CÓPIA NÃO CONTROLADA

SAMSUNG

Service Manual

Service Manual



service Manual

MONO LASER MFP

SCX-483x/563x/573x Series

SCX-483xFR/FD/HD

SCX-563xFR/HR, SCX-573xFW

The keynote of Product

1. Speed
   - SCX-483x series : 31 ppm in A4 / 33 ppm in Letter
   - SCX-5x3x series : 35 ppm in A4 / 37 ppm in Letter

2. Processor
   - SCX-483xFD : 360 MHz
   - SCX-483xFR / SCX-5x3x series : 600 MHz

3. Printer Languages
   - PCL6, PS3

4. Memory (Std / Max)
   - SCX-483xFD : 128 MB/ 384 MB
   - SCX-483xFR / SCX-5x3x series : 256 MB/ 768 MB

5. Interfaces
   - High Speed USB 2.0
   - 10/100 BaseTX network connector (SCX-483xFD)
   - 10/100/1000 BaseTX network connector (SCX-483xFR/ SCX-5x3x series)
   - 802.11b/g/n wireless LAN (SCX-573xFW)

6. Toner cartridge (Initial / Sales)
   - SCX-483x series : 2K / 2K, 5K
   - SCX-5x3x series : 5K / 2K, 5K, 10K

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SAMSUNG ELECTRONICS

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GSPN (Global Service Partner Network)

North America : service.samsungportal.com
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CIS : cis.samsungportal.com
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1. Precautions

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

1.1 Safety Warning

(1) Only to be serviced by appropriately quali ed service engineers.
High voltages and lasers inside this product are dangerous. This printer should only be serviced by a suitably trained and quali ed service engineer.

(2) Use only Samsung replacement parts
There are no user serviceable parts inside the printer. Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or re hazards.

(3) Laser Safety Statement
The printer is certi ed 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 certi ed as a Class I laser product conforming to the requirements of IEC 60825-1:1993 + A1:1997 + A2:2001. 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
  - Paraller: 12 degrees
  - Perpendicular: 35 degrees
- Maximum power or energy output: 15 mW

WARNING
Never operate or service the printer 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 injury to persons:



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1.2 Caution for safety

1.2.1 Toxic material

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

(1) If the LCD control panel is damaged it is possible for the liquid inside to leak. This liquid is toxic. Contact with the skin should be avoided, wash any splashes from eyes or skin immediately and contact your doctor. If the liquid gets into the mouth or is swallowed see a doctor immediately.
(2) Please keep Drum cartridge and Toner Cartridge away from children. The toner powder contained in the Drum cartridge 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 re.

(1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a re or electric shock.
(2) Use only the power cable supplied with the printer. Use of an incorrectly speci ed cable could cause the cable to overheat and potentially cause a re.
(3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a re.
(4) Do not allow water or other liquids to spill into the printer, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the printer these could cause a short circuit leading to an electric shock or re hazard.
(5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the printer remove the power plug from the wall socket.
(6) Use caution when inserting or removing the power connector. The power connector must be inserted completely otherwise a poor contact could cause overheating possibly leading to a re. When removing the power connector grip it rmly and pull.
(7) Take care of the power cable. Do not allow it to become twisted, bent sharply round corners or other wise damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a re or exposed cables could cause an electric shock. Replace a 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 re and shock risks.
(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 lightening storms. Samsung recommend 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 printer in a clean well ventilated location. Do not position the machine near a humidi er. Damp and dust build up inside the machine can lead to overheating and cause a re.
(11) Do not position the printer in direct sunlight. This will cause the temperature inside the printer to rise possibly leading to the printer failing to work properly and in extreme conditions could lead to a re.
(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.

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1.2.3 Handling Precautions

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

(1) 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.
(2) The printer contains many rollers, gears and fans. Take great care to ensure that you do not catch your ngers, 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 printer which if spilled could get into the machine and cause damage or a shock or re hazard.
(4) Do not install the machine in areas with high dust or moisture levels, beside on open window or close to a humidi er or heater. Damage could be caused to the printer in such areas.
(5) Do not place candles, burning cigarettes, etc on the printer, These could cause a re.

1.2.4 Assembly / Disassembly Precautions

Replace parts carefully, 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 printer or replacing any parts.

(1) Check the contents of the machine memory and make a note of any user settings. These will be erased if the mainboard or network card is replaced.
(2) Ensure that power is disconnected before servicing or replacing any electrical parts.
(3) Disconnect printer 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- tting any parts do not use excessive force, especially when tting 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 exposed to light.
  Take care not to expose the OPC Drum either to direct sunlight or to uorescent or incandescent room lighting. Exposure for as little as 5 mins can damage the surface? photoconductive properties and will result in print quality degradation. Take extra care when servicing the printer. 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 OPC Drum Unit.
  If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

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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 to cool down before disassembly.

(2) Do not put nger 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.
This printer weighs approx. 16 kg (35.27 lbs) including toner cartridge and cassette. Use safe lifting and handling techniques. 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.
The printer weighs approx. 16 kg (35.27 lbs), 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.

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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 eld 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 classi ed as “anti-static” can generate electrical charges suf cient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges suf cient 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 oor, can generate static electricity suf cient to damage an ESD.

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2. Product specifications and descriptions

2.1 Specifications

2.1.1 Product Overview



1. Speed
• SCX-483x series : 31 ppm in A4 / 33 ppm in Letter
• SCX-5x3x series : 35 ppm in A4 / 37 ppm in Letter

2. Processor
• SCX-483xFD/HD : 360 MHz
• SCX-483xFR / SCX-5x3x series : 600 MHz

3. Printer Languages
• PCL6, PS3

4. Memory (Std / Max)
• SCX-483xFD/HD : 128 MB / 384 MB
• SCX-483xFR / SCX-5x3x series : 256MB / 768 MB

5. Interfaces
• High Speed USB 2.0
• 10/100 BaseTX network connector (SCX-483xFD/HD)
• 10/100/1000 BaseTX network connector
(SCX-483xFR / SCX-5x3x series)
• 802.11b/g/n wireless LAN (SCX-573xFW)

6. ADF (SCX-483xFD/HD) /
RADF (SCX-483xFR/ SCX-5x3x series)

7. Toner cartridge (Initial / Sales)
• SCX-483x series : 2K / 2K, 5K
• SCX-5x3x series : 5K / 2K, 5K, 10K

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2.1.2 Features by models

Features	SCX-4833FD SCX-4835FD SCX-4833HD	SCX-4833FR SCX-4835FR	SCX-5637FR SCX-5639FR SCX-5637HR	SCX-5737FW SCX-5739FW
Print, Copy, Scan, Fax	●	●	●	●
Hi-Speed USB 2.0	●	●	●	●
IEEE 1284 Parallel	○	○	○	○
Network Interface Ethernet 10/100 Base TX wired LAN	●			
Network Interface Ethernet 10/100/1000 Base TX wired LAN		●	●	●
Network Interface 802.11b/g/n wireless LAN				●
Eco printing	●	●	●	●
Duplex (2-sided) printing	●	●	●	●
Samsung Easy Printer Manager	●	●	●	●
Memory	○	○	○	○
Tray 2 (520 sheets)	○	○	○	○
SyncThru Web Service "	●	●	●	●
Automatic Document Feeder (ADF)	●			
Reversed Automatic Document Feeder (RADF)		●	●	●

(●: Included, ○: Optional, Blank: Not available)

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2.1.3 Specifications

• Product Specifications are subject to change without notice. See below for product specifications.

2.1.3.1 General Print Engine

Item		SCX-483x series	SCX-5x3x series
Engine Speed	Simplex	Up to 31 ppm in A4 (33 ppm in Letter)	Up to 35 ppm in A4 (37 ppm in Letter)
	Duplex	Up to 15 ipm in A4 (16 ipm in Letter)	Up to 17 ipm in A4 (18 ipm in Letter)
Warmup time	From Sleep	15 sec	15 sec
FPOT	From Ready	As fast as 8 sec	As fast as 8 sec
	From Sleep	As fast as 15.5 sec	As fast as 15.5 sec
Resolution	-	Up to 1,200 x 1,200 dpi effective output	Up to 1,200 x 1,200 dpi effective output

2.1.3.2 Copier specification

Item		SCX-483x series	SCX-5x3x series
Copy Speed	SDMC (SDMC: Single Document Multiple Copy)	- Simplex to Simplex (1-1) : 30 sec - Simplex to Duplex (1-2) : 15 sec - Duplex to Simplex (2-1) : 30 sec (only 483xFR) - Duplex to Duplex (2-2) : 15 sec (only 483xFR)	- Simplex to Simplex (1-1) : 30 sec - Simplex to Duplex (1-2) : 15 sec - Duplex to Simplex (2-1) : 30 sec - Duplex to Duplex (2-2) : 15 sec
	MDMC (MDMC: Multiple Document Multiple Copy)	- Simplex to Simplex (1-1) : 20 sec (483xFD/HD) / 24 sec (483xFR) - Simplex to Duplex (1-2) : 24 sec (483xFD/HD) / 17 sec (483xFR) - Duplex to Simplex (2-1) : 10 sec (only 483xFR) - Duplex to Duplex (2-2) : 10 sec (only 483xFR)	- Simplex to Simplex (1-1) : 24 sec - Simplex to Duplex (1-2) : 17 sec - Duplex to Simplex (2-1) : 10 sec - Duplex to Duplex (2-2) : 10 sec
FCOT	From Ready @ platen	As fast as 15 sec	As fast as 12 sec
	From Sleep @ platen	As fast as 23 sec	As fast as 20 sec

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Item		SCX-483x series	SCX-5x3x series
Resolution	Text Text and Photo	- Scan 300x300 dpi @ ADF 600x300 dpi @ DADF 600x600 dpi @ Platen - Print 600x600 dpi	- Scan 600x300 dpi @ DADF 600x600 dpi @ Platen - Print 600x600 dpi
Contrast Level		11 levels	11 levels
Darkness Level		11 levels	11 levels
Multicopy		Max 99 copies	Max 99 copies

2.1.3.3 Scanner Specification

Item		SCX-483x series	SCX-5x3x series
Scan Method		CIS	CIS
Scan Speed	Black	20 ipm @ 300 dpi (483xFD) 24 ipm @ 300 dpi (483xFR)	24 ipm @ 300 dpi
	Gray	20 ipm @ 300 dpi (483xFD) 24 ipm @ 300 dpi (483xFR)	24 ipm @ 300 dpi
	Color	6 ipm @ 300 dpi (483xFD) 8 ipm @ 300 dpi (483xFR)	8 ipm @ 300 dpi
Resolution	Optical	1,200 x 1,200 dpi	1,200 x 1,200 dpi
Scanning Size	ADF/DADF	Max. Document Width : 216 mm Effective Scan Width : 208 mm Max. Document Length : 356 mm Effective Scan Lenght : 348 mm	Max. Document Width : 216 mm Effective Scan Width : 208 mm Max. Document Length : 356 mm Effective Scan Lenght : 348 mm
	Platen	Max. Document Width : 216 mm Effective Scan Width : 208 mm Max. Document Length : 297 mm Effective Scan Lenght : 289 mm	Max. Document Width : 216 mm Effective Scan Width : 208 mm Max. Document Length : 297 mm Effective Scan Lenght : 289 mm
Scan Format		PDF, TIFF, TIFF uncompress, Multi-TIFF, Multi-TIFF-uncompress, JPEG	PDF, TIFF, TIFF uncompress, Multi-TIFF, Multi-TIFF-uncompress, JPEG

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2.1.3.4 Fax Specification

Item		SCX-483x series	SCX-5x3x series
Compression Method		MH/MR/MMR, JBIG, JPEG	MH/MR/MMR, JBIG, JPEG
Modem Speed		33.6 Kbps	33.6 Kbps
Transmission Speed		Approx. 3 sec	Approx. 3 sec
TX Resolution	Normal	98 x 203 dpi	98 x 203 dpi
	Fine	196 x 203 dpi	196 x 203 dpi
Gray Scale / Halftones		256 levels	256 levels
Fax Memory	Type	USB Memory stick	USB Memory stick
	Std	6 MB	50 MB
	Page Capacity	480 pages	4000 pages

2.1.3.5 Controller & S/W

Item		SCX-483x series	SCX-5x3x series
Processor		- SCX-483xFD/HD : 360 MHz - SCX-483xFR : 600 MHz	600 MHz
Memory	Std.	- SCX-483xFD/HD : 128 MB - SCX-483xFR : 256 MB	256 MB
	Max.	- SCX-483xFD/HD : 384 MB - SCX-483xFR : 768 MB	768MB
	Flash	- SCX-483xFD/HD : 16 MB - SCX-483xFR : 32 MB	32 MB
Printer Languages		PCL, PS3	PCL, PS3
Fonts		93 scalable, 1 bitmap	93 scalable, 1 bitmap

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Item		SCX-483x series	SCX-5x3x series
Driver	Default Driver	PCL	PCL
	Install	PCL6 / PS3	PCL6 / PS3
	Supporting OS	Windows 2000/XP (32/64 bits) / Vista (32/64 bits) / 2003 Server (32/64 bits) / 2008 Server(32/64 bits) / 7 (32/64 bits) /2008 Server R2	Windows 2000/XP (32/64 bits) / Vista (32/64 bits) / 2003 Server (32/64 bits) / 2008 Server(32/64 bits) / 7 (32/64 bits) /2008 Server R2
		Various Linux OS: Fedora Core 4, 5, 6 Fedora 7, 8, 9, 10, 11, 12 RedHat Enterprise Linux WS 4, 5 SuSE 10.0, 10.1 openSuSE 10.2, 10.3, 11.0, 11.1, 11.2 SuSE Linux Enterprise Desktop 10, 11 Debian 4.0, 5.0 Ubuntu 5.04, 5.10, 6.04, 6.10, 7.04, 7.10, 8.04, 8.10, 9.04, 9.10 Mandriva 2005LE, 2006, 2007, 2007.1, 2008, 2008.1, 2009, 2009.1	Various Linux OS: Fedora Core 4, 5, 6 Fedora 7, 8, 9, 10, 11, 12 RedHat Enterprise Linux WS 4, 5 SuSE 10.0, 10.1 openSuSE 10.2, 10.3, 11.0, 11.1, 11.2 SuSE Linux Enterprise Desktop 10, 11 Debian 4.0, 5.0 Ubuntu 5.04, 5.10, 6.04, 6.10, 7.04, 7.10, 8.04, 8.10, 9.04, 9.10 Mandriva 2005LE, 2006, 2007, 2007.1, 2008, 2008.1, 2009, 2009.1
		Mac OS 10.3 ~ 10.6	Mac OS 10.3 ~ 10.6
		Citrix Presentation Server Windows Terminal Services	Citrix Presentation Server Windows Terminal Services
	WHQL	Windows 2000/XP(32/64bits)/ Vista(32/64bits)/2003 Server(32/64bits)/2008 Server(32/64bits)/ 7(32/64bit)/2008 Server R2(64bits)	Windows 2000/XP(32/64bits)/ Vista(32/64bits)/2003 Server(32/64bits)/2008 Server(32/64bits)/ 7(32/64bit)/2008 Server R2(64bits)
	Compatibility	SPL & PCL6: Win 2000/ XP(32/64bits)/2003 Server(32/64bits)/ Vista(32/64bits)/2008 Server(32/64bits)/7(32/64bits) PS3: Win 2000/XP(32/64bits)/ Vista(32/64bits)/2003 server(32/64bits)/2008 Server(32/64bits)/7 (32/64bits) PPD, Mac PPD, Linux PPD	SPL & PCL6: Win 2000/ XP(32/64bits)/2003 Server(32/64bits)/ Vista(32/64bits)/2008 Server(32/64bits)/7(32/64bits) PS3: Win 2000/XP(32/64bits)/ Vista(32/64bits)/2003 server(32/64bits)/2008 Server(32/64bits)/7 (32/64bits) PPD, Mac PPD, Linux PPD
Wired Network	Protocol	TCP/IP, Ethertalk, SNMP, HTTP 1.1	TCP/IP, Ethertalk, SNMP, HTTP 1.1
	Supporting OS	Windows 2000/XP(32/64bits)/2003 Server(32/64bits)/Vista(32/64bits)/2008 Server(32/64bits) Mac OS 8.6~9.2, 10.1~10.5 Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2 NetWare 5.x, 6.x (TCP/IP Only) Unix HP-UX	Windows 2000/XP(32/64bits)/2003 Server(32/64bits)/Vista(32/64bits)/2008 Server(32/64bits) Mac OS 8.6~9.2, 10.1~10.5 Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2 NetWare 5.x, 6.x (TCP/IP Only) Unix HP-UX

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Item		SCX-483x series	SCX-5x3x series
Wireless Network	Protocol	N/A	Only SCX-573xFW : 802.11n
Application	Smart Panel	SmartPanel for Macintosh/LINUX	SmartPanel for Macintosh/LINUX
	Printer Setting	PSU for Macintosh/LINUX	PSU for Macintosh/LINUX
	Network Management	SyncThru Web Admin Service 5.0	SyncThru Web Admin Service 5.0
	IP Setting	SetIP	SetIP
	Others	Easy Printer Manager (Windows Only), SmarThru Office , DPU, PC fax	Easy Printer Manager (Windows Only), SmarThru Office , DPU, PC fax
Interface			
IEEE 1284 Parallel		Optional	Optional
USB		Hi-Speed USB 2.0	Hi-Speed USB 2.0
Wired Network		- 483xFD/HD :Ethernet 10/100 Base TX (Internal) - 483xFR : Ethernet 10/100/1000 Base TX (Internal)	Ethernet 10/100/1000 Base TX (Internal)
Wireless Network		N/A	Only SCX-573xFW : 802.11n
User Interface			
LCD		- 483xFD/HD : 2-Line - 483xFR : 4-Line	- 563x series : 4- Line - 573x series : 4.3 inch Touch Screen

2.1.3.6 Paper Handling

Item		SCX-483x series	SCX-5x3x series
Standard Capacity		250-sheet Cassette Tray, 50-sheet Multi Purpose Tray @80g/㎡	250-sheet Cassette Tray, 50-sheet Multi Purpose Tray @80g/㎡
Max. Capacity		820 sheets @ 80g/㎡	820 sheets @ 80g/㎡
Printing	Max. Size	216 x 356 mm (8.5" x 14")	216 x 356 mm (8.5" x 14")
	Min. Size	76 x 127 mm (3.0" x 5.0")	76 x 127 mm (3.0" x 5.0")
Multi-purpose tray			
Capacity	Plain Paper	50 sheets @ 80g/㎡	50 sheets @ 80g/㎡
	Envelop	5 sheets	5 sheets
Media sizes		A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5, 3"x5", Envelope(Monarch, No.10, DL, C5, C6), Custom	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5, 3"x5", Envelope(Monarch, No.10, DL, C5, C6), Custom

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Item		SCX-483x series	SCX-5x3x series
Media type		Plain, Thin, Thick, Thicker, Cotton, Colored, Envelope, Transparency, Pre-Printed, Recycled, Labels, Bond, Card stock, Archive	Plain, Thin, Thick, Thicker, Cotton, Colored, Envelope, Transparency, Pre-Printed, Recycled, Labels, Bond, Card stock, Archive
Media weight		16~58lb (60 to 220g/㎡)	16~58lb (60 to 220g/㎡)
Sensing		Paper Empty	Paper Empty
Standard Cassette Tray			
Capacity		250 sheets @ 80g/㎡	250 sheets @ 80g/㎡
Media sizes		A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5, Custom	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5, Custom
Media types		Plain Paper, Thin, Thick, Recycled, Bond, Cardstock, Archive	Plain Paper, Thin, Thick, Recycled, Bond, Cardstock, Archive
Media weight		16~43lb (60 to 163g/㎡)	16~43lb (60 to 163g/㎡)
Sensing		Paper Empty	Paper Empty
Optional Cassette Tray			
Capacity		520 sheets @ 80g/㎡	520 sheets @ 80g/㎡
Media sizes		A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive, ISO B5, JIS B5
Media types		Plain Paper, Thin, Thick, Recycled, Bond, Cardstock, Archive	Plain Paper, Thin, Thick, Recycled, Bond, Cardstock, Archive
Media weight		16~43lb (60 to 163g/㎡)	16~43lb (60 to 163g/㎡)
Sensing		Paper Empty	Paper Empty
Output Stacking			
Capacity	Face-Down	150 sheets @ 80g/㎡	150 sheets @ 80g/㎡
	Face-Up	1 sheet	1 sheet
Output Full sensing		Yes	Yes
Duplex			
Supporting		Built-in	Built-in
Media sizes		A4, Letter, Oficio, Folio, Legal	A4, Letter, Oficio, Folio, Legal
Media types		Plain Paper, Thin, Thick, Recycled, Bond	Plain Paper, Thin, Thick, Recycled, Bond
Media weight		16~32lb (60 to 120g/㎡)	16~32lb (60 to 120g/㎡)
Document Thickness			
Non-Printable Area	Envelop	10mm(0.4") from edge(Top, Bottom, Left, Right)	10mm(0.4") from edge(Top, Bottom, Left, Right)
	Other Media	4mm(0.16") from edge(Top, Bottom, Left, Right)	4mm(0.16") from edge(Top, Bottom, Left, Right)
RADF/ADF			
Type		- 483xFD/HD : ADF - 483xFR : RADF	RADF
Capacity		50 sheets @ 20lb	50 sheets @ 20lb

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Item		SCX-483x series	SCX-5x3x series
Document Size	Width	- ADF : 142~216mm - RADF : 145~216mm	145~216mm
	Length	- ADF : 148~356mm - RADF : 145~356mm	145~356mm
Paper Weight		- ADF : 16~28lb - RADF : 12.5~28lb	12.5~ 28 lb

2.1.3.7 Consumables

Item		SCX-483x series	SCX-5x3x series
Toner	Black	- Standard: Average Cartridge Yield 2K standard pages. - High Yield: Average cartridge Yield 5K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.	- Standard: Average Cartridge Yield 2K standard pages. - High Yield: Average cartridge Yield 5K standard pages. - Extra High Yield: Average cartridge Yield 10K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.
	Key	Electronic key(CRUM) Only	Electronic key(CRUM) Only
	Life detect	Toner gauge sensor by dot count	Toner gauge sensor by dot count
Drum	Yield	N/A	N/A

2.1.3.8 Reliability & Service

Item	SCX-483x series	SCX-5x3x series
Recommanded AMPV	1000 sheets/month	1500 sheets/month
Max AMPV	2500 sheets/month	3500 sheets/month
Max. Monthly Duty	50,000 sheets/month	80,000 sheets/month
MPBF	35,000 sheets	45,000 sheets
MTBF	35 months	35 months
MTTR	30 min.	30 min.
ADF / RADF Unit life	- ADF : 20,000 sheets - DADF : 80,000 sheets	- DADF : 80,000 sheets
SET Life Cycle	170,000 sheets or 5 years (whichever comes first)	220,000 sheets or 5 years (whichever comes first)

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2.1.3.9 Maintenance part

Item	Part Code	Life
Transfer roller	JC66-02842A	Approx. 100,000 Pages
Fuser Unit	JC91-01023A (110V) JC91-01024A (220V)	Approx. 90,000 Pages
Pick-up Roller	JC73-00340A	Approx. 90,000 Pages
Retard Roller	JC90-01032A	Approx. 60,000 Pages
RADF rubber pad	JC97-03069A	Approx. 20,000 pages

2.1.3.10 Environment

Item		SCX-483x series	SCX-5x3x series
Operating Environment	Temperature	10C to 32C	10C to 32C
	Humidity	20% to 80%	20% to 80%
Acoustic Noise Level(Sound Power/ Pressure)	Printing	51dBA	52dBA
	Standby	26 dBA	26 dBA
	Sleep	Back Ground Level	Back Ground Level
Power Consumption	Ready	Less than 50W	- 563xFR/HR : Less than 50W - 573xFW : Less than 65W
	AVG.	Less than 600W	Less than 650W
	Power Save	Less than 8W	- 563xFR/HR : Less than 8W - 573xFW : Less than 10W
Dimension (W x D x H)	SET	- 483xFD : 407 x 424 x 382 mm - 483xFR : 447 x 469 x 438 mm	447 x 469 x 438 mm
Weight	SET	- 483xFD : 14 Kg - 483xFR : 16 Kg	16 Kg

2.1.3.11 Options

Item	SCX-483x series	SCX-5x3x series
Memory	* 483xFD/HD - CLP-MEM202 : 256MB * 483xFR - ML-MEM170: 512 MB	- ML-MEM170: 512 MB
Second Cassette	520-sheet Cassette Tray (ML-S3710A)	520-sheet Cassette Tray (ML-S3710A)

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2.1.4 Model Comparison Table

	Samsung SCX-563xFR	Samsung SCX-483xFD	Brother MFC-8890DW	Lexmark X264DN
Image				
Speed	35 ppm (A4) 37 ppm (Letter)	31 ppm (A4) 33 ppm (Letter)	30 ppm (A4)	28 ppm (A4)
Processor	600 MHz	360 MHz	-	266 MHz
Memory (Std/Max)	256 / 768 MB	128 / 384 MB	64 / 576 MB	64 / 64 MB
Emulation	PCL6/PS3	PCL6/PS3	PCL6	PCL6/PS3
MP/Cassette	50 / 250	50 / 250	50 / 250	1 / 250
SCF	520 sheets	520 sheets	250 sheets	250 / 550 sheets
Duplex	Std.	Std.	Std.	Std.
Toner Yield	2K/ 5K / 10K	2K / 5K	3K/ 8K	3.5K / 9K
Interface	- High speed USB 2.0 - Ethernet 10/100/1000 Base TX)	- High speed USB 2.0 - Ethernet 10/100 Base TX	- High speed USB 2.0 - Ethernet 10/100 Base TX	- High speed USB 2.0 - Ethernet 10/100 Base TX

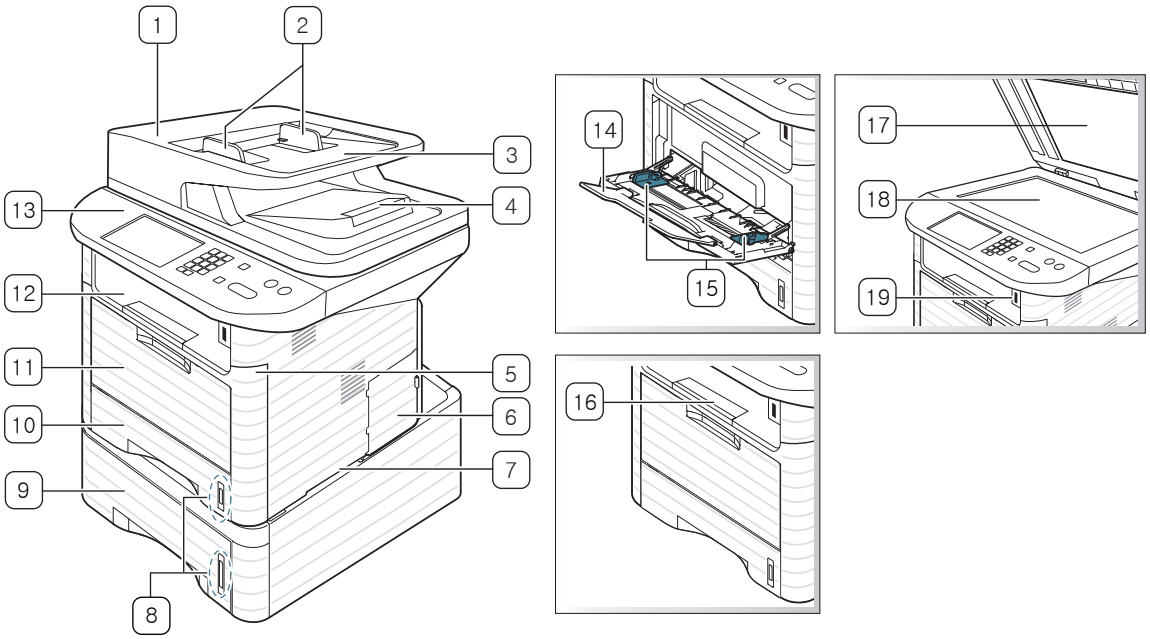
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2.2 Product Description

This chapter describes the functions and operating principal of the main component.

2.2.1 Front View



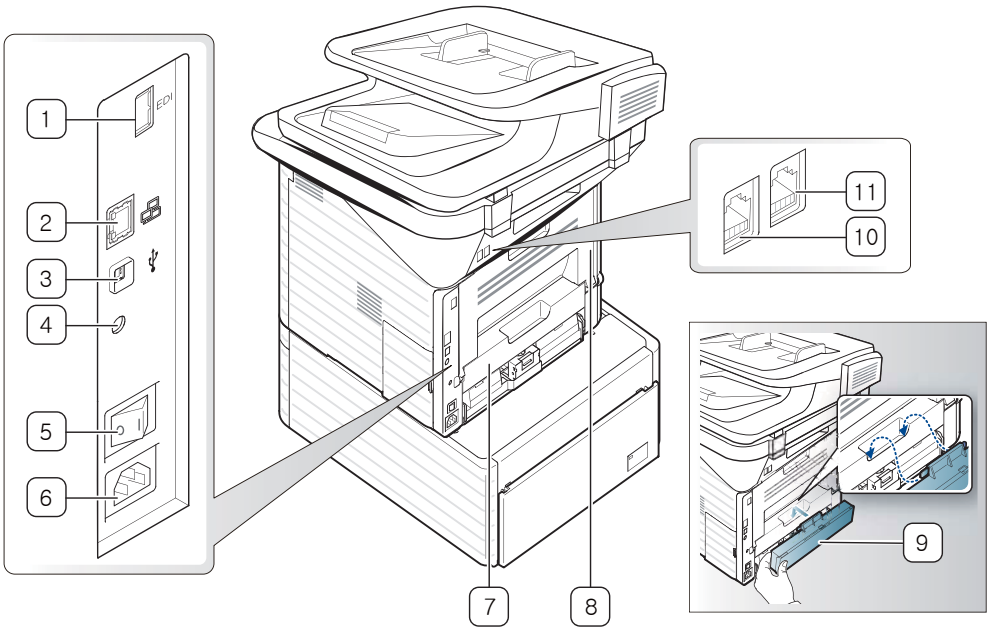
NOTE
- This illustration may differ from your machine depending on its model.
- Some features and optional goods may not be available depending on model or country.

1	Document feeder cover	**11**	Multi-purpose tray
2	Document feeder width guide	**12**	Output tray
3	Document feeder input tray	**13**	Control panel
4	Document feeder output tray	**14**	Multi-purpose tray paper extension
5	Front cover	**15**	Paper width guides on a multi-purpose tray
6	Control board cover	**16**	Output support
7	Handle	**17**	Scanner lid
8	Paper level indicator	**18**	Scanner glass
9	Tray2 (optional)	**19**	USB port
10	Tray1	**20**	Handset

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2.2.2 Rear View



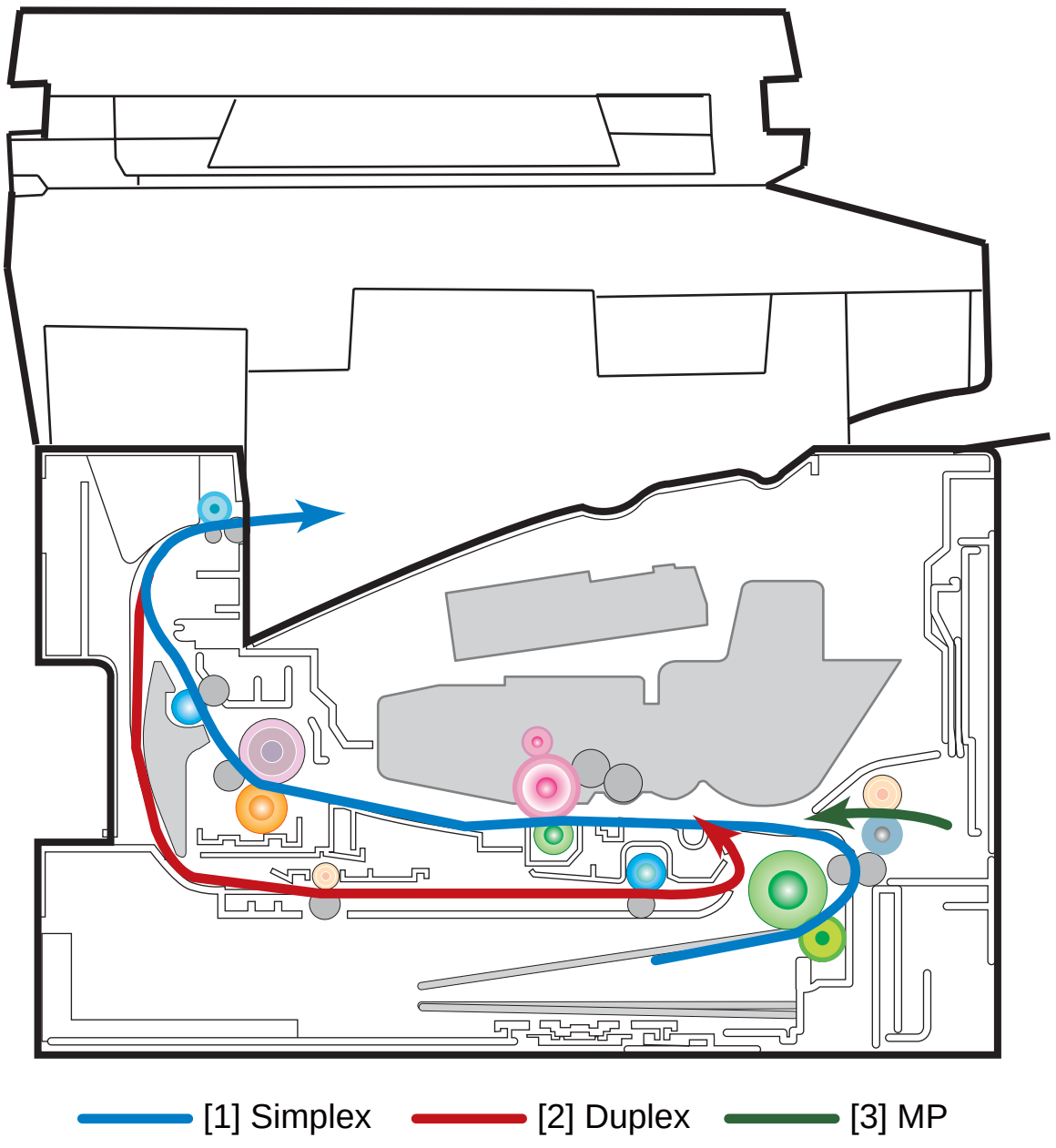
NOTE
• This illustration may differ from your machine depending on its model.
• Some features and optional goods may not be available depending on model or country.

1	EDI port	**7**	Duplex Unit
2	Network port	**8**	Rear cover
3	USB port	**9**	Tray back cover
4	IEEE 1284 parallel connector (optional)	**10**	Telephone line socket
5	Power-switch	**11**	Extension telephone socket (EXT)
6	Power receptacle		

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2.2.3 Paper Path

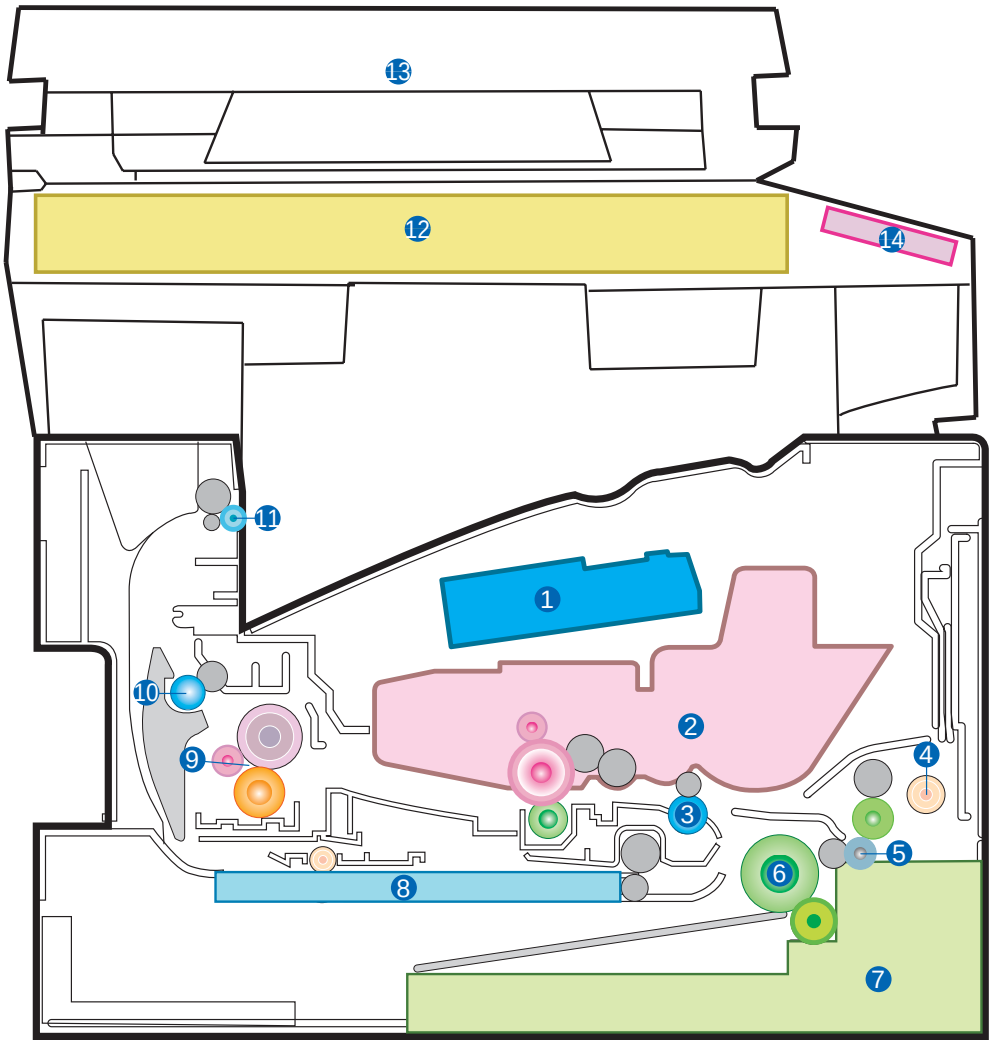


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2.2.4 System layout

This model is consisted of the Engine parts and F/W. The engine parts is consisted of the mechanical parts comprising Frame, Feeding, Developing, Driving, Transferring, Fusing, Cassette and H/W comprising the main control board, power board, operation panel, PC Interface.



1	LSU	**8**	Duplex
2	Cartridge	**9**	Fuser
3	Regi roller	**10**	Exit roller1
4	MP	**11**	Exit roller2
5	Feed roller	**12**	Scanner (Platen)
6	Pick up roller	**13**	DADF/ADF
7	Cassette	**14**	OPE

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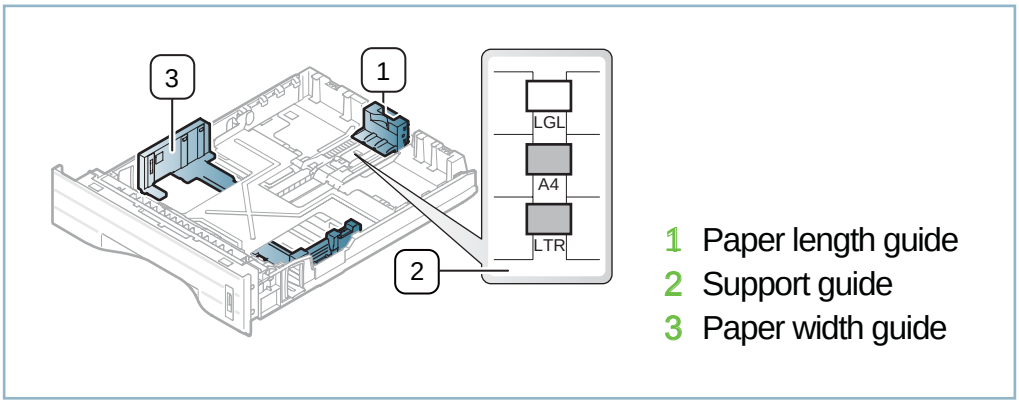
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2.2.4.1 Feeding Part

It is consists of a basic cassette, an MP tray for supplying different types of media (envelope, label, special paper) and parts related to paper transferring.

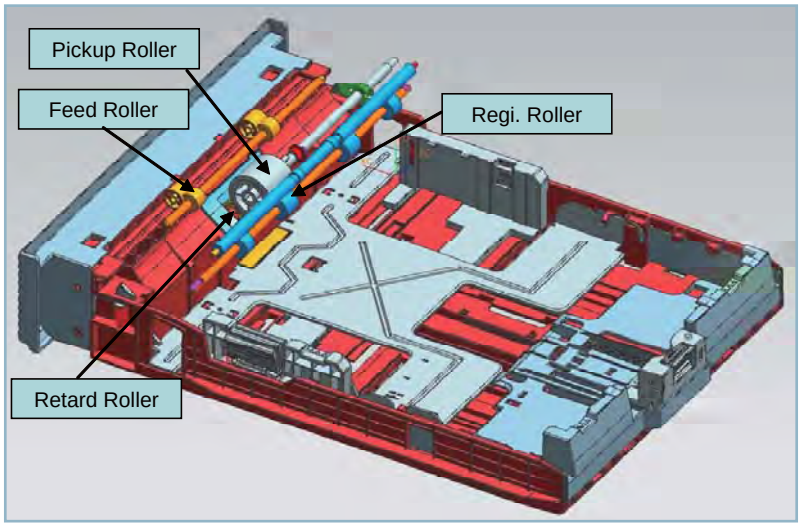
1) Tray

The basic tray is located on front side of the machine and allows feeding of common paper. Paper size is set using the Size Guides in each tray. Adjust the Paper length/width guides to match the paper size.



2) Pick up / Retard Roller

When pickup takes place, the pickup roller rotates to separate and transport the paper.
The pickup roller rotates when the pickup clutch is activated. The retard 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. The following is a diagram of the pickup section:



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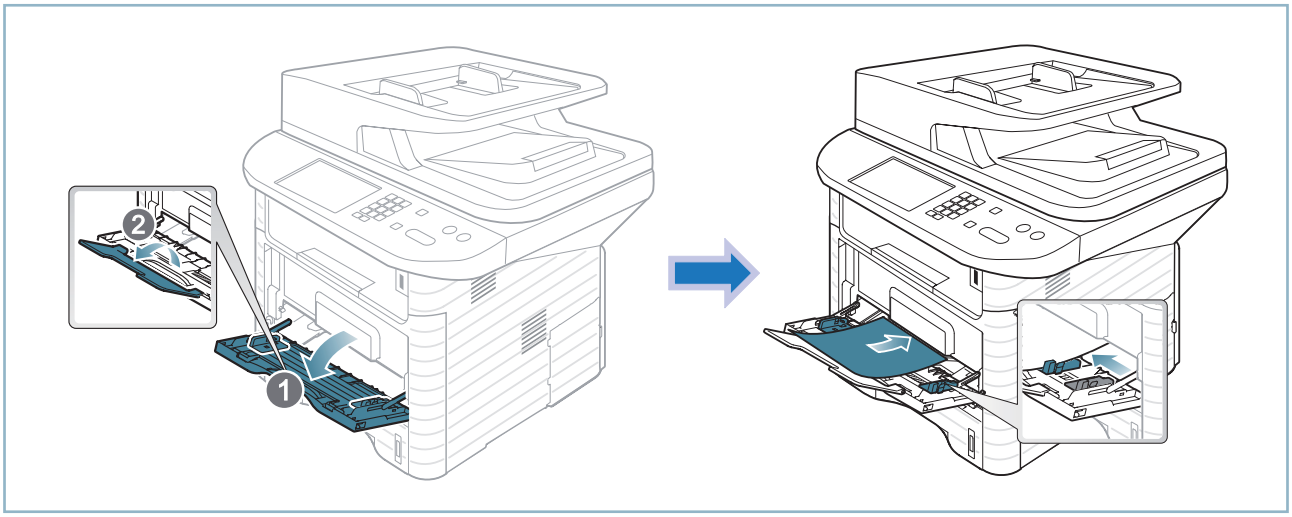
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3) Registration roller

It has a paper arranging function, paper transferring function, paper detecting function, jam removing function, and so on.

4) MP tray

The multi-purpose tray can hold special sizes and types of print material, such as postcards, note cards, and envelopes. It is useful for single page printing on letterhead or colored paper. It uses 3 rollers feeding method to feed 50 sheets of general papers.



5) Duplex unit

It has paper transferring function, paper guide function, jam removing function.
It is designed for basic attachment, and the duplex feeding takes a side feeding method. Usable papers are A4, letter, and legal size paper. For removing a jam occurred in a front part, it is designed to open a cassette and a guide.It is designed to open a rear cover to remove a jam in a rear part. If a face up tray is open, the duplex option cannot be used.

6) SCF (Second Cassette Feeder)

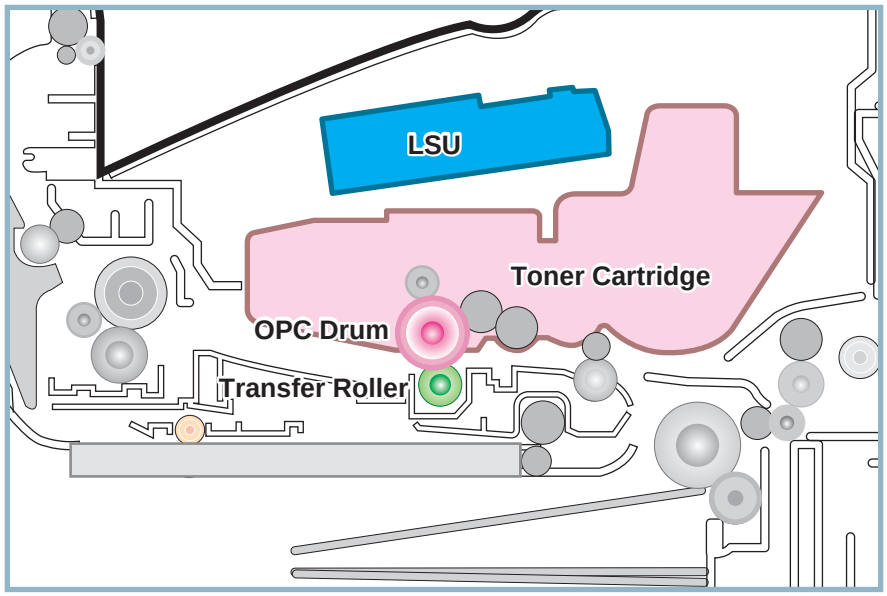
It is the same method with the main cassette, and the capacity is 520 sheets.
It has a separate driving mechanism. It is designed for a common use with a main cassette.

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2.2.4.2 Imaging unit

1) Printing process overview



This mono printing system includes the LSU with a laser beams, a toner cartridge and transfer roller.

This machine uses single toner cartridge and dual laser beams for mono printing. The toner cartridge consists of Drum unit and Development unit. The Drum unit has an OPC drum, cleaning blade.

The OPC drum is charged with a negative voltage by the scorotron 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 and electric filed. The toners(real image) on the OPC drum are moved to the transfer media by the positive bias applied to the transfer roller.

1. Charging the OPC drum: The scorotron gives the drum negative charges.

2. Laser exposure: Light produced by a laser diode irradiates the charged OPC through the lens and mirrors.

3. Development: This machine uses a dual-component development system . The magnetic roller carries negatively charged toner to the latent image on the drum surface.

4. Transfer: The transfer rollers opposite the OPC drums transfer toner from the drums to the transfer media (e.g. paper, OHP film, etc).

5. Cleaning for OPC drum: The cleaning blade removes remaining toners on the drum surface after image transfer to the paper.

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CÓPIA NÃO CONTROLADA

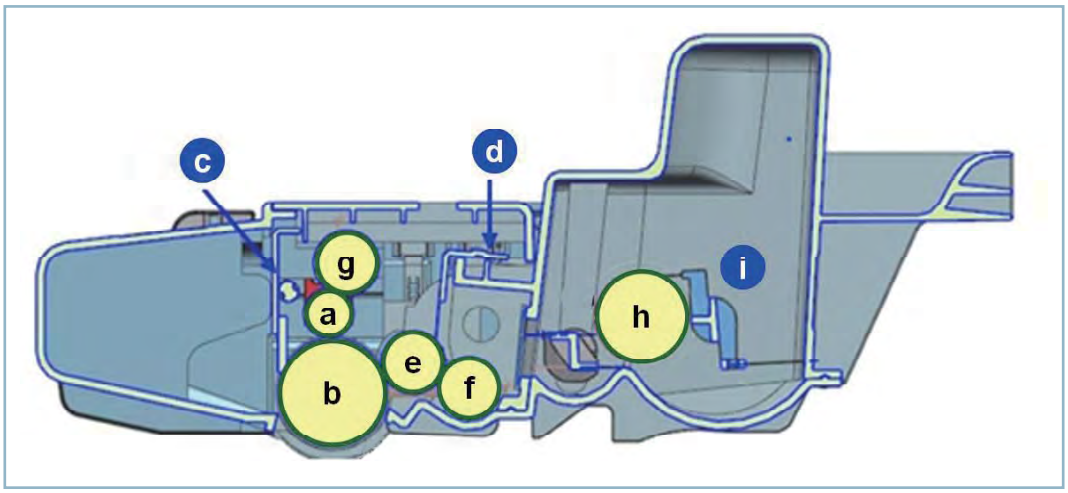
2) Toner cartridge

By using the electronic photo process, it creates a visual image. In the toner cartridge, the OPC unit and the developing unit are in a body. The OPC unit has OPC drum and charging roller, and the toner cartridge unit has toner, supply roller, developing roller, and blade (Doctor blade)

- Operation condition : Temp 10~30℃, Humidity 20~85% RH
- Developing Method : Non magnetic 1 element contacting method
- Toner : Non magnetic 1 element shatter type toner
- The life span of toner (ISO 19752 pattern / A4 standard)

→ Initial toner : 2K (483x series) / 5K (5x3x series)
→ Sales toner : 2K / 5K / 10K(only 5x3x series)

- Toner Residual Sensor : Dot count with CRUM(CRU Monitor)
- OPC Cleaning : Collect the toner by using cleaning blade
- Handling of wasted toner : Collect the wasted toner in the cleaning frame by using cleaning blade
- OPC Drum Protecting Shutter : None
- Classifying device for toner cartridge: ID is classified by CRUM.



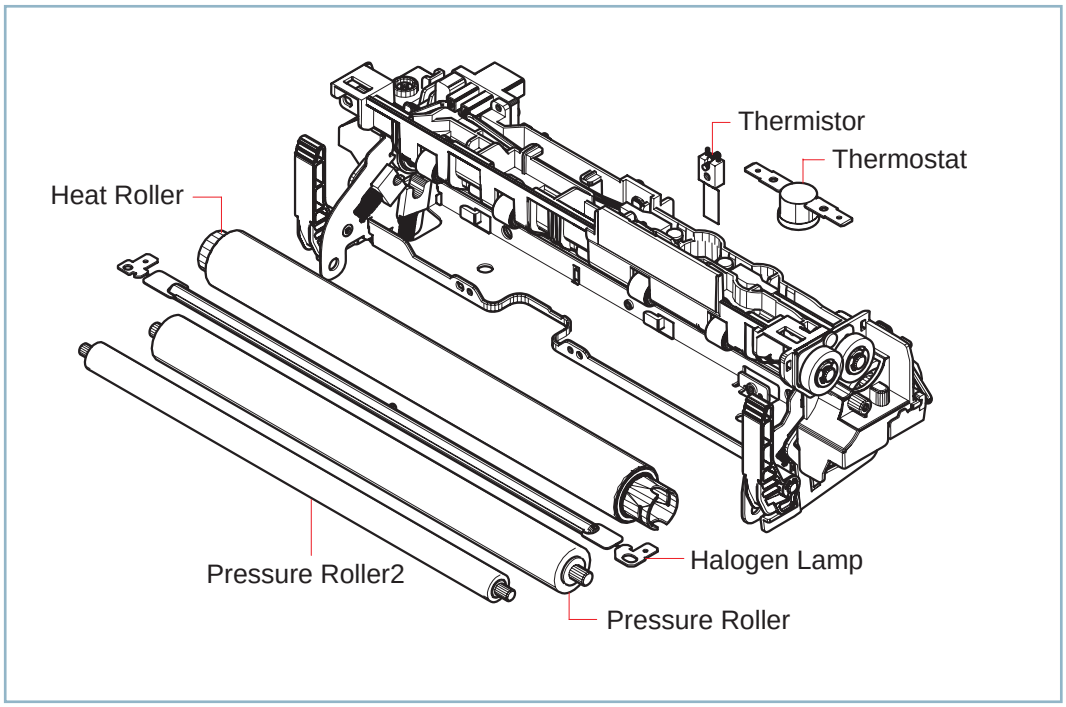
ⓐ	Charge Roller	ⓕ	Supply Roller
ⓑ	Drum OPC	ⓖ	Charge Cleaning Roller
ⓒ	Cleaning Blade	ⓗ	Agitator 1
ⓓ	Doctor Blade	ⓘ	Agitator 2
ⓔ	Developer Roller		

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2.2.4.3 Fuser unit

It is consisted of a halogen lamp, heat roller, pressure roller, thermistor and thermostat. It sticks the toner on a paper by heat and pressure to complete the printing job.



1) Thermostat

When a heat lamp is overheated, a Thermostat cuts off the main power to prevent over- heating.
- Thermostat Type : Non- Contact type THERMOSTAT
- Control Temperature : 170℃ ± 5℃

2) Thermistor

It is a temperatrue detecting sensor.
- Temperature Resistance : 7㏀ (180℃)

3) Heat roller

The heat roller transfers the heat from the lamp to apply a heat on the paper.
The surface of a heat roller is coated with Teflon, so toner does not stick to the surface.

4) Pressure roller

A pressure roller mounted under a heat roller is made of a silicon resin, and the surface also is coated with Teflon. When a paper passes between a heat roller and a pressure roller, toner adheres to the surface of a paper permanently.

5) Halogen Lamp

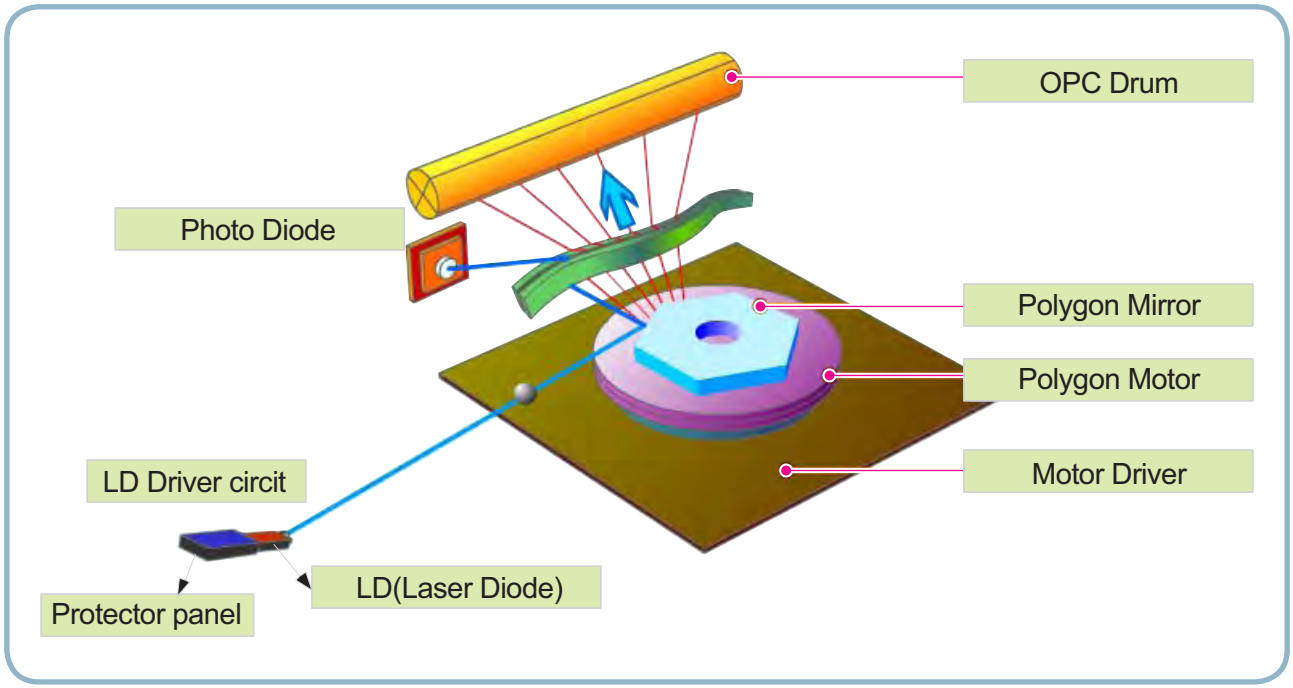
- Voltage 120 V : 115 ± 5 %
  220 V : 230 ± 5 %
- Capacity : 850 Watt ± 25 W

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2.2.4.4 LSU (Laser Scanning Unit)

It is the core part of the LBP which switches from the video data received to the controller to the electrostatic latent image on the OPC drum by controlling laser beam, exposing OPC drum, and turning principle of polygon mirror. The OPC drum is turned with the paper feeding speed. The /HSYNC signal is created when the laser beam from LSU reaches the end of the polygon mirror, and the signal is sent to the controller. The controller detects the /HSYNC signal to adjust the vertical line of the image on paper. In other words, after the /HSYNC signal is detected, the image data is sent to the LSU to adjust the left margin on paper. The one side of the polygon mirror is one line for scanning.



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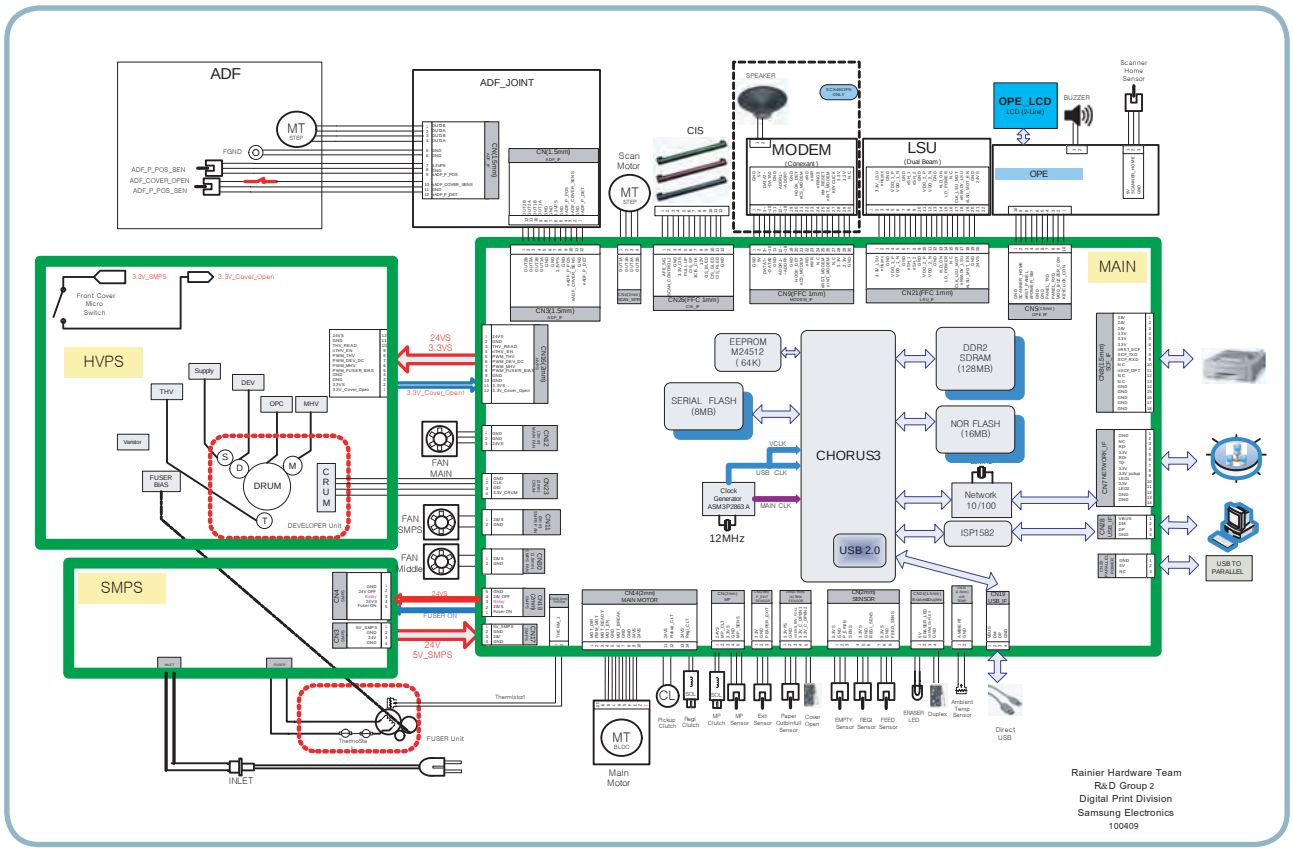
CÓPIA NÃO CONTROLADA

2.2.5 Hardware configuration

The SCX-483x series Electrical Circuit System consists of the following:

- Main Controller
- OPE Controller
- DDR2 SODIMM (Option)
- SCF(Option)
- SMPS
- HVPS

Diagram of the SCX-483x series Electrical Circuit



The Main Controller controls all modules required to print, that is, LSU, HVPS, SMPS, FAN, Fuser, FAX ,Scanner etc.

The Main Controller receives print data from the host through network or USB Port or fax, Scanner. It takes this information and generates printable video bitmap data. Engine and Video Controller are not separated.

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The Main Controller adopts the Chorus3(360MHz) CPU, on board DDR2 memory and external memory to perform printing and Scan jobs successfully.

The OPE Controller displays the status of the system using 16 x 2line LCD in response to user actions or the Main controller.

The HVPS supplies high voltage for developing Process. High Voltage controlled by PWM signal from CPU.

SMPS makes +5V and +24V DC from 220V or 110 AC.

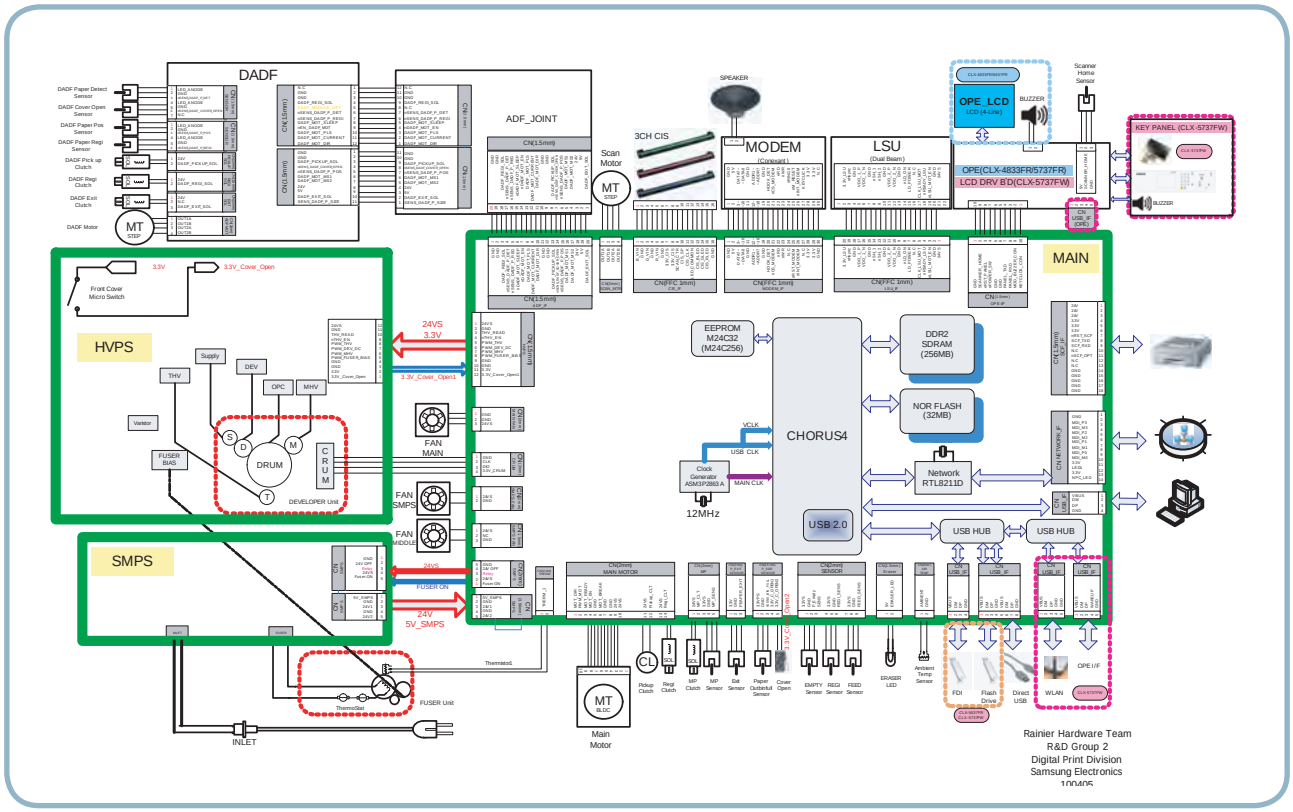
CÓPIA NÃO CONTROLADA

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The SCX-483xFR/563xFR/573xFW Electrical Circuit System consists of the following:

- Main Controller
- OPE Controller
- DDR2 SODIMM(Option)
- WLAN Module(only SCX-573xFW)
- SCF(Option)
- SMPS
- HVPS

Diagram of the SCX-483xFR/563xFR/573xFW Electrical Circuit



The Main Controller controls all modules required to print, that is, LSU, HVPS, SMPS, FAN, Fuser, etc.
The Main Controller receives print data from the host through network or USB Port. It takes this information and generates printable video bitmap data. Engine and Video Controller are not separated.

CÓPIA NÃO CONTROLADA

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The Main Controller adopts the CHORUS4(600MHz) CPU, on board DDR2 memory and external memory to perform printing jobs successfully.

The OPE Controller displays the status of the system using 16 x 4line LCD(SCX-483xFR/563xFR model) or 4.3” TFT LCD(SCX-573xFW model) in response to user actions or the Main controller.

The HVPS supplies high voltage for developing Process. High Voltage controlled by PWM signal from CPU.

SMPS makes +5V and +24V DC from 220V or 110 AC.

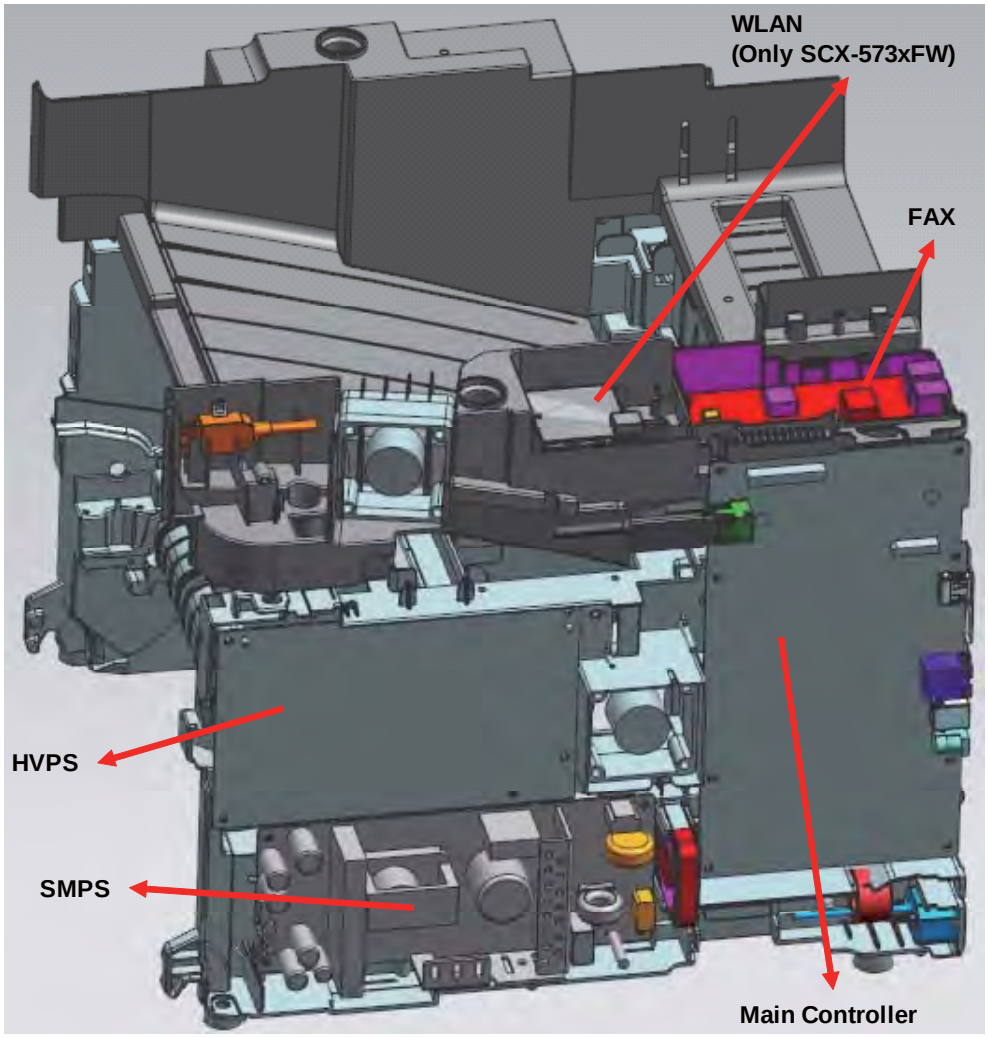
WLAN module is used for wireless communication(SCX-573xFW model).

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Circuit Board Locations

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



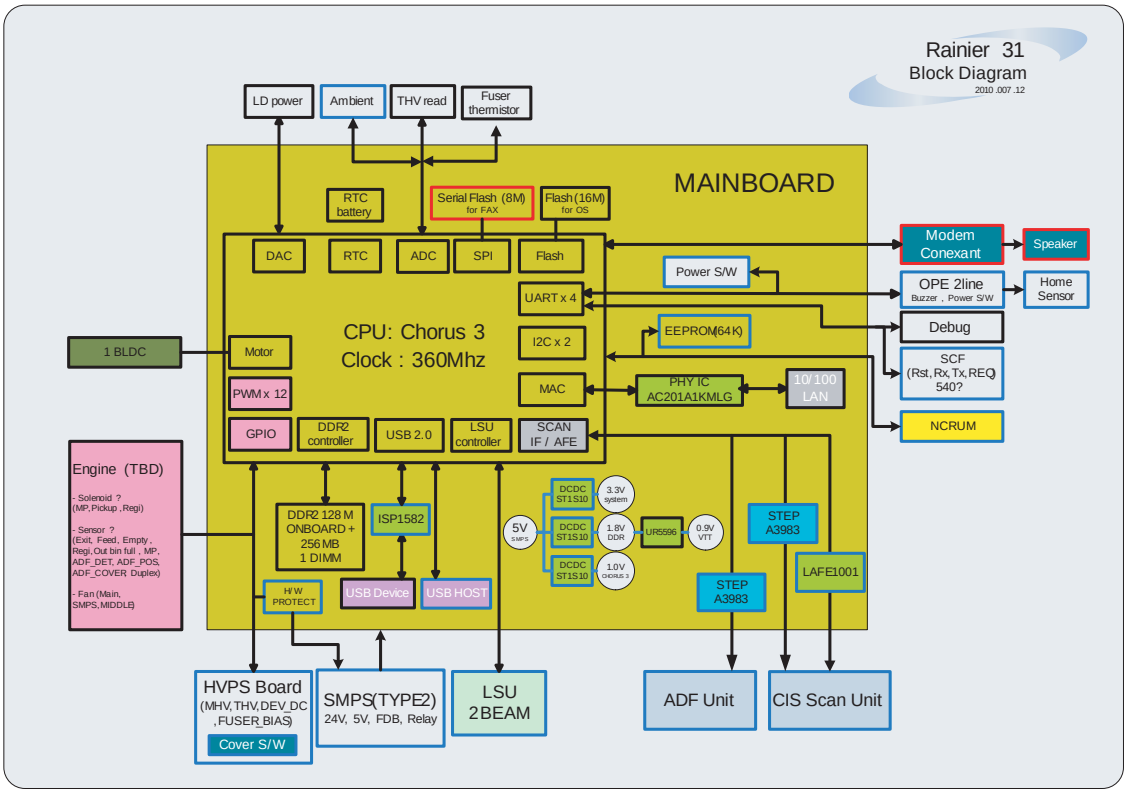
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2.2.5.1 Main controller

SCX-483xFD/HD Main Controller is composed with below components
-. CHORUS3 : To generate the printable video data and control engine
Embedded USB2.0 device
-. On board DDR2 SDRAM : system memory(128MB)
External DRR2 SO-DIMM : 256MB
-. Ethernet PHY : 10/100 Network printing
-. NOR Flash : 16MB for Program memory
-. Serial Flash: 8MB For Fax Data

The Main Controller manages an Electro-photography system, controls the Video Data of printing images from Main Board to LSU, provides high-voltages and PWMs, adjusts temperature in the fusing system, reads sensor signals and controls SCF option.
The Main controller also controls OPE and N/W PHY [Network], USB Device.

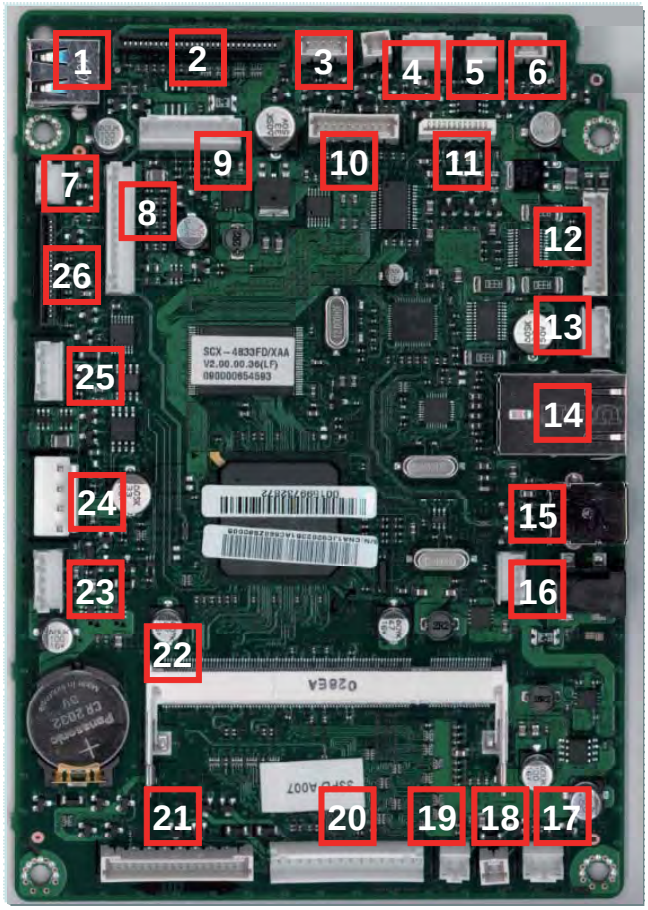


[Main Controller Diagram]

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

SCX-483xFD/HD Main Controller Printed Circuit Board Assembly



• Connection

1	USB HOST	**14**	N/W
2	FAX	**15**	USB Device
3	Outbin Full Sensor & Rear Cover	**16**	Parallel Option DC supply jack
4	CRUM	**17**	Exit Sensor
5	THERMISTOR	**18**	Air temp
6	FAN Middle	**19**	FAN SMPS
7	FAN Main	**20**	Main Motor & Clutch
8	HVPS	**21**	SCF
9	Paper Empty, Regi, Feed sensor	**22**	DDR2 Dimm
10	OPE	**23**	SMPS Signal
11	CIS	**24**	SMPS Power
12	ADF	**25**	MP
13	Scan Motor	**26**	LSU

• Information

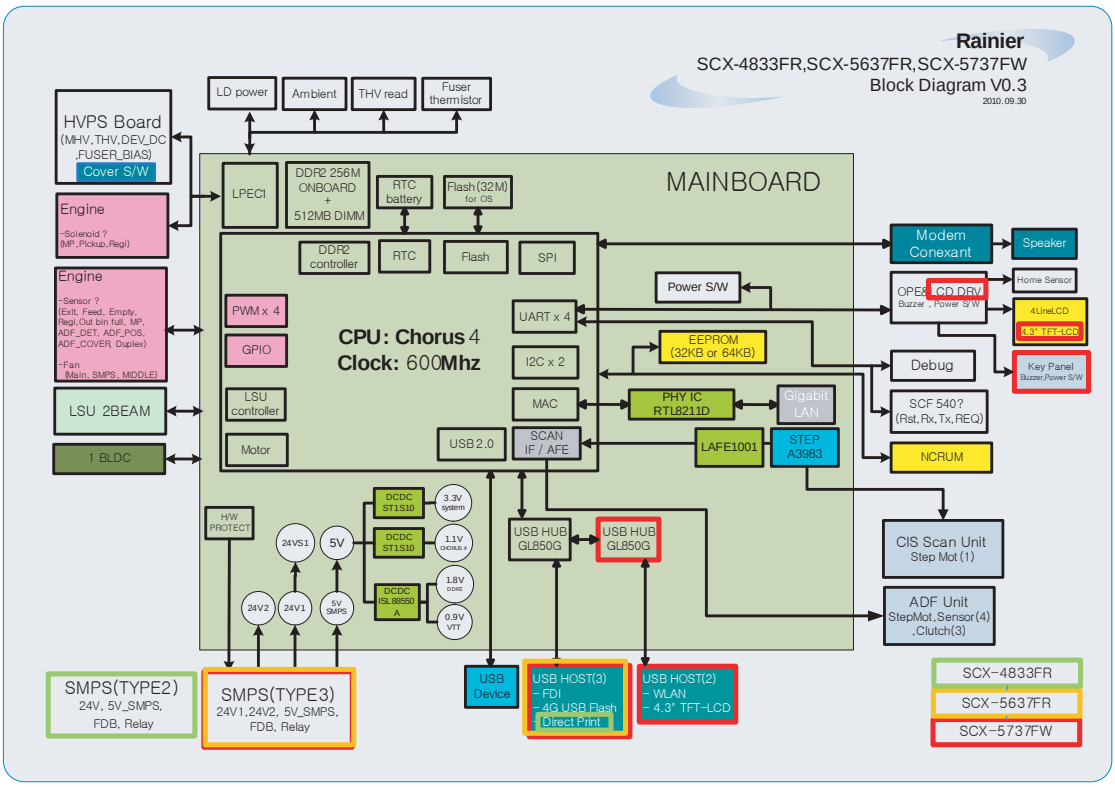
- SEC-CODE : JC92-02351A
- PBA Name : PBA-MAIN

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

SCX-483xFR/563xFR/573xFW Main Controller is composed with below components
-. CHORUS4 : To generate the printable video data and control engine
Embedded USB2.0 device, Host channel
-. On board DDR2 SDRAM and external DDR2 SO-DIMM : system memory
On board DDR2 : 256MB
External DRR2 SO-DIMM : 512MB
-. Giga Ethernet PHY : Network printing
-. Nor Flash(32MB) : Program memory
-. Engine Controller(LEPC1) : ADC, DAC, Clutch, Fuser control

The Main Controller manages an Electro-photography system, controls the Video Data of printing images from Main Board to LSU, provides high-voltages and PWMs, adjusts temperature in the fusing system, reads sensor signals and controls SCF option.
The Main controller also controls OPE and Giga N/W PHY [Network], USB Device, Wireless Module.

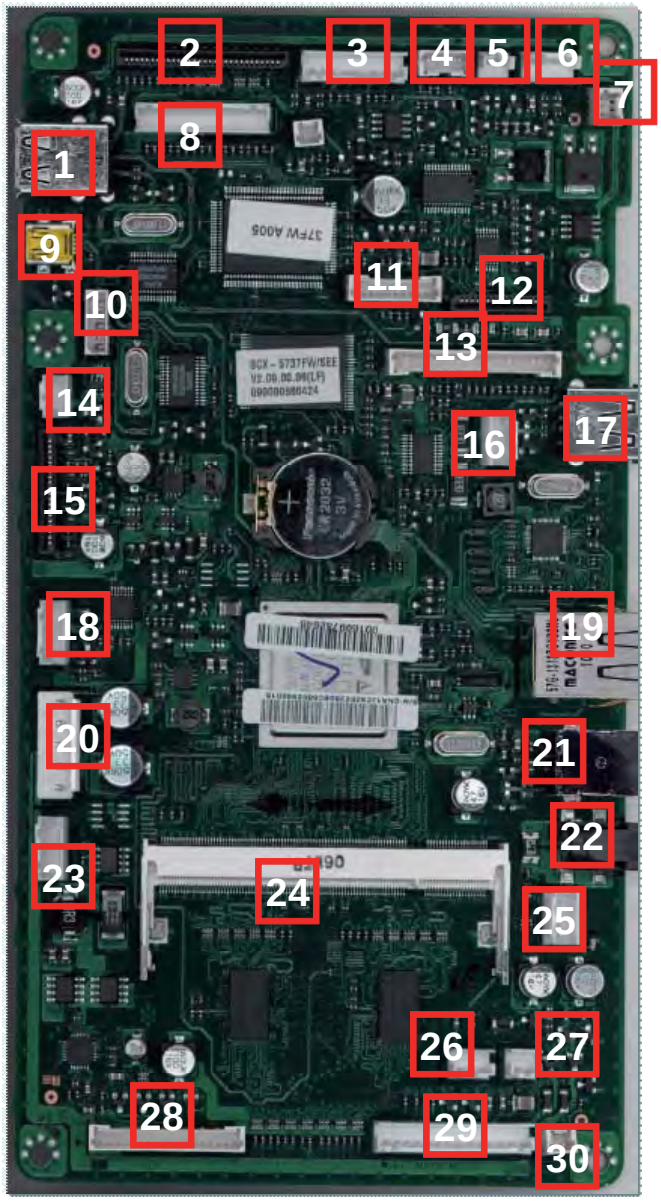


[Main Controller Diagram]

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

SCX-483xFR/563xFR/573xFW Main Controller Printed Circuit Board Assembly



• Information

- SEC-CODE : JC92-02350B
- PBA Name : PBA-MAIN

• Connection

1	USB HOST
2	FAX
3	Paper Empty, Regi, Feed sensor
4	Out FULL SENSOR & Rear Cover
5	Fuser
6	CRUM
7	FAN Middle
8	HVPS
9	USB OPE
10	WLAN
11	OPE
12	CIS
13	DADF
14	FAN Main
15	LSU
16	Scan Motor
17	EDI
18	MP
19	Ethernet
20	SMPS Power
21	USB Device
22	Parallel Option DC supply jack
23	SMPS Signal
24	DDR2 SODIMM
25	Debug
26	Exit Sensor
27	FAN SMPS
28	SCF
29	Main Motor
30	Air temperature

CÓPIA NÃO CONTROLADA

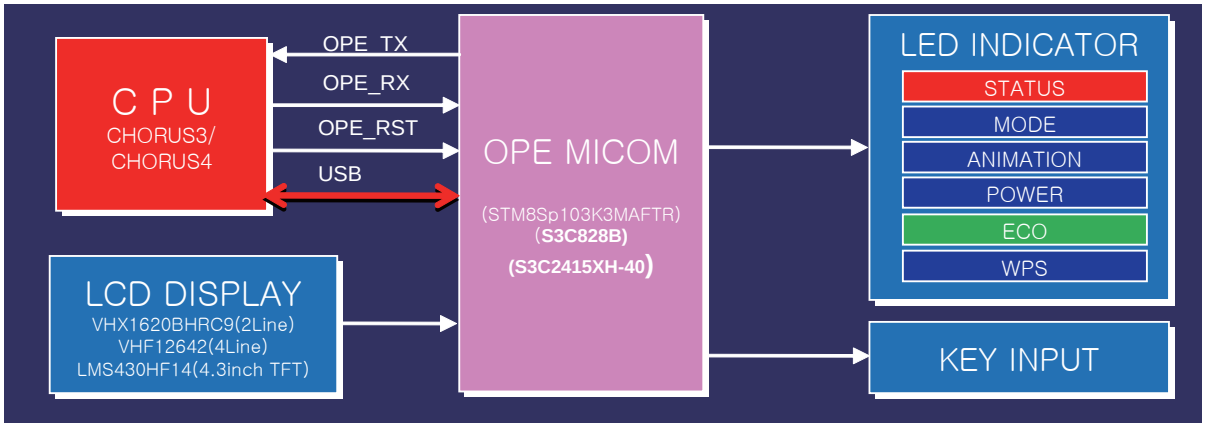
CÓPIA NÃO CONTROLADA

2.2.5.2 OPE Controller

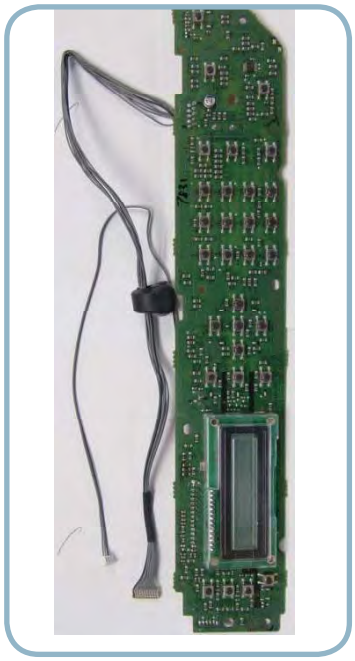
The OPE Controller is composed of an OPE MICOM, two status LED, ECO LED, power LED,MODE LED ANIMATION LED, WPS LED(SCX-573xFW model only), 16x2 line LCD(SCX-483xFD), 4Line LCD(SCX-483xFR/563xFR), 4.3inch TFT LCD(SCX-573xFW), and some keys.

OPE communicates with main controller via UART/USB(SCX-573xFW).

Diagram of OPE Controller

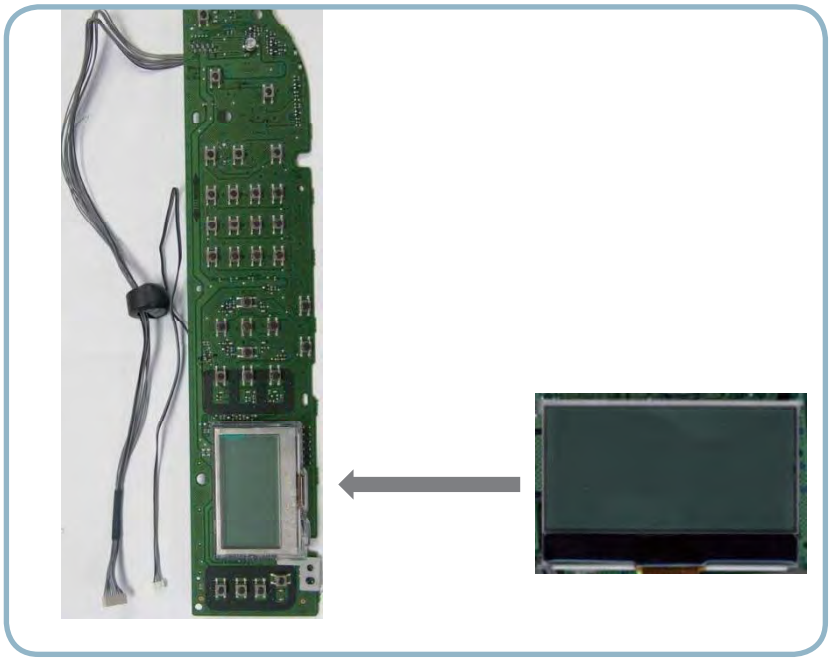


OPE Controller PBA



● **Information**

• SEC-CODE : JC92-02352A
• PBA Name : PBA-OPE(2Line) for SCX-483xFD



● **Information**

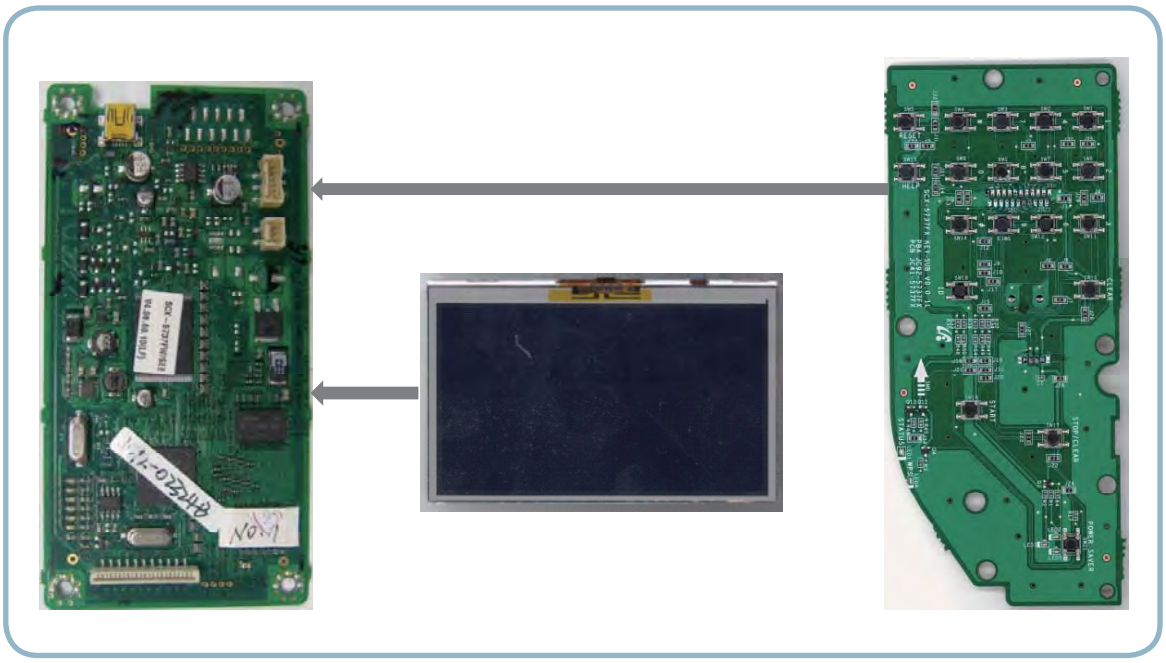
• SEC-CODE : JC92-02366A
• PBA Name : PBA-OPE(4Line) for SCX-483xFR/563xFR

● **Information**

• SEC-CODE : JC07-00012A
• PBA Name : LCD(4Line)

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA



● **Information**

• SEC-CODE : JC92-02324B
• PBA Name : PBA-OPE MAIN (GUI) for SCX-573xFW

● **Information**

• SEC-CODE : JC07-00017A
• PBA Name : LCD (4.3 inch TFT)

● **Information**

• SEC-CODE : JC92-02365A
• PBA Name : PBA-OPE KEY SUB

2.2.5.3 WLAN (Only SCX-573xFW model)

The Wireless LAN Module supports 802.11b/g/n at only SCX-5737FW model via USB 2.0 high speed. The Module is installed at the USB Host Channel of Main Controller PBA.



● **Information**

- SEC-CODE : JC92-02364A
- PBA Name : PBA-WNPC

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2.2.5.4 SO-DIMM PBA - Optional

The SO-DIMM PBA is the system Memory module of the Main Controller. It is used for the operating system, some system application programs, and it stores some print data from the USB and Network port. There are two kinds of SO-DIMM PBA:

• 256MB capacity (SCX-483xFD)



● Information

- SEC-CODE : JC92-01975A 256MB
- PBA Name : PBA RAM DIMM

• 512MB capacity (SCX-483xFR/563xFR/573xFW)



● Information

- SEC-CODE : JC92-02087B 512MB
- PBA Name : PBA MAIN-DIMM

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

2.2.5.5 SCF PBA - Optional

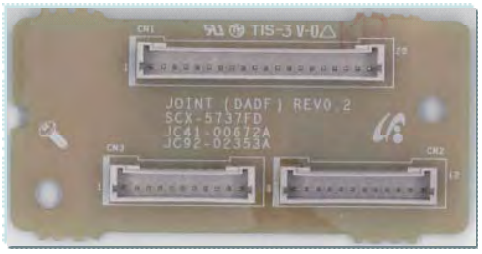
The ADF SUB PBA(SCX-483xFD) is the Joint Board to Connect between ADF Module and Main board.



• Information

SEC-CODE : JC92-02387A
PBA Name : PBA-ADF

The JOINT PBA(SCX-483xFR/563xFR/573xFW) is the Joint Board to Connect between DADF Module and Main board.



• Information

SEC-CODE : JC92-02353A
PBA Name : PBA-JOINT(DADF)

2.2.5.6 SCF PBA - Optional

The SCF PBA is the SCF control board. It use UART communication with main controller.
S3F443FX is used as a microcontroller.



• Information

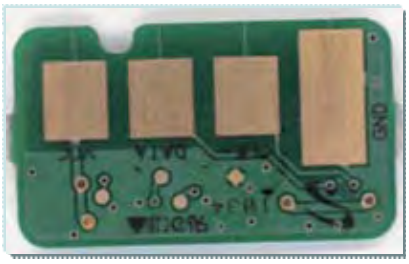
SEC-CODE : JC82-00192A
PBA name : A/S ASSY-PBA SCF MAIN

CÓPIA NÃO CONTROLADA

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2.2.5.7 CRUM PBA

CRUM PBA use I2C communication with main Controller.





- **Information**

SEC-CODE : JC92-02386A
PBA Name : PBA-TONER CRUM

2.2.5.8 Connection Part

Controller require connections to all of the system units such as the BLDC motor, Clutch, Sensor, and other PBAs(OPE, HVPS, SMPS). The Main Controller contains various types of connectors, to deliver electronic signals through signal wires. The signal wires provide electronic control signals that are used for starting and stopping the motors, operating clutches, sensing the unit status, etc.

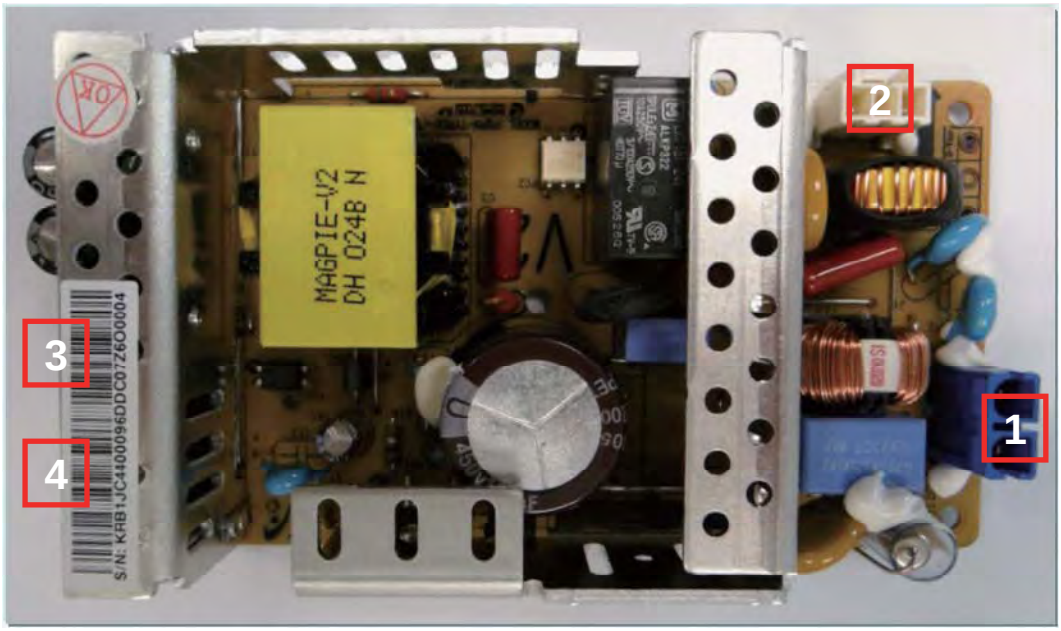
CÓPIA NÃO CONTROLADA

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2.2.5.9 SMPS Board

The SMPS (Switching Mode Power Supply) Board supplies electric power to the Main Board and other boards through a Main Controller. The voltage provided includes +5V, and +24V from a 110V/220V power input.

■ SCX-483xFD/HD



• Specification

General Input/Output Voltage
1) AC 110V (90V ~ 135V)
2) AC 220V (180V ~ 270V)
3) Output Current:
-.+5V : 1.6A
-.+24V : 1.8A
3) Output Power:
-.+5V : 8.16W
-.+24V : 43.2W
5) Heat Lamp Capacity : 850W

• Information

	110V	220V
SEC CODE	JC44-00095D	JC44-00096D
PBA NAME	SMPS V1	SMPS V2

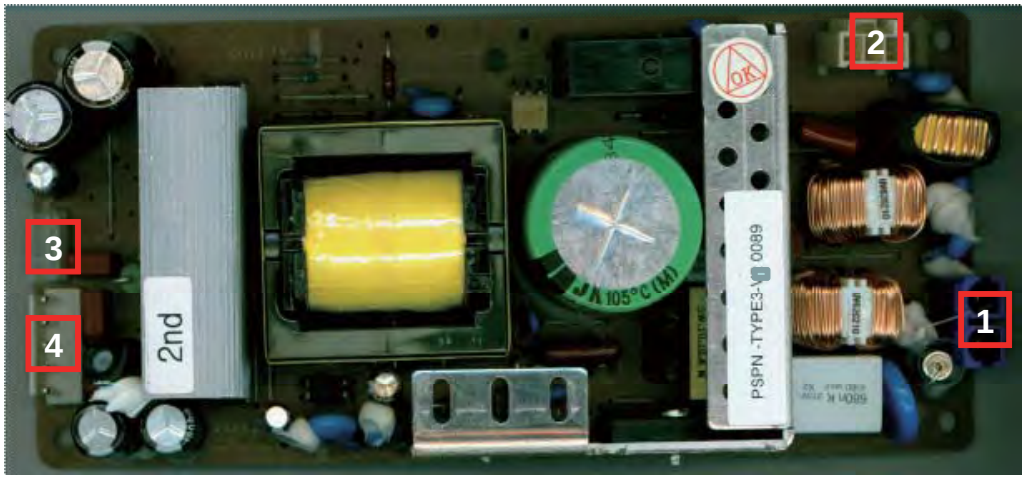
• Connection

1	INPUT_AC
2	Fuser_AC Output
3	SMPS Control Signal (from Engine PBA)
4	OUTPUT_5V&24V (to DC POWER PBA)

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

■ SCX-483xFR/563xFR/573xFW



• Specification

General Input/Output Voltage
1) AC 110V (90V ~ 135V)
2) AC 220V (180V ~ 270V)
3) Output Current:
  -.+5V : 2.4A
  -.+24V : 3.0A
4) Output Power:
  -.+5V : 12W
  -.+24V : 72W
5) Heat Lamp Capacity : 850W

• Information

	110V	220V
SEC CODE	JC44-00097E	JC44-00090E
PBA NAME	SMPS V1	SMPS V2

• Connection

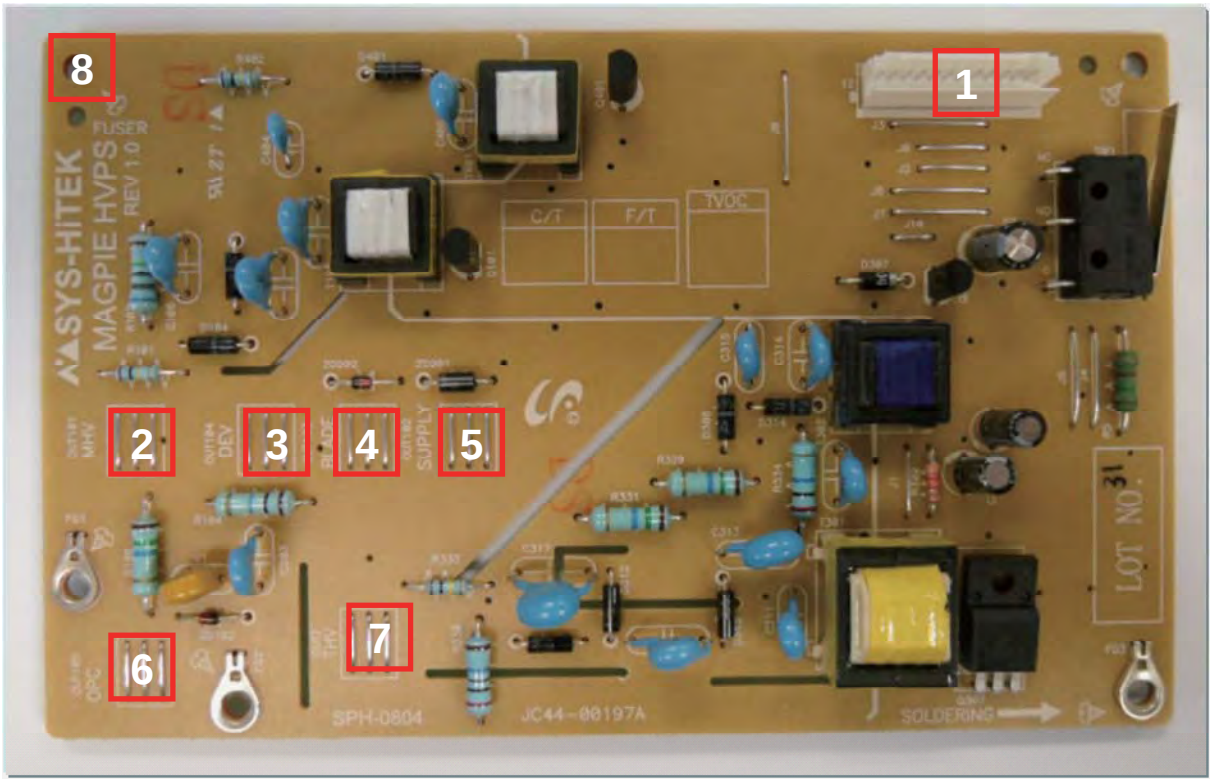
1	INPUT_AC
2	Fuser_AC Output
3	SMPS Control Signal (from Engine PBA)
4	OUTPUT_5V&24V (to DC POWER PBA)

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

2.2.5.10 HVPS Board

The SCX-483x / 5x3x series contains a High Voltage Power Supply(HVPS) board.
This board generates high-voltage channels which includes MHV, DEV, BLADE, SUPPLY, OPC, THV and FUSER BIAS.



• Connection

1	Main Interface	**5**	SUPPLY(-489V)
2	MHV(-1240V)	**6**	OPC(-51V)
3	DEV(-338V)	**7**	THV(+1315V, -1000V)
4	BLADE(-389V)	**8**	FUSER BIAS(240V)

• Information

- SEC-CODE : JC44-00197A
- PBA Name : HVPS

CÓPIA NÃO CONTROLADA

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2.2.5.11 HVPS Board

The SCX-483x / 5x3x series contains a FAX board.The Modem Card is used to transfer and receive FAX data through a telephone line. This PBA is controlled by the Main PBA and has two connectors, one for the telephone line connection and the other for an external phone connection.



• Connection

1	Main Interface
2	Speaker
3	Hook(only China)
4	Tel Line
5	Ext Line

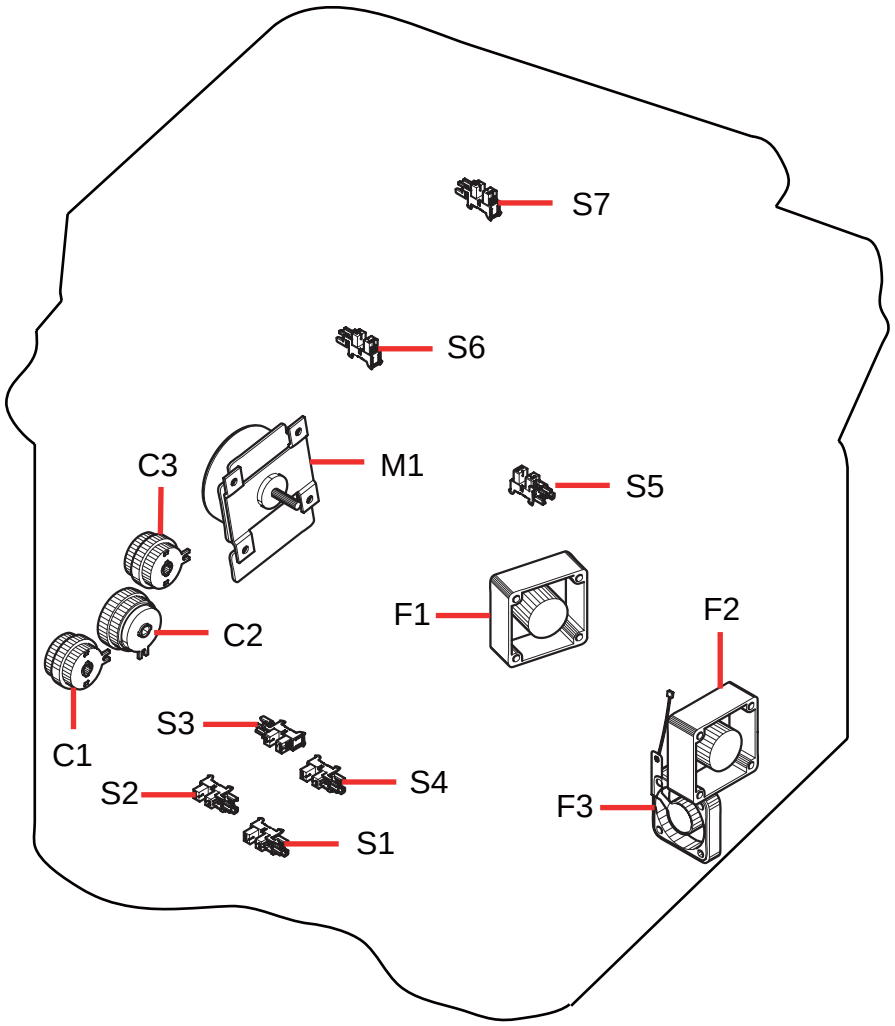
• Information

- SEC-CODE : JC92-01746A
  : JC92-01746C (only China)
- PBA Name : SFX336 MODEM FAX MODULE

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

2.2.5.10 Electrical Parts Location



	Sensor	Part Description	Part Code
M1	Main motor	MOTOR BLDC	JC31-00144A
C1	MP Pick up clutch	CLUTCH-ELECTRIC	JC47-00034A
C2	Cassette Pick up clutch	CLUTCH-ELECTRIC	JC47-00033A
C3	Regi clutch	CLUTCH-ELECTRIC	JC47-00033A
S1	Cassette paper empty sensor	PHOTO-INTERRUPPTER	0604-001393
S2	MP paper empty sensor	PHOTO-INTERRUPPTER	0604-001393
S3	Regi sensor	PHOTO-INTERRUPPTER	0604-001393
S4	Feed sensor	PHOTO-INTERRUPPTER	0604-001393
S5	Exit sensor	PHOTO-INTERRUPPTER	0604-001393
S6	Outbin full sensor	PHOTO-INTERRUPPTER	0604-001393
S7	Home position sensor	PHOTO-INTERRUPPTER	0604-001415
F1	Middle fan	FAN	JC31-00146A
F2	Main fan	FAN	JC31-00146A
F3	SMPS fan	FAN	JC31-00108A

CÓPIA NÃO CONTROLADA

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2.2.6 Engine F/W Control Algorithm

2.2.6.1 Feeding

If feeding from a cassette, the drive of the pickup roller is controlled by controlling the solenoid. The on/off of the solenoid is controlled by controlling the general output port or the external output port. While paper moves, occurrence of Jam is judged as below.

ITEM	Description
JAM 0	- After picking up, paper cannot be entered because paper is not fed. - After picking up, paper entered but it cannot reach to the feed sensor in certain time due to slip, etc. - After picking up, if the feed sensor is not on, re-pick up. After re-picking up, if the feed sensor is not on after predetermined period of time, it is JAM 0.
JAM 1	- After the leading edge of the paper passes the feed sensor, the trailing edge of the paper cannot pass the feed sensor after predetermined period of time. - After the leading edge of the paper passes the feed sensor, the paper cannot reach the exit sensor after predetermined period of time. **The paper exists between the feed sensor and the exit sensor.*
JAM 2	- After the trailing edge of the paper passes the feed sensor, the paper cannot pass the exit sensor predetermined period of time.

2.2.6.2 Transfer

The charging voltage, developing voltage and the transfer voltage are controlled by PWM (Pulse Width Modulation). The each output voltage is changeable due to the PWM duty. The transfer voltage admitted when the paper passes the transfer roller is decided by environment conditions. The resistance value of the transfer roller is changed due to the surrounding environment or the environment of the set, and the voltage value, which changes due to the environments, is changed through AD converter. The voltage value for impressing to the transfer roller is decided by the changed value.

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

2.2.6.3 Fusing

The temperature change of the heat roller's surface is changed to the resistance value through the use of a thermistor.
The Main Bd uses the resistance value of the Thermistor and converts it to a voltage value through the use of an AD converter, the temperature is decided based on the voltage value read. The AC power is controlled by comparing the target temperature to the value from the thermistor. If the value from the thermistor is out of controlling range while controlling the fusing, the error stated in the below table occurs.

• Open Heat Error

When the engine operates the warm-up process, if the temperature of the fixing unit is not higher than a specified temperature, the engine defines Open Heat Error. When this error is detected, the engine stops all functions and keeps the error state. Also, the engine informs the error status of the main system, so it can take appropriate action; and then the error message is displayed at LCD window or LED informing the error status of the user.

• Low Heat Error

When the engine is at stand-by, printing or warm-up mode, if the temperature of the fixing unit is lower than the specified temperature at each state and the lower temperature state is maintained during the specified time, the engine defines Low Heat Error. When this error is detected, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system, so it can take appropriate action; and then the error message is displayed at LCD window or LED informing the error status of the user.

• Over Heat Error

For overall engine state, if the temperature of the fixing unit is higher than the specified temperature and the temperature state is detected for a specific duration, then the engine defines Over Heat Error. When this error is detected, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system, so it can take appropriate action; and then the error message is displayed at LCD window or LED informing the error status of the user.

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

2.2.6.4 LSU

LSU receives the image data from PVC or HPVC and make the latent image on OPC surface.
It uses the single beam, LD. The errors related to LSU are as follows:

• By Lready

When the printing is started, the engine drives the polygon motor of LSU. After the specified time is elapsed, if the motor is not in a ready status, the engine detects the error that the polygon motor is not in a ready status. If this error happens, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system and the error message is displayed at LCD window to inform the error status of the user.

• By Hsync

When the polygon motor is ready, the LSU sends out the signal called Hsync and used to synchronize with each image line. So, if the engine does not detect consecutively the signal for a fixed time, it defines the Hsync Error. If this error happens, the engine stops all functions and keeps it at the error state. Also, the engine informs the error status of the main system and then the error message is displayed at LCD window to inform the error status of the user. LSU Error Recovery: If the LReady or Hsync error happens, the paper is exited before the error code is initiated. The engine mode is changed to recovery mode and the engine informs the main system of the engine mode. And the engine checks the LSU error. If the error doesn't happen, the printing job.

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

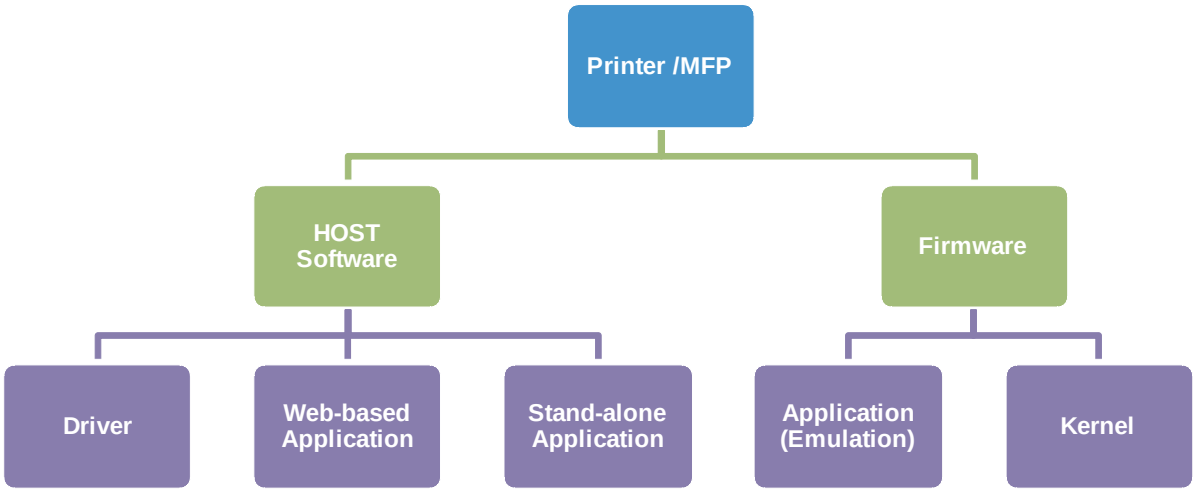
2.2.7 S/W Descriptions

2.2.7.1 Overview

The software of SCX-483x/5x3x series system is constructed with
1) Host Software part that the application software operated in Window and Web Environment, and
2) Firmware parts that is a Embedded software controls printing job.

2.2.7.2 Architecture

Host Software is made up of
1. Graphic User Interface that offers the various editing functions to user in Host,
2. Driver that translates the received document to a Printing Command language which printer can understand and transfers data to spooler,



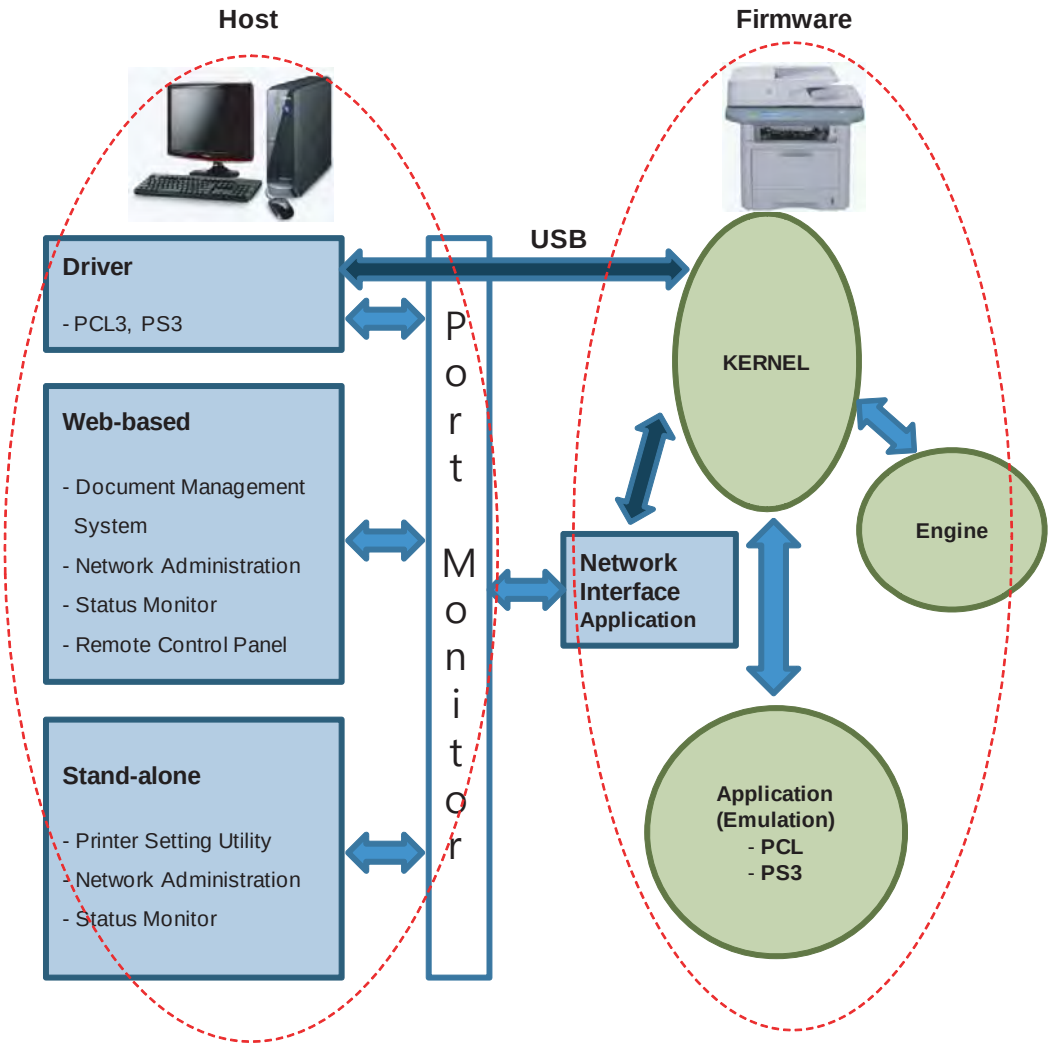
3. Stand-alone Application that offers the various printing application, PSU(Printer Settings Utility), Printer Status Monitor, Network Management in Window system,
4. Web-based-Application that offers the same functions as Stand-alone Application and RDC(Remote Diagnosis Control) in Web environment.

Firmware is made up of
1. Application (Emulation) that is a interpreter translate data received from Host to a printing language (PCL, PS, GDI, etc.) to be able to make the user to take same output as originally one what composed in Host.
2. Kernel that control and management the whole procedure include of Control flow and Printing Job before transfer to Engine system.

CÓPIA NÃO CONTROLADA

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2.2.7.3 Data and Control Flow



The above Block Diagram is explained that:

Host Side is made up of :

1. Driver that is Windows application software translate printed data to one of printer language and create spooler file.
2. Web-based Application that offer a various printer additional functions, management of printing job, printer administration, Status monitor to monitoring the printer status by real time in Web, independent environment on OS.
3. Stand-alone Application that is a similar Window software as same as above 2,
4. Port Monitor that manages the network communication between spooler and Network Interface Card, or various additional application and Network Interface Card,(this is, at first, make communication logical port, manage the data, transfer them from spooler to network port, and offer the result of printing).

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

Firmware Side is made up of :

1. Network Interface Application is that relay the communication between Host and kernel using various network protocol.
2. Kernel is that manages the flow control of emulation procedure, receiving data from Host or Network application and printing with engine & rendering job,
3. Emulation is that interprets the various output data from selected emulation,
4. Engine is that prints rendered bit-map data to paper with required size and type by Kernel.

And then, for Job Spooling function for Multi-User, Multi-Printing that is occurred in Network printing and various additional printing functions, this Kernel uses max. 10 Queuing systems in a memory.

In Printing, the two procedures are :

(1) Case of using USB Port

- After user start to print the wanted document to PCL string or compressed GDI bit-map data, Driver translate the all graphic data of it and send data to host spooler. And then the spooler sends the data stream to the printer via USB port.
- Kernel receives this data from Host, and then select emulation fit to data and start selected one. After emulation job end, Kernel sends the output bit-map data to Engine using Printer Video Controller (by clock type for LSU).
- Engine print the received data to required paper with the sequential developing process.

(2) Case of using Network Interface Application

- After user start to print the wanted document to PCL string or compressed GDI bit-map data, Driver translate the all graphic data of it and send data to host spooler.
- If so, Port monitor managing network port receives data from spooler and sends a data stream to the Network Interface Application.
- Network interface card receives it and send to Kernel part.
- Kernel receives this data from Host, and then select emulation fit to data and start selected one. After emulation job end, Kernel sends the output bit-map data to Engine using Printer Video Controller (by clock type for LSU).
- Engine print the received data to required paper with the sequential developing process.

CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

3. Disassembly and Reassembly

3.1 General Precautions on Disassembly

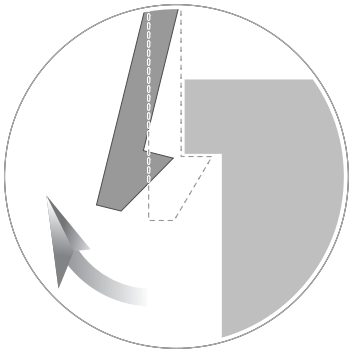
When you disassemble and reassemble components, you must use extreme caution. The close proximity of cables to moving parts makes proper routing a must.
If components are removed, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any component from the machine, note the cable routing that will be affected.

Whenever servicing the machine, you must perform as follows:

1. Check to verify that documents are not stored in memory.
2. Be sure to remove the toner cartridge before you disassemble parts.
3. Unplug the power cord.
4. Use a clean at surface.
5. Replace only with authorized components.
6. Do not force plastic-material components.
7. Make sure all components are in their proper position.

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 carefully from the part to which it is latched.



CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

3.2 Screws used in the printer

The screws listed in the table below are used in this printer. Please ensure that, when you disassemble the printer, you keep a note of which screw is used for which part and that, when reassembling the printer, the correct screws are used in the appropriate places.

Part Code	Location	Description	Qty
6003-000196	FRAME MAIN	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	20
6003-000261		SCREW-TAPTYPE;BH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	3
6002-000440	DUPLEX	SCREW-TAPPING;PWH,+,2,M3,L8,ZPC(BLK),SWRCH18A	5
6003-000196	MP	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000196	FUSER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	5
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	3
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6003-000269	DRIVE	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	6
6003-000196	FRAME-ETC	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	38
6003-000261		SCREW-TAPTYPE;BH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	3
6003-000264		SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000301		SCREW-TAPTYPE;BH,+,S,M4,L6,ZPC(WHT),SWRCH18A	1
6003-001474		SCREW-TAPTYPE;BH,+,B,M3,L30,ZPC(WHT),SWRCH18A	2
6006-001078		SCREW-TAPTYPE;PH,+,WSP,B,M3,L10,ZPC(WHT),SWRCH18A	1
6003-000282	LSU	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	5
6003-000196	COVER-MIDDLE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000264	COVER-FRONT	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000264	MP GUIDE-TRAY	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000282	CARTRIDGE TONER	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6003-000196	MFA	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000196	OPE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	9
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	4
6001-000130	DADF	SCREW-MACHINE;BH,+,M3,L6,ZPC(WHT),SWRCH18A	1
6003-000196		SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	25
6003-000269	DRIVE-DADF	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	6
6003-000196	DADF-COVER OPEN	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6001-000130	DADF-PLATEN	SCREW-MACHINE;BH,+,M3,L6,ZPC(WHT),SWRCH18A	1
6003-000196	DADF-LOWER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000196	DADF-UPPER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	3
6003-000196	PLATEN	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	5
6003-000196	PLATEN-UPPER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000196	PLATEN-LOWER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	8
6003-000196	PLATEN-A4 MIDDLE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	3
6003-000269	ELA UNIT-SCAN DRIVE	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000196	MAINLNE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	20

CÓPIA NÃO CONTROLADA

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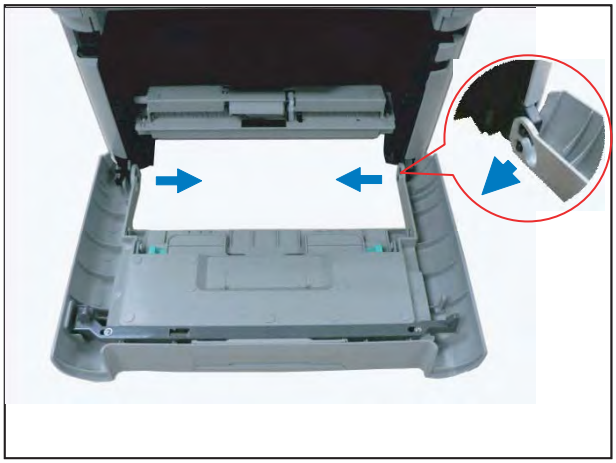
3.3 Disassembly procedure

3.3.1 Cover

1. Remove the cassette.



2. Remove the front cover by releasing both hooks.



3. Remove the duplex unit.



4. Open the rear cover and then remove it by releasing both hooks.



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5. Remove the left cover.



6. Remove the right cover.

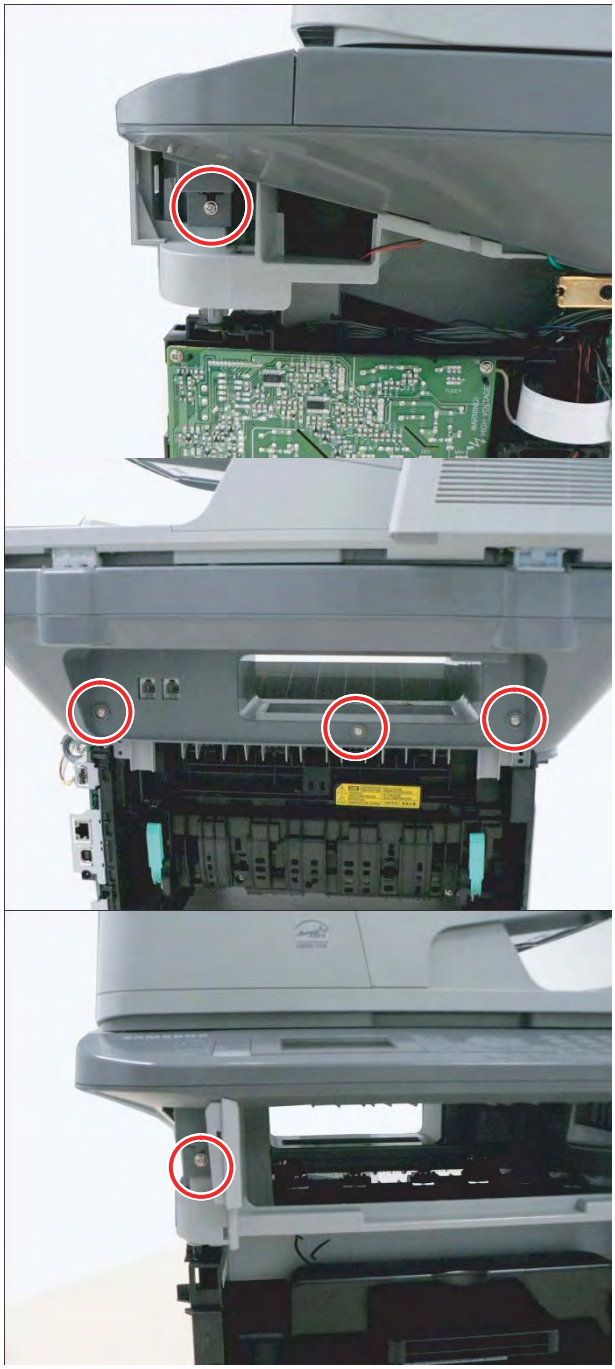


CÓPIA NÃO CONTROLADA

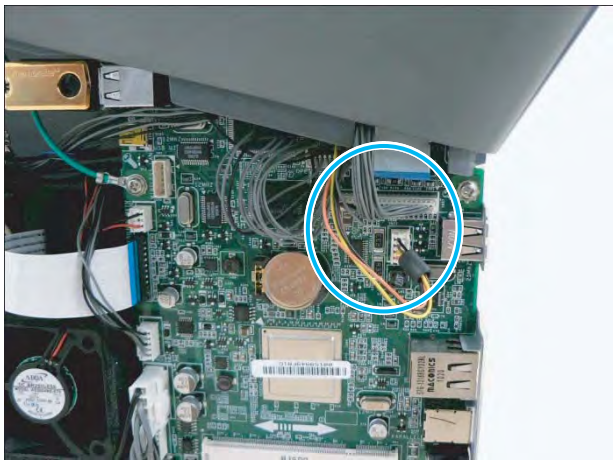
CÓPIA NÃO CONTROLADA

3.3.2 Scanner Assy

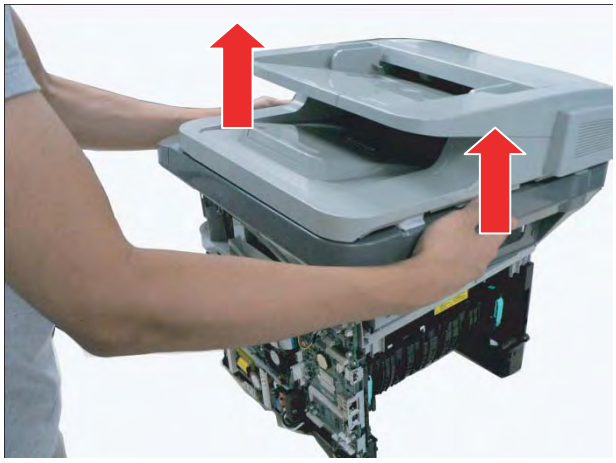
1. Remove all covers. (Refer to 3.3.1)
2. Remove 5 screws. (Right x 1, Rear x 3, Front x 1)



3. Unplug 3 connectors.



4. Lift up and release the Scanner Assy.

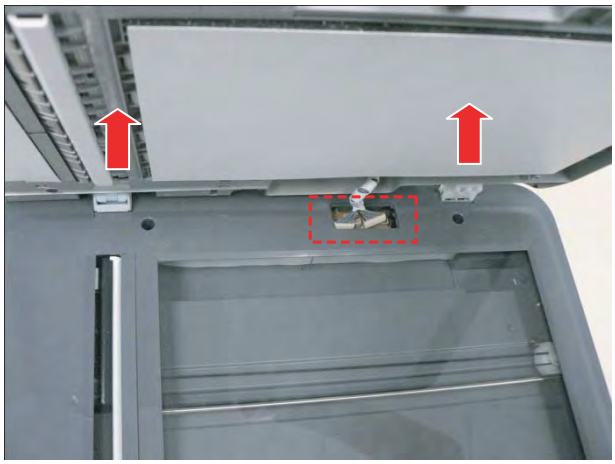


CÓPIA NÃO CONTROLADA

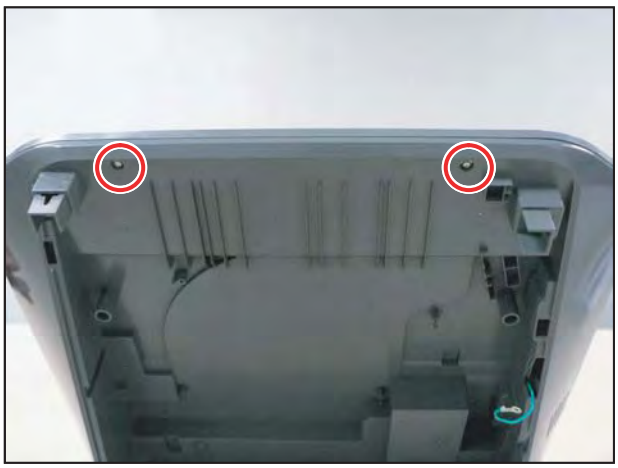
CÓPIA NÃO CONTROLADA

3.3.2.1 OPE board

1. Open the DADF unit.
2. Unplug the connector after removing the connector cover.
3. Lift up and release the DADF unit.



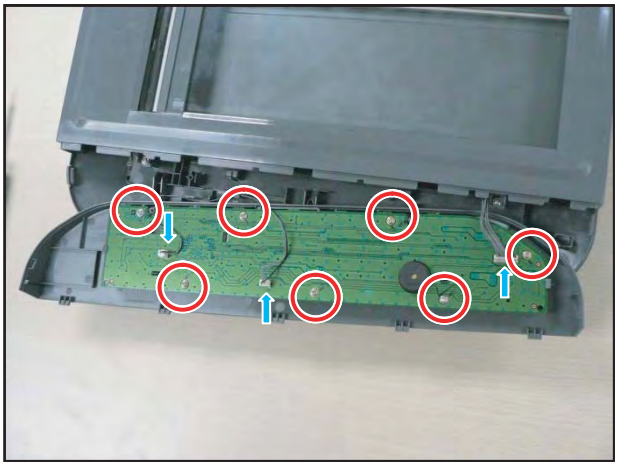
4. Open the Scanner.
5. Remove 2 screws.



6. Turn up OPE Unit.



7. Unplug 2 connectors and remove 7 screws.
8. Release the OPE board.

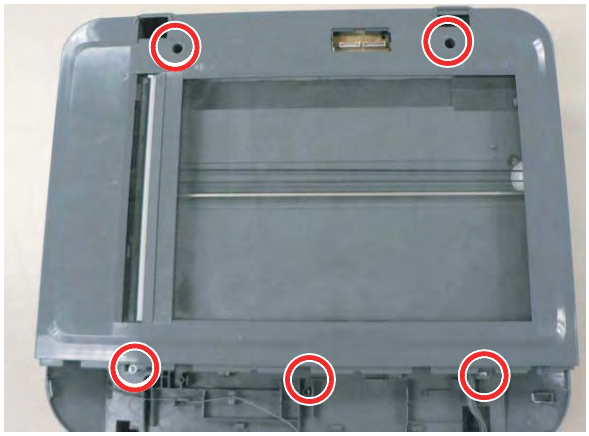


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3.3.2.2 CIS Unit

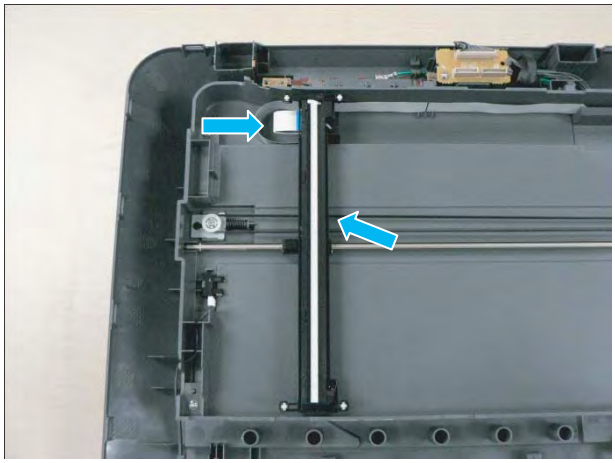
1. Remove the DADF unit and OPE unit.
   (Refer to 3.3.2.1)
2. Remove 5 screws.



3. Release the Platen glass unit.



4. Unplug the end of the at cable from the CIS, and release the drive belt.
5. Remove the CIS Unit.

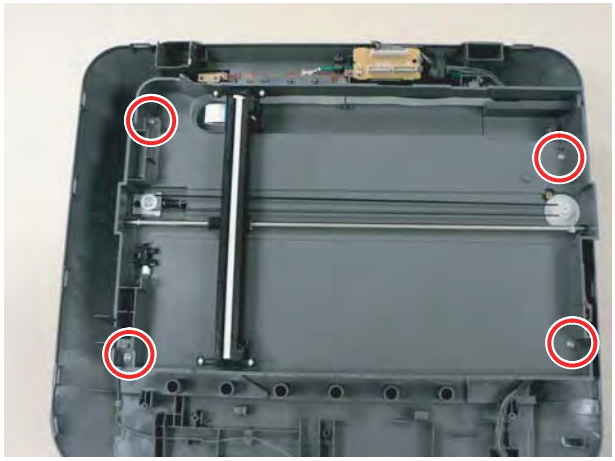


CÓPIA NÃO CONTROLADA

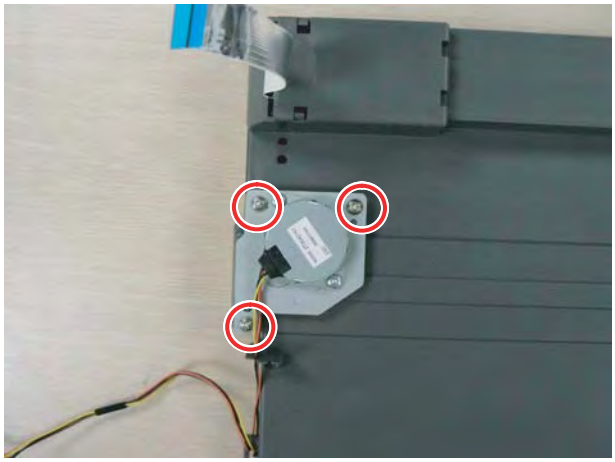
CÓPIA NÃO CONTROLADA

3.3.2.3 Scan Motor

1. Remove the DADF unit, OPE unit and Platen glass unit. (Refer to 3.3.2.1~2)
2. Remove 4 screws.

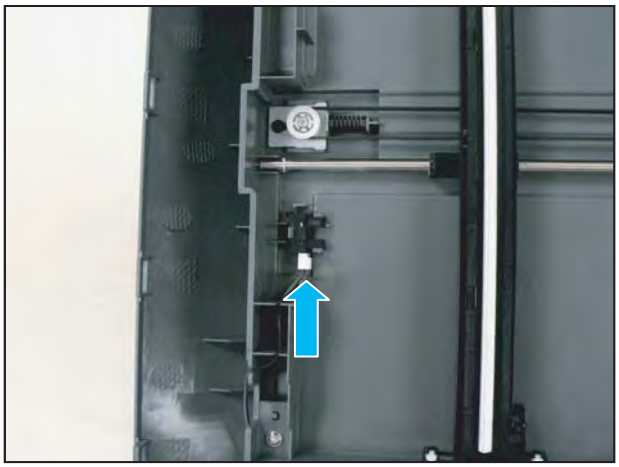


3. Release the scan motor after removing 3 screws.



3.3.2.4 Home position sensor

1. Remove the Platen glass unit. (Refer to 3.3.2.2)
2. Release the home position sensor after unplugging the connector.

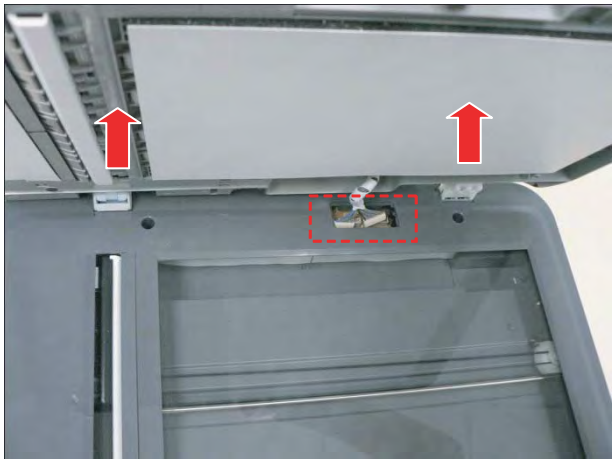


CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

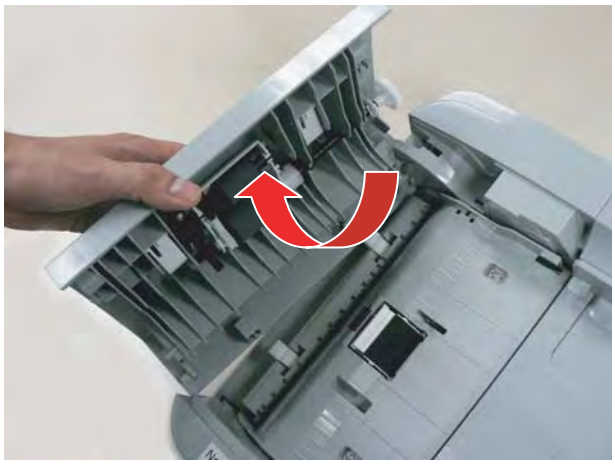
3.3.3 DADF Unit (SCX-563xFR / 563xHR / 573xFW)

1. Open the DADF unit.
2. Unplug the connector after removing the connector cover.
3. Lift up and release the DADF unit.

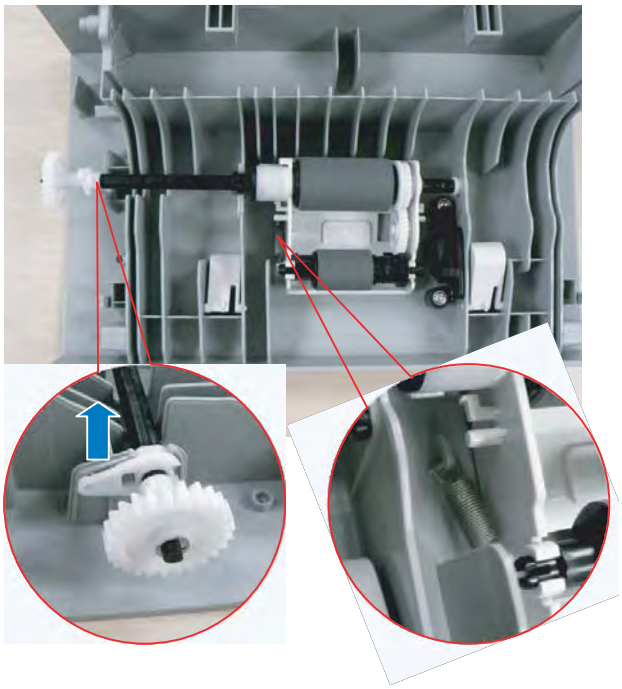


3.3.3.1 DADF Pick up unit

1. Remove the DADF-COVER OPEN.



2. Remove the spring. Release the shaft holder.
   And then remove the DADF pick up unit.

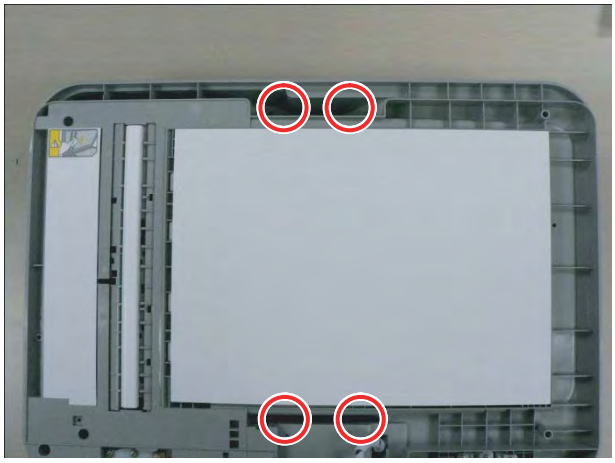


CÓPIA NÃO CONTROLADA

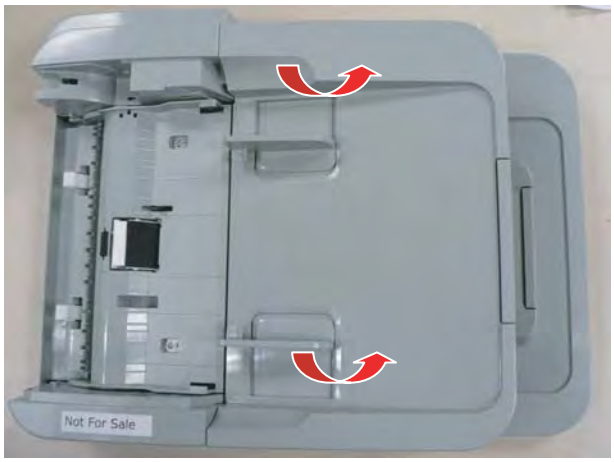
CÓPIA NÃO CONTROLADA

3.3.3.2 DADF board

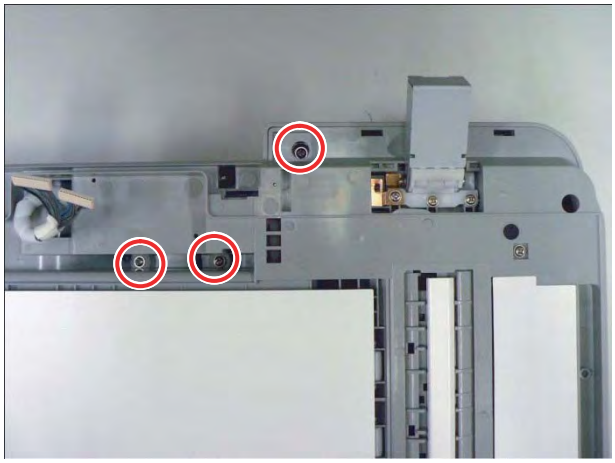
1. Remove 4 screws.



2. Release the Original Feed Tray.



3. Remove 3 screws.



4. Remvoe the DADF rear cover.



5. Remove the DADF board after removing 2 screws and all harness.

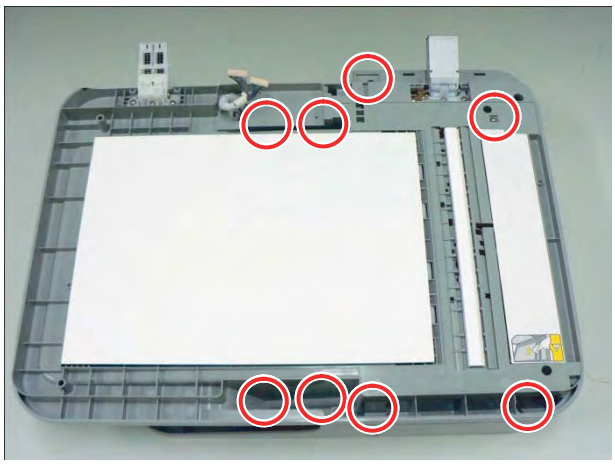


CÓPIA NÃO CONTROLADA

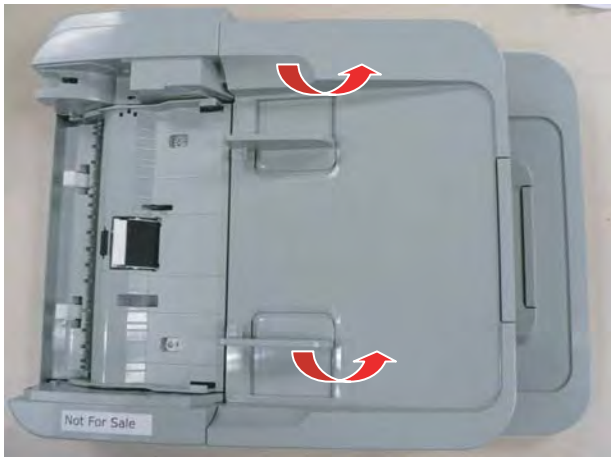
CÓPIA NÃO CONTROLADA

3.3.3.3 DADF Motor

1. Remove 8 screws.



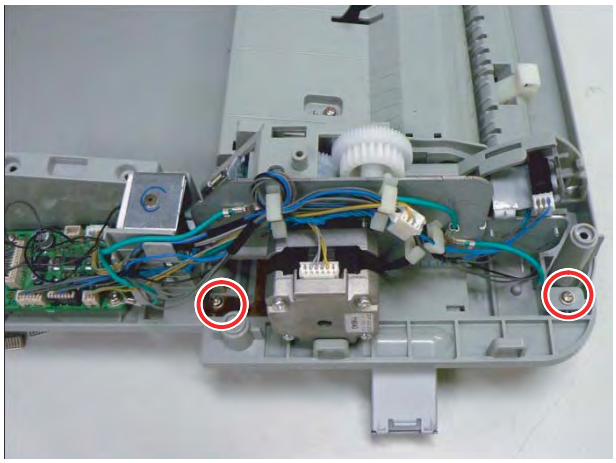
2. Release the Original Feed Tray.



3. Remvoe the DADF rear cover.



4. Remove 2 screws.



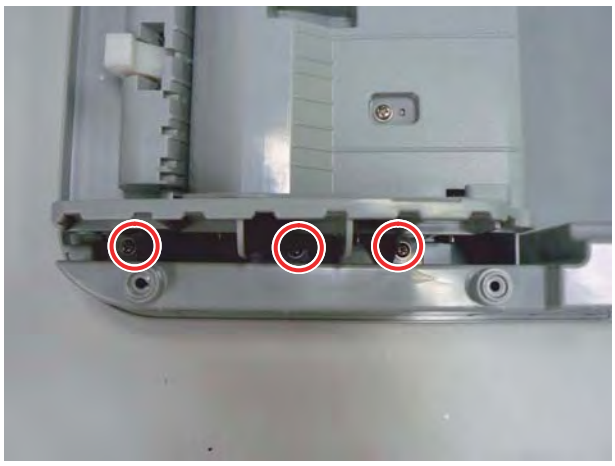
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CÓPIA NÃO CONTROLADA

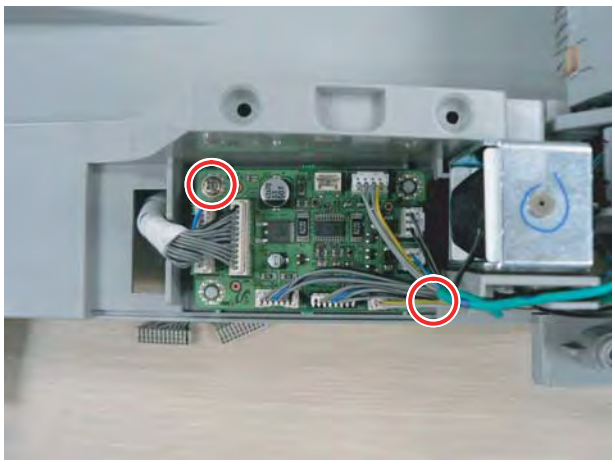
5. Remove the DADF front cover.



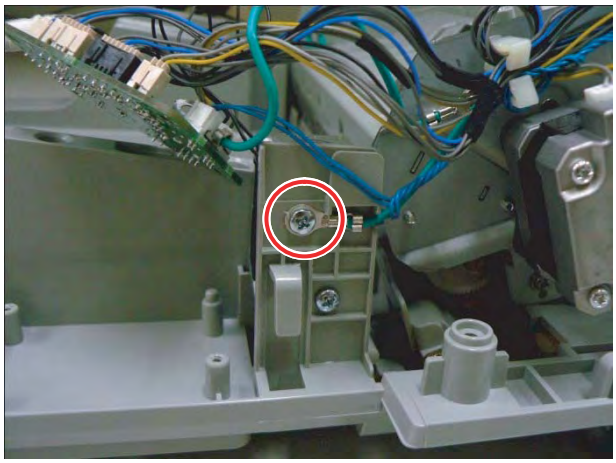
6. Remove 3 screws.



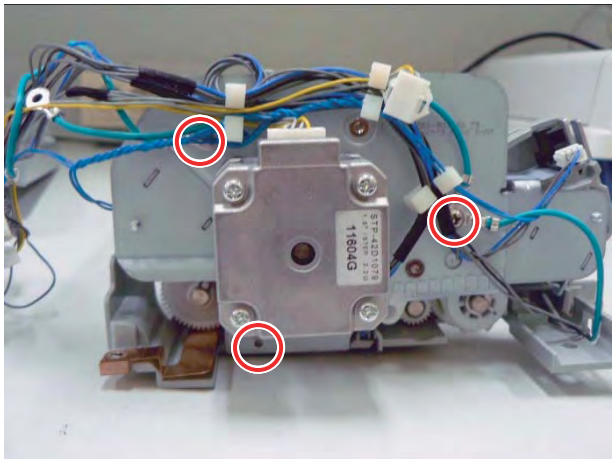
7. Remove 2 screws on DADF board.



8. Remove 1 screw connecting the ground wire.



9. Release the DADF drive unit after removing 3 screws.

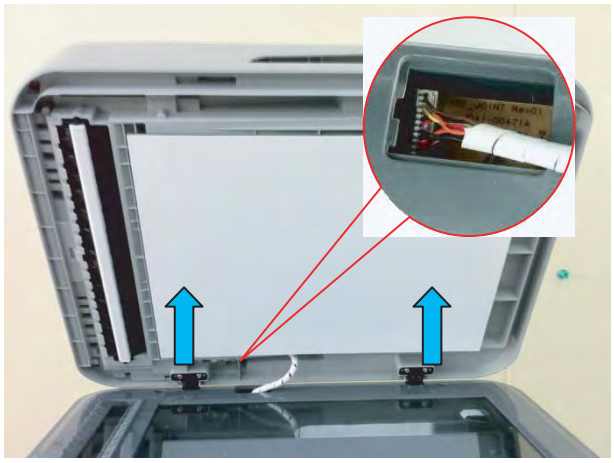


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CÓPIA NÃO CONTROLADA

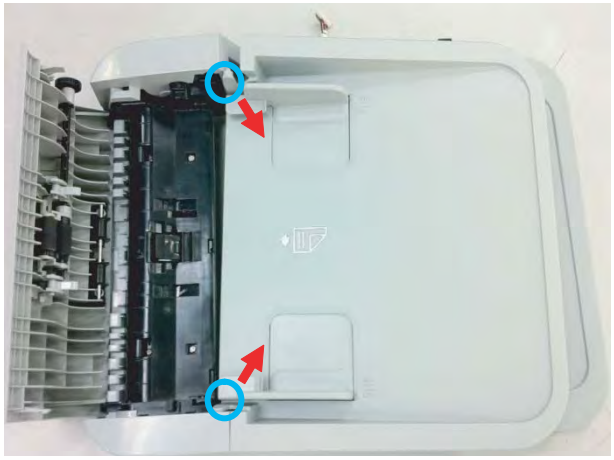
3.3.4 ADF Unit (SCX-483xFR/ FD/ HD)

1. Open the ADF unit.
2. Unplug the connector after removing the connector cover.
3. Lift up and release the ADF unit.



3.3.4.1 Tray Input

1. Open the ADF top cover.
2. Pull and release the rear hinge of the Original Feed Tray.

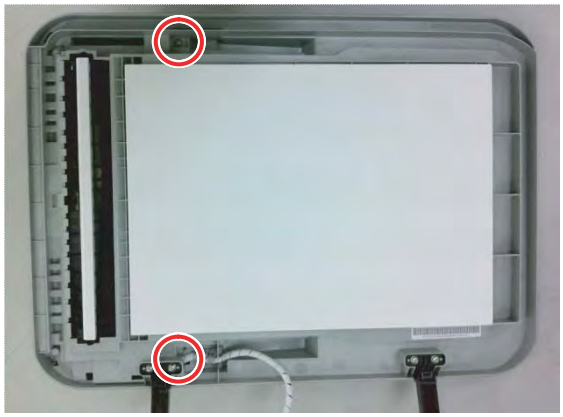


CÓPIA NÃO CONTROLADA

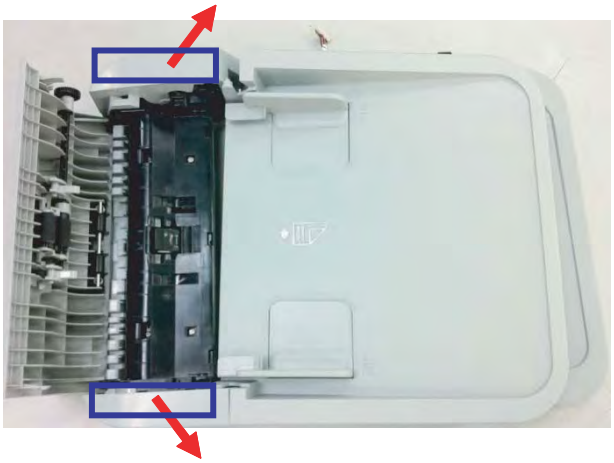
CÓPIA NÃO CONTROLADA

3.3.4.2 Front / Rear cover

1. Remove 2 screws.

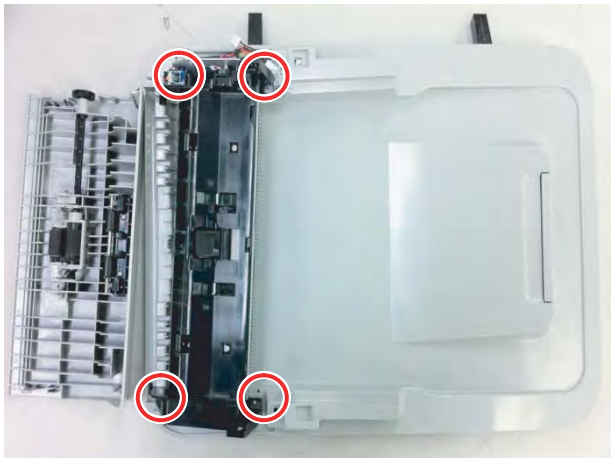


2. Remove the front and rear cover from both sides.



3.3.4.3 Paper Path Assy

1. Remove the paper path Assy after removing 4 screws.

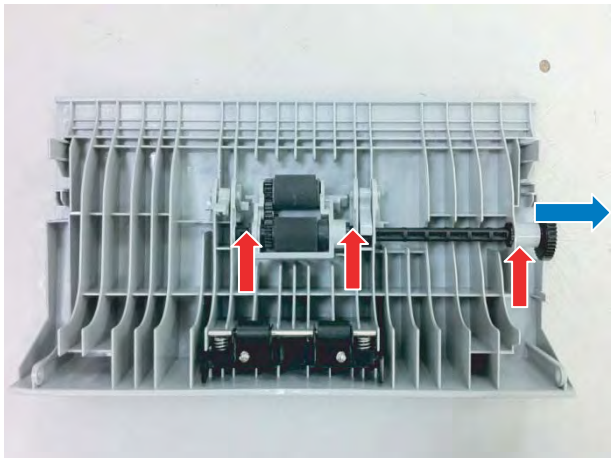


CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

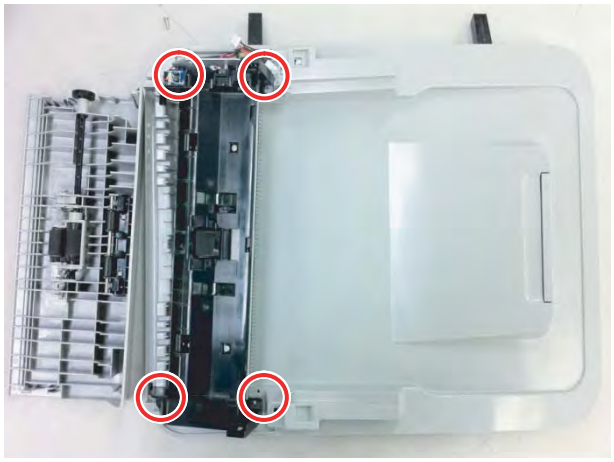
3.3.4.4 ADF pick up unit

1. Remove 3 E-rings.
2. Pull the shaft to the direction of arrow.
3. Take off the ADF pick up unit.

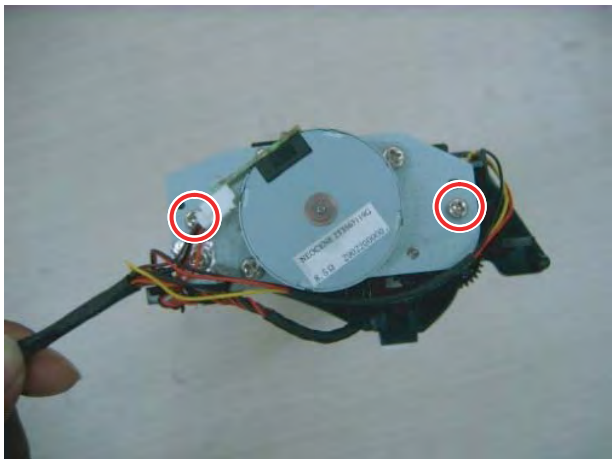


3.3.4.5 ADF motor

1. Remove the paper path Assy after removing 4 screws.



2. Remove the motor after removing 2 screws.

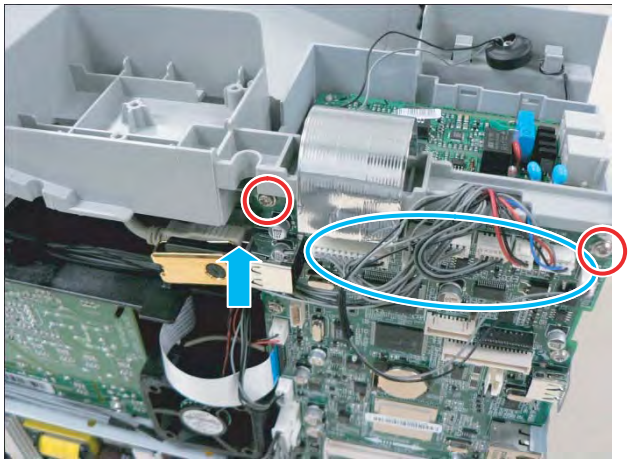


CÓPIA NÃO CONTROLADA

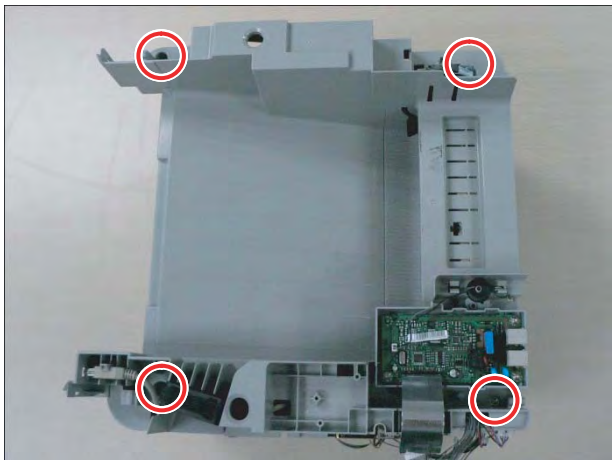
CÓPIA NÃO CONTROLADA

3.3.5 Middle Cover

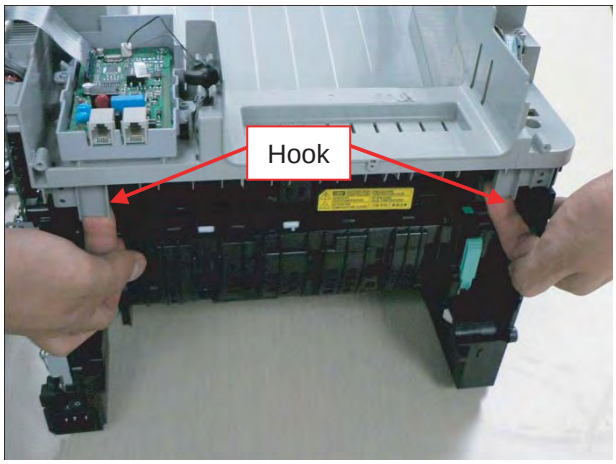
1. Remove the Scanner Assy. (Refer to 3.3.2)
2. To remove the middle cover, remove 2 screws, 6 connectors,1 USB cable from the main board.



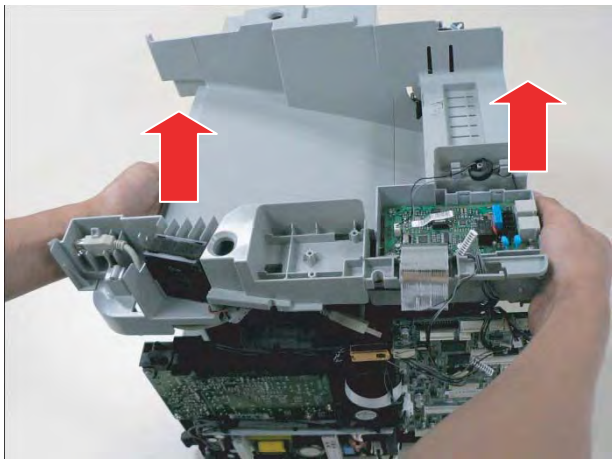
3. Remove 4 screws.



4. Release 2 hooks from the rear.



5. Lift up and release the middle cover.

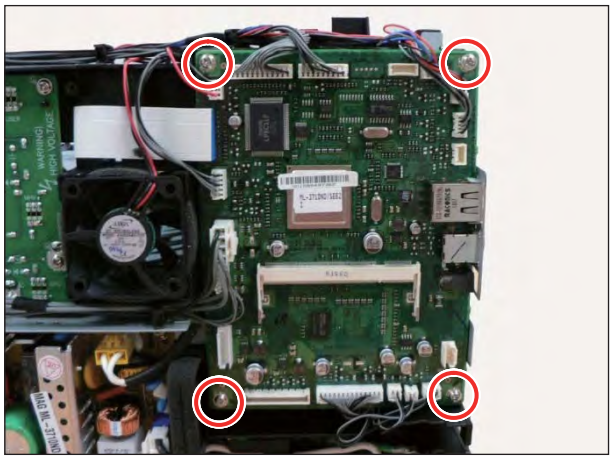


CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

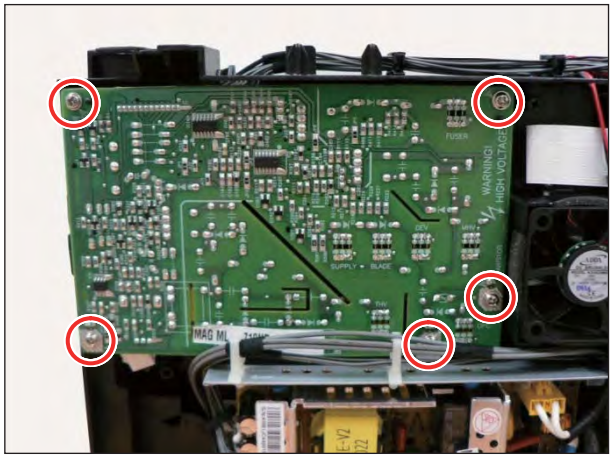
3.3.6 Main board

1. Remove the right cover. (Refer to 3.3.1 Cover)
2. Unplug all connectors on the main board.
3. Remove 4 screws.
4. Release the main board.



3.3.7 HVPS board

1. Remove the right cover. (Refer to 3.3.1 Cover)
2. Remove 5 screws.
3. Unplug all connectors on the HVPS board.
4. Release the HVPS board.

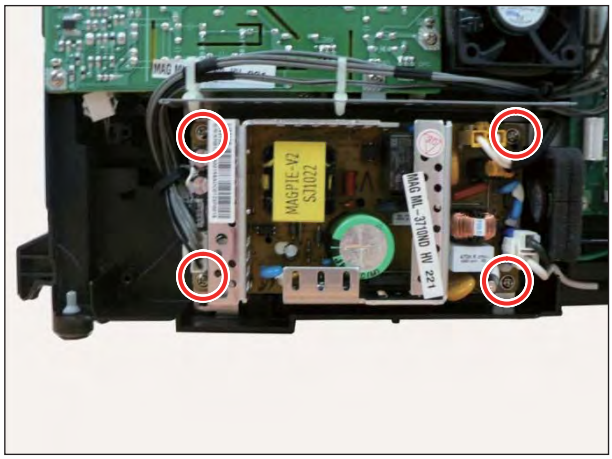


CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

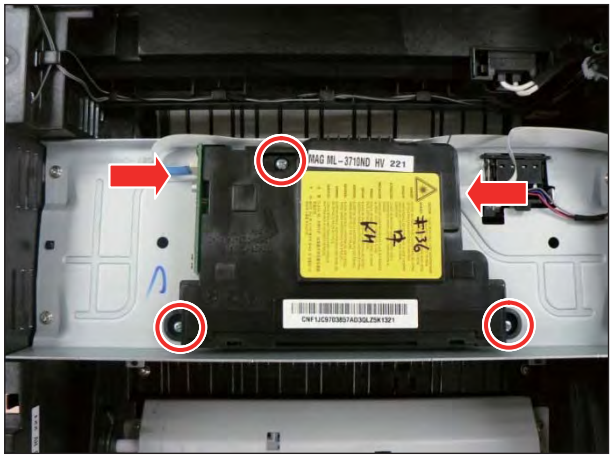
3.3.8 SMPS board

1. Remove the right cover. (Refer to 3.3.1 Cover)
2. Unplug all connectors on the SMPS board.
3. Remove 4 screws.
4. Release the SMPS board.



3.3.9 Laser Scanning Unit (LSU)

1. Remove the Middle cover. (Refer to 3.3.5 Middle Cover)
2. Unplug 2 at cables from the LSU.
3. Remove 3 screws.
4. Release the LSU.



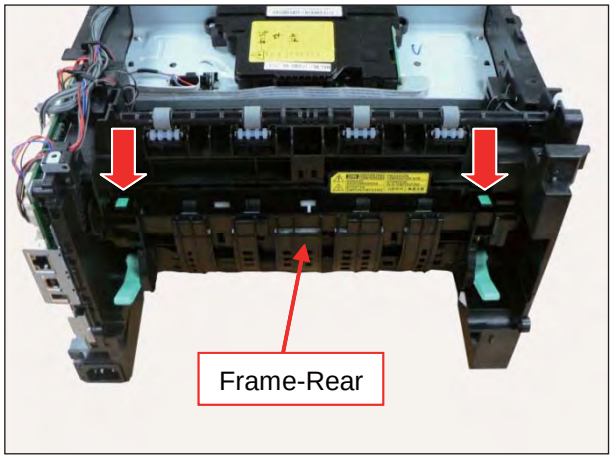
CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

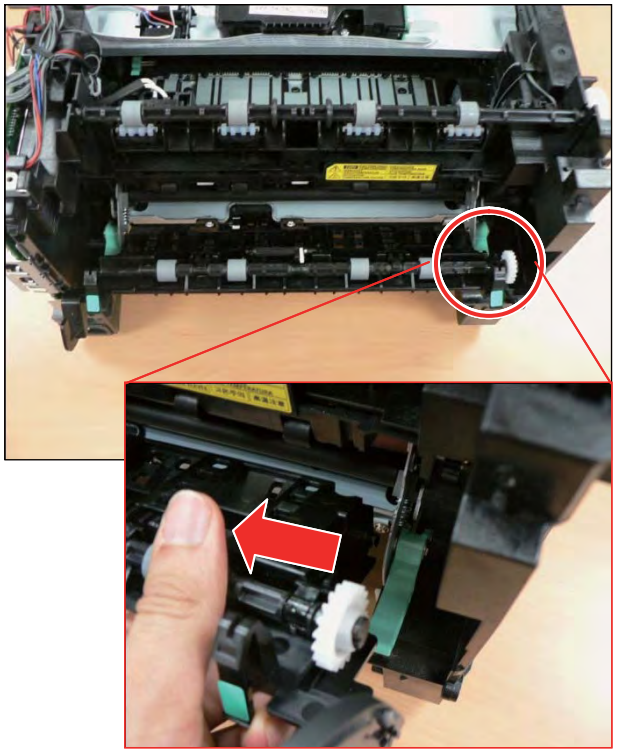
3.3.10 Fuser unit

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

1. Open the Frame-Rear by pushing both green points.



2. Remove the Frame-Rear by releasing both hooks.

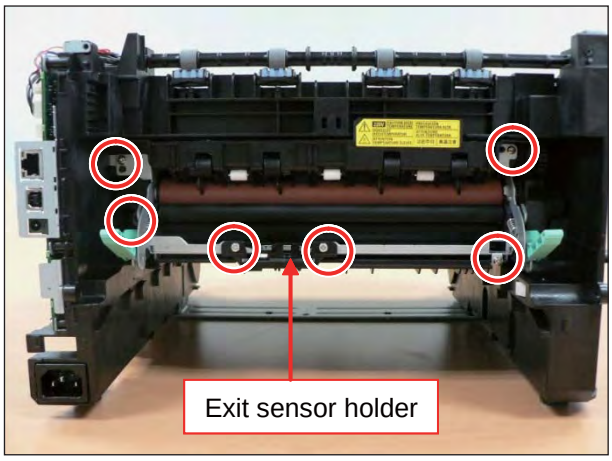


3. Remove the exit sensor holder after removing 2 screws.

4. Remove 4 screws.

CAUTION
When reassembling the fuser unit, do not forget to tighten these screws.

5. Release the fuser unit.



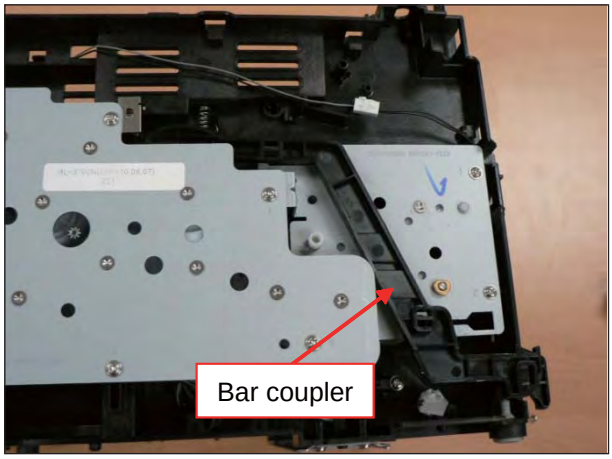
CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

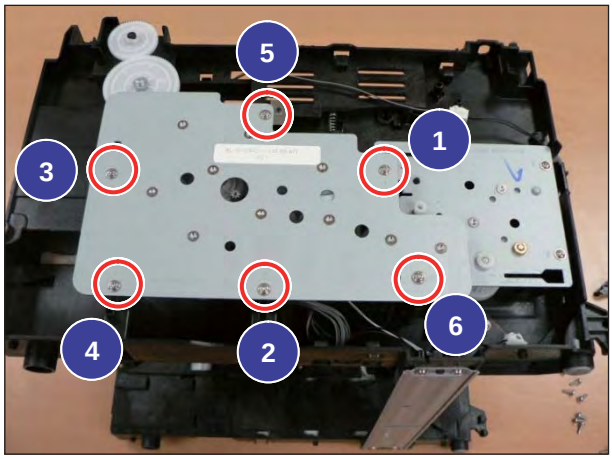
3.3.11 Main drive unit

1. Remove the left cover. (Refer to 3.3.1 Cover)

2. Remove the Bar coupler.



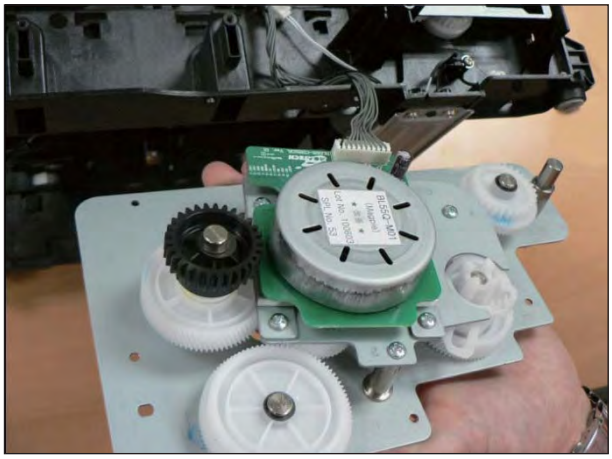
3. Remove the main drive unit after removing 6 screws.



NOTE
When reassembling the main drive unit, tighten 6 screws in order as shown above.

4. Unplug the connector from the main motor.

5. Release the main drive unit.



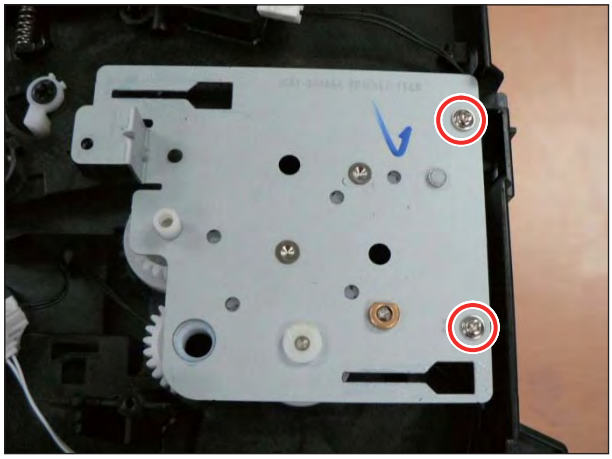
CÓPIA NÃO CONTROLADA

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3.3.12 Feed drive unit

1. Remove the main drive unit. (Refer to 3.3.11)

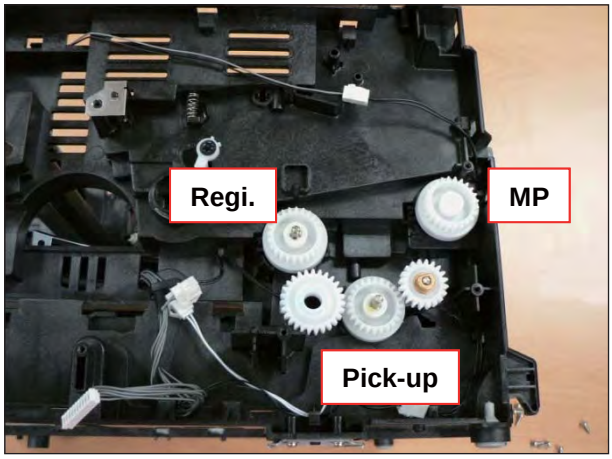
2. Release the feed drive unit after removing 2 screws.



3.3.13 Pick up/ Regi/ MP clutch

1. Remove the feed drive unit.

2. For the clutch to require replacement, unplug the connector then replace it.



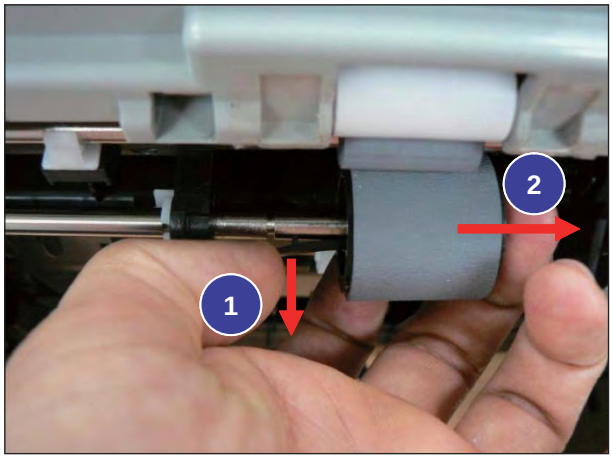
CÓPIA NÃO CONTROLADA

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3.3.14 Pick up roller

1. Remove the cassette and duplex unit.

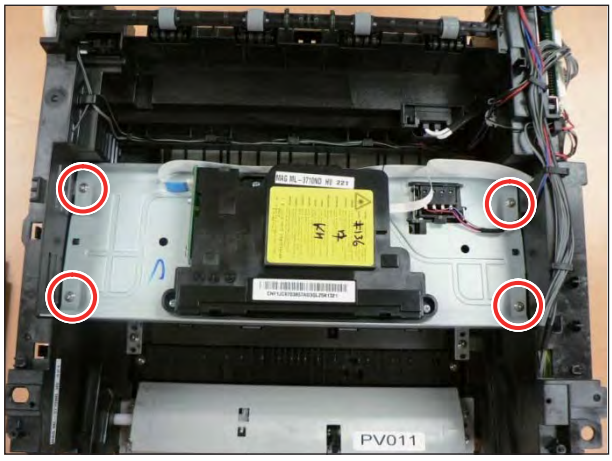
2. Pull the small tap down, then release the pick up roller.



3.3.15 Transfer roller

1. Remove the top cover.
   (Refer to 3.3.5 Middle Cover)

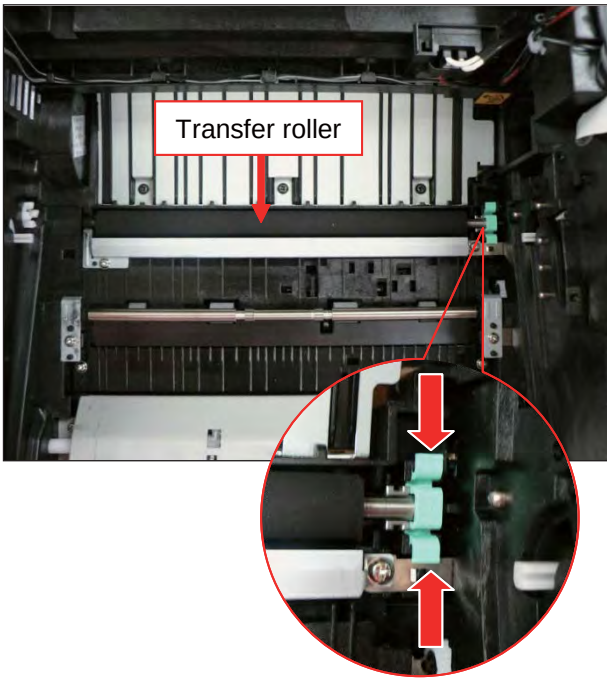
2. Release the LSU bracket after removing



4 screws.

3. Push the transfer roller holder to the center and release it.

4. Remove the transfer roller.



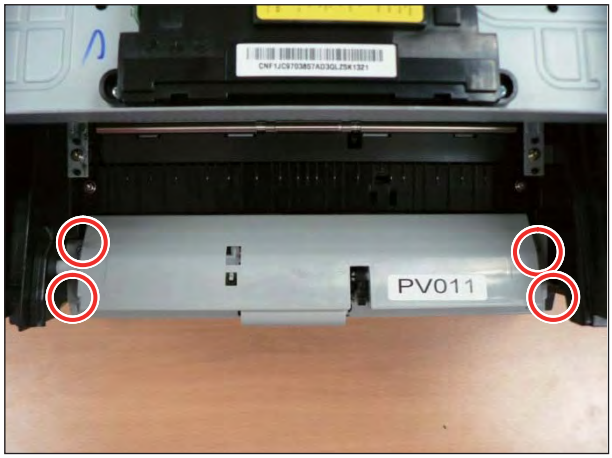
CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

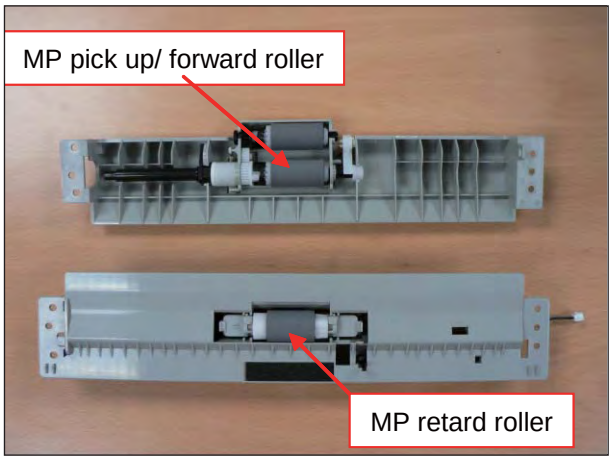
3.3.16 MP unit

1. Remove the front / middle / right cover.

2. Remove 4 screws.



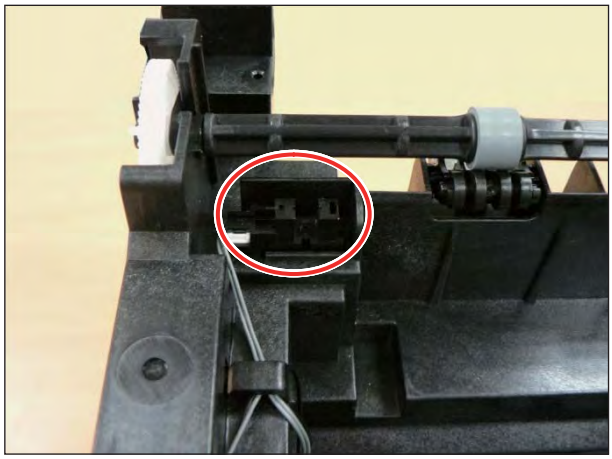
3. Separate the MP lower from the MP upper.



3.3.17 Bin-full sensor

1. Remove the top / left cover.

2. Release the bin-full sensor after unplugging the connector.



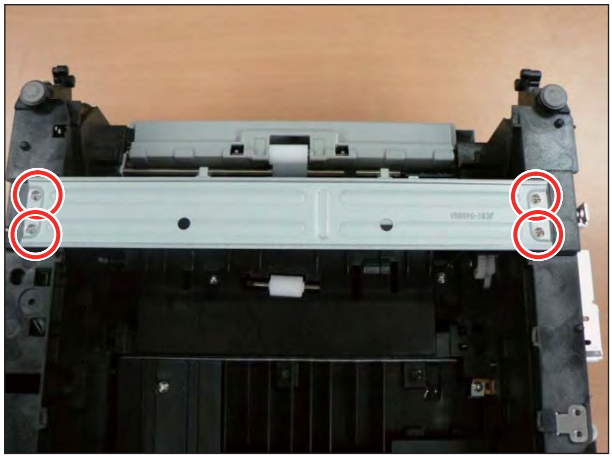
CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

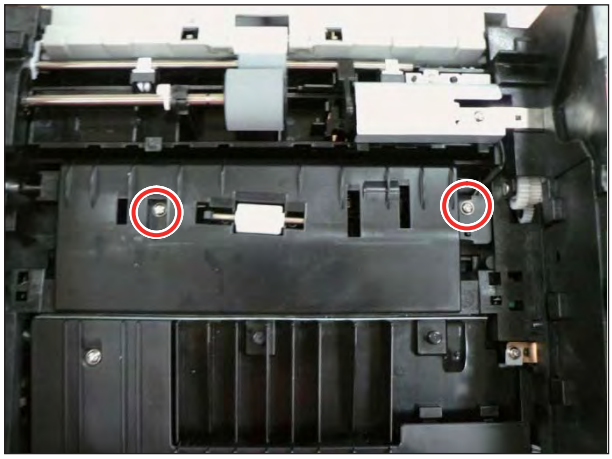
3.3.18 Regi. / Feed / Empty sensor

1. Remove the cassette and duplex unit.

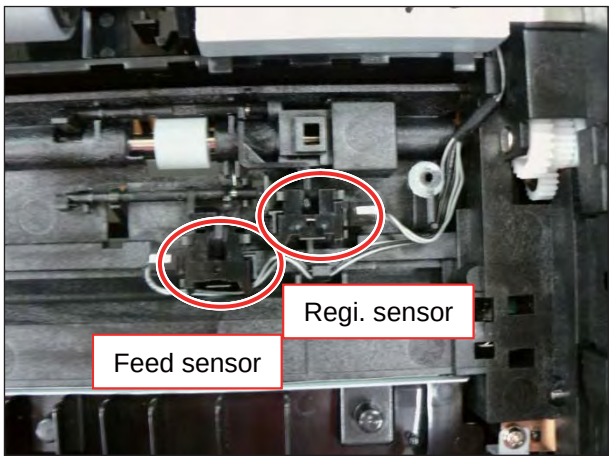
2. Remove the PLATE-FRAME BOTTOM after removing 4 screws.



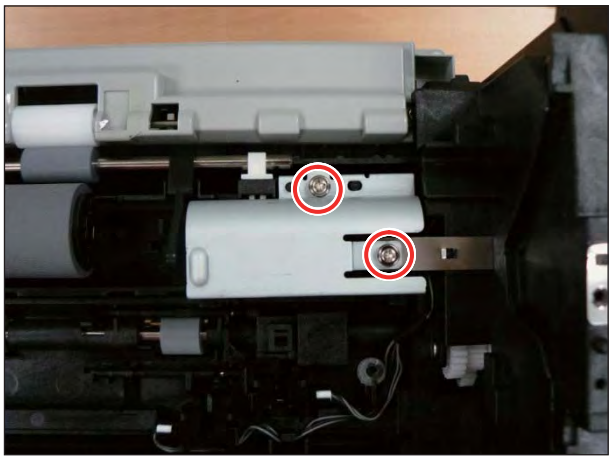
3. Remove the sensor cover after removing 2 screws.



4. For the sensor to require replacement, unplug the connector then replace it.



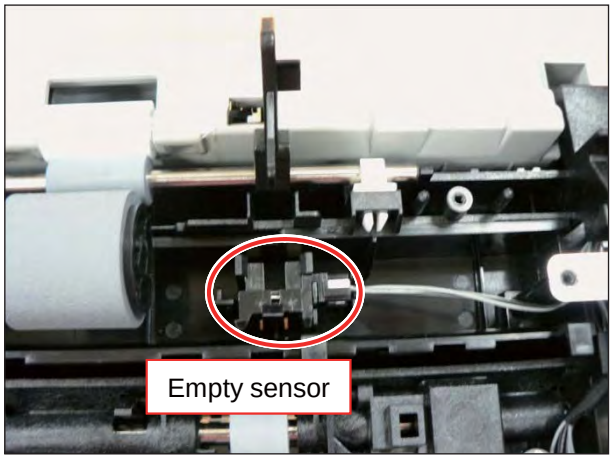
5. Remove the sensor cover after removing 2 screws.



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CÓPIA NÃO CONTROLADA

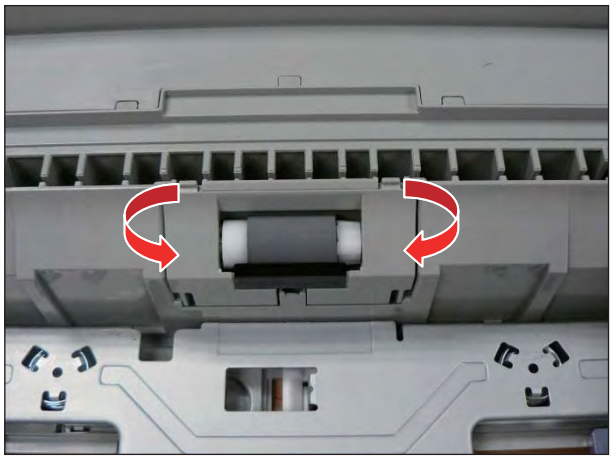
6. Unplug the connector then release the empty sensor.



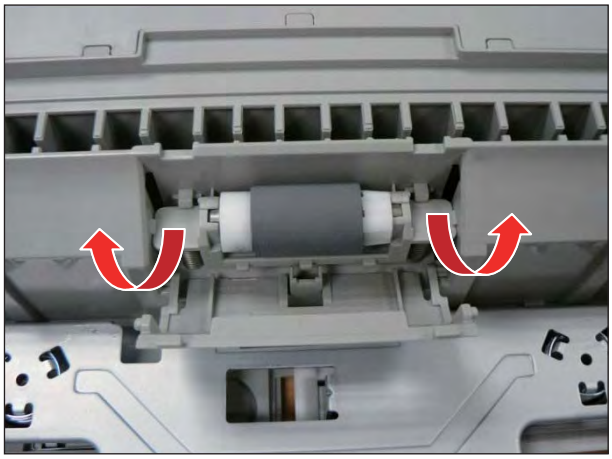
3.3.19 Cassette roller (Retard roller)

1. Remove the cassette.

2. Open the COVER-CASSETTE.



3. Release the Retard roller.



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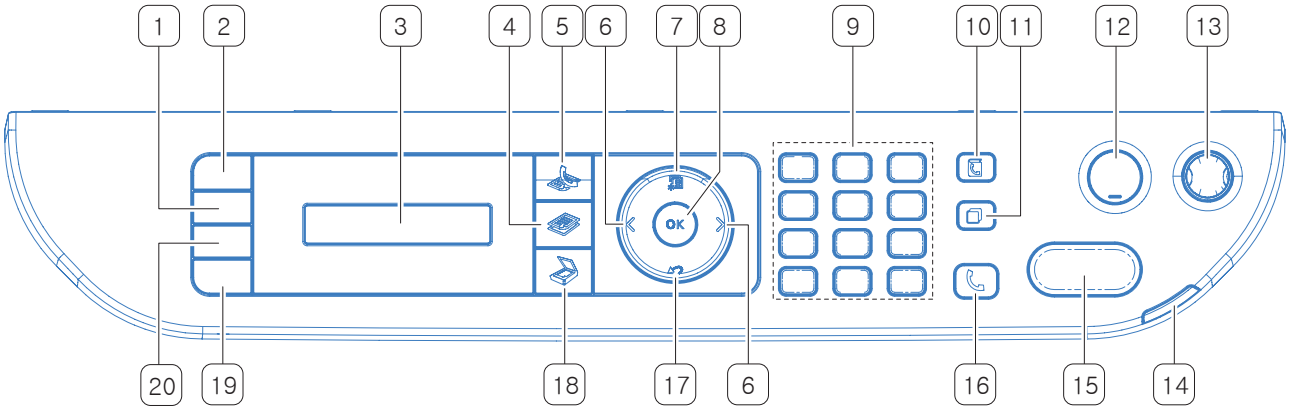
4. Alignment and Troubleshooting

4.1 Alignment and Adjustments

This chapter describes the main functions for service, such as the product maintenance method, the test output related to maintenance and repair, Jam removing method, and so on.
It includes the contents of manual.

4.1.1 Control Panel

■ Type A



1	**Darkness**	Adjusts the brightness level to make a copy for easier reading, when the original contains faint markings and dark images.
2	**ID Copy**	Allows you to coy both sides the ID card like a driver's license to a single side of paper.
3	**Display screen**	Shows the current status and prompts during an operation.
4	**Copy**	Activates Copy mode.
5	**Fax**	Activates Fax mode.
6	**Left/Right Arrows**	Scrolls through the options available in the selected menu and increases or decreases values.
7	**Menu**	Enters Menu mode and scrolls through the available menus.
8	**OK**	Con rms the selection on the screen.
9	**Numeric keypad**	Dials a number or enters alphanumeric characters.
10	**Address Book**	Allows you to store frequently used fax numbers and email addresses or search for stored fax numbers or email addresses.

CÓPIA NÃO CONTROLADA

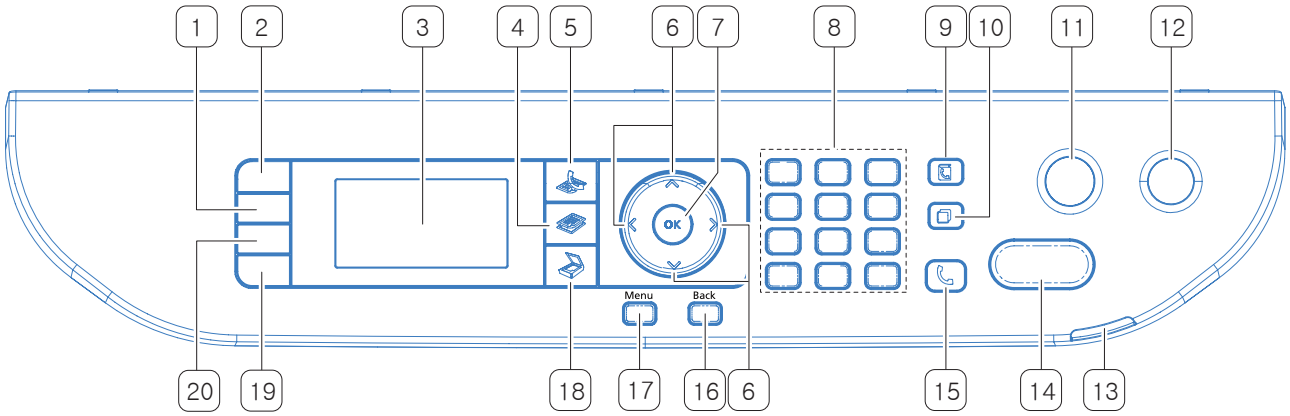
CÓPIA NÃO CONTROLADA

11	**Redial/Pause**	Redials the last number in ready mode, or inserts a pause into a fax number in Edit mode.
12	**Stop/Clear**	Stops an operations at any time.
13	**Power**	Turn the power on or off, or wake up the machine from the power save mode. Press this button until Power Down appears on the display and choose Yes to turn the power off. You can also turn the power on, or wake up the machine from power save mode by pressing this button.
14	**Status LED**	Shows the status of your machine.
15	**Start**	Starts a job.
16	**On Hook Dial**	When you press this button, you can hear a dial tone. Then enter a fax number. It is similar to making a call using speaker phone.
17	**Back**	Sends you back to the upper menu level.
18	**Scan**	Activates Scan mode.
19	**Eco**	Turn into eco mode to reduce toner consumption and paper usage.
20	**Direct USB**	Allows you to directly print les stored on a USB memory device when it is inserted into the USB port on the front of your machine.

CÓPIA NÃO CONTROLADA

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■ Type B



1	**Darkness**	Adjusts the brightness level to make a copy for easier reading, when the original contains faint markings and dark images.
2	**ID Copy**	Allows you to coy both sides the ID card like a driver's license to a single side of paper.
3	**Display screen**	Shows the current status and prompts during an operation.
4	**Copy**	Activates Copy mode.
5	**Fax**	Activates Fax mode.
6	**Arrows**	Scroll through the options available in the selected menu, and increase or decrease values.
7	**OK**	Con rms the selection on the screen.
8	**Numeric keypad**	Dials a number or enters alphanumeric characters.
9	**Address Book**	Allows you to store frequently used fax numbers and email addresses or search for stored fax numbers or email addresses.
10	**Redial/Pause**	Redials the last number in ready mode, or inserts a pause into a fax number in Edit mode.
11	**Stop/Clear**	Stops an operations at any time.
12	**Power**	Turn the power on or off, or wake up the machine from the power save mode. Press this button until Power Down appears on the display and choose Yes to turn the power off. You can also turn the power on, or wake up the machine from power save mode by pressing this button.
13	**Status LED**	Shows the status of your machine.
14	**Start**	Starts a job.
15	**On Hook Dial**	When you press this button, you can hear a dial tone. Then enter a fax number. It is similar to making a call using speaker phone.
16	**Back**	Sends you back to the upper menu level.

CÓPIA NÃO CONTROLADA

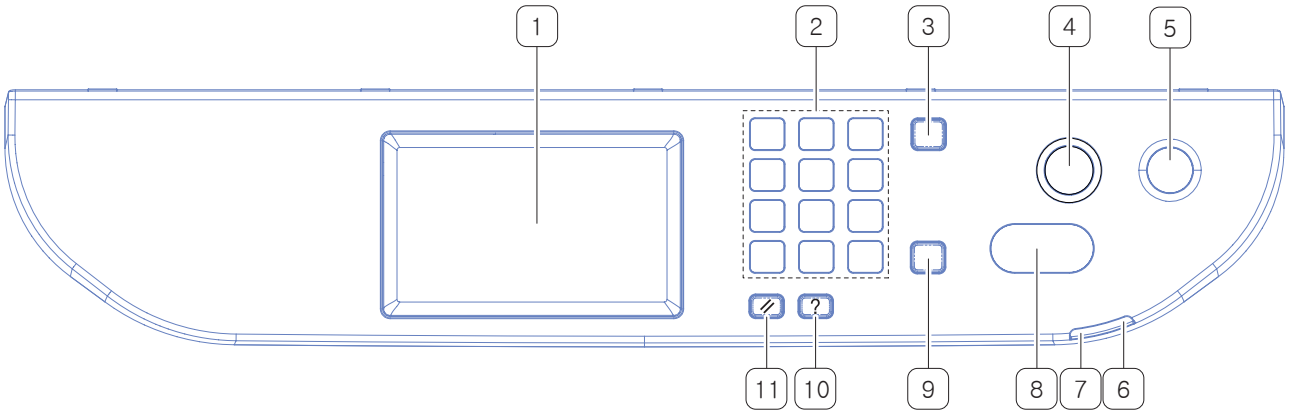
CÓPIA NÃO CONTROLADA

17	**Menu**	Enters Menu mode and scrolls through the available menus.
18	**Scan**	Activates Scan mode.
19	**Eco**	Turn into eco mode to reduce toner consumption and paper usage.
20	**Direct USB**	Allows you to directly print les stored on a USB memory device when it is inserted into the USB port on the front of your machine.

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■ Type C



1	**Display screen**	Shows the current status and prompts during an operation.
2	**Numeric keypad**	Dials a number or enters alphanumeric characters.
3	**Clear**	Deletes characters in the edit area.
4	**Stop**	Stops an operations at any time.
5	**Power**	Turn the power on or off, or wake up the machine from the power save mode. Press this button until Power Down appears on the display and choose Yes to turn the power off. You can also turn the power on, or wake up the machine from power save mode by pressing this button.
6	**WirelessLED**	Shows the current status of the wireless network connection.
7	**Status**	Shows the status of your machine.
8	**Start**	Starts a job.
9	**Log out**	Allows user to log out.
10	**Help**	Gives detailed information about this machine's menus or status.
11	**Reset**	Resets the current machine's setup.

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4.1.2 Understanding The Status LED

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

NOTE
• Some LEDs may not be available depending on model or country.
• To resolve the error, look at the error message and its instructions from the troubleshooting part.

STATUS			DESCRIPTION
Status LED	Off		• The machine is off-line.
	Green	Blinking	• When the backlight slowly blinks, the machine is receiving data from the computer. • When the backlight blinks rapidly, the machine is printing data.
		On	• The machine is on-line and can be used.
	Red	Blinking	• 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. For some models that does not support the display screen on the control panel, this feature is not applicable. • Small amount of toner is left in the cartridge. The estimated cartridge life of toner is close. Prepare a new cartridge for replacement. You may temporarily increase the printing quality by redistributing the toner
		On	• A toner cartridge has almost reached its estimated cartridge life[a]. • The cover is opened. Close the cover. • There is no paper in the tray. Load paper in the tray. • The machine has stopped due to a major error.
Wireless LED[b]	Blue	On	When the machine is connected to a wireless network, Wireless LED lights on blue.

a. 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, graphics, 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.
b. Wireless model only

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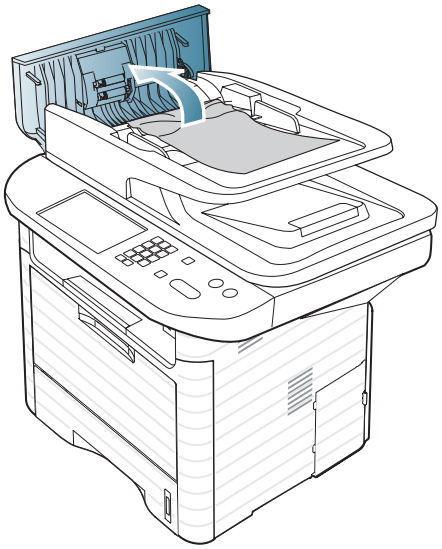
4.1.3 JAM Removal

4.1.3.1 Clearing original document jams

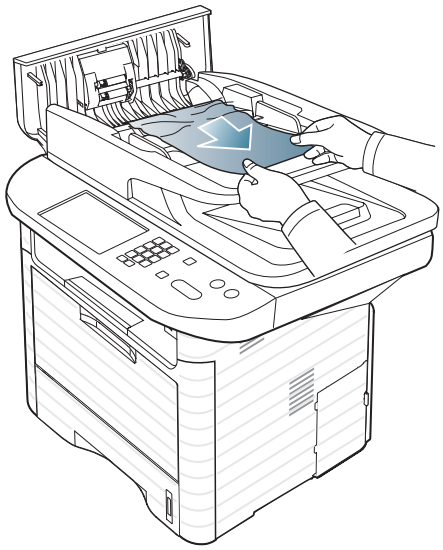
To avoid tearing the document, remove the jammed document slowly and carefully.

Original paper jam in front of scanner

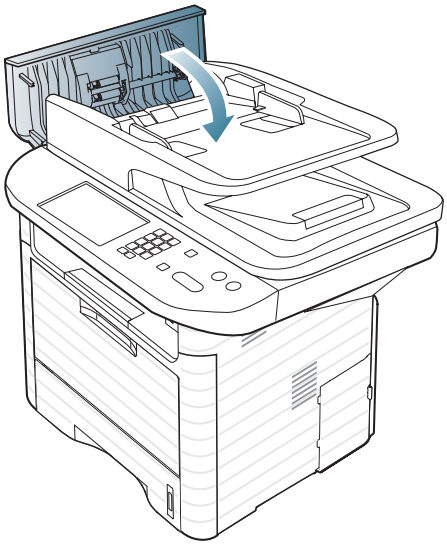
1. Remove any remaining pages from the document feeder.
2. Open the document feeder cover.



3. Gently remove the jammed paper from the document feeder.



4. Close the document feeder cover.



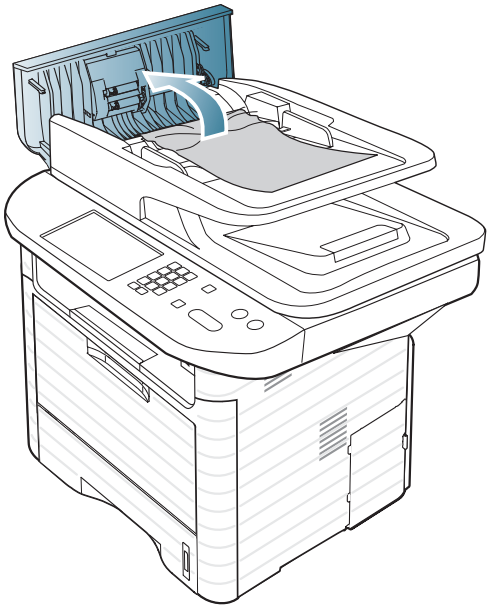
CÓPIA NÃO CONTROLADA

CÓPIA NÃO CONTROLADA

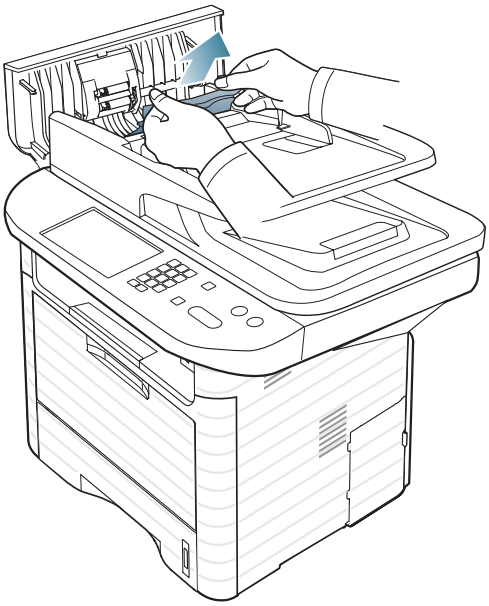
Original paper jam inside of scanner

1. Remove any remaining pages from the document feeder.

2. Open the document feeder cover.

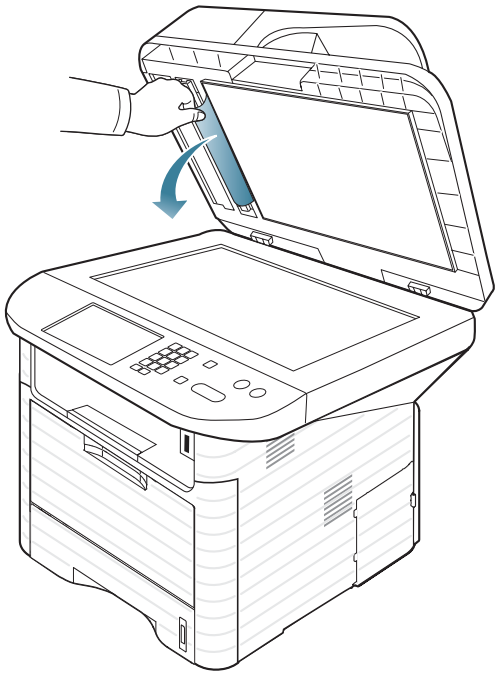


3. Gently remove the jammed paper from the document feeder.

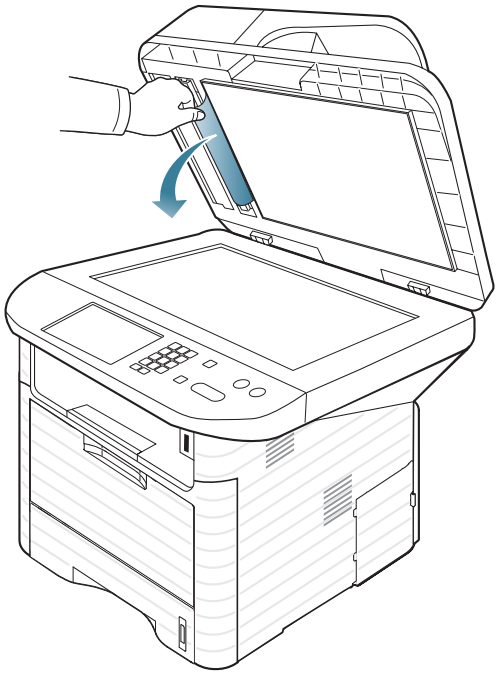


If you see no paper in this area, go to next step.

4. Open the document feeder.



5. Grasp the misfeed paper, and remove the paper from the feed area by carefully pulling it.



6. Close the document feeder.

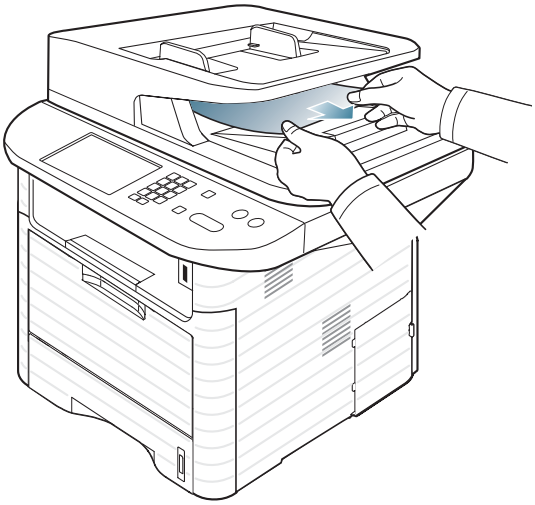
CÓPIA NÃO CONTROLADA

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Original paper jam in exit area of scanner

1. Remove any remaining pages from the document feeder.

2. Gently remove the jammed paper from the document feeder.

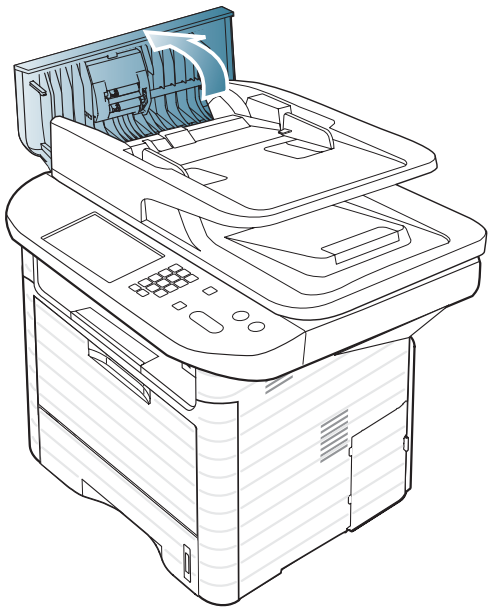


Original paper jam in scanner duplex path

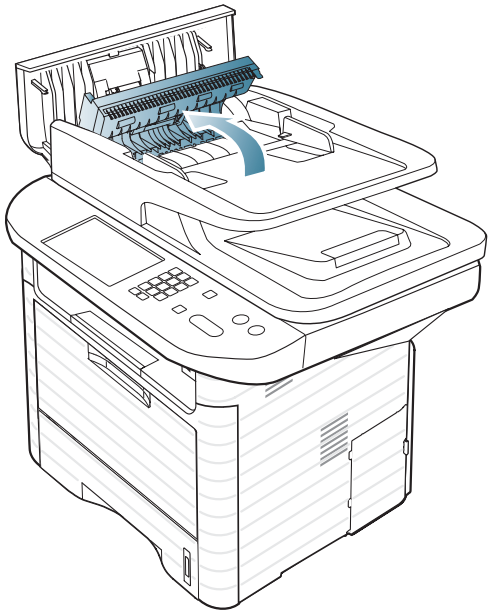
NOTE - For SCX-4833FR, SCX-4835FR, SCX-563x Series and SCX-573x Series.

1. Remove any remaining pages from the document feeder.

2. Open the document feeder cover.



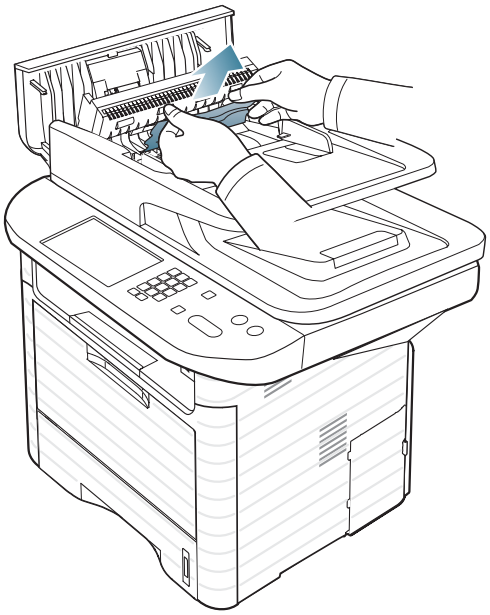
3. Open the duplex jam cover.



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4. Pull the jammed paper gently out of the document feeder.

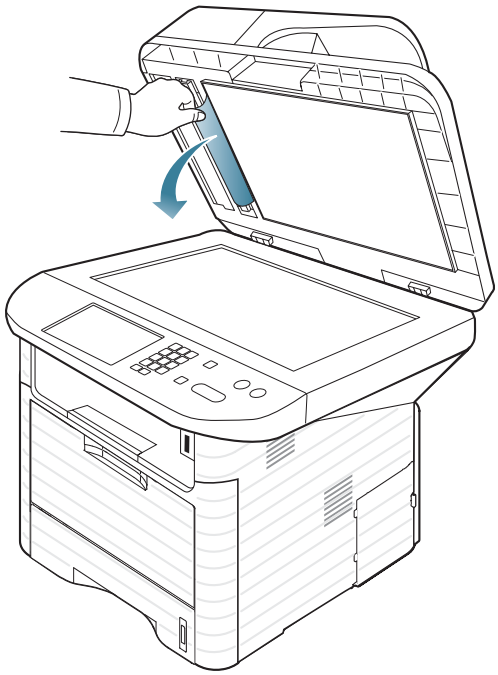


Close the duplex jam cover and the document feeder cover. If you do not see paper in this area, go to the next step.

5. Open the document feeder.



6. Grasp the misfeed paper, and remove the paper from the feed area by carefully pulling it.



7. Close the document feeder.

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4.1.3.2 Clearing paper jams

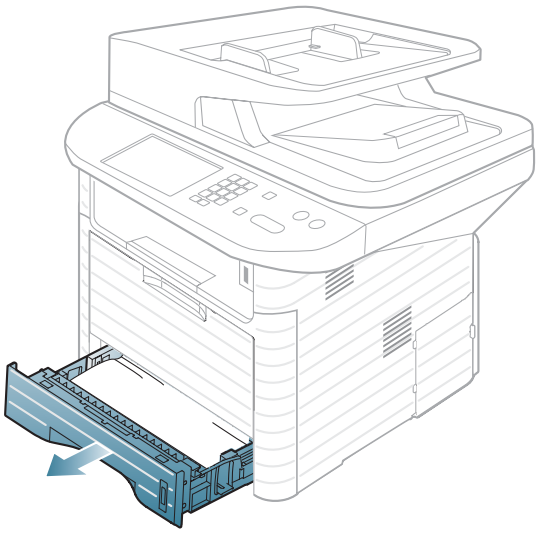
To avoid tearing the paper, pull the jammed paper out slowly and gently.

In tray1

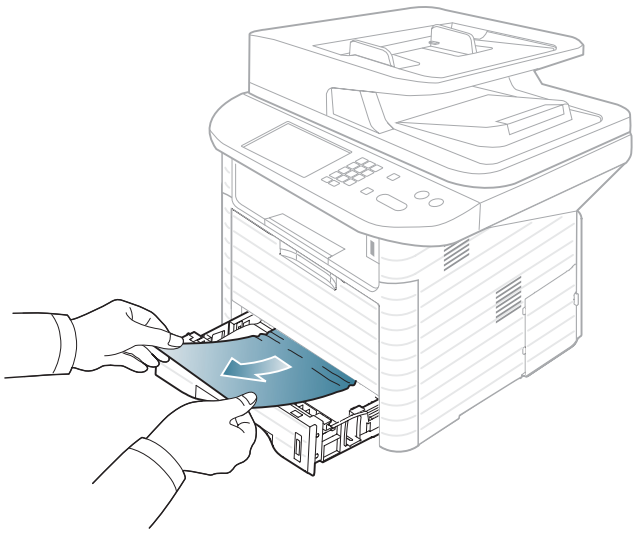
1. Open and close the front cover. The jammed paper is automatically ejected from the machine.

   If the paper does not exit, go to the next step.

2. Pull out tray1.



3. Remove the jammed paper by gently pulling it straight out.



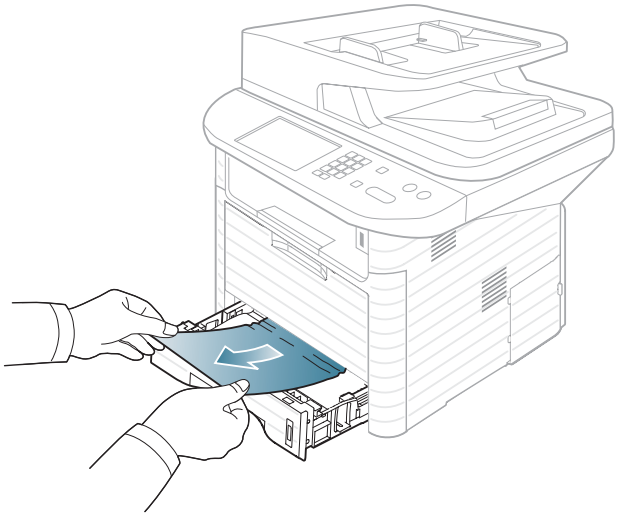
If the paper does not move when you pull, or if you do not see the paper in this area, check the fuser area around the toner cartridge.

4. Insert tray 1 back into the machine until it snaps into place. Printing automatically resumes.

In optional tray2

1. Pull out optional tray 2.

2. Remove the jammed paper from the machine.



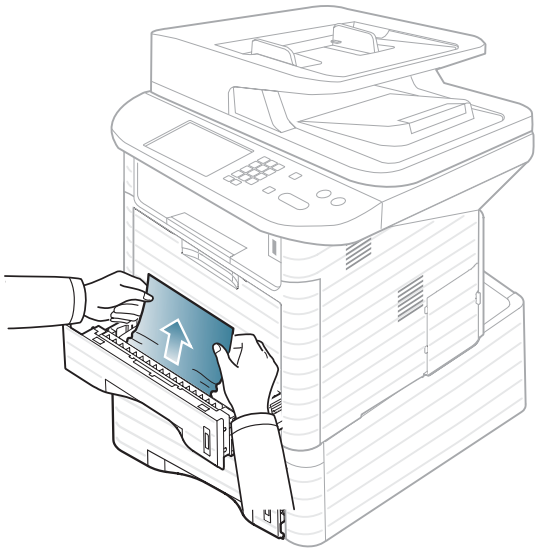
If the paper does not move when you pull or if you do not see the paper in this area, stop and go to the next step.

3. Pull tray1 half-way out.

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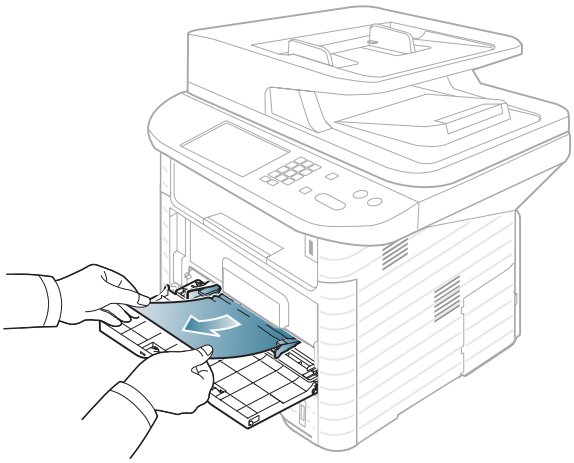
4. Pull the paper straight up and out.



5. Insert the trays back into the machine. Printing automatically resumes.

In the multi-purpose tray

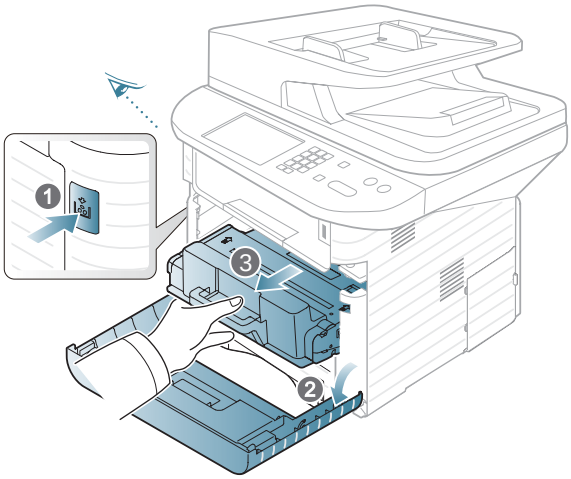
1. If the paper is not feeding properly, pull the paper out of the machine.



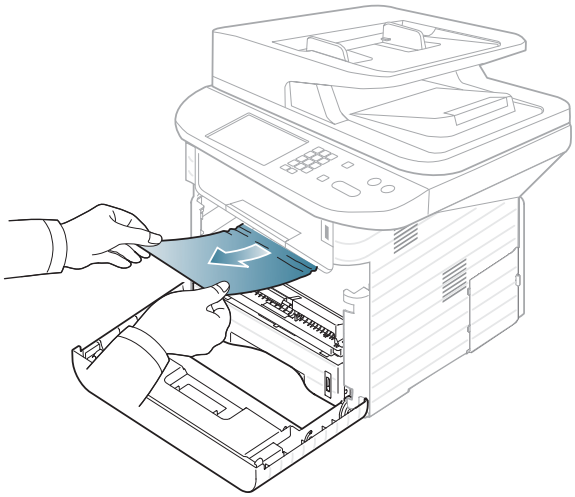
2. Open and close the front cover to resume printing.

Inside the machine

1. Open the front cover and pull the toner cartridge out.



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



3. Replace the toner cartridge and close the front cover. Printing automatically resumes.

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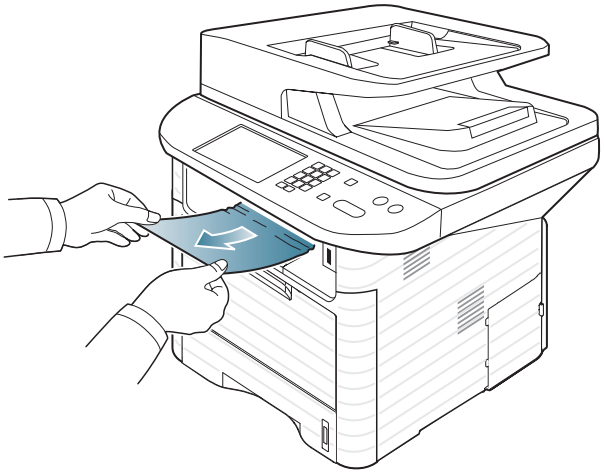
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In the exit area

1. Open and close the front cover. The jammed paper is automatically ejected from the machine.

   If you do not see the jammed paper, go to the next step.

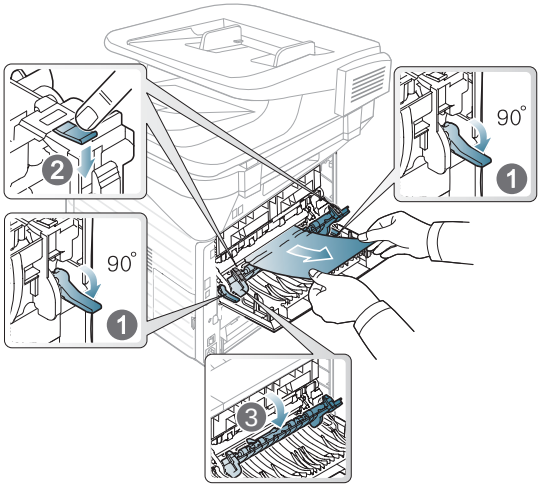
2. Gently pull the paper out of the output tray.



If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

3. Open the rear cover.

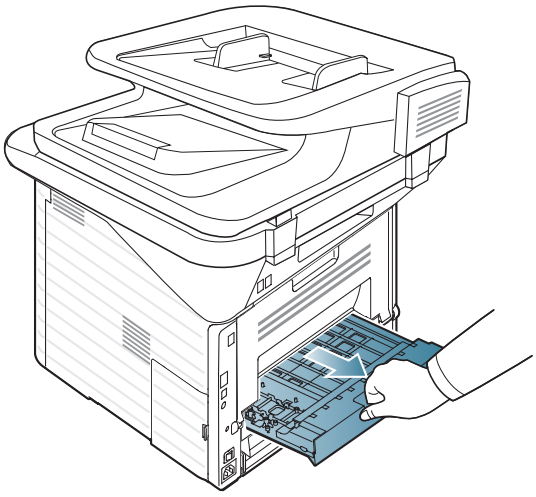
4. Remove the jammed paper as shown in the following gure.



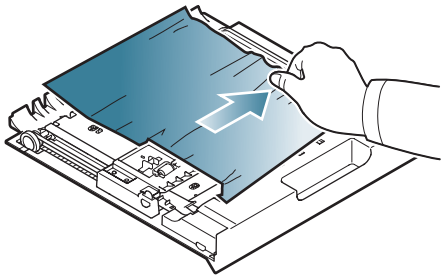
5. Close the rear cover. Printing automatically resumes.

In the duplex unit area

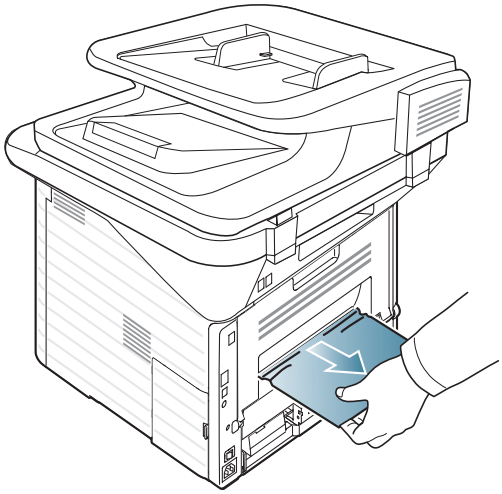
1. Pull the duplex unit out of the machine.



2. Remove the jammed paper from the duplex unit.



If the paper does not come out with the duplex unit, remove the paper from the bottom of the machine.

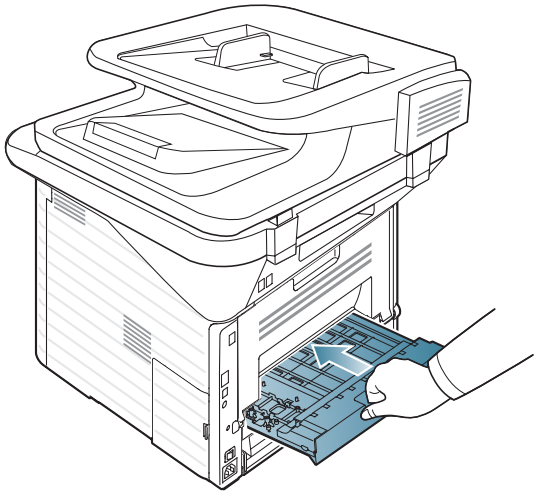


If you still do not see the paper, go to the next step.

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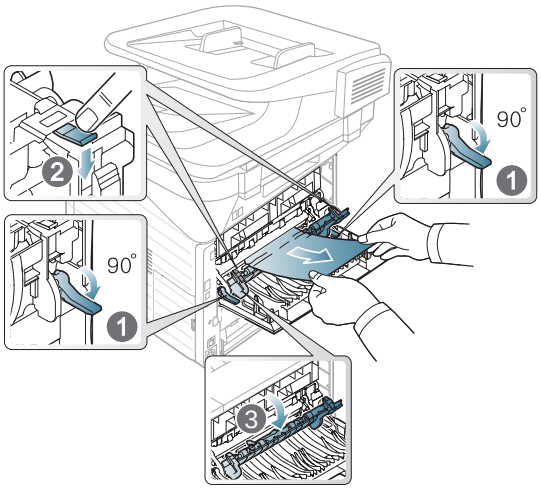
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3. Insert the duplex unit into the machine.



4. Open the rear cover.

5. Remove the jammed paper as shown in the following gure.



6. Return the fuser door and the lever to their original position.

7 Close the rear cover. Printing automatically resumes.

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4.1.4 Useful menu item for service

a) Monitoring the supplies life.

If you experience frequent paper jams or printing problems, check the number of pages the machine has printed or scanned. Replace the corresponding parts, if necessary.

NOTE - Accessing menus may differ from model to model

1. Select Menu > System Setup > Maintenance > Supplies Life on the control panel.

2. Select the option you want and press OK.
   - Supplies Info: Prints the supply information page.
   - Total: Displays the total number of pages printed.
   - ADF Scan: Displays the number of pages printed by using the document feeder.
   - Platen Scan: Displays the number of pages scanned by using scanner glass.

3 Press (Stop/Clear) to return to ready mode.

b) Printing a report

This product provides several printable reports for maintenance purposes.
These reports can be used to aid the diagnosis of print quality problems.

■ Configuration report (Menu > System Setup > Report > Configuration)
You can print a report on the machine's overall con guration. It shows various SW version and current machine setting status.

■ Supplies Information report (Menu > System Setup > Report > Supplies Info.)
You can print supplies' information page. It shows consumable unit life status and toner using status.

■ Usage Counter (Menu > System Setup > Report > Usage Counter)
You can print a usage page. The usage page contains the total number of pages printed.

c) Maintenance menu

This menu allows you to maintain your machine. (Menu > System setup > Maintenance)

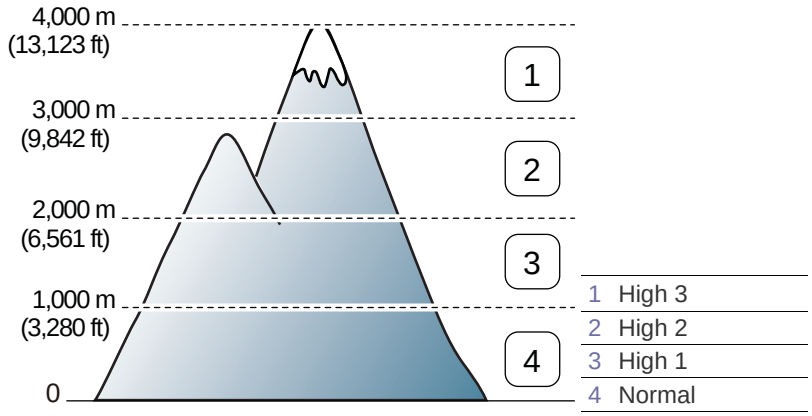
- CLR Empty Msg. : This option appears only when toner cartridge is empty.
- Supplies Info. : This item allows you to check how many pages are printed and how much toner are left in the cartridge.
- TonerLow Alert : If toner in the cartridge has run out, a message informing user to change the toner cartridge appears. You can set the option for this message to appear or not.

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d) Altitude adjustment

The print quality is affected by atmospheric pressure, which is determined by the height of the machine above sea level. The following information will guide you on how to set your machine to the best print quality or best quality of print.
Before you set the altitude value, determine the altitude where you are.



1. Ensure that you have installed the printer driver with the provided Printer Software CD.

2. Double-click the **Smart Panel** icon on the Noti cation Area in Linux. You can also click **Smart Panel** on the status bar in Mac OS X.
   For Windows user, select **Start** > **Programs or All Programs** > **Samsung Printers** > **Samsung Easy Printer Manager**.

3. Click **Printer Setting**.
   If your machine is connected to the network, you can set the altitude via SyncThru™ Web Service.

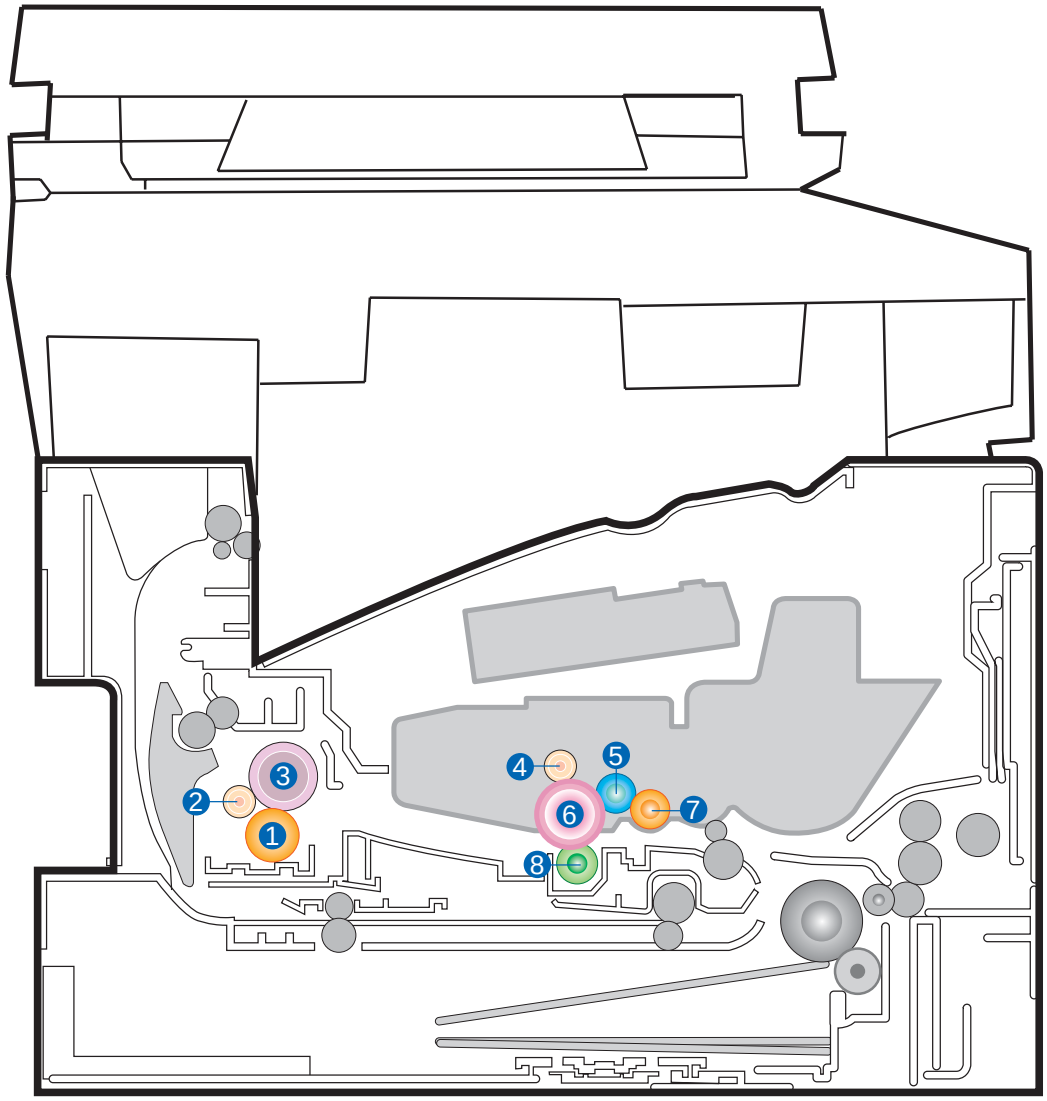
4. Click **Setting** > **Altitude Adjustment**. Select the appropriate value from the drop-down list, and then click **Apply**.
   You can also set the altitude in **System Setup** > **Altitude Adj**. option on the machine's display.

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4.1.5 Periodic Defective Image

If an image defects appears at regular intervals on the printed-paper, it is due to a faulty or damaged roller. Refer to the table below and check the condition of the appropriate roller.



No	Roller Description	Band Period (mm)	Phenomenon	Defective part
1	1st Pressure roller	62.8 mm	Background	Fuser unit
2	2nd Pressure roller	37.7 mm	Background	
3	Heat roller	77.8 mm	Black spot and fuser ghost	
4	Charge roller	26.7 mm	Black spot	Toner cartridge
5	Developer roller	36.78 mm	Horizontal band	
6	OPC drum	75.49 mm	White and Black spots	
7	Supply roller	69.57 mm	Horizontal band	
8	Transfer roller	47.1 mm	Ghost, Damaged image	

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4.1.6 Using the Samsung Easy Printer Manager program and Smart Panel

Samsung Easy Printer Manager and Smart Panel are a program that monitors and informs you of the machine status, and allows you to customize the machine's settings. These programs are installed automatically when you install the machine software.

To use this program, you need the following system requirements:

- Windows. Check for windows operating system(s) compatible with your machine.
- Mac OS X 10.3 or higher
- Linux. Check for Linux systems that are compatible with your machine.
- Internet Explorer version 5.0 or higher for ash animation in HTML Help.

If you need to know the exact model name of your machine, you can check the supplied software CD.

4.1.6.1 Using the Samsung Easy Printer Manager program (Windows only)

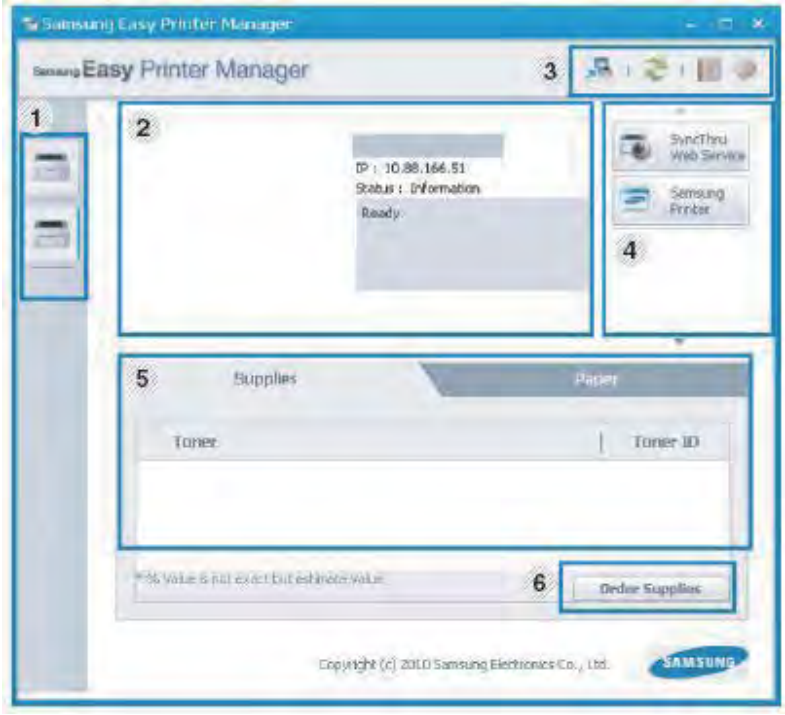
Samsung Easy Printer Manager is a Windows-based application that combines Samsung device settings into one location. Samsung Easy Printer Manager combines device settings as well as printing environments, settings/actions, launching applications, and so on. All of these features provide a gateway to conveniently use Samsung machine. Samsung Easy Printer Manager provides two different user interfaces for the user to choose from: the default user interface and the advanced settings user interface. Switching between the two interfaces is easy: just click a button.

Understanding Samsung Easy Printer Manager program

This interface is intended to be used by general device users in a small business or small home of ce environment.

For Windows user, select Start > Programs or All Programs > Samsung Printers > Samsung Easy Printer Manager.

The Samsung Easy Printer Manager interface is comprised of various basic sections as described in the table that follows.



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1	**Printer List**	The Printer List displays icons corresponding to discovered network or local printers' error status.
2	**Printer Information**	This area gives you general information about your machine. You can check information, such as the machine's model name, IP address (or Port name), and machine status. Troubleshooting button: This button opens Troubleshooting Guide when an error occurs. You can directly open the necessary section in the user's guide.
3	**Application information**	Includes links for changing to the advanced settings, preference, help, and about.
4	**Quick links**	Displays Quick links to machine speci c functions. This section also includes links to applications in the advanced settings. If you connect your machine to a network, the SyncThru™ Web Service window appears.
5	**Contents Area**	Displays information about the selected machine, remaining toner level and paper. The information will vary based on the machine selected. Some machines do not have this feature.
6	**Order Supplies**	Click on the Order button from the supply ordering window. You can order replacement toner cartridge(s) from online.

Click the Help button from the upper-right corner of the window and click on any option you want to know about.

4.1.6.2 Using the Smart Panel program (Macintosh and Linux only)

Smart Panel is a program that monitors and informs you of the machine's status, and allows you to customize the machine's settings. For Macintosh, Smart Panel is installed automatically when you install the machine software. For Linux, you can download Smart Panel from the Samsung website.

Smart Panel overview



1	**Toner Level**	You can view the level of toner remaining in each toner cartridge. The machine and the number of toner cartridge(s) shown in the above window may differ depending on the machine in use. Some machines do not have this feature.
2	**Buy Now**	You can order replacement toner cartridge(s) from online.
3	**User's Guide**	You can view the online User's Guide.
4	**Printer Setting**	You can con gure various machine settings in the Printer Settings Utility window. Some machines do not have this feature.

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4.1.7 Updating Firmware

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

• Update the rmware by using the USB port.
• Update the rmware by using the network.

4.1.7.1 Update the firmware by using the USB port

[Upgrading preparations]

- usblist2.exe : Tool which sends rmware data to printer.
- Firmware le to upgrade

[Upgrade Procedure]

1. Turn the machine off.

2. Connect USB cable to printer.

3. Turn the machine on. Check if the printer is the ready status.

4. Drag the rmware le and Drop down on the usblist2.exe.
   And then rmware update will be started automatically.

5. When upgrading is completed, machine is automatically re-booting.

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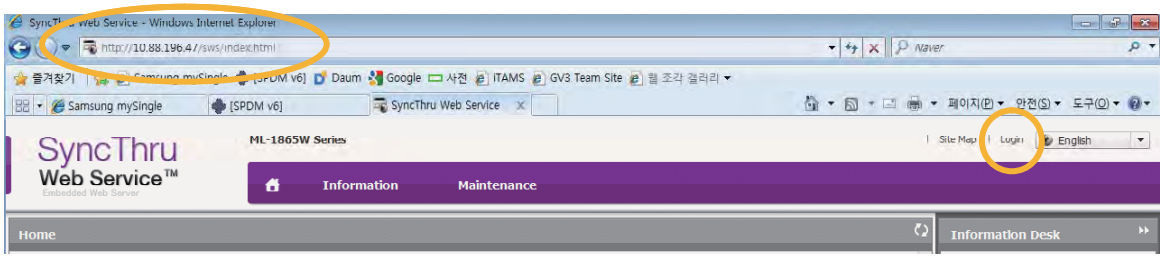
4.1.7.2 Update the firmware by using the network

[Upgrading preparations]

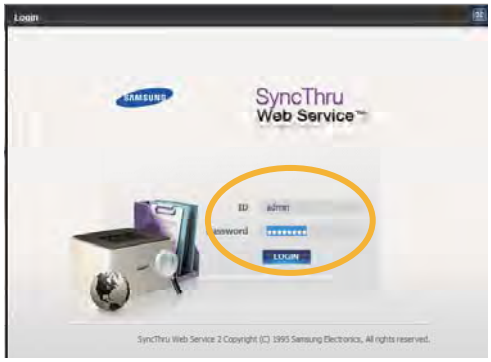
- Wired or Wireless Network connection is established
- Firmware le to upgrade

[Upgrade Procedure]

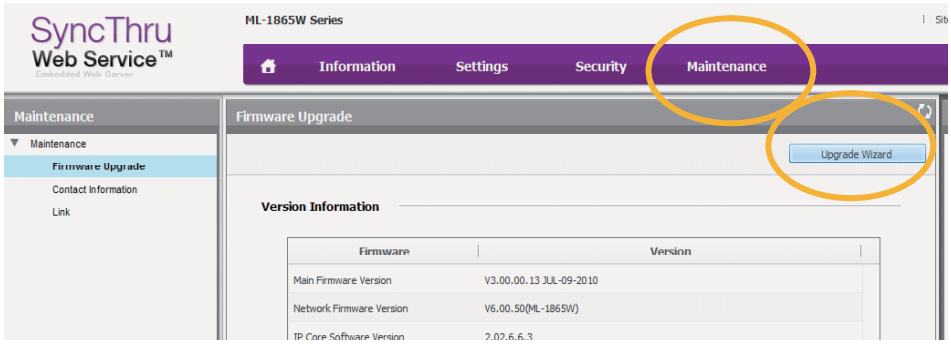
1. Open Web-browser and input IP address of machine. Click “Login”.



2. Log-in Admin Mode
   ID: admin, PW: sec00000



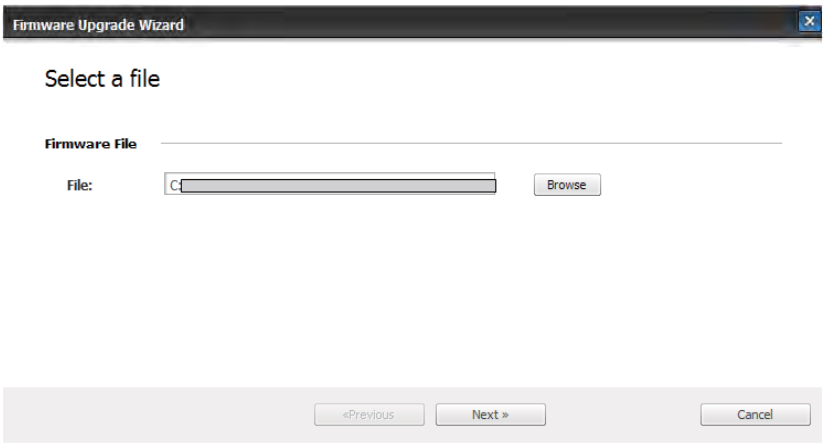
3. Select Maintenance menu and click “upgrade wizard”



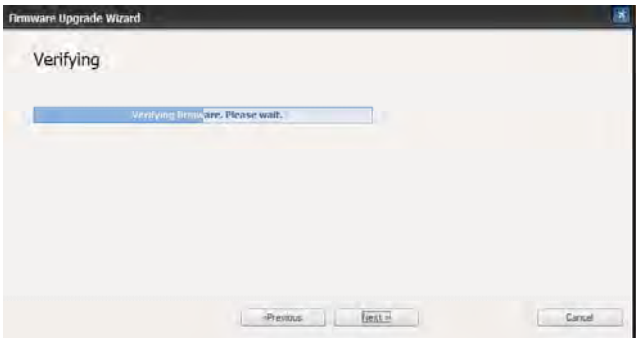
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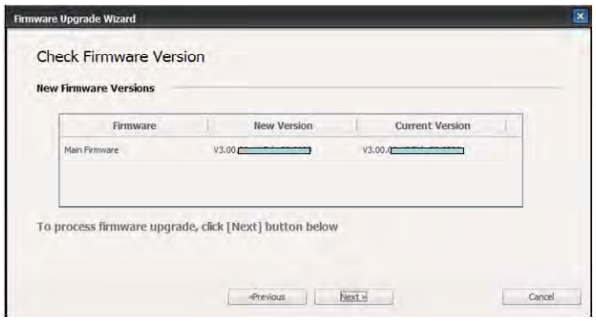
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4. Select rmware le using “browser” button and press next button.

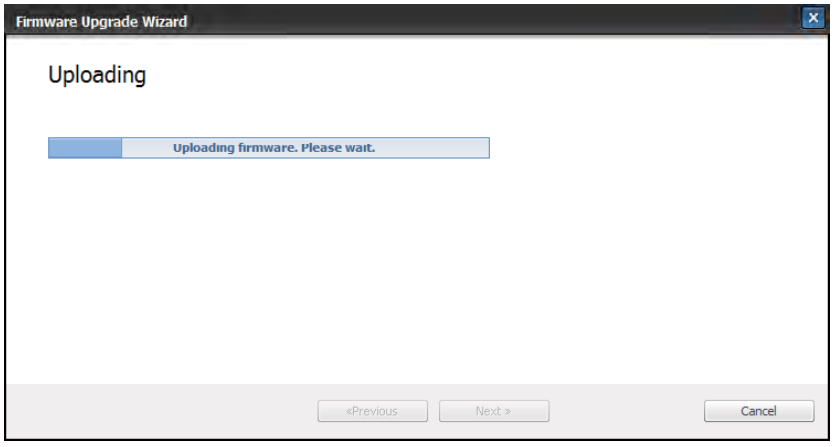


5. SyncThru will check verify rmware le and compare version and press next button.





6. Machine starts upgrading. SyncThru will return home page after upgrading is completed.



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4.1.8 Tech Mode

4.1.8.1 Entering the Tech Mode

In service (tech) mode, the technician can check the machine and perform various test to isolate the cause of a malfunction. While in Tech mode, the machine still performs all normal operations.

To enter the Tech Mode

*** SCX-5737FW (GUI model)**

To enter the service mode, press 1,2,3 number keys simultaneously. When the password dialog box appears, enter “1934” and press the “OK” button.

*** SCX-483x/563x series (LCD model)**

To enter the Tech Mode, press “ Menu + # + 1 + 9 + 3 + 4 ” in sequence

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4.1.8.2 Tech Mode Menu

NOTE - Some menu items may not appear on the display depending on the options or models.

Depth 1	Depth 2	Depth 3	Depth 4
Data Setup	Send Level	-9~-15	-12
	DTMF Level	[Hi]=xx,[Lo]=xx	
	Pause Time	0~9	
	Dial Mode	Tone,Pulse	Tone
	Modem Speed	33.6, 28.8, 14.4, 12.0, 9.6, 4.8	33.6
	Error Rate	5%, 10%	10%
	Clear All Mem.		
	Toner Low Level	[1-30]% : 10	
	Clear Counts	Enter Passcode [????]	Total Page CNT
			FLT Scan CNT
			ADF Scan CNT
	Engine Footer	On	
		Off	
	HDD Format		
	Dial Tone	On	
		Off	
Machine Test	Switch Test	REDUCE_PANEL	
		COMPLETE_PANEL	
	Test Param Set		
	Modem Test		
	Dram Test		
	Rom Test		
	Pattern Test		
	Shading Test	Shading&Print	
		Print	
	EDC Mode		
	Restart Machine		
Report	All Reports		
	Protocol		
	Supplies Info		
	Con guration		
	Error Info		
	Usage Counter		
	ComponentCheck		
	Service Support		

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4.1.8.3 Tech Mode Menu description

1) Data Setup

Send Level
You can set the level of the transmission signal. Typically, the Tx level should be under -12 dBm.
Caution : The Send Fax Level is set at the best condition in the shipment from factory. Never change settingsarbitrarily.

DTMF Level
This is a setting value of the High level tone and low level tone at DTMF mode. (Not dial mode)

Pause Time
It shows the delay time when receving the pause input at auto dial.

Dial Mode
This function can choose dial method.
*Default : Dial(Dial/Pulse)

Modem Speed
You can set the maximum modem speed.Communication is done with modem speed automatically set at lower speed when communicating with a slower speed modem since communication is done on the standard of the side where modem speed is low for transmission/reception. It is best set 33.6Kbps as default setting.

Error Rate
When the error rate is about exceed the set value, the Baud rate automatically adjusts to 2400 bps. This ensures that the error rate remains below the set value.You can select the rate between 5% and 10%.

Clear All Memory
The function resets the system to factory default settings.This function is used to reset the system to the initial value when the product is functioning abnor-mally . All the values are returned to the default values, and all the information, which was set by the user, will be erased.
NOTICE : Always perform a memory clear after replacing the main board. Otherwise, the system may not operate properly.

Toner Low Level
The function is to set up the time to inform toner low status. This function can provide user convenience for replacing the toner cartridge.

Clear Count
This function resets Total Page Count, Flatbed Scan Count, ADF Scan Count.

Engine Footer
This function is for monitoring of the engine status. If you perform this function, at printing, the setting value for engine is shown on the bottom of the printed page.

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2) Machine Test

Switch Test
Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

Test Param Set (Handset Model only)
You can set the parmeter for handset standard.
Caution : The parameter value is set at the best condition in the shipment from factory.

Modem Test
Use this feature to hear various transmission signals to the telephone line from the modem and tocheck the modem. If no transmission signal sound is heard, it means the modem part of the mainboard malfunctioned.

Dram Test
Use this feature to test the machine's DRAM. The result appears in the LCD display.If all memory is working normally, the LCD shows << O K >>ROM TEST
Use this feature to test the machine'S ROM. The result and the software version appear in the LCD display.
• FLASH VER : 1.00 V
• ENGINE VER :1.00V

Pattern Test
Using this pattern printout, you can check if the printer mechanism is functioning properly.It is needed in the production progress. Service person doesn't need to use it.

Shading Test
The function is to get the optimum scan quality by the speci c character of the CIS (Contact Image Sensor). If the copy image quality is poor, perform this function
to check the condition CIS unit.

EDC
There are 3 sub item in this menu.
They are NVM Read/Write, NVM initial, Test Routines. Use this function to check the status of the components in the machine.

Restart Machine
You can reboot the machine by using a key without mechanic rebooting.

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• EDC Mode Menu

NVRAM Read/Write

This menu can change a con guration value for engine rmware.

Code	LCD	Meaning	Default	Max/Min
103-0040	0040-Pick Int Delay	Change time interval for paper pick-up	0	0~100(*100msec)
103-0050	0050-Pick Spl Delay	Change time interval for paper pick-up	0	0~100(*100msec)
105-0030	0030-MHV DC K	Charger HV Black DC Duty	720	50~900
106-0030	0030-Deve DC K	Deve DC Black	431	50~900
107-0030	0030-THV K	Transfer1 HV Black Duty	520	50~900
109-0000	0000-Ready Temp	Target Temperature during standby mode.	10	0~15
109-0010	0010-Print Temp	Target Temperature during run mode.	5	0~10
109-0030	0030-101-185mm Temp	Offset temperature required on thermistor B for paper width.	5	0~15
109-0040	0040-186-216mm Temp	Offset temperature required on thermistor B for paper width.	5	0~15
109-0050	0050-60gms Temp	Media type offset for fuser roll temperature.	5	0~15
109-0060	0060-90gms Temp	Media type offset for fuser roll temperature.	5	0~10
109-0070	0070-Bond Temp	Media type offset for fuser roll temperature.	5	0~10
109-0080	0080-Trans Temp	Media type offset for fuser roll temperature.	5	0~10
109-0090	0090-CardStock Temp	Media type offset for fuser roll temperature.	5	0~10
109-0100	0100-Envelopes Temp	Media type offset for fuser roll temperature.	5	0~10
109-0110	0110-Labels Temp	Media type offset for fuser roll temperature.	5	0~10
110-0070	0070-LD Power K	Black LD Power at Normal Speed	470	50~900

Test Routines

This menu can perform the operation test for the main components.

Code	LCD	Meaning	State Displayed	Related Components
100-0000	Main BLDC Motor	Main BLDC Motor is On/Off	On[Off]	Engine
100-0010	Main BLDC Motor Ready	Detect if Main BLDC Motor runs at normal speed	High[Low]	Engine
100-0260	SMPS Fan Run	Start/Stop Deve. Fan run	On[Off]	Engine
101-0000	Bypass Feed Clutch	Engages drive to pick up a paper from bypass Tray(MP Tray).	On[Off]	Engine
101-0010	T1 Pick-Up Clutch	Engages drive to pick up a paper from tray1.	On[Off]	Engine
101-0020	T2 Pick-Up Clutch	Engages drive to pick up a paper from tray2. (Optional)	On[Off]	Engine
101-0050	Registration Clutch	Engages drive to registartion rolls.	On[Off]	Engine
101-0190	Out-Bin Full Sensor	Detect when a paper is at Duplex Ready sensor.	High[Low]	Engine

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Code	LCD	Meaning	State Displayed	Related Components
102-0010	T1 Paper Empty Sensor	Detect when paper is in Tray1.	High[Low]	Engine
102-0080	T2 Paper Empty Sensor	Detect when paper is in tray2.	High[Low]	Engine
102-0280	Bypass Paper Empty Sensor	Detects when paper is in Bypass Tray(MP Tray).	High[Low]	Engine
102-0290	Feed Sensor	Detect when a paper is at Feed sensor.	High[Low]	Engine
102-0300	T2 Feed Sensor (or Door Open)	Detect when a paper is at T2 Feed sensor. (optional)	High[Low]	Engine
102-0360	Regi. Sensor	Detect when a paper is at Regi. sensor.	High[Low]	Engine
102-0370	Exit Sensor	Detect when a paper is at Exit. sensor.	High[Low]	Engine
105-0030	Black MHV Bias	Black MHV bias voltage on at normal drive level	On[Off]	Engine
106-0030	Black Dev Bias	Black Dev bias voltage on at normal drive level	On[Off]	Engine
107-0030	Black THV Bias	Black THV bias voltage on at normal drive level	On[Off]	Engine
107-0031	Black THV(-) Bias	Black THV bias voltage on at normal drive level	On[Off]	Engine
107-0070	Black THV Bias Read	Detect what the THV value is on the THV Roller	Numeric 3 digits	Engine
109-0000	Fuser Temperature A	Detects what the temperature A is on fuser.	Numeric 3 digits	Engine
109-0040	Fuser Fan Run	Fuser Fan Motor On/Off	On[Off]	Engine
109-0050	Fuser Bias	Fuser bias voltage on at normal drive level	On[Off]	Engine
110-0000	LSU Motor1 Run Ready	Detects if LSU motor1 runs at normal speed.	High[Low]	Engine
110-0060	LSU Motor1 Run	LSU Motor1 On/Off	On[Off]	Engine
110-0110	LSU LD Power4	LSU LD4 Power On/Off (black)	On[Off]	Engine

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3) Report

All Report
You can print all report at the same time.

Protocol
Protocol list shows the sequence of the CCITTgroup 3 T.30 protocol during the most recent sending or receivingoperation. Use this list to check for send and receive errors.

Supplies info
Supplies Information Report shows toner cartridge information such as toner remaining, toner capacity, toner product date etc.

Configuration
Con guration report shows the status of the user-selectable options. You may print this list to con rm your changes after changing settings. This page provides useful information for service.

Error Info
Error Information Report shows error records.

Usage page
Usage page report shows usage page counts since service date. It shows total counts of the simplex print and dupex print.

Component Check
Component Check Report shows the operation procedure of the machine test in tech mode.

Service Support
Customer Assistance Report shows the country setting procedure, F/W upgrade procedure, printing a Test pattern page.

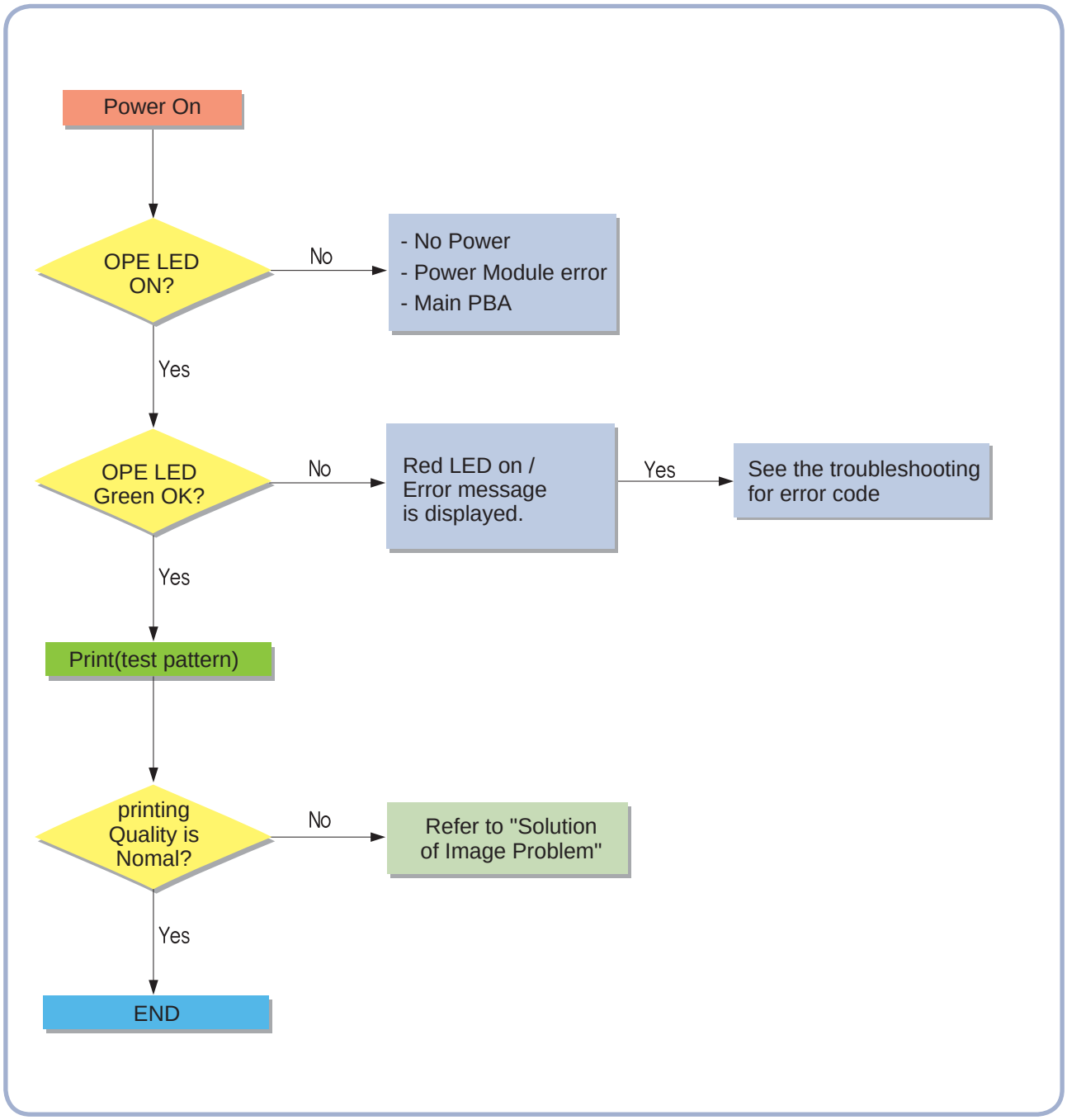
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4.2 Troubleshooting

4.2.1 Procedure of Checking the Symptoms

Before attempting to repair the printer rst obtain a detailed description of the problem from the customer.



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4.2.1.1 Basic Check List

1. Check the Power.

• Check that the power switch is turned on.
• Check that the power cable is plugged into the outlet and the printer.
• Check the voltage of the power outlet.

2. Check the LED of Panel.

• Is there OPE LED ON?
--> If not check power cable, switch SMPS or Main board.

• Is the abnormal Lamp?
--> Check the main PBA and cable harness.

3. Check the Paper Path

• Is there a Paper Jam?
--> Remove any paper fragments caught in the paper path.

• Paper Jam occurs repeatedly at a speci c point in the Paper Path
--> Open the fuser cover, Jam clear.
--> Dismantle the machine and carefully inspect the region where the jam occurs.
(Especially, check if paper fragments are caught in the Fuser

4. Print the Information Page (Configuration).

• Try printing a test page from a computer.
--> If there is an error check cables and driver installation.

5. Check the Print Quality.

• Is there are a Print Quality Problem?
--> Refer to the image quality problem.

6. Check consumables (toner etc.).

• Using the keys print the Test Pattern.
--> Expected life of various consumable parts, compare this with the gures printed and replace as required

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4.2.1.2 Initial Inspection

1. Check Power part

1. The printer does not work no matter how long you wait.
   A. Is the Power Switch (printer and wall socket) turned on ?
   B. Is the Power Cord connected to the printer correctly ?
   C. Is the Power cord connected to the wall socket correctly ?
   D. Is wall socket working ?
   E. Is the unit rated at the same voltage as the supply ?
2. Does the Fan work when power is turned on?
   A. Check the connectors on the SMPS.
   B. Check the fuses in the SMPS.

2. Check the Installation Environment.

1. Ensure the installation surface is at, level and free from vibration.
   If necessary move the printer.
2. Ensure that the temperature and humidity of the surroundings are within speci cation
   If necessary move the printer.
3. Ensure that the printer is position away from any air conditioning or other heating or cooling equipment.
   Also ensure that is not positioned in a direct draft from any air conditioning, fan or open window.
   If necessary move the printer.
4. Ensure the printer is not positioned in direct sunlight.
   If it is unavoidable use a curtain to shade the printer.
5. Ensure the printer is installed in a clean dust free environment.
   Move the printer to clean area if necessary.
6. Some industrial or cleaning processes give of fumes which can affect the printer.
   Move the printer away from this type of air pollution as it may leave chemical lm on optics.

3. Check paper type.

1. Use only paper which is of a suitable quality, weight and size?
   See the user guide.

4. Check the overall condition of the printer

1. Is the printer properly maintained ?
   Clean the Paper Transport Passages.
   Any rollers with dirt surfaces should be cleaned or replaced.

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4.2.2 Error Message and Troubleshooting

Messages appear on the control panel display to indicate the machine's status or errors. Refer to the tables below to understand the messages' and their meaning, and correct the problem, if necessary.

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

Error Code	Error Message	Troubleshooting Page
A1-1110	Error #A1-1110: Turn off then on.	4-35 page
C1-1110 C1-1120	Prepare new cartridge Replace new cartridge	4-36 page
C1-1410 C1-1411	Install toner cartridge.	4-36 page
C1-1512	Not Compatible Toner cartridge.	4-37 page
H1-1210	Paper jam in Tray2.	4-37 page
H1-1222	Pulled Out Tray2 Cassette.	4-37 page
H1-1252	Paper is empty in Tray2.	4-38 page
M1-1010 M1-1110	Paper Jam in Tray1.	4-38 page
M1-1210	Paper Jam in Tray2.	4-38 page
M1-1610	Paper Jam in MP tray.	4-39 page
M1-2210	Tray2 Door Open. Close it.	4-39 page
M1-3221	Not installed Tray2	4-39 page
M1-5112	Paper is empty in tray 1.	4-40 page
M1-5212	Paper is empty in tray 2.	4-38 page
M1-5612	Paper Empty in MP Tray.	4-41 page
M2-1110	Paper Jam inside machine.	4-42 page
M2-2310	Paper Jam bottom of duplex.	4-43 page
M3-1110	Paper Jam in exit area.	4-43 page
M3-2130	Output bin full. Remove paper.	4-44 page
S1-2411	Error #S1-2411 Turn off then on.	4-45 page
S2-4110	Door open. Close it.	4-45 page
S3-3121	Scanner Locked.	4-46 page
S4-2111 S4-2112	Memory Full. Remove Job.	4-46 page
S6-3123	Network Problem: IP Con ict.	4-46 page
S6-3128	802.1x Network Error.	4-47 page
U1-2320	Error #U1-2320 Turn off then on.	4-47 page
U1-2330	Error #U1-2330 Turn off then on.	4-48 page

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Error Code	Error Message	Troubleshooting Page
U1-2340 U1-2341	Error #U1-2340 Turn off then on. Error #U1-2341 Turn off then on.	4-48 page
U2-1111 U2-1113	Error #U2-1111 Turn off then on. Error #U2-1113 Turn off then on.	4-49 page
U3-3113 U3-3114	Document jam. Remove jam	4-50 page
U3-3213 U3-3313 U3-3314	Document jam. Remove jam	4-50 page
U3-4110	Door of scanner is open.	4-50 page

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● Code	● Error message
A1-1110	Error #A1-1110: Turn off then on.

● Symptom / Cause

After working the main BLDC motor, the Ready signal has not occurred within 1 sec.

1. Harness is defective. Connector is not connected properly.
2. OPC coupler in the toner cartridge has overloaded.
3. Main BLDC motor is defective.
4. Engine board is defective.

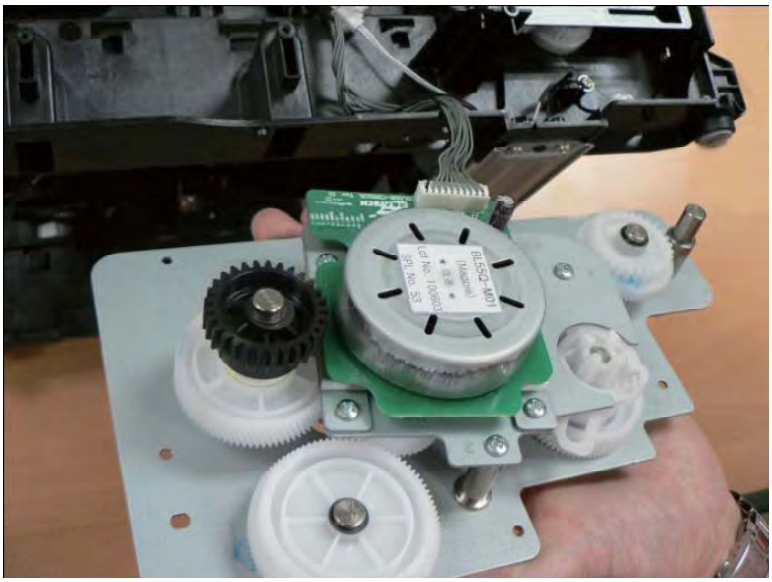
● Troubleshooting method :

※First, turn the machine off then on. If the error persists, refer to the following.

1. Check if the motor connector is connected properly. Reconnect it.

2. OPC coupler has overloaded.
   After removing the toner cartridge, rotate the OPC coupler. (Spec : 6 kgf.cm)
   If there is any damage, the OPC coupler can't rotate well.
   Replace the toner cartridge.

3. The main BLDC motor is defective.
   - Unplug the connector from the motor carefully.
   - Replace the main BLDC motor with new one.



4. If the problem persists, replace the main board.

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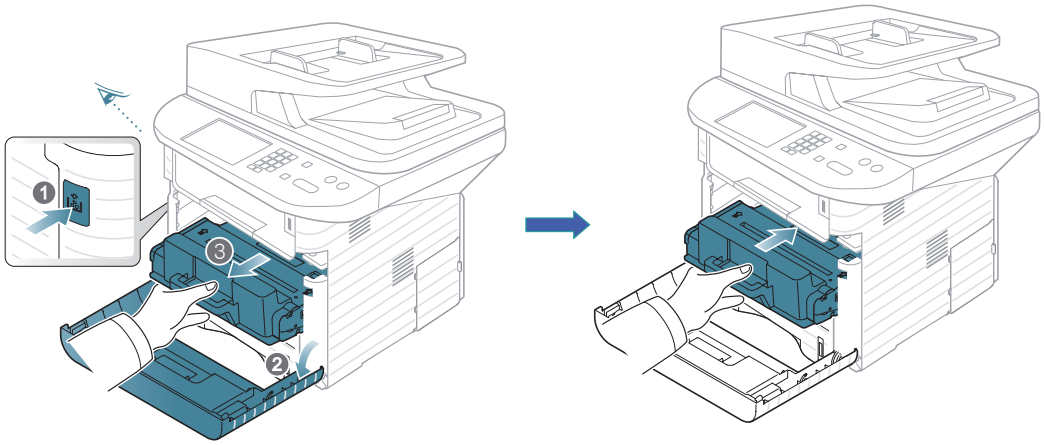
● Code	● Error message
C1-1110 / C1-1120	Prepare new cartridge / Replace new cartridge

● Symptom / Cause

The remaining toner cartridge is less than 10%
The toner cartridge is at the end of its life.

● Troubleshooting method

1. Print the supply information report. (Menu > System Setupr > Report > Supplies Info.)
   Check the life remaining of the toner cartridge.
   If its life is at the end, turn the machine off and replace the toner cartridge with new one.



● Code	● Error message
C1-1410 C1-1411	Install toner cartridge.

● Symptom / Cause

The toner cartridge is not installed.

● Troubleshooting method

1. Turn the machine off then on.

2. Remove the toner cartridge.
   Thoroughly roll the cartridge ve or six times to distribute the toner evenly inside the cartridge.
   And reinstall the toner cartridge.

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● Code	● Error message
C1-1512	Not Compatible Toner cartridge.

● Symptom / Cause

Toner cartridge is not compatible.

● Troubleshooting method

1. Print the supply information report. Check information of the toner cartridge.

2. If the toner cartridge is not a Samsung genuine toner cartridge, replace with new one.

● Code	● Error message
H1-1210	Paper jam in Tray2.

● Symptom / Cause

A paper jam was detected in the feed area of the tray2.

1. Paper was inserted abnormally or was not loaded in the cassette properly.
2. Pick Up unit has a problem.

● Troubleshooting method

1. Open the Tray2 and remove the jammed paper.

2. If there is any defective part in the pick up unit, replace it.

● Code	● Error message
H1-1222	Pulled Out Tray2 Cassette

● Symptom / Cause

The option tray is not inserted perfectly.

● Troubleshooting method

1. Remove and re-install the option tray.

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● Code	● Error message
H1-1252 M1-5212	Paper is empty in Tray2.

● Symptom / Cause

Paper is empty in Tray2. The status LED is red.

1. There is no paper in the tray2.
2. Actuator-Paper Empty is defective.
3. Photo Sensor is defective or connection is bad.
4. Main Board is defective.

● Troubleshooting method

1. Load the paper in the tray2.

2. If the Actuator-Paper Empty is defective, replace it.

3. If the Photo Sensor is defective, replace it. Check if the connector is connected properly.

4. If the problem persists, replace the Main Board.

● Code	● Error message
M1-1010 M1-1110 M1-1210	Paper Jam in Tray1. Paper Jam in Tray1. Paper Jam in Tray2.

● Symptom / Cause

The jammed paper has occurred in the tray1,2

1. Pick-Up or Torque Limiter Roller is contaminated or worn out.
2. There is some obstacles in the paper path.

● Troubleshooting method

1. Clear the jammed paper (refer to 4.1.3.2). If the problem persists, check the following.

2. While pushing the Paper Empty Sensor, send the printing data.
   Check if the pick up roller is rotating normally.
3. Check if there is any obstacles in the paper path (from Pick-Up to Feed Sensor).
   The feed roller should be especially checked.
4. Print out the Supplies Information. Check the Tray 1,2 Roller Life and Tray1,2 Torque Limiter Life.
   If the life came to the end, replace the relative roller.

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● Code	● Error message
M1-1610	Paper Jam in MP tray.

● Symptom / Cause

The jammed paper has occurred in the MP tray.

1. MP Pick-Up or MP Torque Limiter Roller is contaminated or worn out.
2. There is some obstacles in the paper path.

● Troubleshooting method

1. Clear the jammed paper. If the problem persists, check the following.

2. While pushing the Paper Empty Sensor, send the printing data.
   Check if the pick up roller is rotating normally.

3. Check if there is any obstacles in the paper path (from Pick-Up to Feed Sensor).
   The feed roller should be especially checked.

4. Print out the Supplies Information. Check the MP Tray Roller Life and MP Tray Torque Limiter Life.
   If the life came to the end, replace the relative roller or MP Unit.



● Code	● Error message
M1-2210 M1-3221	Tray2 Door Open. Close it. Not installed tray2.

● Symptom / Cause

The option tray is not inserted perfectly.

● Troubleshooting method

Remove and re-install the option tray.

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● Code	● Error message
M1-5112	Paper is empty in tray 1.

● Symptom / Cause

Paper is empty in Tray1. The status LED is red.

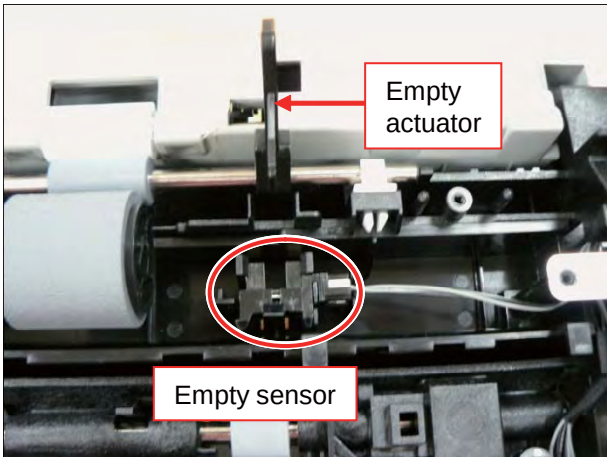
1. There is no paper in the tray1.
2. Actuator-Paper Empty is defective.
3. Photo Sensor is defective or connection is bad.
4. Main Board is defective.

● Troubleshooting method

1. Load the paper in the tray1.

2. If the Actuator-Paper Empty is defective, replace it.

3. If the Photo Sensor is defective, replace it. Check if the connector is connected properly.



4. If the problem persists, replace the Main Board.

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● Code	● Error message
M1-5612	Paper Empty in MP Tray.

● Symptom / Cause

Paper is empty in MP Tray. The status LED is red.

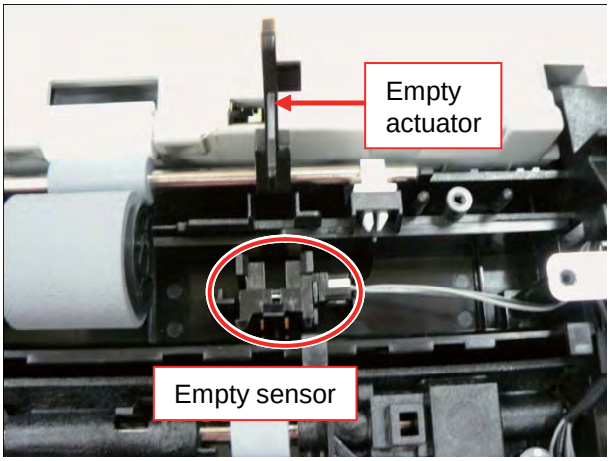
1. There is no paper in the MP tray.
2. Actuator-Paper Empty is defective.
3. Photo Sensor is defective or connection is bad.
4. Main Board is defective.

● Troubleshooting method

1. Load the paper in the MP tray.

2. If the Actuator-Paper Empty is defective, replace it.

3. If the Photo Sensor is defective, replace it. Check if the connector is connected properly.



4. If the problem persists, replace the Main Board.

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● Code	● Error message
M2-1110	Paper Jam inside machine.

● Symptom / Cause

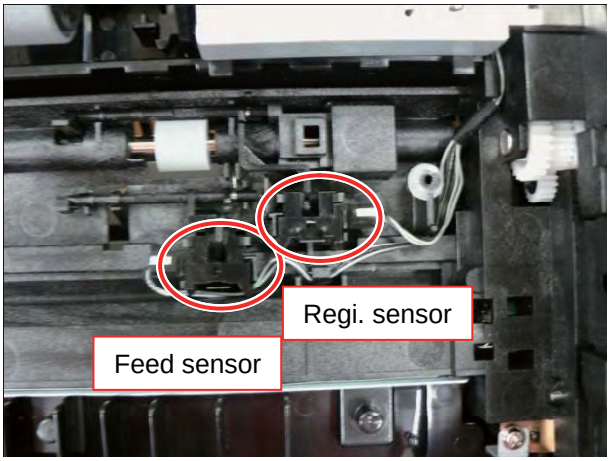
A paper jam was detected at the feed sensor.

1. The feed sensor is defective.
2. The Regi Roller was contaminated or worn out.
3. There is some obstacles in the paper path.
4. The driving for the toner cartridge has some problem.
5. The driving for the fuser unit has some problem.

● Troubleshooting method

1. Remove the jammed paper. If the error persists, check the followings.

2. Check if the feed sensor connector is connected properly.



3. Check if the Regi roller is contaminated or worn out. If yes, replace it.

4. Check if there is any obstacles or contamination in the paper path. If yes, clean or remove it.

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● Code	● Error message
M2-2310	Paper Jam bottom of duplex.

● Symptom / Cause

A paper jam was detected in the bottom of duplex.

1. There is some obstacles in the paper path.
2. The paper guide in the tray was not adjusted properly.
3. The exit sensor was not assembled properly.

● Troubleshooting method

1. Remove the jammed paper.

2. Remove the contamination or obstacles in the paper path.

3. Adjust the paper guide properly.

4. Check if the exit sensor is assembled properly. Reassemble it.

● Code	● Error message
M3-1110	Paper Jam in exit area.

● Symptom / Cause

A paper jam was detected in the exit area.

1. There is some obstacles in the paper path.

● Troubleshooting method

1. Remove the jammed paper.

2. Check if there is any obstacles or contamination in the paper path. If yes, clean or remove it.

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● Code	● Error message
M3-2130	Output bin full. Remove paper.

● Symptom / Cause

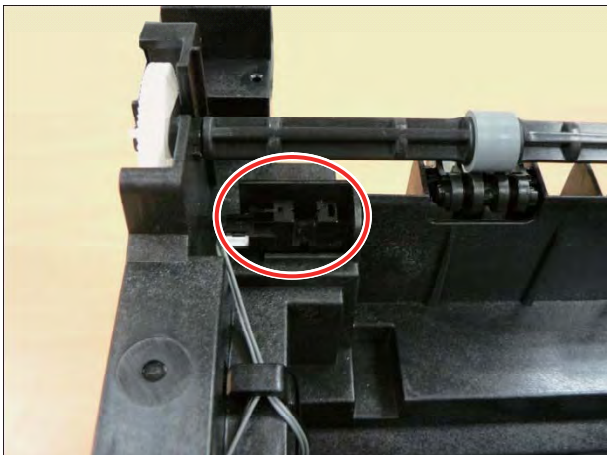
The machine detected that the output tray has got full or the bin-full sensor is defective.

1. Output tray is full.
2. Outbin full sensor connection is wrong.

● Troubleshooting method

1. Remove the paper on the output tray.
   (The maximum loading capacity is 150 sheets based on standard paper(80g/m2).)

2. Check if the Bin-full Sensor connector is connected properly.
   Reconnect it or replace the Bin-full sensor.



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● Code	● Error message
S1-2411	Error #S1-2411 Turn off then on.

● Symptom / Cause

A communication error failure has occurred at HDD of main controller.

● Troubleshooting method

1. Format the hard disk.
2. If the problem persists, replace the hard disk.

● Code	● Error message
S2-4110	Door open. Close it.

● Symptom / Cause

Door is open or the cover open switch is defective.
The status LED is red.

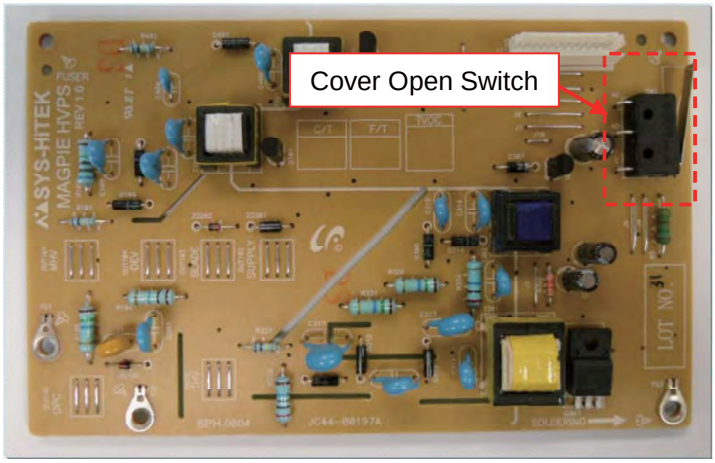
● Troubleshooting method

1. Check if the front door is closed perfectly.

2. Check if the rear door is closed perfectly.

3. Check if the connection between the main board and HVPS board is correct.

4. Check if the cover open switch on HVPS board is operated properly.
   If it is defective, replace the HVPS board.



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● Code	● Error message
S3-3121	Scanner Locked.

● Symptom / Cause

Scanner lock error has occurred. CIS does not move.

● Troubleshooting method

1. Check if the CIS unit is moving when power on.
2. Check if the at cable is connected to the CIS unit properly. Re-connect or replace the cable.
3. If the CIS is defective, replace it.
4. Check if there is any defective part in the scanner unit. (Gear, Belt, Motor etc.)
5. If the problem persists, replace the main board.

● Code	● Error message
S4-2111 S4-2112	Memory Full. Remove Job.

● Symptom / Cause

The fax memory is almost full.

● Troubleshooting method

Print or remove the received fax job in Secure Recieve.

● Code	● Error message
S6-3123	Network Problem: IP Con ict.

● Symptom / Cause

Network has some problem.
- IP address con icts with that of other system.
- Communication error
- There is no response when checking the ping test.

● Troubleshooting method

Change the machine's IP address.
- Set-up the IP address in this order, Network -> TCP/IP (IPv4) -> STATIC.

- In case of DHCP or Bootp, reboot the machine to receive a new IP address.

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● Code	● Error message
S6-3128	802.1x Network Error.

● Symptom / Cause

802.1x Network Error

- The con rmation was requested for wired port, the server has rejected.
- The con rmation protocol is not the same or user information (ID/Password) is wrong.

● Troubleshooting method

Check the setting-up for 802.1x con rmation server.

- Re-enter the server information and con rmation protocol.
- Re-enter the user information.

● Code	● Error message
U1-2320	Error #U1-2320 Turn off then on.

● Symptom / Cause

The temperature control of fuser unit is abnormal. (Open Heat Error)

● Troubleshooting method

1. Turn the machine off. Re-install the fuser unit.
   Then turn the machine on. Is the error message is disappeared?

2. If the problem persists, turn the machine off and remove the fuser unit.
   Check if the fuser connector is connected properly.
   Check if the input voltage is normal.

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● Code	● Error message
U1-2330	Error #U1-2330 Turn off then on.

● Symptom / Cause

The temperature control of fuser unit is abnormal. (Low Heat Error)

● Troubleshooting method

1. Turn the machine off. Re-install the fuser unit.
   Then turn the machine on. Is the error message is disappeared?

2. If the problem persists, turn the machine off and remove the fuser unit.
   a. Check if the fuser connector is connected properly.
   b. Check if the input voltage is normal.
   c. Check if the thermistor is twisted or contaminated.

● Code	● Error message
U1-2340 U1-2341	Error #U1-2340 Turn off then on. Error #U1-2341 Turn off then on.

● Symptom / Cause

The temperature control of fuser unit is abnormal. (Over Heat Error)

● Troubleshooting method

1. Turn the machine off. Re-install the fuser unit.
   Then turn the machine on. Is the error message is disappeared?

2. If the problem persists, turn the machine off and remove the fuser unit.
   a. Check if the fuser connector is connected properly.
   b. Check if the input voltage is normal.
   c. Check if the thermistor is twisted or contaminated.

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● Code	● Error message
U2-1111 / U2-1113	Error #U2-1111 Turn off then on. / Error #U2-1113 Turn off then on.

● Symptom / Cause

LSU Motor does not work normally.

1. Harness connection error.
2. LSU is defective.
3. Main board is defective.

● Troubleshooting method

1. Execute the LSU motor test in EDC mode. Check LSU motor operation sound.

2. If there is no sound, remove the right cover. Check if the LSU harness is connected on the main board properly. (picture-①)

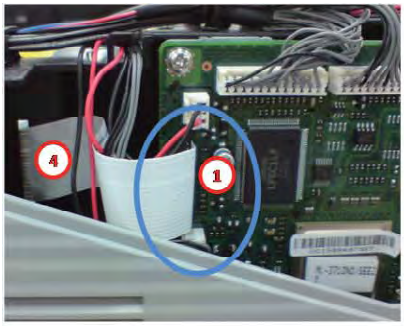
3. If it is OK, remove the top cover. Check if the LSU harness is connected on LSU board properly. (picture- ②,③)

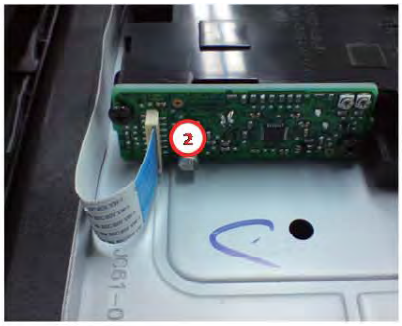
4. Check if the LSU harness is defective. (picture-④)

5. Reconnect the LSU harness and then execute the LSU motor test again.

6. If the problem persists, replace the LSU.

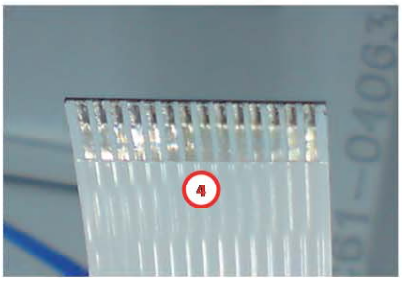
7. If the problem persists after replacing LSU, replace the main board.











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● Code	● Error message
U3-3113 U3-3114 U3-3213 U3-3313 U3-3314	Document jam. Remove jam.

● Symptom / Cause

A document jam was detected in ADF/DADF unit.

● Troubleshooting method

1. Remove the jammed paper.

2. If the problem persists, turn the machine off then on.

3. Open the ADF/DADF COVER-OPEN. Check if the roller in pick up unit is worn out or contaminated.
   Replace the pick up unit.

4. If the document jam occurs continually, check the following.
   a. Check if the ADF/DADF drive unit is working normally.
   b. Check if the connection between ADF/DADF and scanner is OK.

● Code	● Error message
U3-4110	Door of scanner is open.

● Symptom / Cause

Scanner door is not closed correctly.

● Troubleshooting method

Close the scanner door.

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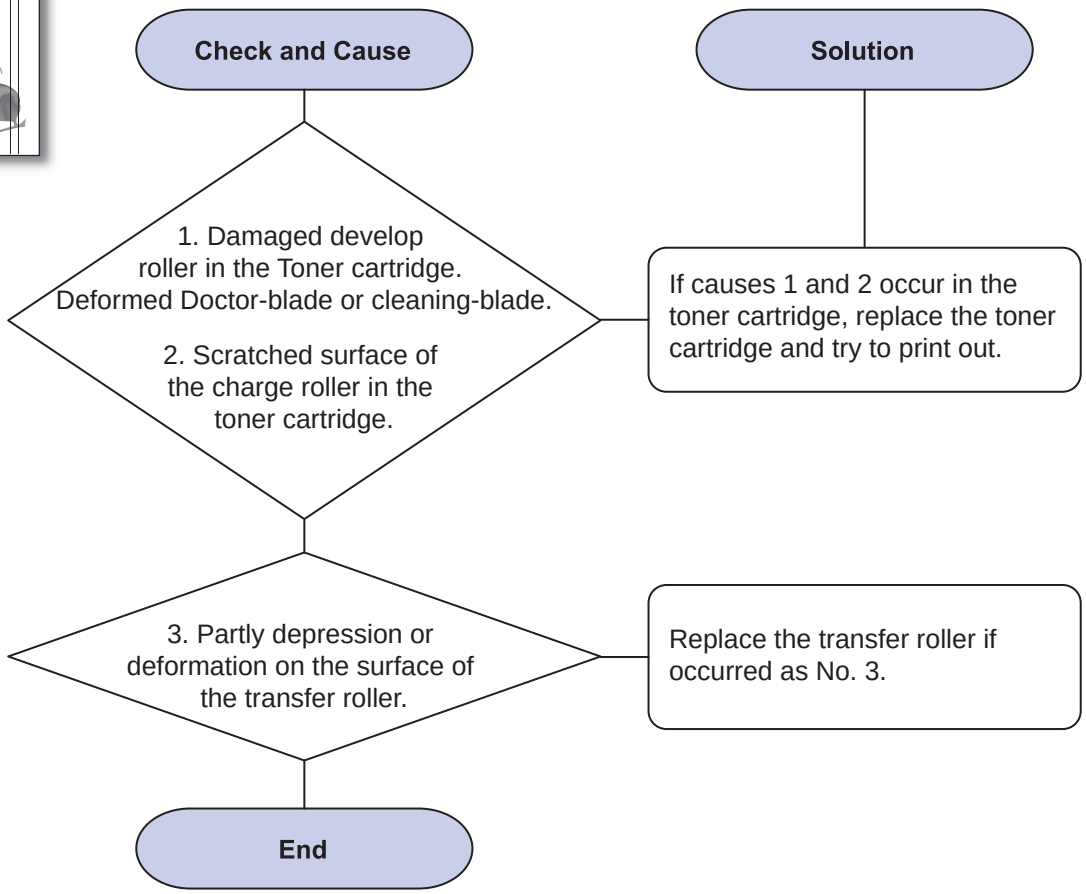
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4.2.3 Image Quality problem

1) Vertical Black Line and Band

Description : 1. Straight thin black vertical line occurs in the printing.
2. Dark black vertical band occur in the printing.



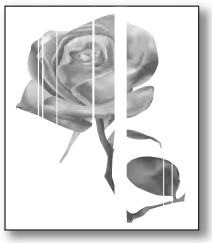


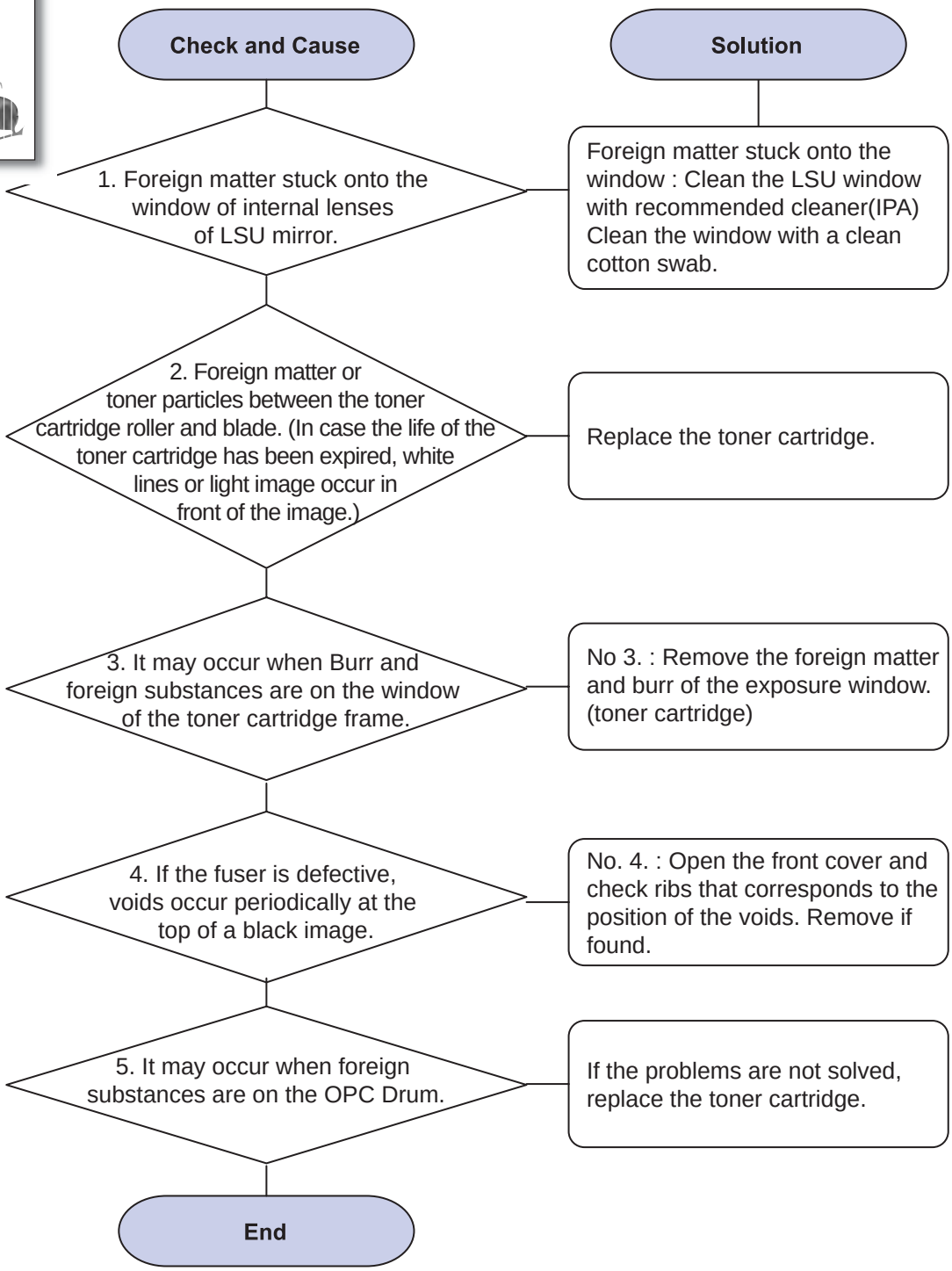
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2) Vertical White Line

Description : White vertical voids in the image.



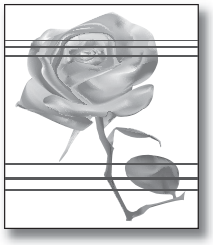


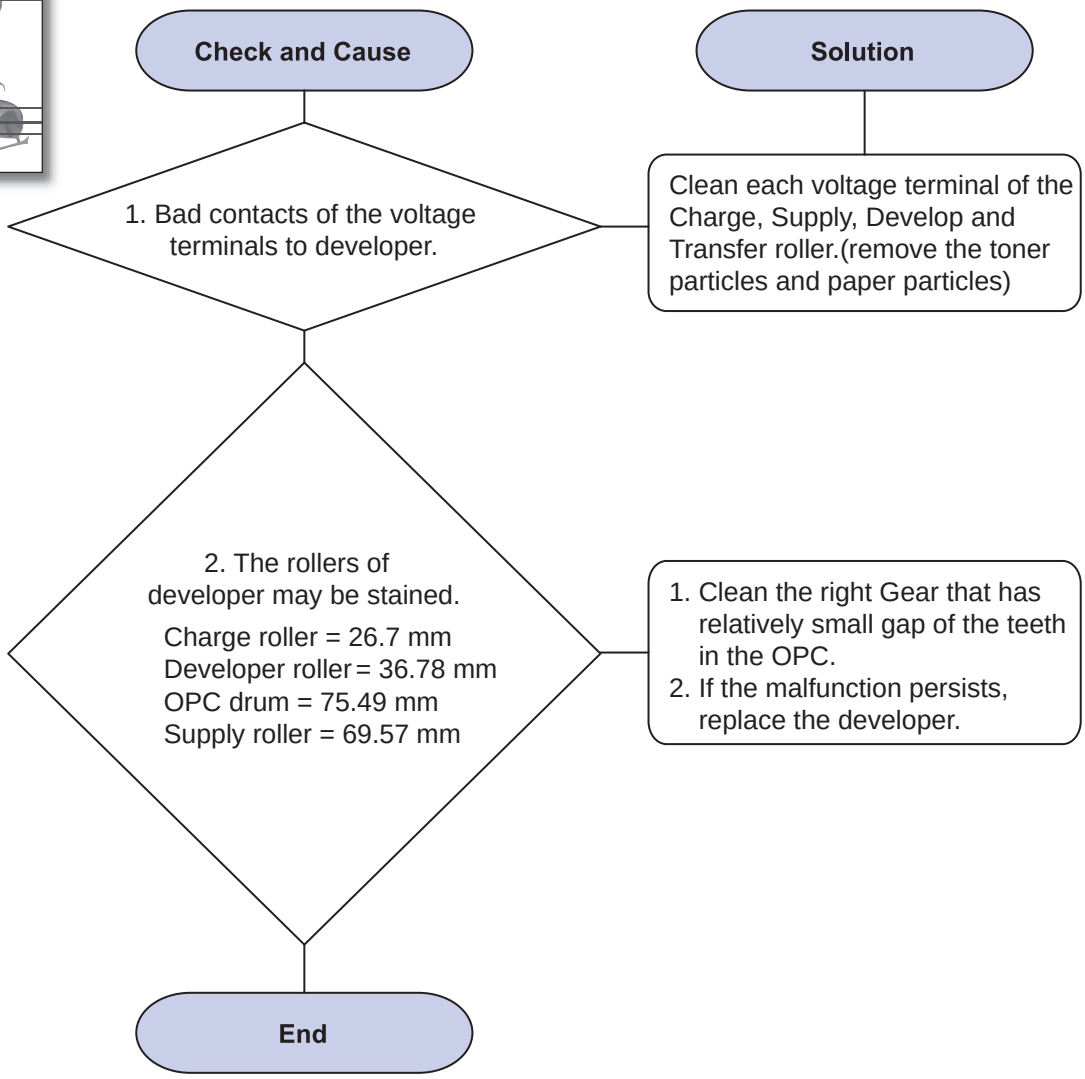
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3) Horizontal Black Band

Description : Dark or blurry horizontal stripes occur in the printing periodically. (They may not occur periodically.)





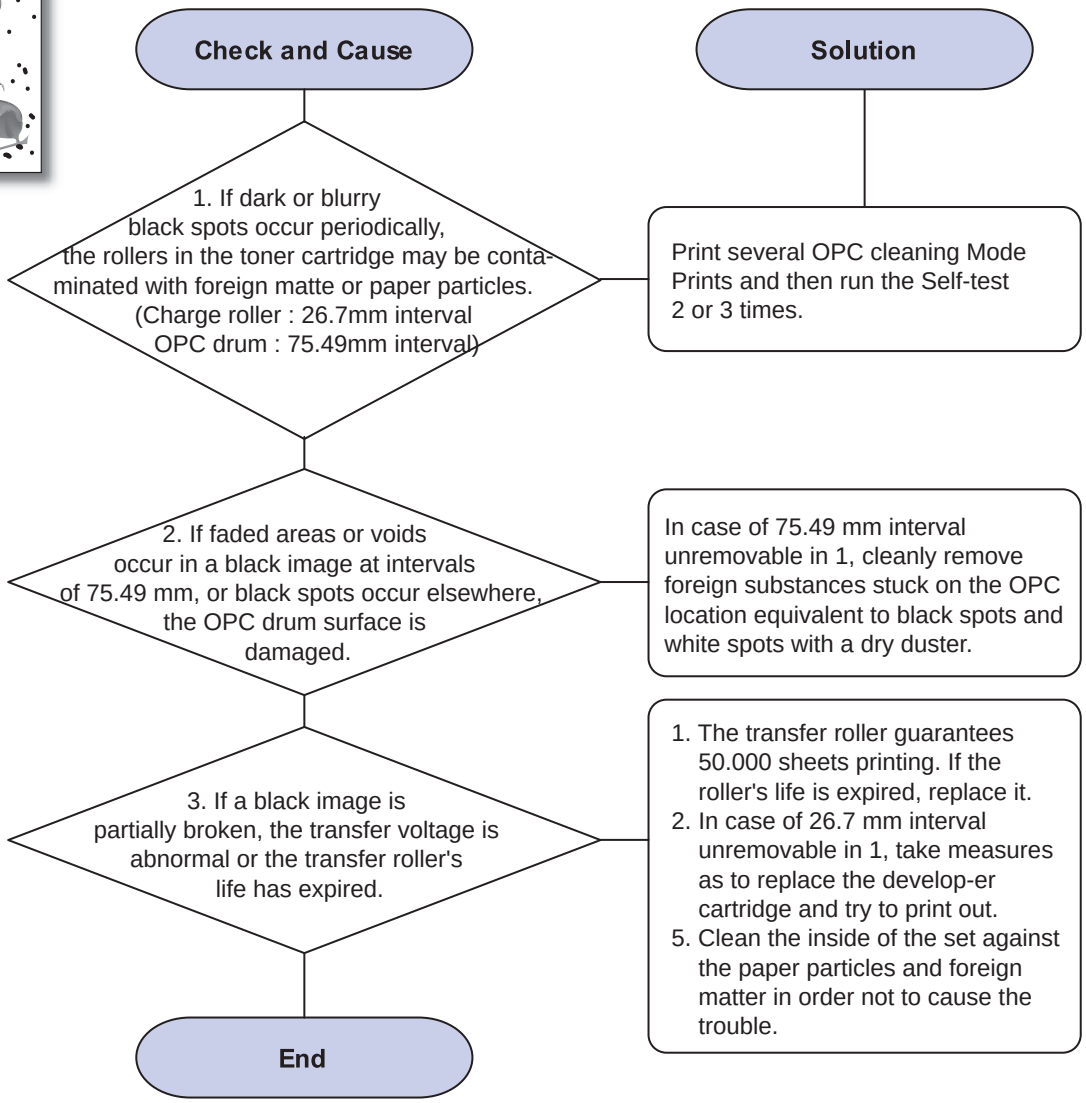
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4) Black/White Spot

Description : 1. Dark or blurry spots occur periodically in the printing
2. White spots occur periodically in the printing





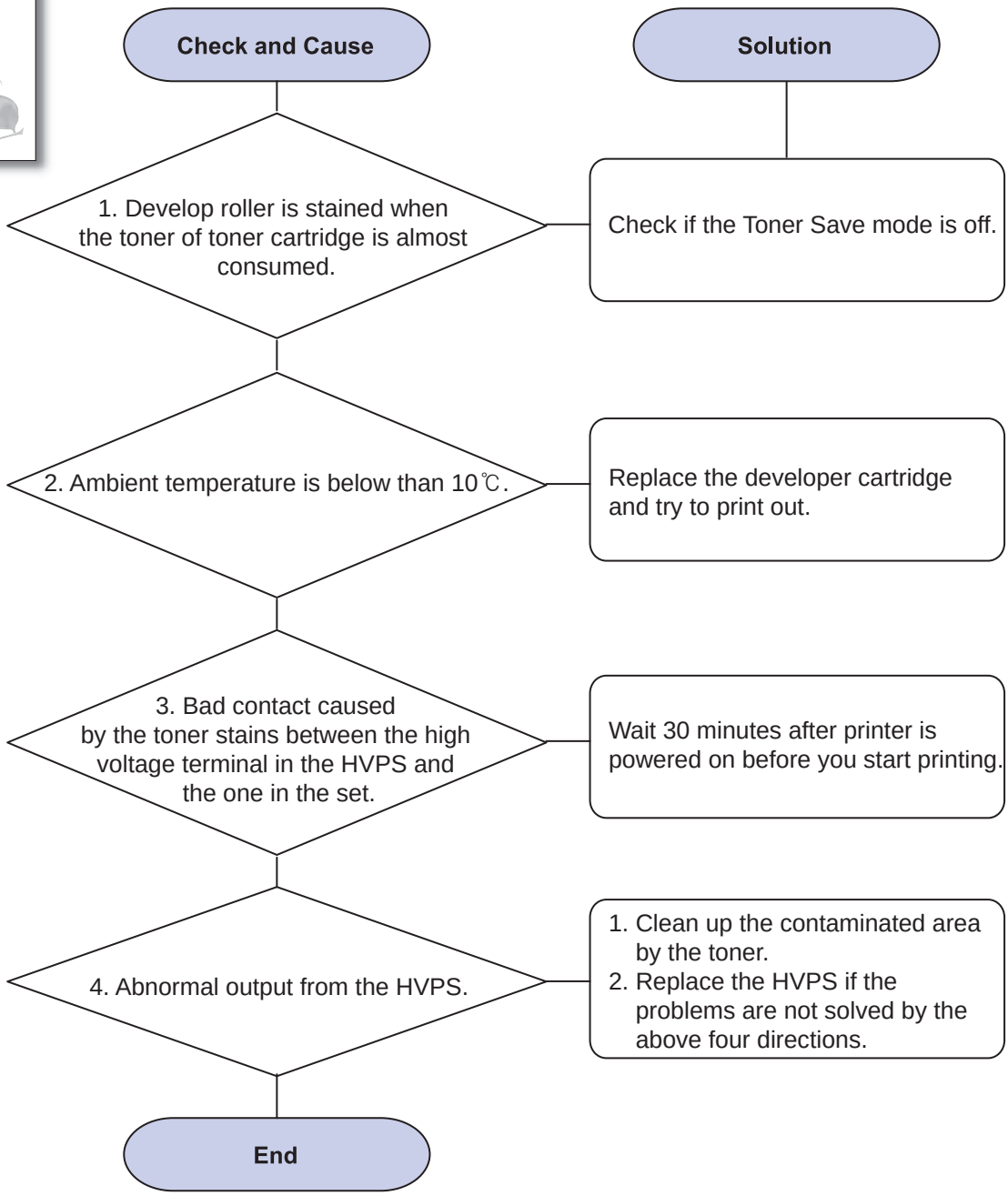
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5) Light Image

Description : The printed image is light, with no ghost.





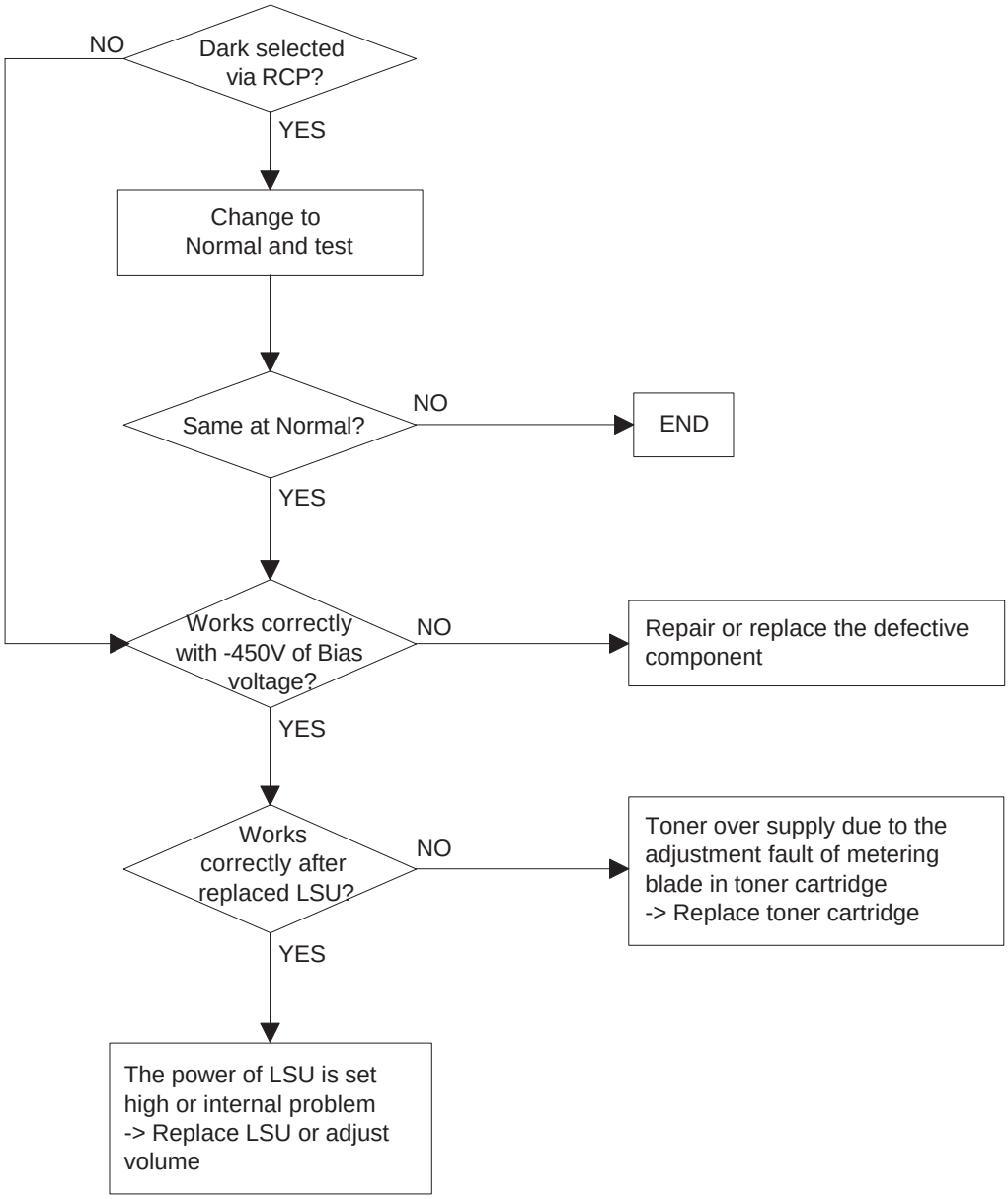
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6) Dark Image or a Black Page

Description : The printed image is dark.





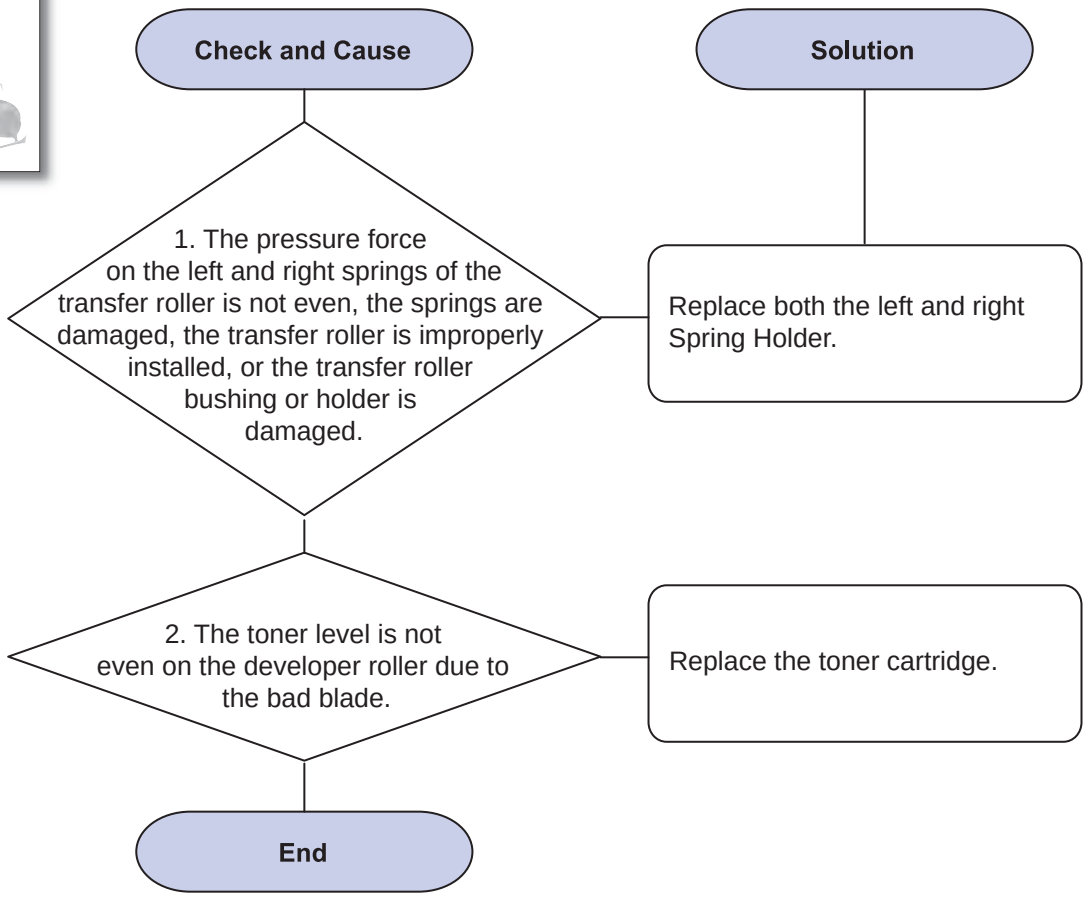
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7) Uneven Density

Description : Print Density is uneven between left and right.





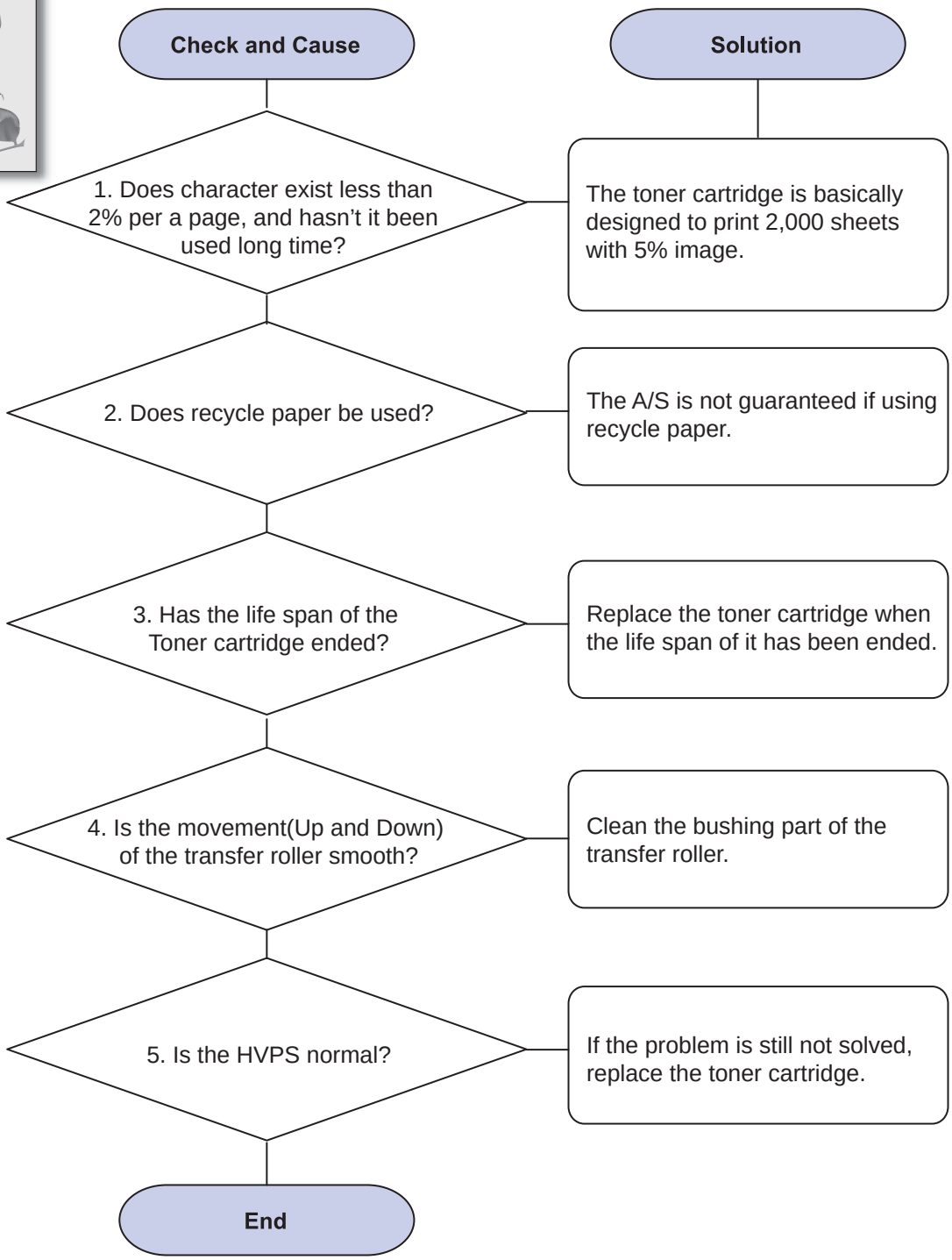
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8) Background

Description : Light dark background appears in whole area of the printing.



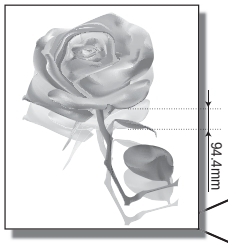


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9) Ghost

Description : Ghost occurs at 94.4 mm intervals of the OPC drum in the whole printing.



Check and Cause	Solution
1. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the electrode of the Developer.	Clean the terminals when contaminated by toner particles.
2. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the one in the HVPS board.	Occur in the toner cartridge, replace the developer and try to print out.
3. The life of developer is expired.	Replace the Main board if not solved by the above directions 1-2.
4. Transfer roller lifetime (50.000 sheets) has expired.	If not solved by the direction 3, check the transfer roller lifetime and replace it.
5. Abnormal low temperature (below 10℃).	Wait about 1 hour after power on before using printer.

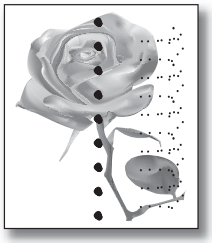
End

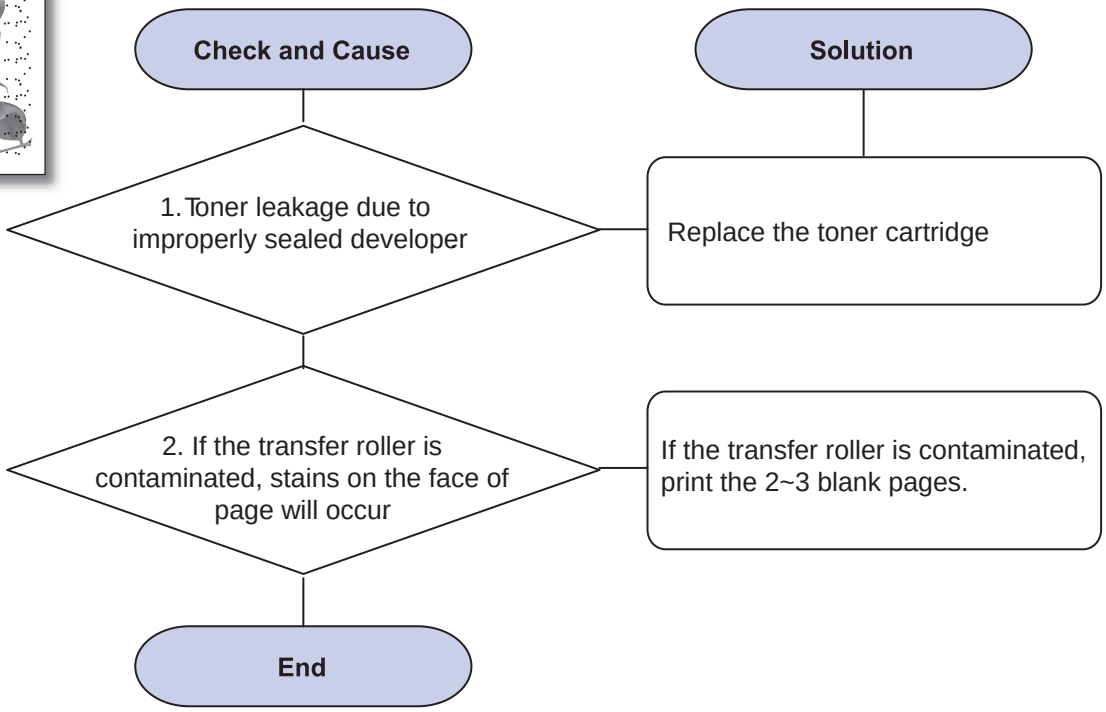
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10) Stains on the Face of Page

Description : The background on the face of the printed page is stained.



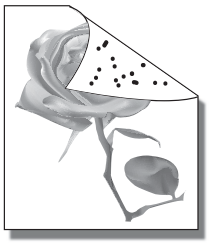


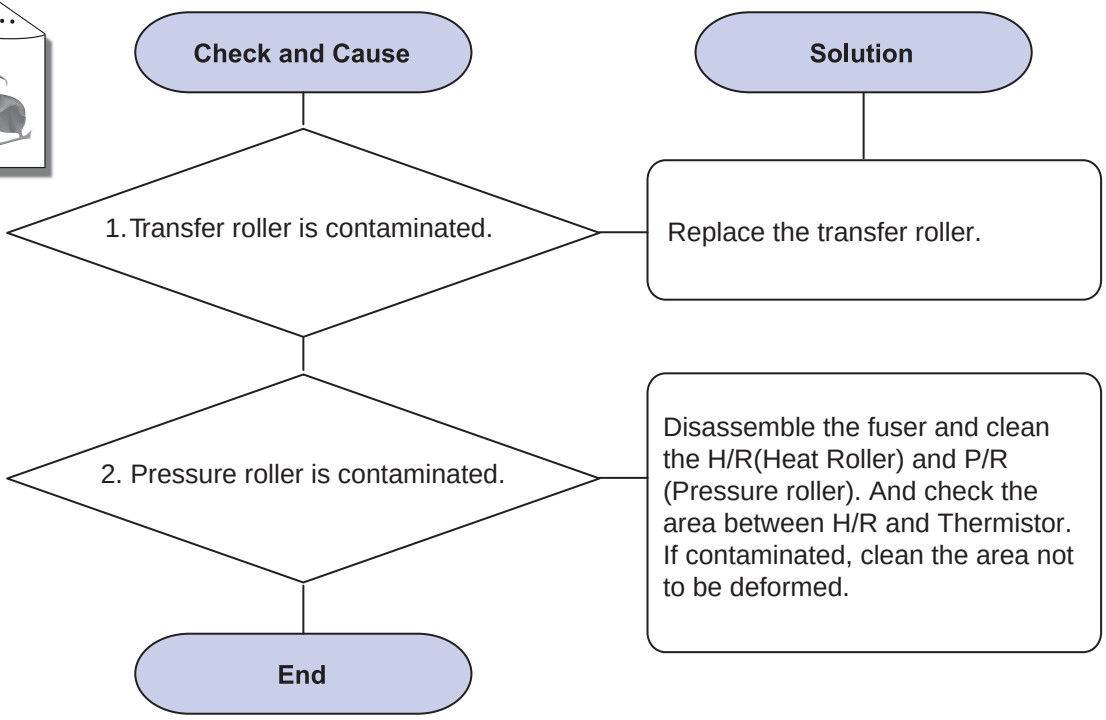
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11) Stains on Back of Page

Description : The back of the page is stained at 47 mm intervals.



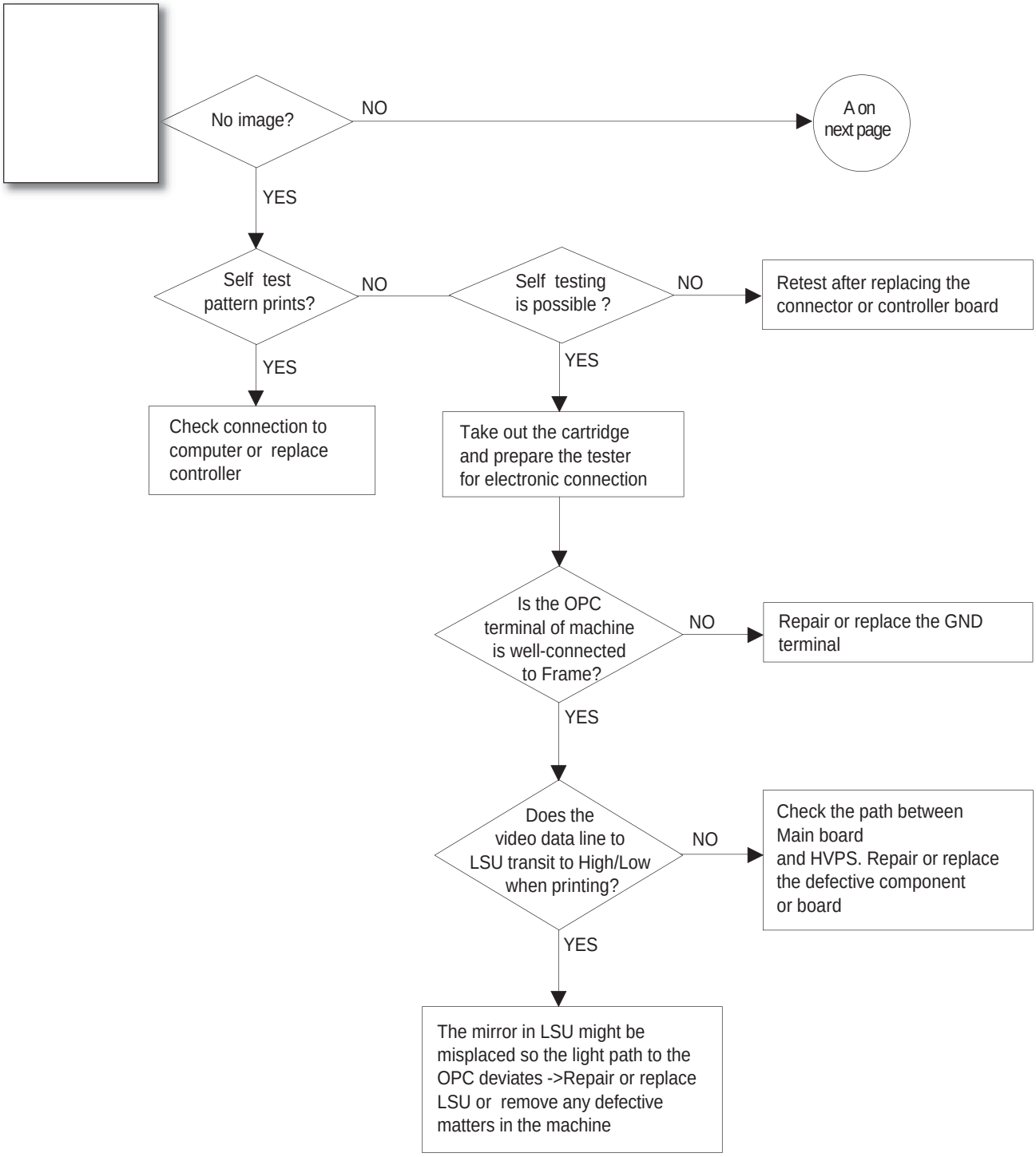


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12) Blank Page Print out

Description : Blank page is printed.



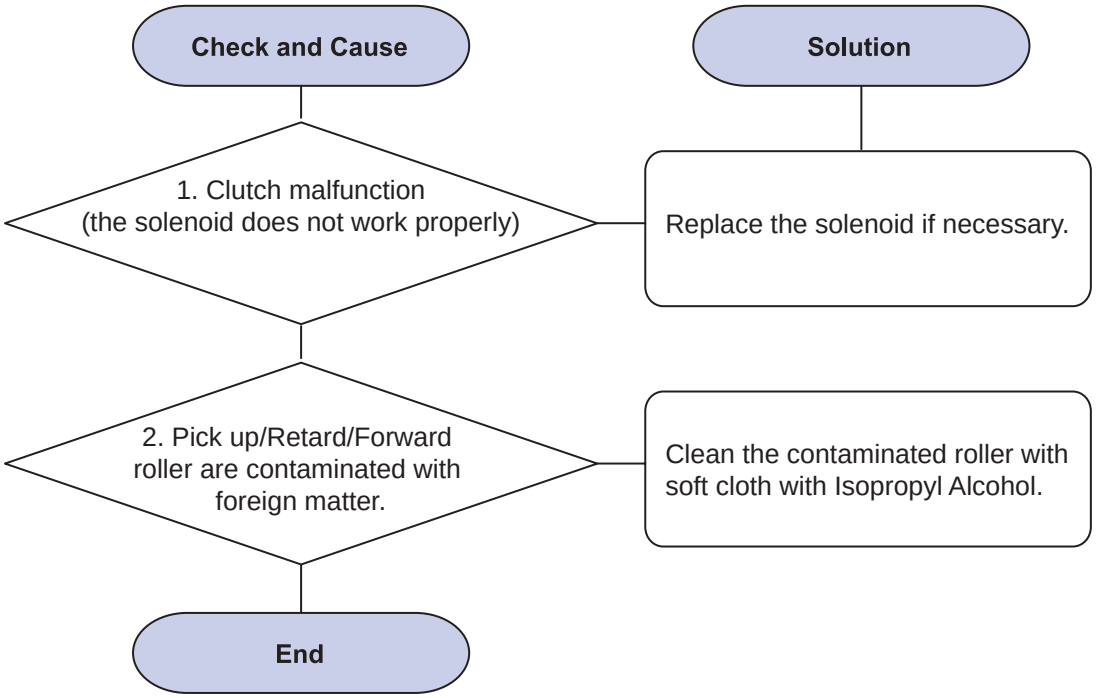
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4.2.4 Other errors

1) Multi-Feeding

Description : Multiple sheets of paper are fed at once.

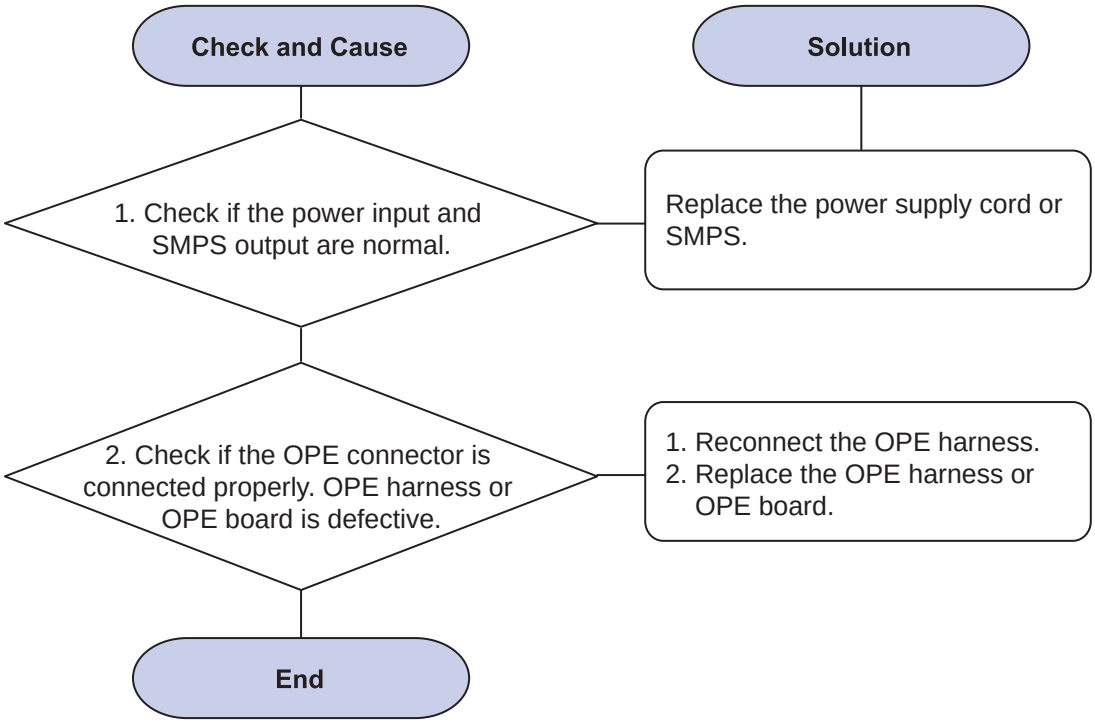


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2) No Power

Description : When system power is turned on, all lamps on the operator panel do not come on.



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4.2.5 Network problems and solutions

Before Troubleshooting, check below check point.

Check Point	Action
LAN cable check	A. Connected or Not connected B. Wrong cable (defected cable, crossover cable) C. Connection connector (Link partner check)
Network LED check	A. Link LED check (Link LED On when connected) B. Activity LED check (No packet Regularly blinking, packet random blinking depend on Printer Model)
Print Network test page	A. Printed correctly. If not, NIC is in lock up state or NIC can not communicate with printer B. Network address value check : IP address, Subnet Mask, Gateway, MAC address C. NIC F/W version (Correct or not) 1) V1.0x.xx : NPC3 2)V2.0x.xx : NPC3H 3)V3.0x.xx : PHY Board 4)V4.0x.xx : On Board D. Protocol Enable / Disable E. WLAN module / Status check if WLAN available.
Printer SET status check	A. Toner Empty, Paper Empty and so on : Hard Stop cases (Job can be nished completely)

Network Printer Configuration check

1. Address Con ict check
   A. IP address Con ict : Same IP address in a network
      • Unplug network cable and PING test
   B. MAC address Con ict : Same MAC address in a physical network
      • Default MAC address or same MAC address (PING and ARP –a)

2. IP get method check (Panel or SWS)
   A.DHCP/BOOTP : IP can be changed after rebooting
   B. Auto IP address

3. Protocol Enable / Disable, Port Number (In SWS)

4. IP ltering On/Off

5. SNMP community name check (When SNMP no response)

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Host PC Configuration check

1. Address Con ict check
   A. IP address Con ict : Same IP address in a network
      • Unplug network cable and PING test at other PC
2. Protocol Enable / Disable, Port Number in printer driver

Factory Default

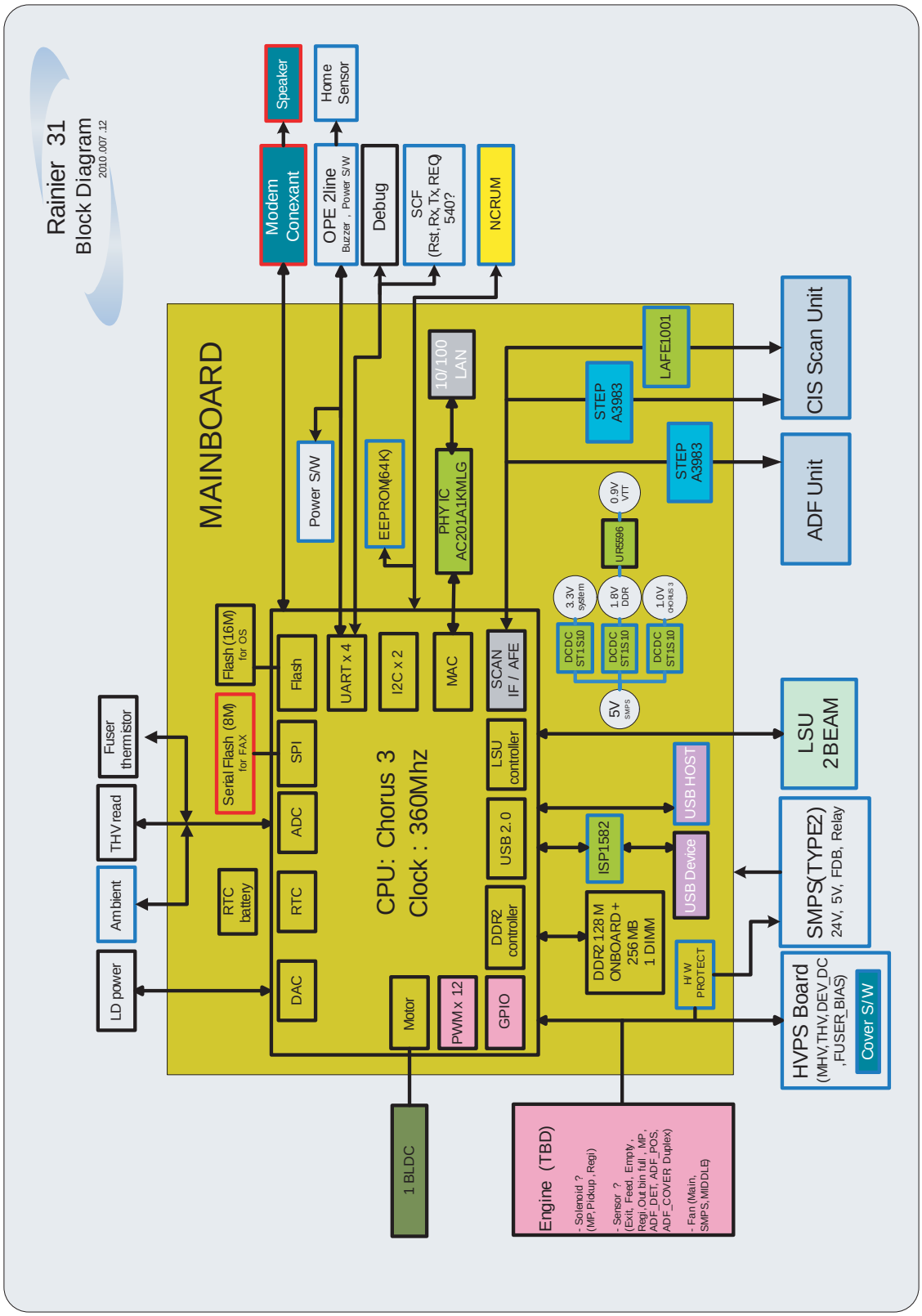
1. Network Value changed to default value
   A. Some of Network value will not be changed immediately.
   B. Factory default operation will be done after Power Off / Power On

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5. System Diagram

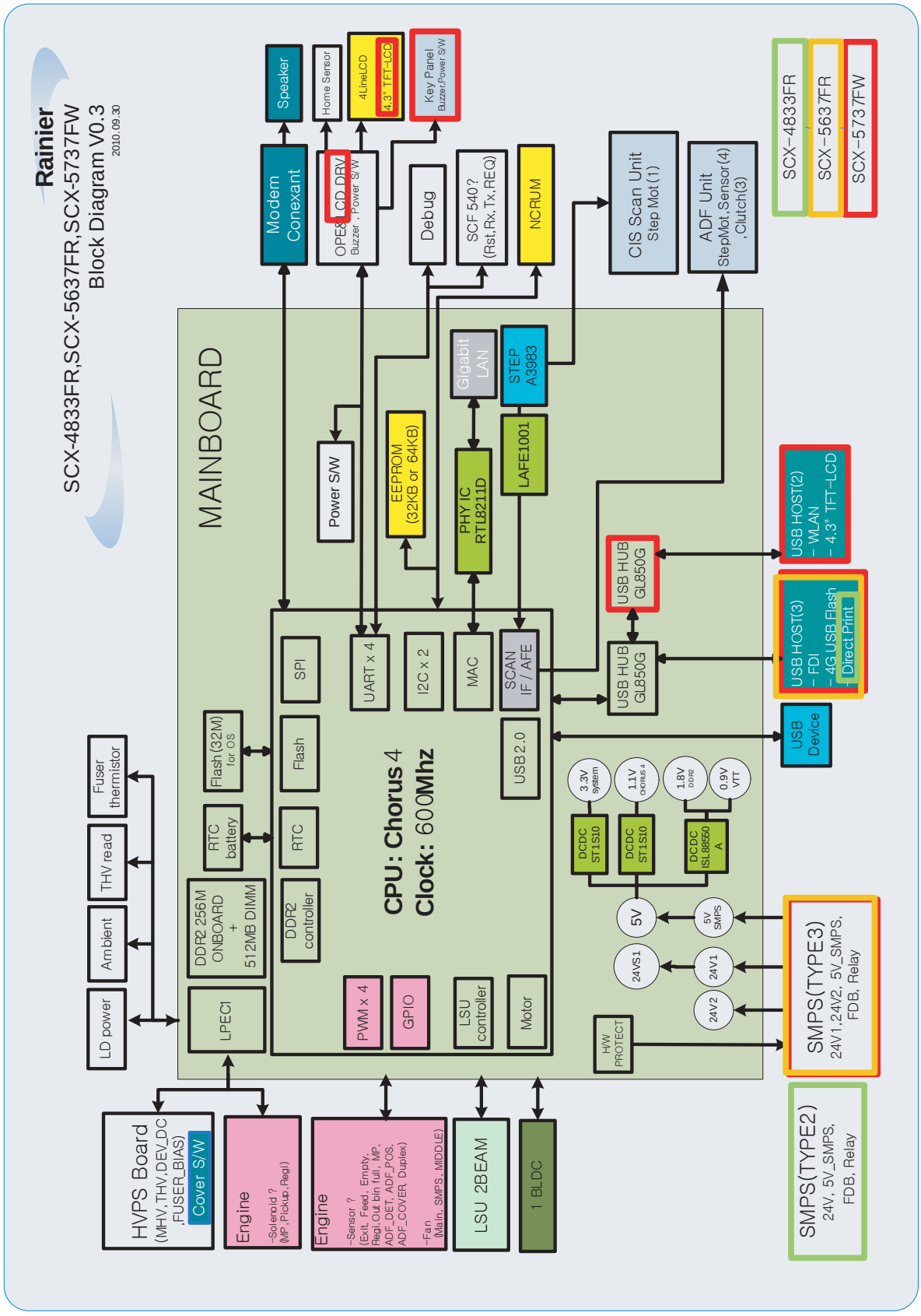
5.1 Block Diagram (SCX-483xFD)



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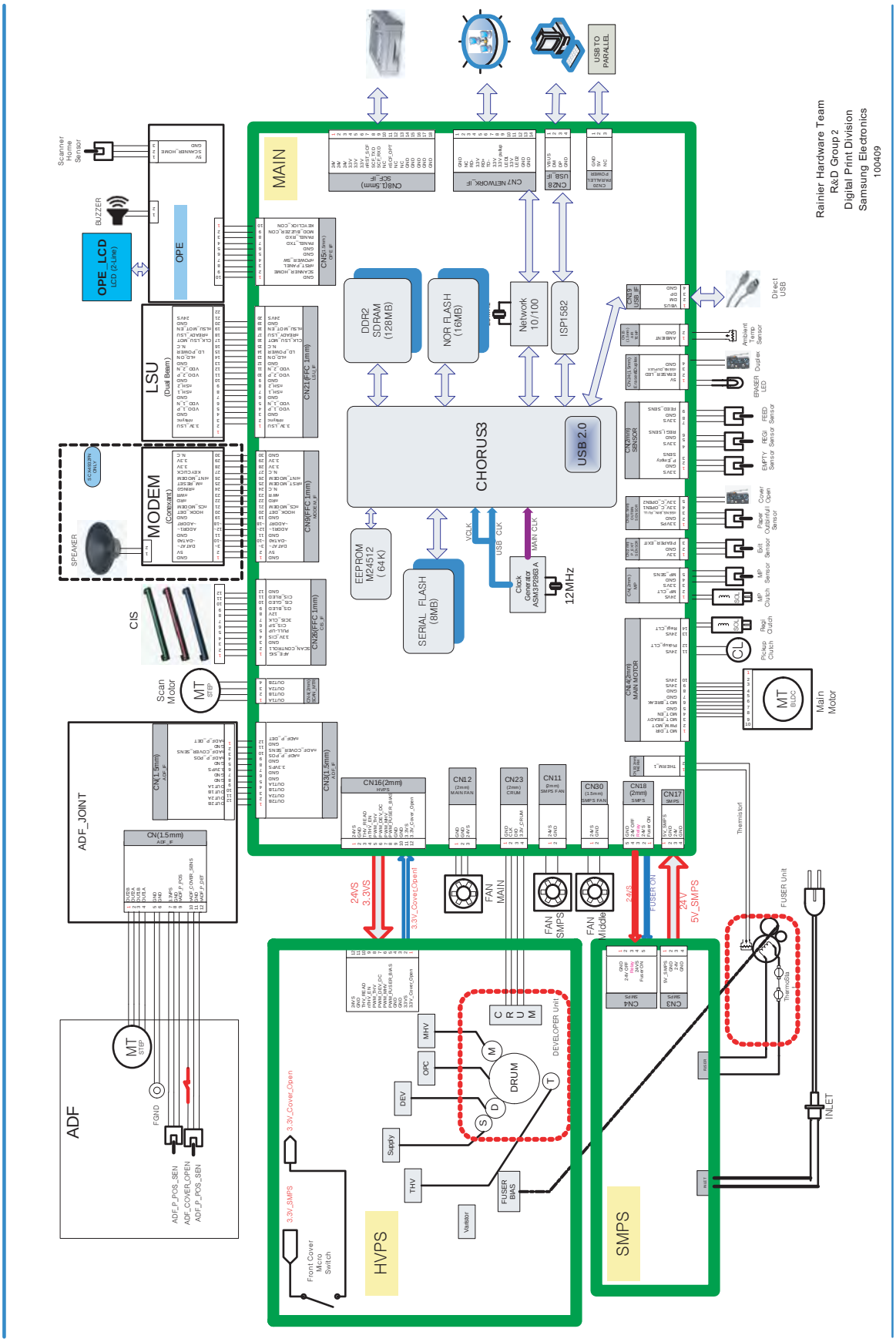
Block Diagram (SCF-483xFR/563x/573x series)



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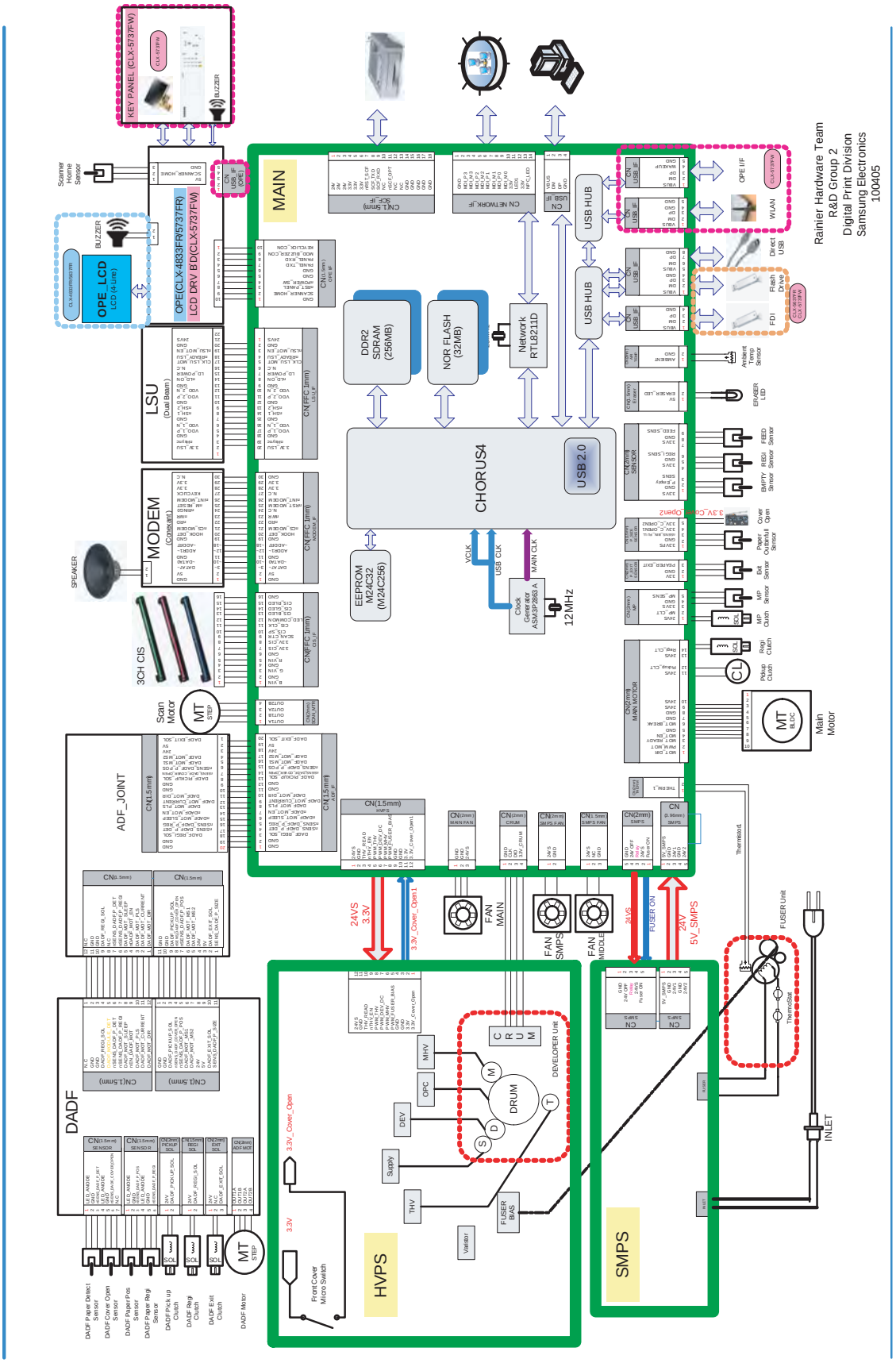
5.2 Connection Diagram (SCX-483xFD)



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Connection Diagram (SCF-483xFR/563x/573x series)



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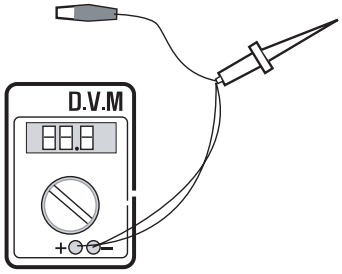
6. Reference Information

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 de nition of test pages and Wireless Network information de nition is also included.

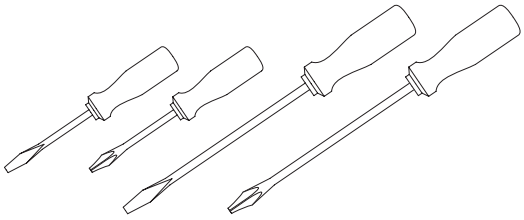
6.1 Tool for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

- **DVM (Digital Volt Meter)**
  Standard : Indicates more than 3 digits.



- **Driver**
  Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



- **Tweezers**
  Standard : For general home use, small type.



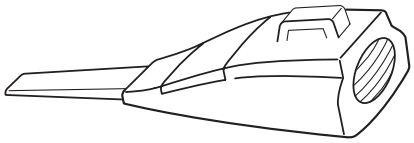
- **Cotton Swab**
  Standard : For general home use, for medical service.



- **Cleaning Equipments**
  Standard : An IPA (Isopropyl Alcohol) dry wipe tissue or a gentle neutral detergent and lint-free cloth.



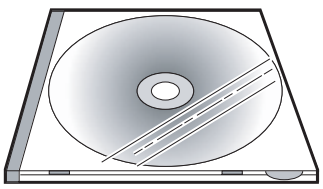
- **Vacuum Cleaner**



- **Spring Hook**
  Standard : For general use



- **Software (Driver) installation CD ROM**



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6.2 Acronyms and Abbreviations

The table below explains abbreviations used in this service manual.
The contents of this service manual are declared with abbreviations in many parts. Please refer to the table.

6.2.1 Acronyms

ABS	Automatic Background Suppression(a kind of copy feature)	FDI	Foreign Device Interface
		FIA	Foreign Interface Attachment
APF	Automatic Paper Feeder(Tray)	FRU	Field Replaceable Unit
BOOTP	BOOTSTRAP PROTOCOL	FPOT	First Print Out Time
CCD	Charged Coupled Device	GW	GateWay
CIS	Contact Image Sensor	HH	High Temperature, High Humidity (Testing Chamber conditions)
CPM	Copies Per Minute		
CP	Control Panel(= OPE)	HPVC	Halftone Printing Video Controller in the SPGPm (Graphic Processor for Copy)
CQ	Copy Quality		
CRU	Customer Replaceable Unit	IDC	International Data Corp.
CRUM	CRU Memory	IMAP	Internet Message Access Protocol
CW	Center Ware	IPP	Internet Printing Protocols
CWDP	Center Ware Device Discovery Software(Samsung equivalent of Samsung's SyncThru)	IPM	Images Per Minutes
		IPX	Internetwork Packet Exchange
		IQ	Image Quality
CWIS	Center Ware Internet Services	ITU	International Telecommunication Union
DADF	Duplex Auto Document Feeder (= DADH)	JBIG	Joint Binary Image Group (a kind of image data coding method)
DC	Direct Connect	JPEG	Joint Photographic Expert Group (a kind of image data coding method)
DDNS	Dynamic Domain Name System		
DHCP	Dynamic Host Con guration Protocol	LCD	Liquid Crystal Display
DLC	Data Link Control	LEF	Long Edge Feeding
DNS	Domain Name System	LL	Low Temperature, Low Humidity (Testing Chamber conditions)
ECM	Error Correction Mode		
ECP	Enhanced Capability Port	LPR/LPD	Line Printer Daemon Protocols (LPR is a TCP-based protocol)
e-Coil	Extended Coil technology for Rapid(Fast) Fusing.		
		LSU	Laser Scanning Unit
EH&S	Samsung Environment, Health, & Safty	LUI	Local User Interface
		MCBF	Mean Copy Between Failure
ESMTP	Extended Simple Mail Transfer Protocol	MDSP	Multiple Document Single Printout
EP	Electro Photography	MFP	Multi-Functional Product
EPC	Electric Pre-Collation	MH	Modi ed Huffman (a kind of image data coding method)
FCOT	First Copy Out Time		

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MIB	Management Information Base	RT-OS	Real Time Operating System
MIME	Multipurpose Internet Mail Extensions	RX	Receive
MR	Modi ed Read	S2E	Scan-To-Email
	(a kind of image data coding method)	SAD	Solid Area Density
MMR	Modi ed and Modi ed Read	SC	Service Call
	(a kind of image data coding method)	SCF	Second Cassette Feeder
MN std	Multi-National Standard	SDSP	Single Document Single Printout
MSOK	Master SOK(System Operation Key)	SDMP	Single Document Multiple Printout
MSO	Mixed Size Original	SDR	Shut Down Rate
MP	Multi Purpose	SEF	Short Edge Feeding
MPBF	Mean Print Between Failure	SIR	Sacri ed(or Standard) Image Reference
MSI	Multi Sheet Input	SOK	System Operation Key
MTBF	Mean Time Between Failure	sRGB	Standard RGB
MTTR	Mean Time To Repair		(Color Coordinate System)
NCP	Network Control Protocol	SNMP	Simple Network Management Protocol
NIC	Network Interface Card	TCP/IP	Transmission Control Protocol/Internet
NOS	Network Operating System		Protocol
NN	Normal Temperature, Normal Humidity	TBC(or tbc)	To Be Con rmed
	(Testing Chamber conditions)	TBD(or tbd)	To Be Determined
NSDR	Non-Shut Down Rate(=USDR)	TIFF	(Adobe & Aldus) Tagged Image File
NW	Network		Format
OD	Optical Density	TRIM	Technical Retro t Interim Maintenance
OHD	On Hook Dial	TTM	Time to Market
OSOK	Optional SOK(System Operation Key)	TX	Transmit
OP	Operational Procedure	UI	User Interface
PCL	Printer Control Language	UMC	Unit Manufacturing Cost
PDF	(Adobe) Portable Document Format	UMR	Unscheduled Maintenance Ratio
PPM	Pages Per Minutes	UPnP	Universal Plug and Play
PQ	Print Quality	USB	Universal Serial Bus
PS/3	PostScript Level-3	USDR	Un-Shut Down Rate(=NSDR)
PVC	Printing Video Controller in the	XCMI	Samsung's Management Information
	SPGPm(Graphic Processor for Printer)		Base
QCD	Quality, Cost, and Delivery	WA	Warranty Action
RCP	Remote Control Panel	W x D x H	Width x Depth x Height

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6.2.2 Service Parts

ACRONYM	EXPLANATION
ELA HOU-SCANNER ASS'Y	ELA=Electrical Assembly, HOU =Housing
MEA UNIT-COVER PA EXIT ASS'Y	MEA= Mechanical Assembly, PA=Paper
PMO-TRAY EXTENTION MP NE	PMO= Processing Mold MP=Multi-Purpose(Bypass) tray NE=for NEC (common as Samsung Halk printer)
MEC-CASSETTE ASS'Y(LETTER)	MEC = Mechanic Combined unit
COVER-M-FRONT	M=Mold
MPR-NAME/PLATE	MPR= Machinery Press,
UNIT-LSU	LSU =Laser Scanning Unit
SMPS-SMPS(V1)+HVPS	SMPS =Switching Mode Power Supply HVPS =High Voltage Power Supply
ELA-OPC UNIT SET	OPC=Organic Photo-Conductive
ELA HOU-MP ASS'Y	MP =Multi-Purpose (Bypass) tray
PBA MAIN-MAIN	PBA =Printed circuit Board Assembly
PMO-CONNECT PAPER MFP	MFP =Multi-Functional Peripheral
FAN-DC	DC =Direct Current
CBF POWER STITCH GRAY	CBF= Cable Form
MEA UNIT GUIDE CST PA ASS'Y	CST=Cassette(Paper tray), PA=Paper
PBA LIU	PBA =Printed circuit Board Assembly LIU =Line Interface Unit for FAX
SHIELD-P_MAIN LOWER	P=Press
CBF HARNESS-LIU GND	LIU =Line Interface Unit for FAX GND= Ground
PMO-COVER FEED AY	AY=Assembly
PMO-COVER BRKT MOTER	BRKT=Bracket
CBF HARNESS-LSU	LSU =Laser Scanning Unit
IPR-SHIELD SMPS UPPERI	IPR=Iron Press
PMO-BUSHING P/U.MP	P/U=Pickup MP=Multi-Purpose (Bypass) Tray
PMO-HOLDER GEAR TRr	TR= Transfer Roller
SPRING ETC-TR_L	TR_L=Transfer Roller - Left
PMO-CAM JAM REMOVE	PMO-CAM= Processing Mold-CAM
PMO-LOCKER DEVE	DEVE=Developer

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ACRONYM	EXPLANATION
SPECIAL SCREW(PANNEL MFP)	MFP =Multi-Functional Peripheral
A/S MATERAL-DUMMY UPPER ASS'Y	A/S=After-Service
MCT-GLASS ADF	MCT= Machinery Cutting ADF=Automatic Document Feeder
PPR-REGISTRATION EDGE(F)	PPR= Processing Press
IPR-HOLDER GLASSI	PR=Iron Press
MCT-GLASS SCANNER(LEGAL)	MCT= Machinery Cutting
CBF HARNESS-OPE	OPE=Operation Panel(Control Panel)
PBA SUB-D_SUB	PBA SUB-D_SUB =>Sub Printed circuit Board Assembly for the D-SUB type electrical connector (D-Sub) a kind of the connector type(shape 'D')
COVER-M-CCD CABLE	M=Mold CCD=Charge Coupled Device
COVER-SCAN LOWER(UMAX)	UMAX=> Supplier's name for CCD module
ICT-INSERT SHAFTI	ICT= Iron Cutting
IPR-BRK SCAN BD	IPR=Iron Press BRK=Bracket BD= Board
CBF SIGNAL-CCD FFC	CCD = Charge Coupled Device FFC =Flexible Flat Cable
COVER-M-OPE	M=Mold OPE=Operation Panel(Control Panel)
KEY-M-COPY	M=Mold
PLATE-M-ALPHA KEY	M=Molde ALPHA=Alphabet
PMO-GUIDE DP SIDE	DP=Duplex
RING-CS	CS= Compress
GEAR-MP/DUP DRV	MP =Multi-Purpose (Bypass) tray DUP DRV = Duplex Driver
IPR-BRKT G DUPI	PR=Iron Press BRKT=BRACKET G= Ground UP=Duplex
PMO-BUSHING TX(B4)	TX=Transmit
PMO-TRAY CASE, MP	MP=Multi-Purpose tray(Bypass tray)

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ACRONYM	EXPLANATION
SPRING CS RE	CS=Compress RE=Rear
SPRING CS FR	CS=Compress FR=Front
PMO-BUSHING FINGER, F	F=Front
ICT-SHAFT-EXIT LOWER ID	ID=Idler
SPRING-EXIT ROLL FD	FD=Face Down
PMO-BUSHING_P/U,MP	P/U=Pickup MP =Multi-Purpose (Bypass) tray
PMO-HOLDER CAM MPF	MPF=Multi-Purpose Feeder(=MP)
PMO-GEAR P/U MPF	P/U=Pickup
MFP =Multi-Functional Peripheral	
RPR-RUBBER PICK UP,MP	RPR=Rubber Press
PBA SUB-MP SEN	PBA SUB-MP-SEN =>Sub Printed circuit Board Assembly for the MP-SEN(= Multi-Purpose (Bypass) tray-Sensor)
A/S MATERAL-PICKUP,MP	
FOOT-ML80	
HOLDER CATCH CST MC2	MC2=>McKInley2 (Samsung Project code name)
IPR-GROUND PLATE A(OPC)	OPC=Organic Photo-Conductive
ELA M/M-AUD SPEAKER	ELA M/M => Electrical Assembly M/M AUD=Audio
CBF HARNESS-OPC GND	OPC GNG=Organic Photo-Conductive-Ground
IPR-GROUND PLATE SCF	SCF=Second Cassette Feeder(Tray2)
PBA SUB-PTL	PBA SUB-PTL=>Sub Printed circuit Board Assembly for the PTL(= Pre Transfer Lamp)
PBA SUB-FEED+P.EMP SEN.	PBA SUB-FEED=>Sub Printed circuit Board Assembly for the feeder EMP SEN=Empty Sensor
MOTOR STEP-MCK2(MAIN)	
GEAR-EXIT/U	EXIT/U=EXIT/Upper
GEAR-RDCN FEED INNER	RDCN=Reduction
CBF-HARNESS-MAIN-THV WIRE	THV =Transfer High Voltage
CBF-HARNESS-MAIN-MHV WIRE	MHV= High Voltage(Charge Voltage)

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ACRONYM	EXPLANATION
GEAR-EXIT/U,ID	U=Upper ID=Idler
IPR-TERMINAL FU	FU=Fuser
PMO-BEARING H/R-F	H/R-F=Heat Roller - Front
BEARING-H/R L	H/R-L=Heat Roller -Left
PEX-ROLLER EXIT F_UP	PEX= Processing Extrude F_UP=Face Up
SPRING ETC-P/R	P/R=Pressure Roller
SPRING(R)-CAU-HOT-FU	CAU-HOT-FU = Caution Hot -Fuser
PMO-ARM ACTUATOR	PMO-ARM= Processing Mold Arm
LABEL(R)-HV FUSER	HV=High Voltage (220V)
LABEL(R)-LV FUSER	LV=Low Voltage (110V)
PPR-SPONG SHEET	PPR=Plastic Press
IPR-P_PINCH(SCAN)I	PR-P = Iron Press
ROLLER-REGI	REGI=Registration
PBA SUB-REGI	PBA SUB-REGI => Sub Printed circuit Board Assembly for the Registration
GROUND-P_SCAN ROLLER	GROUND-P =Ground-Press
IPR-GUARD C/O S/W	C/O = Cover Open S/W= Switch
MEA UNIT-TX STACKER	TX =Transmit
IPR-WASHER SPRING CU	CU=Curve

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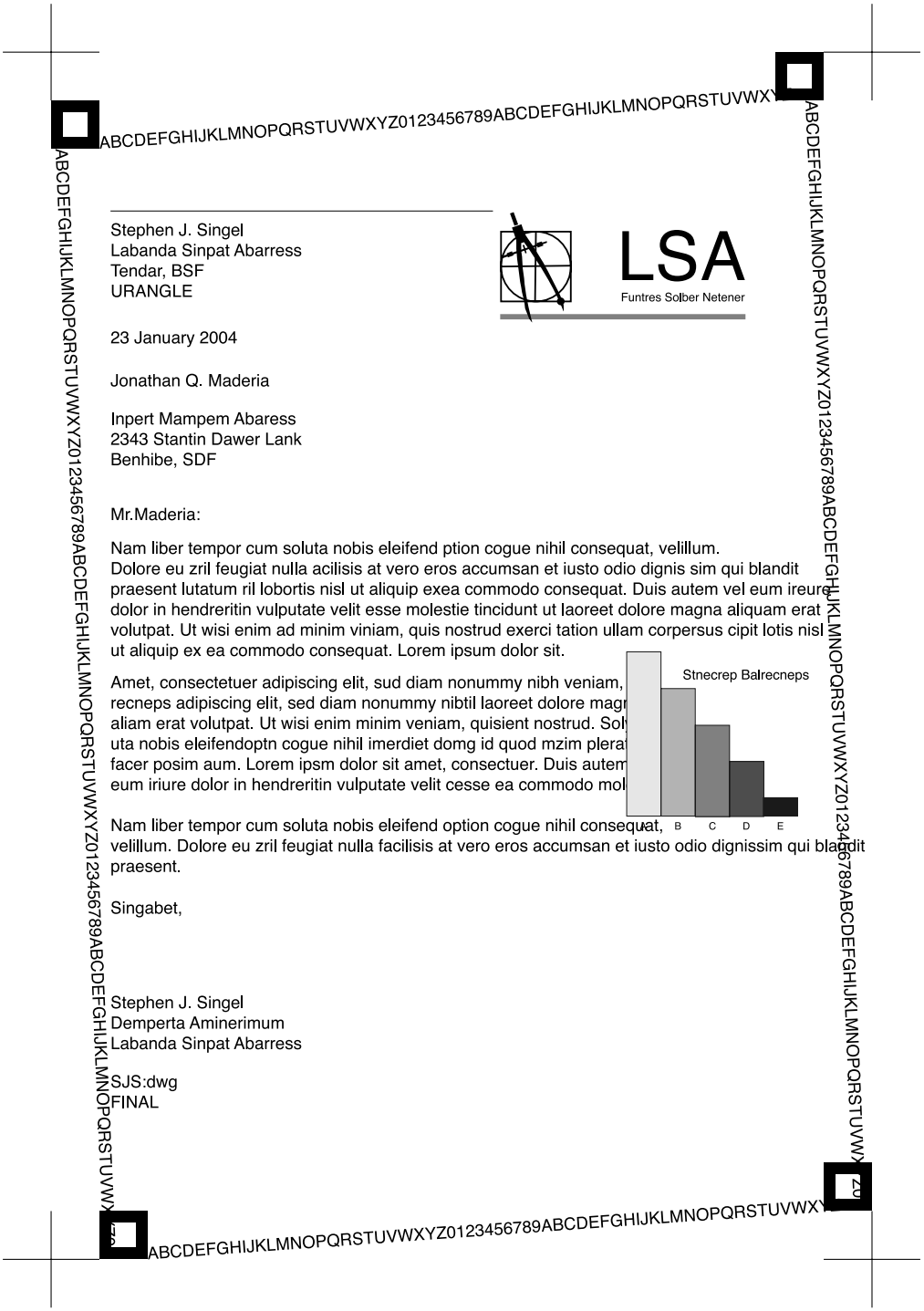
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6.3 The Sample Pattern for the Test

The sample pattern shown in below is the standard pattern used in the factory.
The life of the toner cartridge and the printing speed are measured using the pattern shown below.
(The image is 70% of the actual A4 size).

6.3.1 A4 ISO 19752 Standard Pattern

This test page is reproduced at 70% of the normal A4 size



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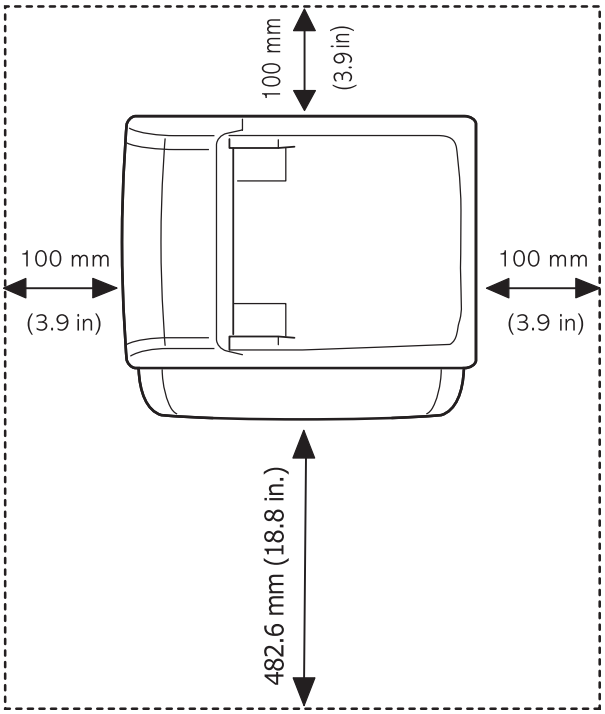
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6.4 Selecting a location

Select a level, stable place with adequate space for air circulation. Allow extra space for opening covers and trays.
The area should be well-ventilated and away from direct sunlight or sources of heat, cold, and humidity. Do not set the machine close to the edge of your desk or table.

Clearance space

- Front: 482.6 mm (enough space so that the paper tray can be removed)
- Back: 180 mm (enough space for ventilation)
- Right: 100 mm (enough space for ventilation)
- Left: 100 mm (enough space for ventilation)



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