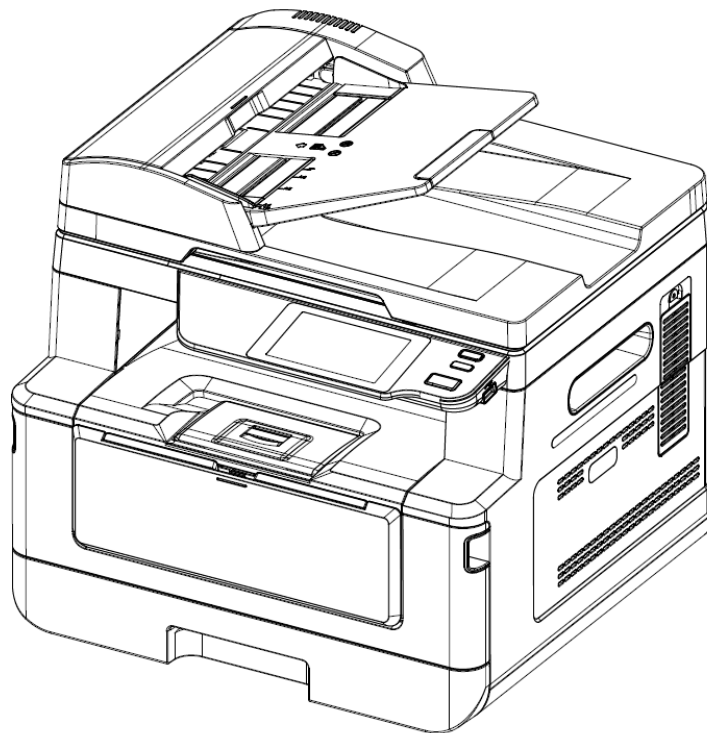




Capsul MB4000 MFP

Maintenance Manual v1.0



Please read this manual carefully before performing maintenance.
Keep this manual handy for quick reference at any time.

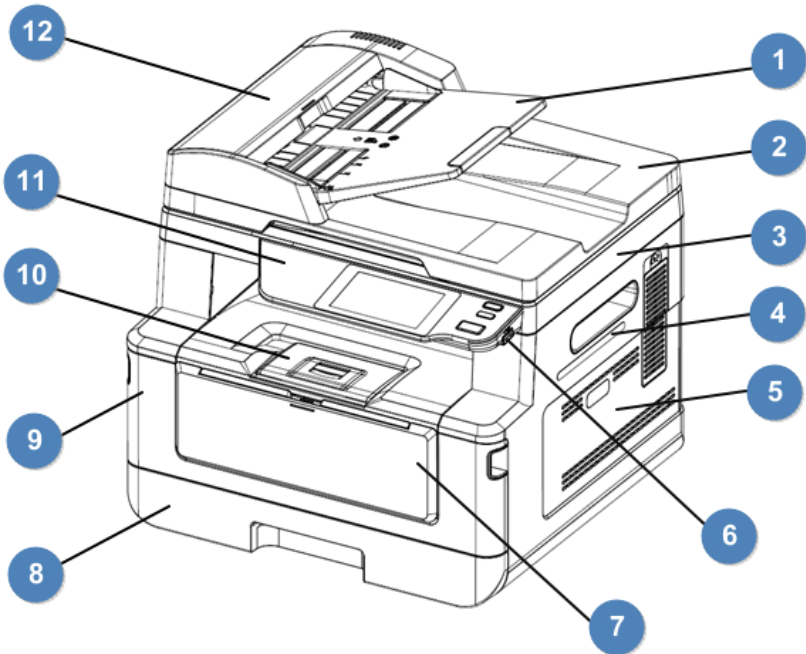
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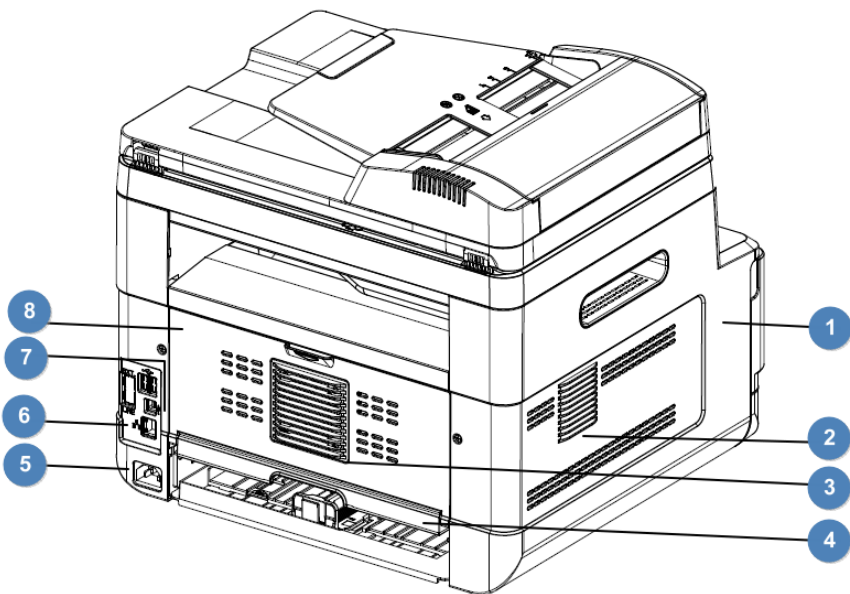
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Chapter 1 Product Structure and Printing Material

1. Product Overview



1	ASSY_INPUT_TRAY_ADF
2	ASSY_ADF
3	ASSY_FB
4	Option*
5	ASSY_HOUSING_RIGHT
6	Flash drive(USB)
7	ASSY_MPT_TRAY
8	ASSY_CASSETTE
9	COVER_FRONT
10	TRAY_EXTEND_OUT_PUT_STO
11	ASSY_CONTROL_PANEL
12	ASSY_COVER_UPPER-ADF



1	COVER_LEFT
2	Vents*
3	Fan Vents
4	ASSY_DUPLEX_MODULE
5	POWER
6	NETWORK
7	USB TO PC
8	REAR COVER WITH FAN

1-1. Product Structure

The pickup and feed System consists of several rollers that transport paper through the input trays, registration rollers, drum unit, fuser, and paper exit. The input trays include Main Tray, and Manual Tray. These rollers (including the drum unit, fuser, feeding, pickup, reverse, de-skew, and duplex rollers, etc.) are driven by the stepping motors or DC main motor, as shown in Figure 1-1.

Let's assume the lift-up operation has been performed (Refer to Paper Pickup Mechanism). After a print command is received, the main board sends a signal to the pickup motor. And then the pickup clutch is turned on, and transfers the driving force from the pickup motor to the pickup roller.

The transportation of a paper from an input tray begins at picking up a sheet of paper from the tray where the Paper Size, Paper Lift-up, and Paper-Empty sensors are used to detect the paper picking process.

Before the paper is then transported to the registration rollers, the de-skew clutch turns on to correct any paper skewing by adjusting power to the de-skew roller. The registration rollers continue to drive the paper into EP where the image is transferred from the drum to the paper by attaching magnetic toner particles onto the paper.

At this point the EP moves the paper to the fuser until the fuser firmly receives the paper detected by the Fuser sensor. In the fuser, the toner is heated and melts down to the paper to fabricate the permanent image that is based on the original. The fuser is now in charge of sending the paper after the fusing process.

The fuser eventually transports the paper to its final destination, Output Tray, or back to the duplex unit after the Fuser Out and Paper Exit sensors detect the final coated paper.

The following figure illustrates the path of paper in the duplex printing unit: (The path of single-sided printing is indicated by dotted lines. The path of double-sided printing is indicated by solid lines.)

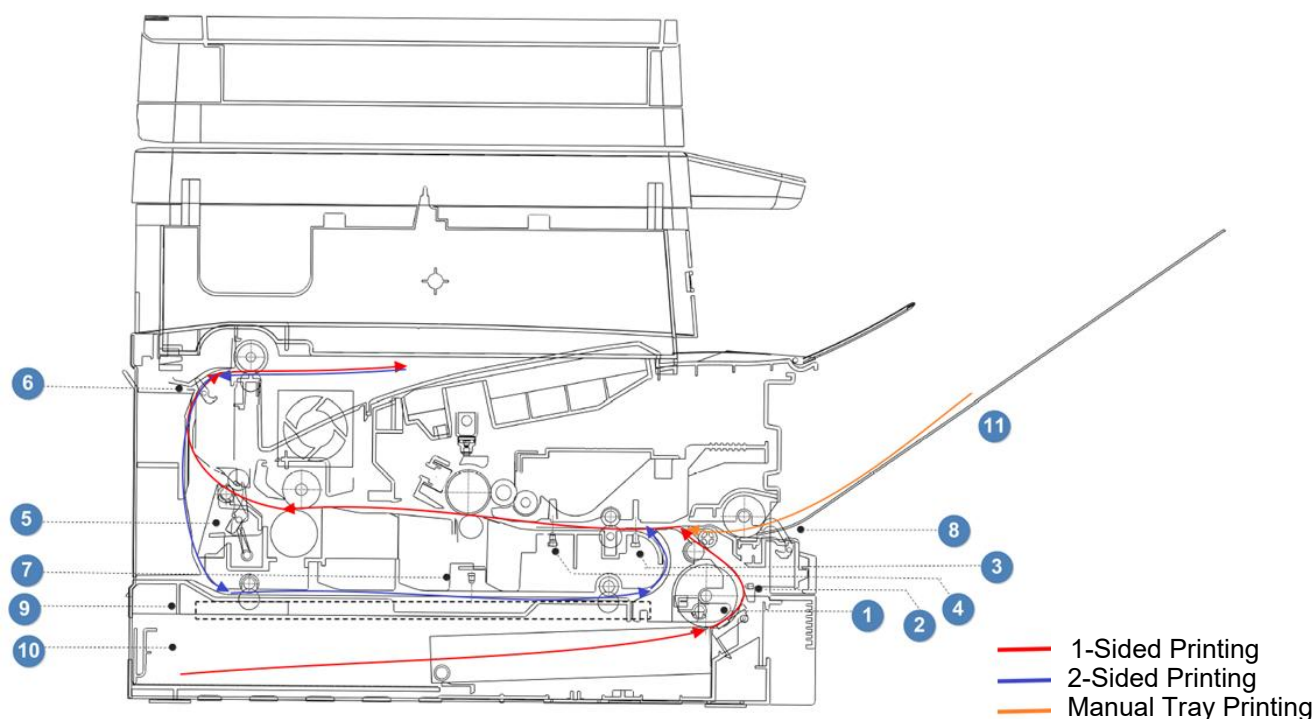
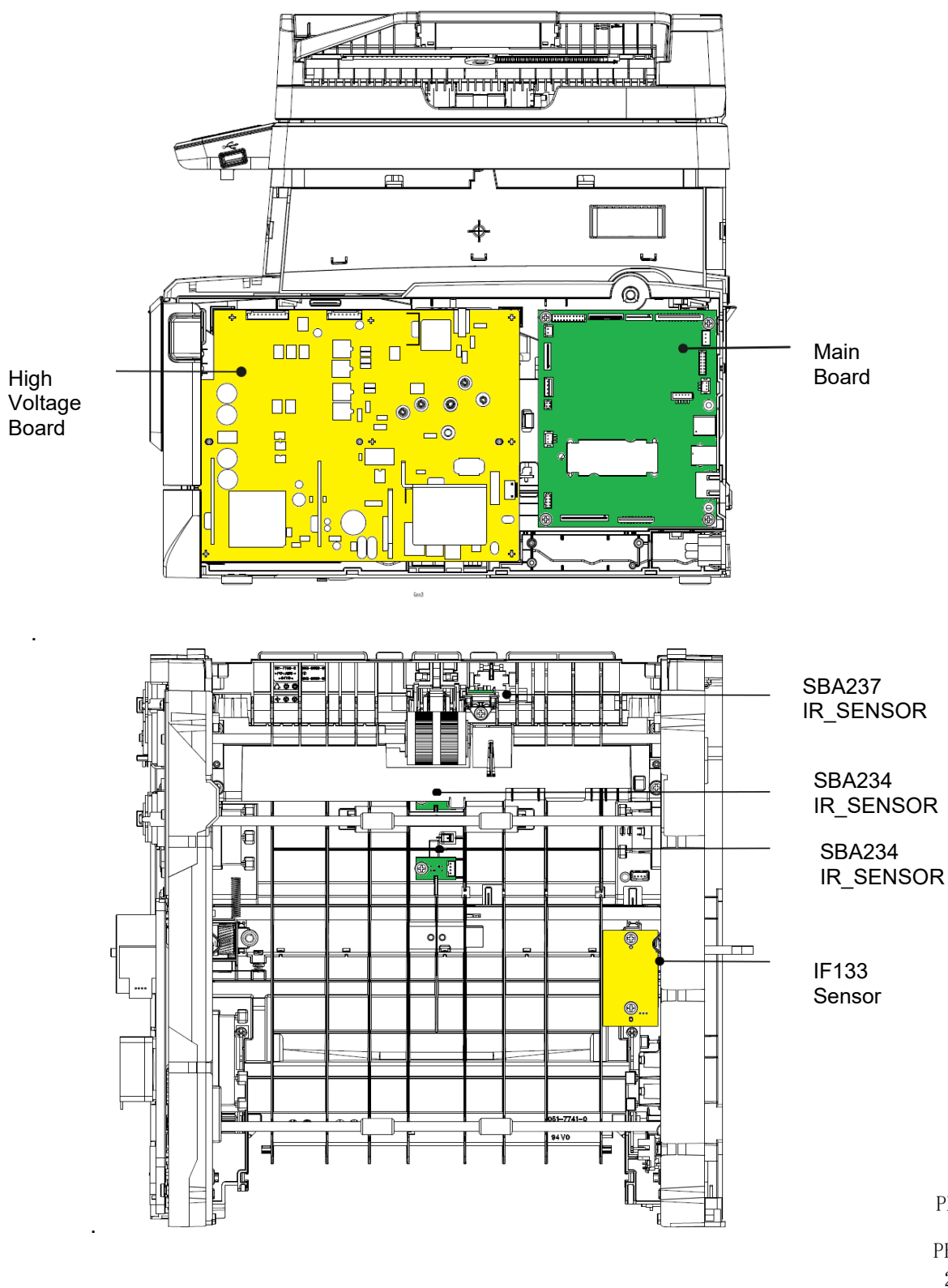
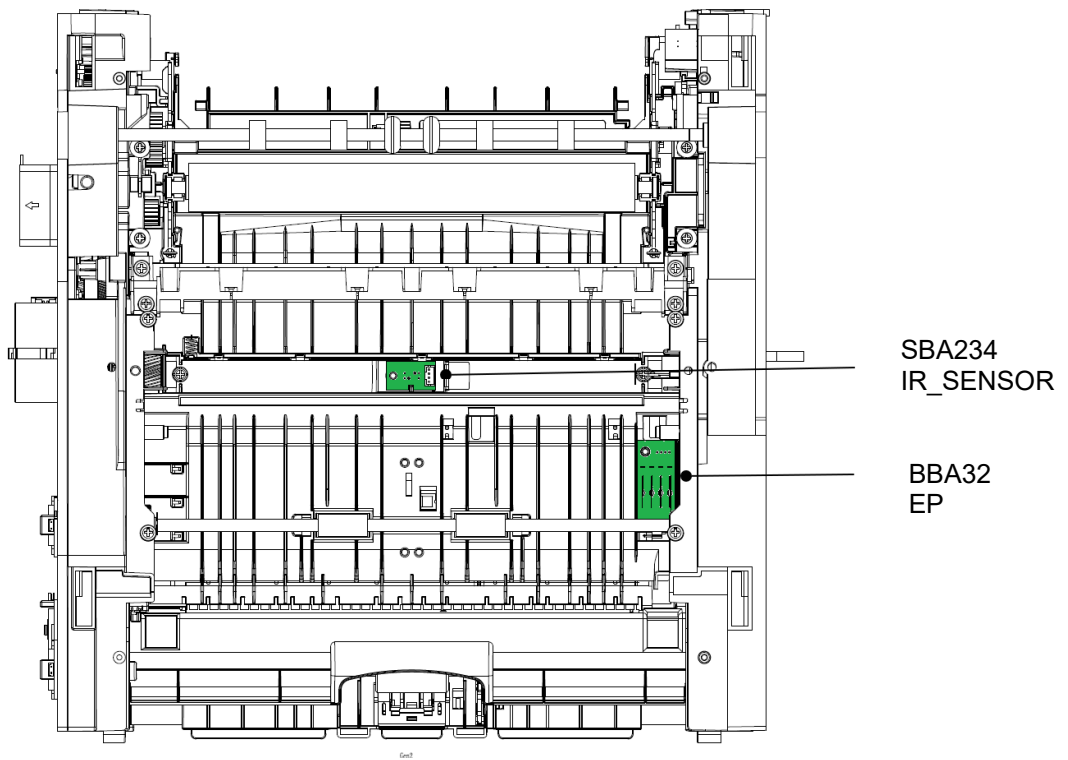


Fig. 1-1 Printing Path

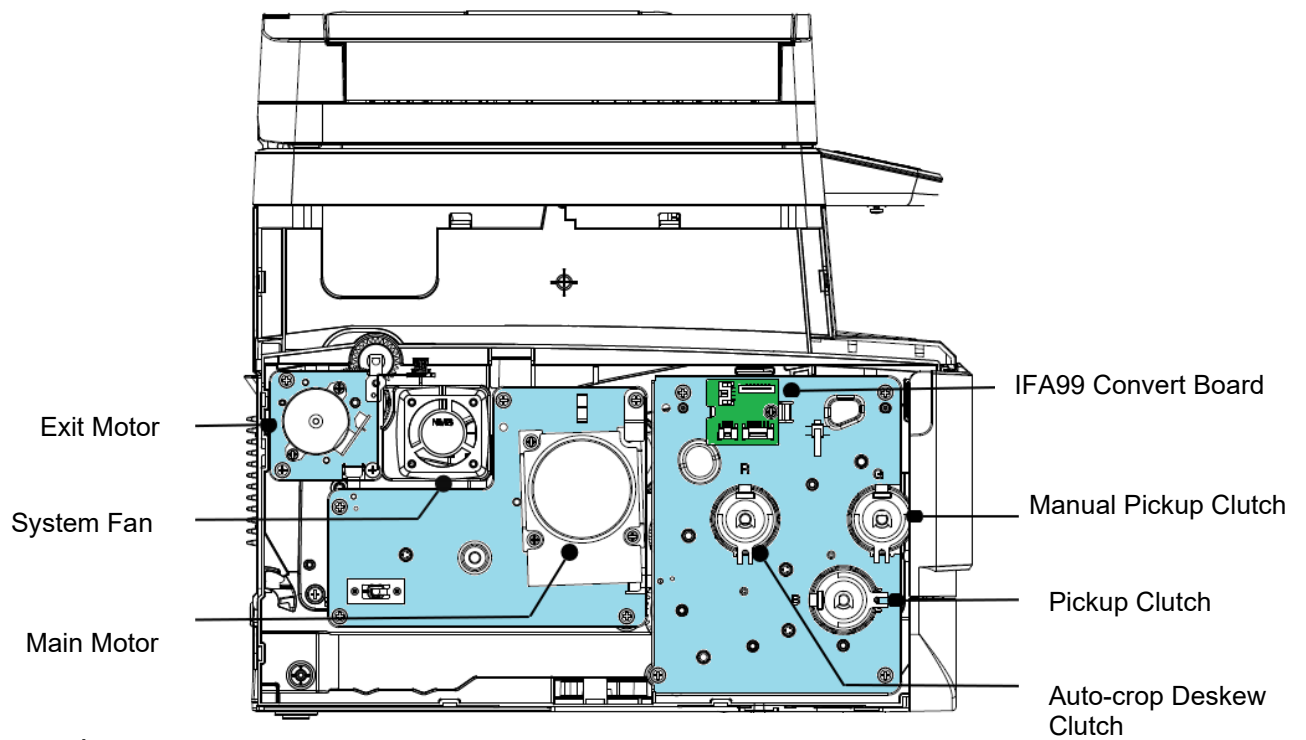
1	PAPER EMPTY SENSOR	7	DUPLES SENSOR
2	PAPER IN SENSOR	8	MANUAL PAPER IN SENSOR
3	DESKEW SENSOR	9	DUPLEX MODULE
4	REGISTRATION SENSOR	10	MAIN TRAY
5	FUSER OUT SENSOR	11	MANUAL TRAY
6	EXIT SENSOR		

■ Location of PCBA

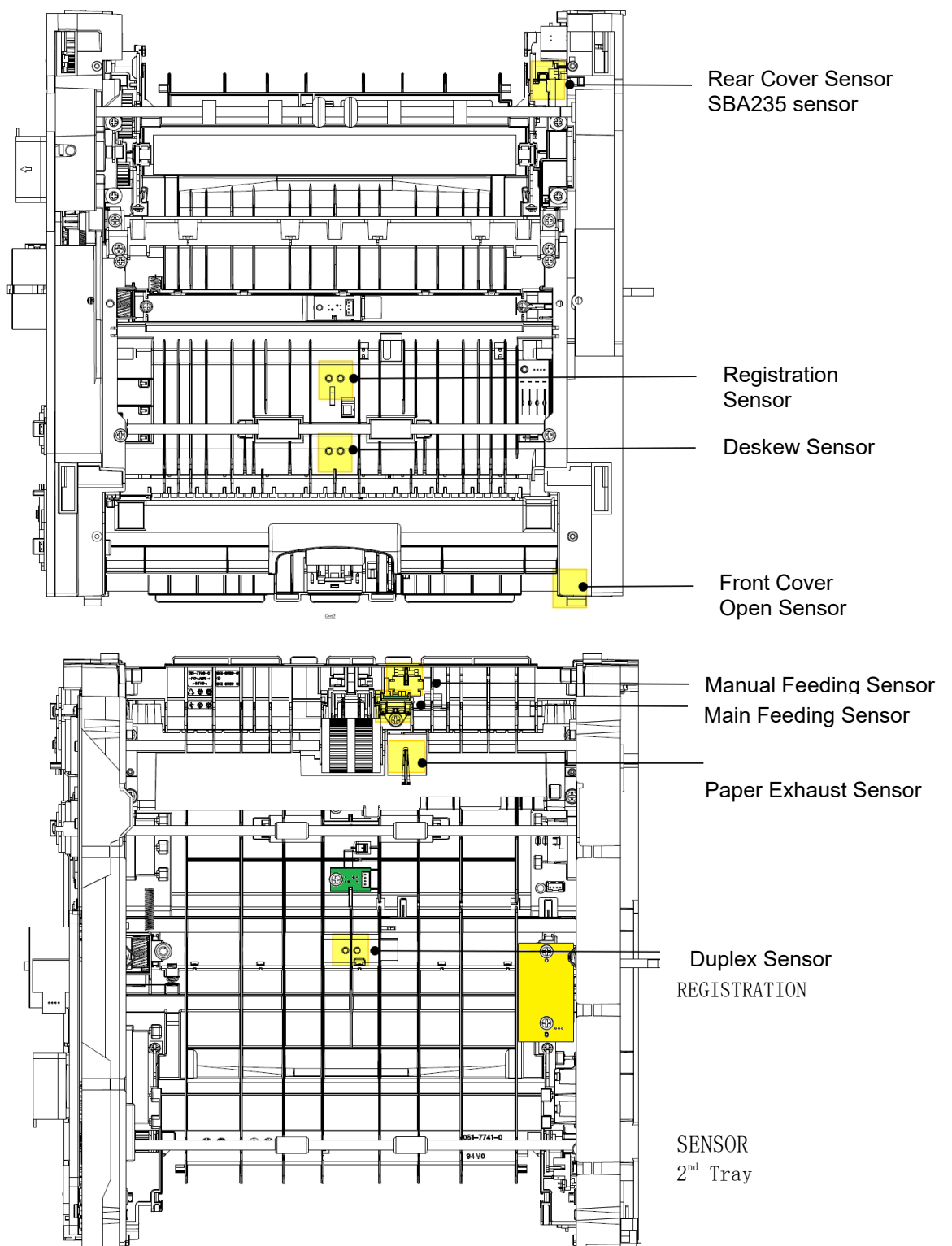




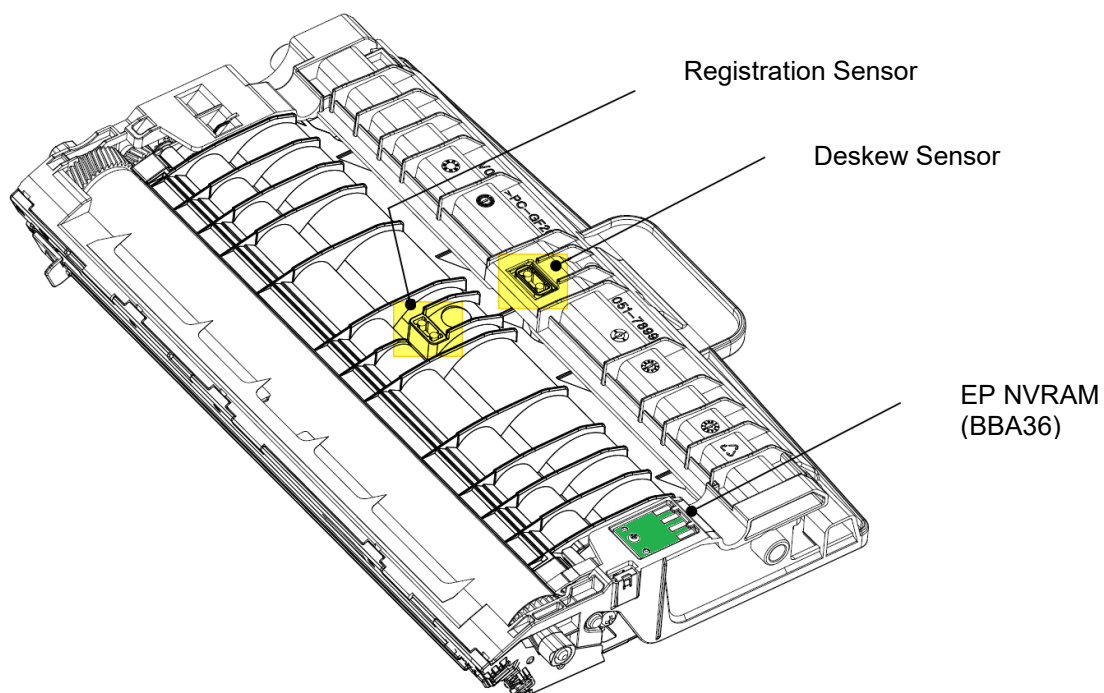
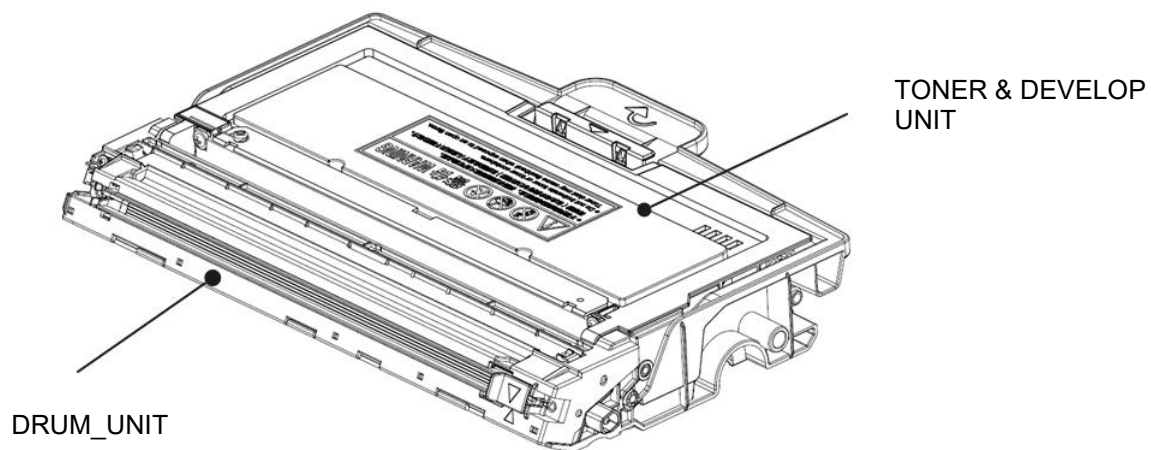
■ Location of Motor and Clutch



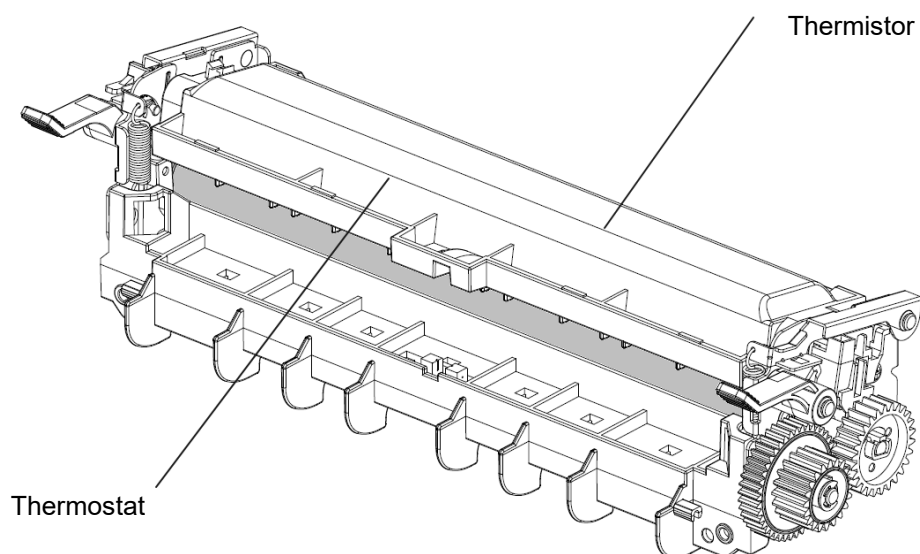
■ Locations of Sensors



■ Drum Unit



■ Fuser



1-2. Media

1-2-1. Paper Weight Supported

- 1).Main Tray: 60g/m² - 105g/m²;
- 2).Manual Tray: 60g/m² - 163g/m²;
- 3).Duplex: 60g/m² - 105g/m²;

1-2-2. Tray Capacity

- 1).Main Tray: 250 sheets (70g/m²);
- 2).Manual Tray: 50 sheets (70g/m²);

1-3. Paper not recommended

- Paper for Inkjet Printer
- Viscous ink special paper
- Bent, folded, or creased paper
- Curled or twisted paper
- Wrinkled paper
- Wet paper
- Dirty or torn paper
- Excessively dry paper that is prone to static electricity
- Printed paper, except paper with letterhead design
- Special paper, such as thermal paper and carbon paper
- Paper weight is heavier or lighter than the specified weight
- Paper with holes, perforations, patterns or bumps
- Paper with adhesive label
- Paper with paper clips or staples
- Envelope

Important:

- Printing with improperly stored paper can also cause paper jams, deterioration of print quality, or malfunctions.
- If you use any of the above types of paper, it may damage the equipment.

2023/03/29



Chapter 2 Care and Maintenance

1. Notice before Maintenance

In order to avoid secondary malfunction due to incorrect operation, the following warnings and precautions must be observed during the disassembly and reassembling of the equipment.

Warning

After using the equipment for a while, the temperature of some parts inside the equipment is very high! When opening the side door or the rear cover to repair parts inside the device, do not touch the parts shown in the high temperature mark.

- Be careful not to lose the removed screws, washers and other parts.
- Be sure to apply grease to the parts specified in this chapter.
- When using an electric soldering iron or other heating tools, please be careful not to damage the wires, circuit boards, casings and other components made of synthetic resin.
- The static electricity charged by the human body may damage electronic components. Therefore, when transporting the circuit board, be sure to wrap the circuit board with conductive foil.
- When replacing circuit boards and all other parts with circuit boards, please wear a wrist strap for discharging static electricity and operate on an anti-static mat. In addition, please be careful not to touch the flat cable and the electrode conductor part of the wire.
- After unplugging the flat cable, be sure to check that the flat cable plug is in good condition and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight, and check that the cable is not crooked after inserting it.
- When connecting or disconnecting the patch cord, do not hold the cable part but the connector part. If there is a lock on the connector, be sure to unlock the lock first.
- After repairing, please pay attention not only to check the repaired part, but also to check the connection of the patch cord. In addition, you need to check if other related parts are working properly.
- Do not close the front cover forcibly before installing the toner cartridge and drum unit, otherwise the machine may be damaged.
- After installation, it is recommended to conduct an insulation withstand voltage test and a conductivity test.
- Be careful not to damage the insulating sheet.
- When replacing the circuit board, be sure to check if there is any foreign matter on the component surface and soldering surface of the circuit board.

2. Preparation before replacement

Disconnect power and remove key parts

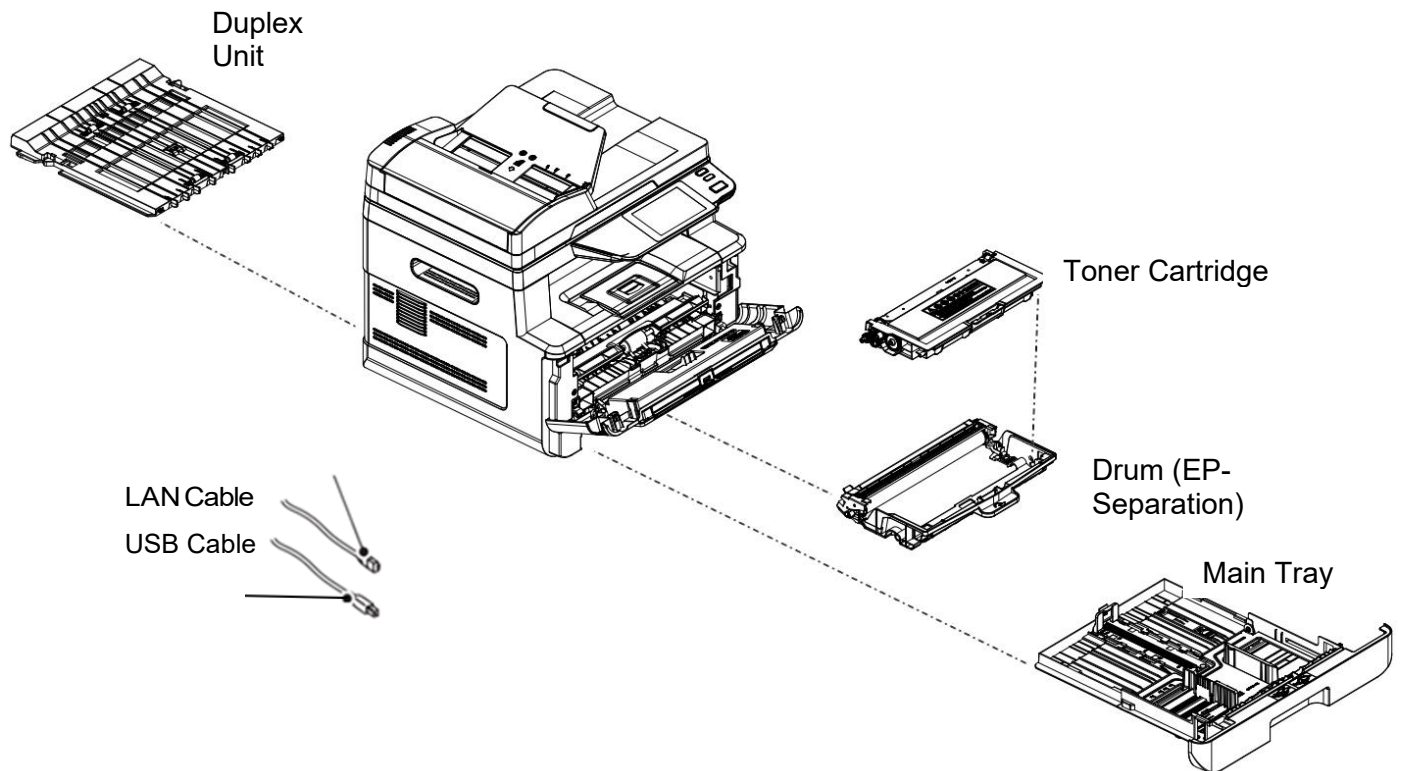
Before performing replacement, do the following preparation:

(1) Disconnect the following cables:

- USB cable (if connected)
- LAN cable (if connected)
- POWER cable (if connected)

(2) Remove the following parts:

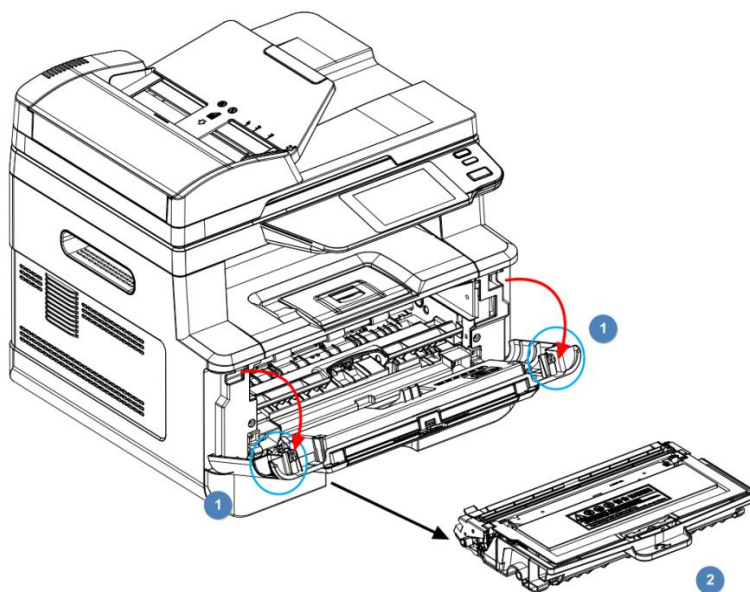
- Paper Tray
- Toner Cartridge and Drum Unit
- Duplex Unit



3. Cleaning the LSU Unit (for printer model with a LSU unit)

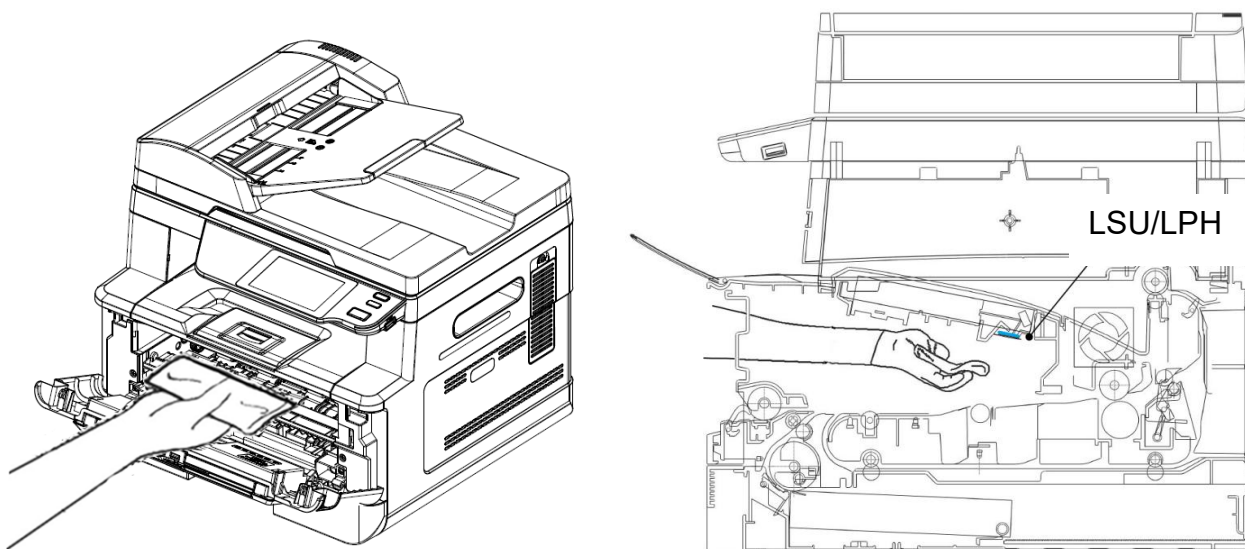
Prepare maintenance tool no. 11 (Refer to the maintenance tool list)

(1). Open the front cover and remove the drum unit as illustrated.



Note:

Moisten a clean, soft cloth with 95% alcohol to clean away the dirt on the surface, and then use a clean, and dry the cloth to clear away the residual moisture on the surface.



(2). Moisten a clean, soft cloth with 95% alcohol to clean the LSU/LPH unit.

4. Regular Cleaning

Use a dry, lint-free cloth to clean the inside and outside of the printer regularly. When replacing the toner cartridge or drum unit, be sure to clean the inside of the printer. If the printed page is stained with toner, use a dry, lint-free cloth to clean the inside of the printer.

Important :

The basic cleaning of the drum unit and printer can be done by the users. Yet, the cleaning for the electronic parts inside the printer should be performed by the maintenance personnel. Inform the users do not touch these electrodes.

4-1.Cleaning the Inside of the Printer

Follow the steps in below to clean the inside of the printer:

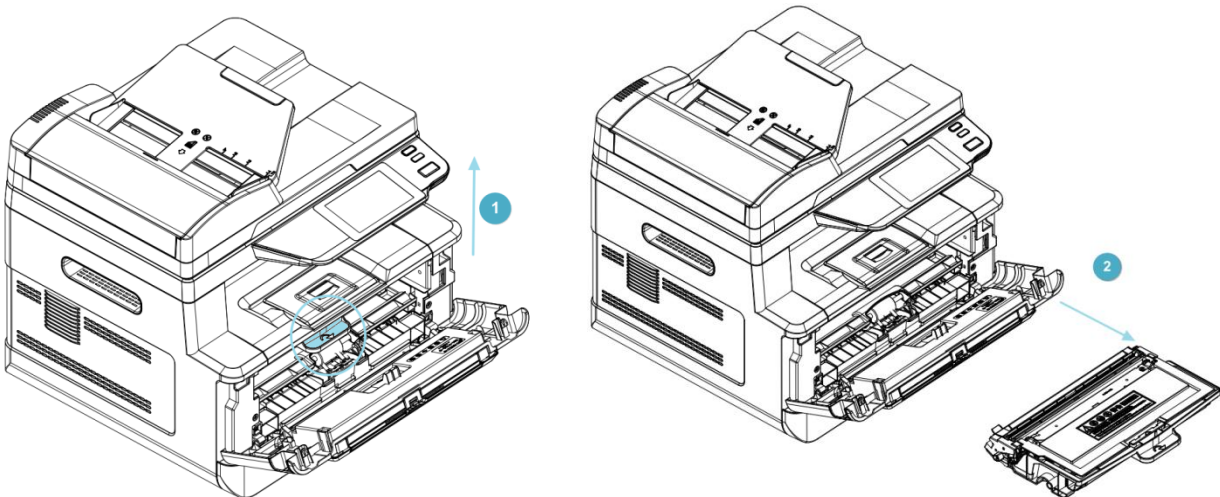
Turn off the printer, and unplug the power cable from the power outlet.

- (1). Open the front cover of the printer.
- (2). Remove the drum unit and toner cartridge assembly.
- (3). Wipe the laser scanner window with a dry lint-free cloth.
- (4). Install the toner cartridge/toner cartridge assembly back into the printer.
- (5). Close the front cover of the printer.
- (6). Plug the power cable to the power outlet, and then turn on the printer.

4-2. Cleaning the Charger Wire

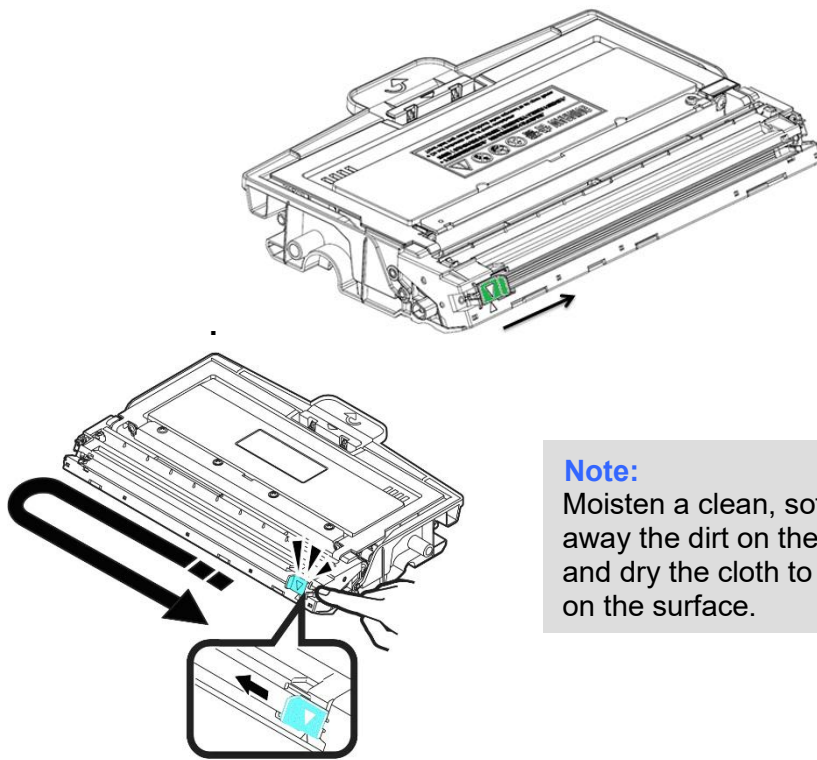
If you encounter the printing quality issues, please follow the steps in below to clean the corona wire.

- (1). Turn off the power and unplug the power cord.
- (2). Open the front cover of the printer.
- (3). Lift up the handle of the toner cartridge assembly, and pull out the toner cartridge assembly.



- (4). Clean the corona wire inside the drum unit by gently sliding the tab from left to right and right to left for several times. (After the toner cartridge has been used for a period of time, some amounts of toner may remain on the corona wire.)

Be sure to return the tab to the Home position (▲). The arrow on the tab must be aligned with the arrow on the drum unit. If it is not, printed pages may have a vertical stripe.



Note:

Moisten a clean, soft cloth with 95% alcohol to clean away the dirt on the surface, and then use a clean, and dry the cloth to clear away the residual moisture on the surface.

- (5). Install the toner cartridge back to the printer.
- (6). Close the front cover.

Note:

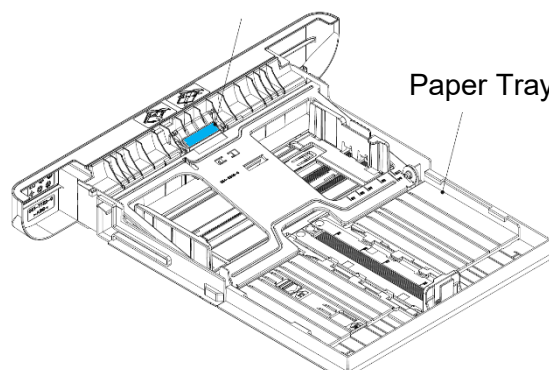
- The lifetime of the drum unit and toner cartridge depends on the amount of the print job. The lifetime is tested based on the "ISO/IEC 19752" paper. The frequency to replace the drum unit and toner cartridge varies according to the printed page, print coverage, and paper type used.
- Unless the toner cartridge has been replaced before end of lifetime, printing can not be continued. It is recommended to purchase the extra toner cartridge before the lifetime ends.
- The actual number of printable pages varies depending on the document contents, the number of pages to be printed at a time, the type and size of paper, and environmental conditions (such as temperature and humidity).
- Due to the deterioration of the quality of the toner cartridge with the extension of use time, it may need to be replaced before the relevant instructions appear.

4-3. Cleaning the Separation Pad in the Paper Tray

- (1). Remove paper in the Paper Tray.
- (2). Moisten a cotton swab with isopropyl alcohol (95%).
- (3). Clean the rubber part of the pad.

Separation Pad

Paper Tray

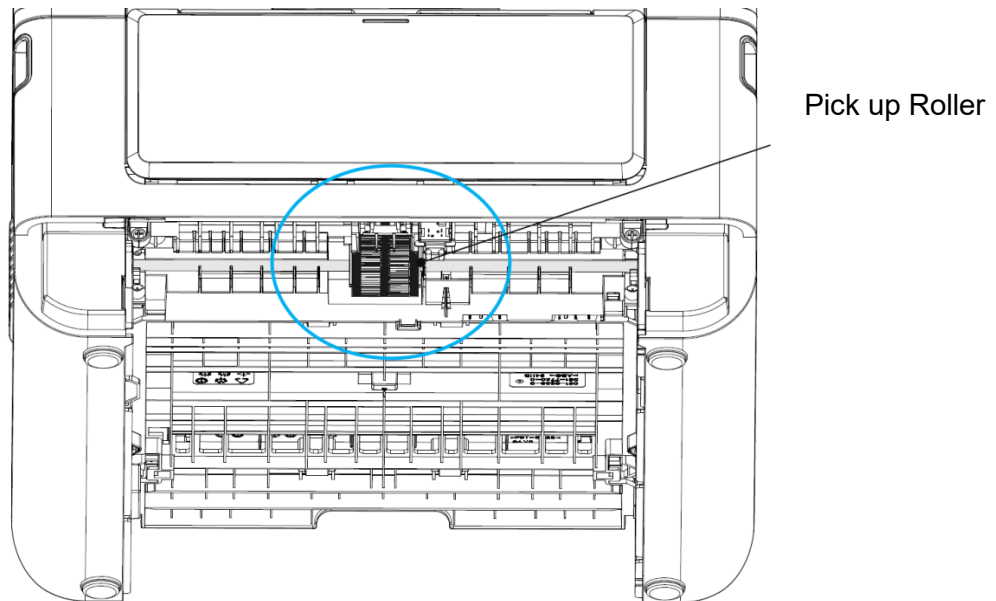


Note :

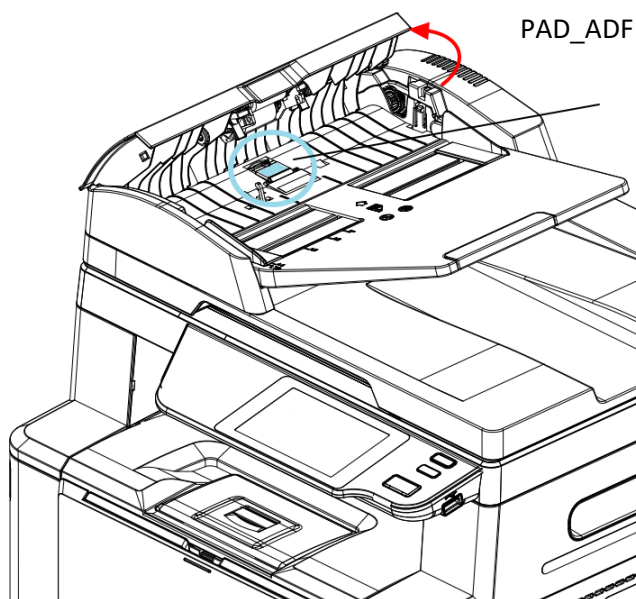
After cleaning the smeared Pad, dry it completely.

4-4. Cleaning the Pick up Roller

- (1). Remove the paper tray, and the drum unit and let the device stand on its side to reveal the bottom as indicated.
- (2). Moisten a cotton swab with isopropyl alcohol (95%).
- (3). Clean the rubber part of the roller.

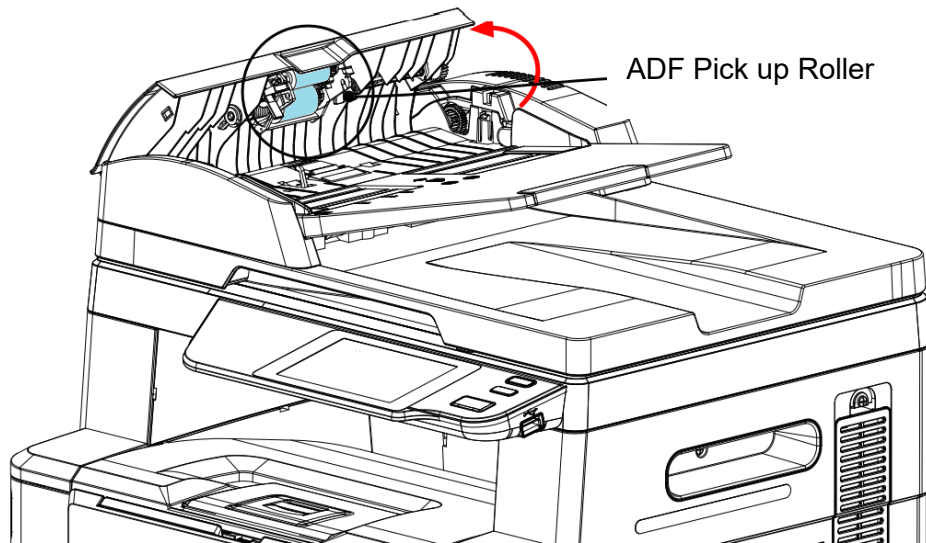
**4-5. Cleaning the ADF Pad**

- (1). Open the ADF Upper Cover.
- (2). Moisten a cotton swab with isopropyl alcohol (95%).
- (3). Clean the rubber part of the roller.



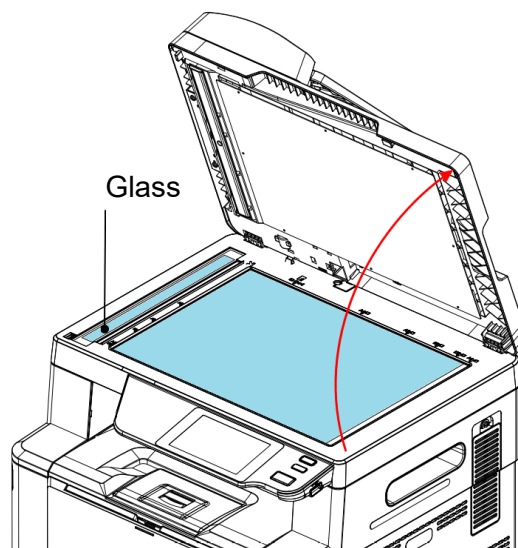
4-6. Cleaning the ADF Pick up Roller

- (1). Open the ADF Upper Cover.
- (2). Moisten a cotton swab with isopropyl alcohol (95%).
- (3). Clean the rubber part of the roller.



4-7. Cleaning the Glass

- (1). Open the Document Cover.
- (2). Moisten a cotton swab with isopropyl alcohol (95%).
- (3). Wipe the glass.

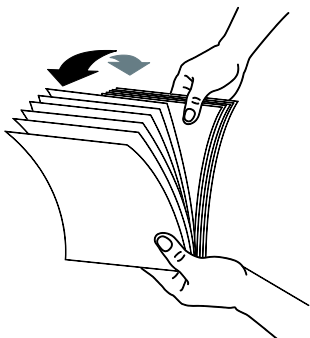


5. Loading Paper into the Main Tray

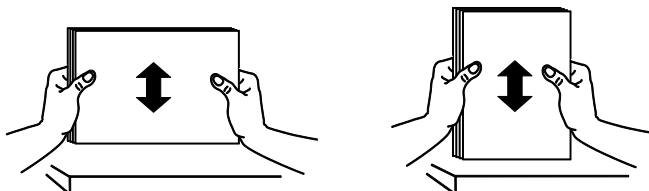
5-1. Loading Paper into the Main Tray

To insert paper to the main paper tray,

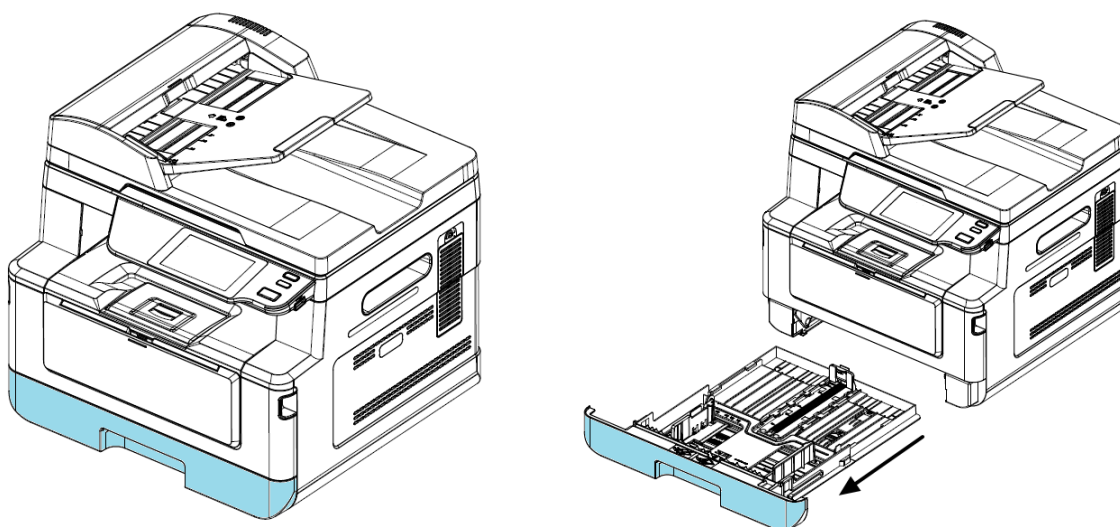
- 1) . Fan your paper first to ensure that the pages do not stick together.



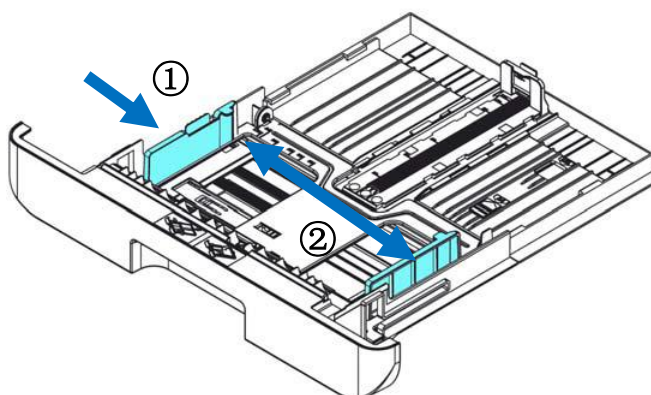
- 2) . Align the edges of the documents by tapping the bottom of the stack against the table top. Rotate the stack 90 degrees and repeat.



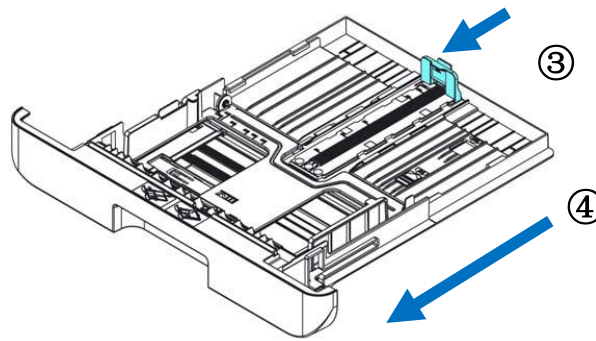
- 3) . Lift the handle of the main paper tray and then pull out the main tray.



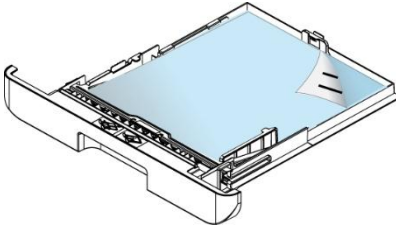
- 4) . Push the width guide tab (①), and move the width guide (②) to the correct position for the paper size being loaded.



- 5) . Push the length guide (③), and slide the guide (④) to the correct position for the paper size being loaded.



6) . Load the paper stack with the **Printing Side Facing Down** as illustrated.



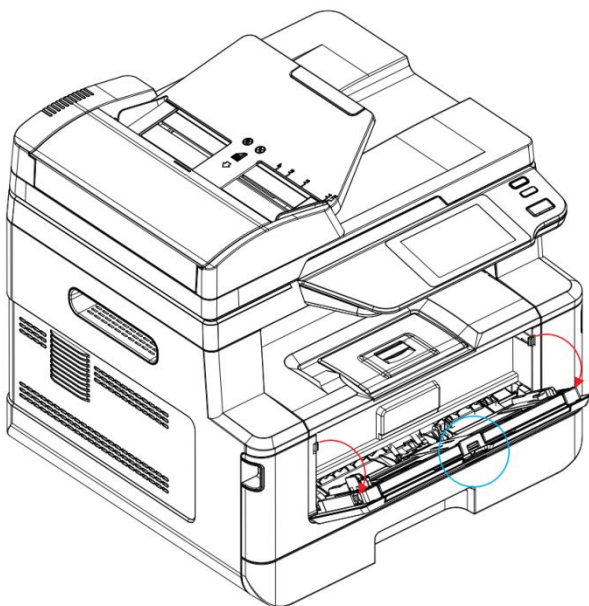
7) . Insert the tray to the printer.

Note:

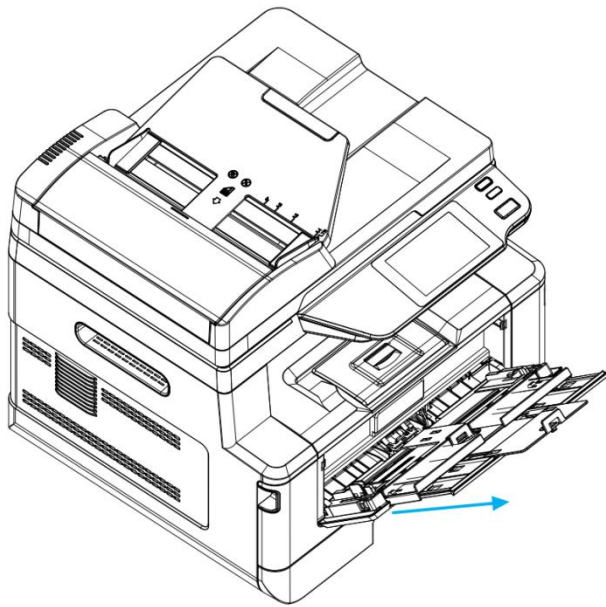
- To ensure the best quality printing and copying, please use the paper or media which we have recommended.
- Make sure to fan your paper before loading it to the paper tray.
- If there are instructions about the printing side on the package of your paper, please follow the instructions to load your paper properly with the correct printing side to the paper tray.
- If the printing quality is not satisfactory or paper jams are easily to occur, turn over the paper stack so that the top page is now on bottom and then reload it to the paper tray.
- Pack and seal the remaining paper with the original packaging and store the paper in a dark and dry location away from the sunshine. Paper which collects much moisture is easy to cause jam during printing.

5-2. Loading Paper into the Manual Tray

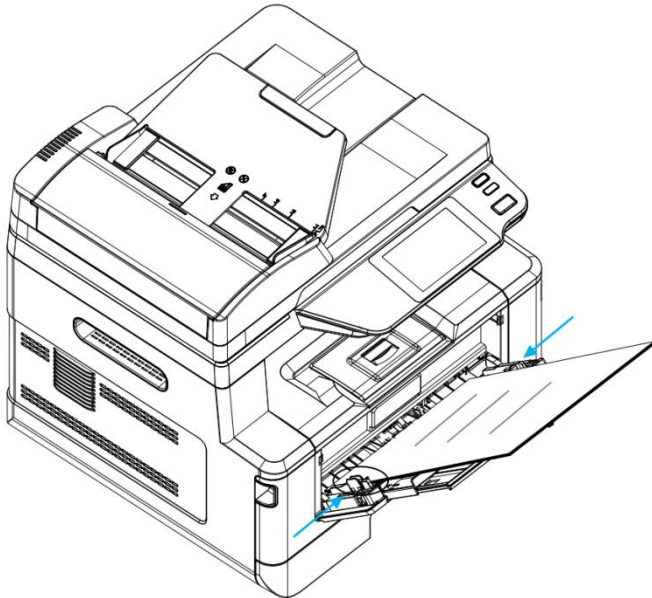
- 1). Repeat the preceding section 5.1 to fan to paper.
- 2). Hold the handle of the manual tray, and pull it down to open the manual tray.



3). Pull out the tray extension to fit your desired paper length.



- 4). Load the paper stack with the print side **Facing UP** as illustrated.
- 5). Slide the paper guides so that they lightly touch the paper stack.



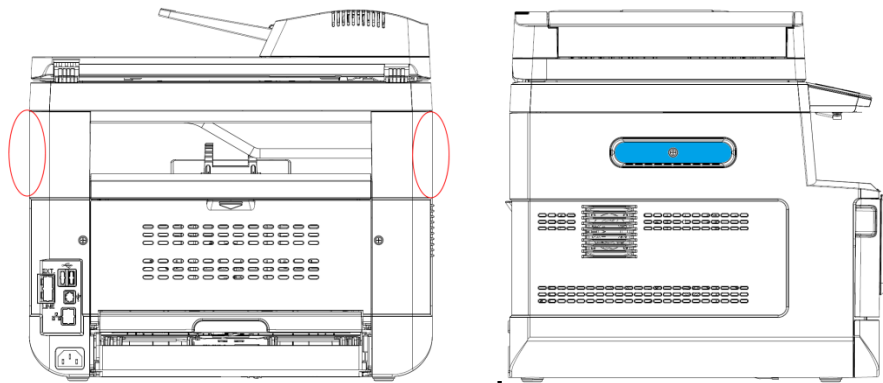
Chapter 3 Error Message and Troubleshooting

1. Preparation

Before repairing the equipment, check the following items.

Operating Temperature:

- (1) The equipment is placed in a flat and stable place.
- (2) Use the equipment in a clean environment with a temperature of 10°C to 32°C and a relative humidity between 20% and 80%.
- (3) The equipment is not exposed to direct sunlight, excessive heat, humidity, or dusty environment.
- (4) When moving the device, please grasp the handle at the bottom of the device and lift the device from the front.



Power:

- (1) The power supply value meets the regulations on the equipment nameplate.
- (2) The power supply voltage fluctuation range is within $\pm 10\%$ of the rated voltage.
- (3) The input AC power is within the specified value.
- (4) The cable and patch cord are connected correctly.
- (5) The fuse is not blown.

Paper:

- (1) Use recommended paper.
- (2) The paper is not damp.
- (3) No short grain or acid paper is used.

Consumables:

- (1) Drum Unit (including Toner Cartridge) installed correctly.

Other:

(1) Condensation

When the device moves from a cold place to a warm room, condensation may form inside the device, which may cause the following problems:

- When condensation occurs on the surface of optical components such as lenses, mirrors, and protective glass, the printed image may become lighter.
- If the temperature of the photosensitive drum is too low, the resistance of the photosensitive layer will increase, making it impossible to print with the correct print density.
- Condensation on the charging unit may cause corona charge leakage.
- Condensation on the bottom plate or separation pad may cause paper feeding problems.

If condensation has formed in the device, please leave the device for at least two hours until the device temperature rises to room temperature. If the drum unit is moved from a cold place to a warm room, the package is immediately opened, the condensation that may be generated inside the unit may cause printing to fail. Please leave the drum unit for one to two hours until its temperature rises to room temperature before unpacking it.

(2) Low temperature

The drive may be overloaded in a low temperature environment and the motor cannot operate normally. In such cases, please increase the room temperature.

Cleaning:

Use a soft, lint-free cloth.

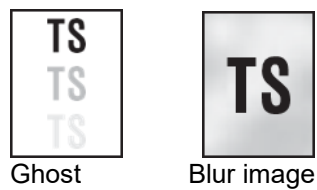
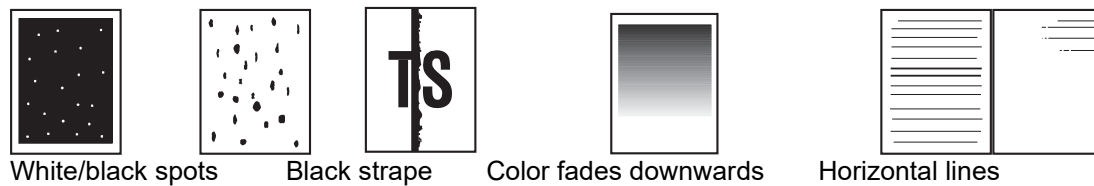
 **Warning**

When cleaning the equipment, do not use any flammable sprays or those containing alcohol, light volatile oil, thin Solvents for flammable substances such as release agents. Do not use the above items near the equipment.



2. Troubleshooting of Image Problems

2.1 Illustration of Image Problems



Roller Diameter

No.	Name of Roller	Diameter
1	Pickup Roller	Ø 33.0 mm (102.79 mm)
2	Transfer Roller(TR)	Ø 12.5 mm (39.25 mm)
3	Drum(OPC)	Ø 24.0 mm (75.4 mm)
4	Heating Roller(HR)	Ø 19.95 mm (63.58 mm)
6	Developing Roller (DR)	Ø 14.0 mm (33.1 mm)

2.2 Troubleshooting of Image Defect

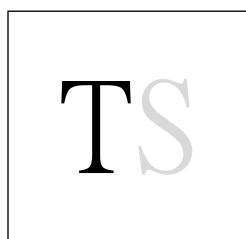
■ Too light



- ✓ User Check
- (1) Check the operating environment. High temperature and high humidity or low temperature and low humidity conditions can cause this problem.
 - (2) Replaced the Toner Cartridge with a new one.

Step	Cause	Solution
1	Toner low.	Replace the toner cartridge.
2	Transfer roller worn out	Replace the transfer roller.
3	Power Supply Board malfunctioned.	Replace the Power Supply Board.
4	Main board malfunctioned.	Replace the main board.

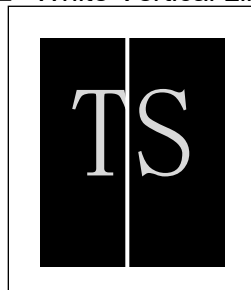
■ Too Light (partly)



- ✓ User Check
- (1) Check the operating environment. High temperature and high humidity or low temperature and low humidity conditions can cause this problem.
 - (2) Toner cartridge may not have correctly installed.
 - (3) Replaced the Toner Cartridge with a new one.

Step	Cause	Solution
1	Toner low.	Replace the toner cartridge.
2	Toner cartridge may not have correctly installed.	Reinstall Toner Cartridge correctly.

■ White Vertical Line



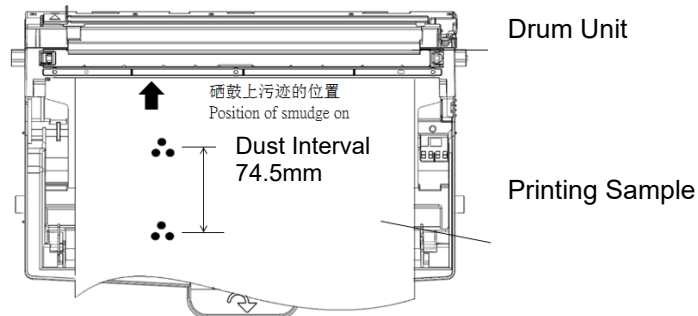
- ✓ User Check
- (1) Clean corona wire of the Drum Unit.
 - (2) Clean LPH (Laser Printer Head) (for LPH model).
 - (3) Clean the dust or powder on the roller of the Drum Unit. Refer to <Cleaning Method of the Drum Unit>.
 - (4) Check if there is trace on Toner Cartridge Roller.

Step	Cause	Solution
1	Dust or powder on the charger.	Clean the charger of the Drum unit.
2	Accumulated dust on the Drum unit.	Clean the drum unit or replace the drum unit with a new one. Refer to <Cleaning Method of the Drum unit>
3	LSU CABLE malfunctioned.	Replace LSU CABLE.

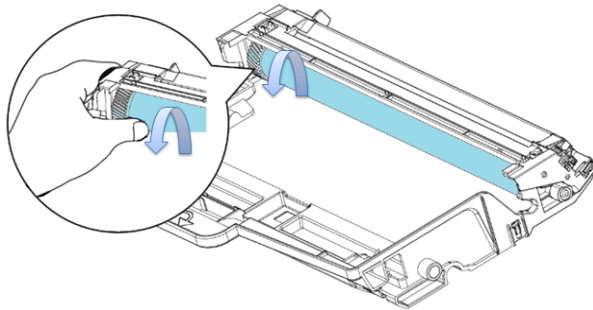
4	LSU malfunction.	Replace LSU.
5	Main board malfunctioned (Control Signal malfunction).	Replace the main board.

<Cleaning Method of the Drum Unit>(The actual drum unit used may be different from the one shown in the picture)

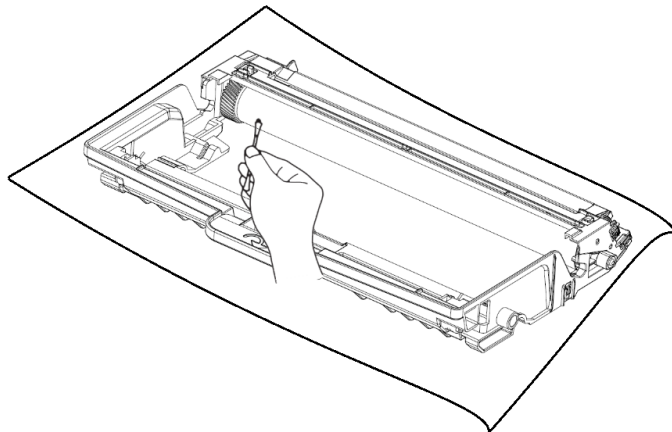
(1). Remove drum unit. Place the printing sample in front of the drum unit and find the location of the image defect.



(2). Use your hand to rotate the gear of the Drum Unit, turn the photosensitive side facing your.



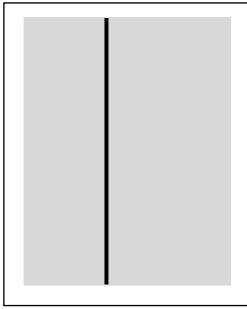
(3). If the position of the dirt on the drum is the same with the spot on the printed sample, please wipe off the dirt or paper dust on the photosensitive drum with a cotton swab.



Important:

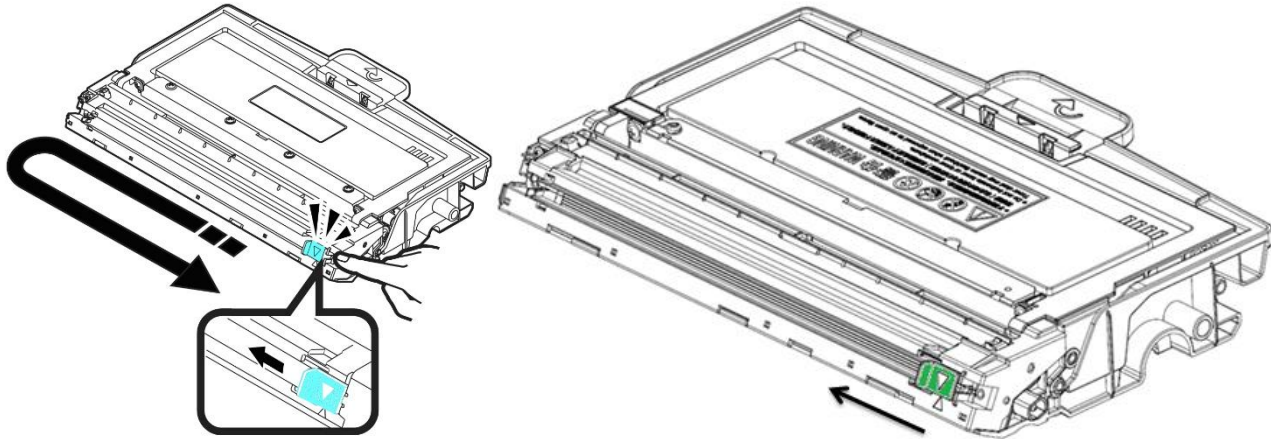
- Do not use pointed objects such as ballpoint pens to clean the surface of the photosensitive drum.
- Please clean with a mixture of ethanol and water (50%+50%).

■ Black Vertical Line



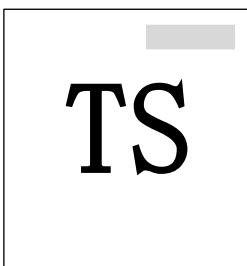
- ✓ User Check
- (1) Clean the corona wire or the power grid of the drum unit.
- (2) Refer to <Cleaning Method of the Drum Unit>, use a cotton swab to clear the dust on the drum unit.
- (3) Replace a new drum unit.

Step	Cause	Solution
1	Corona wire has not been slid to the end during cleaning.	Repositioning.
2	Dust or powder on the charger unit.	Clean the charger of the drum unit. Refer to the following <u>Cleaning Method of the Corona Wire</u> .
3	Fuser unit malfunction(heating rollers scratch)	Replace fuser unit.



<Cleaning Method of Corona Wire>, Slide the corona wire to the end and then back to the original place. Repeat this for at least 3 times.

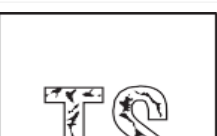
■ Gray background



- ✓ User Check
- (1) Clean the corona wire or the power grid of the drum unit.
- (2) Refer to <Cleaning Method of the Drum Unit>, use a cotton swab to clear the dust on the drum unit.
- (3) Drum unit may be worn out.
- (4) Replace a new drum unit.

Step	Cause	Solution
1	OPC of Drum worn out.	Replace drum unit.
2	Toner cartridge near end of life.	Replace the toner cartridge.
3	Voltage of Transfer roller incorrect.	Replace the fuser.

■ Poor Image



- ✓ User Check
- (1) Check the operating environment. High temperature and high humidity or low temperature and low humidity conditions can cause this problem

Step	Cause	Solution
1	Fuser is malfunctioned.	Replace the fuser.

■ Dirty Background



- ✓ User Check
- (1) The problem may disappear after printing a few pages.
 - (2) The drum unit may be damaged. Install a new one.
 - (3) There is dirt on the paper path. Wipe off the dirt.

Step	Cause	Solution
1	There is dirt on the paper path.	Wipe off the dirt. Refer to < The Spacing of Various Rollers in the Image >Table
2	There is dirt on the heating roller of the fuser.	Replace the fuser unit.
3	There is dirt on the surface of the OPC or the drum is damaged.	Replace the drum unit.
4	Toner cartridge near end of life.	Replace the toner cartridge.

Refer to < The Spacing of Various Rollers in the Image >Table

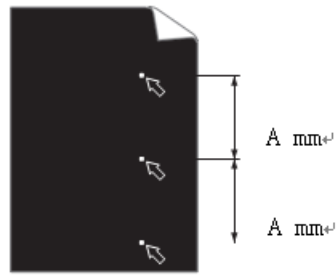
Important:

Periodic image defects may be caused by defects of various rollers. Please refer to the table below to determine the cause of the defect based on the diameter of various rollers or the spacing in the image.

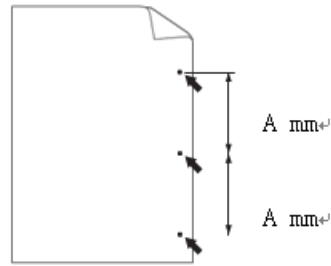
<The Spacing of Various Rollers in the Image >

Component name	Spacing in the Image
Developing Roller(DR)	33mm
Drum Unit(OPC)	75mm
Heating Roller(HR)	63.5mm

<Example of Image Defects> , Value of A: Refer to < The Spacing of Various Rollers in the Image >Table



Periodical white spots in A mm interval
On a black page



Periodical black spots in A mm interval
on a white page

■ Dirt on the rear side



✓ User Check

- (1) This problem may be solved after printing a few pages.
- (2) There is dirt on the paper path. Wipe off the dirt.

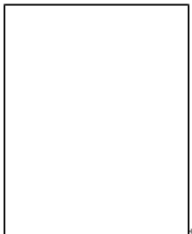
Step	Cause	Solution
1	There is dirt on the paper path.	Wipe off the dirt. Refer to < The Spacing of Various Rollers in the Image >Table
2	Dirt on the Transfer Roller	Wipe off the dirt. Refer to < The Spacing of Various Rollers in the Image >Table
3	Dirt on the Pressure Roller (PR)	Replace the fuser.

Refer to < The Spacing of Various Rollers in the Image >Table

<The Spacing of Various Rollers in the Image >

Component name	Spacing in the Image
Developing Roller(DR)	33mm
Drum Unit(OPC)	75mm
Heating Roller(HR)	63.5mm

■ Blank Page



✓ User Check

- (1) Replace the developing unit.
- (2) Replace the drum unit.

Step	Cause	Solution
1	There is dirt on the electrode contacting the drum unit.	Clean the device and the electrode contacting the drum unit.
2	LPH malfunction.	Replace LPH unit.
3	Main board malfunction	Replace the main board.

4	Not conducting between the device and OPC in the drum unit.	Replace the Power Supply Board.
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➤ <Step 1>,<Step 2>, use a three-purpose meter to check:

Possible Cause	Step	Check	Result	Action
Drum unit poor grounding	1	If it conducting between the drum unit and the high voltage	Yes	Replace the drum unit.
	2	If it conducting between the drum unit and the high voltage	No	Replace the Power Supply Board.

■ A Black Image



- ✓ User Check
- (1) If the charger unit is correctly installed.
 - (2) Replace the charger unit.

Step	Cause	Solution
1	Charger malfunctioned or corona wire broken.	Replace the drum unit.
2	Dirt on the electrode between the corona wire and the Power Supply Board.	Clean the electrode between the corona wire and Power Supply Board.
3	HVPS malfunctioned.	Replace the Power Supply Board.
4	Main board malfunctioned.	Replace the main board.

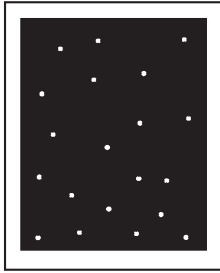
■ A Blur Image



- ✓ User Check
- (1) If the printer has been evenly positioned.
 - (2) Clean the LPH unit.
 - (3) Reinstalled the drum unit.
 - (4) Replace the drum unit.

Step	Cause	Solution
1	Drum unit positioning point is broken	Replace drum unit.

■ White Spots



- ✓ User Check
- (1) Check if the paper path is dirty. If so, remove dirt.
 - (2) Refer to <Cleaning Method of the Drum Unit>, use a cotton swab to clear the dust on the drum unit.
 - (3) Replace the drum unit.
 - (4) Replace the fuser.

Step	Cause	Solution
1	There is dirt or scratch on the fuser.	Replace the fuser.
2	There is dirt or scratch on the drum unit.	Replace the drum.

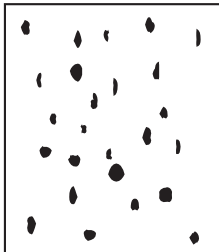
Important:

Periodic image defects may be caused by defects of various rollers. Please refer to the table below to determine the cause of the defect based on the diameter of various rollers or the spacing in the image.

Refer to < The Spacing of Various Rollers in the Image >Table
<The Spacing of Various Rollers in the Image >

Component name	Spacing in the Image
Developing Roller(DR)	33mm
Drum Unit(OPC)	75mm
Heating Roller(HR)	63.5mm

■ Black Spots



- ✓ User Check
- (1) There is dirt on the paper path. Wipe off the dirt.
 - (2) Refer to <Cleaning Method of the Drum Unit> , use a cotton swab to clear the dust on the drum unit.

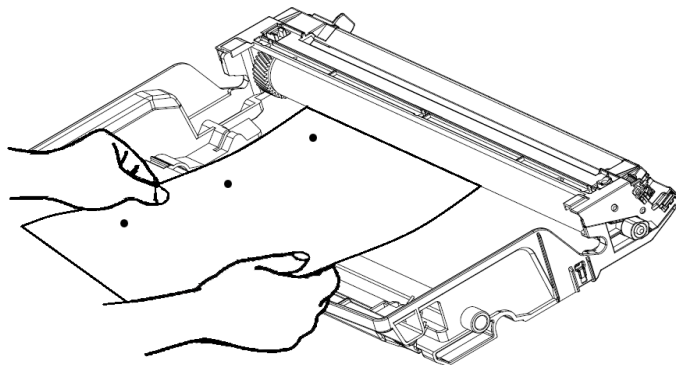
Step	Cause	Solution
1	Toner cartridge near end of life.	Replace the toner cartridge.

Refer to < The Spacing of Various Rollers in the Image >Table
<The Spacing of Various Rollers in the Image >

Component name	Spacing in the Image
Developing Roller(DR)	33mm
Drum Unit(OPC)	75mm
Heating Roller(HR)	63.5mm

<Drum unit cleaning method>:

- Take the toner cartridge out of the drum unit. Place a print sample in front of the drum unit to locate image defects.



<Example of Image Defects>, A. Refer to > The spacing of various rollers in the Image >Table

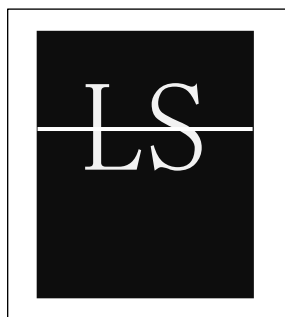


White specks with A mm length appear in all black pages.
Black specks with A mm length appear in all white pages.

Notice:

- Do not use pointed objects such as ballpoint pens to clean the surface of the roller.
- Clean with a half-mixed solution of ethanol and pure water.

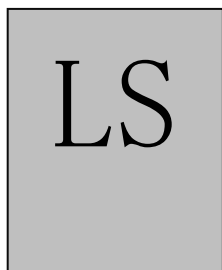
■ A White Horizontal Line



- ✓ User Check
- (1) The problem could be disappeared after printing a few pages.
- (2) Replace a new drum unit.

Step	Cause	Solution
1	The ground spring of the Drum unit defective.	Replace the drum unit.
2	Developing unit has been stored for a long time.	The problem may be disappeared after printing a few pages or try to clean the surface of the OPC of the drum unit.

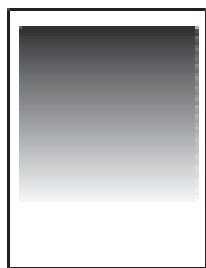
■ Too Dark(Gray background)



- ✓ User Check
- (1) Check the environment. High or low temperature/humidity may cause the problem.
 - (2) Replace developing unit.
 - (3) Replace the toner cartridge.
 - (4) Replace drum unit.

Step	Cause	Solution
1	Use wrong toner cartridge (wrong model, or not from original manufacturer.)	Replace drum unit and toner cartridge.
2	Drum unit near end of life.	Replace the toner cartridge.
3	Power Supply Board defective (GRID voltage too low)	Replace high-voltage board.

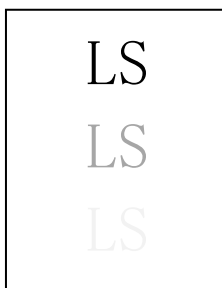
■ Color fades downwards



- ✓ User Check
- (1) Replace the toner cartridge.

Step	Cause	Solution
1	Toner cartridge near end of life	Replace the toner cartridge.

■ Ghost (1)

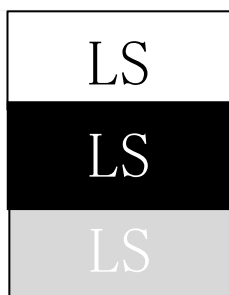


- ✓ User Check
- (1) Check the environment. High or low temperature/humidity may cause the problem.
 - (2) Replace the toner cartridge.
 - (3) Replace drum unit.

Step	Cause	Solution
1	Dirt or scratch on fuser.	Replace fuser.
2	Drum unit near end of life	Replace drum unit.
3	Poor contact of toner cartridge	Replace the toner cartridge.
4	Power Supply Board malfunctioned.	Replace the Power Supply Board.

5	Transfer roller did not rotate well.	Replace the transfer roller.
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■ Ghost (2)



- ✓ User Check
 (1) Check the environment. High or low temperature/humidity may cause the problem.
 (2) Replace drum unit.

Step	Cause	Solution
1	Poor contact of toner cartridge	Replace the toner cartridge.
2	Power Supply Board malfunctioned.	Replace the Power Supply Board.
3	Transfer roller did not rotate well.	Replace the transfer roller.

Important:

Periodic image defects may be caused by defects of various rollers. Please refer to the table below to determine the cause of the defect based on the diameter of various rollers or the spacing in the image.

Refer to < The Spacing of Various Rollers in the Image >Table
 <The Spacing of Various Rollers in the Image >

Component name	Spacing in the Image
Developing Roller(DR)	33mm
Drum Unit(OPC)	75mm
Heating Roller(HR)	63.5mm

■ Poor Positioning



- ✓ User Check
 (1) Check if proper paper type has been selected in printer driver.

Step	Cause	Solution
1	Registration sensor jumped.	Replace the registration sensor.
2	Main board malfunctioned (NVRAM data error)	Replace the main board.

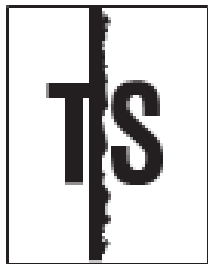
■ Black Horizontal Lines



- ✓ User Check
- (1) Clean the corona wire on the drum unit.
 - (2) This problem will disappear after printing for a few pages.
 - (3) Wipe off the dirt on the drum unit with a cotton swab, refer to <Cleaning Method of the Drum Unit>
 - (4) Replace the drum unit.

Step	Cause	Solution
1	Scratches or dirt on the fuser.	Replace the fuser.
2	Scratches or dirt on the drum unit.	Replace the drum unit or clean the surface of the drum unit.
3	Power Supply Board malfunctioned(charger and grid output not stable)	Replace the Power Supply Board.

■ Black Strape



- ✓ User Check
- (1) Clean the corona wire on the drum unit.
 - (2) Slide the corona wire back to the position marked "▲".
 - (3) This problem will disappear after printing for a few pages.
 - (4) Wipe off the dirt on the drum unit with a cotton swab, refer to <Cleaning Method of the Drum Unit>.
 - (5) Replace the drum unit.
 - (6) Clean the paper path.

Step	Cause	Solution
1	Dirt on the charger.	Clean the drum unit.
2	Drum unit deformed.	Replace the drum unit.
3	Developing unit bad scraper	Replace the toner cartridge.
4	Toner remains on the paper path.	Clean the paper path.

■ Horizontal lines



- ✓ User Check
- (1) Clean the corona wire on the drum unit.
 - (2) Slide the corona wire back to the position marked "▲".
 - (3) This problem will disappear after printing for a few pages.
 - (4) Wipe off the dirt on the drum unit with a cotton swab, refer to <Cleaning Method of the Drum Unit>.
 - (5) Replace the drum unit.

Step	Cause	Solution
1	Dirt on the charger.	Clean the drum unit.
2	Poor discharge of charger	Replace the drum unit.
3	Poor grounding of the drum unit.	Replace the drum unit.
4	Poor grounding of the fuser.	Replace the fuser.

5	Power Supply Board malfunctioned.	Replace the Power Supply Board.

■ Vertical Lines



- ✓ User Check
- (1). Clean the corona wire on the drum unit.
 - (2). Slide the corona wire back to the position marked "▲".
 - (3). This problem will disappear after printing for a few pages.
 - (4). Wipe off the dirt on the drum unit with a cotton swab, refer to <Cleaning Method of the Drum Unit>.
 - (5). Replace the drum unit.

Step	Cause	Solution
1	Dirt on the paper path.	Wipe off the dirt.
2	Dirt on the charger.	Clean the charger of the drum unit.
3	Scratches or dirt on the fuser.	Replace the fuser.
4	Toner Cartridge lifetime ends	Replace the toner cartridge.
5	LPH or LSU malfunctioned.	Replace LPH or LSU.

■ Blur Image



- ✓ User Check
- (1) Check the environment. High or low temperature/humidity may cause the problem.
 - (2) Check if the paper is damp.
 - (3) Replace the toner cartridge.

Step	Cause	Solution
1	Toner remains low	Replace the toner cartridge.
2	Poor positioning of LPH/LSU	Check if LPH/LSU is working OK, arrange the LPH ground cables; or replace drum if drum is damaged.
	Power Supply Board malfunctioned.	Replace the Power Supply Board.

■ Image Distortion (For LSU model only)

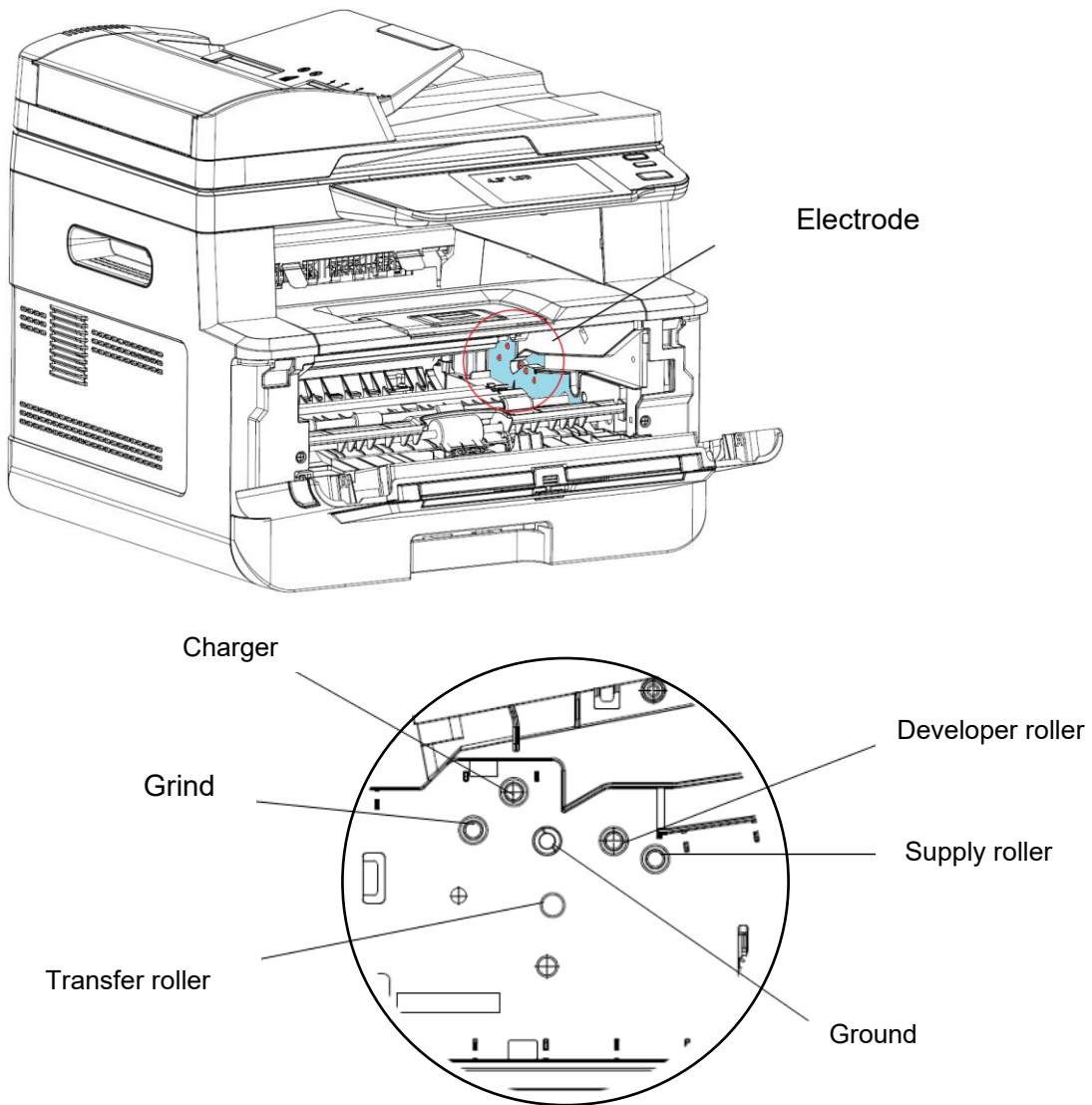


- ✓ User Check
- (1) Check if the LSU has been installed well.
 - (2) Check if the LSU is functioned well.
 - (3) Replace the LSU.

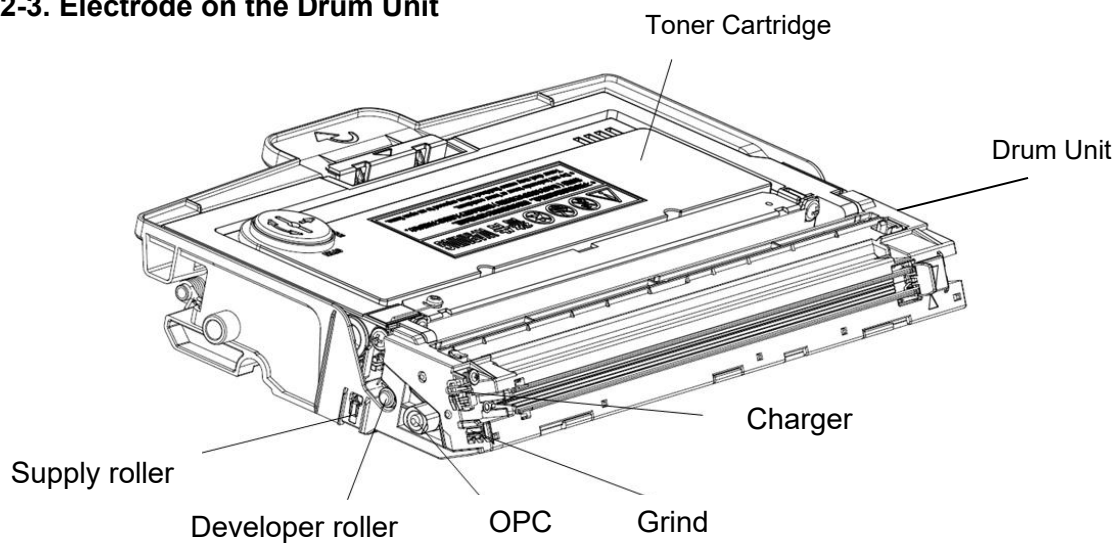
Step	Cause	Solution
1	LSU did not install well.	Reinstall the LSU.

2	LSU malfunctioned.	Replace LSU.
3	Main board malfunctioned.	Replace the main board.

2-2. Electrode on the device



2-3. Electrode on the Drum Unit



3. Troubleshooting

Error Causes and Solutions

■ Fuser Error(201600)

The temperature of the heating lamp exceeds max. degrees (210 degrees).

< User Check >

- (1) Turn off and on the printer.
- (2) Turn off the power.

Step	Cause	Solution
1	Thermistor malfunctioned.	Replace the fuser.
2	Main board malfunctioned.	Replace the main board.

■ Fuser Error(201604)

ADC Calibration Not Ready

< User Check >

- (1) Turn off and on the printer.
- (2) Turn off the power.

Step	Cause	Solution
1	Main board malfunctioned.	Replace the main board.

■ Fuser Error(201605)

ADC Not Ready: The ADC-value query for Side and Center Lamp failed every 100ms.

< User Check >

- (1) Turn off and on the printer.
- (2) Turn off the power.

Step	Cause	Solution
1	Main board malfunctioned.	Replace the main board.

■ Fuser Error (201607)

Temperature difference between the center and the two sides of the lamp over 40 degrees.

< User Check >

- (1) Turn off power and then turn on.
- (2) Turn off the power.

Step	Cause	Solution
1	Operating temperature too low.	Change the operating temperature and restart the printer.
2	Used voltage too low	Check power and avoid using overloaded electrical appliances on the same line.

■ Fuser Error(201613)

The temperature of the Center lamp is more than 20 degrees different from the last time.

< User Check >

- (1) Turn off and then on the power.
- (2) Turn off the power.

Step	Cause	Solution
1	main board malfunctioned	Replace the main board.组件

■ Fuser Error(201615)

The thermistor in the middle of the Fuser did not rise to the specified temperature within the specified time: From normal temperature to Ready state, the center thermistor did not heat up from -20 degrees to 0 degrees within 5.5 seconds.

< User Check >

- (1) Turn off and then on the power.
- (2) Turn off the power.

Step	Cause	Solution
1	Thermistor malfunctioned	Replace the fuser.
2	The main board malfunctioned.	Replace the main board.

■ Fuser Error (201616)

Fuser heating from ready to printing exceeds 20 seconds.

< User Check >

- (1) Turn off power and then turn on.
- (2) Turn off the power.

Step	Cause	Solution
1	Used voltage too low	Check power and avoid using overloaded electrical appliances on the same line.
2	Thermistor failed.	Replace the fuser.
3	Main board malfunctioned	Replace the main board.

■ Fuser Error (201617)

Fuser heating from ready to warming up exceeds 155 seconds.

< User Check >

- (1) Turn off power and then turn on.
- (2) Turn off the power.

Step	Cause	Solution
1	Used voltage too low.	Check power and avoid using overloaded electrical appliances on the same line.
2	Thermistor failed.	Replace the fuser.
	The fuse of the fuser broken, activate protection mechanism	Replace the fuse.
3	Main board malfunctioned	Replace the main board.
4	Power Supply Board malfunctioned.	Replace the Power Supply Board.

■ Fuser Error(201618)

Fuser heating from prepare to ready status exceeds specified time error. (100secs))

< User Check >

- (1) Turn off and then on the power.
- (2) Turn off the power.

Step	Cause	Solution
1	Abnormal AC power supply voltage	Please check the power.
2	Thermistor malfunctioned.	Replace the fuser.
3	Main board malfunctioned.	Replace the main board.

■ Fuser Error(201621)

The thermistor in the middle of the Fuser is not connected.

< User Check >

- (1) Turn off and then on the power.

(2) Turn off the power.

Step	Cause	Solution
1	Thermistor malfunctioned.	Replace the Fuser.
2	Main board malfunctioned.	Replace the main board.

■ Fuser Error(201622)

The thermistor outside the Fuser is not connected.

< User Check >

(1) Turn off and then on the power.

(2) Turn off the power.

Step	Cause	Solution
1	Thermistor malfunctioned.	Replace the Fuser.
2	Main board malfunctioned.	Replace the main board.

■ Fuser Error(201623)

Fuser's side thermistor did not rise to the specified temperature within the specified time:

From normal temperature to Ready state, the side thermistor did not heat up from -20 degrees to 0 degrees in 5.5 seconds.

< User Check >

(1) Turn off and then on the power.

(2) Replace the fuser.

Step	Cause	Solution
1	Thermistor malfunctioned.	Replace the Fuser.
2	Main board malfunctioned.	Replace the main board.

■ Not install drum unit (200041)

Please install the drum unit and then restart. (200041). No drum unit or printer can not detect drum unit.

< User Check >

(1) If there is drum unit installed in the printer.

(2) Check if the drum unit cable and that if the chip has been assembled in place.

Step	Cause	Solution
1	Drum cable was loose.	Reconnect the cable.
2	Drum cable connection port deformed.	Replace the drum connection port.
	IF113 FFC cable was loose.	Reconnect the cable.
	IF113 FFC cable damaged.	Replace the IF113 FFC cable.
3	IF113 board malfunctioned.	Replace the IF113.
4	main board malfunctioned.	Replace the main board.

■ Drum unit lifetime end(200042)

Please replace drum unit (200042). The printer detected the drum unit lifetime end.

< User Check >

(1) Replace the drum unit.

Step	Cause	Solution
1	Drum unit lifetime end	Replace the drum unit.

■ Drum unit near end of life(200043)

Please replace drum unit (200043). When the printer detects the lifetime is lower than 10%.

< User Check >

(1) Need to prepare a new drum unit.

Step	Cause	Solution
1	Drum unit near end of life	You can continue printing since the printing quality will not be affected.

■ Invalid Drum Unit (200044)

Please replace the drum unit from original maker (200044). The vendor name or S/N is incorrect.

< User Check >

Step	Cause	Solution
1	Not drum unit from original manufacturer.	Replace drum unit with original maker.

(1) Please replace the drum unit from the original manufacturer.

■ Tone near end of life. Please replace the toner cartridge(200032)

This indicates the toner remains is lower than 10%.

< User Check >

Step	Cause	Solution
1	Toner cartridge near end of life	You can continue printing since the printing quality will not be affected.
2		
3		

■ Toner end of life. Please replace toner cartridge(200031)

The printer detected the toner remain to be 0%.

< User Check >

Step	Cause	Solution
1	Toner cartridge end of life	Please replace the toner cartridge.

■ Toner Cartridge Error. Please replace toner cartridge from original manufacturer. (200036)

The printer detected the vendor name, S/N or code is incorrect.

< User Check >

Step	Cause	Solution
1	Toner cartridge not from original manufacturer.	Replace the toner cartridge from original manufacturer.

■ No Toner Cartridge(200030)

No toner cartridge installed or the printer can not detect the toner cartridge.

< User Check >

(1).Check if the toner cartridge has been installed.

(2).Check if the toner cartridge has been installed correctly.

Step	Cause	Solution
1	Drum unit's printed circuit board was loose.	Re-plug the connectors.
2	IF113 board cable was loose.	Re-plug the connectors.

3	Toner cartridge printed circuit board malfunctioned.	Replace the Toner Cartridge.
4	Drum unit printed circuit board malfunctioned.	Replace the drum unit.
5	Drum printed circuit board malfunctioned.	Replace the drum printed circuit board.
6	IF113 board malfunctioned.	Replace the IF113 board.
7	Main board malfunctioned.	Replace the main board.

■ Error Code (201610)

Restart the device. Error in LSU. LSU FFC cable may not instal well or is damaged.

< User Check >

(1)Restart printer.

Step	Cause	Solution
1	LSU activation abnormal	Reassemble LSU FFC or replace LSU FFC.

■ Error Code (205101)

eEngError_HiVChargerError: Image error caused by abnormal charge of the drum unit.

< User Check >

- (1) Slide the green tab of the drum unit to and fro for 2 or 3 times to clean the corona wire.
- (2) Clean several contact points of the drum unit.
- (3) Replace a drum unit.

Step	Cause	Solution
1	Corona wire contaminated.	Clean corona wire.
2	Corona wire broken	Replace drum unit.
3	High voltage board hit by strong current	Replace high voltage board.

■ Paperjam Error (200301)

Printer Paper Jam(01): Load paper from manual tray but fails to pick paper.

< User Check >

- (1) Check if paper is correctly loaded into the manual tray.
- (2) Open front cover and remove the drum unit to remove paper.
- (3) Check if the paper has been removed.

Step	Cause	Solution
1	Paper not flattened.	Replace the paper or flatten the paper.
2	Feeding rollers and separation pad contaminated.	Regularly clean pad and rollers.
3	IFA99 Cable not connect well	Connect IFA99 cable correctly.
4	Pickup roller clutch failed.	Replace clutch.
5	IF133 board defective	Replace IF133 board.
6	Main board defective	Replace main board.

■ Paperjam Error(200302)

Printer Paper Jam(02): Load paper from main tray but fails to pick paper. Paper stuck in paper tray.

< User Check >

- (1) Check if paper is correctly loaded into the paper tray.
- (2) Open front cover and remove the drum unit to remove paper.
- (3) Check if the paper has been removed.

Step	Cause	Solution
------	-------	----------

1	Dirt on the pick up roller or Separation Pad.	Clean pickup roller and pad.
2	SB237 Cable not connect well	Reconnect the cable.
3	Main motor cable loosen.	Reconnect the cable.
4	IFA99 & IF133 Cable not connect well.	Reconnect the cable.
5	Feeding roller clutch failed.	Replace clutch.
6	Paper feeding sensor failed.	Replace feeding sensor.
7	Pickup roller clutch failed.	Replace the clutch.
8	Main motor failed.	Replace main motor.
9	IF133 board defective	Replace IF133 board.
10	Main board defective	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error(200324)

Printer Paper Jam(03) Load paper from main tray and paper jammed at feeding sensor.

< User Check >

- (1) Open front cover and remove the drum unit to remove the jammed paper.
- (2) Check paper path.
- (3) Check if the light guide of the drum unit is contaminated.

Step	Cause	Solution
1	Light guide of the drum contaminated.	Clean the light guide.
2	Deskew sensor Cable loosen.	Reconnect the cable.
3	Deskew sensor board malfunctioned.	Replace deskew sensor board.
4	IF133 board cable loosen.	Reconnect the cable.
5	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error (200325)

Printer Paper Jam(04) Load paper from the main tray and paper jammed between feeding sensor and deskew sensor.

< User Check >

- (1) Open front cover and remove the drum unit to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	IF133 board failed.	Replace IF133 board.
3	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error (200326)

Printer Paper Jam(05) Paper jammed near the deskew sensor.

< User Check >

- (1) Open front cover and remove the drum unit to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
	Deskew sensor contaminated.	Clean deskew sensor.

1	Deskew roller clutch cable loose.	Reconnect the cable.
2	IFA99 & IF133C bale loose.	Reconnect the cable.
3	Registration roller cable loose.	Reconnect the cable.
4	Deskew roller clutch failed.	Replace deskew roller clutch.
5	Deskew sensor failed.	Replace SBA237 board.
6	IFA99 board failed.	Replace IFA99 board.
7	IF133 board failed.	Replace IF133 board.
8	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error(200327)

Printer Paper Jam(06) Paper jammed between deskew sensor and registration sensor.

< User Check >

- (1) Please open front cover and remove drum unit to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean the paper path.
2	IF133 board failed.	Replace IF133 board.
3	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error (200328)

Printer Paper Jam(07) Paper jammed near the registration sensor.

< User Check >

- (1) Open front cover and remove drum to remove the jammed paper.
- (2) Check if there is any foreign object on the paper path.
- (3) Check if the light guide of the drum is contaminated.

Step	Cause	Solution
1	Registration sensor contaminated.	Clean the registration sensor.
2	Registration sensor failed.	Replace SBA237.
3	Exit sensor cable of the fuser loose.	Reconnect the cable.
4	Main board malfunctioned.	Replace main board.
5	IF133 board failed.	Replace IF133 board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error (200329)

Printer Paper Jam(08) Paper jammed between registration sensor and exit sensor of fuser.

< User Check >

- (1) Open front cover to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	Main board malfunctioned.	Replace main board.
3	IF133 board failed.	Replace IF133 board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error(200330)

Printer Paper Jam(09) Paper is jammed at the Exit Sensor of the Fuser.

< User Check >

- (1) Open front cover and remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Exit sensor of the fuser is loose.	Reconnect the cable.
2	Rear cover open sensor cable is loose.	Reconnect the cable.
3	Exit sensor of the fuser failed.	Replace the exit sensor.
4	Rear cover open sensor cable is loose.	Reconnect the cable.
5	Main board malfunctioned	Replace main board.
6	IF133 board failed.	Replace IF133 board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check).

■ Paperjam Error(200331)

Printer Paper Jam(10) Paper is jammed between Exist Sensor of Fuser and Exit Sensor.

< User Check >

- (1). Open front cover and remove the jammed paper.
- (2). Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check)

■ Paperjam Error(200332)

Printer Paper Jam(11) Paper is jammed at the Exit Sensor.

< User Check >

- (1) Open the rear cover to remove the jammed paper.
- (2) Check paper path.
- (3) Check the exit sensor.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	Exit sensor cable is loose.	Reconnect the cable.
3	Spring of the exit sensor failed due to foreign objects.	Replace exit sensor.
4	IF133 board failed.	Replace IF133
5	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check)

■ Paperjam Error(200333)

Printer Paper Jam(12) Paper is jammed between Exit Sensor and Duplex sensor.

< User Check >

- (1) Open the rear cover to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check)

■ Paperjam Error(200334)

Printer Paper Jam(13) Paper is jammed in the Duplex Sensor.

< User Check >

- (1) Open the Duplex Unit to remove the jammed paper.

(2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	Duplex sensor is contaminated.	Clean duplex sensor.
3	Duplex roller failed.	Replace duplex unit.
4	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check)

■ Paperjam Error(200335)

Printer Paper Jam(14) Paper is jammed between Duplex Sensor and Deskew Sensor.

< User Check >

- (1) Open the Duplex Unit to remove the jammed paper.
- (2) Check paper path.

Step	Cause	Solution
1	Foreign objects on the paper path.	Clean paper path.
2	IF133 board failed.	Replace IF133 board.
3	Main board malfunctioned.	Replace main board.

➤ Check step: Check paper path and sensors (Refer to Sensor Setting information check)

■ Fuser Error (201607)

Temperature difference between the center and the two sides of the lamp over 40 degrees.

< User Check >

- (3) Turn off power and then turn on.
- (4) Turn off the power.

Step	Cause	Solution
1	Operating temperature too low.	Change the operating temperature and restart the printer.
2	Used voltage too low	Check power and avoid using overloaded electrical appliances on the same line.

■ Fuser Error (201616)

Fuser heating from ready to printing exceeds 20 seconds.

< User Check >

- (3) Turn off power and then turn on.
- (4) Turn off the power.

Step	Cause	Solution
1	Used voltage too low	Check power and avoid using overloaded electrical appliances on the same line.
2	Thermistor failed.	Replace the fuser.
3	Main board malfunctioned	Replace main board.

■ Fuser Error (201617)

Fuser heating from ready to warmingup exceeds 155 seconds.

< User Check >

- (3) Turn off power and then turn on.
- (4) Turn off the power.

Step	Cause	Solution
1	Used voltage too low.	Check power and avoid using overloaded electrical appliances on the same line.
2	Thermistor failed.	Replace the fuser.
	The fuse of the fuser broken, activate protection mechanism	Replace the fuse.
3	Main board malfunctioned	Replace main board.

4	High voltage board malfunctioned.	Replace the high voltage board.
---	-----------------------------------	---------------------------------

■ Printer paper empty (manual tray) (200080)

No paper on the specified tray. (manual tray)

< User Check >

(1) Check if there is paper in the manual tray.

Step	Cause	Solution
1	IF133 board cable is loose.	Reconnect the cable.
2	IF133 board failed.	Replace IF133 board.
3	Main board malfunctioned	Replace main board.
4		
5		

■ Printer paper empty (Main Tray)(200081)

No paper in the specified paper tray. (Main Tray)

< User Check >

(1) Check if there is paper in the main tray.

Step	Cause	Solution
1	Paper Exhaust sensor cable is loose.	Reconnect the cable.
2	IF133 board cable is loose.	Reconnect the cable.
3	The Paper Empty Sensor failed.	Replace Paper Empty Sensor.
4	IF133 board failed.	Replace IF133 board.
5	Main board malfunctioned	Replace main board.

■ Front Cover opens(200051)

Close Front Cover (200051) Printer Parts Error, When the Front Cover is opened.

< User Check >

(1) Close the Front Cover.

Step	Cause	Solution
1	The rib of Front Cover is broken	Replace the Front Cover.
2	Front cover open sensor poor installation	Reassemble Front Cover Open Sensor.
3	Front cover open sensor poor connection	Reconnect Front Cover Open Sensor.
4	Front Cover Open Sensor defective	Replace Front Cover Open Sensor.
5	Main board malfunctioned	Replace main board.

- Check method: 1. Prepare new sensor and connect to main board to check if conducting. 2. Prepare main board.

■ Rear Cover opens(200054)

Rear cover opens during printing.

This error occurs when opening the Rear Cover before performing duplex printing.

< User Check >

(1) (Close the Rear Cover)

Step	Cause	Solution
1	The rib of Rear Cover is broken	Replace the Rear Cover.
2	Rear cover open sensor poor installation	Reassemble Rear Cover Open Sensor.
3	Rear cover open sensor poor connection	Reconnect Rear Cover Open Sensor.

4	Rear Cover Open Sensor defective	Replace Rear Cover Open Sensor.
5	Main board malfunctioned	Replace main board.

■ Fan Error (200090)

There are two fans in the printer. This error occurs when the fan stops or rotation speed abnormal.

< User Check >

(1) Fan stops rotation.

Step	Cause	Solution
1	Fan cable is loose.	Reconnect fan cable.
2	Foreign objects in the fan.	Remove foreign objects.
3	Fan malfunctioned.	Replace the fan.
4	Main board malfunctioned	Replace main board.

■ Multi-Feed Error (200000)

Open Side Door to remove the paper. This error occurs when multiple paper fed in the printer at the same time.

< User Check >

(1) Check if paper in the tray exceeds capacity.

(2) Check if paper loaded into the tray correctly.

(3) Turn the paper upside down or turn it 180° and then reload to the tray.

(4) Fan the paper and then reload into paper tray.

Step	Cause	Solution
1	One of the feeding rollers worn out.	Replace the worn-out feeding roller.
2	Separation Pad failed.	Replace the Separation Pad.
3	The surface of the Separation pad contaminated.	Clean the surface of the Separation Pad.

■ IP Conflict (500000)

Check network settings (500000)

< User Check >

(1) Check network settings

Step	Cause	Solution
1	IP Conflict	Reassign IP address

■ Net Cable Unplug (500001)

Plug the ethernet cable. (500001)

The machine detects no cable connected in the RJ-45 port.

< User Check >

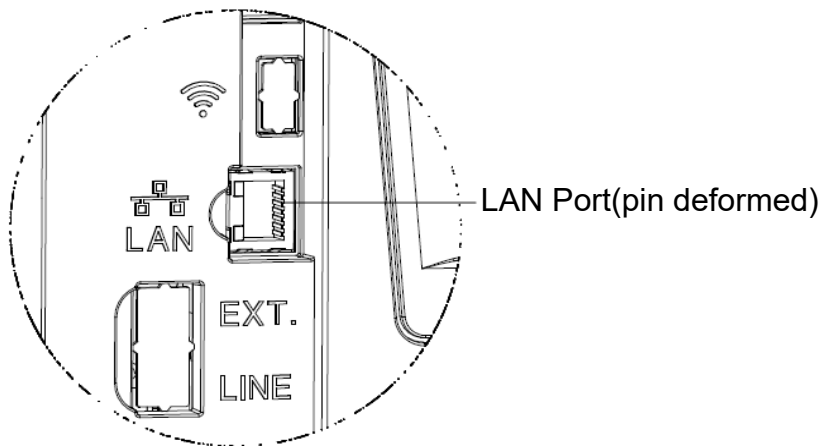
(1) Check network connection status.

(2) Reset network settings.

(3) Check LAN cable.

Step	Cause	Solution
1	LAN connection pin deformed.	Replace main board.

➤ Check LAN port:



- DHCP no response (500002)
Check network settings. (500002)

This error occurs when the printer requests information from the DHCP server and DHCP server does not respond.

Can not connect to network

< User Check >

(1) Check network settings.

Step	Cause	Solution
1	Main board malfunctioned	Replace main board.

Check: Check network status and enter [Ipconfig] and ping the device's IP address.

```

C:\Users\Jeff>ipconfig

Windows IP 設定

無線區域網路介面卡 Wi-Fi:
    媒體狀態 . . . . . : 媒體已中斷連線
    連線特定 DNS 尾碼 . . . . . : com

無線區域網路介面卡 區域連線* 1:
    媒體狀態 . . . . . : 媒體已中斷連線
    連線特定 DNS 尾碼 . . . . . :

無線區域網路介面卡 區域連線* 2:
    媒體狀態 . . . . . : 媒體已中斷連線
    連線特定 DNS 尾碼 . . . . . :

乙太網路卡 乙太網路:
    連線特定 DNS 尾碼 . . . . . :
    連結 本機 IPv6 位址 . . . . . : fe80::e8df:41cf:6988:5e86%13
    IPv4 位址 . . . . . : 10.1.40.152
    子網路遮罩 . . . . . : 255.255.255.0
    預設閘道 . . . . . :

乙太網路卡 藍牙網路連線:
    媒體狀態 . . . . . : 媒體已中斷連線
    連線特定 DNS 尾碼 . . . . . :

C:\Users\Jeff>ping 10.1.40.152

Ping 10.1.40.152 (使用 32 位元組的資料):
    回覆自 10.1.40.152: 位元組=32 時間<1ms TTL=128
    回覆自 10.1.40.152: 位元組=32 時間<1ms TTL=128
    回覆自 10.1.40.152: 位元組=32 時間<1ms TTL=128
    回覆自 10.1.40.152: 位元組=32 時間<1ms TTL=128

10.1.40.152 的 Ping 統計資料:
    封包: 已傳送 = 4, 已收到 = 4, 已遺失 = 0 (0% 遺失),
  
```

3-2 Paper Feeding Problem

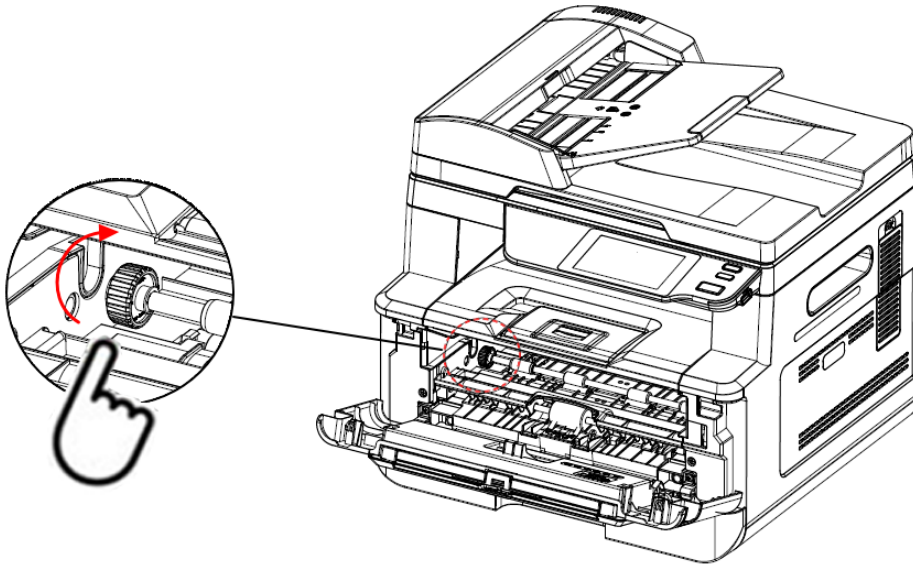
If the machine is operating normally, yet it can not feed paper or too many paperjams, pls check the machine and the paper conditions.

Problem	Possible Solution
Failed to feed paper.	■Use only the paper the printer supported. Refer to chapter 1 for printer supported material. ■Load the paper correctly. Make sure there is no space between the edge of paper and the paper guide. ■Flatten the paper if it is curled. ■Fan the paper and then turn the paper stack upside down and then reload it into paper tray.
Frequent paperjams	■Adjust the paper guide so that there is no space between paper and paper guide. ■Avoid using large amount of toner in duplex mode. ■Use only the paper the printer supported. Refer to chapter 1 for printer supported material. ■Make sure paper stack does not exceed allowable mark in the paper tray.
Multi-Feed	■Before loading paper, bend the paper back and forth to loosen the paper, and then fan the paper. Align the edges of the paper by tapping the bottom of the stack against the table top. ■Make sure the paper tray is installed correctly. ■Use only the paper the printer supported. Refer to chapter 1 for printer supported material. ■Make sure paper stack does not exceed allowable mark in the paper tray. ■Check if additional paper is loaded when there is a few pieces of paper in the paper tray. Remove the remaining paper in the tray and then fan them together with the additional paper and then reload them to the paper tray.
Paper with wrinkles.	■Paper is damp. Please use paper stored in good condition. ■Paper too thin. Refer to chapter 1 for printer supported material. ■Adjust the paper guide so that there is no space between paper and paper guide.
Paper is curled.	■Turn the paper upside down and then reload it into the paper tray. ■Paper is damp. Please use paper stored in good condition.
Printed image skewed.	■Make sure the edge of paper slightly touch the paper guide. Adjust the paper guide so that there is no space between paper and paper guide. ■Check if there is foreign objects on the paper path. If so, remove them.

3-3. Clear Paperjams

3-3-1. Jammed paper does not occur at Fuser

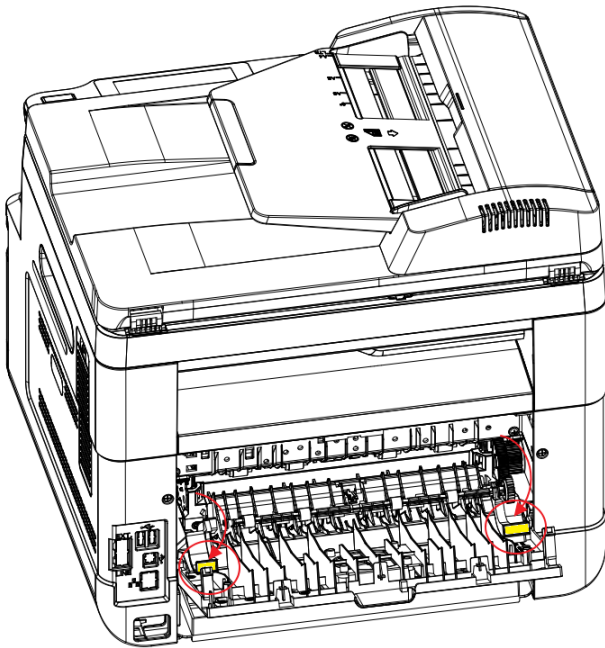
- 1) . Pull the paper tray and open the front cover. Remove the drum unit.
- 2) . Rotate the Release Arms as indicated and then remove the jammed paper.



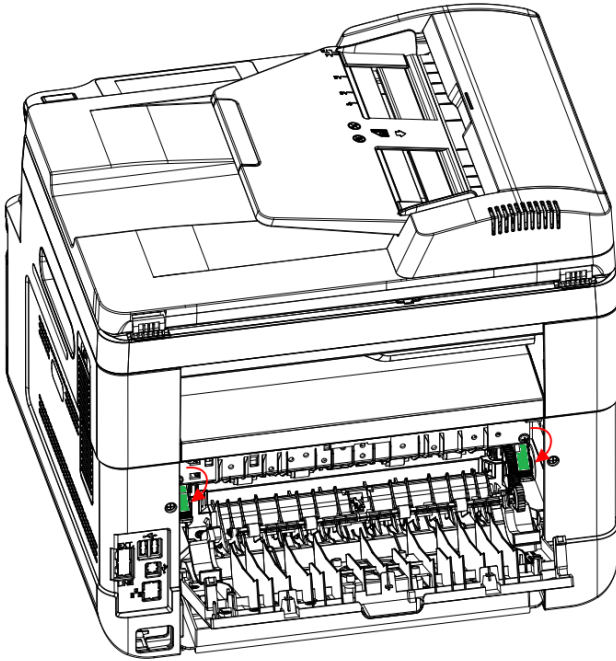
3-3-2. Jammed paper at the Fuser

The area around the fuser is hot. To avoid a burn injury, be careful not to touch the fuser until it cools down and then remove the paper according to the following steps:

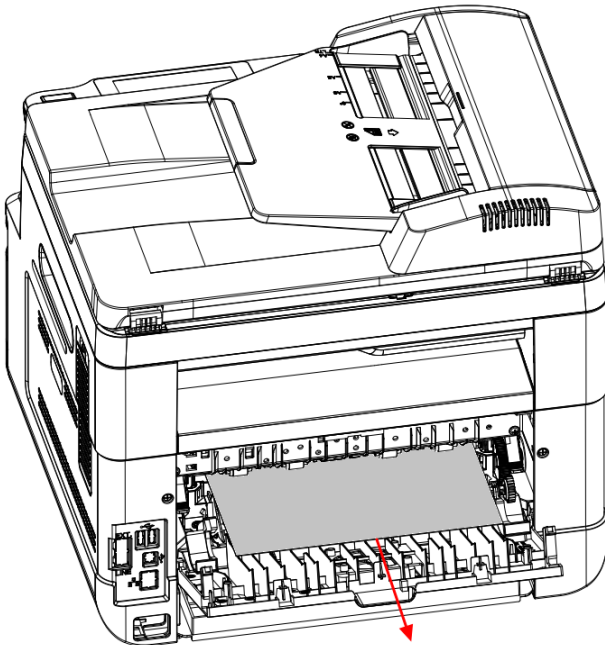
- 1) . Open Front Cover and Rear Cover and then remove the drum unit.
- 2) . At the back of the printer, pull down Fuser Path as indicated.



- 3) . Pull down the green arms on both sides.



4) . Gently pull out the paper.

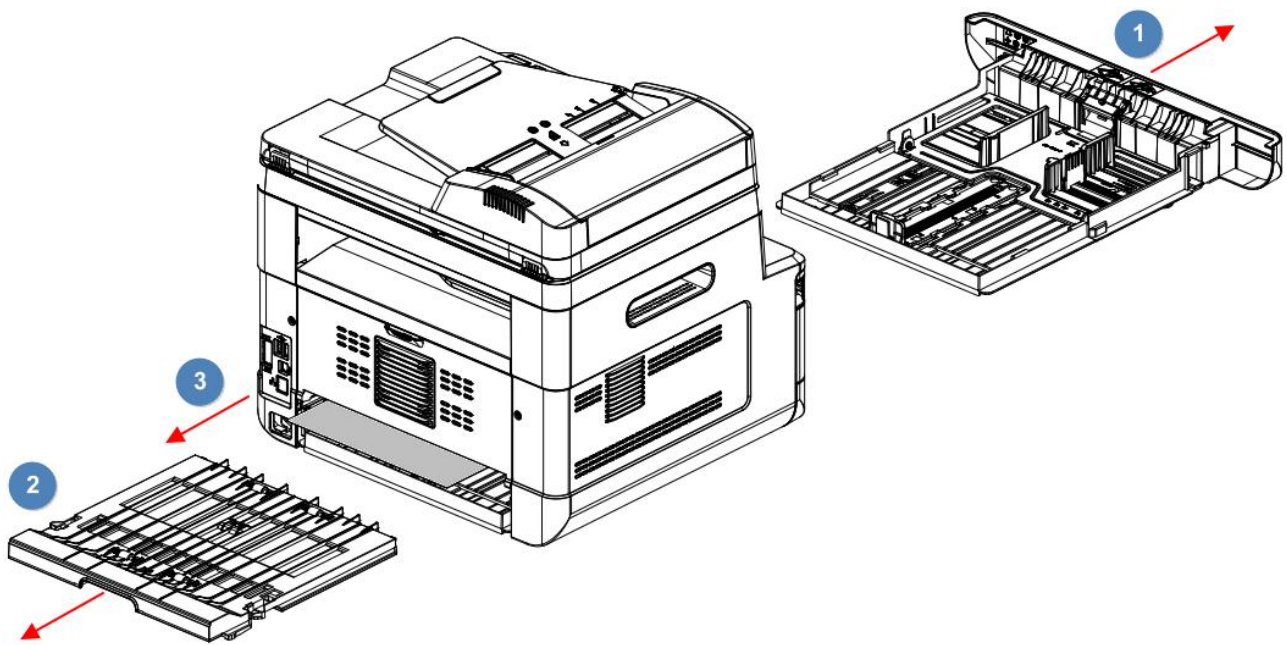


Notice:

- The area around the fuser is hot. To avoid a burn injury, be careful not to touch the fuser until it cools down and then remove the paper.
- After removing the jammed paper, return the green arms on both sides to their original positions as soon as possible. Do not stay in the pulled down status for too long to avoid affecting the spring force value.

3-3-3. Jammed Paper at the Duplex Unit

- 1) . Pull the paper tray.
- 2) . Remove the Duplex Unit at the back of the device as illustrated. Remove the paper.



Chapter 4 Disassembling and Reassembling

Notice Before Performing Maintenance Operation :

In order to avoid secondary malfunction due to incorrect operation, the following warnings and precautions must be observed during the disassembly and reassembling of the equipment.



Warning

After using the printer for a while, the temperature inside the printer is very high! When opening the Side Door or the Rear Cover to repair components, do not touch the areas shown in the high temperature mark.

- Be careful not to lose the removed screws, washers and other parts.
- Be sure to apply grease to the parts specified in this chapter.
- When using an electric soldering iron or other heating tools, please be careful not to damage the wires, circuit boards, casings and other components made of synthetic resin.
- The static electricity charged by the human body may damage electronic components. Therefore, when transporting the circuit board, be sure to wrap the circuit board with conductive foil.
- When replacing circuit boards and all other parts with circuit boards, please wear a wrist strap for discharging static electricity and operate on an anti-static mat. In addition, please be careful not to touch the flat cable and the electrode conductor part of the wire.
- After unplugging the flat cable, be sure to check that the flat cable plug is in good condition and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight, and check that the cable is not crooked after inserting it.
- When connecting or disconnecting the patch cord, do not hold the cable part but the connector part. If there is a lock on the connector, be sure to unlock the lock first.
- After repairing, please pay attention not only to check the repaired part, but also to check the connection of the patch cord. In addition, you need to check if other related parts are working properly.
- Do not close the front cover forcibly before installing the toner cartridge and drum unit, otherwise the machine may be damaged.
- After installation, it is recommended to conduct an insulation withstand voltage test and a conductivity test.
- Be careful not to damage the insulating sheet.
- When replacing the circuit board, be sure to check if there is any foreign matter on the component surface and soldering surface of the circuit board.

1. Disassembling Tool

1-1. Tool List

Table 3.1 The Maintenance Tool

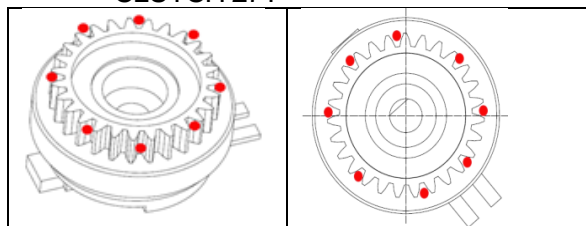
No.	Tool Type	Quantity	Description
1.	Flat screwdriver(Small)	1	For disassembling
2.	Philips screwdriver(Small)	1	For removing M2 screw
3.	Philips screwdriver	1	For removing M3、 M4 screws
4.	Philips screwdriver (Small Head)	1	For removing high-voltage board M3 screws
5.	ERING E-type tool holder	1	For installing no. 3 screw
6.	ERING E-type tool holder	1	For installing no. 4 screw
7.	ERING E-type tool holder	1	For installing no. 5 screw
8.	Needle nose pliers	1	For clamp
9.	Diagonal pliers	1	For cutting cable ties
10.	Tweezers	1	For picking up component
11.	Cleaning Kit(blowing ball, brush, wipe cloth, alcohol cotton)	1	For cleaning
12.	Latex Gloves	1	Anti-Static
13.	Utility Knife	1	For unpacking
14.	Digital meter	1	With 0.01 volt
15.	Headlamp	1	For illumination
16.	White Glue:076-0019-0	1	For sticking
17.	Grease(MS54)	1	For gears
18.	Grease(VG501)	1	For high-temperature gears
19.	Component Kits(ERING、Screw、Cable Tie)	1	For reassembling

Table 1.1 Maintenance Tool

1-2. Lubricant

Type	Position need to be lubricated		Amount
LUBRICANT MS54	CLUTCH 27T	8 times	1.5 至 2.0 mm (diameter/each time)

■ CLUTCH 27T



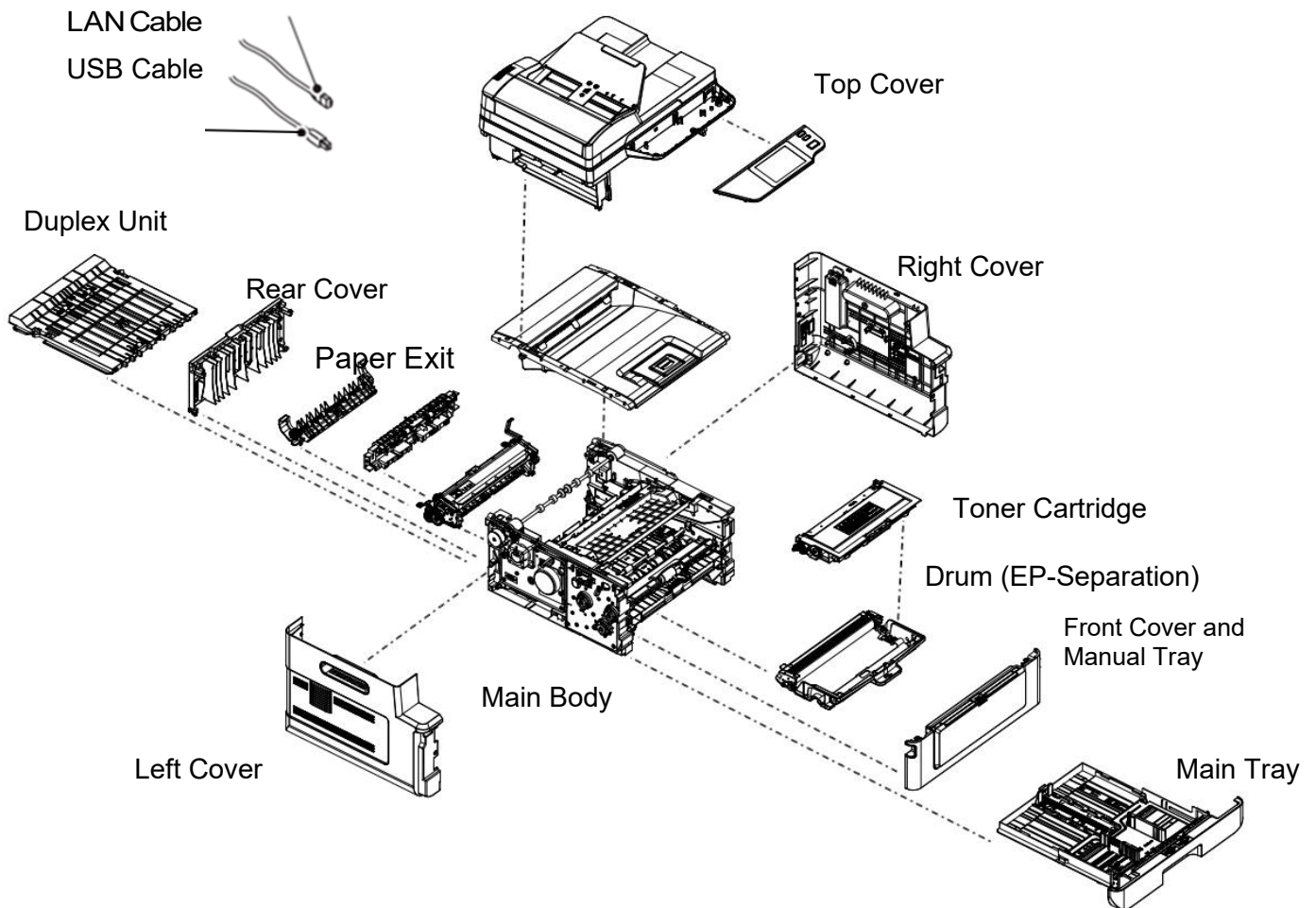
2. Preparation Before Disassembling

Disconnect the following cables:

- USB cable
- LAN cable
- POWER cable

Remove the following parts:

- Paper Tray
- Toner Cartridge and Drum Unit



3. Disassembling and Reassembling

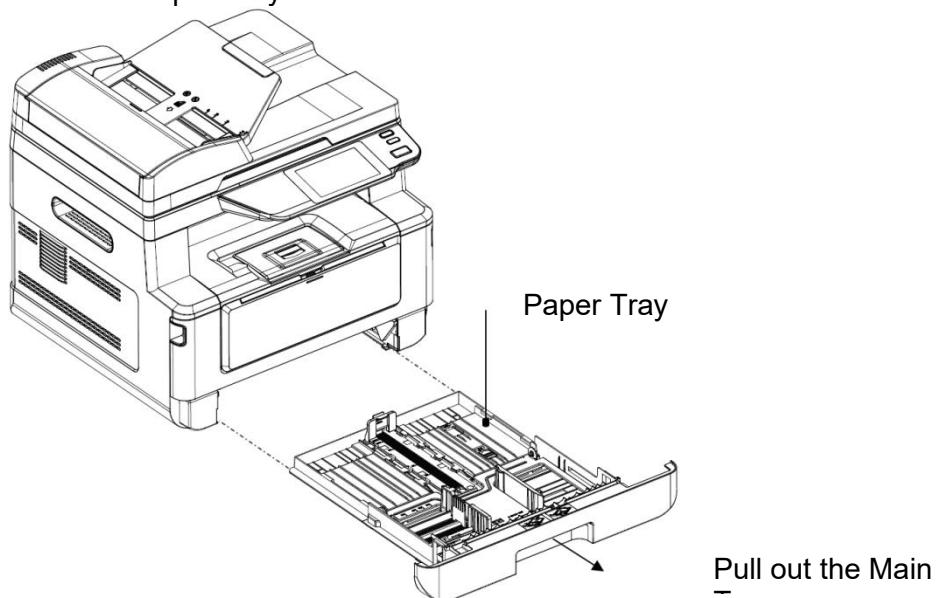
Disassembling Notices:

- (1) Clean the removal and assembly location.
- (2) Please unplug the power cord and remove the AC power plug before disassembly and assembly.
- (3) Please follow the disassembly and assembly procedures. Do not loosen the non-removable screws.
- (4) Please store the disassembled parts in a clean place to avoid loss.
- (5) After replacing the parts, please check the contact position and the base of the parts.
- (6) Please assemble the parts in the reverse order of the disassembly procedure.

3-1. Basic Disassembling

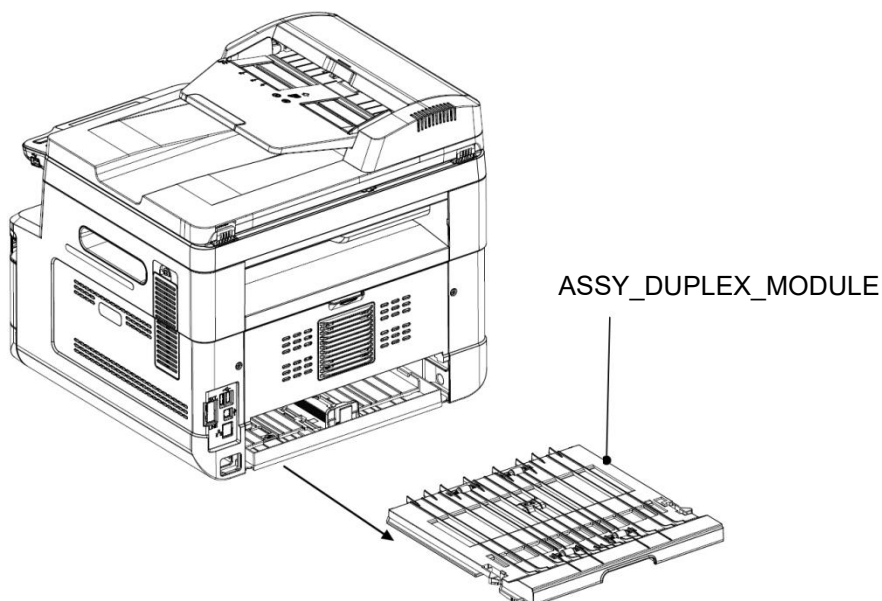
3-1-1. Paper Tray

- (1). Pull out the Main Paper Tray to remove it.



3-1-2. Duplex Unit

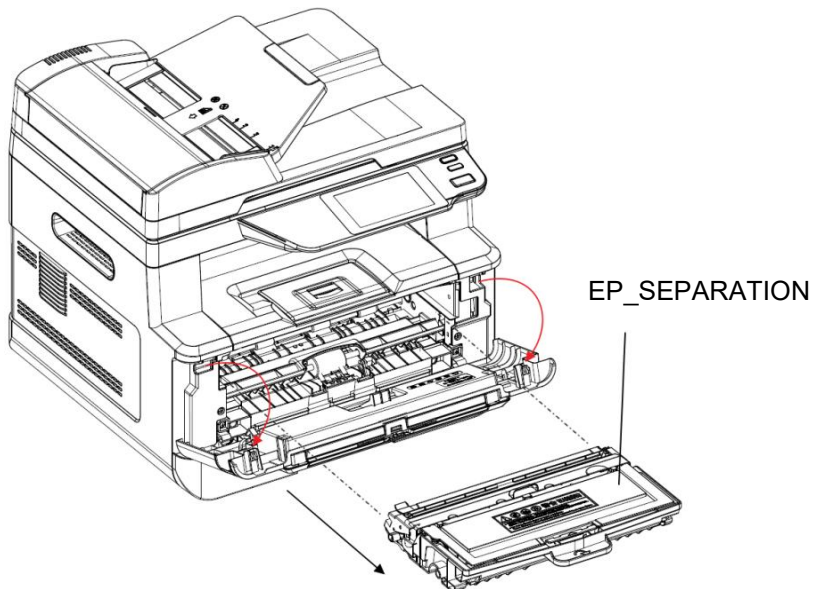
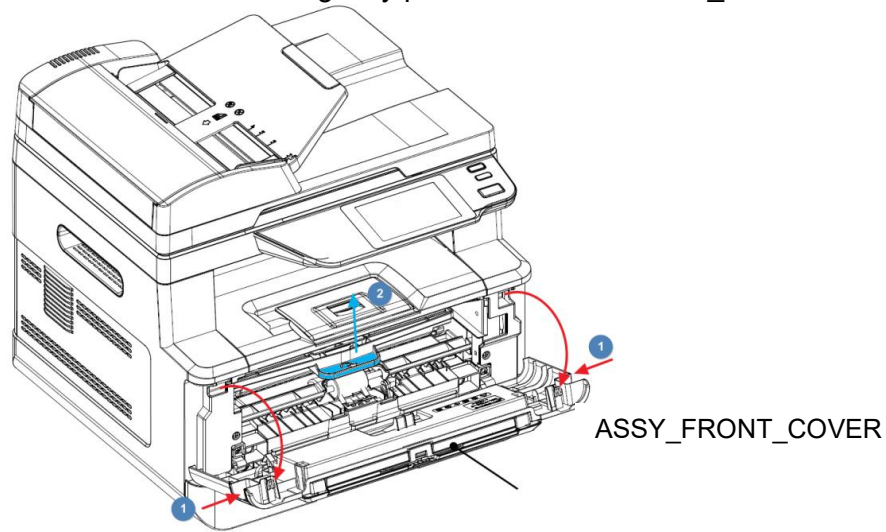
- (1). Remove ASSY_DUPLEX_MODULE.



3-1-3. EP_SEPARATION-LSU

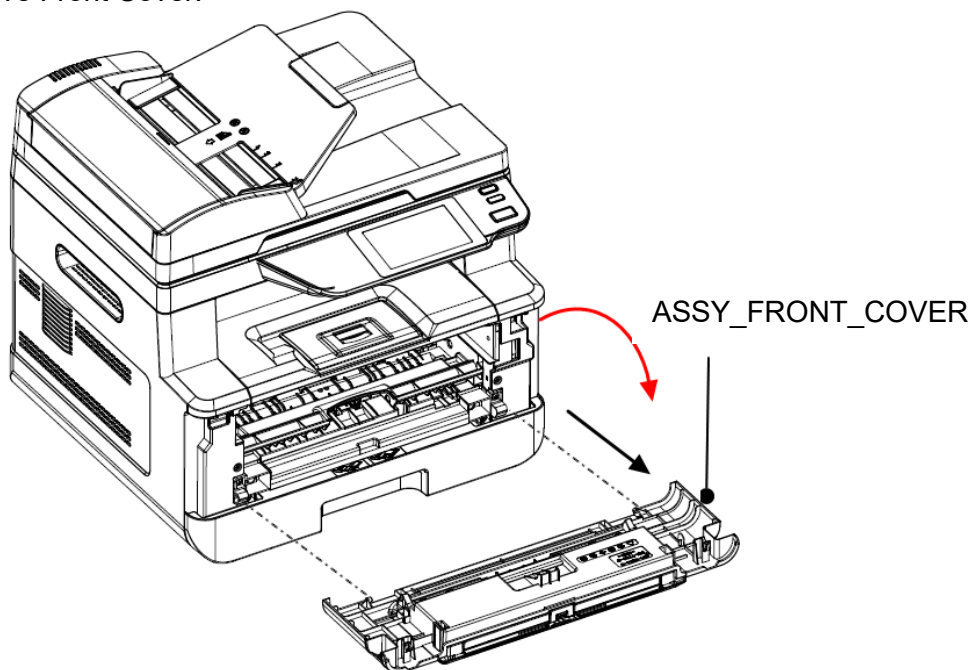
(1).Open the Front Cover.

(2). Lift the handle of the Drum Unit and gently pull it out to remove EP_SEPARATION_LSU。

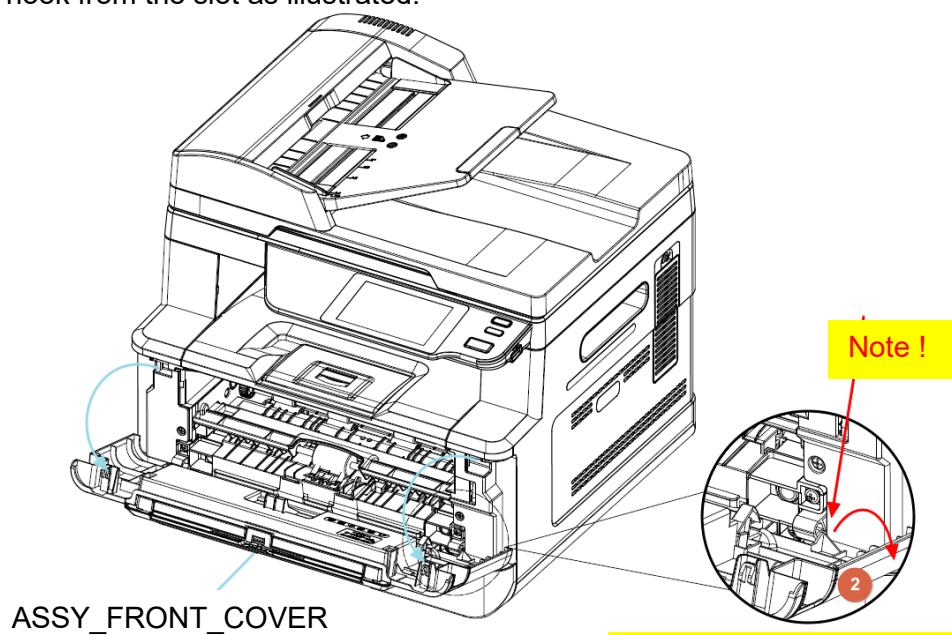


3-1-4. Front Cover

- (1). Remove the drum unit.
- (2). Remove Main Paper Tray.
- (3). Remove Front Cover.



- ✧ **Tip:** Open the Front Cover. Hold the Front Cover with your left hand and use your right hand to remove the hook from the slot as illustrated.

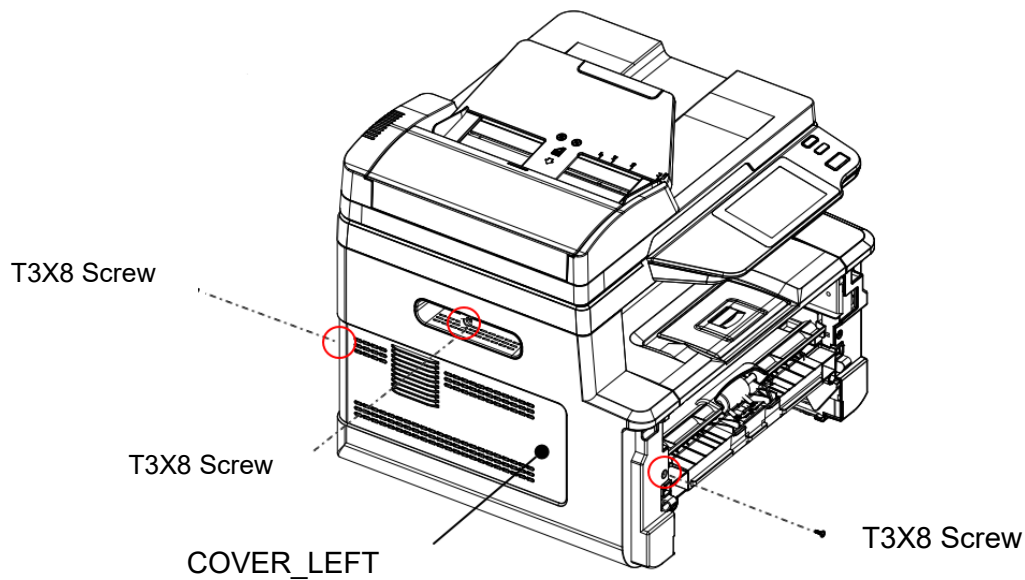


Detach the hook from the printer first!

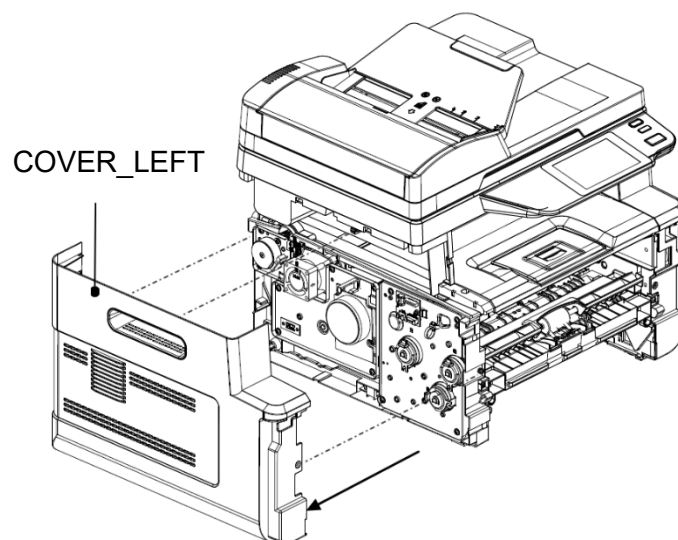
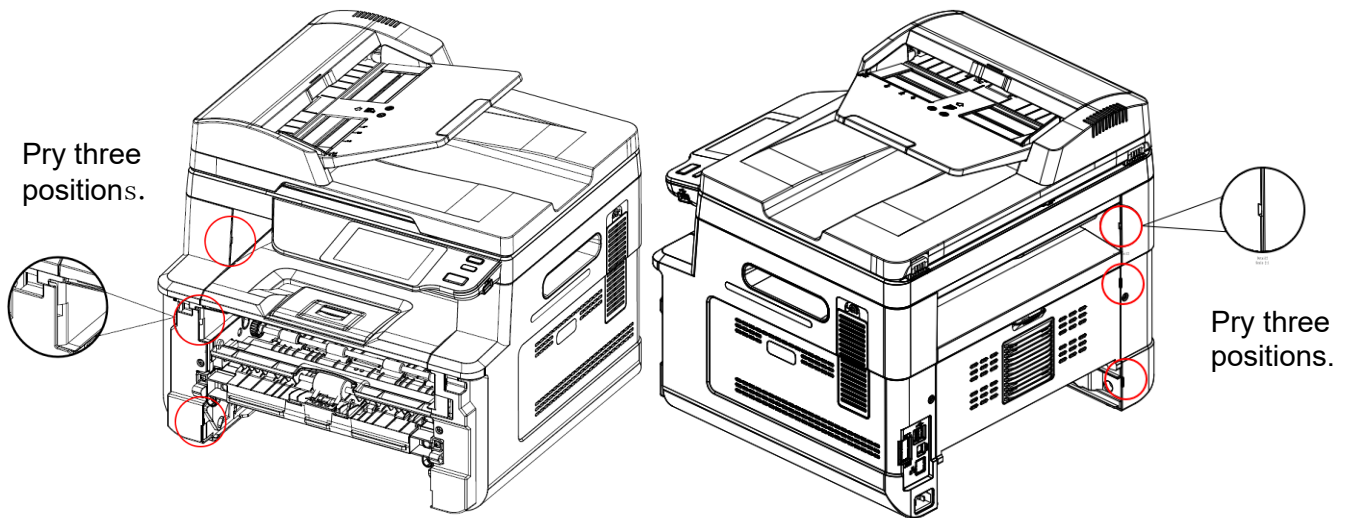
3-1-5. COVER_LEFT

Tool Preparation: No. 1、3(Refer to Maintenance Tool List)

- (1). Remove Front Cover、Main Paper Tray、and Drum Unit.
- (2). Remove 2 fixing screws (M3X8) to remove the COVER_LEFT.



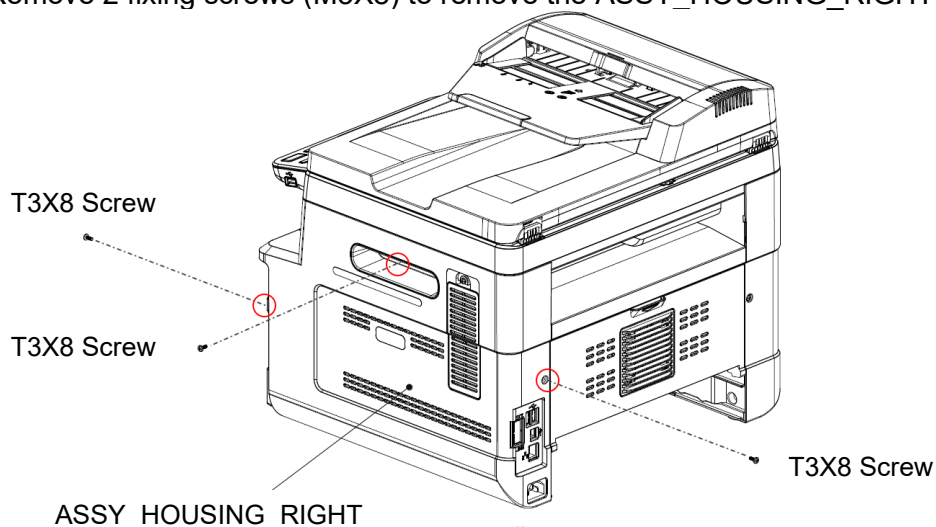
Tip: Let the machine stand on its right side as shown, use your left hand to hold the bottom of the machine. And then use your right hand to pry two sides of the Left Cover with a flat screwdriver.



3-1-6. ASSY_HOUSING_RIGHT

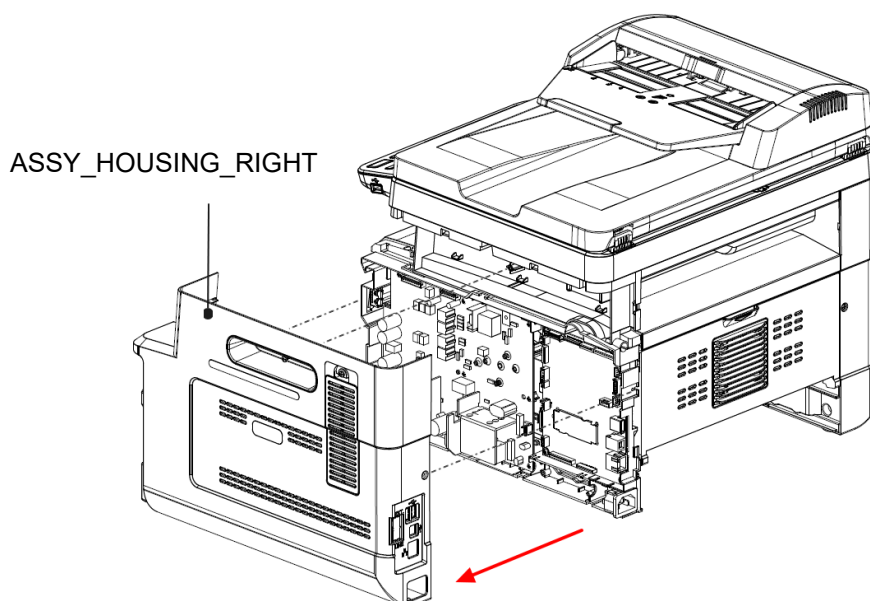
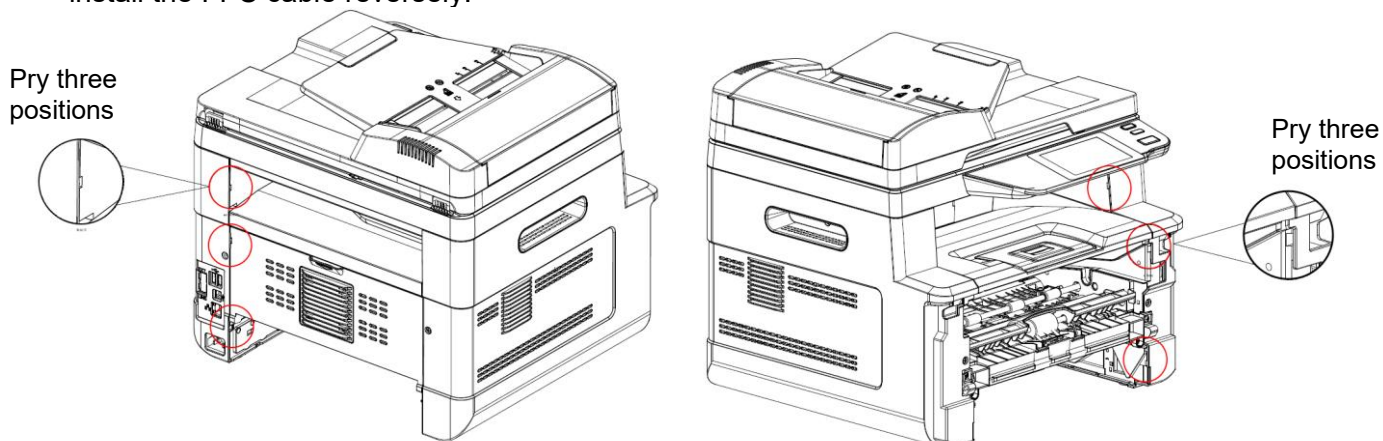
Tool Preparation: No. 1、3 (Refer to Maintenance Tool List)
 (1). Remove Front Cover、Main Paper Tray、and Drum Unit.

(2). Remove 2 fixing screws (M3X8) to remove the ASSY_HOUSING_RIGHT.



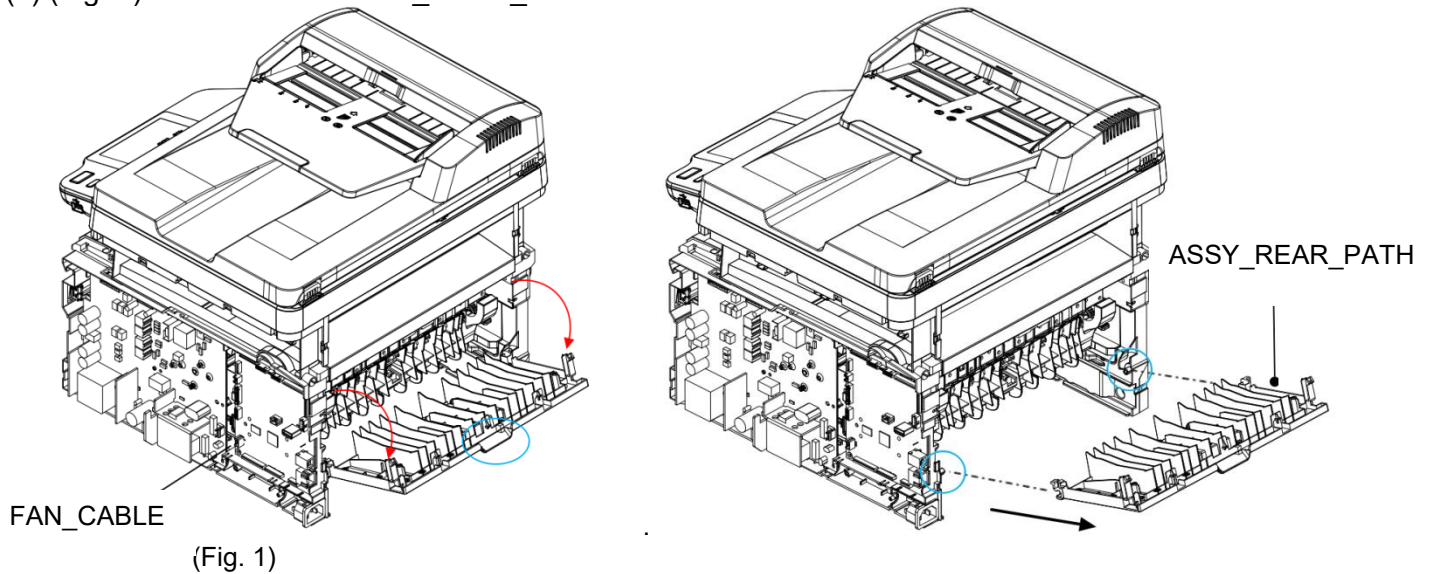
Tip: Make the machine stand on the left side, and hold the bottom with your left hand. Use your right hand to pry three positions of the Right Cover with a flat screwdriver.

✧ **Attention:** Since there are main board and high voltage boards on the inside of the Right Cover, be careful not to damage the electronic boards when reassembling the machine. When reassembling the Right Cover, you need to first observe if the FFC cable has a raised pin on the UI board, and do not install the FFC cable reversely.



3-1-7. ASSY_REAR_PATH

- (1). Remove Front Cover 、 Main Paper Tray 、 Drum Unit 、 Left Cover 、 Assembling Housing Right.
- (2).(Fig. 1) Pull down the ASSY_REAR_PATH to remove it.



3-1-8. ASSY_FUSER_PATH

Tool Preparation: No. 1、 3 (Refer to Maintenance Tool List)

- (1). Remove Front Cover 、 Main Paper Tray 、 Drum Unit 、 Left Cover 、 Assembling Housing Right 、 ASSY_REAR_PATH).
- (2).(Fig.1) Press down the FUSER_PATH to remove it.

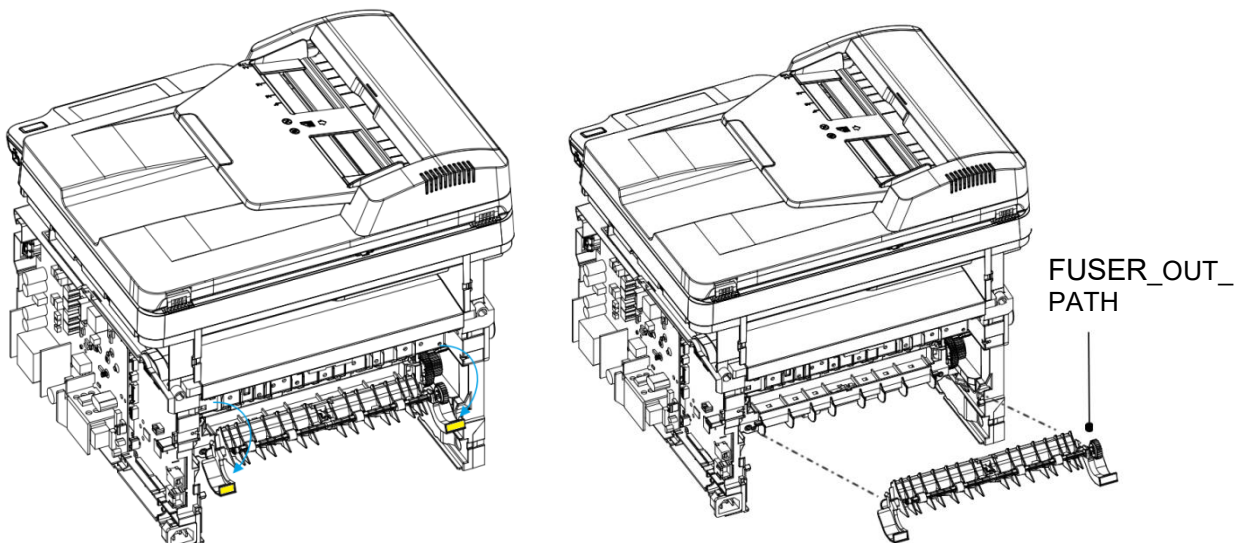
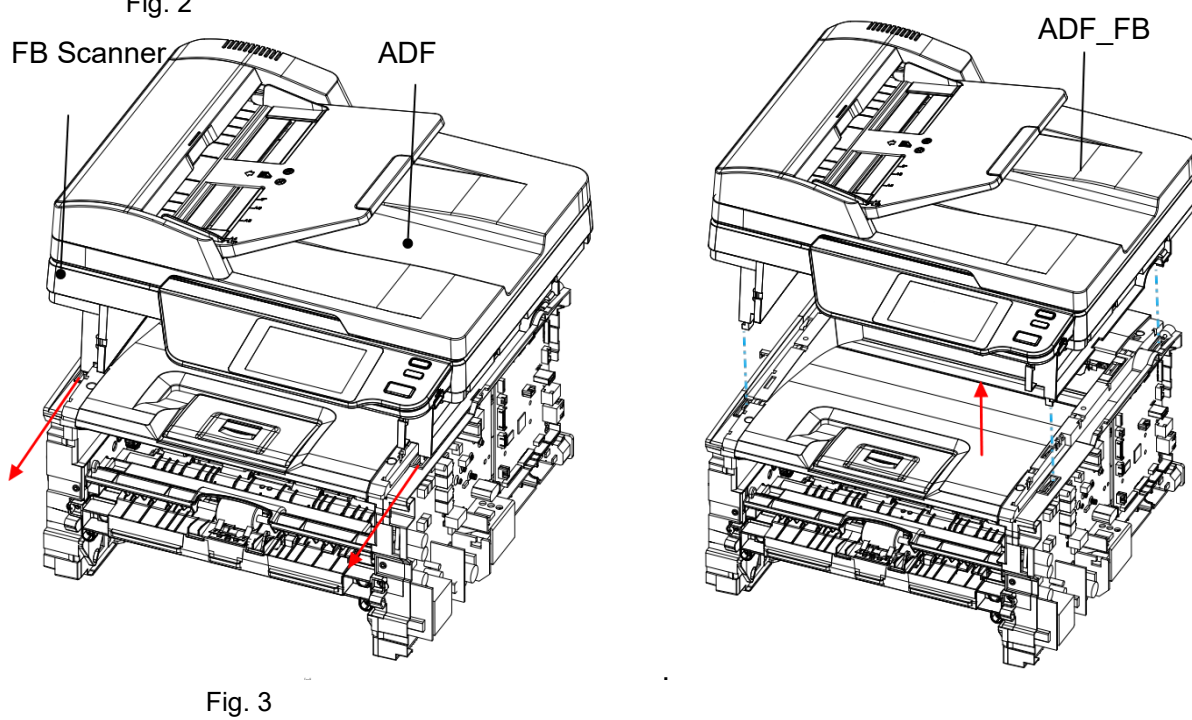
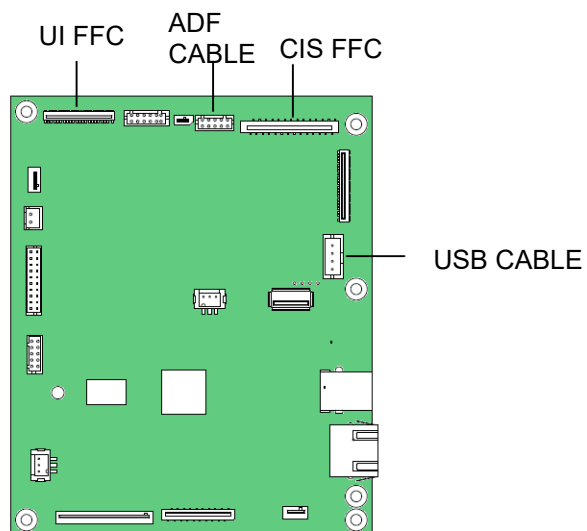
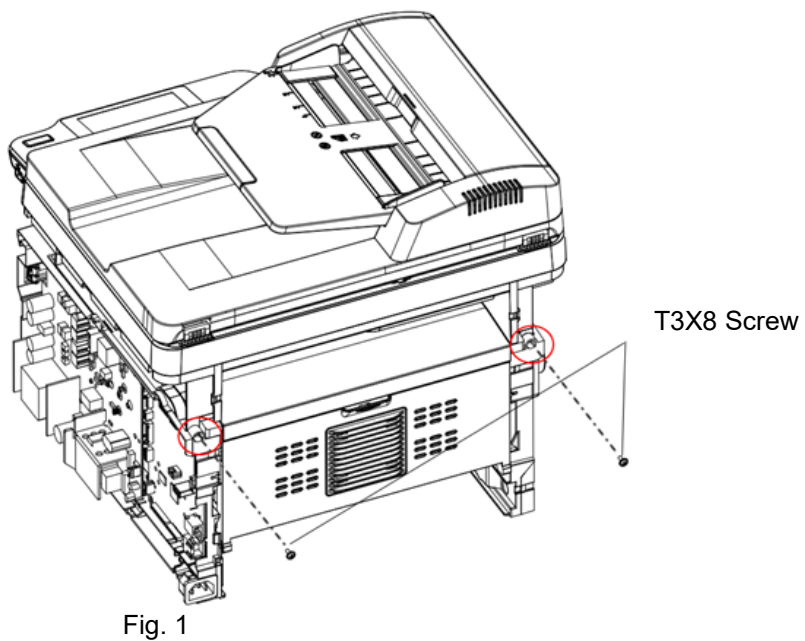


Fig. 1

3-1-9. ADF_FB Scanner

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

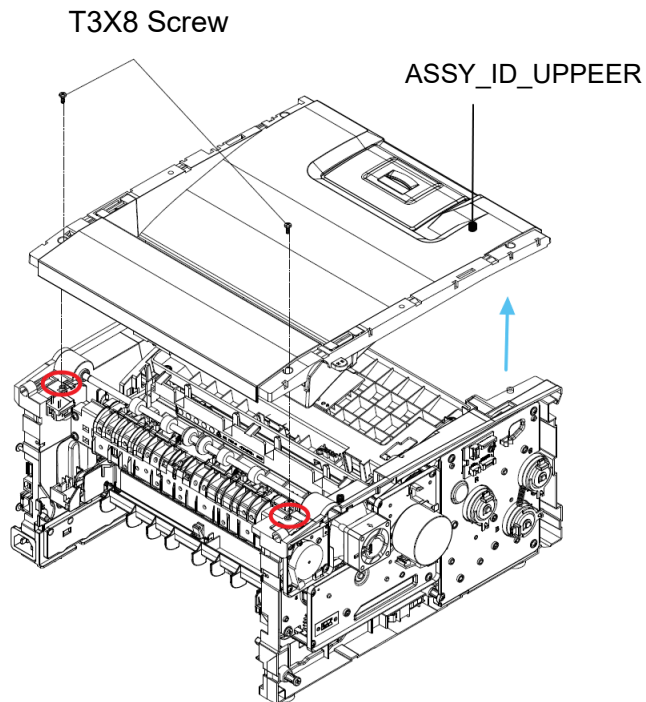
- 1). Remove Front Cover 、 Main Paper Tray 、 Drum Unit 、 Left Cover 、 Assembling Housing Right 、 ASSY_REAR_PATH).
- (2).Fig. 1: Remove two T3X8 screws, Fig. 2 Disconnect two FFC cables and two cables, Fig. 3: Push 4 slots to detach the ADF_FB Scanner.
- (3).Remove the ADF_FB Scanner.



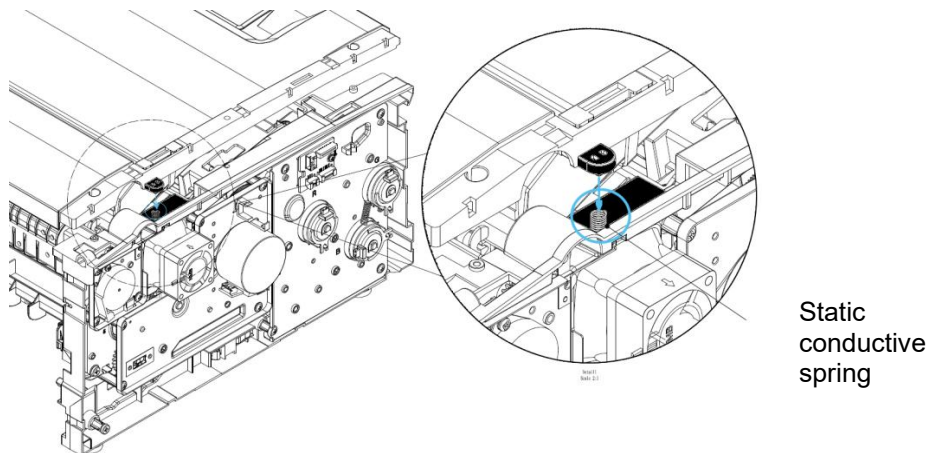
3-1-10. ASSY_ID_UPPEER

Tool Preparation: No.3(Refer to Maintenance Tool List)

- (1). Remove Front Cover 、 Main Paper Tray 、 and Drum Unit 、 ADF_FB Scanner.
- (2). Remove 2 fixing screws (M3X8) to remove the ASSY_ID_UPPEER.



- ✧ Reassembling Note: Before reassembling the Top Cover, please first insert the positioning post into the static conducting spring and then install the Top Cover.



3-2. Advanced Disassembling

3-2-1. FUSER_UNIT

Tool Preparation: No. 3、 8 (Refer to Maintenance Tool List)

- (1). Remove Front Cover, Paper Tray, Drum Unit, Assembling Housing Right /Left Cover, Duplex Unit, Exit Path).
- (2). As shown in Fig. 1, remove 1 x T3X8 screw and disconnect the cable.
- (3). Remove 2 x T3X8 screw and then disconnect the cable to remove the FUSER_UNIT.

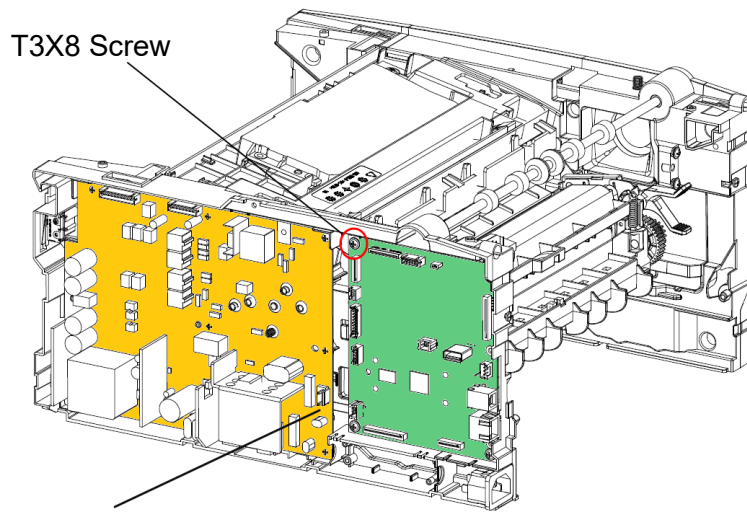
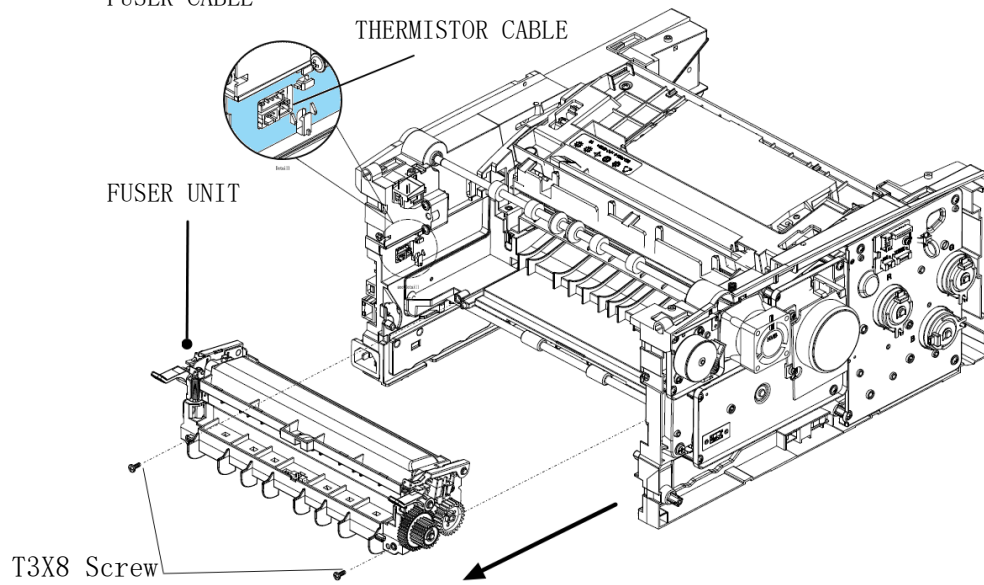
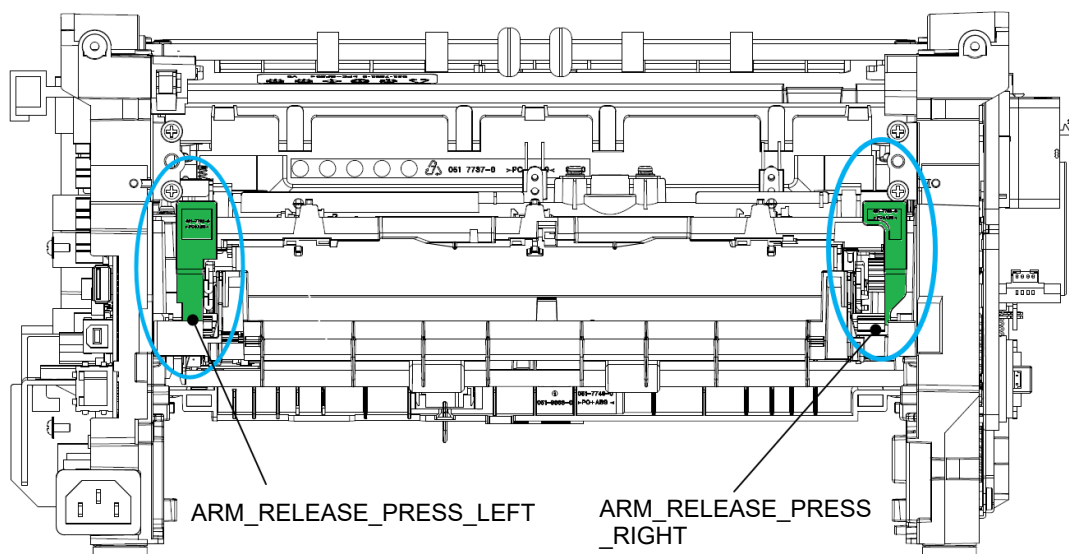


Fig 1



- ✧ **Tip:**
- Please first loosen the pressure spring before removing the fixing screws.
 - The green arms as shown need to be pulled up while disassembling the pressure spring. Or the pressure spring will be deformed.



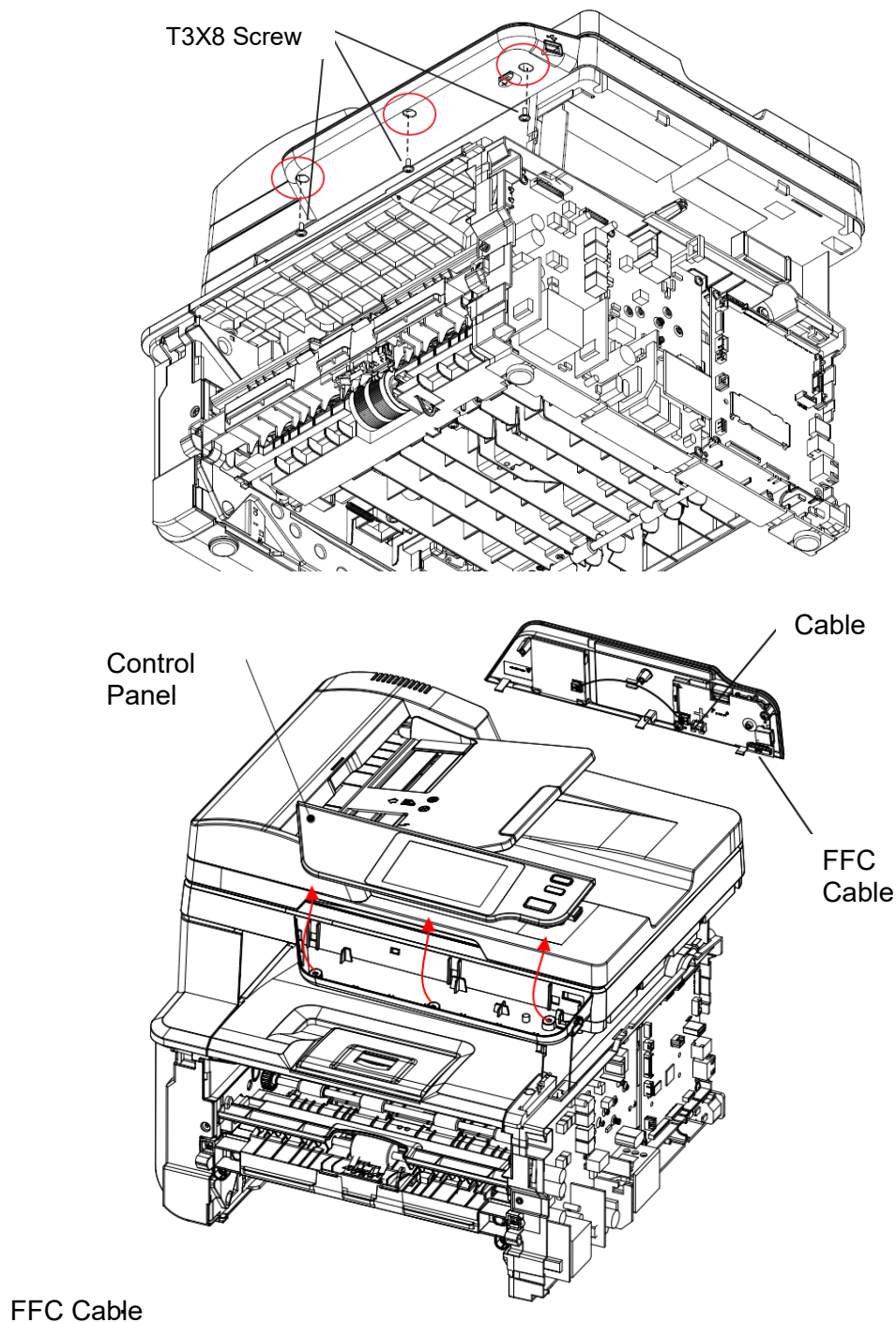
3-2-2. CONTROL_PANEL

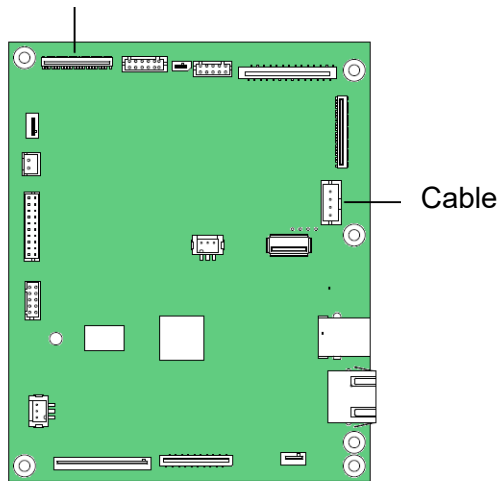
Tool Preparation: No. 3(Refer to Maintenance Tool List)

- (1) Remove Front Cover, Paper Tray, Drum Unit, Assembling Housing Right.
- (2) Remove M3X6 fixing screws x 3, and also remove the FFC cable x 2 pcs.

Note:

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.





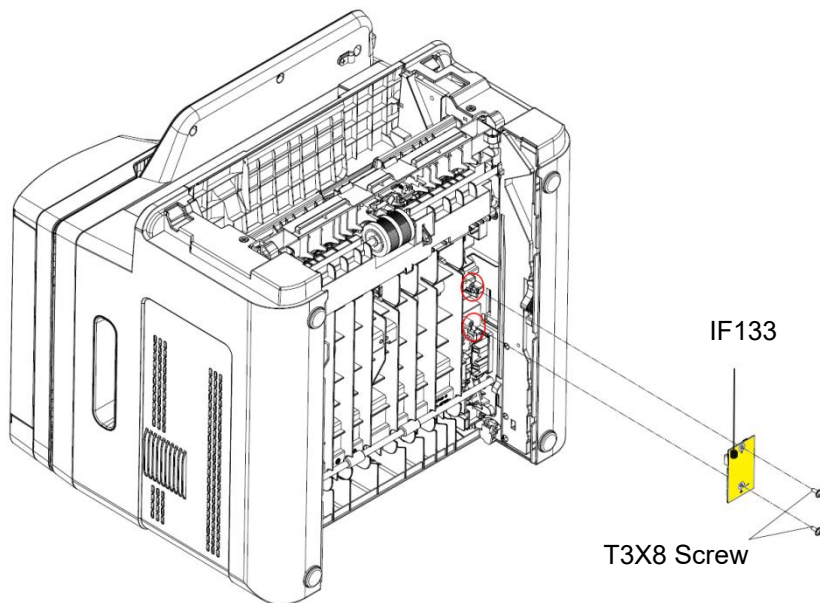
3-2-3. IF133 Board

Tool Preparation: No. 3(Refer to Maintenance Tool List)

- (1). Remove the Front Cover, and Drum Unit.
- (2). Remove the Duplex Unit, and Paper Tray.
- (3). Turn the machine over to reveal the bottom.
- (4). Remove TS3X8 fixing screws x 2 and remove all cables including the FFC cable.

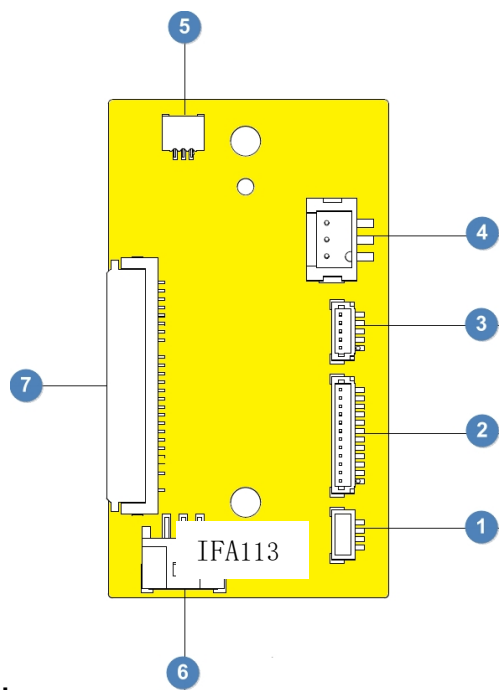
Note :

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.



Note :

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.



1	Main in Sensor
2	REG & Deskew(SENEP I2C)
3	Duplex Sensor
4	Manual in Sensor
5	Empty Sensor
6	Fuser out Sensor
7	CONN to the Main Board

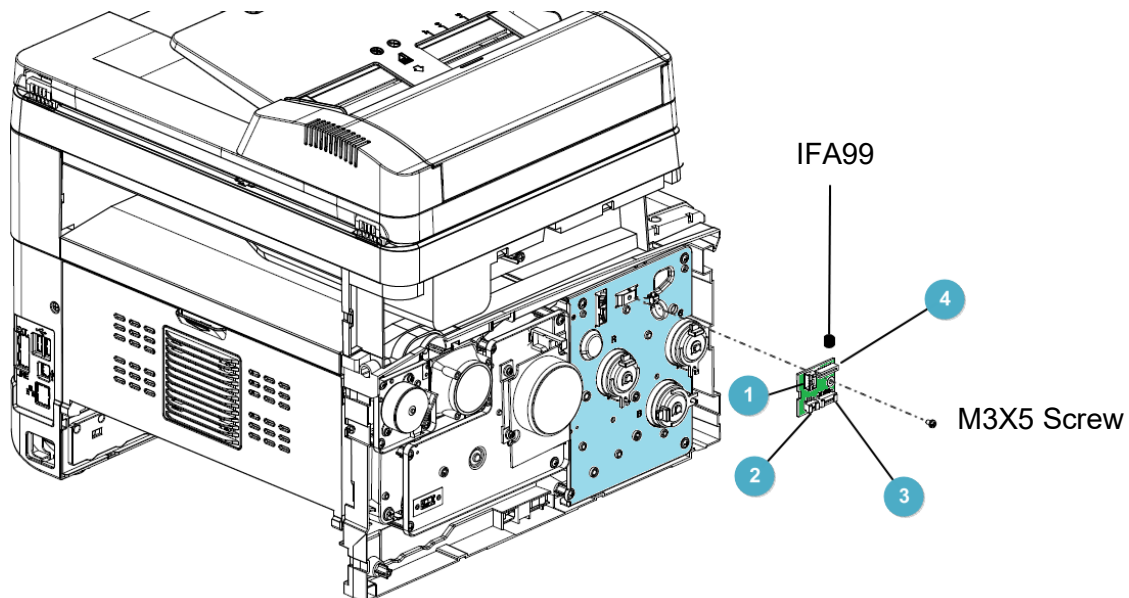
3-2-4. IFA99 Board

Tool Preparation: No. 3(Refer to Maintenance Tool List)

- (1). Remove the Front Cover, and Drum Unit, Paper Tray, Left Cover, and Duplex Unit.
- (2). Remove M3x5 screw x 1, and disconnect all cables including FFC cable to remove IFA99 board.

Note :

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.

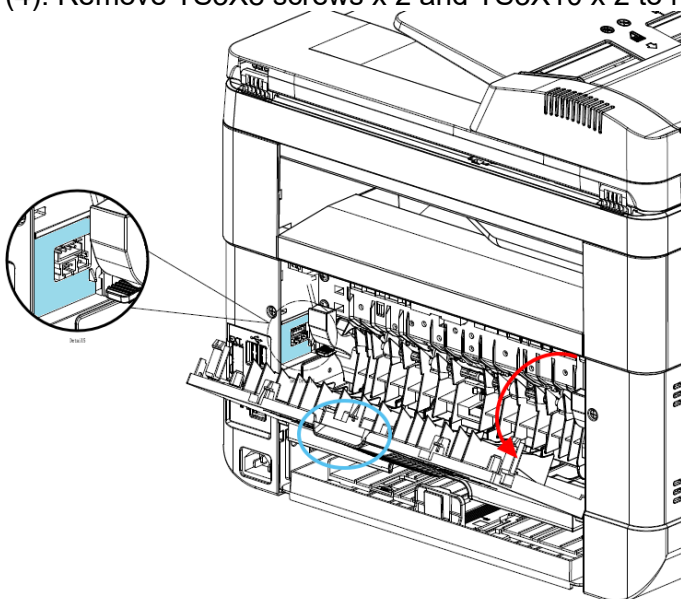


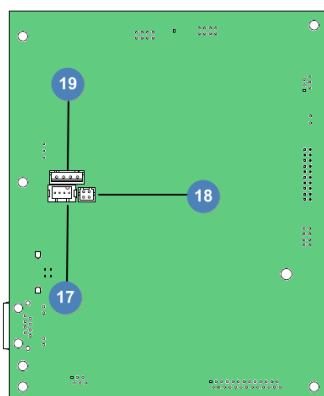
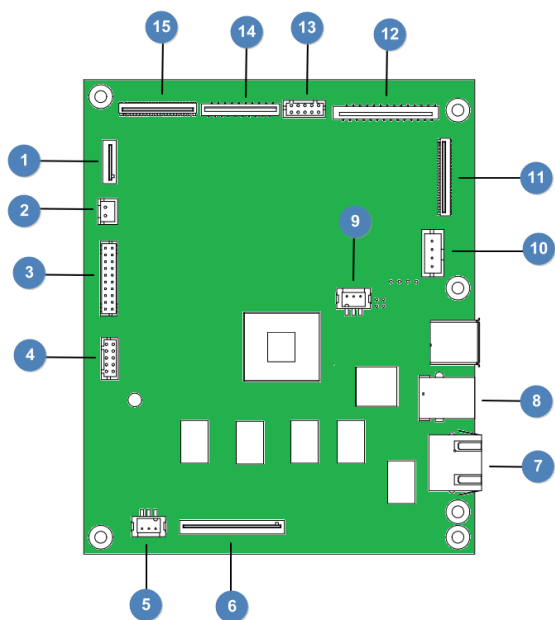
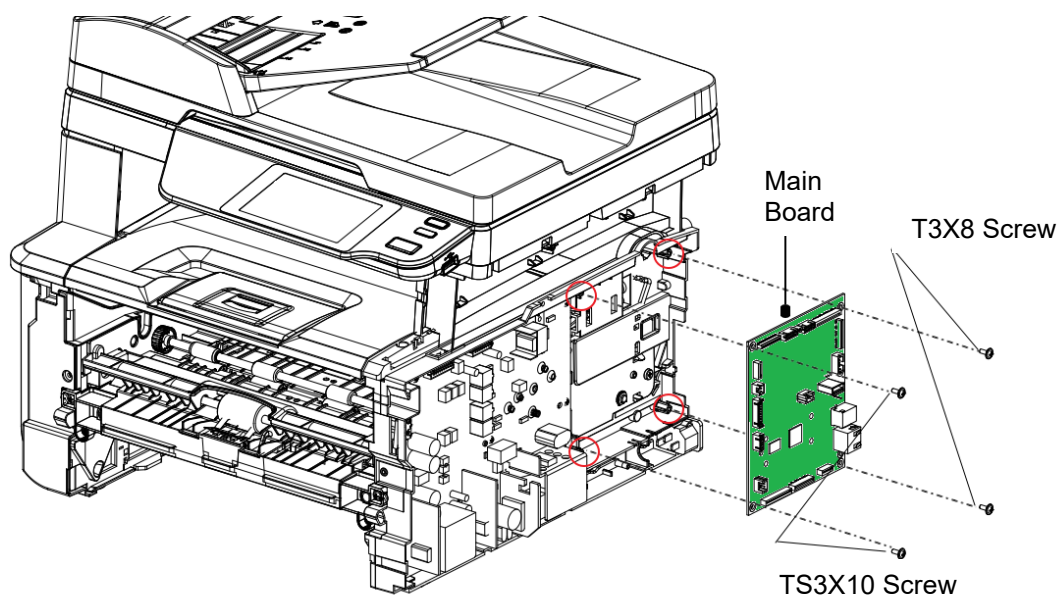
1	Exit motor
2	FAN
3	Clutch
4	FAN & Exit motor

3-2-5. MBA (Main Board)

Tool Preparation: No. 3(Refer to Maintenance Tool List)

- (1). Remove the Front Cover, and Drum Unit, Paper Tray, Assembling Housing Right.
- (2). Remove all cables including the FFC cables.
- (4). Remove TS3X8 screws x 2 and TS3X10 x 2 to remove the main board.





1	IFA99 J5(14P)
2	Micro Switch J1(2P)
3	High And Low Power Supply J8(22p)
4	Main Motor J4(10P)
5	Fan J5(3P)
6.	J9(26P) TO IF 133
7	J19(8p)EtherNet
8	J15(4p)usb device
9	Rear Door Open SensorHarness J13 (3P)TO SBA235
10	TO UIA308 j15(4P)Wire Harness
11	J17(16P)FFC TO BB60
12	To SBA226 J16(28P)FFC
13	To BB60 J9(14P)Wire Harness
14	LPH Module J8 (40P)FFC
15	To UIA308 J6 (36P)FFC
16	*
17	Exit Sensor J21 (3P)
18	Thermistor J19 (4P)
19	Fuser Out Sensor J20 (4P)

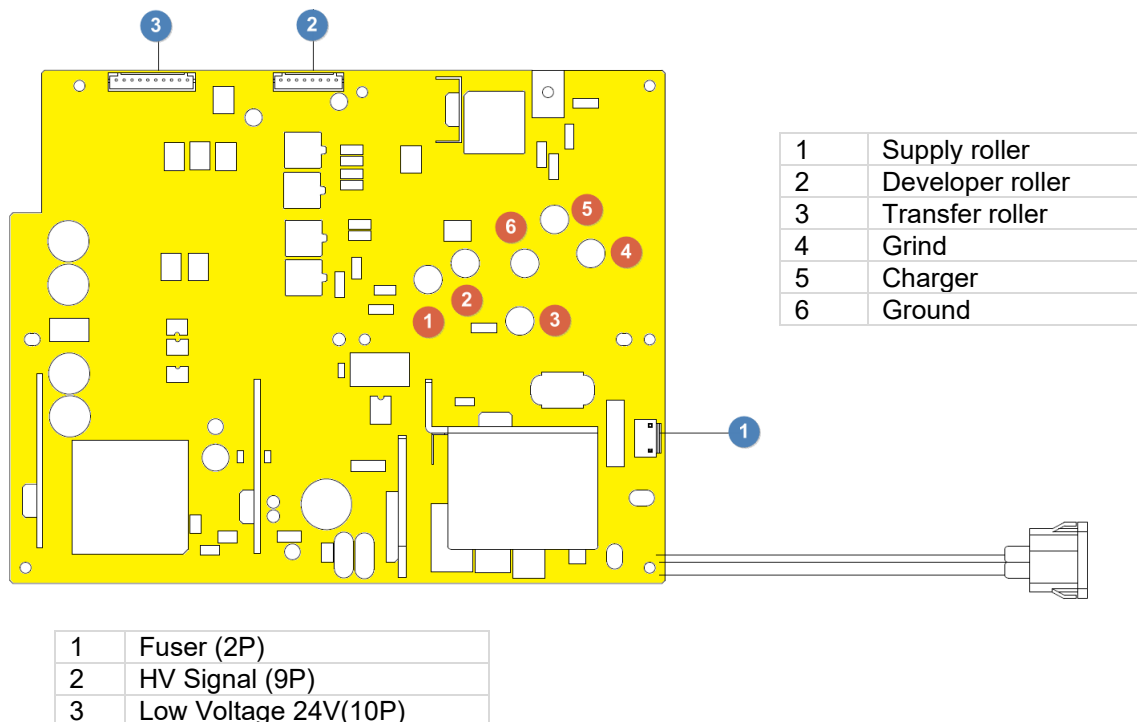
3-2-6. High Voltage Board (HV)

Tool Preparation: No. 3(Refer to Maintenance Tool List)

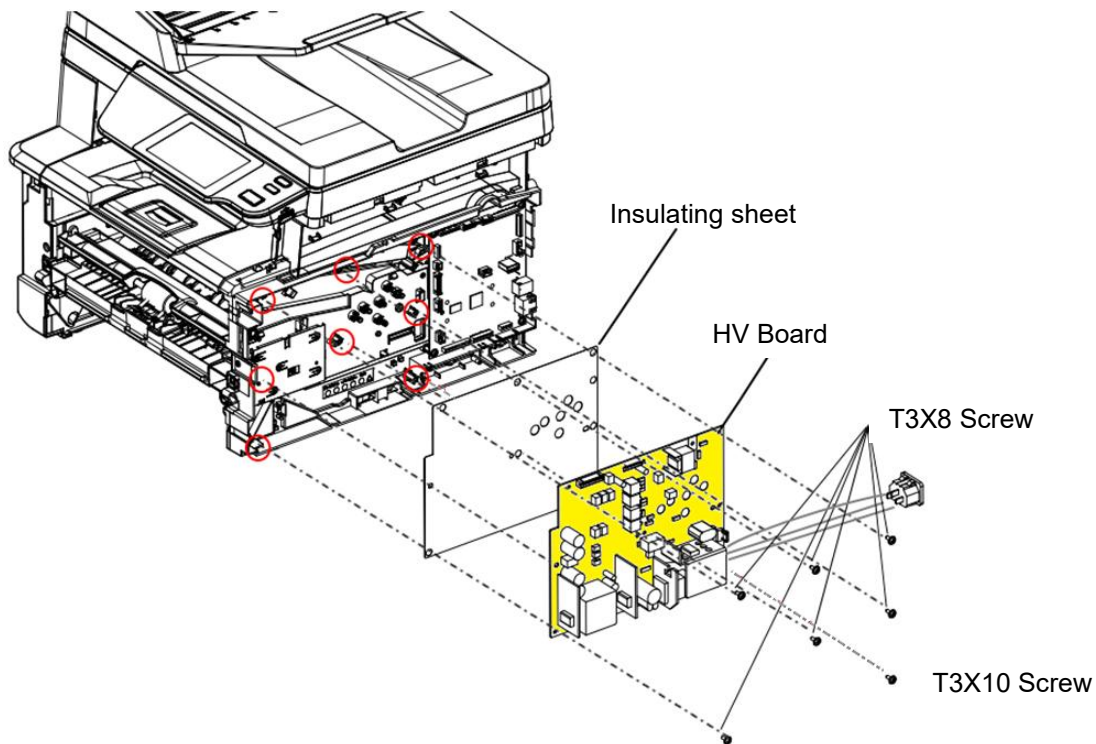
- (1). Remove Front Cover, Paper Tray, Drum Unit, and the Assembling Housing Right.
- (2). Remove all cables (3pcs) connecting to the high voltage board.
- (3). Remove TS3X8 screws x 6 pcs, and TS3X10 ground screw x 1 to remove the high voltage board.

Note:

- After the high-voltage board is removed, some components will still be conductive. Please wear latex gloves to work. Do not touch the welding surface of the high-voltage board without gloves.
- After the high-voltage board is disassembled, it should be placed on a insulating surface to avoid damage to the high-voltage board due to power jump.



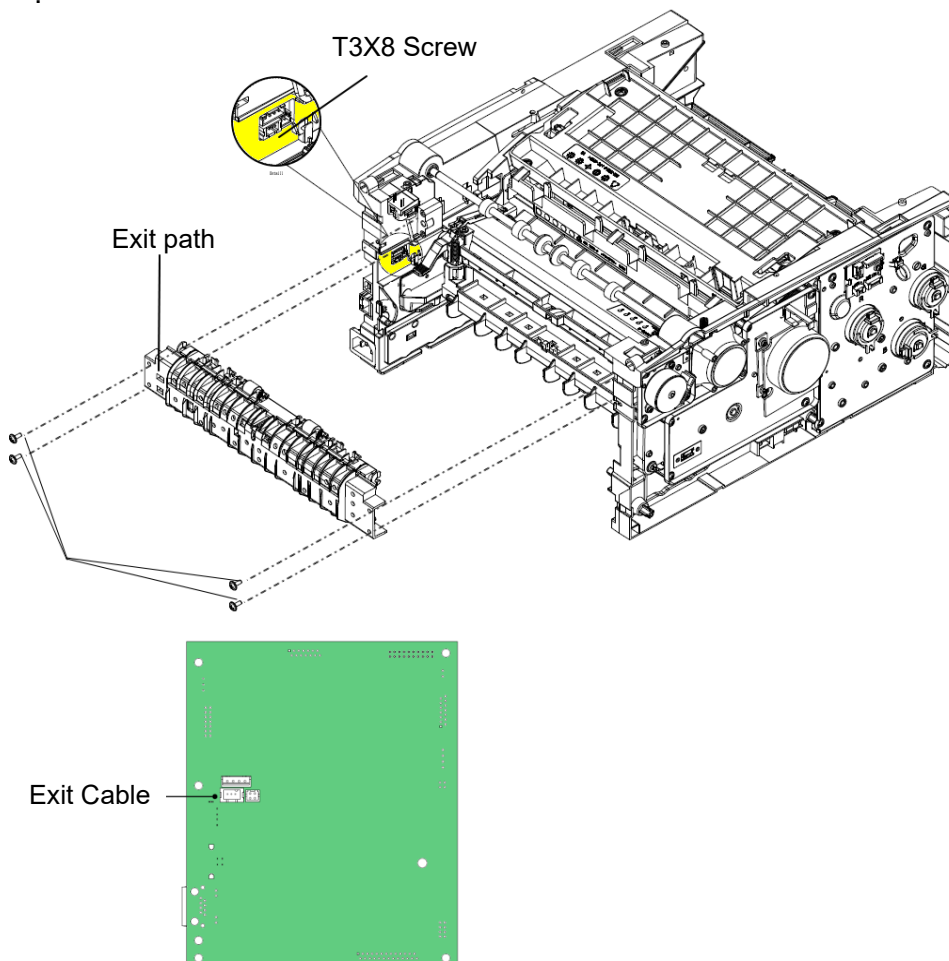
- ✧ Assembly Note: 1~6 high-voltage contact points must be connected during assembly inspection, and use a three-meter to switch to the ohm gear to confirm that they are connected.



3-2-7. Exit Path

Tool Preparation: No. 3(Refer to Maintenance Tool List)

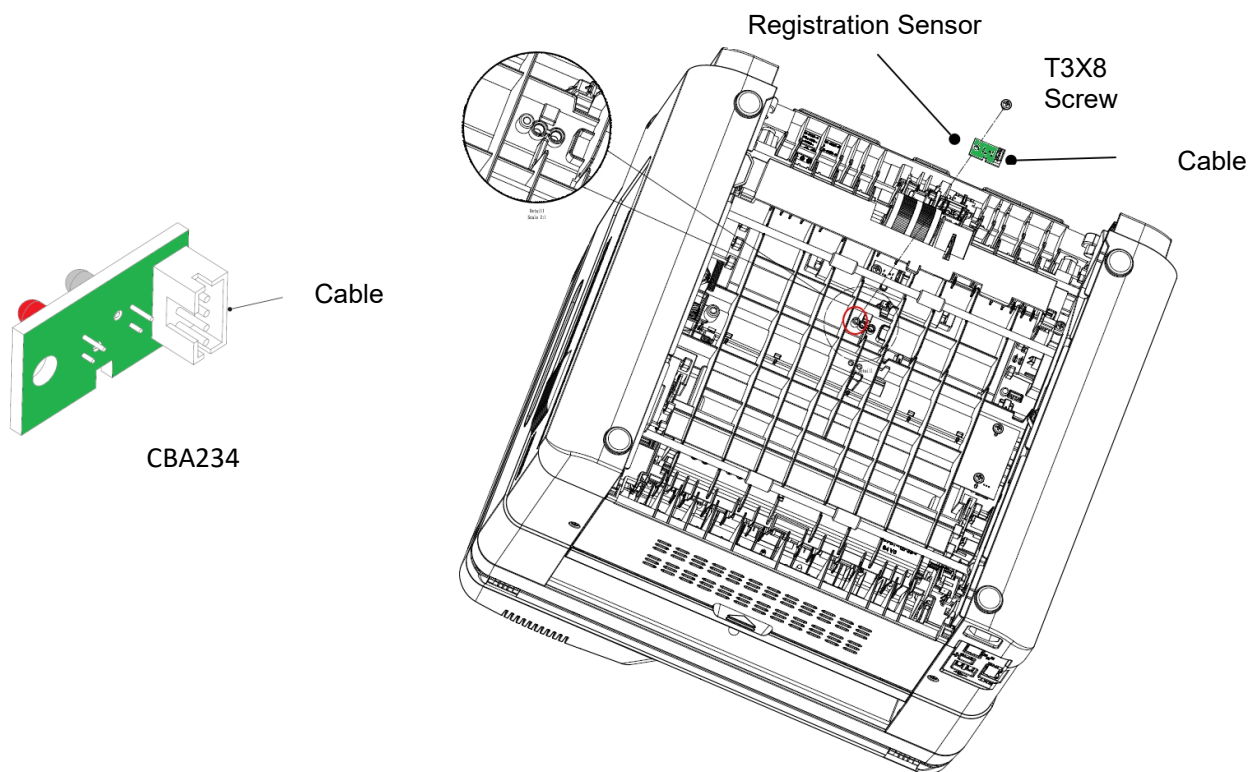
- (1). Remove Front Cover, Paper Tray, Drum Unit, Assembling Housing Right /Left Cover, Top Cover, Duplex Unit, and Fuser.
- (2). Remove the cable connecting to the main board.
- (3). Remove TS3x8 screws for 4 pcs to remove the Exit Path.



3-2-8. Registration Sensor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

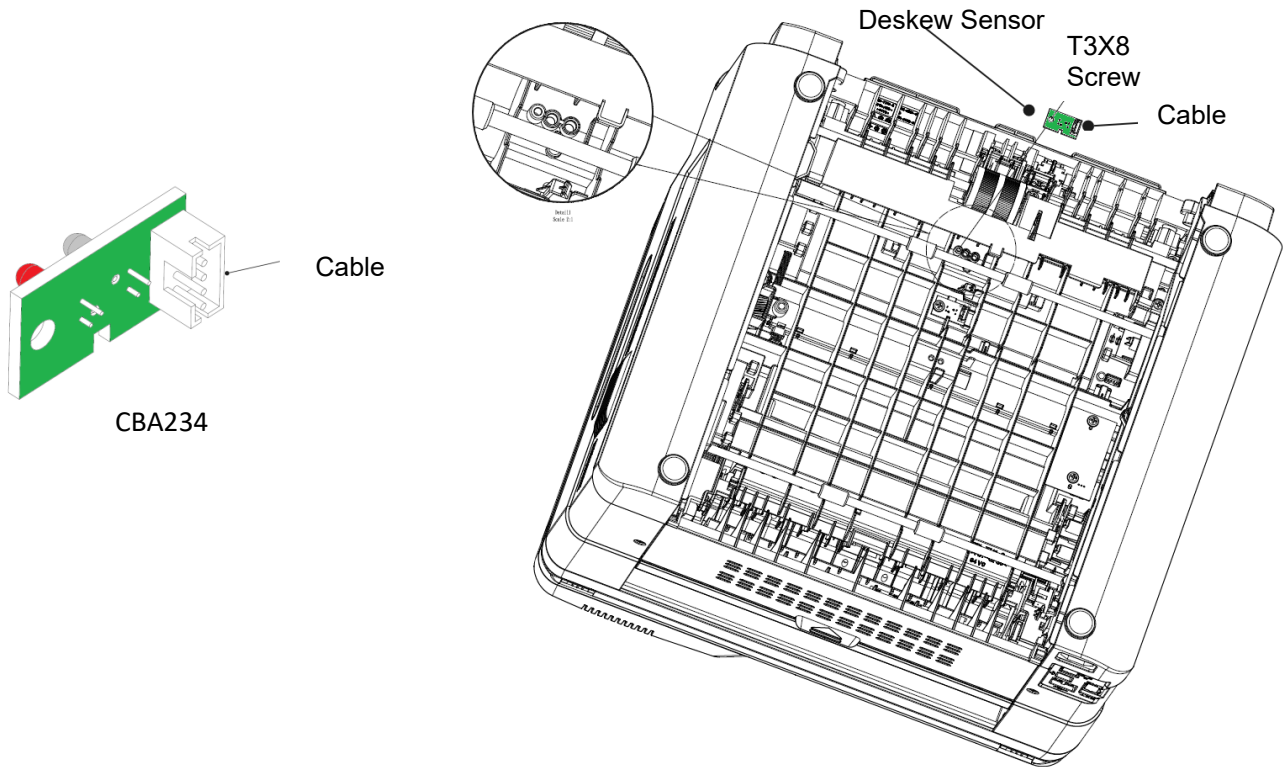
- (1). Remove the Front Cover and the Drum Unit.
- (2). Remove the Duplex Unit and the Paper Tray.
- (3). Turn the printer over to reveal the bottom.
- (4). Remove TS3X8 screw x 1 pcs and disconnect all cables to remove the sensor.



3-2-9. Deskew Sensor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

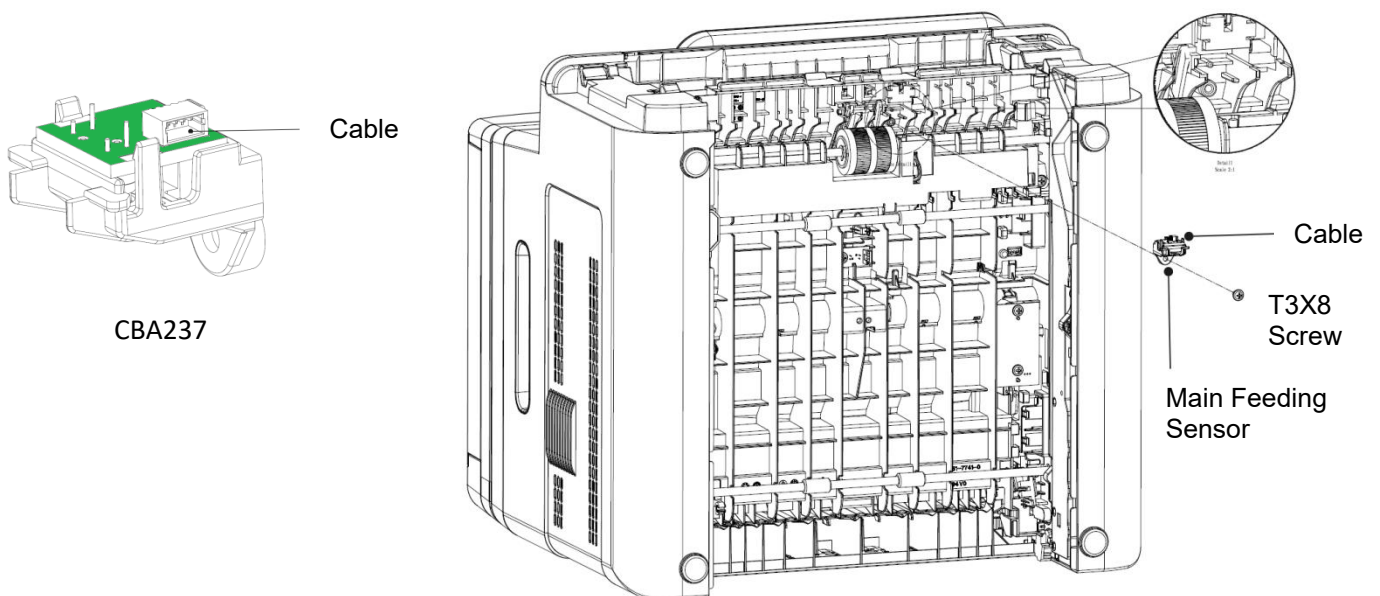
- (1). Remove Front Cover and Drum Unit.
- (2). Remove Duplex Unit, and Paper Tray.
- (3). Turn the printer over to reveal the bottom.
- (4). Remove TS3X8 x 1 pc and disconnect all cables to remove the sensor.



3-2-10. Paper-in Sensor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

- (1). Remove Front Cover and Drum Unit.
- (2). Remove Duplex Unit, and Paper Tray.
- (3). Turn the printer over to reveal the bottom.
- (4). Remove TS3X8 x 1 pc and disconnect all cables to remove the sensor.

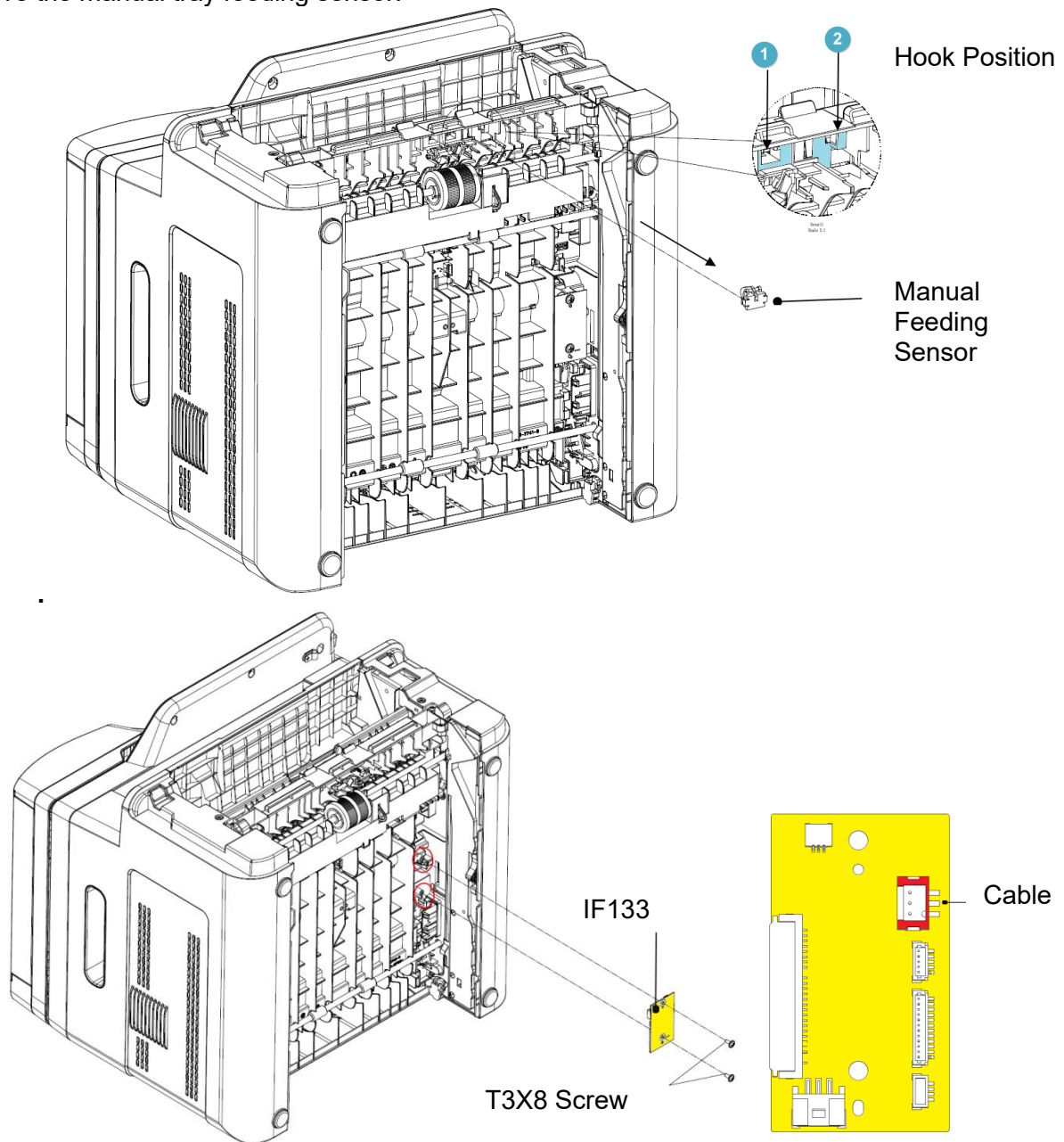


3-2-11. Manual Paper-In Sensor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

- (1). Remove Front Cover and Drum Unit.
- (2). Remove Duplex Unit, Paper Tray, Main Feeding Sensor, IF133 Board.
- (3). Turn the printer over to reveal the bottom.

(4). Remove TS3X8 x 2 pc of the IF133 board, disconnect the cable. Remove the main feeding sensor, and then remove the manual tray feeding sensor.



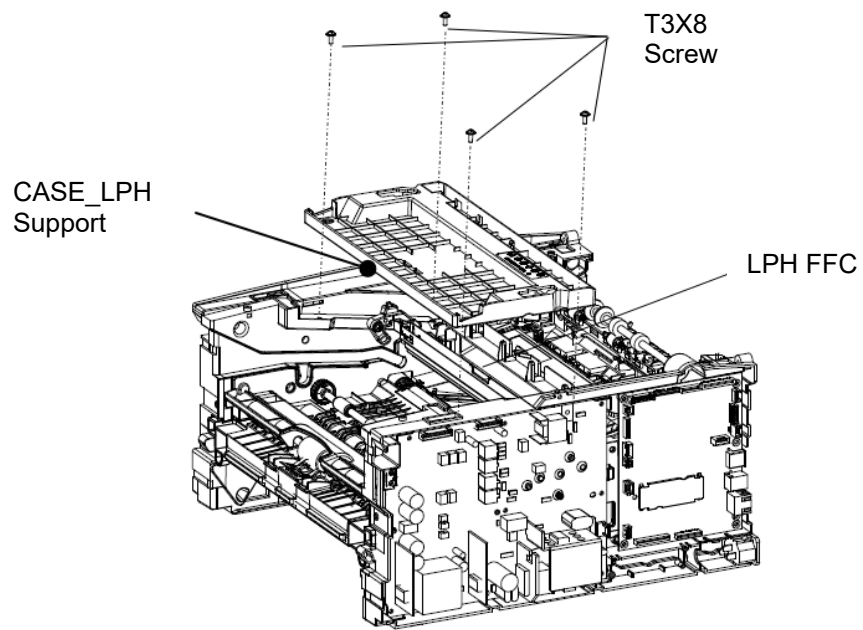
3-2-12. Duplex Sensor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

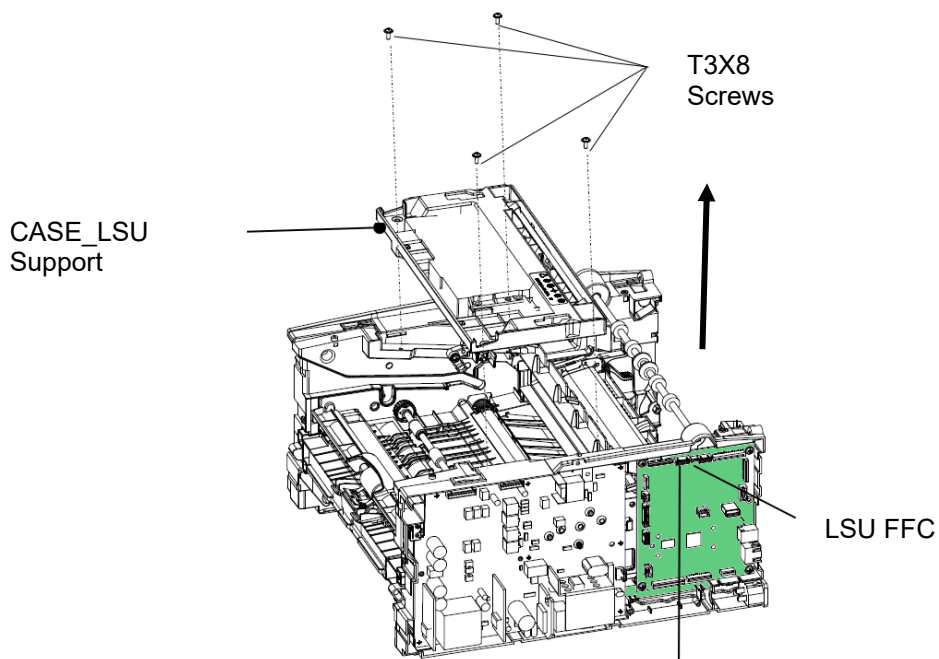
- (1). Remove Front Cover, Paper Tray, Drum Unit, Right/Left Cover, Top Cover, and Duplex Unit.
- (2). Disconnect the FFC cable and then remove M3X8 screws for 4 pcs to remove the LSU Support.
- (3). Remove the Transferred Roller.
- (4). Remove M3X8 fixing screw x 1 to remove the sensor.

Note :

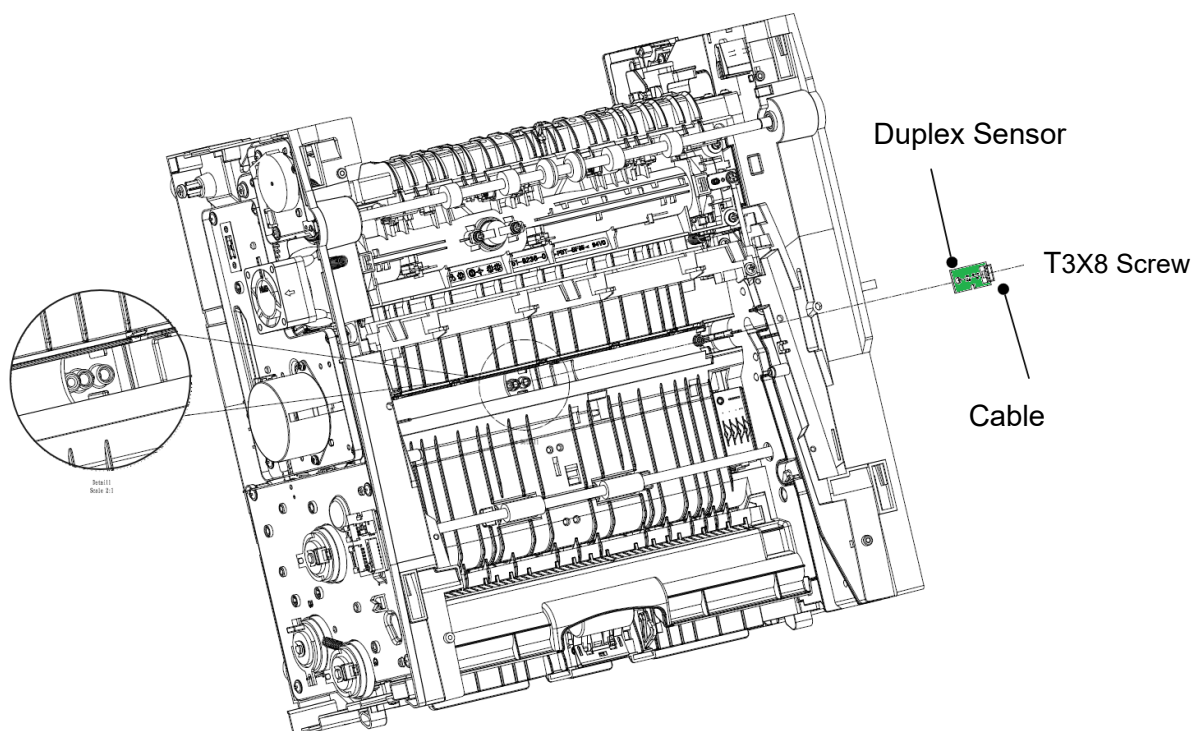
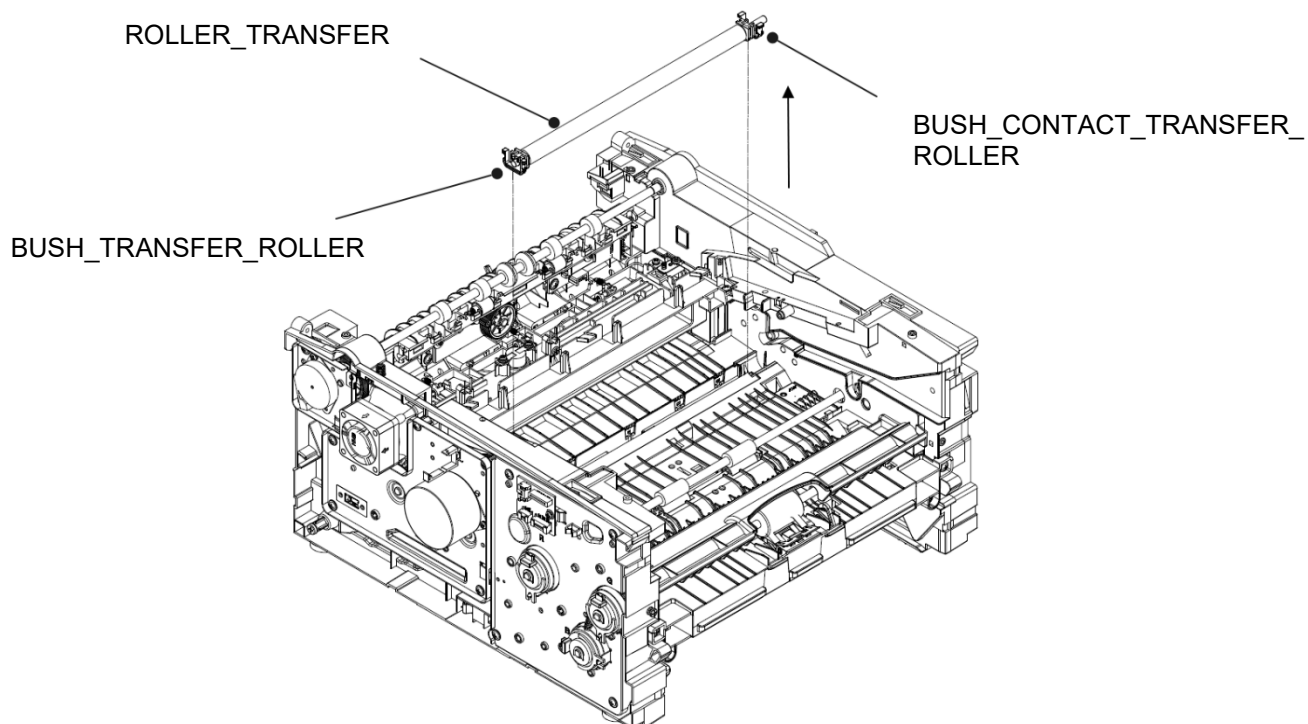
- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.



Model with LPH



Model with LSU



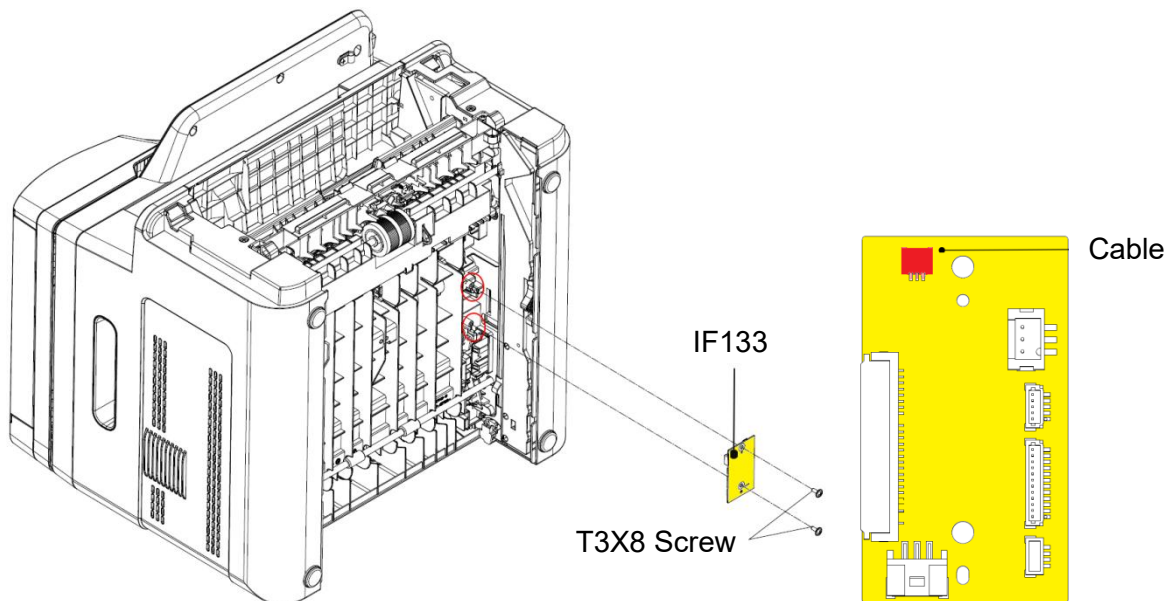
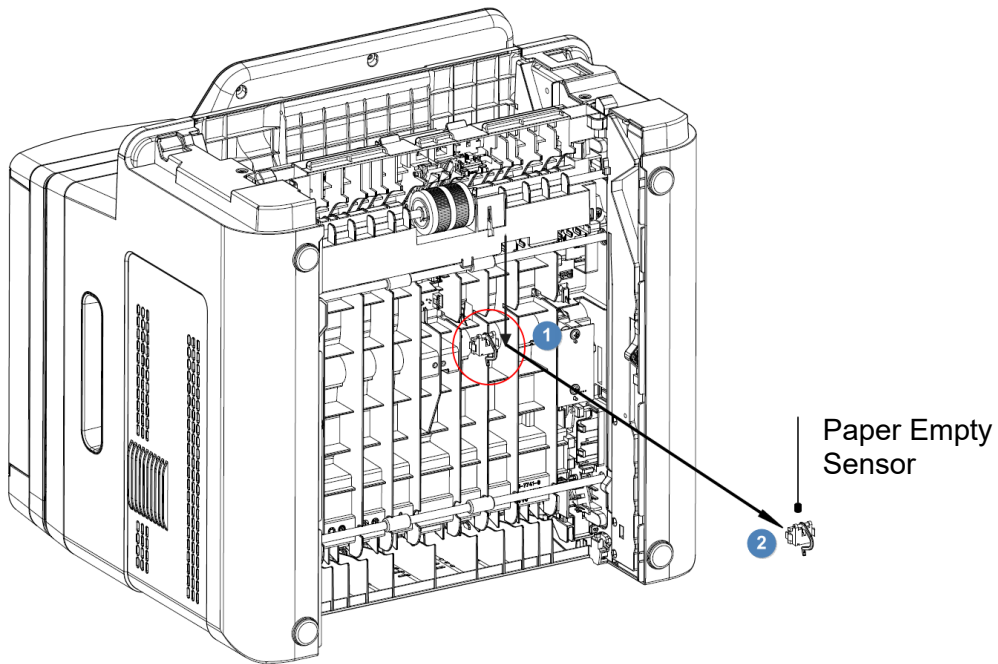
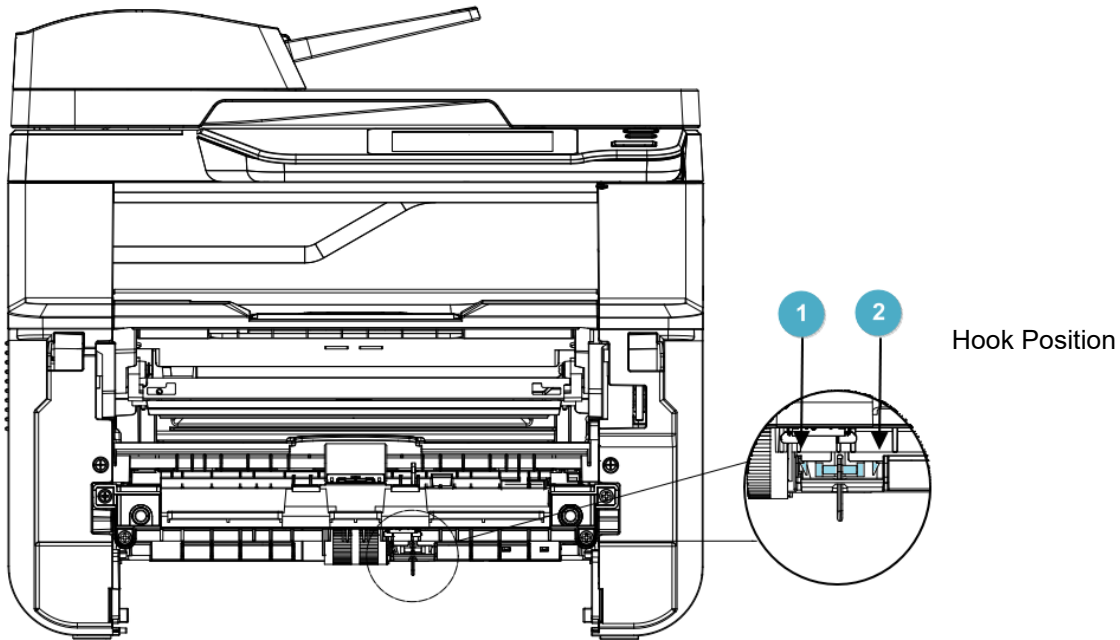
3-2-13. Paper Empty Sensor

Tool Preparation: No. 1 (Refer to Maintenance Tool List)

- (1). Remove Front Cover, Paper Tray, Drum Unit, and Duplex Unit.
- (2). Turn the printer over and hold the Paper-Empty sensor to loosen the hook and remove the sensor with a flat screw driver.

Note:

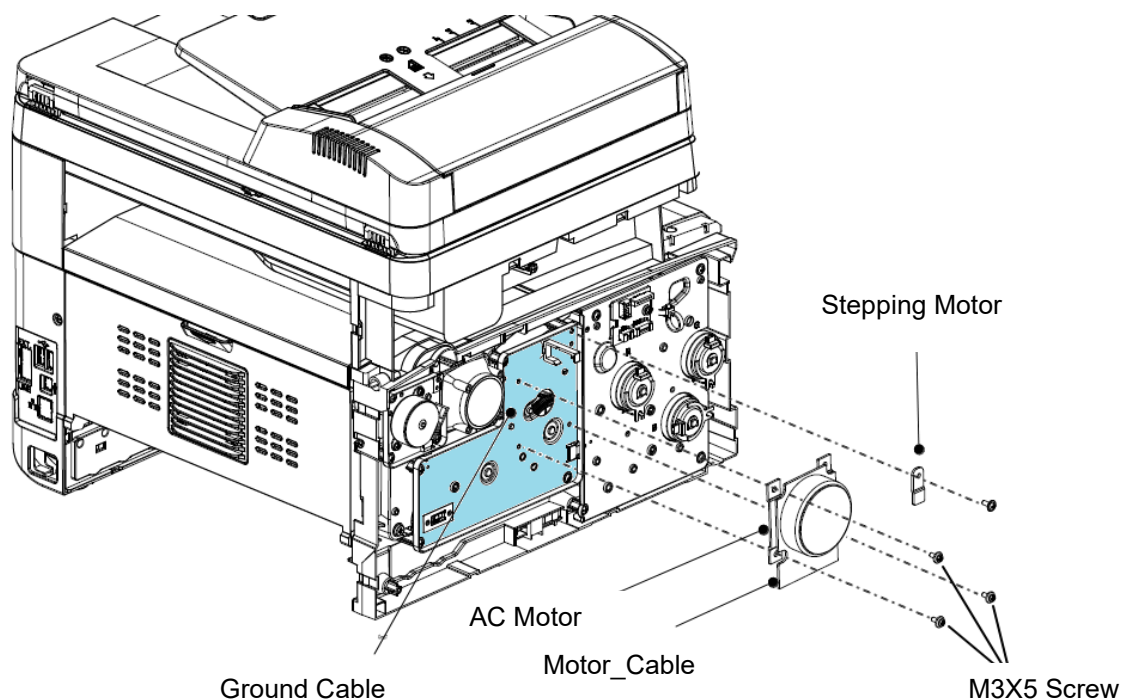
- When reassemble the Paper-Empty Sensor, make sure the cables are properly inserted to the cable slot.



3-2-14. Main Motor

Tool Preparation: No. 3 (Refer to Maintenance Tool List)

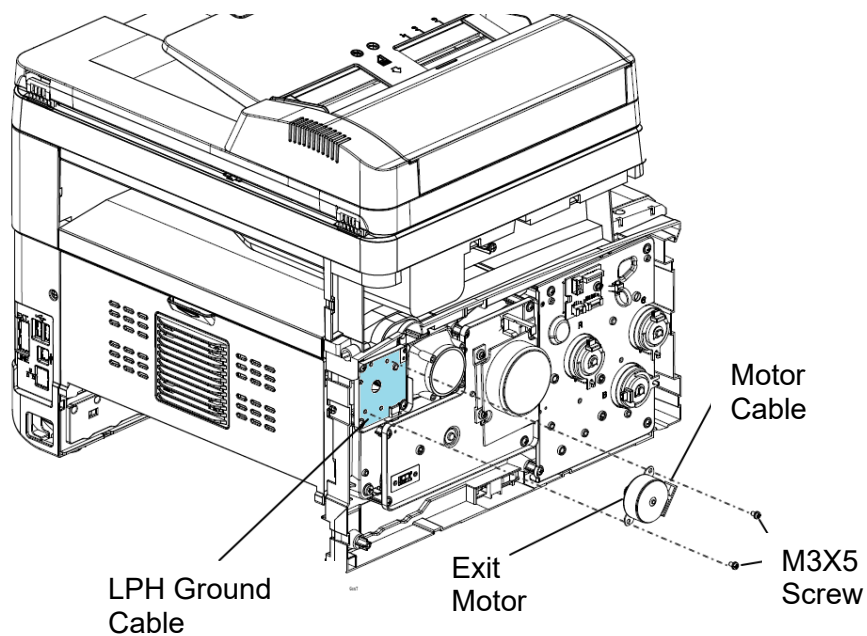
- (1). Remove Front Cover, Paper Tray, Drum Unit, and Left Cover.
- (2). Remove M3X8 screw for 4 pcs and remove the clamp motor. Disconnect the motor cable and ground cable to remove the motor.



3-2-15. Exit Motor

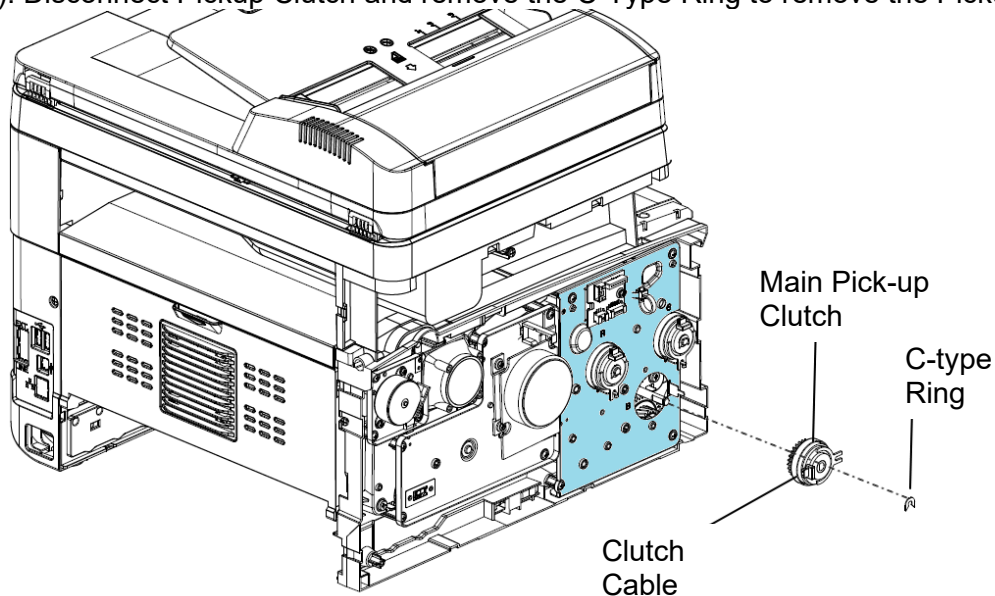
Tool Preparation: No. 3 (Refer to Maintenance Tool List)

- (1). Remove Front Cover, Paper Tray, Drum Unit, and Left Cover.
- (2). Remove M3X5 screw for 2 pcs and disconnect the motor cable to remove the motor.



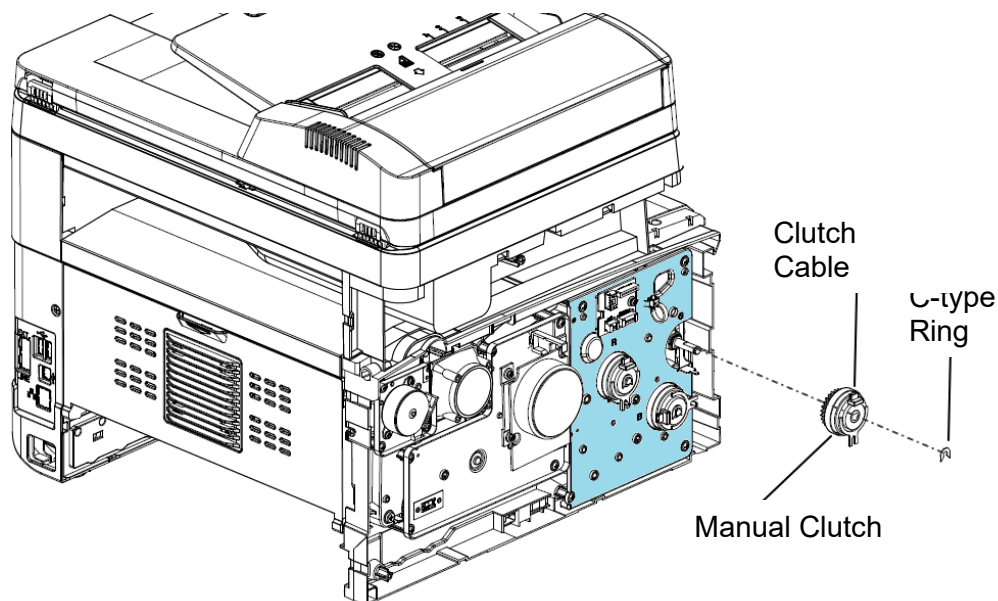
3-2-17. Pick up Clutch

- (1). Remove Front Cover, Paper Tray, Drum Unit, and Left Cover.
- (2). Disconnect Pickup Clutch and remove the C-Type Ring to remove the Pickup Clutch.



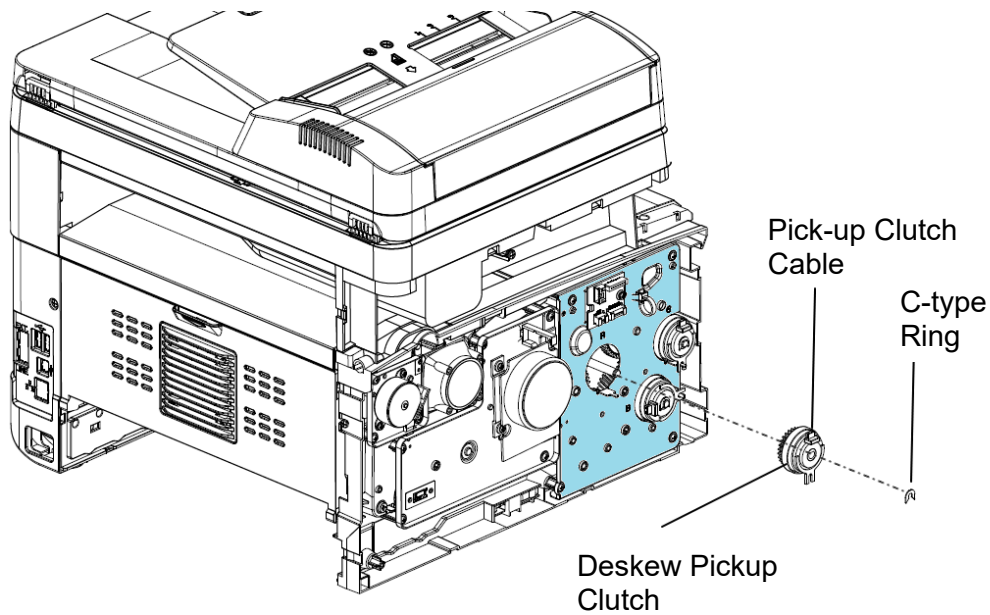
3-2-18. Manual Pick-up Clutch

- (1). Remove Front Cover, Paper Tray, Drum Unit, and Left Cover.
- (2). Disconnect Pickup Clutch and remove the C-Type Ring to remove the Pickup Clutch.



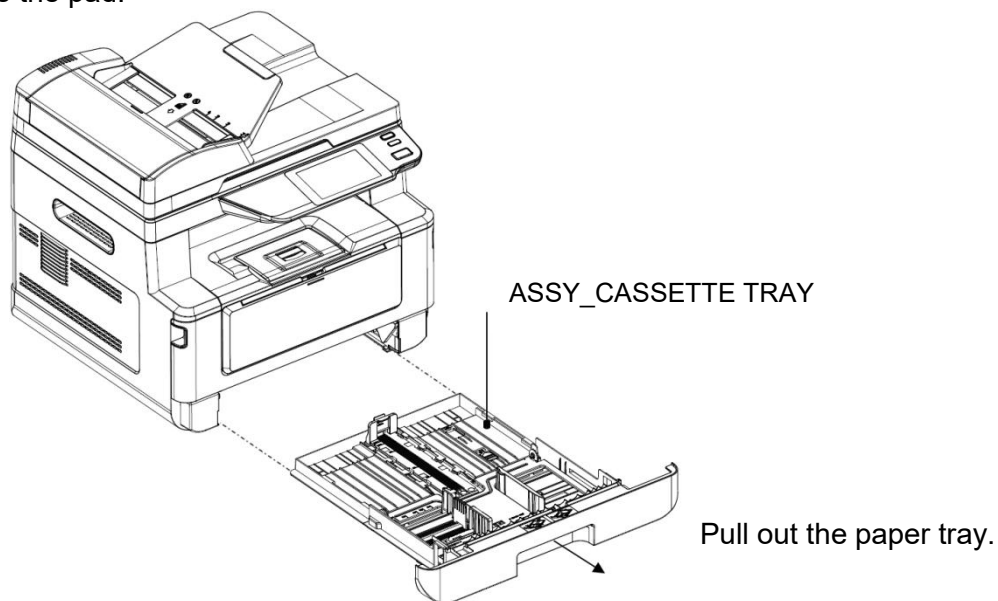
3-2-19. Deskew Pick-up Clutch

- (1). Remove Front Cover, Paper Tray, Drum Unit, and Left Cover.
- (2). Disconnect Pickup Clutch and remove the C-Type Ring to remove the Pickup Clutch.



3-2-20. ASSY_PAD

- (1). Pull the Paper Tray out of the printer.
- (2). Replace the pad.



- ✧ Before removing ASSY_PAD, please first press the PLATE_LIFTUP_CASSETT and then remove the pad.

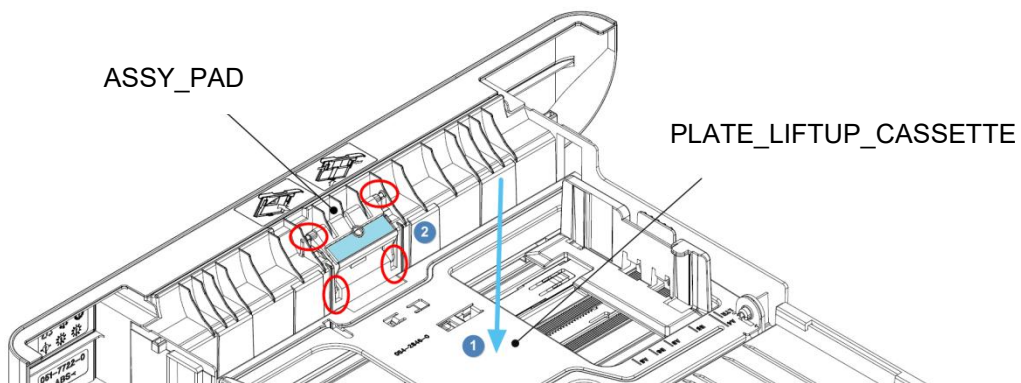
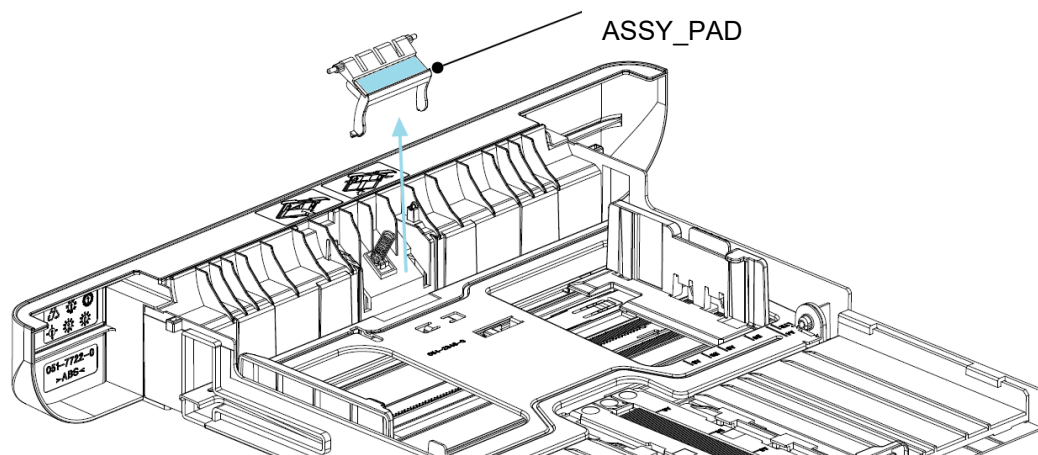


Fig.1



3-2-21. LPH (LED Printer Head) (For model with LPH)

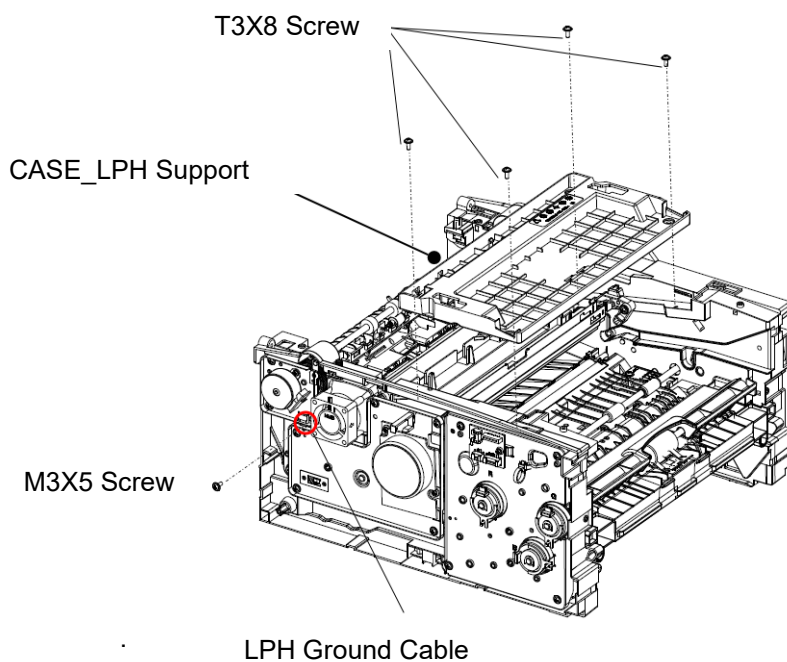
Tool Preparation: No. 3 (Refer to Maintenance Tool List)

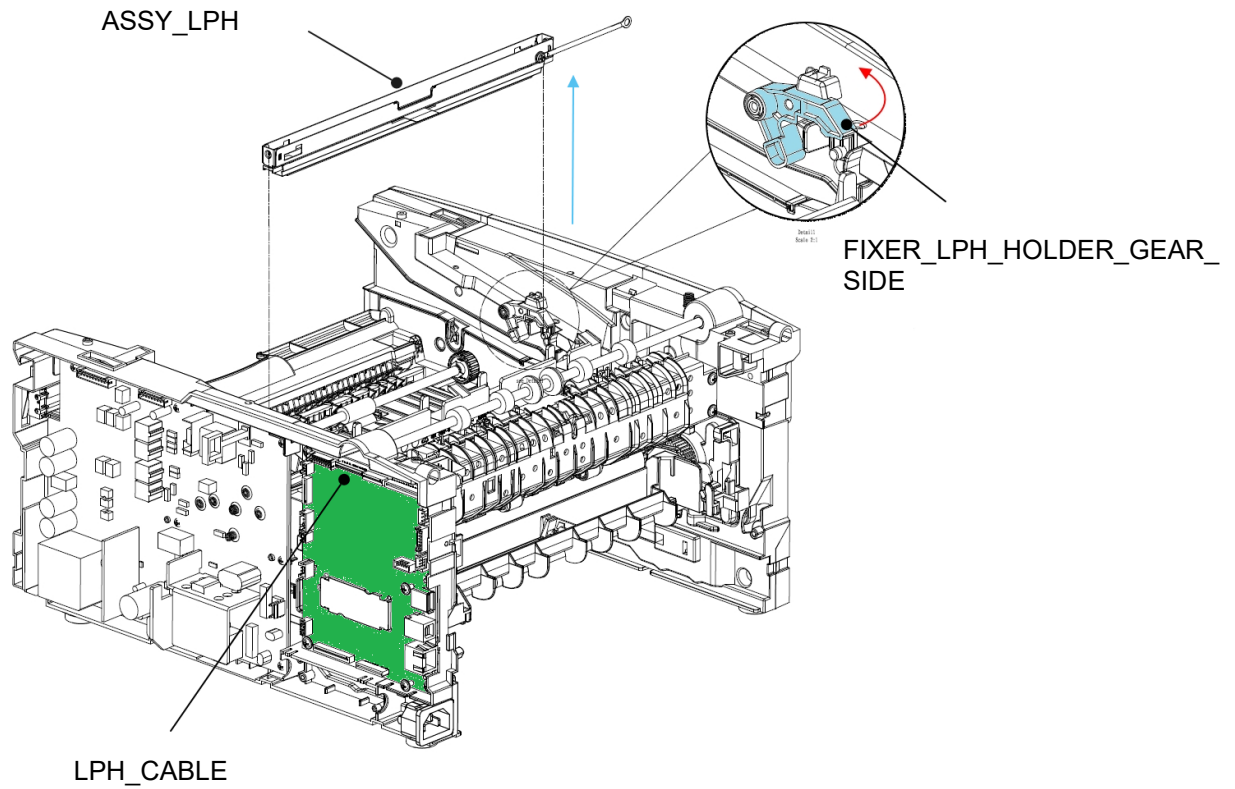
- (1). Remove Front Cover, Paper Tray, Drum Unit, Assembling Housing Right/Left Cover, and Top Cover.
- (2). Remove M3X8 screw, disconnect all cables and the FFC cable, and finally remove M3X8 screws for 4 pcs to remove the LPH Support.

Note:

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.
- When disassembling the LPH, be sure to wear latex gloves and do not touch the metal surface of the LPH flat cable and the PCBA circuit board.

- (3). Lift the hook of the LPH and slightly move it outward to remove the LPH.





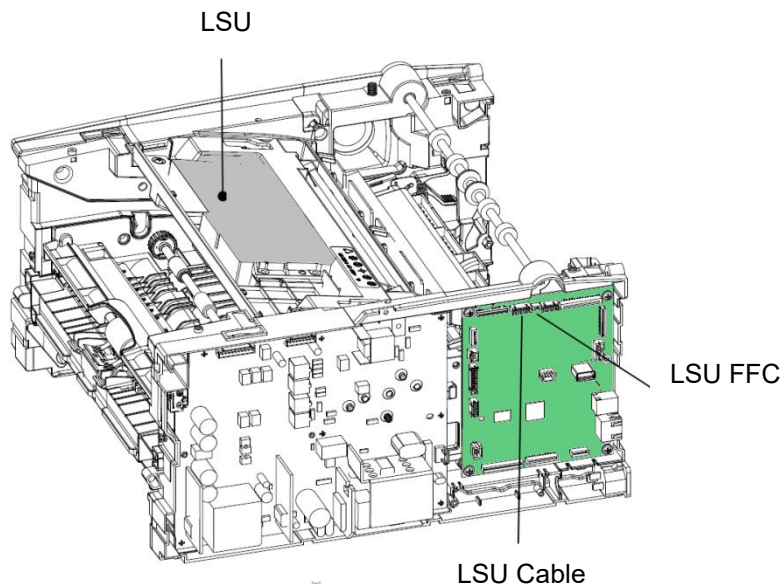
3-2-21. LSU (Laser Scanning Unit) (For model with LSU)

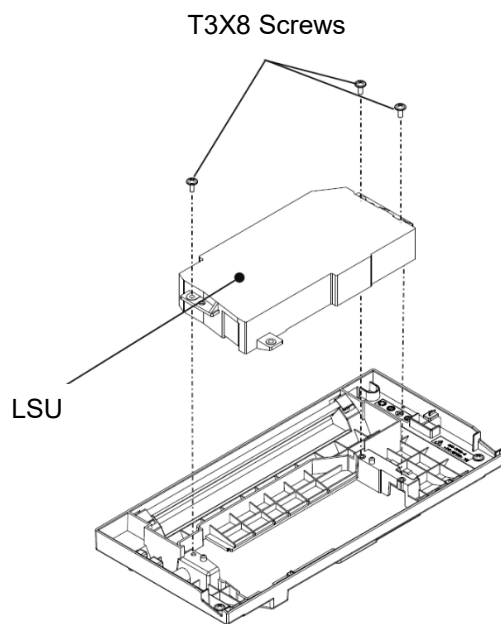
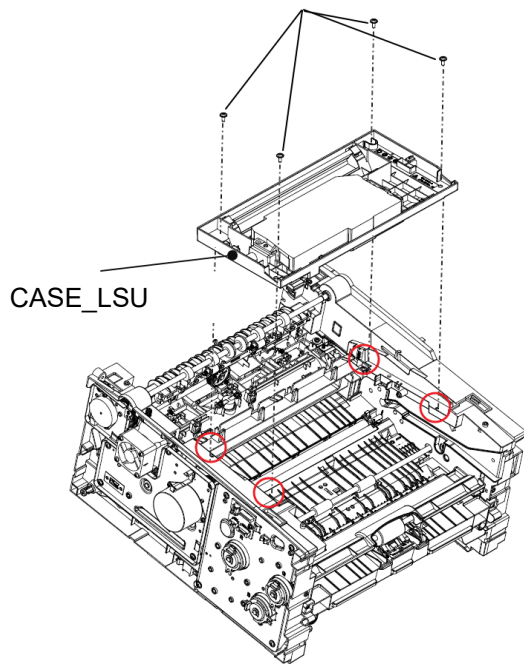
Tool Preparation: No. 3 (Refer to Maintenance Tool List)

- (1). Remove Front Cover, Paper Tray, Drum Unit, Assembling Housing Right/Left Cover, and Top Cover.
- (2). Disconnect all cables and the FFC cable x 2 pcs and remove M3X8 screws for 4 pcs to remove the LSU Support.
- (3). Remove T3X8 screws x 3 pcs and then remove the LSU.

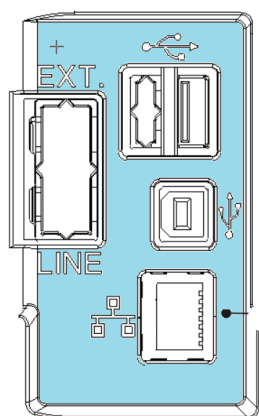
Note:

- After unplugging the flat cable, be sure to check that the connectors of the flat cable are intact and that the flat cable is not short-circuited.
- When inserting the flat cable, be sure to insert it straight and make sure that it is not crooked.
- When disassembling the LSU, be sure to wear latex gloves and do not touch the metal surface of the LSU flat cable and the PCBA circuit board.



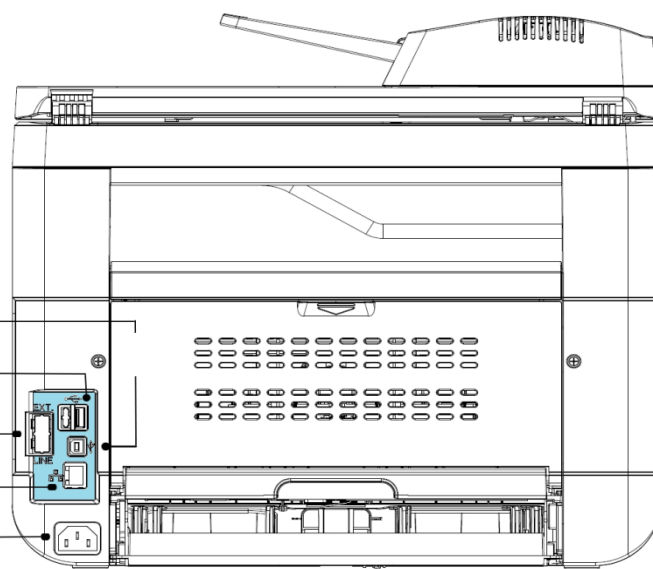


3-2-22. Check LAN Connection



LAN

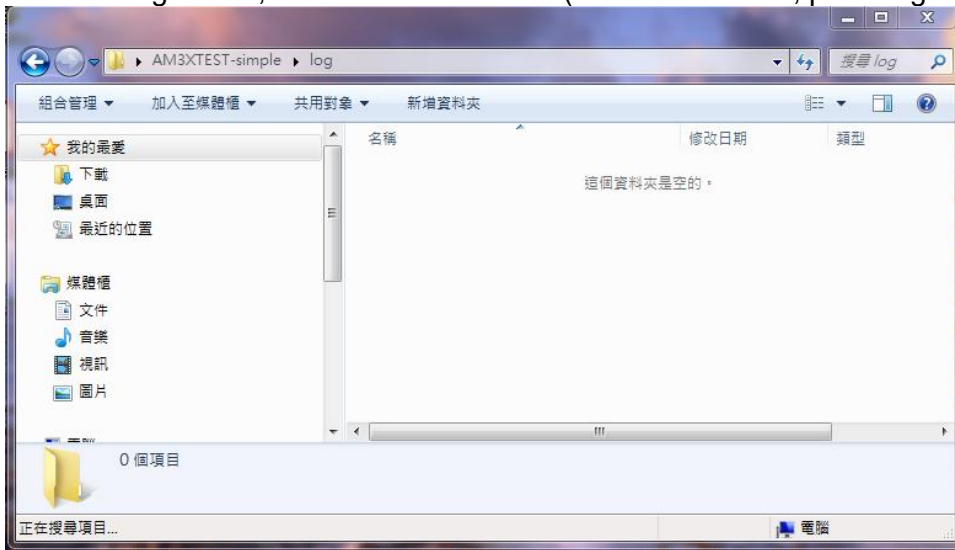
- USB Connector
- USB HOST Connector
- FAX TYPE Connector
- LAN Connector
- POWER Connector



Appendix 1: AM3Xtest- Find system log tool

Notice before using the log tool:

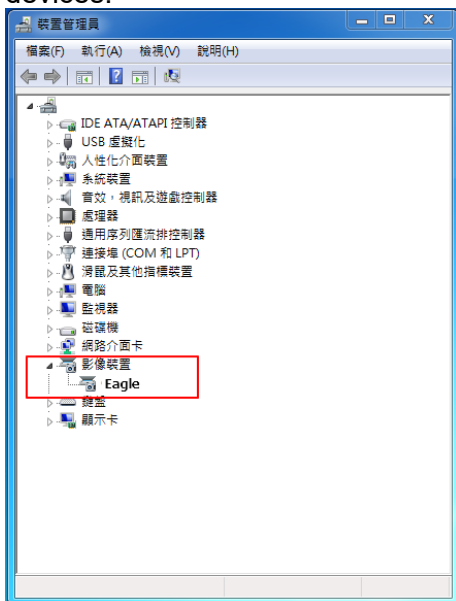
1. In the “log” folder, clear the “test.txt” file. (For first-time use, please ignore this step.)



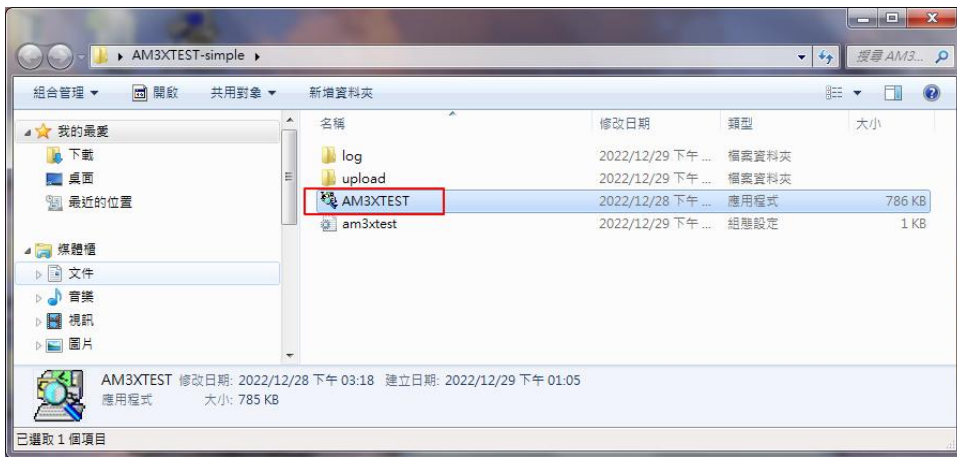
2. AM3X tool can be downloaded from the following link:

https://www.capsuloffice.com/files/ugd/e6963d_c9692da9e1ae4df8ada69a7ff51e9fc4.pdf

3. Make sure the driver has been installed, and the device name can be found in the printer list and image devices.

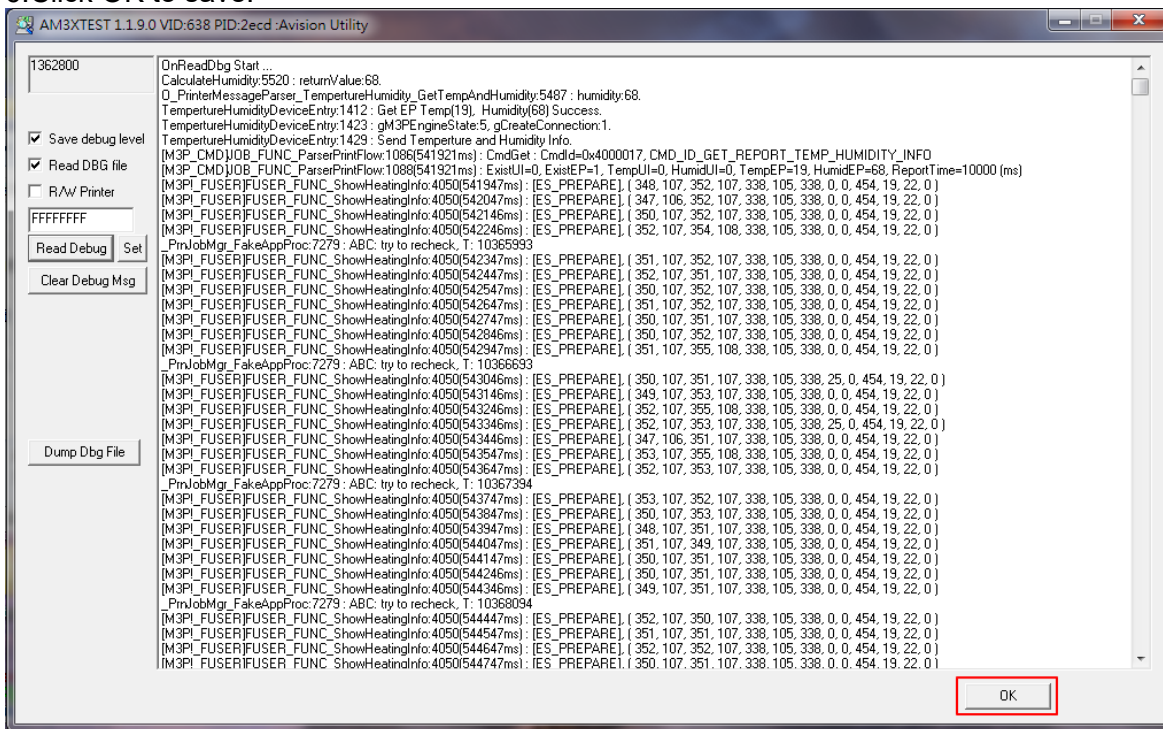


4. Double click AM3XTEST.

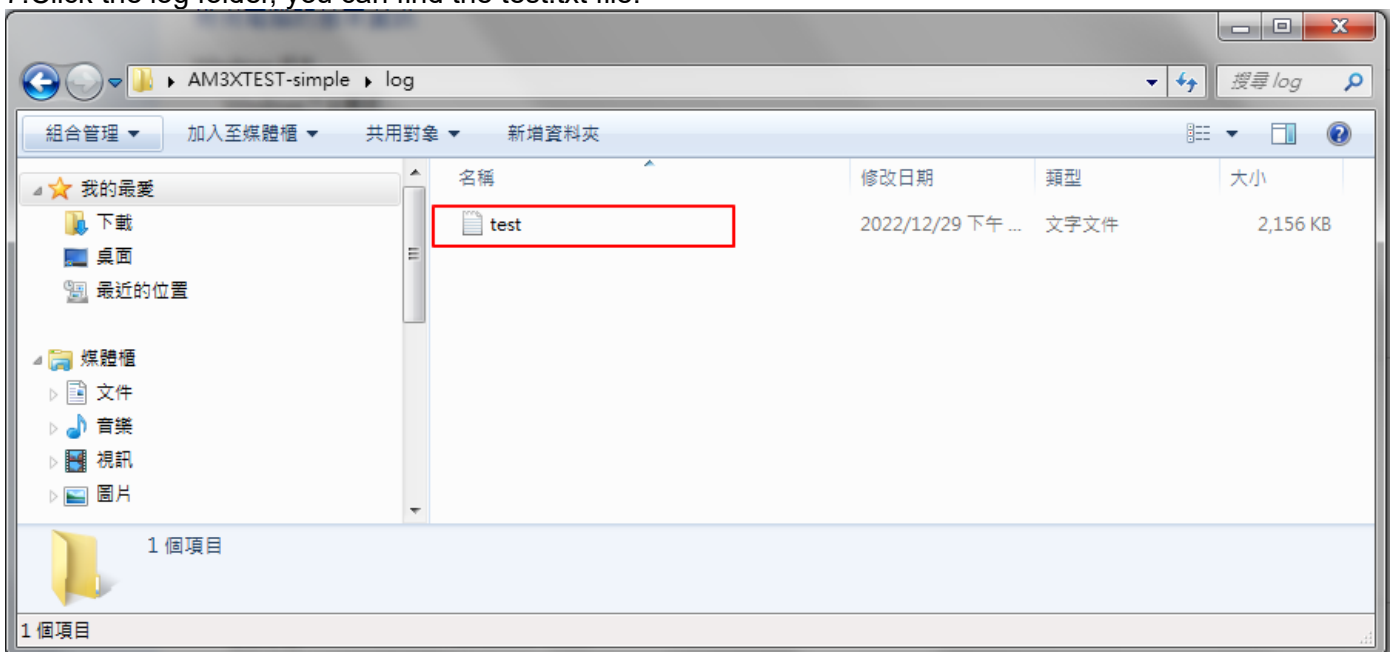


5.The error messages will be displayed.

6.Click OK to save.



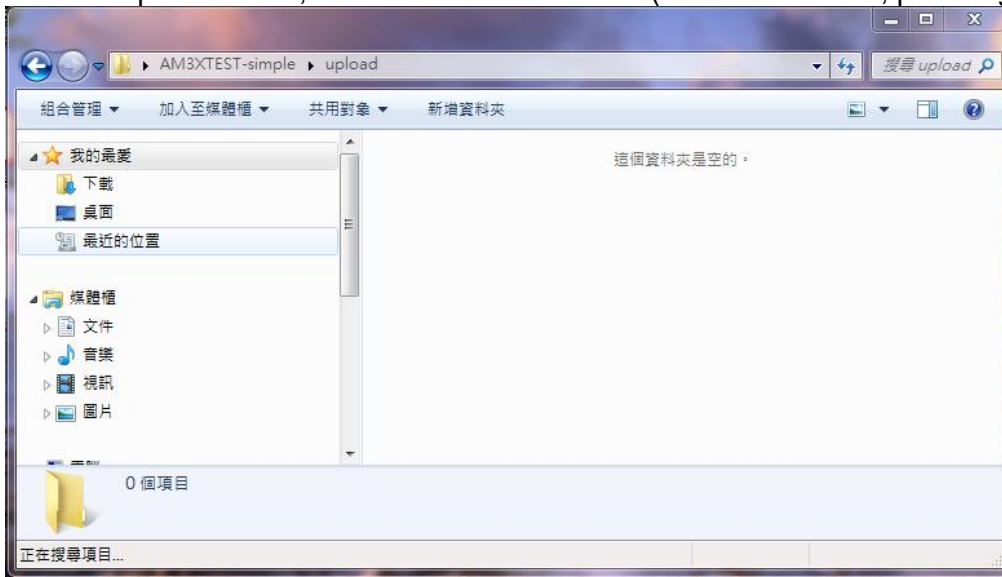
7.Click the log folder, you can find the test.txt file.



Appendix 2: AM3Xtest- The method to find the print image file

Notice before using the tool:

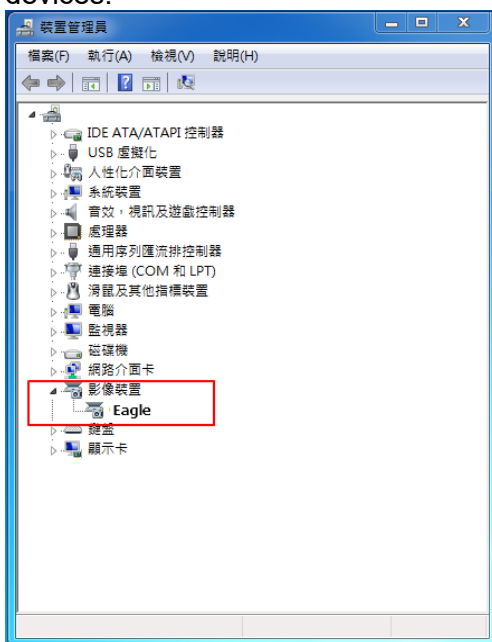
1. In the “upload” folder, clear the TIFF file format. (For first-time use, please ignore this step.)



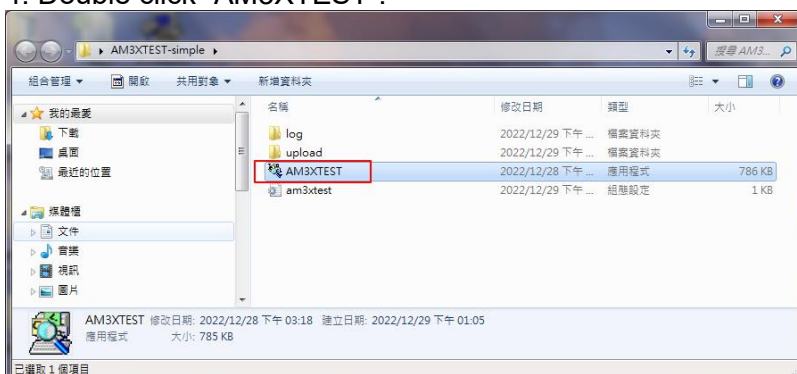
2. AM3X tool can be downloaded from the following link:

[Capsul MB4000 MFP Maintenance Manual](#)

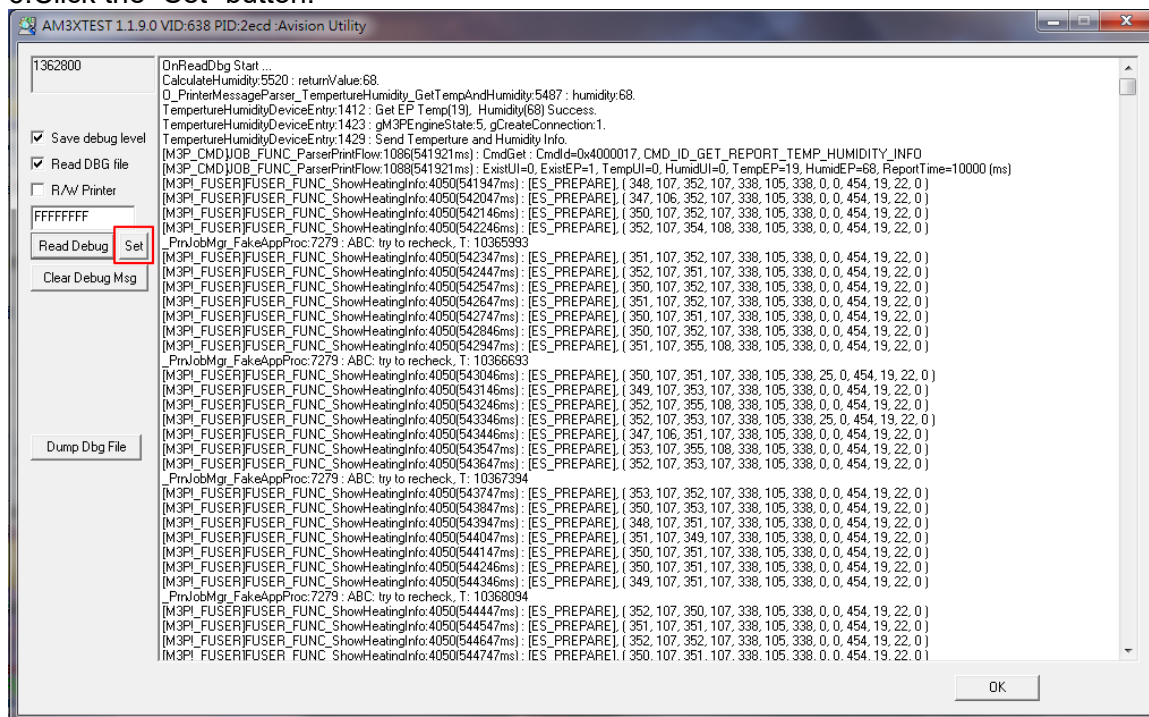
3. Make sure the driver has been installed, and the device name can be found in the printer list and image devices.



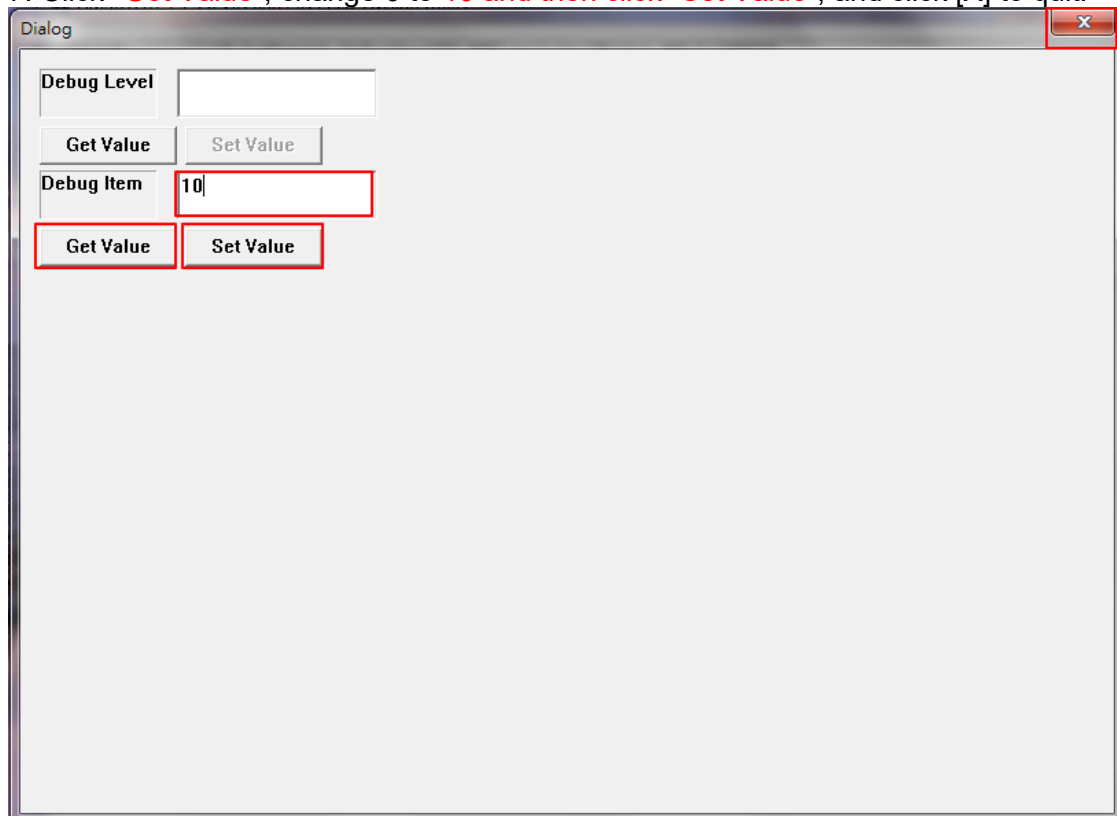
4. Double click “AM3XTEST”.



5. Use AM3XTEST
6. Click the “Set” button.



7. Click "Get Value", change 0 to 10 and then click “Set Value”, and click [X] to quit.



8. Start to execute copy/print function, the image files will be automatically stored in “upload” folder in TIFF file format. Compare the print or copy result with the image files.

名稱	日期	類型	大小	標記
 deltif.bat	2020/3/24 下午 05:20	Windows 批次檔案	1 KB	
 00018_Front_IID_9_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00017_Front_IID_9_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00016_Front_IID_8_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00015_Front_IID_8_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00014_Front_IID_7_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00013_Front_IID_7_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00012_Front_IID_6_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00011_Front_IID_6_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00010_Front_IID_5_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00009_Front_IID_5_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00008_Front_IID_4_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00007_Front_IID_4_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00006_Front_IID_3_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00005_Front_IID_3_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00004_Front_IID_2_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00003_Front_IID_2_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00002_Front_IID_1_B.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	
 00001_Front_IID_1_R.ref.tif	2020/4/30 下午 05:20	TIF 檔案	3,968 KB	

Appendix 3. How to use the recovery tool

Note:

The Recovery Tool can be downloaded from the following link:

[Capsul MB4000 MFP Maintenance Manual](#)

1. Set the device to be the default printer.



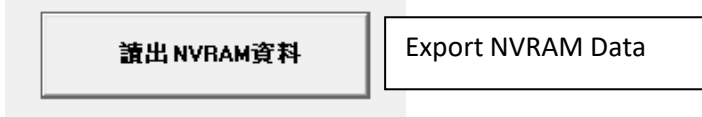
2. Double-click "Recovery_Tool.exe", the main screen will be displayed.

(PS: Make sure the driver has been installed and the device name is displayed in the printer list and image device.)



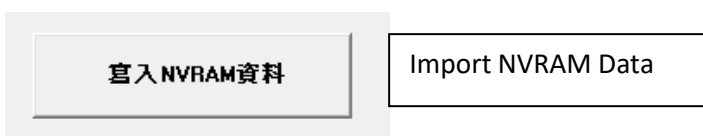
3. The Export button, after pressing the button, After pressing, the nvram backup of the machine will be stored as (.BIN file) in the same folder.

(PS: The backup BIN file name is the printer name + year, month, and day)



4. The Import button, After pressing, it will ask to open the previously backup file (.BIN file) to write to the machine.

(PS: The backup BIN file name is the printer name + year, month, and day)



Appendix 4. How to use the service mode

Service Mode:

To enter the service mode,

1. Tap the **[More Setting]** button on main screen and then choose **Show Machine Status>Tools** in succession.
2. Choose [Default Settings] and then tap [Default Settings] continuously for five times. The service mode will be displayed.



Note: When entering into service mode, timeout and power saving will be disabled.

Setting item:

- (1). Runin Test
- (2). Touch Panel Test
- (3). EMMC Test
- (4). System Information Page
- (5). Reset Counter
- (6). Leading/Side Edge Adjustment
- (7). Copy Test
- (8). Flicker Noise
- (9). Reset Default All

1. Runin Test

When performing the Runin test, only the physical Cancel key has effect on cancelling the Runin test. The other physical keys do not work.

In the Runin test, some of printing-related items are not counted in the [Usage Report] and [System Information Report]. All items for ADF and FB are all counted.

The items that count the number of times is listed as follows:

- Print page count of this toner
- Print page count of this EP
- Print running time of this EP
- Print page count of this Fuser
- Toner usage remain %
- EP usage remain %
- Fuser usage remain%

(1) ADF

Paper- running Rule:

1. Any size of paper can be loaded. As long as the ADF is loaded with paper, the ADF will scan. If the ADF runs out of paper, it will continue scanning as long as it is reloaded with paper. It won't happen that the FB takes over to perform scanning if there is no paper in the ADF.
2. Stop mode: Pressing the Cancel button will stop running the paper, or once leaving the service mode, the paper will stop running.
3. The number of sheets the ADF runs will count during scanning.
4. If a user performs other functions during paper running, the machine will prompt the user by displaying a Not-Ready message.
5. During paper running, only the Cancel button has effect among all the physical buttons.

(2) Flatbed

Paper- running Rule:

If there are papers in the ADF, papers in the ADF will be first scanned till they run out, and then the flatbed will take over to scan.

1. Stop mode: Pressing the Cancel button will stop running the paper, or once leaving the service mode, the paper will stop running.
2. The number of sheets the flatbed runs will count during scanning.
3. If a user performs other functions during paper running, the machine will prompt the user by displaying a Not-Ready message.
4. During paper running, only the Cancel button has effect among all the physical buttons.

(3) Printer

Paper- running Rule:

1. You can choose the tray (Manual Tray, Tray 1, Tray 2) to feed the paper from, but no auto tray-selecting option is available.
2. After a tray is selected, the paper in the tray is printed straight without paper size limitation.

3. Stop mode: When the printer runs out of paper during printing, a printer error occurs. Press the Cancel key or leave the service mode to stop.
4. The number of paper sheets running will be displayed during printing, after which the PPM value will be displayed. PPM is calculated in a manner that the paper is printed to the output tray from the first sheet to last.
5. If a user performs other functions during paper running, the machine will prompt the user by displaying a Not-Ready message.
6. During paper running, only the Cancel button has effect among all the physical buttons.

2. Touch Panel Test

Test whether the touch screen can be normally tapped for selection.

3. EMMC Test

After execution, the EMMC (memory) read/write test will start, and the test can be stopped by pressing the stop button.

4. System Information Page

Execution of this option will print 1 copy of the [system information] page.
Printing layout is of A4 SEF.

5. Reset Counter

Resetting the following counters:

(1) Reset Page Counter: Resets the following counts to 0 so that they will be recalculated.

Large Page Count of this Lot.

Small Page Count of this Lot.

Total Page Count of this lot.

Having chosen [Reset Page Count], the reset action will be executed.

(2) Reset ADF Scan Counter: After execution of this option, the ADF scan count will be reset to 0, and the corresponding count items under the 「Report Usage」 and 「System Information」 pages also reset to 0, as listed below:

Simplex Page Count of this Lot from ADF.

Duplex Page Count of this Lot from ADF.

Total Page Count of this lot from ADF.

(3) Reset Flatbed Scan Counter: After execution of this option, the ADF scan count as well as the corresponding count items under the 「Report Usage」 and 「System Information」 pages will be reset to 0, as listed below:

Total Page Count of this lot from flatbed.

(4) Reset Print Error Counter: Resets the print-related error counts to 0, and the corresponding items under the 「System Information」 page are reset to 0, as listed below:

Runtime Error Counter
Fuser Error Counter
Printer Error Counter
Waste toner Cartridge Counter

- (5) **Reset Scan Error Counter:** Resets the scan-related error counts to 0, and the corresponding items under the 「System Information」 page are reset to 0, as listed below:

Scanner Module Error Counter
Scanner Lamp Error Counter
Motor Error Counter

- (6) **Reset Printer Jam Counter:** Resets the printer paper jam counts to 0, and the corresponding items under the 「System Information」 page are reset to 0, as listed below:

Total Jam Counter
Multi-fed Counter
Jam01 ~ Jam16

- (10) **Reset MFP Error Counter:** Resets the MFP error count to 0, and the corresponding item under the 「System Information」 page is reset to 0, as listed below:

MFP Error Counter

- (11) **Reset Pad counter:**

I. Manual Tray: Reset the pad count of the manual tray to 0.

When this option is performed, the product will confirm whether to perform it.

After getting the positive confirmation, the pad counter of the manual tray will be reset to 0 immediately.

Reset the pad count to 0, and the corresponding item under the 「System Information」 page is reset to 0, as listed below:

Pad Counter of the Manual Tray

- (12) **Reset Pick-up Roller counter:** When the pick-up roller's counter reaches the limitation, it is time to replace the pick-up roller. When the quantity of 200,000 pages is fed in, the machine won't display any alert prompt. Yet, the counter is still accumulating.

The following items listed are where the pick-up rollers are allocated around. Reset each of pick-up roller counters. Performing this option for each item, the machine will first confirm whether to execute this function or not. After the positive confirmation, the pick-up roller's counter will be reset to 0 immediately.

I. ADF: Reset the ADF's pick-up roller count to 0.

After resetting the count to 0, print the 「System Information」 page to check whether the ADF's pick-up roller counter has been reset to 0.

II. Manual Tray: Reset the manual tray's pick-up roller count to 0.

After performing the function, the manual tray's pick-up roller count under the 「System Information」 page will be reset to 0.

III. 2nd Tray: Reset the 2nd tray's pick-up roller count to 0.

After performing the function, the 2nd tray's pick-up roller count under the 「System Information」 page will be reset to 0.

(13) Reset Feed Roller counter: When the feed roller counter reaches the upper limit (200,000 pages), it is time that the feed roller should be replaced. Although the product won't display any prompt while the 200,000 pages are counted, the counter will continue to accumulate.

The following items listed are where the feed rollers are allocated around. Reset each of feed roller counters. Performing this option for each item, the machine will first confirm whether to execute this function or not. After the positive confirmation, the feed roller counter will be reset to 0 immediately.

I. Main Tray:: Reset the main tray's feed roller count to 0.

After resetting the count to 0, the main tray's feed roller count in the 「System Information」 page will be reset to 0.

II. 2nd Tray: Reset the 2nd tray's feed roller count to 0.

After performing the function, the 2nd tray's feed roller count under the 「System Information」 page will be reset to 0.

(14) Reset Reverse Roller counter: When the reverse roller counter reaches the upper limit (200,000 pages), it is time that the reverse roller should be replaced. Although the product won't display any prompt while the 200,000 pages arrive, the counter will still continue to accumulate.

The following items listed are where the reverse rollers are allocated around. Reset each of reverse roller counters. Performing this option for each item, the machine will first confirm whether to execute this function or not. After the positive confirmation, the reverse roller's counter will be reset to 0 immediately.

I. Main Tray:: Reset the main tray's reverse roller count to 0.

After resetting the count to 0, the main tray's reverse roller count in the 「System Information」 page will be reset to 0.

II. 2nd Tray: Reset the 2nd tray's reverse roller count to 0.

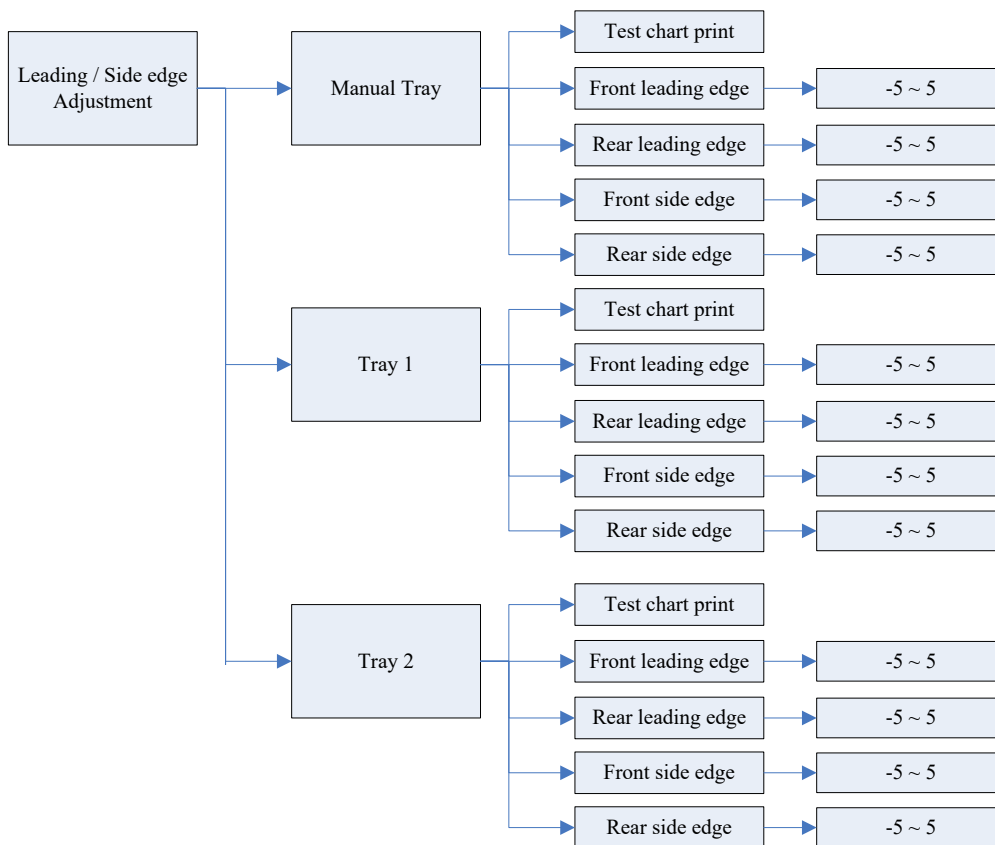
After performing the function, the 2nd tray's reverse roller count under the 「System Information」 page will be reset to 0.

6. Leading/Side Edge Adjustment

The Leading/Side Edge adjustment does not take effect with the MFP in normal operation until the MFP is rebooted after the Leading/Side Edge adjustment is set up.

These items depict the adjustment for the leading and side edges of documents to be printed. The leading and side edges are adjusted according to each individual tray and the front/back sides.

The adjustment items are listed below:



The range of input value is between -5 to 5. The unit is measured in mm. The adjustment value can be typed in using the numeric keys. When the input value is greater than the defined maximum range, it will jump back to the maximum value. When the input value is less than the defined minimum range, it will jump to the minimum value.

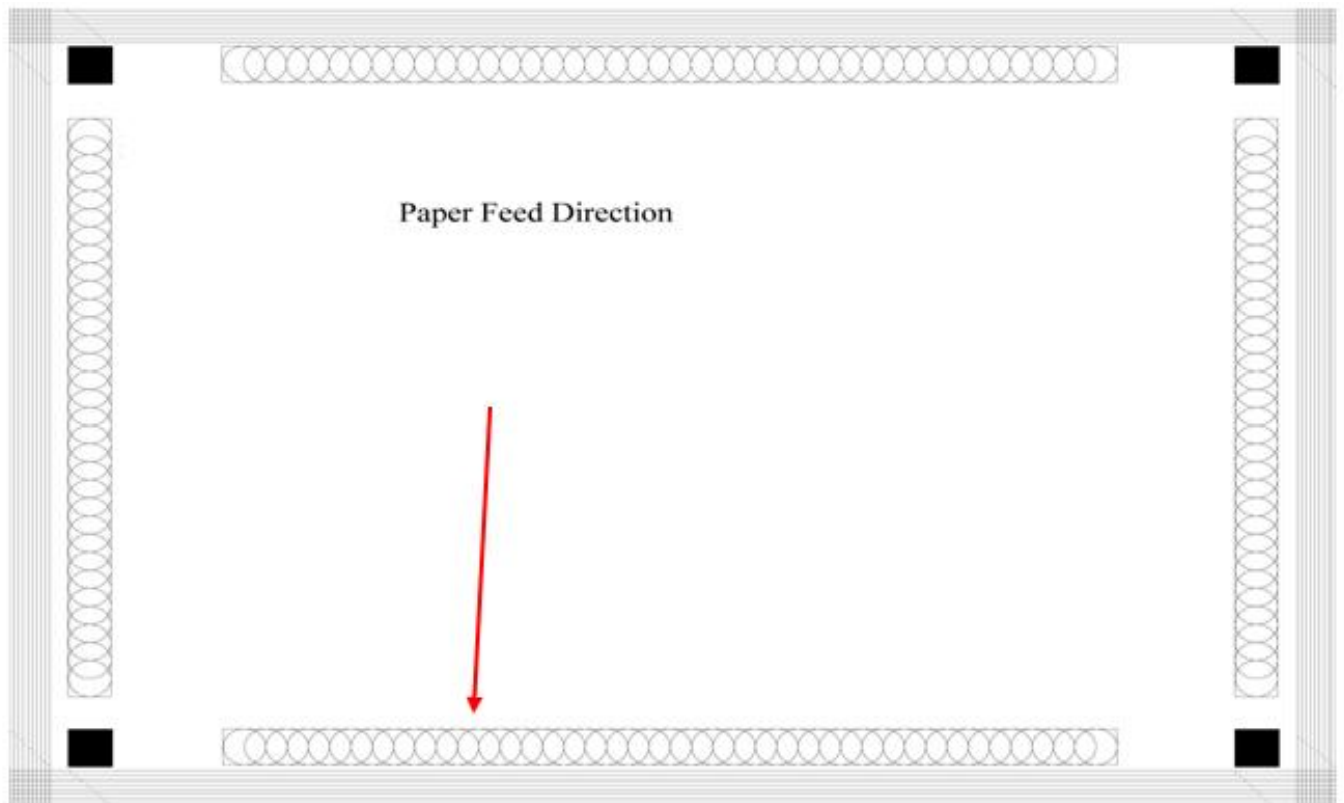
Test chart print:

Before making an adjustment, first print the test chart to clarify how many to adjust.

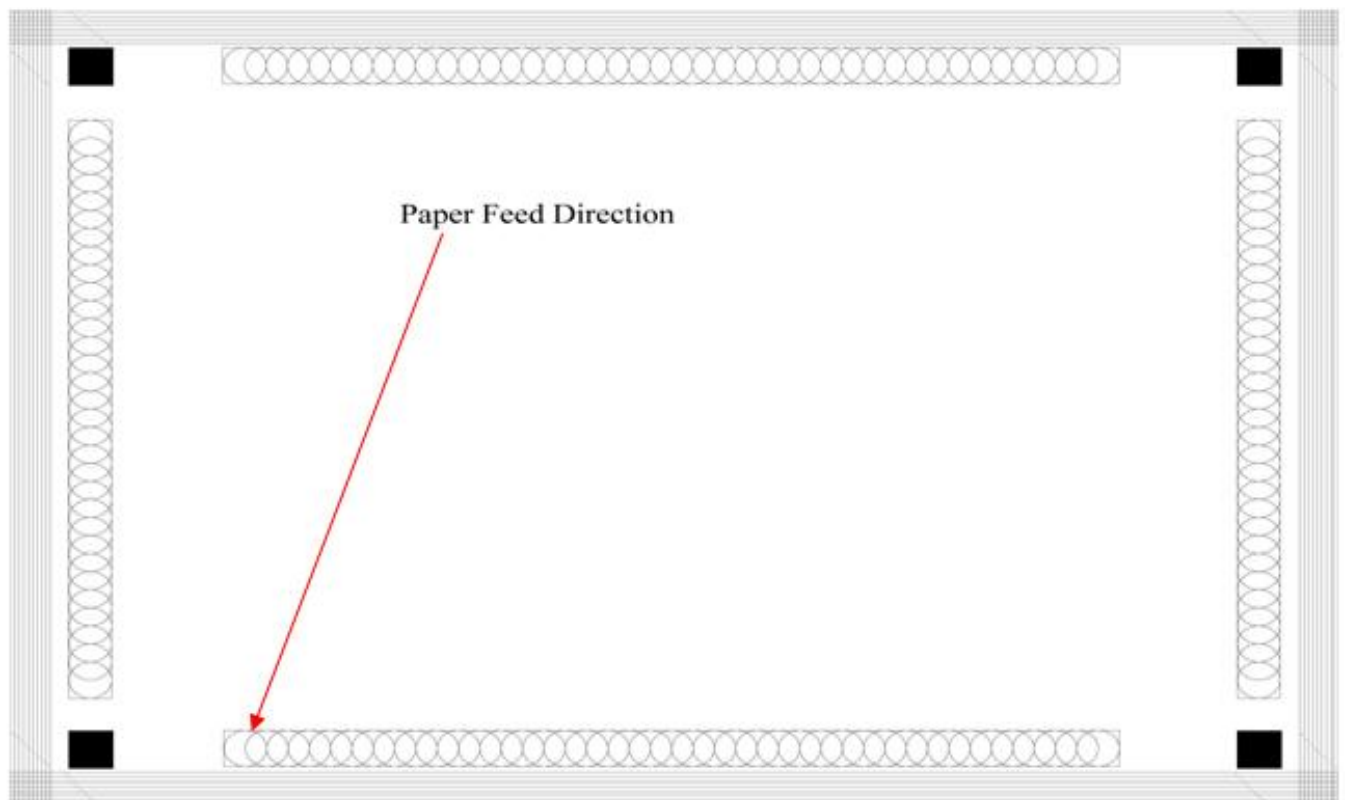
After entering the tray option to be adjusted, pressing the “Test Chart Print” will use the selected tray to print. The 2 test charts are shown below:

A test chart is a two-sided landscape image with its left and right sides along the short edge. Be sure to perform printing in A4 LEF paper; otherwise, “no match paper” error will occur.

Front Side:



Rear Side:



Adjustment Method:

Each of the leading /side edges has a value between - 4 ~ 4 on the test chart.

If what's displayed on the leading or side edge of the paper is 0, this leading or side edge is correct, and there is no need to make any adjustment. If any of the edge values is not 0, Make a leading /side edge adjustment by the amount that is displayed. For example, if the leading edge value of the paper is -2, make an adjustment by entering the value of -2.

The setting result:

(1) Front Side:

Leading Edge:

Value	Image Shift Direction
-1 ~ -5	Shift an image up by 1mm ~ 5mm
0	Return to the factory default value
1 ~ 5	Shift an image down by 1mm ~ 5mm

Side Edge

Value	Image Shift Direction
-1 ~ -5	Shift an image right by 1mm ~ 5mm
0	Return to the factory default value
1 ~ 5	Shift an image left by 1mm ~ 5mm

(2) Rear Side:

Leading Edge:

Value	Image Shift Direction
-1 ~ -5	Shift an image down by 1mm ~ 5mm
0	Return to the factory default value
1 ~ 5	Shift an image up by 1mm ~ 5mm

Side Edge:

Value	Image Shift Direction
-1 ~ -5	Shift an image left by 1mm ~ 5mm
0	Return to the factory default value
1 ~ 5	Shift an image right by 1mm ~ 5mm

7. Copy Test

The number of times the printer scans and prints for the copy test will be counted in the [Usage Report] and [System Information Report].

ADF:

(1). Continue to copy via the ADF. Scan till the paper is run out, and await paper reloading to continue copying. The running ADF's copy mode will not be switched to the flatbed's.

(2). Check which tray is ready in the order of main tray -> 2nd tray.
The manual tray is not supported. If one of the tray is ready, its paper size will be used as scan range.

(3). How many have been copied must be displayed during copying.

(4). Stop mode: Press the Cancel key to terminate this test status, or leave the service mode to suspend it directly.

(5). If an error occurs that causes copying to pause, the machine may continue copying after the problem is solved.

(6). If a user performs other functions during paper running, the machine will prompt the user by displaying a Not-Ready message.

FB:

(1). Continue to copy via the flatbed.

Item 2~6 are the same as those of ADF.

8. Flicker Noise

This item is designed to enable or disable the log storing function, so as not to affect the temperature rise control of the lamp.

Option:

Off: Enable log.

On: Disable log, so as not to affect the temperature rise control of the lamp.

Factory default: Off.

9. Reset Default All

Pressing this button, all settings will be reset to factory default.