Refer to 3.3.11.)
2. Remove 4 screws. Then release the exit guide.
3. Remove the screw. Unplug the connector. And release the fan.



3.3.11.2. Duplex Clutch

1. Remove the side unit. (Refer to 3.3.11.)
2. Remove the harness cover after removing 4 screws.
3. Remove the E-ring. Then release the duplex clutch.

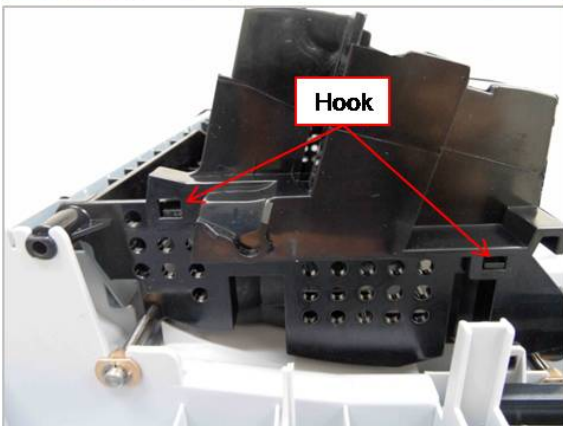
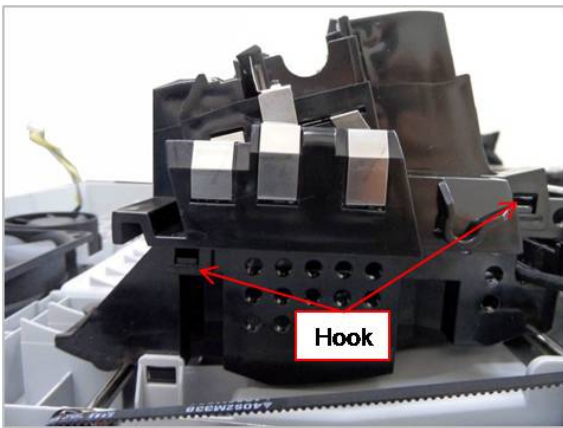


3.3.11.3. CTD sensor

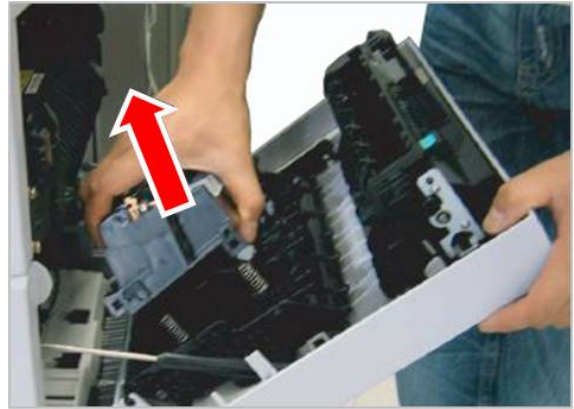
1. Open the side cover.



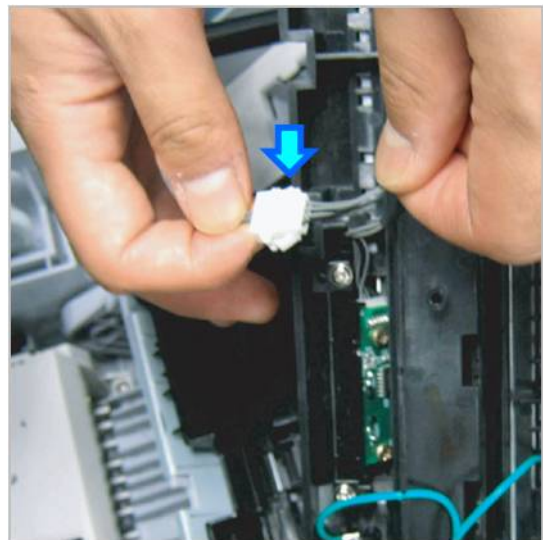
2. Release the hooks of the guide-feed.



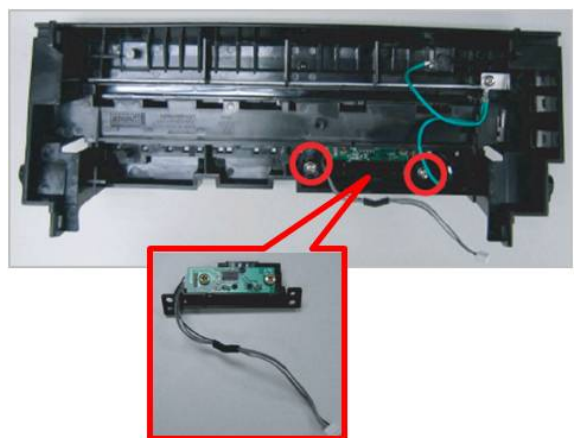
3. Pull up and release the guide-feed from the guide-duplex.



4. Unplug the connector.



5. Remove the CTD sensor after removing 2 screws.



3.3.12. Scanner

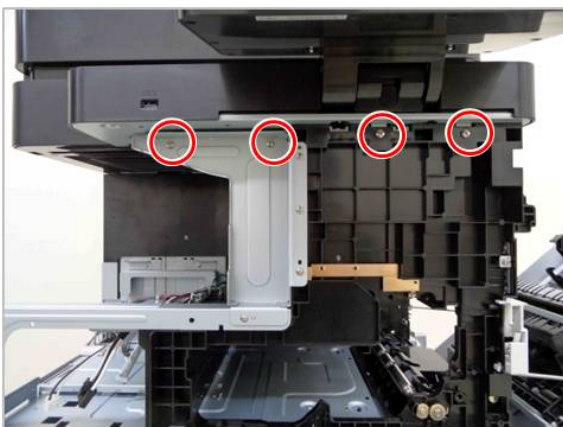
1. Remove the toner cartridge, imaging unit, and cassette.
2. Open the side cover.



3. Remove the front-top cover after removing 2 screws.



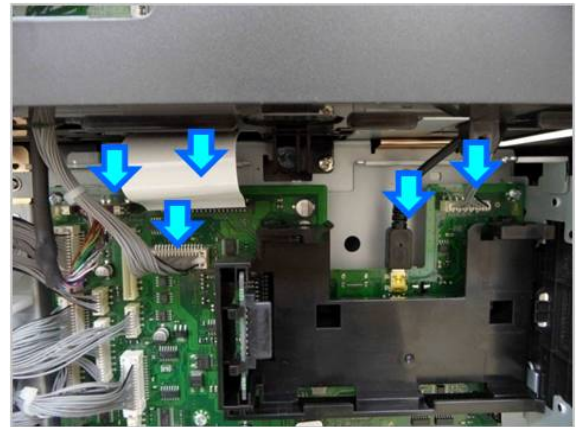
4. Remove 4 screws.



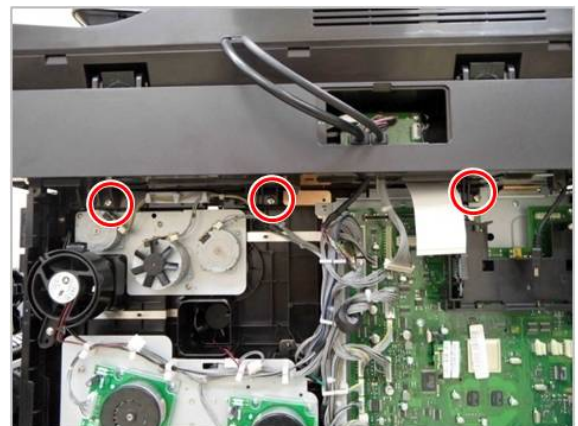
5. Remove the rear cover after removing 6 screws.



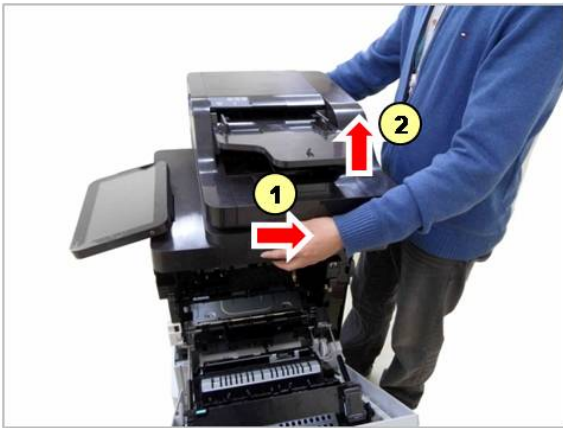
6. Unplug all cables for scanner.



7. Remove 3 screws.

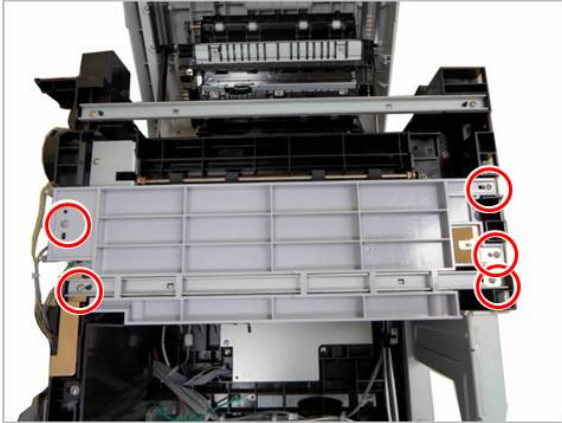


8. Pull the scanner unit back and lift it up.

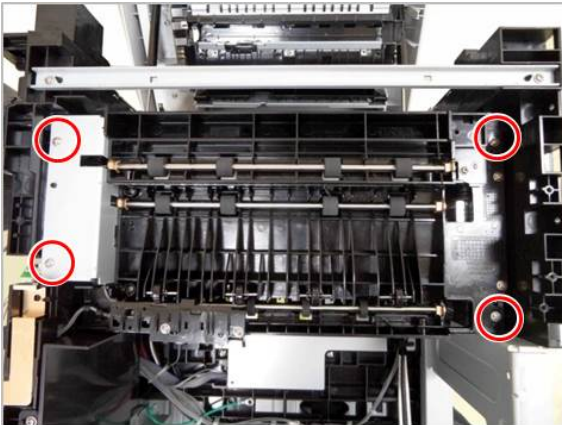


3.3.13. Exit Unit

1. Remove the scanner. (Refer to 3.3.12.)
2. Remove the exit-top cover after removing 5 screws.



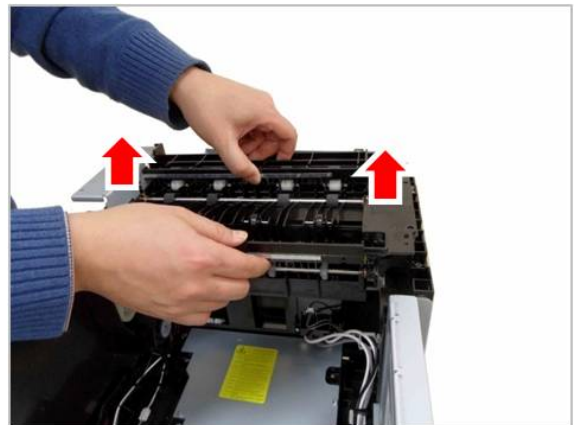
3. Remove 4 screws.



4. Unplug the exit unit connector from the main board.

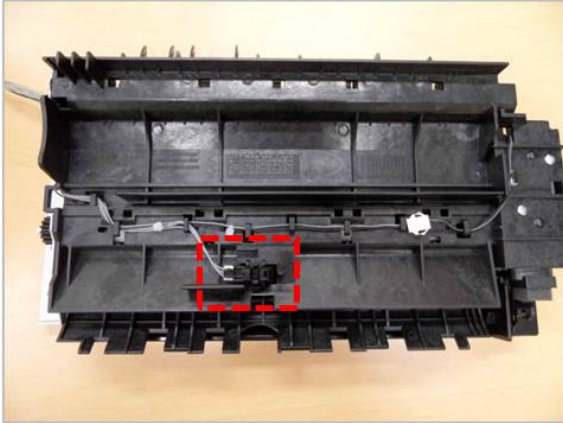


5. Lift up and release the exit unit.



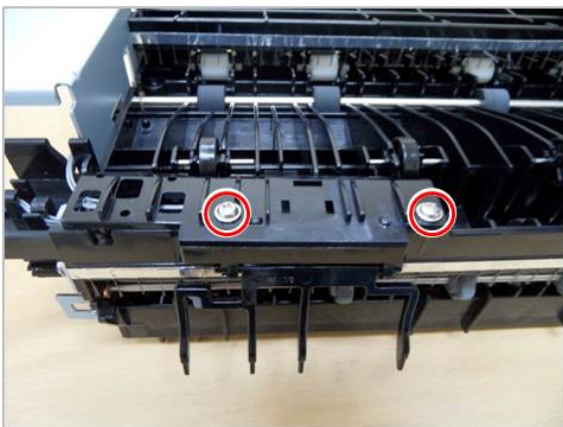
3.3.13.1. Exit Sensor 1

1. Remove the exit unit. (Refer to 3.3.13.)
2. Release the sensor after unplugging the connector.

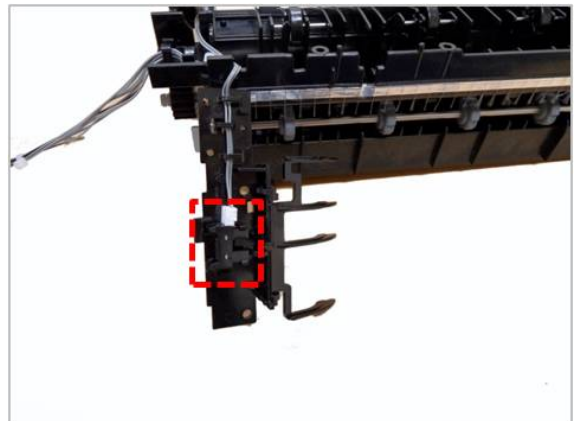


3.3.13.2. Exit Sensor 2

1. Remove the exit unit. (Refer to 3.3.13.)
2. Remove 2 screws.



3. Release the sensor after unplugging the connector.



3.3.14. LSU (Laser Scanning Unit)

1. Remove the exit unit. (Refer to 3.3.13.)
2. Unplug the LSU harness. Remove 5 screws. And release the LSU.

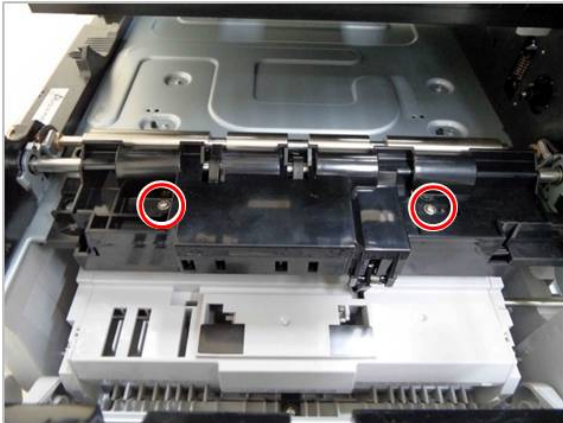


3.3.15. Regi_Feed_Ready sensor

1. Open the side cover.

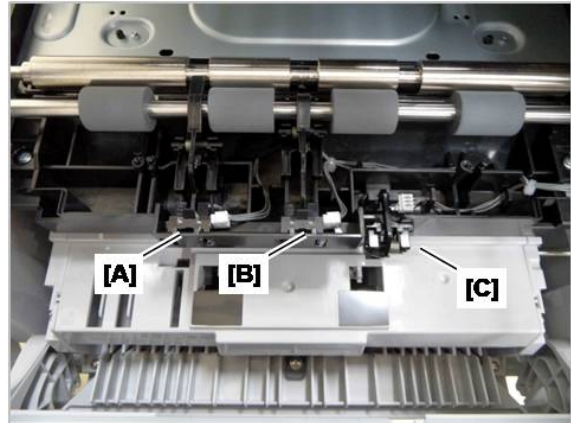


2. Remove the regi sensor cover after removing 2 screws.



3. Remove the sensor after unplugging the connector.

- [A] : Regi. sensor
- [B] : Feed sensor
- [C] : Ready sensor



3.3.16. OPE Unit (M5370LX_M4370LX)

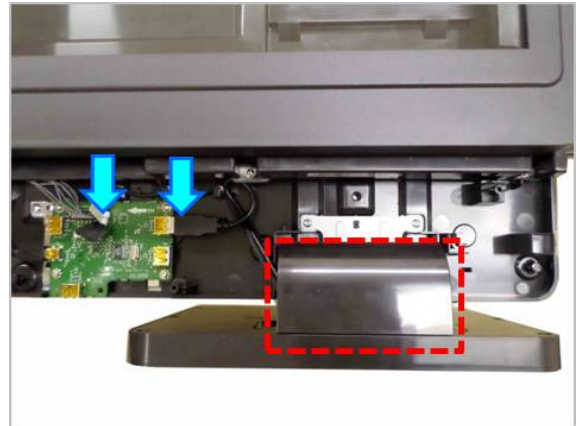
1. Remove 2 screw stickers. Then remove 2 screws.



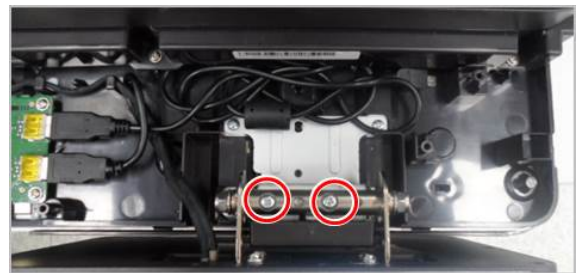
2. Release the OPE cover.



3. Unplug the cable from the OPE sub board and remove the hinge cover.



4. Release the OPE Assy after removing 2 screws.



3.3.17. OPE Unit (M5360RX)

1. Remove the 2 screw-caps and 2 screws from the Cover-Scan Hinge.



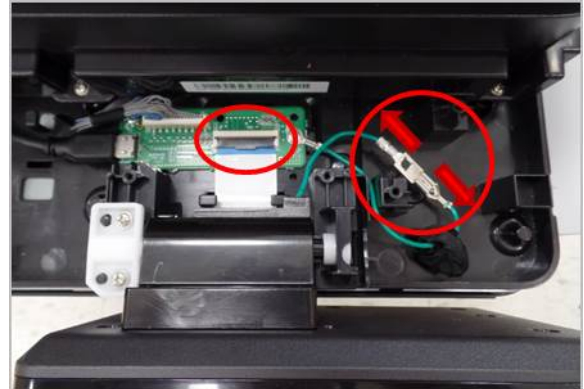
2. Remove the Cover-Scan Hinge.



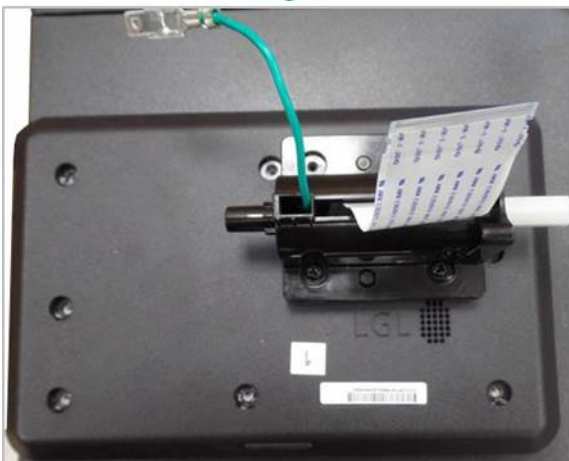
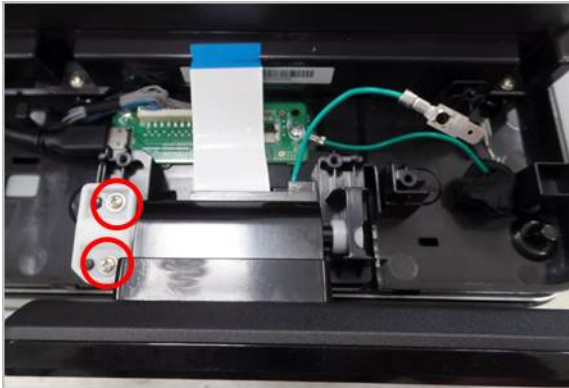
3. Remove 2 screws. And then, remove the Cover Hinge-Upper.



4. Unplug the flat cable and ground wire.



5. Remove 2 screws from the Holder-Damper. Remove 1 screw from the Bush-Hinge. And then, release the OPE Unit.



3.3.18. Platen Unit

3.3.18.1. Scan Upper

1. Remove 2 screw stickers. Then remove 2 screws.



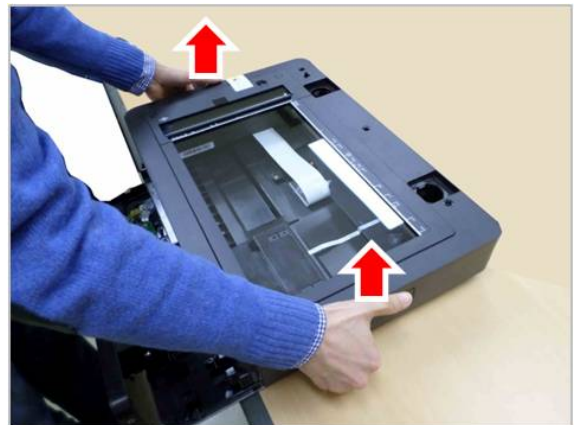
2. Release the OPE cover.



3. Remove 5 screws.

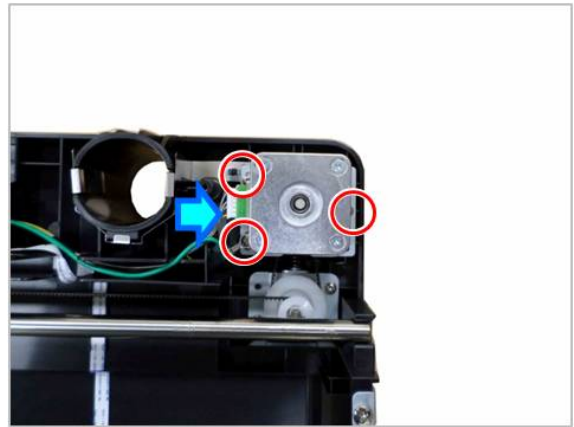


4. Lift up and release the scan upper.



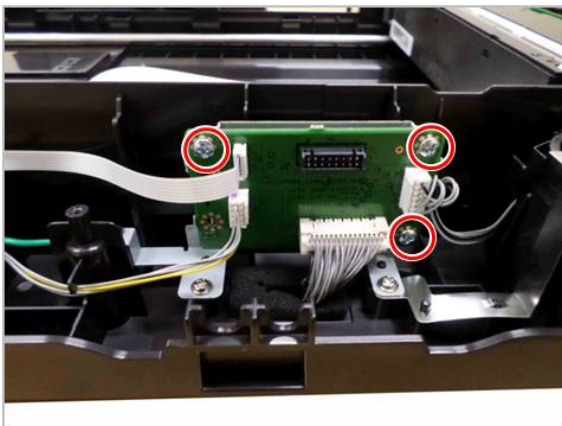
3.3.18.2. Scan Motor

1. Remove the scan upper. (Refer to 3.3.18.1.)
2. Unplug the motor connector. Remove 3 screws. And release the scan motor.



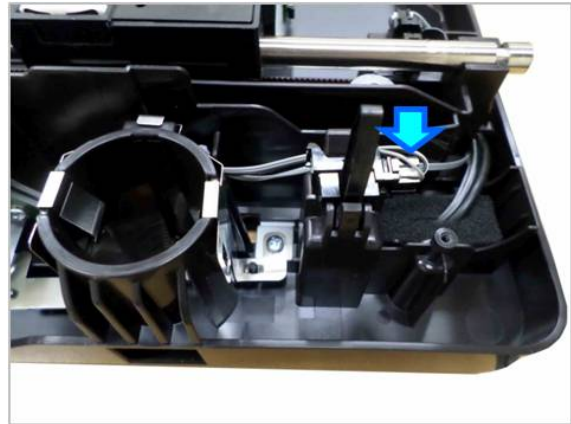
3.3.18.3. Scan Joint Board

1. Remove the scan upper. (Refer to 3.3.18.1.)
2. Unplug all harness. Remove 3 screws. And release the scan joint board.



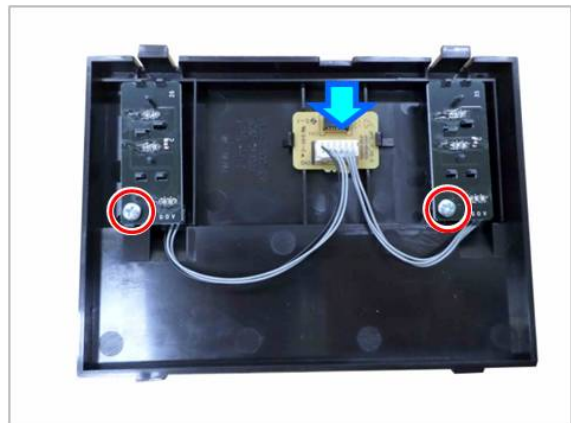
3.3.18.4. Cover Open Sensor

1. Remove the scan upper. (Refer to 3.3.18.1.)
2. Unplug the sensor connector. Remove 1 screw. And release the cover open sensor.



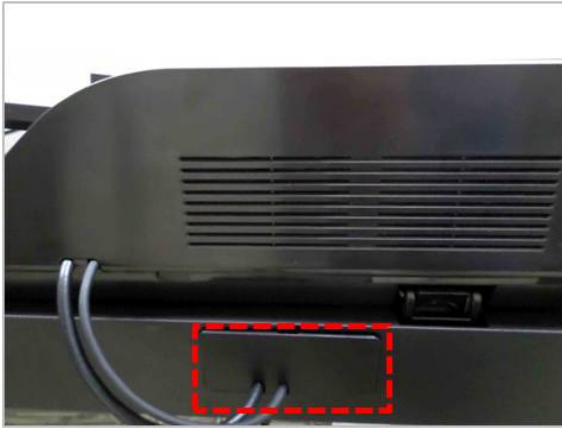
3.3.18.5. APS Sensor

1. Remove the scan upper. (Refer to 3.3.18.1.)
2. Release the APS sensor cover.
3. Remove 2 screws. Unplug the connector. And release the APS sensor.



3.3.19. DSDF (Dual Scan Document Feeder)(M5370LX_M4370LX)

1. Remove the DSDF connector cover.



4. Unplug the DSDF cable from the scan joint board.



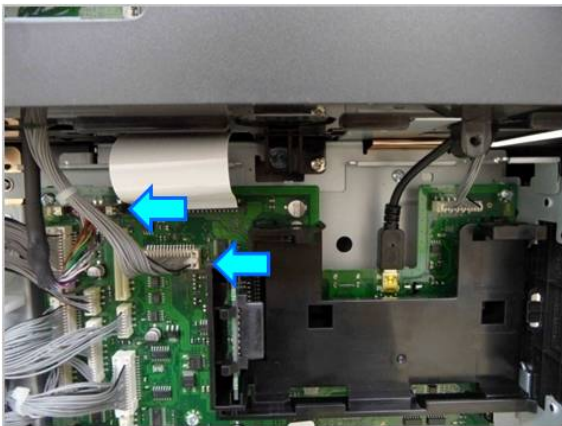
2. Remove the rear cover after removing 6 screws.



5. Lift up and release the DSDF unit.

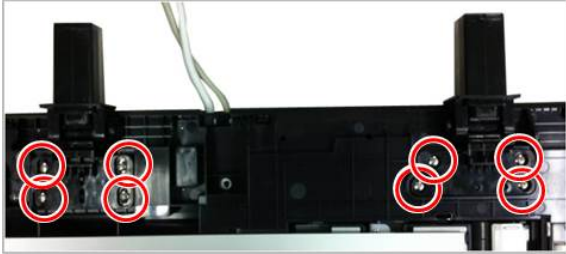


3. Unplug the DSDF cable from the main board.



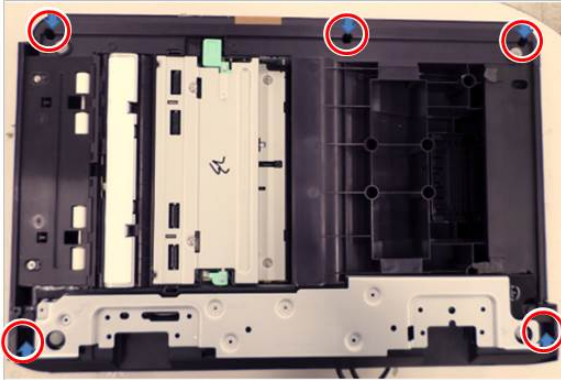
3.3.19.1. DSDF Hinge

1. Remove 8 screws.
2. Remove the 2 hinge units from the DSDF Assy.

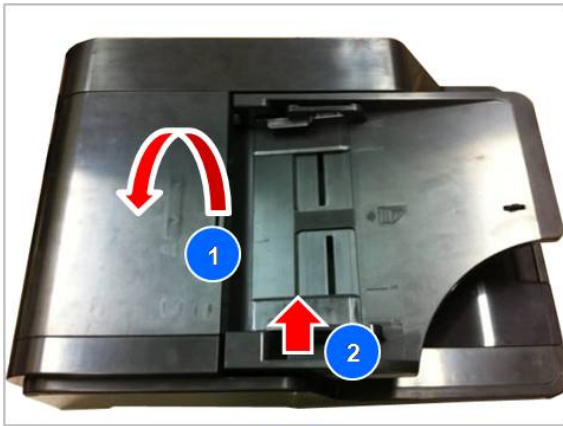


3.3.19.2. DSDF Cover

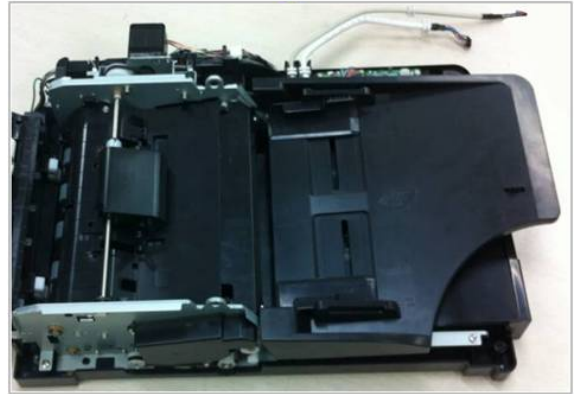
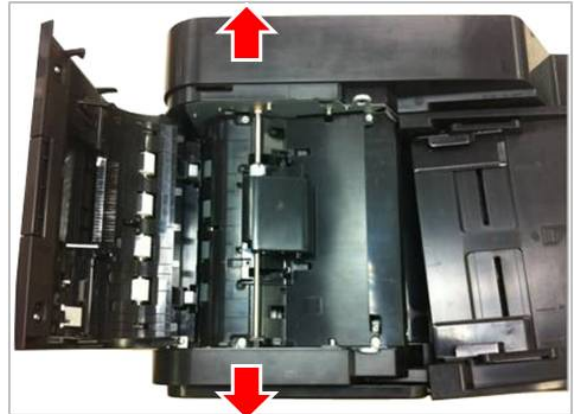
1. Remove 5 screws.



2. Open the COVER-OPEN and release the left side of the Stacker.



3. Release the COVER-SIDE F and COVER-SIDE R.



3.3.19.3. DSDF board

1. Unplug all connectors on DSDF board.
2. Remove the DSDF board after removing 4 screws.



3.3.19.4. DSDF Stacker

1. Unplug the connectors on DSDF board.



2. Remove the Legal Harness after removing the Saddle.

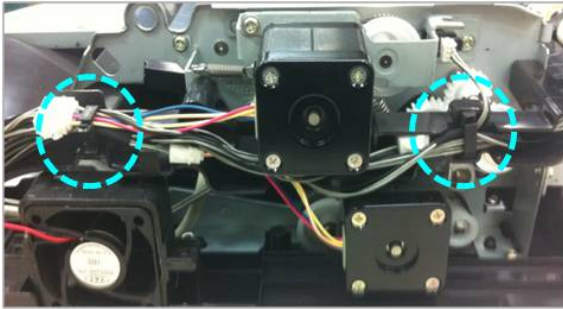


3. Remove the Stacker.



3.3.19.5. DSDF COVER-OPEN

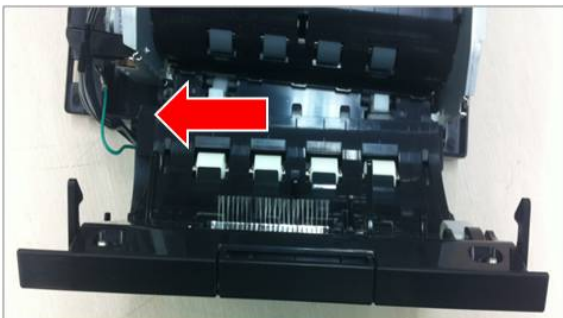
1. Release the harness from the saddle.



2. Remove the HINGE-R after removing 1 screw.

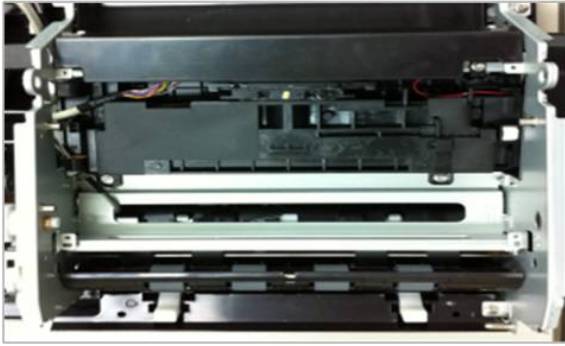
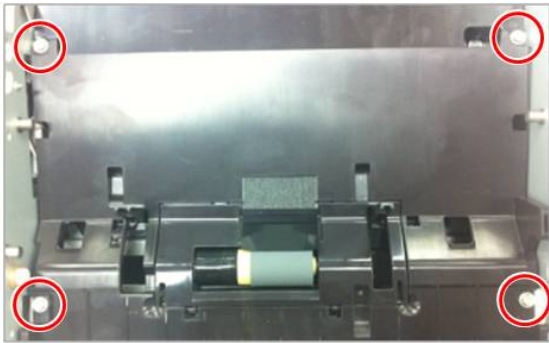


3. Release the COVER-OPEN while pushing it to the direction of arrow.



3.3.19.6. DSDF GUIDE-PICK UP ASSY

1. Remove the GUIDE-PICK UP Assy after removing 4 screws.



3.3.19.7. DSDF-EXIT UP

1. Remove the DSDF-EXIT UP after removing 4 screws.



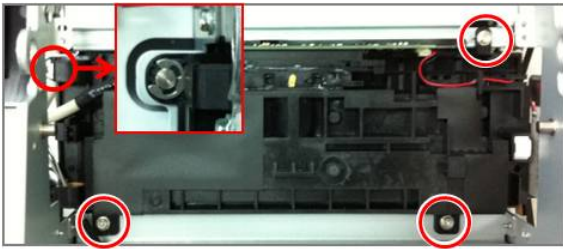
3.3.19.8. HOLDER-HARNESS

1. Remove the HOLDER-HARNESS after removing 2 screws.

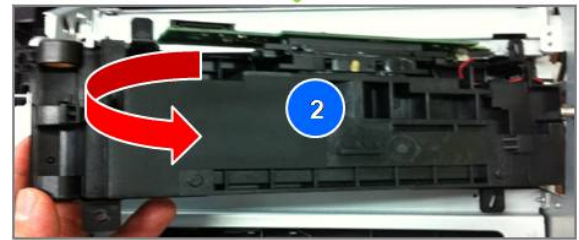
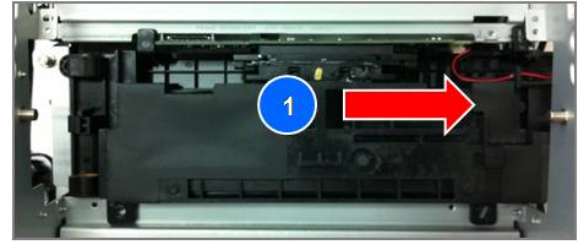


3.3.19.9. DSDF-CCDM

1. Remove 3 screws and E-Ring.

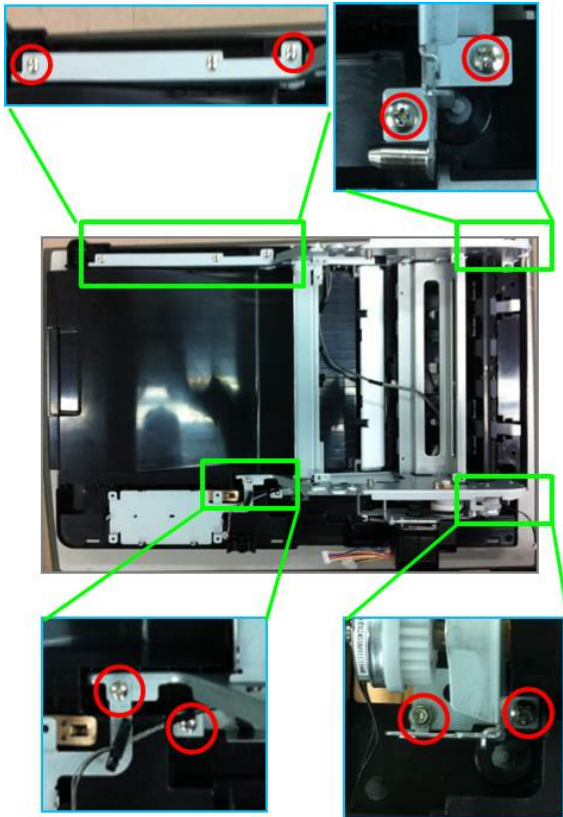


2. Release the DSDF-CCDM.

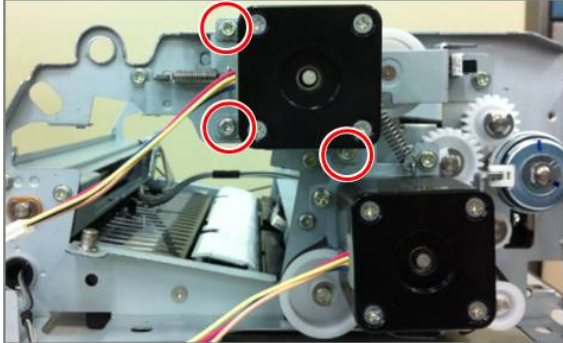


3.3.19.10. DSDF Drive

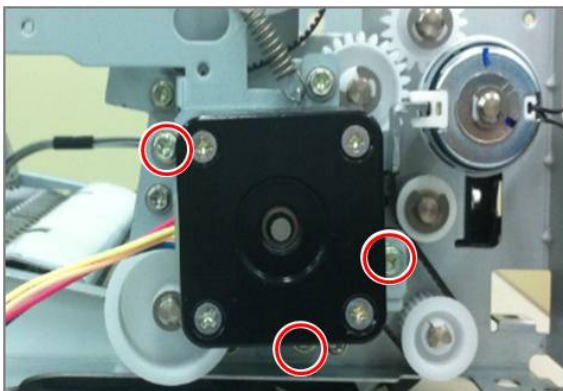
1. Release the DSDF drive from the COVER-PLATEN Assy after removing 8 screws.



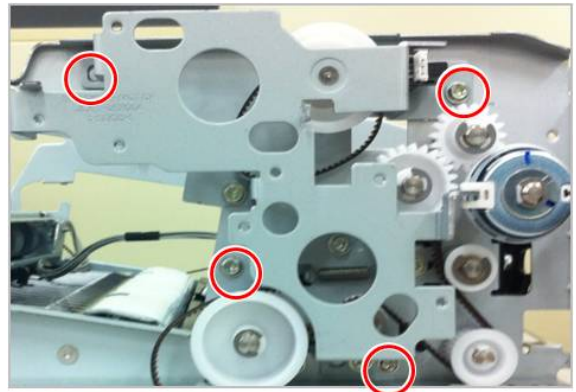
2. Remove the Pick-Up motor after removing 3 screws.



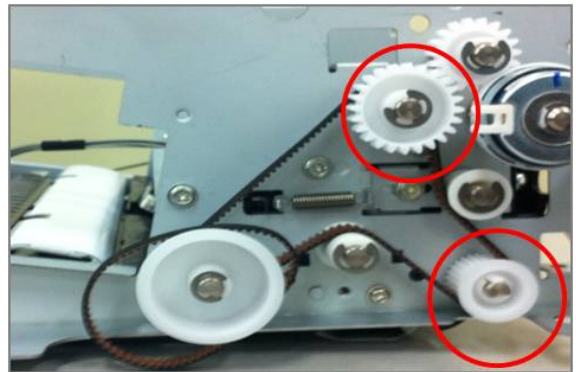
3. Remove the Feed motor after removing 3 screws.



4. Remove the Motor-Bracket after removing 4 screws.



5. Remove the E-Ring. Remove the gear and pulley. And release the driving belt.

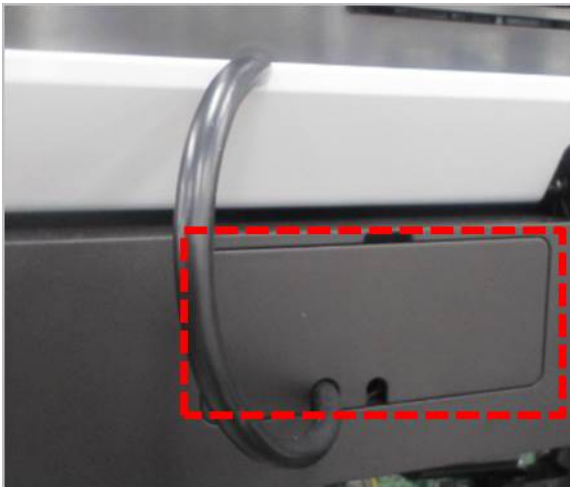


6. Remove the E-ring and Idle-Gear. Release the driving belt.



3.3.20. RADF (Reverse Automatic Document Feeder)(M5360RX)

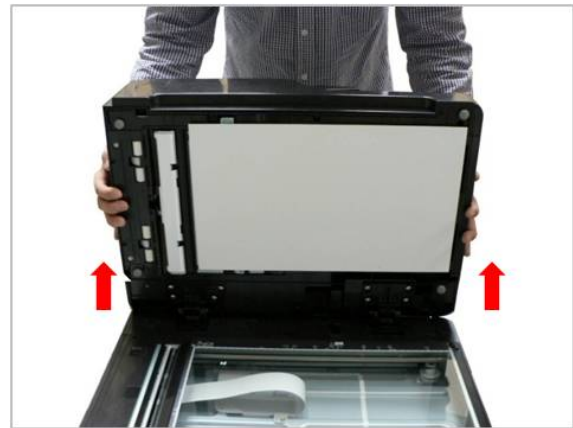
1. Remove the RADF connector cover.



2. Unplug the RADF cable from the scan joint board.

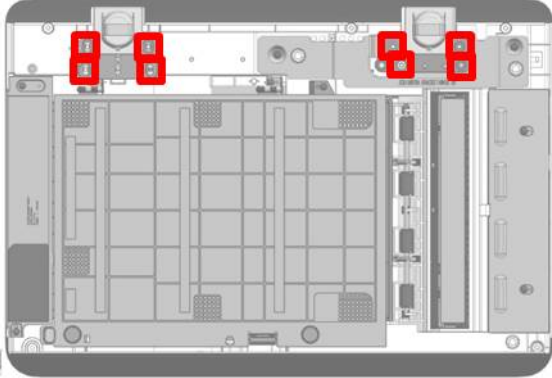


3. Lift up and release the RADF unit.



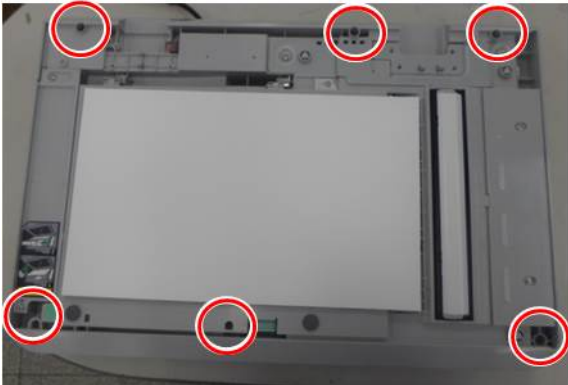
3.3.20.1. RADF Hinge

1. Remove 8 screws.
2. Remove the 2 hinge units from the RADF Assy.

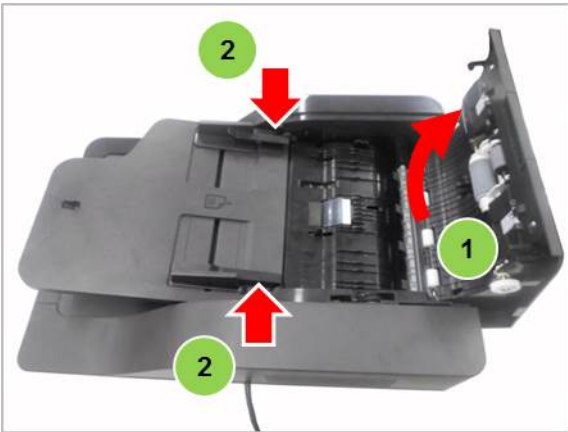


3.3.20.2. RADF Cover

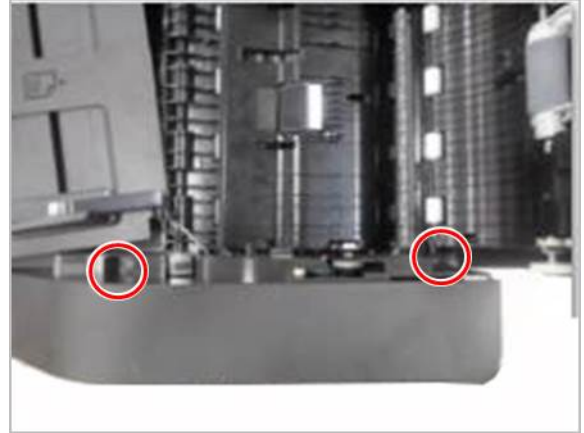
1. Remove 6 screws.



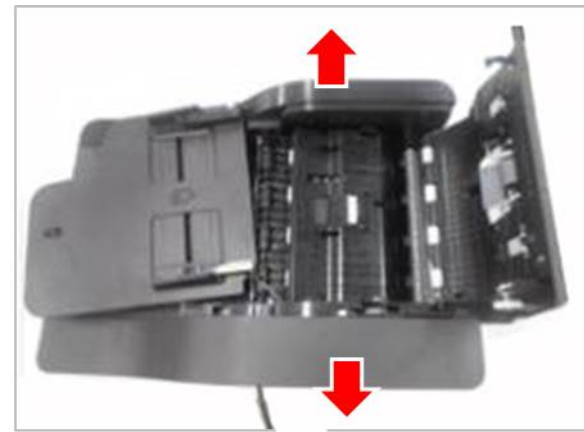
2. Open the RADF Cover-Open. And then, release both hooks of the stacker.



3. Remove 2 screws.

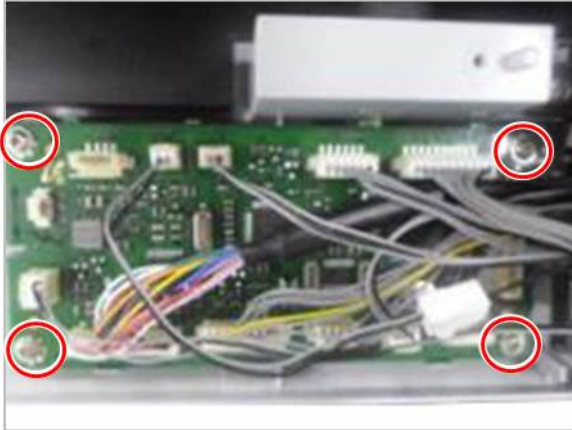


4. Remove the COVER-SIDE F and COVER-SIDE R.



3.3.20.3. RADF board

1. Unplug all harness on the RADF board.
2. Remove 4 screws. And then, release the RADF board.



3.3.20.4. RADF Stacker

1. Remove the RADF cover.
2. Unplug the stacker harness on the RADF board.

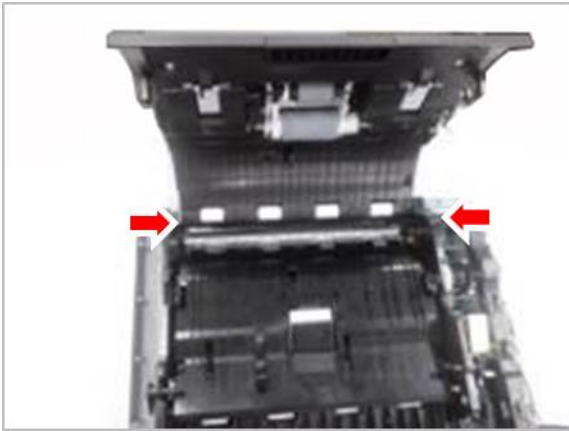


3. Release the RADF stacker.



3.3.20.5. RADF COVER-OPEN

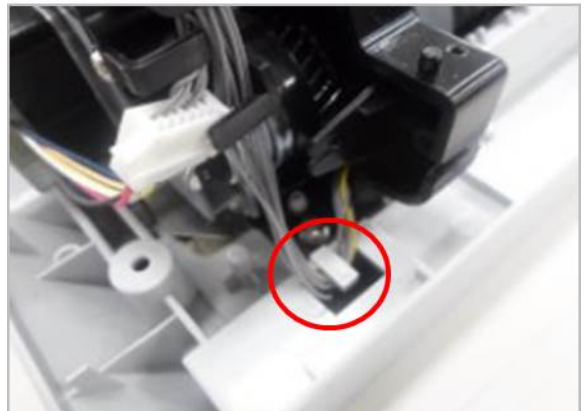
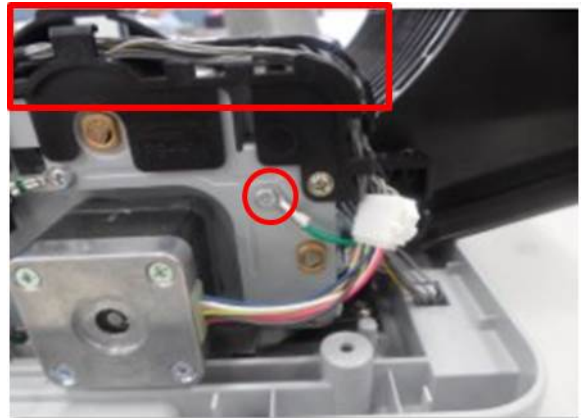
1. Release the COVER-OPEN while pushing both sides to the direction of arrow.



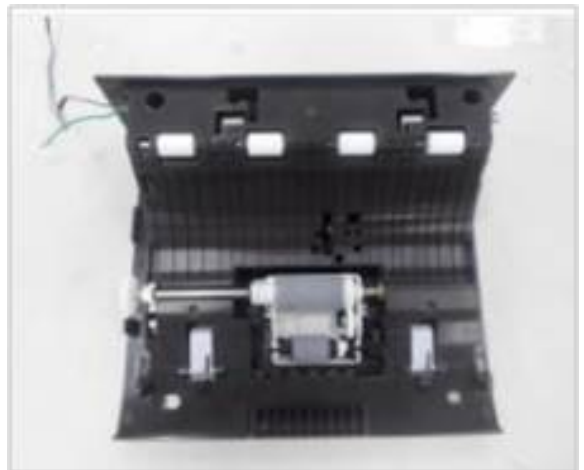
2. Unplug the harness on the RADF board.



3. Remove 1 screw. And then, release the harness from the harness-holder.



4. Remove the COVER-OPEN.

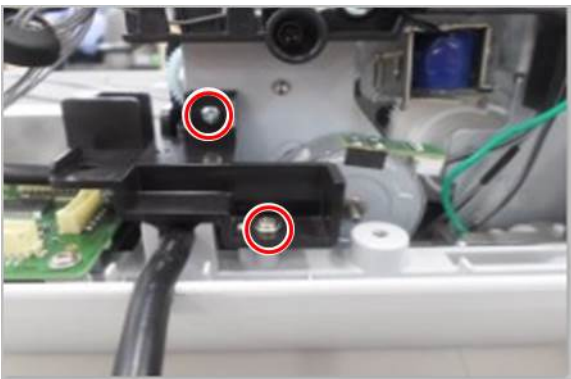


3.3.20.6. RADF SUB CORE ASSY

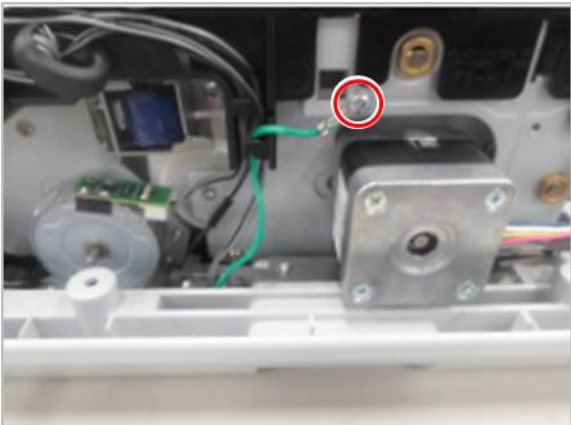
- 1. Unplug the harness on the RADF board. And then, release them from the harness holder.



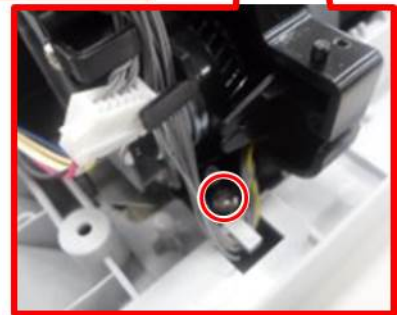
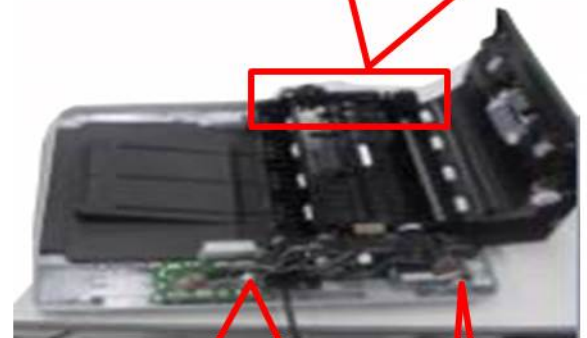
- 2. Remove 2 screws. And then, release the harness holder.



- 3. Remove 1 screw securing the ground wire.



- 4. Remove 5 screws. And then, release the RADF Sub Core Assy.



3.3.20.7. COVER JAM ASSY

1. Remove 4 screws.

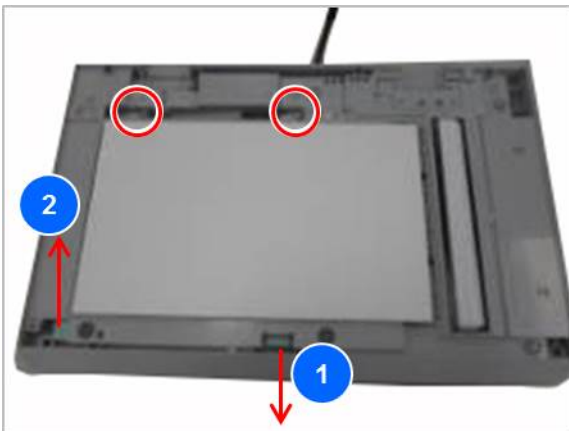


2. Remove the COVER JAM ASSY after releasing the harness.



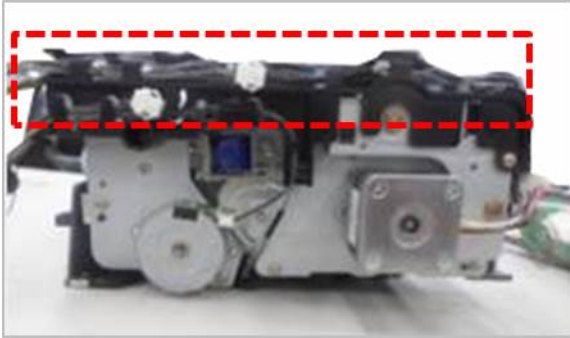
3.3.20.8. COVER PLATEN SUB ASSY

1. Pull the handle to release the lock. Lift up the COVER PLATEN SUB ASSY. And release it after removing 3 screws.

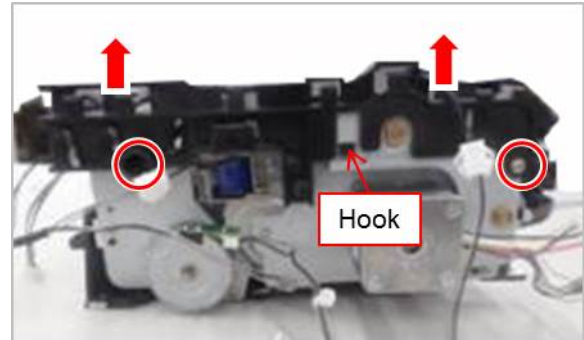


3.3.20.9. HOLDER-HARNESS

1. Release all the harness from the HOLDER-HARNESS.

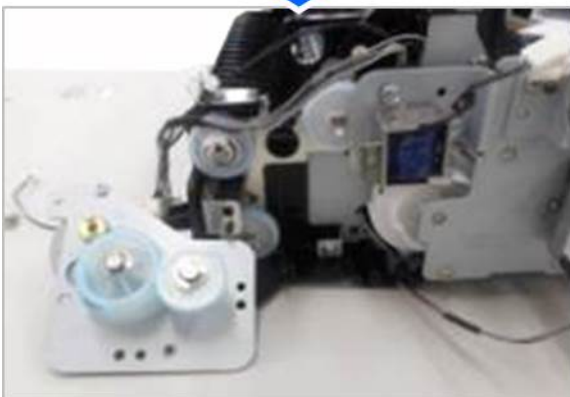
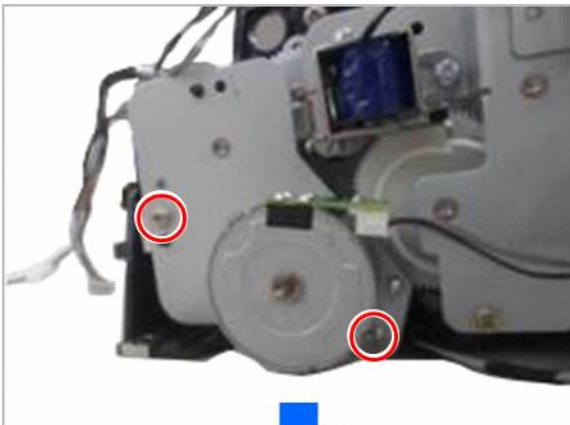


2. Remove 2 screws. Lift up and release the HOLDER-HARNESS while pushing the hook.



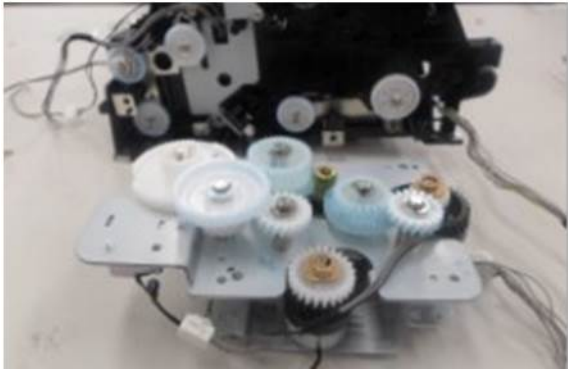
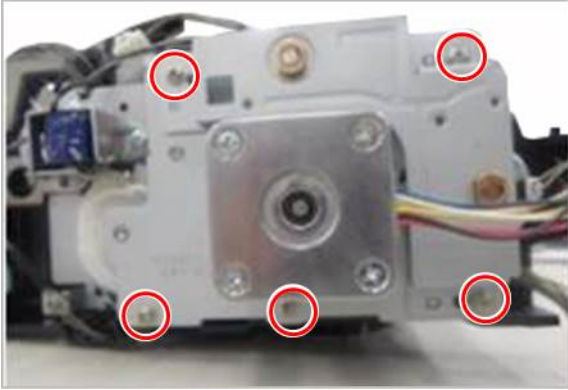
3.3.20.10. Duplex Motor Assy

1. Remove 2 screws. And then, release the Duplex Motor Assy.



3.3.20.11. RADF Motor Assy

1. Remove 5 screws. And then, release the RADF Motor Assy.

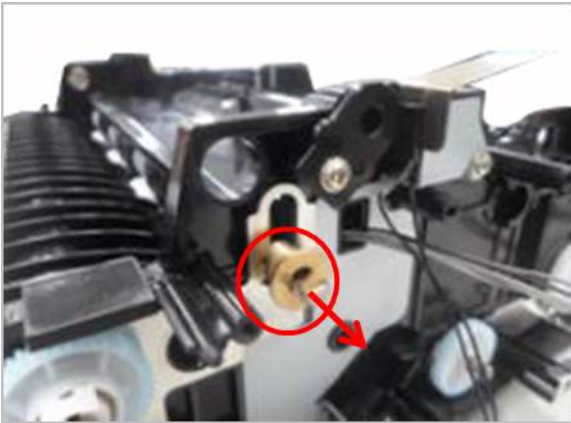


3.3.20.12. Guide Pick Up Assy

1. Remove the gear.



2. Remove the bush.



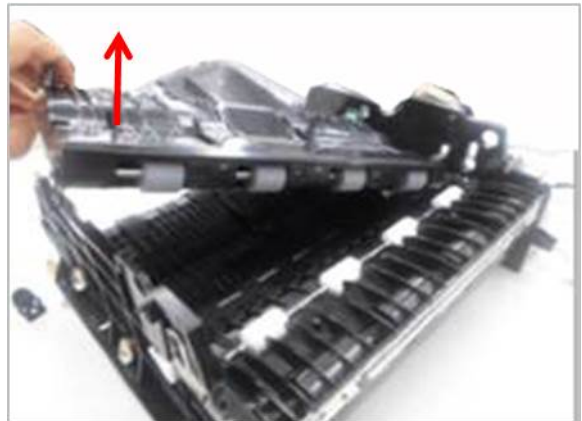
3. Remove the E-Ring and bush from the opposite side.



4. Push the shaft to the direction of arrow. And then remove 1 screw and handle.



5. Lift up the Guide Pick Up Assy.

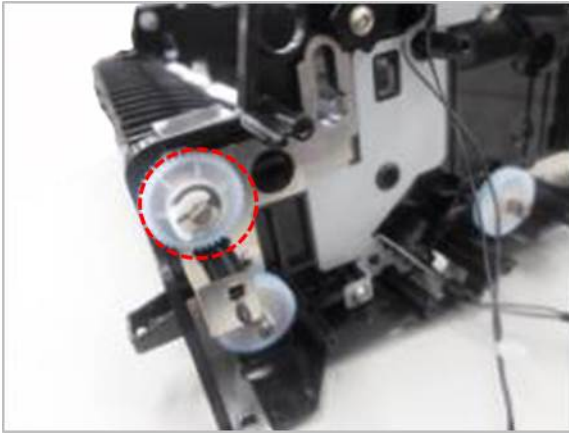


6. Release the harness.



3.3.20.13. Exit Assy

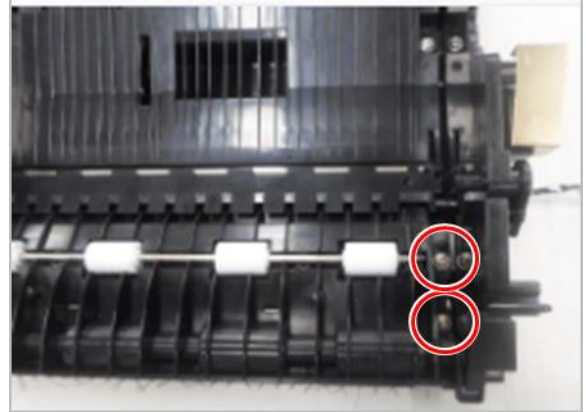
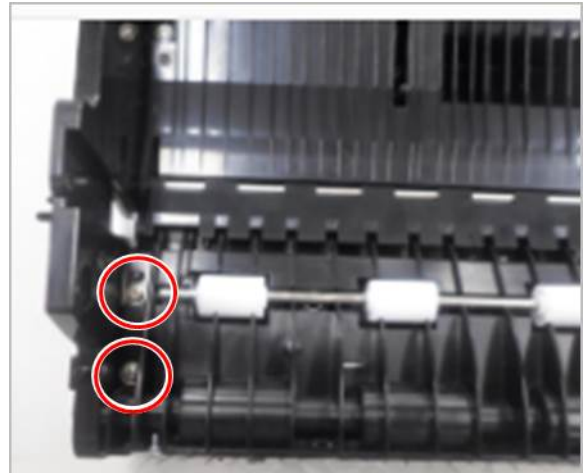
1. Remove the E-Ring and gear.



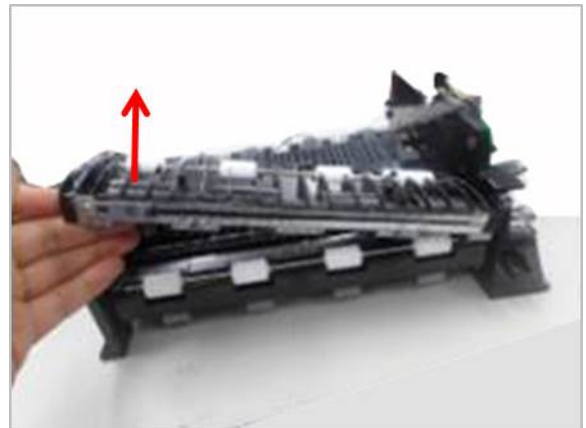
2. Remove the E-Ring and bush.



3. Remove 4 screws.



4. Lift up and release the Exit Assy.



3.3.21. Card Reader or NFC Kit Installation

1. Remove 2 screw-caps and 2 screws securing the Cover-Scan Hinge.



2. Remove the Cover-Scan Hinge.



3. Attach the double-sided tape to bottom of Card Reader or NFC Kit.



4. Attach the Card Reader or NFC Kit on the holder.



5. Connect the cable between OPE-HUB PBA and Card Reader(or NFC Kit).



6. Reassemble the Cover-Scan Hinge. Then attach the tag label on it.

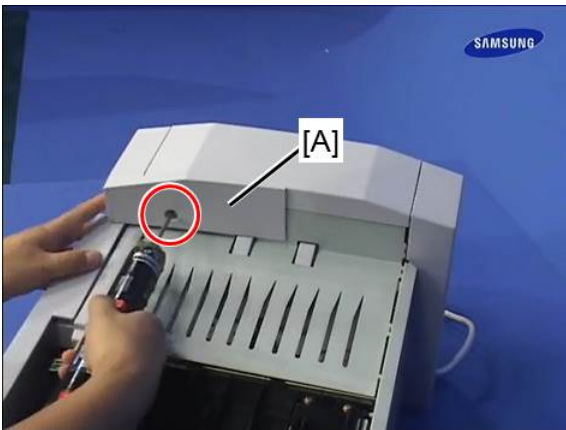


3.3.22. 1-Bin Finisher

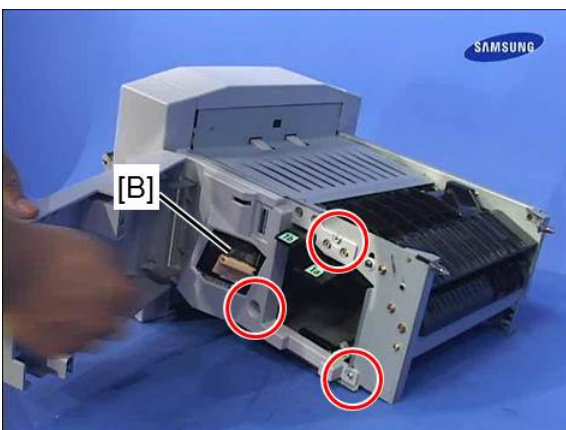
1. Remove the 1-Bin Finisher from the machine.
2. Push the hook and release the tray stacker.



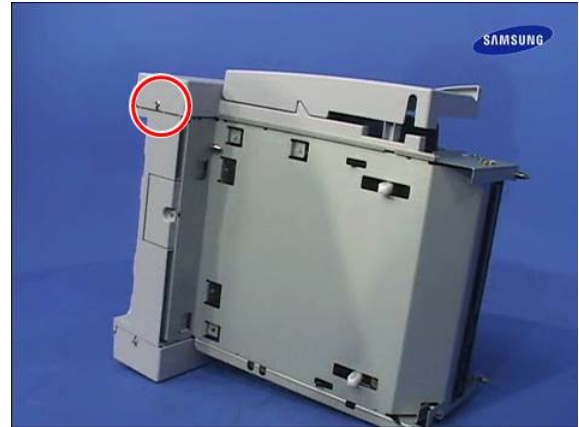
3. Release the cover scan dummy [A] after removing 1 screw.



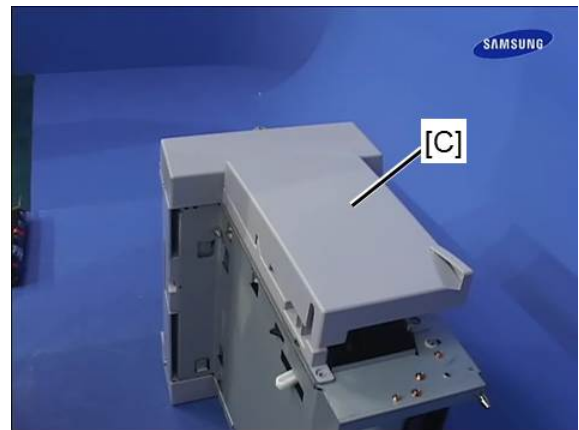
4. Take out the staple cartridge [B]. And remove 3 screws.



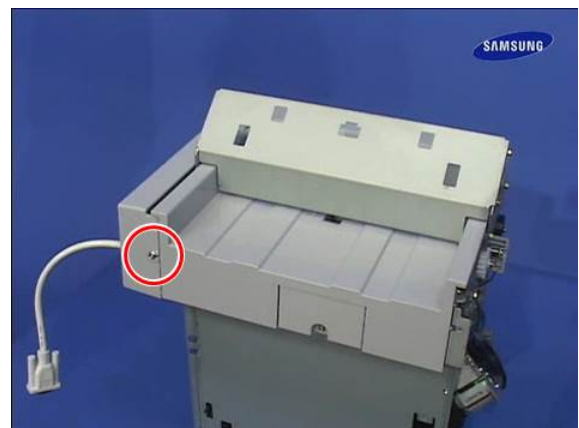
5. Remove 1 screw.



6. Release the front cover [C].



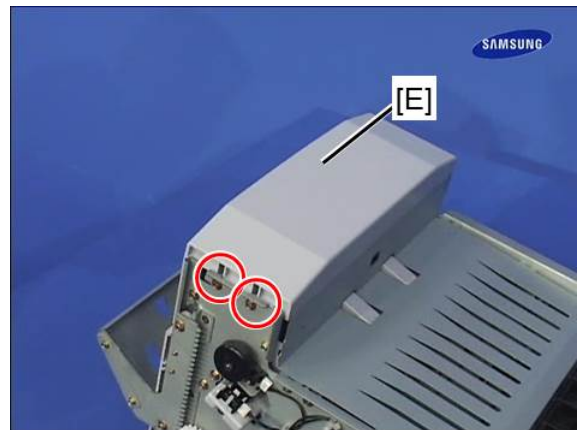
7. To remove the rear cover, remove 1 screw.



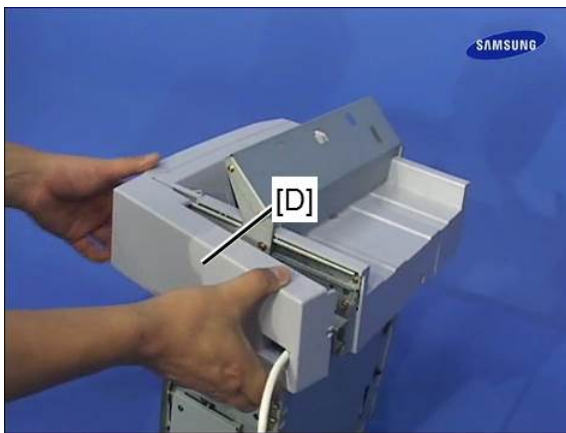
8. Remove 1 screw.



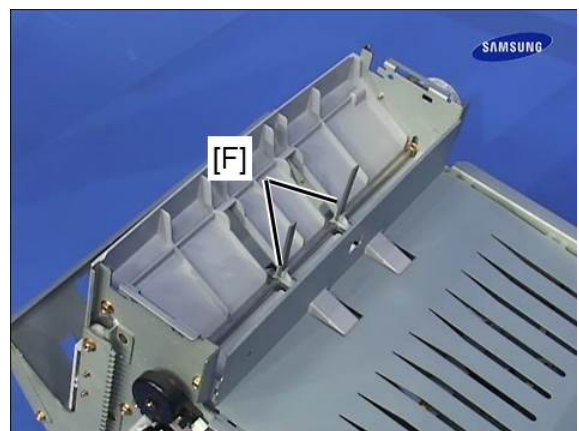
11. Release the top cover [E] after removing 2 screws.



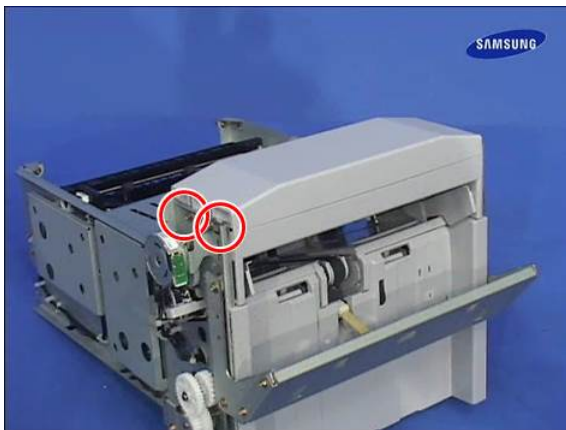
9. Release the rear cover.



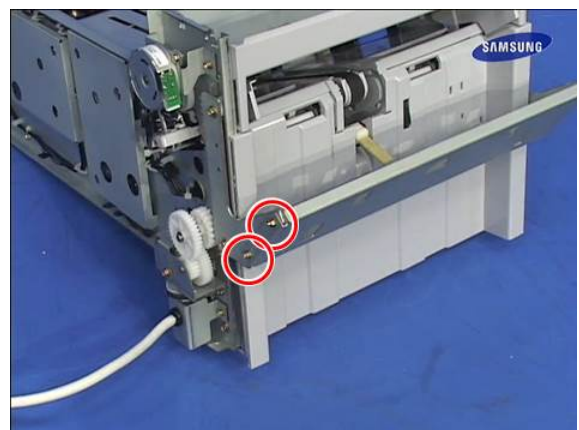
12. Release the paddle [F].



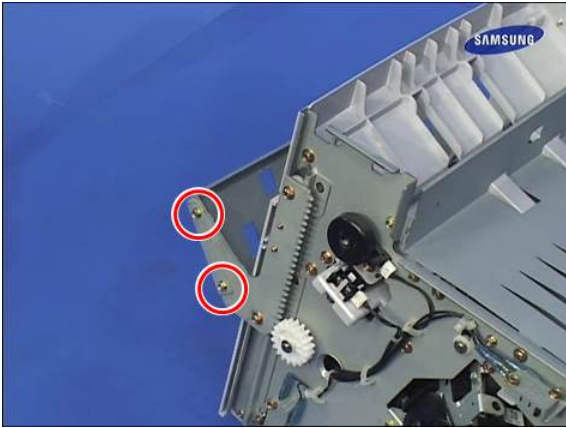
10. To remove the top cover, remove 2 screws.



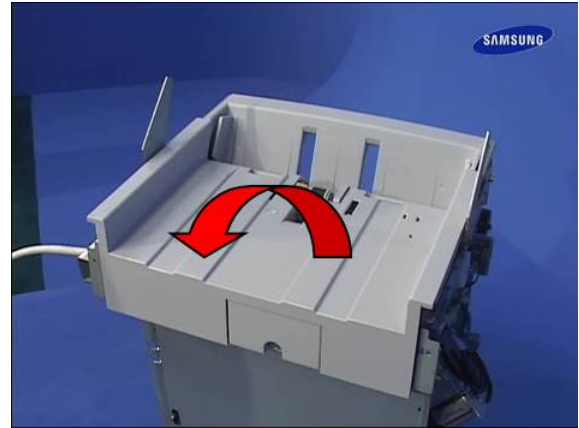
13. To remove the stay stacker, remove 2 screws.



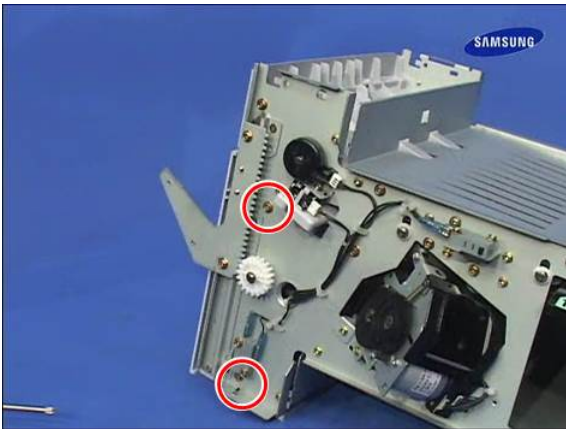
14. Release the stay stacker after removing 2 screws.



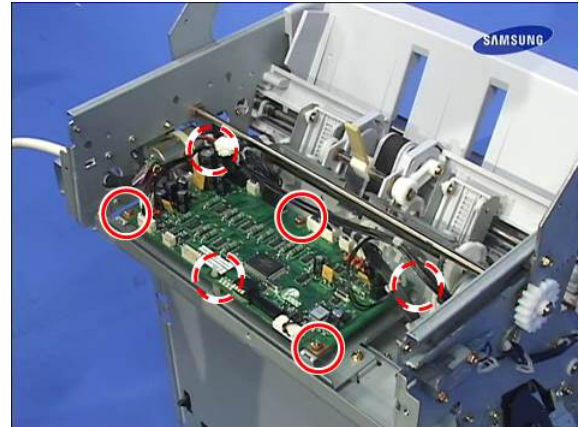
17. Lift the shield stacker up and unplug the connector.



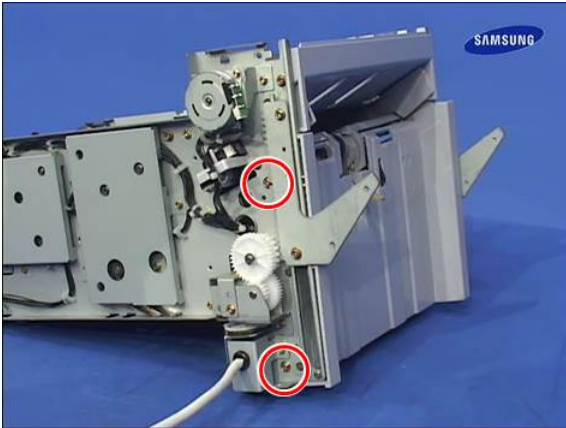
15. To remove the finisher main PBA, remove 2 screws.



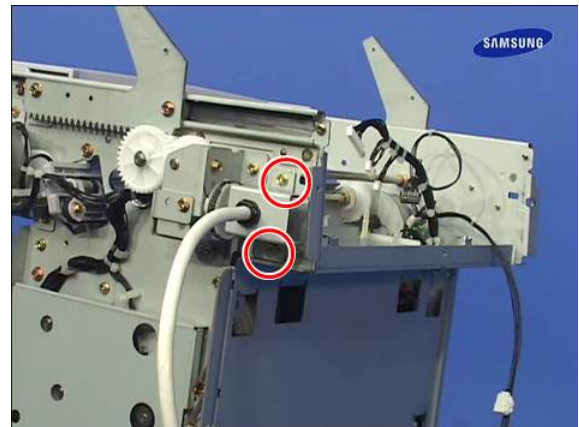
18. Unplug all connector on board. Remove 3 screws and 3 fixer. And release the PBA.



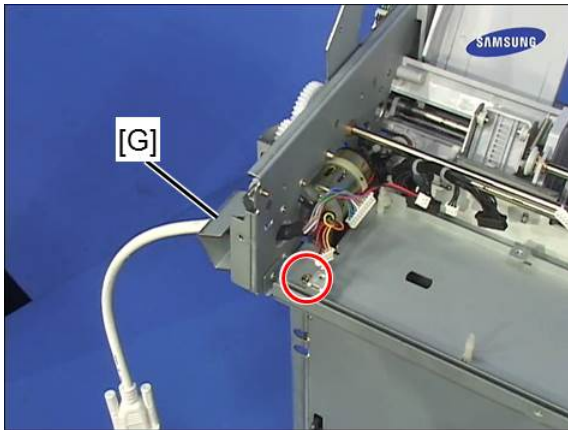
16. Remove 2 screws.



19. To remove the Finisher connector, remove 2 screws.



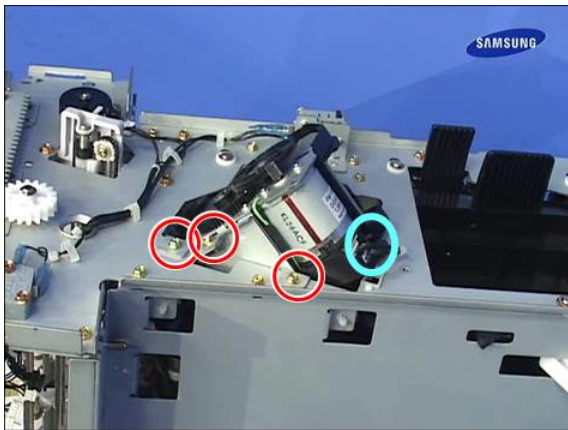
20. Release the finisher connector after removing 1 screw.



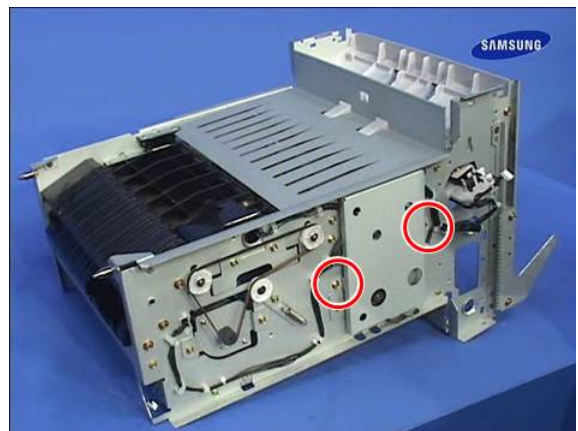
23. Release the bracket rear cover after removing 2 screws.



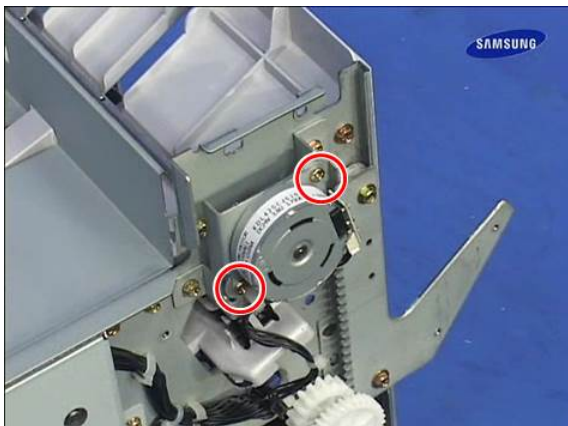
21. Unplug 2 connectors. Remove 3 screws. And release the stapler unit.



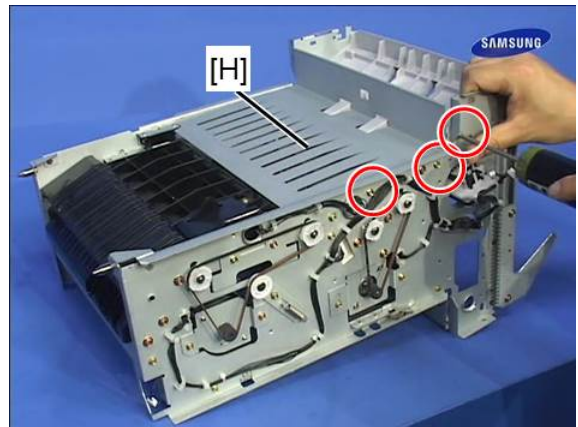
24. Release the bracket rear cover after removing 2 screws.



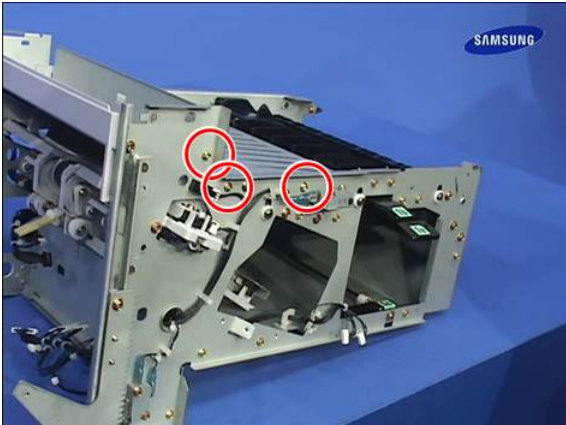
22. Remove 2 screw. Unplug the connector. And remove the motor unit.



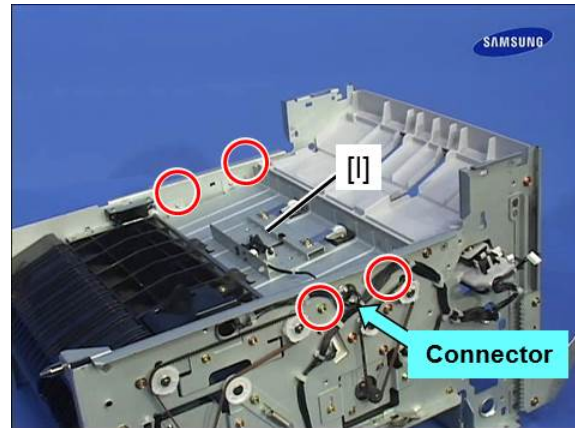
25. To remove the duplex guide [H], remove 3 screws.



26. Lift up and release the duplex guide after removing 3 screws from the opposite side.



27. Release the guide exit unit [I] after removing 4 screws and connector.



3.3.23. Mail Box

1. Lift up and release the mail box from the machine.



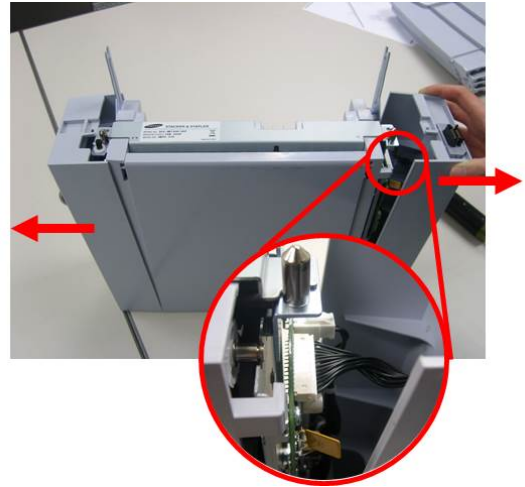
2. Remove the Stackers. (4 ea)



3. Remove 2 screws to separate front/rear cover.



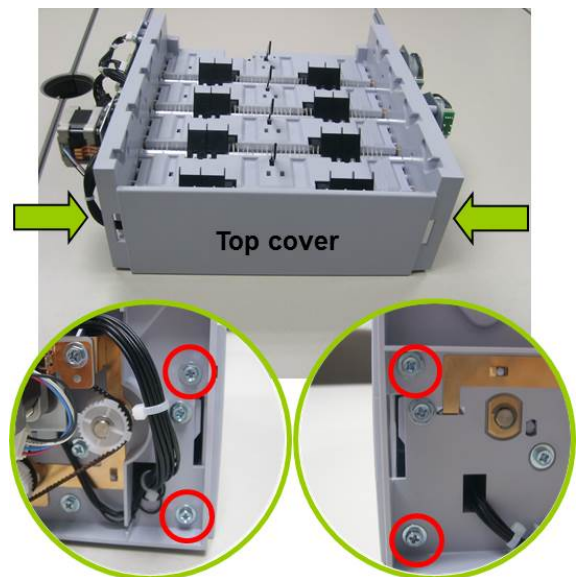
4. Remove the front cover. Separate the rear cover after removing the harness.



5. Remove the jam cover.

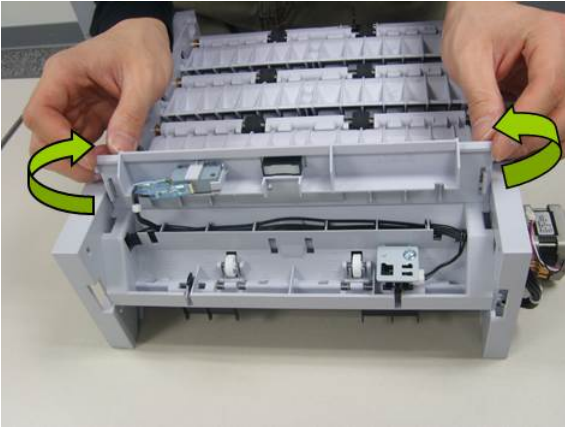


6. Remove the top cover after removing 4 screws.

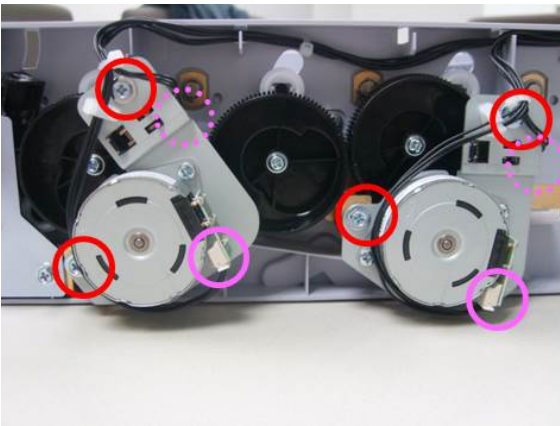


3. Disassembly and Reassembly

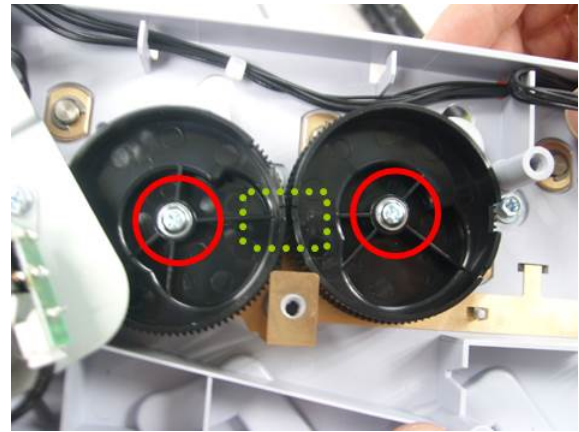
7. Open the Assy Shield TOP. If necessary, remove switch or sensor.



8. To remove the Motor, remove 4 screws and 4 harness.



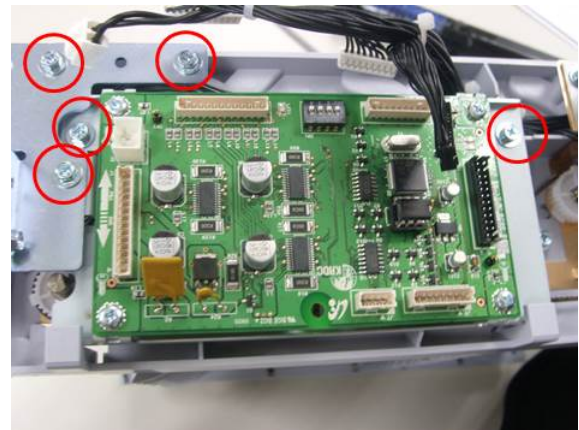
9. Remove the 2 SPUR Gear after removing the screw.



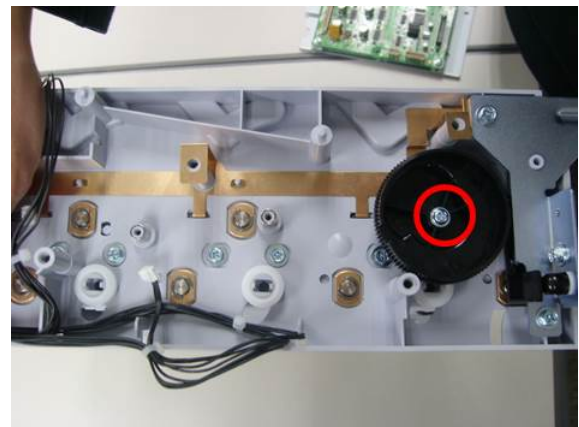
! NOTE

When re-assembling, align the groove of both gear.

10. Separate the bracket and main board after removing 5 screws.



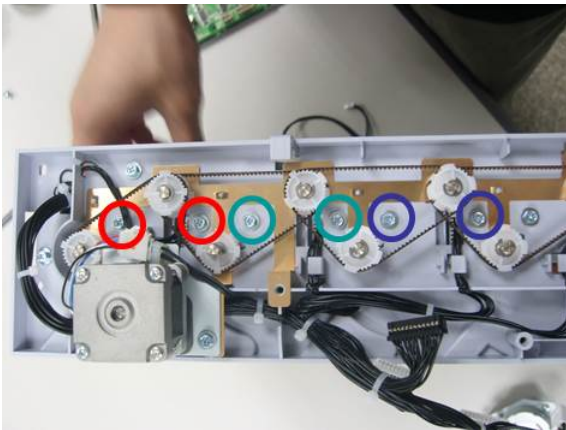
11. Remove the SPUR Gear after removing the screw.



12. There are 3 Assy actuator shield. This manual describes disassembly procedure for middle shield. Remove 2 screws (green color) from the front.



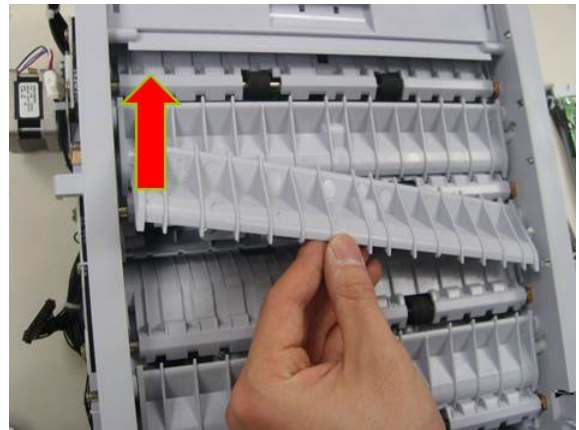
13. Remove 2 screws (green color) from the rear.



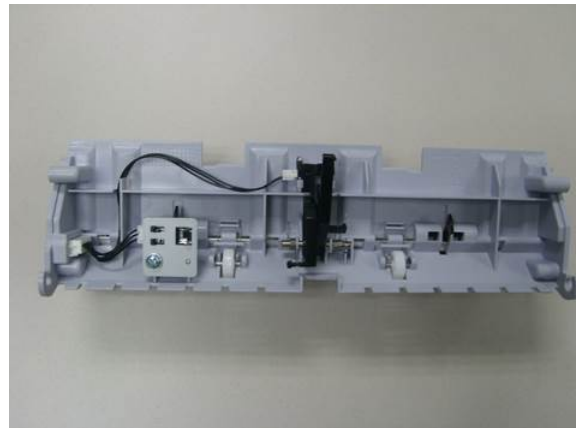
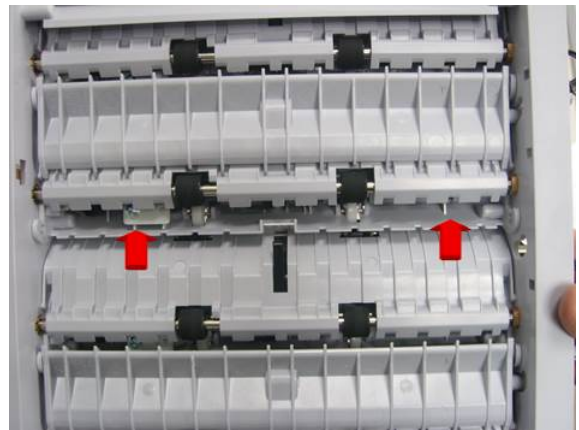
14. Remove the ROLLER:STACKER.



15. Remove the SEPARATE:PAWL:FEED by unhooking the side.



16. Push the Assy actuator shield to the direction of arrow. And Separate it from the opposite side.



3.3.24. 2-Bin Finisher

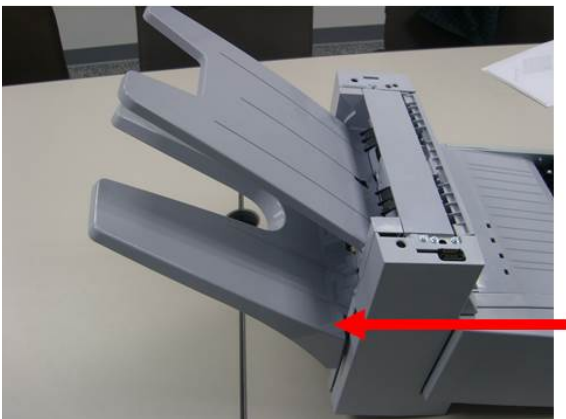
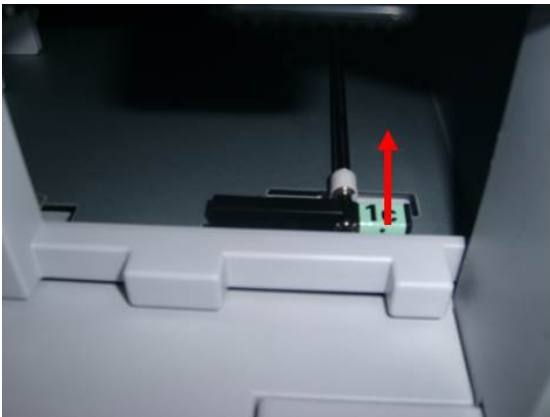
1. Unplug the connector.



3. Remove the staple cartridge.



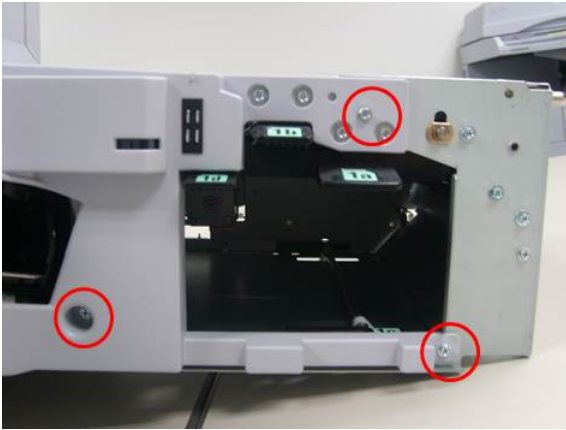
2. Keep the 1c lever pull up and remove the finisher unit from the machine.



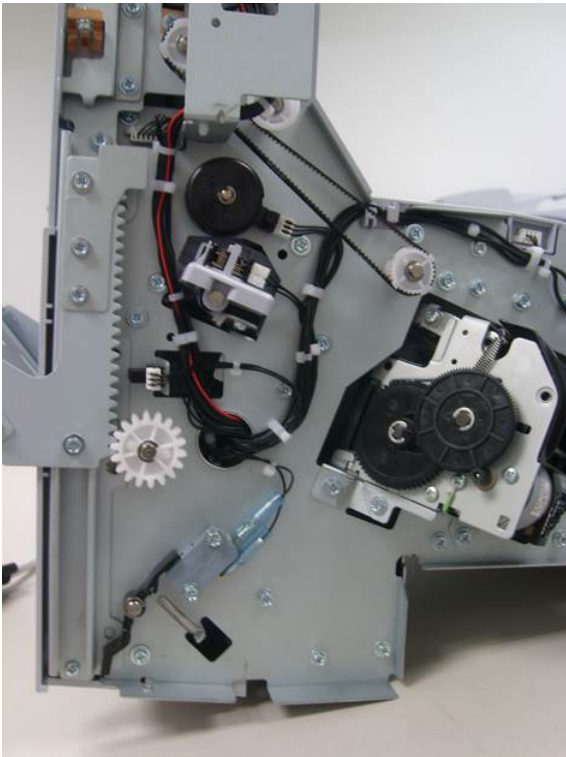
4. To remove the cover, remove 2 screws.



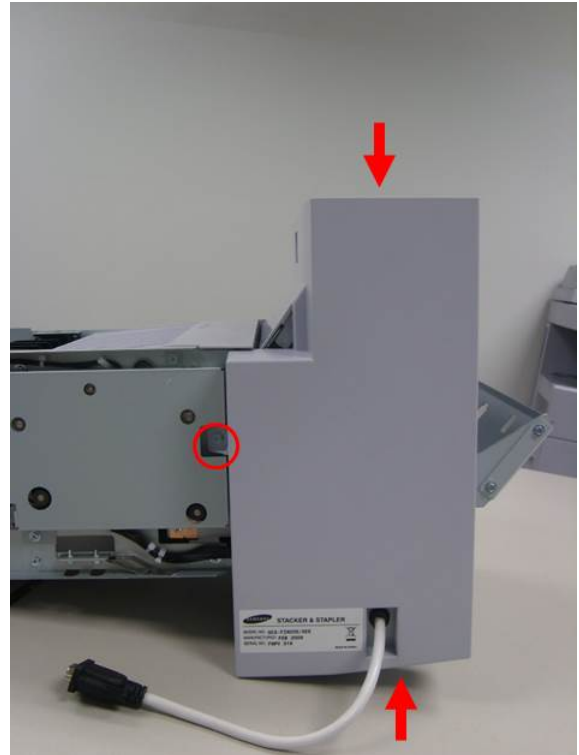
5. Remove 3 screws.



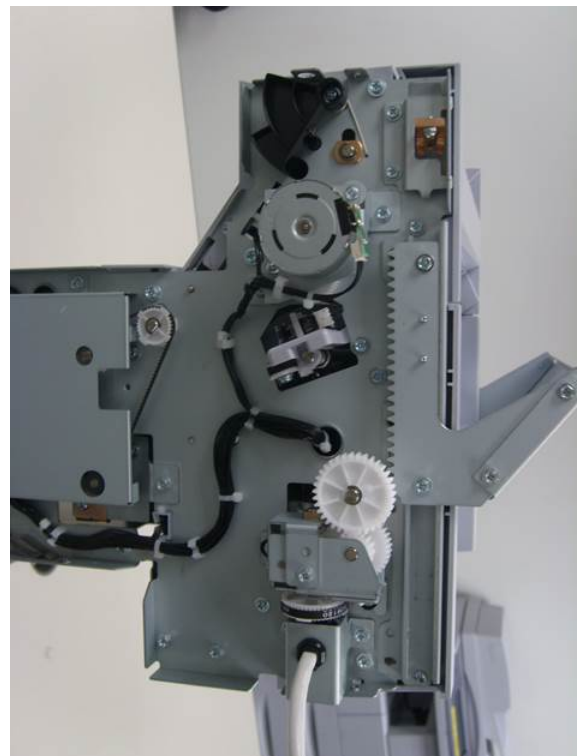
6. If some part such as sensor, switch in below picture is defective, replace it.



7. Remove 3 screws and take off the cover.

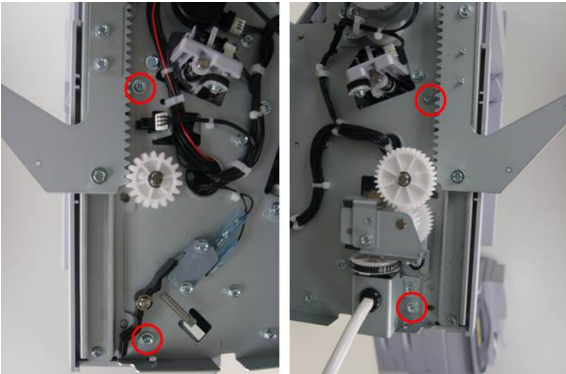


8. If some part in below picture is defective, replace it.

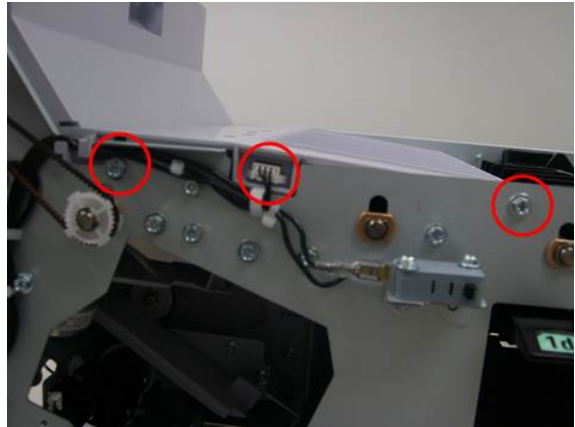


3. Disassembly and Reassembly

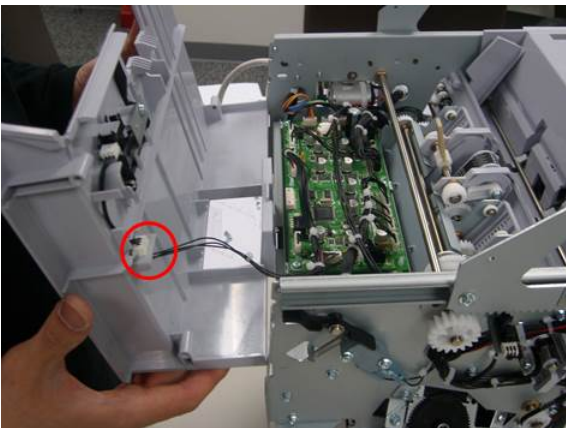
9. Remove 4 screws from both side.



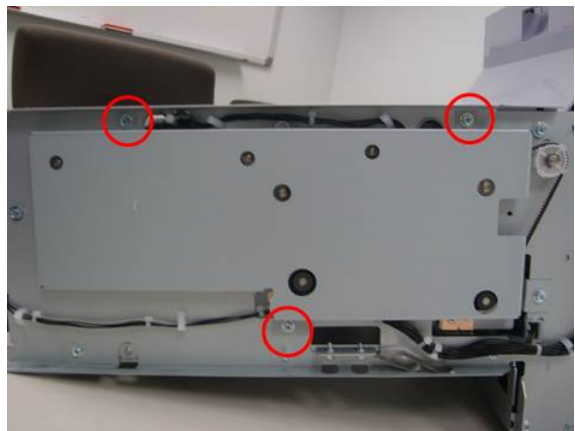
12. Remove 3 screws.



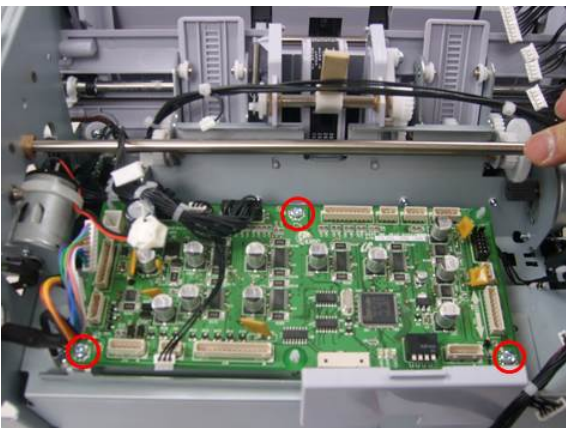
10. Open the cover and unplug the connector.



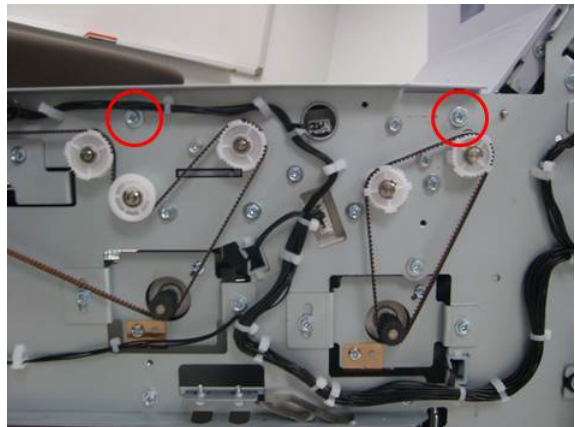
13. Remove 3 screws.



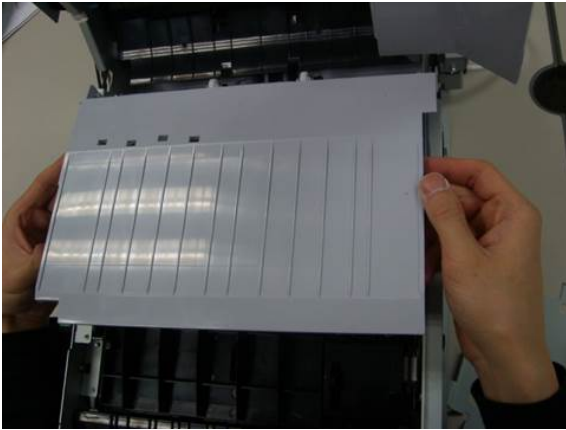
11. Remove the finisher board after remove 3 screws.



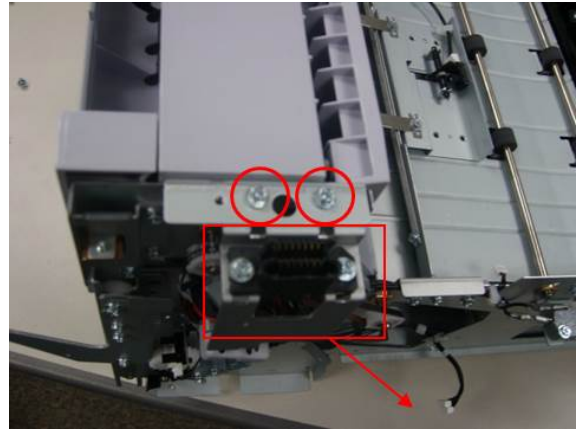
14. Remove 2 screws.



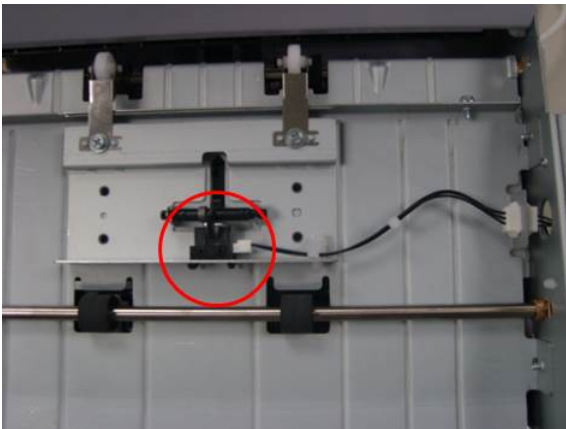
15. Remove the duplex guide.



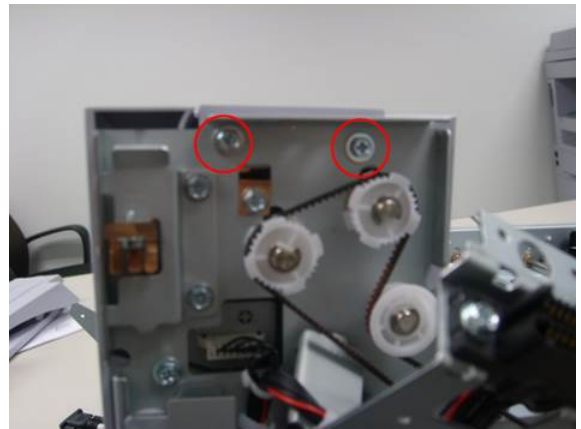
18. Remove 2 screws.



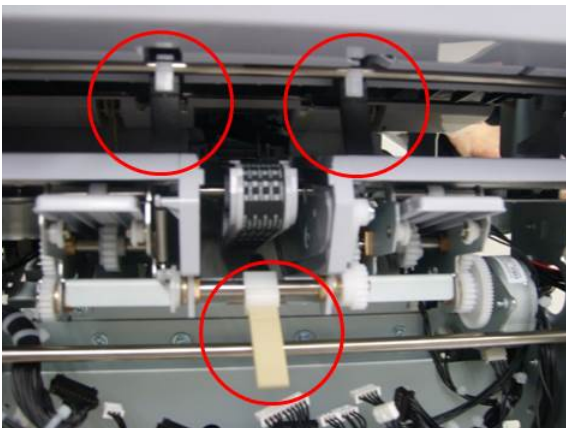
16. Remove the sensor.



19. Remove 2 screws.



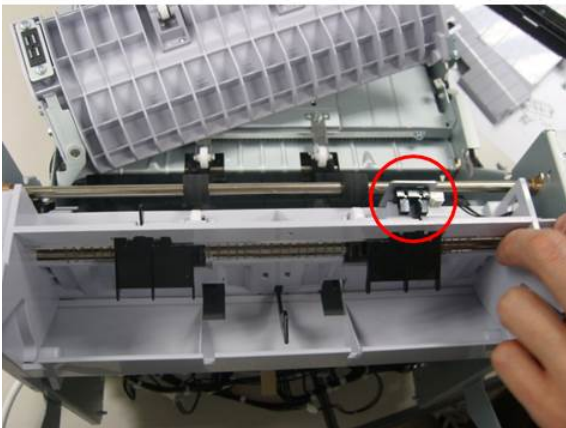
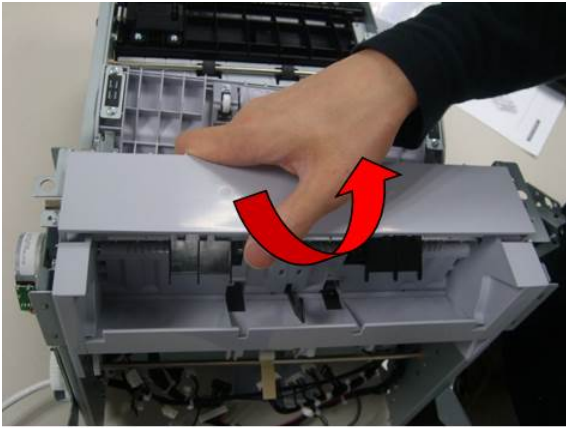
17. Remove 3 paddles.



20. Remove 2 screws.



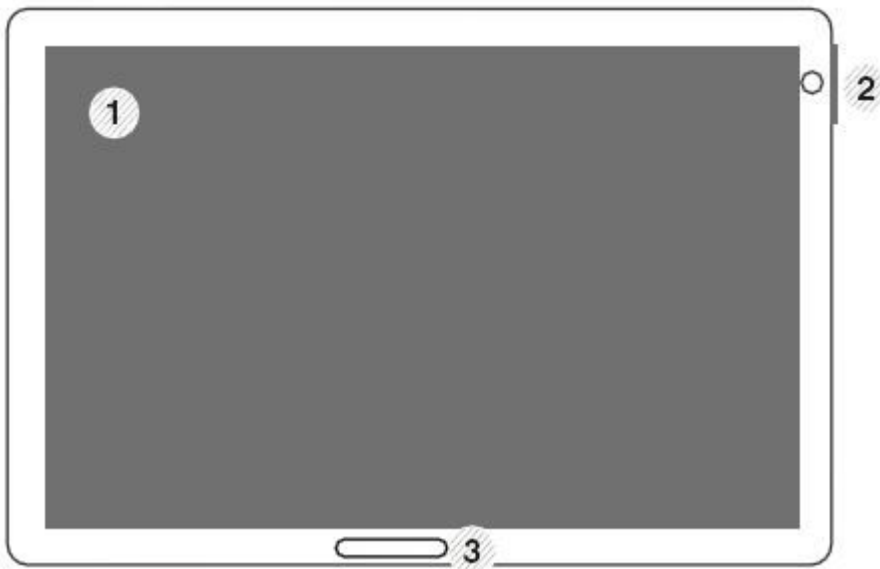
21. Open the top cover. If necessary, remove the sensor.



4. Troubleshooting

4.1. Control panel

[M5370LX / M4370LX]



1		Display screen	Shows the current machine status and prompts during an operation. You can set menus easily using the display screen.
2	a	Power LED	Shows the power status of your machine.
	b	Power / Wakeup button	Turn the power on or off. When the blue LED is on, the machine is powered on and you can use it. If you turn the machine off, press this button for more than two seconds. Press Yes when the confirmation window appears.
3		Status LED	Shows the status of your machine

[M5360RX]



1	Display screen	Shows the current machine status and prompts during an operation. You can set menus easily using the display screen.
2	Power / Wakeup button	Turn the power on or off. When the blue LED is on, the machine is powered on and you can use it. If you turn the machine off, press this button for more than two seconds. Then, confirmation window appears.
3	Power LED	Shows the power status of your machine.
4	Status LED	Shows the status of your machine.



CAUTION

When you use the display screen, use your finger only. The screen may be damaged with a sharpened pen or anything else.

4.1.1. Display screen and useful buttons



NOTE

For more information, refer to the user guide.

4.1.1.1. Menu navigation

Terms used in this manual

- **Tap**

Lightly touch items to select or launch them. For example:

- Tap the on screen keyboard to enter characters or text.
- Tap a menu item to select it.
- Tap an application's icon to launch the application.

- **Touch and Hold**

Activate on-screen items by a touch and hold gesture. For example:

- Touch and hold a widget on the home screen to move it.
- Touch and hold on a field to display a pop-up menu of options.

- **Swipe**

To swipe, lightly drag your finger vertically or horizontally across the screen. Use swipe when :

- Scrolling through the home screen or a menu

- **Panning**

To pan, touch and hold a selected icon, then move the device to the left or right to reposition it to another page.




For example:

- Move icons on your home screens or application menus to another page.




Main Screen




Command Keys

-  (Back) icon : Return to the previous screen, option or step.
-  (Home) icon : Display the main Home screen.
-  (Recent) icon : Display recently used apps.
- Quick launch : Excute applied settings.

Add quick launch

- 1) Tap  (Setting) icon > **Display** > **More Settings** > **Quick Launch** from the display screen.
- 2) Select the quick launch option.
 - None: Icon not shows.
 - Screen Capture (): Capture the current screen.
 - Applications: Move to all apps.
 - Search: Move to search screen.
- 3) Tap  (Back) icon or other settings menu.

4.1.1.2. Home Screen Overview

The main home screen is the starting point for many applications and functions, and it allows you to add items like application icons, shortcuts or widgets to give you instant access to information and applications. This is the default page and accessible from any menu by tap  icon . The display screen image in this user’s guide may differ from your machine depending on its options or models.

 **NOTE**

Depending on the authentication setting, the machine’s users have to enter an ID and a password. In this case, the machine can only be used by an authorized user who has registered an ID and a password on the machine. Contact the machine’s administrator.


Navigating Through the Home Screens

The machine initially has six home screens. If you like, you can place different applications on each of the home screens.

 **NOTE**

From the main Home screen, sweep the screen with your finger in either direction. The main home screen is located in the middle with three Home screens on each side.

Navigating through the application menus


This machine initially has four application menus available in main home screen. If you want to using all application menus and widgets, tap  icon. Then sweep the screen left or right to access the other menus and widgets.

**NOTE**

As you add applications, the number of Application menus that you have available will increase.

Accessing recently-used apps

You can find the recently-used apps easily.

- 1) Tap  icon from any screen to open the recently-used applications window.
- 2) Tap an icon to open the selected application.


4.1.1.3. Customizing your home screen

You can customize your Home screen.



Creating shortcuts

Shortcuts are different from widgets. While widgets can only launch applications, shortcuts can do this and activate features and actions.

[Adding a shortcut from the home screen]

- 1) Tap  icon to activate the main home screen.
- 2) Touch and hold the home screen, shows list. Then select your desired shortcut.
 - Set wallpaper
 - Home Screen : You can setting the wallpaper of Home Screen.
 - Login Screen : You can setting the wallpaper of Login Screen.
 - Home and Login Screen : You can setting the wallpaper of both.
 - Apps, XOA Apps, Widgets and Programs : Place apps, XOA apps, widgets, and program icons on home screen.
 - Folder : You can create folder on home screen.
 - Page : You can add page.

[Adding a shortcut from the Apps menu]

- 1) Tap  icon to activate the main home screen.
- 2) Tap  icon to display your current applications.
- 3) Scroll through the list and locate the desired application.
- 4) Touch and hold the application icon. This creates a shortcut to the application and shows the main home screen.
- 5) Drag the shortcut to a desired position on the screen and release it. To move to a different page, drag the shortcut to the edge of the screen until the screen scrolls to the desired page.

[Deleting a shortcut]

- 1) Touch and hold a shortcut until it becomes movable.

- 2) You can drag shortcut and place a shortcut in the trash, both items turn red.





NOTE

This action does not delete the shortcut, it just removes it from the current screen.

Adding and removing widgets

Widgets are self-contained applications that reside on your widgets tab and on any page of the home screen. Unlike shortcuts, a widget appears as an on-screen application.

[Adding a widget]

- 1) Tap  icon to activate the main home screen.
- 2) Tap  icon and tap the Widgets tap at the top of the screen.
- 3) Scroll through the list and locate your desired widget.
- 4) Touch and hold the widget icon. This creates a copy of the widget and opens the main home screen.
- 5) Drag the widget to the desired position on the screen and release it. To move the widget to a different page, drag it to the edge of the screen until the screen scrolls to the desired page.

[Removing a widget]



- 1) Touch and hold a widget until it becomes movable.
- 2) You can drag shortcut and place a shortcut in the trash, both items turn red.



NOTE

This action does not uninstall a widget, it only removes the copy from the home screen.

Moving icons in the Apps menu

- 1) Tap  icon to go to the main home screen.
- 2) Tap  icon to display your current applications.
- 3) Tap the Apps tab at the top of the screen if it is not already selected.
- 4) Drag the icon to a desired position on the screen and release it. To move to a different page, drag the icon to the edge of the screen until the screen scrolls to the desired page.

Changing the Wallpaper

You can customize the Wallpaper (background) of your home screens.

- 1) From any home screen, touch and hold on an empty area of the screen. Then select Set wallpaper option.
- 2) Tap one of the following options in the window that appears.
 - Home Screen : Set the wallpaper for the Home Screen.
 - Login Screen : Set the wallpaper for the Login Screen.
 - Home and Login Screen : Set the wallpaper for both screens.

- 3) Tap one of the following options in the next window that appears.
 - Gallery: Select a wallpaper from photographs and images in the machine's gallery.
 - Live wallpapers: Select an animated image.
 - Wallpapers: Select from several built-in stationary images.
- 4) Select a wallpaper and tap OK, Set wallpaper, or Cancel.

4.1.1.4. Notification Bar

The notification bar includes a pull-down list to show information about processes that are running, toner status, darkness, recent notifications, and alerts.



NOTE

On the home screen, touch and hold the notification bar until the pull-down displays, then drag down vertically.

Accessing additional panel functions

In addition to notifications, this panel also provides quick and ready access to separate device functions. These can be quickly activated or deactivated by toggling them on or off. The following functions can either be activated (green) or deactivated (gray): ECO, Wi-Fi, NFC, Log in, Setup and darkness setting.

4.2. Understanding the LEDs

Understanding the status LED

The color of the status LED indicates the machine's current status.

Status		Description	
Off		<ul style="list-style-type: none"> The machine is off-line. The machine is in power save mode. When data is received, or any button is pressed, it switches to online automatically. 	
Ice Blue	On	The machine is on-line and can be used.	
	Blinking	Fax	The machine is sending or receiving faxes.
		Copy	The machine is copying documents.
		Scan	The machine is scanning documents.
	Print	<ul style="list-style-type: none"> When the status LED slowly blinks, the machine is receiving data from the computer. When the status LED blinks rapidly, the machine is printing data. 	
Orange	On	<ul style="list-style-type: none"> The imaging unit is at the end of its lifespan. Remove the old imaging unit and install a new one. The toner cartridge life* is totally empty. Remove the old toner cartridge and install a new one. A paper jam has occurred. The door is open. Close the door. There is no paper in the tray. Load paper in the tray The machine has stopped due to a major error. Check the display message. The waste toner container is not installed in the machine, or full waste toner container. 	
	Blinking	<ul style="list-style-type: none"> A minor error has occurred and the machine is waiting for the error to be cleared. Check the display message. When the problem is cleared, the machine resumes its original task. The toner cartridge life*, imaging unit, or waste toner container is near the end of its life. Order a new toner cartridge, imaging unit, or waste toner container. You can temporarily improve print quality by redistributing the toner. 	

* Estimated cartridge life means the expected or estimated toner cartridge life, which indicates the average capacity of print-outs and is designed pursuant to ISO/IEC 19752. The number of pages may be affected by operating environment, printing interval, media type, and media size. Some amount of toner may remain in the cartridge even when red LED is on and the printer stops printing.

Understanding the power LED

The color of the status LED indicates the machine's current status.

Status		Description	
Off		The machine is off-line.	
Blue	On	The machine is on-line and can be used.	
	Blinking	The machine is in power save mode. When data is received, or any button is pressed, it switches to on-line automatically.	

4.3. Updating Firmware

This chapter includes instructions for updating the printer firmware. You can update the printer firmware by using one of the following methods :

- Update the firmware by using the printer control panel
- Update the firmware by using the network.

4.3.1. Updating from the Printer Control Panel

**WARNING**

Failure to follow these instructions could lead to corruption issues and prevent the proper operation of this printer. Follow all of the instructions carefully.

- 1) Download the firmware file from the Global Service Partner Network (GSPN) or Technical Support Portal (TSP) website.
- 2) Unzip the firmware file to a folder on your PC.
- 3) Copy the firmware file (*.hds or *.par) to a USB flash drive.
- 4) Plug the USB flash drive into the USB port.
- 5) Press the button on control panel in this order. (**Settings > Admin Settings > Application Management > Application > Install**)
- 6) The installation window will list the files on the USB drive. Touch the name of the firmware file to select it.
- 7) Press the “OK” button after selecting the file.
- 8) Once the installation is complete, “OK” button will be activated. Press “OK” button.

4.3.2. Updating from the Network

WARNING

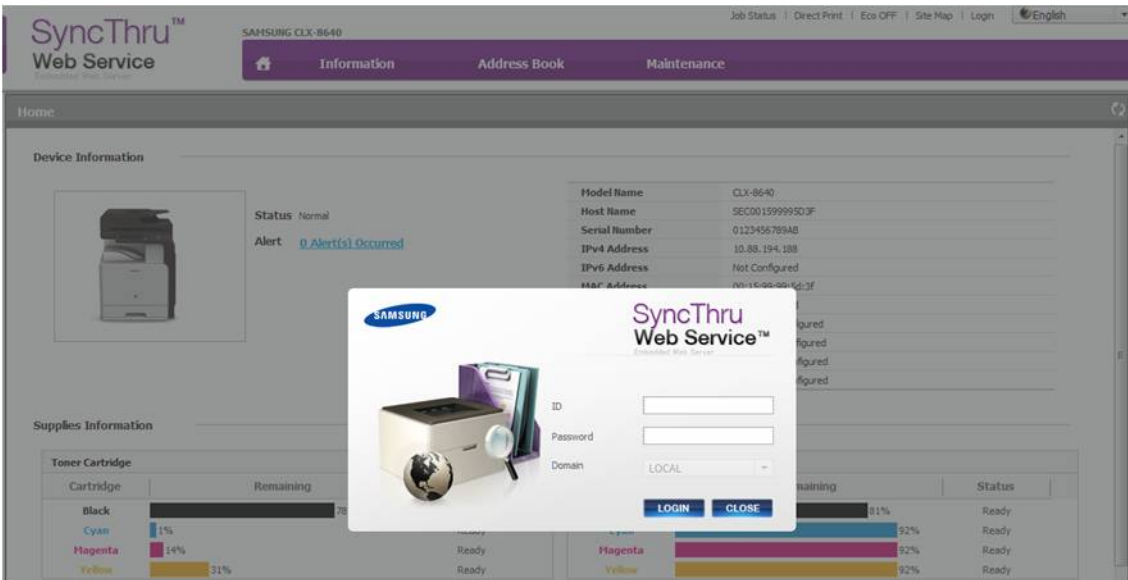
Failure to follow these instructions could lead to corruption issues and prevent the proper operation of this MFP. Follow all of the instructions carefully.

Perform the following procedure to update the MFP firmware from the network.

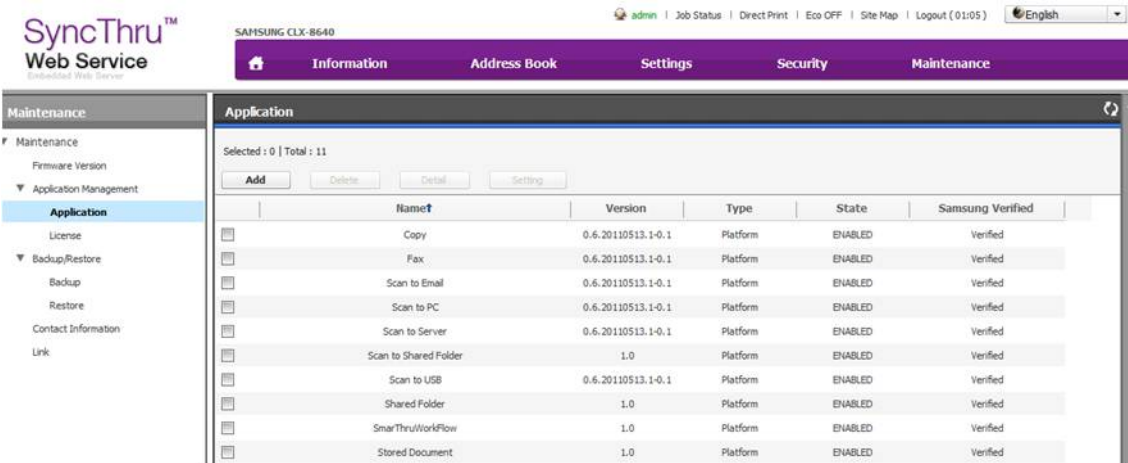
- 1) Go to the SyncThruWeb Service (SWS) main home page. Login as Admin in Sync Thru Web Service.

NOTE

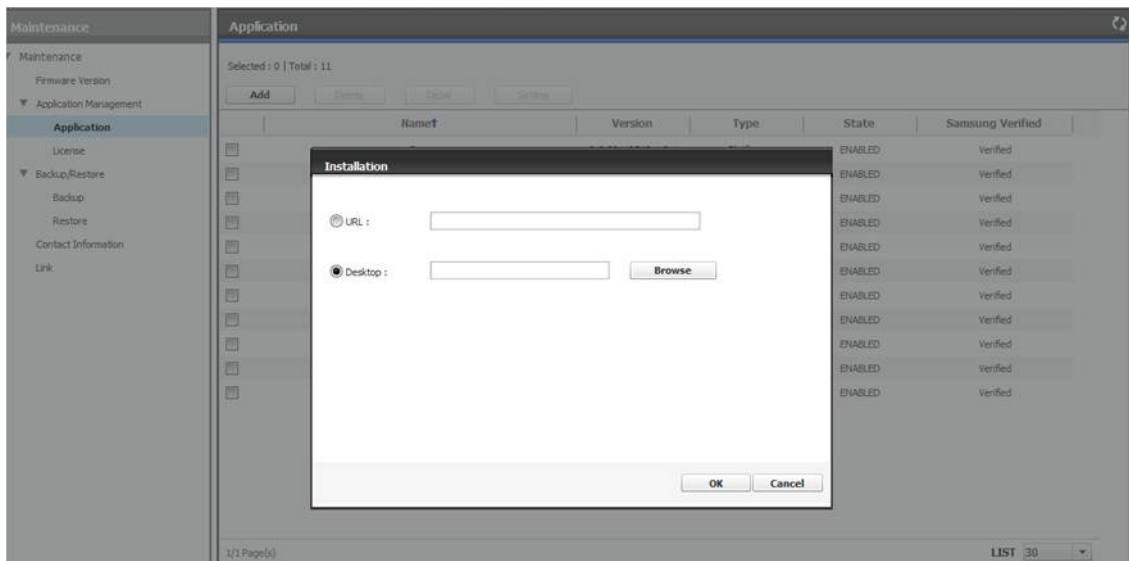
Login using the Administrator ID and Password established during initial machine setup.



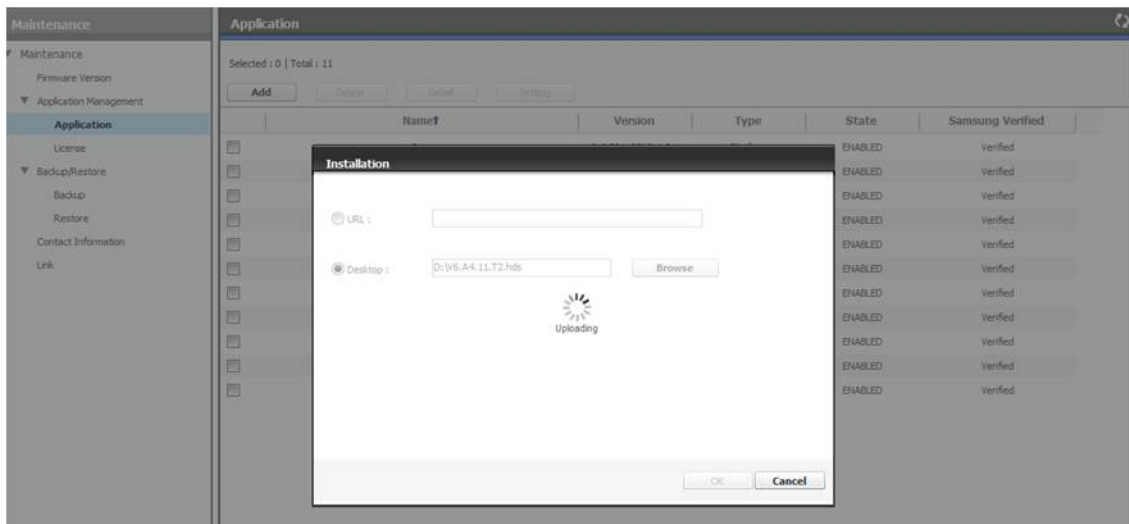
- 2) Click on **Maintenance > Application Management > Application > Add**.



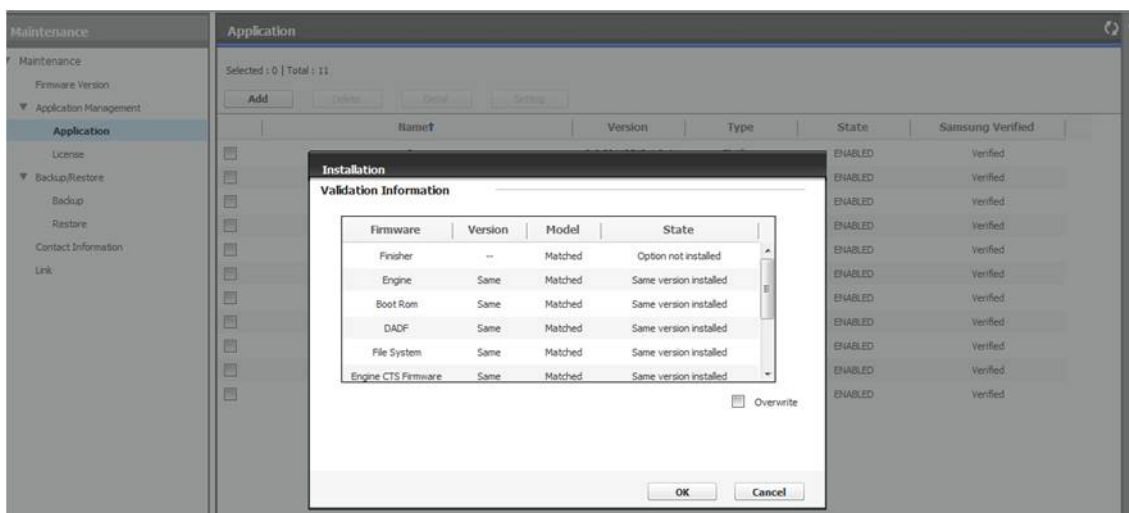
- 3) Choose installation file (F/W file) by browsing the file system and click [OK].



- 4) The uploading step will start.

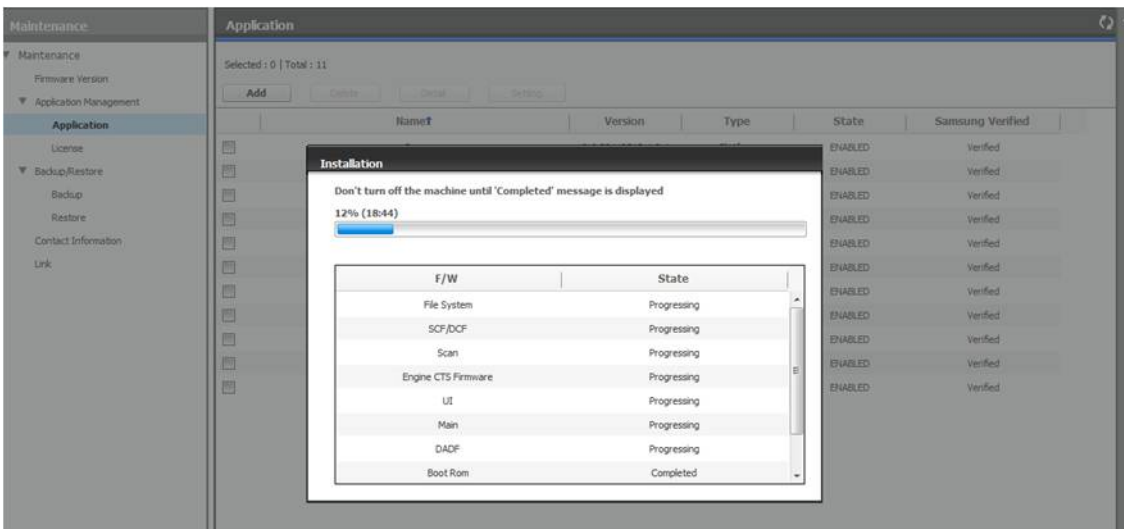


- 5) After uploading the f/w file on MFP, validation information will appear. Check the [Overwrite] check-box if you want to force the firmware update even if the firmware version to be installed is lower or same with the currently installed firmware in the device. Press [OK] to start the firmware upgrade.

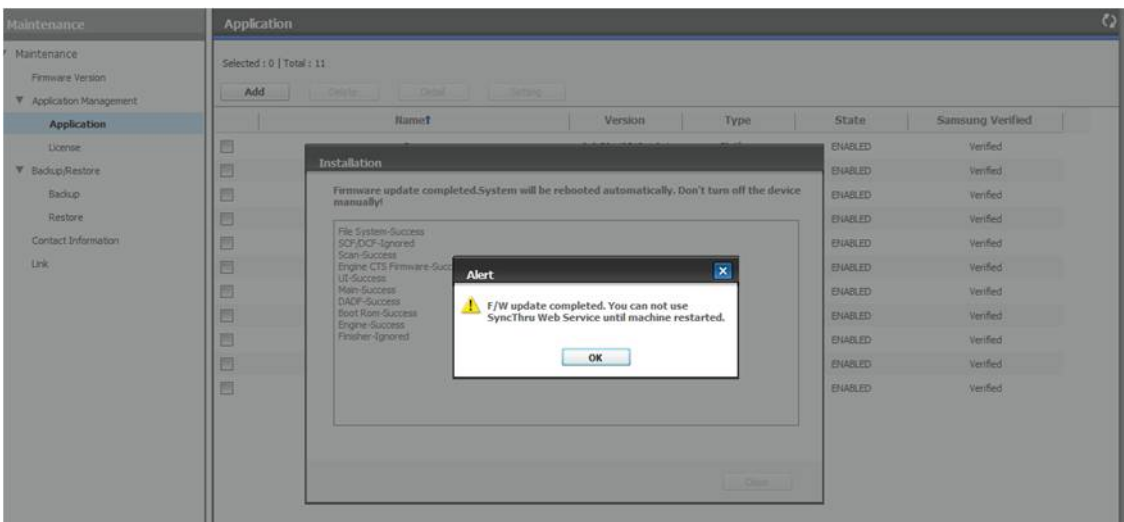


4. Troubleshooting

6) The firmware update will start.



7) Once the installation is complete, the machine power-off and power-on automatically.



4.4. JAM removal

4.4.1. Clearing original document jams

When an original jams while passing through the Dual scan document feeder (DSDF), a warning message appears on the display screen.



CAUTION

To avoid tearing the document, remove the jammed document slowly and gently.

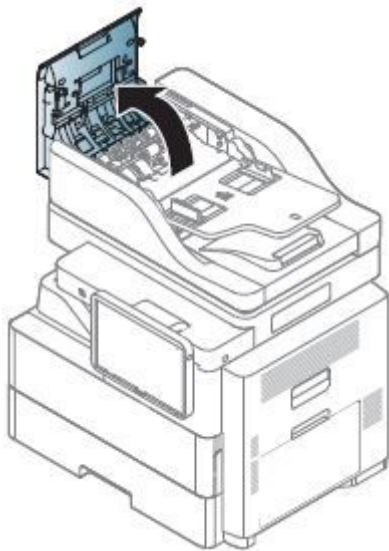


NOTE

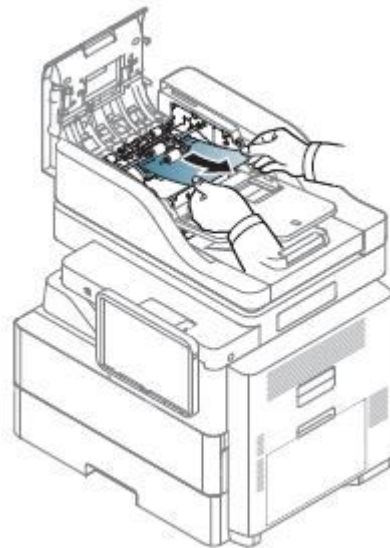
To prevent document jams, use the scanner glass for thick, thin, or mixed paper-type originals.

Original paper jam in front of scanner

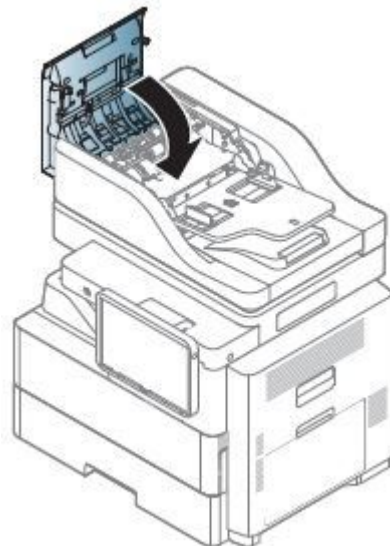
- 1) Remove any remaining pages from the DSDF.
- 2) Open the DSDF cover.



- 3) Gently remove the jammed paper from the DSDF.

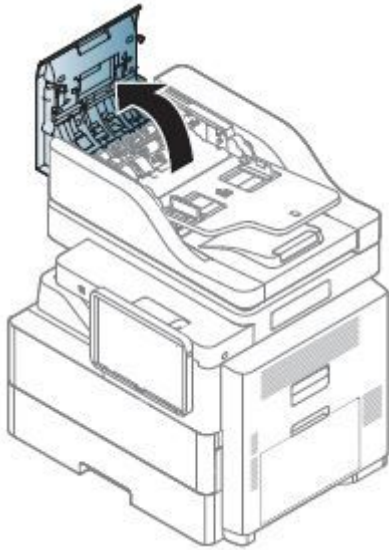


- 4) Close the DSDF cover.

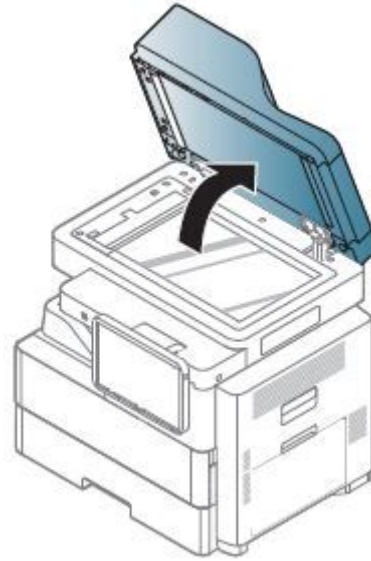


Original paper jam inside of scanner

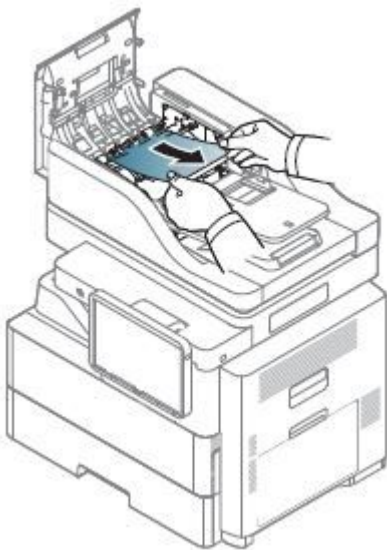
- 1) Remove any remaining pages from the DSDF.
- 2) Open the DSDF cover.



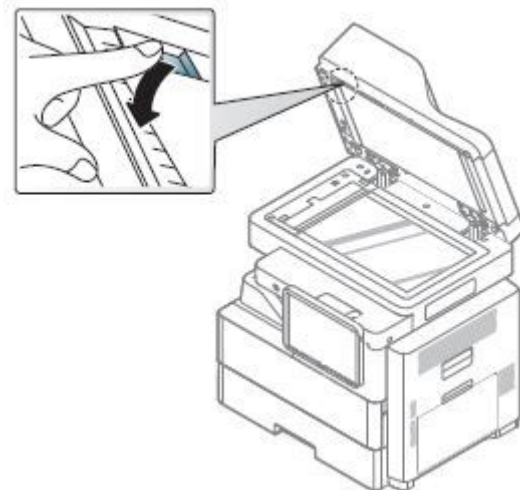
- 4) Open the DSDF.



- 3) Gently remove the jammed paper from the DSDF.



- 5) Open the DSDF jam cover.



If you do not see paper in this area, go to the next step.

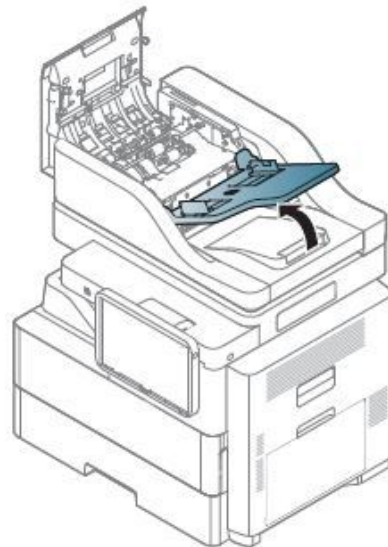
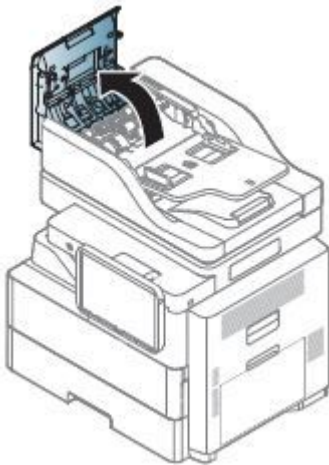
- 6) Grasp the misfeed paper, and remove the paper from the feed area by carefully pulling it using both hands.



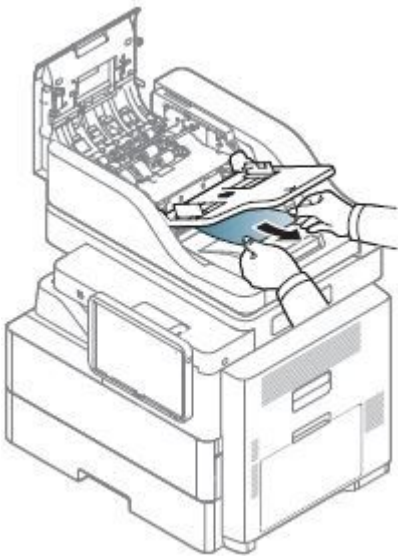
- 7) Close the DSDF jam cover and the DSDF. Load the removed pages back into the DSDF.

Original paper jam while reversing paper in scanner

- 1) Remove any remaining pages from the DSDF.
- 2) Open the DSDF cover.
- 3) Open the DSDF input tray.



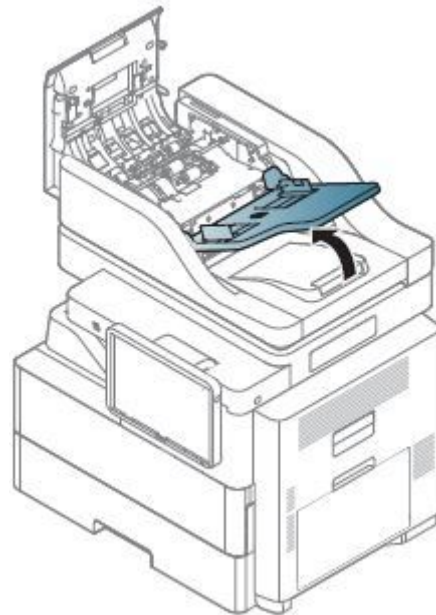
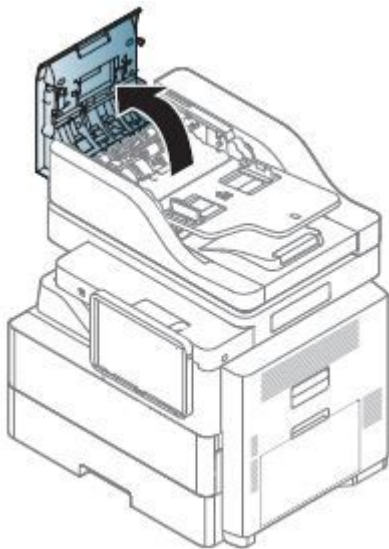
- 4) Pull the jammed paper gently out of the DSDF.



- 5) Close the DSDF input tray and the DSDF cover. Load the removed pages back into the DSDF.

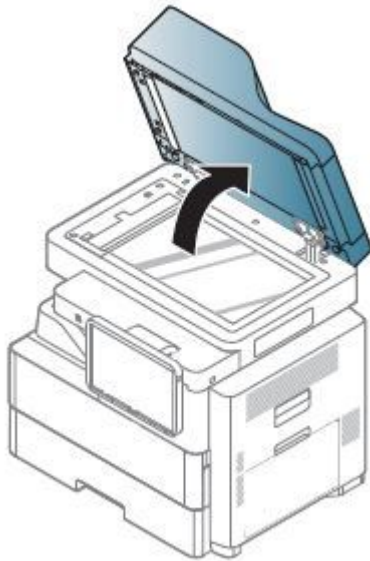
Original paper jam in front of scanner duplex path

- 1) Remove any remaining pages from the DSDF.
- 2) Open the DSDF cover.
- 3) Pull the jammed paper gently out of the DSDF.

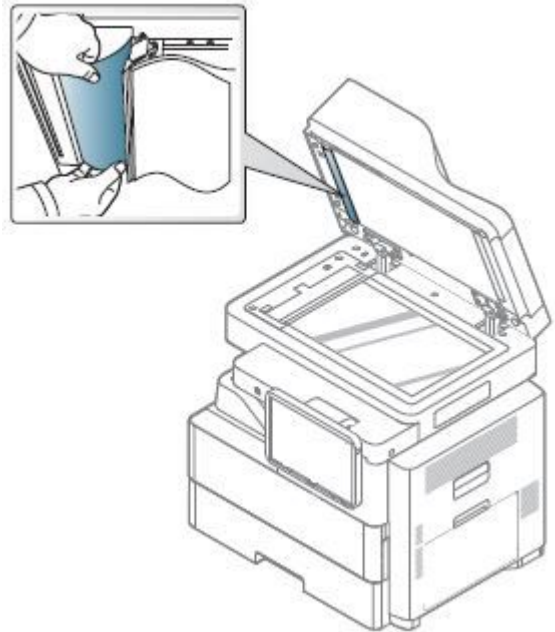


Close the duplex jam cover and the DSDF cover. Load the removed pages back into the DSDF. If you do not see paper in this area, go to the next step.

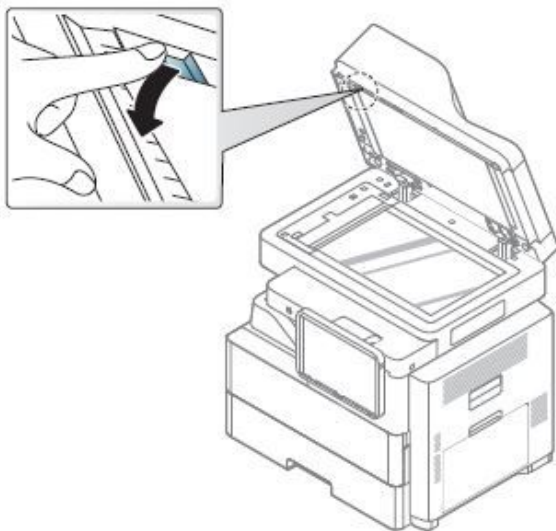
- 4) Open the DSDF.



- 6) Grasp the misfeed paper, and remove the paper from the feed area by carefully pulling it using both hands.



- 5) Open the DSDF jam cover.

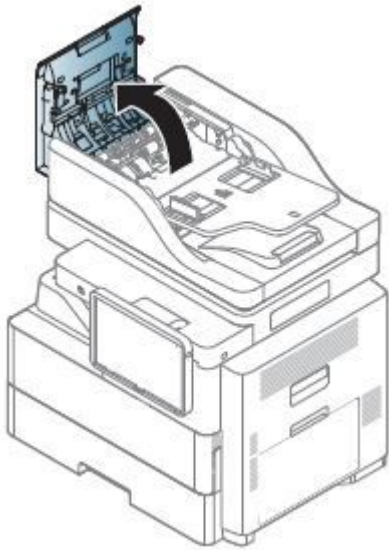


- 7) Close the DSDF jam cover and the DSDF. Load the removed pages back into the DSDF.

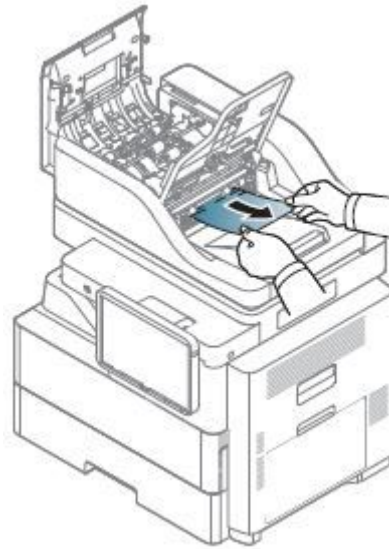
Original paper jam in exit area of scanner

- 1) Remove any remaining pages from the DSDF.

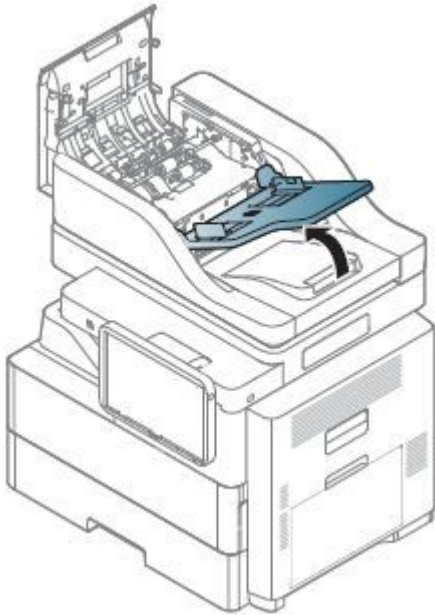
- 2) Open the DSDF cover.



- 4) Gently remove the jammed paper from the DSDF.



- 3) Open the DSDF input tray.

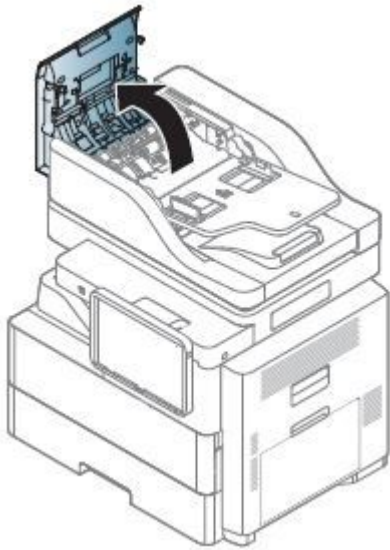


- 5) Close the DSDF input tray and the DSDF cover. Load the removed originals back into the DSDF.

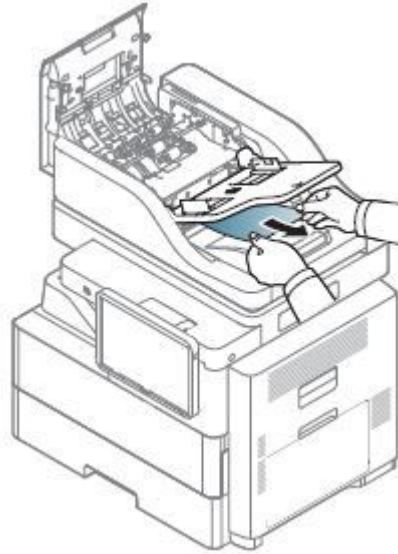
Original paper jam in duplex exit area of scanner

- 1) Remove any remaining pages from the DSDF.

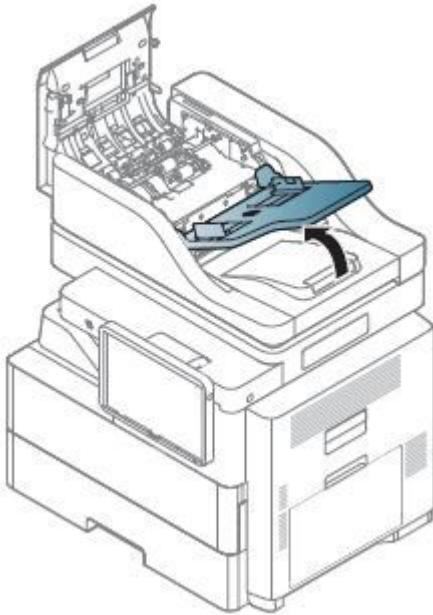
- 2) Open the DSDF cover.



- 4) Gently remove the jammed paper from the DSDF.

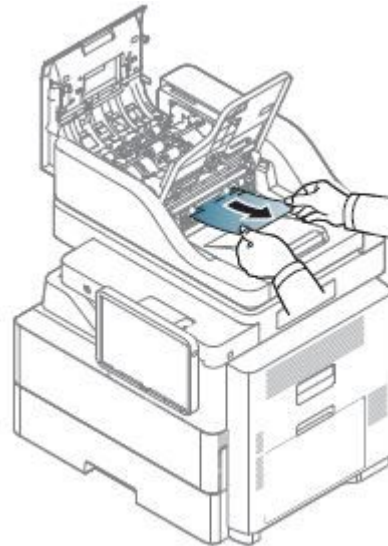


- 3) Open the DSDF input tray.



If you do not see paper in this area, go to the next step.

- 5) Pull the jammed paper gently out of the DSDF.



- 6) Close the DSDF input tray and the DSDF cover. Load the removed originals back into the DSDF.

4.4.2. Clearing paper jams

When a paper jam occurs, a warning message appears on the display screen.

NOTE

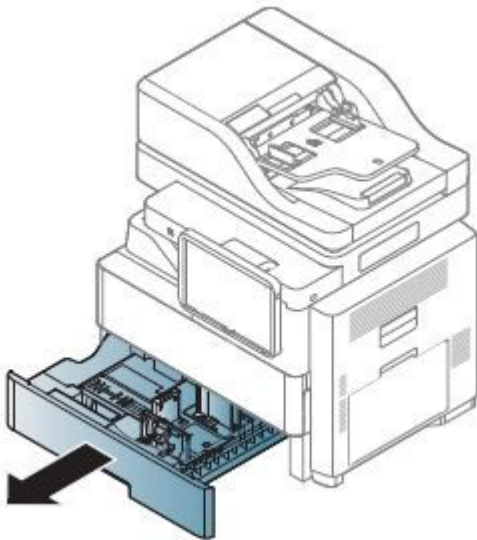
To avoid tearing the paper, pull the jammed paper out slowly and gently. Follow the instructions in the following sections to clear the jam.

Paper jam in tray 1

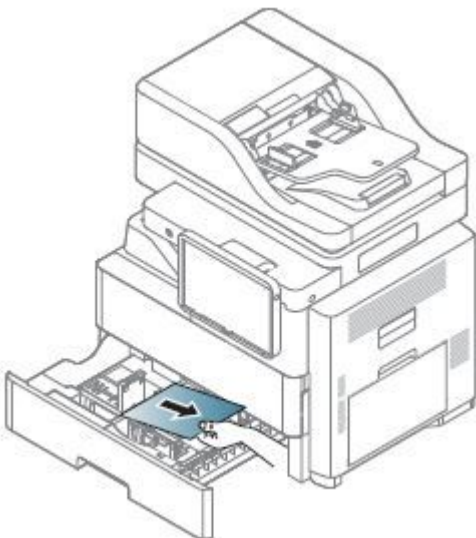
CAUTION

The fuser area is hot. Take care when removing paper from the machine.

- 1) Pull out tray 1.

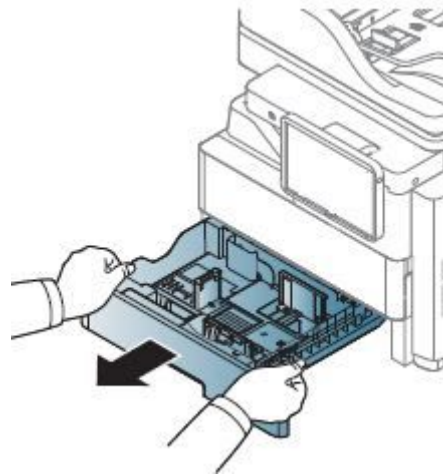


- 2) Remove the jammed paper from the machine.

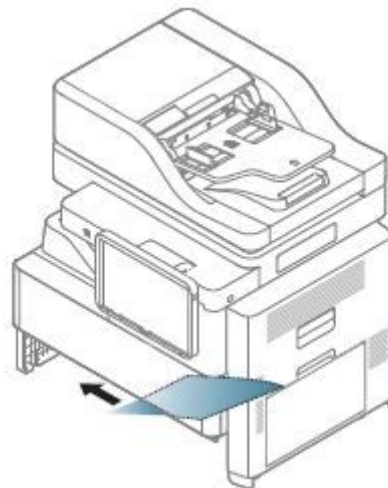


If you do not see paper in this area, go to the next step.

- 3) Pressing the rail button in the side of the tray, pull the tray out.



- 4) Remove the jammed paper from the machine.

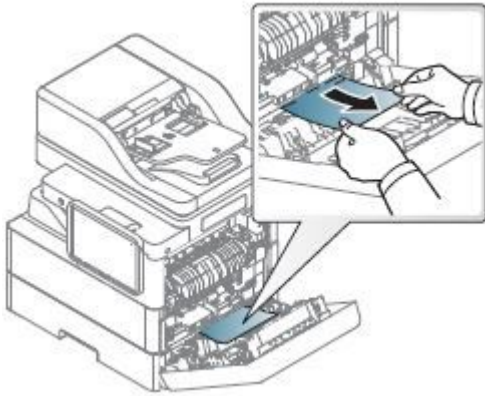


If you do not see paper in this area, go to the next step.

- 5) Insert tray 1 back into the machine until it locks into place.

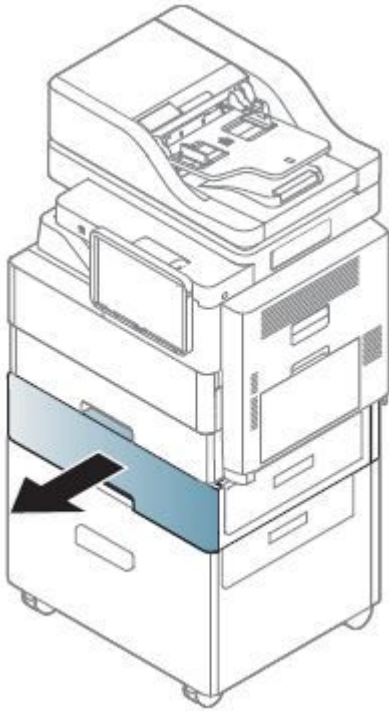
6) Open the right door. Remove the jammed paper by gently pulling it straight out.

7) Close the right door.

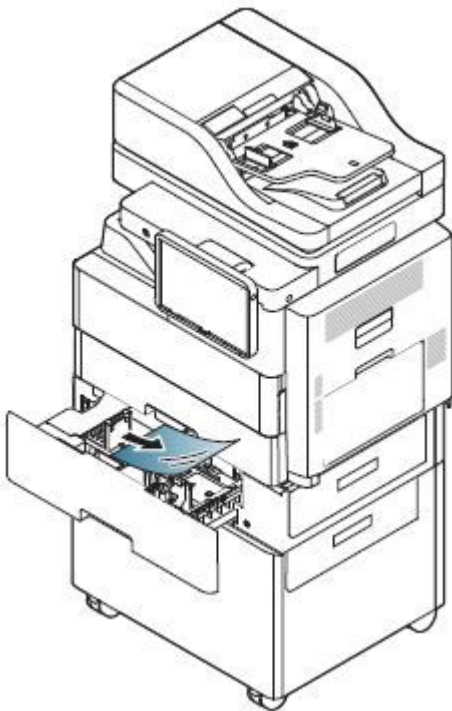


Paper jam in tray 2

- 1) Pull out tray 2.

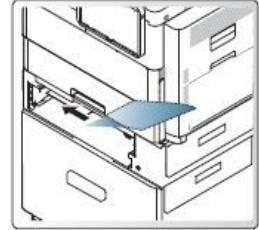
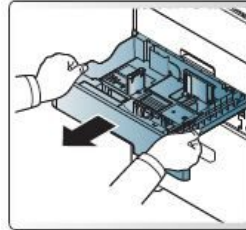


- 2) Remove the jammed paper from the machine.



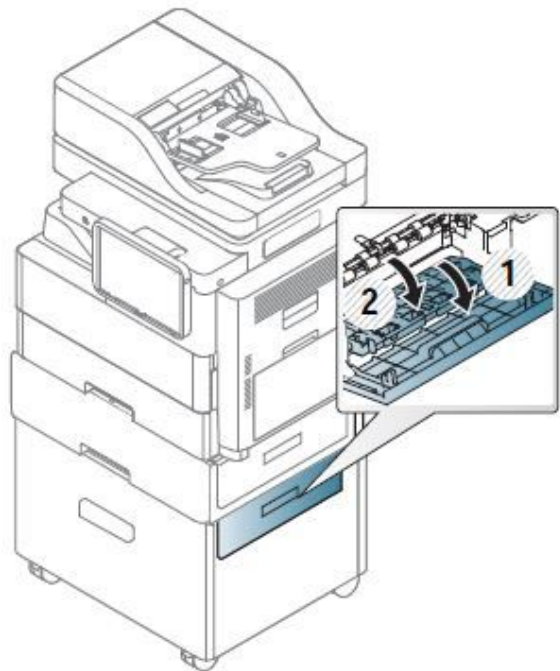
NOTE

If you do not see paper in this area: Pressing the rail button in the side of the tray, pull the tray out. Remove the jammed paper from the machine.

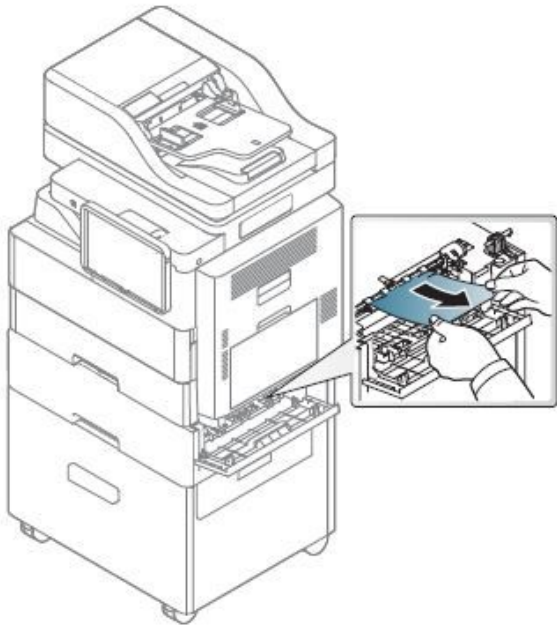


If you do not see paper in this area, go to the next step.

- 3) Insert tray 2 back into the machine until it locks into place.
- 4) Open the right bottom door.



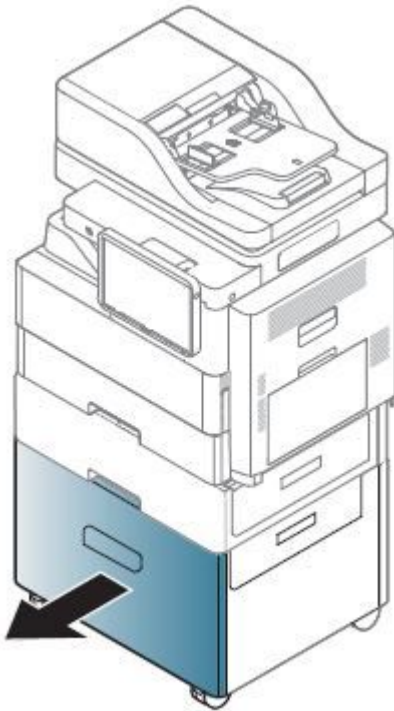
- 5) Remove the jammed paper by gently pulling it straight out.



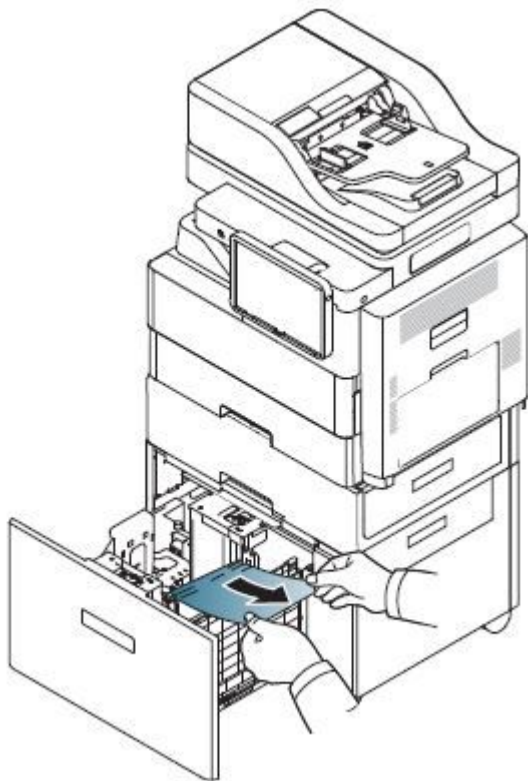
- 6) Close the right bottom door.

Paper jam in tray 3 (HCF)

- 1) Pull out tray 3.

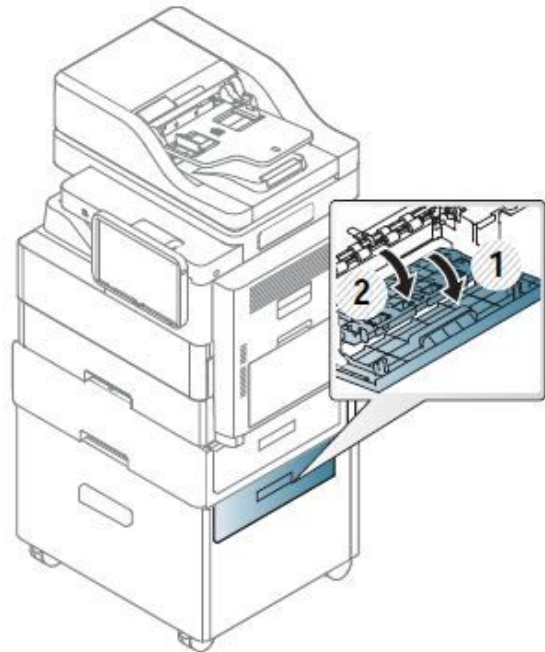


- 2) Remove the jammed paper from the machine.

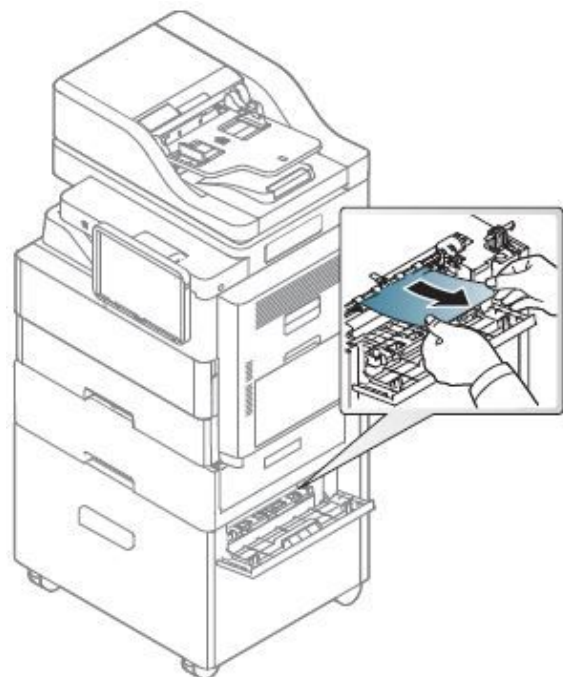


If you do not see paper in this area, go to the next step.

- 3) Insert tray 3 back into the machine until it locks into place.
- 4) Open the right bottom door of the Triple Cassette Feeder.



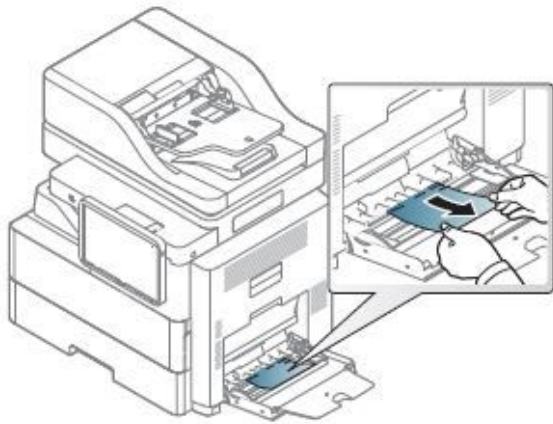
- 5) Remove the jammed paper by gently pulling it straight out.



- 6) Close the right bottom door.

Paper jam in the multi-purpose tray

- 1) If the paper is not feeding properly, pull the paper out of the machine.
- 2) Open and close the right door to resume printing.



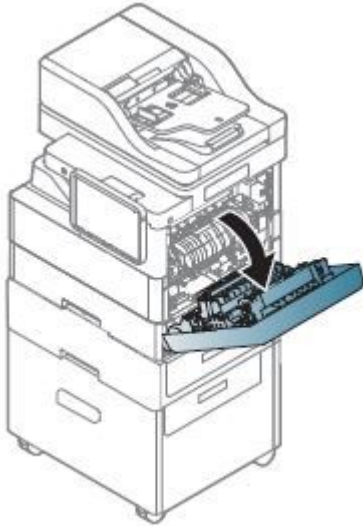
Paper jam inside the machine (Jam feed 1)



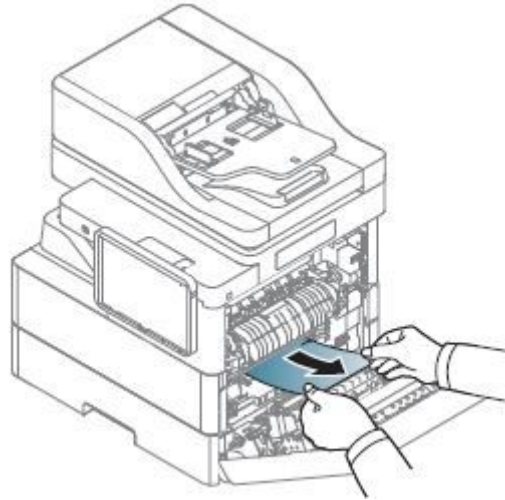
CAUTION

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



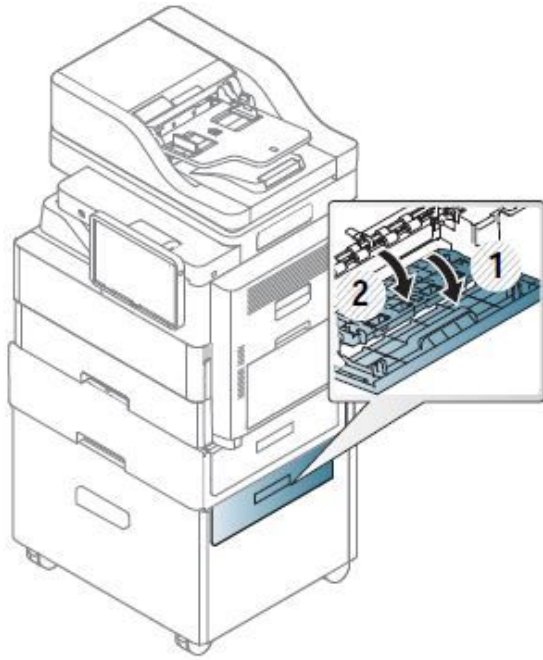
- 2) Remove the jammed paper by gently pulling it straight out.



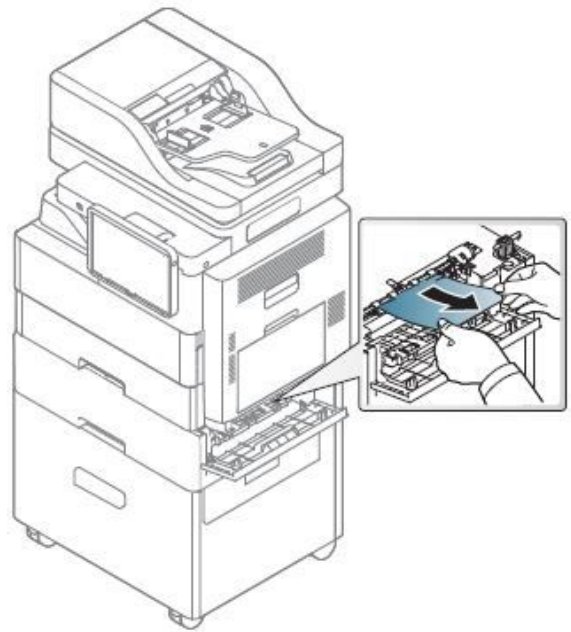
- 3) Close the right door.

Paper jam inside the machine (Jam feed 2)

1) Open the right bottom door.



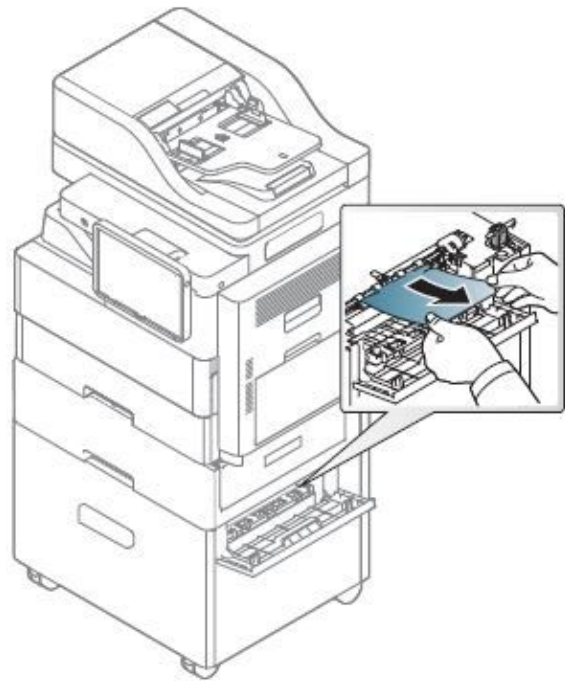
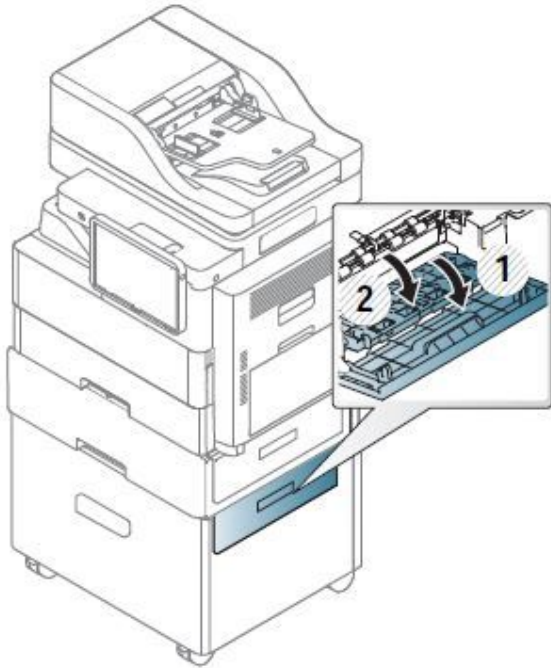
2) Remove the jammed paper by gently pulling it straight out.



3) Close the right bottom door.

Paper jam inside the machine (Jam feed 3)

- 1) Open the right bottom door of the high capacity feeder.
- 2) Remove the jammed paper by gently pulling it straight out.



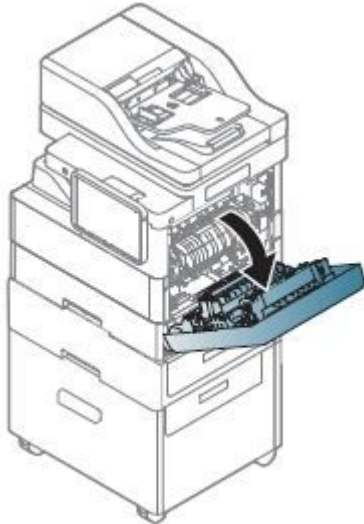
- 3) Close the high capacity feeder right bottom door.

Paper jam inside the machine (Jam Registration)

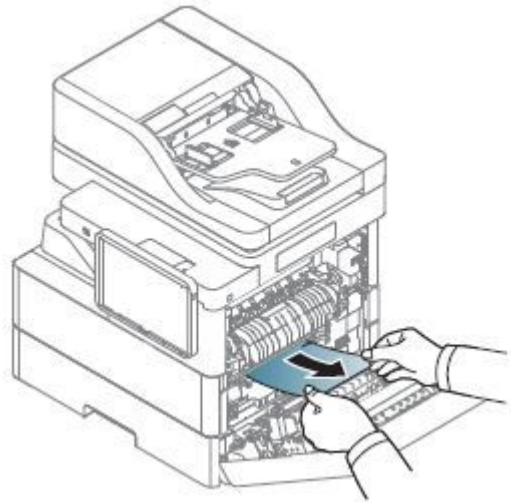
**CAUTION**

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



- 2) Remove the jammed paper by gently pulling it straight out.



- 3) Close the right door.

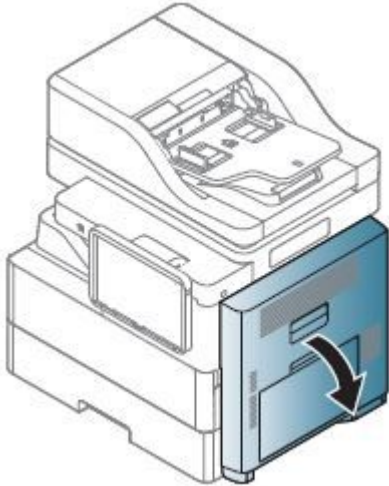
Paper jam inside of the machine (Jam at Fuser out)



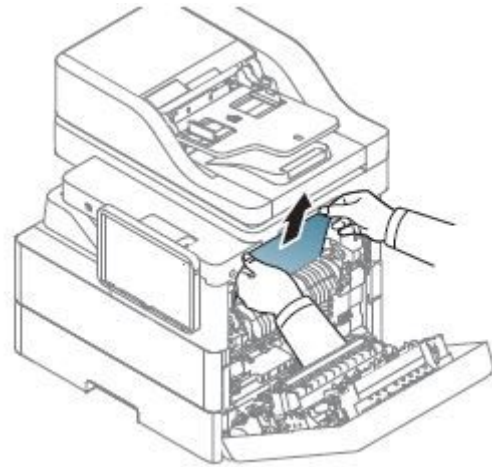
CAUTION

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



- 2) Remove the jammed paper by gently pulling it straight out.



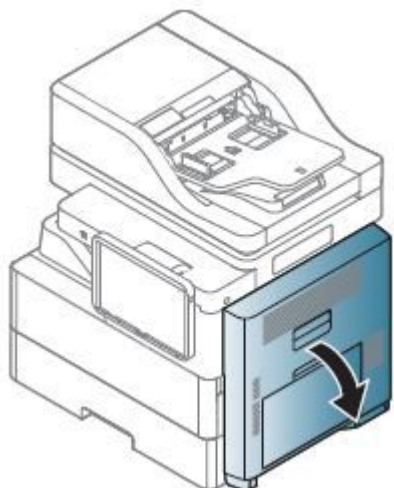
- 3) Close the right door.

Paper jam at the top of duplex path (Jam Duplex Return)

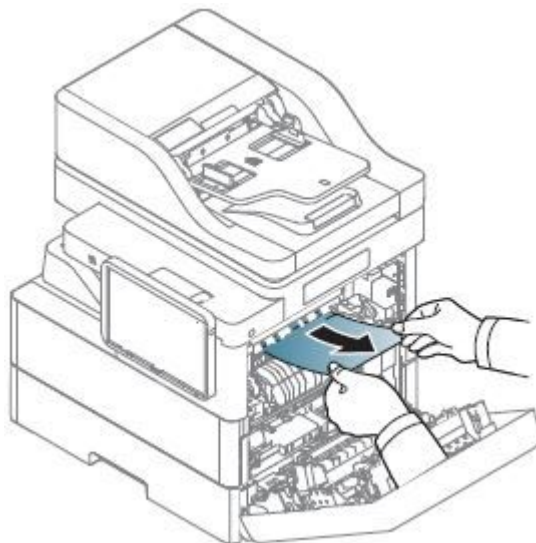
**CAUTION**

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



- 2) Remove the jammed paper by gently pulling it straight out.



- 3) Close the right door.

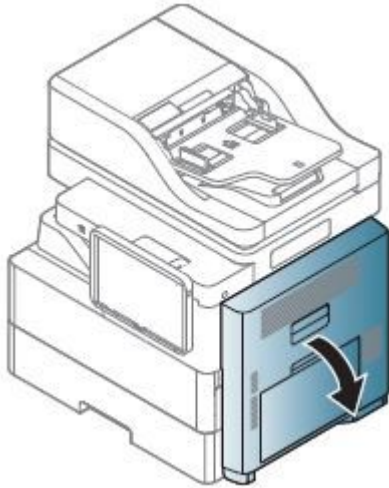
Paper jam at the top of duplex path (Jam Duplex 1)



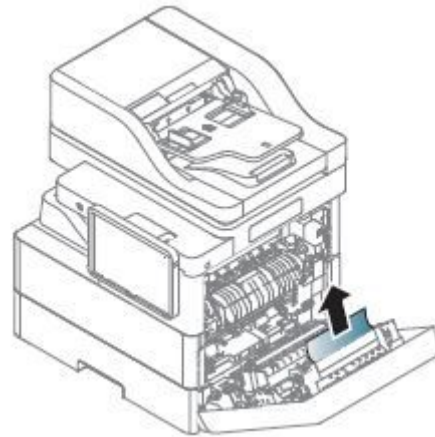
CAUTION

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



- 2) Remove the jammed paper by gently pulling it straight out.

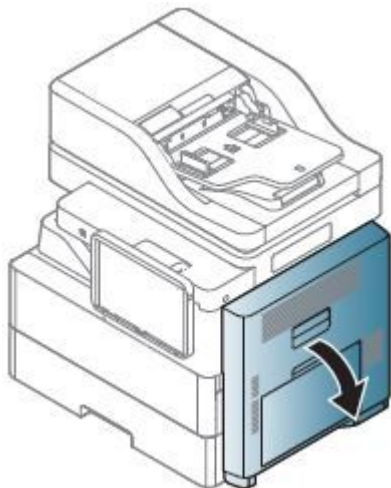


- 3) Close the right door.

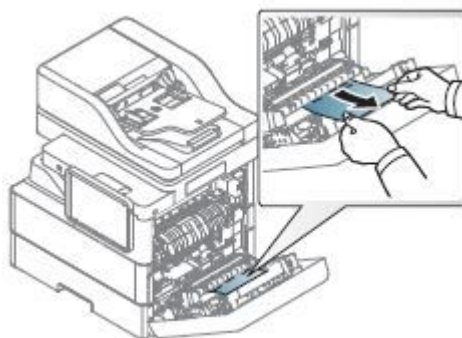
Paper jam bottom of duplex path (Jam Duplex Regi.)**CAUTION**

The fuser area is hot. Take care when removing paper from the machine.

- 1) Open the right door.



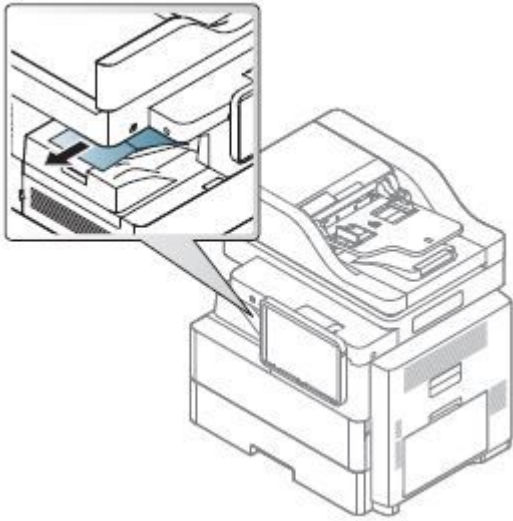
- 2) Remove the jammed paper by gently pulling it straight out.



- 3) Close the right door.

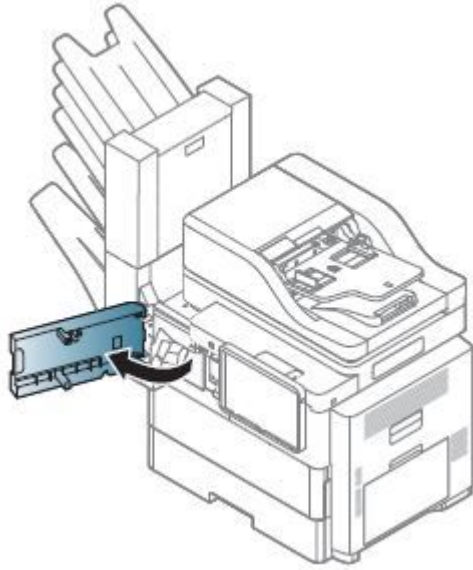
Paper jam in exit area (Jam Exit Face down)

- 1) Gently pull the paper out of the output tray.

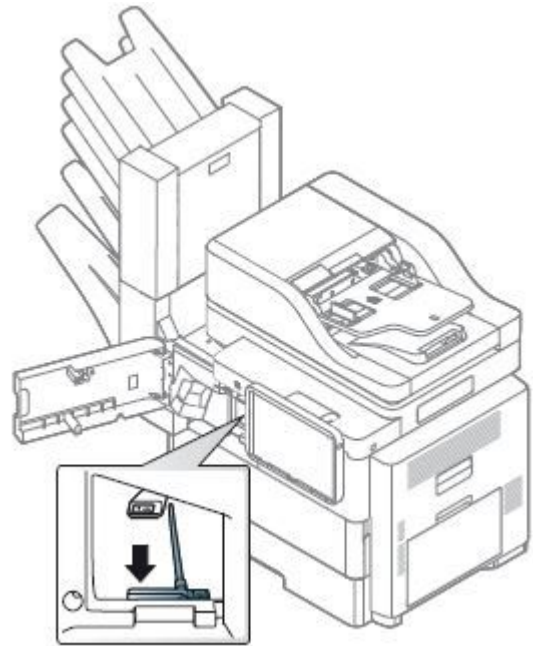


Paper jam front of 2 Bin Finisher

1) Open the Finisher Front Door.



2) Lower Finisher Paper Guide 1a and 1b.

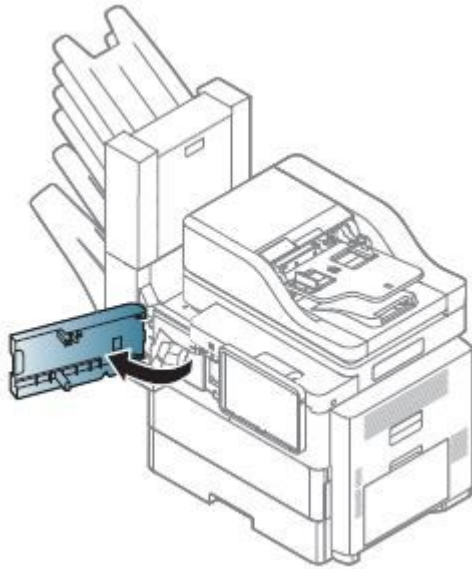


3) Remove the jammed paper.

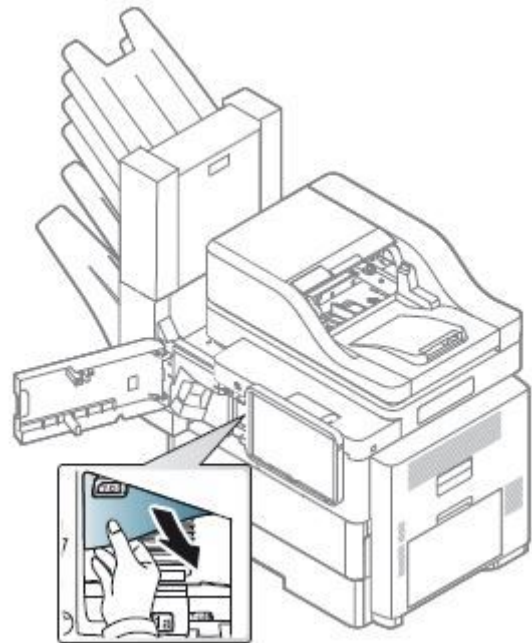
4) Close the Finisher Front Door.

Paper jam inside at 2 Bin Finisher, Paper jam inside 2 Bin Finisher's duplex

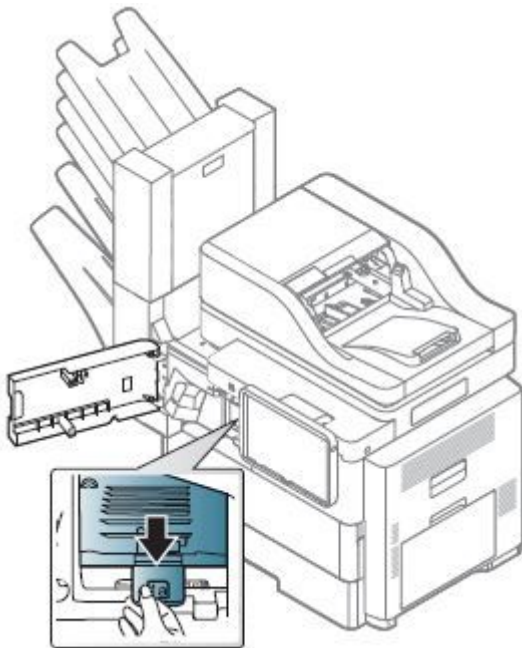
1) Open the Front Door.



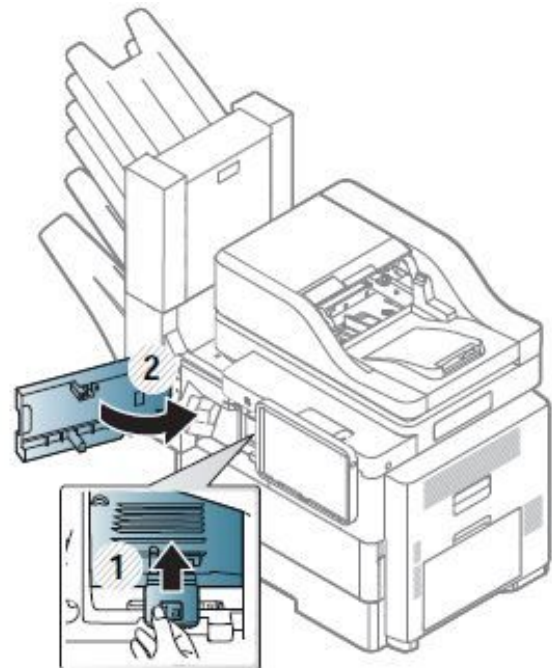
3) Remove the jammed paper.



2) Lower Finisher Paper Guide 1a and 1b.

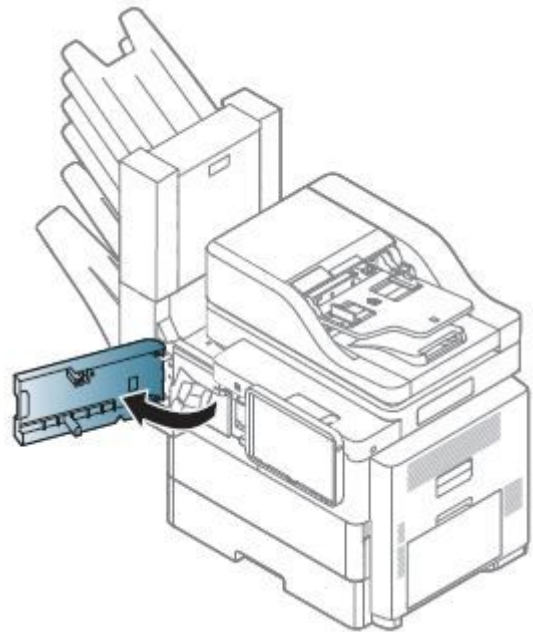
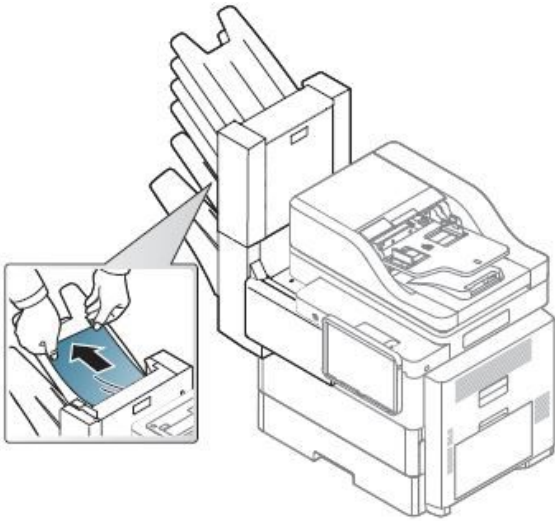


4) Return Finisher Paper Guide 1a and 1b to their up position.



Paper jam at exit of 2 Bin Finisher

- 1) Gently pull the paper out through the exit area.
- 2) Open and close the 2Bin Finisher front door. Printing automatically resumes.



4.5. Service Mode

4.5.1. Entering the Service Mode

To enter the service mode,

- 1) Press "Power button" until the pop up will be displayed.

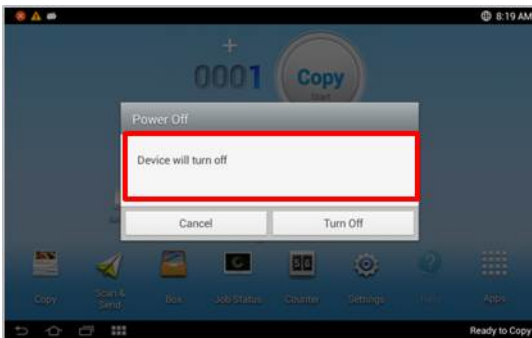


M5370/M4370 series



M536x series

- 2) Press pop-up area except "Cancel" and "Turn Off" button until the password window will be displayed.



- 3) Enter "1934" and press the "Done" button.



4.5.2. Service Mode Menu Tree

a) Information Tab

Level 1	Level 2	Level 3	Level 4	Page	
Information	General			P. 4-43	
	Supply Status	Customer Replacement Unit	Toner	P. 4-43	
		Field Replacement Unit	Imaging Unit		
			Finisher		
			Transfer		
			Fuser		
			Roller		
			ADF Roller		
	Software Version			P. 4-43	
	Service Hours	Power On Hours		P. 4-44	
		Power Save Hours			
	Fault Log			P. 4-44	
	Print Reports	Supplies Information		P. 4-44	
		Usage Counter			
		Error Information			
		Fax Protocol Dump			
		Fax Diagnostics			
		Job Duty			
		Maintenance			
		Toner Event			
Export Reports	RTF Format		P. 4-44		
	XML Format				
	PDF Format				

b) Maintenance Counts Tab

Level 1	Level 2	Level 3	Level 4	Page
Maintenance Counts	Fault Counts			P. 4-45
	Jam Count	Print Jam	Pick-up Jam	P. 4-45
			Feed Jam	
			Duplex Jam	
			Exit Jam	
			Finisher Jam	
		Scan Jam	Feed Jam	
			Regi Jam	
			Scan Jam	
			Exit Jam	
			Duplex Scan Jam	
	Part Replacement Count	Toner Cartridge		P. 4-45
		Imaging Unit		
		Transfer		
		Fuser		
Roller				
ADF Roller				

c) Diagnostics Tab

Level 1	Level 2	Level 3	Level 4	Page
Diagnostics	Engine Diagnostics	Engine NVM Initialization		P. 4-47
		Engine Test Routines		
	Fax Diagnostics	Fax NVM Read/Write		P. 4-51
		Fax Test Routines		P. 4-53
	Scanner Diagnostics	Shading Test	Shade and Print Report	P. 4-55
			Print Last Shade Report	
			Shade and Print Report (ADF)	
			Print Last Shade Report (ADF)	
	Scanner/ADF NVM Read/Write		P. 4-56	
		Scanner/ADF Test Routines		P. 4-56
	Adjustment	Print Adjustment	Automatic Adjustment	P. 4-57
			Image Position	P. 4-58
			Print Test Patterns	P. 4-58
		Copy Adjustment	Image Position	P. 4-59
		Scan Area Adjustment	Automatic Adjustment	P. 4-60
			Manual Adjustment	P. 4-61
ADF Adjustment		Automatic Adjustment	P. 4-62	
		Manual Adjustment	P. 4-63	

d) Service Functions

Level 1	Level 2	Level 3	Level 4	Page
Service Functions	Main Memory Clear			P. 4-64
	Hard Disk Maintenance	Device Configuration Data Clear		P. 4-64
		Temporary & Spool Data Clear		
		User Saved Data & Log Clear		
		All Saved Data Clear		
		HDD Encryption		
	Debug Log	Off		P. 4-65
		Job Status		
		Details		
		Activation for Boot Logs	Off/ On	
	Capture Log	All		P. 4-65
		Period	Start Date / End Date	
	Network Packet Capture	Packet Capture	Start/Stop	P. 4-66
		Capture File Download	Export	
		Capture File Delete	Clear	
	System Recovery	SYS		P. 4-67
		ALL		
	Clear System Cache			P. 4-69
	Hibernation	ON		P. 4-69
		OFF		
		CREATE NEW		
	Paper Low Warning Message	Off		P. 4-69
		On		
	Part Replacement Alert	Imaging Unit	Off / On	P. 4-69
		Fuser	Off / On	
	FDI	Type A		P. 4-69
		Type B		
		Type C		
	EIUL	Off		P. 4-69
		On		
	SFE	SFE Code List		P. 4-70
Export				
Import				
Print				
OK				
Dealer ID	Off		P. 4-71	
	On	Continent		

Level 1	Level 2	Level 3	Level 4	Page
			Branch	
			Dealer ID	
	Envelope Rotate	Off		P. 4-71
		90 degrees		
		180 degrees		

4.5.3. Information

4.5.3.1. General

- **Information > General**

This menu displays the machine serial number, network information, total printed impressions, and the machine installed date.

4.5.3.2. Supply Status

Customer Replacement Unit (CRU)

- **Information > Supply Status > Customer Replacement Unit**

This menu displays the machine's customer replacement unit status. Users can select one item in the list to check the information of the selected unit.

Field Replacement Unit (FRU)

- **Information > Supply Status > Field Replacement Unit**

This menu displays the machine's field replacement unit status. Users can select one item in the list to check the information of the selected unit.

In this menu, there are five columns : Item, Threshold, Status, Count, Maximum Life.

- Status : This shows the current status of the selected item.
 - OK : The current count is smaller than the default warning value
 - Check : The current count is bigger than default warning value
 - OFF : The current count exceeds the max life.
- Count : This shows the current count of the selected item.
- Maximum life : This shows the max capacity of the selected item.

The technician can edit the default warning value within the given threshold.

Selecting some items will enable the reset button to reset the current count to 0 after replacing the unit.

4.5.3.3. Software Version

- **Information > Software Version**

This menu displays all the version of the software installed in the system in detail.

4.5.3.4. Service Hours

- **Information > Service Hours**

This menu displays two items, “Power on Hours”, “Power Save Hours”.

- Power on Hours : It indicates the hours of system power on since the first booting of the system.
- Power Save Hours : It indicates the hours of system power save since the first booting of the system.

4.5.3.5. Fault Log

- **Information > Fault Log**

This menu displays faults occurred while the system was operating.

Pressing clear button will clear all the save fault log of the system.

4.5.3.6. Print Reports

- **Information > Print Reports**

This menu displays reports which that can be printed from the system. The following reports will be available to print.

- Supplies Information
- Usage Counter
- Error Information
- Fax Protocol Dump
- Fax Diagnostics
- Job Duty
- Maintenance
- Toner Event

4.5.3.7. Export Reports

- **Information > Export Reports**

This menu exports report to usb stick. Configuration, Error Information, Supplies Information, Usage Counter Reports are exported as the form of selected format.

4.5.4. Maintenance Counts

4.5.4.1. Fault Count

- **Maintenance Counts > Fault Count**

This menu displays the fault counts of the system. Technician can select one fault group and press “OK” to see detailed fault descriptions. The detailed fault description window displays engine diagnostic code and descriptions of the fault along with the number of occurrences.

The following list shows the group of the faults defined for the system.

A1 Motor	H2 Output (Bins) System	S3 Scan System
A2 Fan	M1 Input (Trays) System	S5 UI System
A3 Sensor	M2 Media Path System	S6 Network System
C1 Toner Cartridge Unit	M3 Output (Bins) System	S7 Power Control System
C3 Imaging Unit	M4 Auto Document Feeder System	U1 Fusing Unit
C6 Fusing unit	S1 Video System	U2 Laser Scanning unit
H1 Input (Trays) System	S2 Engine System	

4.5.4.2. Jam Count

- **Maintenance Counts > Jam Count**

This menu displays the jam Counts of the system. Users can select one jam group, which indicates the location of jams, and press “OK” to see a detailed jam location along with the occurrence of the jam.

The following table shows the jam groups defined for the system :

Level 1	Level 2
Print Jam	Pick-up Jam
	Feed Jam
	Duplex Jam
	Exit Jam
	Finisher Jam
Scan Jam	Feed Jam
	Regi Jam
	Scan Jam
	Exit Jam
	Duplex Scan Jam

4.5.4.3. Part Replacement Count

- **Maintenance Counts > Part Replacement Count**

This menu displays the replacement Counts for the system parts. Users can select one part group and press “OK” to see the exact name of the part along with the occurrence of the replacement.

The following table shows groups of the replaceable parts of the system.

Unit	Item	Sensing Method
Toner Cartridge	Toner (Black)	Auto Sensing
Imaging Unit	Imaging Unit (Black)	Auto Sensing
Transfer	Transfer Roller	Count Clear
Fuser	Fuser	Auto Sensing
Roller	Tray 1 Roller	Count Clear
	Tray 2 Roller	Count Clear
	Tray 3 Roller	Count Clear
	Tray 4 Roller	Count Clear
	MP Roller	Count Clear
ADF Roller	ADF Roller	Count Clear
	ADF Retard Roller	Count Clear

4.5.5. Diagnostics

4.5.5.1. Engine Diagnostics

Engine NVM Initialization

- Diagnostics > Engine Diagnostics > Engine NVM Initialize
This menu initializes all engine NVM value to the default.

Engine Test Routines

- Diagnostics > Engine Diagnostics > Engine Test Routines

Purpose	To perform test routines for the engine.
Operation Procedure	When the main Engine Test Routines window displays, users can navigate through the list of routines that display along with their descriptions. Users can also directly input an EDC code to the text box to find a routine. Users can select a maximum of 3 routines at the same time. After selecting one or multiple routines, pressing the "OK" button will open the test window that lists selected routines. Users can start/stop a desired test routine.
Verification	N/A
Specification	N/A
Reference	N/A

Code	Displayed Name	Meaning
100-0000	Main BLDC Motor	Main BLDC Motor is On/Off
100-0010	Main BLDC Motor Ready	Detect if Main BLDC Motor runs at normal speed
100-0120	Exit Motor Forward Fast	Exit Motor Forward Fast On/Off
100-0130	Exit Motor Forward Slow	Exit Motor Forward Slow On/Off
100-0140	Duplex Motor Forward	Duplex Motor Forward On/Off
100-0150	Duplex Motor Backward	Duplex Motor Backward On/Off
100-0160	Duplex Fan1 Run	Start/Stop Duplex Fan1 run
100-0200	T1 Elevating Motor	T1 Elevate Motor On/Off
100-0210	T2 Elevating Motor	T2 Elevate Motor On/Off (Optional)
100-0220	T3 Elevating Motor	T3 Elevate Motor On/Off (Optional)
100-0230	T4 Elevating Motor	T4 Elevate Motor On/Off (Optional)
100-0260	SMPS Fan Run	Start/Stop SMPS Fan run
100-0280	Envelope Motor	Envelope Motor On/Off
100-0290	Envelope Sensor	Detect when Envelope Unit is at Envelope sensor.
101-0000	Bypass Feed Clutch	Engages drive to pick up a paper from bypass Tray(MP Tray).
101-0010	T1 Pick-Up Clutch	Engages drive to pick up a paper from tray1.
101-0020	T2 Pick-Up Clutch	Engages drive to pick up a paper from tray2. (Optional)
101-0030	T3 Pick-Up Clutch	Engages drive to pick up a paper from tray3. (Optional)
101-0040	T4 Pick-Up Clutch	Engages drive to pick up a paper from tray4. (Optional)
101-0050	Registration Clutch	Engages drive to restartion rolls.

Code	Displayed Name	Meaning
101-0060	Duplex Feed Clutch	Engages drive to feed a paper into duplex path.
101-0070	Duplex Gate Clutch	Engages drive to convert paper direction into duplex path.
101-0090	T2 Feed Clutch	T2 Feed Clutch On/Off
101-0100	T3 Feed Clutch	T3 Feed Clutch On/Off
101-0110	T4 Feed Clutch	T4 Feed Clutch On/Off
101-0130	T2 Feed Motor	T2 Feed Motor On/Off
101-0140	T3 Feed Motor	T3 Feed Motor On/Off
101-0150	T4 Feed Motor	T4 Feed Motor On/Off
101-0170	Side Cover Interlock	Detect if the side cover is opened or closed.
101-0190	Out-Bin Full Sensor	Detect when a paper is at Out-Bin Full Sensor
102-0000	Tray1 Home Position	Detect when tray1 is closed.
102-0010	T1 Paper Empty Sensor	Detect when paper is in Tray1.
102-0020	T1 Size1 sensor	Detects whether auto size1 sensor of tray1 is high or low.
102-0030	T1 Size2 sensor	Detects whether auto size2 sensor of tray1 is high or low.
102-0040	T1 Size3 sensor	Detects whether auto size3 sensor of tray1 is high or low.
102-0050	T1 Stack Height Sensor	Detects if paper in tray1 is elevated to the sensor.
102-0060	T1 Paper Low Sensor	Detects when the stack height of tray1 is less than 25%.
102-0070	Tray2 Home Position	Detect when tray2 is closed.
102-0080	T2 Paper Empty Sensor	Detect when paper is in tray2.
102-0090	T2 Size1 sensor	Detects whether auto size1 sensor of tray2 is high or low.
102-0100	T2 Size2 sensor	Detects whether auto size2 sensor of tray2 is high or low.
102-0110	T2 Size3 sensor	Detects whether auto size3 sensor of tray2 is high or low.
102-0120	T2 Stack Height Sensor	Detects if paper in tray2 is elevated to the sensor.
102-0130	T2 Paper Low Sensor	Detects when the stack height of tray2 is less than 25%.
102-0140	Tray3 Home Position	Detect when tray3 is closed.
102-0150	T3 Paper Empty Sensor	Detect when paper is in tray3.
102-0160	T3 Size1 sensor	Detects whether auto size1 sensor of tray3 is high or low.
102-0170	T3 Size2 sensor	Detects whether auto size2 sensor of tray3 is high or low.
102-0180	T3 Size3 sensor	Detects whether auto size3 sensor of tray3 is high or low.
102-0190	T3 Stack Height Sensor	Detects if paper in tray3 is elevated to the sensor.
102-0200	T3 Paper Low Sensor	Detects when the stack height of tray3 is less than 25%.
102-0210	Tray4 Home Position	Detect when tray4 is closed.
102-0220	T4 Paper Empty Sensor	Detect when paper is in tray4.

4. Troubleshooting

Code	Displayed Name	Meaning
102-0230	T4 Size1 sensor	Detects whether auto size1 sensor of tray4 is high or low.
102-0240	T4 Size2 sensor	Detects whether auto size2 sensor of tray4 is high or low.
102-0250	T4 Size3 sensor	Detects whether auto size3 sensor of tray4 is high or low.
102-0260	T4 Stack Height Sensor	Detects if paper in tray4 is elevated to the sensor.
102-0270	T4 Paper Low Sensor	Detects when the stack height of tray4 is less than 25%.
102-0280	Bypass Paper Empty Sensor	Detects when paper is in Bypass Tray(MP Tray).
102-0290	Feed Sensor	Detect when a paper is at Feed sensor.
102-0300	T2 Feed Sensor (or Door Open)	Detect when a paper is at T2 Feed sensor. (optional)
102-0320	T3 Feed Sensor (or Door Open)	Detect when a paper is at T3 Feed sensor. (optional)
102-0340	T4 Feed Sensor (or Door Open)	Detect when a paper is at T4 Feed sensor. (optional)
102-0360	Regi. Sensor	Detect when a paper is at Regi. sensor.
102-0370	Exit Sensor	Detect when a paper is at Exit. sensor.
102-0380	Duplex Jam1 Sensor	Detect when a paper is at Duplex Jam1 sensor.
102-0390	Duplex Jam2 Sensor	Detect when a paper is at Duplex Jam2 sensor.
105-0030	Black MHV Bias	Black MHV bias voltage on at normal drive level
105-0070	Black MHV Bias Read	Black Detect what the MHV value is on the MHV Roller
106-0030	Black Dev Bias	Black Dev bias voltage on at normal drive level
107-0030	Black THV Bias	Black THV bias voltage on at normal drive level
107-0031	Black THV(-) Bias	Black THV bias voltage on at normal drive level
107-0070	Black THV Bias Read	Detect what the THV value is on the THV Roller
107-0110	Detach Bias	Detach bias voltage on at normal drive level
109-0000	Fuser Temperature A	Detects what the temperature A is on fuser.
109-0010	Fuser Temperature B	Detects what the temperature B is on fuser.
109-0030	Fuser Motor Forward	Fuser Motor Forward On/Off
109-0040	Fuser Fan Run	Fuser Fan Motor On/Off
109-0050	Fuser Bias	Fuser bias voltage on at normal drive level
109-0090	Fuser Power On	It controls temperature of fuser as 180 degrees.
110-0000	LSU Motor1 Run Ready	Detects if LSU motor1 runs at normal speed.
110-0060	LSU Motor1 Run	LSU Motor1 On/Off
110-0110	LSU LD Power4	LSU LD4 Power On/Off (black)
110-0120	LSU Fan1 Run	Start/Stop LSU Fan Run
110-0170	LSU HSync4	Detect LSU HSync4 (black)
111-0030	Toner Dispense Motor Black	Toner Dispense(Supply) Motor On/Off
111-0070	Toner Sensor Black	TC sensor in developer tank.
111-0080	ID Sensor	Start ID sensor sensing On/Off
111-0090	ID Sensor Check	Display ID sensor reading value
113-0010	Entrance Motor	Entrance Motor run as IOT Speed <about 5 sec>

Code	Displayed Name	Meaning
113-0020	Exit Motor	Exit Motor run as IOT Speed <about 5 sec>
113-0030	Paddle Motor	Paddling
113-0040	Front Jog Home	Front Jogger move Home
113-0050	Front Jog Stand	Front Jogger move to Stand
113-0060	Rear Jog Home	Rear Jogger move Home
113-0070	Rear Jog Stand	Rear Jogger move to Stand
113-0080	Support Finger Home	Supporter move Home
113-0090	Support Finger Stand	Supporter move to Stand
113-0100	Ejector Motor	Ejecting
113-0110	Stacker Down	Stacker down to bottom
113-0120	Stacker Up	Stacker up to Stacking position
113-0130	Stapler	Staple when no cartridge
113-0140	Entrance Sensor	Detect paper at paper feeding area.
113-0150	Exit Sensor	Detect paper at paper exit area.
113-0160	Paddle Home Sensor	Detect Paddle Home position
113-0170	Front Jog Home Sensor	Detect Front Jog Home position
113-0180	Rear Jog Home Sensor	Detect Rear Jog Home position
113-0190	Support Finger Home Sensor	Detect Support-Finger Home position
113-0200	Ejector Home Sensor	Detect Ejector Home position
113-0210	Ejector Encoder Sensor	Detect Ejector Encoder sensor
113-0220	Stacker Top Sensor	Detect Stacker Top position
113-0230	Stacker Bottom Switch	Detect Staple Bottom position
113-0240	Staple Home Sensor	Detect Staple Home position
113-0250	Staple Ready Sensor	Detect Staple Ready to clinching.
113-0260	Low Staple Sensor	Detect Staple Low
113-0270	Paper Detector Sensor	Detect paper in stapler area
113-0280	Finisher Door Switch	Detect Finisher Door Open or Close
113-0300	Duplex Paper Sensor	Deetct Duplex Paper feeding from IOT.

4.5.5.2. Fax Diagnostics

Fax NVM Read/Write

- **Diagnostics > Fax Diagnostics Fax NVM Read/Write**

Purpose	To change a configuration value for fax firmware.
Operation Procedure	When the main “NVM Read/Write” window displays, users can navigate through the list of configuration values that display along with description. Users can also input a code to the text box to find a configuration value directly. After selecting one value, pressing “Edit” button will open an interface for user input.
Verification	N/A
Specification	N/A
Reference	N/A

Code	NVM Name	NVM Description	Default
20-200	Pause Dial Time	Pause Time (value * 1000ms)	Country Value
20-210	Dial Pulse M/B ratio	33 / 66 40 / 60	Country Value
20-220	Auto Dial Start Pause Time	Pause time before auto-dialing (second)	1
20-300	Ring On Time	Ring On Time (ms)	170
20-310	Ring Off Time	Ring Off Time (ms)	560
20-320	Ring Detection Freq	sets the Call Indication frequency range that will be detected by LIU	1
20-330	Ring On Max Time	Ring On Max Time (ms)	5100
20-340	Ring Off Max Time	Ring Off Max Time (ms)	11100
20-400	DTMF High-Freq Level	DTMF High-Freq. Level (dBm)	Country Value
20-410	DTMF Low-Freq Level	DTMF Low-Freq. Level (dBm)	Country Value
20-420	DTMF Timing	DTMF duration of on/off output (Ms)	8
20-500	Dial Mode	Select Tone / Pulse	Country Value
20-520	Error Rate	Adjust Error Rate (Off / 5% / 10% / 20%)	2
20-530	Dial Tone Detect	detect dial tone prior to sending	Country Value
20-540	Loop Current Detect	detect if loop current is present prior to sending	Country Value
20-550	Busy Signal Detect	detect busy signal to allow redials	Country Value
20-560	TCF Duration	Adjust TCF duration (ms)	1500
20-800	Modem Speed	Select Modem Start Speed	24
20-810	Fax Transmission Level	Adjust Fax Transmission Level (dBm)	Country Value
20-830	Auto Dial Timeout	Adjust Auto Dial Timeout (second)	Country Value

Code	NVM Name	NVM Description	Default
20-920	CNG Detection Count	CNG Tone Detection check count during ANS/FAX mode.	2
20-930	Caller ID	This option is needed to guide Caller ID off for user environment.	Country Value
20-940	Ext. Phone	Ext. Phone Detection Enable/Disable (Default : Enable 1) If disabled, Ext. Phone cannot be detected by the device.	1

Fax Test Routines

- **Diagnostics > Fax Diagnostics > Fax Test Routines**

Purpose	To perform test routines for the fax machine.
Operation Procedure	When the main Fax Test Routines window displays, users can navigate through the list of routines that display along with description. Users can also input a code to the text box to find a routine directly. After selecting one routine, pressing “OK” button will open the test window that lists selected routine. Users can start/stop a desired test routine.
Verification	N/A
Specification	N/A
Reference	N/A

Code	NVM Name	NVM Description	State Displayed
20-012	Sngl Tone 1100Hz Ln1	Emits single tone 1100Hz on line 1	On / Off
20-014	Sngl Tone 1650Hz Ln1	Emits single tone 1650Hz on line 1	On / Off
20-015	Sngl Tone 1850Hz Ln1	Emits single tone 1850Hz on line 1	On / Off
20-016	Sngl Tone 2100Hz Ln1	Emits single tone 2100Hz on line 1	On / Off
20-020	DTMF # Line1	Emits DTMF # on line 1	On / Off
20-021	DTMF * Line1	Emits DTMF * on line 1	On / Off
20-022	DTMF 0 Line1	Emits DTMF 0 on line 1	On / Off
20-023	DTMF 1 Line1	Emits DTMF 1 on line 1	On / Off
20-024	DTMF 2 Line1	Emits DTMF 2 on line 1	On / Off
20-025	DTMF 3 Line1	Emits DTMF 3 on line 1	On / Off
20-026	DTMF 4 Line1	Emits DTMF 4 on line 1	On / Off
20-027	DTMF 5 Line1	Emits DTMF 5 on line 1	On / Off
20-028	DTMF 6 Line1	Emits DTMF 6 on line 1	On / Off
20-029	DTMF 7 Line1	Emits DTMF 7 on line 1	On / Off
20-030	DTMF 8 Line1	Emits DTMF 8 on line 1	On / Off
20-031	DTMF 9 Line1	Emits DTMF 9 on line 1	On / Off
20-040	V.21 300 bps Line1	Emits V.21 300 bps Line1	On / Off
20-041	V.27ter 2400 bps Line1	Emits V.27ter 2400 bps Line1	On / Off
20-042	V.27ter 4800 bps Line1	Emits V.27ter 4800 bps Line1	On / Off
20-043	V.29 7200 bps Line1	Emits V.29 7200 bps Line1	On / Off
20-044	V.29 9600 bps Line1	Emits V.29 9600 bps Line1	On / Off
20-045	V.17 7200 bps Line1	Emits V.17 7200 bps Line1	On / Off
20-046	V.17 9600 bps Line1	Emits V.17 9600 bps Line1	On / Off
20-047	V.17 12000 bps Line1	Emits V.17 12000 bps Line1	On / Off
20-048	V.17 14400 bps Line1	Emits V.17 14400 bps Line1	On / Off
20-049	V.34 2400 bps Line1	Emits V.34 2400 bps Line1	On / Off
20-050	V.34 4800 bps Line1	Emits V.34 4800 bps Line1	On / Off
20-051	V.34 7200 bps Line1	Emits V.34 7200 bps Line1	On / Off
20-052	V.34 9600 bps Line1	Emits V.34 9600 bps Line1	On / Off




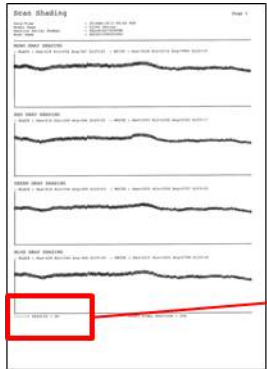
Code	NVM Name	NVM Description	State Displayed
20-053	V.34 12000 bps Line1	Emits V.34 12000 bps Line1	On / Off
20-054	V.34 14400 bps Line1	Emits V.34 14400 bps Line1	On / Off
20-055	V.34 16800 bps Line1	Emits V.34 16800 bps Line1	On / Off
20-056	V.34 19200 bps Line1	Emits V.34 19200 bps Line1	On / Off
20-057	V.34 21600 bps Line1	Emits V.34 21600 bps Line1	On / Off
20-058	V.34 24000 bps Line1	Emits V.34 24000 bps Line1	On / Off
20-059	V.34 26400 bps Line1	Emits V.34 26400 bps Line1	On / Off
20-060	V.34 28800 bps Line1	Emits V.34 28800 bps Line1	On / Off
20-061	V.34 31200 bps Line1	Emits V.34 31200 bps Line1	On / Off
20-062	V.34 33600 bps Line1	Emits V.34 33600 bps Line1	On / Off

4.5.5.3. Scanner Diagnostics

Shading Test

- Diagnostics > Scanner Diagnostics > Shading Test

NOTE
 After replacing the DSDF board, DSDF unit or adjusting the DSDF unit, Shading Test must be executed.

<p>Purpose</p>	<p>To check quality of scanned images, especially defect in optical devices, including lens, mirror, lamp, and etc, are suspected.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> Normal Image Defected Image Defected Image </div>
<p>Operation Procedure</p>	<p>[For Platen Unit] Press "Share and Print report" to see if the current shading value is correct. Mono, red, green, blue gray shading values will be shown on the printed report. When the previous shading value is needed, press "Print Last Shade Report".</p> <p>[For DSDF Unit] Press "Share and Print report(ADF)" to see if the current shading value is correct. Mono, red, green, blue gray shading values will be shown on the printed report. When the previous shading value is needed, press "Print Last Shade Report(ADF)".</p>
<p>Verification</p>	<p>Check the result on the shading report.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <div style="border: 1px solid red; width: 150px; height: 40px; margin-bottom: 5px;"></div> <p>=====> RESULTS : OK</p> </div> </div> <p>If the result is not OK, clean the CCDM glass.</p>

Scanner/ADF NVM Read/Write

- **Diagnostics > Scanner Diagnostics > Scanner/ADF NVM Read/Write**

Purpose	To read and/or write values in the scanner and ADF memory.
Operation Procedure	<p>When the main “NVM Read/Write” window displays, users can navigate through the list of codes with descriptions and saved values.</p> <p>Users can also directly input a code to the text box to find a NVM.</p> <p>After selecting a code, the “Edit” button will be enabled only if the code is writable.</p> <p>If the selected code is writable and the “Edit” button is enabled, press the button to configure the desired value for the code.</p>
Verification	N/A
Specification	N/A
Reference	N/A

Code	NVM Description	Meaning	Access
05-0000	Pick up Count	Pick up Roller Life Count	Read Only

Scanner/ADF Test Routines

- **Diagnostics > Scanner Diagnostics > Scanner/DADF Test Routines**

Purpose	To perform test routines for the scanner and ADF.
Operation Procedure	<p>When the main scanner/ADF Test Routines window displays, users can navigate through the list of routines that display along with description.</p> <p>Users can also input a code to the text box to find a routine directly.</p> <p>After selecting one routine, pressing “OK” button will open the test window that lists selected routine.</p> <p>Users can start/stop a desired test routine.</p>
Verification	N/A
Specification	N/A
Reference	Table below

Code	Displayed Name	Access
06-0000	Scanner Original Size Detecting Sensor 1	High/Low
06-0001	Scanner Original Size Detecting Sensor 2	High/Low
06-0010	Scanner Cover Open/Close Sensor 1	High/Low
06-0020	Scanner Platen Motor Forward	Start/Stop
06-0030	Scanner Platen Motor Backward	Start/Stop
06-0040	Scanner Platen Home Position Sensor	High/Low
05-0000	Document Length .1 Sensor	High/Low
05-0020	Document Cover Open Sensor	High/Low
05-0040	Document Detect Sensor	High/Low
05-0050	Document Feed Sensor	High/Low
05-0060	Document Simplex Registration Sensor	High/Low
05-0070	Document Scan Read Sensor1	High/Low
05-0071	Document Scan Read Sensor2	High/Low
05-0080	Document Exit Sensor	High/Low

Code	Displayed Name	Access
05-0100	Document Regi Clutch	Start/Stop
05-0110	Document Motor Forward	Start/Stop
05-0111	Document Motor Backward	Start/Stop
05-0120	Document width1 Sensor	High/Low
05-0130	Document Pickup Motor Forward	Start/Stop
05-0131	Document Pickup Motor Backward	Start/Stop
05-0140	Document Pickup Roller Detect Sensor	High/Low
05-0210	Document Jig Test Low Speed Simplex	Start/Stop
05-0230	Document Jig Test High Speed Simplex	Start/Stop


4.5.5.4. Adjustment

Print Adjustment

- **Diagnostics > Adjustment > Print Adjustment > Automatic Adjustment**

Purpose	To calibrate/adjust the lengths of vertical & horizontal image and image position automatically in print engine.
Operation Procedure	<ol style="list-style-type: none"> 1) Press "Paper Supply" button and select a tray. 2) Press "Paper Size" button and select a paper size of the previously selected tray. 3) Press "Print" button. A test pattern will be printed out. 4) Place the printed pattern on platen. <ul style="list-style-type: none"> • The words "front side" on the chart face the glass • The arrows face left edge of the platen • Press "Scan 1" 5) Press "OK" button. Automatic scanning will occur . 6) Place the printed pattern on platen. <ul style="list-style-type: none"> • The words "back side" on the chart face the glass • The arrows face left edge of the platen • Press "Scan 2" 7) Press "OK" button. Automatic scanning will occur . 8) The system will automatically calculate the proper value based on scanning result of the test pattern. 9) The new values are set to the system.

- **Diagnostics > Adjustment > Print Adjustment > Image Position**



Purpose	Manually adjust printed image position on paper in print engine
Operation Procedure	<ol style="list-style-type: none"> 1) Select a tray required adjustment. 2) Change the adjustment value with "+" , "-" then press "OK" button to save changes. <ul style="list-style-type: none"> • Simplex Leading Edge • Simplex Side Edge • Duplex Leading Edge • Duplex Side Edge <div style="background-color: #cccccc; padding: 5px; margin: 10px 0;"> <p> NOTE</p> <ul style="list-style-type: none"> • Adjustment must be done for each tray (tray1, tray2, tray3, tray4, MP). • It is recommended not to choose "ALL" for tray selection. • It is always better to adjust for a particular tray at each time. • Adjustment range : ± 4.0 mm </div> 3) Print out the test pattern and check if the image is moved as you want. If not, repeat step 2.

- **Diagnostics > Adjustment > Print Adjustment > Print Test Patterns**

This menu is to print out the test pattern manually.

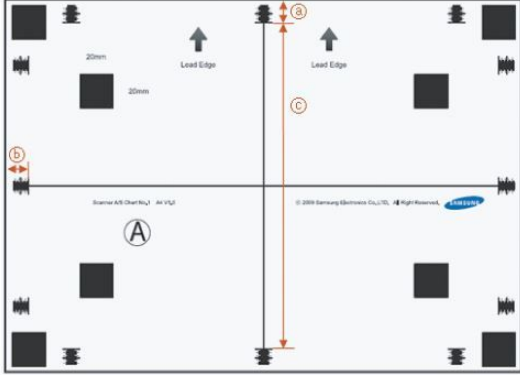
Copy Adjustment

- **Diagnostics > Adjustment > Copy Adjustment > Image Position**


Purpose	Manually adjust copied image position on paper in copy engine
Operation Procedure	<p> NOTE</p> <p>Before copy adjustment,</p> <ol style="list-style-type: none"> 1) Please make sure that initial values of margin adjustment must be the same as values of print adjustment. 2) It is recommended to perform adjustment for each tray at a time. i.e. do not select “All” for tray selection. It often causes confusing for the adjustment. 3) The Procedure for copy adjustment is almost same as “Print Adjustment”. <p> NOTE</p> <ul style="list-style-type: none"> • Adjustment must be done for each tray (tray1, tray2, tray3, tray4, MP). • It is recommended not to choose “ALL” for tray selection. • It is always better to adjust for a particular tray at each time. • Adjustment range : ± 4.0 mm <ol style="list-style-type: none"> 1) Select a tray required adjustment. 2) Change the adjustment value with “+”, “-” then press “OK” button to save changes. <ul style="list-style-type: none"> • Simplex Leading Edge • Simplex Side Edge • Duplex Leading Edge • Duplex Side Edge 3) Print out the test pattern and check if the image is moved as you want. If not, repeat stpe2.

Scan Area Adjustment

- **Diagnostics > Adjustment > Scan Area Adjustment > Automatic Adjustment**

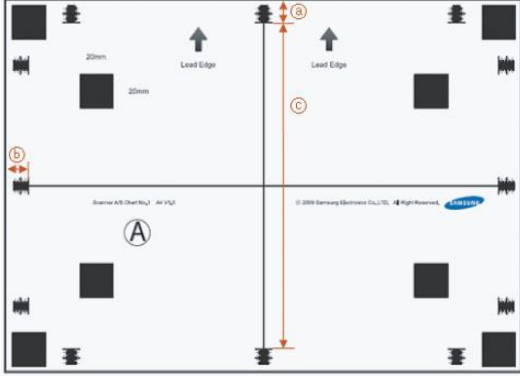
Purpose	To correct image position and magnification of scanned images automatically.
Operation Procedure	<p>1) Locate the Scanner A/S Chart at the scan glass.</p>  <p style="text-align: center;">A4 Scanner A/S Chart</p> <p>Note that “Lead Edge” arrows need to head to the left side of scan glass and to be placed face down. Also note that the Scanner A/S Charts come in two sizes, A4 and Letter. Choose one size to meet your primary size of use.</p> <p>2) Press “OK” button. Automatic scanning will occur, and the system will automatically calculate the proper value based on scanning result of the chart .</p> <p>3) The new value set to the system.</p> <p>4) Scan the Scanner A/S Chart and send it to a PC. Scanning must be occur from the scan glass.</p> <p>5) To check the image position, compare the position of scale marks (a,b) of the chart to the scanned image.</p> <p>6) To check the magnification, compare the length of line “c” of the chart to the scanned image.</p> <div style="background-color: #e0e0e0; padding: 10px;"> <p>NOTE</p> <p>Specification</p> <ul style="list-style-type: none"> • a,b : 10, ± 1.5 mm • c: 190, ± 1.5 mm </div>

• **Diagnostics > Adjustment > Scan Area Adjustment > Manual Adjustment**


Purpose	To correct image position and magnification of scanned images manually.
Operation Procedure	<p>1) Choose one item from the table. There are three items to choose.</p> <ul style="list-style-type: none"> • Image Position - Leading Edge (Unit : mm, Min/Max : -3.0/+3.0) • Image Position - Side Edge (Unit : mm, Min/Max : -3.0/+3.0) • Magnification - Vertical Direction (Unit : %, Scale: 0.1, Min/Max: 98.5/101.5) <p>2) Select one item and press the “Edit” button.</p> <p>3) Change the adjustment value with arrow button.</p> <p>4) Image Position (a, b) : If the current value is smaller than the specification, press “+”. Otherwise, press “-”.</p> <p>5) Magnification (c) : If the current value is smaller than the specification, press “-”. Otherwise, press “+”.</p> <p>6) Press the “OK” button to apply the new value to the system.</p> <p>7) Scan the Scanner A/S Chart and send it to a PC. Scanning must be occur from the scan glass.</p> <p>8) To check the image position, compare the position of scale marks (a,b) of the chart to the scanned image.</p> <p>9) To check the magnification, compare the length of line “c” of the chart to the scanned image.</p> <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p> NOTE</p> <p>Specification</p> <ul style="list-style-type: none"> • a,b : 10, ± 1.5 mm • c: 190, ± 1.5 mm </div>

ADF Adjustment

- **Diagnostics > Adjustment > ADF Adjustment > Automatic Adjustment**

Purpose	To correct image position and magnification of scanned images via DSDF automatically.
Operation Procedure	<p>1) Locate the Scanner A/S chart on the DSDF tray.</p>  <p style="text-align: center;">A4 Scanner A/S Chart</p> <p>2) Press “OK” button. Automatic scanning will occur, and the system will automatically calculate the proper value based on scanning result of the chart .</p> <p>3) The new value set to the system.</p> <p>4) Copy the Scanner A/S Chart. Scanning must be occur from the DSDF.</p> <p>5) To check the image position, compare the position of scale marks (a,b) of the chart to the copy.</p> <p>6) To check the magnification, compare the length of line “c” of the chart to the copy.</p> <div style="background-color: #e0e0e0; padding: 10px;"> <p>NOTE</p> <p>Specification</p> <ul style="list-style-type: none"> • a,b : 10, ± 1.5 mm • c: 190, ± 1.5 mm </div>

• **Diagnostics > Adjustment > Scan Area Adjustment > Manual Adjustment**

Purpose	To correct image position and magnification of scanned images manually.
Operation Procedure	<ol style="list-style-type: none"> 1) Choose one item from the table. There are three items to choose. <ul style="list-style-type: none"> • Image Position - Leading Edge (Unit : mm, Min/Max : -3.0/+3.0) • Image Position - Side Edge (Unit : mm, Min/Max : -3.0/+3.0) • Magnification - Vertical Direction (Unit : %, Scale: 0.1, Min/Max: 98.5/101.5) 2) Select one item and press the “Edit” button. 3) Change the adjustment value with arrow button. 4) Image Position (a, b) : If the current value is smaller than the specification, press “+”. Otherwise, press “-”. 5) Magnification (c) : If the current value is smaller than the specification, press “-”. Otherwise, press “+”. 6) Press the “OK” button to apply the new value to the system. 7) Copy the Scanner A/S Chart. Scanning must be occur from the DSDF. 8) To check the image position, compare the position of scale marks (a,b) of the chart to the copy. 9) To check the magnification, compare the length of line “c” of the chart to the copy. <div style="background-color: #e0e0e0; padding: 10px; margin-top: 10px;"> <p> NOTE</p> <p>Specification</p> <ul style="list-style-type: none"> • a,b : 10, ± 1.5 mm • c: 190, ± 1.5 mm </div>

4.5.6. Service Functions

4.5.6.1. Main Memory Clear

- **Service Functions > Main Memory Clear**

This function resets the main memory of the system to the factory default setting. It can be used to reset the system to the initial value when the product is functioning abnormally. All the user configured values return to the default values.

To clear the main memory, users need to select the country of the system locates, and rebooting of the system is required.



NOTE

When executing “Main Memory Clear”, refer to the table for cleared information.

Items	Tech mode Clear
Copy Setup	O
Print Setup	O
System Setup	O
Network	X
Usage Count	X
Error Information	X
[Tech] Scan / Copy / Print Adjustment	X
Country Change	O
[Tech] Service Functions	O

4.5.6.2. Hard Disk Maintenance

- **Service Functions > Hard Disk Maintenance > Device Configuration Data Clear**
 - This function formats all device configuration data, for example, user profile, address book, and devices settings, on the hard disk.
- **Service Functions > Hard Disk Maintenance > Temporary and Spool Data Clear**
 - This function formats all temporary and spool data saved on the hard disk.
- **Service Functions > Hard Disk Maintenance > User Saved Data and Log Data Clear**
 - This function formats all the user data, for example, box data, pending secure jobs, font, form, macro, data related applications, and job log, on the hard disk.
- **Service Functions > Hard Disk Maintenance > All Saved Data Clear**
 - This function formats all the data that can be erased with 3 functions above. The function will NOT format the hard disk entirely.
- **Service Functions > Hard Disk Maintenance > Hard Disk Check**
 - This function checks a bad sector in the hard disk. If a bad sector is found, the system will display an error message and send an email notification to the system administrator.

4.5.6.3. Debug Log

- **Service Functions > Debug Log**

This function sets the system log message level. Users can select three options.

- Off : This option disables the logging option.
- Job Status: This option only enables the logging option of user created jobs.
- Details : This option enables all the logging options of the running tasks of the system. Note that this option might create a trade-off of performance in certain system operation. Use this option when the system behaves abnormally, and engineers need to investigate problems.

4.5.6.4. Capture Log

- **Service Functions > Capture Log**

This function copies all the saved log in the system to a UBS memory as a zip file. Note that the size of system log could reach up to 1GB. If the system log size become considerably huge, it will take longer time to copy to the plugged memory.

- 1) Connect USB memory to device.
- 2) Enter SVC mode.
- 3) Go to "**Service Functions > Debug Log**" and change debug log level to "DETAILS".
- 4) Go to "**Service Functions > Capture Log**"
- 5) Select All or Period. When you select Period, input the start and end date.
- 6) Press Capture Log button.
- 7) Once it is completed, the message will be displayed. Then restore the debug log level to "JOB STATUS".



NOTE

If the system log size become considerably huge, it will take longer time to copy to the plugged memory.

- 8) Check is the Log file is created in the USB memory.

4.5.6.5. Network Packet Capture

- **Service Functions > Network Packet Capture**

- 1) Capture Packets

- Start button
 - a) Start to capture network packet between device and external peer mode
 - b) Start button shall be changed to Stop button

**NOTE**

The packet capture is implemented by using “tcpdump-leth0-s1200-w[filename]”

- Packet Size
 - Show the file size captured

- 2) Export Capture File

- Export button
 - Export network packet capture file to USB memory stick

- 3) Delete Capture File

- Delete button
 - Clear network packet capture file in a device

4.5.6.6. System Recovery

- **Service Functions > System Recovery**



NOTE

There are 3 methods for entering System Recovery mode.

- In case of normal booting,
 - Enter SVC mode and select **System Recovery** menu.
- In case of abnormal booting,
 - If the HDD is broken, the machine will enter System Recovery at booting.
 - When turning the machine on while opening the side cover and pushing the Soft Power Button on OP panel, you can enter System Recovery forcibly.

This function reinstalls the OS and formats the partitions on the HDD. To use this function, a HDD image need to be saved in a USB memory, and that USB memory needs to be plugged in the system before the execution.



NOTE

- Memory stick file system type : FAT16 or FAT32 not NTFS
- Memory stick must contain the following 3 files only.
 - **unix script files x 2**
 - **HDD image file x1**

- 1) From the system recovery UI, Choose “SYS” to recover only the system partition of the HDD or “ALL” to recover all the partition of the HDD.
- 2) When the system recovery UI is appeared after reboot, choose “HDD Repair” to repair any corrupted data in the selected partition or choose “HDD Format” to format the data in the selected partition.
 - a) HDD Format
 - Hidden Partition : This can format and reinstall the only System Binary in HDD. User data is not deleted.
 - USB : This can format the HDD using USB stick. All data except the stored in MSOK will be deleted.
 - Network : This can format the HDD using network. All data except the stored in MSOK will be deleted.
 - b) HDD Repair : This can restore the internal system by checking the HDD error. This is for HDD recovery itself and irrelevant to the user data in device.
- 3) When pushing “Next” button, the login page for authentication will be displayed. The password will be **1934** as the factory setting password.
- 4) When pushing “Next” button, the following page will be displayed.
 - In case of selecting USB option :

The Next button is pressed after inserting the USB stick.

The system will check for the required packages in the USB stick. If all the packages are present in the USB stick then the system will be directed to the confirmation page otherwise an Error page will be displayed with an appropriate error message.
 - In case of selecting Network option :

This page contains two sections :

 - **Configure device IP address**
 - a) Device IP: IP address for the device
 - b) Gateway IP: Gateway IP address for the device

- c) Subnet Mask: Network Subnet Mask for the device
- **Configure samba settings**
 - a) Server IP : IP address of the server.
 - b) User ID : user ID of the server to login into the server system
 - c) Password : password of the server system
 - d) Shared folder : name of the shared folder on the server, where the packages for the system recovery are present.

The Next button is pressed after providing the above information.

The system will establish the provided IP to the device and try to connect to the server and check for the available packages on the server.

If Network is establish and all the packages are present in the shared folder of the server then the system will be directed to the Confirmation page otherwise an Error page will be displayed with an appropriate error message.

- 5) When pushing “Next” button on option selection page, the confirmation page will be displayed.
- 6) When pushing “Next” button, progress page will be displayed.
- 7) When completing HDD Recovery or HDD Repair successfully, reboot the machine.
- 8) After rebooting, the machine will start the system initialization.

**NOTE**

If the system initialization is not executed, enter the svc mode and execute “Full memory clear”.
If not, the machine may not work normally.

- 9) Execute the firmware update using the one ROM FW file after system initialization. This work is a must for all FW module level.

4.5.6.7. Clear System Cache

- **Service Functions > Clear System Cache**

This function is to clear machine's cache data for it after installing the XOA app.

4.5.6.8. Hibernation

- **Service Functions > Hibernation**

Hibernation mode makes the operating system image and it reduces operating time when you turn on the machine.

- ON : Hibernation mode ON
- OFF : Hibernation mode OFF
- Create New Image : Make the new Hibernation system image. When you enable the hibernation mode, you can use this menu.

4.5.6.9. Paper Low Warning Message

- **Service Functions > Paper Low Warning Message**

This function enables / disables the warning message of the paper low status.

4.5.6.10. Part Replacement Alert

- **Service Functions > Part Replacement Alert**

This function enables / disables the alert message of the consumable's life time.

- ON : Alert message on (Level : Low, Empty, Exhaust, Worn)
- OFF : Alert message off

4.5.6.11. FDI

- **Service Functions > FDI**

In this function, user and administrator can choose the type of FDI.

4.5.6.12. EIUL (End of Image Unit Life)

- **Service Functions > EIUL**

The function is to set the machine hard stop when the drum life is expired.

- Off : No machine stop @ end of drum life
- On : Machine stop @ end of drum life

4.5.6.13. SFE (Special Feature Enablement)

- **Service Functions > SFE**

Special Feature Enablement (SFE) means to provide the configurable options (On/Off) in service mode for technicians or dealers to satisfy the requirements from B2B sites easily without changing the firmware installed in a device.



NOTE

The description for some codes like a 003, 020 can not be provided by HQ R&D policy.

SFE menu description

SFE Code	Description
001	In case of printing in directional media (Letterhead/Preprinted/Punched), the device prints as the same output direction regardless of simplex or duplex.
003	confidential
006	The device supports only user's own email address for scan to email.
007	[PCL6] The device prints as original 1 dot line without 2 dot line compensation.
008	[PCL5] The device ignores paper size command in PRN and prints as paper size in tray.
009	PJL readback response is changed with HPOS. 1) Add <CR><LF> to EOJ response. 2) No EOJ job but EOJ response occurs. 3) Device uses Job name instead of EOJ name.
010	Maximum value of 'Power save time' is increased as 240 min.
012	If the device is in jam status, all print jobs except secure or stored jobs are deleted automatically.
013	The device ignores the USB memory stick and detects only card reader.
014	When the authenticated user uses scan to email, user's email address is added automatically.
015	The device supports to connect to LDAPs server without any certificate.
016	The device fits image appearance in report page
018	The device blocks apk installation.
019	User ID is not case-sensitive for login
020	confidential
021	confidential
023	The device rotates copy output 180 degrees when executed on flatbed.
025	confidential
026	The device maintains HDD encryption as a default.
029	The device support 3 digit password for SMB
031	The device shall store confidential/store print without image processing.
032	The device shall print line even though that has less than 1 dot.

4.5.6.14. Dealer ID

- **Service Functions > Dealer ID**

The SFE functions related to the dealer will be enable.

- 1) Select "On".

4. Troubleshooting

- 2) Select “Dealer ID” then select “OK” button.
- 3) The machine will reboot.

4.5.6.15. Envelope Rotate

- **Service Functions > Envelope Rotate**

This menu is enabling rotate when printing on envelope. The machine usually guides to load envelope with SEF direction. If this function is enabled, the user can load envelope with LEF direction and the machine shall rotate image for printing exactly on envelope.

This function shall provide the setting options as follows:

- Off (default) : Load envelope SEF direction
- 90 degrees : Load envelope LEF direction
- 180 degrees : Load envelope SEF direction with flap is bottom side



 **NOTE**

- 1) If the paper source is 'Auto', the device shall feed from MP Tray. Because the LEF envelope can be loaded only in MP Tray according to Paper Specification.
- 2) If the length of envelope is over max size of custom width, the device shall not rotate image and just determine the direction of envelope is SEF.
For example, the A4 model support custom size like W 98-216 ~ L148-356. This model doesn't support C5 Env.(162x229) DL Env.(110x220), No9 Env.(98x225), No10 Env.(105x241) rotation.

4.6. Error Code and Troubleshooting

Messages appear on the control panel display to indicate the machine's status or errors.



NOTE

Some messages may not appear on the display depending on the options or models.

Error Code	Error Message	Troubleshooting Page
11-2T01	Load tray with [Letter], [Plain] paper	P.4-81
11-2T11	Load tray 1 with [Letter], [Plain] paper	P.4-81
11-2T21	Load tray 2 with [Letter], [Plain] paper	P.4-81
11-2T31	Load tray 3 with [Letter], [Plain] paper	P.4-81
11-2T41	Load tray 4 with [Letter], [Plain] paper	P.4-81
11-2T61	Load MP with [Letter], [Plain] paper	P.4-81
61-1111	Booting Failure: #61-1111. Turn off then on. Call for service if the problem persists	P.4-81
A1-1111	Motor Failure: #A1-1111. Turn off then on. Call for service if the problem persists	P.4-82
A1-1112	Motor Failure: #A1-1112. Turn off then on. Call for service if the problem persists	P.4-82
A1-1113	Motor Failure: #A1-1113. Turn off then on. Call for service if the problem persists	P.4-82
A1-3111	Motor Failure: #A1-3111. Turn off then on. Call for service if the problem persists	P.4-84
A1-3112	Motor Failure: #A1-3112. Turn off then on. Call for service if the problem persists	P.4-84
A1-3113	Motor Failure: #A1-3113. Turn off then on. Call for service if the problem persists	P.4-84
A3-2113	The CTD sensor is dirty. Please clean it with soft cloth or paper	P.4-86
A3-3210	Sensor Failure: #A3-3210. Turn off then on. Call for service if the problem persists	P.4-87
A3-3211	Sensor Failure: #A3-3211. Turn off then on. Call for service if the problem persists	P.4-87
A3-3212	Sensor Failure: #A3-3212. Turn off then on. Call for service if the problem persists	P.4-87
A3-3310	Sensor Failure: #A3-3310. Turn off then on. Call for service if the problem persists	P.4-88
A3-3311	Sensor Failure: #A3-3311. Turn off then on. Call for service if the problem persists	P.4-88
A3-3312	Sensor Failure: #A3-3312. Turn off then on. Call for service if the problem persists	P.4-88
A3-3320	The room temperature is not suitable for this set use. Please adjust room temperature	P.4-88
A3-3410	Sensor Failure: #A3-3410. Turn off then on. Call for service if the problem persists	P.4-88
A3-3411	Sensor Failure: #A3-3411. Turn off then on. Call for service if the problem persists	P.4-88

Error Code	Error Message	Troubleshooting Page
A3-3412	Sensor Failure: #A3-3412. Turn off then on. Call for service if the problem persists	P.4-88
A4-1110	Lamp Failure: #A4-1110. Open the door, then close it. Call for service if the problem persists	P.4-89
C1-1110	Prepare new toner cartridge	P.4-92
C1-111A	Shake toner cartridge and then install. Replace toner cartridge if the problem persists	P.4-92
C1-1140	End of life, Replace with new toner cartridge	P.4-93
C1-1160	Replace with new toner cartridge(C1-1160)	P.4-93
C1-1170	End of life, Replace with new toner cartridge(C1-1170)	P.4-93
C1-1313	Shake toner cartridge and then install. Call for service if the problem persists	P.4-92
C1-1314	Did not supply enough toner. Remove seal tape of toner cartridge or shake it. Call for service if the problem persists	P.4-92
C1-1410	Install toner cartridge	P.4-94
C1-1512	Toner cartridge is not compatible. Check users guide	P.4-95
C1-1710	Toner Cartridge Failure: #C1-1710. Call for service	P.4-96
C1-1711	Toner Cartridge Failure: #C1-1711. Call for service	P.4-96
C1-1712	Toner Cartridge Failure: #C1-1712. Call for service	P.4-96
C3-1110	Prepare new imaging unit	P.4-97
C3-1140	End of life, Replace with new imaging unit	P.4-97
C3-1150	Replace with new imaging unit(C3-1150)	P.4-97
C3-1170	End of life, Replace with new imaging unit(C3-1170)	P.4-97
C3-1210	Imaging Unit Failure:#C3-1210. Please turn off then on	P.4-97
C3-1314	Imaging Unit Failure: #C3-1314. Install imaging unit again	P.4-98
C3-1315	Imaging Unit Failure: #C3-1315. Install imaging unit again	P.4-98
C3-1316	Imaging Unit Failure: #C3-1316. Install imaging unit again	P.4-98
C3-1410	Imaging unit is not installed. Install the unit	P.4-99
C3-1414	Imaging Unit Failure: #C3-1414. Install imaging unit again	P.4-99
C3-1512	Imaging unit is not compatible. Check users guide	P.4-99
C3-1710	Imaging unit Failure: #C3-1710. Call for service	P.4-99
C3-1711	Imaging Unit Failure: #C3-1711. Call for service	P.4-99
C3-1712	Imaging Unit Failure: #C3-1712. Call for service	P.4-99
C6-1120	Replace with new fuser unit	P.4-100
C9-1112	Replace with new tray 1 pickup roller	P.4-101
C9-1122	Replace with new tray 2 pickup roller	P.4-101
C9-1132	Replace with new Tray3 pickup roller	P.4-101
C9-1142	Replace with new Tray4 pickup roller	P.4-101
C9-1162	Replace with new MP pickup roller	P.4-102
C9-2120	Replace with new Transfer roller	P.4-103
C9-2220	TR Failure: #C9-2220. Install transfer roller again	P.4-104
H1-1211	Paper jam in Tray 2	P.4-105

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Error Code	Error Message	Troubleshooting Page
H1-1213	Paper jam in Tray 2	P.4-105
H1-1217	Paper jam in Tray 2	P.4-105
H1-1218	Paper jam in Tray 2	P.4-105
H1-1219	Paper jam in tray 2 or tray door is open	P.4-105
H1-1220	Tray 2 door is open. Close it	P.4-106
H1-1222	Tray 2 cassette is pulled out. Insert it properly	P.4-106
H1-1230	Input System Failure: #H1-1230. Check tray 2 connection	P.4-106
H1-1240	Tray 2 cassette is pulled out. Insert it properly	P.4-106
H1-1251	Paper is low in Tray 2. Load paper	P.4-107
H1-1252	Paper is empty in tray 2. Load paper	P.4-107
H1-1253	Input System Failure #H1-1253 : Pull Tray 2 out and insert it	P.4-108
H1-1311	Paper jam in Tray 3	P.4-109
H1-1313	Paper jam in Tray 3	P.4-109
H1-1317	Paper jam in Tray 3	P.4-109
H1-1318	Paper jam in Tray 3	P.4-109
H1-1319	Paper jam in tray 3 or tray door is open	P.4-109
H1-1320	Tray 3 door is open. Close it	P.4-110
H1-1322	Tray 3 cassette is pulled out. Insert it properly	P.4-110
H1-1332	Tray Failure: #H1-1332. Check Tray connection	P.4-110
H1-1340	Tray 3 is not installed. Install the tray	P.4-110
H1-1351	Paper is low in Tray 3. Load paper	P.4-111
H1-1352	Paper is empty in Tray 3. Load paper	P.4-111
H1-1353	Input System Failure: #H1-1353. Pull Tray 3 out and insert it	P.4-112
H1-1411	Paper jam in Tray 4	P.4-113
H1-1413	Paper jam in Tray 4	P.4-113
H1-1417	Paper jam in Tray 4	P.4-113
H1-1418	Paper jam in Tray 4	P.4-113
H1-1419	Paper jam in tray 4 or tray door is open	P.4-113
H1-1420	Tray 4 door is open. Close it	P.4-114
H1-1422	Tray 4 cassette is pulled out. Insert it properly	P.4-114
H1-1434	Tray Failure: #H1-1434. Check Tray connection	P.4-114
H1-1451	Paper is low in Tray 4. Load paper	P.4-115
H1-1452	Paper is empty in Tray 4. Load paper	P.4-115
H1-1453	Input System Failure: #H1-1453. Pull Tray 4 out and insert it	P.4-116
H1-2211	Paper jam in HCF 2	P.4-117
H1-2213	Paper jam in HCF 2	P.4-117
H1-2217	Paper jam in HCF 2	P.4-117
H1-2218	Paper jam in HCF 2	P.4-117
H1-2219	Paper jam in tray 2 or tray door is open	P.4-117
H1-2220	HCF 2 door is open. Close it	P.4-118

Error Code	Error Message	Troubleshooting Page
H1-2222	HCF 2 cassette is pulled out. Insert it properly	P.4-118
H1-2230	Input System Failure: #H1-2230. Check HCF 2 connection	P.4-118
H1-2240	HCF 2 is not installed. Install the HCF	P.4-118
H1-2251	Paper is low in HCF 2. Load paper	P.4-119
H1-2252	Paper is empty in HCF 2. Load paper	P.4-119
H1-2253	Input System Failure #H1-2253 : Pull HCF 2 out and insert it	P.4-120
H2-5001	Finisher Failure #H2-5001. Turn off then on, after checking finisher	P.4-122
H2-5002	Finisher Failure #H2-5002. Turn off then on, after checking finisher	P.4-123
H2-5003	Finisher Failure #H2-5003. Turn off then on, after checking finisher	P.4-125
H2-5004	Finisher Failure #H2-5004. Turn off then on, after checking finisher	P.4-125
H2-5005	Finisher Failure #H2-5005. Turn off then on, after checking finisher	P.4-127
H2-5006	Finisher Failure #H2-5006. Turn off then on, after checking finisher	P.4-127
H2-5007	Finisher Failure #H2-5007. Turn off then on, after checking finisher	P.4-129
H2-5008	Finisher Failure #H2-5008. Turn off then on, after checking finisher	P.4-129
H2-5009	Finisher Failure #H2-5009. Turn off then on, after checking finisher	P.4-131
H2-5010	Finisher Failure #H2-5010. Turn off then on, after checking finisher	P.4-131
H2-5011	Finisher Failure #H2-5011. Turn off then on, after checking finisher	P.4-131
H2-5012	Finisher Failure #H2-5012. Turn off then on, after checking finisher	P.4-133
H2-5013	Finisher Failure #H2-5013. Turn off then on, after checking finisher	P.4-133
H2-5014	Finisher Failure #H2-5014. Turn off then on, after checking finisher	P.4-134
H2-5015	Finisher Failure #H2-5015. Turn off then on, after checking finisher	P.4-134
H2-5032	Paper jam in front of finisher: #H2-5032	P.4-136
H2-5033	Paper jam inside of finisher: #H2-5033	P.4-138
H2-5034	Paper jam inside of finisher: #H2-5034	P.4-140
H2-5035	Paper jam at exit of finisher: H2-5035	P.4-138
H2-5036	Paper jam inside of finisher: #H2-5036	P.4-138
H2-5037	Paper jam at exit of finisher: H2-5037	P.4-140
H2-5048	Finisher door is open. Close it	P.4-141
H2-5064	Finisher Failure #H2-5064. Turn off then on, after checking finisher	P.4-142
H2-5065	Finisher Failure #H2-5065. Turn off then on, after checking finisher	P.4-142
H2-5066	Finisher Failure #H2-5066. Turn off then on, after checking finisher	P.4-142
H2-5067	Finisher Failure #H2-5067. Turn off then on, after checking finisher	P.4-142
H2-5068	Finisher Failure #H2-5068. Turn off then on, after checking finisher	P.4-142
H2-5069	Finisher Failure #H2-5069. Turn off then on, after checking finisher	P.4-142
H2-5070	Finisher Failure #H2-5070. Turn off then on, after checking finisher	P.4-142
H2-5071	Finisher Failure #H2-5071. Turn off then on, after checking finisher	P.4-142
H2-5080	Paper Jam in front of mailbox. Remove paper: #H2-5080	P.4-142
H2-5081	Paper Jam inside of mailbox. Remove paper: #H2-5081	P.4-143
H2-5082	Paper Jam inside of mailbox. Remove paper: #H2-5082	P.4-143
H2-5083	Paper Jam at mailbox bin 1. Remove paper: #H2-5083	P.4-143

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Error Code	Error Message	Troubleshooting Page
H2-5084	Paper Jam at mailbox bin 2. Remove paper: #H2-5084	P.4-143
H2-5085	Paper Jam at mailbox bin 3. Remove paper: #H2-5085	P.4-143
H2-5086	Paper Jam at mailbox bin 4. Remove paper: #H2-5086	P.4-143
H2-5087	Mainbox Failure: #H2-5087. Check mailbox	P.4-143
H2-5088	Mailbox door is open. Close it	P.4-143
H2-5096	Finisher Failure #H2-5096. Turn off then on, after checking finisher	P.4-123
H2-5097	Finisher Failure #H2-5097. Turn off then on, after checking finisher	P.4-125
H2-5098	Finisher Failure #H2-5098. Turn off then on, after checking finisher	P.4-127
H2-5099	Finisher Failure #H2-5099. Turn off then on, after checking finisher	P.4-129
H2-5100	Finisher Failure #H2-5100. Turn off then on, after checking finisher	P.4-131
H2-5101	Finisher Failure #H2-5101. Turn off then on, after checking finisher	P.4-133
H2-5102	Finisher Failure #H2-5102. Turn off then on, after checking finisher	P.4-134
H2-5112	Mainbox Failure: #H2-5112. Check mailbox	P.4-143
H2-5113	Mainbox Failure: #H2-5113. Check mailbox	P.4-143
H2-5A21	Finisher top door is open. Close it	P.4-144
H2-5A30	Paper in all output bins is full. Remove printed paper	P.4-145
H2-5A31	The paper in finisher stacker is nearly full. Remove printed paper	P.4-145
H2-5A32	The paper in finisher stacker is full. Remove printed paper	P.4-145
H2-5A34	The paper in finisher bin2 is nearly full. Remove printed paper	P.4-145
H2-5A35	The paper in finisher bin2 is full. Remove printed paper	P.4-145
H2-5A38	Paper in mailbox bin 3 is full. Remove printed paper	P.4-147
H2-5A3C	Paper in mailbox bin 4 is full. Remove printed paper	P.4-147
H2-5A44	The paper in finisher stacker is full. Remove printed paper	P.4-147
H2-5A45	The paper in finisher bin2 is full. Remove printed paper	P.4-147
H2-5A46	The paper in finisher bin3 is full. Remove printed paper	P.4-147
H2-5A47	The paper in finisher bin4 is full. Remove printed paper	P.4-147
H2-5A50	Finisher Failure #H2-5A50. Check finisher	P.4-147
H2-5A62	Staple cartridge is low. Replace it	P.4-148
H2-5A63	Staple cartridge is empty or not installed. Replace it	P.4-148
H2-5A90	Paper jam at the top of finisher: #H2-5A90	P.4-149
H2-6A50	Finisher Failure: #H2-6A50. Check finisher	P.4-147
H2-6A62	Staple cartridge is low. Prepare it	P.4-148
H2-6A63	Staple cartridge is empty. Replace it	P.4-148
M1-1113	Paper jam in tray 1	P.4-150
M1-1613	Paper jam in MP Tray	P.4-152
M1-3122	Tray 1 cassette is pulled out. Insert it properly	P.4-154
M1-4111	Tray Failure: #M1-4111. Pull tray 1 out and insert it. Call for service if the problem persists	P.4-155
M1-5111	Paper is low in tray 1. Load paper	P.4-156
M1-5112	Paper is empty in tray 1. Load paper	P.4-156
M1-5120	Paper is empty in all tray. Load paper	P.4-156

Error Code	Error Message	Troubleshooting Page
M1-5612	Paper is empty in MP tray. Load paper	P.4-157
M2-1111	Paper jam inside of machine	P.4-158
M2-1114	Paper jam inside of machine	P.4-158
M2-1117	Paper jam at the bottom of duplex path	P.4-160
M2-2111	Paper jam at the top of duplex path	P.4-160
M2-2112	Paper jam at the top of duplex path	P.4-160
M2-2114	Paper jam at the top of duplex path	P.4-160
M2-2311	Paper jam at the bottom of duplex path	P.4-160
M2-2312	Paper jam at the bottom of duplex path	P.4-160
M2-2314	Paper jam at the bottom of duplex path	P.4-160
M3-1111	Paper jam in exit area	P.4-162
M3-1112	Paper jam inside of machine	P.4-162
M3-1114	Paper jam in exit area	P.4-162
M3-2130	Paper in output bin is full. Remove printed paper	P.4-163
S1-1313	The clock became initial time. Set a time again	P.4-164
S1-2411	HDD System Failure: #S1-2411. Turn off then on. Call for service if the problem persists	P.4-164
S1-2433	System Failure: #S1-2433 . Call for service	P.4-165
S1-2434	HDD Error #S1-2434. Check users guide	P.4-166
S1-2435	HDD Error #S1-2435. Check users guide	P.4-166
S1-2436	HDD Error #S1-2436. Check users guide	P.4-166
S1-2437	HDD Error #S1-2437. Check users guide	P.4-166
S1-2438	HDD Error #S1-2438. Check users guide	P.4-166
S1-2439	HDD Error #S1-2439. Check users guide	P.4-166
S1-2443	HDD System Failure #S1-2443 : Call for service	P.4-165
S1-2444	HDD System Failure #S1-2444 : Call for service	P.4-165
S1-2445	HDD System Failure #S1-2445 : Call for service	P.4-165
S1-2446	HDD System Failure #S1-2446 : Call for service	P.4-165
S1-2447	HDD System Failure #S1-2447 : Call for service	P.4-165
S1-2448	HDD System Failure #S1-2448 : Call for service	P.4-165
S1-2449	HDD System Failure #S1-2449 : Call for service	P.4-165
S1-2510	MSOK Failure: #S1-2510. Call for service & Change MSOK	P.4-167
S1-2521	MSOK Failure: #S1-2521. Call for service	P.4-167
S1-2523	PPM data is incorrect. Call for service & change MSOK	P.4-167
S1-2530	MSOK Failure: #S1-2530. Call for service & change MSOK	P.4-167
S2-1211	Engine System Failure: #S2-1211. Turn off then on	P.4-168
S2-331D	Wait delay time for lower fixing temperature...	P.4-169
S2-3321	Supplying and mixing toner to developer unit. Please wait...	P.4-169
S2-3421	Calibrating image density. Please wait...	P.4-169
S2-4120	Door is open. Close it	P.4-169

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Error Code	Error Message	Troubleshooting Page
S3-3121	Scanner locked or another problem occurred.(No Switch Case)Scanner is locked	P.4-171
S3-3211	Scan System Failure: #S3-3211. Turn off then on	P.4-172
S5-3111	UI System Failure: #S5-3111. Call for service	P.4-173
S6-3122	Network cable is disconnected. Check it	P.4-174
S6-3123	This IP address conflicts with that of other system. Check it	P.4-175
S6-3128	802.1x authentication failed. Please contact the system administrator	P.4-176
S6-3224	BOOTP error in wireless LAN. Switching to Auto IP	P.4-176
S6-3225	BOOTP error in wireless LAN. Reconfigure DHCP or static IP	P.4-176
S6-3226	DHCP error in wireless LAN. Switching to Auto IP	P.4-176
S6-3227	DHCP error in wireless LAN. Reconfigure BOOTP or static IP	P.4-176
S6-3229	The IPv4 address assigned to wireless LAN conflicts with that of other system. Check it	P.4-175
S6-322A	The IPv6 address assigned to wireless LAN conflicts with that of other system. Check it	P.4-175
S7-1110	Engine System Failure: #S7-1110. Turn off then on	P.4-177
S7-1210	Engine System Failure: #S7-1210. Turn off then on	P.4-178
S7-2110	Fuser Failure: #S7-2110. Turn off then on	P.4-179
U1-2115	Fuser Unit Failure: #U1-2115. Turn off then on. Call for service if the problem persists	P.4-180
U1-2117	Fuser Unit Failure: #U1-2117. Turn off then on	P.4-181
U1-2123	Fuser Failure: #U1-2123. Turn off then on	P.4-181
U1-2124	Fuser Failure: #U1-2124. Turn off then on	P.4-181
U1-2132	Fuser Unit Failure: #U1-2132. Turn off then on. Call for service if the problem persists	P.4-181
U1-2135	Fuser Unit Failure: #U1-2135. Turn off then on	P.4-181
U1-2316	Fuser Failure: #U1-2316. Turn off then on	P.4-181
U1-2317	Fuser Failure: #U1-2317. Turn off then on	P.4-181
U1-2336	Fuser Failure: #U1-2336. Turn off then on	P.4-181
U1-2337	Fuser Failure: #U1-2337. Turn off then on	P.4-181
U1-2338	Fuser Failure: #U1-2338. Turn off then on	P.4-181
U1-2339	Fuser Failure: #U1-2339. Turn off then on	P.4-181
U1-233C	Fuser Failure: #U1-234C. Turn off then on	P.4-181
U1-233E	Fuser Failure: #U1-233E. Turn off then on	P.4-181
U1-233F	Fuser Failure: #U1-233F. Turn off then on	P.4-181
U1-234J	Fuser Failure: #U1-234J. Turn off then on	P.4-182
U1-234P	Fuser Failure: #U1-234P. Turn off then on	P.4-182
U2-1112	LSU Failure: #U2-1112. Turn off then on. Call for service if the problem persists	P.4-183
U2-1113	LSU Failure: #U2-1113. Turn off then on. Call for service if the problem persists	P.4-184
U3-3211	Original paper jam inside of scanner (M5370LX / M4370LX)	P.4-185

Error Code	Error Message	Troubleshooting Page
U3-3213	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-185
U3-3214	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-185
U3-3311	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3313	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3314	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3411	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-192
U3-3413	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-192
U3-3414	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-192
U3-3511	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3513	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3514	Original paper jam inside the scanner (M5370LX / M4370LX)	P.4-188
U3-3611	Original paper jam in the exit area of scanner (M5370LX / M4370LX)	P.4-194
U3-3613	Original paper jam in the exit area of scanner (M5370LX / M4370LX)	P.4-194
U3-3614	Original paper jam in the exit area of scanner (M5370LX / M4370LX)	P.4-194
U3-3713	Original paper jam in the exit area of scanner (M5370LX / M4370LX)	P.4-194
U3-3714	Original paper jam in the exit area of scanner (M5370LX / M4370LX)	P.4-194
U3-3111	Original paper jam in front of the scanner (M5360RX)	P.4-196
U3-3211	Original paper jam inside of scanner (M5360RX)	P.4-196
U3-3213	Original paper jam inside the scanner (M5360RX)	P.4-196
U3-3214	Original paper jam inside the scanner (M5360RX)	P.4-196
U3-3311	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3313	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3314	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3511	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3513	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3514	Original paper jam inside the scanner (M5360RX)	P.4-199
U3-3611	Original paper jam in the exit area of scanner (M5360RX)	P.4-205
U3-3613	Original paper jam in the exit area of scanner (M5360RX)	P.4-205
U3-3614	Original paper jam in the exit area of scanner (M5360RX)	P.4-205
U3-4210	Top door of scanner is open (M5360RX)	P.4-210

4.6.1. Ax-xxxx type error code

▶ **Error Code**

11-2T01

11-2T11

11-2T21

11-2T31

11-2T41

11-2T61

▶ **Error message**

Load tray with [Letter], [Plain] paper

Load tray 1 with [Letter], [Plain] paper

Load tray 2 with [Letter], [Plain] paper

Load tray 3 with [Letter], [Plain] paper

Load tray 4 with [Letter], [Plain] paper

Load MP with [Letter], [Plain] paper

▶ **Symptom**

Paper in tray is not matched to the machine paper setting.

▶ **Troubleshooting method**

- 1) Check and change the paper setting of the corresponding tray properly.

▶ **Error Code**

61-1111

▶ **Error message**

Booting Failure: #61-1111. Turn off then on. Call for service if the problem persists

▶ **Symptom**

Hibernation image creation is failed.

▶ **Troubleshooting method**

- 1) Turn the machine on with a normal booting.
- 2) Enter the SVC mode. Select “Hibernation On” again.

► **Error Code**

A1-1111

A1-1112

A1-1113

► **Error message**

Motor Failure: #A1-1111. Turn off then on. Call for service if the problem persists

Motor Failure: #A1-1112. Turn off then on. Call for service if the problem persists

Motor Failure: #A1-1113. Turn off then on. Call for service if the problem persists

► **Symptom**

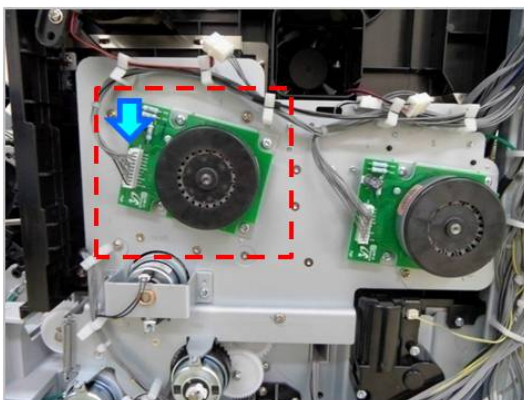
Main motor operation is abnormal.

► **Troubleshooting method**

- A1-1111 : Main motor is stopped but machine recognizes it as operational.
 - A1-1112 : Main motor is not operated for print-job.
 - A1-1113 : Main motor is operating but machine recognizes status as "Stopped".
- 1) Turn the machine off. Check if there are any foreign substances or paper around the paper path.
 - 2) Remove the rear cover after removing 6 screws.



- 3) Check if the main motor connector is connected correctly.



- 4) If the connection is OK, turn the machine on. Enter SVC mode. Select the main motor test.
(Diagnostics > Engine Diagnostics > Engine Test Routines)
Check the motor operation.
 - a) If the motor is not operational,

- Check the signal and power with the DVM.
 - If the checked result is normal, replace the main motor(*JC31-00090A*)
 - If the checked result is abnormal, check the following.
 - If 24V power is not generated, replace the SMPS board(*JC44-00100C (220V) / JC44-00093C (110V)*).
 - If the control signal is abnormal, replace the main board(*JC92-02661A*)
- b) If the motor is operational,
- Check the Pin No 8. If the value is abnormal, replace the main board. If the value is normal, replace the harness.

► **Error Code**

A1-3111

A1-3112

A1-3113

► **Error message**

Motor Failure: #A1-3111. Turn off then on. Call for service if the problem persists

Motor Failure: #A1-3112. Turn off then on. Call for service if the problem persists

Motor Failure: #A1-3113. Turn off then on. Call for service if the problem persists

► **Symptom**

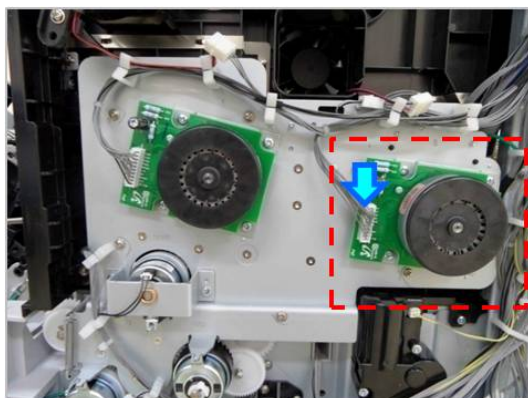
Dev motor operation is abnormal.

► **Troubleshooting method**

- A1-3111 : Dev motor is stopped but machine recognizes it as operational.
 - A1-3112 : Dev motor is not operated for print-job.
 - A1-3113 : Dev motor is operating but machine recognizes status as "Stopped".
- 1) Turn the machine off. Check if there are any foreign substances or paper around the imaging unit.
 - 2) Remove the rear cover after removing 6 screws.



- 3) Check if the Dev motor connector is connected correctly.



- 4) If the connection is OK, turn the machine on. Enter SVC mode. Select the Dev motor test.
(Diagnostics > Engine Diagnostics > Engine Test Routines)
Check the motor operation.
 - a) If the motor is not operational,

- Check the signal and power with the DVM.
 - If the checked result is normal, replace the Dev motor(*JC31-00090A*)
 - If the checked result is abnormal, check the following.
 - If 24V power is not generated, replace the SMPS board(*JC44-00100C (220V) / JC44-00093C (110V)*).
 - If the control signal is abnormal, replace the main board(*JC92-02661A*)
- b) If the motor is operational,
- Check the Pin No 8. If the value is abnormal, replace the main board. If the value is normal, replace the harness.

▶ Error Code

A3-2113

▶ Error message

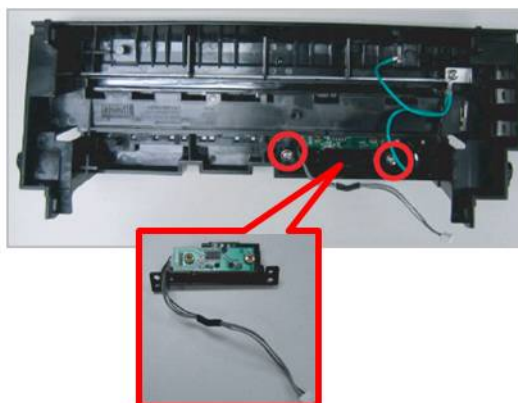
The CTD sensor is dirty. Please clean it with soft cloth or paper.

▶ Symptom

CTD sensor is defective or CTD sensor calibration is abnormal.

▶ Troubleshooting method

- 1) Turn the machine off.
- 2) Open the side cover.
- 3) Check if the CTD sensor window is contaminated. If yes, clean the window with soft cloth.
- 4) Close the side cover.
- 5) Turn the machine on.
- 6) If the problem persists, replace the CTD sensor (*JC32-00014A*).

(Refer to 3.3.11.3. CTD sensor.)

▶ Error Code

A3-3210

A3-3211

A3-3212

▶ Error message

Sensor Failure: #A3-3210. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3211. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3212. Turn off then on. Call for service if the problem persists.

▶ Symptom

Inner temperature sensor is defective.

▶ Troubleshooting method

- A3-3210 : Inner temperature sensor value is abnormal.
 - A3-3211 : Inner temperature sensor is in short status.
 - A3-3212 : Inner temperature sensor is in open status.
- 1) Enter SVC mode. Execute sensor test to check the sensor operation.
(Diagnostics > Engine Diagnostics > Engine Test Routines > 109-0012 Inner Temperature)
 - 2) Open the side cover. Measure the resistance value of the connector at both ends.
 - If the values is not in $10K\Omega \pm 1\%$ (@ 25 °C), replace the inner temperature sensor
 - 3) If the sensor is normal, replace the main board([JC92-02661A](#)).

► **Error Code**

A3-3310

A3-3311

A3-3312

A3-3320

A3-3410

A3-3411

A3-3412

► **Error message**

Sensor Failure: #A3-3310. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3311. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3312. Turn off then on. Call for service if the problem persists.

The room temperature is not suitable for this set use. Please adjust room temperature

Sensor Failure: #A3-3410. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3411. Turn off then on. Call for service if the problem persists.

Sensor Failure: #A3-3412. Turn off then on. Call for service if the problem persists.

► **Symptom**

Outer temperature/humidity sensor is defective.

► **Troubleshooting method**

- A3-3310 / A3-3311 / A3-3312 / A3-3320 : Temperature function of the sensor is abnormal.
- A3-3410 / A3-3411 / A3-3412 : Humidity function of the sensor is abnormal.

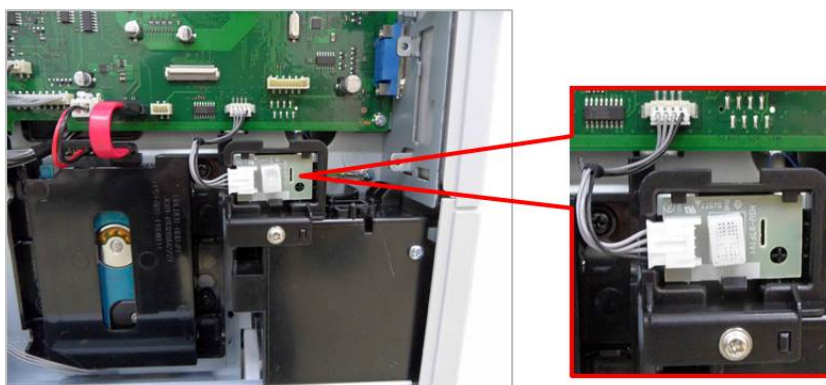
1) Enter SVC mode. Execute sensor test to check its operation.

(Diagnostics > Engine Diagnostics > Engine Test Routines > 109-0013 Outer Temperature)

2) Remove the rear cover.

Measure the resistance value of the connector at both ends.

If the value is not in $47.5K\Omega \sim 52.5K\Omega$ (@ 25 °C), replace the outer temperature/humidity sensor([JC32-00015A](#)).



3) If the harness and sensor are normal, replace the main board([JC92-02661A](#)).

▶ **Error Code**

A4-1110

▶ **Error message**

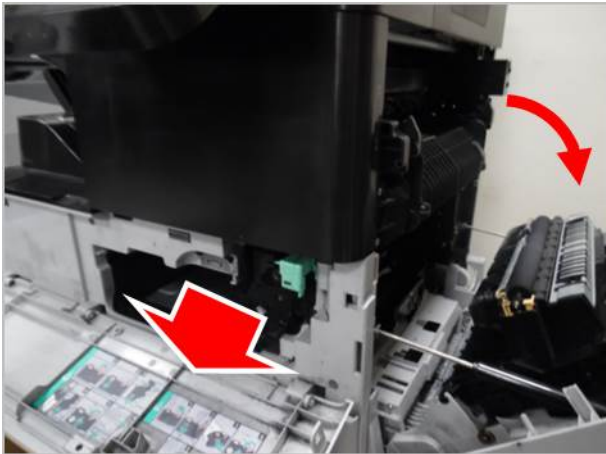
Lamp Failure: #A4-1110. Open the door, then close it. Call for service if the problem persists.

▶ **Symptom**

Eraser Lamp does not turn on.

▶ **Troubleshooting method**

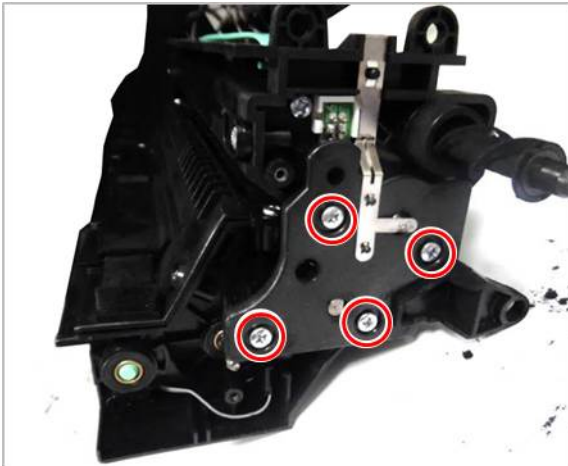
- 1) Execute the eraser lamp test.
 - a) Open the front and side covers. Then, remove the toner cartridge and imaging unit.



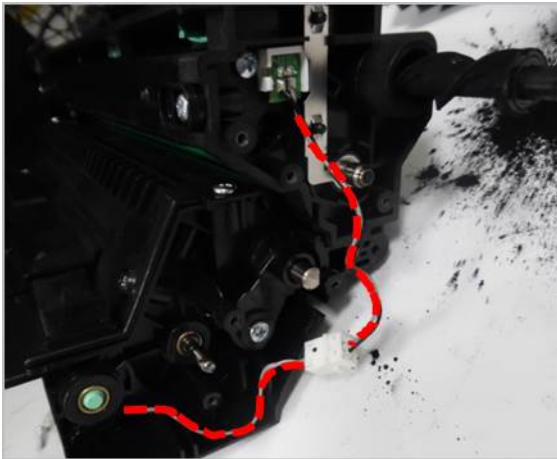
- b) Remove 2 screws from the front of the imaging unit. Then, remove the front cover.



- c) Remove 4 screws. Then, remove the inner cover.



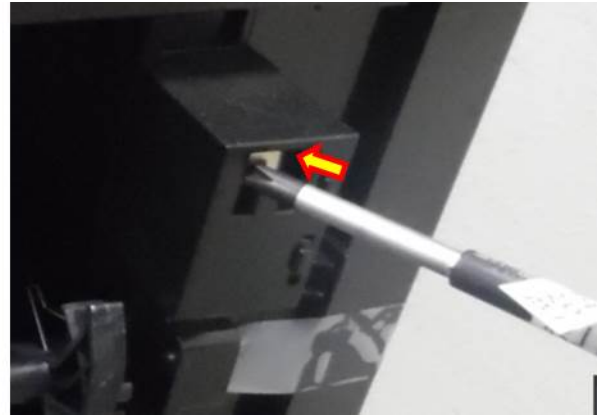
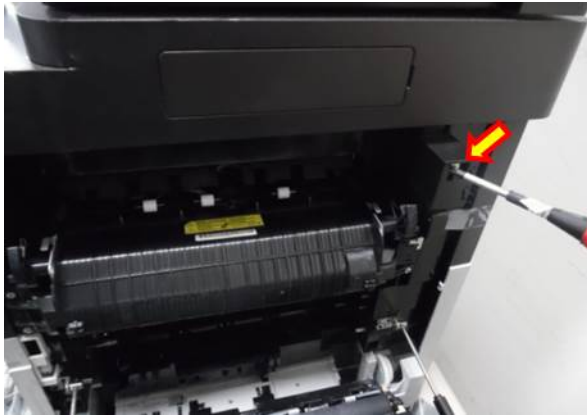
- d) Check if the harness for the eraser ramp is defective.



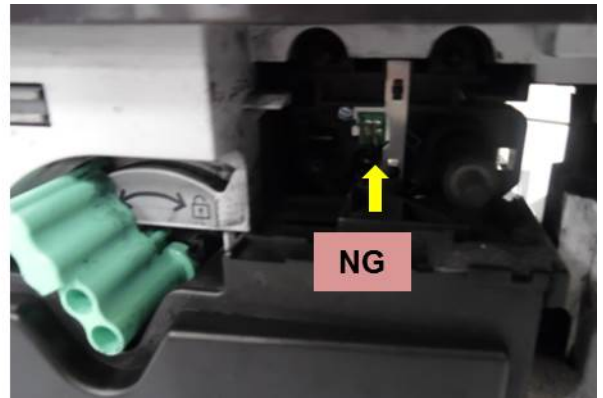
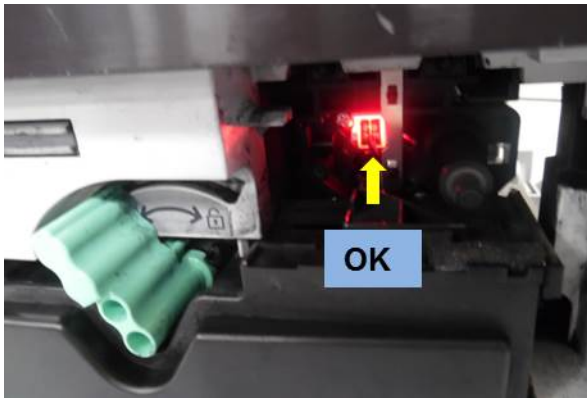
- e) Install the imaging unit while removing its front cover. Then, install the toner cartridge.



- f) Push the side cover open sensor with a tool while opening the front and side covers.



- g) When the machine is warming up, check if the eraser lamp is on. If the machine can't warming up, reinstall the imaging unit and toner cartridge.



- 2) If the eraser lamp does not turn on, replace it([JC92-01959B](#)).

4.6.2. Cx-xxxx type error code

▶ Error Code

C1-1110

▶ Error message

Prepare new toner cartridge

▶ Symptom

Toner cartridge is almost empty.

▶ Troubleshooting method

- 1) Prepare new toner cartridge because it will be exhausted soon.

▶ Error Code

C1-111A

C1-1313

C1-1314

▶ Error message

Shake toner cartridge and then install. Replace toner cartridge if the problem persists.

Shake toner cartridge and then install. Call for service if the problem persists.

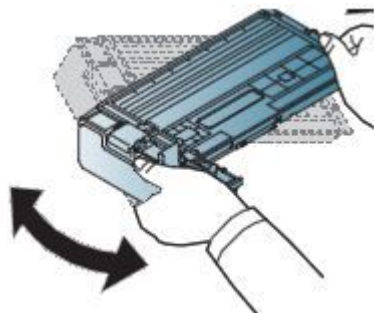
Did not supply enough toner. Remove seal tape of toner cartridge or shake it. Call for service if the problem persists.

▶ Symptom

Toner remained of the toner cartridge is low. / Toner supply is abnormal.

▶ Troubleshooting method

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.
- 3) Check if the toner cartridge seal is removed. If not, remove it.
- 4) Shake the toner cartridge horizontally to distribute the toner evenly inside the cartridge.



- 5) Reinstall the toner cartridge.
- 6) If the problem persists, replace the toner cartridge.

▶ **Error Code**

C1-1140

C1-1160

C1-1170

▶ **Error message**

End of life, Replace with new toner cartridge.

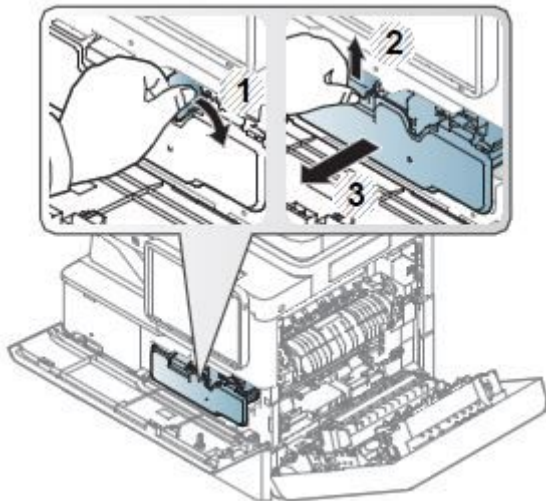
Replace with new toner cartridge.

▶ **Symptom**

Toner cartridge is at the end of its life.

▶ **Troubleshooting method**

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.



- 3) Install the new toner cartridge.
- 4) Close the front cover.

▶ Error Code

C1-1410

▶ Error message

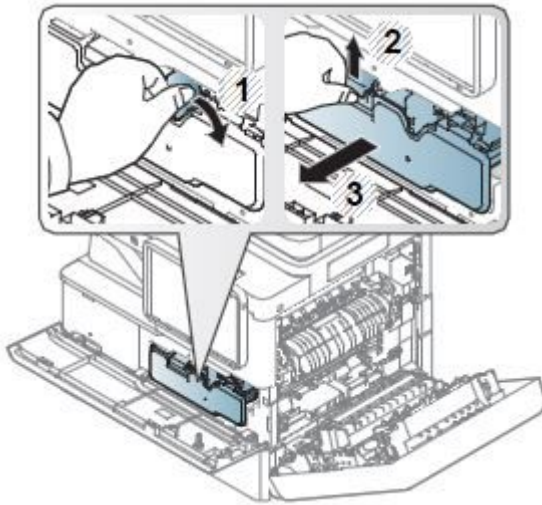
Install toner cartridge.

▶ Symptom

Toner cartridge is not installed.

▶ Troubleshooting method

- 1) Open the front cover and side cover. Check if the toner cartridge is installed.
- 2) Remove and reinstall the toner cartridge.



- 3) If the problem persists, check if the toner cartridge modular jack is contaminated or deformed.
- 4) Replace the toner cartridge with new one.

▶ **Error Code**

C1-1512

▶ **Error message**

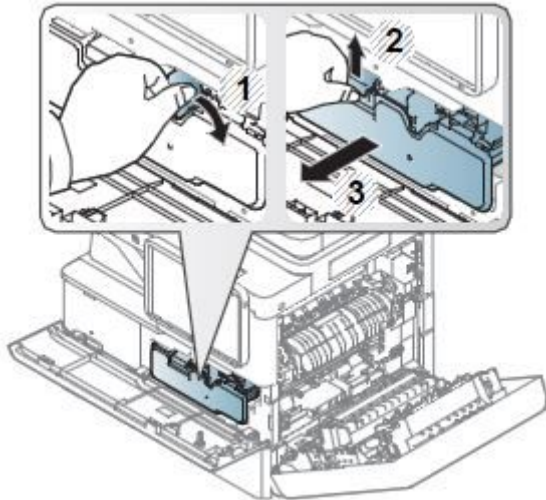
Toner cartridge is not compatible. Check users guide.

▶ **Symptom**

Toner cartridge is not compatible.

▶ **Troubleshooting method**

- 1) Open the front cover and side cover. Remove the toner cartridge.



- 2) Check if the label information of the toner cartridge is same with the machine's one. (ex. /SEE)
- 3) If label information is different from the machine or the toner cartridge is not a samsung genuine, replace it with a new one.

▶ Error Code

C1-1710

C1-1711

C1-1712

▶ Error message

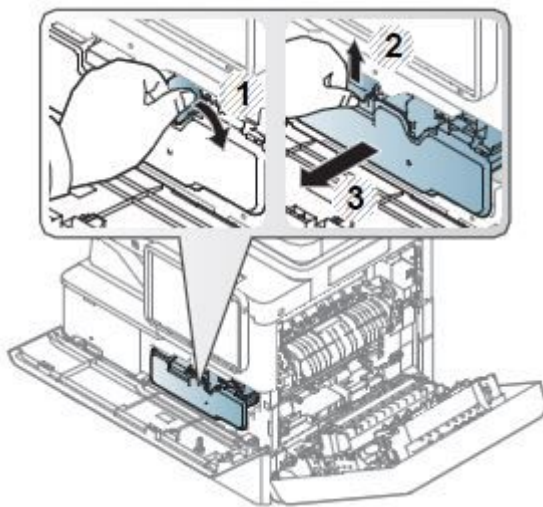
Toner Cartridge Failure: #C1-1710. Call for service

▶ Symptom

The data of CRUM is not detected. / CRUM is defective.

▶ Troubleshooting method

- 1) Open the front cover and side cover. Check if the toner cartridge is installed.
- 2) Remove and reinstall the toner cartridge.



- 3) If the problem persists, check if the toner cartridge modular jack is contaminated or deformed.
- 4) Replace the toner cartridge with new one.

▶ **Error Code**

C3-1110

▶ **Error message**

Prepare new imaging unit.

▶ **Symptom**

Imaging unit has almost reached the end of its life.

▶ **Troubleshooting method**

- 1) Prepare the new imaging unit because it will be exhausted soon.

▶ **Error Code**

C3-1140

C3-1150

C3-1170

▶ **Error message**

End of life, Replace with new imaging unit.

Replace with new imaging unit

End of life, Replace with new imaging unit.

▶ **Symptom**

Imaging unit is at the end of its life.

▶ **Troubleshooting method**

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.
- 3) Remove the imaging unit and replace it with new one.
- 4) Install the toner cartridge.
- 5) Close the side cover and front cover.

▶ **Error Code**

C3-1210

▶ **Error message**

Imaging Unit Failure:#C3-1210. Please turn off then on.

▶ **Symptom**

Sensor calibration error that detects the toner density for image stabilization control has occurred.

▶ **Troubleshooting method**

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.
- 3) Remove and reinstall the imaging unit.
- 4) Install the toner cartridge.
- 5) Close the side cover and front cover.
- 6) If the problem persists, replace the imaging unit.

▶ Error Code

C3-1314

C3-1315

C3-1316

▶ Error message

Imaging Unit Failure: #C3-1314. Install imaging unit again

Imaging Unit Failure: #C3-1315. Install imaging unit again

Imaging Unit Failure: #C3-1316. Install imaging unit again

▶ Symptom

Toner supply is abnormal.

▶ Troubleshooting method

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.
- 3) Remove and reinstall the imaging unit.
- 4) Install the toner cartridge.
- 5) Close the side cover and front cover.
- 6) If the problem persists, replace the imaging unit.
- 7) Check if the motor related to toner supply is working normally. If not, replace the motor.

▶ Error Code

C3-1410

C3-1414

C3-1512

▶ Error message

Imaging unit is not installed. Install the unit.

Imaging Unit Failure: #C3-1414. Install imaging unit again.

Imaging unit is not compatible. Check users guide.

▶ Symptom

Imaging unit is not installed properly. / The machine can't read the charger resistance value from the imaging unit. / Imaging unit is not compatible.

▶ Troubleshooting method

- 1) Open the front cover and side cover.
- 2) Remove the toner cartridge.
- 3) Remove and reinstall the imaging unit.
- 4) Install the toner cartridge.
- 5) Close the side cover and front cover.
- 6) If the problem persists, replace the imaging unit with new one.

▶ Error Code

C3-1710

C3-1711

C3-1712

▶ Error message

Imaging unit Failure: #C3-1710. Call for service.

Imaging unit Failure: #C3-1711. Call for service.

Imaging unit Failure: #C3-1712. Call for service.

▶ Symptom

The data of CRUM is not detected.

▶ Troubleshooting method

- 1) Open the front cover and side cover.
- 2) Remove the imaging unit check that its modular jack is contaminated or deformed.
- 3) If it is defective, replace it with new one.
- 4) Close the side cover and front cover.

▶ Error Code

C6-1120

▶ Error message

Replace with new fuser unit.

▶ Symptom

The life of the fuser unit expires soon or has expired.

▶ Troubleshooting method

- 1) Open the side cover.
- 2) Remove and replace the fuser unit with new one.
- 3) Close the front cover.

**CAUTION**

The temperature gets high in the vicinity of the fuser unit. When replacing it, you may get burned. Before replacing it, make sure that fuser unit has cooled.

▶ Error Code

C9-1112

C9-1122

C9-1132

C9-1142

▶ Error message

Replace with new Tray1 pickup roller.

Replace with new Tray2 pickup roller.

Replace with new Tray3 pickup roller.

Replace with new Tray4 pickup roller.

▶ Symptom

The life of the pick up/reverse/forward roller for tray1,2,3,4 has expired.

▶ Troubleshooting method

- 1) Open the side cover.
- 2) Remove the cassette.
- 3) Lift small tap, remove the pick up / reverse/ forward roller.
- 4) Install the new pick up / reverse/ forward roller.
- 5) Enter SVC mode.
- 6) Select "Roller" (INFORMATION > Supply Status > Field Replacement Unit > Roller)
- 7) Select "P/up roller Kit-tray1~4". The "RESET" button will be activated. Click "RESET" to clear the corresponding pick up roller.
- 8) Exit SVC mode by pushing the home button.

▶ Error Code

C9-1162

▶ Error message

Replace with new MP pickup roller

▶ Symptom

The life of the MP roller expires soon or has expired.

▶ Troubleshooting method

- 1) Turn the machine off.
- 2) Remove the MP unit.
- 3) Release and replace the MP-PICKUP RUBBER from the MP unit.
- 4) Assemble the MP unit.
- 5) Enter SVC mode.
- 6) Select "Roller" (INFORMATION > Supply Status > Field Replacement Unit > Roller)
- 7) Select "P/up roller MP". The "RESET" button will be activated. Click "RESET" to clear the MP pick up roller.
- 8) Exit SVC mode by pushing the home button.

▶ **Error Code**

C9-2120

▶ **Error message**

Replace with new Transfer roller

▶ **Symptom**

The life of the second transfer roller(T2) expires soon or has expired.

▶ **Troubleshooting method**

- 1) Open the side cover.
- 2) Replace the second transfer roller with new one.
- 3) Close the side cover.
- 4) Enter SVC mode.
- 5) Select “TRNASFER” (INFORMATION > Supply Status > Field Replacement Unit > TRNASFER)
- 6) Select “T2 Roller”. The “RESET” button will be activated. Click “RESET” to clear the T2 roller.
- 7) Exit SVC mode by pushing the home button.

▶ Error Code

C9-2220

▶ Error message

TR Failure: #C9-2220. Install transfer roller again

▶ Symptom

The transfer roller is not installed properly.

▶ Troubleshooting method

- 1) Open the side cover.
- 2) Remove and reinstall the second transfer roller.
- 3) Close the side cover.
- 4) Enter SVC mode.
- 5) Select "TRNASFER" (INFORMATION > Supply Status > Field Replacement Unit > TRNASFER)
- 6) Select "T2 Roller". The "RESET" button will be activated. Click "RESET" to clear the T2 roller.
- 7) Exit SVC mode by pushing the home button.

4.6.3. H1-xxxx type (Optional Cassette) error code

▶ **Error Code**

H1-1211

H1-1213

H1-1217

H1-1218

H1-1219

▶ **Error message**

Paper jam in Tray 2.

Paper jam in tray 2 or tray door is open.

▶ **Symptom**

Paper jam has occurred in tray2. (Pick up unit connection is defective. / Pickup rollers are defective. / Pick up sensor is defective.)

▶ **Troubleshooting method**

- 1) Remove the tray2. Remove the jammed paper. And install the tray2.
- 2) If the problem persists, check the followings.
- 3) Check if the proper paper is loaded in the tray. If not, replace the paper.
- 4) Check if the pick up/reverse/forward roller are contaminated or worn out. Replace these rollers.
- 5) Check the tray 2 pick up unit.
 - Check if the sensor and actuator are assembled correctly. When the paper or something puts on sensor, check the sensor output. Check if the value is changed to 3.3V width. If not, replace the sensor.
 - If there is a defective part like a actuator, spring etc., replace it or the tray 2 pick up unit.
- 6) Check if the tray 2 pick up motor connector is connected correctly.
- 7) If the pick up motor is defective, replace it.
- 8) Check if the tray 2 pick up clutch connector is connected correctly.

▶ Error Code**H1-1220****▶ Error message**

Tray 2 door is open. Close it.

▶ Symptom

The right door of the tray 2 is open. / The door open sensor is defective.

▶ Troubleshooting method

- 1) Open and close the tray 2 door.
- 2) If the problem persists, check the door open sensor.
 - Check if the door open sensor connector is connected correctly.
 - If the sensor operation is abnormal, replace it.

▶ Error Code**H1-1222****H1-1240****▶ Error message**

Tray 2 cassette is pulled out. Insert it properly.

▶ Symptom

Tray 2 is pulled out or the cassette detection sensor connector is not connected or broken.

▶ Troubleshooting method

- 1) Remove and insert tray2 correctly.
- 2) If the problem persists, remove tray2 again.
- 3) Check if the cassette detection sensor cable is connected correctly. Unplug and reconnect it.
- 4) If the connection is OK, replace the cassette detection sensor.
- 5) If the problem persists, replace the SCF board.

▶ Error Code**H1-1230****▶ Error message**

Input System Failure: #H1-1230. Check tray 2 connection.

▶ Symptom

The communication error between the tray 2 and the main machine has occurred.

▶ Troubleshooting method

- 1) Check if the SCF unit connector is connected to the machine correctly. Reconnect it.
- 2) If the drawer connector is deformed, replace it.

▶ **Error Code**

H1-1251

H1-1252

▶ **Error message**

Paper is low in Tray 2. Load paper.

Paper is empty in tray 2. Load paper.

▶ **Symptom**

Paper in the tray2 is less than 10% of specification. / The photo sensor is defective.

▶ **Troubleshooting method**

- 1) Remove tray2. Load the paper in tray2.
- 2) If paper is loaded but error message has not disappeared, check the following.
 - a) Remove the tray 2 pick up unit.
 - b) Check if the paper empty sensor is contaminated. If so, clean it.
 - c) If the paper empty sensor is defective, replace it.
 - d) If the empty actuator is defective, replace it.

▶ Error Code

H1-1253

▶ Error message

Input System Failure #H1-1253 : Pull Tray 2 out and insert it.

▶ Symptom

The paper is not fed from tray2.

▶ Troubleshooting method

- 1) Turn the machine off than on.
- 2) If the problem persists, turn the machine off.
- 3) Check if the connection between the tray 2 pick up drive and SCF board is correct.
- 4) If the connection is OK, replace the tray 2 pick up drive unit.
- 5) If the problem persists, check the following.
 - a) Remove the tray 2 pick up unit.
 - b) Check if the pick up sensor is contaminated, clean it.
 - c) If the pick up sensor is defective, replace it.

▶ Error Code

H1-1311

H1-1313

H1-1317

H1-1318

H1-1319

▶ Error message

Paper jam in Tray 3.

Paper jam in tray 3 or tray door is open.

▶ Symptom

Paper jam has occurred in tray3. (Pick up unit connection is defective. / Pickup rollers are defective. / Pick up sensor is defective.)

▶ Troubleshooting method

- 1) Remove the tray3. Remove the jammed paper. And install the tray3.
- 2) If the problem persists, check the followings.
- 3) Check if the proper paper is loaded in the tray. If not, replace the paper.
- 4) Check if the pick up/reverse/forward roller are contaminated or worn out. Replace these rollers.
- 5) Check the tray 3 pick up unit.
 - Check if the sensor and actuator are assembled correctly. When the paper or something puts on sensor, check the sensor output. Check if the value is changed to 3.3V width. If not, replace the sensor.
 - If there is a defective part like a actuator, spring etc., replace it or the tray 3 pick up unit.
- 6) Check the tray 3 pick up motor.
 - Check if the tray 3 pick up motor cable is connected correctly.
 - If the connection is OK, replace the tray 3 pick up drive unit.

▶ Error Code

H1-1320

▶ Error message

Tray 3 door is open. Close it.

▶ Symptom

The right door of the tray 3 is open. / The door open sensor is defective.

▶ Troubleshooting method

- 1) Open and close the tray 3 door.
- 2) If the problem persists, check the door open sensor.
 - Check if the door open sensor connector is connected correctly.
 - If the sensor operation is abnormal, replace it.

▶ Error Code

H1-1322

H1-1340

▶ Error message

Tray 3 cassette is pulled out. Insert it properly.

Tray 3 is not installed. Install the tray.

▶ Symptom

Tray 3 is pulled out or the cassette detection sensor connector is not connected or broken.

▶ Troubleshooting method

- 1) Remove and insert tray3 correctly.
- 2) If the problem persists, remove tray3 again.
- 3) Check if the cassette detection sensor cable is connected correctly. Unplug and reconnect it.
- 4) If the connection is OK, replace the cassette detection sensor.
- 5) If the problem persists, replace the SCF board.

▶ Error Code

H1-1332

▶ Error message

Tray Failure: #H1-1332. Check Tray connection

▶ Symptom

The communication error between the tray 3 and the main machine has occurred.

▶ Troubleshooting method

- 1) Check if the SCF unit connector is connected to the machine correctly. Reconnect it.
- 2) If the drawer connector is deformed, replace it.

▶ **Error Code**

H1-1351

H1-1352

▶ **Error message**

Paper is low in Tray 3. Load paper.

Paper is empty in tray 3. Load paper.

▶ **Symptom**

Paper in the tray3 is less than 10% of specification. / The photo sensor is defective.

▶ **Troubleshooting method**

- 1) Remove tray3. Load the paper in tray3.
- 2) If paper is loaded but error message has not disappeared, check the following.
 - a) Remove the tray 3 pick up unit.
 - b) Check if the paper empty sensor is contaminated. If so, clean it.
 - c) If the paper empty sensor is defective, replace it.
 - d) If the empty actuator is defective, replace it.

▶ Error Code

H1-1353

▶ Error message

Input System Failure #H1-1353 : Pull Tray 3 out and insert it.

▶ Symptom

The paper is not fed from tray3.

▶ Troubleshooting method

- 1) Turn the machine off than on.
- 2) If the problem persists, turn the machine off.
- 3) Check if the connection between the tray 3 pick up drive and SCF board is correct.
- 4) If the connection is OK, replace the tray 3 pick up drive unit.
- 5) If the problem persists, check the following.
 - a) Remove the tray 3 pick up unit.
 - b) Check if the pick up sensor is contaminated, clean it.
 - c) If the pick up sensor is defective, replace it.

▶ Error Code

H1-1411

H1-1413

H1-1417

H1-1418

H1-1419

▶ Error message

Paper jam in Tray 4.

Paper jam in tray 4 or tray door is open.

▶ Symptom

Paper jam has occurred in tray4. (Pick up unit connection is defective. / Pickup rollers are defective. / Pick up sensor is defective.)

▶ Troubleshooting method

- 1) Remove the tray4. Remove the jammed paper. And install the tray4.
- 2) If the problem persists, check the followings.
- 3) Check if the proper paper is loaded in the tray. If not, replace the paper.
- 4) Check if the pick up/reverse/forward roller are contaminated or worn out. Replace these rollers.
- 5) Check the tray 4 pick up unit.
 - Check if the sensor and actuator are assembled correctly. When the paper or something puts on sensor, check the sensor output. Check if the value is changed to 3.3V width. If not, replace the sensor.
 - If there is a defective part like a actuator, spring etc., replace it or the tray 4 pick up unit.
- 6) Check the tray 4 pick up motor.
 - Check if the tray 4 pick up motor cable is connected correctly.
 - If the connection is OK, replace the tray 4 pick up drive unit.

▶ Error Code

H1-1420

▶ Error message

Tray 4 door is open. Close it.

▶ Symptom

The right door of the tray 4 is open. / The door open sensor is defective.

▶ Troubleshooting method

- 1) Open and close the tray 4 door.
- 2) If the problem persists, check the door open sensor.
 - Check if the door open sensor connector is connected correctly.
 - If the sensor operation is abnormal, replace it.

▶ Error Code

H1-1422

▶ Error message

Tray 4 cassette is pulled out. Insert it properly.

▶ Symptom

Tray 4 is pulled out or the cassette detection sensor connector is not connected or broken.

▶ Troubleshooting method

- 1) Remove and insert tray4 correctly.
- 2) If the problem persists, remove tray4 again.
- 3) Check if the cassette detection sensor cable is connected correctly. Unplug and reconnect it.
- 4) If the connection is OK, replace the cassette detection sensor.
- 5) If the problem persists, replace the SCF board.

▶ Error Code

H1-1434

▶ Error message

Tray Failure: #H1-1434. Check Tray connection

▶ Symptom

The communication error between the tray 4 and the main machine has occurred.

▶ Troubleshooting method

- 1) Check if the SCF unit connector is connected to the machine correctly. Reconnect it.
- 2) If the drawer connector is deformed, replace it.

▶ **Error Code**

H1-1451

H1-1452

▶ **Error message**

Paper is low in Tray 4. Load paper.

Paper is empty in tray 4. Load paper.

▶ **Symptom**

Paper in the tray4 is less than 10% of specification. / The photo sensor is defective.

▶ **Troubleshooting method**

- 1) Remove tray 4. Load the paper in tray4.
- 2) If paper is loaded but error message has not disappeared, check the following.
 - a) Remove the tray 4 pick up unit.
 - b) Check if the paper empty sensor is contaminated. If so, clean it.
 - c) If the paper empty sensor is defective, replace it.
 - d) If the empty actuator is defective, replace it.

▶ Error Code

H1-1453

▶ Error message

Input System Failure #H1-1453 : Pull Tray 4 out and insert it.

▶ Symptom

The paper is not fed from tray4.

▶ Troubleshooting method

- 1) Turn the machine off than on.
- 2) If the problem persists, turn the machine off.
- 3) Check if the connection between the tray 4 pick up drive and SCF board is correct.
- 4) If the connection is OK, replace the tray 4 pick up drive unit.
- 5) If the problem persists, check the following.
 - a) Remove the tray 4 pick up unit.
 - b) Check if the pick up sensor is contaminated, clean it.
 - c) If the pick up sensor is defective, replace it.

▶ Error Code

H1-2211

H1-2213

H1-2217

H1-2218

H1-2219

▶ Error message

Paper jam in HCF 2.

Paper jam in tray 2 or tray door is open.

▶ Symptom

Paper jam has occurred in 1st HCF. (Pick up unit connection is defective. / Pickup rollers are defective. / Pick up sensor is defective.)

▶ Troubleshooting method

- 1) Remove the 1st HCF cassette. Remove the jammed paper. And install the 1st HCF cassette.
- 2) If the problem persists, check the followings.
- 3) Check if the proper paper is loaded in the cassette. If not, replace the paper.
- 4) Check if the pick up/reverse/forward roller are contaminated or worn out. Replace these rollers.
- 5) Check the 1st HCF pick up unit.
 - Check if the sensor and actuator are assembled correctly. When the paper or something puts on sensor, check the sensor output. Check if the value is changed to 3.3V width. If not, replace the sensor.
 - If there is a defective part like a actuator, spring etc., replace it or the 1st HCF pick up unit.
- 6) Check the 1st HCF pick up motor.
 - Check if the 1st HCF pick up motor cable is connected correctly.
 - If the connection is OK, replace the 1st HCF pick up drive unit.

▶ Error Code

H1-2220

▶ Error message

HCF 2 door is open. Close it.

▶ Symptom

The right door of the 1st HCF is open. / The door open sensor is defective.

▶ Troubleshooting method

- 1) Open and close the 1st HCF door.
- 2) If the problem persists, check the door open sensor.
 - Check if the door open sensor connector is connected correctly.
 - If the sensor operation is abnormal, replace it.

▶ Error Code

H1-2222

H1-2240

▶ Error message

HCF 2 cassette is pulled out. Insert it properly.

HCF 2 is not installed. Install the HCF.

▶ Symptom

1st HCF cassette is pulled out or the cassette detection sensor connector is not connected or broken.

▶ Troubleshooting method

- 1) Remove and insert the 1st HCF cassette correctly.
- 2) If the problem persists, remove the 1st HCF cassette again.
- 3) Check if the cassette detection sensor cable is connected correctly. Unplug and reconnect it.
- 4) If the connection is OK, replace the cassette detection sensor.
- 5) If the problem persists, replace the HCF board.

▶ Error Code

H1-2230

▶ Error message

Input System Failure: #H1-2230. Check HCF 2 connection.

▶ Symptom

The communication error between the 1st HCF and the main machine has occurred.

▶ Troubleshooting method

- 1) Check if the HCF unit connector is connected to the machine correctly. Reconnect it.
- 2) If the drawer connector is deformed, replace it.

▶ **Error Code**

H1-2251

H1-2252

▶ **Error message**

Paper is low in HCF 2. Load paper.

Paper is empty in HCF 2. Load paper.

▶ **Symptom**

Paper in the 1st HCF cassette is less than 10% of specification. / The photo sensor is defective.

▶ **Troubleshooting method**

- 1) Remove 1st HCF cassette. Load the paper in the 1st HCF cassette.
- 2) If paper is loaded but error message has not disappeared, check the following.
 - a) Remove the 1st HCF pick up unit.
 - b) Check if the paper empty sensor is contaminated. If so, clean it.
 - c) If the paper empty sensor is defective, replace it.
 - d) If the empty actuator is defective, replace it.

▶ Error Code

H1-2253

▶ Error message

Input System Failure #H1-2253 : Pull HCF 2 out and insert it.

▶ Symptom

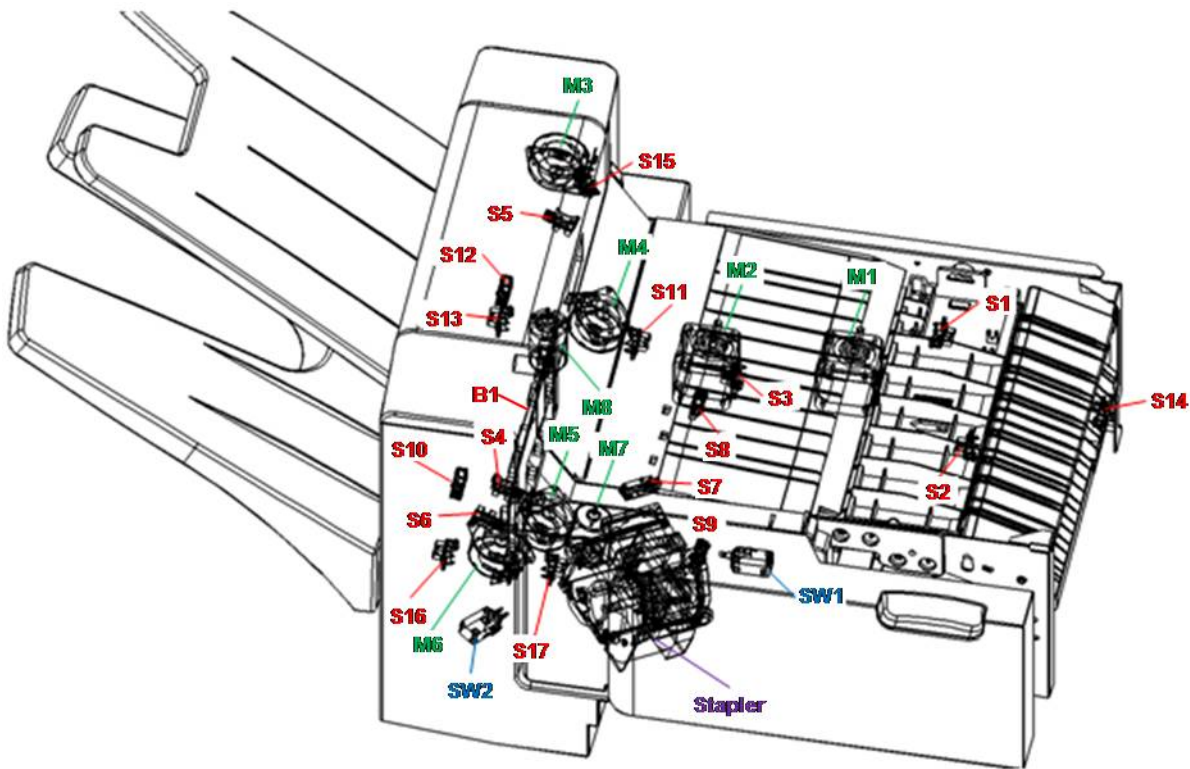
The paper is not fed from HCF.

▶ Troubleshooting method

- 1) Turn the machine off than on.
- 2) If the problem persists, turn the machine off.
- 3) Check if the connection between the 1st HCF pick up drive and HCF board is correct.
- 4) If the connection is OK, replace the 1st HCF pick up drive unit.
- 5) If the problem persists, check the following.
 - a) Remove the 1st HCF pick up unit.
 - b) Check if the pick up sensor is contaminated, clean it.
 - c) If the pick up sensor is defective, replace it.

4.6.4. H2-xxxx type (Finisher) error code

Finisher System Layout



No	Location	Description	Code
1	S1	DUPLEX SENSOR	0604-001415
2	S2	ENTRANCE SENSOR	0604-001415
3	S3	EXIT SENSOR	0604-001415
4	S4	PADDLE HOME SENSOR	0604-001415
5	S5	REAR JOGGER HOME SENSOR	0604-001415
6	S6	FRONT JOGGER HOME SENSOR	0604-001415
7	S7	PAPER DETECTOR SENSOR	JC81-03480A
8	S8	EJECTOR HOME SENSOR	0604-001415
9	S9	EXTENTION TRAY HOME SENSOR	0604-001415
10	S10	STACKER TOP SENSOR	0604-001415
11	S11	EXIT JAM SENSOR	0604-001415
12	S12	TOP EMPTY SENSOR	0604-001415
13	S13	TOP EXIT SENSOR	0604-001415
14	S14	SET SENSOR	0604-001415
15	S15	JAN GUIDE DETECTOR SENSOR	0604-001415
16	S16	STACKER FULL SENSOR	0604-001415
17	S17	ENCODER SENSOR	0604-001415
18	M1	ENTRANCE MOTOR	JC81-03479A
19	M2	EXIT MOTOR	JC81-03479A

No	Location	Description	Code
20	M3	PADDLE MOTOR	JC81-07280A
21	M4	REAR JOGGER MOTOR	JC81-03486A
22	M5	FRONT JOGGER MOTOR	JC81-03486A
23	M6	SUPPORT FINGER MOTOR	JC81-07280A
24	M7	EJECTOR MOTOR	JC81-03484AC
25	M8	STACKER MOTOR	JC81-03484AC
26	SW1	FRONT DOOR	JC81-03469A
27	SW2	LOWER LIMITE	JC81-03469A
28	B1	MAIN CONTROL BOARD	JC81-07242AB

▶ **Error Code**

H2-5001

H2-5002

H2-5096

▶ **Error message**

Finisher Failure #H2-5001. Turn off then on, after checking finisher

Finisher Failure #H2-5002. Turn off then on, after checking finisher

Finisher Failure #H2-5096. Turn off then on, after checking finisher

▶ **Symptom**

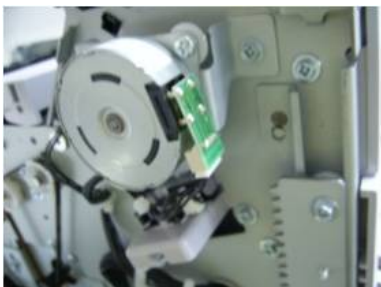
Main Paddle operation is abnormal. (Paddle home failure / Paddle move failure)

▶ **Troubleshooting method**

- 1) Is the Main Paddle overruns during the operation?
 - a) Check if the Paddle home sensor actuator(SJ10 3302) is abnormality.
 - b) Check if the connector(SJ10 8310) of Paddle home sensor (S4) is disconnected.
 - c) Check if the connector(SJ10 8310) J8 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (JR10 8310), replace as is necessary.
 - e) Replace the finisher Paddle home sensor(S4).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the Paddle Motor (M3) working?
 - a) Check if the connector(JR10 8320) of Paddle motor(M3) is disconnected.
 - b) Check if the connector(JR10 8320) J5 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Paddle motor(M3).



- e) Replace the Finisher main board([JC81-07242A](#)).
- 3) Check if the gears(SJ10 3308) of Paddle motor(M3) are assembled correctly.
- 4) Check if the tooth of gears(SJ10 3308) are broken. If it is defective, replace the broken gears(SJ10 3308).

- 5) Check if the Paper Path Diverter gears(cam) (JR10 3302) are assembled correctly or operated well.



- 6) Check if the gears(cam) (JR10 3302) are broken. If it is defective, replace the broken gears(cam).
- 7) Replace the Paddle Unit(JR10 3130).

▶ **Error Code**

H2-5003

H2-5004

H2-5097

▶ **Error message**

Finisher Failure #H2-5003. Turn off then on, after checking finisher

Finisher Failure #H2-5004. Turn off then on, after checking finisher

Finisher Failure #H2-5097. Turn off then on, after checking finisher

▶ **Symptom**

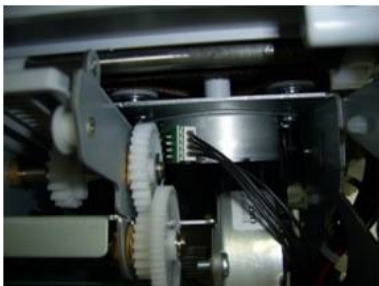
Front Jogger operation is abnormal.

▶ **Troubleshooting method**

- 1) Is the Front Jogger Home sensor (S6) working?
 - a) Check if the Front Jogger home sensor actuator(SJ10 3318) is abnormality.
 - b) Check if the connector(SJ10 8310) of Front Jogger home sensor(S6) is disconnected.
 - c) Check if the connector(SJ10 8310) J8 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (JR10 8310), replace as is necessary.
 - e) Replace the Front Jogger home sensor(S6).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the Front Jogger motor (M5) working?
 - a) Check if the connector (SJ10 8310)of Front Jogger motor(M5) is disconnected.
 - b) Check if the connector (SJ10 8310) J6 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8310), replace as is necessary.
 - d) Replace the Front Jogger motor(M5).



- e) Replace the Finisher main board([JC81-07242A](#)).
- 3) Is there any belt(gear) jumping noise?
 - a) Check if the Front Jogger driving belt([JC81-03509A](#)) is assembled correctly.
 - b) Check if the Front Jogger driving belt([JC81-03509A](#)) is broken. Replace the belt if it does.
 - c) Check if the Front Jogger motor bracket(SJ10 3206) is fasten on tamper base(JR10 3304) by screw.

- d) Check if the tooth of gear(SJ10 3308) is broken. Replace the gear if it does.
- e) Check if the Front Jogger shaft(JR10 3304) became pollution. Remove if it does.



- 4) Replace the Front Jogger Unit([JC81-03511C](#)).

▶ Error Code

H2-5005

H2-5006

H2-5098

▶ Error message

Finisher Failure #H2-5005. Turn off then on, after checking finisher

Finisher Failure #H2-5006. Turn off then on, after checking finisher

Finisher Failure #H2-5098. Turn off then on, after checking finisher

▶ Symptom

Rear Jogger operation is abnormal.

▶ Troubleshooting method

- 1) Is the Rear Jogger Home sensor (S5) working?
 - a) Check if the Rear Jogger home sensor actuator(SJ10 3318) is abnormality.
 - b) Check if the connector(JR10 8320) of Rear Jogger home sensor(S5) is disconnected.
 - c) Check if the connector(JR10 8320) J7 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check discontinuity and damage of the harness(JR10 8320), replace it if required.
 - e) Replace the Rear Jogger home sensor(S5).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the Rear Jogger motor (M4) working?
 - a) Check if the connector(JR10 8320) of Rear Jogger motor is disconnected.
 - b) Check if the connector(JR10 8320) J5 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Rear Jogger motor(M4).



- e) Replace the Finisher main board([JC81-07242A](#)).
- 3) Is there any belt(gear) jumping noise?
 - a) Check if the Rear Jogger driving belt([JC81-03509A](#)) is assembled correctly.
 - b) Check if the Rear Jogger driving belt([JC81-03509A](#)) is broken. Replace the belt if it does.
 - c) Check if the Rear Jogger motor bracket(SJ10 3206) is fasten on tamper base(JR10 3306) by screw.

- d) Check if any of the teeth on gear (SJ10 3308) are broken. Replace the gear if necessary.
- e) Check if the Front Jogger shaft (JR10 3304) is contaminated. Clean as is necessary.



- 4) Replace the Rear Jogger Unit([JC81-03507C](#)).

▶ Error Code

H2-5007

H2-5008

H2-5099

▶ Error message

Finisher Failure #H2-5007. Turn off then on, after checking finisher

Finisher Failure #H2-5008. Turn off then on, after checking finisher

Finisher Failure #H2-5099. Turn off then on, after checking finisher

▶ Symptom

Extension Tray operation is abnormal.

▶ Troubleshooting method

- 1) Is the Extension Tray Home sensor (S9) working?
 - a) Check if the Extension Tray home sensor actuator([JC81-03483B](#)) is abnormality.
 - b) Check if the connector(SJ10 8380) of Extension Tray home sensor(S9) is disconnected.
 - c) Check if the connector(SJ10 8310) J8 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged, replace it if required.
 - e) Replace the Extension Tray home sensor(S9).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the Extension Tray motor (M6) working?
 - a) Check if the connector (SJ10 8310) of Extension Tray motor is disconnected.
 - b) Check if the connector(SJ10 8310) J6 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check continuity and if the harness is damaged, replace it if required.
 - d) Replace the Extension Tray motor(M6).



- e) Replace the Finisher main board([JC81-07242A](#)).
- 3) Check if the gears(SJ10 5342) are assembled correctly.
- 4) Check if the tooth of gears(SJ10 5342) are broken. Replace the broken gears.

- 5) Check if the Extension Tray Home sensor bracket(SJ10 5120) is deformed.(make a right angle) Replace the bracket.



- 6) Replace the Extension Tray Unit(SJ10 5000).

► Error Code

H2-5009

H2-5010

H2-5011

H2-5100

► Error message

Finisher Failure #H2-5009. Turn off then on, after checking finisher

Finisher Failure #H2-5010. Turn off then on, after checking finisher

Finisher Failure #H2-5011. Turn off then on, after checking finisher

Finisher Failure #H2-5100. Turn off then on, after checking finisher

► Symptom

Ejector operation is abnormal.

► Troubleshooting method

- 1) Is the ejector home sensor (S8) working?
 - a) Check if the Ejector home sensor actuator(SJ10 2382) is abnormal.
 - b) Check if the connector(SJ10 8360) of ejector home sensor is disconnected.
 - c) Check if the connector(JR10 8320) J7 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged, replace it if required.
 - e) Replace the ejector home sensor(S8).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the ejector moves very fast?
 - a) Check if the Ejector Encoder sensor actuator (SJ10 4362) is abnormal.
 - b) Check if the connector(SJ10 8310) of ejector encoder sensor(S17) is disconnected.
 - c) Check if the connector(SJ10 8310) J13 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (SJ10-8310), replace as is necessary.
 - e) Replace the ejector encoder sensor(S17).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 3) Is the ejector motor (M7) working?

- a) Check if the connector(SJ10 8310) of ejector motor(SJ10 4143) is disconnected.
- b) Check if the connector(SJ10 8310) J6 on the finisher main board([JC81-07242A](#)) is disconnected.
- c) Check continuity and if the harness is damaged, replace it if required.
- d) Replace the ejector motor(M7).



- e) Replace the Finisher main board([JC81-07242A](#)).
- 4) Can you hear the sound that the ejector driving belt is jumping during operation?
 - a) Check if the ejector motor bracket(SJ10 4204) assembly is fasten on compiler bottom frame by screw.
 - 5) Check if the tooth of gears(SJ10 4304) are broken. Replace the broken gears.
 - 6) Replace the ejector unit([JC81-03773C](#)).

▶ **Error Code**

H2-5012

H2-5013

H2-5101

▶ **Error message**

Finisher Failure #H2-5012. Turn off then on, after checking finisher

Finisher Failure #H2-5013. Turn off then on, after checking finisher

Finisher Failure #H2-5101. Turn off then on, after checking finisher

▶ **Symptom**

Stapler head clinching motor is not working properly.

▶ **Troubleshooting method**

- 1) Is the Head of Stapler([JC81-03475B](#)) opened?
 - a) Replace stapler cartridge([JC81-03481A](#)).
 - b) Check if the connectors([SJ10 8310](#)) of stapler head are disconnected.
 - c) Check if the connector([SJ10 8310](#)) P7 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness ([SJ10-8310](#)), replace as is necessary.
 - e) Replace the stapler unit([SJ10 3140](#)).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Replace the stapler unit([SJ10 3140](#)).

► **Error Code**

H2-5014

H2-5015

H2-5102

► **Error message**

Finisher Failure #H2-5014. Turn off then on, after checking finisher

Finisher Failure #H2-5015. Turn off then on, after checking finisher

Finisher Failure #H2-5102. Turn off then on, after checking finisher

► **Symptom**

Stacker operation is abnormal.

► **Troubleshooting method**

- 1) Are the Stacker Upper Limit(Top) Sensors (S10) working?
 - a) Check if the sensor actuator(SJ10 6332A) is abnormality.
 - b) Check if the connector(SJ10 8370) of the sensors are disconnected.
 - c) Check if the connector(SJ10 8310) J8 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check discontinuity and damage of the harness(SJ10 8310, SJ10 8370), replace it if required.
 - e) Replace the stacker upper limit sensors(S10).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 2) Is the Stacker Full Sensor (S16) working?
 - a) Check if the sensor actuator(JR10 6210) is abnormality.
 - b) Check if the connector(JR10 8320) of stacker full sensor is disconnected.
 - c) Check if the connector(JR10 8320) J18 on the finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (SJ10 8320), replace as is necessary.
 - e) Replace the stacker encoder sensor(S16).



- f) Replace the Finisher main board([JC81-07242A](#)).
- 3) Is the stacker Lower Limit Switch (SW2) working?
 - a) Check if the sensor actuator(JR10 6310) is abnormality.
 - b) Check if the connector(JR10 8360) of stacker Lower switch is disconnected.

- c) Check if the connector(JR10 8360) J14 on the finisher main board([JC81-07242A](#)) is disconnected.
- d) Check if there is continuity in the harness, and if not replace the harness (JR10 8360), replace as is necessary.
- e) Replace the stacker bottom limit sensor(SW2).



- f) Replace the Finisher main board([JC81-07242A](#)).

4) Is the stacker motor (M8) working?

- a) Check if the connector(JR10 8360) of stacker motor is disconnected.
- b) Check if the connector(JR10 8360) J14 on the finisher main board([JC81-07242A](#)) is disconnected.
- c) Check if there is continuity in the harness, and if not replace the harness (JR10 8360), replace as is necessary.
- d) Replace the stacker motor(M8).



- e) Replace the Finisher main board([JC81-07242A](#)).

5) Replace the stacker motor gear box(SJ10 6110).

► **Error Code**

H2-5032

► **Error message**

Paper jam in front of finisher: #H2-5032

► **Symptom**

Sheet not leaving finisher paper path section.

► **Troubleshooting method**

Check if there is any paper on the finisher, the IOT paper path. Remove it if there is.
If the error still occurs, check the followings.

- 1) Check if the Finisher of the interface cable(*JC81-03470A*) should be connected with the IOT.
 - a) Power of the IOT Off.
 - b) IOT and Finisher of the interface cable(*JC81-03470A*) is connected.



- c) Power of the IOT On.
- 2) Is the LEDs of the Main Control Board (*JC81-07242A*) working?

<Open the Bottom cover (SJ10 6160) of Finisher >

 - a) The Finisher Guides (*JC63-03941A*, *JC81-07249B*) need to be placed in the UP Position, so the Front Door can be closed properly.
 - b) Red, yellow color LED is ON, and Green LED flickers



- c) Replace the Finisher main control board(*JC81-07242A*).
- 3) Is the Finisher Entrance Sensor(S2) working?
 - a) Check if the Entrance sensor actuator(SJ10 2384) is abnormality.
 - b) Check if the connector (SJ10 8350)of Finisher entrance sensor(S2) is disconnected.
 - c) Check if the connector(JR10 8320) J7 on the Finisher main board(*JC81-07242A*) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (SJ10 8350, SJ10 8320), as is necessary.
 - e) Replace the Finisher input sensor(S2).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 4) Is the Feed Entrance Motor (M1) working?
- a) Check if the connector(JR10 8320) of the Feed entrance motor is disconnected.
 - b) Check if the connector(JR10 8320) J5 on the Finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Feed entrance motor(M1).



- e) Replace the Finisher main control board([JC81-07242A](#)).
- 5) Check if there is any object on finisher paper path. Remove it if there is.

► **Error Code**

H2-5033

H2-5035

H2-5036

► **Error message**

Paper jam inside of finisher: #H2-5033

Paper jam inside of finisher: #H2-5035

Paper jam inside of finisher: #H2-5036

► **Symptom**

Sheet jam on finisher paper path section

► **Troubleshooting method**

Check if there is any paper on the finisher, the IOT paper path. Remove it if there is.

If the error still occurs, check the followings.

- 1) Is the Finisher Entrance Sensor(S2) working?
 - a) Check if the Entrance sensor actuator(SJ10 2384) is abnormality.
 - b) Check if the connector(SJ10 8350) of Finisher entrance sensor(S2) is disconnected.
 - c) Check if the connector(JR10 8320) J7 on the Finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check if there is continuity in the harness, and if not replace the harness (JR10 8320, SJ10 8350), replace as is necessary.
 - e) Replace the Finisher entrance sensor(S2).



- f) Replace the Finisher main control board([JC81-07242A](#)).

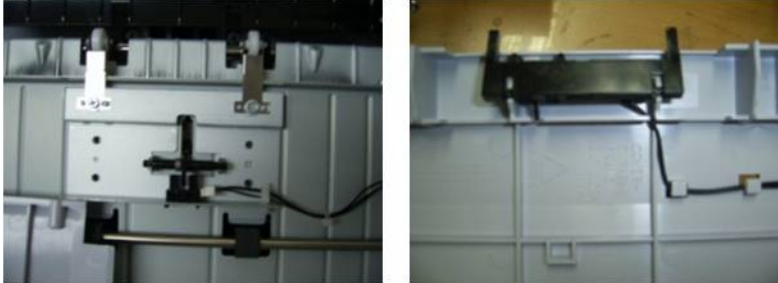
- 2) Is the Feed Entrance Motor (M1) working?
 - a) Check if the connector(JR10 8320) of the Feed entrance motor is disconnected.
 - b) Check if the connector(JR10 8320) J5 on the Finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Feed entrance motor(M1).



- e) Replace the Finisher main control board([JC81-07242A](#)).

- 3) Is the Finisher Exit Sensor (S3,S11) working?
 - a) Check if the Exit sensor actuator (SJ10 2384) is abnormality.

- b) Check if the connector(SJ10 8340) of the Finisher Exit sensor(S3) is disconnected.
- c) Check if the connector(JR10 8320) J7 on the Finisher main board([JC81-07242A](#)) is disconnected.
- d) Check if there is continuity in the harness, and if not replace the harness (JR10 8320, SJ10 8340), replace as is necessary.
- e) Replace the Finisher exit sensor(S3,S11).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 4) Is the Feed Exit Motor(M2) working?
- a) Check if the connector(JR10 8320) of the Feed exit motor is disconnected.
 - b) Check if the connector J5 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Feed exit motor(M2).



- e) Replace the Finisher main control board([JC81-07242A](#)).
- 5) Check if there is any object on finisher paper path. Remove it if there is.

▶ **Error Code**

H2-5034

H2-5037

▶ **Error message**

Finisher Failure #H2-5003. Turn off then on, after checking finisher

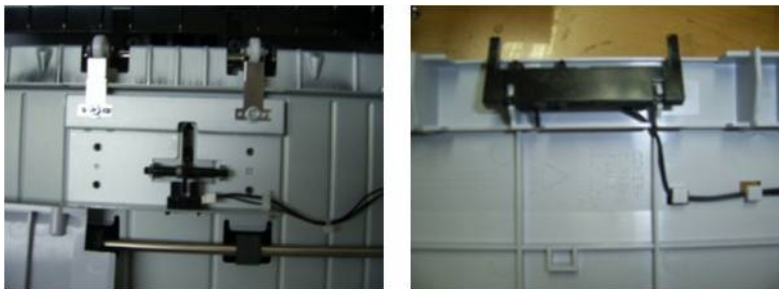
▶ **Symptom**

Sheet jam on finisher exit section

▶ **Troubleshooting method**

Check if there is any paper on the finisher, the IOT paper path. Remove it if there is.
If the error still occurs, check the followings.

- 1) Is the Finisher Exit Sensor(S3, S11) working?
 - a) Check if the Exit sensor actuator (SJ10 2384) is abnormality.
 - b) Check if the connector(SJ10 8340) of the Finisher Exit sensor(S3) is disconnected.
 - c) Check if the connector(JR10 8320) J7 on the Finisher main board(JC81-07242A) is disconnected.
 - d) Check continuity and if the harness is damaged, replace as is necessary.
 - e) Replace the Finisher exit sensor(S3,S11).



- f) Replace the Finisher main control board(JC81-07242A).
- 2) Is the Feed Exit Motor(M2) working?
 - a) Check if the connector(JR10 8320) of the Feed exit motor is disconnected.
 - b) Check if the connector J5 on the finisher main board(JC81 07242A) is disconnected.
 - c) Check if there is continuity in the harness, and if not replace the harness (JR10 8320), replace as is necessary.
 - d) Replace the Feed exit motor(M2).



- e) Replace the Finisher main control board(JC81 07242A).
- 3) Check if there is any object on finisher paper path. Remove it if there is.

▶ **Error Code**

H2-5048

▶ **Error message**

Finisher door is open. Close it

▶ **Symptom**

Finisher Door is Opened. Power(24V) supply is cut off, and then stop the operation of Finisher.

▶ **Troubleshooting method**

Check if the all door of finisher closed.

If the error still occurs, check the followings.

- 1) Is the all Doors of Finisher closed?
 - a) Close the doors(*JC63-03941A*) opened.
- 2) Is the Front Door (*JC63-03941A*) Switch (SW1) working?
 - a) Check if the Switch(SW1) and the Actuator(*JC63-03941A*) is abnormality.
 - b) Check if the connector(JR10 8360) of Switch is disconnected.
 - c) Check if the connector(JR10 8360) J2 on the main control board(*JC81-07242A*) is disconnected.
 - d) Check continuity and if the harness is damaged, replace as is necessary.
 - e) Replace the Door switch(SW1).
 - f) Replace the Finisher main control board(*JC81-07242A*).

► **Error Code**

H2-506x

H2-507x

H2-5A50

► **Error message**

Finisher Failure #H2-506x. Turn off then on, after checking finisher

Finisher Failure #H2-507x. Turn off then on, after checking finisher

Finisher Failure #H2-5A50. Check finisher

► **Symptom**

Communication error between the IOT and the Finisher.

► **Troubleshooting method**

If the error still occurs, check the followings.

- 1) Check if the Finisher of the interface cable([JC81-03470A](#)) should be connected with the IOT.
 - a) Power Switch of the IOT Off.
 - b) IOT and Finisher of the interface cable([JC81-03470A](#)) is connected.



- c) Power Switch of the IOT On.
- 2) Is the LEDs of the Main Control Board ([JC81-07242A](#)) working?

< Open the Bottom cover(SJ10 6160) of Finisher >

 - a) The Finisher of the Doors([JC63-03941A](#), [JC81-07249B](#)) should remain closed to all.
 - b) Red, yellow color LED is ON, and Green LED flickers.



- c) Replace the Finisher main control board([JC81-07242A](#)).
- 3) Check the Interface Cable([JC81-03470A](#)) of Main Control Board([JC81-07242A](#)).
 - a) Check if the connector([JC81-07242A](#)) J1,J3 on the main control board ([JC81-07242A](#)) is disconnected.
 - b) Check continuity and if the harness is damaged([JC81-03470A](#)), replace as is necessary.
 - c) Replace the Finisher main control board([JC81-07242A](#)).
- 4) Replace the Finisher main control board([JC81-07242A](#)).

▶ **Error Code**

H2-5080 ~ 5085

▶ **Error message**

Paper Jam in front of mailbox. Remove paper: #H2-508x

Paper Jam inside of mailbox. Remove paper: #H2-508x

Paper Jam at mailbox bin 1. Remove paper: #H2-508x

▶ **Symptom**

Jam in mailbox has occurred.

▶ **Troubleshooting method**

Check if there is any paper on the mail box. Remove it if there is.

If the error still occurs, check the followings.

- 1) Check if the photo sensor connector is connected correctly. Reconnect it.
- 2) Check the sensor connection on mailbox main board. Reconnect it.
- 3) Check if the feed actuator is assembled correctly. If it is deformed or broken, replace it.
- 4) Check the feed and separation(diverter) motor. If there is any defective motor, replace it.

▶ **Error Code**

H2-5086 / 5087 / 5112 / 5113

▶ **Error message**

Mainbox Failure: #H2-5xxx. Check mailbox

▶ **Symptom**

Diverter motor is defective.

▶ **Troubleshooting method**

- 1) Remove the mailbox rear cover.
- 2) Check the connection between diverter motor and mailbox main board. Reconnect the harness.
- 3) If the connection is OK, replace the diverter motor.
- 4) If the problem persists, replace the mailbox main board.

▶ **Error Code**

H2-5088

▶ **Error message**

Mailbox door is open. Close it

▶ **Symptom**

Mailbox door is opened.

▶ **Troubleshooting method**

- 1) Open and close the mailbox door.
- 2) Check the connection between door open sensor and mailbox main board. Reconnect the harness.
- 3) If the harness is defective, replace it.
- 4) If the connection is OK, replace the door open sensor.

► **Error Code**

H2-5A21

► **Error message**

Finisher Top door is open. Close it

► **Symptom**

Finisher Top Door is Opened.

► **Troubleshooting method**

Check if the all door of finisher closed.

If the error still occurs, check the followings.

- 1) Are all Paper Guides in there up position; and is the Front Door of Finisher closed?
 - a) Close the Top Door([JC81-07249B](#)) opened.



- 2) Is the Top Door Sensor (S16) working?
 - a) Check if the top door sensor actuator([JC81-07249B](#)) is abnormality.
 - b) Check if the connector(JR10 8330) of sensor is disconnected.
 - c) Check if the connector(JR10 8330) J1,J2 on the main control board ([JC81-07242A](#))is disconnected.
 - d) Check continuity and if the harness is damaged , replace as is necessary.
 - e) Replace the Finisher top Door sensor(S16).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 3) Replace the Finisher main control board([JC81-07242A](#)).

▶ Error Code

H2-5A31

H2-5A32

H2-5A34

H2-5A35

▶ Error message

The paper in finisher stacker is nearly full. Remove printed paper

The paper in finisher stacker is full. Remove printed paper

The paper in finisher bin2 is nearly full. Remove printed paper

The paper in finisher bin2 is nearly full. Remove printed paper

▶ Symptom

Finisher stacker tray made full, or Stacker operation is abnormal.

▶ Troubleshooting method

Check if there is any paper on the Finisher Stacker Tray. Remove it if there is.

If the error still occurs, check the followings.

- 1) Is the Finisher Stack Height Sensor (S10) working?
 - a) Check if the Stack height sensor actuator(SJ10 6332A) is abnormality.
 - b) Check if the connector (SJ10 8370)of Stack height sensor(S10) is disconnected.
 - c) Check if the connector(SJ10 8310) J8 on the main control board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged, replace as is necessary.
 - e) Replace the finisher Stack height sensor(S10).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 2) Is the Finisher Stack Full Sensor (S17) working?
 - a) Check if the Stack full sensor actuator(SJ10 6332A) is abnormality.
 - b) Check if the connector of Stack full sensor is disconnected.
 - c) Check if the connector(JR10 8320) J18 on the main control board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged, replace as is necessary.
 - e) Replace the finisher stack full sensor(S10).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 3) Is the Stacker Motor (M8) working?
- a) Check if the connector(SJ10 8360) of stacker motor is disconnected.
 - b) Check if the connector(SJ10 8360) J14 on the finisher main board([JC81-07242A](#)) is disconnected.
 - c) Check continuity and if the harness is damaged, replace as is necessary.
 - d) Replace the stack motor(M8).
- 4) Replace the Finisher main control board([JC81-07242A](#)).

▶ **Error Code**

H2-5A38 ~ 5A49

▶ **Error message**

Paper in mailbox bin X is full. Remove printed paper

▶ **Symptom**

Mailbox outbin is full.

▶ **Troubleshooting method**

- 1) Remove the paper on outbin tray.
- 2) If there is no paper on outbin tray but error persists, check the following.
 - a) Check the connection between outbin full sensor and mailbox main board. Reconnect the harness.
 - b) If the connection is OK, replace the outbin full sensor.
 - c) Check if the outbin actuator is assembled correctly. If it is deformed or broken, replace it.

▶ **Error Code**

H2-5A50

H2-6A50

▶ **Error message**

Finisher Failure #H2-5A50. Check finisher

▶ **Symptom**

Communication error between finisher and copier.

▶ **Troubleshooting method**

- 1) Check the connection between finisher and copier. Reconnect the cable.
- 2) If the connection is OK, replace the finisher board.

► Error Code

H2-5A62

H2-5A63

H2-6A62

H2-6A63

► Error message

Staple cartridge is low. Replace it

Staple cartridge is empty or not installed. Replace it

► Symptom

Can not detected Staple cartridge .

► Troubleshooting method

Check if there is Staple Cartridge.

If the error still occurs, check the followings

- 1) Is the Staple Cartridge mounted?
 - a) Replace stapler cartridge([JC81-03481A](#)).
 - b) Check if the connector (SJ10 8310)of Staple is disconnected.
 - c) Check if the connector(SJ10 8310) J9,J10 on the main control board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged, replace as is necessary.
 - e) Replace staple unit(SJ10 3140).



- f) Replace the Finisher main control board([JC81-07242A](#)).
- 2) Mount the stapler cartridge([JC81-03481A](#)).
- 3) Replace the stapler Unit(SJ10 3140)

▶ **Error Code**

H2-5A90

▶ **Error message**

Paper jam at the top of finisher: #H2-5A90

▶ **Symptom**

Sheet jam on finisher top exit section

▶ **Troubleshooting method**

Check if there is any paper on the finisher, the IOT paper path. Remove it if there is.
If the error still occurs, check the followings.

- 1) Is the Top Exit/Top Empty Sensor(S13, S11) working?
 - a) Check if the Sensor actuator (SJMB2312, SJMB2310) abnormality.
 - b) Check if the connector(JR10 8340) of the Top exit/Top empty sensor(S13, S12) is disconnected.
 - c) Check if the connector(JR10 8330J7 on the Finisher main board([JC81-07242A](#)) is disconnected.
 - d) Check continuity and if the harness is damaged , replace as is necessary.
 - e) Replace the Top exit/Top Empty sensor(S13,S12).
 - f) Replace the Finisher main control board([JC81-07242A](#)).
- 2) Is the Paddle Unit(Paper path diverter) working?
 - a) Refer to the troubleshooting for “H2-5001” error.
- 3) Check if there is any object on finisher paper path. Remove it if there is.

4.6.5. Mx-xxxx type error code

▶ **Error Code**

M1-1113

▶ **Error message**

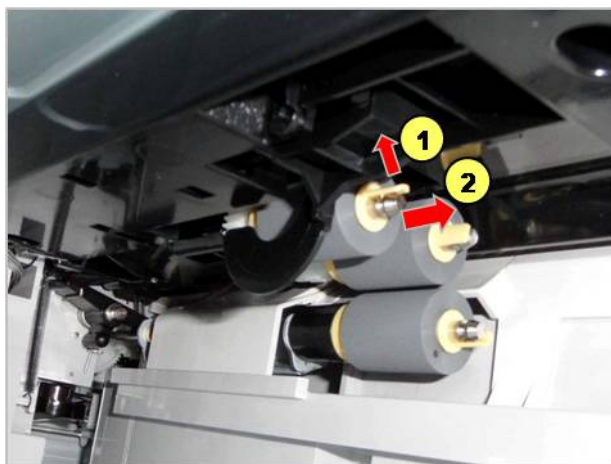
Paper jam in Tray 1.

▶ **Symptom**

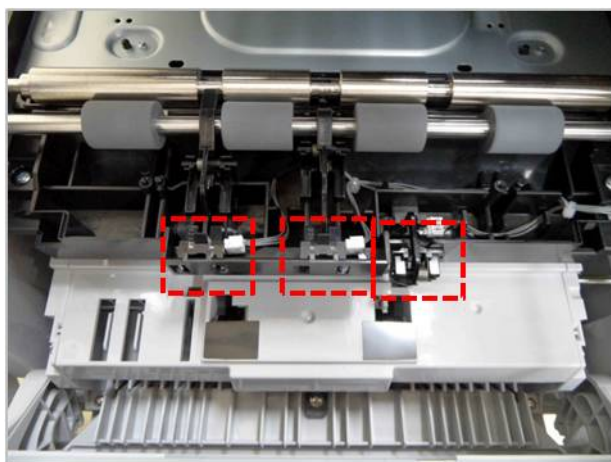
Paper jam has occurred in tray1.

▶ **Troubleshooting method**

- 1) Remove the tray1. Remove the jammed paper. And install the tray.
- 2) If the problem persists, check the followings.
- 3) Check if the proper paper is loaded in the tray. If not, replace the paper.
- 4) Check if the pick up/reverse/forward roller are contaminated or worn out. Replace these rollers.



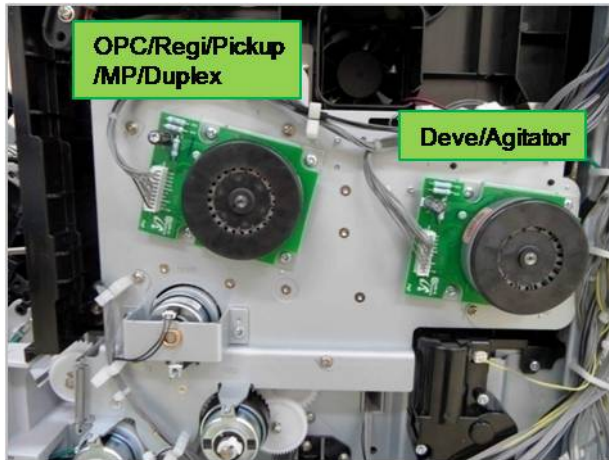
- 5) Check that the registration sensor actuator moves freely and is not damaged. If necessary, install a new registration sensor actuator assembly.



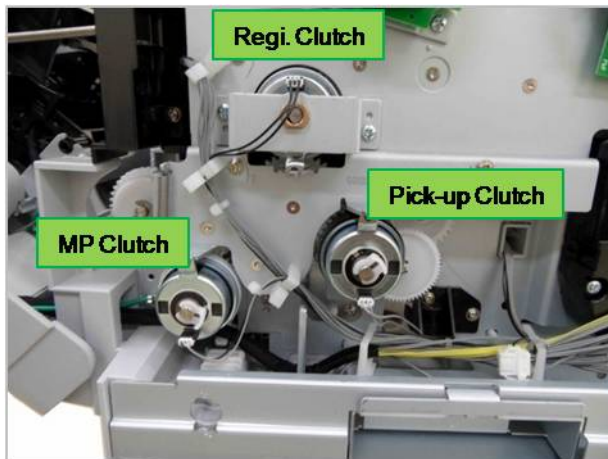
- 6) Check the connection between the registration sensor and on the main board. If necessary, install a new registration sensor.
- 7) Check that the feed sensor actuator moves freely and is not damaged. If necessary, install a new feed sensor actuator assembly.

4. Troubleshooting

- 8) Check the connection between the feed sensor and on the main board. If necessary, install a new feed sensor.
- 9) Check if the pick up motor runs normally. If necessary, replace the pick up motor.



- 10) Check the pick up clutch. If necessary, replace the pick up clutch.



► Error Code

M1-1613

► Error message

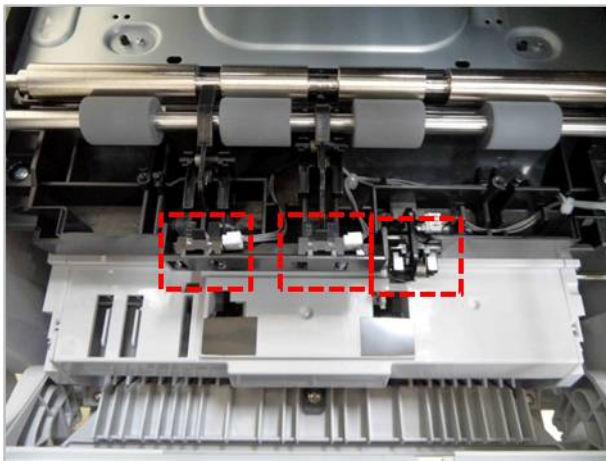
Paper jam in MP Tray.

► Symptom

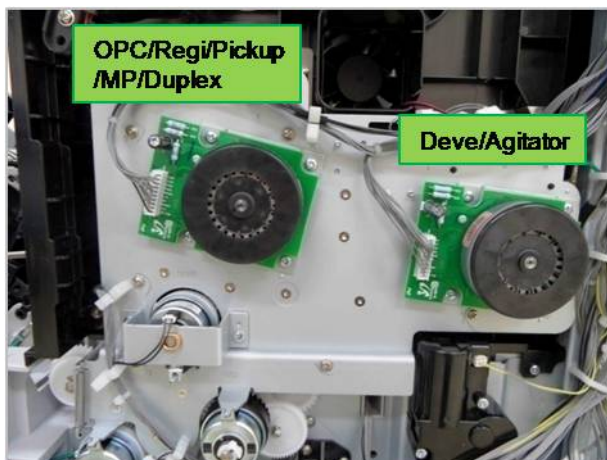
Paper jam has occurred in MP tray.

► Troubleshooting method

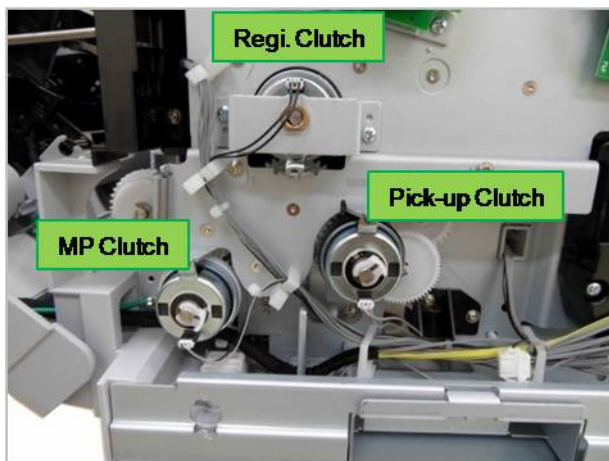
- 1) Open the side cover.
- 2) Remove the jammed paper.
- 3) If the problem persists, check the followings.
- 4) Check if the proper paper is loaded in the tray. If not, replace the paper.
- 5) Check if the MP pick up/reverse roller or MP friction pad is contaminated or worn out. Replace the defective part.
- 6) Check that the feed sensor actuator moves freely and is not damaged. If necessary, install a new feed sensor actuator assembly.



- 7) Check the connection between the feed sensor and on the main board. If necessary, install a new feed sensor.
- 8) Check if the pick up motor runs normally. If necessary, replace the pick up motor.



- 9) Check the MP clutch. If necessary, replace the MP clutch.



▶ Error Code

M1-3122

▶ Error message

Tray 1 cassette is pulled out. Insert it properly

▶ Symptom

Tray 1 is pulled out.

▶ Troubleshooting method

- 1) Remove and reinstall the tray1.
- 2) Remove the tray1. Check if tray1 is damaged.
- 3) Check the connection between the tray1 detection sensor and on the main board.
- 4) Check if the tray1 detection sensor is damaged. If necessary, replace the sensor.
- 5) If necessary, replace the main board.

▶ **Error Code**

M1-4111

▶ **Error message**

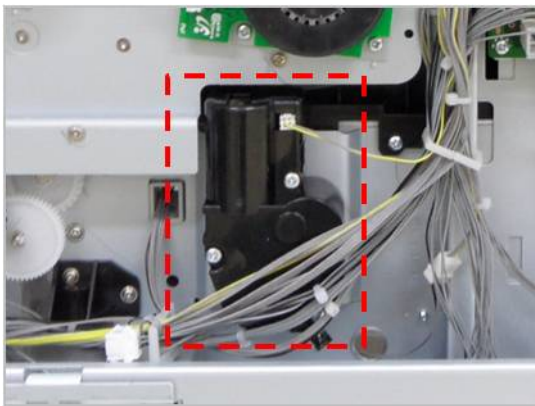
Tray Failure: #M1-4111. Pull tray 1 out and insert it. Call for service if the problem persists

▶ **Symptom**

Lift motor operation is abnormal.

▶ **Troubleshooting method**

- 1) Remove and reinstall the tray1.
- 2) Remove the rear cover.
- 3) Check the connection between the tray1 lift motor and on the main board.
- 4) Check the tray1 lift motor operation. If necessary, replace the motor.



- 5) If necessary, replace the main board.

► Error Code

M1-5111

M1-5112

M1-5120

► Error message

Paper is low in tray 1. Load paper

Paper is empty in tray 1. Load paper

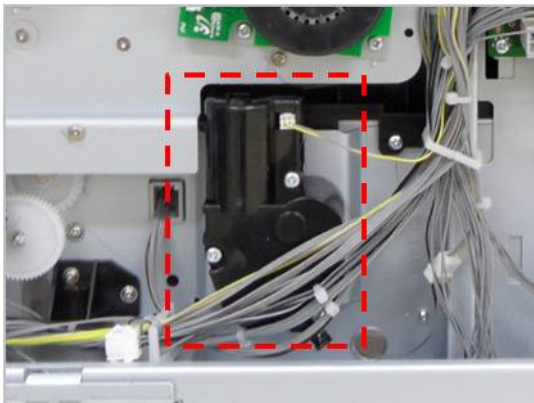
Paper is empty in all tray. Load paper

► Symptom

Tray 1 is nearly empty. / Tray 1 is empty.

► Troubleshooting method

- 1) Remove the tray1.
- 2) Check if paper is loaded. If it is empty, load the paper.
- 3) Check the connection between the empty sensor and on the main board. If necessary, install a new empty sensor.
- 4) Check that the empty sensor actuator moves freely and is not damaged. If necessary, install a new empty sensor actuator assembly.
- 5) Check the connection between the tray1 lift motor and on the main board.
- 6) Check the tray1 lift motor operation. If necessary, replace the motor.



- 7) If necessary, replace the main board.

▶ **Error Code**

M1-5612

▶ **Error message**

Paper is empty in MP tray. Load paper

▶ **Symptom**

MP Tray is empty.

▶ **Troubleshooting method**

- 1) Check the connection between the MP empty sensor and on the main board. If necessary, install a new MP empty sensor.
- 2) Check that the MP empty sensor actuator moves freely and is not damaged. If necessary, install a new MP empty sensor actuator assembly.
- 3) If necessary, replace the main board.

► Error Code

M2-1111

M2-1114

► Error message

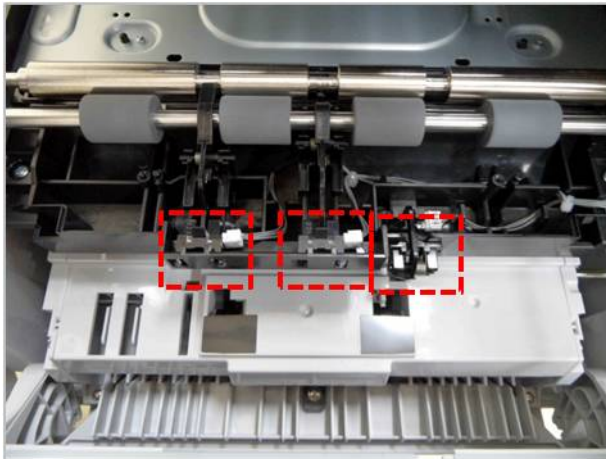
Paper jam inside of machine

► Symptom

Paper jam has occurred at feed sensor.

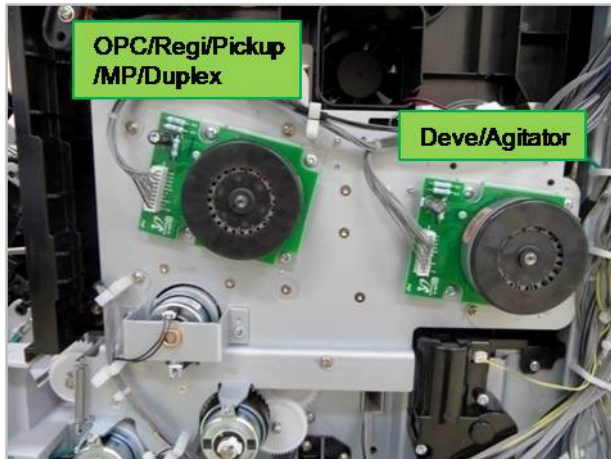
► Troubleshooting method

- 1) Turn the machine off then on.
- 2) Open the side cover. Remove the jammed paper.
- 3) If the problem persists, check the followings.
- 4) Check that the registration sensor actuator moves freely and is not damaged. If necessary, install a new registration sensor actuator assembly.

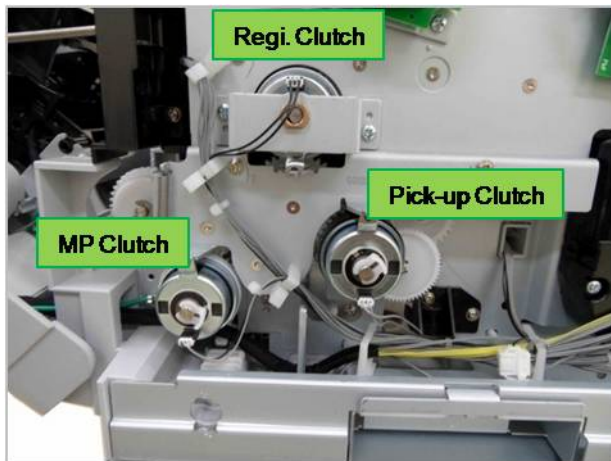


- 5) Check the connection between the registration sensor and on the main board. If necessary, install a new registration sensor.
- 6) Check if the registration roller is damaged. If necessary, replace the registration roller.
- 7) Check that the feed sensor actuator moves freely and is not damaged. If necessary, install a new feed sensor actuator assembly.
- 8) Check the connection between the feed sensor and on the main board. If necessary, install a new feed sensor.

9) Check if the pick up motor runs normally. If necessary, replace the pick up motor.



10) Check the pick up clutch. If necessary, replace the pick up clutch.



► Error Code

M2-1117

M2-2111

M2-2112

M2-2114

M2-2311

M2-2312

M2-2314

► Error message

Paper jam at the bottom of duplex path

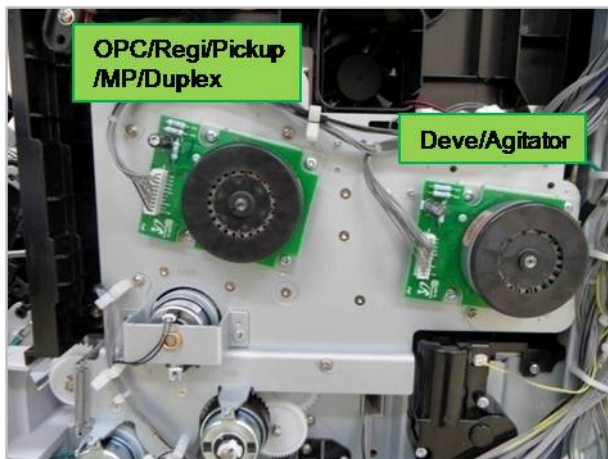
Paper jam at the top of duplex path

► Symptom

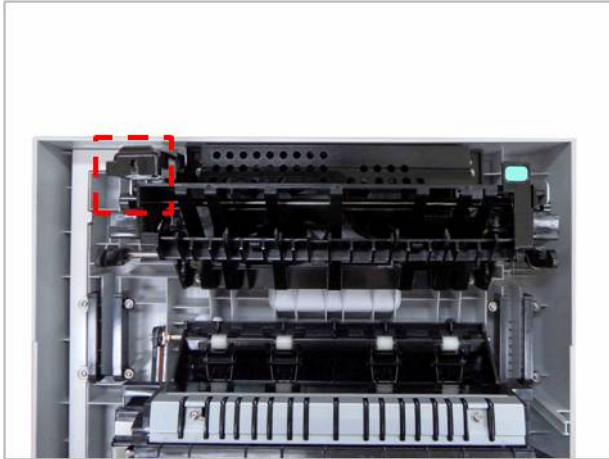
Paper jam has occurred at feed sensor.

► Troubleshooting method

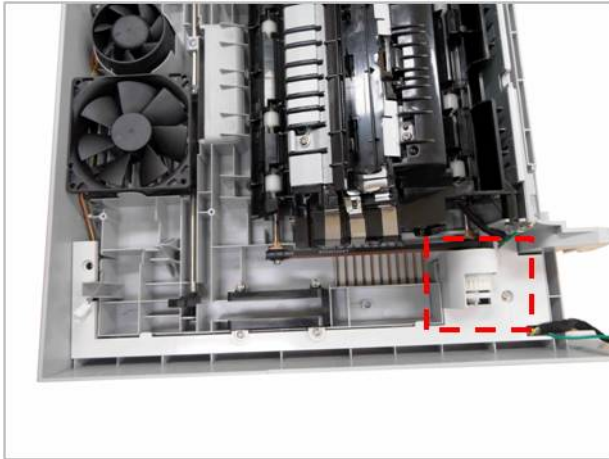
- 1) Turn the machine off then on.
- 2) Open the side cover. Remove the jammed paper.
- 3) If the problem persists, check the followings.
- 4) Check that the duplex jam sensor actuator moves freely and is not damaged. If necessary, install a new duplex jam sensor actuator assembly.
- 5) Check the connection between the duplex jam sensor and on the main board. If necessary, install a new duplex jam sensor.
- 6) Check if the pick up motor runs normally. If necessary, replace the pick up motor.



- 7) Check the duplex motor. If necessary, replace the duplex motor.



- 8) Check the duplex clutch. If necessary, replace the duplex clutch.



▶ Error Code

M3-1111

M3-1112

M3-1114

▶ Error message

Paper jam in exit area.

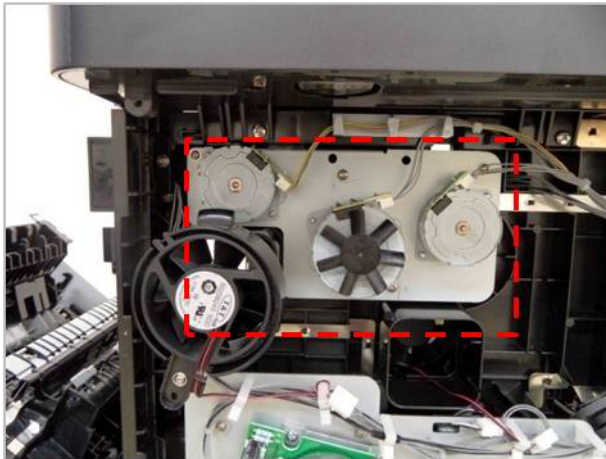
Paper jam inside of machine

▶ Symptom

Paper jam has occurred around the fuser unit.

▶ Troubleshooting method

- 1) Open the side cover. Remove the jammed paper.
- 2) If this jam occurs continually, check the following.
 - a) Check the connection between the fuser motor and on the main board.
 - b) Check the fuser/exit motor. If the operation is abnormal, replace the motor.



- c) Remove the fuser unit. Check if fuser unit has any defective part. Replace the fuser unit
- d) Remove the exit unit. Check if the exit sensor is assembled correctly. If it is defective, replace it.

▶ **Error Code**

M3-2130

▶ **Error message**

Paper in output bin is full. Remove printed paper

▶ **Symptom**

There are too much paper in output bin tray.

▶ **Troubleshooting method**

- 1) Remove the paper on exit tray.
- 2) If this error occurs continually, check the following.
 - a) Check if the bin-full sensor and actuator is assembled correctly.
 - b) Check if the bin-full sensor is defective.

4.6.6. Sx-xxxx type error code

▶ **Error Code**

S1-1313

▶ **Error message**

The clock became initial time. Set a time again.

▶ **Symptom**

Saved time is invalid.

▶ **Troubleshooting method**

- 1) Set up the time and reboot the machine.
 - a) Select "Machine Setup" on touch screen.
 - b) Select "General Setting".
 - c) Select "Date and Time" and set the time.
- 2) If the problem persists, check the following.
 - a) Remove the rear cover.
 - b) Measure the voltage of the battery. If the battery is normal, the measured value is over 3V.
- 3) If the battery is normal, replace the main board.

▶ **Error Code**

S1-2411

▶ **Error message**

HDD System Failure: #S1-2411. Turn off then on. Call for service if the problem persists.

▶ **Symptom**

Hard Disk is not installed in the machine. / Hard Disk is defective.

▶ **Troubleshooting method**

- 1) Check if the HDD is installed correctly.
 - a) Remove the rear cover.
 - b) Check if the HDD cable is connected correctly.
- 2) If the problem persists, replace the HDD.

▶ **Error Code**

S1-2433

S1-244x

▶ **Error message**

System Failure: #S1-2433 . Call for service

HDD System Failure #S1-244x : Call for service

▶ **Symptom**

System memory is corrupted. / Unexpected S/W error has occurred.

▶ **Troubleshooting method**

- 1) Enter the SVC(tech) mode. Select “System Recovery” in Service Function menu.
- 2) Execute the hard disk format and firmware re-installation.
- 3) If the problem persists, replace the HDD.

▶ Error Code

S1-2434

S1-2435

S1-2436

S1-2437

S1-2438

S1-2439

▶ Error message

HDD Error #S1-2434. Check users guide.

HDD Error #S1-2435. Check users guide.

HDD Error #S1-2436. Check users guide.

HDD Error #S1-2437. Check users guide.

HDD Error #S1-2438. Check users guide.

HDD Error #S1-2439. Check users guide.

▶ Symptom

HDD partition or memory is full.

▶ Troubleshooting method

- S1-2434 : Addresses in Address book / User data in User profile
 - S1-2435 : Documents in Document box / Jobs in Secure job list / Fonts / Forms
 - S1-2436 : System Logs
 - S1-2438/2439 : Printing Error / No Paper in Tray
- 1) Enter SVC mode. Select “Hard Disk Maintenance” in Service Function menu.
 - 2) Execute hard disk format.
 - 3) If the problem persists, replace the HDD.

▶ **Error Code**

S1-2510

S1-2521

S1-2523

S1-2530

▶ **Error message**

MSOK Failure: #S1-2510. Call for service & Change MSOK

MSOK Failure: #S1-2521. Call for service

PPM data is incorrect. Call for service & change MSOK

Engine System Failure: #S2-1211. Turn off then on

▶ **Symptom**

MSOK is defective. / MSOK data is wrong.

▶ **Troubleshooting method**

- 1) Turn the machine off and on.
- 2) If the problem persists, turn the machine off again.
- 3) Remove the rear cover.
- 4) Check if the MSOK is inserted correctly. Remove and reinstall it.
- 5) If the problem persists, contact the tech support team.

▶ Error Code

S2-1211

▶ Error message

Engine System Failure: #S2-1211. Turn off then on

▶ Symptom

Communication error between the ASIC on main board and microcontroller IC has occurred.

▶ Troubleshooting method

- 1) Turn the machine off and on.
- 2) If the problem persists, turn the machine off again.
- 3) Remove the rear cover.
- 4) Replace the main board.
- 5) Assemble the rear cover. Turn the machine on.

▶ **Error Code**

S2-331D

▶ **Error message**

Wait delay time for lower fixing temperature...

▶ **Symptom**

Printing Job is stopped because of high temperature inside the fuser unit.

▶ **Troubleshooting method**

- 1) Open the side cover. Cool the machine. And close the side cover.
- 2) If the problem persists, replace the fuser unit.

▶ **Error Code**

S2-3321

▶ **Error message**

Supplying and mixing toner to developer unit. Please wait...

▶ **Symptom**

This error shows the engine status.

▶ **Troubleshooting method**

- 1) Please wait until the error message is disappeared.
- 2) If the problem persists, check the toner cartridge and imaging unit.
If there is any defective part, replace it.

▶ **Error Code**

S2-3421

▶ **Error message**

Calibrating image density. Please wait...

▶ **Symptom**

This error shows the engine status.

▶ **Troubleshooting method**

- 1) Please wait until the error message is disappeared.
- 2) If the problem persists, check the toner cartridge and imaging unit.
If there is any defective part, replace it.

▶ **Error Code**

S2-4120

▶ **Error message**

Right door is open. Close it

▶ **Symptom**

Side cover is opened.

▶ **Troubleshooting method**

- 1) Close the side cover correctly.

- 2) Check if the cover open sensor connector is connected properly. Reconnect it.
- 3) If the sensor is defective, replace it.

▶ **Error Code**

S3-3121

▶ **Error message**

Scanner locked or another problem occurred.

▶ **Symptom**

Scanner module does not move.

▶ **Troubleshooting method**

- 1) Open the DSDF unit.
- 2) Check if the scan locking switch is in lock status. Release it. Close the DSDF unit.
- 3) Remove the rear cover. Check if the connector on the main board is connected correctly.
- 4) Remove the scan glass.
- 5) Check if the home position sensor cable is connected correctly.
- 6) If the problem persists, replace the main board.

▶ Error Code

S3-3211

▶ Error message

Scan System Failure #S3-3211: Turn off then on.

▶ Symptom

DSDF board is not connected or communication error occurs between DSDF board and main board.

▶ Troubleshooting method

- 1) Turn off the machine then on. If the problem persists, check the following.
- 2) Turn the machine off again.
- 3) Remove the scan rear cover. Check if the connector on scan joint board is connected correctly.
- 4) Remove the rear cover. Check if the connector on the main board is connected correctly.
- 5) Remove the DSDF rear cover. Check if the connector on DSDF board is connected correctly.
- 6) If the connection is OK, replace the DSDF board.
- 7) If the problem persists after replacing the DSDF board, replace the main board.

▶ **Error Code**

S5-3111

▶ **Error message**

UI System Failure #S5-3111:Turn off then on.

▶ **Symptom**

Communication error between main board and OPE board has occurred.

▶ **Troubleshooting method**

- 1) Remove the OPE hub board cover.
- 2) Check if the OPE Assy cable is connected to the OPE hub board correctly.
- 3) If the connection is OK, replace the OPE Assy.
- 4) If the OPE Assy is OK, replace the OPE hub board.

▶ Error Code

S6-3122

▶ Error message

Network cable is disconnected. Check it.

▶ Symptom

Network cable is disconnected.

▶ Troubleshooting method

- 1) Check if the network cable is connected to the network port.
- 2) Check if the green LED of the network port is on.
- 3) If not, unplug and reconnect the network cable.
- 4) Check if the network is normal. Connect the network cable to another network device.
- 5) If the network is OK, replace the main board.

▶ Error Code

S6-3123

S6-3229

S6-322A

▶ Error message

This IP address conflicts with that of other system. Check it.

The IPv4 address assigned to wireless LAN conflicts with that of other system. Check it

The IPv6 address assigned to wireless LAN conflicts with that of other system. Check it

▶ Symptom

Network has some problem. (IP address conflicts with that of other system.)

▶ Troubleshooting method

- Change the machine's IP address.
 - 1) Select "Machine Setup" on the touch screen.
 - 2) Select "Networking Setting".
 - 3) "Log-In".
 - 4) Select "TCP/IP".
 - 5) Select the proper item for your machine.
 - 6) Select "IP Setting".
 - 7) Select the proper item for your machine.
 - 8) Change the IP address.

▶ Error Code

S6-3128

▶ Error message

802.1x authentication failed. Please Contact the System Administrator.

▶ Symptom

Network error. (A authenticator(eg switch) rejected authentication. / There is no response when checking the ping test.)

▶ Troubleshooting method

- 1) Change the machine's 802.1x credentials.
 - a) Select "Machine Setup" on the touch screen.
 - b) Select "Security"
 - c) Select "802.1x"
 - d) Select the proper authentication mode for your network environment.
 - e) Input valid credentials.
- 2) The System Administrator should check if Ethernet port and authentication server were configured correctly.

▶ Error Code

S6-3224

S6-3225

S6-3226

S6-3227

▶ Error message

BOOTP error in wireless LAN. Switching to Auto IP.

BOOTP error in wireless LAN. Reconfigure DHCP or static IP.

DHCP error in wireless LAN. Switching to Auto IP.

DHCP error in wireless LAN. Reconfigure BOOTP or static IP.

▶ Symptom

BOOTP or DHCP server has a problem or IP address assignment is abnormal.

▶ Troubleshooting method

- Check the BOOTP or DHCP server.
- If the server is normal, check the network setting.

▶ **Error Code**

S7-1110

▶ **Error message**

Failure: #S7-1110. Turn off then on

▶ **Symptom**

24V power for main board is less than 1.5V.

▶ **Troubleshooting method**

- 1) Turn the machine off.
- 2) Unplug the power cable.
- 3) Remove the rear cover.
- 4) Replace the SMPS board.
- 5) Assemble the rear cover. Turn the machine on.

▶ Error Code

S7-1210

▶ Error message

Failure: #S7-1210. Turn off then on

▶ Symptom

5V power for main board is less than 0.88V.

▶ Troubleshooting method

- 1) Turn the machine off.
- 2) Unplug the power cable.
- 3) Remove the rear cover.
- 4) Replace the SMPS board.
- 5) Assemble the rear cover. Turn the machine on.

▶ **Error Code**

S7-2110

▶ **Error message**

Fuser Failure: #S7-2110. Turn off then on

▶ **Symptom**

Abnormal heater control has been detected by the Main Board. Therefore, the Main Board has turned Main Relay "Off".

▶ **Troubleshooting method**

- 1) Turn the machine off. Re-install the fuser unit, then turn the machine on.
- 2) If the problem persists, turn the machine off.
- 3) Replace the fuser drive board.
- 4) If the problem persists, replace the main board.

4.6.7. U1-xxxx type (Fuser) error code

▶ **Error Code**

U1-2115

▶ **Error message**

Fuser Unit Failure: #U1-2115. Turn off then on. Call for service if the problem persists

▶ **Symptom**

The pressure control unit(Cam unit)of the fuser is abnormal.

▶ **Troubleshooting method**



CAUTION

The temperature gets hot around the Fuser Unit. To prevent burns, make sure the Fuser Unit area is cool before performing this procedure.

- 1) Turn the machine off then on.
- 2) Turn the machine off. Re-install the fuser unit. Then turn the machine on.
- 3) If the problem persists, remove the rear cover. Check if the fuser connector is connected correctly.
- 4) If the connection is OK, remove the fuser unit.
- 5) Check the pressure control unit of the fuser.
- 6) If the problem persists, replace the fuser unit.
- 7) If the problem persists, replace the fuser pressure motor.
- 8) If the problem persists, replace the main board.

▶ Error Code

U1-2117

U1-212x

U1-213x

U1-23xx

▶ Error message

Fuser Unit Failure: #U1-21xx. Turn off then on.

Fuser Unit Failure: #U1-23xx. Turn off then on.

▶ Symptom

The temperature control of fuser unit is abnormal. The fuser temperature has dropped below the normal value.

▶ Troubleshooting method



CAUTION

The temperature gets hot around the Fuser Unit. To prevent burns, make sure the Fuser Unit area is cool before performing this procedure.

- 1) Turn the machine off then on.
- 2) Turn the machine off. Re-install the fuser unit. Then turn the machine on.
- 3) If the problem persists, remove the fuser unit.
- 4) Check the fuser components.
 - Check if the thermistor is assembled correctly.
 - Check if the thermostat is connected.
 - Check if the center and side lamps are in short status. (Measure the resistance value between the common-center and common-side.)
- 5) If there are any defective parts in step5, replace the fuser unit.
- 6) If the problem persists, replace these parts in regular sequence.
 - Fuser Drive Board
 - Main board
 - SMPS board

▶ Error Code

U1-234J

U1-234P

▶ Error message

Fuser Unit Failure: #U1-234J. Turn off then on.

Fuser Unit Failure: #U1-234P. Turn off then on.

▶ Symptom

The temperature control of fuser unit is abnormal. The fuser temperature has risen above the normal value.

▶ Troubleshooting method**CAUTION**

The temperature gets hot around the Fuser Unit. To prevent burns, make sure the Fuser Unit area is cool before performing this procedure.

- 1) Turn the machine off then on.
- 2) Turn the machine off. Re-install the fuser unit. Then turn the machine on.
- 3) If the problem persists, remove the fuser unit.
- 4) Check the fuser components.
 - Check if the thermistor is assembled correctly.
 - Check if the thermostat is connected.
 - Check if the center and side lamps are in short status. (Measure the resistance value between the common-center and common-side.)
- 5) If there are any defective parts in step5, replace the fuser unit.
- 6) If the problem persists, replace these parts in regular sequence.
 - Fuser Drive Board
 - Main board
 - SMPS board

4.6.8. U2-xxxx type (LSU) error code

▶ **Error Code**

U2-1112

▶ **Error message**

LSU Failure: #U2-1112. Please turn off then on.

▶ **Symptom**

LSU motor does not operate or it operates abnormally. Motor ready signal is abnormal.

▶ **Troubleshooting method**

- 1) Turn the machine off then on. Check for the LSU motor operation sound during warm-up.
- 2) Print a demo page to check that the machine operates normally.
- 3) If the problem persists, check the following :
 - If the LSU motor makes a sound,
 - a) Enter SVC mode to check the LSU motor ready signal.
 - b) Select “LSU Motor1 Run Ready”. (**Diagnostics > Engine Diagnostics > Engine Test Routines > 110-0000**)
 - c) Press ‘Start’ button. Check that the status has changed to ‘Executing -> Low -> High’.
 - d) If the status has not changed, the motor ready signal is abnormal. Replace the LSU.
 - If the LSU motor does not makes a sound,
 - a) Turn the machine off. Unplug and reconnect the LSU cable.
Check that the LSU motor make a sound after turning the machine on.
 - b) If the LSU Cable is defective, replace it. Check that the LSU motor make a sound after turning the machine on.
 - c) If the problem persists, replace the LSU.

▶ Error Code

U2-1113

▶ Error message

LSU Failure: #U2-1113. Please turn off then on.

▶ Symptom

LSU Hsync signal can not be detected correctly. LSU Hsync signal is abnormal.

▶ Troubleshooting method

- 1) Turn the machine off then on.
- 2) Print a demo page to check that the machine operates normally.
- 3) If the problem persists, check the following :
 - a) Enter SVC mode to check the LSU Hsync signal.
 - b) Select "LSU Hsync4".
(**Diagnostics > Engine Diagnostics > Engine Test Routines > 110-0170**)
 - c) Press 'Start' button. Check that the status has changed to 'Executing -> Low -> High'.
 - d) If the status has not changed, LSU Hsync signal is abnormal.
 - e) Turn the machine off. Unplug and reconnect the LSU cable.
Check LSU Hsync signal once again.
 - f) If the problem persists, replace the LSU.

4.6.9. U3-xxxx type(DSDF) error code

▶ **Error Code**

U3-3211

U3-3213

U3-3214

▶ **Error message**

Original paper jam inside the scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and regi roller.

▶ **Troubleshooting method**

- 1) Check if the pick up motor operates normally.
 - a) Check if the paper jam has occurred on DSDF tray.



- 2) Open the DSDF cover. Remove the paper on Guide-Pick up Assy.

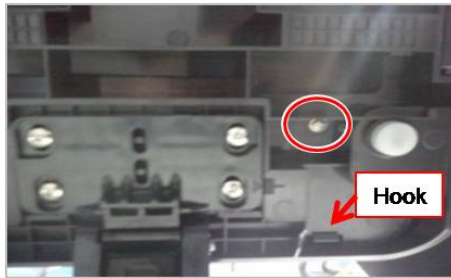


- 3) Check if the actuator and pick up assy operate normally.
 - a) Check the operation of the regi sensor.



- b) If the regi sensor operation is OK, check the followings.

- i) Remove 1 screw and push the hook.



- ii) Release the Stacker by pulling it to the direction of arrow.



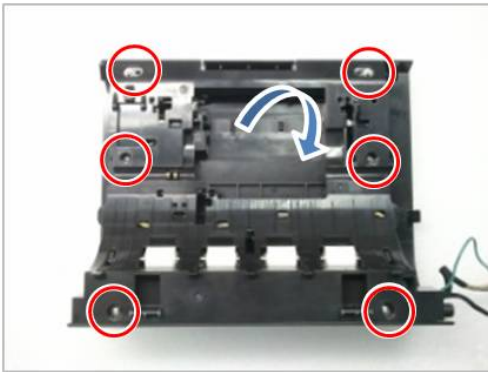
- iii) Release the rear cover.



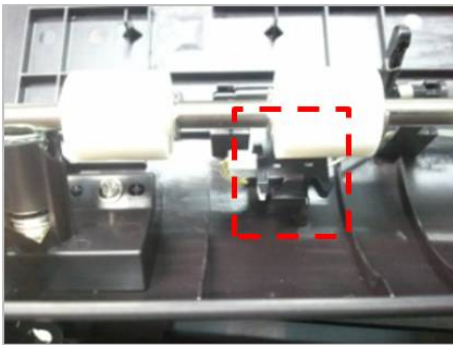
- iv) Remove the Bracket Hinge.



v) Remove the Cover-Open Assy. Remove 6 screws. And remove the bottom cover.



vi) Check if the sensor and actuator are assembled correctly.



c) When lifting the pick up assy, check that 2 rollers contacts normally.



4) Check if there are any obstacles or contamination on the paper path. Remove it.

5) Close the DSDF cover.

6) Open the DSDF unit. Check if the reflection film is contaminated. Clean it.



7) Close the DSDF unit.

► **Error Code**

U3-3311

U3-3313

U3-3314

U3-3511

U3-3513

U3-3514

► **Error message**

Original paper jam inside the scanner

► **Symptom**

Original jam has occurred around the scan in roller and regi roller.

► **Troubleshooting method**

- 1) Check if the pick up motor operates normally.
 - a) Check if the paper jam has occurred on DSDF tray.



- 2) Open the DSDF cover. Remove the paper on Guide-Pick up Assy.



- 3) Check if the actuator and pick up assy operate normally.
 - a) Check the operation of the regi sensor actuator and feed out sensor actuator.

[Regi Sensor]

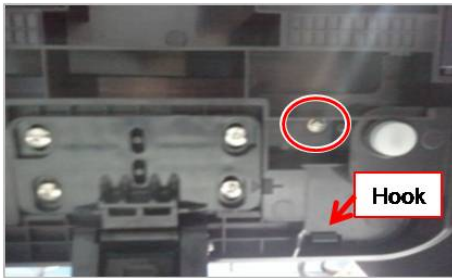


[Feed Out Sensor]



- b) If the regi sensor operation is OK, check the followings.

- i) Remove 1 screw and push the hook.



- ii) Release the Stacker by pulling it to the direction of arrow.



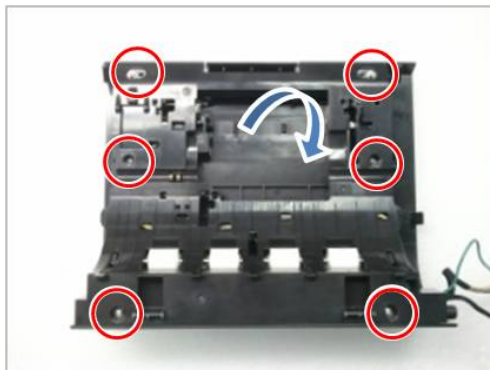
- iii) Release the rear cover.



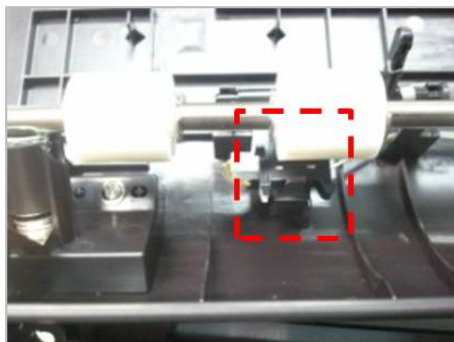
- iv) Remove the Bracket Hinge.



- v) Remove the Cover-Open Assy. Remove 6 screws. And remove the bottom cover.



- vi) Check if the sensor and actuator are assembled correctly.



- 4) Check if there are any obstacles or contamination on the paper path. Remove it.
5) Close the DSDF cover.
6) Open the DSDF unit.
a) Check if the reflection film is contaminated. Clean it.



- b) If the problem persists, check the followings.
i) Open the DSDF cover.



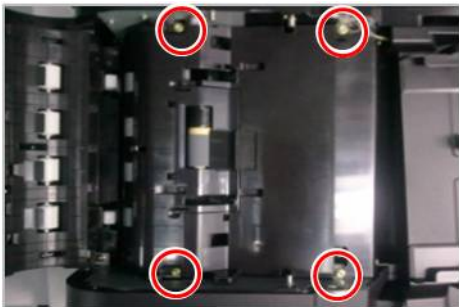
ii) Pull the lever and release the pick up Assy.



iii) Push and release the Stacker Assy.



iv) Remove the Guide Pick Up Upper after removing 4 screws.



v) Check if the sensor is assembled correctly. If the sensor is defective, replace it.



7) Check if the simplex scan sensor connector is connected correctly.

8) Close the DSDF unit.

▶ Error Code

U3-3411

U3-3413

U3-3414

▶ Error message

Original paper jam inside the scanner

▶ Symptom

Original jam has occurred around the scan in roller and regi roller.

▶ Troubleshooting method

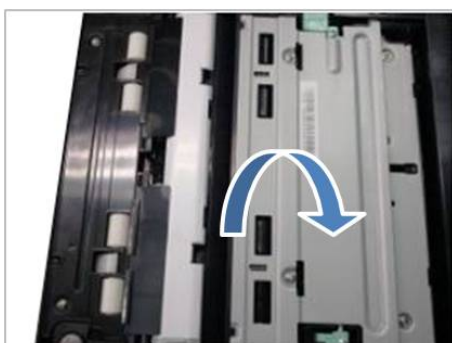
- 1) Check if the pick up motor operates normally.
- 2) Open the DSDF cover. Check if the paper jam is occurred.



- 3) Pull the green lever of the Guide Exit Lower. Remove the jammed paper.



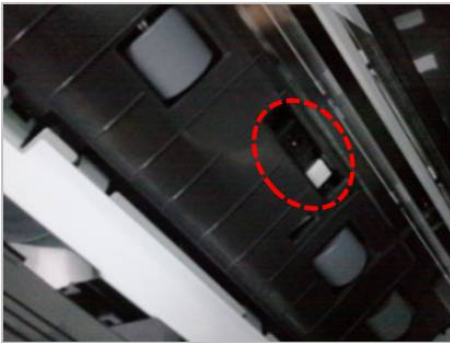
- 4) Check if there are any obstacles or contamination on the paper path. Remove it.
- 5) If the problem persists, check the followings.
 - a) Remove the DSDF Unit and white sponge.
 - b) Open the Guide Exit Lower Assy.



- c) Check the sensor.



- d) Remove the screw. Check the sensor connection, If the connection is OK, replace the sensor.



- 6) Push the white bar. Check if it returns in original condition.



- 7) Close the DSDF unit.

▶ **Error Code**

U3-3611

U3-3613

U3-3614

U3-3713

U3-3714

▶ **Error message**

Original paper jam in the exit area of scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and regi roller.

▶ **Troubleshooting method**

- 1) Check if the pick up motor operates normally.
- 2) Open the DSDF cover. Check if the paper jam is occurred.



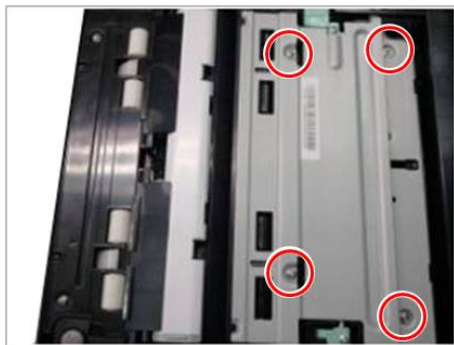
- 3) Pull the green lever of the Guide Exit Lower. Remove the jammed paper.



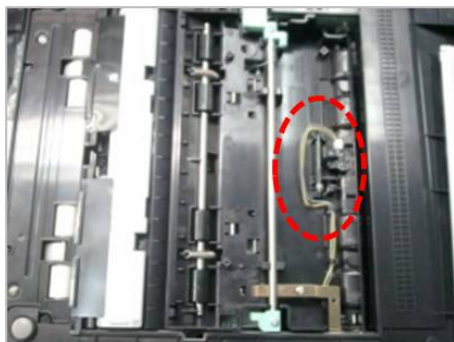
- 4) Check if there are any obstacles or contamination on the paper path. Remove it.
- 5) If the problem persists, check the exit sensor and connection.
 - a) Remove the DSDF Unit and white sponge.



- b) Remove the Exit Lower after removing 4 screws.



- c) Check if the sensor and actuator are assembled correctly.



- 6) Push the white bar. Check if it returns in original condition.



- 7) Close the DSDF unit.

4.6.10. U3-xxxx type(RADF) error code

▶ **Error Code**

U3-3111 / U3-3211 / U3-3213 / U3-3214

▶ **Error message**

Original paper jam in front of the scanner

Original paper jam inside the scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and regi roller.

▶ **Troubleshooting method**

- 1) Check if the paper jam has occurred on RADF tray.



- 2) Open the RADF cover. Remove the paper on Guide-Pick up Assy.



- 3) Check if the actuator and pick up assy operate normally.

- a) Check the operation of the regi sensor actuator.

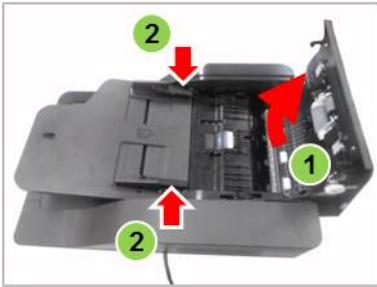


- b) If the regi sensor actuator operates normally, check the followings.

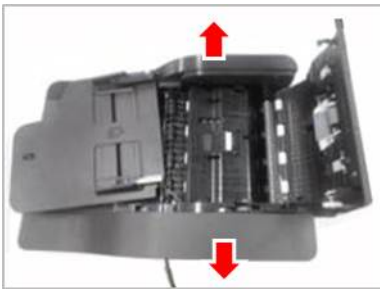
i) Remove 6 screws.



ii) Open the Cover-Open. And then, release the stacker by pushing both sides to the direction of arrow.



iii) Remove the rear cover and front cover.



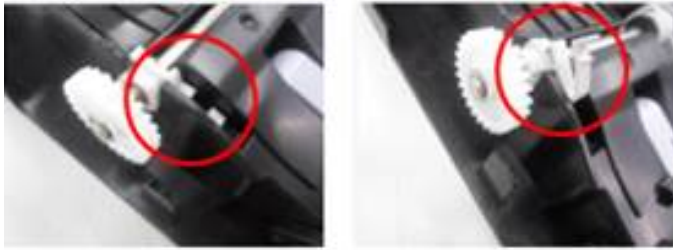
iv) Release the harness and ground wire.



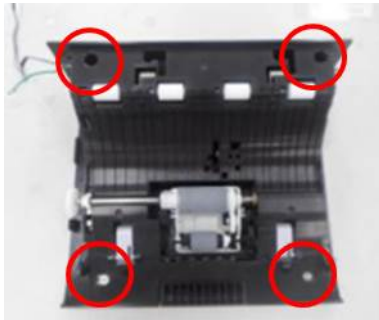
v) Release the Cover-Open Assy by pushing both sides to the direction of arrow.



vi) Pull up and release the Pick-Up Assy from the Cover-Open Assy.



vii) Remove 4 screws.



viii) Remove the Cover-Open Inner.



ix) Check if the sensor and harness are assembled correctly.



4) Check if there is any foreign substance or defective part in the paper path.

5) Close the RADF Assy.

▶ **Error Code**

U3-3311 / U3-3313 / U3-3314 / U3-3511 / U3-3513 / U3-3514

▶ **Error message**

Original paper jam inside the scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and regi roller.

▶ **Troubleshooting method**

- 1) Check if the paper jam has occurred on RADF tray.



- 2) Open the RADF cover. Remove the paper on Guide-Pick up Assy.

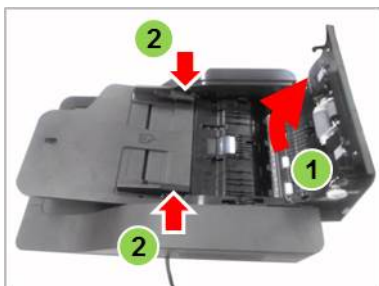


- 3) Check if the actuator and pick up Assy operate normally.

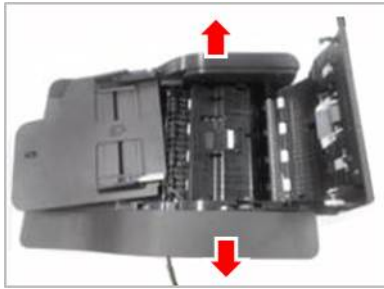
- a) Check the operation of the regi sensor actuator of the Cover Open Assy. (Refer to U3-3213 troubleshooting.)
- b) If the scan sensor actuator operates normally, check the followings.
 - i) Remove 6 screws.



- ii) Open the Cover-Open. And then, release the stacker by pushing both sides to the direction of arrow.



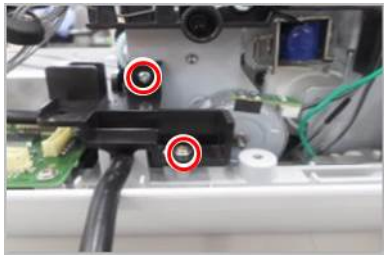
iii) Remove the rear cover and front cover.



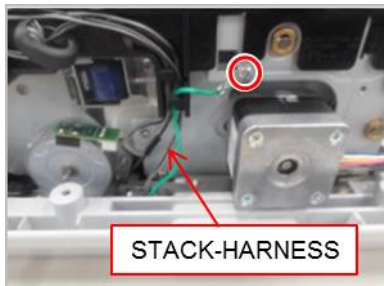
iv) Unplug all harness.



v) Remove 2 screws. And then, remove the Holder-Harness Upper.



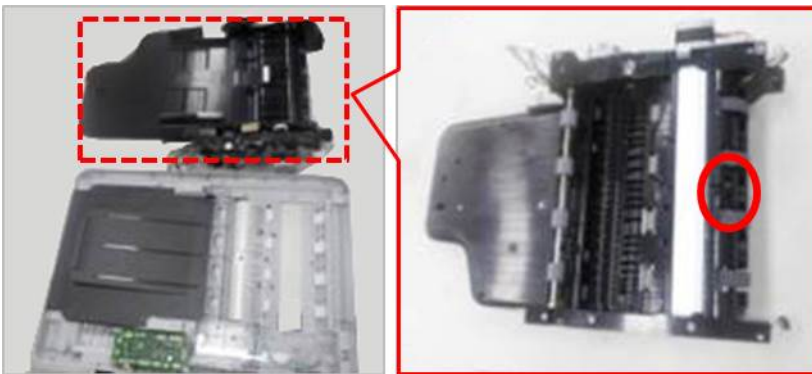
vi) Release the Stack-Harness from the Holder-Harness. And then, release the ground wire.



vii) Remove 5 screws. And then, separate the RADF core Assy from the bottom unit.



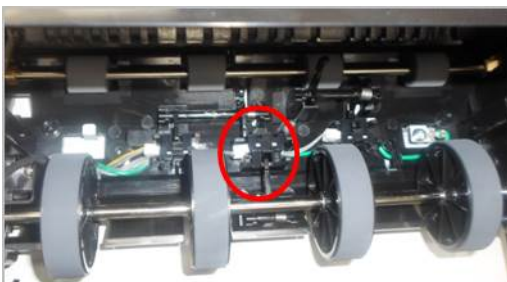
viii) Check the scan sensor operation.



ix) Pull up the Guide-Pick Up Upper Assy. Remove 4 screws. And then, remove the cover.



x) Check if the scan sensor harness is connected correctly.



- 4) Check if there is any foreign substance or defective part in the paper path.
- 5) Close the RADF Assy.

▶ **Error Code**

U3-3411 / U3-3413 / U3-3414

▶ **Error message**

Original paper jam inside the scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and regi roller. (Duplex path)

▶ **Troubleshooting method**

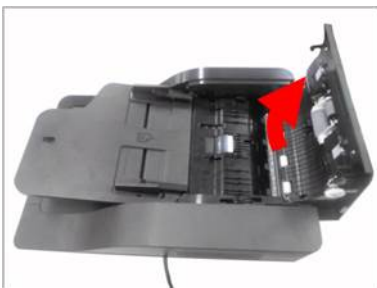
- 1) Open the RADF Cover-Open. And then, remove the jammed paper while pulling up the Guide-Pick Up Assy.



- 2) Check the duplex regi. actuator operation.
 - a) Check if the duplex regi. actuator operates normally.



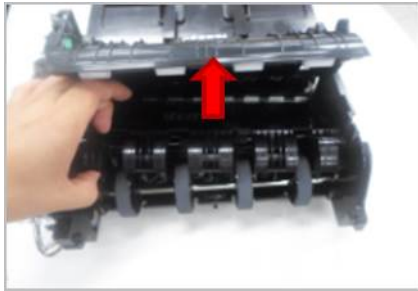
- b) Check the scan harness.
 - i) Open the Cover-Open.



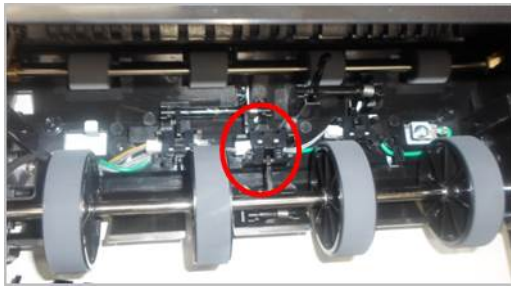
- ii) Remove 4 screw while pulling up the Guide-Pick Up Upper Assy.



iii) Lift and release the cover.



iv) Check if the scan sensor harness is connected correctly.



3) Check if there is any foreign substance or defective part in the paper path.

4) Close the RADF Assy.

▶ **Error Code**

U3-3611 / U3-3613 / U3-3614

▶ **Error message**

Original paper jam in the exit area of scanner

▶ **Symptom**

Original jam has occurred around the scan in roller and scan out roller.

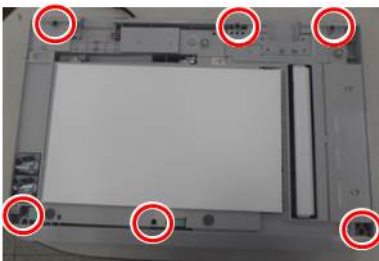
▶ **Troubleshooting method**

- 1) Open the RADF cover. Remove the jammed paper.

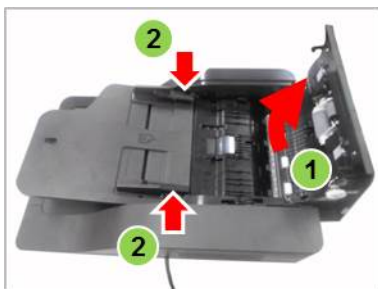


- 2) Check if the feed sensor and actuator operate normally.

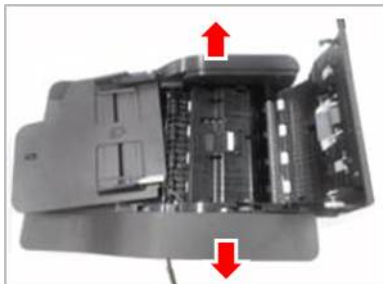
- a) Remove 6 screws.



- b) Open the Cover-Open. And then, release the stacker by pushing both sides to the direction of arrow.



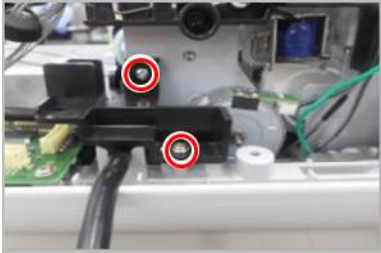
- c) Remove the rear cover and front cover.



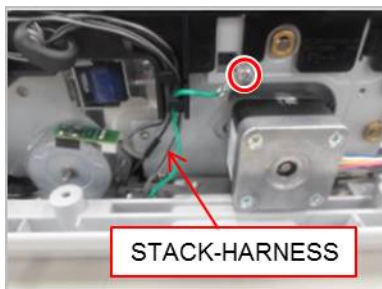
d) Unplug all harness.



e) Remove 2 screws. And then, remove the Holder-Harness Upper.



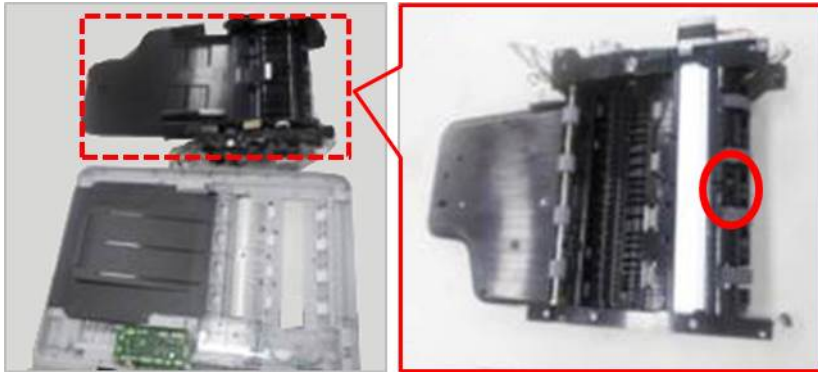
f) Release the Stack-Harness from the Holder-Harness. And then, release the ground wire.



g) Remove 5 screws. And then, separate the RADF core Assy from the bottom unit.



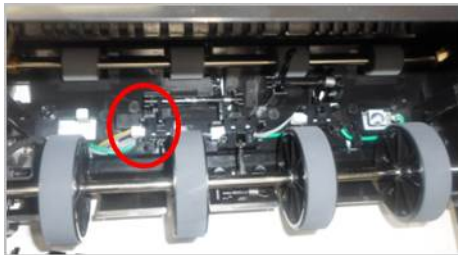
h) Check the scan sensor operation.



i) Pull up the Guide-Pick Up Upper Assy. Remove 4 screws. And then, remove the cover.



j) Check if the feed sensor harness is connected correctly.



- 3) Check if there is any foreign substance or defective part in the paper path.
- 4) Close the RADF Assy.

▶ **Error Code**

U3-3711 / U3-3713 / U3-3714

▶ **Error message**

Original paper jam in the exit area of scanner

▶ **Symptom**

Original jam has occurred during reverse procedure.

▶ **Troubleshooting method**

- 1) Open the RADF Assy.



- 2) Open the Cover-Platen Sub Assy. If there is a jammed paper, remove it.



- 3) Check the reverse actuator and sensor.

- a) Open the Cover-Platen Sub Assy. And then, remove 3 screws.



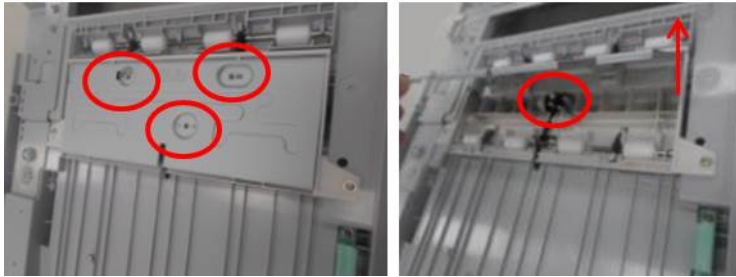
- b) Check if the reverse actuator operates normally.



- 4) If the reverse actuator operation is normal, check the harness.

4. Troubleshooting

- a) Remove 3 screws. Lift up the bracket. And, check if the reverse sensor harness is connected correctly.



- 5) Check if there is any foreign substance or defective part in the paper path.
6) Close the RADF Assy.

► Error Code

U3-4210

► Error message

Top door of scanner is open

► Symptom

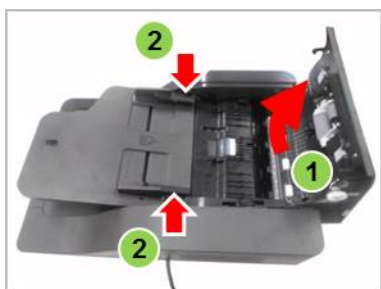
RADF cover-open is opened or

► Troubleshooting method

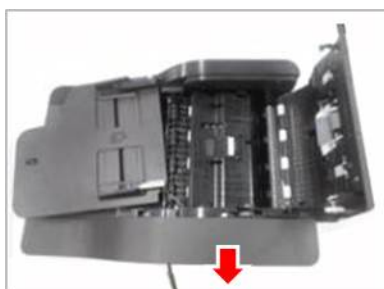
- 1) Check if the cover-open is closed correctly.
- 2) Check the cover-open sensor.
 - a) Remove 3 screws.



- b) Open the Cover-Open. And then, release the stacker by pushing both sides to the direction of arrow.



- c) Remove the RADF rear cover.



- d) Check the rib of the cover-open and sensor.



4. Troubleshooting

- 3) Check if the cover-open sensor harness is connected correctly.



- 4) Close the RADF Assy.

4.7. Image quality problem

Print-quality defects can be attributed to printer components, supplies, media, internal software, external software applications and environmental conditions.

To successfully troubleshoot print-quality problems, as many variables as possible must be eliminated.

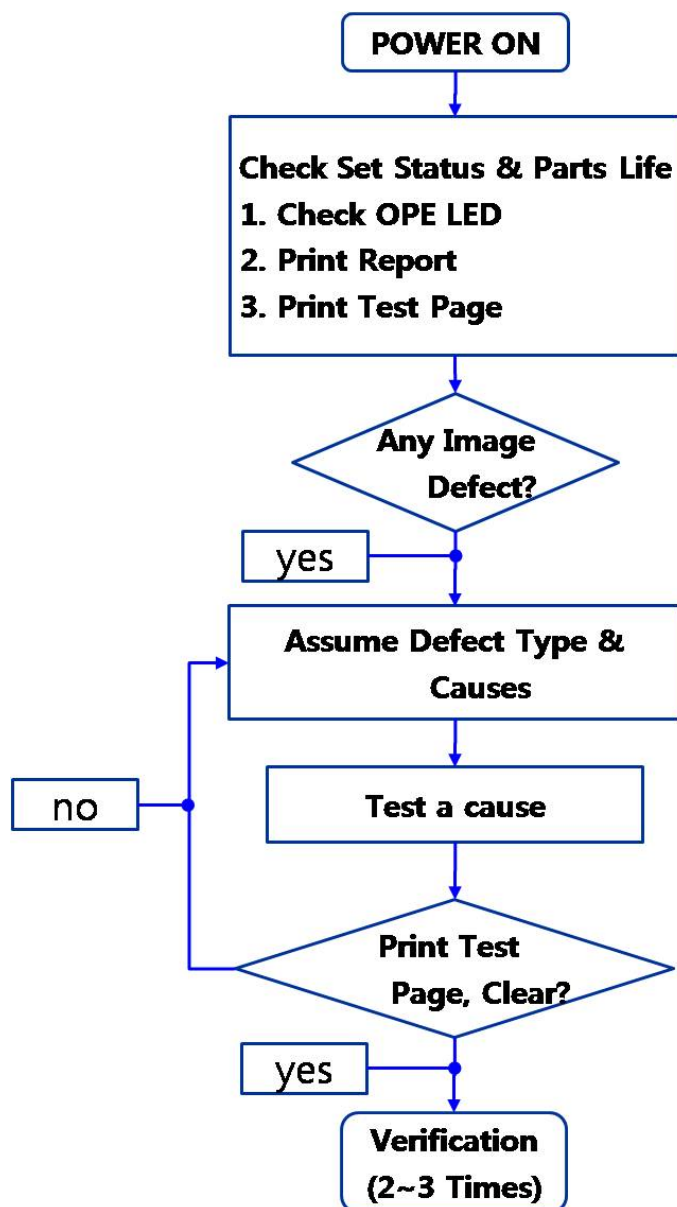
The first step is to generate prints using printable pages embedded in the printer on laser paper. The paper should be from an unopened ream that has been acclimated to room temperature and you should ensure that genuine Samsung Toner is installed in the printer.

How to analysis the defect image



TIP


- According to the part remain life, cause can vary. Check the part remain life.
- Check the defect whether periodic or not.



1) Vertical Black Line and Band

Description : Straight thin black vertical line occurs in the printed image.



Probable Cause	Solution
The paper is not the proper type.	Replace the paper.
The paper path is contaminated by toner residue, debris etc.	Clean the paper path.
The imaging unit is defective.	Replace the imaging unit.
The transfer roller is contaminated or worn out.	Replace the transfer roller.
The pressure roller or heat roller in fuser unit defective.	1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="background-color: #cccccc; padding: 5px;">  WARNING Do not touch the fuser unit while it is hot. </div>

2) Vertical White Line, Band

Description : White vertical voids occurs in the printed image.




Probable Cause	Solution
The paper is not the proper type.	Replace the paper.
The paper path is contaminated by toner residue, debris etc.	Clean the paper path.
The imaging unit is defective.	Replace the imaging unit.
The transfer roller is contaminated or worn out.	Replace the transfer roller.
The LSU window is contaminated.	1) Clean the LSU window. 2) Replace the LSU
The connection between the LSU and main board is defective.	1) Disconnect and reconnect the harness. 2) Replace the harness.

3) Horizontal Black Band

Description : Dark or blurry horizontal stripes occur in the printing periodically.



Probable Cause	Solution
The paper is dirty or not the proper type.	Replace the paper.
The paper path is contaminated by toner residue, debris etc.	Clean the paper path.
The contact terminal of the imaging unit is bad.	1) Clean the contact terminal of the imaging unit. 2) Replace the imaging unit.
The surface of transfer roller is contaminated or worn out.	Replace the transfer roller.
The LSU window is contaminated.	1) Clean the LSU window.
The pressure roller or heat roller in fuser unit defective.	1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="border: 1px solid black; background-color: #cccccc; padding: 5px; margin-top: 10px;">  WARNING Do not touch the fuser unit while it is hot. </div>
HVPS terminal is contaminated.	Clean the contaminated terminal.
The output from the HVPS is abnormal.	Replace the HVPS board.

 **NOTE**


Roller period table

Roller	Period	Replacement part
OPC drum	94.4 mm	Imaging Unit
Charge roller	50.2 mm	
Developing roller	43.6 mm	
Transfer roller	58.4 mm	Transfer Roller
Heat roller	125.6 mm	Fuser Unit
Pressure roller	157 mm	

4) Black and White spot

Description : Dark or blurry black spots occur periodically in the printing.



Probable Cause	Solution
The paper path is contaminated by toner residue, debris etc.	Clean the paper path.
The rollers in the imaging unit may be contaminated with foreign matter or paper particles.	Replace the imaging unit.
The transfer roller is contaminated or worn out.	Replace the transfer roller.
The pressure roller or heat roller in fuser unit defective.	<ol style="list-style-type: none"> 1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="background-color: #cccccc; padding: 5px; margin-top: 10px;">  WARNING Do not touch the fuser unit while it is hot. </div>

5) Light image

Description : The printed image is light, with no ghost.



Probable Cause	Solution
The toner cartridge life is expired.	Replace the toner cartridge.
The imaging unit life is expired.	Replace the imaging unit.
The surface of transfer roller is contaminated or worn out.	Replace the transfer roller.
HVPS terminal is contaminated.	Clean the contaminated terminal.
The output from the HVPS is abnormal.	Replace the HVPS board.

6) Dark or Black page

Description : The printed image is dark or black.



Probable Cause	Solution
The charging roller in the imaging unit is defective.	Replace the imaging unit.
The HVPS contact terminal is contaminated.	Clean the HVPS contact terminal.
The output from the HVPS is abnormal.	Replace the HVPS board.
The LSU is defective.	Replace the LSU.

7) Uneven Density

Description : Print density is uneven between left and right.



Probable Cause	Solution
<ul style="list-style-type: none"> • The pressure force on the left and right springs of the transfer roller is not even. • The springs are damaged. • The transfer roller is improperly installed. 	<ol style="list-style-type: none"> 1) Remove the transfer roller Assy. 2) Check if the transfer roller Assy has any wrong part. 3) Replace the transfer roller Assy.
<p>The toner level is not even on the imaging unit roller due to the bad blade.</p>	<p>Replace the imaging unit.</p>

8) Background

Description : Light dark background appears in whole area of the printing.




Probable Cause	Solution
Does recycle paper be used?	Use the proper papers.
The life of the imaging unit has been expired	Replace the imaging unit.
The output from the HVPS is abnormal.	Replace the HVPS board.

9) Ghost

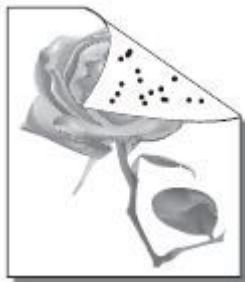
Description : Ghost occurs.




Probable Cause	Solution
The residual toner on the rollers exists.	Print 10 test prints.
The contact terminal of the imaging unit is bad.	1) Clean the contact terminal of the imaging unit. 2) Replace the imaging unit.
The transfer roller is contaminated or worn out.	Replace the transfer roller.
The pressure roller or heat roller in fuser unit defective.	1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="background-color: #cccccc; padding: 5px;">  WARNING Do not touch the fuser unit while it is hot. </div>
The HVPS contact terminal is contaminated.	Clean the HVPS contact terminal.
The output from the HVPS is abnormal.	Replace the HVPS board.

10) Stains on back of page

Description : The back of the page is stained.



Probable Cause	Solution
The transfer roller is contaminated or worn out.	Replace the transfer roller.
The pressure roller or heat roller in fuser unit defective.	1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="background-color: #cccccc; padding: 5px; margin-top: 10px;">  WARNING Do not touch the fuser unit while it is hot. </div>

11) Blank page

Description : No visible image anywhere on the output.



Probable Cause	Solution
The contact terminal of the imaging unit is bad.	1) Clean the contact terminal of the imaging unit. 2) Replace the imaging unit.
The surface of transfer roller is contaminated or worn out.	Replace the transfer roller.
The LSU window is contaminated.	1) Clean the LSU window. 2) Replace the LSU
The connection between the LSU and main board is defective.	1) Disconnect and reconnect the harness. 2) Replace the harness.
The connection between the main board and HVPS board is bad.	Reconnect the harness. If the main board or HVPS board is defective, replace it.

12) Partial image void

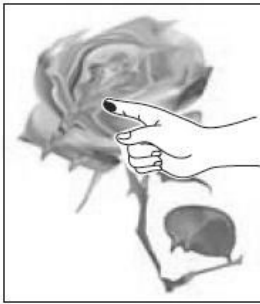
Description : The partial void occurs in the printed page.




Probable Cause	Solution
The printer is not installed on flat ground.	Install the printer on flat ground. Print 10 sample pages for test.
The developer circulation in the imaging unit is bad.	1) Shake the imaging unit 2~3 times from right to left. Reinstall the imaging unit. Print 10 sample pages for test. 2) If the problem persists, replace the imaging unit.
The contact between imaging unit and transfer roller is bad.	Check if the imaging unit and transfer roller are installed properly.

13) Unfused image

Description : The printed image is not fully fused to the paper. The image rubs off easily



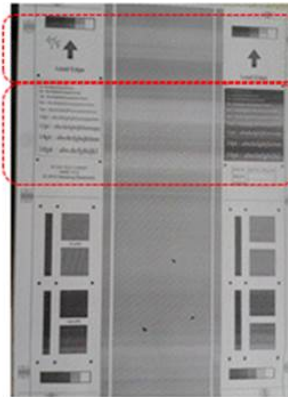
Probable Cause	Solution
The papers are wet with moisture.	Replace the paper.
The fuser unit is not tight.	1) Turn the machine off. 2) Remove and reinstall the fuser unit. 3) Turn the machine on.
The fuser connection is bad.	Check the connection between the fuser unit and main board.
The fuser unit defective.	1) Turn the machine off. 2) Remove and replace the fuser unit. 3) Turn the machine on. <div style="background-color: #cccccc; padding: 5px; margin-top: 10px;">  WARNING Do not touch the fuser unit while it is hot. </div>

14) Poor image quality after assembled Imaging unit

- Description : There may occur Poor image Quality such as below after assembled Imaging unit.



Irregular sharp horizontal line



Irregular white band



Mixed sharp line & White band

- Cause : A particle of plastic got jammed between Imaging unit's connection parts.
- Solution : Clean and check Shaft of Imaging unit & Hole of Frame main after removed Imaging Unit.



Imaging Unit's cleaning & checking point



Frame main's cleaning & checking point

4.8. Other problems

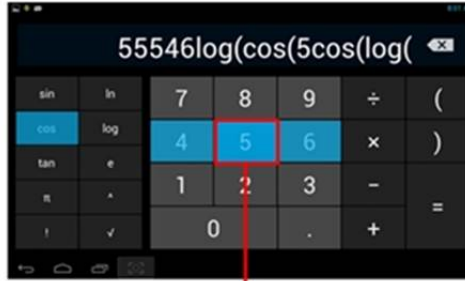
1) UI touch malfunction

- **Symptom** : When touching a button, another button is entered.

※ For example,



When touching home button, another menu is executed.



When touching "5" button, "4", "6", "cos" are entered.

- **Cause** :
 - Touch IC is influenced by the interference between TX frequency and power noise frequency.
- **Troubleshooting**
 - 1) If the power cord is connected to the multi tap, unplug and plug it to the independent outlet.



[X]

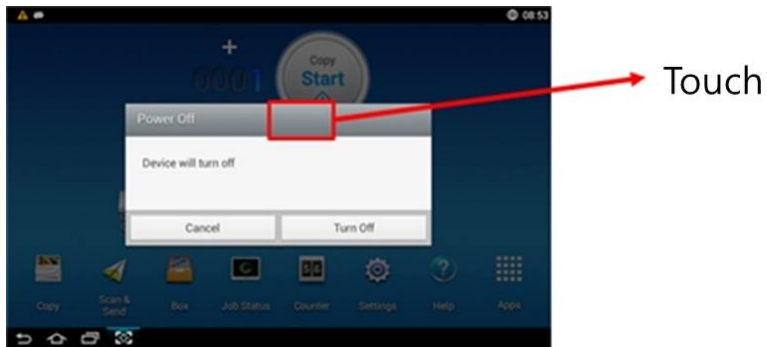


[O]

- 2) If the touch malfunction persists, check the followings.
 - a) Press "Power button" until the pop up will be displayed.



- b) Press pop-up area except "Cancel" and "Turn Off" button until the password window will be displayed.



c) Enter “8378” and press the “Done” button.



d) Select “Utilities” Tap.



e) Change “Touch Config” value.

- After changing “Touch Config”, press “Home” button.
- Priority : 1.(default) → 4. 401K_500K → 5. 500K_599K → 3. 148K_290K → 2. 86K_216K

f) Check the touch operation.

- If the touch malfunction persists, change “Touch Config” to another value and test the touch operation again.

2) Paper detecting error & Skew error

- **Symptom :**

- When original paper size is A4 or Letter, system is detected as legal.



NOTE

If the user select the continue button at the UI screen, the print can continue under this error status condition.

- If the rear side of DSDF is so much lift up, Skew error also can be occurred.



- **Cause :**

- The rear side of DSDF is not closed fully due to high force of hinge spring.
So, APS sensor can't detect original paper size.

- **Troubleshooting**

It is need to exchange the Hinge Assembly with improved one.

- Improved hinge applied for mass production from Oct.2014
- Hinge-left and Hinge-right have to be replaced together.
- After exchanged the new hinge, it is need to check the scan margin.
- If scan margin need to adjust, please make progress auto adjustment job for scan margin and shading test also need to conduct.

1) Remove 8 screws. Then, disassemble the old hinge assembly from the DSDF unit.

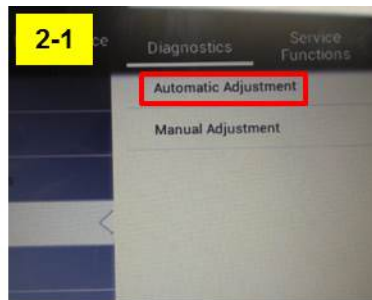
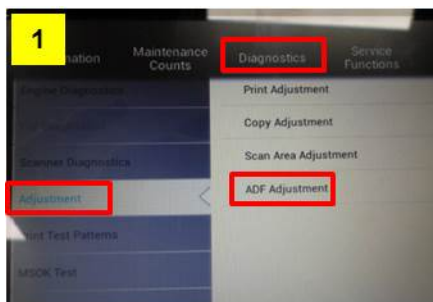


2) Exchange the hinge assembly with new improved hinge.

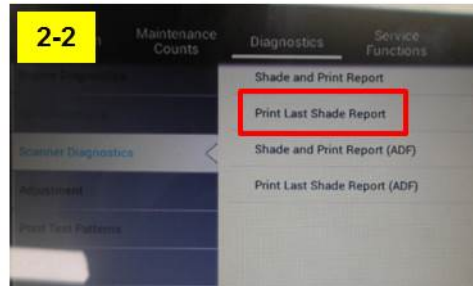
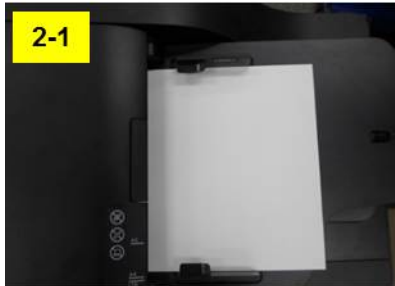
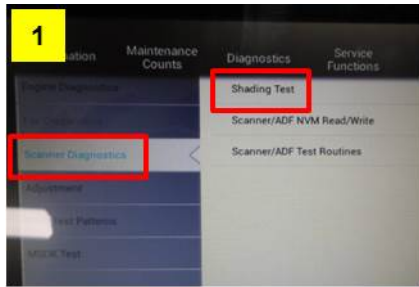
**NOTE**

Hinge-left and Hinge-right have to be simultaneously replaced.

- 3) Execute Auto adjustment job for scan margin.
 - a) Enter the ADF adjustment menu in tech mode. (Picture 1)
(Diagnostics → Adjustment → ADF Adjustment)
 - b) Execute “Automatic Adjustment” using Adjustment chart. (Picture 2-1 ~ 2-3)
(Automatic Adjustment → Put the Adjustment chart on the DSDF Tray → Select OK)



- 4) Execute Shading Test
 - a) Enter the shading test menu in tech mode. (Picture 1)
(Diagnostics → Scanner Diagnostics → Shading Test)
 - b) Execute “Shading Test” using shading chart and check the result. (Picture 2-1 ~ 2-2)
 - Put the Shading chart on the DSDF Tray → Select Shade and Print Report (ADF)
 - Shading Chart is Xerox 4200 Letter size. (Don't use A4 paper)



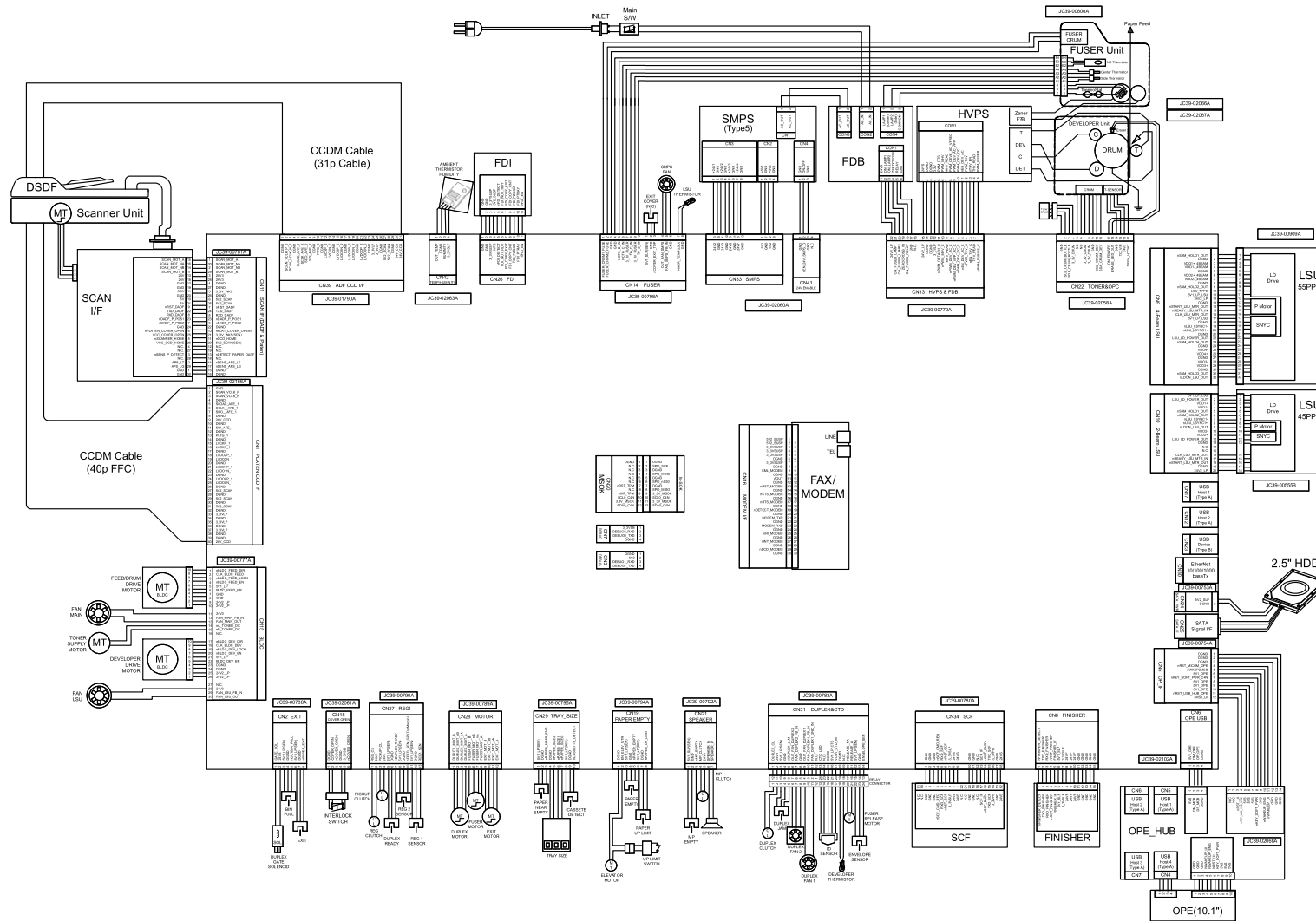
5) Adjust the position of Hinge-right. (In case of occurred the simplex side skew)



! NOTE

Skew spec (Top +/- 1.0 Degrees / Side 0.8 Degrees)

5. System Diagram

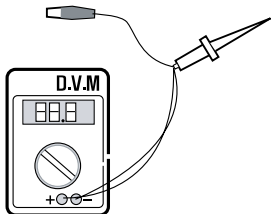


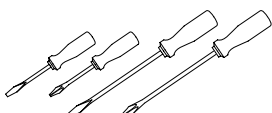




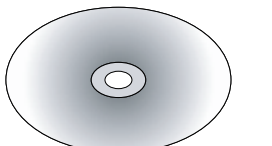


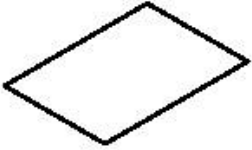

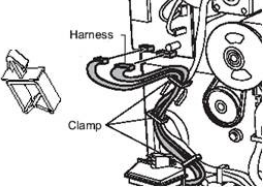
6. Reference Information

This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of test pages and Wireless Network information definition is also included.

6.1. Tools for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

Tool	Image	Use	Remark
Hand DVM		Checking the fuser lamp. Checking the SMPS fuse.	Service
Spring hook		When disassembling the spring	Service
Small vacuum		To remove the toner and contamination inside of the machine.	Service
Driver		To tighten screws. To remove the hinge of the cover.	Service
Tweezers		To unplug the pin connector of the fuser unit. To remove the E-ring.	Service
Soft cloth		To clean the rollers To clean the frame and scan glass	Service
Black soft cloth		To cover the OPC drum	Service
Install guide, User guide, Admin guide		When installing the machine.	Installation
Software CD		When installing the machine.	Installation

Tool	Image	Use	Remark
Test Chart • A4 image, Skew		To check the image quality	Service
Spare Kit • Screw, E-Ring		To fix the unit or parts	Service
Clamp		To form the harness	Service

6.2. Glossary

The following glossary helps you get familiar with the product by understanding the terminologies commonly used with printing as well as mentioned in this user's guide and service manual.

802.11	802.11 is a set of standards for wireless local area network (WLAN) communication, developed by the IEEE LAN/MAN Standards Committee (IEEE 802).
802.11b/g/n	802.11b/g/n can share same hardware and use the 2.4 GHz band. 802.11b supports bandwidth up to 11 Mbps, 802.11n supports bandwidth up to 150 Mbps. 802.11b/g/n devices may occasionally suffer interference from microwave ovens, cordless telephones, and Bluetooth devices.
Access point	Access Point or Wireless Access Point (AP or WAP) is a device that connects wireless communication devices together on wireless local area networks (WLAN), and acts as a central transmitter and receiver of WLAN radio signals.
ADF	An Automatic Document Feeder (ADF) is a scanning unit that will automatically feed an original sheet of paper so that the machine can scan some amount of the paper at once.
AppleTalk	AppleTalk is a proprietary suite of protocols developed by Apple, Inc for computer networking. It was included in the original Macintosh (1984) and is now deprecated by Apple in favor of TCP/IP networking.
BIT Depth	A computer graphics term describing the number of bits used to represent the color of a single pixel in a bitmapped image. Higher color depth gives a broader range of distinct colors. As the number of bits increases, the number of possible colors becomes impractically large for a color map. 1-bit color is commonly called as monochrome or black and white.
BMP	A bitmapped graphics format used internally by the Microsoft Windows graphics subsystem (GDI), and used commonly as a simple graphics file format on that platform.
BOOTP	Bootstrap Protocol. A network protocol used by a network client to obtain its IP address automatically. This is usually done in the bootstrap process of computers or operating systems running on them. The BOOTP servers assign the IP address from a pool of addresses to each client. BOOTP enables 'diskless workstation' computers to obtain an IP address prior to loading any advanced operating system.
CCD	Charge Coupled Device (CCD) is a hardware which enables the scan job. CCD Locking mechanism is also used to hold the CCD module to prevent any damage when you move the machine.
Collation	Collation is a process of printing a multiple-copy job in sets. When collation is selected, the device prints an entire set before printing additional copies.
Control Panel	A control panel is a flat, typically vertical, area where control or monitoring instruments are displayed. They are typically found in front of the machine.
Coverage	It is the printing term used for a toner usage measurement on printing. For example, 5% coverage means that an A4 sided paper has about 5% image or text on it. So, if the paper or original has complicated images or lots of text on it, the coverage will be higher and at the same time, a toner usage will be as much as the coverage.
CSV	Comma Separated Values (CSV). A type of file format, CSV is used to exchange data between disparate applications. The file format, as it is used in Microsoft Excel, has become a de facto standard throughout the industry, even among non-Microsoft platforms.
DADF	A Duplex Automatic Document Feeder (DADF) is a scanning unit that will automatically feed and turn over an original sheet of paper so that the machine can scan on both sides of the paper.
Default	The value or setting that is in effect when taking a printer out of its box state, reset, or initialized.
DHCP	A Dynamic Host Configuration Protocol (DHCP) is a client-server networking protocol. A DHCP server provides configuration parameters specific to the DHCP client host requesting, generally, information required by the client host to participate on an IP network. DHCP also provides a mechanism for allocation of IP addresses to client hosts.
DIMM	Dual Inline Memory Module (DIMM), a small circuit board that holds memory. DIMM stores all the data within the machine like printing data, received fax data.

DLNA	The Digital Living Network Alliance (DLNA) is a standard that allows devices on a home network to share information with each other across the network.
DNS	The Domain Name Server (DNS) is a system that stores information associated with domain names in a distributed database on networks, such as the Internet.
Dot Matrix Printer	A dot matrix printer refers to a type of computer printer with a print head that runs back and forth on the page and prints by impact, striking an ink-soaked cloth ribbon against the paper, much like a typewriter.
DPI	Dots Per Inch (DPI) is a measurement of resolution that is used for scanning and printing. Generally, higher DPI results in a higher resolution, more visible detail in the image, and a larger file size.
DRPD	Distinctive Ring Pattern Detection. Distinctive Ring is a telephone company service which enables a user to use a single telephone line to answer several different telephone numbers.
Duplex	A mechanism that will automatically turn over a sheet of paper so that the machine can print (or scan) on both sides of the paper. A printer equipped with a Duplex Unit can print on both sides of paper during one print cycle.
Duty Cycle	Duty cycle is the page quantity which does not affect printer performance for a month. Generally the printer has the lifespan limitation such as pages per year. The lifespan means the average capacity of print-outs, usually within the warranty period. For example, if the duty cycle is 48,000 pages per month assuming 20 working days, a printer limits 2,400 pages a day.
ECM	Error Correction Mode (ECM) is an optional transmission mode built into Class 1 fax machines or fax modems. It automatically detects and corrects errors in the fax transmission process that are sometimes caused by telephone line noise.
Emulation	Emulation is a technique of one machine obtaining the same results as another. An emulator duplicates the functions of one system with a different system, so that the second system behaves like the first system. Emulation focuses on exact reproduction of external behavior, which is in contrast to simulation, which concerns an abstract model of the system being simulated, often considering its internal state.
Ethernet	Ethernet is a frame-based computer networking technology for local area networks (LANs). It defines wiring and signaling for the physical layer, and frame formats and protocols for the media access control (MAC)/data link layer of the OSI model. Ethernet is mostly standardized as IEEE 802.3. It has become the most widespread LAN technology in use during the 1990s to the present.
EtherTalk	A suite of protocols developed by Apple Computer for computer networking. It was included in the original Macintosh (1984) and is now deprecated by Apple in favor of TCP/IP networking.
FDI	Foreign Device Interface (FDI) is a card installed inside the machine to allow a third party device such as a coin operated device or a card reader. Those devices allow the pay-for-print service on your machine.
FTP	A File Transfer Protocol (FTP) is a commonly used protocol for exchanging files over any network that supports the TCP/IP protocol (such as the Internet or an intranet).
Fuser Unit	The part of a laser printer that fuses the toner onto the print media. It consists of a heat roller and a pressure roller. After toner is transferred onto the paper, the fuser unit applies heat and pressure to ensure that the toner stays on the paper permanently, which is why paper is warm when it comes out of a laser printer.
Gateway	A connection between computer networks, or between a computer network and a telephone line. It is very popular, as it is a computer or a network that allows access to another computer or network.
Grayscale	A shades of gray that represent light and dark portions of an image when color images are converted to grayscale; colors are represented by various shades of gray.
Halftone	An image type that simulates grayscale by varying the number of dots. Highly colored areas consist of a large number of dots, while lighter areas consist of a smaller number of dots.
HDD	Hard Disk Drive (HDD), commonly referred to as a hard drive or hard disk, is a non-volatile storage device which stores digitally-encoded data on rapidly rotating platters with magnetic surfaces.

IEEE	The Institute of Electrical and Electronics Engineers (IEEE) is an international non-profit, professional organization for the advancement of technology related to electricity.
IEEE 1284	The 1284 parallel port standard was developed by the Institute of Electrical and Electronics Engineers (IEEE). The term "1284-B" refers to a specific connector type on the end of the parallel cable that attaches to the peripheral (for example, a printer).
Intranet	A private network that uses Internet Protocols, network connectivity, and possibly the public telecommunication system to securely share part of an organization's information or operations with its employees. Sometimes the term refers only to the most visible service, the internal website.
IP address	An Internet Protocol (IP) address is a unique number that devices use in order to identify and communicate with each other on a network utilizing the Internet Protocol standard.
IPM	The Images Per Minute (IPM) is a way of measuring the speed of a printer. An IPM rate indicates the number of single-sided sheets a printer can complete within one minute.
IPP	The Internet Printing Protocol (IPP) defines a standard protocol for printing as well as managing print jobs, media size, resolution, and so forth. IPP can be used locally or over the Internet to hundreds of printers, and also supports access control, authentication, and encryption, making it a much more capable and secure printing solution than older ones.
IPX/SPX	IPX/SPX stands for Internet Packet Exchange/Sequenced Packet Exchange. It is a networking protocol used by the Novell NetWare operating systems. IPX and SPX both provide connection services similar to TCP/IP, with the IPX protocol having similarities to IP, and SPX having similarities to TCP. IPX/SPX was primarily designed for local area networks (LANs), and is a very efficient protocol for this purpose (typically its performance exceeds that of TCP/IP on a LAN).
ISO	The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from national standards bodies. It produces world-wide industrial and commercial standards.
ITU-T	The International Telecommunication Union is an international organization established to standardize and regulate international radio and telecommunications. Its main tasks include standardization, allocation of the radio spectrum, and organizing interconnection arrangements between different countries to allow international phone calls. A -T out of ITU-T indicates telecommunication.
ITU-T No. 1 chart	Standardized test chart published by ITU-T for document facsimile transmissions.
JBIG	Joint Bi-level Image Experts Group (JBIG) is an image compression standard with no loss of accuracy or quality, which was designed for compression of binary images, particularly for faxes, but can also be used on other images.
JPEG	Joint Photographic Experts Group (JPEG) is a most commonly used standard method of lossy compression for photographic images. It is the format used for storing and transmitting photographs on the World Wide Web.
LDAP	The Lightweight Directory Access Protocol (LDAP) is a networking protocol for querying and modifying directory services running over TCP/IP.
LED	A Light-Emitting Diode (LED) is a semiconductor device that indicates the status of a machine.
MAC address	Media Access Control (MAC) address is a unique identifier associated with a network adapter. MAC address is a unique 48-bit identifier usually written as 12 hexadecimal characters grouped in pairs (e. g., 00-00-0c-34-11-4e). This address is usually hard-coded into a Network Interface Card (NIC) by its manufacturer, and used as an aid for routers trying to locate machines on large networks.
MFP	Multi Function Peripheral (MFP) is an office machine that includes the following functionality in one physical body, so as to have a printer, a copier, a fax, a scanner and etc.
MH	Modified Huffman (MH) is a compression method for decreasing the amount of data that needs to be transmitted between the fax machines to transfer the image recommended by ITU-T T.4. MH is a codebook-based run-length encoding scheme optimized to efficiently compress white space. As most faxes consist mostly of white space, this minimizes the transmission time of most faxes.
MMR	Modified Modified READ (MMR) is a compression method recommended by ITU-T T.6.

Modem	A device that modulates a carrier signal to encode digital information, and also demodulates such a carrier signal to decode transmitted information.
MR	Modified Read (MR) is a compression method recommended by ITUT T.4. MR encodes the first scanned line using MH. The next line is compared to the first, the differences determined, and then the differences are encoded and transmitted.
NetWare	A network operating system developed by Novell, Inc. It initially used cooperative multitasking to run various services on a PC, and the network protocols were based on the archetypal Xerox XNS stack. Today NetWare supports TCP/IP as well as IPX/SPX.
NFC Printing	The NFC(Near Field Communication) printer allows you to directly print/scan from your cell phone just by holding your cell phone over the NFC tag on your printer. It does not require installing print driver or connecting to an access point. You just need NFC supported cell phone. In order to use this feature, Samsung Mobile Print app needs to be installed on your cell phone.
OPC	Organic Photo Conductor (OPC) is a mechanism that makes a virtual image for print using a laser beam emitted from a laser printer, and it is usually green or rust colored and has a cylinder shape. An imaging unit containing a drum slowly wears the drum surface by its usage in the printer, and it should be replaced appropriately since it gets worn from contact with the cartridge development brush, cleaning mechanism, and paper.
Originals	The first example of something, such as a document, photograph or text, etc, which is copied, reproduced or translated to produce others, but which is not itself copied or derived from something else.
OSI	Open Systems Interconnection (OSI) is a model developed by the International Organization for Standardization (ISO) for communications. OSI offers a standard, modular approach to network design that divides the required set of complex functions into manageable, self-contained, functional layers. The layers are, from top to bottom, Application, Presentation, Session, Transport, Network, Data Link and Physical.
PABX	A private automatic branch exchange (PABX) is an automatic telephone switching system within a private enterprise.
PCL	Printer Command Language (PCL) is a Page Description Language (PDL) developed by HP as a printer protocol and has become an industry standard. Originally developed for early inkjet printers, PCL has been released in varying levels for thermal, dot matrix printer, and laser printers.
PDF	Portable Document Format (PDF) is a proprietary file format developed by Adobe Systems for representing two dimensional documents in a device independent and resolution independent format.
PostScript(PS)	PostScript (PS) is a page description language and programming language used primarily in the electronic and desktop publishing areas. - that is run in an interpreter to generate an image.
Printer Driver	A program used to send commands and transfer data from the computer to the printer.
Print Media	The media like paper, envelopes, labels, and transparencies which can be used in a printer, a scanner, a fax or, a copier.
PPM	Pages Per Minute (PPM) is a method of measurement for determining how fast a printer works, meaning the number of pages a printer can produce in one minute.
PRN file	An interface for a device driver, this allows software to interact with the device driver using standard input/output system calls, which simplifies many tasks.
Protocol	A convention or standard that controls or enables the connection, communication, and data transfer between two computing endpoints.
PSTN	The Public-Switched Telephone Network (PSTN) is the network of the world's public circuit-switched telephone networks which, on industrial premises, is usually routed through the switchboard.
RADIUS	Remote Authentication Dial In User Service (RADIUS) is a protocol for remote user authentication and accounting. RADIUS enables centralized management of authentication data such as usernames and passwords using an AAA (authentication, authorization, and accounting) concept to manage network access.

Resolution	The sharpness of an image, measured in Dots Per Inch (DPI). The higher the dpi, the greater the resolution.
SMB	Server Message Block (SMB) is a network protocol mainly applied to share files, printers, serial ports, and miscellaneous communications between nodes on a network. It also provides an authenticated Interprocess communication mechanism.
SMTP	Simple Mail Transfer Protocol (SMTP) is the standard for e-mail transmissions across the Internet. SMTP is a relatively simple, text based protocol, where one or more recipients of a message are specified, and then the message text is transferred. It is a client server protocol, where the client transmits an email message to the server.
SSID	Service Set Identifier (SSID) is a name of a wireless local area network (WLAN). All wireless devices in a WLAN use the same SSID in order to communicate with each other. The SSIDs are case-sensitive and have a maximum length of 32 characters.
Subnet Mask	The subnet mask is used in conjunction with the network address to determine which part of the address is the network address and which part is the host address.
TCP/IP	The Transmission Control Protocol (TCP) and the Internet Protocol (IP); the set of communications protocols that implement the protocol stack on which the Internet and most commercial networks run.
TCR	Transmission Confirmation Report (TCR) provides details of each transmission such as job status, transmission result and number of pages sent. This report can be set to print after each job or only after failed transmissions.
TIFF	Tagged Image File Format (TIFF) is a variable-resolution bitmapped image format. TIFF describes image data that typically come from scanners. TIFF images make use of tags, keywords defining the characteristics of the image that is included in the file. This flexible and platform-independent format can be used for pictures that have been made by various image processing applications.
Toner Cartridge	A kind of bottle or container used in a machine like a printer which contains toner. Toner is a powder used in laser printers and photocopiers, which forms the text and images on the printed paper. Toner can be fused by a combination of heat/pressure from the fuser, causing it to bind to the fibers in the paper.
TWAIN	An industry standard for scanners and software. By using a TWAIN-compliant scanner with a TWAIN-compliant program, a scan can be initiated from within the program. It is an image capture API for Microsoft Windows and Apple Macintosh operating systems.
UNC Path	Uniform Naming Convention (UNC) is a standard way to access network shares in Window NT and other Microsoft products. The format of a UNC path is: \\<servername>\<sharename>\<Additional directory>
URL	Uniform Resource Locator (URL) is the global address of documents and resources on the Internet. The first part of the address indicates what protocol to use, the second part specifies the IP address or the domain name where the resource is located.
USB	Universal Serial Bus (USB) is a standard that was developed by the USB Implementers Forum, Inc., to connect computers and peripherals. Unlike the parallel port, USB is designed to concurrently connect a single computer USB port to multiple peripherals.
Watermark	A watermark is a recognizable image or pattern in paper that appears lighter when viewed by transmitted light. Watermarks were first introduced in Bologna, Italy in 1282; they have been used by papermakers to identify their product, and also on postage stamps, currency, and other government documents to discourage counterfeiting.
WEP	Wired Equivalent Privacy (WEP) is a security protocol specified in IEEE 802.11 to provide the same level of security as that of a wired LAN. WEP provides security by encrypting data over radio so that it is protected as it is transmitted from one end point to another.
WIA	Windows Imaging Architecture (WIA) is an imaging architecture that is originally introduced in Windows Me and Windows XP. A scan can be initiated from within these operating systems by using a WIA-compliant scanner.
Wi-Fi	Wi-Fi is a popular technology that allows an electronic device to exchange data wirelessly over a computer network, including high-speed Internet connections.

WPA	Wi-Fi Protected Access (WPA) is a class of systems to secure wireless (Wi-Fi) computer networks, which was created to improve upon the security features of WEP.
WPA-PSK	WPA-PSK (WPA Pre-Shared Key) is special mode of WPA for small business or home users. A shared key, or password, is configured in the wireless access point (WAP) and any wireless laptop or desktop devices. WPA-PSK generates a unique key for each session between a wireless client and the associated WAP for more advanced security.
WPS	The Wi-Fi Protected Setup (WPS) is a standard for establishing a wireless home network. If your wireless access point supports WPS, you can configure the wireless network connection easily without a computer.
XPS	XML Paper Specification (XPS) is a specification for a Page Description Language (PDL) and a new document format, which has benefits for portable document and electronic document, developed by Microsoft. It is an XML-based specification, based on a new print path and a vector-based device-independent document format.

6.3. The Sample Pattern for the Test

The life of the toner cartridge and the printing speed are measured using the pattern shown below.

Stephen J. Singel
Labanda Sinpat Abarress
Tendar, BSF
URANGLE

23 January 2004

Jonathan Q. Maderia

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Category	Value
B	High
C	Medium-High
D	Medium
E	Low

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6.4. Model Name and Code

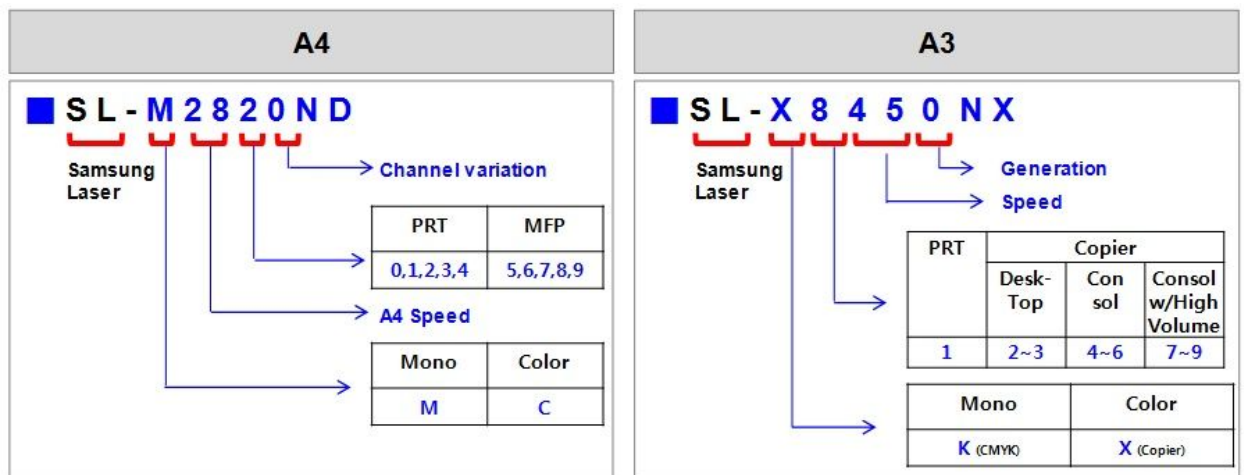
1) Sub brand name Information

- Applying Independent sub brand name by Segment : Xpress / ProXpress / MultiXpress



2) Model code Information

- Basic Structure : [SL-●○○■□◆◆]



- ◆◆ : Function Information

	Function
N	Network
W	Wireless Network
D	Duplex Printing
R	Reverse Type ADF
F	Fax
X	XOA (eXtensible Open Architecture)
H	Handset
A	Auto Document Feeder

6.5. Document Revision List

Version	Date	Page	Description
1.00	30/Jun/2014	-	Release
1.01	15/Jul/2014	P.3-47	Add card reader installation (Ch 3.3.19)
1.02	15/Sep/2014	P.4-207 P.4-208	Add troubleshooting for image quality after assembled imaging unit. Add troubleshooting for touch panel malfunction.
1.03	18/Nov/2014	P.2-1	Modify memory size expression. (2GB → 4GB (2GB for Android OS))
1.04	13/Jan/2015	P.4-70	Delete SFE menu description by R&D policy.
1.05	17/Mar/2015	P.4-70 P.4-210	Add SFE menu Add troubleshooting for paper detection and skew error
1.06	16/Apr/2015	P.4-55	Update shading test description.
1.07	11/May/2015	P.3-49 ~	Add Finisher/Mail box disassembly.
1.08	28/Oct/2015	P.2-12	Modify supplies table. (Add conditions.)
1.09	02/Mar/2016	P.4-89	Update the troubleshooting for A4-1110 error.
1.10	09/Aug/2016	-	Add M5360RX information.
1.11	23/Dec/2016	P.2-14 ~ 15	Add note for production suspension of 2-bin finisher and mailbox.
1.12	23/Jan/2017	P.1-1	Change LSU label image.



GSPN (GLOBAL SERVICE PARTNER NETWORK)

Area	Web Site
Europe, MENA, CIS, Africa	https://gspn1.samsungsportal.com
E.Asia, W.Asia, China, Japan	https://gspn2.samsungsportal.com
N.America, S.America	https://gspn3.samsungsportal.com

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