SAMSUNG

Service Manual

Service Manual

Mono Laser MFP

SCX-4600/SCX-4623 series
SCX-4600/4623F/FN/FW

1. Print / Copy Speed
   • 22 ppm in letter

2. Processor
   • Jupiter5 375 Mhz

3. Printer Language Emulations
   • SPL, PCL-5 (4623FW)

4. Memory
   • 64 MB (4600/4623F)
   • 128 MB (4623FN)
   • 256MB (4623FW)

5. Interfaces
   • One USB port
   • One 10/100 Base TX network connector (4623FN)
   • One 802.11b/g/n wireless module (4623FW)

6. Toner cartridge
   • Initial : 0.7K / 1K
   • Sales : 1.5K / 2.5K two types

7. ADF (4623 series)

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ELECTRONICS

Service Manual

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

(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 fire hazards.

(3) Laser Safety Statement
   The Printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class 1(1) laser products, and elsewhere, it is certified as a Class I laser product con-forming to the requirements of IEC 825. 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.

   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 pre-cautions should always be followed to reduce risk of fire, electric shock, and injury to persons.

CAUTION - INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GE...FFNET. NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS DÕOUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE LÕESPOSIZIONE AL FASCIO.

PRECAUCION - RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL. - USYNLIG LASERSTRLNING VED BNING, NR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDG UDSAETTELSE FOR STRLNING.

ADVARSEL. - USYNLIG LASERSTRLNING NR DEKSEL PNES. STIRR IKKE INN I STRLEN. UNNG EKSPONERING FOR STRLEN.

VARNING - OSYNLIG LASERSTRLNING NR DENNA DEL R ...PPNAD OCH SPRREN R URKOPPLAD. BETRAKTA EJ STRLEN. STRLEN R FARLIG.

VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NKYMTT...MLLE LASER-STEILYLLE L KATSO STEESEEN.

注　意 - 严禁渴开此盖, 以免激光泄露灼伤

주　의 - 이 덮개를 열면 레이저광에 노출될 수 있으므로 주의하십시오.

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 "Material Safety Data" sheets are available online at www.samsung.com.

1.2.2 Electric Shock and Fire Safety Precautions

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

(1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a fire or electric shock.
(2) Use only the power cable supplied with the printer. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.
(3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.
(4) Do not allow water or other liquids to spill into the 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 fire hazard.
(5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the 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 fire. When removing the power connector grip, ensure the power switch is turned off first then grip it firmly 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 fire 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 fire 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 humidifier, or in front of an air conditioner. Damp and dust build up inside the machine can lead to overheating and cause a fire, or cause parts to rust.
(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 fire.
(12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.

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 fingers, hair or clothing in any of these rotating devices.
(3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the printer which if spilled could get into the machine and cause damage or a shock or fire hazard.
(4) Do not install the machine in areas with high dust or moisture levels, beside on open window or close to a humidifier 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 fire.

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-fitting any parts do not use excessive force, especially when fitting screws into plastic.
(6) Take care not to drop any small parts into the machine.
(7) Handling of the OPC Drum
    - The OPC Drum can be irreparably damaged if it exposed to light.
      Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 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.

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 finger 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.).

(3) When you move the printer.
   This printer weighs 23.34 lbs (SCX-4600 series) / 25.44 lbs (SCX-4623F/FN) 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 23.34 lbs (SCX-4600 series) / 25.44 lbs (SCX-4623F/FN), ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

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

1.3 ESD Precautions

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

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

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

2. Product specification and feature

2.1 Product Specifications

2.1.1 Product Overview

SCX-4600 series (3 in 1)   **SCX-4623 series (4 in 1)**

1. Print / Copy Speed
   • 23 ppm in letter

2. Processor
   • Jupiter5 375 Mhz

3. Printer Language Emulations
   • SPC, PCL-5 (4623FW)

4. Memory
   • 64 MB (4600/4623F)
   • 128 MB (4623FN)
   • 256MB (4623FW)

5. Interfaces
   • One USB port
   • One 10/100 Base TX network connector (4623FN)
   • One 802.11b/g/n wireless module (4623FW)

6. Toner cartridge
   • Initial : 0.7K / 1K
   • Sales : 1.5K / 2.5K two types

7. ADF (4623 series)

2.1.2 Specifications

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

2.1.2.1 General Specifications

Items	SCX-4600 series	SCX-4623 Series
Net Dimension (W x D x H)	416 x 409 x 275.8 mm (16.4 x 16.1 x 10.9 inches)	416 x 415.4 x 318.9 mm (16.4 x 16.4 x 12.6 inches) * SCX-4623FH : Without hand set
Weight with Consumables	10.59 Kg (23.34 lbs)	SCX-4623F/FN : 11.54 Kg (25.44 lbs)
LCD	2 line x 16 characters	2 line x 16 characters
Memory	64MB	SCX-4623F : 64MB SCX-4623FN : 128 MB SCX-4623FW : 256 MB
Interface	Hi-Speed USB 2.0	Hi-Speed USB 2.0 Ethernet 10/100 Base TX (SCX-4623FN) 802.11b/g/n WLAN (SCX-4623FW)
OS Compatibility *****	Windows 2000(32bit)/XP(32/64bit)/2003 Server(32/64bit)/Vista(32/64bit) Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2 Mac 10.3, 10.4, 10.5	Windows 2000(32bit)/XP(32/64bit)/2003 Server(32/64bit)/Vista(32/64bit) Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, and SuSE 8.2~9.2 Mac 10.3, 10.4, 10.5
WHQL	Windows 2000, XP, 2003 Server, Vista(32/64bits)	Windows 2000, XP, 2003 Server, Vista(32/64bits)
Wired network Protocol	N/A	TCP/IP, Ethertalk, SNMP, HTTP 1.1 (SCX-4623FN)
Wired network Supporting OS	N/A	SCX-4623FN : Windows 2000/XP(32/64bits)/2003 Server/Vista(32/64bits) NetWare 5.x, 6.x Mac OS 8.6~9.2, 10.1~10.4 Various Linux OS including Red Hat 8~9, Fedora Core 1~4, Mandrake 9.2~10.1, SuSE 8.2~9.2 Unix AT&T system V(Rel 4.2), BSD4.3, HP-UX (Rel 9.x & Rel 10.x), SCO 5.x, SUNOS 5.5, Sparc or Solaris 2.5.
Noise ******	Stand by : Less than 26 dBA Printing : Less than 50 dBA Coping : Less than 52 dBA	Stand by : Less than 26 dBA Printing : Less than 50 dBA Coping : Less than 52 dBA

Items	SCX-4600 series	SCX-4623 Series
Power Requirement	110 ~ 127 VAC, 50/60 Hz, 4.5A 220 ~ 240 VAC, 50/60 Hz, 2.8A	110 ~ 127 VAC, 50/60 Hz, 4.5A 220 ~ 240 VAC, 50/60 Hz, 2.8A
Operating Conditions	Temperature : 10 ℃ ~ 32 ℃ 　　　　　(50 ℉ ~ 89 ℉) Humidity : 20 % ~ 80 % RH	Temperature : 10 ℃ ~ 32 ℃ 　　　　　(50 ℉ ~ 89 ℉) Humidity : 20 % ~ 80 % RH
Power Consumption	Ready : Less than 45W Average : Less than 370W Save : Less than 10W Power off : Less than 1W	Ready : Less than 45W Average : Less than 370W Save : Less than 10W Power off : Less than 1W
AMPV	142 pages	SCX-4623F : 194 pages SCX-4623FN : 269 pages
Duty Cycle, monthly	12,000 pages	12,000 pages
MTBF	10,000 pages	10,000 pages
MTTR	30 min.	30 min.
SCANLife Cycle	20,000 sheets or 5 years (whichever comes first)	20,000 sheets or 5 years (whichever comes first)
ADF Life Cycle	N/A	20,000 sheets or 5 years (whichever comes first)
SET Life Cycle	50,000 sheets or 5 years (whichever comes first)	50,000 sheets or 5 years (whichever comes first)

2.1.2.2 Print Specifications

Items	SCX-4600 series	SCX-4623 Series
Method	Laser Beam Printing	Laser Beam Printing
Speed (Simplex)*	Up to 22 ppm (letter)	Up to 22 ppm (letter)
FPOT (letter)	Less than 19sec (from sleep mode) Less than 10sec (from stanby mode)	Less than 19sec (from sleep mode) Less than 10sec (from stanby mode)
Warm-up	Less than 60 seconds (from power ON at room temp. 23℃/73℉) Less than 15 seconds (from sleep room temp. 23 ℃/73℉)	Less than 60 seconds (from power ON at room temp. 23℃/73℉) Less than 15 seconds (from sleep room temp. 23 ℃/73℉)
Resolution	Up to 1200dpi Effective Output (Addressable 1200x1200dpi)	Up to 1200dpi Effective Output (Addressable 1200x1200dpi)
Processor	Jupiter5 375MHz	Jupiter5 375MHz
Memory	64MB	SCX-4623F : 64MB SCX-4623FN : 128 MB SCX-4623FW : 256 MB
Emulation	SPL	SPL , PCL-5 (4623FW Only)
Duplex Print	Manual	Manual

2.1.2.3 Copy Specifications

Items	SCX-4600 series	SCX-4623 Series
Speed **	SDMC: up to 23 cpm in letter	SDMC: up to 23 cpm in letter
Resolution (Optical)	Text: 600 x 300 dpi (Platen) Mixed: 600 x 300 dpi (Platen) Photo: 600 x 600 dpi (Platen)	Text: 600 x 300 dpi (Platen) Mixed: 600 x 300 dpi (Platen) Photo: 600 x 600 dpi (Platen)
FCOT(from Standby mode)	Approx. 15 seconds: Platen	Approx. 15 seconds: Platen Approx. 15 seconds: ADF
Zoom Rate	25~400% (platen)	25~400% (platen), 25~100% (ADF)
Multy Copy	1~99 pages	1~99 pages
Special Copy	AutoFit Copy: Yes(Platen only) 2-side Copy: Yes(Platen only) Clone: Yes(Platen only) Poster: Yes(Platen only)	N-up copy: 2-up / 4-up Collation Copy: Yes AutoFit Copy: Yes(Platen only) 2-side Copy: Yes(Platen only) Clone: Yes(Platen only) Poster: Yes(Platen only)
Duplex Copy	N/A	N/A
Duplex Print	Manual	Manual

2.1.2.4 Scan Specifications

Items	SCX-4600 series	SCX-4623 Series
Scanning Device	Color 1200 dpi CIS (Contact Type Image Sensor) Module	Color 1200 dpi CIS (Contact Type Image Sensor) Module
Supported OS	Windows 98/Me/NT4.0/2000/XP, Various Linux OS (via USB interface only) including Red Hat 8.0~9.0, Fedora Core 2~9, Mandrake 9.0~10.2, and SuSE 8.2~9.2, Mac 10.3~10.6	Windows 98/Me/NT4.0/2000/XP, Various Linux OS (via USB interface only) including Red Hat 8.0~9.0, Fedora Core 2~9, Mandrake 9.0~10.2, and SuSE 8.2~9.2, Mac 10.3~10.6
Compatibility	TWAIN Standard, WIA Standard (Win XP only)	TWAIN Standard, WIA Standard (Win XP only)
Maximum Scan Width	216mm (8.5 inches)	216mm (8.5 inches)
Effective Scan Width	208mm (8.2 inches)	208mm (8.2 inches)
Optical Resolution	Max 1200 x 1200 dpi	Max 1200 x 1200 dpi
Interpolated Resolution	Maximum 4800 dpi x 4800 dpi	Maximum 4800 dpi x 4800 dpi
Preview Scan	75 dpi	75 dpi

Items	SCX-4600 series	SCX-4623 Series
Scan Modes/Speeds: (PC Environment : Win XP, P4-2.4GHz, 512M RAM, 300 dpi, Letter, USB1.1, Photoshop 6.0.1)	Line Art, Halftone : 15 sec on Platen, 15 sec on ADF Gray : 23 sec on Platen, 26 sec on ADF 256 Color 300 dpi : 65 sec on Platen, 70 sec on ADF True Color 300dpi : 65 sec on Platen, 70 sec on ADF	Line Art, Halftone : 15 sec on Platen, 15 sec on ADF Gray : 23 sec on Platen, 26 sec on ADF 256 Color 300 dpi : 65 sec on Platen, 70 sec on ADF True Color 300dpi : 65 sec on Platen, 70 sec on ADF
ADF Capacity:	N/A	40 sheets (20 lb)

2.1.2.5 Fax Specifications

Items	SCX-4600 series	SCX-4623 Series
Compatibility	N/A	ITU-T Group 3, ECM
Applicable line	N/A	Public Switched Telephone Network (PSTN)
Modem Speed	N/A	33.6 Kbps
Transmission Speed ***	N/A	Approx. 3 seconds per page
Compression Mode	N/A	MH/ MR/ MMR/ JBIG/ JPEG
Scan Speed ****	N/A	Std : Approx. 2.5 seconds per page (LTR) Fine/S.Fine : Approx. 5 seconds per page (LTR)
Fax mode	N/A	Standard : 203 x 98 dpi Fine : 203 x 196 dpi Super Fine : 300 x 300 dpi
Memory	N/A	4MB (About 600 Sheets of CCITT No.1 Chart at standard resolution). User selectable parameters will be stored in NVRAM.
Functions	N/A	Voice Request : No TTI : Yes RTI : Yes Polling :No Earth/Recall :No Auto Reduction : Yes F/W Remote upgrade :Yes

2.1.2.6 Paper Handling

Items		SCX-4600 series	SCX-4623 Series
Standard Capacity		250-sheets Cassette Tray, 1-sheet Multi Purpose Tray @ 80g/㎡	250-sheets Cassette Tray, 1-sheet Multi Purpose Tray @ 80g/㎡
Maximum Capacity		251 sheets @ 80g/㎡	251 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")
1st Tray	Capacity	250 sheets @ 80g/㎡	250 sheets @ 80g/㎡
	Media Sizes	A4, A5, A6, Letter, Legal, Executive, Folio, Oficio, ISO B5, JIS B5	A4, A5, A6, Letter, Legal, Executive, Folio, Oficio, ISO B5, JIS B5
	Media types	Plain paper, Thick Paper, Thin Paper, Recycled Paper, Archive Paper	Plain paper, Thick Paper, Thin Paper, Recycled Paper, Archive Paper
	Media weight	16~32lb (60 to 120g/㎡)	16~32lb (60 to 120g/㎡)
	Sensing	Paper empty sensor	Paper empty sensor
2nd Tray Capacity		N/A	N/A
Manual Tray	Capacity	1 sheet @ 80g/㎡	1 sheet @ 80g/㎡
	Media Sizes	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive,ISO B5, JIS B5, 3"x5",Monarch, No.10, DL, C5, C6	A4, A5, A6, Letter, Legal, Folio, Oficio, Executive,ISO B5, JIS B5, 3"x5",Monarch, No.10, DL, C5, C6
	Media types	Plain paper, Thick Paper, Thin Paper, Recycled Paper, Archive Paper,Transparency, Envelope, Labels, Post Card, Card stock, Custom	Plain paper, Thick Paper, Thin Paper, Recycled Paper, Archive Paper,Transparency, Envelope, Labels, Post Card, Card stock, Custom
	Media weight	16~43lb (60 to 163g/㎡)	16~43lb (60 to 163g/㎡)
	Sensing	NA	NA
Output Stacking		80 sheets @ 75g/㎡	80 sheets @ 75g/㎡
Printable Area Non-Printable Area		Envelop : 10mm(0.4") from edge(Top, Bottom, Left, Right) Other Media : 4mm(0.16") from edge(Top, Bottom, Left, Right)	Envelop : 10mm(0.4") from edge(Top, Bottom, Left, Right) Other Media : 4mm(0.16") from edge(Top, Bottom, Left, Right)
ADF Capacity		N/A	40 sheets (Letter / A4, 20 lb / 75 g/㎡)
ADF Document Size		N/A	Width: 142 ~ 216mm (5.6"~8.5") Length : 148 ~ 356mm (5.8" ~ 14.0")
Media Size (for Fax and Copy)		Letter, A4, Legal	Letter, A4, Legal

2.1.2.7 Consumables (CRU)

Items	SCX-4600 series	SCX-4623 Series
Type	Single Cartridge	Single Cartridge
Yield	Initial : Average Cartridge Yield 0.7K standard pages Standard: Average Cartridge Yield 1.5K standard pages. High Yield: Average cartridge Yield 2.5K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.	Initial : Average Cartridge Yield 1K standard pages Standard: Average Cartridge Yield 1.5K standard pages. High Yield: Average cartridge Yield 2.5K standard pages. Declared cartridge yield in accordance with ISO/IEC 19752.
Key	Electronic key(CRUM) Only	Electronic key(CRUM) Only
Code		

2.1.2.8 Consumables (FRU)

Item	Image	Part code	Life
Fuser		JC91-00945A(220V) JC91-00946A(110V)	50K
Transfer Roller		JC66-01218A	50K
Pick up Roller		JC93-00087A	50K
Cassette holder pad		JC90-00941A	50K

2.1.2.9 Options

Items	SCX-4600 series	SCX-4623 Series
Network	N/A	Yes [SCX-4623FN]
Memory	N/A	N/A
SCF	N/A	N/A
PS	N/A	N/A

* Print speed will be affected by Operating system used, computing performance, application software, connecting
    method, media type, media size and job complexity.

** Copy Speed is based on Single Document Multiple Copy

*** Condition: Standard resolution, MMR(JBIG), Maximum modem speed, Phase "C" by ITU-T No.1 Chart,
      Memory Tx, ECM

**** Condition: ITU-T No.1 Chart, Standard Resolution

***** Please visit www.samsungprinter.com to download the latest software version.

****** Sound Pressure Level, ISO7779

******* May be affected by operating environment, printing interval, media type and media size

2.1.3 Model Comparison Table

		Samsung SCX-4623FN	Samsung SCX-4521F	Brother MFC-7440N (Brother)
Image				
Print	Speed (A4)	22ppm	20ppm	22ppm
	Resolution	1,200 x 600 dpi	600 x 600 dpi	2,400 x 600 dpi
	Emulation	SPL	SPL	GDI
	FPOT	10 sec from ready	11 sec from ready	10 sec from ready
Copy	Resolution	600 x 600 dpi	600 x 600 dpi	600 x 300 dpi
Scan	Mode	Scan To PC	Scan To PC	Scan To PC
	Resolution (optical)	1,200 x 1,200 dpi	600 x 600 dpi	600 x 2,400 dpi
	Resolution (Enhanced)	4,800 x 4,800 dpi	4800 x 4800 dpi	9,600 x 9,600 dpi
Fax	Modem Speed	33.6 Kbps	33.6 Kbps	14.4 Kbps
	Memory	4 MB	2 MB	16 MB
Paper	Input Capacity	250 Cassette	150 sheets	250 Cassette
	ADF Capacity	40 sheets	30 sheets	35 sheets
General	Interface	USB 2.0, N/W	USB 2.0	USB 2.0, N/W
Toner Yield	Sales/Initial	1.5K/2.5K (1K)	3K (1K)	1.5K/2.6K (1K)

2.2 System Overview

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

2.2.1 Front View
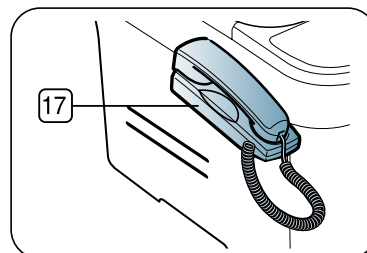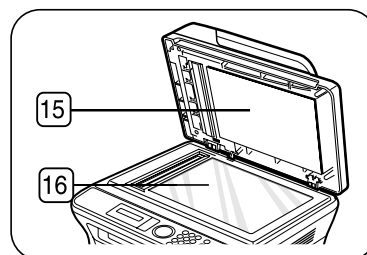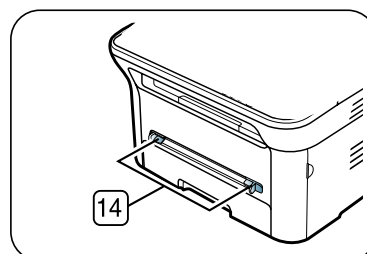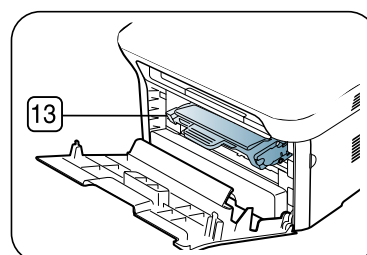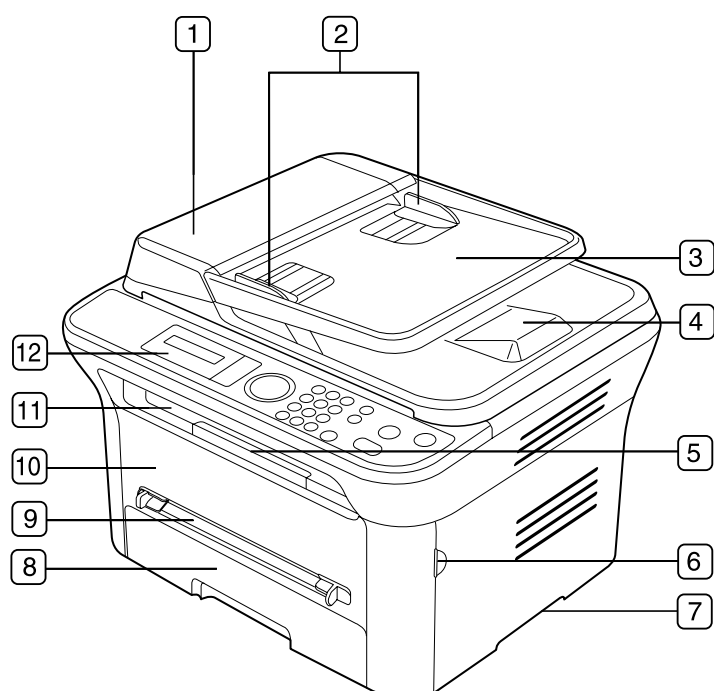
This illustration may differ from your machine depending on its model.

1	Document feeder cover[a]	**7**	Handle	**13**	Toner cartridge
2	Document feeder width guides[a]	**8**	Tray 1	**14**	Manual tray paper width guides
3	Document feeder input tray[a]	**9**	Manual tray		
4	Document feeder output tray[a]	**10**	Front door	**15**	Scanner lid
5	Output support	**11**	Document output tray	**16**	Scanner glass
6	Front door handle	**12**	Control panel	**17**	Handset[b]

a. SCX-4623F(K), SCX-4623FN, SCX-4623FH(K)
b. SCX-4623FH(K) only.

2.2.2 Rear View
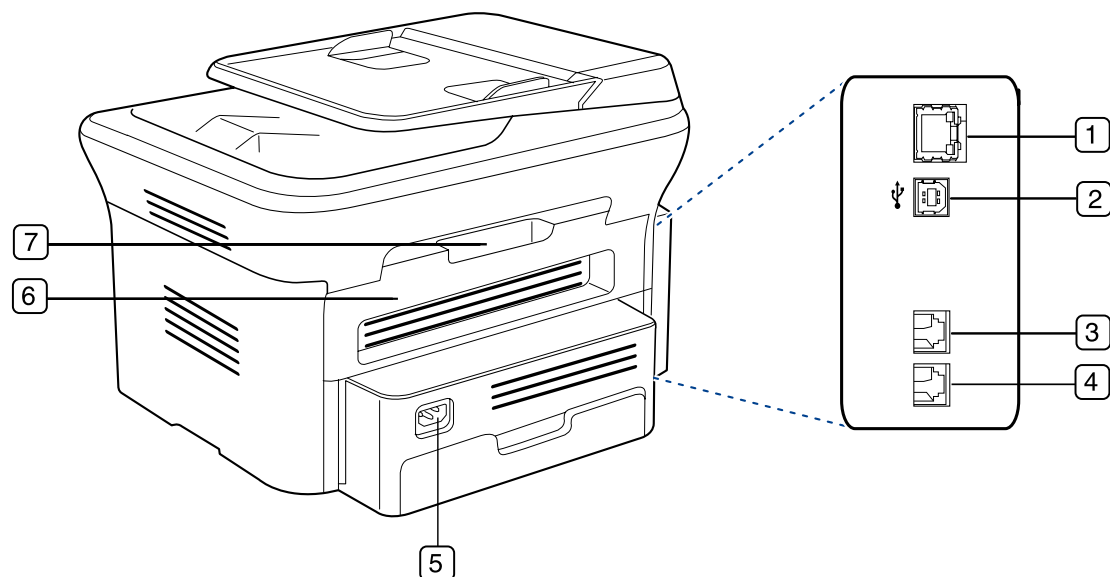
This illustration may differ from your machine depending on its model.

1	Network port[a]	**5**	Power receptacle
2	USB port	**6**	Rear door
3	Telephone line socket[b]	**7**	Rear door handle
4	Extension telephone socket (EXT)[b]		

a. SCX-4623FN
b. SCX-4623F(K), SCX-4623FN, SCX-4623FH(K)

2.2.3 System Layout

This model is consisted of the Engine parts and F/W, and said engine parts is consisted of the mechanical parts comprising Frame, Feeding, Developing, Driving, Transferring, Fusing, Cabinet and H/W comprising the main control board, power board, operation panel, PC Interface.
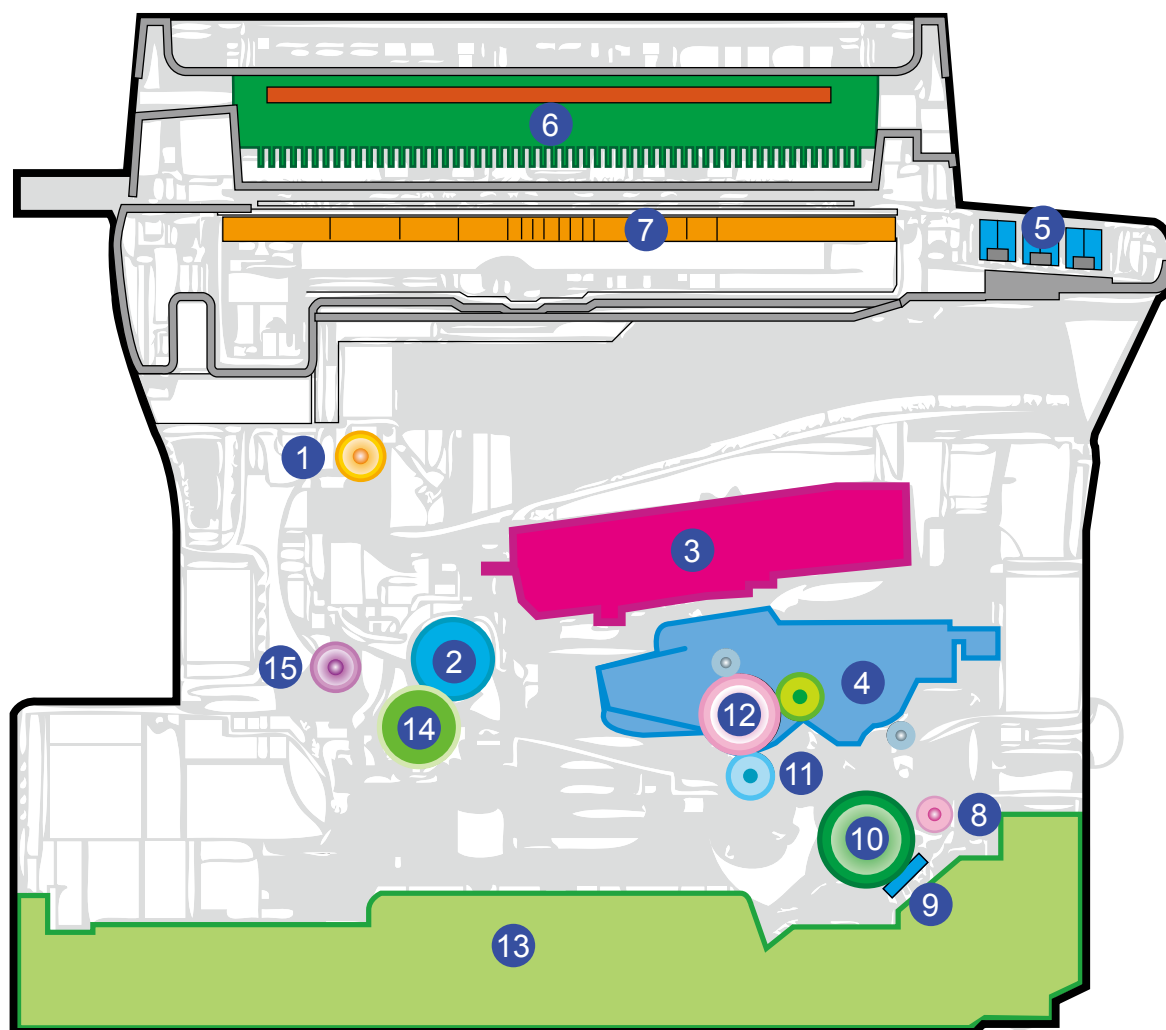
1	Top out-bin delivery roller
2	Fusing roller
3	LSU
4	Toner Cartridge
5	OPE
6	ADF
7	Platen
8	Feed roller

9	Separation Pad
10	Pick up roller
11	Transfer roller
12	OPC
13	Cassette
14	Pressure roller
15	Fuser Exit roller

2.2.3.1 Feeding Part

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

1) Separation method

Paper is separated by the friction pad mounted to the center of the cassette.

2) Basic cassette

It takes a center loading method and applies 'friction pad separating method.'
Both the side guide and the rear guide can be adjusted for for various types of papers from invoice to legal size paper.
It has a paper existence sensing function
(Capacity: 250 sheets (75g/m^2, 20lb paper standard), paper arranging function, various size papers accepting function.
In the front side, there is a paper level indicator.

3) Pick- up roller

It initializes paper transport out of the cassette. The Pickup Roller is driven by a solenoid.

4) Registration roller

It has a paper registration [skew correction] function, paper transferring function, paper detecting function, jam removing
function, and so on.

5) Manual tray

It has a paper registration [skew correction] function, paper transferring function, jam removing function, and so on.
It uses manual feed method to feed 1 sheet of paper and 1 envelope.

2.2.3.2 Transfer Roller

- The transfer roller delivers the toner from the OPC drum to the paper.
- There is no PTL Ass'y.
- Life Span : Print over 50,000 sheets (in15~30℃)

2.2.3.3 Driver Assy

- In SCX-4600/4623 series, the driving device consisted of Φ55 BLDC motor, OPC, Pick- up, Feed, gear block all mounted as an assembly.

  • Driving Frequency: BLDCΦ55 Motor : 2200rpm(1650 Clock)

  • It is a power delivery unit by gearing: BLDCΦ55 Motor - >Pickup/Feeder/Developer/Fuser/Duplex

2.2.3.4 Fuser

It is consists of a halogen lamp, heat roller, pressure roller, thermistor and thermostat. It fuses the toner on to the paper by heat and pressure to complete the printing job.
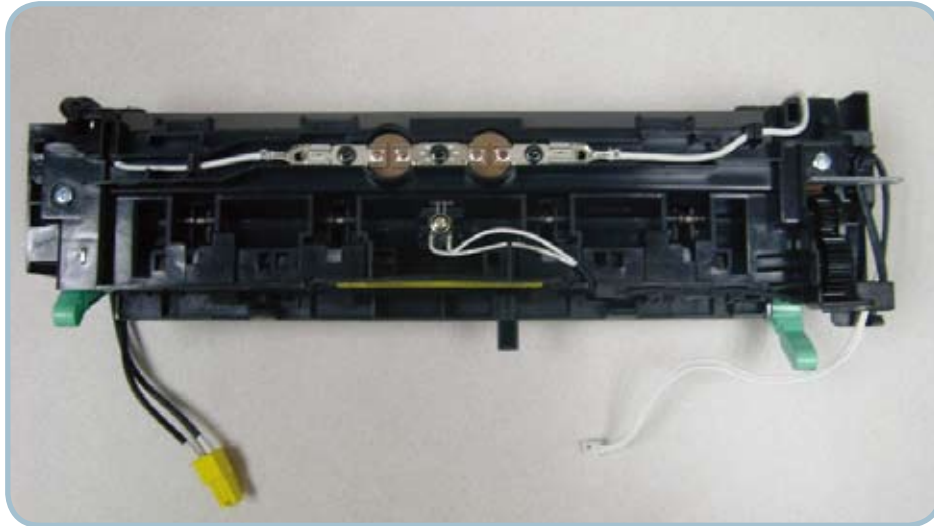
1) Thermostat
When a heat lamp is overheated, a Thermostat cuts off the main power to prevent over- heating.
- Thermostat Type : Non- Contact type THERMOSTAT
- Control Temperature : 170℃ ± 5 ℃

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 : 750 Watt ± 25 W

6) Items for safety

Protecting device for overheating
- 1st protection device: Hardware cuts off when overheated
- 2nd protection device: Software cuts off when overheated
- 3rd protection device: Thermostat cuts off main power.

Safety device
- A fuser power is cut off when a front cover is opened
- Maintain a temperature of fuser cover's surface under 80℃ for user, and attach a caution label at where customer can see easily when customer open a rear cover.

2.2.3.5 LSU (Laser Scanner Unit)

It is the core part of the LBP which switches the video data received to the controller to the electrostatic latent image on the OPC drum by controlling laser beam, exposing OPC drum, by use of a polygon mirror. The OPC drum is synchronized 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. The /HSYNC signal is used to synchronize the image data with the left margin of the paper.
The one side of the polygon mirror is one line for scanning.
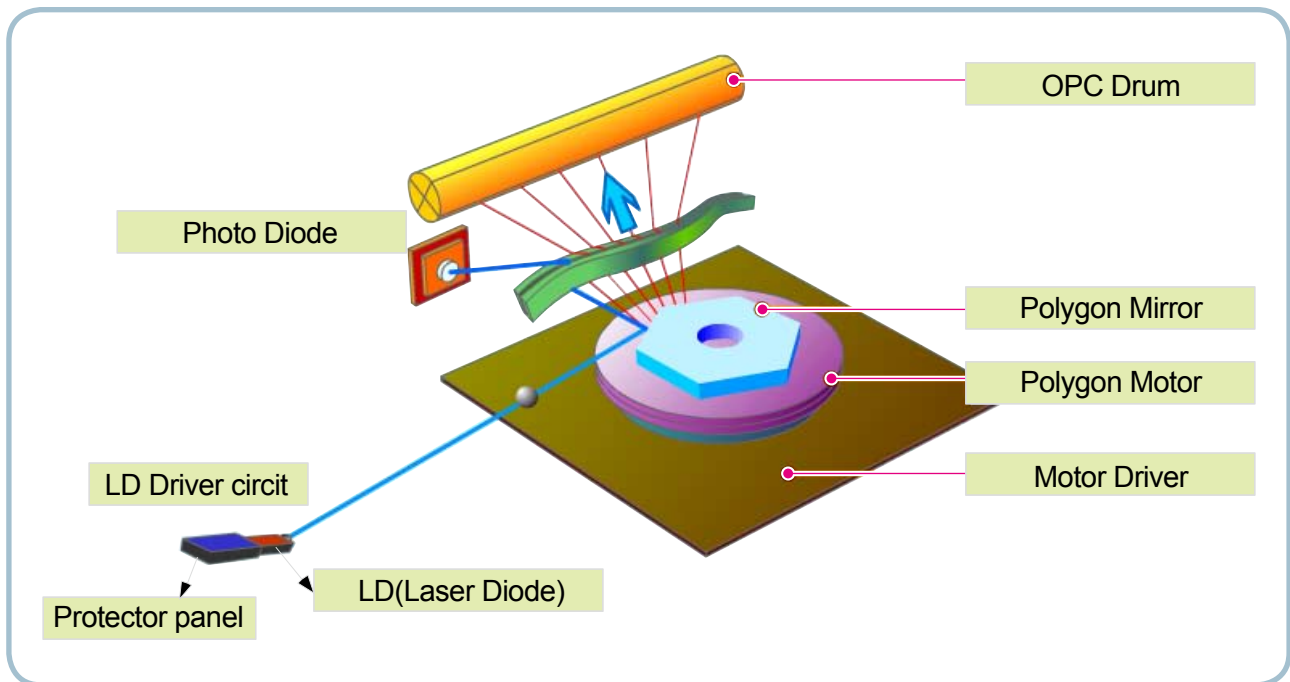
2.2.3.6 Toner Cartridge

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

- Developing Method : Non magnetic 1 element contacting method
- Toner : Non magnetic 1 element shatter type toner
- Charging capacity : - 39.1 ± 3 μC/g
- Average OD : 8.0 ± 0.5μm (Toner)
- Toner Qty : 30gf / 40gf / 80gf (Initial : 1K/ Sales :1k / 2.5k)
- The life span of toner: 1k/2.5k sheets (ISO 19752 Pattern / letter standard)
- Toner Residual Sensor : Dot count with CRUM(CRU Monitor)
- OPC Cleaning : Collect the toner by using cleaning blade.
- Handling of wasted toner : Waste [residual] toner is cleaned off the drum by means of a cleaning blade.
- OPC Drum Protecting Shutter : None
- Classifying device for toner cartridge: ID is classified by CRUM.
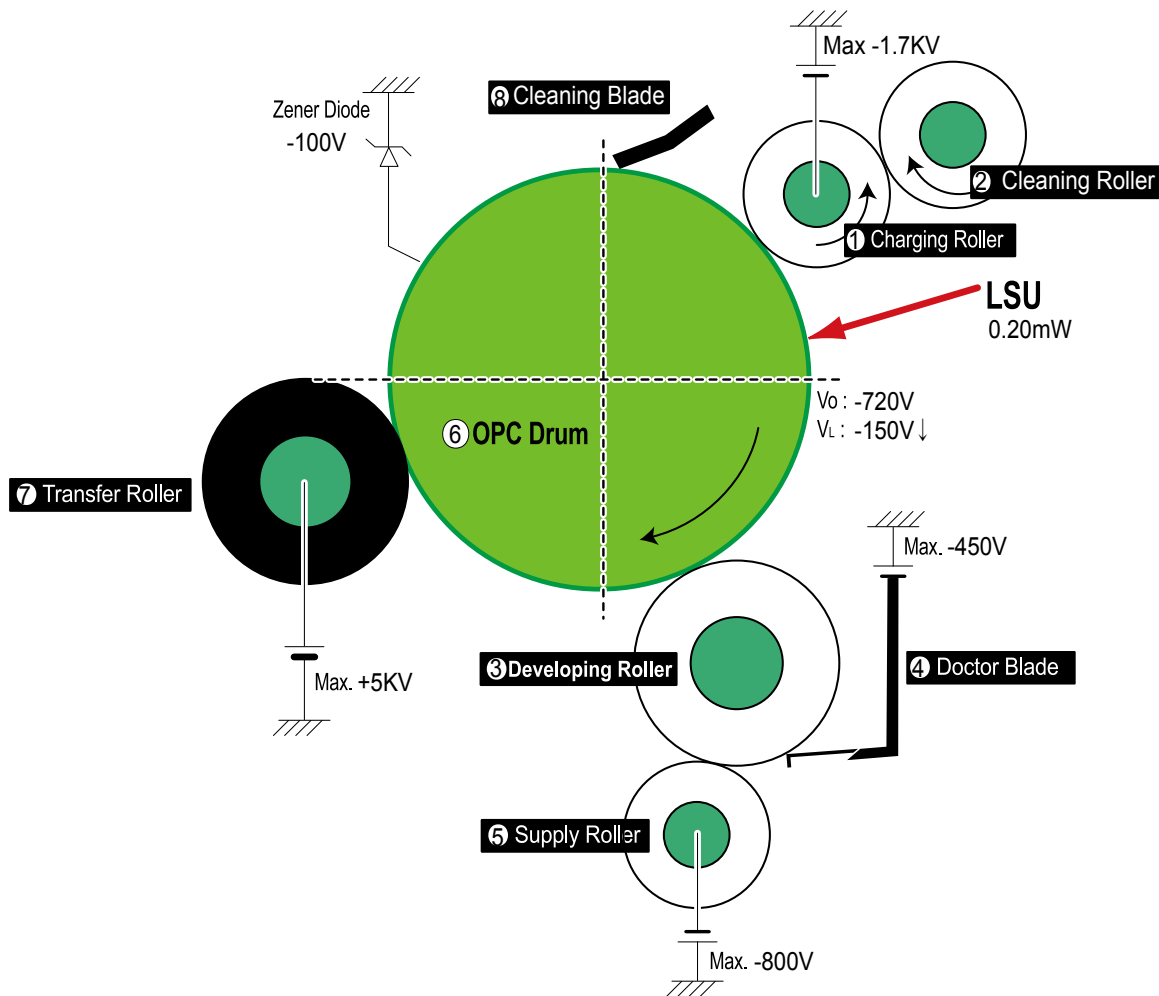
2.2.4 Engine H/W Specifications

2.2.4.1 Main PBA

The Engine and the Printer Controller function are housed into one Main Board called Main PBA. The CPU is functioned as the bus control, I/O handling, drivers, and PC interface. The main board sends the Current Image of Video data to the LSU and The CPU on Main PBA manages the circuits for the motors: paper feed, paper path, clutches, pre- transfer lamp, current control to driver components, and fan driving. The signals from the paper feed jam sensor and paper empty sensor are directly inputted to the main board.

■ **SCX-4623FN**

■ **SCX-4623FW**

USB2.0 IC (ISP

WLAN

DDR2 SDRAI
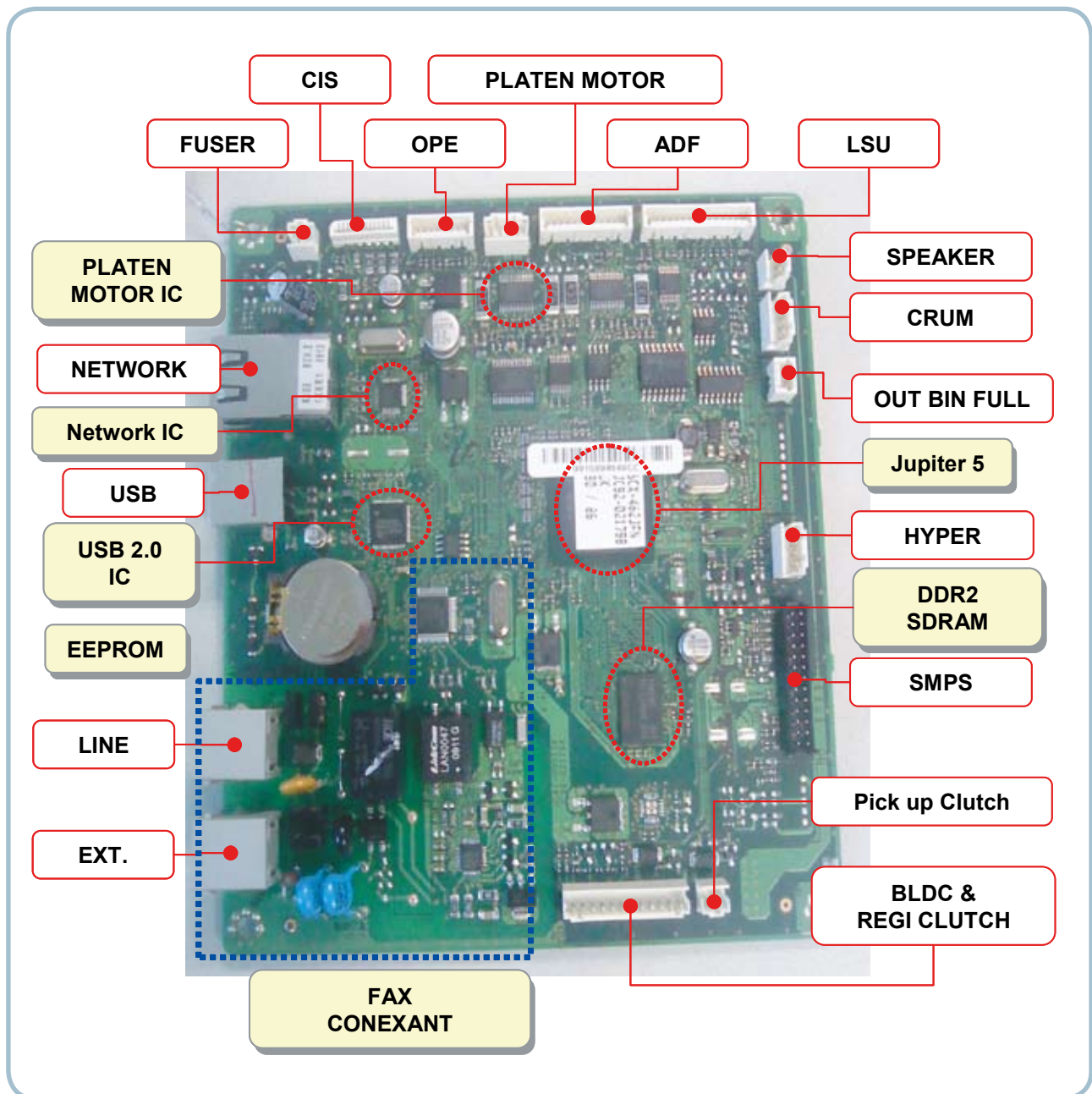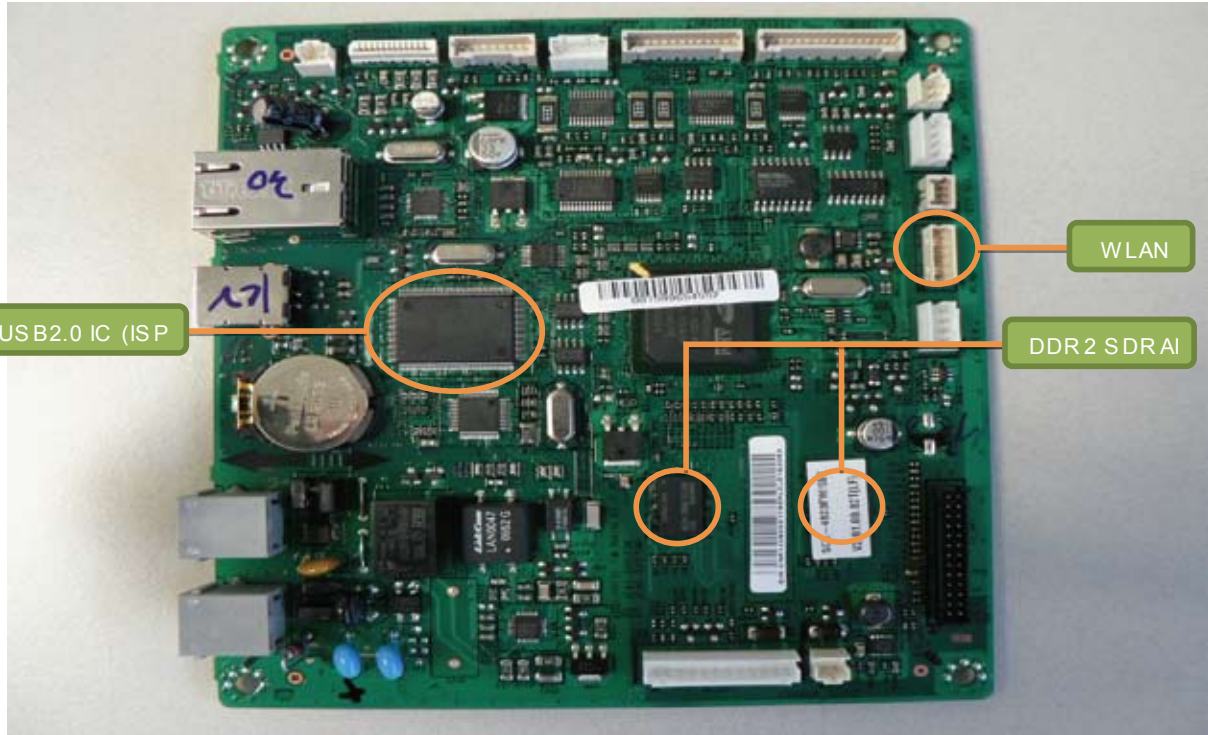
(a) Asic (Jupiter5)

• CPU core : ARM926EJS
  - 16KB I-cache, 16KB D-cache

• Operating Frequency
  - CPU : 375MHz
  - Bust : 125MHz recommended

• Multi-Port DDR SDRAM Controller
  - DDR1, 2 combos
  - Internal 32 bits data width, external 16 bits data width

• External ROM Controller
  - 2 channel NOR flash controller
  - 32 MB address space per each channel

• MAC
  - 10M/100Mbps
  - Full IEEE 802.3 Compatibility

• Engine Controller
  - LSU Interface Unit
  - Step Motor : 2 Channels
  - PWM : 8 Channels
  - ADC : 4 Channels

(b) Memory

• Flash Memory : It stores System Program and downloads the System Program through PC Interface, and in case of model for export it compresses the PCL font, then stores it.
  - Capacity : 8M Byte (NOR Flash)/16M Byte (4623FW Only)
  - Access Time : 90ns
  - Page read Time : 25ns

• DRAM : It is used as Swath Buffer, System Working Memory Area, etc. when printing.
It stores Font List, compressed into Flash memory, on DRAM and uses it as PCL font in case of model for export.
  - Capacity : SCX-4600/4623F : 64MB
              SCX-4623F : 128MB
              SCX-4623FW : 256MB
  - Type : SDRAM 100MHz/133MHz, 16bit

(c) Sensor Input Circuit

■ **Paper Empty Sensing & Paper Width Sensor**

The Paper Empty/Width Sensor is mounted on the HVPS. This one sensor is used to detect both an "empty paper" condition, and as to whether e.g. invoice [narrow paper] paper is installed.
When a printing job comes to the CPU, the CPU initializes the pickup action regardless of the state of the sensor. If paper is then detected by the Feed Sensor, the paper will then be recognized as e.g.invoice paper even though the Paper Empty Sensor was on. If no paper is detected by the Feed Sensor, then the CPU will recognize that a "Paper Empty" condition exists and displays the RED warning light on the OPE PBA.

■ **Regi Sensing**

The registration sensor (Regi Sensor, a photo interrupter) informs the CPU that paper is registered at the registration rollers, and waiting for proper leadedge schronization
with the image on the drum.

■ **Paper Feeding/With Toner Cartridge Sensing**

When the leadedge of the paper is detected by the Feed Sensor (photo interrupter), it begins the development process of the drum after a predetermined time.
A paper jam condition is detected if the leadedge of the paper is not detected by the feed sensor within 1sec. after the initialization of paper feed; then the LED warning light will be display (RED color).
The toner cartridge detection is monitored by the CRUM sensors. If all of the CRUM sensors are off, the CPU knows the cartridge is not in the machine, and takes appropriate action by turning on the out of toner light. If the CRUM sensors do not detect that the correct cartridge is inserted, the CPU will display the toner cartridge is invalid, it will show invalid sign on a LED.

■ **Paper Exit Sensing**

The Paper Exit Sensor is mounted on the Fuser Unit exit side, and is used to ensure that paper has indeed exited the machine. If the on/off time of exit sensor is abnormal, then a JAM2 is informed. The LED on the display will turn on a RED warning color.

■ **Cover Open Sensing**

The Cover Open Sensor is located on the HVPS. When the front cover is opened, all +24VS is shut off. Then the customer will be notified on the display that the door is open ["door open"] and the red will turn on.

■ **DC FAN / SOLENOID Driving**

DC Fans and Clutches are driven by turning on and off TRs, which is controlled by the CPU. The diode in the Fan and Clutch driving circuits protects TR driven from noise when these driver components de-energize.

■ **Motor Driving**

The main motor driving circuits are located on the BLDC Motor Ass'y Unit. The Main Controller has the interfacing circuits to proper control the components. There is motor driver IC on the Motor Control Board to control the BLDC Motor assembly unit.

2.2.4.2 HVPS and SMPS Board

The HVPS Board and SMPS Board housed in one board.

The HVPS board creates the high voltage of THV/MHV/Supply/Dev and supplies it to the developer portion f The HVPS portion takes the 24V and outputs the high voltage for THV/MHV/BIAS, and supplied to the high voltage, OPC cartridge, and transfer roller for optimum latent image and toner transfer quality.

It is the power source of entire system. It is assembled by an independent module, so it is possible to use for common use. It is mounted on the side of the machine.
It is consisted of the SMPS portion, which supplies the DC power for driving the system, and AC to power the Fuser Unit. SMPS has two output channels, which are +5V and +24V.
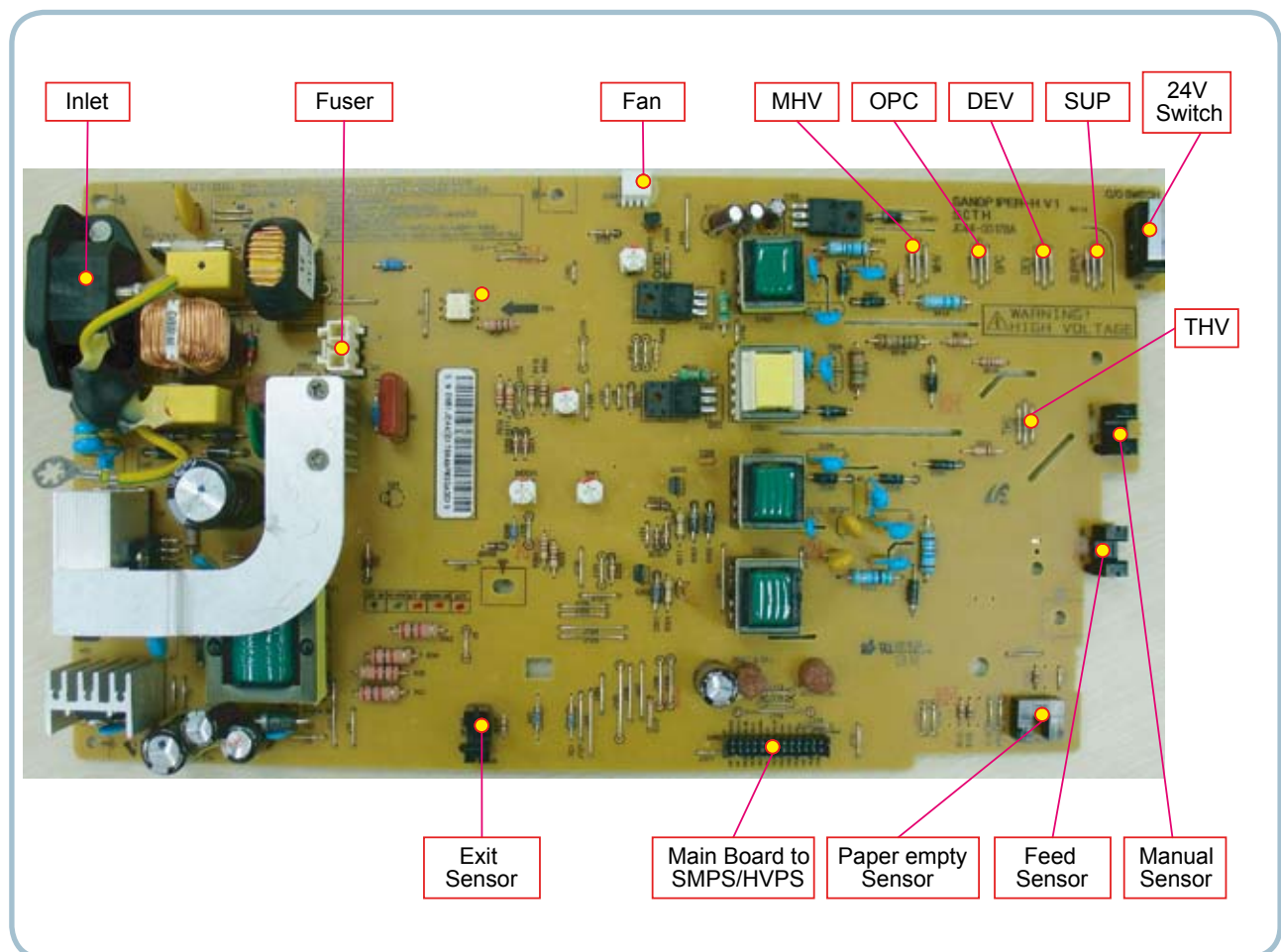
■ HVPS Board

• Transfer High Voltage (THV+)

- Input Voltage: 24 V DC ± 15%
- Output Voltage: +1.3KV(Duty Variable)
- Line Regulation : under±3% (fluctuation input 21.6V ~ 27.6V)
- Output Voltage Rising Time   50ms Max
- Output Voltage Falling Time : 100 ms Max
- Fluctuating transfer voltage with environmental various : 0 V~ 5 KV
- Environment Recognition Control Method : The THV-PWM ACTIVE is transfer active signal. It detects the resistance by recognizing the voltage value, F/B, while permits the environmental recognition voltage.
- Output Voltage Control Method : Transfer Output Voltage is outputted and controlled by changing Duty of THVPWM Signal.

• Charge Voltage (MHV)

- Input Voltage : 24 V DC ± 15%
- Output Voltage : -1.3KV DC ± 3%
- Output Voltage Rising Time : 50 ms Max
- Output Voltage Falling Time : 50 ms Max
- Output Control Signal(MHV-PWM) : CPU is HV output when PWM is Low

• Cleaning Voltage (THV-)

- -1.2KV ± 15%
- The (+) Transfer Voltage is not outputted because the THV PWM is controlled with high.
- The (-) Transfer Voltage is outputted because the THV-Enable Signal is controlled with low
- The output fluctuation range is big because there is no Feedback control & connection Resistor.

• Developing Voltage (DEV)

- Input Voltage : 24 V DC ± 15%
- Output Voltage: -480V DC ± 3%
- Output Voltage Fluctuation   Method : PWM Control
- Line Regulation : under±3% (fluctuation input 21.6V ~ 27.6V)
- Load Regulation : Under ±3%
- Output Voltage Rising Time : 50 ms Max
- Output Voltage Falling Time : 50 ms Max
- Output Control Signal (BIAS-PWM) : the CPU output is HV output when PWM is low.

• Supply

- Output Voltage : -630V DC ± 5% (ZENER using, DEV)
- Line Regulation : under±3% (fluctuation input 21.6V ~ 27.6V)
- Load Regulation : Under ±3%
- Output Voltage Rising Time : 50 ms Max
- Output Voltage Falling Time : 50 ms Max
- Output Control Signal (BIAS-PWM) : the CPU is HV output when PWM is low

■ SMPS Board

◆ AC Input

Input Rated Voltage	AC 220V ~ 240V AC 110V ~ 127V
Input Voltage fluctuating range	AC 180V ~ 270V AC 90V ~ 135V
Rated Frequency	50/60 Hz
Frequency Fluctuating range	47 ~ 63 Hz
Input Current	Under 4.0Arms / 2.0Arms (But, the status when e-coil is off or rated voltage is inputted/outputted)

◆ Rated Output Power

NO	ITEM	CH1	CH2	Remark
1	CHANNEL NAME	+5.0V	+24.0V	
2	CONNECTOR PIN	CON 14 5V PIN : 7,15,16 GND PIN : 4,8,13,14	CON 14 24V PIN : 5,6 GND PIN : 4,8,13,14	CON 14 24VS PIN : 9,10,11
3	Rated Output	+5.1V ± 5% (4.845 ~ 5.355V)	+24V ± 10% (21.6 ~ 26.4V)	
4	Max. Output Current	1.0 A	2.0 A	
5	Peak Loading Current	1.2 A	2.3 A	
6	RIPPLE NOISE Voltage	Under 100mVp-p	Under 500mVp-p	
7	Normal output	5.0W	43.2W	
8	Maximum output	6.0W	55.2W	
9	Protection for loading shortage and overflowing current	Shut down or Fuse Protection (Under LPS spec)	Shut down(2.8A~4.5A) or Voltage Drop(tnip-10%)	

2.2.4.3 Fax

Our fax feature is based on Conexant DAA (Data Access Arrangement) Solution, and is controlled by a dual Chip Set Solution.

- CX86710 (SFX336) : This Modem Chip adds SSD (System Side Device) for interfacing between LSD and DIB of FM336Plus Core
- CX20493 (LSD) : This Modem Chip LIU (Line Interface Unit) is controlled by SSD and satisfies each PSTN requirement by modulating the internal configuration with connecting Tel Line.
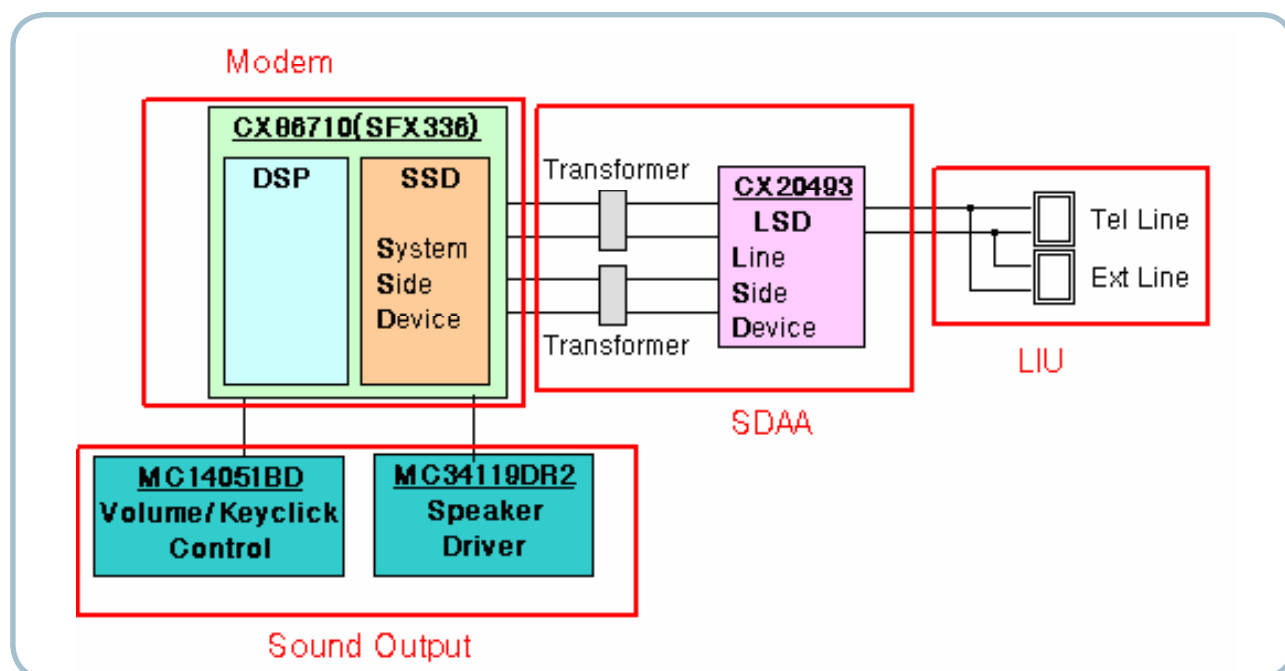
2.2.4.4 Scan

1) Pictorial signal input part: output signal of CIS passes through MP Cap change to ADC at LAFE1001, and defined signal between LAFE1001 and JUPITER5 processes the Image signal. When AFE accepts each pixel, CDS (Correlated Double Sampling) technique which samples arm-level twice is used on each pixel by the CIS signal.

2) The image processing portion is read by CIS Pixel data in 1200dpi Line and processed using an Error Diffusion Algorithm on Text mode and Photo mode. When scanning at machine and/or on PC Scan, the data is stored in a Scan Buffer without algorithm.
Shading and Gamma Correction are executed immediately in every mode, then processing is executed later.

 * Scan Image Control Specification
 ① Minimum Scan Line Time : 0.75ms(300dpi)
 ② Scan Resolution : Max. 1200DPI
 ③ Scan Width : 216mm
 ④ main function
   - Internal 10bit ADC
   - White Shading Correction
   - Gamma Correction
   - CIS Interface
   - 256 Gray Scale

3) CIS Operating Part : CISM Image sensor use +3.3V and LEDs uses +12V
   - CIS Maximum Operating Frequency : 4MHz
   - CIS Line time : 0.75ms
   - White Data output Voltage : 1.0Vmin (Color mode : 300dpi, 0.75ms/line)
   - Maximum LED Current : 45~60 mA Max.(+12V)

2.2.5 Engine F/W Contol Algorithm

2.2.5.1 Feeding

If feeding from a cassette, the drive to the pickup roller is controlled by a solenoid. The on/off time the solenoid is controlled by Main PBA. The Paper Jam protocols are as follows:

Item	Description

JAM 0	- After picking up, paper cannot be entered due to paper is not fed.
	- After picking up, paper does not reach the Feed Sensor in after a predetermined time due to paper slippage, etc.
	- After picking up, if the Feed Sensor does not detect paper after a predetermined time following the initialization of another take-up retry.
	  * *It is a status that the leading edge of the paper doesn't pass the feed sensor.*
	- Even though the paper reaches to the feed sensor, the feed sensor doesn't be ON.
	  * *It is a status that the leading edge of the paper already passes the feed sensor.*

JAM 1	- The trailing edge of the paper must clear the Feed Sensor after predetermined time. (The feed sensor cannot be OFF) - The leading edge of the paper must detect the Exit Sensor within a predetermined after leaving the Feed Sensor. (The exit sensor cannot be ON) * *The paper exists between the feed sensor and the exit sensor.*
JAM 2	- The trailing edge of the paper must clear the Exit Sensor after predetermined time.

2.2.5.2 Transfer

The charging, developing and the transfer voltages are controlled by PWM (Pulse Width Modulation). Each output voltage may change due to the PWM duty. The transfer voltage admitted when the paper passes the transfer roller is decided by environment recognition. The resistance value of the transfer roller is changed due to the surrounding environment through AD converter. The voltage value for impressing to the transfer roller is decided by this value change.

2.2.5.3 Fusing

The temperature change of the heat roller's surface is changed to the resistance value through the thermistor. The Heat Roller temperate (warmup) is measured by converting the resistance of the thermistor to a measurable DC voltage value. The AD converter changes it to a digital value so it knows when it has reach its proper fusing temperature. The AC power to the fuser lamp is controller by comparing the target temperature to the value from the thermistor. If the value from the thermistor is out of controlling range an error will occur and power disabled. The table below lists the types of Fuser Errors that can occur:

• **Open Heat Error**

During warmup, if the Fuser Unit does not reach its proper operating temperature within a predetermined time an "Open Heat Error will occur. An error message will be displayed on the Control Panel alerting the customer. The engine stops all functions and keeps it at the error state until the issue is resoled by a qualified technician.

• **Low Heat Error**

After initial warmup had been achieved, if the Fuser Unit at any time does not reach its proper operating temperature within a predetermined time an "Low Heat Error will occur. An error message will be displayed on the Control Panel alerting the customer. The engine stops all functions and keeps it at the error state until the issue is resoled by a qualified technician.

• **Over Heat Error**
If the Fuser Unit at any time exceeds the specified range [too hot] for proper operating temperature an "Over Heat Error will occur. An error message will be displayed on the Control Panel alerting the customer. The engine stops all functions and keeps it at the error state until the issue is resoled by a qualified technician.

2.2.5.4 LSU

LSU receives the image data from PVC or HPVC and makes 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 to the customer.

• **By Hsync :** When the polygon motor is ready, the LSU sends out the signal called Hsync and it is 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 to the customer.
LSU Error Recovery: If the LReady or Hsync error occurs, the paper is exited with no image on it. 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 will be proceeding.

2.2.6 S/W Descriptions

2.2.6.1 Overview

The software of ML-2855ND system is constructed as follows:
1) The Host Software is an application software that can operate in a Windows and/or Web Environment.
2) The Firmware portion is an Embedded software controlling the print job.

2.2.6.2 Architecture

```
                          ┌──────────┐
                          │ PRINTER  │
                          └────┬─────┘
              ┌────────────────┴────────────────┐
        ┌─────────────┐                   ┌──────────┐
        │ HOST Software│                  │ Firmware │
        └──────┬──────┘                   └────┬─────┘
      ┌────────┼────────┐              ┌────────┴────────┐
 ┌────────┐ ┌────────┐ ┌──────────┐ ┌──────────┐ ┌────────┐
 │ Driver │ │Web-based│ │Stand-alone│ │Application│ │ Kernel │
 │        │ │Application│ │Application(*)│ │(Emulation)│ │       │
 └────────┘ └────────┘ └──────────┘ └──────────┘ └────────┘
```
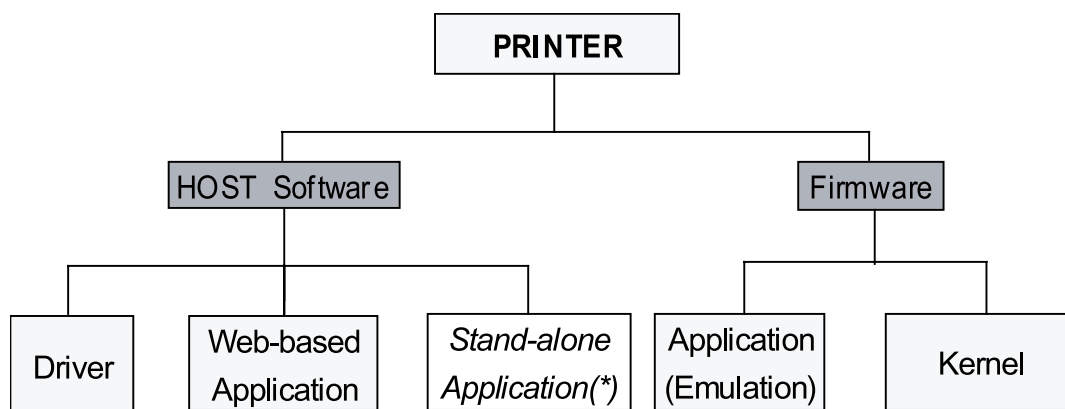
☞ (*) is job for common S/W team

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 the 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(ML-2855ND), etc.) to be able to allow the user to take same output as original composed in Host.
2. Kernel that control and management the whole procedure include of Control flow and Printing Job before transfer to Engine system.

2.2.6.3 Data and Control Flow

HOST   Firmware

USB

Driver
. GDI & PCL6 (PCL XL)

Web- based
. Document Management
   System
. Network Administration
. Status Monitor
. Remote Control Panel

Stand- alone(*)
· Printer Settings Utility
. Network Administration
. Status Monitor

Port Monitor(*)

Network Interface Card(*)

KERNEL

ENGINE

Application (Emulation)
. PCL
. PostScript
. etc

Note: (*) is role of N/W I/F

Provided below is a detail explanation of the Block Diagram above.

Host Side is made up of:

1. The Print Driver that is Windows application software translates printed data to one of printer languages and creates spooler file.
2. Web-based Application offer a varity of additional functions for the printer; 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).

Firmware Side is made up of:

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

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

In Printing, the two procedures are:

(1) Case of using USB Port
- After user starts to print their document to PCL string or compressed GDI bit-map data; the driver translates all graphic data and sends the data to host spooler. The spooler then sends the data stream to the printer via USB port.
- Kernel receives this data from the Host, and then selects the emulation fit to data and start selected one. After emulation job ends, 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) Network Interface Card
- After the user starts to print their document to PCL string or compressed GDI bit-map data, the driver translates the graphic data 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 Card.
- Network interface card receives it and send to Kernel part.
- Kernel receives this data from Host, and selects emulation fit to data and start selected one. After emulation job ends, Kernel sends the output bit-map data to the Engine using Printer Video Controller (by clock type for LSU).
- Engine print the received data to required paper with the sequential developing process.

The additional printing function are realized in:

(1) Web environment
(2) Window environment

In addition, Kernel informs the printing and printer status to end-user making the printing job with the Status Monitor.

3. Disassembly and Reassembly

3.1 Precautions when replacing parts

3.1.1 Precautions when assembling and disassembling

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

3.1.2 Preautions when handling PBA

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

>> Precautions when moving and storing PBA
1. Please keep PBA in a conductive case, anti-static bag, or wrapped in aluminum foil.
2. Do not store a PBA where it is exposed to direct sunlight.

>> Precautions when replacing PBA
1. Disconnect power connectors first, before disconnecting other cables
2. Do not touch any soldered connections, connector terminals or other electronic parts when handling insulated parts.

>> Precautions when checking PBA
1. Before touching a PBA, please touch other grounded areas of the chassis to discharge any static electrical charge on the body.
2. Take care not to touch the PBA with your bare hands or metal objects as you could create a short circuit or get an electric shock. Take extra care when handling PBAs with moving parts fitted such as sensors, motors or lamps as they may get hot.
3. Take care when fitting, or removing, screws. Look out for hidden screws. Always ensure that the correct screw is used and always ensure that when toothed washers are removed they are refitted in their original positions.

3.1.3 Releasing Plastic Latches

Many of the parts are held in place with plastic latches. Release carefully to prevent damage.
To remove such parts, press the hook end of the latch away from the part to which it is latched.
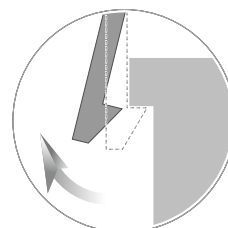
3.2 Screws used in the printer

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.

■ SCX-4623 Series

Part Code	Location	Description	Qty
6003-000196	Cassette	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000261		SCREW-TAPTYPE;BH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000264		SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000196	Fuser	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	1
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	5
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6006-001078		SCREW-TAPTYPE;PH,+,WSP,B,M3,L10,ZPC(WHT),SWRCH18A	1
6002-000308	FRAME BASE-LOWER	SCREW-TAPTYPE;PH,+,-,B,M2.6,L6,ZPC(WHT),SWRCH18A,-	4
6003-000196		SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	35
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	2
6003-000269	DRIVE MAIN-BRACKET	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	7
6003-000264	FRAME BASE-PICK UP	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000282	LSU	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	9
6003-000282	LSU-SUB LD	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	2
6003-000196	COVER-MIDDLE ASSY	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000264	COVER-FRONT ASSY	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	3
6003-000282	CARTRIDGE-TONER KIT	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6003-000196	SCANNER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000196	OPE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000196	PLATEN	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000196	PLATEN-LOWER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	6
6003-000196	PLATEN-LOW END	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	3
6003-000269	DRIVE PLATEN	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000002	MAINLINE	SCREW-TAPTYPE;PWH,+,B,M3,L10,CBLACK,SWRCH18A	5
6003-000196		SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	22
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	11
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	3
6003-000301		SCREW-TAPTYPE;BH,+,S,M4,L6,ZPC(WHT),SWRCH18A	1
-	ADF	SCREW;M3,L8,PAN HEAD	14
		SCREW;M3,L3,HEAD N;	3
		SCREW;M3,L6,ROUND HEAD,WITH WOSHER	1

■ SCX-4600 Series

Part Code	Location	Description	Qty
6003-000196	Cassette	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000261		SCREW-TAPTYPE;BH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000264		SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000196	Fuser	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	1
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	5
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6006-001078		SCREW-TAPTYPE;PH,+,WSP,B,M3,L10,ZPC(WHT),SWRCH18A	1
6002-000308	FRAME BASE-LOWER	SCREW-TAPTYPE;PH,+,-,B,M2.6,L6,ZPC(WHT),SWRCH18A,-	4
6003-000196		SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	35
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	2
6003-000269	DRIVE MAIN-BRACKET	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	7
6003-000264	FRAME BASE-PICK UP	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	1
6003-000282	LSU	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	9
6003-000282	LSU-SUB LD	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	2
6003-000196	COVER-MIDDLE ASSY	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000264	COVER-FRONT ASSY	SCREW-TAPTYPE;PWH,+,-,B,M3,L6,ZPC(WHT),SWRCH18A,-	3
6003-000282	CARTRIDGE-TONER KIT	SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	4
6003-000196	OPE	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000196	PLATEN	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	2
6003-000196	PLATEN-LOWER	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	4
6003-000196	PLATEN-LOW END	SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	3
6003-000269	DRIVE PLATEN	SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	2
6003-000002	MAINLINE	SCREW-TAPTYPE;PWH,+,B,M3,L10,CBLACK,SWRCH18A	5
6003-000196		SCREW-TAPTYPE;PWH,+,B,M3,L10,NI PLT,SWRCH18A	21
6003-000269		SCREW-TAPTYPE;BH,+,-,S,M3,L6,ZPC(WHT),SWRCH18A,-	11
6003-000282		SCREW-TAPTYPE;BH,+,-,B,M3,L8,ZPC(BLK),SWRCH18A,-	3
6003-000301		SCREW-TAPTYPE;BH,+,S,M4,L6,ZPC(WHT),SWRCH18A	1

3.3 Cover

3.3.1 Front Cover

1. Take off the cassette.

2. Take off the front cover by removing both hooks.

3.3.2 Rear Cover

1. Remove 5 screws on back side of printer.

2. Remove the rear cover.

3.3.3 Right/Left Cover

1. Remove the front cover and rear cover.

2. Lift up the scanner slightly.

3. Remove the Left/ Right cover by removing hooks of right/left/top/bottom side.

3.4 Scanner and ADF

3.4.1 ADF unit

1. Remove the ADF connector cover.

2. Unplug the connector.

3. Lift the ADF unit up and release it.
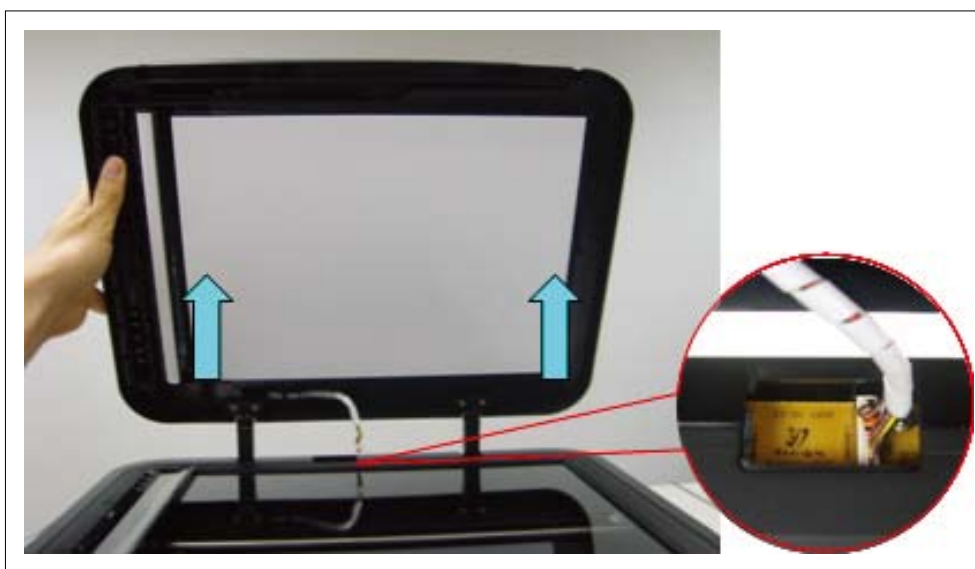
3.4.2 ADF roller

1. Remove 3 E-rings.

2. Pull the shaft to the direction of arrow.

3. Take off the ADF roller assembly.

3.4.3 OPE Unit

1. Pull up the OPE unit. There are 4 hooks.
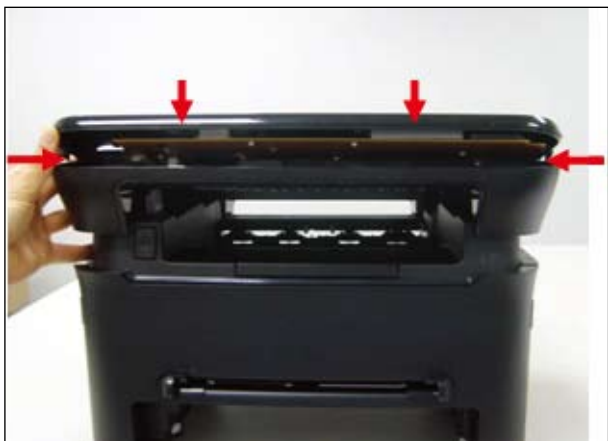
2. Take off the OPE PBA after remove 4 screws and 2 connectors.

3.4.4 Platen unit

1. Remove the OPE unit.

2. Remove 2 screws.

3. Lift up cover scan upper.

3.4.5 CIS unit

1. Remove CIS cable.

3. Lift CIS and release it.

3.5 Middle Cover

1. Remove the rear / left / right cover.

2. Unplug 4 connectors including a Flat cable.
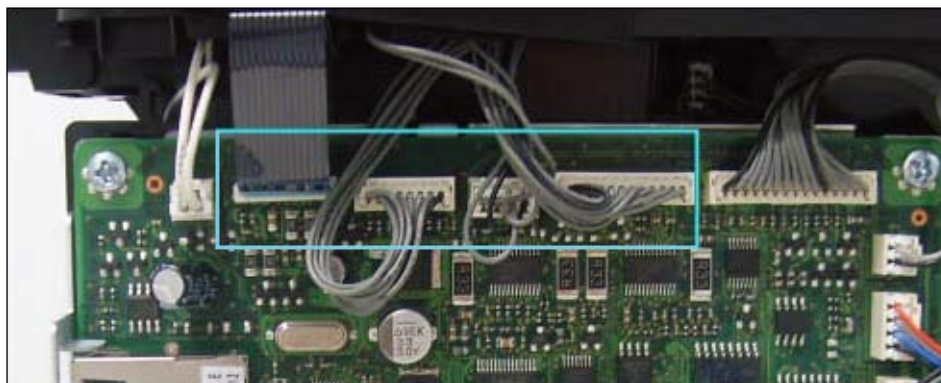
3. Lift up the scanner slightly.

4. Push up both hooks from the bottom of middle cover.
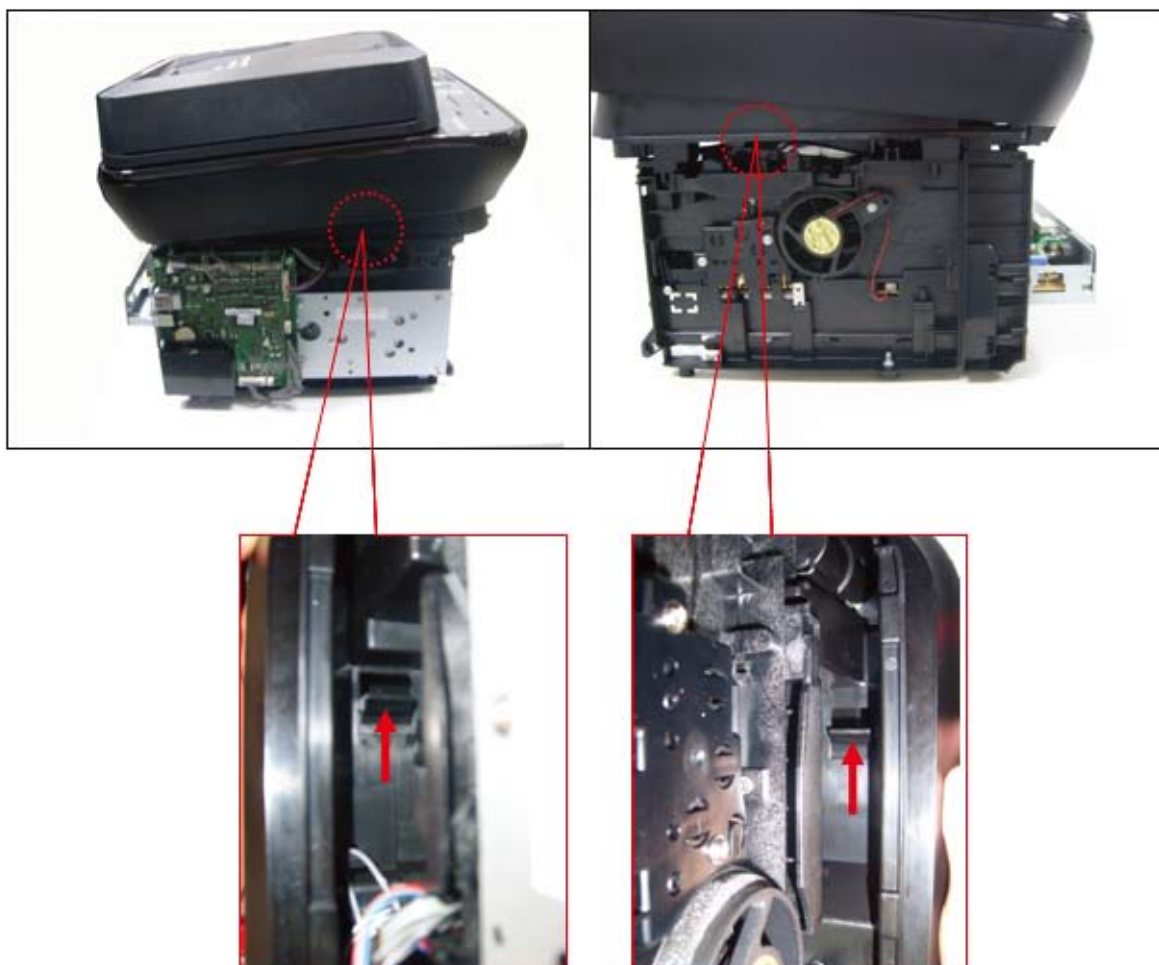
5. Lift up the scanner slightly angle 70℃ and remove the scanner.

6. Unplug 1 connector.
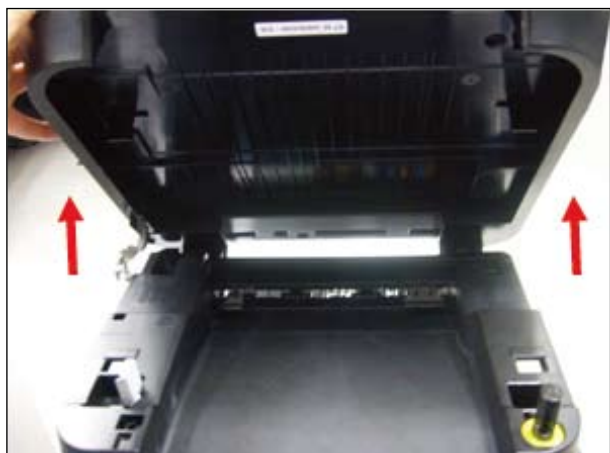
7. Release the middle cover after removing 4 screws.

3.6 Fuser Unit

3.6.1 Whole Fuser Unit

1. Remove the rear and left cover.

2. Remove 4 screws.

3. Unplug the 2 connectors from SMPS board and Main board.

4. Take off the Fuser unit.
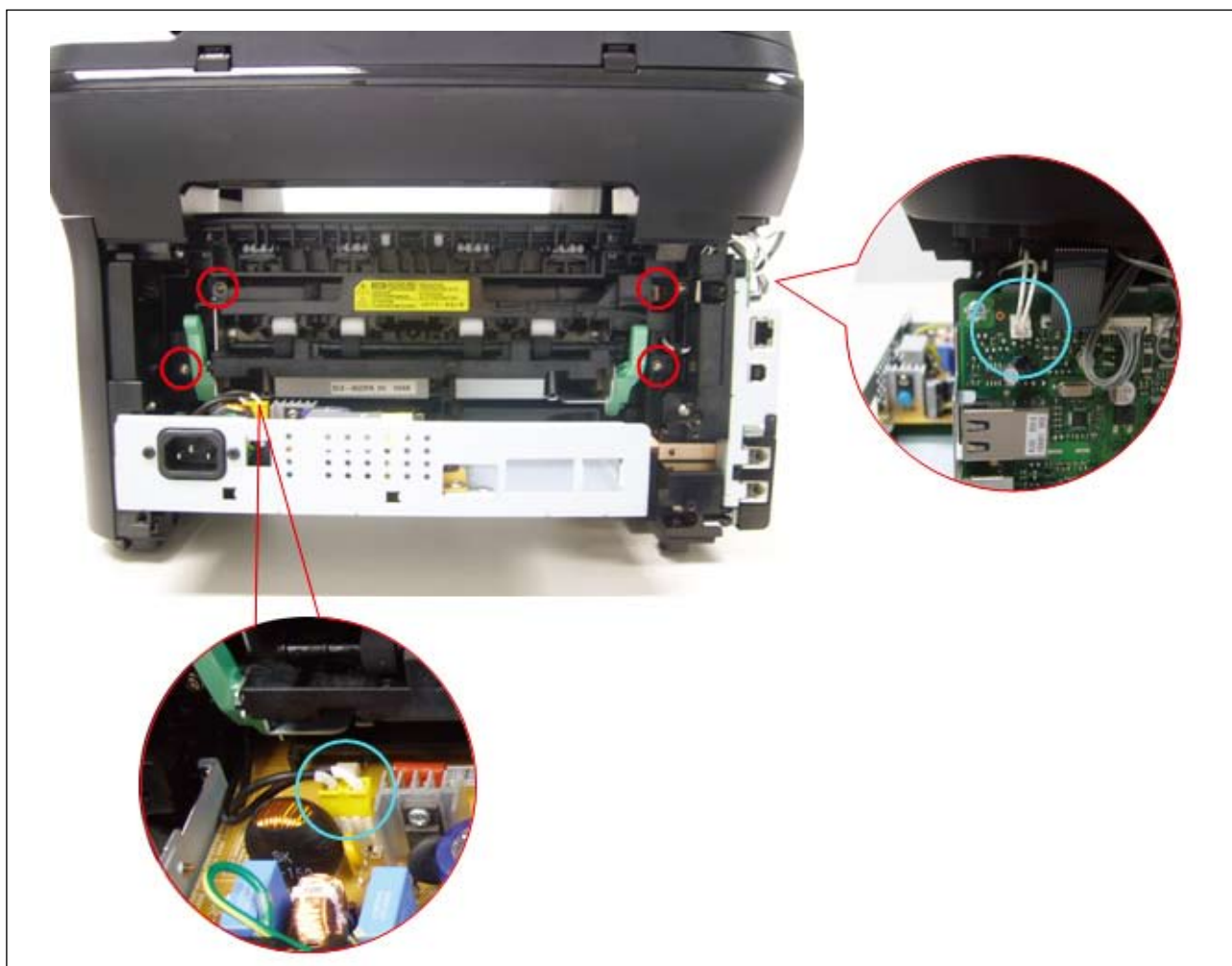
3.6.2 Main Service parts of Fuser Unit

	Photo	Part code	Part name
1		6107-001802	SPRING ES
2		4713-001212 (220V)	LAMP-HALOGEN
3		JC39-00819A	HARNESS FUSER JOINT
4		JC39-01082A	HARNESS-FUSER AC
5		JC67-00415A	CAP FUSER LAMP L
6		JC67-00414A	CAP FUSER LAMP R
7		6107-001165	SPRING TS
8		JC66-02364A	ACTUATOR EXIT

	Photo	Part code	Part name
9		JC61-00581A	HOLDER ACTUATOR
10		JC66-02365A	LAVER LINK JAM L
11		JC66-02366A	LEVER LINK JAM R
12		4712-001031	THERMOSTAT
13		JC61-03450A	GUIDE-INPUT
14		JC61-03685A	GUIDE CLAW
15		6107-001800	SPRING TS
16		JC72-40361A	PMO ROLLER EXIT
17		JC61-70976A	SPRING ETC FUSER EXIT
18	NYOGEL 788	0205-001003	GREASE BEARING

3.6.3 Replacing the Main Service part of Fuser Unit

3.6.3.1 Spring-Es

Separate it as take up the circle-area of Spring-Es from hook.
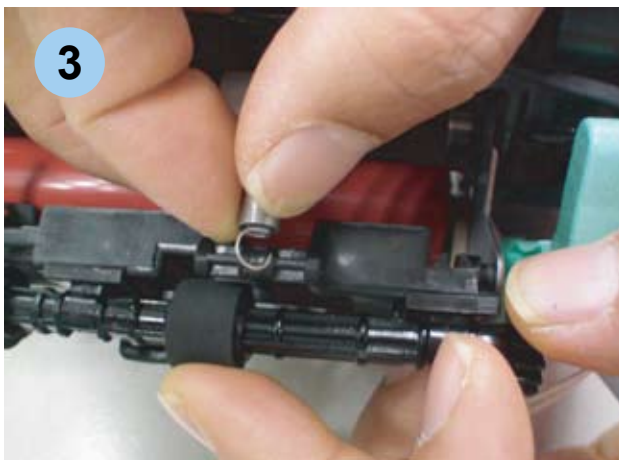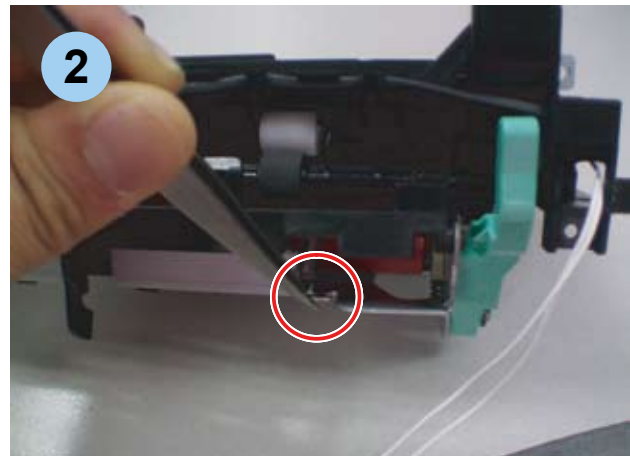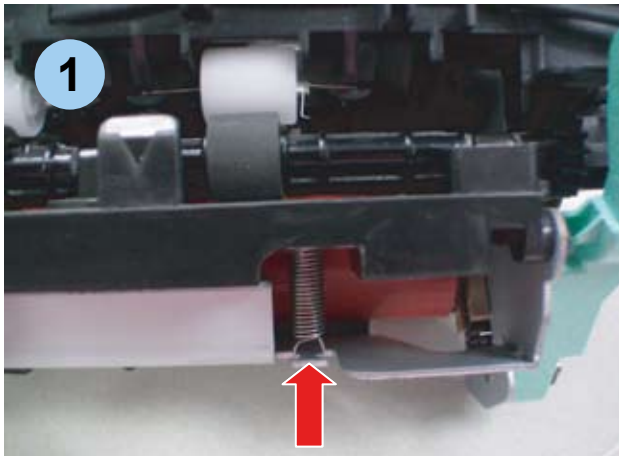
3.6.3.2 Actuator-Exit and Holder-Actuator

1. Lift up the checking point and push to right side, and then disassemble.

Caution :
Do not touch the roller surface of fuser inside

2. Disassemble Actuator-Exit from Holder-Actuator.
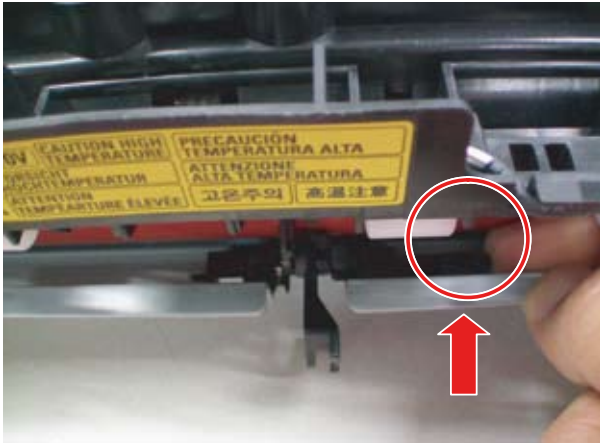
3. Disassemble Spring-Ts from the actuator.

3.6.3.3 Cap-Fuser lamp R/Cap-Fuser Lamp L

Press the hook end of latch away from the cover-fuser to which it is latched and separate it

- Cap-Fuser Lamp L
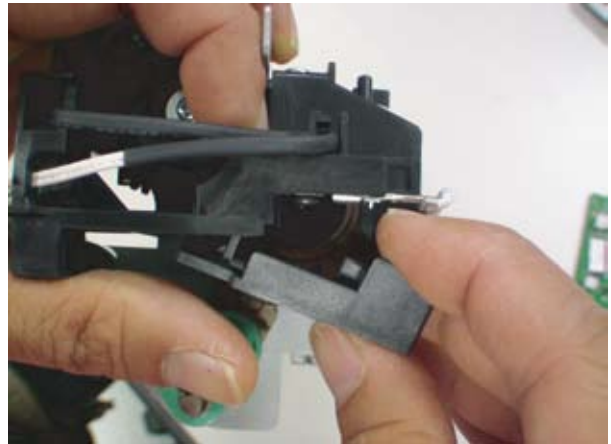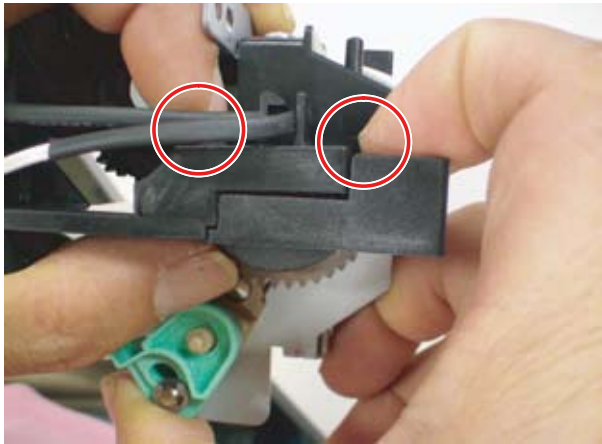
- Cap-Fuser Lamp R

Caution : Don't bend the stud

3.6.3.4 Lamp Halogen

1. Pull out the harness (Harness-Fuser Joint, Harness-Fuser AC) which is connected at Fuser Lamp Halogen. And loose the two screws (Left side, Right side each one) in the red circle.

2. Release the Lamp Halogen.
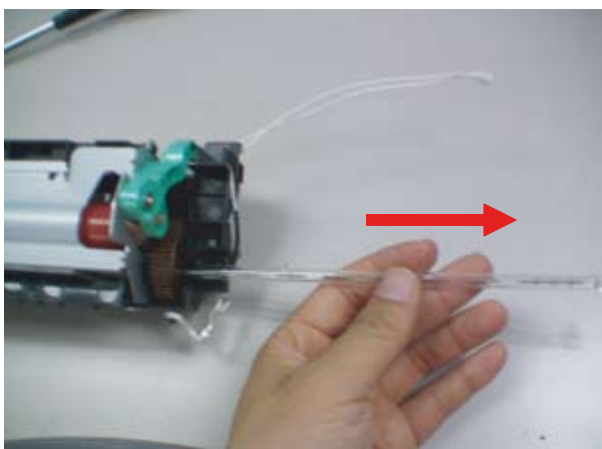
3.6.3.5 Harness-Fuser Joint and Harness-Fuser AC

1. Pull out the connected part from L (Refer to 3.4.3.4 Lamp-Halogen disassemble method).

2. Pull out the connected part from Thermostat. And separate the harness from the Fuser.
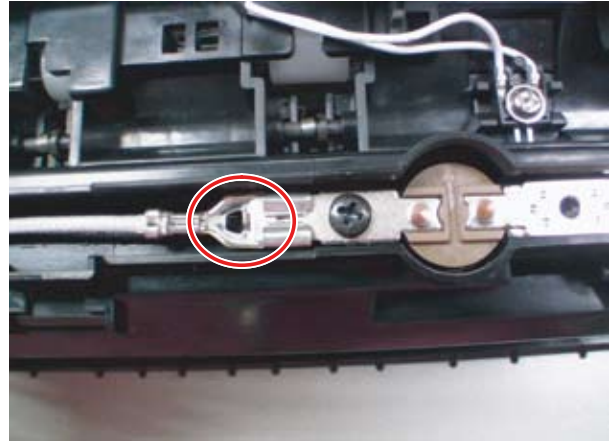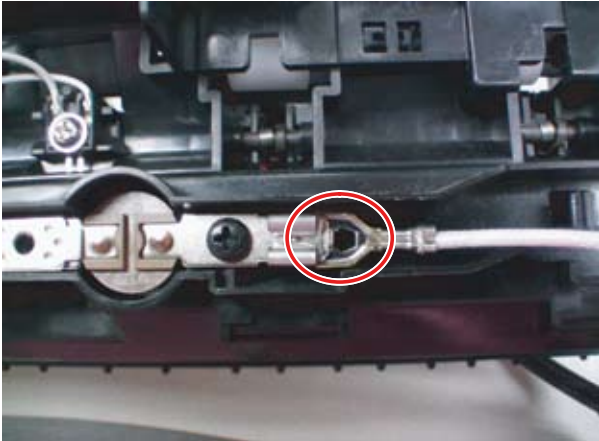
3.6.3.6 Thermostat

Loose the two screws in the red circle and separate it.
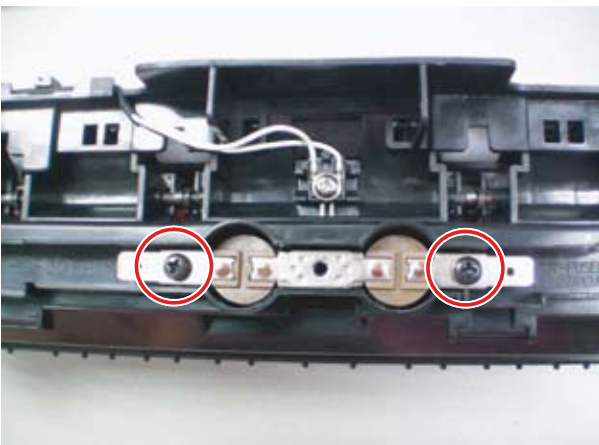
3.6.3.7 Lever Link Jam R/ Lever Link Jam L

After removing the E-ring and Washer-Plain , separate the lever.

- Cap-Fuser Lamp R
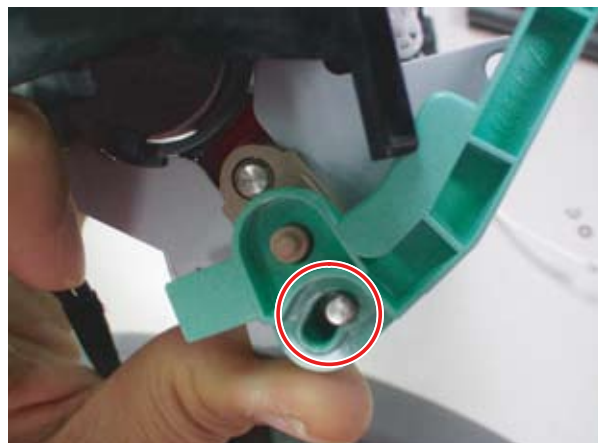
- Cap-Fuser Lamp L

3.6.3.8. Guide Input

After loose the fixed one screw on Guide Input, Disassemble it.

3.6.3.9. Pmo Roller Exit / Spring Etc Fuser Exit

1. Disassemble Spring-Etc Fuser Exit.

2. Disassemble Pmo-Roller Exit.

Caution :
Do not touch the roller surface of fuser inside

3.6.3.10 Guide Claw / Spring Ts(6107-001800)

1. Disassemble Spring-Ts.

2. Turn around the Guide-claw.

3. Keep holding and push to underneath.

Caution :
Do not touch the roller surface of fuser inside.

3.7 LSU

1. Remove the Middle cover (Refer to 3.5)

2. Remove 3 screws and unplug 2 connectors.

3. Release the LSU from the Frame.
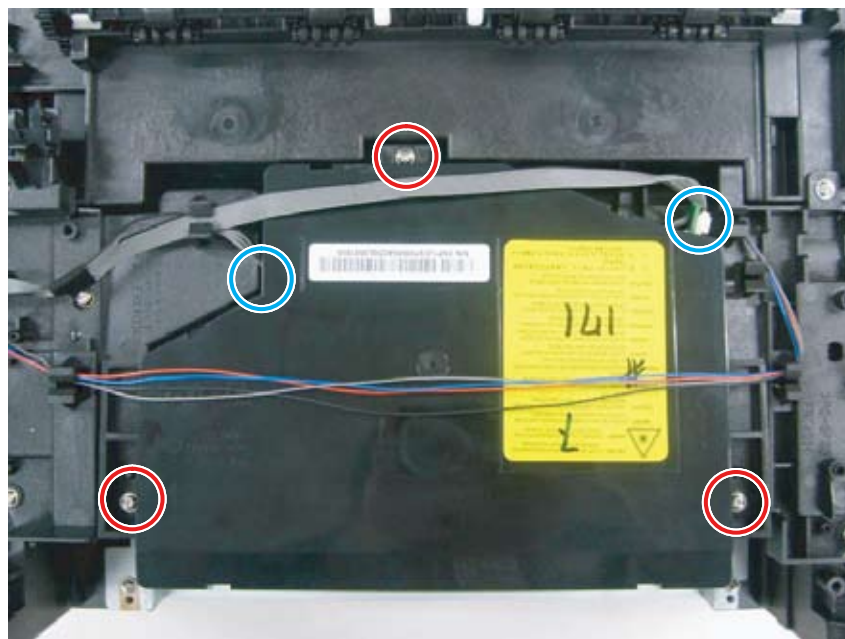
3.8 Main PBA

1. Remove the left cover.

2. Take off the FAX-cover after removing 1 screw.

3. Take off the Main PBA after removing 4 screws and all connectors.
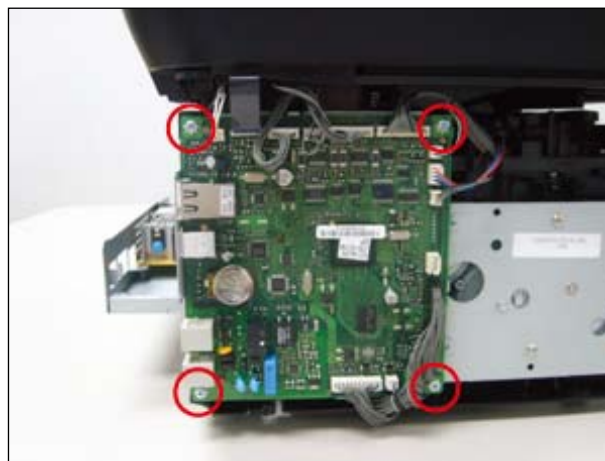
3.9 Drive unit

1. Remove the Main PBA (refer to 3).

2. Take off the PBA shield after removing 4 screws.
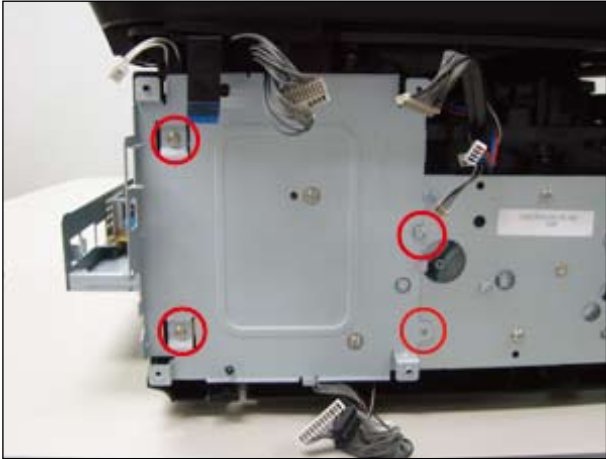
3. Remove 6 screws.
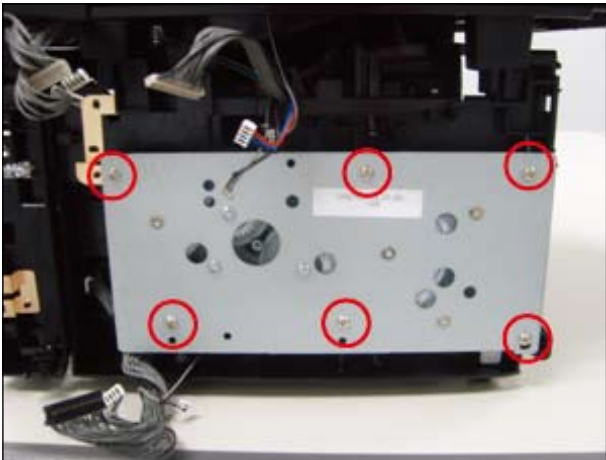
4. Take off the Drive Unit after removing 1 connector.

Note :
Remove the motor of drive unit after removing 4 screws if necessary.

3.10 Solenoid

1. Remove the Drive unit (refer to 3).

2. Take off the solenoid [A] after removing 1 screw.

3. To remove the solenoid [B], take off the bracket after removing 3 screws.

4. Remove the gears.

5. Take off the solenoid [B] after removing 1 screw.
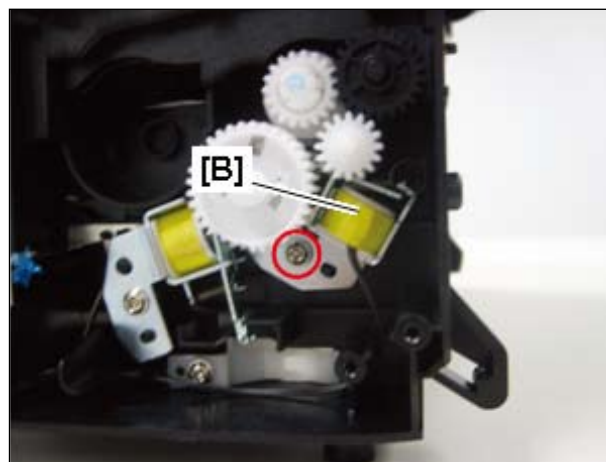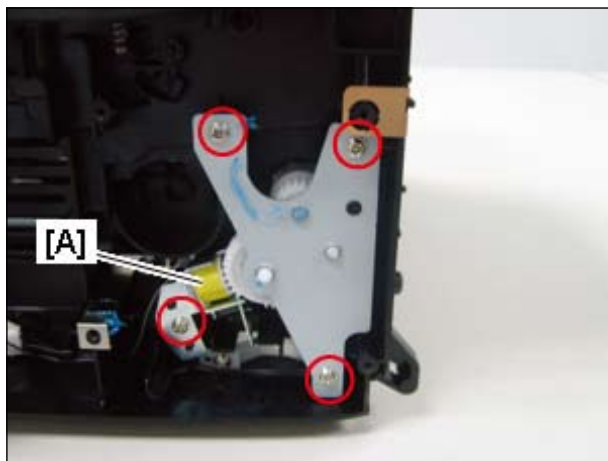
3.11 FAN

1. Remove the right cover.

2. Remove 1 screw and 1 connector.

3. Take off the FAN.

3.12 Transfer Roller

1. Open the front cover.

2. Take out the toner cartridge.

3. Take off the transfer roller by release its right shaft from hook.
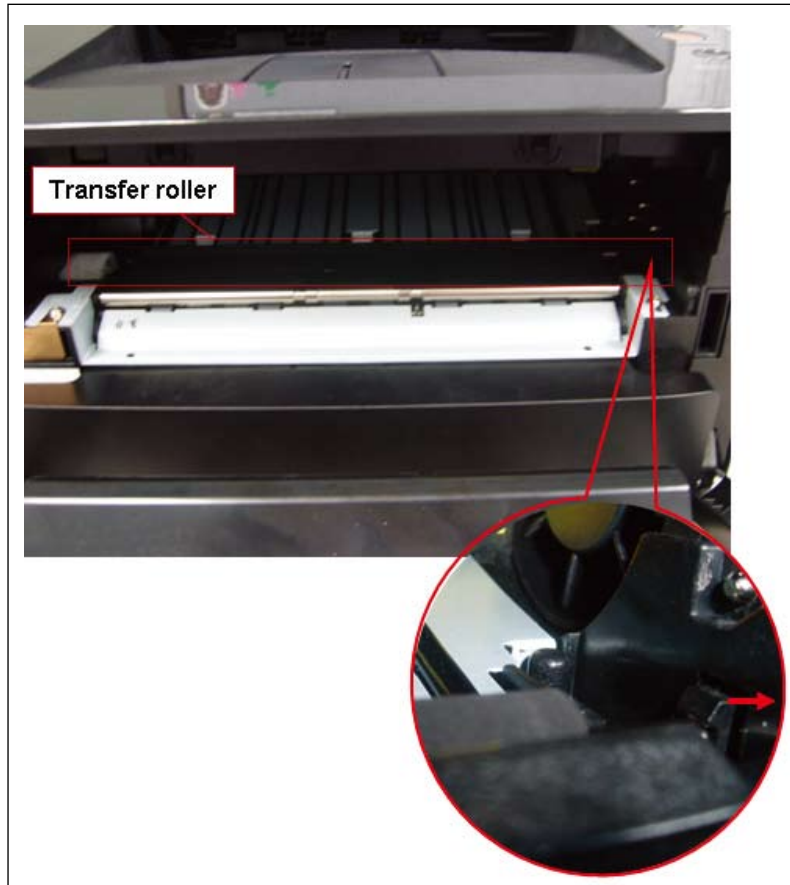
Cautions : Do not touch the surface of the Transfer Roller.

3.13 SMPS/HVPS board

1. Take out the Cassette unit.

2. Remove rear/right cover (refer to 3.3.3 rear cover).

3. Remove 11 screws (bottom x 9, rear x 2) and 2 connector (SMPS x 1, Fan x 1).
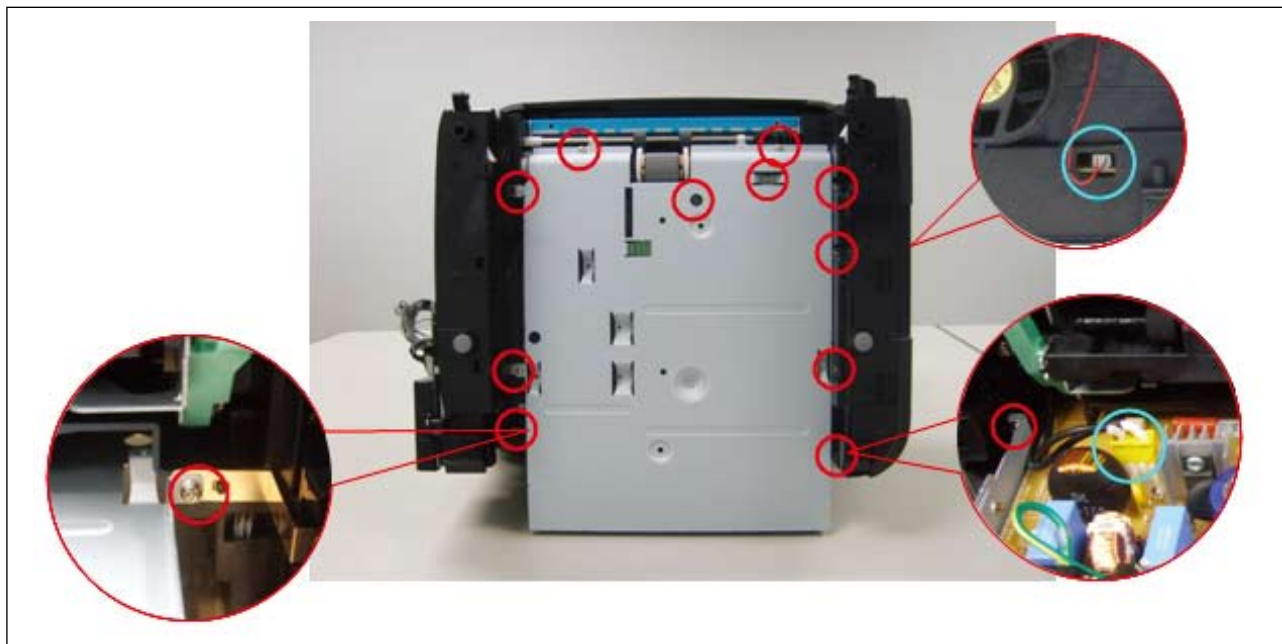
4. Turn the board shield over as shown below. Unplug the connector.
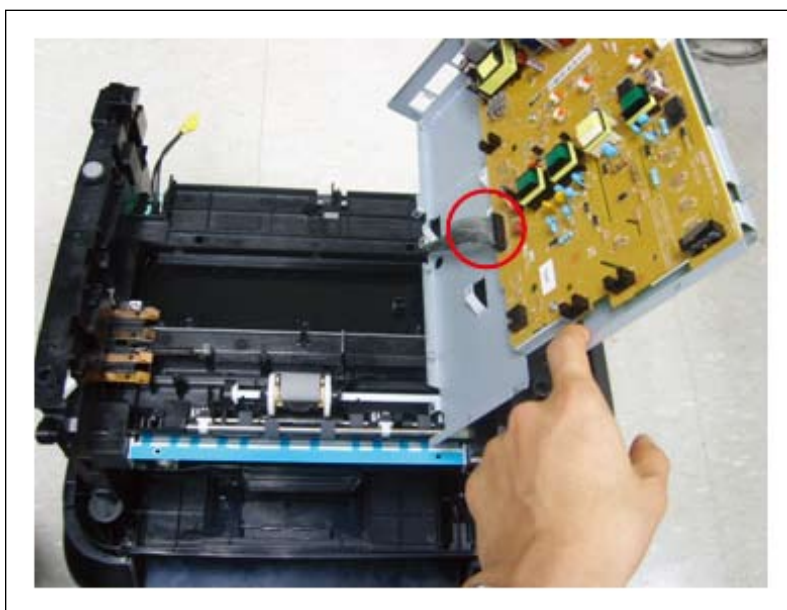
5. Take off the SMPS/HVPS board after removing 9 screws and connector.
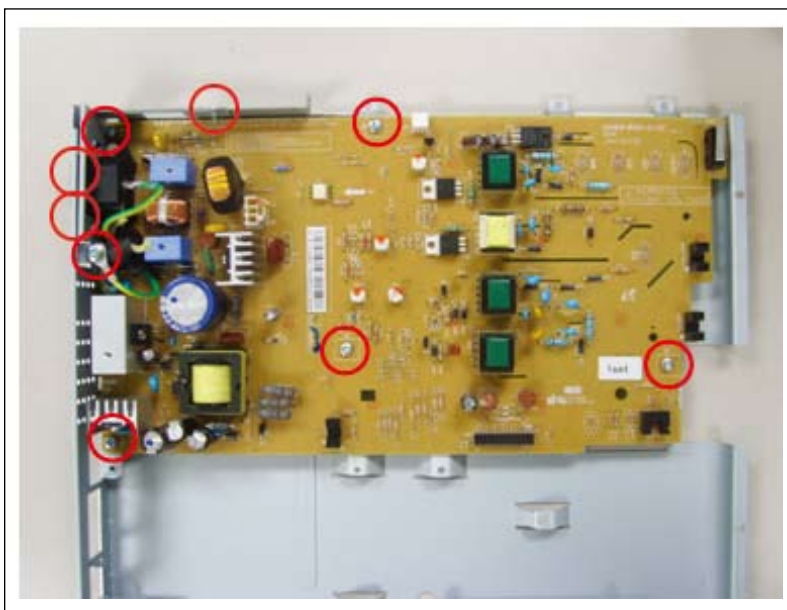
3.14 Pick up roller

1. Take out the Cassette unit.

2. Carefully turn the printer over.

3. Take off the pick up roller after removing 1 screw.
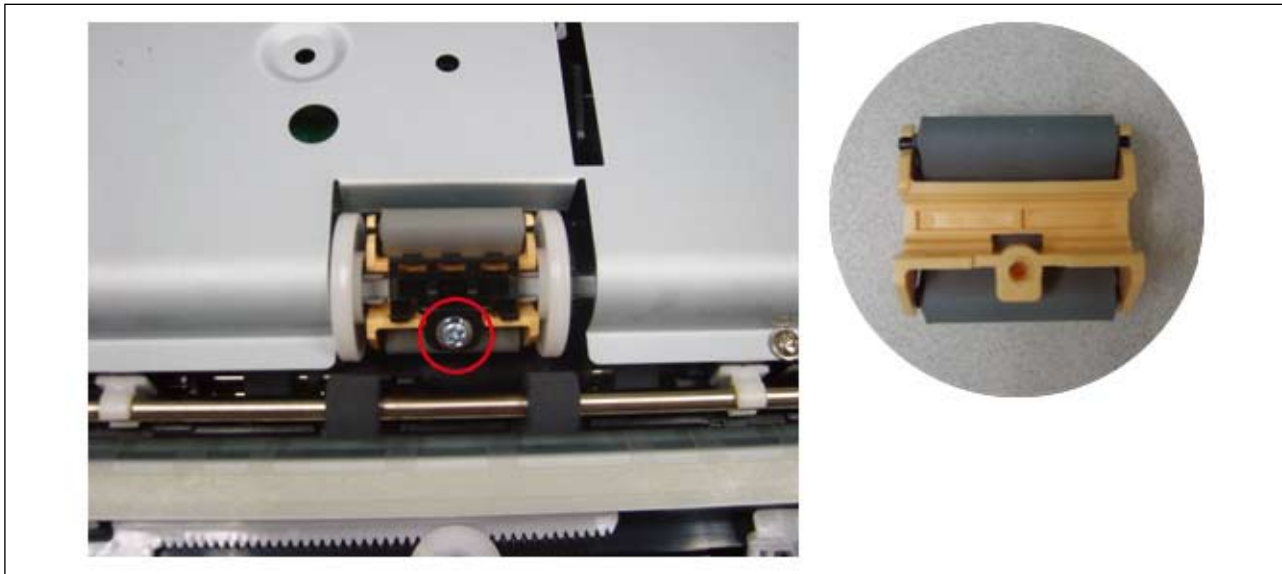
3.15 Cassette holder pad

1. Take out the Cassette unit.

2. Take off the holder pad by unhooking both latches.

3.16 Wireless LAN PBA (Only SCX-4623FW)

1. Remove the middle cover. (Refer to 3.5)

2. Unplug 1 connector.

3. Remove 1 screw.

4. Release the WLAN PBA.
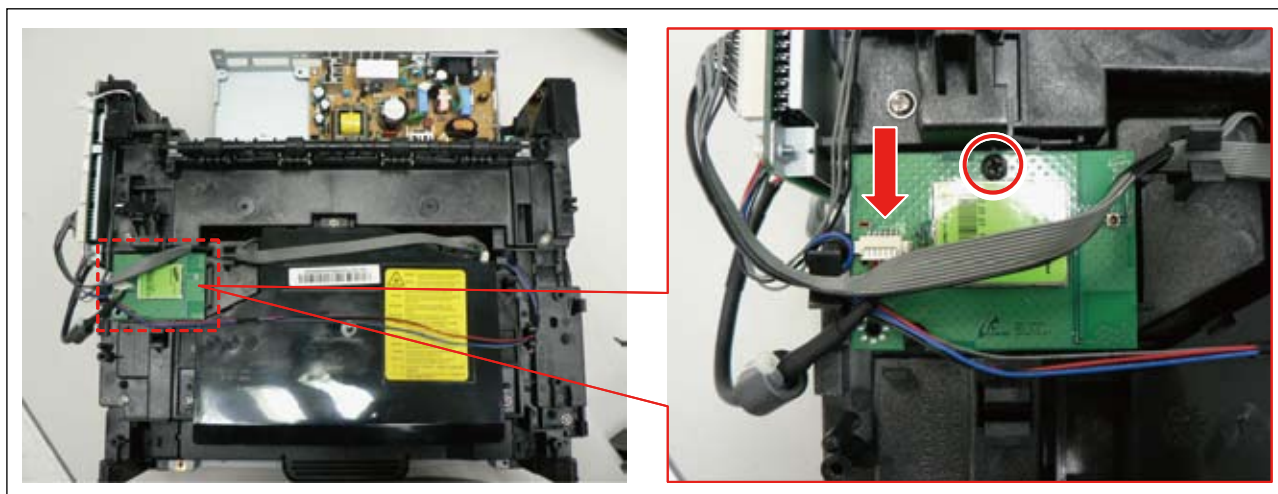
4. Alignment and Troubleshooting

4.1 Alignment and Adjustments

This chapter describes the main functions for servicing the equipment, such as the product maintenance method, image quality proper repair procedures, jam removal procedures, and so on.

4.1.1 Control Panel

■ **SCX-4623 Series**

This control panel may differ from your machine depending on its model.
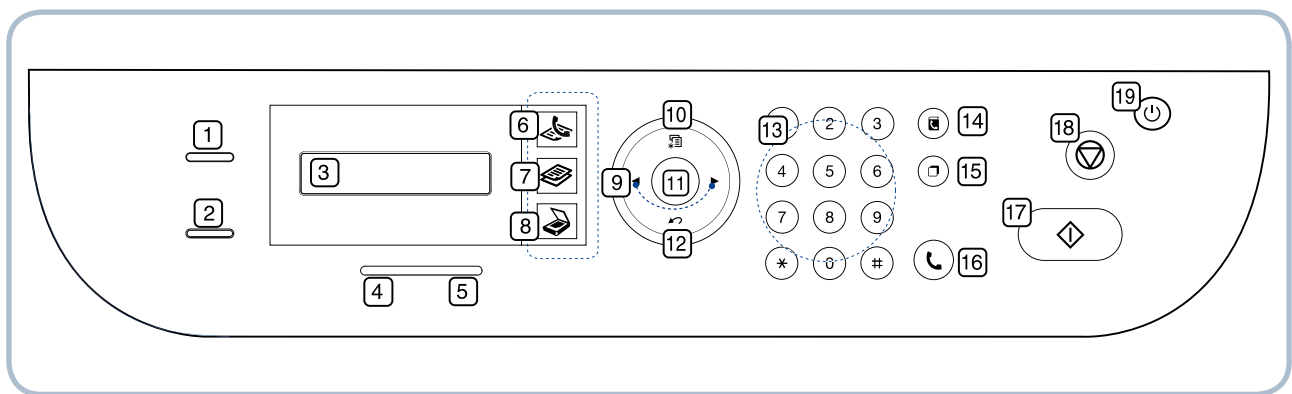
1	**ID Copy**	You can copy both sides of an ID Card such as a driver's license to a single side of paper.
2	**WPS**	If your wireless access point supports Wi-Fi Protected Setup™(WPS), you can configure the machine easily without a compurter.
3	**Display**	Shows the current status and prompts during an operation.
4	**Wireless**	Shows the status of wireless network. When the LED on, the machine is connected wirelessly.
5	**Status**	Shows the status of your machine.
6	**(Fax)**	Activates fax mode.
7	**(Copy)**	Activates copy mode.
8	**(Scan)**	Activates scan mode.
9	**Arrow**	Scroll through the options available in the selected menu, and increase or decrease values.

10	Menu	Enters Menu mode and scrolls through the available menus.
11	OK	Confirms the selection on the screen.
12	Back	Sends you back to the upper menu level.
13	Numeric keypad	Dials fax number, and enters the number value for document copies or other options.
14	Address Book	Allows you to store frequently used fax numbers or search for stored fax numbers.
15	Redial/Pause	In standby mode, redials the last number. Also in edit mode, inserts a pause into a fax number.
16	On Hook Dial	Enables you to dial a number with the receiver on the hook.
17	Start	Starts a job.
18	Stop/Clear	Stops an operation at any time. The pop-up window appears on the screen showing the current job that the user can stop or resume.
19	Power	You can turn the power on and off.

■ SCX-4600 Series

This control panel may differ from your machine depending on its model.
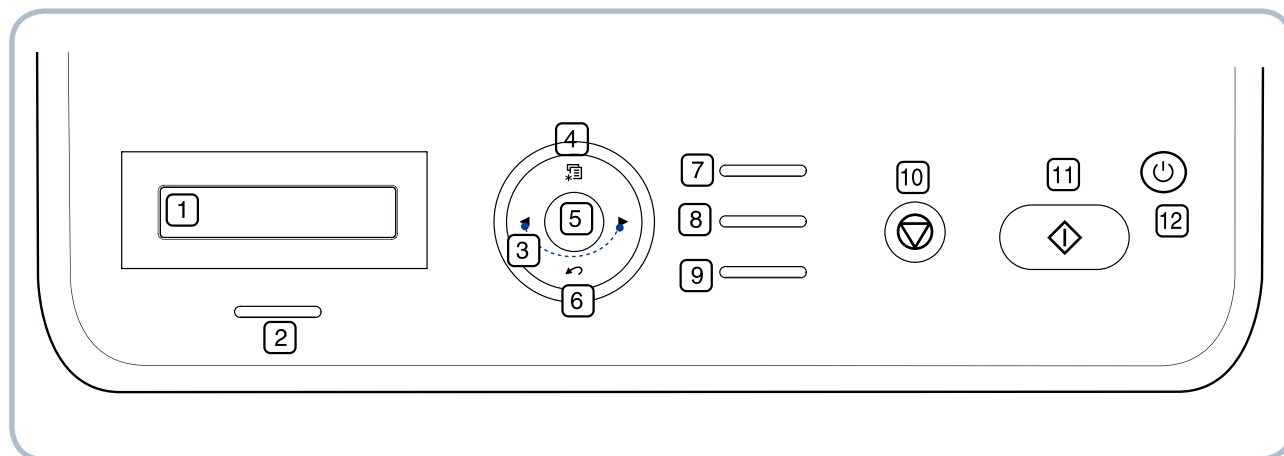
1	Display	Shows the current status and prompts during an operation.
2	Status	Shows the status of your machine.
3	Arrow	Scroll through the options available in the selected menu, and increase or decrease values.
4	Menu	Enters Menu mode and scrolls through the available menus.
5	OK	Confirms the selection on the screen.
6	Back	Sends you back to the upper menu level.
7	ID Copy	You can copy both sides of the ID Card like a driver's license to a single side of paper.
8	Scan to	Sends scanned data.
9	Print screen	Prints the active screen displayed on the monitor.
10	Stop/Clear	Stops an operation at any time. The pop-up window appears on the screen showing the current job that the user can stop or resume.
11	Start	Starts a job.
12	Power/ Energy Saver	Sends the machine into power saver mode. If you press and hold this button, you can also turn the power on and off.

4.1.2 UNDERSTANDING THE LED

■ Status LED

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

STATUS		DESCRIPTION
Off		• The machine is off-line. • The machine is in power saver mode. When data is received, or any button is pressed, it switches to on-line automatically.
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. • Small amount of toner is left in the cartridge. The estimated cartridge life[a] 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 the end of its estimated cartridge lifea. It is recommended to replace the toner cartridge. • A paper jam has occurred. • 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. Check the display message.

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, media type, and media size. Some amount of toner may remain in the cartridge even when End of life Replace new cart appears and the printer stops printing. (See www.samsung.com/printer for current information.)

⚠ Samsung does not recommend using a non-genuine Samsung toner cartridge such as one that is refilled or remanufactured. Samsung cannot guarantee a non-genuine Samsung toner cartridge's quality. Service or repair required as a result of using non-genuine Samsung toner cartridges will not be covered under the machine warranty.

📝 • Check the message on the display. Follow the instructions in the message or refer to troubleshooting part.
• All printing errors will be appear in the Smart Panel program window.

■ Wireless LED

WIRELESS LED STATUS		DESCRIPTION
Blue	Off (🛜)	Wireless network is disconnected.
	On (🛜)	Wireless network is connected.
	Slowly blinks (🛜)	The machine starts connecting to a wireless network.
	Quickly blinks (🛜)	• The machine is connecting to access point (or wireless router). • Wireless network connection is being disconnected.

4.1.3 JAM Removal

4.1.3.1 Clearing Original Document Jams

When an original jams while passing through the document feeder, a warning message appears on the display screen.

1. Remove any remaining originals from the document feeder.

2. Open the document feeder cover.
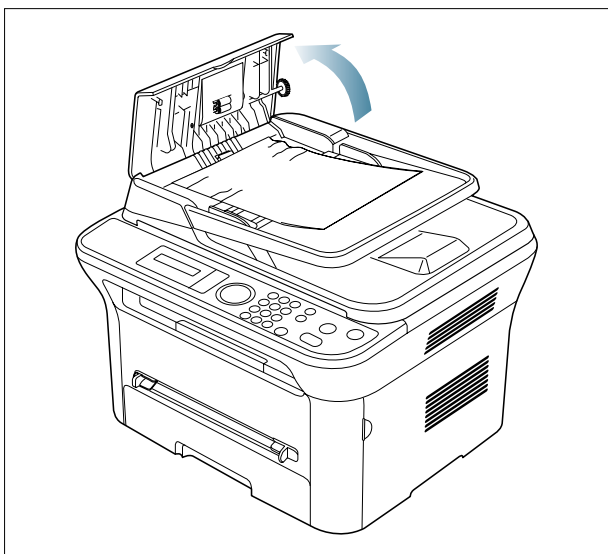
3. Gently remove the jammed original from the document feeder.
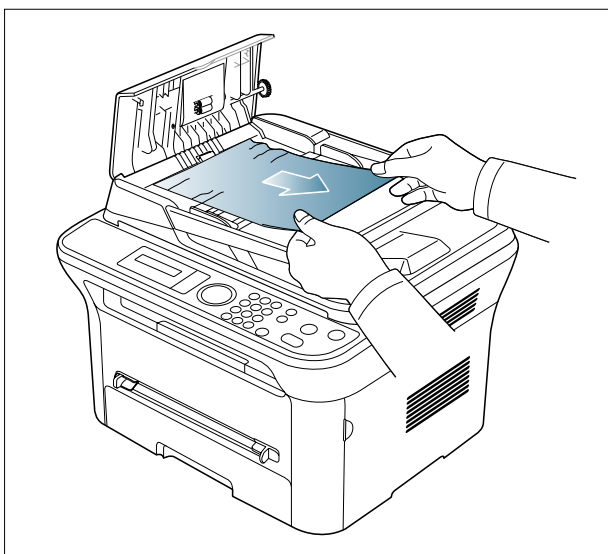
   * If you see no paper in this area, go to step 5.

4. Close the document feeder cover. Reload the originals you removed, if any, in the document feeder.
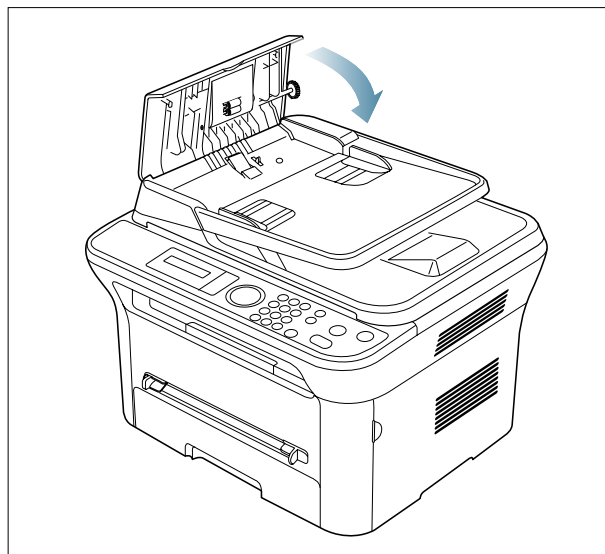
5. Open the scanner lid.

6. Gently remove the original from the feed area by carefully pulling it to the right using both hands.
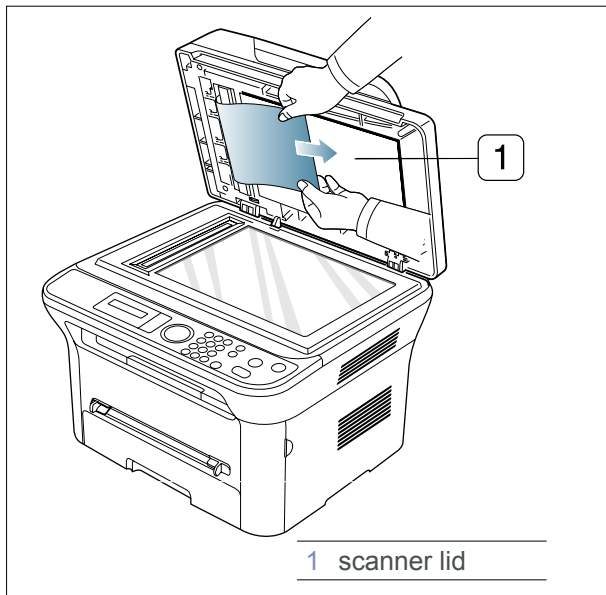
1	scanner lid

7. Close the scanner lid. Load the removed pages back into the document feeder.

Note: Ensure the number of originals you place in the ADF does not exceed its tray capacity.

4.1.3.2 Tips for avoiding paper jams

• Ensure that the adjustable guides are positioned correctly.
• Do not overload the tray. Ensure that the paper level is below the paper capacity mark on the inside of the tray.
• Do not remove paper from the tray while your machine is printing.
• Flex, fan, and straighten paper before loading.
• Do not use creased, damp, or highly curled paper.
• Do not mix paper types in a tray.
• Use only recommended print media.
• Ensure that the recommended side of the print media is facing down in the tray, or facing up in the manual tray.

4.1.3.3 Clearing paper jams

When a paper jam occurs, a warning message appears on the display. To resume printing after clearing paper jams, you must open and close the front door.

In tray 1

1. Open and close the front door. The jammed paper is automatically ejected from the machine. If the paper does not exit, go to the next step.

2. Pull out tray 1.
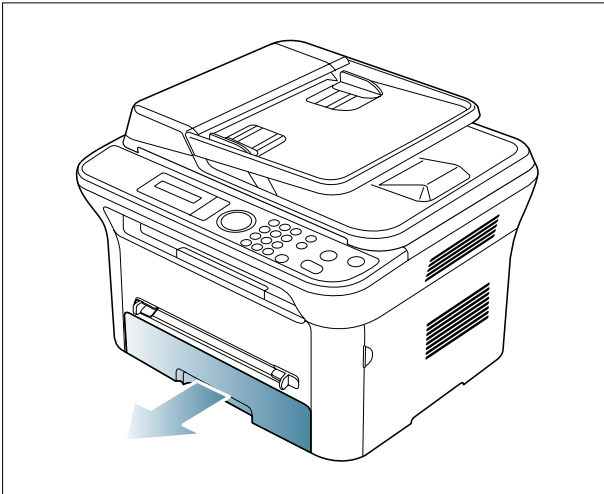
3. Inspect tray and clear any damaged sheets.
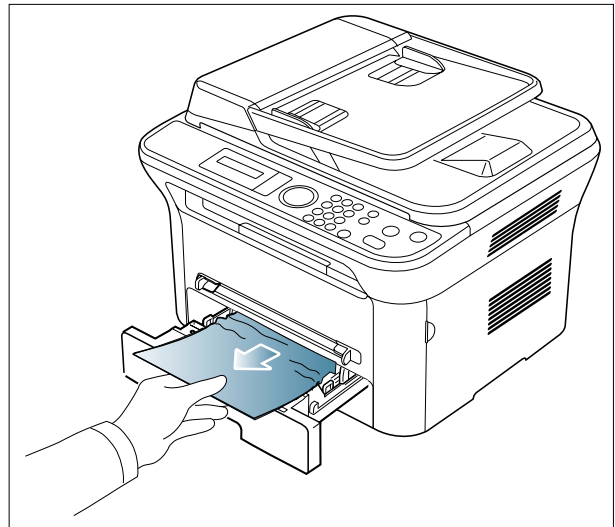
If the paper does not move when you pull, or if you do not see the paper in this area, check the fuser area around the toner cartridge.

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

In the manual tray

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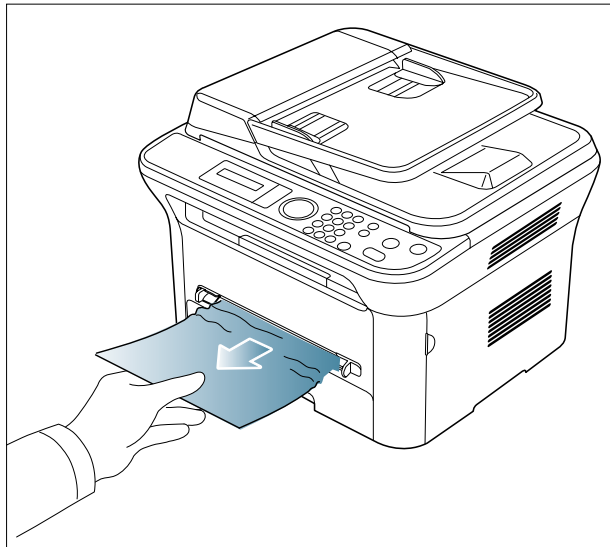
2. Open and close the front door to resume printing.

Inside the machine

1. Open the front door and pull the toner cartridge out, lightly pushing it down.
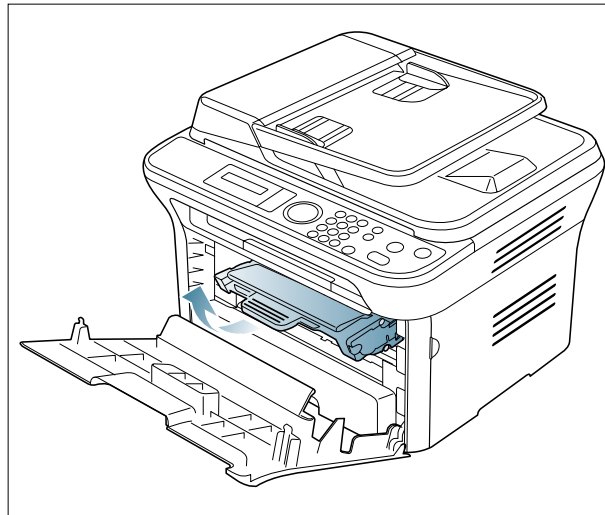
2. Remove the jammed paper by gently pulling it straight out.
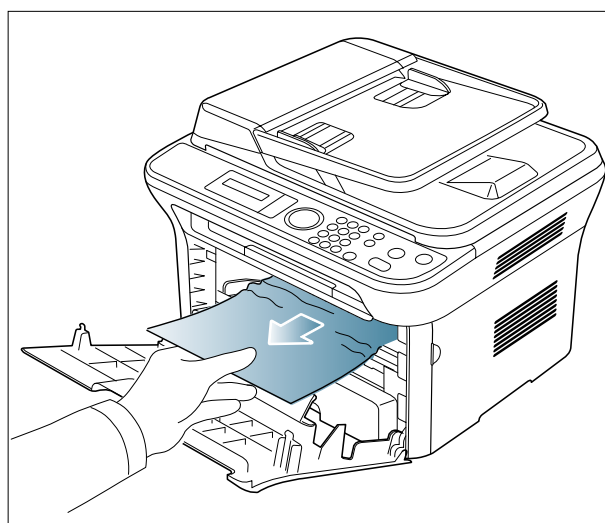
3. Replace the toner cartridge and close the front door. Printing automatically resumes.

In 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 next step.

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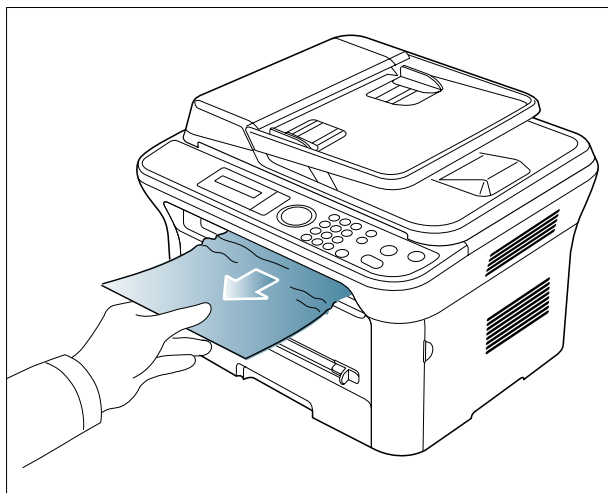
If you do not see the jammed paper or if there is any resistance when you pull, stop and go to the next step.

3. Open the rear cover.

4. Pull the pressure levers down and remove the paper.
   Return the pressure levers to their original position.

| 1 | Pressure lever |
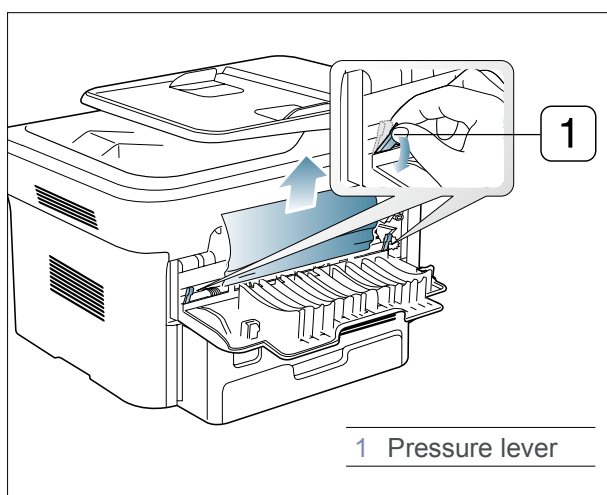
If you do not see the jammed paper, go to next step.

5. Pull the fuser cover levers down and remove the paper.
   Return the fuser cover levers to their original position..
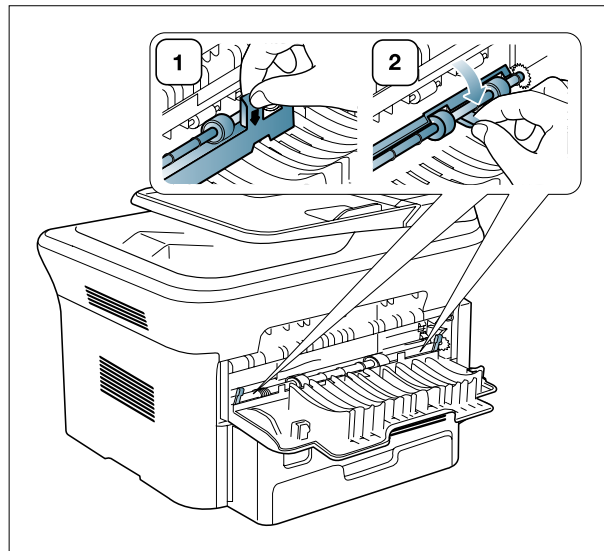
6. Close the rear cover.

7. Open and close front cover, printing automatically resumes.

4.1.4 Paper Path
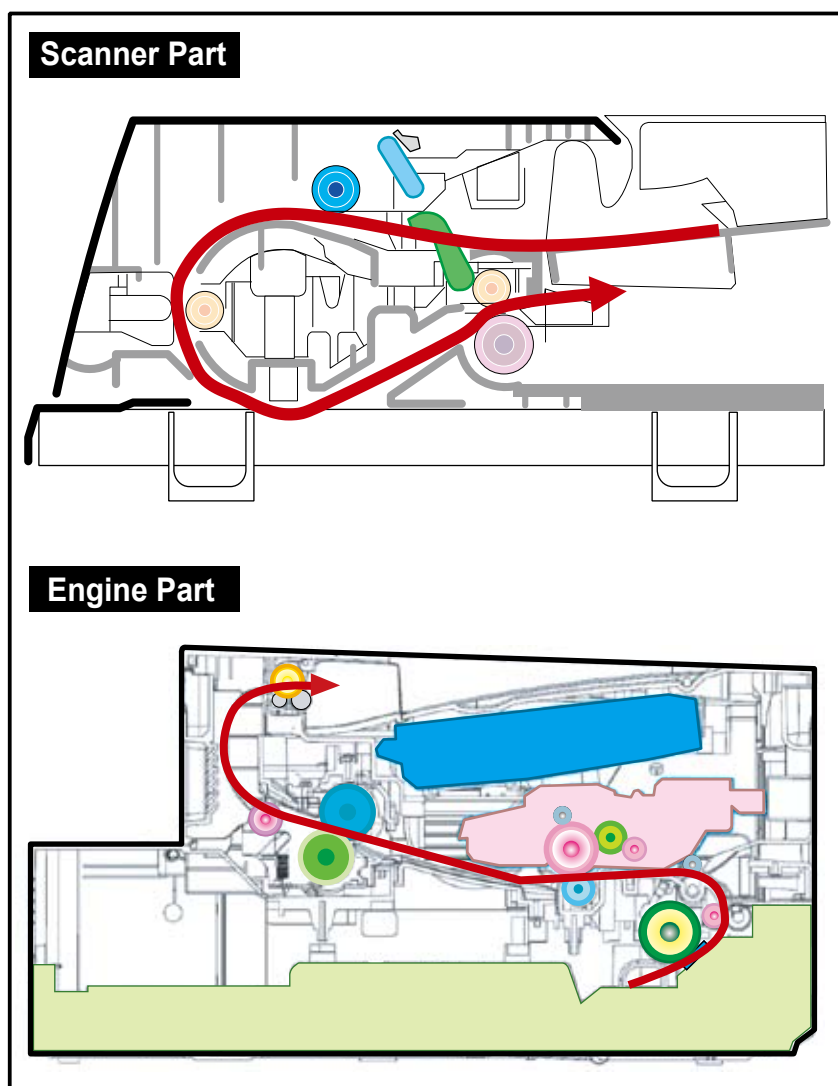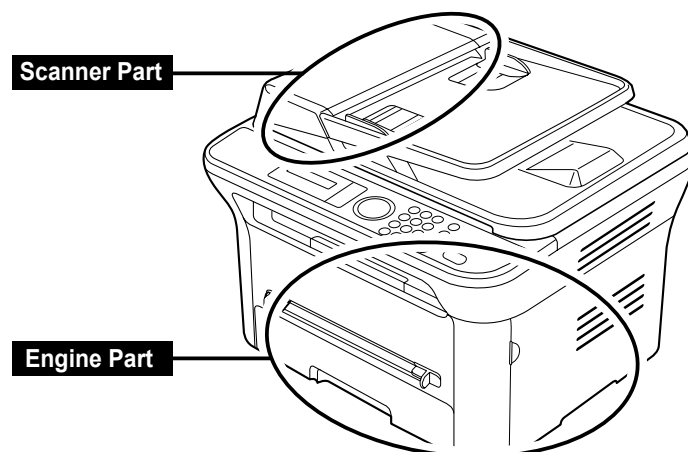
4.1.5 Menu Map

The control panel provides access to various menus to set up the machine or use the machine's functions. These menus can be accessed by pressing Menu.

Fax Feature

Darkness
Resolution
Multi Send
Delay Send
Priority Send
Forward
Secure Receive
Add Page
Cancel Job

Copy Feature

Reduce/Enlarge
Darkness
Original Type
Layout

Copy Setup

Change Default
   Copies
   Copy Collation
   Reduce/Enlarge
   Darkness
   Original Type

Fax Setup

Sending
   Redial Times
   Redial Term
   Prefix Dial
   ECM Mode
   Send Report
   Image TCR
   Dial Mode
Receiving
   Receive Mode
   Ring to Answer
   Stamp Rcv Name
   Rcv Start Code
   Auto Reduction
   Discard Size
   Junk Fax Setup
   DRPD Mode
Change Default
   Resolution
   Darkness
Auto Report

Network

TCP/IP (IPv4)
   IPv4 Activate
   View Host Name
   Set IP Address
      Manual
      DHCP
      BOOTP
   Show IP Address
TCP/IP (IPv6)
   IPv6 Activate
   DHCP v6 Config
      Router
      DHCP Address
      DHCP Off
Ethernet Speed
   Auto
   10M Half
   10M Full
   100M Half
   100M Full
Clear Settings
Network Info.

System Setup

Machine Setup
   Machine ID
   Machine Fax No.
   Date & Time
   Clock Mode
   Language
   Default Mode
   Power Save
   Timeout
   Job Timeout
   Altitude Adj.
   Toner Save
Paper Setup
   Paper Size
   Paper Type
   Paper Source
   Wide A4
Sound/Volume
   Key Sound
   Alarm Sound
   Speaker
   Ringer
Reports
   All Report
   Configuration
   Phone Book
   Send Report
   Sent Report
   Rcv Report
   Schedule Jobs
   Junk
   Fax Report
   Network Info.
Maintenance
   CLR Empty Msg
   Ignore Toner
   Supplies Life
   Toner Low Alert
   Serial Number
   Paper Stacking
Clear Setting
   All Settings
   Fax Setup
   Copy Setup
   Scan Setup
   System Setup
   Network Setup
   Phone Book
   Sent Report
   Rcv Report

Some menus may not appear in the display depending on models.

- SCX-4600 : 3 in 1 Model (Print, Copy, Scan)
- SCX-4623F : 4 in 1 Model (Print, Copy, Scan, Fax)
- SCX-4623FN : 4 in 1 Network Model (Print, Copy, Scan, Fax, Network)

4.1.6 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

To enter the Tech Mode, press the buttons as following

■ **4 in 1 Model**

" Menu → # → 1 → 9 → 3 → 4 → Menu "
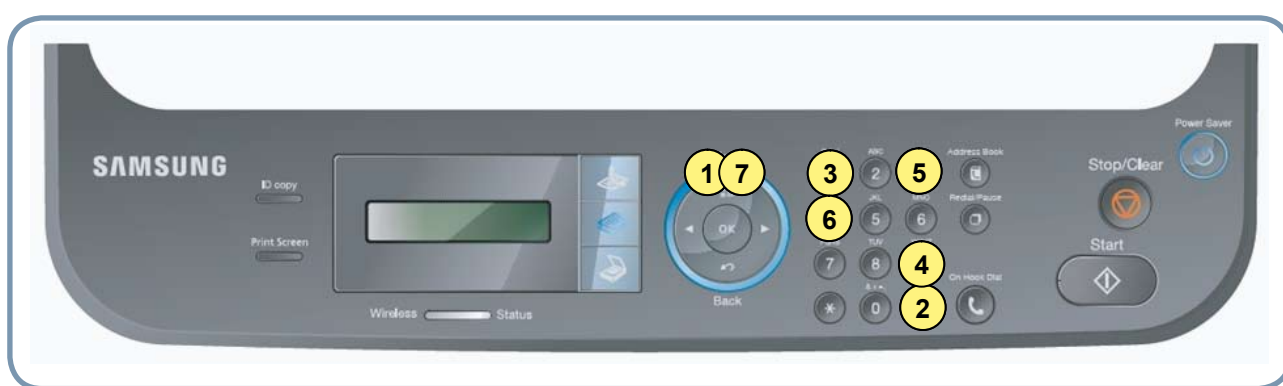
■ **3 in 1 Model**

"Menu → ID Copy → Left → Right → Menu → Back"
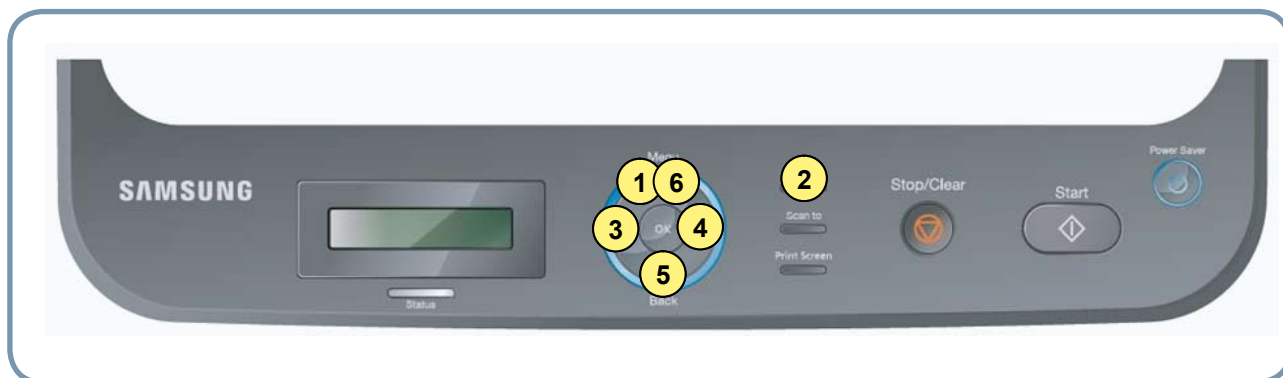
And the LCD briefly displays 'Tech Mode', the machine has entered service tech mode.
After entering the tech mode, select the item you want by using a button on control panel.

■ **Tech mode Menu Map**

Depth1	Depth2	Depth3	Depth4	Common
Data Setup	Send Level	-9~-15	-12	4-in-1
	DTMF Level	[Hi]=xx, [Lo]=xx		4-in-1
	Pause Time	0~9		4-in-1
	Dial Mode	Tone,Pulse	Tone	4-in-1
	Modem Speed	33.6, 28.8, 14.4, 12.0, 9.6, 4.8	33.6	4-in-1
	Error Rate	5%, 10%	10%	4-in-1
	Clear All Mem.			Common
	Toner Low Level	[1-30]% : 10		Common
	Clear Count	Total Page Count	Enter Password	Common
				Common
				4-in-1
	Engine Footer	Off*		Common
		On		Common
	Width Sensor	On*		Common
		Off		Common
Machine Test	Switch Test	REDUCE_PANEL		Common
		COMPLETE_PANEL		Common
	Modem Test			4-in-1
	Dram Test			Common
	Rom Test			Common
	Shading Test	Adjust Shading ?	Shading&Print	Common
	Restart Machine			Common
Report	All Report			Common
	Configuration			Common
	Supplies Info			Common
	Error Info			Common
	Protocol Dump			4-in-1
	Usage Page			Common
	ComponentCheck			Common
	Service Support			Common

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 from factory. Never change settings arbitrarily.

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 receiving 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. However, outbound communication is switched automatically to match the standard of the receiving fax. Therefore, when communicating with a lower speed modem, the outbound communication speed will be set to low. This will allow for better transmission/reception by the receiving fax. 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 was functioning normally. 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 the engine status. If you perform this function, at printing, the setting value for engine is shown on the bottom of the printed page.

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 to check the modem. If no transmission signal sound is heard, it means the modem portion of the mainboard malfunctioned has 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

Shading Test
This function is to get the optimum scan quality out of the CCD(Charge Coupled Device).
If the copy image quality is poor, perform this function to check the condition of the CCD unit.

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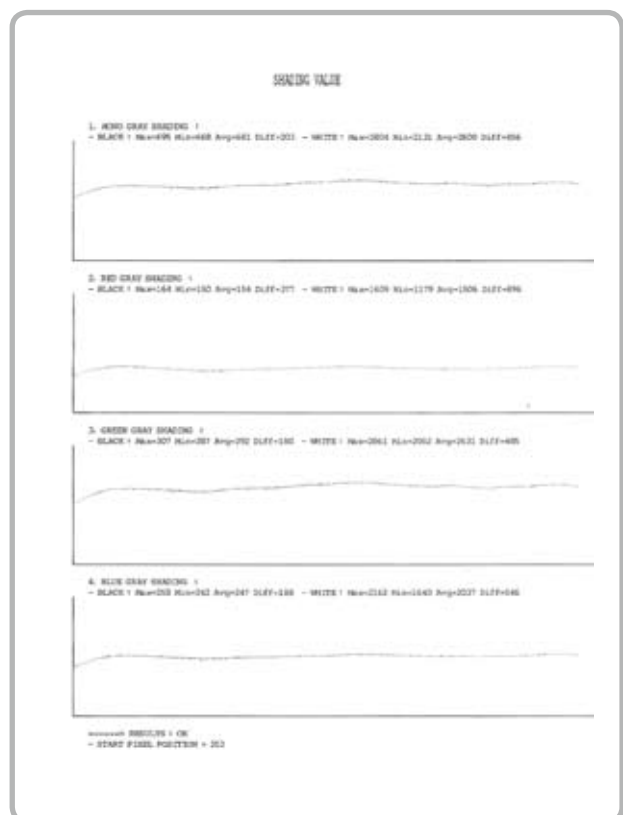
Report

■ Configuration Report

This report shows the status of the user-selectable options. You may print this list to confirm your changes after changing settings.

- SCX-4623FN


```
                        Configuration Report

Date & Time      : 27-MAY-2009 11:37 WED
Fax Number       :
Fax Name         :
Model Name       : SCX-4623FN Series

Options                       Item                         Status

Default Copies                [1-99]                       1
Default Reduce/Enlarge        [Org.(100%)/LGL->LTR(78%)...] Org.(100%)
Default Darkness              [Light/Normal...]            Normal
Default Original Type         [Text/ Text/Photo...]        Text
Darkness                      [Light/Normal...]            Normal
Resolution                    [Standard/Fine...]           Standard
Ring To Answer                [1-7]                        1
Receive Mode                  [Fax/Tel...]                 Fax
Redial Term                   [1-15]                       3
Redial Times                  [0-13]                       7
Send Report                   [On/Off...]                  On-Err
Auto Report                   [On/Off]                     On
Auto Reduction                [On/Off]                     On
Discard Size                  [0-30]                       20 mm
RCV Start Code                [0-9]                        *9*
DRPD Mode                     [On/Off]                     On
Paper Size(Tray 1)            [Letter/A4...]               A4
Paper Size(Manual Feeder)     [Letter/A4...]               A4
Copy Tray                     [Tray 1/Manual Feeder...]    Auto
Fax Tray                      [Tray 1]                     Auto
Paper Type(Tray 1)            [Plain Paper/Bond...]        Plain Paper
Paper Type(Manual Feeder)     [Plain Paper/Bond...]        Plain Paper
Send Forward/RCV Forward      [On/Off...]                  Off/Off
Junk Fax Setup                [On/Off]                     Off
Secure Receive                [On/Off]                     Off
Prefix Dial                   [Fax Number]
Stamp RCV Name                [On/Off]                     Off
ECM Mode                      [On/Off]                     On
Image TCR                     [On/Off]                     On
Speaker                       [On/Off...]                  Comm.
Ringer                        [Off/Low...]                 Mid
Key Sound                     [On/Off]                     Off
Alarm Sound                   [On/Off]                     On
Dial Mode                     [Tone/Pulse]                 Tone
Clock Mode                    [12 Hours/24 Hours]          24 Hours
Language                      [English/FRANCAIS...]        English
Default Mode                  [Fax/Copy]                   Copy
Power Save                    [1/5/10...]                  1 Min
Timeout                       [15/30/60...]                30 Sec
Altitude Adjustment           [Normal/High 1...]           Normal

Firmware/Engine Version       : 2.01.00.53itt1   05-21-2009   0.02.22
Emulation Version             : SPL 5.33 12-16-2008
Installed Date                : YYYYMMDD
Total Page Count              : 0
CRU Prints/Toner Remaining    : 70                         63% (P26.61)
Capacity/Serial               : 1.0 K                      CRUM-INIT___TONER
ADF/Platen Scan Page Counts   : 0                          0
USB Serial                    :
Country                       : UAE
IP Address/Memory Size        : 10.88.198.203              128 Mbyte
```

```
Usage Meter Count

Simplex Print Count                    2(impressions)           2(sheets)
Simplex Copy Count                     0(impressions)           0(sheets)
Simplex Fax-in Count                   0(impressions)           0(sheets)
Simplex Report Count                   4(impressions)           4(sheets)


Maintenance Parts

Document feeder rubber pad  : 20,000 pages
Fuser unit                  : 50,000 pages
Transfer Roller             : 50,000 pages
Pickup Roller               : 50,000 pages
Cassette Unit               : 50,000 pages
Product Life Time           : 50,000 pages or 5 years, whichever comes first
```

The item in green box appear when performing the memory clear.

The item in blue box appear in common with SCX-4600.

The item in red box appear when printing a configuration report in Tech mode

■ Supplies Information Report

This report shows the status of toner cartridge. This report includes toner remaining, average area coverage, installed date etc.

```
                      Supplies Information Report

Date & Time       : 2009-JUN-18 09:55AM THU
Fax Number        :
Fax Name          :
Model Name        : SCX-4623FN Series


Cartridge Information

Toner Remaining                    : 100%
Equivalent pages printed           : 6 (pages)
Average Area Coverage              : 3.33%

Dot Counts                         : 7807900
Page Counts                        : 10
Motor on time                      : 101 sec   100%(Life Remaining)
Clear Toner                        : 0
Replaced Toner Counts              : 0
Supplier ID                        : PT252INI

Capacity                           : 1.0 K
Supplier                           : SAMSUNG(INIT)
Serial                             : CRUM-INIT___TONER
Product Date                       : yyyymmdd
Installed Date                     : 20070102

Scan Information
ADF Scan Page Counts               : 1
Platen Scan Page Counts            : 1
```

4.1.7 EDC Mode

The EDC Mode is used to independently control and test each sensor and driver component, so as to more easily service the printer.

■ **Method to enter**

1. After turn on the system power, check the "Ready" message on the LCD.

2. To enter the EDC Mode, Push the buttons outlined below in the order outlined.
   "Menu → Stop → Left arrow → Back → OK → Right arrow"

3. The message **"COMPONENT TEST Press Menu Key"** display on the LCD.

4. To get out of the EDC Mode, Press the "Stop" key

```
COMPONENT   TEST
Press   Menu   Key
```

```
ENGINE   DIAG.
◀ 1 . Comp .   Test      ▶
```

```
EDC : Component Test Main Menu
1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6
```

```
Component   Test
◀ 0 . Cover   Status ▶
```
↕
```
Component   Test
◀ 1 . SensorStatus ▶
```
↕
```
Component   Test
◀ 2 . Motor   Test      ▶
```
↕
```
Component   Test
◀ 3 . Fan   Test      ▶
```
↕
```
Component   Test
◀ 4 . Clutch / Sol .   ▶
```
↕
```
Component   Test
◀ 5 . Fuser   Ctrl      ▶
```
↕
```
Component   Test
◀ 6 . LSU   Control   ▶
```
↕
```
Component   Test
◀ 7 . DEV   Control   ▶
```
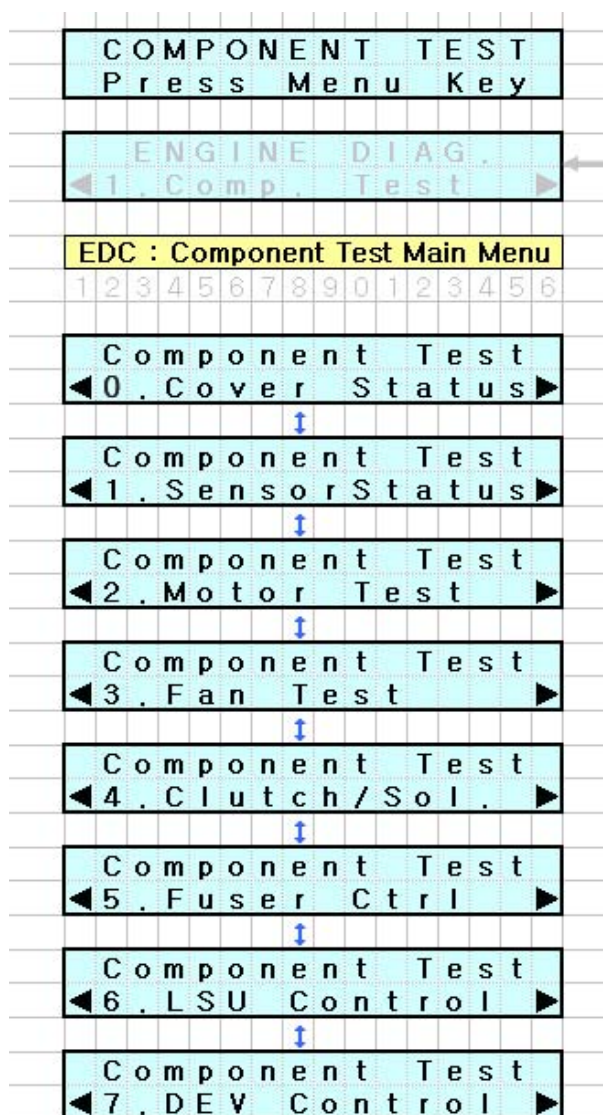
■ EDC Mode Menu

0. Cover Status

Item	Description
Front Cover	When the front cover opened, "Open" message display LCD. If the front cover closed, "Closed" message display LCD.

1. Sensor Status

Item	Description
Regi/Feed/Exit Sensor	Manually open and close the actuator of the sensor [Regi, Feed, and/or Exit Sensor] you wish to check, the message "Without Paper" and "With Paper" message will be displayed.
Empty	Manually open and close the actuator of the Empty Sensor, the message "Present" and "Empty" message will be displayed.

2. Motor Test

Item	Description
Main Mtr Nor.	If "OK" key is pushed after "ON" displayed, motor will be run. Main motor will auto - stop after 60 seconds and "OFF" message will be displayed.
Slow	If "OK" key is pushed after "ON" displayed, motor will be slowly run. Main motor will auto - stop after 60 seconds and "OFF" message will be displayed.

3. Fan Test

Item	Description
Fuser Fan	If "OK" key is pushed after "ON" displayed, fan will be run. Fuser fan will auto - stop after 10 seconds and "OFF" message will be displayed.

4. Clutch Test

Item	Description
Pick up Clutch	When "OK" key is pushed after "ON" message displayed, clutch turns on. Pick up Clutch will be turn off after 3 seconds and "OFF" message will be displayed.
Regi Clutch	When "OK" key is pushed after "ON" message displayed, clutch turns on. Regi Clutch will be turn off after 3 seconds and "OFF" message will be displayed.

5. Fuser Ctrl

Item	Description
Temp Control	Fuser on and off. "ON" is selected, fuser will be active and display the fuser temperature [XXX] but "OFF" is selected, fuser will be stop.
Fuser Temp.	Fuser temperature displayed on LCD (example: [170])

6. LSU Control

Item	Description
LD Power	When "OK" key is pushed after "ON" message displayed, "OFF" message will be displayed after 10 seconds
LSU Motor	If "OK" key is pushed after "ON" displayed, motor will be run. LSU motor will auto - stop after 10 seconds and "OFF" message will be displayed.
LSU Ready	If "OK" key is pushed after "ON" displayed, motor will be run. "1" message will be displayed.
Hsync	If "OK" key is pushed after "ON" displayed, motor will be run. "1" message will be displayed.

7. DEV Control

Item	Description
THV (+)	If "OK" key is pushed after "ON" displayed, THV (+) will be turned on.
THV (-)	If "OK" key is pushed after "ON" displayed, THV (-) will be turned on.
Dev Bias	If "OK" key is pushed after "ON" displayed, Dev Bias will be turned on.
MHV Bias	If "OK" key is pushed after "ON" displayed, MHV Bias will be turned on.

■ ACRONYMS AND Explanation

• DEV   – Developing High Voltage
• EDC   – Embedded Diagnostic Control
• F/W   – Firmware
• HVPS – High Voltage Power Supply
• H/W   – Hardware
• LD   – Laser Diode
• LSU   – Laser Scanning Unit
• MHV – Main High Voltage (Charge Voltage)
• OPC   – Optical Photo Conductor
• SCF   – Second Cassette Feeder
• THV   – Transfer High Voltage

4.1.8 Firmware Upgrade

♦ USB and Network port are used to update the firmware.
  Network applications (SWAS, SWS) can be used to update the firmware.

♦ Normal Update

Send ROM file via USB, network port in Ready state.
It will automatically update and reset.

♦ Special Mode Update

1. Power On While Pressing "Stop / Clear" Button.
   - It displays download mode message.

2. Send ROM file via USB.

3. It will automatically update and reset.

Note

* You can refer to the F/W Version Info. by pressing " Menu → # → 1 → 9 → 3→ # "

* If the machine is still not fyou cannot necessary you should perform factory clearing
" Menu → # → 1 → 9 → 3 → Start " (SCX-4623series)
" Menu → ID Copy → Left → Right → Menu → Start " (SCX-4600series) after updating Rom file.

  Notice : All of count values and data saved in MFP will be cleared.

4.1.9 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.

Roller	Period (mm)	Phenomenon	Defective part
OPC Drum	75.6mm	White and Black Spots	Toner Cartridge
Developing Roller	35mm	White spot, Horizontal black band	Toner Cartridge
Charging Roller	37.5mm	Black Spot and line and periodic band	Toner Cartridge
Supply Roller	49mm	Periodic Band by little difference of density	Toner Cartridge
Transfer Roller	47mm	Ghost, Damaged image by abnormal transfer	Transfer roller
Pressure Roller	75.4mm	Background	Fuser
Fusing Roller	77.5mm	Black spot and image ghost	Fuser
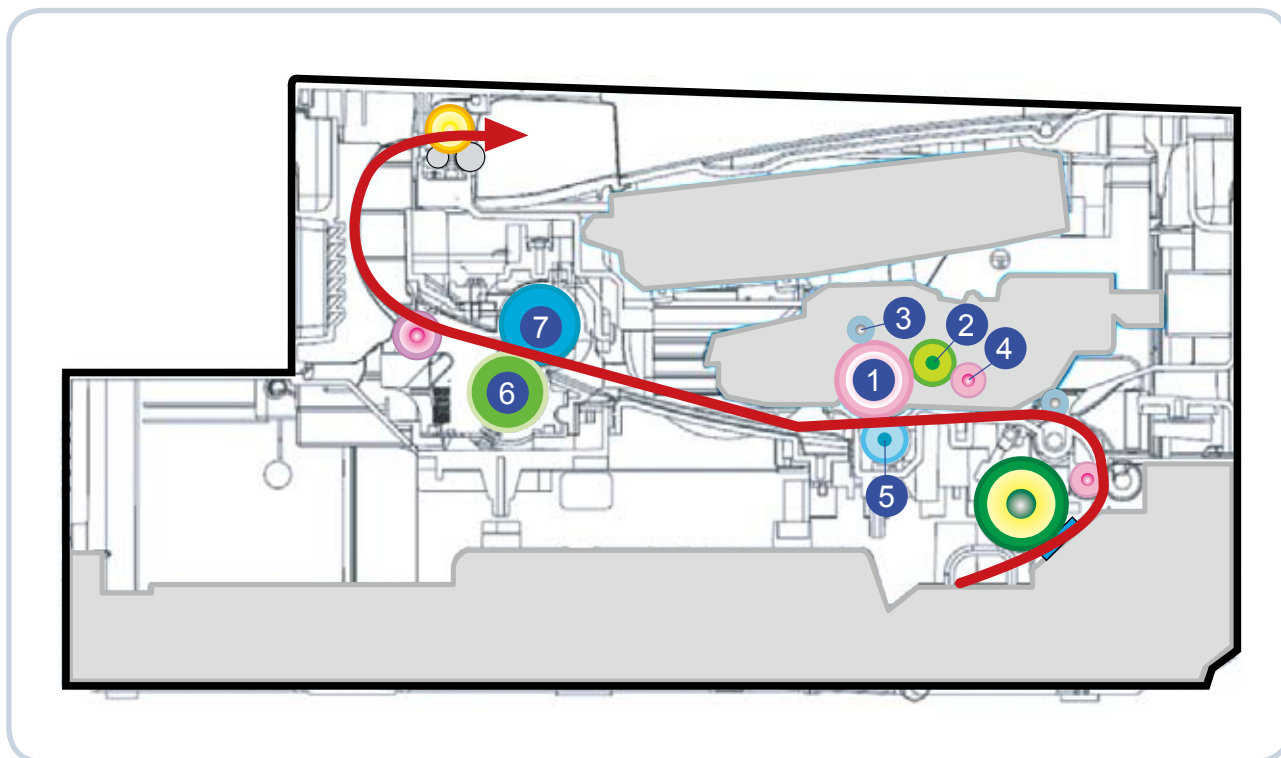
1	OPC		5	Tranfer roller
2	Developing Roller		6	Pressure roller
3	Charging roller		7	Fusing roller
4	Supply Roller			

4.1.10 Error Message

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, as is necessary.

Checking display messages

• If a message is not in the table, reboot the power and try the printing job again.
• Some messages may not appear in the display depending on the options or models.
• [error number] indicates the error number.
• [tray type] indicates the tray number.
• [media type] indicates the media type.
• [media size] indicates the media size.
• [color] indicates the color of toner or imaging unit.

Message	Meaning	Suggested solutions
[COMM. Error]	The machine has a communication problem.	Ask the sender to try again.
[Incompatible]	The machine has received a fax which is registered as a junk fax.	The received fax data will be deleted. Reconfirm junk fax setup.
[Line Error]	Your machine cannot connect with the receiving fax machine or has lost contact because of a problem with the phone line.	Try again. If the problem persists, wait an hour or so for the line to clear and try again. Or, turn the ECM mode on.
[No Answer]	The receiving fax machine has not answered after several redial ttempts.	Try again. Make sure that the receiving machine is operational and has paper.
[Stop Pressed]	Stop/Clear has been pressed during an operation.	Try again.
ADF COVER OPEN ERROR	The ADF cover is opened.	Close the ADF cover.
BOOTP problem Auto IP Run	The IP address assignment is failed. This happens, when Auto IP for BOOTP is set in SyncThru Web Service.	Change the IP address assignment method to DHCP or Static. If you do not change this option, the BOOTP server continually asks to assign the IP Address.
BOOTP problem Reconfigure DHCP	The IP address assignment is failed. This happens, when Auto IP for BOOTP is not set in SyncThru Web Service.	Change the IP address assignment method to DHCP or Static. If you do not change this option, the BOOTP server continually asks to assign the IP Address.
DHCP problem Reconfigure BOOTP	The IP address assignment is failed. This happens, when Auto IP for DHCP is set in SyncThru Web Service.	Change the IP address assignment method to BOOTP or Static. If you do not change this option, the DHCP server continually asks to assign the IP Address.

Message	Meaning	Suggested solutions
DHCP problem: **Auto IP Run**	The IP address assignment is failed. This happens, when Auto IP for DHCP is not set in SyncThru Web Service.	Change the IP address assignment method to BOOTP or Static. If you do not change this option, the DHCP server continually asks to assign the IP Address.
Document Jam. **Remove Jam**	The loaded original has jammed in the ADF.	Open the ADF cover and clear the jam.
Door Open. **Close it**	The front cover is not securely latched.	1. Close the cover until it locks into place. 2. Enter the EDC mode and check the cover status.
Error #02-000~2 **Turn off then on**	A fuser error has occurred.	1. Turn the printer off and back on to continue. 2. Reconnect the cable between the fuser and SMPS board. 3. Remove the fuser and re-install it. 4. Check the thermostat. If it is defective, replace it. 5. If error persists, replace the fuser. 6. If error persists, replace the SMPS/ HVPS board.
Error #04-002 **Turn off then on**	LSU error has occurred	1. Enter the EDC mode. 2. Execute the LSU test. 3. If the LSU does not operate, replace it.
Install Toner **Install it**	The toner cartridge is installed improperly, or not installed.	Reinstall the toner cartridge two or three times to confirm it is seated properly. If the problem persists, the toner cartridge is not being detected.
Memory Full **Remove Job**	The memory is full.	Press the left/right arrow to highlight Cancel or Start, then press OK. If you select Cancel , the machine stops the fax job. If you select Start, the machine only sends scanned documents of the fax job.
Network Problem: **IP Conflict**	The IP address is used elsewhere.	Check the IP address or obtain a new IP address.
Not Compatible **Toner cartridge**	The indicated toner cartridge is not suitable for your machine.	Install the corresponding toner cartridge with a Samsung-genuine cartridge.
Output bin Full **Remove paper**	The output tray is full. Or the sensor is not facing down.	Remove papers from the output tray, the machine resumes printing. Or make sure the sensor is facing down.

Message	Meaning	Suggested solutions
Paper Empty in Tray1	There is no paper in the indicated tray.	1. Load paper in the tray. 2. If the message does not clear, enter the EDC mode and check the empty sensor. Replace empty sensor if defective.
Paper Jam in exit area	Special print media has jammed in the paper exit area.	1. Clear the jam. 2. If the message does not clear, enter the EDC mode and check the exit sensor. Replace exit sensor.
Paper Jam in MP Tray	Paper has jammed in the manual tray area.	1. Clear the jam. 2. If the message does not clear, check the following. - If pick up roller does not rotate and paper does not feed, check the pick up clutch. 3. If Pickup roller is rotating but the paper is not feeding, replace the pick up rubber. 4. Check the feed sensor in EDC mode. If it is defective, replace it.
Paper Jam in Tray1	Paper has jammed in the tray1 area.	1. Clear the jam. 2. If the message does not clear, check the following. - If pick up roller does not rotate and paper does not feed, check the pick up clutch. 3. If Pickup roller is rotating but the paper is not feeding, replace the pick up rubber. 4. Check the feed sensor in EDC mode. If it is defective, replace it.
Paper Jam inside machine	Paper has jammed inside the machine.	1. Clear the jam. 2. If the message does not clear, check the feed sensor or exit sensor. Replace the defective sensor.
Prepare new cartridge	Small amount of toner is left in the indicated cartridge. The cartridge is getting low on toner.	Prepare a new cartridge for a replacement. You may temporarily increase the printing quality by redistributing the toner.
Replace new cartridge	The cartridge is almost empty.	Replace the toner cartridge for the best print quality when this message appears.

Message	Meaning	Suggested solutions
Replace Toner	The cartridge is out of toner.	Replace the toner cartridge with a Samsung-genuine toner cartridge.
Self Diagnostics Please wait	The engine in your printer is checking some problems detected.	Please wait a few minutes.
Sleeping...	The machine is in the power save mode.	When data is received, it switches to on-line automatically.
Too many Faxes Remove Job	Too many faxes are received.	Remove received fax.

4.2 Troubleshooting

4.2.1 Procedure of Checking the Symptoms

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

```
            ┌──────────────┐
            │   Power On    │
            └──────┬───────┘
                   │
                   ▼
              ╱ Green LED ╲    No      - No Power
             ╱   on?       ╲──────▶    - Power Module error
              ╲           ╱            - Main PBA error
               ╲       ╱               - Panel PBA error
                   │ Yes
                   ▼
              ╱ Ready or ╲    No     ╱ Error LED ╲   Yes    Check the
             ╱  Power     ╲────────▶╱   ON?       ╲──────▶  error message.
              ╲  save    ╱          ╲           ╱          ( Refer to 4.1.10
               ╲       ╱              ╲       ╱              Error message)
                   │ Yes                  │ No
                   ▼                      │
            ┌──────────────┐             │
            │  Test Print   │◀───────────┘
            └──────┬───────┘
                   │
                   ▼
              ╱ printing ╲    No      Refer to "Solution
             ╱  Quality is ╲──────▶   of Image Problem"
              ╲  Nomal?   ╱
               ╲       ╱
                   │ Yes
                   ▼
            ┌──────────────┐
            │     END       │
            └──────────────┘
```
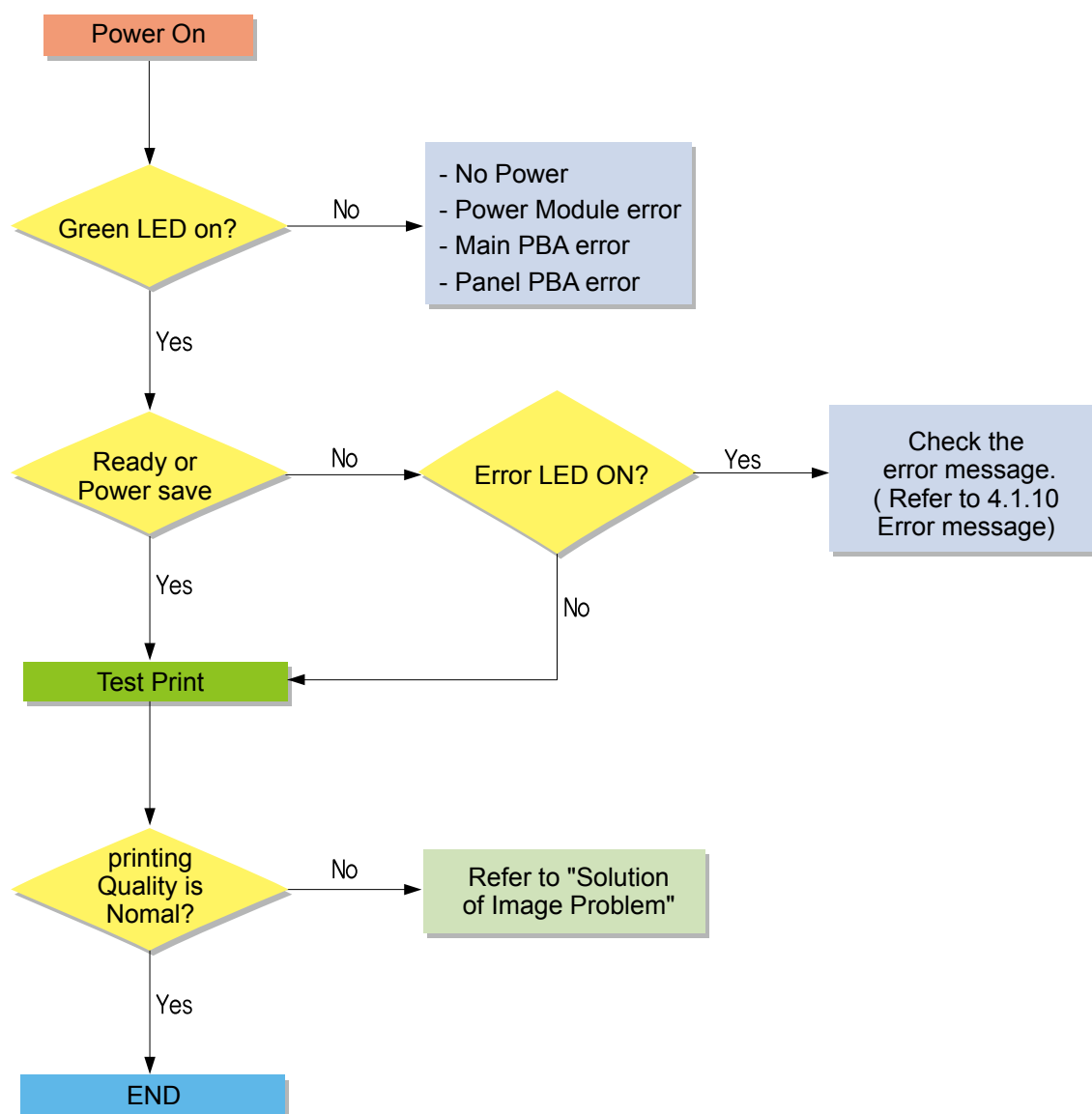
4.2.2 The cause and solution of Bad image

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.

Check and Cause

Solution

1. Damaged develop roller in the Toner cartridge. Deformed Doctor-blade or cleaning-blade.

2. Scratched surface of the charge roller in the toner cartridge.

If causes 1 and 2 occur in the toner cartridge, replace the toner cartridge and try to print out.

3. Partly depression or deformation on the surface of the transfer roller.

Replace the transfer roller if occurred as No. 3.

End

2) Vertical White Line

Description : White vertical voids in the image.

Check and Cause	Solution
1. Foreign matter stuck onto the window of internal lenses of LSU mirror.	Foreign matter stuck onto the window : Clean the LSU window with recommended cleaner(IPA) Clean the window with a clean cotton swab.
2. Foreign matter or toner particles between the toner cartridge roller and blade. (In case the life of the toner cartridge has been expired, white lines or light image occur in front of the image.)	Replace the toner cartridge.
3. It may occur due to dirty or ☐ foreign substances are on the window of the toner cartridge frame.	No 3. : Clean the exposure window. (toner cartridge)
4. If the fuser is defective, voids occur periodically at the top of a black image.	No. 4. : Open the front cover and check ribs that corresponds to the position of the voids. Remove if found.
5. It may occur when foreign substances are on the OPC Drum.	If the problems are not solved, replace the toner cartridge.
6. Partly depression or deformation on the surface of the transfer roller	Replace the transfer roller if occured as NO.6

End

3) Horizontal Black Band

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

Check and Cause

Solution

1. Bad contacts of the voltage terminals to developer.

Clean each voltage terminal of the Charge, Supply, Develop and Transfer roller.(remove the toner particles and paper particles)

2. The rollers of developer may be stained.

OPC Drum = 75.6mm
Developing Roller = 35mm
Charging Roller = 37.5mm
Supply Roller = 49mm
Transfer Roller = 47mm
Pressure Roller = 75.4mm
Fusing Roller = 77.5mm

1. Clean the right Gear that has relatively small gap of the teeth in the OPC.
2. If the malfunction persists, replace the developer.

End

4) Black/White Spot

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

Check and Cause

Solution

1. If dark or blurry black spots occur periodically, the rollers in the Developer may be contaminated with foreign material or paper particles. (Charge roller : 37.5mm interval OPC drum : 75.6mm interval)

Print several OPC cleaning Mode Prints and then run the Self-test 2 or 3 times.

2. If faded areas or voids occur in a black image at intervals of 75.6 mm, or black spots occur elsewhere, the OPC drum surface is damaged.

In case of 75.6 mm interval unremovable in 1, Clean foreign substances stuck on the OPC location equivalent to black spots and white spots with a dry cotton cloth.

3. If a black image is partially broken, the transfer voltage is abnormal or the transfer roller's life has expired.

1. The transfer roller has expired [50.000 sheets]. Replace it.
2. In case of 37.5 mm interval unremovable in 1, take measures as to replace the developer cartridge and try to print out.
3. Clean the inside of the set against the paper particles and foreign matter in order not to cause the trouble.

End

5) Light Image

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

Check and Cause

Solution

1. Develop roller brush is too thin due to the cartridge being almost empty.

Check if the Toner Save mode is off. Check if the density is light.

No 1 : Replace the toner cartridge and try to print out.

2. Ambient temperature is below than 10℃.

No 2 : Instruct the customer that the machine has to be at average room temperate in order to produce good copy quality.

3. Bad contact caused by the toner stains between the high voltage terminal in the HVPS.

No3 : Clean any contaminated terminals.

4. Abnormal output from the HVPS. (Run self-test and check 1~4)

Replace the HVPS if the problems any contaminated terminals. not solved by the above four instructions.

End

6) Dark Image or a Black Page

Description : The printed image is dark.

Check and Cause

Solution

1. No charge voltage in the engine board.

Check the state of the connector which connects the engine board and HVPS.

2. Charge voltage is not turned on due to the bad contacts between power supply in the side of the Toner cartridge and charge terminal of HVPS.

1. Clean the high voltage charge terminal.
2. Replace the HVPS if not solved by the above direction 1 and 2.

3. VD0 signal of the Main PBA is Low state.

Replace the LSU Unit or Main PBA.

End

7) Uneven Density

Description : Print Density is uneven between left and right.

Check and Cause

Solution

1. The pressure force on the left and right springs of the transfer roller is not even, the springs are damaged, the transfer roller is improperly installed, or the transfer roller bushing or holder is damaged.

Replace both the left and right Spring Holder.

2. The life of the Toner cartridge has expired.

Occur in the toner cartridge gently shake the toner cartridge.

3. The toner level is not even on the toner cartridge roller due to the bad blade.

Replace the toner cartridge and try to print out.

End

8) Background

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

Check and Cause

Solution

1. Does character exist less than 2% per a page, or has machine been left used for a long time?

The toner cartridge is basically designed to print 7K sheets with 5% image. If it prints more than 8K sheets with 2% coverage, a background can occur.

2. Is a recycled toner cartridge be used?

The A/S is not guaranteed if using a recyled the toner cartridger.

3. Has the life span of the toner cartridge ended?

Replace the toner cartridge when the life span of it has been ended.

4. Is the movement(Up and Down) of the transfer roller smooth?

Clean the bushing part of the transfer roller.

5. Is the HVPS normal?

1. If the problem is still not solved, replace the toner cartridge.
2. Gently shake the toner cartridge.

End

9) Ghost (1)

Description : Ghost occurs at 75.5 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 Toner cartridge.	Clean any contaminated terminals.
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 toner cartridge and try to print out.
3. The life of toner cartridge is expired.	Replace the engine board if not solved by the above directions 1-2.
4. Transfer roller lifetime(50K sheets) has expired.	If not solved by the direction 3, check the transfer roller lifetime and replace it.

Continue..

Continue..

5. Abnormal low temperature
(below 10℃).

Instruct the customer that the machine has to be at average room temperate in order to produce good copy quality.

6. Damaged cleaning blade in the toner cartridge.

Occur in the toner cartridge, replace the toner cartridge and try to print out.

End

10) Ghost (2)

Description : **Ghost occurs at 75.5 mm intervals of the OPC drum in the whole printing. (When printing on card stock or transparencies using manual feeder)**

75.5mm

Check and Cause

Solution

When printing on card stock thicker than normal paper or transparencies such as OHP, higher transfer voltage is required.

Select 'Thick Mode' on paper type menu from the software application and after using returning to the original mode is recommended.

End
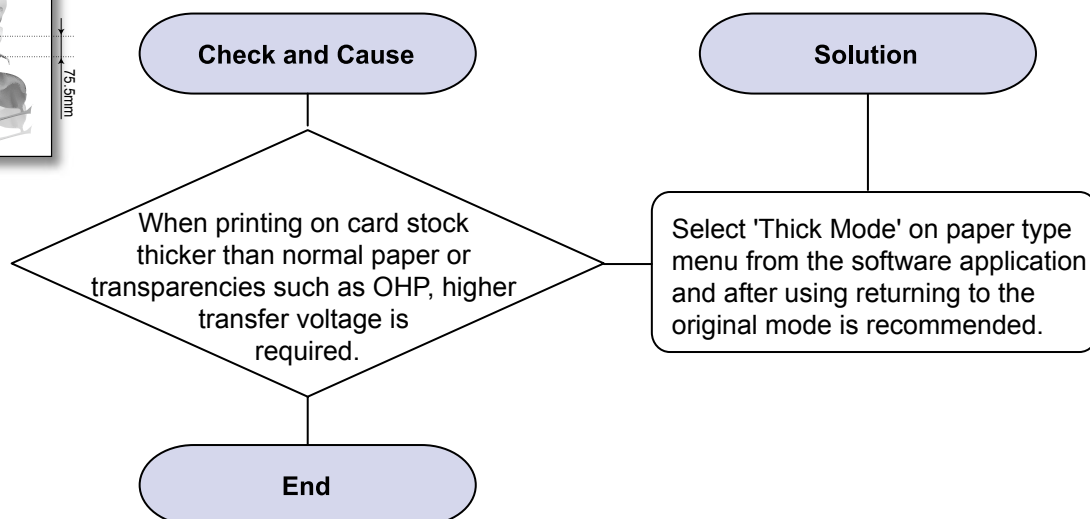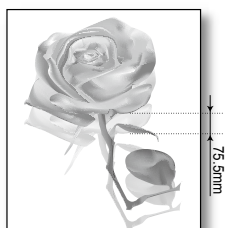
11) Ghost (3) : Fuser

Description : Ghost occurs at 75.4 mm or 77.5mm intervals.

75.4 or 77.5mm

Check and Cause

The temperature of the fuser ▯ is being maintained too high.

Solution

Disassemble the fuser Unit.
Clean the Fuser Rollers,
and Thermistor.
(Caution: can be deformed)

End

12) Ghost (4)

Description : White ghost occurs in the black image printing at 47.5mm intervals.

Check and Cause

Solution

1. The life of the developer may be expired.

Occur in the developer cartridge, replace the developer and try to print out.

2. The abnormal voltage and bad contact of the terminal of the supply roller

Check the approved voltage of the supply roller and contact of the terminal and adjust if necessary.

End
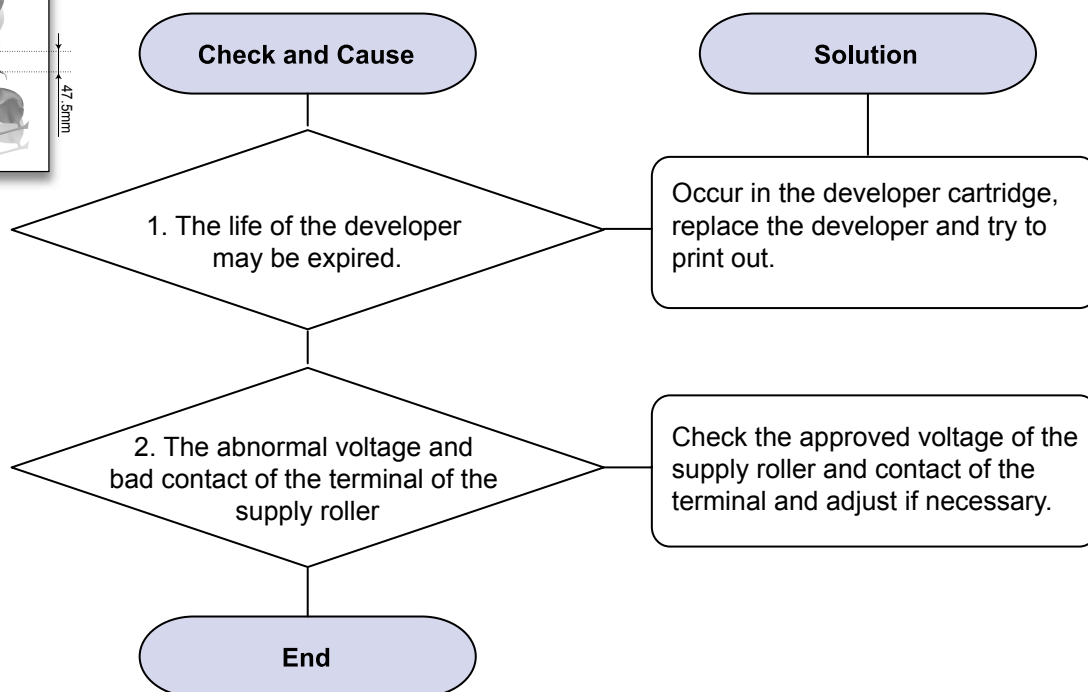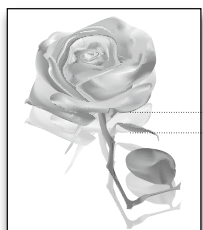
13) Stains on the Face of Page

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

Check and Cause

Solution

1. Toner leakage due to improperly sealed toner cartridge.

Replace the toner cartridge.

2. If the transfer roller is contaminated, stains on the face of page will occur.

If the transfer roller is contaminated, run PC Cleaning Mode Print 2 or 3 times. And perform Self-Test 2 or 3 times to remove contamination.

End
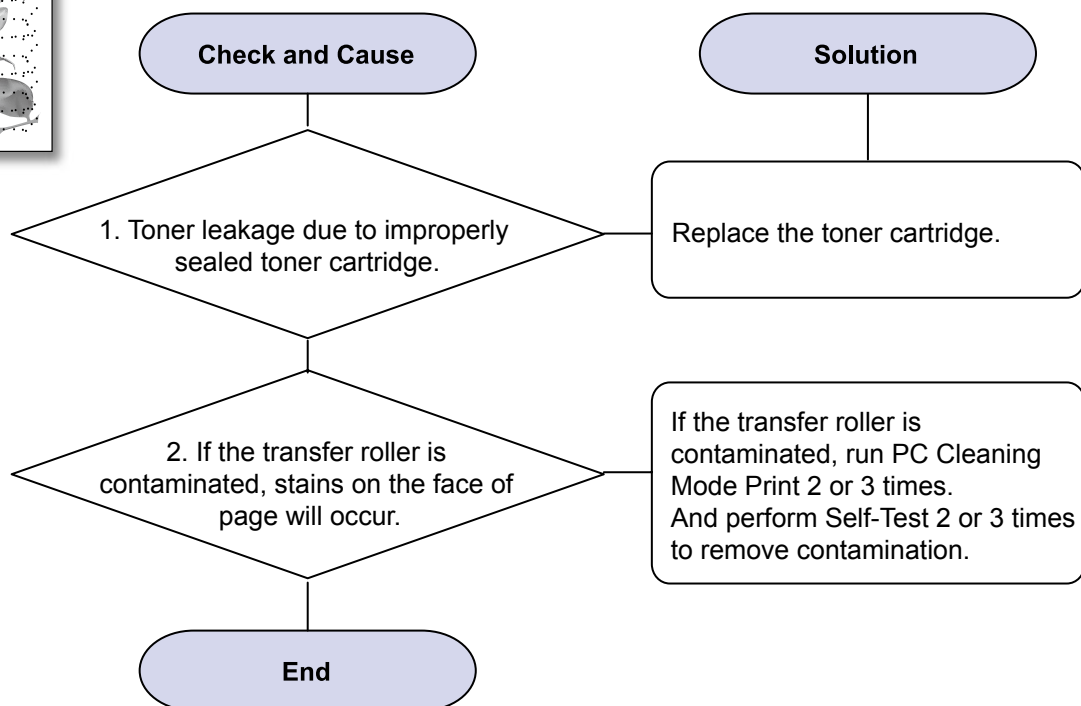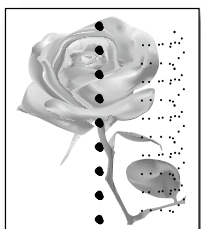
14) Stains on Back of Page

Description : The back of the page is stained at 47 mm or 62.8mm intervals.

47 or 62.8mm

Check and Cause

Solution

1. 47mm : Transfer roller is contaminated.

1. Replace the transfer roller if contaminated severely.
2. Perform the OPC Cleaning Mode Print 2 or 3 times. Run Self-Test to remove the contamination of the transfer roller.

2. 62.8mm : Pressure roller is contaminated.

Disassemble the fuser and clean the H/R(Heat Roller) and P/R (Pressure roller). And check the area between H/R and Thermistor. If contaminated, clean the thermistor, be careful not to bend its mounting bracket.

End

15) Blank Page Print out (1)

Description : Blank page is printed.

Check and Cause

Bad ground contacts in OPC and/or toner cartridge.

End

Solution

1. Check if the Ground-OPC is defective(set inside right side).
2. Remove contamination of the terminals of the toner cartridge and the unit.
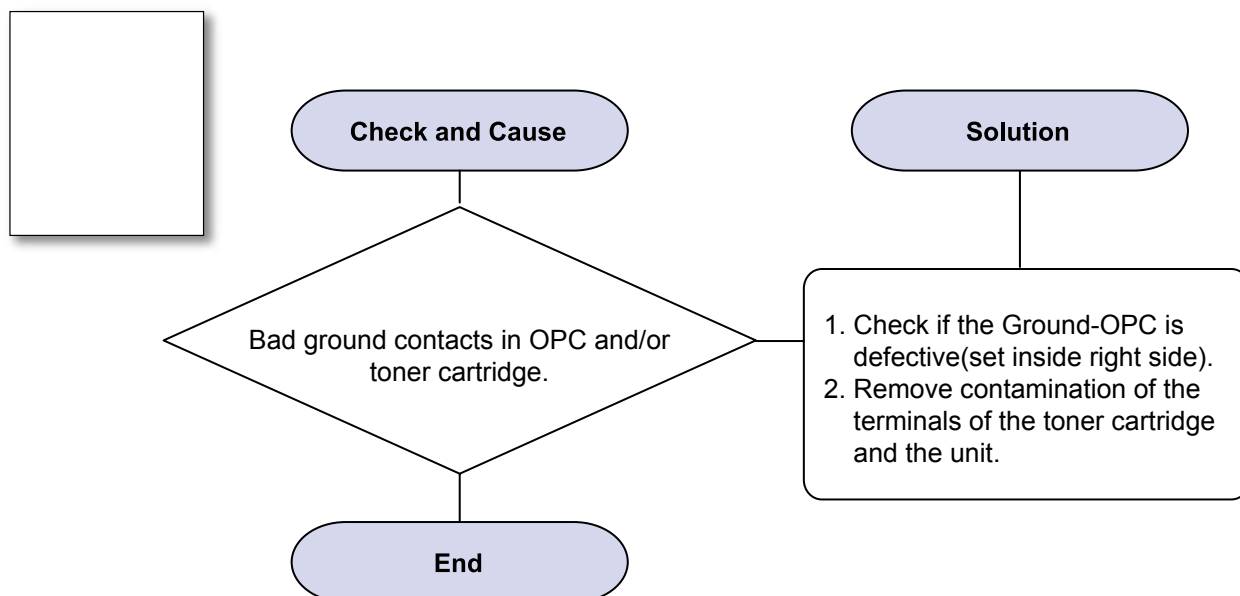
16) Blank Page Print out (2)

Description : 1. Blank page is printed.
2. One or several blank pages are printed.
3. When the printer turns on, several blank pages print.

Check and Cause

Solution

1. Bad ground contacts in OPC and/or toner cartridge.

Remove contamination of the terminals of the toner cartridge.

2. Abnormal solenoid.

1. Perform the engine self test using EDC Mode to check if the Solenoid is normal.
2. If not solved by the above directions 1-2, Replace the engine board.
3. Turn the power off, delete the data of PC and try printing again.

End

4.2.3 The cause and solution of the bad discharge

1) Wrong Print Position

Description : Printing begins at wrong position on the paper.

Check and Cause	Solution

Wrong sense time caused by defective feed sensor actuator. → Replace the defective actuator

End
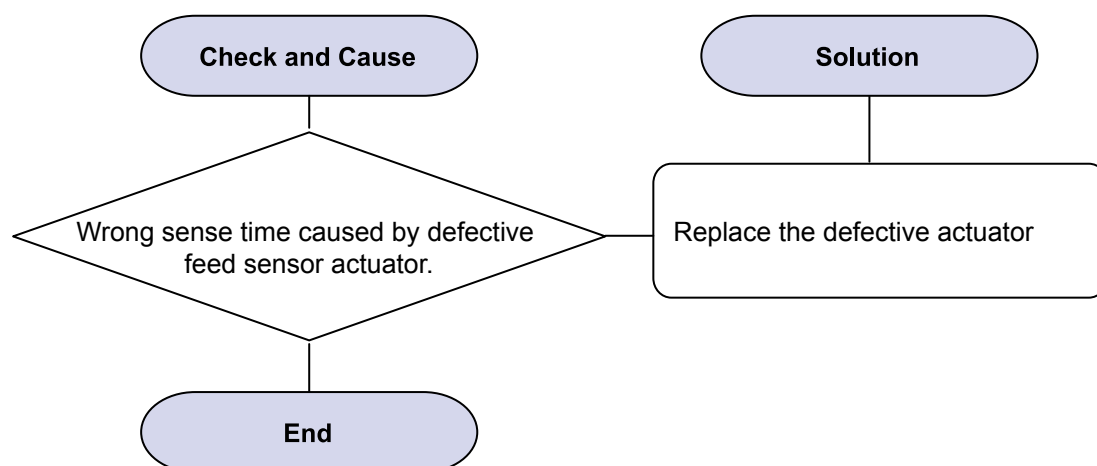
2) JAM 0

Description : 1. Paper is not exited from the cassette.
2. Jam-0 occurs when the paper feeds into the printer

Check and Cause	Solution
1. Check the Solenoid by using DCU diagnostic mode 06.	Replace the solenoid.
2. Check if the holder pad in the cassette is worn away.	Replace the holder pad.
3. Check the surface of the roller-pick up is contaminated.	Clean with soft cloth dampened with IPA(Isopropyl Alcohol) or replace the pick up roller.
4. If the paper feeds into the printer rand Jam 0 occurs, perform DCU to check feed-sensor of the engine board.	Replace the Sensor.

End

3) JAM 1

Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.

Check and Cause

Solution

1. If the recording paper is jammed in front of or inside the fuser. (Perform DCU diagnostic code 08)

Replace the SMPS.

2. If the recording paper is stuck in the discharge roller and the fuser just after passing through the Actuator-Feed, Feed Actuator may be defective.

Reassemble the Actuator-Feed and Spring-Actuator if the returning is bad.

End

4) JAM 2

Description : 1. Recording paper is jammed in front of or inside the fuser.
2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.

Check and Cause

Solution

1. If the paper is rolled in the Fuser Roller:
- This occurs when a Guide claw is broken away or transformed.
- It occurs when the Heat-Roller or Pressure-Roller is seriously contaminated with the toner.

Refer to JAM2 flow chart in fuser problem troubleshooting.

2. Check the Exit roller is transformed or contaminated.

Replace the Exit roller.

End

5) Multi-Feeding

Description : Multiple sheets of paper are fed at once.

Check and Cause

Solution

1. Solenoid malfunction (the solenoid does not work properly): Perform DCU Diagnostic Code 06.

Replace the solenoid if necessary.

2. Cassette holder pad is contaminated with foreign matter.(oil...)

Clean the pad friction with soft clothe dampened with IPA (Isopropyl Alcohol).

End
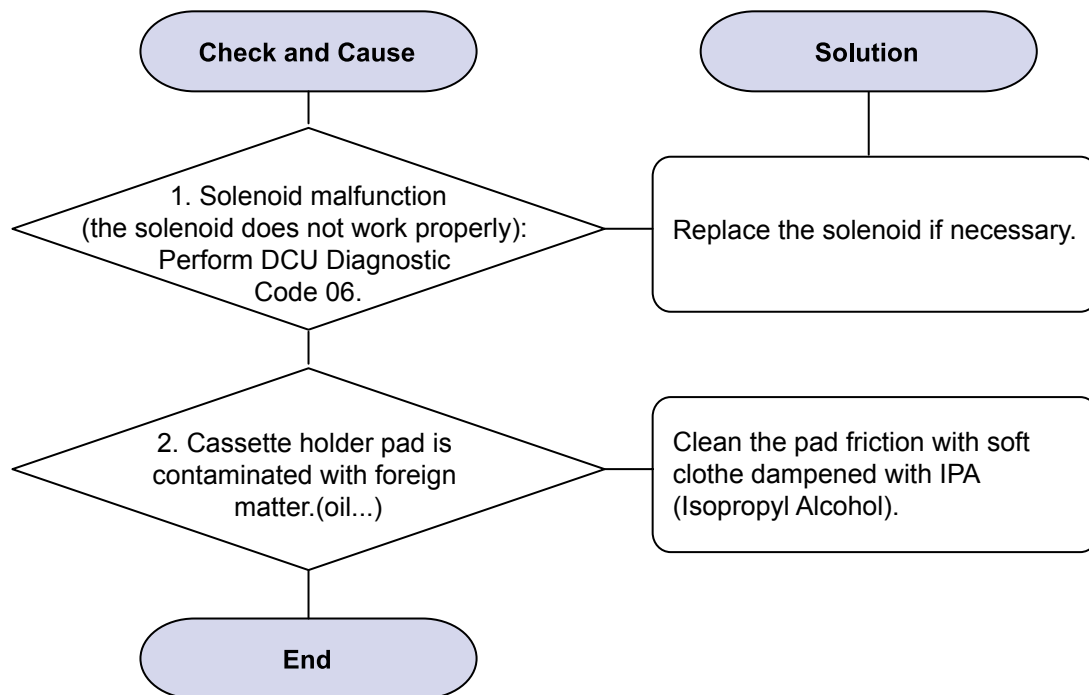
6) Paper rolled in the fuser

Description : If contaminated at intervals of 77.6mm on the back of a paper.

Check and Cause

Solution

1. Contamination of the pressure roller or heat roller (Background, Hot off set).

After disassembling the fuser, clean contamination between the heat roller and the thermostor and remove the contamination of the pressure roller.

2. Check the claw of the fuser whether it is deformed.

1. If there is heavy background, repair it by the background troubleshooting method.
2. Clean the surface of the heat roller with IPA or water
3. Check the warp or separation of the print claw and the holder plate claw.

End

7) Paper rolled on the OPC Drum

Description : Paper is rolled up in the OPC.

Check and Cause	Solution

1. Paper is too much thin.

Recommend to use normal paper.

2. The face of paper is curled.

How to remove the rolled in the OPC Drum.
• Remove the paper while turning the OPC Drum against the ongoing direction.

End
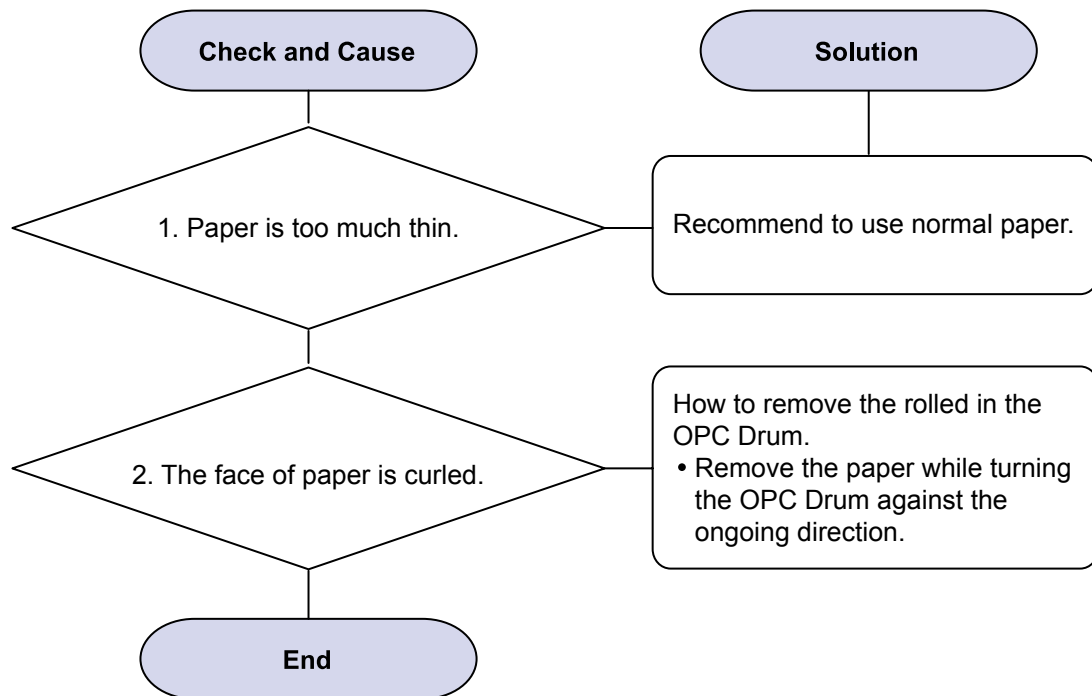
4.2.4 The cause and solution of the malfunction

1) Fuser Error

Description : Fuser error is displayed on LCD

Check and Cause	Solution
1. Check whether the thermostat, AC wire, and/or heat lamp are open or not.	Replace the fuser if a thermostat is open.
2. Check whether a thermistor is open or not.	Replace the fuser if a thermistor sensor is located deep inside of a sponge.
3. Heat lamp ON/OFF test	Check whether the overheat mode circuit operates normally or not.
4. It could not operate due to a gear of a fuser is melted.	Replace the fuser.

End

2) LSU Error

Description : "PMOTOR ERROR/HSYNC ERROR'

Check and Cause

Solution

1. Check whether the LSU connector is disconnected or not.

Replace a LSU

2. Check whether the LSU motor is rotating or not.

Replace a main board if the same error occurs again after replacing a LSU.

3. Check the HSYNC signal.

End
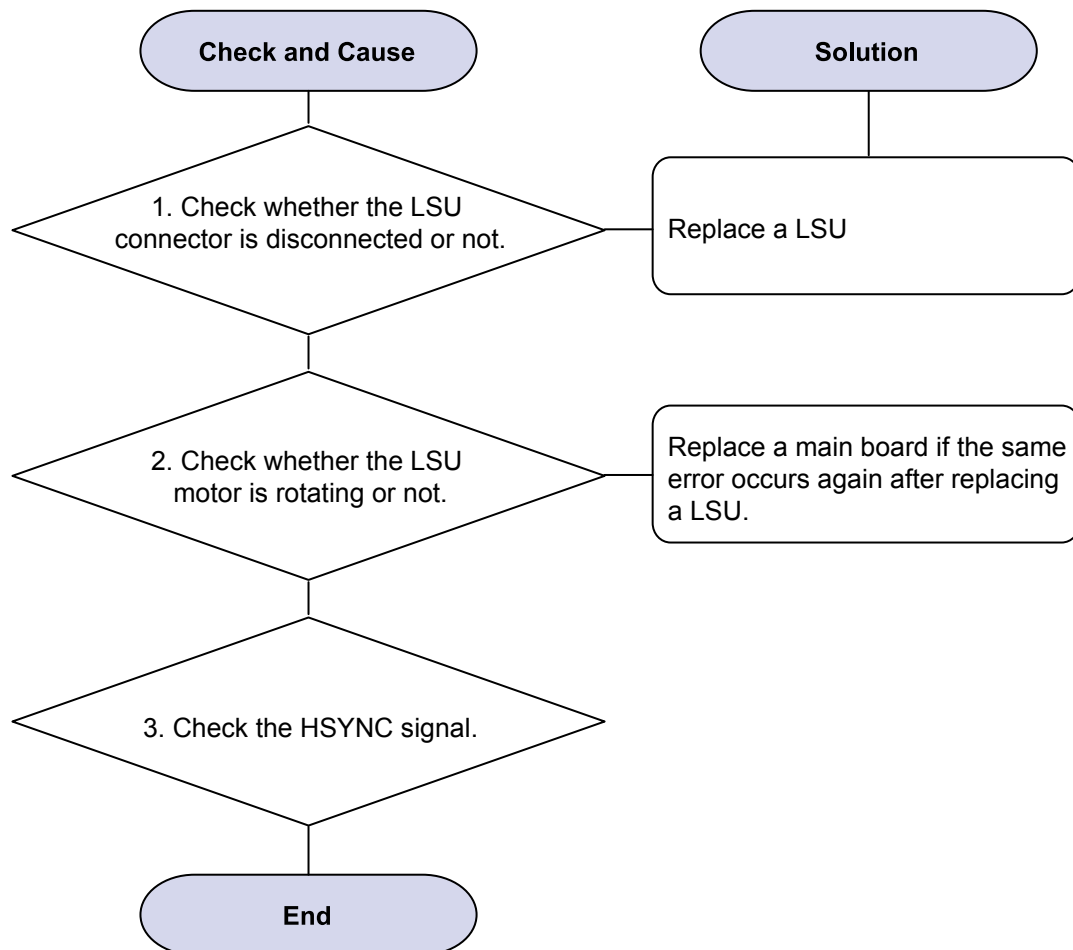
3) Not function of the gear of the fuser due to melting away

Description : **The motor breaks away from its place due to gear melting away.**

Check and Cause

1. Check the Heat Lamp.

Solution

1. Replace the Fuser.
2. Replace the Main PBA.
3. Replace the SMPS.

End
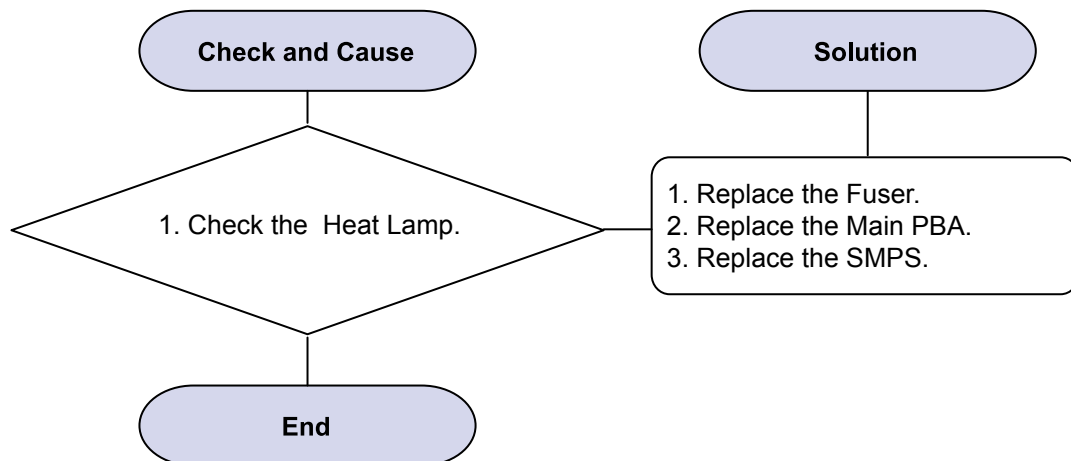
4) Paper Empty

Description : **Paper empty error message is displayed on LCD when paper is loaded in the cassette.**

Check and Cause

Solution

1. Bending or deformation of the actuator of the paper sensor.

Replace the defective actuator.

2. The function of the engine board is defective

Replace the SMPS.

3. Check the Connector.

End
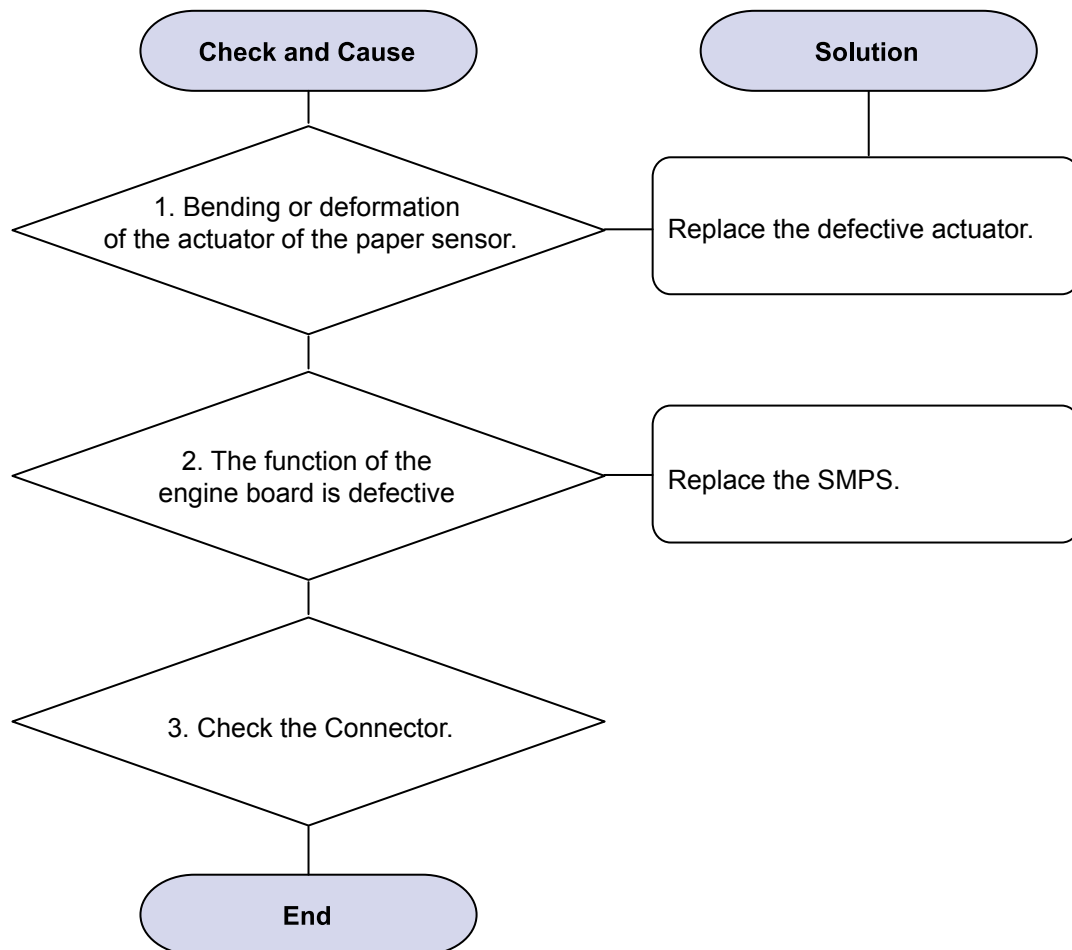
5) Paper Empty without indication

Description : Paper empty error message does not display when the paper cassette is empty.

Check and Cause	Solution
1. Bending or deformation of the actuator of the paper sensor.	Replace the defective actuator.
2. The function of the engine board is defective	Replace the SMPS.

End
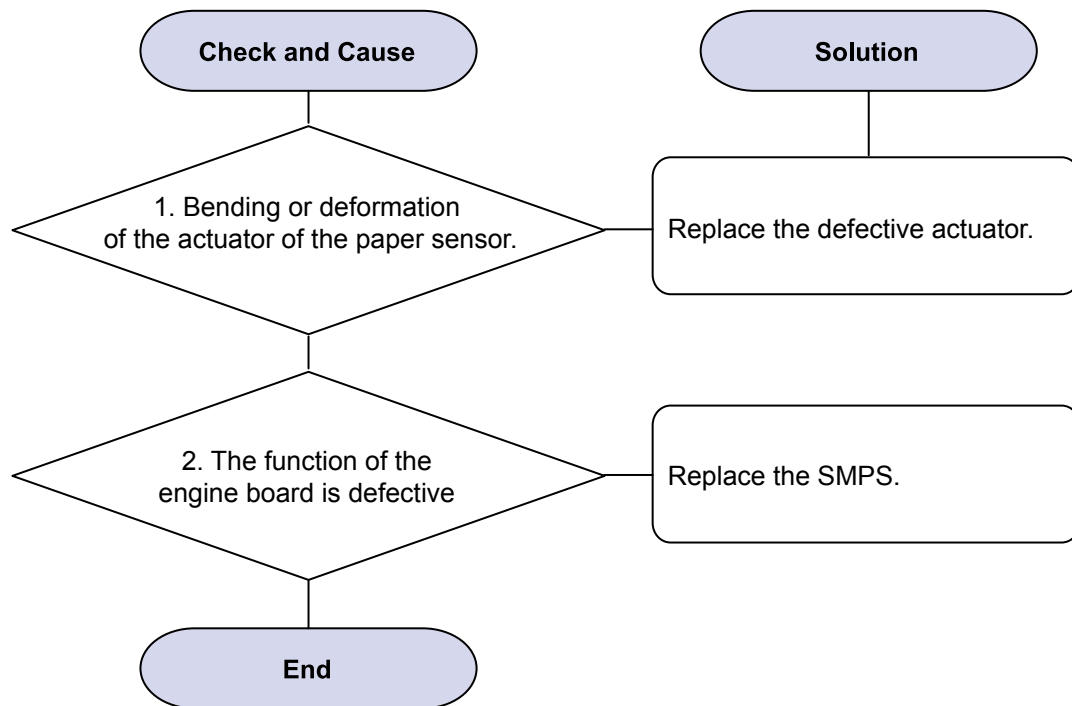
6) Cover Open

Description : The ERROR lamp is on even when the print cover is closed.

Check and Cause

Solution

1. The hook lever in the front cover.

Replace the front cover, if defective.

2. Check the connector and circuit of the cover switch department in the Main Control board.

1. Check the insertion of the Cover Open S/W Connect.
2. Replace the Main Control board or HVPS board

End
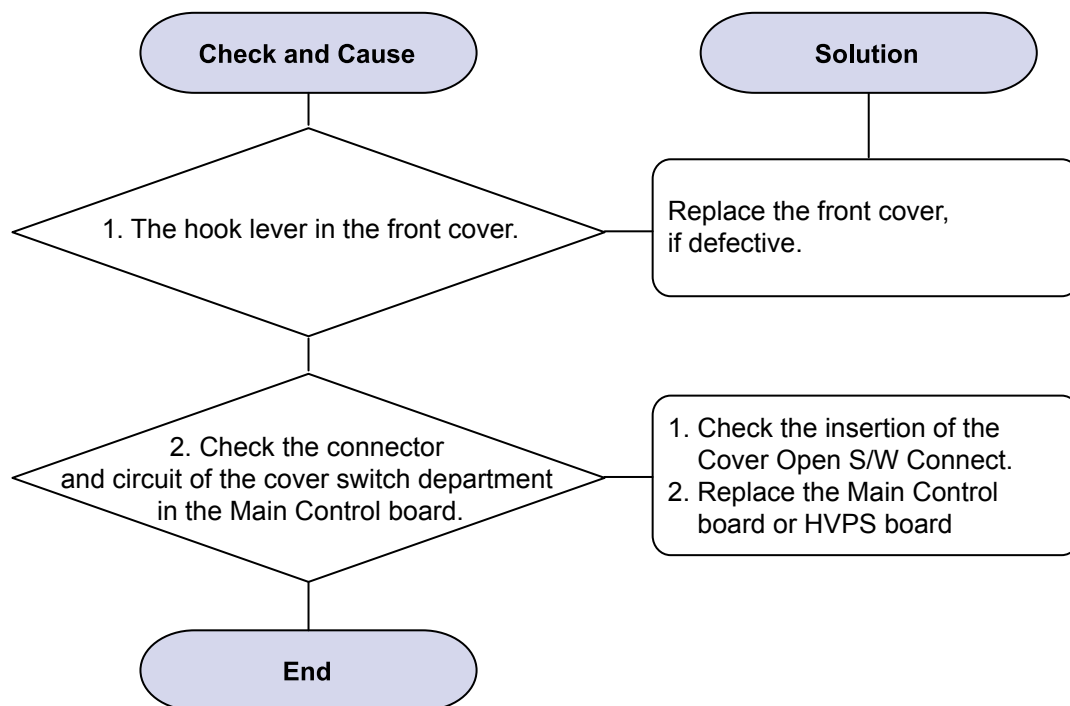
7) No error LED when the cover is open

Description : The Error LED does not come on even when the printer cover is open

Check and Cause

Solution

1. Check the connector and circuit of the cover switch department in the Main Control board.

1. Check the insertion of the Cover Open S/W Connect.
2. Replace the Main Control board or HVPS board

End
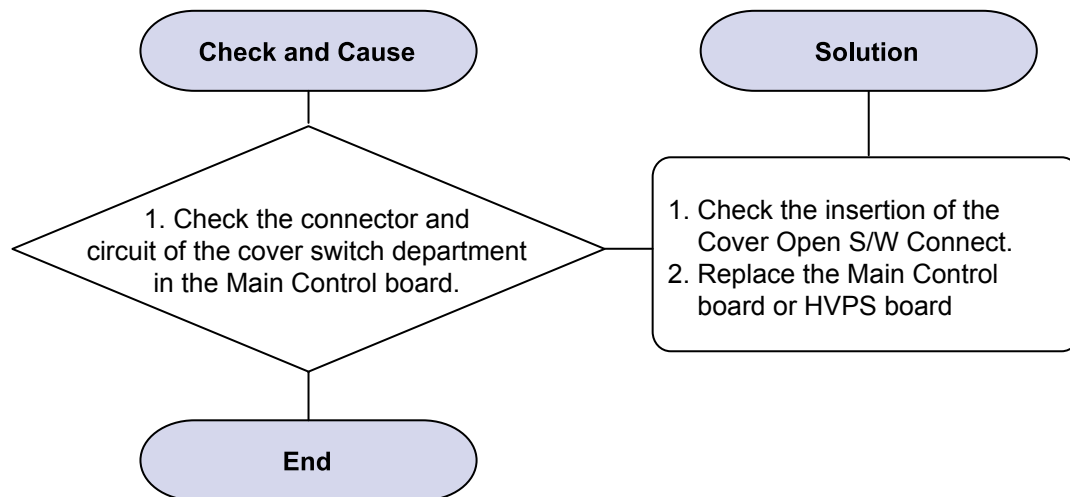
8) No Power

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

Check and Cause

Solution

1. Check if the power input and SMPS output are normal.

Replace the power supply cord or SMPS.

2. Check the condition of LED-Panel or LDC window on the front-cover if the OP panel does not appear after normal warming-up.

1. Replace the control board.
2. Replace the OP panel.

End
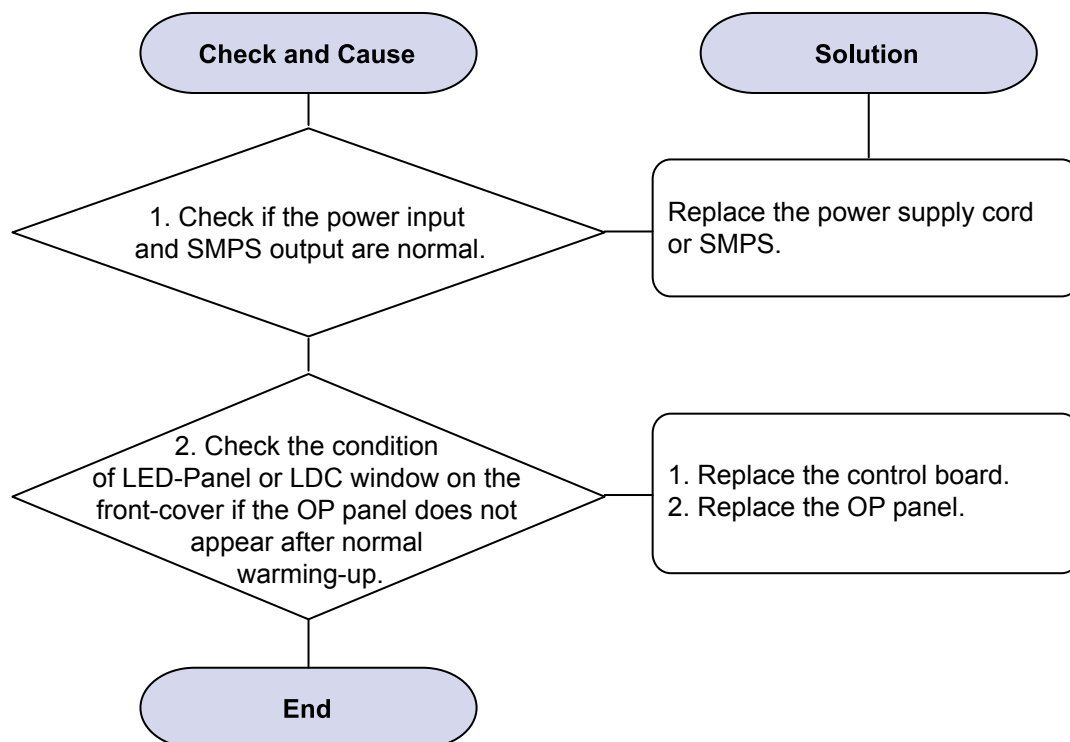
9) Vertical Line Getting Curved

Description : When printing, vertical line gets curved.

Check and Cause

1. If the supply of +24v is unstable in the Main Control board linking with LSU, check drive by DCU Mode : LSU Check -05- LSU Motor on.

End

Solution

1. Replace LSU.
2. Replace the Main Control board.

4.2.5 The cause and solutions of bad environment of the software

1) The printer is not working (1)

Description : While Power turned on, the printer is not working in the printing mode.

Check and Cause	Solution
1. Check if the PC and the printer is properly connected and the toner cartridge installed.	Replace the printer cable. If the problems not solved even after the cable replaced, check the amount of the remaining tone. (refer to Toner Cartridge Service 4-5)
2. Printing is not working in the Windows.	Check if the connection between PC and printer port is proper. If you using windows, check if the printer driver in the controller is set up. If the printer driver is properly set up, check in which program the printing is not working. The best way to find out is to open the memo pad to check the function of printing. If it is not working in a certain program, adjust the setup the program requires. Sometimes, the printout is normal within the Windows basic programs, but it's not working in a particular program. In such case, install the new driver again. If not working in the Windows basic program, Check the setup of the port of CMOS is on ECP. And check the address of IRQ 7 and 378
3. Check if the printer cable is directly connected to peripheral devices	If the scanner needs to be connected to the printer, first the remove the scanner from the PC to see if the printer is properly working alone.

End

2) The printer is not working (2)

Description : After receiving the printing order, no response at all or the low speed of printing occurs due to wrong setup of the environment rather than malfunction of the printer itself.

Check and Cause

Solution

1. Secure more space of the hard disk.

Not working with the message 'insufficient printer memory' means hard disk space problem rather than the RAM problem. In this case, provide more space for the hard disk. Secure more space using the disk utilities program.

2. Printing error occurs even if there is enough space in the hard disk.

The connection of the cable and printer port is not proper. Check if the connection is properly done and if the parallel port in CMOS is rightly set up.

3. Reboot the system to print.

If the regular font is not printing, the cable or the printer driver may be defective. Turn the PC and printer off, and reboot the system to print again. If not solved, double-click the printer in my computer If the regular fonts are not printed this time again. The cable must be defective s, replace the cable with new one.

End

3) Abnormal Printing

Description : The printer is not working properly even when the cable has no problem (even after the cable is replaced). If the printer will not work at all or the strange fonts are repeated, the printer driver may be defective or wrong setup in the CMOS Setup.

Check and Cause

Solution

1. Printer Driver Error.

Check the printer in My Computer.
(to see if the printer driver is compatible to the present driver or delete the old driver, if defective and reinstall the new driver)

2. Error message from insufficient memory.
(The printing job sometimes stops or due to insufficient virtual memory, but it actually comes from the insufficient space of the hard disk.)

Delete the unnecessary files to secure enough space of the hard disk and start printing job again.

End

4.2.6 Fax & Phone Problems

1) No Dial Tone

Description : While on-hook button is pressed, there is no dial tone.

Check and Cause

Solution

1. Check if the telephone line cord is connected to TEL LINE correctly.

If the telephone cord is abnormal, then try to correct the connection of tel line code.

2. Check if the SPEAKER is connected correctly.

Check the Speaker connection, and try to replace it.

3. Check if it makes CLICK sound while OHD key is pressed.

If you can't hear the OHD click sound, the OPE and Main board may be defective.
Try to replace the OPE Ass'y and Main board in sequence.

End

2) Defective MF DIAL

Description : The MF DIAL is not functioning.

Check and Cause

Solution

1. Check if the telephone line is connected correctly.

If you cannot hear the OHD CLICK sound, the OPE Ass'y may be defective. Try to replace the OPE Ass'y.

2. Wile the BUTTON KEY is pressed, check for a CLICK sound.

If you can hear a click sound, replace the main board.
Notes : Product support the MF DIAL type only.

End
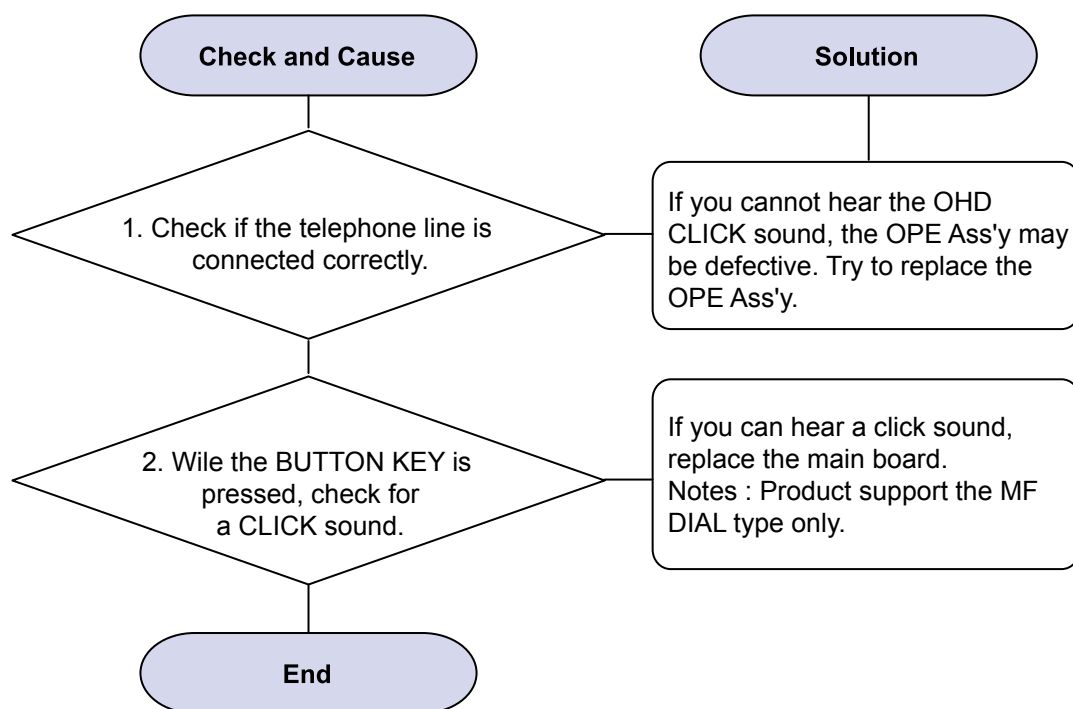
3) Defective FAX FORWARD/RECEIVE

Description : The FAX FORWARD/RECEIVE is not functioning.

Check and Cause	Solution
1. Check if you can hear a dial tone by pressing OHD.	If the MODEM testing is normal and there is no dial tone, then try to replace the LIU B'd.
2. Check if you can hear a RECEIVE tone while MODEM testing in the TECH Mode.	If the MODEM testing is abnormal, try to replace the Main B'd.

End
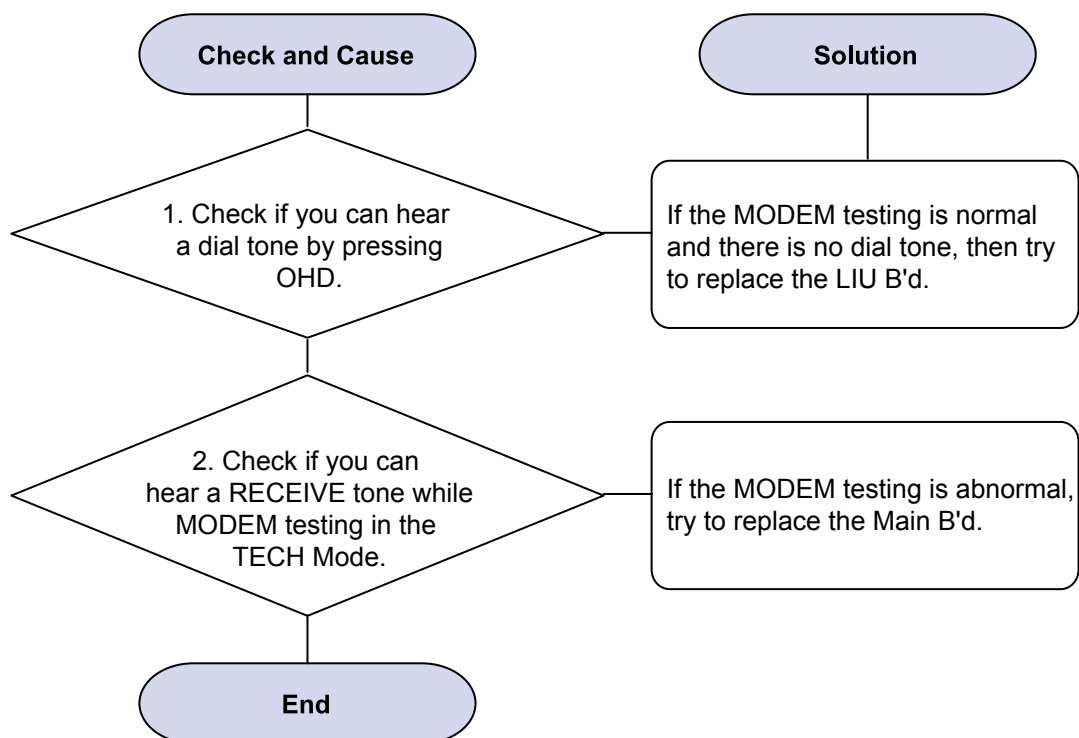
4) Defective FAX FORWARD

> **Description :** **RECEIVE is functioning, but FORWARD is not functioning or the received data is broken.**

Check and Cause

Solution

1. Check if there is NOISE when pressing on-hook dial.

If it makes NOISE while using on-hook dial, replace or repair the telephone line.

2. Check the RECEIVE condition by trying to forward a FAX to another fax machine from the forwarding side FAX.

3. Check if the telephone line connected to the Product is contaminated or gets stripped off or down.

End
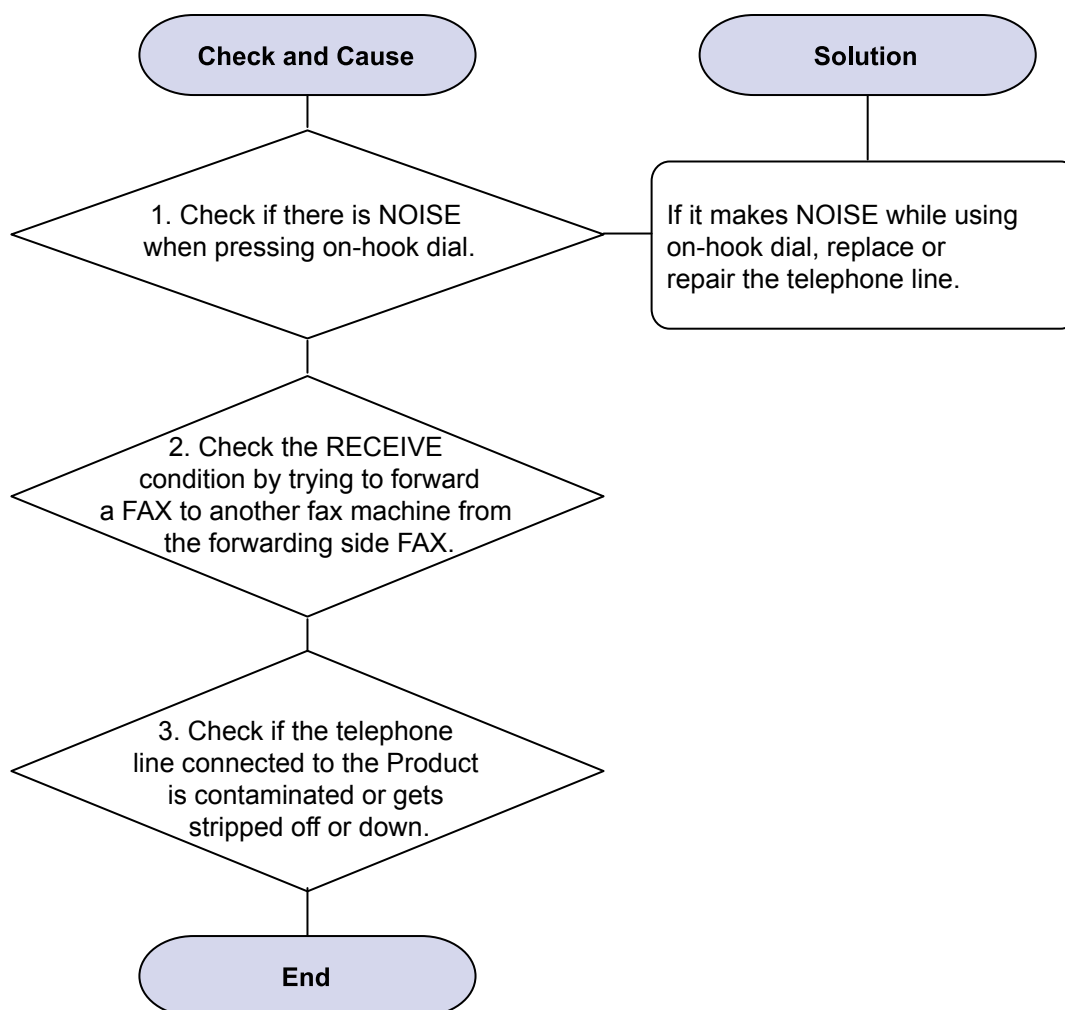
5) Defective FAX RECEIVE (1)

Description : FORWARD is functioning, but RECEIVE is not functioning or the received data is broken.

Check and Cause

Solution

1.Check if there is NOISE when pressing on-hook dial.

If it makes NOISE while on-hooking, replace or repair the telephone line.

2.Check the RECEIVE condition by trying to receive a FAX at another fax machine.

End

6) Defective FAX RECEIVE (2)

Description : The received data are lengthened or cut in the printing.

Check and Cause	Solution
1. Check if there is NOISE when pressing on-hook dial.	If it makes NOISE, rearrange the telephone line. (Refer to 'Defective FAX RECEIVE'.)
2. Ask to the forwarding side, check the image quality of another machine receiving a FAX additionally sent to.	Check if the FAX status of the forwarding side is also normal.

End
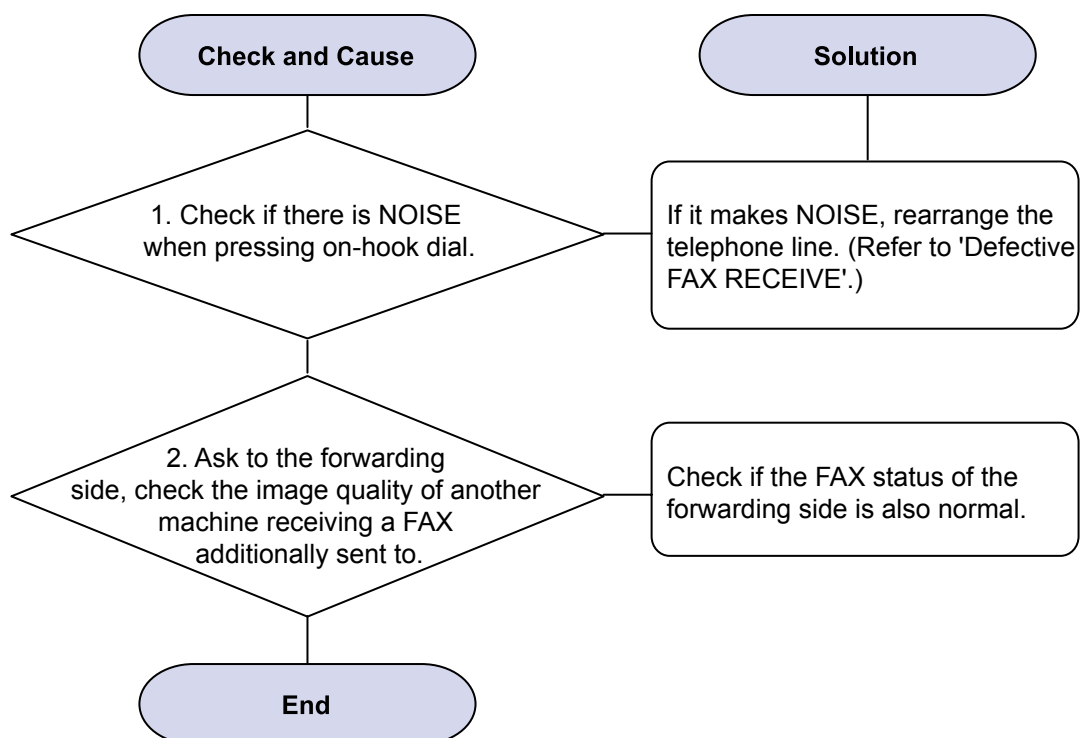
7) Defective FAX RECEIVE (3)

Description : The phone is ringing continuously, but it cannot receive.

Check and Cause

Solution

Check if the RECEIVE Mode is
TEL MODE or FAX MODE.

Even when the RECEIVE Mode is
changed to FAX MODE,
it cannot receive, then replace
the main board.

End
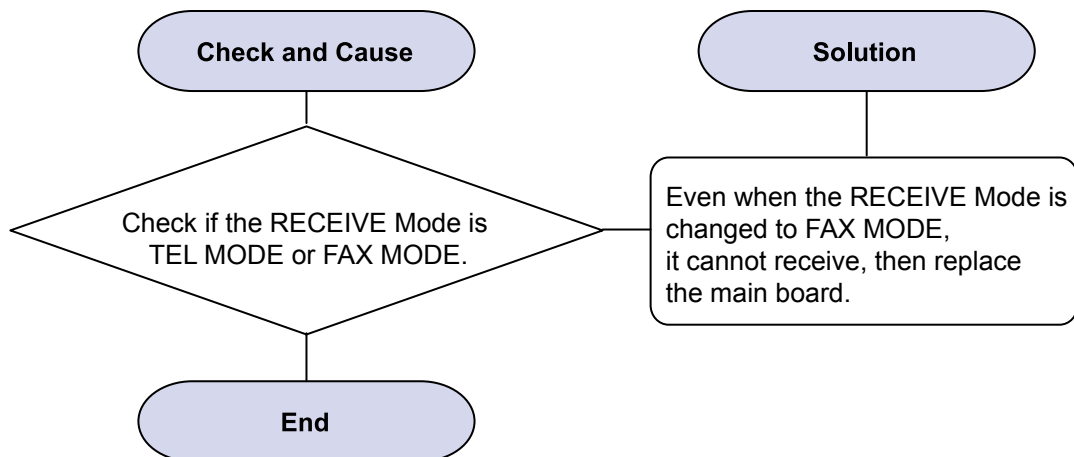
8) Defective FAX RECEIVE (4)

Description : The received data is reduced by more than 50% in the printing.

Check and Cause

Solution

Check the FAX status of the forwarding side.

After checking the data of the forwarding side, correct the FAX of the forwarding side.

End
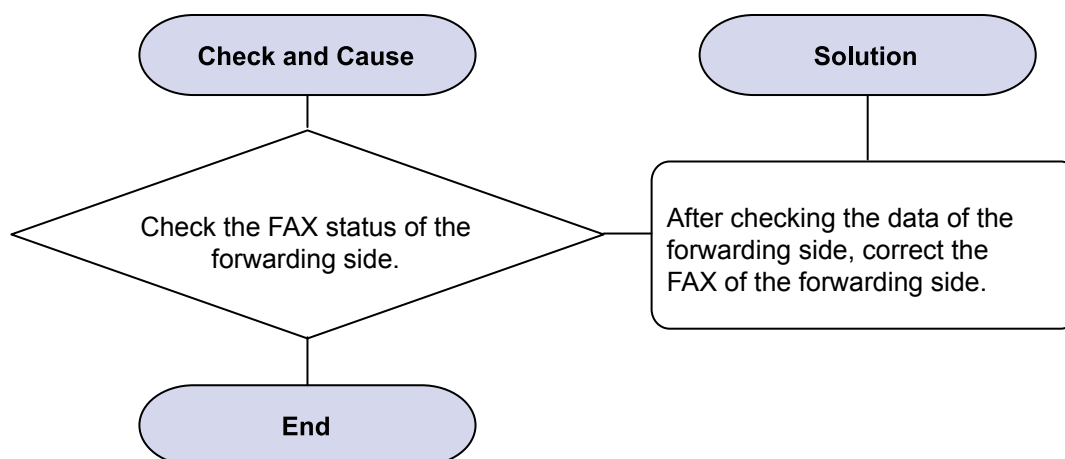
9) Defective Automatic Receiving

Description : The automatic receiving function is not working.

Check and Cause

Solution

1. Check if the RECEIVE Mode is TEL MODE or FAX MODE.

1. If the RECEIVE Mode is set to the TEL MODE, reset it to the FAX MODE.
2. Even after the RECEIVE Mode is changed to the FAX Mode, it cannot receive, then try to replace main board.

End
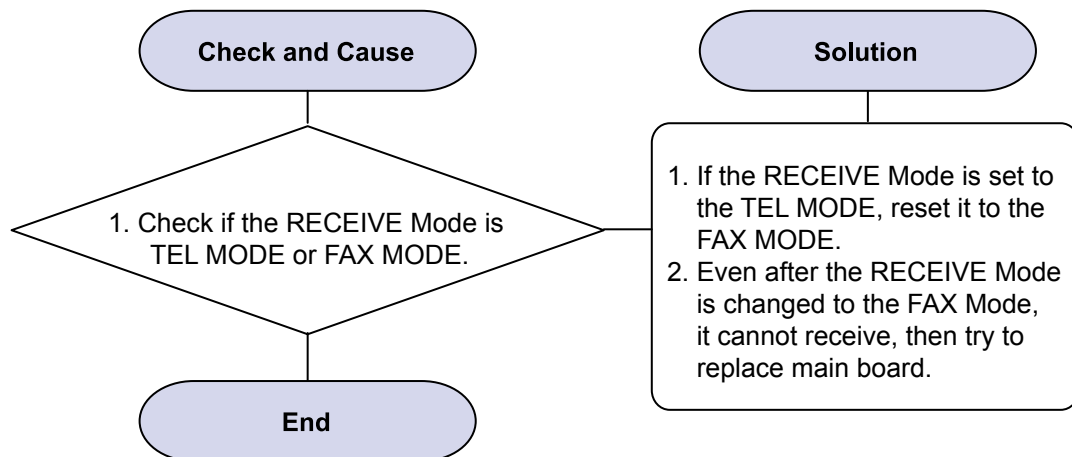
4.2.7 Copy Problems

1) Black Copy

Description : Black page is printed out when copy.

Check and Cause	Solution
1. Check the CIS problem in main PBA	Check the CIS harness contact
2. Check shading profile.	Remake shading profile in the tech mode.
3. Check white/black reference voltage in Main PBA.	Replace main PBA

End
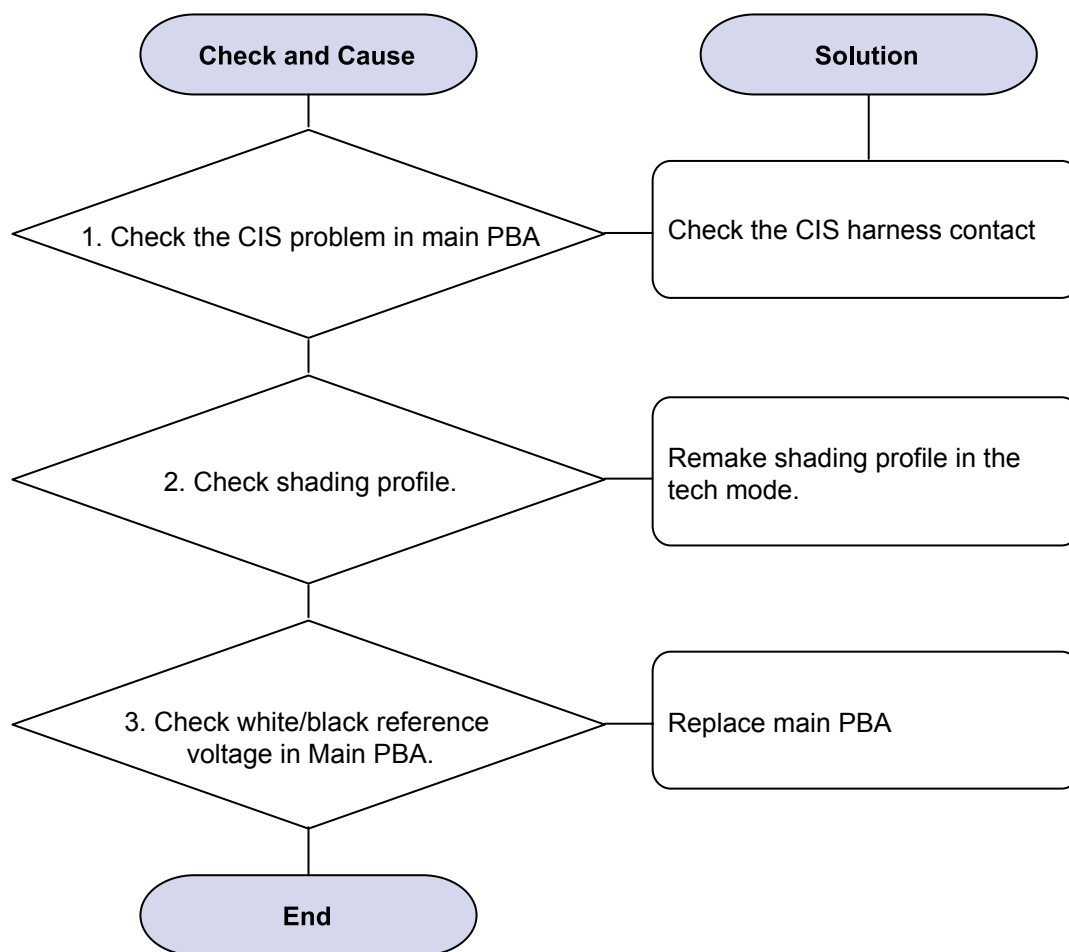
2) White Copy

Description : White page is printed out when Copy.

Check and Cause

Solution

1. Check the CIS problem in Main PBA.

Check the CIS harness contact.

2. Check shading profile.

Remake shading profile in the tech mode.

End

3) Abnormal noise

Description : There is noise when copy.

Check and Cause

Solution

1. Check the Scanner Motor and any mechanical disturbance.

Check the right position of the Scanner Motor, and check the any mechanical disturbance in the CIS carriage part.

2. Check the Motor Driver in Driver PBA.

Replace main PBA.

End

4) Defective Image Quality

Description : The copied image is light or bad.

Check and Cause	Solution
1. Check shading profile.	Perform shading profile in the tech mode.
2. Check the gap between original and scanner glass.	The gap above 0.5 mm can cause a blurred image.
3. Check printing quality.	See "Print" troubleshooting.

End

4.2.8 Scanning Problems

1) Defective PC Scan

Description : The PC Scan is not functioning at all.

Check and Cause	Solution
1. Check the Cable (USB)	If the PC and the cable are not connected properly, reconnect it.
2. Check if the driver is installed properly.	After confirming that it is proper by performing a PC printing test related to driver setup, if it is not so, reinstall it. (Refer to User's Manual.)
3. Check if copy function operates normally.	If copy function works, replace the Main PBA. If copy function doesn't work, replace the CIS Ass'y and try again.

End

2) Defective Image Quality of PC Scan

Description : The image PC scanned is not clear or bad.

Check and Cause

Solution

1. Check the waveform form by performing shading test in TECH Mode.

If the CIS waveform form is abnormal, try to replace the CIS Ass'y.

2. Check if the resolution is set too low in PC Scan options. (Refer to User's Manual.)

If the resolution is set too low, Instruct the user as to how to set the resolution properly.

End

4.2.9 Fuser Problems and solutions

1. Jam 2

```
Check the front position of
Jam paper.
        │
        ▼
Before Entering Fuser? ──YES──► Guide Input Assembly Defect? ──YES──► Guide-Input Re-assembly
        │                              │
        NO                             NO
        │                              ▼
        │                       Damage in Guide input surface? ──YES──► Guide-input Change
        │                              │
        │                              NO
        │                              ▼
        │                       After changing fuser & Re-check
        ▼
Before, entering Exit Roller? ──YES──► Damage or Wrong assembly in Guide craw ? ──YES──► Guide-Claw Change
        │                              │
        NO                             NO
        │                              ▼
        │                       Damage or wrong assembly in Actuator-Exit? ──YES──► Actuator-Exit Re-assembly or change
        │                              │
        │                              NO
        │                              ▼
        │                       Damage in Guide Rib surface of Cover? Fuser? ──YES──► Fuser Change
        │                              │
        │                              NO
        │                              ▼
        │                       After changing fuser & Re-check
        ▼
Rolled paper in Heat-Roller? ──YES──► Change the Fuser
        │
        NO
        ▼
Remove the Paper & Re-Check
```

2. Abnormal Noise

Gear fuser Noise? — YES → Skid Fuser Assy assembly Screw? — YES → Change the Screw(M4x10)

Skid Fuser Assy assembly Screw? — NO → Wrap Jam? — YES → Fuser change

Wrap Jam? — NO → Damage Fuser Gear? — YES → Fuser change

Damage Fuser Gear? — NO → After Fuser Disassembly: Bush-HR melting or wornig out? — YES → Fuser Change

After Fuser Disassembly: Bush-HR melting or wornig out? — NO → After Fuser change & re check

Gear fuser Noise? — NO → Friction Noise ? — YES → Be worn in Grease Spread Position? — YES → Grease Spread

Be worn in Grease Spread Position? — NO → After Fuser change & re check

Friction Noise ? — NO → After Fuser change & re check

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3. Image Defect

```
Is there the Spot in the cycle of 77.8mm.?
  YES → Is there pollution in Heat Roller surface?
          YES → Heat Roller Surface Cleaning
          NO ↓
          Heat Roller Surface Damage?
            YES → Fuser Change
            NO → Other Unit Check: Transfer Unit
  NO ↓

Regular cycle mark in the behind of paper?
  YES → Is there pollution in Pressure Roller Surface?
          YES → Pressure Roller Surface Cleaning
          NO ↓
          Pressure Roller Surface Damage?
            YES → Fuser Change
            NO → Other Unit Check: Transfer Unit
  NO ↓

Toner of paper stain to your hand?
  YES → The same measure with Low Heat Error (refer to next page)
  NO ↓

The Image is repeated the cycle of 77.8mm? (Ghost)
  YES → Same measure with Over Heat Error (refer to next page)
  NO → Other Unit Check (Ex.ITB..)
```

4. System Defect

1) Low Heat Error

```
┌─────────────────────────────────┐
│  Smart Pannel : Low Heat Error  │
└─────────────────────────────────┘
                 │
                 ▼
        ◇ Lamp mis-use?              YES    ┌──────────────────┐
          Check the lamp resistance  ─────▶ │   Lamp Change    │
          (110V: 1.4±1 ohm                  └──────────────────┘
           220V: 5.4±1 ohm)
                 │ NO
                 ▼
        ◇ Lamp Short?                YES    ┌──────────────────┐
                                     ─────▶ │   Lamp Change    │
                 │ NO                       └──────────────────┘
                 ▼
        ◇ AC-Harness Short?          YES    ┌──────────────────┐
                                     ─────▶ │ AC-Harness Change│
                 │ NO                       └──────────────────┘
                 ▼
        ◇ Thermostat Open?           YES    ┌───────────────────────┐
                                     ─────▶ │ Thermostat change     │
                 │ NO                       │ : SMPS & Main B'd Check│
                 ▼                          └───────────────────────┘
        ◇ Thermistor Pollution, Bend? YES   ┌──────────────────┐
                                     ─────▶ │   Fuser Change   │
                 │ NO                       └──────────────────┘
                 ▼
        ◇ Thermistor                 YES    ┌──────────────────┐
          Resistance Defect?         ─────▶ │   Fuser Change   │
          (300~450kohm @ 25℃)               └──────────────────┘
                 │ NO
                 └─────────────────────────▶┌───────────────────────────┐
                                            │ Re-check after changing fuser│
                                            │ : SMPS & Main B'd           │
                                            └───────────────────────────┘
```

2) Except Low Heat Error

```
┌─────────────────────────────────────┐
│   Smart Pannel : Over Heat Error     │
└─────────────────────────────────────┘
                    │
                    ▼
        Fault Lamp use ?
        Check the lamp resistance      ──YES──▶  ┌──────────────────┐
        (For 110V: 1.4±1 ohm                     │  Lamp change     │
        For 220V: 5.4±1 ohm)                     └──────────────────┘
                    │ NO
                    ▼
        Thermistor Pollution, Bend ?   ──YES──▶  ┌──────────────────┐
                    │                             │  Fuser change    │
                    │ NO                          └──────────────────┘
                    ▼
        Thermistor Resistance Defect?  ──YES──▶  ┌──────────────────┐
        (300~450kohm @ 25℃)                      │  Fuser change    │
                    │                             └──────────────────┘
                    │ NO
                    └──────────────────────────▶ ┌──────────────────┐
                                                 │  Check the SMPS  │
                                                 │  And Main B'd     │
                                                 └──────────────────┘
```

```
┌─────────────────────────────────────┐        ┌──────────────────┐
│   Smart Pannel : Open Heat Error     │──────▶ │  Same measures   │
└─────────────────────────────────────┘        │  with Low Heat Error │
                                                └──────────────────┘
```

```
┌─────────────────────────────────────┐
│  Smart Pannel : Abnormal ADC Error   │
└─────────────────────────────────────┘
                    │
                    ▼
        Thermistor Resistance Defect?  ──YES──▶  ┌──────────────────┐
        (300~450kohm @ 25℃)                      │  Fuser Change    │
                    │                             └──────────────────┘
                    │ NO
                    └──────────────────────────▶ ┌──────────────────┐
                                                 │  Check the SMPS  │
                                                 │  And Main B'd     │
                                                 └──────────────────┘
```

5. System Diagram

5.1 Block Diagram

5.2 Connection Diagram (SCX-4600/4623F/FN/FH)

Connection Diagram (SCX-4623FW)
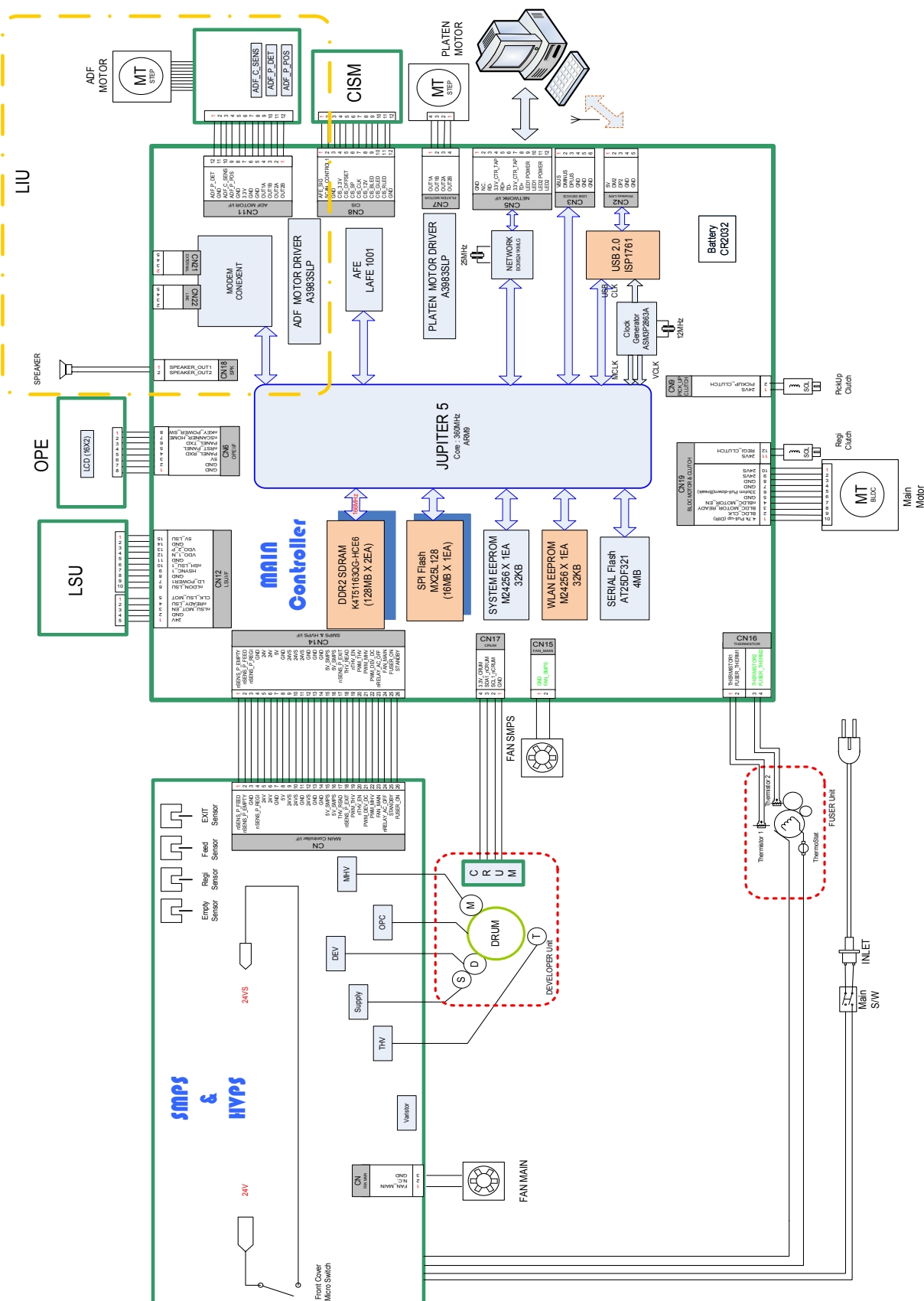
6. Reference Information

This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of test pages and Wireless Network information definition is also included.

6.1 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.
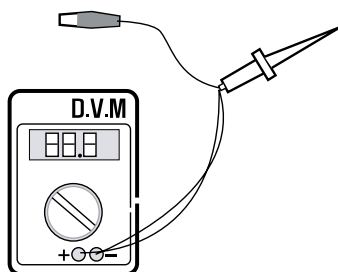
• Driver
  Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).
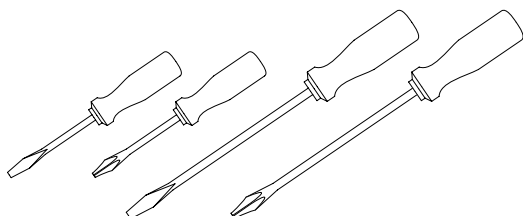
• Tweezers
  Standard : For general home use, small type.

• 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.
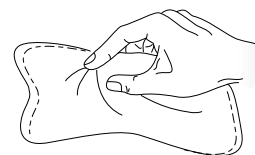
• Vacuum Cleaner
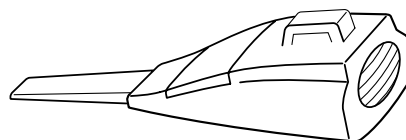
• Spring Hook
  Standard : For general use

• Software (Driver) installation CD ROM
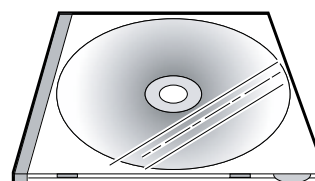
6.2 Acronyms and Abbreviations

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
APF	Automatic Paper Feeder (Tray)	FIA	Foreign Interface Attachment
BOOTP	BOOTSTRAP PROTOCOL	FRU	Field Replaceable Unit
CCD	Charged Coupled Device	FPOT	First Print Out Time
CIS	Contact Image Sensor	GW	GateWay
CPM	Copies Per Minute	HH	High Temperature, High Humidity (Testing Chamber conditions)
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 Minute
		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 Configuration 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.		
EH&S	Samsung Environment, Health, & Safty	LSU	Laser Scanning Unit
		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	Modified Huffman (a kind of image data coding method)
FCOT	First Copy Out Time		

MIB	Management Information Base		RCP	Remote Control Panel
MIME	Multipurpose Internet Mail Extensions		RT-OS	Real Time Operating System
MR	Modified Read		RX	Receive
	(a kind of image data coding method)		S2E	Scan-To-Email
MMR	Modified and Modified Read		SAD	Solid Area Density
	(a kind of image data coding method)		SC	Service Call
MN std	Multi-National Standard		SCF	Second Cassette Feeder
MSOK	Master SOK (System Operation Key)		SDSP	Single Document Single Printout
MSO	Mixed Size Original		SDMP	Single Document Multiple Printout
MP	Multi Purpose		SDR	Shut Down Rate
MPBF	Mean Print Between Failure		SEF	Short Edge Feeding
MSI	Multi Sheet Input		SIR	Sacrified(or Standard) Image Reference
MTBF	Mean Time Between Failure		SOK	System Operation Key
MTTR	Mean Time To Repair		sRGB	Standard RGB
NCP	Network Control Protocol			(Color Coordinate System)
NIC	Network Interface Card		SNMP	Simple Network Management Protocol
NOS	Network Operating System		TCP/IP	Transmission Control Protocol/Internet
NN	Normal Temperature, Normal Humidity			Protocol
	(Testing Chamber conditions)		TIFF	(Adobe & Aldus) Tagged Image File
NSDR	Non-Shut Down Rate (=USDR)			Format
NW	Network		TRIM	Technical Retrofit Interim Maintenance
OD	Optical Density		TTM	Time to Market
OHD	On Hook Dial		TX	Transmit
OSOK	Optional SOK(System Operation Key)		UI	User Interface
OP	Operational Procedure		UMC	Unit Manufacturing Cost
PCL	Printer Control Language		UMR	Unscheduled Maintenance Ratio
PDF	(Adobe) Portable Document Format		UPnP	Universal Plug and Play
PPM	Pages Per Minute		USB	Universal Serial Bus
PQ	Print Quality		USDR	Un-Shut Down Rate (=NSDR)
PS/3	PostScript Level-3		XCMI	Samsung's Management Information
PVC	Printing Video Controller in the SPGPm			Base
	(Graphic Processor for Printer)		WA	Warranty Action
QCD	Quality, Cost, and Delivery		W x D x H	Width x Depth x Height

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

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)

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)

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)l	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

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

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXY

Stephen J. Singel
Labanda Sinpat Abarress
Tendar, BSF
URANGLE

23 January 2004

Jonathan Q. Maderia

Inpert Mampem Abaress
2343 Stantin Dawer Lank
Benhibe, SDF

Mr.Maderia:

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Singabet,

Stephen J. Singel
Demperta Aminerimum
Labanda Sinpat Abarress

SJS:dwg
FINAL

LSA
Funtres Solber Netener

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXY

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: 100 mm (enough space for ventilation)
• Right: 100 mm (enough space for ventilation)
• Left: 100 mm (enough space for ventilation)

SAMSUNG
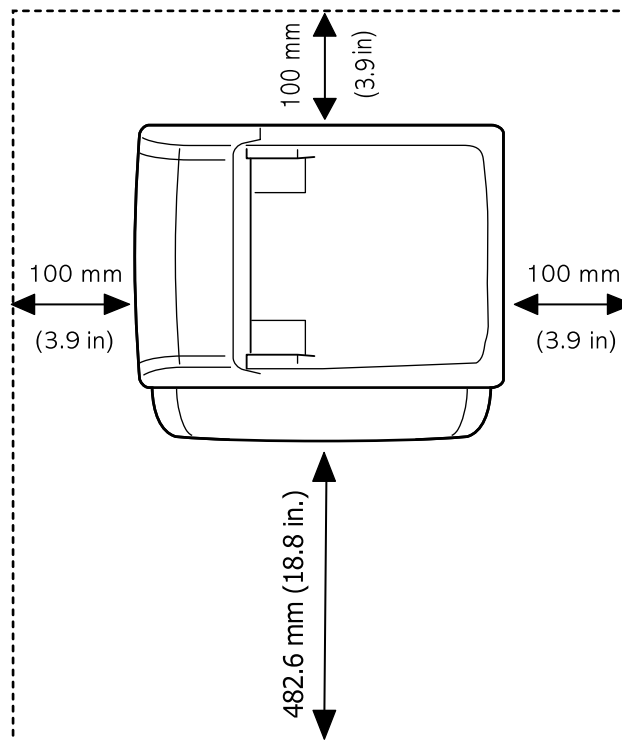
Parts Catalog - **SCX-4600/4623 series**

1. Print / Copy Speed
 • 22 ppm in letter

2. Processor
 • Jupiter5 375 Mhz

3. Printer Language Emulations
 • SPL, PCL-5 (4623FW)

4. Memory
 • 64 MB (4600/4623F)
 • 128 MB (4623FN)
 • 256MB (4623FW)

5. Interfaces
 • One USB port
 • One 10/100 Base TX network connector (4623FN)
 • One 802.11b/g/n wireless module (4623FW)

6. Toner cartridge
 • Initial : 0.7K / 1K
 • Sales : 1.5K / 2.5K two types

7. ADF (4623 series)
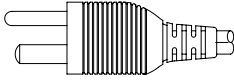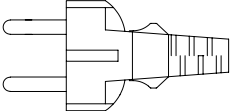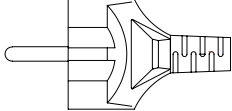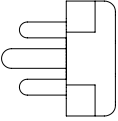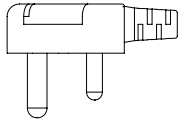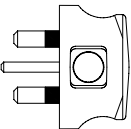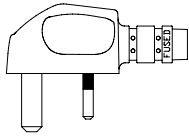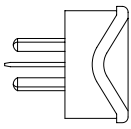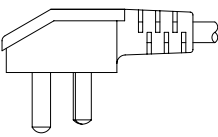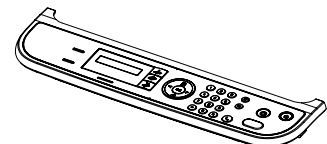
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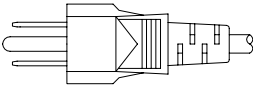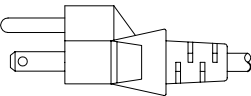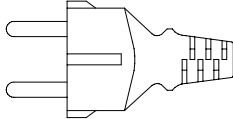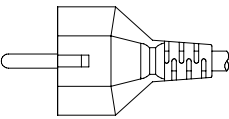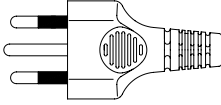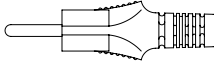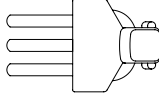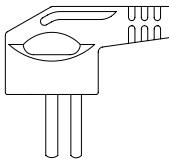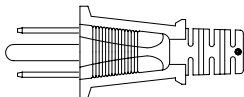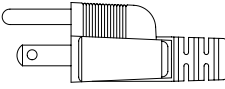
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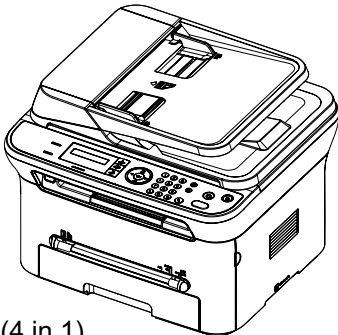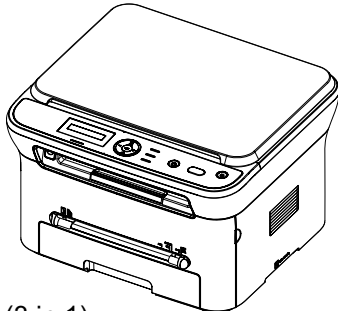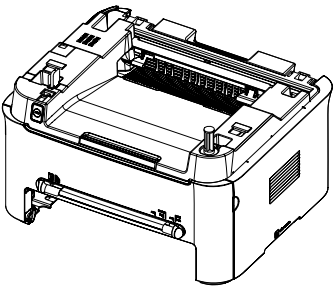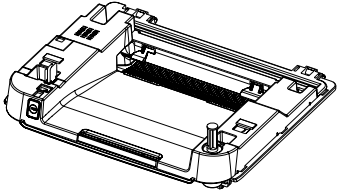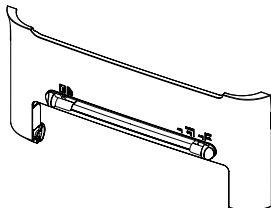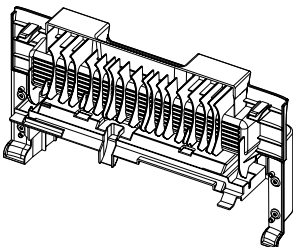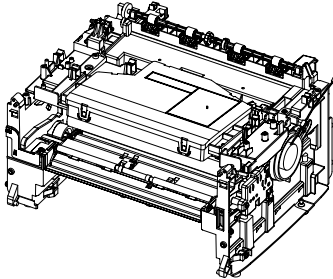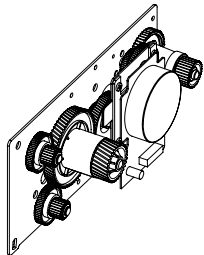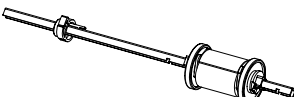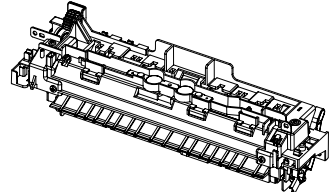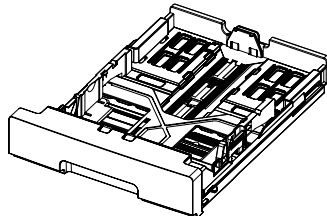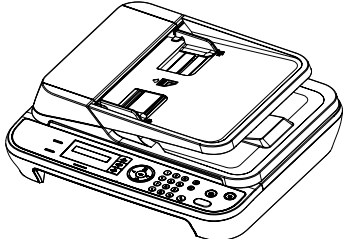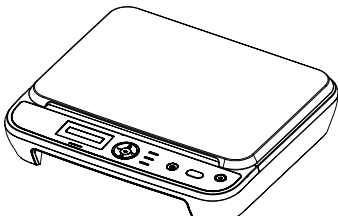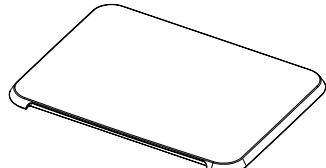
Power Cord

Power Cord differs by countries. Please check your country code.

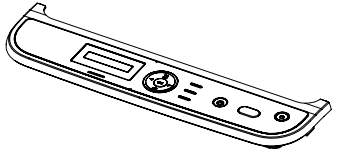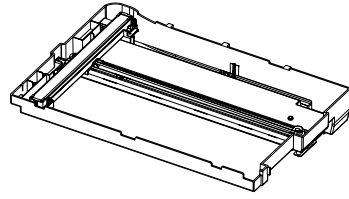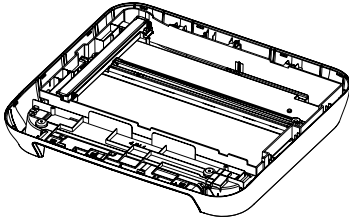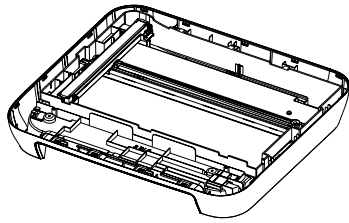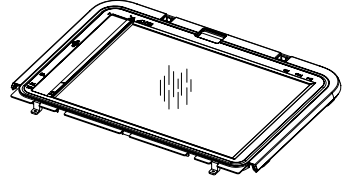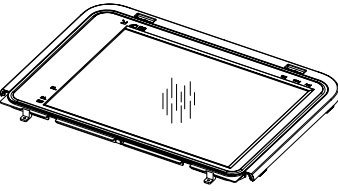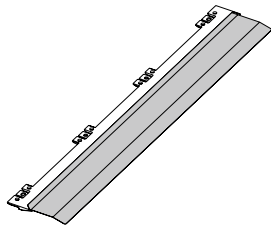| Top View	Side View	Part Code
		Usable Country Code
		3903-000020
		XAZ
		3903-000042
		SEE / STS / XSA / XSG XSS / XEV / XEG
		3903-000050
		XFA / XIP
		3903-000067
		XEU / XSS
		3903-000082
		XIL

Top View	Side View	Part Code
		Usable Country Code
		3903-000085
		XAA / XAX
		3903-000133
		KOR
		3903-000146
		XBH
		3903-000182
		ETS
		3903-000227
		TED

Thumbnail 1

(4 in 1) (3 in 1)			
1. MAIN	2. COVER	3. COVER-MIDDLE ASSY	4. COVER FRONT
5. COVER REAR	6. FRAME BASE-LOWER	7. DRIVE MAIN-BRACKET	8. FRAME BASE-PICK UP	9. FUSER
10. CASSETTE	11. SCANNER_4 in 1	12. SCANNER_3 in 1	13. COVER-PLATEN	14. OPE_4 in 1

15. OPE_3 in 1	16. PLATEN-LOW END	17. PLATEN-LOWER_4 in 1	18. PLATEN-LOWER_3 in 1	19. PLATEN-UPPER_4 in 1

20. PLATEN-UPPER_3 in 1	21. PLATEN-SHEET

1. MAIN
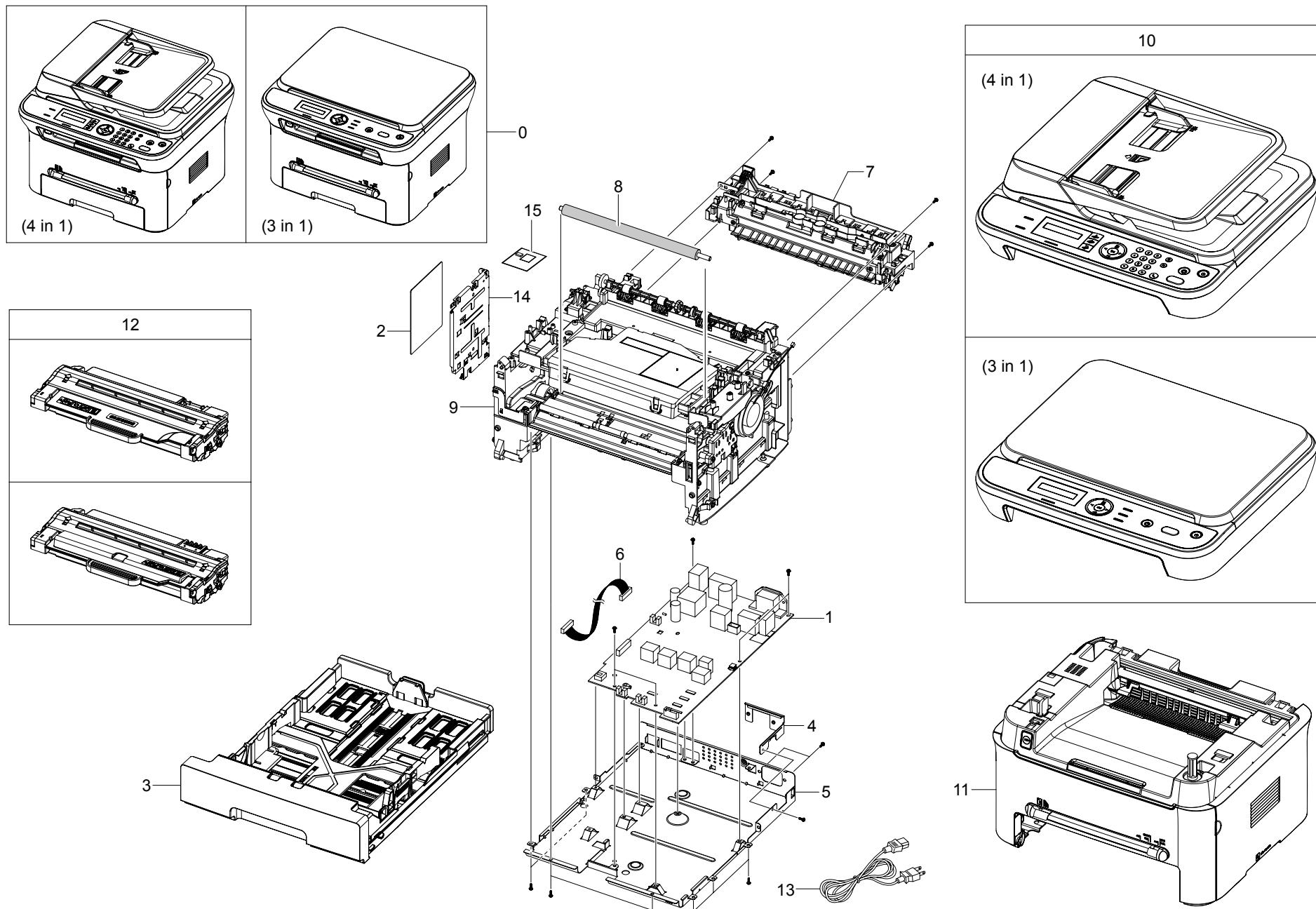
(4 in 1)

(3 in 1)

0

12

15

14

2

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7

10

(4 in 1)

(3 in 1)

9

6

1

4

3

5

11

13

MAIN Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark	Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	SCX-4623FN	SET	1		4 in 1	6	JC39-01237A	HARNESS-ENGINE	1	SNA	
0	SCX-4623FW	SET	1		4 in 1	7	JC91-00945A	FUSER	1	SA	220V
0	SCX-4623F	SET	1		4 in 1	7	JC91-00945B	FUSER	1	SA	220V/XIP
0	SCX-4600	SET	1		3 in 1	7	JC91-00946A	FUSER	1	SA	110V
1	JC44-00178A	SMPS/HVPS-V1	1	SA	110V	8	JC66-01218A	ROLLER-TRANSFER	1	SA	
1	JC44-00179A	SMPS/HVPS-V2	1	SA	220V	9	JC93-00088A	FRAME BASE-LOWER	1	SA	
2	JC92-02179A	PBA-MAIN	1	SA	4623FN/Others	10	JC97-03685A	SCANNER	1	SNA	4623F/FN
2	JC92-02179B	PBA-MAIN	1	SA	4623FN/SEE/XEC	10	JC97-03684A	SCANNER	1	SNA	4600
2	JC92-02179D	PBA-MAIN	1	SA	4623FW/Others	11	JC95-01080A	COVER	1	SNA	4623FN
2	JC92-02179E	PBA-MAIN	1	SA	4623FW/SEE/XEC	11	JC95-01080B	COVER	1	SNA	4623F
2	JC92-02188A	PBA-MAIN	1	SA	4623F/Others	11	JC95-01080C	COVER	1	SNA	4600
2	JC92-02188B	PBA-MAIN	1	SA	4623F/SEE/XEC	12	-	CARTRIDGE-TONER	1	SNA	
2	JC92-02189A	PBA-MAIN	1	SA	4600	13	-	CBF-POWER CORD	1	SA	Refer to power cord
3	JC90-00943A	CASSETTE	1	SA		14	JC63-02451A	SHIELD-CONTROLLER	1	SNA	
4	JC61-00601A	BRACKET-P-INLET	1	SA		15	JC92-02308A	PBA-WNPC	1	SA	4623FW
5	JC63-02410A	SHIELD-ENGINE	1	SNA		16	JC39-01344A	HARNESS-WLAN	1	SA	4623FW

2. COVER
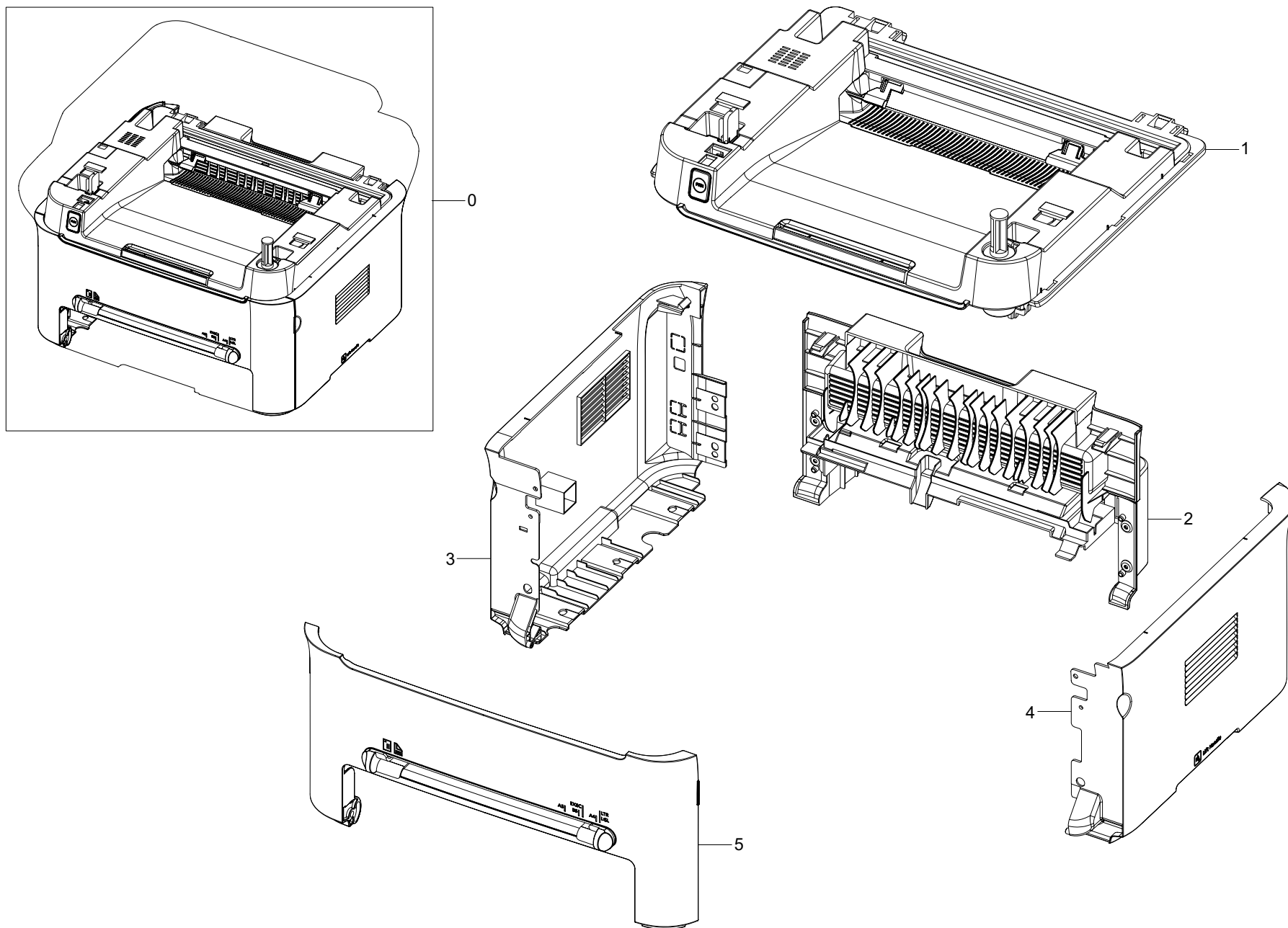
COVER Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC95-01080A	COVER	1	SNA	4623FN
0	JC95-01080B	COVER	1	SNA	4623F
0	JC95-01080C	COVER	1	SNA	4600
1	JC95-01075A	COVER-MIDDLE ASSY	1	SA	4623F/FN
1	JC95-01075B	COVER-MIDDLE ASSY	1	SA	4600
2	JC95-01078A	COVER-REAR ASSY	1	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3	JC63-02461A	COVER-LEFT	1	SNA	4623FN
3	JC63-02461B	COVER-LEFT	1	SNA	4623F
3	JC63-02461C	COVER-LEFT	1	SNA	4600
4	JC63-02460A	COVER-RIGHT	1	SNA	
5	JC95-01079A	COVER-FRONT ASSY	1	SA	

3. COVER-MIDDLE ASSY
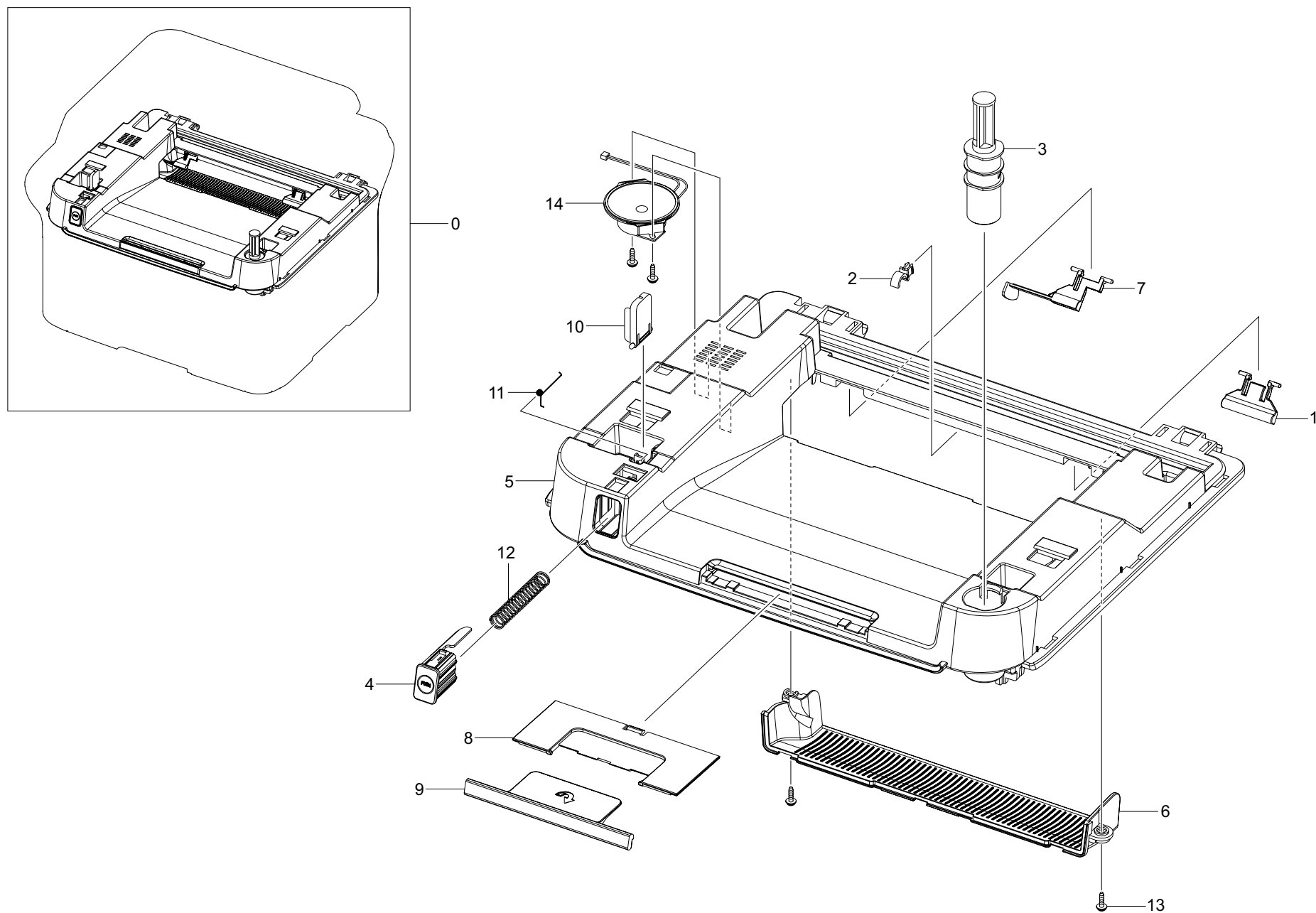
COVER-MIDDLE ASSY Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC95-01075A	COVER-MIDDLE ASSY	1	SA	4623F/FN
0	JC95-01075B	COVER-MIDDLE ASSY	1	SA	4600
1	JC72-01343A	PMO-SUB_M_STACKER	1	SC	
2	JC72-00387A	PMO-BUSHING_F/DOWN	1	SA	
3	JC66-01932A	DAMPER-OPEN	1	SNA	
4	JC64-00523A	BUTTON-SCAN DOWN	1	SNA	
5	JC63-02458A	COVER-MIDDLE	1	SNA	
6	JC63-02390B	COVER-EXIT	1	SNA	
7	JC61-03446A	STACKER-BIN_FULL	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
8	JC61-02583B	STACKER-RX LARGE	1	SA	
9	JC61-02582A	STACKER-SMALL	1	SA	
10	JC61-00949A	STOPPER-M-LEVER	1	SA	
11	JC61-00026A	SPRING ETC-TS-CHARGE APOLLO	1	SNA	
12	6107-001345	SPRING-CS	1	SA	
13	6003-000196	SCREW-TAPTYPE	4	SA	4623F/FN
13	6003-000196	SCREW-TAPTYPE	2	SA	4600
14	3001-002262	SPEAKER	1	SA	4623F/FN

4. COVER FRONT
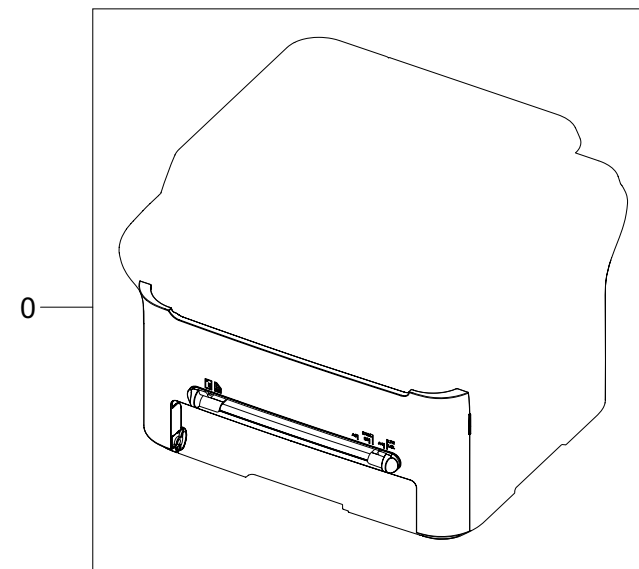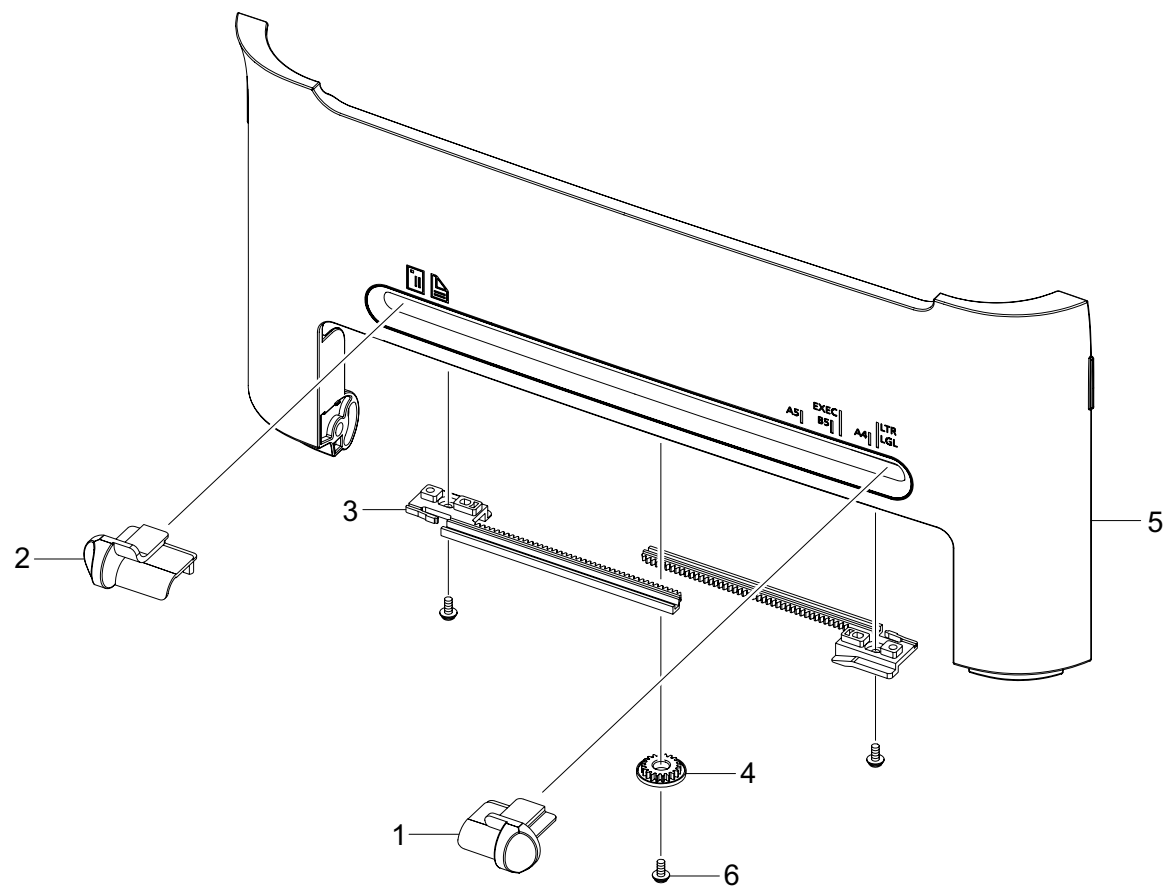
COVER FRONT Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC95-01079A	COVER-FRONT ASSY	1	SA	
1	JC70-00477F	ADJUST-MANUAL R	1	SA	
2	JC70-00476F	ADJUST-MANUAL L	1	SA	
3	JC70-00304A	ADJUST RACK-M-MANUAL	2	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
4	JC66-00387A	GEAR-RACK_PINION	1	SA	
5	JC63-02464A	COVER-FRONT	1	SNA	
6	6003-000264	SCREW-TAPTYPE	3	SNA	

5. COVER REAR
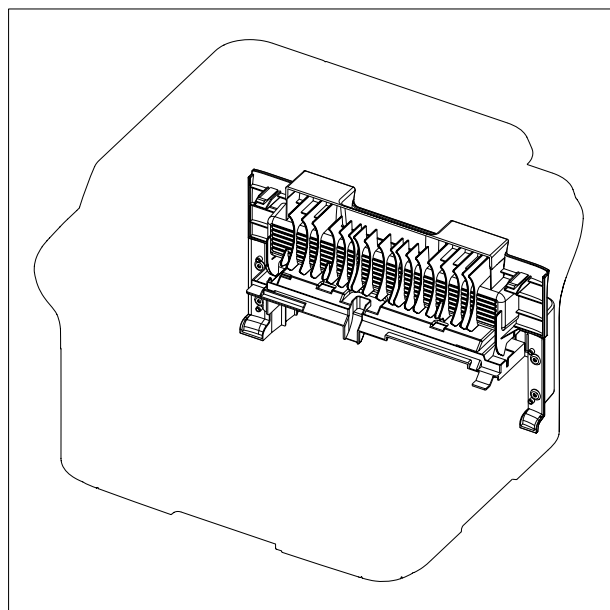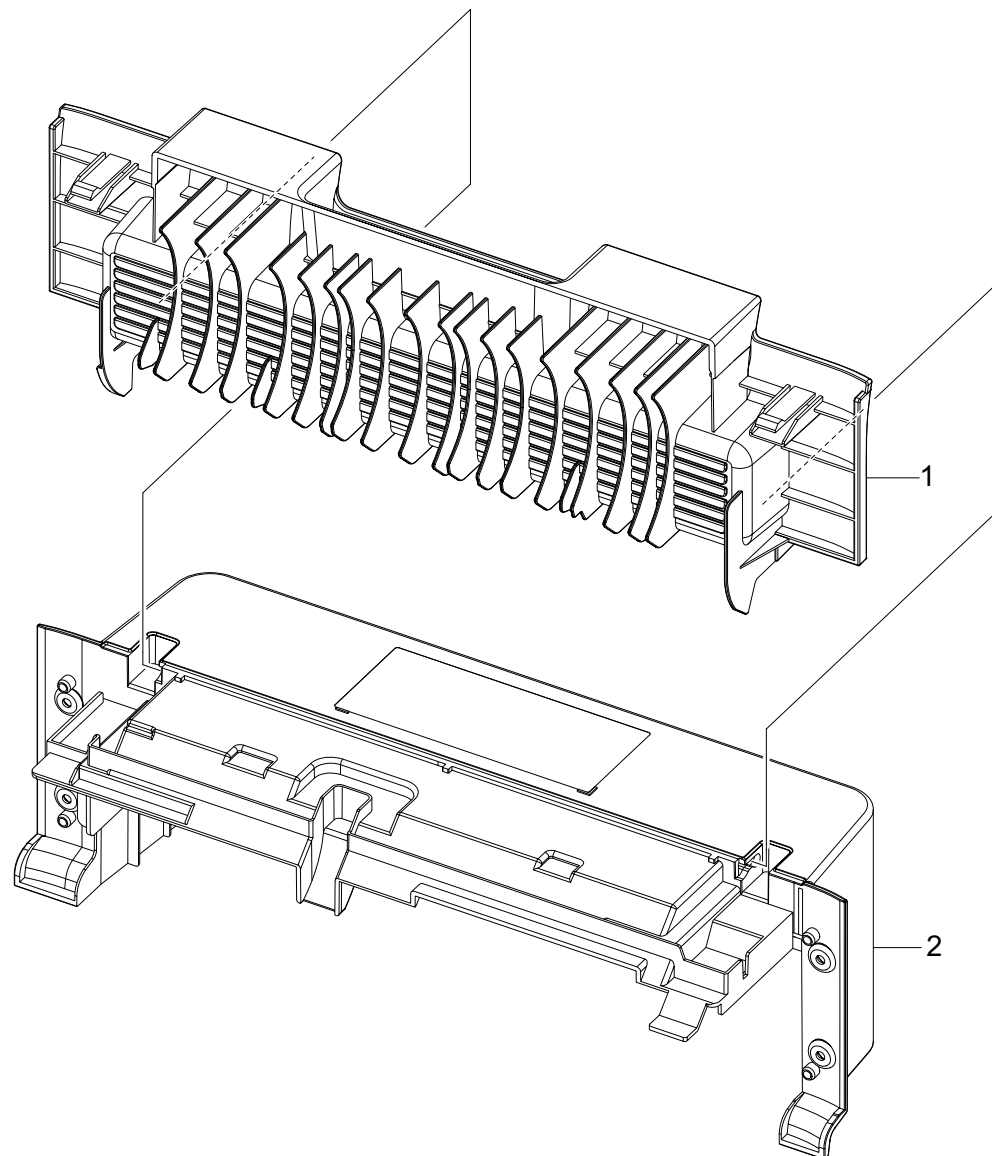
COVER REAR Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC95-01078A	COVER-REAR ASSY	1	SA	
1	JC63-02462A	COVER-REAR	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
2	JC63-02463A	COVER-REAR DOWN	1	SNA	

6. FRAME BASE-LOWER1

FRAME BASE-LOWER2

FRAME BASE-LOWER Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark	Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC93-00088A	FRAME BASE-LOWER	1	SA		29	JC61-03498A	FRAME-COVER HOLDER L	1	SA	
1	0604-001393	PHOTO-INTERRUPTER	1	SA		30	JC61-03499A	FRAME-COVER HOLDER R	1	SA	
2	6002-000308	SCREW-TAPTYPE	4	SNA		31	JC61-03524A	STOPPER-LEVER_DR	1	SA	
3	6003-000196	SCREW-TAPTYPE	35	SA		32	JC61-40001A	FOOT-ML80	2	SA	
4	6003-000282	SCREW-TAPTYPE	2	SNA		33	JC61-70932A	SPRING ETC-GUIDE DEVE	2	SA	
5	6031-001051	WASHER-PLAIN	2	SNA		34	JC61-70958A	SPRING ETC-TR	2	SA	
6	6044-000001	RING-CS	4	SA		35	JC63-02411A	GROUND-FUSER	1	SNA	
7	6107-001162	SPRING-ETC	1	SA		36	JC63-02450A	GROUND-SHIELD	1	SNA	
8	6107-001370	SPRING-CS	1	SA		37	JC65-00019A	TERMINAL-CRUM	4	SA	
9	JC31-00087A	FAN-DC	1	SA		38	JC65-00041A	TERMINAL-SUPPLY	1	SA	
10	JC33-00025B	SOLENOID-MANUAL	1	SA		39	JC65-00042A	TERMINAL-CON	1	SA	
11	JC33-00026A	SOLENOID-PICK UP	1	SA		40	JC65-00043A	TERMINAL-CR	1	SA	
12	JC93-00109A	FRAME-LOWER ACTUATOR MANUAL	1	SA		41	JC66-00394A	GEAR-FEED 2	1	SA	
12-1	6107-001165	SPRING-TS	1	SA		42	JC66-00396A	GEAR-IDLE 23	1	SA	
12-2	JC72-00977A	PMO-ACTUATOR MANUAL	1	SA		43	JC66-00398A	SHAFT-FEED	1	SA	
14	JC93-00110A	FRAME-LOWER ACTUATOR FEED	1	SA		44	JC66-00526B	ROLLER-REGI	1	SA	
14-1	6107-001164	SPRING-TS	1	SA		45	JC66-00527A	SHAFT-FEED IDLE	1	SA	
14-2	JC72-00976A	PMO-ACTUATOR FEED	1	SA		46	JC66-00598A	ROLLER-FEED	1	SA	
16	JC61-00585A	BUSH-M-FEED IDLE	2	SA		47	JC66-00720A	SHAFT-P-CORE	2	SA	
17	JC61-00587A	BUSH-M-PICK_UP R	1	SA		48	JC70-00308A	IPR-P-GROUND_DRIVE	1	SNA	
18	JC61-00588A	BUSH-M-TR L	1	SA		49	JC70-00311A	IPR-P-GROUND_TR	1	SNA	
19	JC61-00594A	GUIDE-M-TR RIB	1	SA		50	JC70-00312A	IPR-P-TERMINAL CON	1	SA	
20	JC61-00602A	BRACKET-P-FEED	1	SA		51	JC70-00335A	IPR-P_GROUND_DRIVE2	1	SNA	
21	JC61-00604A	PLATE-P-SAW	1	SA		52	JC70-00458A	IPR-P-GROUND_GUIDE PAPER	1	SNA	
22	JC61-00607A	GUIDE-P-TR	1	SA		53	JC72-00143A	PMO-GEAR_EXIT_DRV16	2	SNA	
23	JC61-02468A	BUSH-TR_L	1	SA		54	JC72-00382B	PMO-BUSHING FEED	7	SA	
24	JC61-03322A	FRAME-BASE	1	SNA		55	JC72-00974A	PMO-ACTUATOR CVR OPEN	1	SA	
25	JC61-03440A	BRACKET-BUSH_TR L	1	SA		56	JC72-00975A	PMO-ACTUATOR EMPTY	1	SA	
26	JC61-03447A	FRAME-HOLDER_LSU_L	1	SNA		57	JC97-03141A	MEA UNIT-GEAR_PICKUP	1	SA	
27	JC61-03448A	FRAME-HOLDER_LSU_R	1	SNA		57-1	6107-001167	SPRING-CS	1	SA	
28	JC61-03467A	HOUSING-TERMINAL	1	SNA		57-2	JC72-00979A	PMO-GEAR PICK_UP A	1	SC	

FRAME BASE-LOWER Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
57-3	JC72-00980A	PMO-GEAR PICK_UP B	1	SC	
59	JC72-00983A	PMO-LOCKER CST	2	SA	
60	JC72-00984A	PMO-PLATE GUIDE DEVE_L	1	SA	
61	JC72-00985A	PMO-PLATE GUIDE DEVE_R	1	SA	
62	JC75-00049A	MEC-TERMINAL	4	SA	
63	JC93-00003A	DRIVE MAIN-BRACKET	1	SA	
64	JC93-00085A	FRAME BASE-PICK UP	1	SA	
65	JC93-00106A	FRAME-LEFT STOPPER PICK UP	1	SA	
65-1	6107-001170	SPRING-TS	1	SA	
65-2	JC66-00377A	CAM-M-PICK_UP	1	SA	
67	JC93-00107A	FRAME-ROLLER DECURL	2	SA	
67-1	JC61-01172A	HOLDER-M-EXIT F/DOWN	1	SNA	
67-2	JC66-00830A	ROLLER-M-EXIT FR	1	SA	
67-3	JC66-00824A	ROLLER-M-EXIT MAIN	1	SA	
67-4	6107-001163	SPRING-CS	1	SA	
68	JC93-00107B	FRAME-ROLLER DECURL	2	SA	
68-1	JC61-02702B	HOLDER-EXIT ROLLER	1	SA	

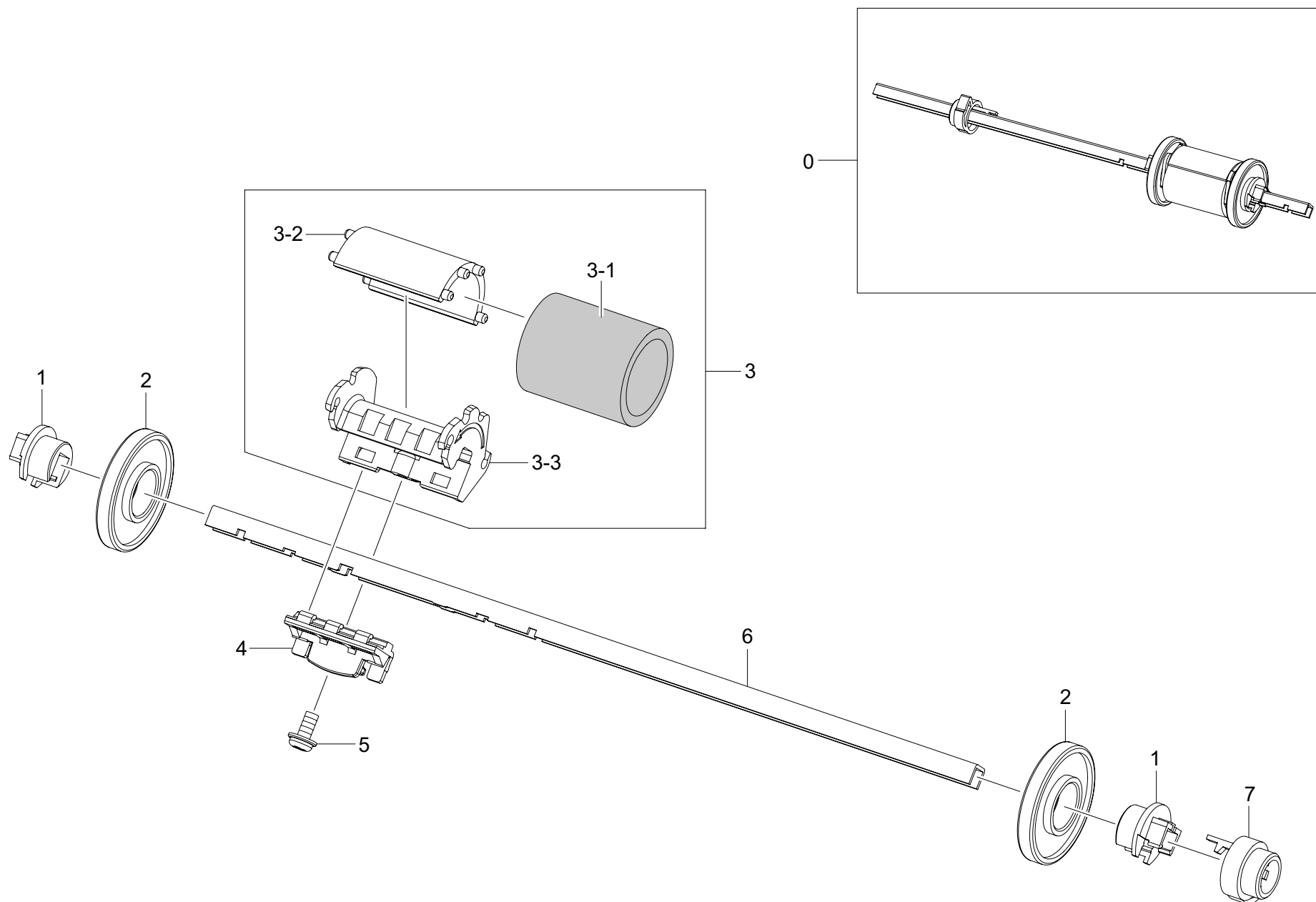| Drawer#	SEC_Code	Description	QT'y	Service	Remark
68-2	JC66-00830A	ROLLER-M-EXIT FR	1	SA	
68-3	JC66-00824A	ROLLER-M-EXIT MAIN	1	SA	
68-4	6107-001163	SPRING-CS	1	SA	
69	JC93-00108A	FRAME-FRONT GUIDE PAPER	1	SA	
69-1	JC61-00718A	GUIDE-P-PAPER	1	SA	
69-2	JC63-02483A	SHEET-GUIDE_PAPER	1	SA	
71	JC97-01788A	MEA UNIT-CLUTCH	1	SA	
71-1	6107-001171	SPRING-TS	1	SA	
71-2	JC66-00393A	GEAR-FEED 1	1	SA	
71-3	JC66-00398A	SHAFT-FEED	1	SA	
71-4	JC72-00978A	PMO-COLLAR_SPRING	1	SA	
71-5	JC72-00981A	PMO-HUB CLUTCH	1	SNA	
72	JC93-00097A	FRAME-ROLLER EXIT FACE DOWN	1	SA	
73	JC97-03585A	LSU	1	SNA	
74	JC39-01080A	HARNESS-BLDC_MOTOR_CLUTCH	1	SA	
75	JC39-01217A	HARNESS-LSU	1	SNA	

7. DRIVE MAIN-BRACKET
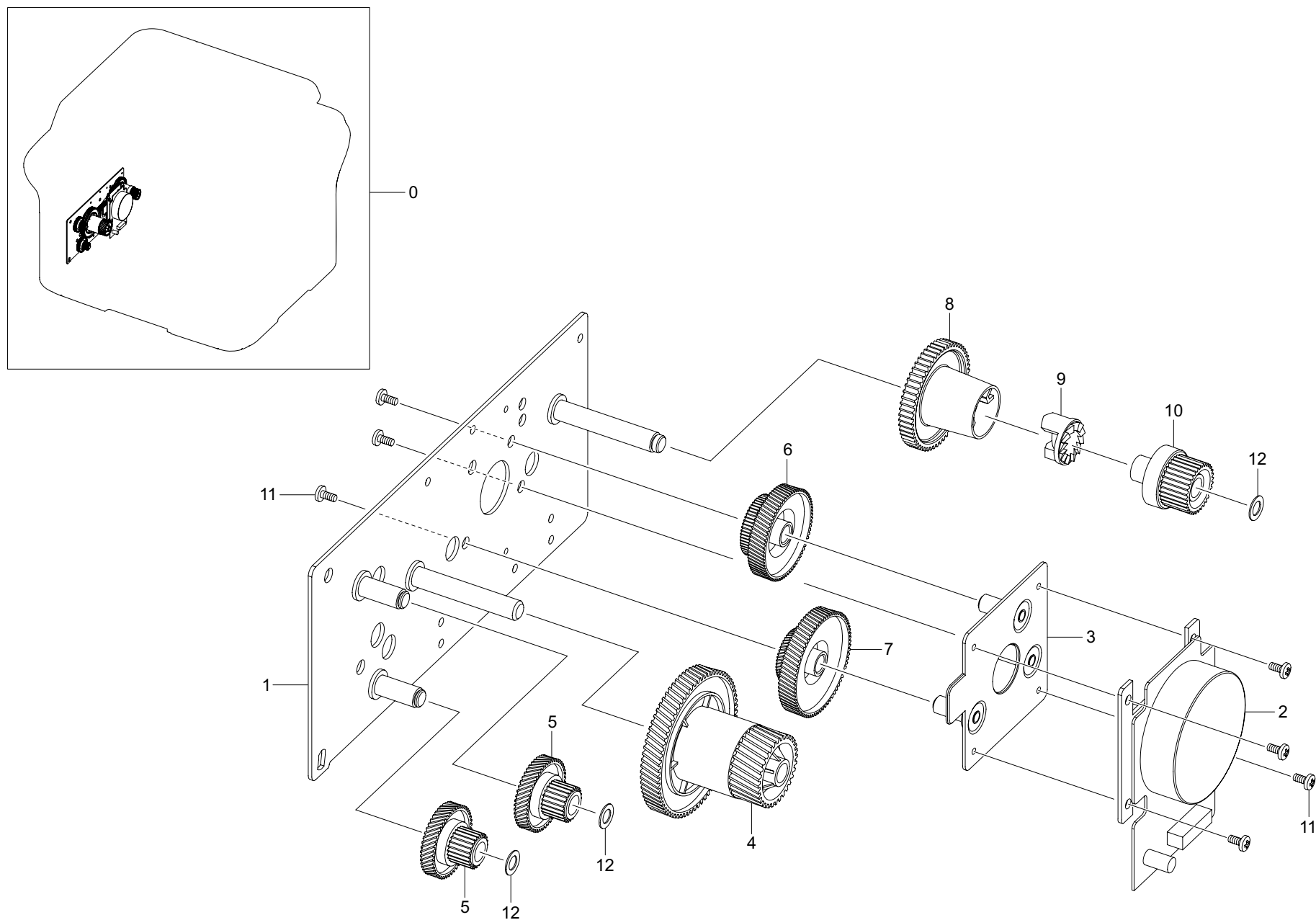
DRIVE MAIN-BRACKET Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC93-00003A	DRIVE MAIN-BRACKET	1	SA	
1	JC61-00598B	BRACKET-P-GEAR 1400	1	SC	
2	JC31-00122A	MOTOR BLDC	1	SNA	
3	JC61-03395A	BRACKET-MOTOR_STEP	1	SA	
4	JC66-02316A	GEAR-RDCN_OPC	1	SA	
5	JC66-00389A	GEAR-RDCN 57/18	2	SA	
6	JC66-00392A	GEAR-RDCN 90/31	1	SA	

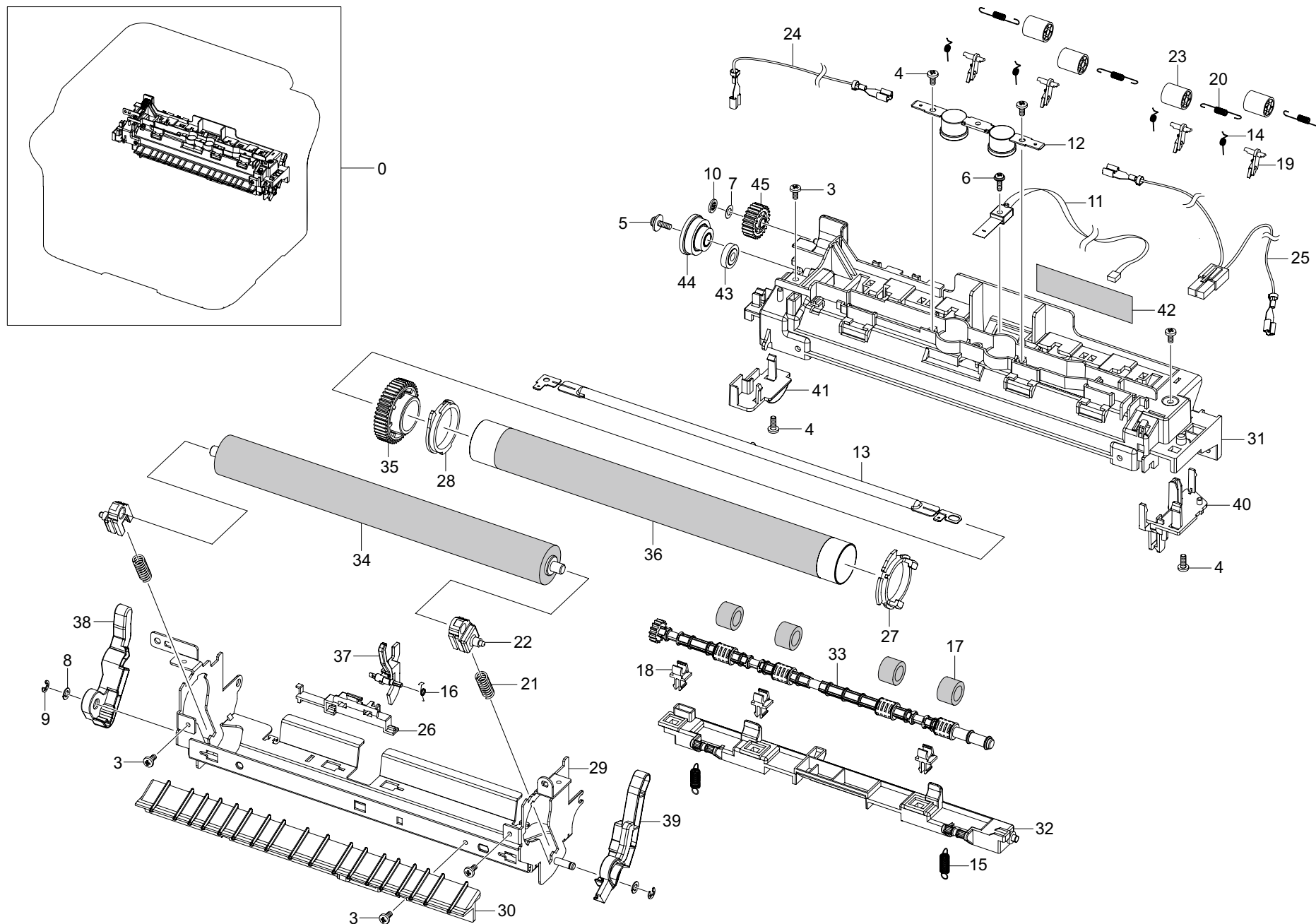| Drawer#	SEC_Code	Description	QT'y	Service	Remark
7	JC66-00390A	GEAR-RDCN 103/41	1	SA	
8	JC66-01203A	GEAR-DRV FUSER OUT	1	SA	
9	JC66-00340A	GEAR-HUB CLUTCH	1	SA	
10	JC66-01202A	GEAR-DRV FUSER IN	1	SA	
11	6003-000269	SCREW-TAPTYPE	5	SA	
12	6031-000023	WASHER-PLAIN	3	SA	

8. FRAME BASE-PICK UP

FRAME BASE-PICK UP Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC93-00085A	FRAME BASE-PICK UP	1	SA	
1	JC61-03477A	STOPPER-PICK_UP	2	SA	
2	JC72-00982A	PMO-IDLE PICK_UP	2	SA	
3	JC93-00087A	FRAME BASE-PICK UP RUBBER	1	SA	
3-1	JC73-00315A	RUBBER-PICK_UP	1	SA	
3-2	JC61-03514A	HOUSING-PICKUP_RUB	1	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3-3	JC61-03435A	HOUSING-PICKUP	1	SA	
4	JC61-03485A	HOLDER-PICKUP	1	SA	
5	6003-000264	SCREW-TAPTYPE	1	SNA	
6	JC66-00399A	SHAFT-P-PICK_UP	1	SA	
7	JC61-00586A	BUSH-M-PICK_UP L	1	SA	

9. FUSER

FUSER Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC91-00946A	FUSER	1	SA	110V
0	JC91-00945A	FUSER	1	SA	220V
0	JC91-00945B	FUSER	1	SA	220V/XIP
3	6003-000269	SCREW-TAPTYPE	5	SA	
4	6003-000282	SCREW-TAPTYPE	2	SNA	
5	6006-001078	SCREW-TAPTYPE	1	SNA	
6	6003-000196	SCREW-TAPTYPE	1	SA	
7	6031-001051	WASHER-PLAIN	1	SNA	
8	6031-001584	WASHER-PLAIN	2	SA	
9	6044-000159	RING-C	2	SA	
10	6044-000001	RING-CS	1	SA	
11	1404-001447	THERMISTOR-NTC ASSY	1	SA	
12	4712-001031	THERMOSTAT	1	SA	
13	4713-001211	LAMP-HALOGEN	1	SA	110V
13	4713-001212	LAMP-HALOGEN	1	SA	220V
14	6107-001800	SPRING-TS	4	SA	
15	6107-001802	SPRING-ES	2	SA	
16	6107-001165	SPRING-TS	1	SA	
17	JC73-00017A	RMO-RUBBER_EXIT	4	SA	
18	JC72-00382A	PMO-BUSHING TX	3	SNA	
19	JC61-02154A	GUIDE-CLAW	4	SNA	
20	JC61-70976A	SPRING ETC-FUSER EXIT	4	SNA	
21	JC61-00056A	SPRING ETC-PR(7300)	2	SA	
22	JC61-03473A	BUSH-PR HIGH	2	SNA	
23	JC72-40361A	PMO-ROLLER_EXIT	4	SNA	

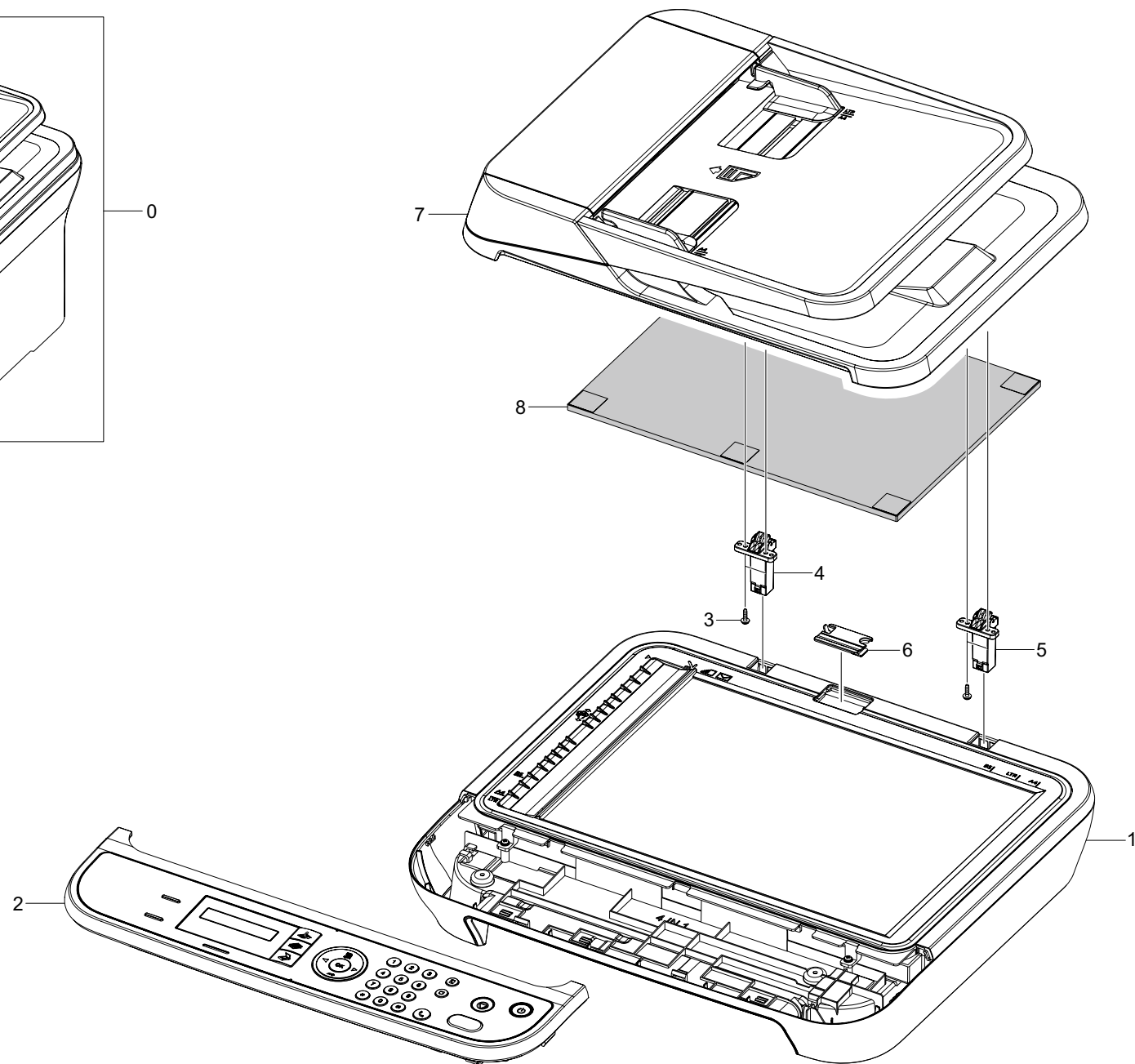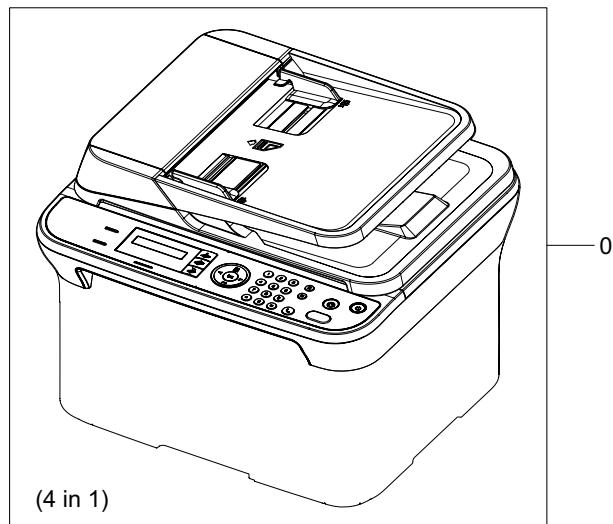| Drawer#	SEC_Code	Description	QT'y	Service	Remark
24	JC39-00819A	HARNESS-FUSER JOINT	1	SA	
25	JC39-01082A	HARNESS-FUSER AC	1	SA	
26	JC61-00581A	HOLDER-ACTUATOR	1	SA	
27	JC61-00887A	BUSH-M-HR R_R2	1	SA	
28	JC61-00888A	BUSH-M-HR L_R2	1	SA	
29	JC61-03449A	FRAME-FUSER	1	SNA	
30	JC61-03450A	GUIDE-INPUT	1	SNA	
31	JC63-02412A	COVER-FUSER	1	SNA	
32	JC63-02413A	COVER-FUSER DUMMY	1	SNA	
33	JC66-00380A	ROLLER-M-EXIT F/UP	1	SA	
34	JC66-00600A	ROLLER-PRESSURE	1	SA	
34	JC66-00600B	ROLLER-PRESSURE	1	SA	XIP
35	JC66-01254A	GEAR-FUSER	1	SA	
36	JC66-01256A	ROLLER-HEAT	1	SA	
36	JC66-01256B	ROLLER-HEAT	1	SA	XIP
37	JC66-02364A	ACTUATOR-EXIT	1	SNA	
38	JC66-02365A	LEVER-LINK JAM L	1	SNA	
39	JC66-02366A	LEVER-LINK JAM R	1	SNA	
40	JC67-00414A	CAP-FUSER LAMP R	1	SNA	
41	JC67-00415A	CAP-FUSER LAMP L	1	SNA	
42	JC68-01581B	LABEL-CAUTION	1	SNA	
43	JC72-00143A	PMO-GEAR_EXIT_DRV16	1	SNA	
44	JC66-02317A	GEAR-RDCN_EXIT	1	SA	
45	JC66-00396A	GEAR-IDLE 23	1	SA	

10. CASSETTE
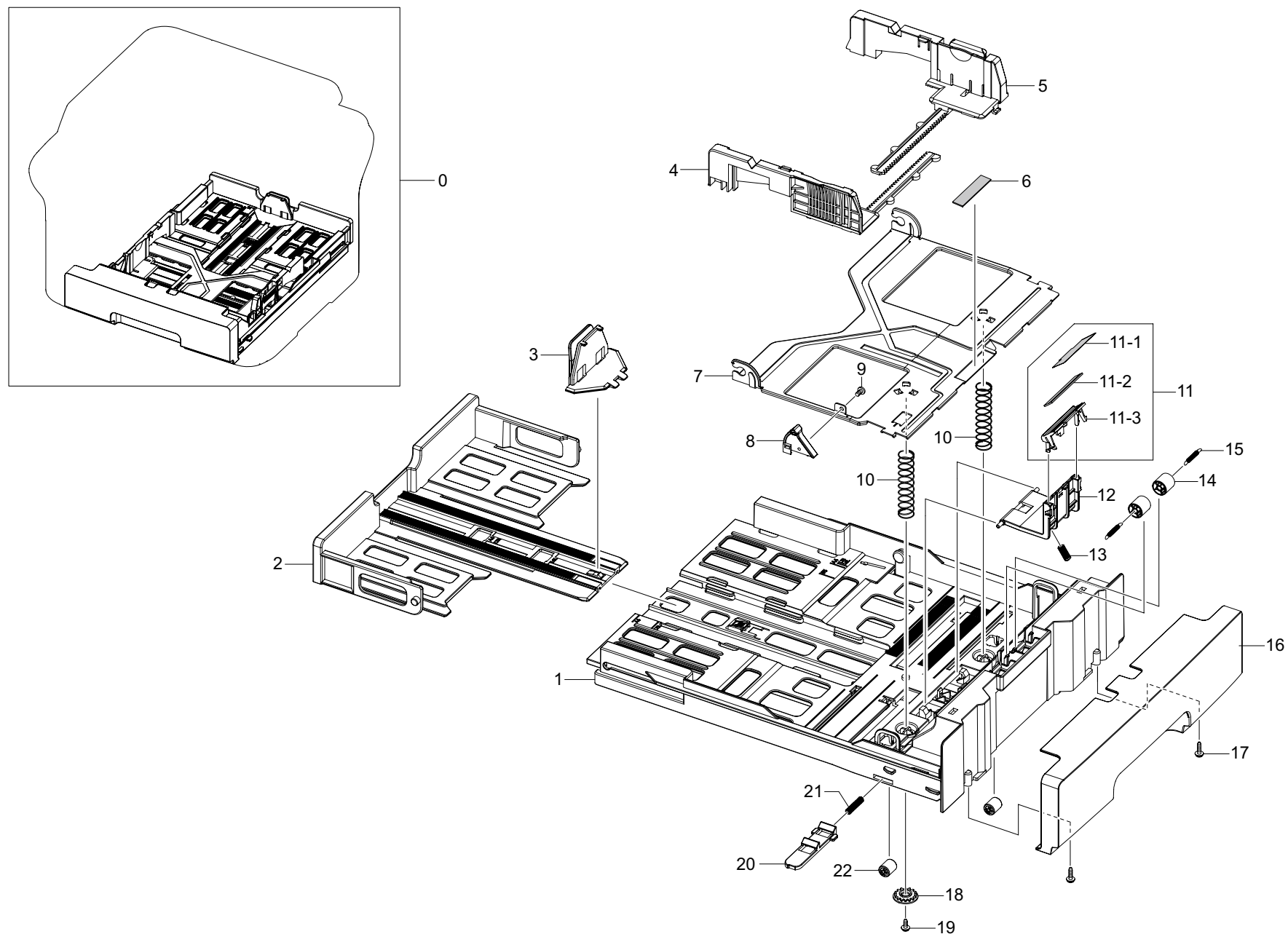
CASSETTE Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC90-00943A	CASSETTE	1	SA	
1	JC61-03343A	FRAME-CASSETTE	1	SNA	
2	JC61-03341A	GUIDE-EXTENSION CST	1	SNA	
3	JC72-00971A	PMO-EXTENSION SMALL	1	SA	
4	JC70-00300A	ADJUST-M-CASSETTE_L	1	SA	
5	JC70-00301A	ADJUST-M-CASSETTE_R	1	SC	
6	JC73-00141A	RPR-PAD CASSETTE	1	SA	
7	JC61-00603A	PLATE-P-KNOCK_UP	1	SNA	
8	JC66-00719A	CAM-M-KNOCK UP	1	SA	
9	6003-000261	SCREW-TAPTYPE	1	SNA	
10	6107-001166	SPRING-CS	2	SA	
11	JC90-00941A	CASSETTE-HOLDER PAD	1	SA	
11-1	JC63-00290A	SHEET-HOLDER PAD	1	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
11-2	JC73-00140A	RPR-FRICTION PAD	1	SA	
11-3	JC61-03344A	HOLDER-PAD	1	SA	
12	JC61-01978A	HOUSING-HOLDER PAD	1	SA	
13	JC61-70911A	SPRING ETC-EXIT ROLL FD	1	SA	
14	JC66-00529C	ROLLER-IDLE FEED	2	SA	
15	6107-001047	SPRING-ES	2	SA	
16	JC63-02452A	COVER-CASSETTE	1	SA	
17	6003-000196	SCREW-TAPTYPE	2	SA	
18	JG66-40003A	GEAR-PINION	1	SA	
19	6003-000264	SCREW-TAPTYPE	1	SNA	
20	JC72-00972A	PMO-PLATE_LOCKER	1	SA	
21	JG61-70531A	SPRING ETC-LOCKER,PLATE	1	SA	
22	JC72-40981A	PMO-ROLLER UPPER DP	2	SA	

11. SCANNER_4 in 1

(4 in 1)

0

7

8

4

3

6

5

1

2

SCANNER_4 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03685A	SCANNER	1	SNA	4623FN/Others
0	JC97-03685B	SCANNER	1	SNA	4623FN/SEE/XEC
0	JC97-03685C	SCANNER	1	SNA	4623F/Others
0	JC97-03685D	SCANNER	1	SNA	4623F/SEE/XEC
0	JC97-03685F	SCANNER	1	SNA	4623FN/XAX/XBH
0	JC97-03685G	SCANNER	1	SNA	4623FN/XEV
0	JC97-03685H	SCANNER	1	SNA	4623FN/STS
0	JC97-03685J	SCANNER	1	SNA	4623FN/ETS
0	JC97-03685M	SCANNER	1	SNA	4623F/XAX/XBH
0	JC97-03685N	SCANNER	1	SNA	4623F/XEV

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03685P	SCANNER	1	SNA	4623F/STS
0	JC97-03685R	SCANNER	1	SNA	4623F/ETS
1	JC97-03677A	PLATEN	1	SNA	
2	-	OPE	1	SA	Refer to 14.OPE
3	6003-000196	SCREW-TAPTYPE	4	SA	
4	JC97-03191A	MEA UNIT-HINGE L	1	SA	
5	JC97-03190A	MEA UNIT-HINGE R	1	SA	
6	JC63-02454A	COVER-CONNECTOR	1	SNA	
7	JC97-03694A	ADF	1	SA	
8	JC63-02569A	SHEET-WHITE	1	SA	

12. SCANNER_3 in 1
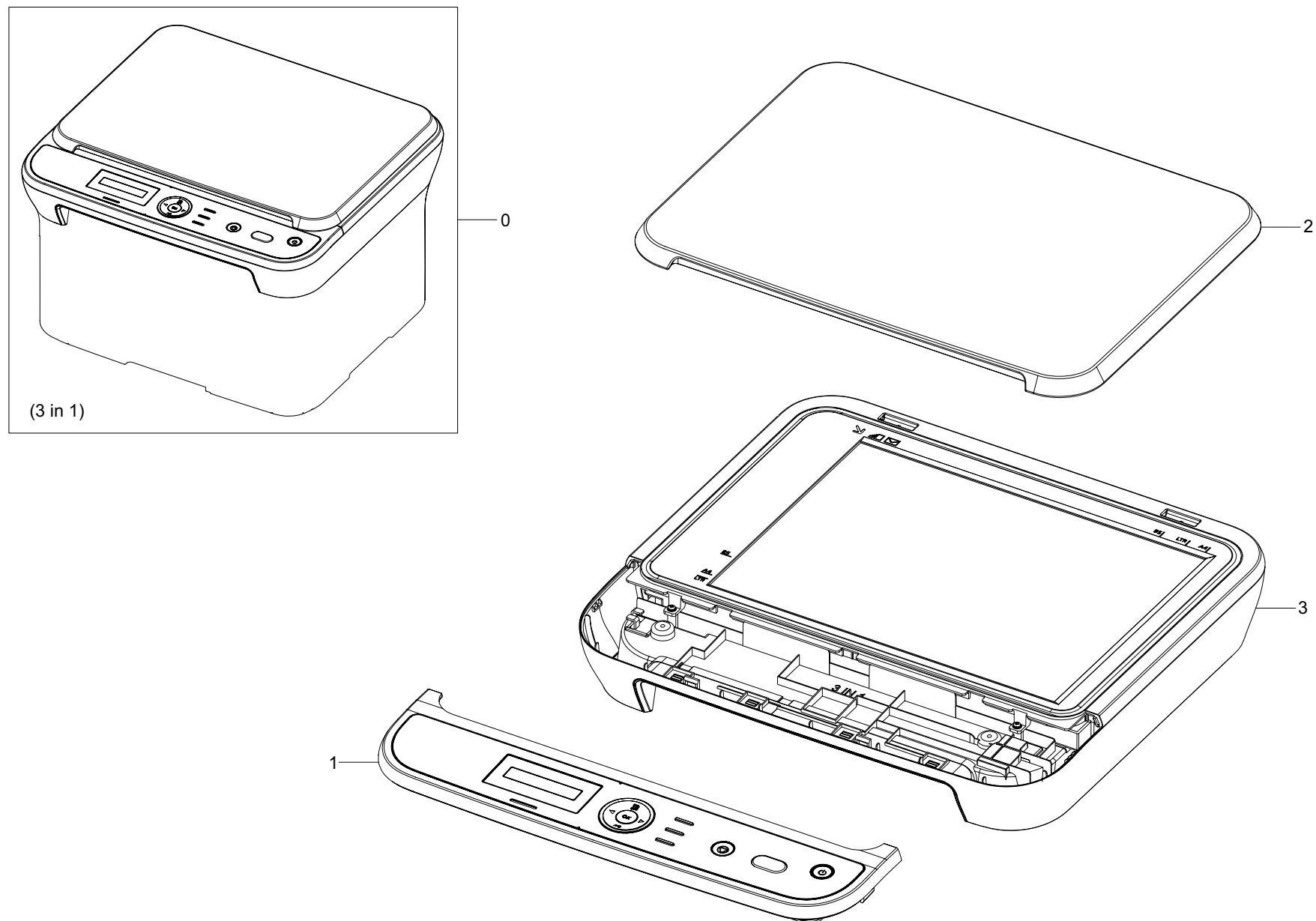
(3 in 1)

SCANNER_3 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03684A	SCANNER	1	SNA	4600/Others
0	JC97-03684D	SCANNER	1	SNA	4600/XAX/XBH
0	JC97-03684E	SCANNER	1	SNA	4600/XEV
0	JC97-03684F	SCANNER	1	SNA	4600/STS

Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	-	OPE	1	SA	Refer to 15.OPE
2	JC97-03438A	MEA UNIT-COVER PLATEN	1	SA	
3	JC97-03680A	PLATEN	1	SA	

13. COVER-PLATEN

3

1

(3 in 1)

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2
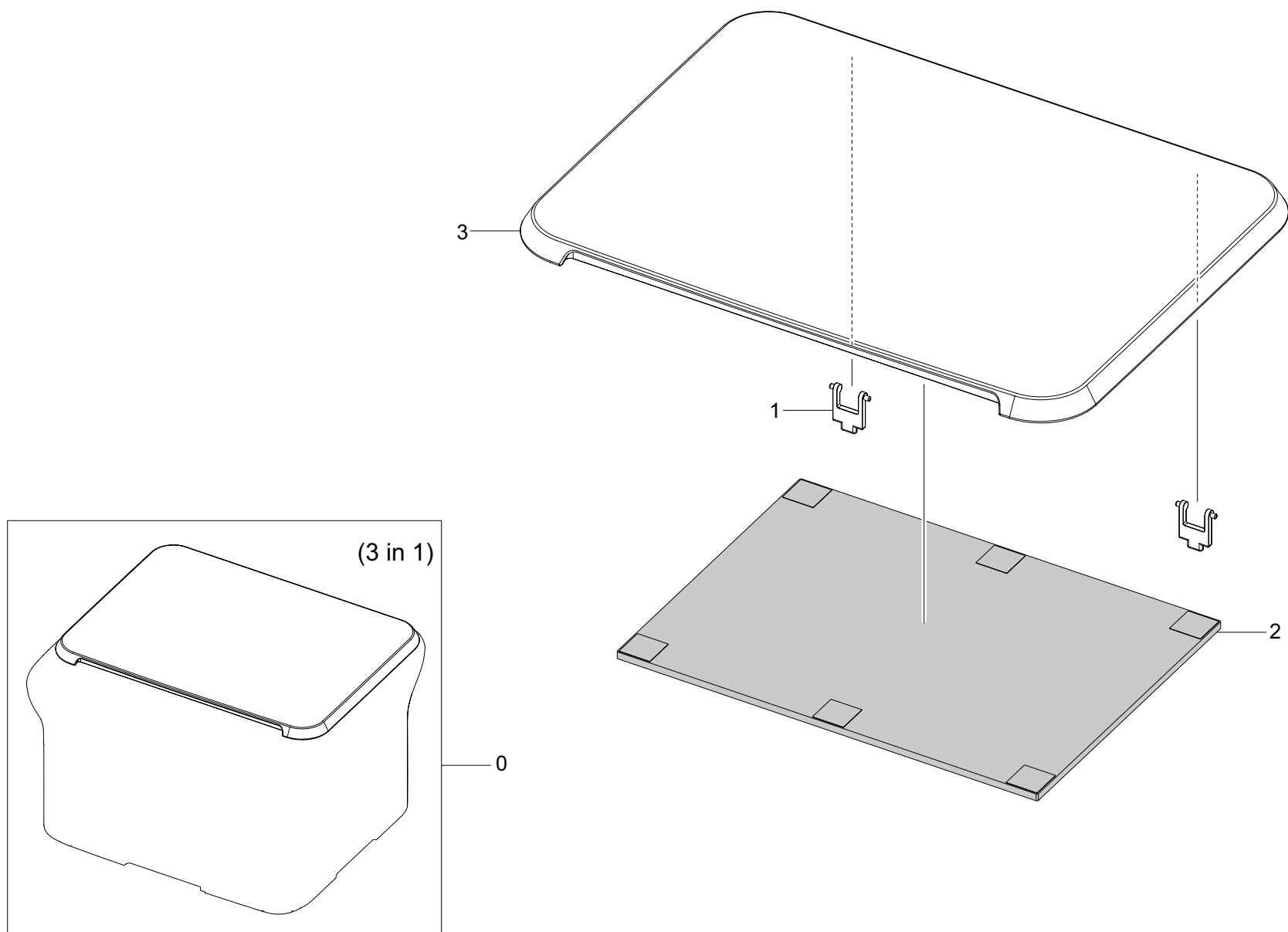
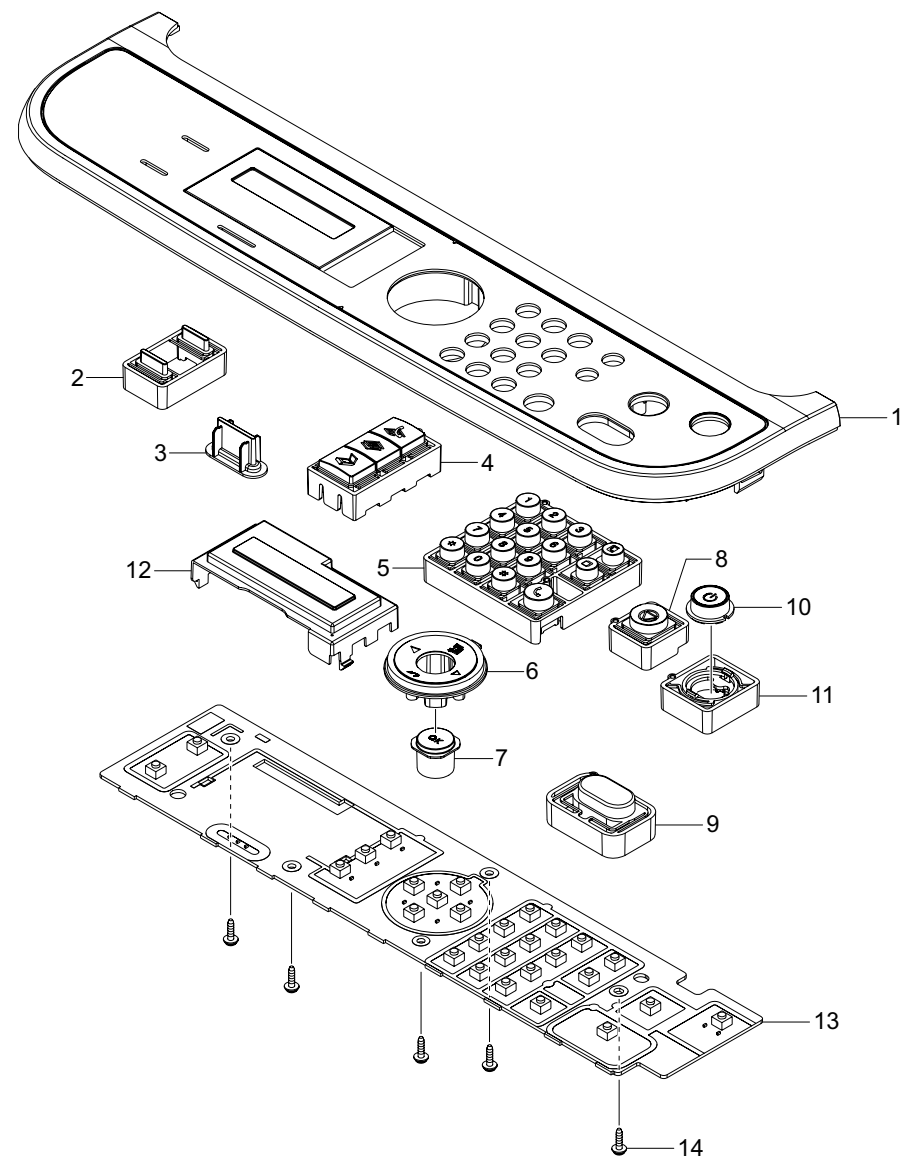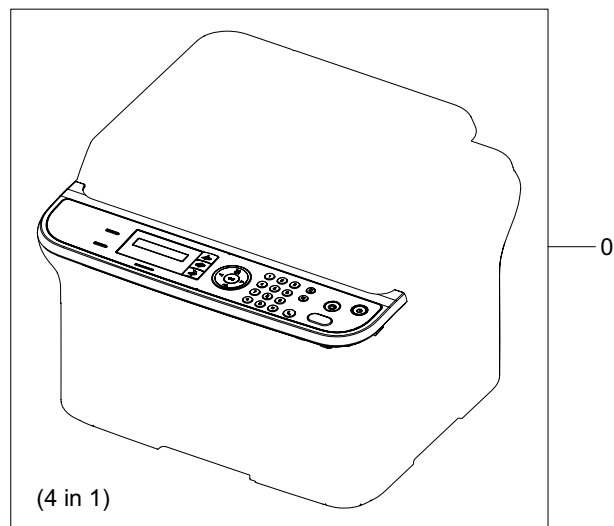## COVER-PLATEN Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03438A	MEA UNIT-COVER PLATEN	1	SA	4600
1	JC61-00929B	HINGE-PIVOT	2	SA	

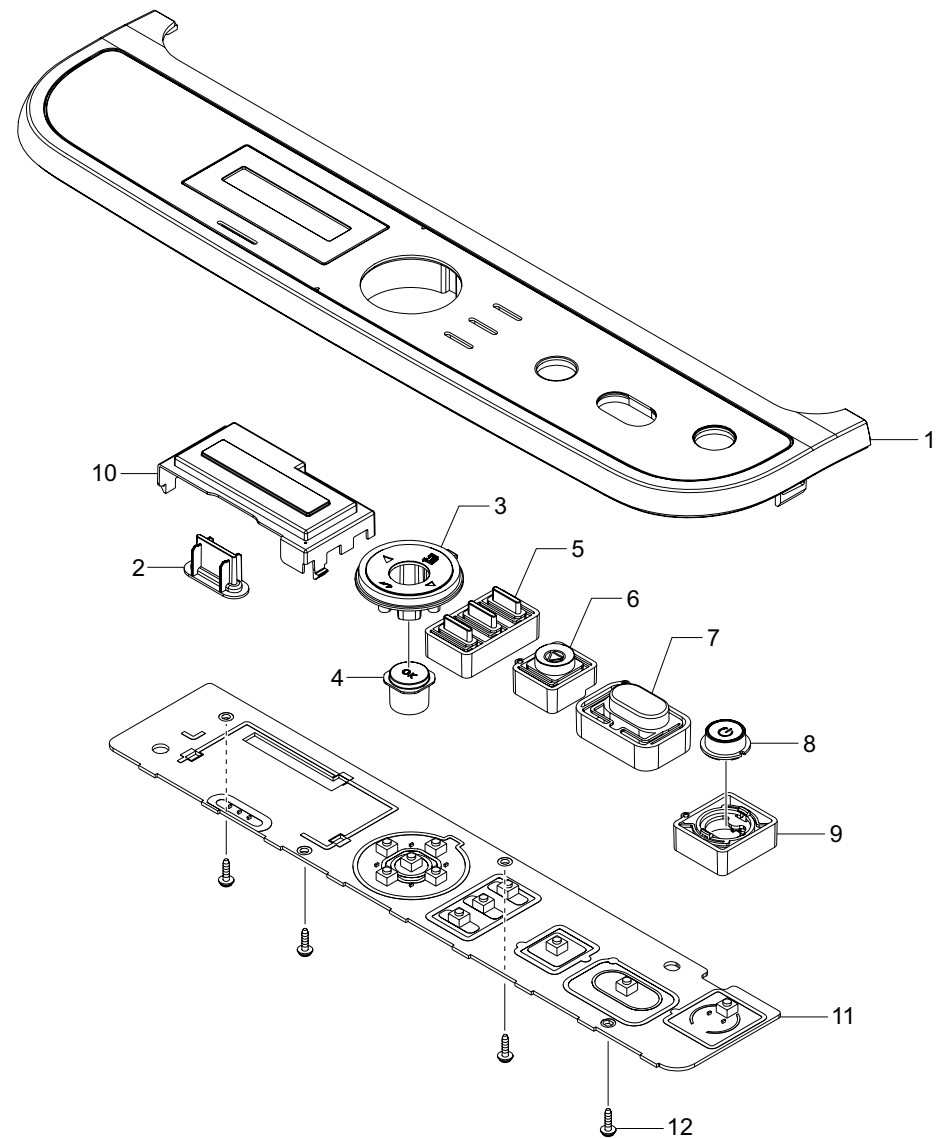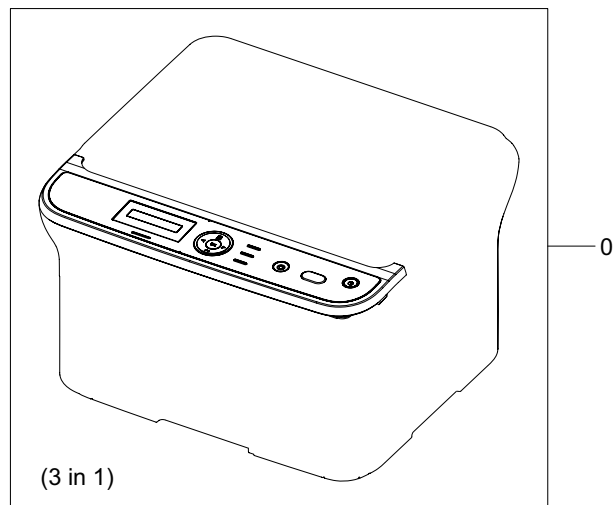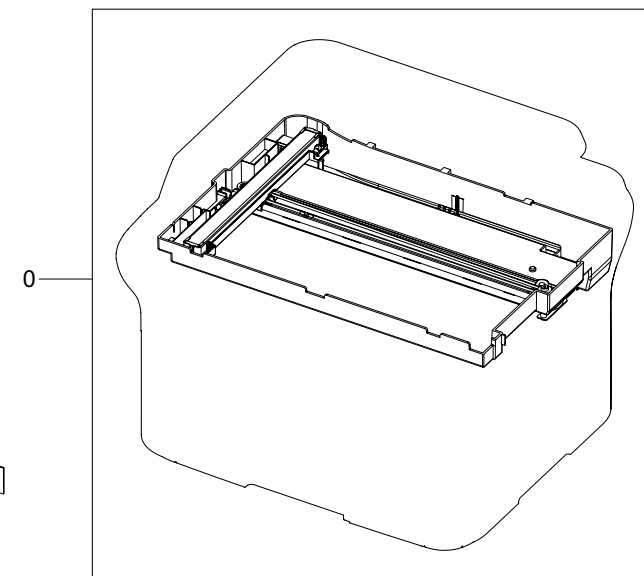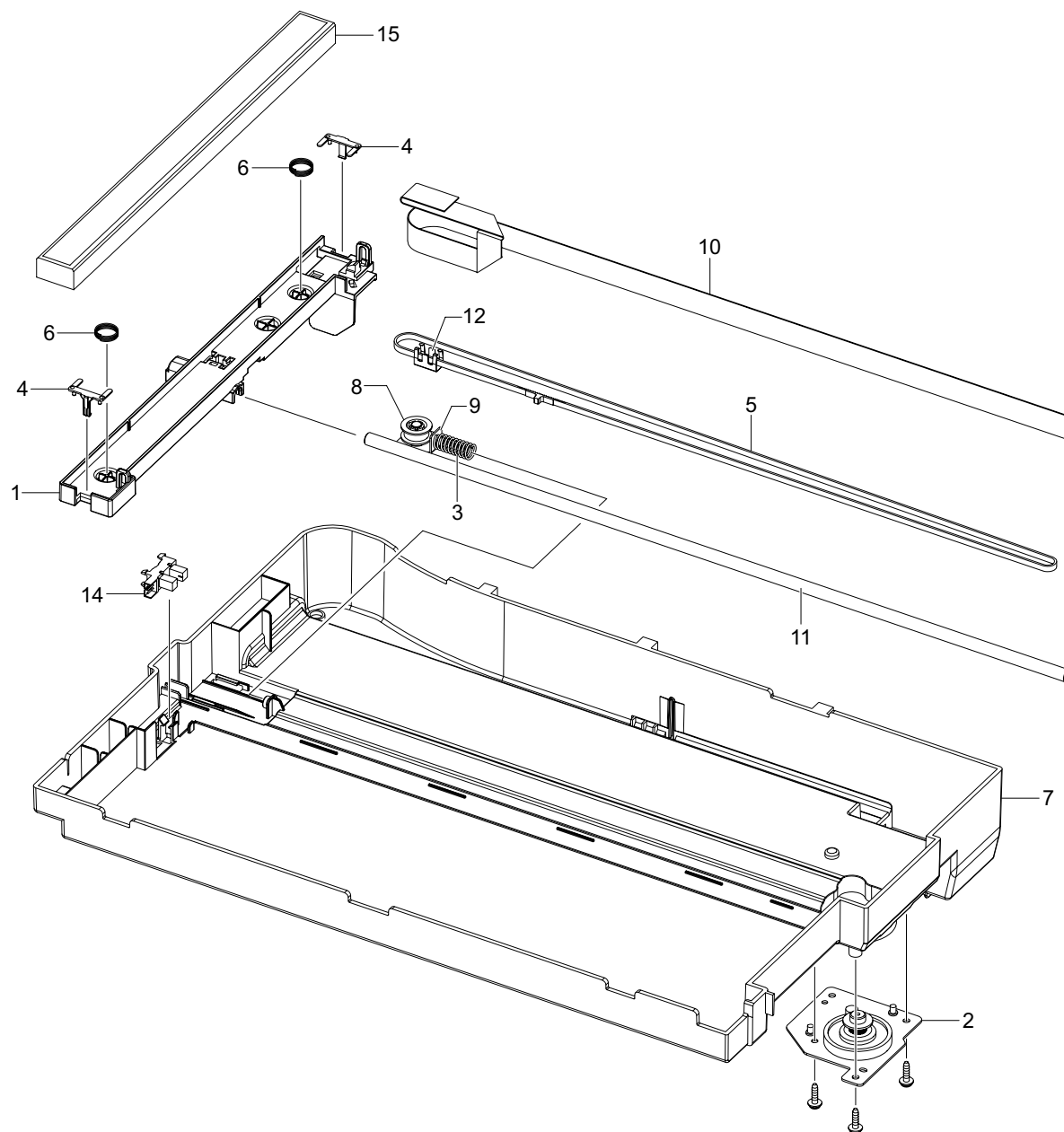| Drawer#	SEC_Code	Description	QT'y	Service	Remark
2	JC63-00209A	SHEET-WHITE SPONGE	1	SNA	
3	JC63-01977A	COVER-PLATEN	1	SA	

14. OPE_4 in 1

(4 in 1)

OPE_4 in 1 Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark	Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03675A	OPE	1	SA	4623FN/Others	1	JC63-02453M	COVER-OPE	1	SNA	4623F/XAX/XBH
0	JC97-03675B	OPE	1	SA	4623FN/SEE/XEC	1	JC63-02453P	COVER-OPE	1	SNA	4623F/STS
0	JC97-03675C	OPE	1	SA	4623F/Others	1	JC63-02453R	COVER-OPE	1	SNA	4623F/ETS
0	JC97-03675D	OPE	1	SA	4623F/SEE/XEC	1	JC63-02453W	COVER-OPE	1	SNA	4623FW/Others
0	JC97-03675F	OPE	1	SA	4623FN/XAX/XBH	1	JC63-02453X	COVER-OPE	1	SNA	4623FW/SEE/XEC
0	JC97-03675G	OPE	1	SA	4623FN/XEV	2	JC64-00386B	KEY-EXTRA	1	SA	
0	JC97-03675H	OPE	1	SA	4623FN/STS	3	JC64-00392A	KEY-STATUS	1	SNA	
0	JC97-03675J	OPE	1	SA	4623FN/ETS	3	JC64-00431A	KEY-STATUS	1	SNA	4623FW
0	JC97-03675M	OPE	1	SA	4623F/XAX/XBH	4	JC64-00387B	KEY-FAX	1	SA	
0	JC97-03675N	OPE	1	SA	4623F/XEV	5	JC64-00394B	KEY-TEL	1	SA	
0	JC97-03675P	OPE	1	SA	4623F/STS	6	JC64-00388B	KEY-MENU	1	SA	
0	JC97-03675R	OPE	1	SA	4623F/ETS	7	JC64-00389B	KEY-OK	1	SA	
0	JC97-03675W	OPE	1	SA	4623FW/Others	8	JC64-00393B	KEY-STOP	1	SA	
0	JC97-03675X	OPE	1	SA	4623FW/SEE/XEC	9	JC64-00410C	KEY-START	1	SNA	
1	JC63-02453A	COVER-OPE	1	SNA	4623FN/Others	10	JB64-00114D	KEY-POWER	1	SA	
1	JC63-02453B	COVER-OPE	1	SNA	4623FN/SEE/XEC	11	JC64-00443A	KEY-POWER_B	1	SNA	
1	JC63-02453C	COVER-OPE	1	SNA	4623F/Others	12	JC63-01802A	COVER-LCD	1	SNA	
1	JC63-02453D	COVER-OPE	1	SNA	4623F/SEE/XEC	13	JC92-02134A	PBA-OPE	1	SA	
1	JC63-02453F	COVER-OPE	1	SNA	4623FN/XAX/XBH	13	JC92-02134B	PBA-OPE	1	SA	
1	JC63-02453G	COVER-OPE	1	SNA	4623FN/XEV	14	6003-000196	SCREW-TAPTYPE	5	SA	
1	JC63-02453H	COVER-OPE	1	SNA	4623FN/STS	15	-	SHEET-OPE	1	SNA	
1	JC63-02453J	COVER-OPE	1	SNA	4623FN/ETS						

15. OPE_3 in 1

(3 in 1)

OPE_3 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03676A	OPE	1	SA	4600/Others
0	JC97-03676D	OPE	1	SA	4600/XAX/XBH
0	JC97-03676E	OPE	1	SA	4600/XEV
0	JC97-03676F	OPE	1	SA	4600/STS
1	JC63-02468A	COVER-OPE	1	SA	
2	JC64-00392A	KEY-STATUS	1	SNA	
3	JC64-00388B	KEY-MENU	1	SNA	
4	JC64-00389B	KEY-OK	1	SNA	
5	JC64-00430A	KEY-EXTRA	1	SNA	

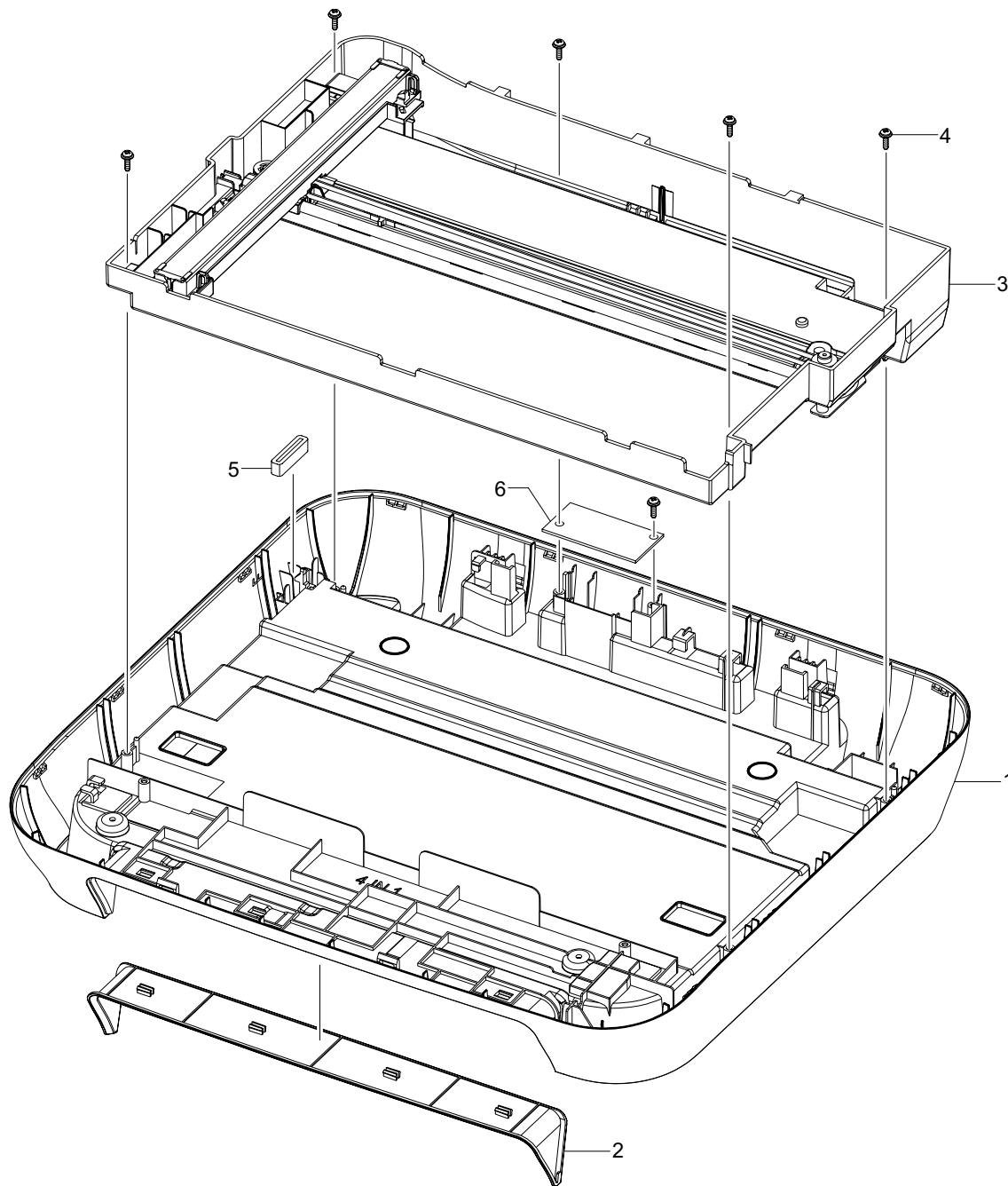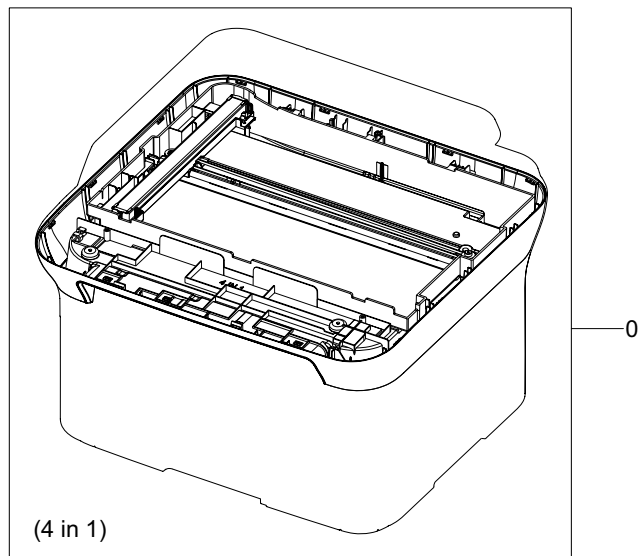| Drawer#	SEC_Code	Description	QT'y	Service	Remark
6	JC64-00393B	KEY-STOP	1	SNA	
7	JC64-00410C	KEY-START	1	SNA	
8	JB64-00114D	KEY-POWER	1	SNA	
9	JC64-00443A	KEY-POWER_B	1	SNA	
10	JC63-01802A	COVER-LCD	1	SNA	
11	JC92-02175A	PBA-OPE	1	SA	
12	6003-000196	SCREW-TAPTYPE	4	SNA	
13	-	SHEET-OPE	1	SNA	

16. PLATEN-LOW END

PLATEN-LOW END Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03686A	PLATEN-LOW END	1	SNA	
1	JC61-02506A	BRACKET-CIS	1	SNA	
2	JC93-00111A	DRIVE PLATEN	1	SA	
3	6107-001194	SPRING-CS	1	SA	
4	JC66-01580A	SLIDER-CIS	2	SA	
5	6602-001637	BELT-TIMING GEAR	1	SA	
6	6107-001137	SPRING-CS	2	SA	
7	JC61-02517A	FRAME-SCAN LOWER	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
8	JC66-00713A	PULLEY-M_IDLE	1	SNA	
9	JC61-00931A	BRACKET-P-PULLEY	1	SNA	
10		CIS_FPC_TULIP	1		
11	JC66-01448A	SHAFT-CIS	1	SA	
12	JB61-00232A	CLIP-P-BELT	1	SA	
13	6003-000196	SCREW-TAPTYPE	3	SA	
14	0604-001095	PHOTO-INTERRUPTER	1	SA	

17. PLATEN-LOWER_4 in 1

(4 in 1)

PLATEN-LOWER_4 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03679A	PLATEN-LOWER	1	SNA	4 in 1
1	JC63-02455A	COVER-SCAN LOWER	1	SNA	
2	JC63-02457A	COVER-OPE DECO	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3	JC97-03686A	PLATEN-LOW END	1	SNA	
4	6003-000196	SCREW-TAPTYPE	6	SA	

18. PLATEN-LOWER_3 in 1

(3 in 1)

0

4

3

5

1

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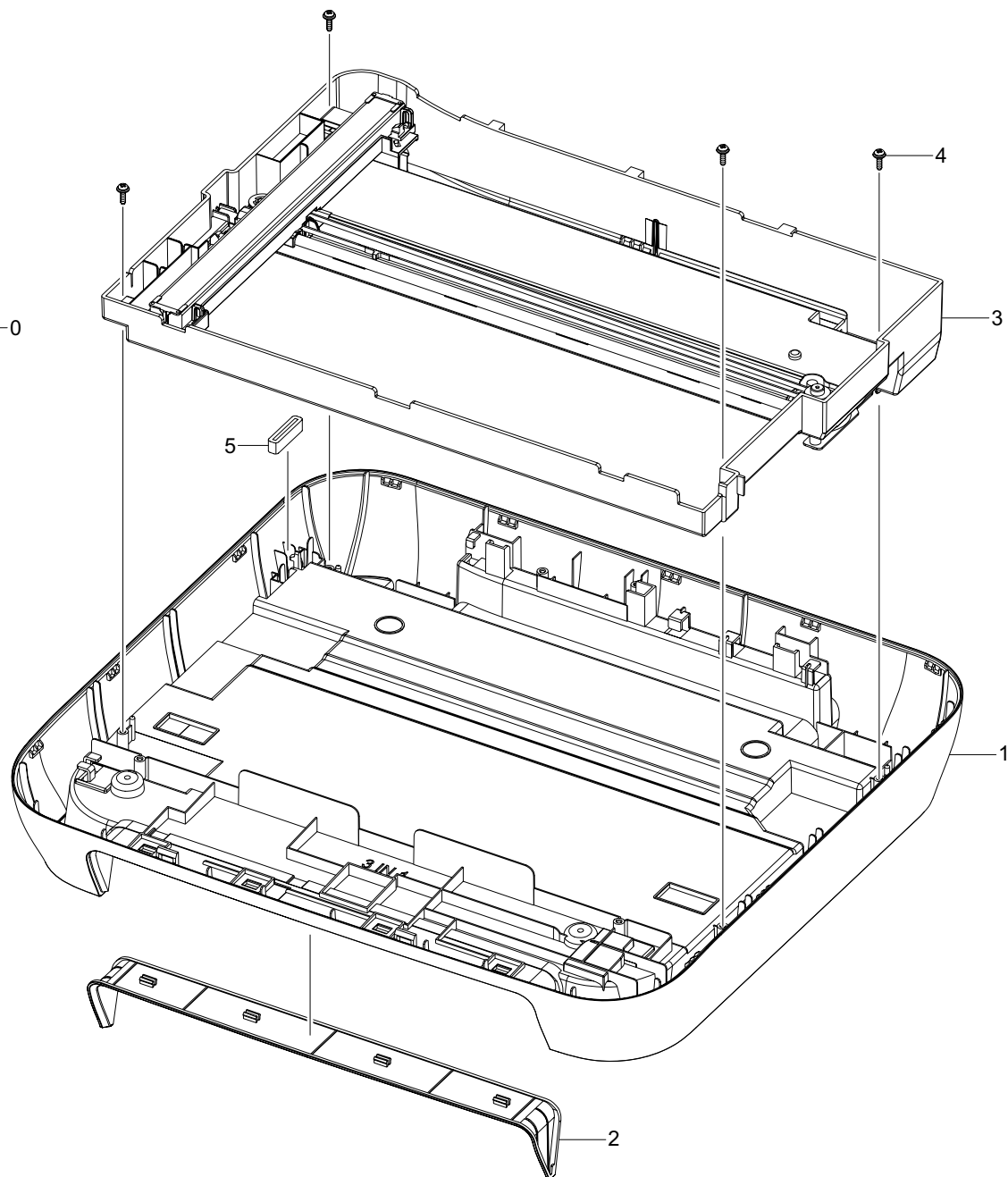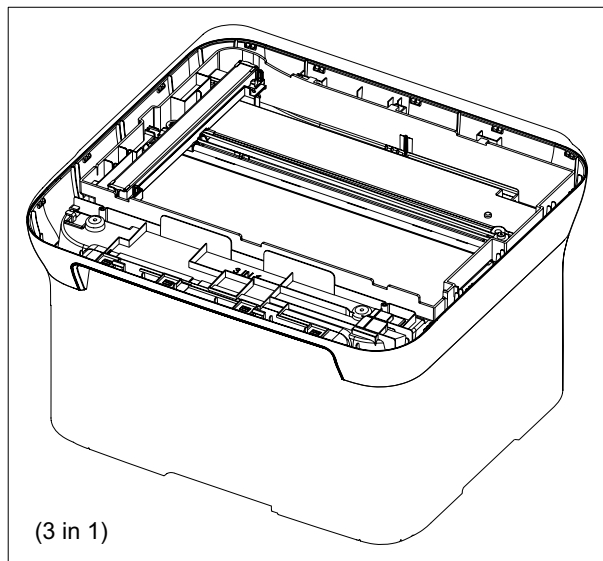
PLATEN-LOWER_3 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03682A	PLATEN-LOWER	1		3 in 1
1	JC63-02465A	COVER-SCAN LOWER	1		
2	JC63-02466A	COVER-OPE DECO	1		

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3	JC97-03686A	PLATEN-LOW END	1		
4	6003-000196	SCREW-TAPTYPE	4		

19. PLATEN-UPPER_4 in 1
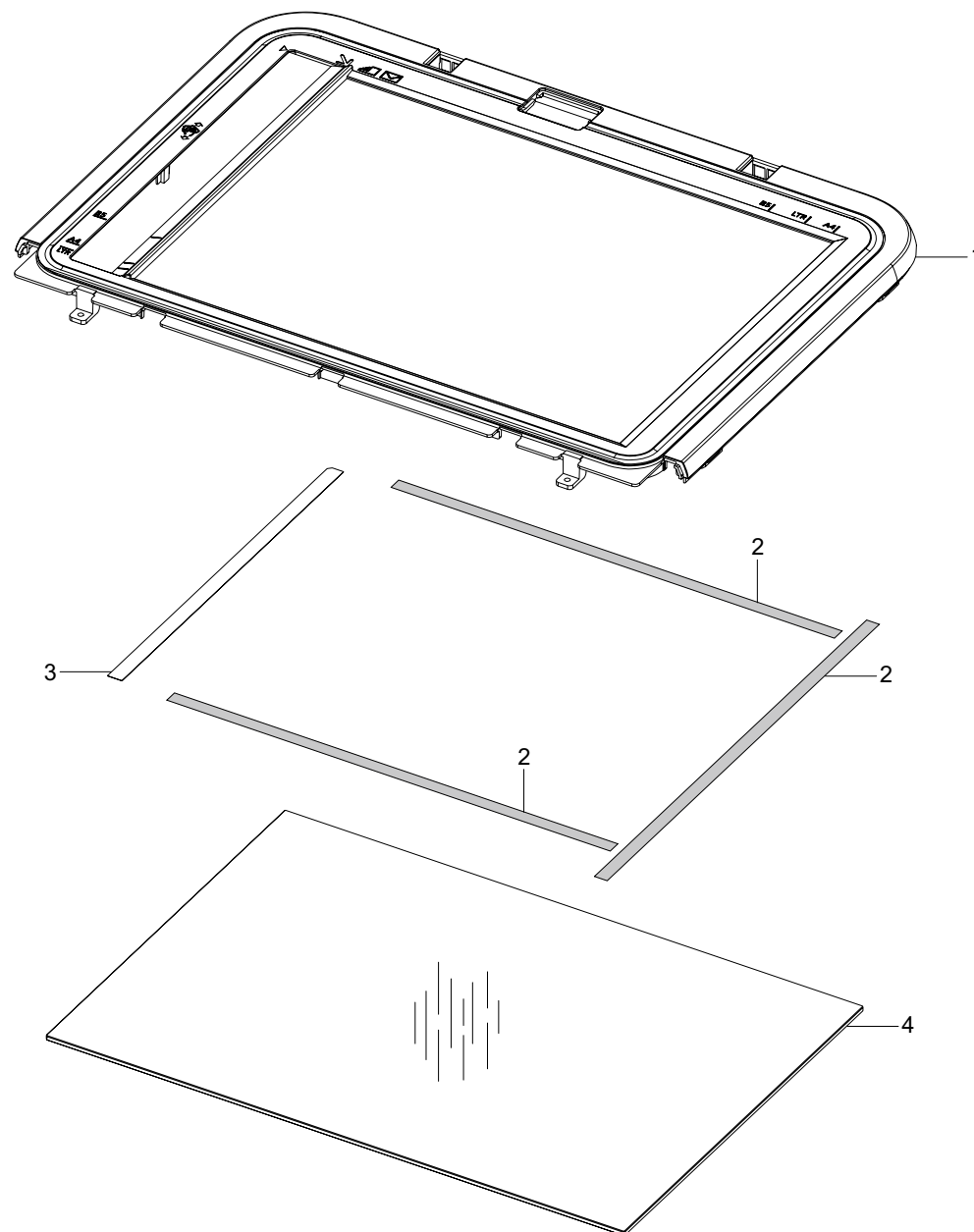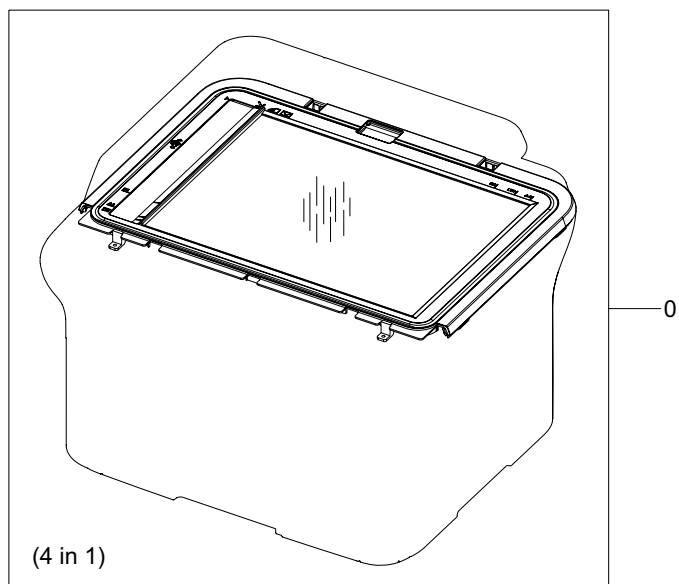
(4 in 1)

PLATEN-UPPER_4 in 1 Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03678A	PLATEN-UPPER	1	SNA	4 in 1
1	JC63-02456A	COVER-SCAN UPPER	1	SNA	
2	0203-001267	TAPE-DOUBLE FACE	3	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3	JC63-01906A	SHEET-SHADING	1	SNA	
4	JC01-00002A	GLASS-SCAN MONTBLANC	1	SC	

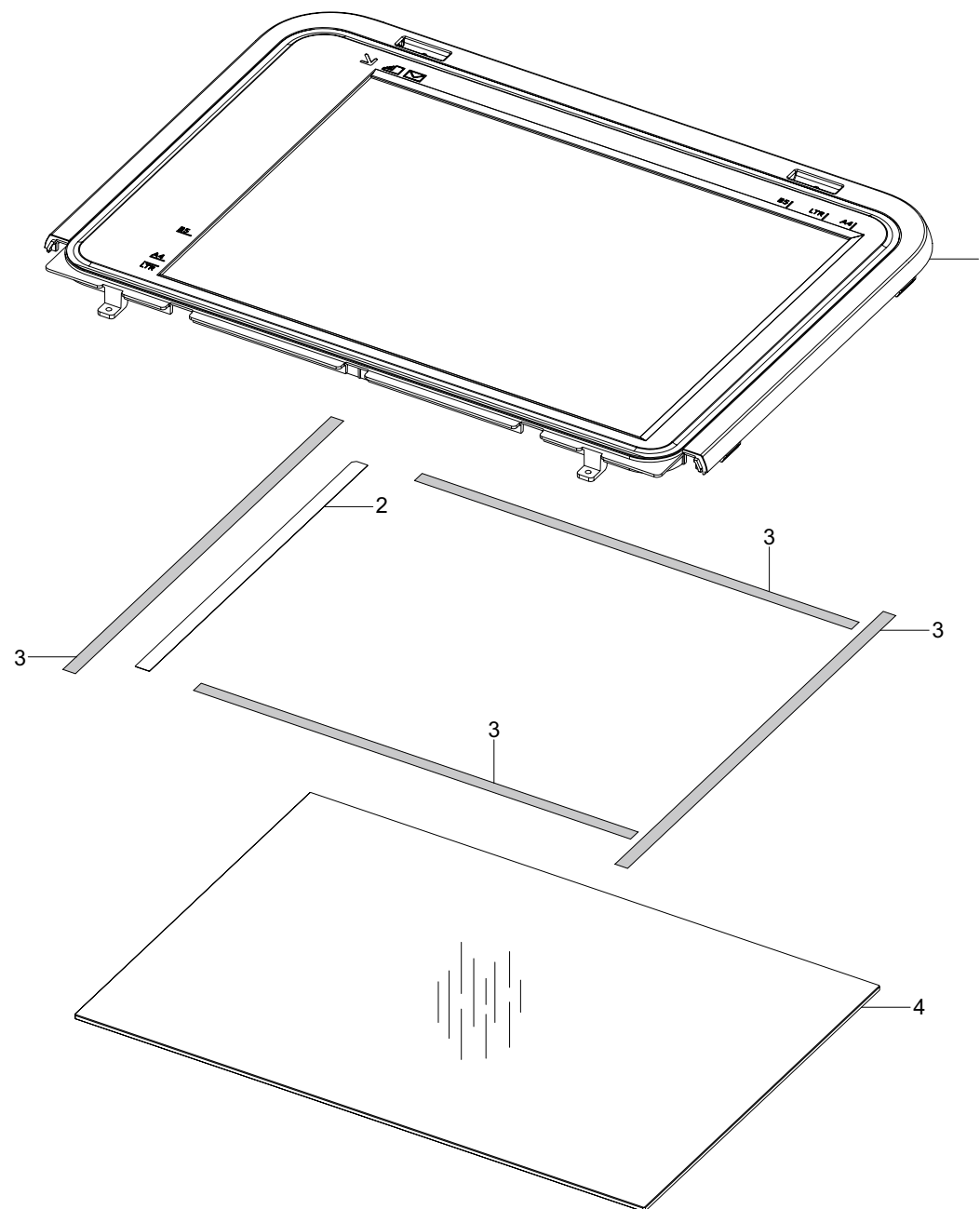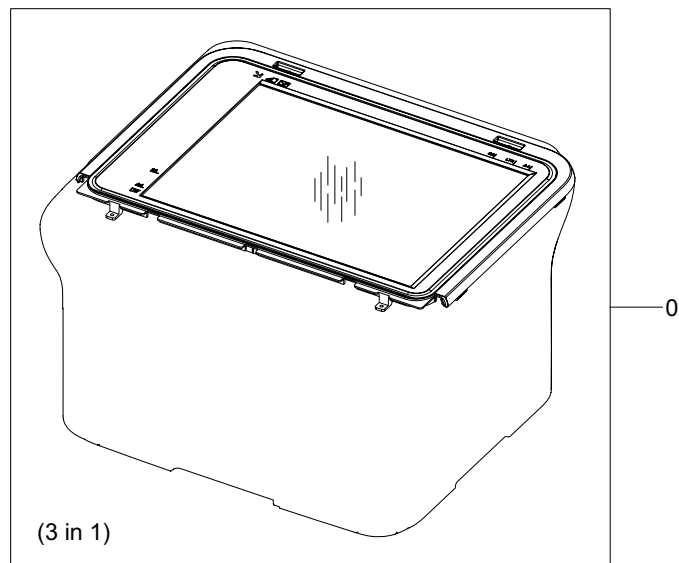# 20. PLATEN-UPPER_3 in 1

(3 in 1)

0

1

2

3

3

3

3

4

PLATEN-UPPER_3 in 1 Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03681A	PLATEN-UPPER	1	SNA	3 in 1
1	JC63-02467A	COVER-SCAN UPPER	1	SNA	
2	JC63-01906A	SHEET-SHADING	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
3	0203-001267	TAPE-DOUBLE FACE	4	SNA	
4	JC01-00002A	GLASS-SCAN MONTBLANC	1	SC	

(4 in 1)

0

2

1
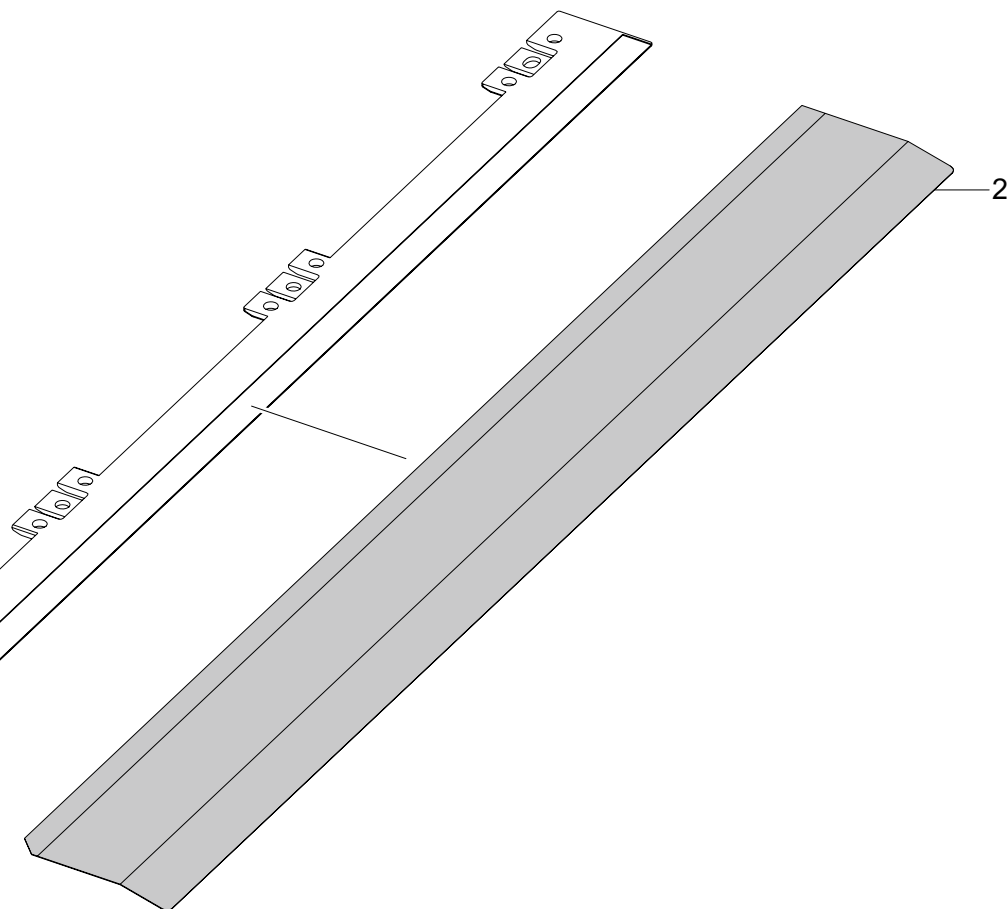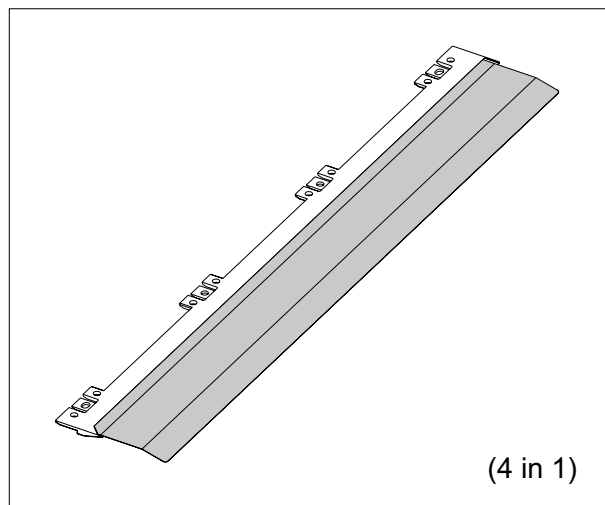
PLATEN-SHEET Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
0	JC97-03693A	PLATEN-SHEET	1	SA	
1	JC61-03513A	HOLDER-ADF SHEET	1	SNA	

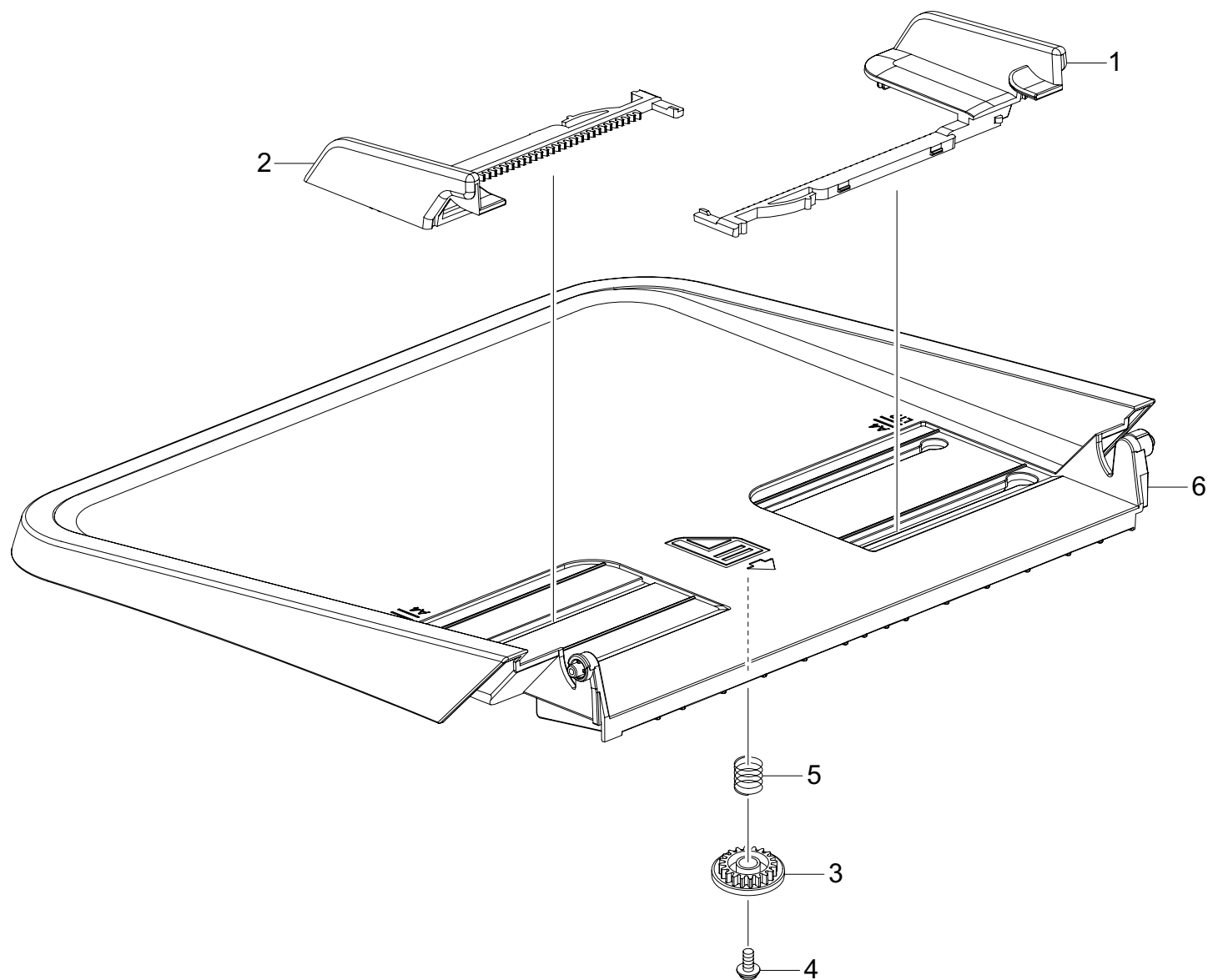| Drawer#	SEC_Code	Description	QT'y	Service	Remark
2	JC63-01794A	SHEET-ADF	1	SNA	

22. ASSY_ADF_BASE
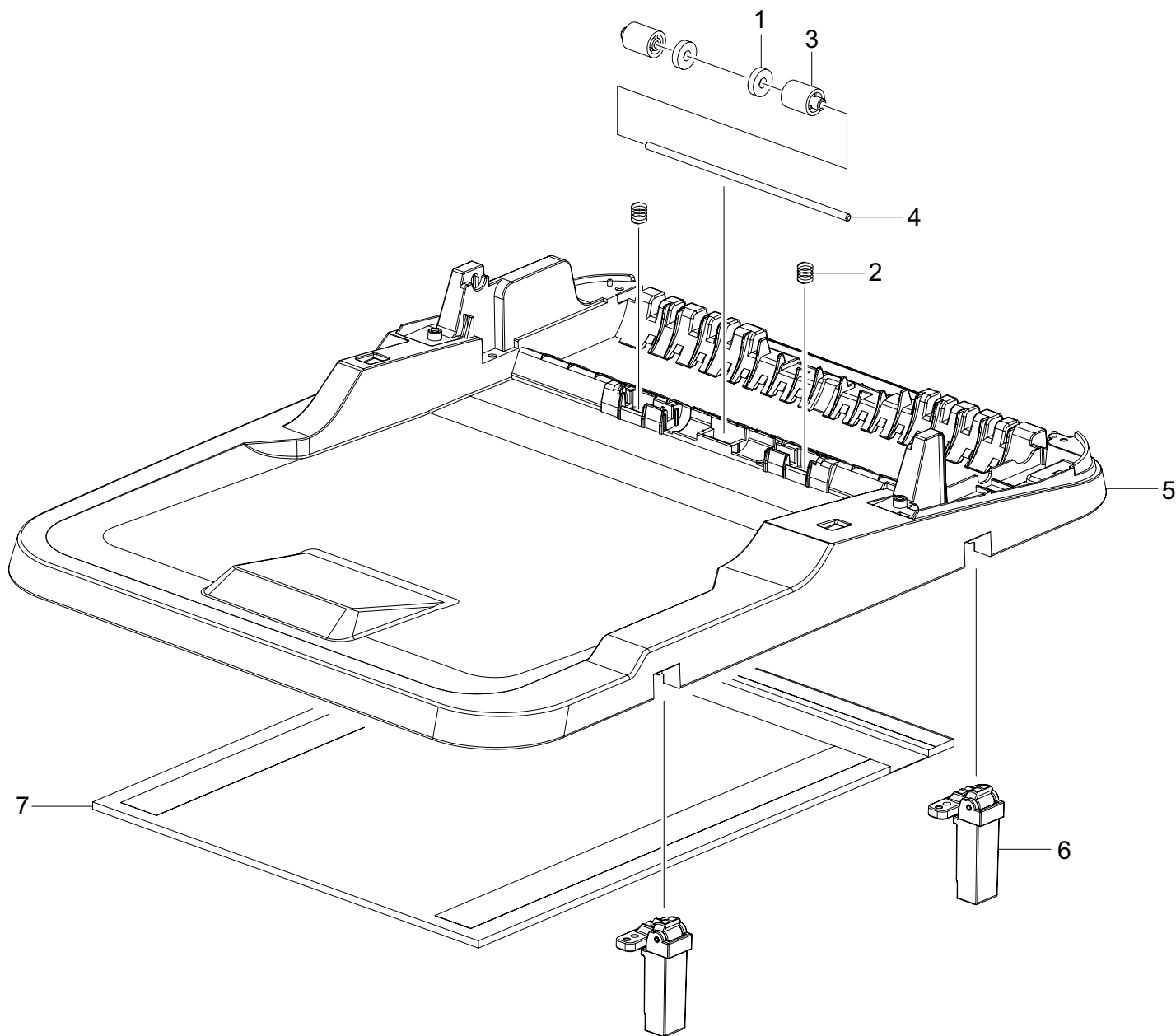
ASSY_ADF_BASE Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	-	WHEEL,EJECT	2	SNA	
2	-	SPRING,EJECT, IDLE	2	SNA	
3	JC81-07319A	CSP-ROLLER_EJECT_IDLE	2	SA	
4	-	SHAFT	1	SNA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
5	JC81-07311A	CSP-FRAME_ADF_BASE	1	SA	
6	-	MEA UNIT HINGE	2	SNA	
7	-		1	SNA	

23. ASSY-INPUT-TRAY

ASSY-INPUT-TRAY Parts List

Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	JC81-07328A	CSP-EDGE_GUIDE_FRONT	1	SA	
2	JC81-07329A	CSP_EDGE_GUIDE_REAR	1	SA	
3	JC81-07339A	CSP-GEAR_PINION	1	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
4	-	SCREW-TAPTYPE	1	SNA	
5	-	SPRING	1	SNA	
6	JC81-07327A	CSP-TRAY_INPUT	1	SA	
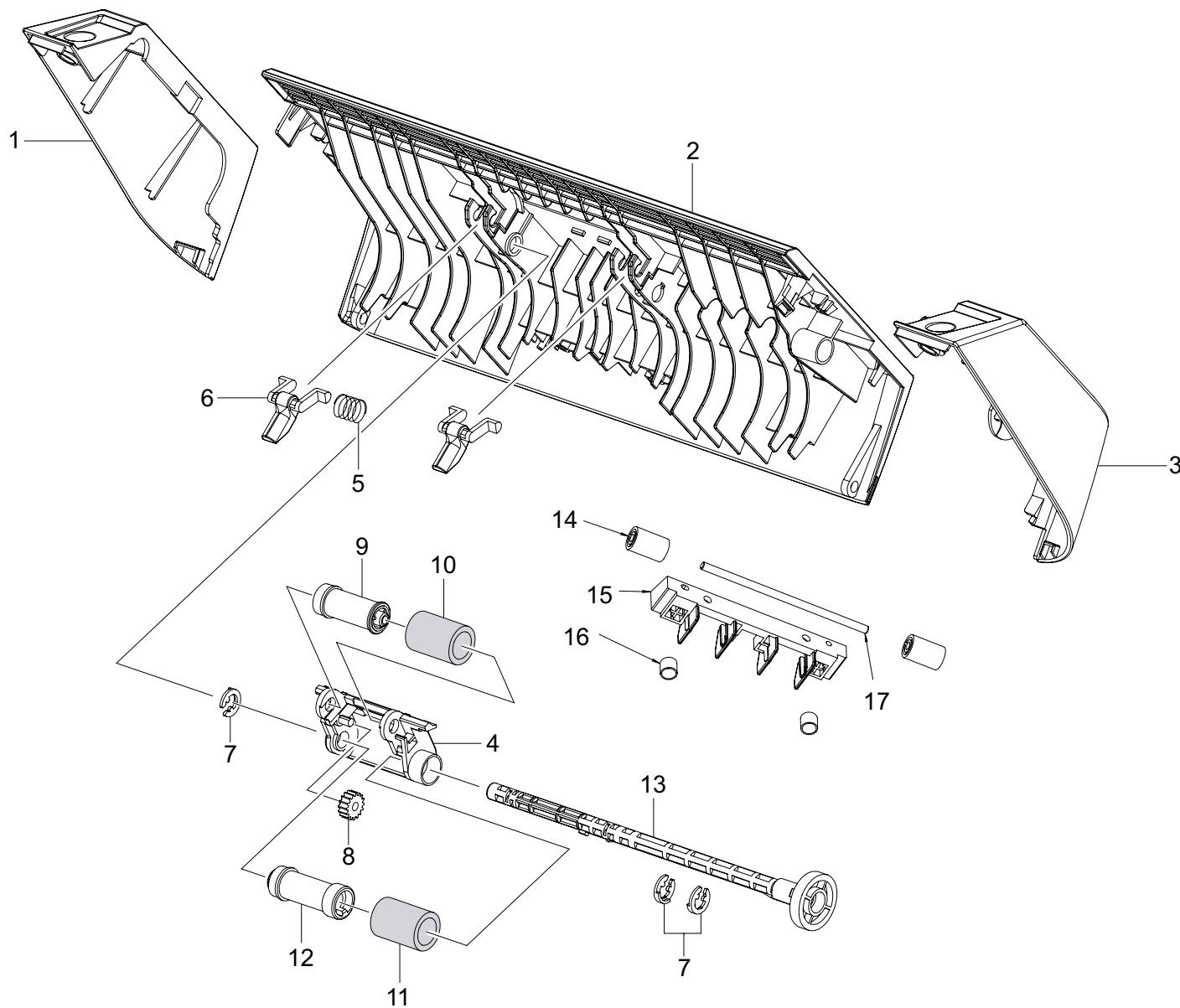
ASSY_ADF_COVER Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	JC81-07313A	CSP-COVER_ADF_FRONT	1	SA	
2	JC81-07312A	CSP-COVER_ADF_TOP	1	SA	
3	JC81-07314A	CSP-COVER_ADF_REAR	1	SA	
4	JC81-07317A	CSP-HOUSING_PICK_UP	1	SA	
5	-	SPRING	1	SNA	
6	JC81-07316A	CSP-STOPPER_PAPER	2	SA	
7	JC81-07318A	CSP-RING_CHESS	3	SA	
8	JC81-07332A	CSP-GEAR_PICK_IDLE	1	SA	
9	-	GEAR,PCIK FEEDING ROLLER	1	SNA	

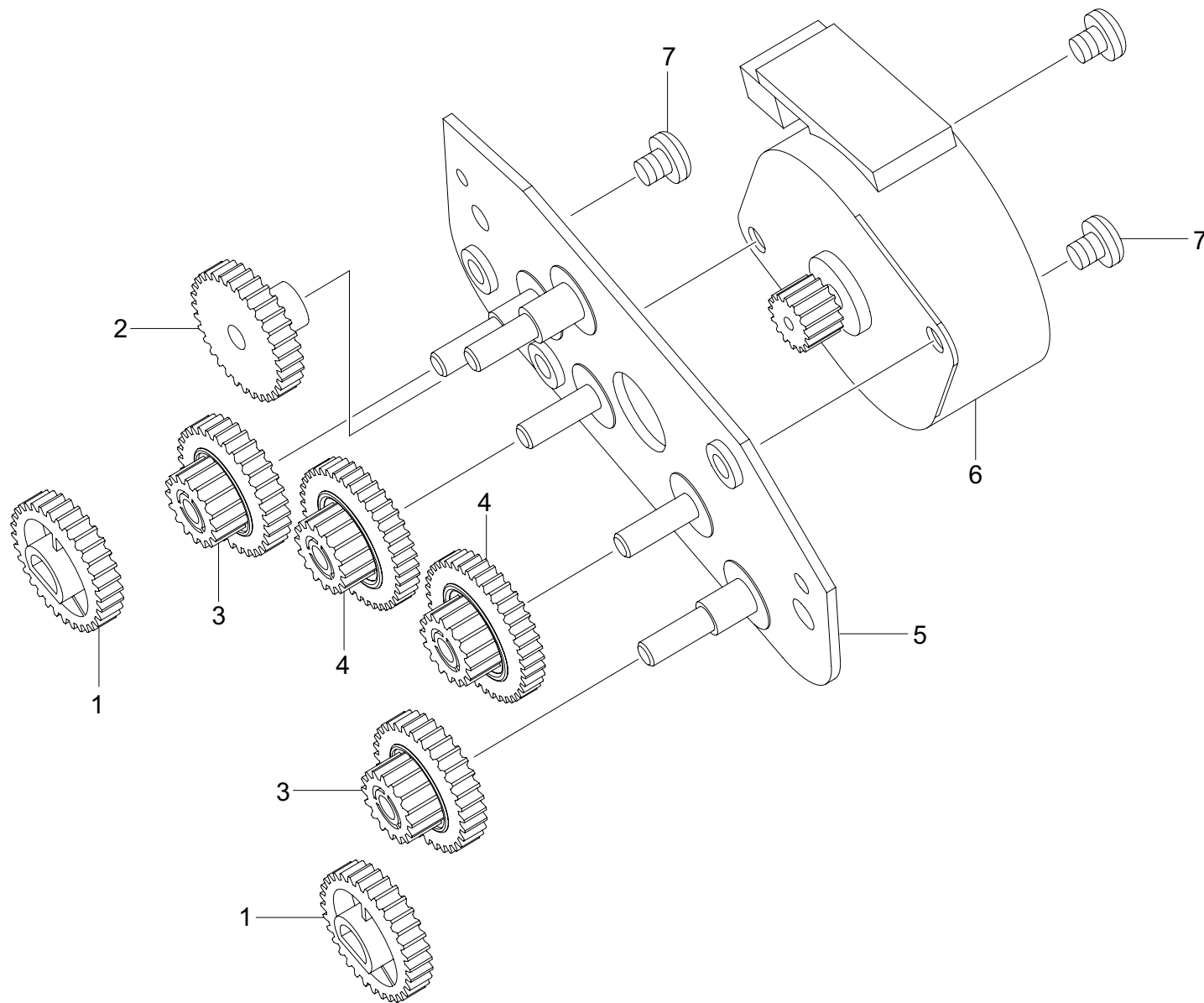| Drawer#	SEC_Code	Description	QT'y	Service	Remark
10	-	RUBBER	1	SNA	
11	-	RUBBER	1	SNA	
12	JC81-07334A	CSP-GEAR_SEPARATE_ROLLER	1	SA	
13	JC81-07331A	CSP-GEAR_DRIVE_PICK	1	SA	
14	JC81-07315A	CSP-ROLLER_IDLE	2	SA	
15	JC81-07330A	CSP-FRAME_IDLE_UNIT	1	SA	
16	-	SPRING	2	SNA	
17	-	SHAFT IDLE ROLLER	1	SNA	

25. ASSY_PAPER-PATH
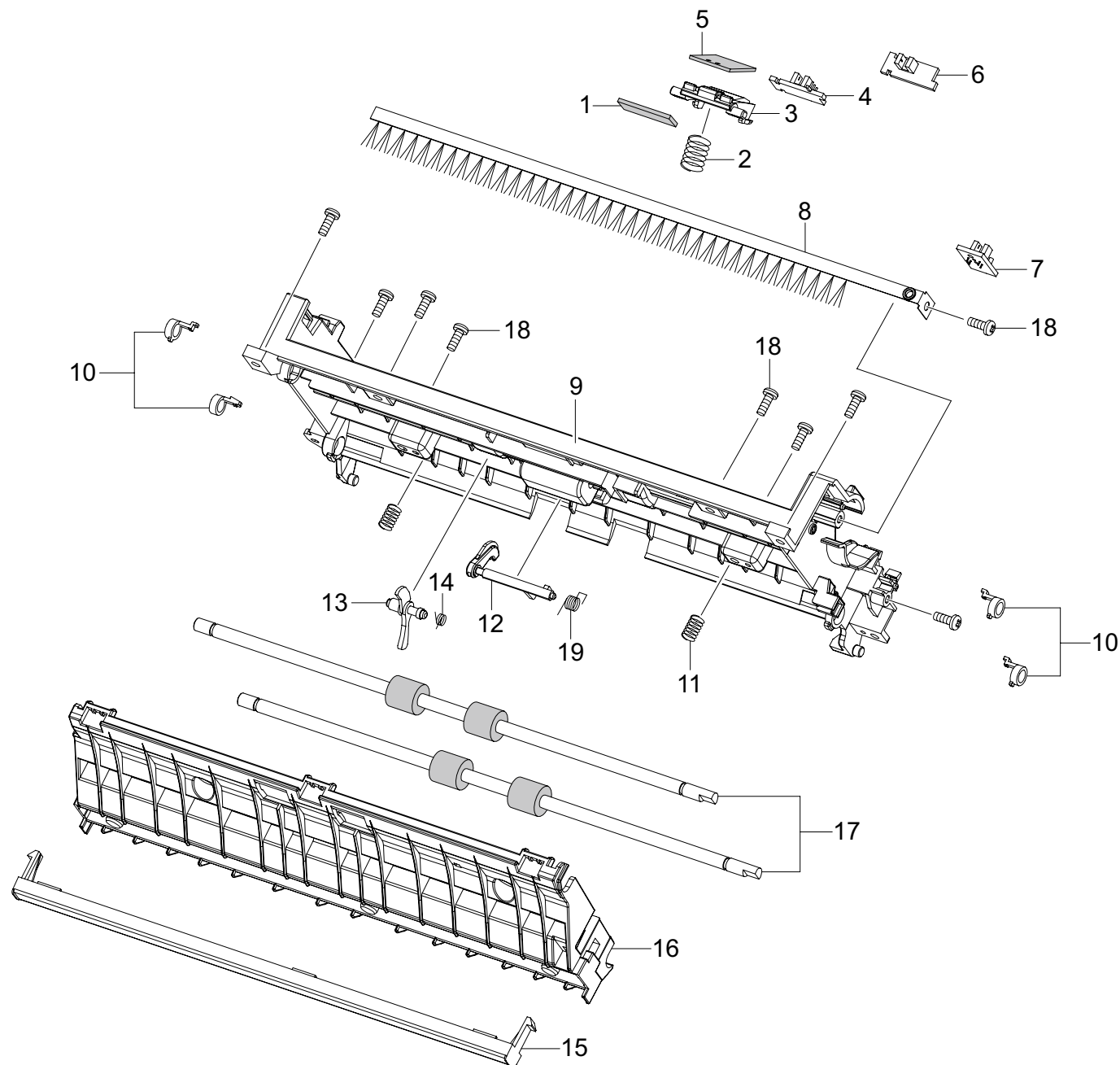
ASSY_PAPER-PATH Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark	Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	-		1	SNA		11	-	SPRING	2	SNA	
2	-	SPRING	1	SNA		12	JC81-07325A	CSP_ARM-PAPER_POSITION	1	SA	
3	JC81-07326A	CSP-HOLDER_SEPERATION	1	SA		13	JC81-07324A	CSP-ARM_PAPER_DETECT	1	SA	
4	-	E-PAPER SENSOR	1	SNA		14	-	SPRING	1	SNA	
5	-	RUBBER SEPARATION	1	SNA		15	JC81-07323A	CSP-WHITE_BAR	1	SA	
6	-	E-PAPER SENSOR	1	SNA		16	JC81-07321A	CSP-FRAME_DOCUMENT_DOWN	1	SA	
7	-	COVER SENSOR	1	SNA		17	-	ROLLER FEEDING	2	SNA	
8	-	BRUSH	1	SNA		18	-	SCREW-TAPTYPE	10	SNA	
9	JC81-07320A	CSP-FRAME_DOCUMENT	1	SA		19	-	SPRING	1	SNA	
10	JC81-07322A	CSP-BEARING	4	SA							

26. ASSY_DRIVING_MODULE

ASSY_DRIVING_MODULE Parts List

SA : SERVICE AVAILABLE, SNA : SERVICE not AVAILABLE

Drawer#	SEC_Code	Description	QT'y	Service	Remark
1	JC81-07336A	CSP-GEAR_FEEDING	2	SA	
2	JC81-07338A	CSP-GEAR_IDLE	1	SA	
3	JC81-07337A	CSP-GEAR_30T	2	SA	
4	JC81-07335A	CSP-GEAR_42T	2	SA	

Drawer#	SEC_Code	Description	QT'y	Service	Remark
5	JC81-07340A	CSP-PLATE-READING_MOTOR	1	SA	
6	-	STEP MOTOR	1	SNA	
7	-	SCREW-TAPTYPE	3	SNA	