

Service Manual

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Pantum BM230, BM320 Series Service Manual

Color Laser Multifunction Printer



It is recommended to read this manual carefully before service

Version: V1.2

Pantum Color Laser Multifunction Printer Service Manual

Suitable Model: BM23*/BM32* (“*” represents any number and letter)



Change History

Version	Time	Changes
V1.0	2024/2/1	New issue
V1.1	2024/8/27	Add wiring diagram
V1.2	2025/8/13	Update 5.5

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This product can only be used safely in any region with the height of 2,000 m above sea level or below.

Safety Precautions

Disconnect the Product from the power.

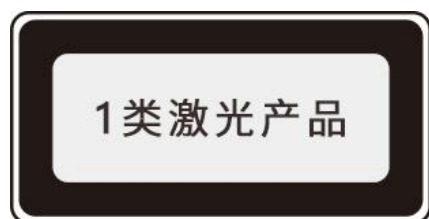
The Product must be placed near and easily accessible to the power outlet, so that the power plug can be promptly removed from the power outlet to cut off power!

Laser Safety

Laser radiation is harmful to the human body. Since the laser modules are completely enclosed within the Printer, laser radiation will not leak. Do not disassemble the Printer without permission to avoid laser radiation!

Note: Failure to control, adjust, or operate the procedures as specified in the Instruction may result in exposure to dangerous radiation.

The Printer is a Class 1 laser product in accordance with CFR and IEC 60825-1 standards.



The Printer contains Class III b laser diodes with no laser radiation leakage in the laser modules.

The laser module inside this machine is labeled as follows:



or



Pantum Electronics Recycling System

To protect the environment, Pantum Electronics has established a system for recycling of waste products. You can choose to deliver your discarded printers and consumables to local Pantum service centers for centralized recycling. These items will then be recycled and reused correctly by nationally certified waste management facilities to conserve resources, reduce environmental pollution, and alleviate user's concerns about environmental contamination from discarded products.



1. Cost paid by the users: From users to Service Center.
2. Cost paid by Pantum Electronics: From Pantum Service Center to Qualified Waste Management Facility.

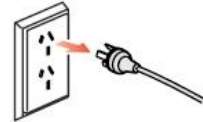
Safety Warning

Before using this Printer, please pay attention to the following safety warnings:

Warning



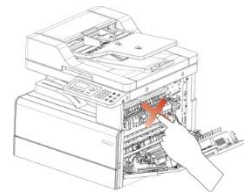
There are high-voltage electrodes inside the Printer. Before cleaning the Printer, make sure the power is disconnected!



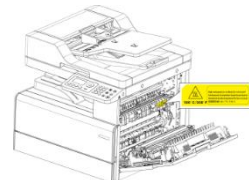
DO NOT plug or unplug the power cord with wet hands to avoid the risk of electric shock.



During and after printing, the fuser will be in a high-temperature state. DO NOT touch the fuser unit (as shown in the red shaded area) to avoid burns!



The fuser unit has a high-temperature warning label. DO NOT move or damage the label.



Safety Information

Agreements

Note: Note indicates the information that can help you or the things that may damage printer's hardware or software.

Caution: Caution indicates the potential dangerous situations that may cause personal injury.

The warning statements are classified into different types, including:



Caution - Possible injuries: indicating the risk of personal injury.



Caution - Electric shock: indicating the risk of electric shock.



Caution—Hot surface: indicating the risk of burns if touched.



Caution - Rollover: indicating the risk of crushing.



Caution—Risk of pinching: indicating the risk of getting caught between moving parts.



Caution—Rotating fan blades: indicating the risk of being cut by rotating fan blades.

Product Declaration



Caution - Possible injuries: To avoid the danger of fire or electric shock, please connect the power cord to a properly grounded power outlet with proper rated voltage, and the socket should be close to the product and easy to use.



Caution - Possible injuries: To avoid the risks of fire or electric shock, please only use the power cord provided with this product or alternatives approved by the Manufacturer.



Caution - Possible injuries: DO NOT use extension cords, multi-plug power strips, multi-plug extenders, or UPS devices with this product. The power capacity of such accessories may easily overload the laser printer, leading to fire risk, property loss, or poor printer performance.



Caution - Possible injuries: DO NOT use inline surge protection device with this product. The utilization of surge protection device may result in fire risk, property loss, or inferior printer performance.



Caution - Electric shock: To avoid the danger of electric shock, please do not place or use this product near water or wet places.



Caution - Electric shock: To avoid the risk of electric shock, DO NOT set up this product during thunderstorms or use the power cord for live operations or cable connections.



Caution - Possible injuries: DO NOT cut, twist, tie up, or crush the power cord, or place heavy objects on it. DO NOT allow the power cord to become worn or be pressed. DO NOT wedge the power cord between objects, such as furniture and walls. Doing so may cause a risk of fire or electric shock. Regularly inspect the power cord to promptly detect signs of such issues. Disconnect from the power outlet before inspecting the power cord.



Caution - Electric shock: To avoid the risk of electric shock, make sure all external connections (such as Ethernet) are properly installed in their designated sockets.



Caution - Electric shock: To avoid the risk of electric shock, if you access the controller mainboard or install any optional hardware or memory devices after setting up the printer, please turn off the printer power and unplug the power cord from the power outlet before doing so. If other devices are connected to the Printer, you should also turn off their power and unplug all cables connected to the Printer.



Caution - Electric shock: To avoid the risk of electric shock while cleaning the exterior of the Printer, please unplug the power cord from the power outlet and disconnect all cables connected to the Printer before cleaning.



Caution - Possible injuries: If the Printer weighs over 18 kg, two or more trained individuals are required to lift it for the sake of safety.



Caution - Possible injuries: When moving the Printer, please follow the following guidelines to prevent personal injury or printer damage:

- Ensure all covers and trays are closed.
- Turn off the printer power and unplug the power cord from the power outlet.
- Disconnect all power cords and cables from the Printer.
- If the Printer is equipped with a caster base, please carefully push the Printer with casters to the new location. Be cautious when passing over thresholds and floor cracks.
- Always lift the Printer with the handles on it.
- Any cart used to move the Printer should have a surface that can support the entire base of the Printer.
- Keep the Printer in an upright position.
- Protect the Printer from strong shocks during moving.
- Ensure that your fingers are not underneath the Printer when lowering it.
- Confirm that there is sufficient space around the Printer.



Caution—Hot surface: The inside of the printer may be very hot. To avoid being burned by heating components, please wait for the surface to cool before touching the components.



Caution—Hot surface: Some parts still remain at a high temperature within a short time after printer use. DO NOT immediately touch the position of the high-temperature warning label, when the front or rear cover is opened and internal parts are accessible, to avoid burns.



Caution—Risk of pinching: To avoid the risk of pinching, please handle with care within the area marked by this label. Pinching may occur near moving parts such as gears, covers, trays, and plates.

 **Caution—Rotating fan blades:** To avoid the risk of being cut by rotating fan blades, please power off the Printer and unplug the power cord from the power outlet before accessing any positions marked with this symbol.

 **Caution - Possible injuries:** This Product utilizes laser technology. Any controls, adjustments, or procedures not specified in the User Manual may result in harmful radiation.

This Product has components made by specific manufacturers and is designed, tested, and validated according to strict global safety standards. The safety features of some parts may not be readily apparent. The Manufacturer is not responsible for any adverse consequences resulting from the replacement of parts made by other manufacturers.

For any matter related to service or repair other than described in the user's documentation, please consult the Customer Service Center.

This Product may increase the temperature of the print media during printing, which could result in the release of substances from the print media. Please read and understand the section in the Operation Instructions regarding the correct selection of print media to avoid the release of harmful substances.

This Product may produce a small amount of ozone during normal operation, so it may be equipped with filters designed to restrict ozone concentration far below recommended exposure limits. To avoid accumulation of high ozone concentration levels during frequent use, if indicated in the product maintenance instructions, please install the Product in a well-ventilated area and replace the ozone and exhaust filters as necessary. If there is no reference to filters in the product maintenance instructions, the replacement of filter is not required for the Product.

Please keep these safety instructions.

Important Notes

Precautions before using the Printer:

1. Read and understand all instructions;
2. Have basic knowledge of electrical appliances;
3. Follow the warnings and instructions on the Printer or in the attached manuals;
4. If there is a conflict between the Operation Instructions and the Safety Information, please follow the Safety Information; you may misinterpret the Operation Instructions; if you cannot resolve the conflict, please call the after-sales number or contact a service representative for assistance;
5. Before cleaning, please unplug the power cord from the AC power outlet. DO NOT use liquid or aerosol cleaners;
6. DO NOT place the Printer on an unstable surface to avoid serious damage caused by falling;
7. DO NOT place anything on top of the Printer to avoid damage or fire caused by overheating of printer components;
8. DO NOT place the Printer near radiators, air conditioners, or vents;
9. DO NOT place any objects on the power cord; DO NOT place the Printer where its power cord might be inadvertently trodden upon;
10. DO NOT overload sockets and extension cords; otherwise, it may cause performance reduction and even fires or electric shocks;
11. Beware of small animals gnawing on AC power cords and computer interface cables;
12. DO NOT let sharp objects pierce Printer slots to prevent contact with internal high-voltage devices, causing potential fires or electric shocks; DO NOT let any liquid splash onto the Printer;
13. DO NOT disassemble the Printer to avoid electric shocks; any required repairs should be conducted by professional maintenance personnel; there may be electric shocks or other dangers when the protective covers are opened or removed; improper disassembly may cause electric shocks in future use;
14. If any of the following situations occur, please disconnect the Printer from the computer and AC power outlet on the wall, and contact professional maintenance personnel for maintenance:
 - Liquid splashes into the Printer.
 - The Printer is exposed to rain or water.
 - The Printer falls or the casing is damaged.
 - There is a significant change in the printer performance.
15. Adjust the controls mentioned in the operation instructions only; incorrect adjustment of other controls may cause damage and may require professional maintenance personnel to spend more time in repair;
16. Avoid having the Printer working during thunderstorms to prevent the risk of electric shock; if possible, please unplug the AC power cord during thunderstorms;
17. Printing multiple pages continuously will make the surface of the output tray become very hot. Be careful not to touch the surface, and keep children away from it;
18. The signal cables of devices connected to the Printer should not be connected outdoors;
19. When the Printer is working for a long time or a large number of documents is printed in a poorly ventilated room, please ventilate the room in a timely manner;
20. In standby mode, if the Product does not receive job instructions for a period of time (e.g. 1 minute), it will automatically enter power-saving (sleep) mode; zero energy consumption can only be achieved when the Product is not connected to any external power source;
21. The Product is a Class I device, and must be connected to a power outlet with a protective grounding wire when in use.

- 22. Please place the product packaging box according to the packaging markings in the process of transportation;
- 23. The Product is a low-voltage device. If there is toner leaking inside the Printer or slow startup during use when the voltage is lower than the specified voltage range for this Product, please refer to the product precautions or call the Pantum After-Sales Service Center;
- 24. The Product is sold as a whole unit, and consumers can purchase the required parts and accessories from the Pantum After-Sales Service Center. If the products do not match the packaging list, please go to the designated after-sales service center for handling;
- 25. Please install the Product in a place where the temperature is between 10°C and 35°C and the relative humidity is between 20% and 80%;
- 26. For safety reasons, in some cases, the Printer may switch to intermittent printing mode after printing a certain amount continuously;
- 27. To avoid the risks of fire or electric shock, please only use the power cord provided with this product or alternatives approved by the Manufacturer.
- 28. The power cord provided with this Product is intended solely for its use. DO NOT use it for other devices, as it may cause fire, electric shock, or other hazards.
- 29. DO NOT use flammable sprays or flammable solvents near or inside the Printer. Additionally, DO NOT place them near or inside the Printer, as it may cause fire or electric shock.
- 30. Please keep this manual properly.

Regulatory Information



This symbol indicates that the product should not be discarded with other waste. For proper disposal, you should deliver the discarded device to the designated collection points for recycling the discarded electrical and electronic devices.



This symbol indicates that the product is suitable for indoor use and not for outdoor use.



This symbol indicates that the product is only suitable for safe use under non-tropical climate conditions.



This symbol indicates that the product can only be used safely in any region with the height of 2,000 m above sea level or below.

The name and content of toxic and hazardous substances or elements in the product

Component	Hazardous substance					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium VI (Cr ⁶⁺)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ether (PBDE)
Plastic components	○	○	○	○	○	○
Metal parts	×	○	○	○	○	○
Wires and cables	×	○	○	○	○	○
PCB modules	×	○	○	○	○	○
Glass components	○	○	○	○	○	○
Toner	○	○	○	○	○	○
Packaging materials	○	○	○	○	○	○

The form is prepared in accordance with the provisions of SJ/T11364:

1. ○: indicates that the content of the toxic and hazardous substance in all homogeneous materials of the component is below the limit requirement specified in GB/T26572.
2. ×: indicates that the content of the toxic and hazardous substance in at least one of the homogeneous materials of the component exceeds the limit requirement specified in GB/T26572.
3. Some components of this Product contain hazardous substances, which are temporarily irreplaceable at the current state of science and technology.
4. The environment-friendly use period depends on conditions such as the temperature and humidity at which the product works normally.

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1. Introduction to product series

Product series parameters		BM230N Series	BM320ADN Series
Port Type	USB	●	●
	NET	●	●
Printing Language	GDI	●	●
Control Panel	Display Screen	●	●
Print Speed	Single-sided 22 ppm	●	
	Single-sided 26 ppm		●
	Duplex 16 ppm	●	
	Duplex 18 ppm		●
Print function	Auto Duplex Printing		●
	Manual Duplex	●	
Copy	Auto Duplex Copying		●
	Manual Duplex Copying	●	
Scan		●	●
FB		●	
ADF			●
Printing Environment		Optimal printing temperature range: 10-32°C	
		Optimal printing humidity range: 20% RH ~ 80% RH	
Noise		Standby: ≤ 30 dB(A)	
		Print/Scan: ≤ 52 dB(A)	
		Copy: ≤ 55 dB(A)	
Interval to Enter Network Standby Mode		1 min	

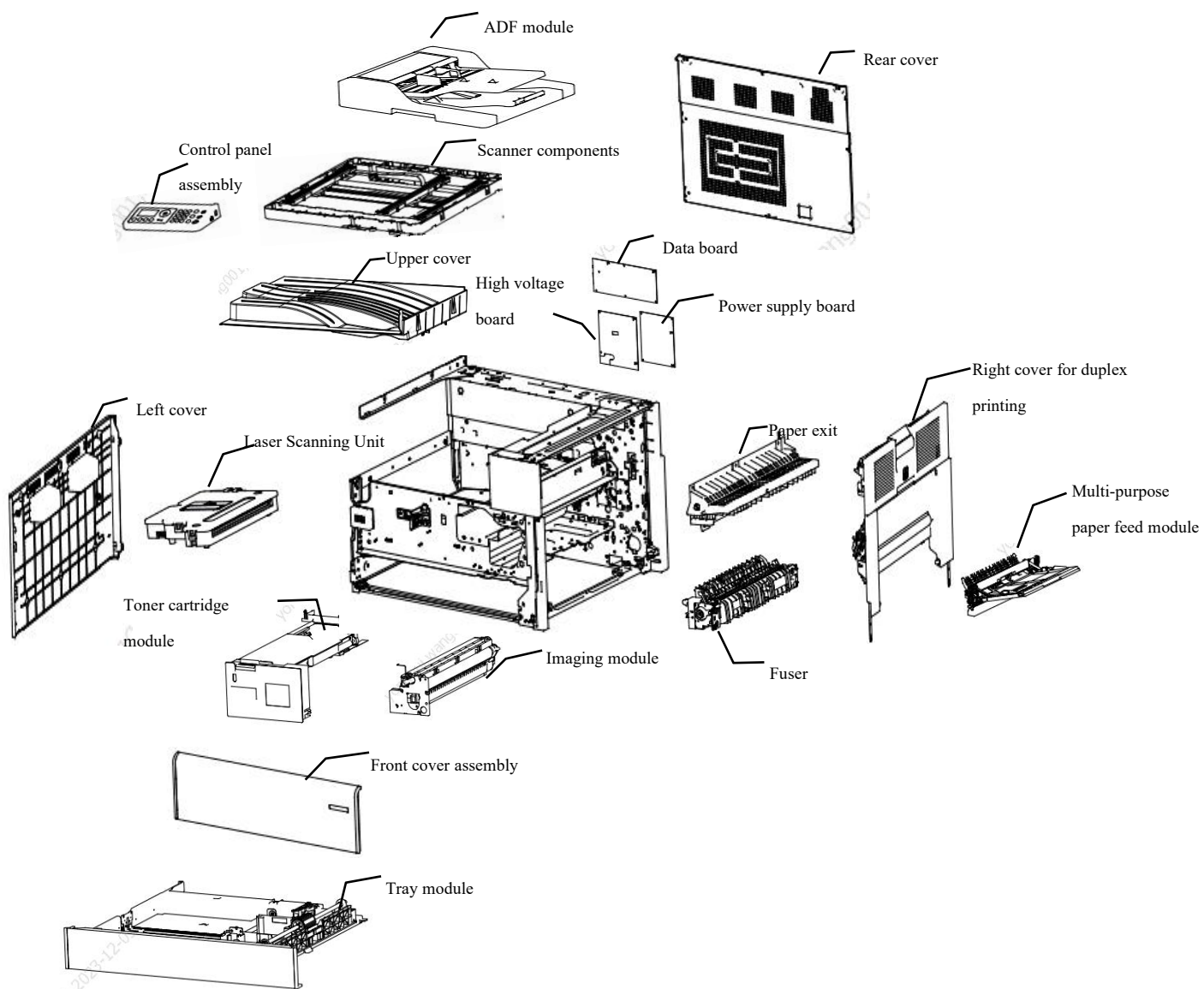
Copy Speed	22 ppm (A4L) / 26 ppm (A4L)
First Page Copy Time	≤ 9.5S
Other Copying Functions	ID card copy, bill copy, N-in-1 copy, collate copy, watermark copy, etc.

(●: supported, blank: not supported)

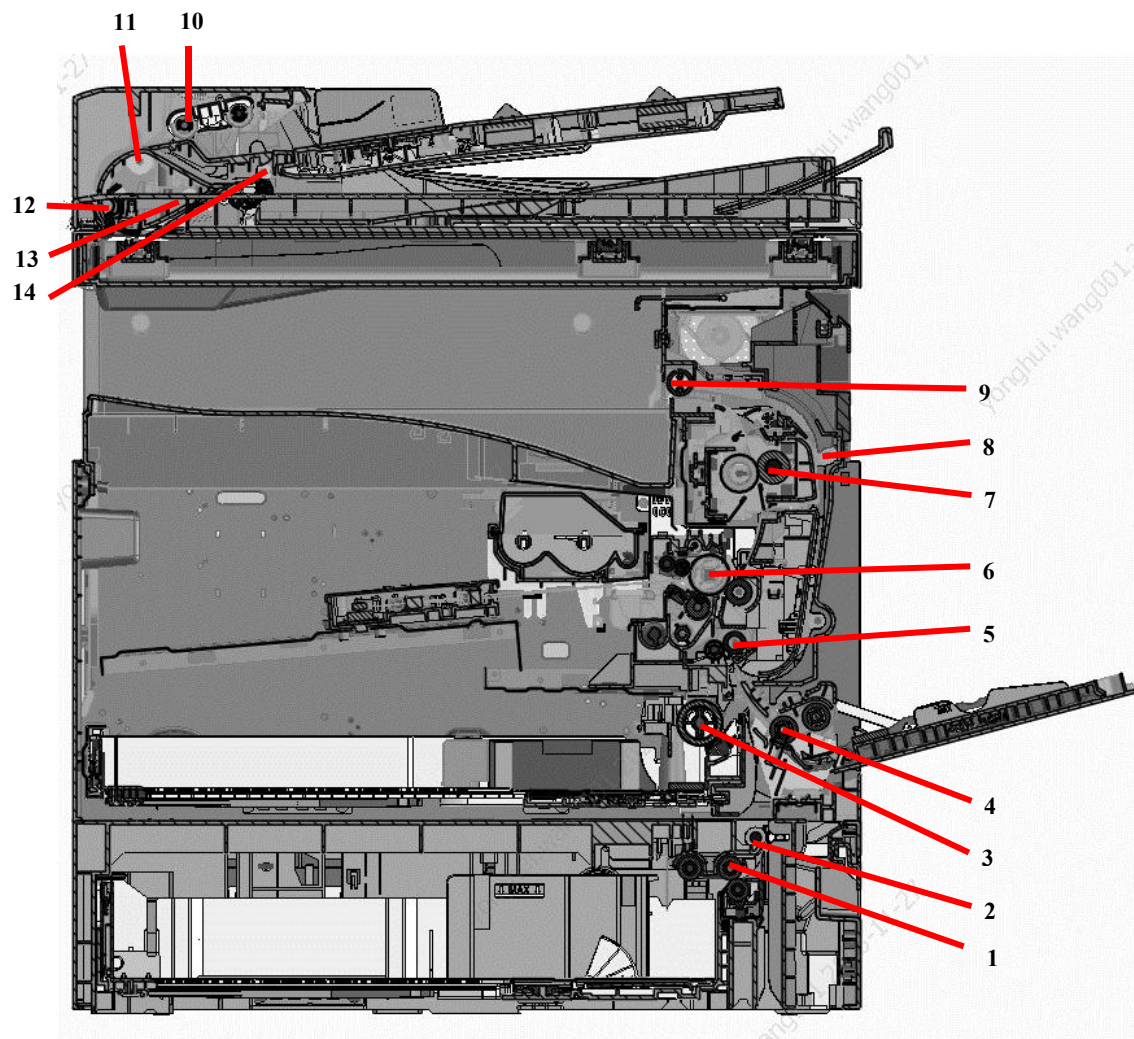
Note: This product series is subject to additions or changes without prior notice.

2. Printer Structure and Principle

2.1 Component structure diagram



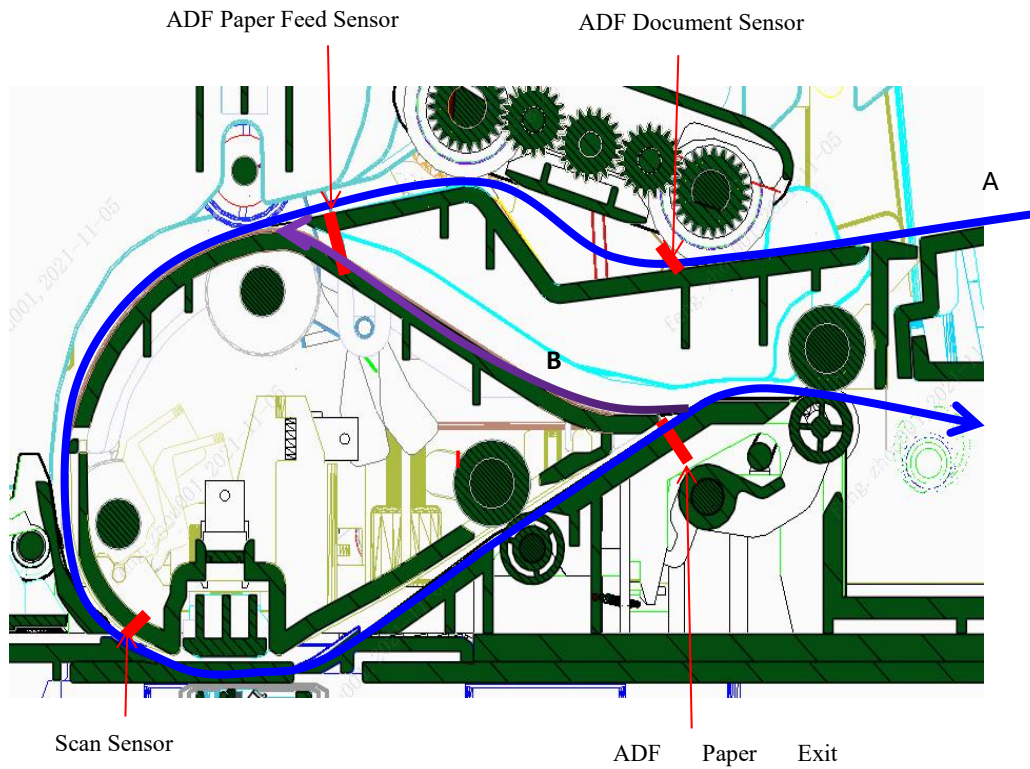
2.2 Mechanical Devices



No.	Name
1	Optional tray paper feed drive roller
2	Optional tray paper pickup roller
3	Standard tray paper feed roller
4	Multi-purpose tray paper feed roller
5	Correction feed roller
6	OPC
7	Pressure roller
8	Duplex printing return roller
9	Paper exit roller
10	ADF paper feed roller
11	ADF paper feed roller
12	ADF scan paper feed roller
13	ADF paper exit roller 1
14	ADF paper exit roller 2

2.3 Media path

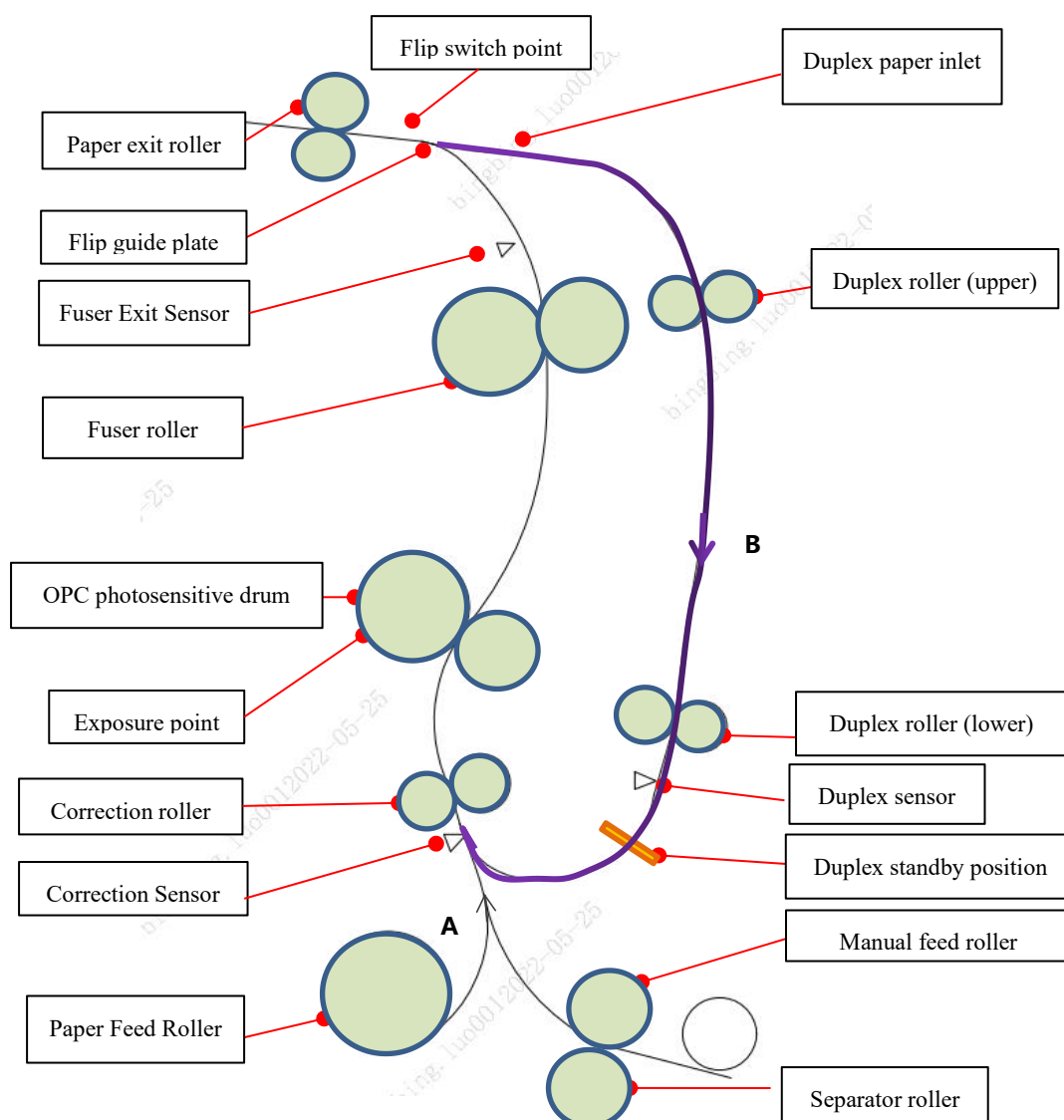
2.3.1 ADF paper path diagram



As shown in the figure above, the Blue Path A is the single-sided paper feeding route of the Printer, while the Purple Path B is the double-sided paper feeding route of the Printer.

No.	Component	Main Functions
1	ADF Document Sensor	Detect whether there is paper in the tray
2	ADF Paper Feed Sensor	Determine whether there is paper feeding, and start/stop the paper feed roller clutch
3	ADF Scan Sensor	Determine the start and end time of CIS scanning
4	ADF Paper Exit Sensor	Detect whether paper is ejected and whether paper ejection is completed

2.3.2 Paper path diagram for printer



As shown in the figure above, the Black Path A is the single-sided paper feeding route of the Printer, while the Purple Path B is the double-sided paper feeding route of the Printer.

No.	Component	Main Functions
1	Fuser Exit Sensor	1. Control of fuser motor and paper exit reversing motor 2. Paper jam detection
2	Correction Sensor	1. Correct the clutch to control the paper feeding 2. Paper jam detection
3	Duplex sensor	1. Control the duplex clutch 2. Paper jam detection

2.3.3 Working Principles

The Product is a multi-purpose monochrome laser printer, with functions such as USB printing, USB scanning, network printing, network scanning, mobile printing, mobile scanning, and copying. The printing part consists of various modules of laser scanning, high voltage control, and so on, including engine control system, image fusing control system, toner cartridge assembly, paper feeding system, and framework. After receiving the data signal sent by the computer, the Printer takes this data signal as a reference to modulate the laser's illumination onto the photosensitive drum, makes the toner transferred to the photosensitive drum, and then to the printing paper. After the toner is transferred to the printing paper, it is dissolved on the printing paper through the fuser to complete the printing process.

1. The scanning part consists of three parts: optical readout system, data processing center, and scanning motor control system. When the scanning head of the printer moves, the optical readout system perceives the image information on the paper and converts it into digital signals. These digital signals can be processed to generate electronic files.

There are three communication methods between the Printer and the computer: USB, network, and WIFI module, but communication is only realized between the Printer and the PC. The following printing or scanning modes can be achieved via these three data channels:

- USB printing and scanning mode: Communicate with the PC via the USB 2.0 printing and scanning interface for processing information.
- Network printing and scanning mode: Communicate with the PC via the network printing and scanning interface for processing information.
- Mobile printing mode: Communicate with the PC via WIFI printing and scanning interface for processing information.

2. The working frequency of the WIFI module is 2.4~2.4835GHz and 5.15~5.85GHz, and the OFDM modulation forms is: BPSK, QPSK, 16QAM, 64QAM, and 256QAM. CCK, DQPSK, and DBPSK are used for DSSS. It features PS/WPA2-PSK and WPA/WPA2/WPA3 security mechanisms, supports the latest 64/128-bit WEP data encryption and WPA-PSK/WPA2-PSK and WPA/WPA2 security mechanisms, and utilizes a 5GHz 80MHz bandwidth. EUT adopts an integrated antenna (antenna gain = up to 2dB), with stronger and more stable signals, which can adapt to different working environments.

3. When the WiFi direct mode is enabled, the 5.25~5.35 GHz and 5.47~5.725 GHz should not be employed. Of course, when the Product is connected to the router as a slave printer, these two frequency bands can be used.

3. Maintenance

Note: • The appearance of the printer varies with different models and functions. The schematic diagram is for reference only.

3.1 Printer Cleaning

3.1.1 Printer Cleaning



: Some parts still remain at a high temperature within a short time after printer use. DO NOT immediately touch the position of the high-temperature warning label, when the front or rear cover is opened and internal parts are accessible, to avoid burns.

Note: • Disconnect the Printer from power source before cleaning.

- Please use neutral detergent.
- Some parts still remain at a high temperature within a short time after printer use. DO NOT immediately touch the position of the high-temperature warning label, when the front or rear cover is opened and internal parts are accessible, to avoid burns.
- Use the printer display screen with care to avoid pressing or damaging the touch screen. Please use a soft dry cloth or dip it in neutral detergent or ethanol to clean the surface of the display screen. DO NOT use any organic solvents, acidic or alkaline solutions for cleaning.

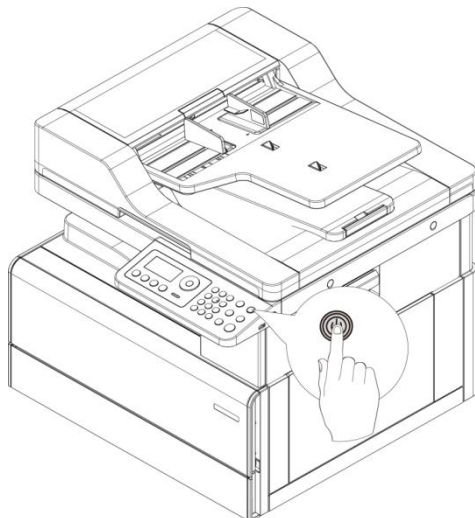


: To avoid the risk of electric shock while cleaning the exterior of the Printer, please unplug the power cord from the power outlet and disconnect all cables connected to the Printer before cleaning.

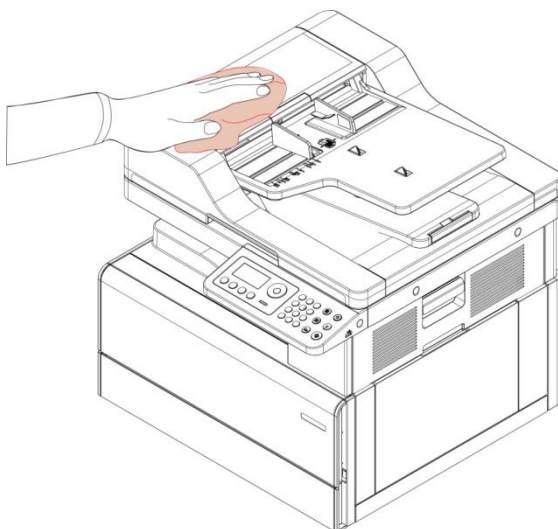
Note: • Please perform this task once every few months.

- Any damage caused to the Printer by improper handling is not covered by the printer warranty.
- DO NOT use household cleaners or detergents as they may damage the printer surface.
- Ensure that all parts of the Printer are dry after cleaning.

1. Turn off the printer power and unplug the power cord from the power outlet.



2. Take out the paper from the standard output support and multi-purpose feed tray.
3. Use a soft brush or vacuum cleaner to remove all dust, lint, and paper scraps around the Printer.
4. Wipe the casing and inside of the front cover of the Printer with a soft and lint-free cloth.



Note: • DO NOT use household cleaners or detergents as they may damage the printer surface.
• Ensure that all parts of the Printer are dry after cleaning.

5. Connect the power cord to the power outlet, and then power on the Printer.

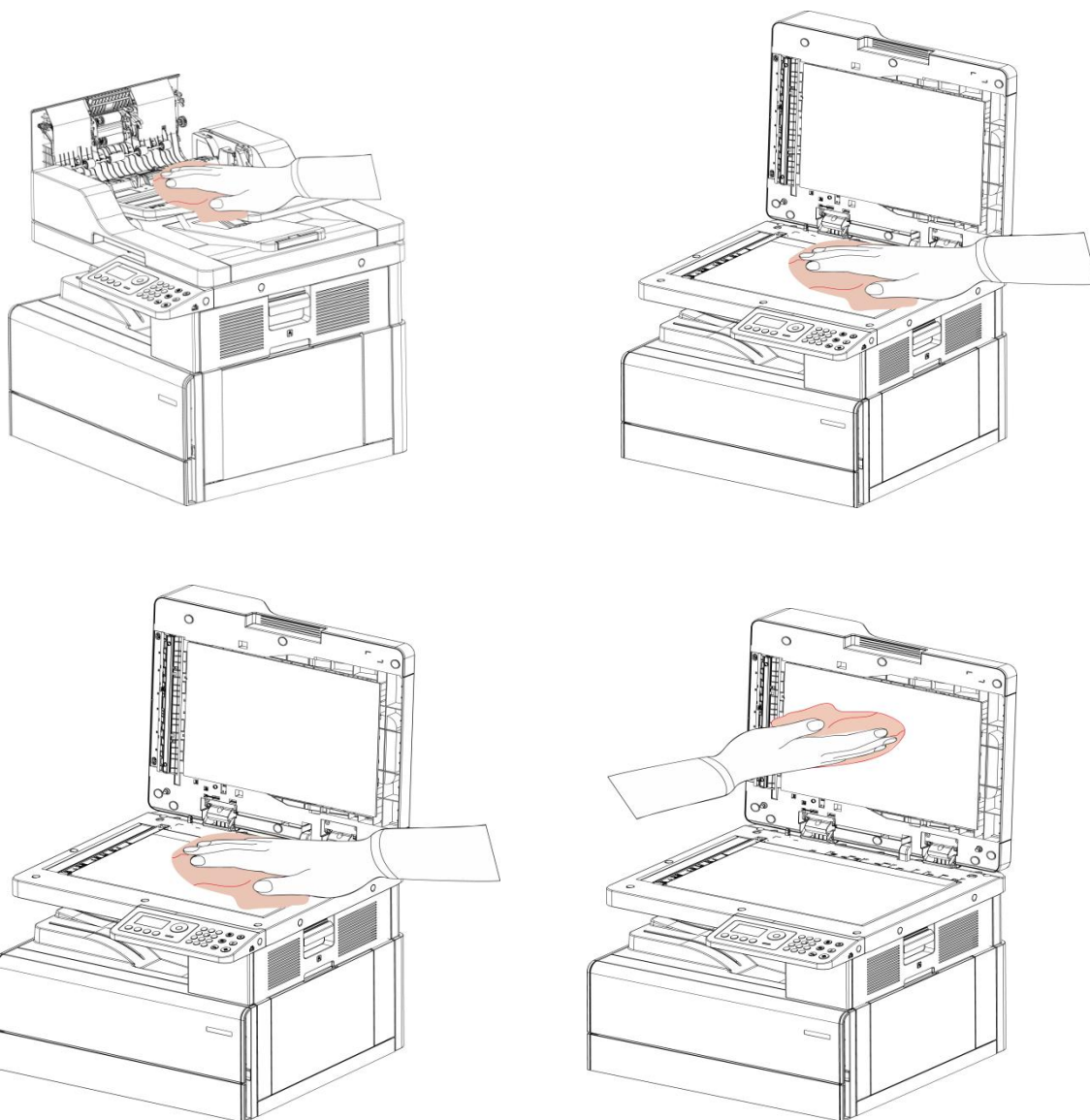


: To avoid the danger of fire or electric shock, please connect the power cord to a properly grounded power outlet with proper rated voltage, and the socket should be close to the product and easy to use.

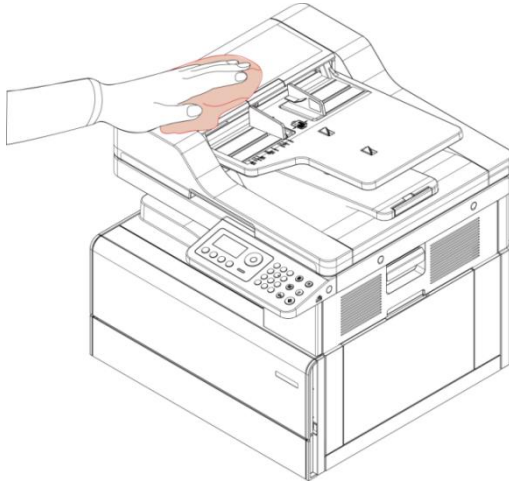
3.1.2 ADF Cleaning

Note: • In terms of the printers with document feeders, any dirt on the cover of the document feeder needs to be regularly cleaned. Please wipe the position shown in the figure with a soft cloth.

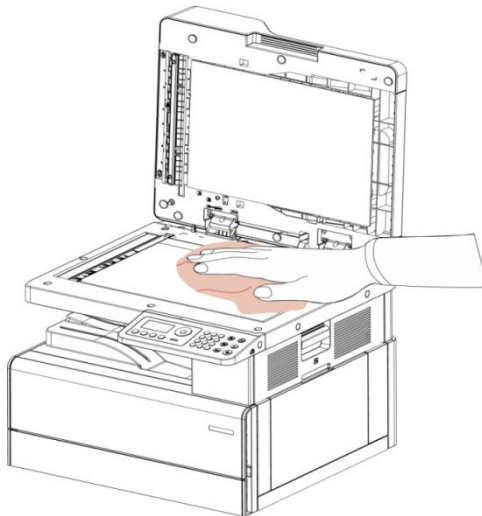
- Clean with a wet soft cloth (squeeze the wet cloth until it is not dripping), and then wipe dry with a dry soft cloth.
- Please use neutral detergent.
- Perform this task once a month or when the scan volume exceeds 5000 pages.



1. Use a soft and lint-free cloth to wipe the exterior of the device to remove dust.



2. Lift the scanner cover and gently wipe the glass platen and scanning background with a soft and lint-free cloth.



3.2 Replace Parts and Consumables

1. Use and maintenance of toner cartridge.

For better prints, please use the original toner cartridge.

When using the toner cartridge, please pay attention to the following:

- Please store the toner cartridge in a dry dark place.
- Do not refill the toner cartridges by yourself. Any damage caused by this is not covered by the printer warranty.
- Please store the toner cartridge in a cool and dry environment.
- Do not place the toner cartridge near fire sources, as the toner in the cartridge is flammable and may cause a fire.
- When removing or disassembling the toner cartridge, pay attention to toner leakage, if any toner leakage cause toner contact with skin or splash into eyes and mouth, immediately rinse with clean water, and if there is any discomfort, seek medical attention immediately.
- When storing the toner cartridges, keep them away from areas where children can reach.

2. Service life of toner cartridge.

- The service life of the toner cartridge depends on the amount of toner required for print jobs.
- If the display screen shows “toner cartridge end of life”, it means the toner cartridge has reached its service life and needs to be replaced.

3.2.1 Use and maintenance of toner cartridge

For better prints, please use the original toner cartridge.

When using the toner cartridge, please pay attention to the following:

- Please store the toner cartridge in a dry dark place.
- Do not refill the toner cartridges by yourself. Any damage caused by this is not covered by the printer warranty.
- Please store the toner cartridge in a cool and dry environment.
- Do not place the toner cartridge near fire sources, as the toner in the cartridge is flammable and may cause a fire.
- When removing or disassembling the toner cartridge, pay attention to toner leakage, if any toner leakage cause toner contact with skin or splash into eyes and mouth, immediately rinse with clean water, and if there is any discomfort, seek medical attention immediately.
- When storing the toner cartridges, keep them away from areas where children can reach.

3.2.2 Service life of toner cartridge

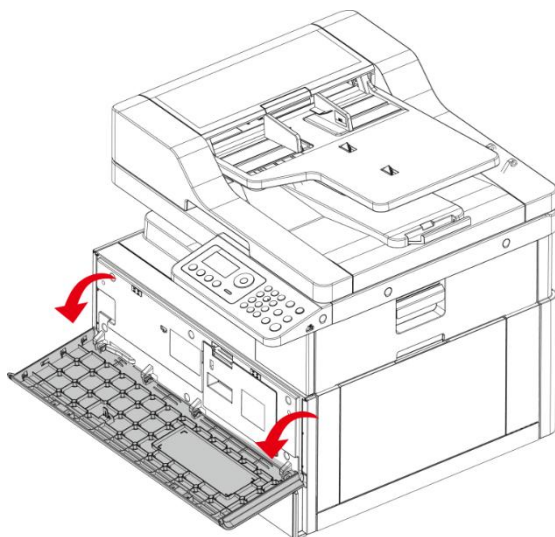
- The service life of the toner cartridge depends on the amount of toner required for print jobs.
- If the display screen shows “toner cartridge end of life”, it means the toner cartridge has reached its service life and needs to be replaced.

3.2.3 Replace the toner cartridge and waste toner bottle

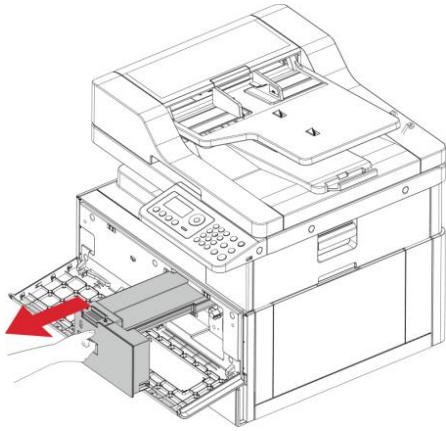
Note:• If the tray is unfolded, remove it before replacing the toner cartridge.

- If the toner cartridge and waste toner bottle are integrated in a single unit, they should be replaced at the same time.

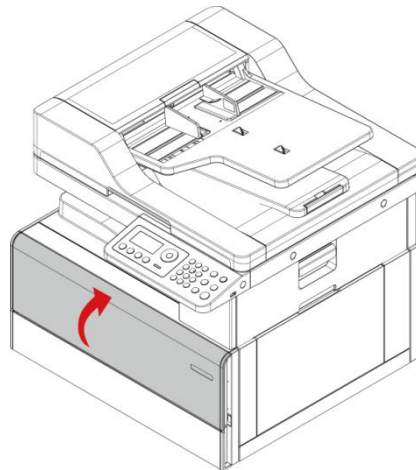
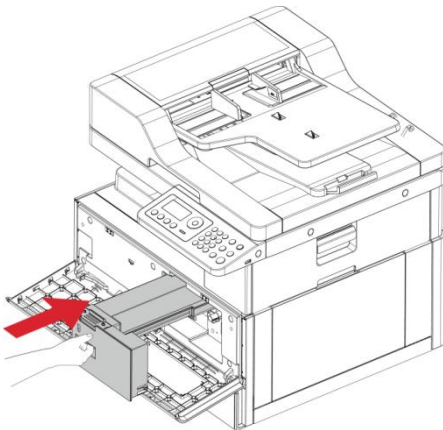
1. Open the front cover.



2. Pull out the toner cartridge.

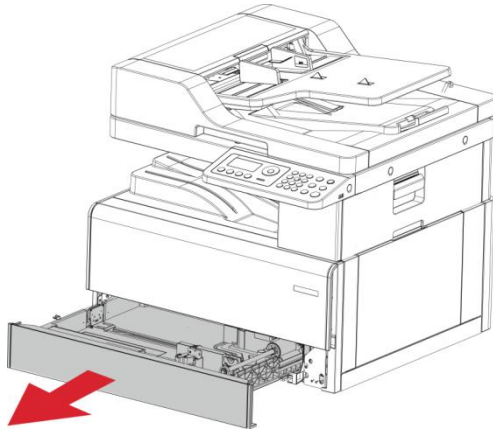


3. Remove the used toner cartridge.
4. Unpack the new toner cartridge.
5. Insert the new toner cartridge, and then close the cover.

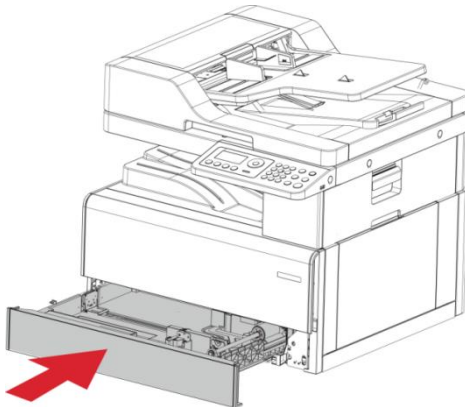


3.2.4 Replace the tray

1. Remove the used tray.



2. Unpack the new tray.
3. Insert the new tray.



3.2.5 Move the printer

3.2.5.1 Move the printer to another location



: To avoid the danger of electric shock, please do not place or use this product near water or wet places.



: If the Printer weighs over 18 kg, two or more trained individuals are required to lift it for the sake of safety.



: To avoid the risks of fire or electric shock, please only use the power cord provided with this product or alternatives approved by the Manufacturer



: When moving the Printer, please follow the following guidelines to prevent personal injury or printer damage:

- Ensure all covers and trays are closed.
- Turn off the printer power and unplug the power cord from the power outlet.
- Disconnect all power cords and cables from the Printer.
- If the Printer is equipped with a caster base, please carefully push the Printer with casters to the new location. Be cautious when passing over thresholds and floor cracks.
- Always lift the Printer with the handles on it.
- Any cart used to move the Printer should have a surface that can support the entire base of the Printer.
- Keep the Printer in an upright position.
- Protect the Printer from strong shocks during moving.
- Ensure that your fingers are not underneath the Printer when lowering it.
- Confirm that there is sufficient space around the Printer.

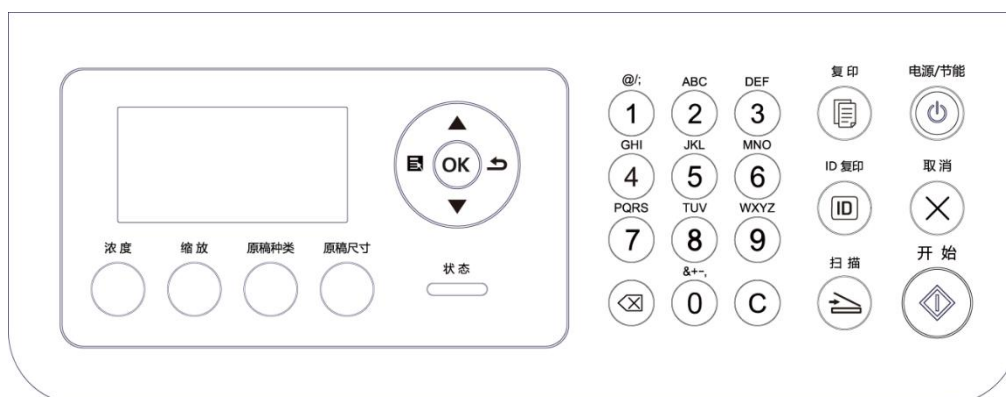
Note: • Any damage caused to the Printer by improper moving is not covered by the printer warranty.

3.2.5.2 Transport the printer

When transporting the printer, please use the original packaging materials for packaging and transportation.

4. Panel Structure and Function Description of Printer

Panel Structure and Function Description



No.	Name	Function
1	Power/Power Saving	- Power on or off, and press this button in the ready state to enter the energy saving mode. - Press and hold this button for more than 2 seconds to power off the printer.
2	Start	Start the operation after the corresponding operation is set.
3	LCD Display Screen	Display the operation interface and product information.
4	Scan	Press this button to enter scan mode.
5	Copy	Press this button to enter copy mode.
6	ID copy	Press this button to enter ID copy mode.
7	Cancel	- Cancel the operation. - In idle state of copy mode, reset the "Copies" to 01.
8	Page Up	- Scroll through various menus and options. - On the page "copy" mode ready, add the number of copies by 1.
9	Menu	Open the main menu on the control panel.
10	Return	Return to the previous menu.
11	Page Down	- Scroll through various menus and options. - On the page "copy" mode ready, subtract the number of copies by 1.
12	Status Indicator Light	Indicate the status of the printer. Support tricolor flashing: red, green, and orange. The orange light is formed by the simultaneous illumination of the red and green lights.

13	OK	• Confirm the selection made on the screen.
14	Density	• Set the page print density.
15	Zoom	• Set the copy zoom ratio
16	Original type	• Set the type of original document for copying
17	Document Size	• Set the size of original document for copying
18	Numeric Keypad	• Enter text, symbols and numbers
19	Backspace	• Delete the last character
20	Clear	• Delete all characters

5. Error Display and Troubleshooting

5.1 Check before maintenance

5.1.1 Precautions before maintenance and inspection



Caution - Electric shock: This symbol you see on the Product means there is a dangerous voltage inside the working area. Before starting work, unplug the power plug of the Product. If the Product must be powered on to perform tasks, please take extra caution.



Caution - Electric shock: This Product is equipped with an electronic power switch, which cannot be physically disconnected from the input AC voltage. To avoid the risk of electric shock, if you need to disconnect the AC voltage, please make sure to unplug the power cord from the Printer.



Caution - Electric shock: To avoid the risk of electric shock when removing covers or opening doors for troubleshooting, if the Printer is connected to a power outlet, DO NOT touch the exposed wires or circuits.



Caution - Electric shock: To avoid the risk of electric shock and prevent the Printer from damage, before connecting or disconnecting any cables, circuit boards, or modules, you should unplug the power cord from the power outlet and disconnect the Printer from any external devices.



Caution—Hot surface: The inside of the Printer may be very hot. To reduce the risk of injury from hot components, please wait for them to cool down before touching their surfaces.

5.1.2 Operating environment

- 1) Check the power cord for breakage, short circuit, open circuit, or incorrect connection when it is unplugged from the power outlet.
- 2) Make sure the Printer is properly grounded.
- 3) Make sure the output voltage of power supply is within 10% of the rated voltage.
- 4) Place the printer on a stable, flat surface.
- 5) Maintain the room temperature between 10°C and 32°C. Maintain the relative humidity between 20% and 80%.
- 6) Do not place the printer in a dusty place.
- 7) Do not expose the printer to ammonia or other harmful gases.
- 8) Do not place the printer in a hot or humid place (for example, near the water or next to a humidifier).
- 9) Do not expose printer to direct sunlight.
- 10) The room where the printer is placed should be well ventilated.
- 11) Do not place the printer where the ventilation hole of the printer is blocked.

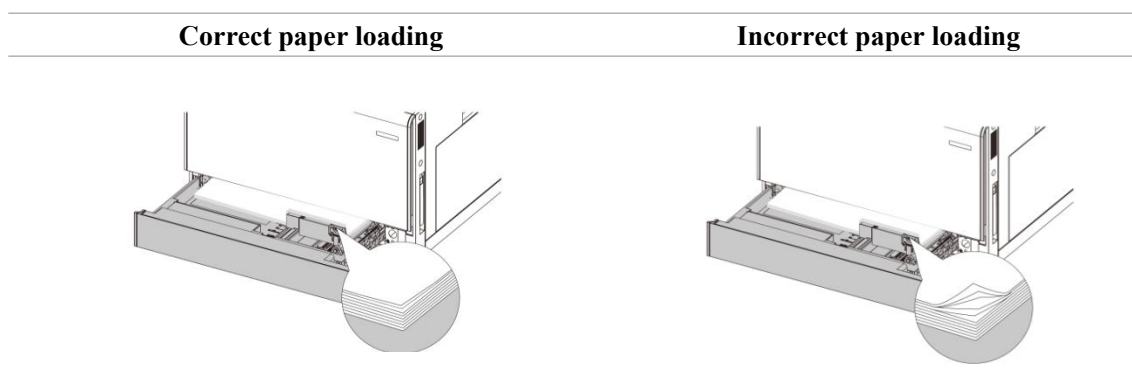
5.1.3 Preliminary Troubleshooting for the Printer

1. Check for physical damage to the Printer's appearance (for printer malfunctions may be related to the physical damage)
2. Check power-on and power-off (check if the Printer can warm up normally or what faults are reported by the Printer)
3. Check for excessive toner or dust inside the Printer and clean if necessary. (chip contact points, pick-up roller—image problems, toner cartridge unrecognized, failure to feed, paper jam, etc.)
4. Replace toner cartridge for confirmation (image problems and toner cartridge errors are generally related to the toner cartridge)
5. Please replace the paper for testing (for paper feeding faults)
6. Restore factory settings (settings-related faults)
7. Print printer information page to check its condition
8. If there are color-related issues with printing, perform color calibration settings first

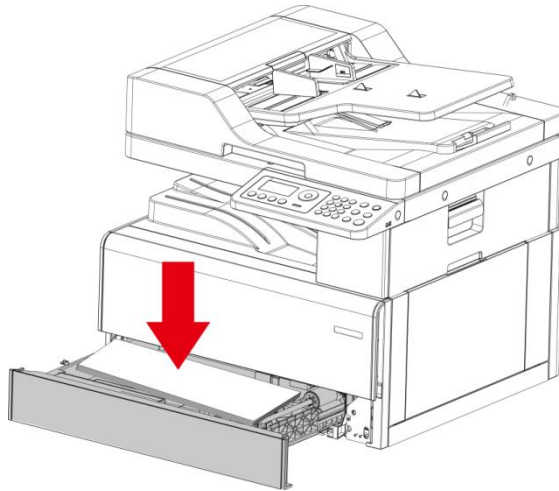
5.1.3.1 Paper requirements

1. Load the paper properly

- 1) Make sure paper is placed flat in the tray



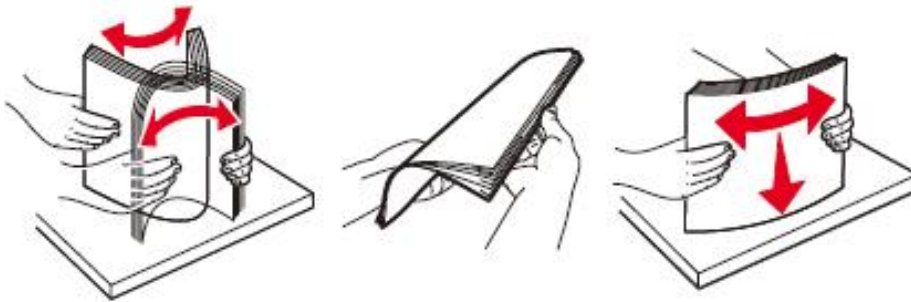
- 2) DO NOT load or remove the tray while the printer is printing.
- 3) DO NOT load too much paper. Make sure the stack height of paper is below the maximum paper capacity indicator line.
- 4) DO NOT slide paper into the tray. Load paper as shown in the figure.



- 5) Make sure paper guides are properly placed and not too tight against the paper or envelope.
- 6) After loading paper, firmly push the tray into the Printer.

2. Use recommended paper

- 1) It is recommended to use new and undamaged paper, as well as recommended paper or special media.
- 2) DO NOT load wrinkled, creased, damp, folded, or curled paper.
- 3) Before loading, flex and fan the paper, and align the edges of the paper.



- 4) DO NOT use manually cut or trimmed paper.
- 5) DO NOT mix different sizes, weights, or types of paper in the same tray.
- 6) Make sure paper size and type are correctly set on the computer or printer's control panel.
- 7) Before loading paper, please understand the recommended printable surface of the paper. This information is usually indicated on the paper package.
- 8) DO NOT use coated papers unless they are specifically designed for electronic phototypesetting printing.
- 9) Store paper according to the manufacturer's recommendations.

5.1.3.2 Print Information Report

5.1.3.2.1 Printing the Information Page

You can print information report by operating the Control Panel. These pages can help you get to know product information, make diagnosis and troubleshoot product faults.

Open the main menu, click [Information Report] icon, and enter the interface to print the information report. You can print the product reports as needed.

5.1.3.2.2 Description of Information Page

BM230ADN Series

[Printer Information Page]

Product Information

Product Name	Machine version	BM230ADN
USB Vendor ID		0x232B
Firmware Version		T.3.9.4
Scan Version		3.D.0.9-V0.1.06
Engine Version		3.D.1.2
Memory Size		1024MB
Print Language		GDI
Serial Number		CR9X000014

System Setting

Sleep Time	Machine serial number	5 minutes
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Tray Setting

Paper Size for Man.FeedTray	A4 LEF
Paper Type for Man.FeedTray	Plain paper 1
Paper Size for AutoInp.Tray	A4
Paper Type for AutoInp.Tray	Plain paper 1

All Pages Info

Equivalent Print All Pages	145
Actually Print All Pages	84

PANTUM

[Page 1]

Print Information

Print Setting	
A4/Letter compatible	Close
Equivalent Pages Printed	130
Actually Pages printed	
Total pages printed	72
Pages printed with auto duplex	35
Pages printed with different paper specification	
> A3	15
> A4	Machine page count for print 100
> A5	0
> JIS B4	0
> JIS B5	0
> ISO B5	0
> 11"x17"	0
> Letter	0
> Legal	0
> Folio	0
> Oficio	0
> Executive	0
> Statement	0
> 8K	0
> 16K	0
> No.10 Env	0
> Monarch Env	0
> C6 Env	0
> C5 Env	0
> DL Env	0
> Postcard	0
> User Define	0

5.1.3.2.3 Description of Network Configuration Information Page

BM230ADN Series

PANTUM

[Network Configuration Information Page]

[Page 1]

▪ Wired Network Configuration

Connection Status	Not Connected
Wired Hardware Address	AC:C5:1B:62:DC:22
Host Name	Pantum-62DC22
Device Location	

▪ Wireless Network Configuration

Connection Status	Not Connected
Wireless Hardware Address	
Communication Mode	
Network Name (SSID)	
BSSID	
Authentication Method	

▪ Wired Network IPv4 Information

Status	Open
Configuration Method	
IP Address	
Subnet Mask	
Default Gateway	
Bonjour Name	

▪ Wireless Network IPv4 Information

Status	Open
Configuration Method	
IP Address	
Subnet Mask	
Default Gateway	
Bonjour Name	

IP information

▪ Wired Network IPv6 Information

Status	Open
Link-Local Address	
Stateless Address	
Stateful Address	

▪ Wireless Network IPv6 Information

Status	Open
Link-Local Address	
Stateless Address	
Stateful Address	

▪ E-mail Notification

Out of paper	Close
Low toner	Close
Paper Jam	Close
Cartridge end	Close

▪ Wireless Direct Information

Status	Open
Device Name	DIRECT-bA-Pantum BM230ADN
IP Address	192.168.223.1
Password	12345678
Role	GO
Connected Device(s)	0

5.2 Error information

Error information	Reason	Measures
Toner cartridge is not installed	The toner cartridge is not installed correctly or is damaged.	Install the toner cartridge correctly or replace it with a new one.
Insufficient toner	Insufficient toner in any toner cartridge.	Prepare the corresponding new toner cartridge.
Toner cartridge mismatch	The printer does not support the toner cartridge.	Replace it with the toner cartridge supported by the printer.
Toner cartridge end of life	The toner has been used up.	Replace it with the new toner cartridge.
Feed failed	The paper is not installed correctly. The paper specification is out of the range.	Please install the paper correctly.
Paper Settings mismatch	The paper size or type set on the driver side does not match the settings on the printer control panel.	Please change to the matching paper size or type on the printer.
Paper jam	The paper is not installed correctly.	Please install the paper correctly.
Scanner is busy	There are other jobs.	Please cancel the job or wait for other jobs to complete.
Scan failed	Scanner internal fault.	Please refer to the corresponding entry based on the error code reported by the Printer for repair
ADF out of paper	When selecting ADF as the scan source, if ADF is not loaded with paper to start copying or scanning jobs, this message will be displayed.	Please load the original document correctly.
ADF paper jam	When using ADF for copying or scanning jobs, if paper jams or paper feeding fails, this message will be displayed.	1. Please remove the paper jam, load the original properly into ADF, and perform scanning operation again. 2. Check the ADF paper path (check for foreign objects on the paper path, whether the guides or bars are broken or have burrs) 3. Replace the document sensor 4. Replace the paper feed sensor

Notes: • If the problem persists, please contact Customer Service Center. For specific contact information, please refer to the certificate for guaranteed repair, replacement and return of the product.

5.3 Common Faults

Fault Types	Fault Phenomena	Reason	Solutions
Printing Problems	Poor printing quality	See image defects.	See image defects.
Copying Problems	Failure to copy	Scanner is damaged.	• Clean the scanner. • Replace the CIS.
	Abnormal copied image	• Scanner is dirty or defective. • Toner cartridge is dirty or damaged.	• Clean the scanner. • Clean or replace the toner cartridge.
Printer Problems	Printer fails to print	• Device power is not properly connected. • The connection between the computer and the Printer is not correct. • Incorrect printer port is specified. • The Printer is offline, as “Use Printer Offline” is checked. • Internal printer errors have not been resolved, such as paper jams, no paper, etc. • Printer driver installation is incorrect.	• Make sure the power cord is correctly connected. • Disconnect and then reconnect the printer cable. • Check Windows printer settings to ensure print jobs are sent to the correct port. If the computer has multiple ports, make sure the Product is connected to the correct one. • Make sure the Printer is in normal online status. • Troubleshoot errors to restore the Printer to normal status. • Uninstall and then reinstall the printer driver.
Scanning Problems	Scanning error	• The data cable of device is not correctly connected. • Scanner driver is not installed correctly. • LCD screen prompts error message.	• Make sure the data cable is correctly connected. • Reinstall the scanner driver.

5.4 Software Faults

Fault Phenomena	Solutions
The printer icon is not displayed in the “Devices and Printers” folder.	Reinstall the printer driver. Please ensure that the USB cable and power cord are correctly connected.
The printer is in “ready” mode, but does not execute any print jobs.	Restart the printer, and if the fault persists, please reinstall the printer driver. Make sure the USB cable and network cable are correctly connected.
Driver installation failed.	Check if the Print Spooler service is enabled. Check if the printer is powered on, and if the printer connection is normal.
After the printer IP address is changed, the driver cannot be used.	Modify the IP address of the printer driver’s port. If the above methods do not solve the problem, please reinstall the printer driver. It is recommended to set the network printer to a fixed IP address. In a DHCP network, it is recommended to bind the IP address to the printer MAC address.

5.5 Fault Code

Warning!

The Product has self-diagnostic functionality, and if a fault is detected, the error code warning messages will be shown on the screen or computer.

Error code	Code Description	Cause	Solutions
FE0103-00	Tray 2 is abnormal	Middle plate lifting is abnormal	1. Restart;
FE0104-00	Tray 3 is abnormal		2. Replace the optional tray;
FE0120-00	Main motor is abnormal	Main motor malfunctions	Replace the main motor.
FE0130-00	Machine cooling fan 1 is abnormal	1. Fan connector is loose or poor contact;	1. Reconnect the fan connector
FE0132-00		2. Fan is not installed	2. Check the fan
FE0133-00		3. Fan blades are obstructed by foreign objects	3. Clean foreign objects
FE0134-00		4. Fan inlet/outlet is blocked	4. Remove obstructions
	5. Fan malfunctions	5. Replace the fan	
		6. Data board malfunctions	6. Replace the data board
FE0135-00	Cooling fan for fuser exit is abnormal	1. Fan connector is loose or poor contact;	1. Reconnect the fan connector
		2. Fan is not installed	2. Check the fan
		3. Fan blades are obstructed by foreign objects	3. Clean foreign objects
		4. Fan inlet/outlet is blocked	4. Remove obstructions
		5. Fan malfunctions	5. Replace the fan
		6. Data board malfunctions	6. Replace the data board
FE0140-00	Fuser motor is abnormal	1. Motor wire is loose	1. Check the motor cable
		2. Motor is not installed	2. Reinstall the motor
		3. Motor gear is attached with foreign objects	3. Clean foreign objects
			4. Replace the motor
		4. Motor malfunctions	5. Replace the data board

		5. Data board malfunctions 6. Power supply board malfunctions 7. Foreign object is stuck in the fuser	6. Replace the power supply board 7. Clean the foreign objects from the fuser
FE0141-00	Open circuit in fuser: 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board.
FE0142-01	Fuser warm-up fails at normal voltage (temperature rise detection during warm-up cannot be initiated): 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board.
FE0142-02	Fuser warm-up fails at normal voltage (the warm-up temperature rises slowly): 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board.
FE0142-03	Fuser warm-up fails at normal voltage (the target warm-up temperature cannot be reached): 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board.
FE0143-00	Fuser high temperature detection (software): 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board; Note: After the maintenance, the error code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0144-00	Fuser high temperature detection (hardware): 1	1. Fuser malfunctions 2. Power supply board malfunctions 3. Data board malfunctions	1. Replace the fuser; 2. Replace the power supply board; 3. Replace the data board; Note: After the maintenance, the error code needs to be cleared on the Service

			Menu, otherwise the code cannot be eliminated.
FE0145-00	Thermistor is abnormal/Fuser heating abnormal	Fuser malfunctions	Replace the fuser; Note: After the maintenance, the error code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0146-00	Temperature instability: 1	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0148-00	Fuser thermistor is abnormal	Fuser malfunctions	Replace the fuser
FE0151-00	Open circuit in fuser: 2	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0152-02	Fuser warm-up fails at normal voltage (the warm-up temperature rises slowly): 2	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0153-00	Fuser high temperature detection (software): 2	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board; Note: After the maintenance, the error code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0154-00	Fuser high temperature detection (hardware): 2	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0157-00	The fusing temperature is too low 2	1. Fuser malfunctions 2. Data board malfunctions	1. Replace the fuser; 2. Replace the data board;

		3. Power supply board malfunctions	3. Replace the power supply board.
FE0158-00	Fuser thermistor is abnormal 2	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0161-00	Open circuit in fuser (thermistor 3 is abnormal)	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0163-00	Fuser high temperature detection 3 (software)	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board; Note: After the maintenance, the error code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0167-00	The fusing temperature is too low 3	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0168-00	Fuser thermistor is abnormal 3	Fuser malfunctions	Replace the fuser
FE0171-00	Both relay and silicon controlled rectifier are short-circuited	1. Fuser connector cable is detached. 2. Fuser malfunctions 3. Data board malfunctions 4. Power supply board malfunctions	1. Check the power cable of fuser 2. Replace the fuser 3. Replace the data board 3. Replace the power supply board.
FE0171-01	Relay is short-circuited (or fuser has an unplugged connection/an open circuit)	1. Fuser connector cable is detached. 2. Fuser malfunctions 3. Data board malfunctions 4. Power supply board malfunctions	1. Check the power cable of fuser 2. Replace the fuser 3. Replace the data board 3. Replace the power supply board.
FE0171-02	Silicon controlled rectifier is short-circuited	1. Fuser connector cable is detached. 2. Data board malfunctions 3. Power supply board malfunctions	1. Check the power cable of fuser 2. Replace the data board 3. Replace the power supply board.

FE0171-03	Relay or silicon controlled rectifier has an open circuit	1. Fuser connector cable is detached. 2. Fuser malfunctions 3. Data board malfunctions 4. Power supply board malfunctions	1. Check the power cable of fuser 2. Replace the fuser 3. Replace the data board 3. Replace the power supply board.
FE0175-00	The heating time at full power is too long (SOC detection)	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0180-00	AC input voltage is too low	The user's voltage environment is abnormal, with an excessively low voltage input.	It can be solved by restart If restart is ineffective, please try to: 1. Replace the power supply board 2. Replace the data board.
FE0180-01	AC input voltage is too high	The user's voltage environment is abnormal, with an excessively low voltage input.	It can be solved by restart If restart is ineffective, please try to: 1. Replace the power supply board 2. Replace the data board.
FE0181-00	The heating time at full power is too long (product safety MCU detection)	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board; Note: After the maintenance, the error code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0182-00	Abnormal heating in sleep mode	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board.
FE0183-00	Fuser overheating is abnormal (product safety MCU detection)	1. Fuser malfunctions 2. Data board malfunctions 3. Power supply board malfunctions	1. Replace the fuser; 2. Replace the data board; 3. Replace the power supply board; Note: After the maintenance, the error

			code needs to be cleared on the Service Menu, otherwise the code cannot be eliminated.
FE0184-00	Excessive difference in fuser temperature acquisition	1. Fuser malfunctions 2. Data board malfunctions	1. Replace the fuser; 2. Replace the data board;
FE0200-01	Charging output is abnormal - Black	1. High voltage board malfunctions 2. Data board malfunctions 3. The high-voltage board contact spring MHV_K has Poor contact / poor assembly; 4. Black drum unit is not grounded properly or grounding screw size is incorrect; 5. Drum unit chip cable is not connected; 6. OPC surface of black drum unit is worn; 7. The contact springs between internal black drum unit and contact points for high-voltage charging is deformed or not installed;	1. Replace the high voltage board; 2. Replace the data board; 3. Check the contact performance of the relevant assembly points; 4. Screw the black drum unit with the grounding screw or replace the grounding screw; 5. Reinsert drum unit chip cable; 6. Replace the OPC assembly; 7. Check or replace the high-voltage contact springs for black drum unit.
FE0241-01	Main motor K is abnormal	1. Motor wire is loose 2. Motor malfunctions 3. Motor malfunctions for its attached foreign objects 4. Data board malfunctions	1. Reinsert the motor cable; 2. Replace the motor; 3. Clean foreign objects; 4. Replace the data board.
FE0245-00	ITU mode switch failed	1. ITU malfunctions 2. Pressurization or decompression motor malfunctions	1. Replace ITU; 2. Replace the motor; 3. Replace the ITB pressurization drive

		3. ITB pressurization drive malfunctions	assembly.
FE0260-01	The density of developer is abnormally high in K channel	Excessive toner supply and high developer concentration result in abnormal sensor detection	1. Check the toner density sensor cable 2. Restart the printer and print 20 sheets of the color image in A4 paper with 100% coverage. If no error is reported after printing is completed, it indicates that the repair is finished; If the error persists, repeat step 2 to print the color image in A4 paper with 100% coverage until the FE error is not reported any more.
FE0261-01	The output voltage of the density sensor is below the lower limit in K channel	1. Toner density sensor malfunctions 2. Toner density sensor FFC is not inserted or is detached 3. Data board malfunctions	1. Replace the toner density sensor 2. Replace the wiring harness of toner density sensor 3. Replace the data board
FE0261-11	The output voltage of the density sensor exceeds the upper limit in K channel	1. Toner density sensor malfunctions 2. Toner density sensor FFC is not inserted or is detached 3. Data board malfunctions	1. Replace the toner density sensor 2. Replace the wiring harness of toner density sensor 3. Replace the data board
FE0261-21	The output of the density sensor is abnormal in K channel	1. Toner density sensor malfunctions 2. Toner density sensor FFC is not inserted or is detached 3. Data board malfunctions	1. Replace the toner density sensor 2. Replace the wiring harness of toner density sensor 3. Replace the data board
FE0262-01	Toner Supply Failure 1 in K channel	1. Toner clumping or blockage at the toner supply screw rod and at the toner inlet of developer result in abnormal toner supply motor; 2. Toner supply screw rod does not rotate properly;	1. Clean the toner supply screw rod 2. Replace the developer 3. Replace the toner supply motor

		3. Toner supply motor does not start properly	
FE0280-01	Black phase sensor is abnormal	1. Black phase sensor malfunctions 2. Data board malfunctions 3. Black phase sensor cable malfunctions 4. Black phase sensor is not installed 5. Poor installation of cable port 6. Main drive gear is not installed 7. Motor does not started properly 8. Gear slippage 9. Black phase sensor is covered by foreign objects	1. Replace the sensor 2. Replace the data board 3. Replace the black/color phase sensor cable 4. Install the black/color phase sensor 5. Check if cable is loose, detached, or damaged 6. Install the main drive gear 7. Check if motor wire or board has any problems 8. Check or replace the gear 9. Clean foreign objects
FE0340-01	The static elimination indicator is abnormal: K	1. The static discharge lamp cable is short-circuited 2. The static discharge lamp cable has an unplugged connection or an open circuit	1. Replace the static discharge lamp 2. Reconnect or replace the static discharge lamp cable.
FE0350-00	High voltage board is abnormal due to not being inserted	1. High voltage FFC is not inserted; 2. The detection pin on the FFC is deformed or disconnected	1. Reinsert the high voltage board cable 2. Replace the high voltage board cable
FE0351-00	High voltage detection fault	1. Data board malfunctions 2. High voltage board malfunctions 3. Second transfer roller malfunctions 4. The 2THV high voltage socket on the high voltage board has poor contact/improper assembly or unplugged connection 5. The jacket of 2THV high voltage	It can be solved by restart. If not, please try to: 1. Replace the data board 2. Replace the high voltage board 3. Replace the second transfer roller 4.5. Check the contact performance of the relevant assembly points 6. Check if the right cover of Printer is

		cable on the high voltage board is damaged, and the cable is too close to the metal, which may result in high voltage discharge 6. The right cover of Printer is not completely closed, which leads to the failure of second transfer roller shaft sleeve to contact with ITB contact points	closed, and then reopen and close the right cover
FE0351-01	High voltage abnormal	High voltage abnormal	Replace the high voltage board.
FE0360-01	Both internal and external temperature and humidity sensors are abnormal	Connection is abnormal, or sensor malfunctions	1. Reconnect the internal and external temperature and humidity sensor cable 2. Replace the internal and external temperature and humidity sensor cable 3. Replace the internal and external temperature and humidity sensor
FE0402-00	Prism motor is abnormal: Timeout when ON	1. LSU malfunctions 2. Data board malfunctions 3. LSU data FFC is abnormal 4. Motor FFC is not installed or has poor contact	1. Replace LSU 2. Replace the data board 3. Replace LSU data FFC 4. Replace LSU motor FFC
FE0403-00	Prism motor is abnormal: Timeout when OFF	1. LSU malfunctions 2. Data board malfunctions 3. LSU data FFC is abnormal 4. Motor FFC is not installed or has poor contact	1. Replace LSU 2. Replace the data board 3. Replace LSU data FFC 4. Replace LSU motor FFC
FE0404-00	Prism motor is abnormal: XFERDY signal error	1. LSU malfunctions 2. Data board malfunctions 3. LSU data FFC is abnormal 4. Motor FFC is not installed or has poor	1. Replace LSU 2. Replace the data board 3. Replace LSU data FFC 4. Replace LSU motor FFC

		contact	
FE0420-00	Black: Front End: LD0 Synchronization detection is abnormal	1. LSU malfunctions 2. Data board malfunctions	1. Replace LSU 2. Replace the data board
FE0424-00	Black: LD0 synchronization signal is unstable	3. LSU data FFC is abnormal 4. Motor FFC is not installed or has poor contact	3. Replace LSU data FFC 4. Replace LSU motor FFC
FE0450-00	LSU Temperature Sensor is abnormal	1. Data board malfunctions 2. LSU data FFC is abnormal 3. LSU LD PCBA is abnormal 4. The temperature sensor FFC has poor contact	1. Replace the data board 2. Replace LSU FFC 3. Replace the temperature sensor FFC 4. Restart the printer
FE0460-00	LSU FFC is abnormal due to not being inserted	1. Data board malfunctions 2. LSU data FFC is abnormal 3. LSU PCBA is abnormal 4. LSU FFC is not inserted	1. Replace the data board 2. Check or replace LSU FFC 3. Restart the printer
FE0500-00	Abnormal control of ADF Paper Release Lever	1. Dual teeth-uncompleted gears malfunction 2. Sensor malfunctions, and whether the circuit connections are reliable 3. Spring is detached	1. Replace the dual teeth-uncompleted gears 2. Check and confirm whether the sensor is properly installed and the connection is reliable 3. Install the spring to ensure proper operation
FE0621-00	Origin check error	1. Origin sensor cable is not properly connected	1. Origin sensor cable is not properly connected
FE0622-00	Fail to find the origin	1. Sensor is damaged, or not properly installed 2. Scanner sensor cable is not properly installed 3. Motor failure	1. Replace the scanner sensor, and check and confirm whether the sensor is properly installed 2. Reconnect the scanner sensor cable 3. Replace the scanner motor

		4. Belt is not properly installed	4. Reinstall the belt
FE0641-01	AFE chip read/write detection failure	1. Poor contact of AFE FFC 2. AFE FFC is damaged 3. AFE board has problems	1. Unplug and replug AFE FFC 2. Replace AFE FFC 3. Replace AFE board
FE0641-02	AFE scan data is abnormal	1. Poor contact of AFE FFC 2. AFE FFC is worn 3. AFE board has problems	1. Unplug and replug AFE FFC 2. Replace AFE FFC 3. Replace AFE board
FE0642-00	AFE calibration failure (OFFSET)	1. Poor contact of AFE FFC 2. AFE FFC is damaged 3. AFE board has problems 4. Data board has any resistor which is not soldered 5. CIS has problems	1. Unplug and replug AFE FFC 2. Replace AFE FFC 3. Replace AFE board 4. Replace the data board 5. Replace CIS
FE0642-01	AFE calibration failure (GAIN)	1. Poor contact of AFE FFC 2. AFE FFC is damaged 3. AFE board has problems 4. Data board has any resistor which is not soldered 5. CIS has problems 6. There are contaminants on the white stripe or other defects in the white stripe	1. Unplug and replug AFE FFC 2. Replace AFE FFC 3. Replace AFE board 4. Replace the data board 5. Replace CIS 6. Remove the contaminants on the white stripe or replace with qualified white stripe
FE0642-02	AFE calibration failure (EXPOSURE)	1. Poor contact of AFE FFC 2. AFE FFC is damaged 3. AFE board has problems 4. Data board has any resistor which is not soldered 5. CIS has problems 6. There are contaminants on the white stripe or other defects in the white stripe	1. Unplug and replug AFE FFC 2. Replace AFE FFC 3. Replace AFE board 4. Replace the data board 5. Replace CIS 6. Remove the contaminants on the white stripe or replace with qualified white stripe

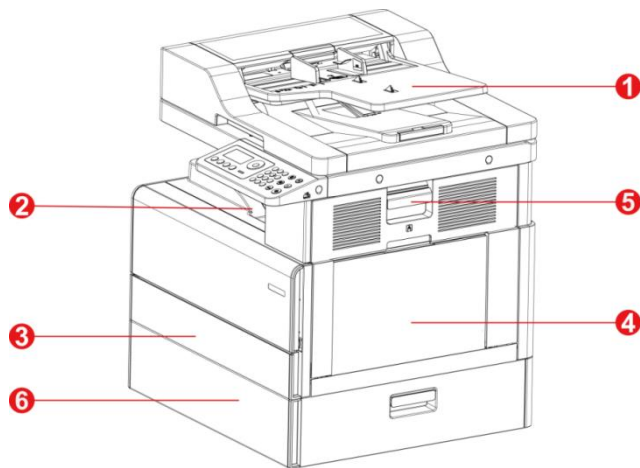
FE0643-00	Shading failure	1. Calibration white stripe is askew 2. There are contaminants on the calibration white stripe 3. CIS FFC is damaged or not properly installed 4. AFE FFC is damaged or not properly installed	1. Check if the white stripe is properly installed, if both ends are installed on the alignment post, and if the middle of the white stripe is askew 2. Remove the contaminants, do not get the white stripe dirty, or replace with qualified white stripe 3. Check the CIS FFC and reinstall 4. Check the AFE FFC and reinstall
FE0600-01	WiFi failure	1. WiFi chip FFC is not properly connected or is damaged 2. WiFi chip is damaged	1. Check the WiFi chip FFC and reinstall 2. Replace the data board
FE0810-01	ADF communication is abnormal	1. The terminal wires between data board and ADF board have poor contact 2. The chip on ADF board has poor contact, there is no firmware in the chip, or firmware flashing or updating is abnormal	1. Replace the ADF cable 2. Replace the ADF board
FE0820-00	Optional communication is abnormal	1. Tray firmware is not burned; 2. Poor connection between the tray and the main machine;	1. Power off and restart; 2. Replace the tray 3. Replace the cable between tray and the main machine or the socket;
FE0821-00	103 communication is abnormal	1. The secondary MCU and CM31 version are mismatched; 2. The secondary MCU firmware is not burned; 3. Secondary MCU execution is abnormal; 4. The printer is not restarted after the	1. Power off and restart; 2. Replace the tray 3. Replace the cable between tray and the main machine or the socket;

		firmware is burnt; 5. The secondary MCU firmware is burning;	
FE0822-00	003 communication is abnormal (fuser safety policy)	1. 003 MCU firmware has no data feedback and retransmits 3 times 2. 003 MCU firmware detects CRC error in main body data 3. 003 MCU firmware detects optional data CRC 4. 003 MCU firmware is mismatched	1. Power off and restart; 2. Replace the data board;
FE0822-01	003 communication is abnormal (IIC to PWM)	1. PWM 003 chip firmware is not burned 2. PWM 003 execution is abnormal	Replace the data board
FE0830-00	IUChip communication is abnormal	1. Chip malfunctions; 2. Communication CRC verification failed; 3. IIC communication is abnormal;	1. Check the chip cable 2. Replace the toner cartridge chip 3. Replace the data board
FE0840-00	EEPROM communication is abnormal	1. EEPROM is not installed or installed incorrectly 2. EEPROM chip is abnormal 3. EEPROM write-protect pin is pulled up	Replace the data board
FE0900-00	Notification of consumables detection completion is not delivered	1. Chip malfunctions; 2. Communication CRC verification failed; 3. IIC communication is abnormal; 4. Consumables business logic is abnormal;	1. Check the chip cable 2. Replace the toner cartridge chip 3. Replace the data board
FE0901-00	AC Voltage Detection Circuit Error	1. High Voltage Board is abnormal	1. Replace High Voltage Board

		2. Data board is abnormal	2. Replace data board
FE0902-00	Notification that “CTL side image preparation is OK” is not delivered	DC job did not send 0x82	1. Power off and restart; 2. Replace the data board
FE0903-01	Engine firmware bug: The warm-up action of the internal monitoring module cannot be completed.	Warm-up timeout	1. Power off and restart; 2. Replace the data board
FE0903-02	Engine firmware bug: The management buffer of printed page is full	Too many jobs in the engine job queue	1. Power off and restart; 2. Replace the data board
FE0903-03	Engine firmware bug: Printing a certain page cannot be started	The job of printing a certain page in the engine job queue timed out before printing started	1. Power off and restart; 2. Replace the data board
FE0903-04	Engine firmware bug: Printing a certain page cannot be finished	The job of printing a certain page in the engine job queue timed out before printing finished	1. Power off and restart; 2. Replace the data board
FE0903-05	Engine firmware bug: Printing the complete sequence cannot be finished	Engine print load timed out and failed to stop	1. Power off and restart; 2. Replace the data board
FE0903-11	Engine firmware bug: automatic toner supply execution cannot be finished	Timing interaction abnormality causes the toner supply action fail to end on time	1. Power off and restart; 2. Replace the data board

5.6 Removal of Jammed Paper

5.6.1 Identify the jam position

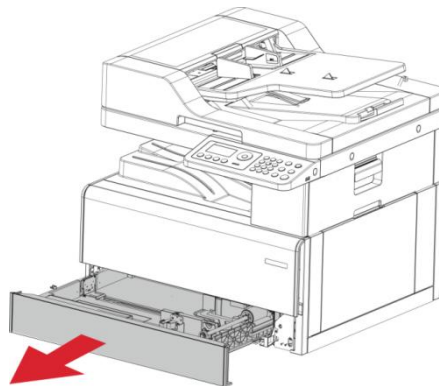


No.	Jam Position
1	Document Feeder (ADF)
2	Output Tray
3	Standard feed tray
4	Multi-Purpose Feed Tray
5	Right cover door
6	Optional Tray

5.6.2 Removal of Jammed Paper

1. The paper is jammed in the standard feed tray

1) Remove the tray.

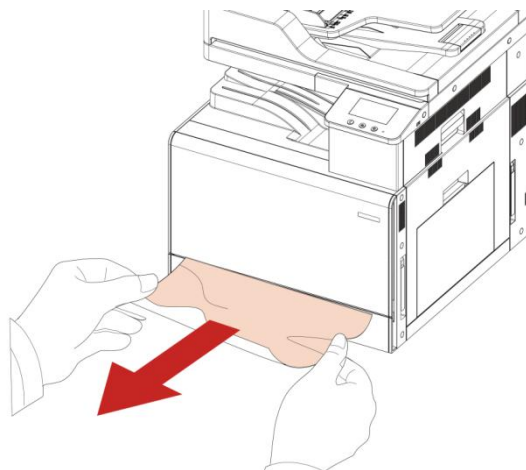


2) Gently pull out the jammed paper.

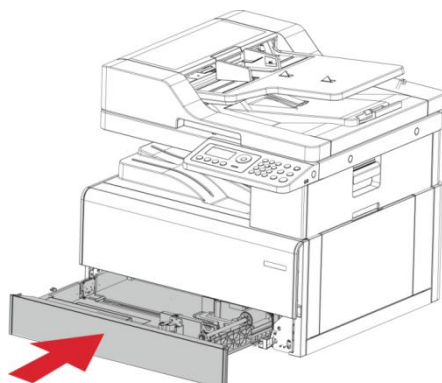


Note:

- Confirm all paper fragments have been removed.

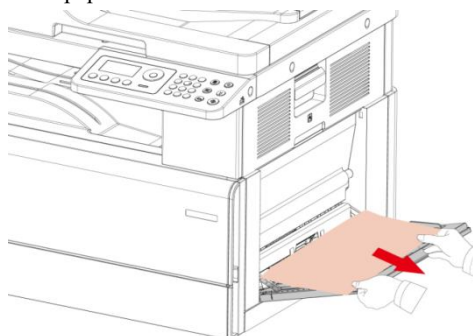


3) After removing the jammed paper, insert the Standard Feed Tray back into the printer, open and close the front cover, and the printer will automatically resume printing.



2. The paper is jammed in the multi-purpose feed tray

1) Gently pull out the jammed paper.



2) Open the right cover door to remove all paper fragments.

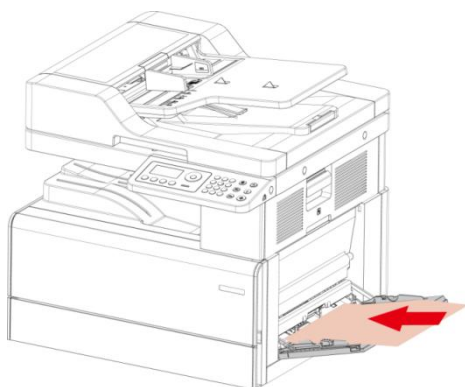
Note: • The inside of the printer may be very hot. To avoid being burned by heating components, please wait for the surface to cool before touching the components.

• Make sure that the door does not hit any cables connected to the printer.

3) Close the right cover door.

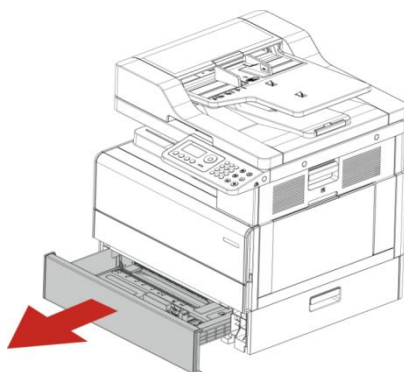
4) Before loading, flex and fan the paper, and align the edges of the paper.

5) Reload the paper.

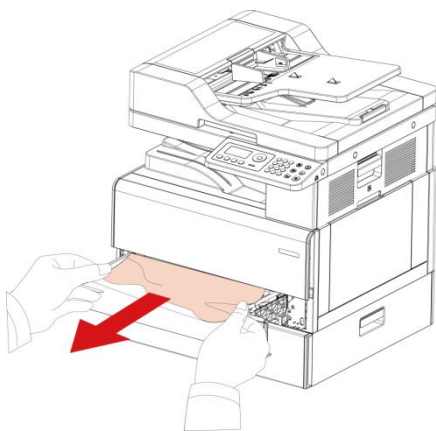


3. Paper is jammed in the Optional Tray

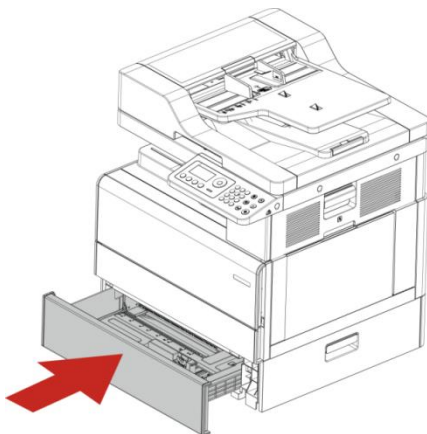
1) Open the right cover of Optional Tray.



2) Gently pull out the jammed paper.



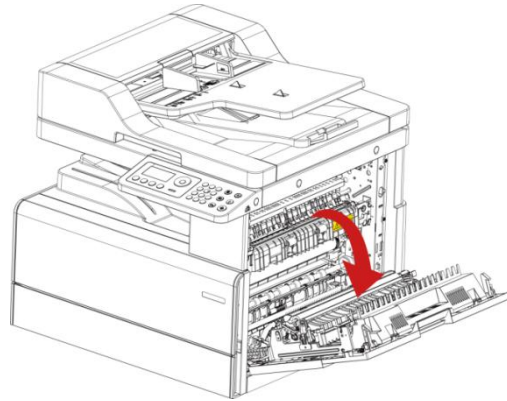
3) After removing the jammed paper, close the right cover of Optional Tray, and the printer will automatically resume printing.



4. The paper is jammed in the right cover door

Note: • When removing the jammed paper from the fuser unit, do not touch the shaded area as shown below to avoid burns.

- 1) Open the right cover door.

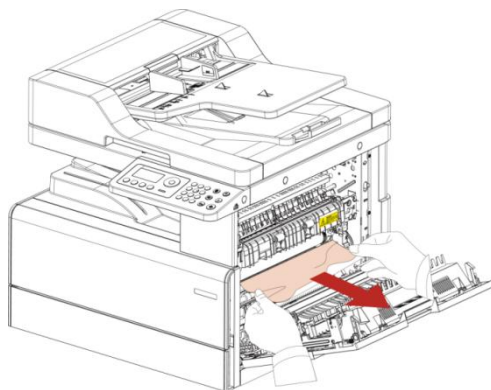


Note: • The inside of the printer may be very hot, please wait for the surface to cool before touching the components so as to avoid being burned by heating components.

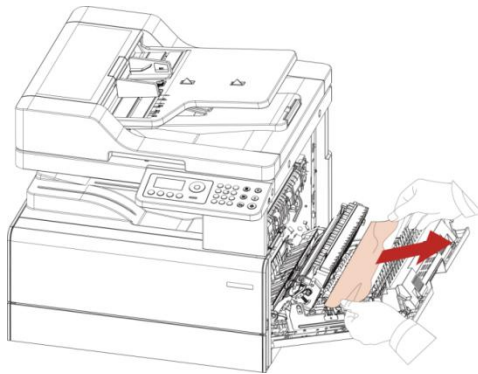
- Make sure that the door does not hit any cables connected to the printer.

- 2) Remove the jammed paper from any position below.

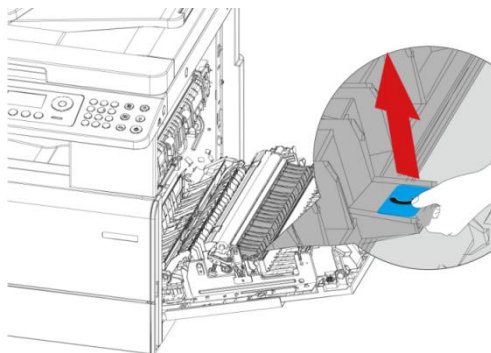
- Fuser area



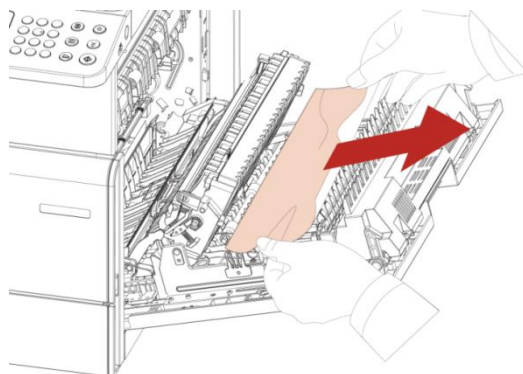
- Below the fuser area



- Duplex module



- Above the duplex printing area



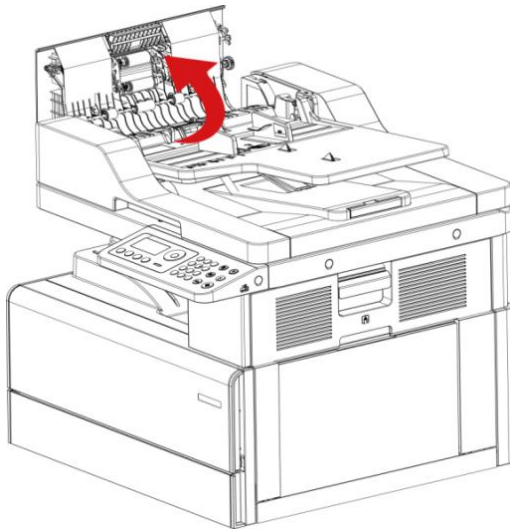
3) Open the Standard Feed Tray, and then take out the jammed paper.

Note: • Confirm all paper fragments have been removed.

4) Close the tray, and then close the right cover door.

5. The paper is jammed in the document feeder (ADF)

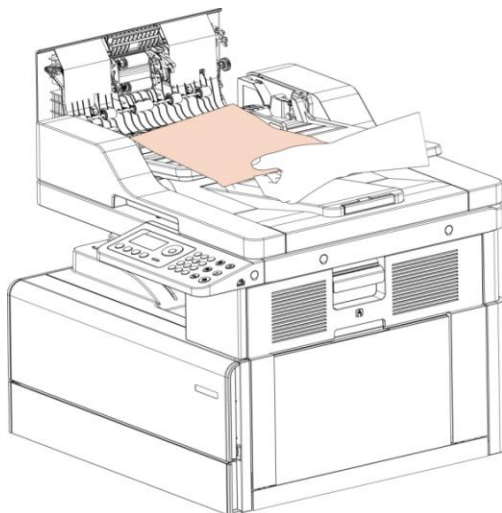
- 1) Open the top cover of the document feeder.



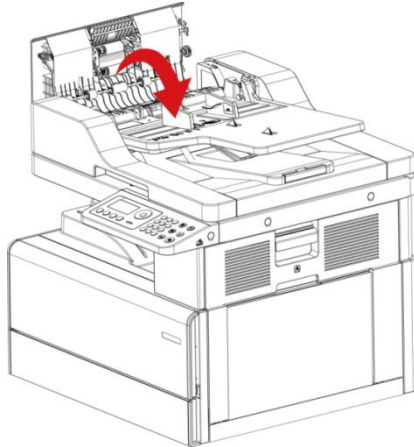
- 2) Remove the jammed paper from the document feeder.

Note: • If the paper is not jammed in the duplex channel, rotate the roller to eject the jammed paper.

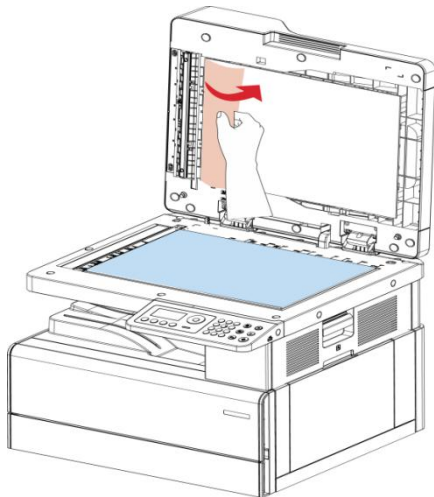
- If the paper is jammed in the duplex channel, open the duplex channel bracket, and then rotate the roller to eject the jammed paper.



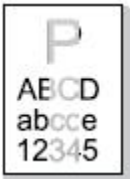
3) After removing the jammed paper, close the top cover of the document feeder, and the printer will resume normal operation.

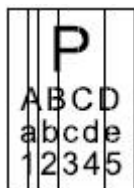


4) If the paper is difficult to remove, try opening the scanner cover and removing the paper from the pressure roller.



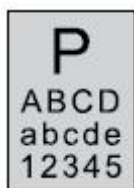
5.7 Image defects

Fault Phenomena	Causes	Solution
 Printout is faint or too light	- The print media do not meet specifications, e.g. the media are damp or too rough. - The resolution is set too low in the printing program, the density is set too low, or the toner save mode is checked. - Toner is insufficient. - Toner cartridge is damaged.	- Please use the media within the specified range properly. - Adjust the print resolution, density settings, or deselect the toner save mode in the settings. - It is recommended to replace the original toner cartridge.
 Dots and spots	- Toner cartridge is dirty or leaking. - Toner cartridge is damaged. - The unqualified print media are used, e.g. the media are damp or too rough. - Paper feed path is dirty. - Any dots and spots appearing on the printout after copying or scanning may be caused by dirt on the glass platen. - Scanner is dirty or damaged.	- It is recommended to replace the original toner cartridge. - Please use the print media within the specified range. - Clean the paper feed path. - Clean the glass platen.
 White spots	- The unqualified print media are used, e.g. the media are damp or too rough. - Paper feed path is dirty. - Imaging module is damaged. - LSU lens inside the printer are dirty.	- Please use the print media within the specified range. - Clean the paper feed path. - Replace the imaging module. - Clean the LSU lens.
 Toner flaking	- The unqualified print media are used, e.g. the media are damp or too rough. - The preset print paper medium does not match the placed paper medium. - Internal printer is dirty. - Toner cartridge is damaged. - Fuser is damaged - The components inside the Printer are damaged.	- Please use the print media within the specified range. - Please use the corresponding paper medium for printing. - Clean the inside of the printer. - It is recommended to replace the fuser.



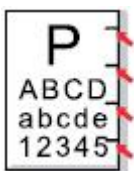
Vertical black lines

- Imaging module is dirty.
- Imaging module is damaged.
- The internal LSU reflector glass is dirty.
- Paper feed path is dirty.
- Any vertical black lines appearing on the printout after copying or scanning may be caused by dirt on the scanner or glass platen.
- There are stains on the scanner light tube.
- Scanner is damaged.
- Replace the imaging module.
- Clean the internal LSU reflector glass.
- Clean the paper feed path of the Printer.
- Clean the scanner or glass platen.



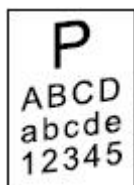
Black background (gray background)

- The unqualified print media are used, e.g. the media are damp or too rough.
- Imaging module is dirty.
- Imaging module is damaged.
- Paper feed path is dirty.
- Transfer voltage inside the Printer is abnormal.
- Exposure occurs during scanning.
- Any black or gray background appearing on the printout after copying or scanning may be caused by dirt on the glass platen.
- Please use the print media within the specified range.
- Replace the imaging module.
- Clean the internal paper feed path of the Printer.
- Please cover the document cover before copying. Scan.
- Clean the glass platen.



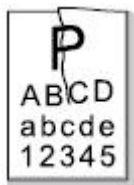
Periodic marks appear

- Imaging module is dirty.
- Imaging module is damaged.
- Fuser is damaged.
- Replace the imaging module.
- Please contact the Customer Service Center to repair and replace the new fuser.



Page skewness

- Paper is not placed correctly.
- Paper feed path of the Printer is dirty.
- Ensure the paper is placed correctly.
- Clean the internal paper feed path of the Printer.



Wrinkled paper

- Paper is not placed correctly.
- The print media do not meet specifications.
- Paper feed path of the Printer is dirty.
- Fuser is damaged.
- Ensure the paper is placed correctly.
- Please use the print media within the specified range for printing.
- Clean the internal paper feed path of the Printer.
- Please contact the Customer Service Center to



Backside is dirty

- Imaging module is dirty.
- The transfer roller inside the Printer is dirty.
- Transfer voltage inside the Printer is abnormal.

repair and replace the new fuser.

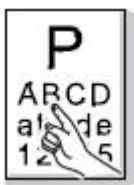
- Replace the imaging module.
- Clean the internal transfer components of the Printer.



Printing all black pages

- Imaging module is not installed properly.
- Imaging module is damaged.
- Internal charging is abnormal, and imaging module is not charged.
- If only all-black image appears after copying or scanning, it may be caused by exposure during scanning when the document cover is not closed.
- Scanner is damaged.

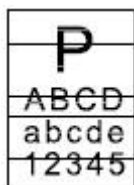
- Ensure that the imaging module is installed correctly.
- Replace the imaging module.
- Please cover the document cover before copying.



Toner smearing

- The unqualified print media are used, e.g. the media are damp or too rough.
- Internal printer is dirty.
- Transfer roller is damaged.
- The components inside the Printer are damaged.

- Please use the print media within the specified range.
- Clean the inside of the printer.
- It is recommended to replace the transfer roller.



Horizontal lines

- Imaging module is not installed properly.
- Imaging module is damaged.
- The components inside the Printer are damaged.

- Ensure that the imaging module is installed correctly.
- Replace the imaging module.

6. Service Menu

6.1 Enter the service mode

There are two ways to enter the service mode menu based on the printer status.

1. When the Printer is in a ready state, enter the modification mode by entering the password:

At the administrator password input interface on the panel, enter the password: (--36) to enter. The password cannot be changed.

2. When the Printer is in an error state, enter the service mode by pressing a series of keys: "ID + Return + Number 5".

Fatal Error Status	Enable Service Mode?	Maintaining method
Communication between Panel and DC failed	No	Firmware crash, restart the Printer
Others	Yes	

6.2 Exit the service mode

When the service mode is exited, the Printer automatically restarts.

The service mode can only be exited manually by the user, or when the Printer powers off and automatically restarts. That means, after entering the service mode, normal functions such as printing, copying, scanning, and sleep cannot be responded to.

6.3 Printing Device Settings

Purpose: Printing all settings of the printer device is suitable for scenarios where the customer cannot connect to the web on-site

Specifications: Users start the setting function of printing device through the panel. The printer prints out all the settings of the printer according to the information page printing process (A4 size).

When printing starts, the data firmware obtains all the printer settings from the panel, generates printing data, and during the printing process, the user can cancel the printing.

6.4 Print engine

6.4.1 Clear fuser abnormality

Purpose: Clear the fatal fuser FE CODE information stored in the EEPROM of Printer.

Specifications: Enter the [Clear Fuser Abnormality] menu, select the [Execute] button, and after executing, the engine implements the clearing of the fatal FE CODE information.

Panel control	Action specifications
Execute button	Send execution request
Result display area	Fuser abnormality is clearing...
	Fuser abnormality cleared!

Note: After execution is completed, the printer should be restarted.

6.4.2 Input Detection

6.4.2.1 Cover detection

6.4.2.1.1 Front cover

Note: Under normal status, panel will display the open and close status of covers

Purpose: Detect the open/close status of the Printer's front cover

Specifications: Enter the [Cover Detection] menu, select [Front Cover], and after you open or close the front cover, press the detection button, and then the panel will display the status result of the front cover.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.1.2 Right cover

Note: Under normal status, panel will display the open and close status of covers

Purpose: Detect the open/close status of the Printer's right cover

Specifications: Enter the [Cover Detection] menu, select [Right Cover], and after you open or close the right cover, press the detection button, and then the panel will display the status result of the right cover.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.1.3 Side cover of Optional Tray 1

Purpose: Detect the open/close status of the Printer's side cover of Optional Tray 1

Specifications: Enter the [Cover Detection] menu, select [side cover of Optional Tray 1], and after you open or close the side cover of Optional Tray 1, press the detection button, and then the panel will display the status result of the side cover of Optional Tray 1.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.1.4 Side cover of Optional Tray 2

Purpose: Detect the open/close status of the Printer's side cover of Optional Tray 2

Specifications: Enter the [Cover Detection] menu, select [side cover of Optional Tray 2], and after you open or close the side cover of Optional Tray 2, press the detection button, and then the panel will display the status result of the side cover of Optional Tray 2.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.2 Standard tray detection

Out of Paper Sensor

Purpose: Detect the paper availability in the standard tray

Specifications: Enter the [Standard Tray Detection] menu, select [Out of Paper Sensor], and after you load or take out the paper in the standard tray, press the detection button, and then the panel will display the status result of the paper availability in the standard tray.

Panel control	Action Specifications
Detect button	Send sensor detection command
Result display area	0: Out of Paper 1: Paper Available

6.4.2.3 Multi-purpose tray detection

Out of Paper Sensor

Purpose: Detect the paper availability in the multi-purpose tray

Specifications: Enter the [Multi-purpose Tray Detection] menu, select [Out of Paper Sensor], and after you load or take out the paper in the multi-purpose tray, press the detection button, and then the panel will display the status result of the paper availability in the multi-purpose tray.

Panel control	Action Specifications
Detect button	Send sensor detection command
Result display area	0: Paper Available 1: Out of Paper

6.4.2.4 Optional Tray 1 detection

6.4.2.4.1 Out of Paper Sensor

Purpose: Detect the paper availability in the Optional Tray 1

Specifications: Enter the [Optional Tray 1 Detection] menu, select [Out of Paper Sensor], and after you load or take out the paper in the optional tray 1, press the detection button, and then the panel will display the status result of the paper availability in the Optional Tray 1.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Paper Available 1: Out of Paper

6.4.2.4.2 Paper Pickup Sensor

Purpose: Detect the lifting of base plate of Optional Tray 1

Specifications: Enter the [Optional Tray 1 Detection] menu, select [Paper Pickup Sensor], and after you open and close the Optional Tray 1 or unplug the motor cable of the Optional Tray 1, press the detection button, and then the panel will display the status result of lifting of base plate of the Optional Tray 1.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Base plate does not lift 1: Base plate is in position

6.4.2.4.3 Paper Feed Sensor

Purpose: Detect the sensor status change when paper reaches paper feed sensor during paper feeding process; detect the paper jam.

Specifications: Enter the [Optional Tray 1 Detection] menu, select [Paper Feed Sensor], open the side cover of Optional Tray 1, and after open the pressure release door (similar to fuser pressure release device) to see this sensor, press down it with paper to manually toggle ON/OFF, then press the detection button, and the panel will display the status result of the paper feed sensor for Optional Tray 1.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Out of Paper 1: Paper Available

6.4.2.4.4 Paper Size Sensor

Purpose: Detect the paper size placed in the Optional Tray 1

Specifications: Enter the [Optional Tray 1 Detection] menu, select [Paper Size Sensor], and after you A4SEF, A4LEF or Statement paper in the Optional Tray 1, press the detection button, and then the panel will display the detection result of the paper size in the Optional Tray 1 and the status value of Paper Size Sensor.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	A4SEF 11110 A4LEF 00101 Size Unknown 00000

6.4.2.4.5 Tray Open Sensor

Purpose: Detect the open/close status of the Optional Tray 1

Specifications: Enter the [Optional Tray 1 Detection] menu, select [Tray Open Sensor], and after you open or close the Optional Tray 1, press the detection button, and then the panel will display the open/close status of the Optional Tray 1.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.5 Optional Tray 2 detection

6.4.2.5.1 Out of Paper Sensor

Purpose: Detect the paper availability in the Optional Tray 2

Specifications: Enter the [Optional Tray 2 Detection] menu, select [Out of Paper Sensor], and after you load or take out the paper in the optional tray 2, press the detection button, and then the panel will display the status result of the paper availability in the Optional Tray 2.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Paper Available 1: Out of Paper

6.4.2.5.2 Paper Pickup Sensor

Purpose: Detect the lifting of base plate of Optional Tray 2

Specifications: Enter the [Optional Tray 2 Detection] menu, select [Paper Pickup Sensor], and after you open and close the Optional Tray 2 or unplug the motor cable of the Optional Tray 2, press the detection button, and then the panel will display the status result of lifting of base plate of the Optional Tray 2.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Base plate does not lift 1: Base plate is in position

6.4.2.5.3 Paper Feed Sensor

Purpose: Detect the sensor status change when paper reaches paper feed sensor during paper feeding process; detect the paper jam

Specifications: Enter the [Optional Tray 2 Detection] menu, select [Paper Feed Sensor], open the side cover of Optional Tray 2, and after open the pressure release door (similar to fuser pressure release device) to see this sensor, press down it with paper to manually toggle ON/OFF, then press the detection button, and the panel will display the status result of the paper feed sensor for Optional Tray 2.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Out of Paper 1: Paper Available

6.4.2.5.4 Paper Size Sensor

Purpose: Detect the paper size placed in the Optional Tray 2

Specifications:

Enter the [Optional Tray 2 Detection] menu, select [Paper Size Sensor], and after you A4SEF, A4LEF or Statement paper in the Optional Tray 2, press the detection button, and then the panel will display the detection result of the paper size in the Optional Tray 2 and the status value of Paper Size Sensor.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	A4SEF 11110 A4LEF 00101 Size Unknown 00000

6.4.2.5.5 Tray Open Sensor

Purpose: Detect the open/close status of the Optional Tray 2

Specifications: Enter the [Optional Tray 2 Detection] menu, select [Tray Open Sensor], and after you open or close the Optional Tray 2, press the detection button, and then the panel will display the open/close status of the Optional Tray 2.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Open 1: Close

6.4.2.6 Paper Path Sensor Detection

6.4.2.6.1 Correction Sensor

Purpose: Detect the sensor status change when paper reaches correction sensor during paper feeding process; detect the paper jam

Specifications: Enter the [Paper Path Sensor Detection] menu, select [Correction Sensor], open the right cover of the Printer to find the position of correction sensor, press down it with paper to manually toggle ON/OFF, then press the detection button, and the panel will display the status result of the correction sensor.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Paper Available 1: Out of Paper

6.4.2.6.2 Fuser Exit Sensor

Purpose: Detect the sensor status change when paper reaches fuser exit sensor during paper feeding process; detect the paper jam

Specifications: Enter the [Paper Path Sensor Detection] menu, select [Fuser Exit Sensor], open the right cover of the Printer to find the position of fuser exit sensor, press down it with paper to manually toggle ON/OFF, then press the detection button, and the panel will display the status result of the fuser exit sensor.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Paper Available 1: Out of Paper

6.4.2.6.3 Duplex Exit Sensor

Purpose: Detect the sensor status change when paper reaches duplex exit sensor during paper feeding process; detect the paper jam

Specifications: Enter the [Paper Path Sensor Detection] menu, select [Duplex Exit Sensor], open the right cover of the Printer and release the duplex unit to find the position of duplex exit sensor, press down it with paper to manually toggle ON/OFF, then press the detection button, and the panel will display the status result of the duplex exit sensor.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	0: Out of Paper 1: Paper Available

6.4.2.7 Temperature and humidity detection

6.4.2.7.1 Ambient temperature

Purpose: Detect the ambient temperature value of the Printer

Specifications: Enter the [Temperature and Humidity Detection] menu, select [Ambient Temperature], press the detection button, and then the panel will display the current ambient temperature value result of the Printer.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	XXX°C XXX°F

6.4.2.7.2 Ambient humidity

Purpose: Detect the ambient humidity value of the Printer

Specifications: Enter the [Temperature and Humidity Detection] menu, select [Ambient Humidity], press the detection button, and then the panel will display the current ambient humidity value result of the Printer.

Panel control	Action Specifications
Detect button	Press it to send sensor detection command
Result display area	XX%RH

6.4.3 Output Detection

6.4.3.1 Fuser Exit Fan Detection

Purpose: Prevent condensation on the accessories of paper exit module

Specifications: Support high-speed and stop actions, and follow the panel operation instructions

Panel control	Action Specifications
Stop	Click to stop
High-Speed Rotation	Click high-speed rotation Fan for fuser exit is rotating at high speed... Fan for fuser exit has successfully rotated at high speed!
Result display area	Fan for fuser exit has failed to rotate at high speed! Fan for fuser exit has stopped rotating at high speed!
Low-Speed Rotation	Click low-speed rotation Fan for fuser exit is rotating at low speed... Fan for fuser exit has successfully rotated at low speed!
Result display area	Fan for fuser exit has failed to rotate at low speed! Fan for fuser exit has stopped rotating at low speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after the fan high-speed rotation is executed, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the device.

6.4.3.2 Machine Cooling Fan Detection

Purpose: Detect the main duct fan

Specifications: Follow the panel operation instructions in the following table Mechanical instructions: Cool the whole Printer and exhaust internal heat

Panel control	Action Specifications
Stop	Click to stop
High-Speed Rotation	Click high-speed rotation
	Cooling fan 1 for whole machine is rotating at high speed...
	Cooling fan 1 for whole machine has successfully rotated at high speed!
Result display area	Cooling fan 1 for whole machine has failed to rotate at high speed!
	Cooling fan 1 for whole machine has stopped rotating at high speed!
Low-Speed Rotation	Click low-speed rotation
	Cooling fan 1 for whole machine is rotating at low speed...
	Cooling fan 1 for whole machine has successfully rotated at low speed!
Result display area	Cooling fan 1 for whole machine has failed to rotate at low speed!
	Cooling fan 1 for whole machine has stopped rotating at high speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after the fan high-speed rotation is executed, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the device.

6.4.3.3 High voltage for charging

Purpose: Make the photosensitive drum surface charged

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
K	Click to execute
	K high voltage for charging is enabling...
	K high voltage for charging has enabled successfully!
Result display area	K high voltage for charging has failed to enable!
	K high voltage for charging has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after K high voltage for charging is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable the K high voltage for charging.

6.4.3.4 Developing DC

Purpose: Make the toner attached to the electrostatic latent image on the surface of the photosensitive drum

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
K	Press it to send detection command
	K Developing DC is enabling...
	K Developing DC has enabled successfully!
Result display area	K Developing DC has failed to enable!
	K Developing DC has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after K Developing DC is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable the K Developing DC.

6.4.3.5 Secondary transfer voltage

Purpose: Transfer the latent image on the surface of the photosensitive drum onto the paper

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
Positive voltage	Click to execute positive voltage
	Positive transfer voltage is enabling...
	Positive transfer voltage has enabled successfully!
Result display area	Positive transfer voltage has failed to enable!
	Positive transfer voltage has stopped enabling!
Negative voltage	Click to execute negative voltage
	Negative transfer voltage is enabling...
	Negative transfer voltage has enabled successfully!
Result display area	Negative transfer voltage has failed to enable!
	Negative transfer voltage has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after Transfer (Positive/Negative) is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable Transfer (Positive/Negative).

6.4.3.6 Cleaning needle

Purpose: Separate paper and transfer roller

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
Execute	Press it to send detection command
	Cleaning needle is enabling...
	Cleaning needle has enabled successfully!
Result display area	Cleaning needle has failed to enable!
	Cleaning needle has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after cleaning needle is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable cleaning needle.

6.4.3.7 Static Discharge Lamp

Purpose: Detect if the static discharge lamp is working normally, and confirm if you can see a red light after opening the side door

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
K	Press it to send detection command
	K static discharge lamp is enabling...
	K static discharge lamp has enabled successfully!
Result display area	K static discharge lamp has failed to enable!
	K static discharge lamp has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after K static discharge lamp is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable the K static discharge lamp.

6.4.3.8 Developing AC

Purpose: Make the toner attached to the surface of the photosensitive drum

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
Execute	Press it to send execution command Developing AC is enabling...
Result display area	Developing AC has enabled successfully! Developing AC has failed to enable! Developing AC has stopped enabling!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after Developing AC is enabled, it will automatically disable after 10 seconds. Manual execution of the stop operation within 10 seconds will also disable the Developing AC.

6.4.3.9 K main motor detection

Purpose: Detect the main motor K

Specifications: Follow the panel operation instructions in the following table

Mechanical instructions: Drive K_OPC+K_MR+ITB

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click to send high-speed clockwise rotation command K main motor is rotating clockwise at high speed... K main motor has successfully rotated clockwise at high speed!
Result display area	K main motor has failed to rotate clockwise at high speed! K main motor has stopped rotating clockwise at high speed!
Low-speed Clockwise Rotation	Click to send low-speed clockwise rotation command K main motor is rotating clockwise at low speed... K main motor has successfully rotated clockwise at low speed!
Result display area	K main motor has failed to rotate clockwise at low speed! K main motor has stopped rotating clockwise at low speed!
High-speed Counterclockwise Rotation	Click to send high-speed counterclockwise rotation command K main motor is rotating counterclockwise at high speed...
Result display area	K main motor has successfully rotated counterclockwise at high speed!

Low-speed Counterclockwise Rotation

Result display area

K main motor has failed to rotate counterclockwise at high speed!

K main motor has stopped rotating counterclockwise at high speed!

Click to send low-speed counterclockwise rotation command

K main motor is rotating counterclockwise at low speed...

K main motor has successfully rotated counterclockwise at low speed!

K main motor has failed to rotate counterclockwise at low speed!

K main motor has stopped rotating counterclockwise at low speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor. To prevent device damage, the motor will automatically stop 200ms after it starts counterclockwise rotation.

6.4.3.10 Fuser motor detection

Purpose: Detect the fuser motor

Specifications: Fast clockwise rotation, slow clockwise rotation and stop are available; follow the panel operation instructions

Mechanical instructions: Drive the fuser module by clockwise rotation

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click to send high-speed clockwise rotation command Fuser motor is rotating clockwise at high speed... Fuser motor has successfully rotated clockwise at high speed!
Result display area	Fuser motor has failed to rotate clockwise at high speed! Fuser motor has stopped rotating clockwise at high speed!
Low-speed Clockwise Rotation	Click to send low-speed clockwise rotation command Fuser motor is rotating clockwise at low speed... Fuser motor has successfully rotated clockwise at low speed!
Result display area	Fuser motor has failed to rotate clockwise at low speed! Fuser motor has stopped rotating clockwise at low speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor.

6.4.3.11 Paper exit motor detection

Purpose: Detect the paper exit motor

Specifications: Follow the panel operation instructions in the following table

Mechanical instructions: Drive the paper exit module by clockwise and counterclockwise rotation

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click high-speed clockwise rotation Paper exit motor is rotating clockwise at high speed... Paper exit motor has successfully rotated clockwise at high speed!
Result display area	Paper exit motor has failed to rotate clockwise at high speed! Paper exit motor has stopped rotating clockwise at high speed!

Low-speed Clockwise Rotation

Click low-speed clockwise rotation

Paper exit motor is rotating clockwise at low speed...

Paper exit motor has successfully rotated clockwise at low speed!

Result display area

Paper exit motor has failed to rotate clockwise at low speed!

Paper exit motor has stopped rotating clockwise at low speed!

High-speed Counterclockwise Rotation

Click high-speed counterclockwise rotation

Paper exit motor is rotating counterclockwise at high speed...

Paper exit motor has successfully rotated counterclockwise at high speed!

Result display area

Paper exit motor has failed to rotate counterclockwise at high speed!

Paper exit motor has stopped rotating counterclockwise at high speed!

Low-speed Counterclockwise Rotation

Click low-speed counterclockwise rotation

Paper exit motor is rotating counterclockwise at low speed...

Paper exit motor has successfully rotated counterclockwise at low speed!

Result display area

Paper exit motor has failed to rotate counterclockwise at low speed!

Paper exit motor has stopped rotating counterclockwise at low speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor. To prevent device damage, the motor will automatically stop 200ms after it starts counterclockwise rotation.

6.4.3.12 CK toner supply motor detection

Purpose: Detect the toner supply motor CM for toner cartridge

Specifications: Follow the panel operation instructions in the following table

Mechanical instructions: Drive the mixing of C+K toner cartridge + toner supply by clockwise and counterclockwise rotation

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click high-speed clockwise rotation CK toner supply motor is rotating clockwise at high speed...
Result display area	CK toner supply motor has successfully rotated clockwise at high speed! CK toner supply motor has failed to rotate clockwise

at high speed!

CK toner supply motor has stopped rotating clockwise at high speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor.

6.4.3.13 LSU motor detection

Purpose: Detect the LSU motor

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click high-speed clockwise rotation LSU motor is rotating clockwise at high speed... LSU motor has successfully rotated clockwise at high speed!
Result display area	LSU motor has failed to rotate clockwise at high speed! LSU motor has stopped rotating clockwise at high speed!
Low-speed Clockwise Rotation	Click low-speed clockwise rotation LSU motor is rotating clockwise at low speed... LSU motor has successfully rotated clockwise at low speed!
Result display area	LSU motor has failed to rotate clockwise at low speed! LSU motor has stopped rotating clockwise at low speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor.

6.4.3.14 LD detection

Purpose: Detect the normal operation of LD lamp and LD wiring

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
Normal illumination	Click normal illumination LD normal illumination is executing...
Result display area	LD normal illumination executed successfully! Execution of LD normal illumination failed! Execution of LD normal illumination stopped!
Forced illumination	Click forced illumination LD forced illumination is executing...
Result display area	LD forced illumination executed successfully! Execution of LLD forced illumination failed! Execution of LD forced illumination stopped!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after LD is enabled, it will automatically disable after 15 seconds. Manual execution of the stop operation within 15 seconds will also stop LD illumination.

Note: The detection method is for reference only.

When detecting, open the side cover of the Printer, hold the power-off button on the side cover of the Printer, and place the light-receiving film at the alignment position of the photosensitive drum LD. The detection should be performed when the cover of the Printer is closed with the 24V circuit disconnected, and then you should be able to see light on the light-receiving film.

6.4.3.15 Option 1 feed motor

Purpose: Provide power for the actuator inside the optional tray.

Specifications: Follow the panel operation instructions in the following table.

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click high-speed clockwise rotation Option 1 feed motor is rotating clockwise at high speed...
Result display area	Option 1 feed motor has successfully rotated clockwise at high speed! Option 1 feed motor has failed to rotate clockwise at high speed! Option 1 feed motor has stopped rotating clockwise at high speed!
Low-speed Clockwise Rotation	Click low-speed clockwise rotation Option 1 feed motor is rotating clockwise at low speed...
Result display area	Option 1 feed motor has successfully rotated clockwise at low speed!

High-speed Counterclockwise Rotation

Result display area

Option 1 feed motor has failed to rotate clockwise at low speed!

Option 1 feed motor has stopped rotating clockwise at low speed!

Click high-speed counterclockwise rotation

Option 1 feed motor is rotating counterclockwise at high speed...

Option 1 feed motor has successfully rotated counterclockwise at high speed!

Option 1 feed motor has failed to rotate counterclockwise at high speed!

Option 1 feed motor has stopped rotating counterclockwise at high speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor. To prevent device damage, the motor will automatically stop 200ms after it starts counterclockwise rotation.

6.4.3.16 Option 2 feed motor

Purpose: Provide power for the actuator inside the optional tray

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Stop	Click to stop
High-speed Clockwise Rotation	Click high-speed clockwise rotation
	Option 2 feed motor is rotating clockwise at high speed...
	Option 2 feed motor has successfully rotated clockwise at high speed!
Result display area	Option 2 feed motor has failed to rotate clockwise at high speed!
	Option 2 feed motor has stopped rotating clockwise at high speed!
Low-speed Clockwise Rotation	Click low-speed clockwise rotation
	Option 2 feed motor is rotating clockwise at low speed...
	Option 2 feed motor has successfully rotated clockwise at low speed!
Result display area	Option 2 feed motor has failed to rotate clockwise at low speed!
	Option 2 feed motor has stopped rotating clockwise at low speed!
High-speed Counterclockwise Rotation	Click high-speed counterclockwise rotation
Result display area	Option 2 feed motor is rotating counterclockwise at high speed...

Option 2 feed motor has successfully rotated
counterclockwise at high speed!

Option 2 feed motor has failed to rotate
counterclockwise at high speed!

Option 2 feed motor has stopped rotating
counterclockwise at high speed!

Note: To prevent maintenance personnel from forgetting to stop device operation and to avoid prolonged device operation, after clockwise rotation of the motor, it will automatically stop after 10 seconds. Manual execution of the stop operation within 10 seconds will also stop the clockwise rotation of the motor. To prevent device damage, the motor will automatically stop 200ms after it starts counterclockwise rotation.

6.4.4 Toner supply adjustment

6.4.4.1 Manual toner supply

Purpose: Used for manual toner supply to judge toner supply and toner density problem in developer detection in after-sales service. When the T/C ratio (ratio of toner to carrier) decreases due to a large amount of printing of high-concentration original images, causing low ID, auxiliary toner is replenished to set the T/C level for adjustment;

Specifications: Select Execute, and start imaging high-voltage timing + start toner supply motor

Panel control	Action Specifications
Toner supply button All	Click to execute Manual toner supply is executing...
Result	Manual toner supply is completed successfully! Manual toner supply failed!

Note: To determine if toner is supplied, you have to open the front cover, remove the waste toner box and imaging module, hold the front cover switch sensor with a tool; then click on manual toner supply. The method for detection of TCR sensor for toner density has already provided in the preceding text.

6.4.4.2 Automatic gain

Purpose: When the developer or carrier is replaced, it is convenient for after-sales to manually search for Vcon and reset (it is generally not set, for doing so may affect the image quality)

Specifications: Click execute, and the developer searches for the Vcon value again.

Panel control	Action Specifications
Execute button	Click to execute Automatic gain is acquiring...
Result	Automatic gain has acquired successfully! Automatic gain acquisition failed!

6.4.4.3 Toner density detection

Purpose: View the ratio of toner to carrier (toner density) under the current state of the toner cartridge.

Specifications: Click execute, and start imaging high-voltage timing + start TCR sensor for toner density detection.

Panel control	Action Specifications
Execute button	Click to execute K toner density is detecting...
Result	K toner density detected successfully!\n N% K toner density detection failed!

Note: When the toner density detection is completed successfully, the specific value needs to be displayed.

1, 2, and 3 in values have special meanings, and the UI display requirements are as follows:

1 means fault, UI displays [Fault]

2 means <5%, UI displays [<5%]

3 means >9%, UI displays [>9%]

The UI display of other return values is in percentage and has 1 decimal place. For example, the return value 61 is displayed as 6.1%.

6.4.5 Others**6.4.5.1 Reset the transfer life**

Purpose: Clear the transfer life

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Execute button	Click to execute Resetting the transfer life...
Result	Transfer life has been reset successfully!

6.4.5.2 Reset the fuser life

Purpose: Clear the fuser life

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Execute button	Click to execute
Result	Resetting the fuser life... Fuser life has been reset successfully!

6.4.5.3 Single-sided print detection

Purpose: Execute single-sided print detection to detect whether various devices on the paper path are working normally during single-sided print timing, ensuring that the paper is discharged in single-sided print form.

Note: A4LEF size is supported by default, with no image generation, and it is pure engine paper feeding timing detection.

Specifications: Follow the panel operation instructions in the following table.

Panel control	Action Specifications
Standard tray + page count input	Click to execute single-sided printing from standard tray
Multi-purpose tray + page count input	Click to execute single-sided printing from multi-purpose tray
Optional Tray 1 + page count input	Click to execute single-sided printing from Optional Tray 1
Optional Tray 2 + page count input	Click to execute single-sided printing from Optional Tray 2
Stop	Click to stop
Result	Single-sided print detection is executing... Single-sided print detected successfully! Single-sided print detection failed! Single-sided print detection stopped!

Note 1: setting the printing pages is supported, with a range of 1-100 pages.

Note 2: An additional stop button is provided. After the stop button is pressed, printing will automatically stop after the specified number of pages have been printed.

6.4.5.4 Duplex print detection

Purpose: Execute duplex print detection

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Standard tray + page count input	Click to execute duplex printing from standard tray
Multi-purpose tray + page count input	Click to execute duplex printing from multi-purpose tray
Optional Tray 1 + page count input	Click to execute duplex printing from Optional Tray 1
Optional Tray 2 + page count input	Click to execute duplex printing from Optional Tray 2
Result	Duplex print detection is executing... Duplex print detected successfully! Duplex print detection failed!

Note 1: setting the printing pages is supported, with a range of 1-100 pages.

Note 2: It is not recommended to provide a stop button. Printing will automatically stop after the specified number of pages have been printed.

6.4.6 Reset the tray life

6.4.6.1 Reset the life of standard tray

Purpose: Clear the standard tray life

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Execute button	Click to execute
Result	Resetting the life of standard tray... The life of standard tray has been reset successfully!

6.4.6.2 Reset the life of multi-purpose tray

Purpose: Clear the Multi-purpose tray life

Specifications: Follow the panel operation instructions in the following table

Panel control	Action Specifications
Execute button	Click to execute
Result	Resetting the life of multi-purpose tray... The life of multi-purpose tray has been reset successfully!

6.5 Scanner

6.5.1 Sensor Detection

6.5.1.1 ADF

6.5.1.1.1 ADF Upper Cover Open/Close Sensor

Purpose: Detect the open and close status of ADF top cover

Specifications: The panel detects the status of ADF top cover every 1 second. 0 for close, 1 for open;

Panel control	Action Specifications
Result display area	0: Close 1: Open

6.5.1.1.2 ADF Document Sensor

Purpose: Detect whether there is paper in the tray

Specifications: The panel detects the document availability in the ADF every 1 second. 0 for out of paper, 1 for paper available;

Panel control	Action Specifications
Result display area	0: Out of Paper 1: Paper Available

6.5.1.1.3 ADF Paper Feed Sensor

Purpose: Determine whether the paper is fed normally

Specifications:

1. The panel prompts the After-sales personnel to place a piece of A4 paper in the tray
2. After detecting the paper loaded in the tray, the panel prompts to press a certain button to send command for detection.
3. Perform the detection actions (ADF motor will start to complete paper pickup, paper feeding, and paper exit, rather than scanning)
4. Display the detection results of the 3 sensors (paper feed sensor, scan sensor, and paper exit sensor) on the panel. If the corresponding bit is “1”, it indicates that the sensor is normal, e.g., displaying “111” indicates that all 3 sensors are working normally.
5. If the Printer is in FB model, ADF-related detection information needs to be hidden

Panel control	Action Specifications
Detect button	Send sensor detection command
Result display area	Display: ADF paper feed sensor is normal/abnormal ADF scan sensor is normal/abnormal ADF paper exit sensor is normal/abnormal

6.5.1.1.4 ADF Paper Type Sensor

6.5.1.1.4.1 ADF paper type recognition

Purpose: Detect the current ADF paper type document

Specifications:

1. Detect every 1 second, and display “no paper” if no paper is placed;
2. If there is paper but the paper type cannot be recognized, it will display “unrecognizable”; if there is paper and the paper type can be recognized, it will display the corresponding paper type text or paper type icon.

Combination type	Paper type	Size (Width * Length)	Feed edge
1	A3 Short Edge	297*420	A3 Short Edge
2	A4-Long Side	297*210	A4-Long Side
3	A4 Short Edge	210*297	A4 Short Edge
4	A5 long edge	210*148	A5 long edge
5	A5 Short Edge	148*210	A5 Short Edge
6	A6 Short Edge	105*148	A6 Short Edge
7	JIS B4 Short Edge	257*364	B4 Short Edge
8	JIS B5 Long Edge	257*182	B5 Long Edge
9	JIS B5 Short Edge	182*257	B5 Short Edge
10	Tabloid Short Edge	279.4*431.8	11' Short Edge
11	8K Short Edge	270*390	8K Short Edge
12	Legal Short Edge	216*356	8.5' Short Edge
13	Letter Short Edge	216*279.4	8.5' Short Edge
14	Letter Long Edge	279.4*216	8.5' Long Edge
15	Statement Long Edge	216*140	8.5' Long Edge
16	Statement Short Edge	140*216	5.5' Short Edge

6.5.1.1.4.2 ADF paper type sensor detection

Purpose: Detect ADF paper type

Specifications:

1. Display the status of 5 paper type sensors simultaneously on the panel.
2. Two paper length sensors can be directly touched by hand. By pressing or releasing with hand, observe whether the sensor status displayed on the panel changes.
3. Three paper width sensors cannot be directly touched by hand, but the status of these 3 width sensors can be judged by moving the slider on the ADF tray and observing the status of the sensors on the panel.
4. Move the slider to the A4 Long Edge or the A3 Short Edge as the reference, then push the slider to detect width sensor 1 at the A6 Long Edge, then push it again to detect width sensor 2 at JIS B4, and finally push it to Letter to detect width sensor 3.

Paper type	Size (Width * Length)	Feed edge	Paper Type Sensor		
			①	②	③
A4	297*210	A4-Long Side	1	1	1
A6	105*148	A6 Long Edge	0	1	1
JIS B4	257*364	B4 Short Edge	1	0	1
Letter	216*279.4	8.5' Short Edge	1	1	0

5. The UI displays the results of 5 paper type sensors in the result display area as 0 or 1, and provides notes at the lower part of the interface as "0 indicates Uncovered, 1 indicates Covered".

Panel control	Action Specifications
Detect button	Send sensor detection command
	Paper Type Sensor 1: 0 or 1
	Paper Type Sensor 2: 0 or 1
	Paper Type Sensor 3: 0 or 1
Result display area	Paper Type Sensor 4: 0 or 1
	Paper Type Sensor 5: 0 or 1
	(Note: 0 means uncovered; 1 means covered)

6.5.1.2 FB

6.5.1.2.1 Scanner Cover Sensor

Purpose: Detect the open and close status of FB

Specifications:

1. Display the sensor status on the panel.
2. After-sales personnel opens and closes the FB top cover to see if there is any change in the displayed sensor status on the panel. If there is a change, it indicates that the sensor is working normally.

Panel control	Action Specifications
Result display area	0: Close
	1: Open

6.5.1.2.2 FB Position Sensor

Purpose: CIS Start/Stop positioning, scanning positioning

Specifications:

1. Display the sensor status on the panel.
2. The panel prompts to press a button to send command for detection.
3. Perform the detection action (CIS performs leaving HOME - returning HOME action)
4. After-sales personnel sees if there is any change in the displayed sensor status on the panel. If there is a change, it indicates that the sensor is working normally.

Panel control	Action Specifications
Detect button	Send sensor detection command
Result display area	0: Not returned to position 1: Returned to position

6.5.2 Motor Detection

6.5.2.1 ADF drive motor (stepper motor)

Purpose: Drive the ADF transmission device to operate

Specifications: TBD: DC (scanning module) is powered up, paper is fed by RADF, and firmware triggers motor rotation, by which, maintenance personnel judges whether it is working normally.

1. The panel prompts to press a button to send command for detection.
2. After receiving the command, the ADF motor rotates a sheet of A4 length paper, but in fact, the detection can be performed with A4 paper or without paper.
3. After-sales personnel determines if the motor is working normally based on the actual paper feeding condition.

Panel control	Action Specifications
Running	Send ADF drive motor detection command
Stop	Send ADF drive motor stop command

6.5.2.2 FB drive motor (stepper motor)

Purpose: Drive CIS scanning to move as above description

Specifications:

1. The panel prompts to press a button to send command for detection.
2. After receiving the command, the FB motor drives the CIS to perform reciprocating motion.
3. After-sales personnel determines if the motor is working normally based on the actual motor operation condition.

Panel control	Action Specifications
Running	Send FB drive motor detection command

6.5.3 Scanner's Service Life

Purpose: As it is applicable for checking the service life of consumable parts such as the pickup roller, it is used for counting the scan times, which is used by the Product Department to determine the strategy for replacement - whether a new product confirmation process is required.

Specifications:

1. The panel displays the scanning count value of scanner components.
2. Count the number of ADF paper holder and ADF paper feed rollers separately, and the number of paper holder and paper feed rollers. The count does not increase for FB scanning, whereas for ADF single-sided and double-sided scanning, the counting method for the increase in count value is based on the paper type. For example, for scanning A4 Short Edge, add 1 to both counts when using ADF, and add 3 when using RADF; for scanning A3. Short Edge, add 2 to both counts when using ADF, and add 6 when using RADF.

3. Each scanning action will increase the count value, and the counting method is as follows:

Paper type	Paper length at paper feeding direction	Calculated the number of printed pages
A4(297*210)	210	1
A4S(210*297)	297	1
LTRL(279*216)	216	1
LTRS(216*279)	279	1
A3S(297*420)	420	2
11"X17"(279.4*431.8)	431.8	2
LegalS(216*356)	356	2
JIS B4S(257*364)	364	2
JIS B5L(257*182)	182	1
JIS B5S(182*257)	257	1
Statement(216*140)	140	1
Statement(140*216)	216	1
A5S(148*210)	210	1
A5L(210*148)	148	1
A6S(148*105)	148	1
BIG 16KL(270*195)	195	1
BIG 16KS(195*270)	270	1
8KS(270*390)	390	2
Custom paper	≤320	1
	≥320	2

4. Panel control needs to reset the counts for the paper holder and paper feed roller, used by maintenance personnel to replace the corresponding components and clear the counts. (For FB models do not have paper holder and paper feed roller, only FB scanning pages are displayed)

Panel control	Action Specifications
Paper holder count reset button	Clear the count of paper holder
Paper feed roller count reset button	Clear the count of paper feed roller
	ADF Paper Holder: xxxxx
	ADF Paper Feed Roller: xxxxx
Display Area	FB Scan Pages: xxxxxx
	ADF Scan Pages: xxxxxx
	RADF Scan Pages: xxxxxx

5. Test Method: In case of ADF scanning with A3, if the ADF paper holder, ADF paper feed roller, and ADF scanning page count increase by 2, it is normal when the FB scanning page count remains unchanged; in case of ADF scanning with A4, if the ADF paper holder, ADF paper feed roller, and ADF scanning page count increase by 1, it is normal when the FB scanning page count remains unchanged; in case of RADF scanning with A3, if the ADF paper holder, ADF feed rollers, and ADF scanning page count increase by 6, it is normal when the FB scanning page count remains unchanged; in case of RADF scanning with A4, if the ADF paper holder, ADF paper feed roller, and ADF scanning page count increase by 3, it is normal when the FB scanning page count remains unchanged; in case of FB scanning with A4, if the FB scanning page count increases by 1, it is normal when the ADF scanning page count is not affected.

6.5.4 Scanner image quality detection and adjustment

6.5.4.1 Scanner white line detection

Purpose: Determine the contamination status of white stripe, and please perform the detection with the FB top cover closed.

Specifications: Service personnel judge whether there is contamination on the white stripes by running the detection and analyzing the results.

1. During execution, if the FB top cover is open, it will prompt "abnormal detection, please close the FB top cover";
2. During execution, if the FB top cover is not open, detection is performed normally, and the running result (success or failure) is returned.

(Note: The calibration is based on 300dpi-color-FB, 600dpi-color-FB, and 300dpi-color-ADF. As 600dpi-color-ADF and 300dpi-color-FB has consistent CIS frequencies, it is not required.)

Panel control	Action Specifications
Running	Send a command for white stripe detection
Results	Success, failure, please close the FB top cover, abnormal detection

6.5.4.2 Scanner Margin Adjustment

Purpose: Applicable to adjustments required due to margin changes caused by transportation, etc., after factory delivery.

Specifications: After-sales personnel scan images via computer PC to determine adjustment degree by judging the image.

Panel control	Action Specifications
FB Left Margin	-10mm – 10mm
FB Top Margin	-10mm – 10mm
ADF Front Left Margin	-10mm – 10mm
ADF Front Top Margin	-10mm – 10mm

The set value is to modify the factory tooling set value.

6.5.4.3 Scanner magnification adjustment

Purpose: Applicable to adjustments required due to magnification changes caused by transportation, etc., after factory delivery.

Specifications: After-sales personnel scan images via computer PC to determine adjustment degree by judging the image.

1. When scanning Y-direction magnification, Y-direction for flatbed (FB) scanning refers to the CIS operation direction, and for document feeder (ADF) scanning refers to the feeding direction. The magnification is scaled proportionally, with a scaling increment of 0.002, i.e., 0.2%, and adjustable range from -5 to 5, i.e., scaling range from -1% to 1%. For example, to enlarge by 0.4%, the parameter is set to be 2; to reduce by 1.0%, the parameter is set to be -5.
2. For each adjustment, the value will be reset, without accumulation from the previous adjustment;

Panel control	Action Specifications
FB magnification steps in vertical paper feed direction	-5 – 5
ADF magnification steps in vertical paper feed direction	-5 – 5

6.5.5 Fast paper feed test

Purpose: Detect whether paper feed for scanning and scan functions are normal (paper is fed according to normal scanning workflow, without image output, and CIS is lit up normally).

6.5.5.1 FB fast paper feed test

Purpose: Detect whether FB paper feed (light-up and CIS start) is normal.

Specifications:

1. Enter times in the panel, and press the Execute button to send command for FB paper feed detection;
2. After receiving the command, FB starts to light up and move CIS along the full platen, FB returns to turn off the light, so as to form reciprocating motion;
3. The panel displays the current FB paper feed times for after-sales personnel to view and click the Stop button;
4. Stop running when the set number of times is reached, or if the set number is not reached, click the Stop button on the panel to stop the detection;
5. After-sales personnel determines if the FB paper feed is working normally based on the actual operation condition.

Panel control	Action Specifications
Number of times	Within 200 times
Execute	Execute the test; when the [Execute] button is clicked, it changes to the [Stop] button for stopping paper feed, and the button switches back to [Execute] after paper feed stops

6.5.5.2 ADF fast paper feed test

Purpose: Detect whether the ADF paper feed is normal (and check for paper jams)

Specifications: (Not applicable for FB models)

1. After-sales personnel places paper for test into the ADF tray, preferably A4 paper;
2. Click the Execute button on the panel to start the detection;
3. Feed all the paper placed on the ADF tray and stop (single-sided feeding), the panel displays the total number of fed paper (consumables information is not counted);
4. If you want to stop scanning, remove the document above the ADF tray, and it will stop scanning after the current sheet is scanned;
5. After-sales personnel determines if the ADF paper feed is working normally based on the actual operation condition.

Panel control	Action Specifications
Paper Feed Count	Display ADF Paper Feed Count
Execute	Execute the test

6.5.5.3 RADF fast paper feed test

Purpose: Detect whether the ADF paper feed is normal (and check for paper jams)

Specifications: (Not applicable for FB models)

1. After-sales personnel places paper for test into the ADF tray, preferably A4 paper;
2. Click the Execute button on the panel to start the detection;
3. Feed the paper placed on the ADF tray and stop (if duplex feeding, feed one double-sided sheet +1), the panel displays the total number of fed paper (consumables information is not counted);
4. If you want to stop scanning, remove the document above the ADF tray, and it will stop scanning after the current sheet is scanned;
5. After-sales personnel determines if the RADF paper feed is working normally based on the actual operation condition.

Panel control	Action Specifications
Paper Feed Count	Display RADF Paper Feed Count
Execute	Execute the test

6.6 Image Adjustment

6.6.1 Tray Margin Adjustment

Purpose: Correct deviations for Standard Tray, Optional Tray 1, Optional Tray 2, Multi-Purpose Tray, and Duplex Unit

Specifications:

I. The panel can set:

1. The top and left margins of the Standard Tray, Optional Tray 1, Optional Tray 2, and Multi-Purpose Tray;

2. The top and left margins of the Duplex Unit;

Ranges for each setting item:

Top Margin: -8.5mm to 4.5mm, with a step size of 0.1mm

Left Margin: -10mm to 10mm, with a step size of 0.1mm

II. Calculation of printing margin

For single-sided printing: Printing Margin = Preset Menu Margin + Tray Margin

For duplex printing: Printing Margin = Preset Menu Margin + Duplex Margin

Panel control	Action Specifications
Left Margin of Standard Tray	Selectable Controls: -10.0 - 10.0 (mm), with a step size of 0.1mm
Top Margin of Standard Tray	Selectable Controls: -8.5 - 4.5 (mm), with a step size of 0.1mm
Left Margin of Multi-purpose Tray	Selectable Controls: -10.0 - 10.0 (mm), with a step size of 0.1mm
Top Margin of Multi-purpose Tray	Selectable Controls: -8.5 - 4.5 (mm), with a step size of 0.1mm
Left Margin of Optional Tray 1	Selectable Controls: -10.0 - 10.0 (mm), with a step size of 0.1mm
Top Margin of Optional Tray 1	Selectable Controls: -8.5 - 4.5 (mm), with a step size of 0.1mm
Left Margin of Optional Tray 2	Selectable Controls: -10.0 - 10.0 (mm), with a step size of 0.1mm
Top Margin of Optional Tray 2	Selectable Controls: -8.5 - 4.5 (mm), with a step size of 0.1mm
Duplex - left margin	Selectable Controls: -10.0 - 10.0 (mm), with a step size of 0.1mm
Duplex - top margin	Selectable Controls: -8.5 - 4.5 (mm), with a step size of 0.1mm

6.6.2 Optical power adjustment

Purpose: Correct deviations in optical power

Specifications:

I. The panel can set:

1. Optical power for normal-speed printing;

2. Optical power for low-speed printing;

Ranges for each setting item:

-10% to 10%, with a step size of 2%

II. Calculation of LD optical power adjustment

During normal-speed printing: Normal-speed reference power * (100 + preset value) / 100

During low-speed printing: Low-speed reference power * (100 + preset value) / 100

Panel control	Action Specifications
Optical power adjustment for normal printing	Selectable Controls: -10 - 10 (%), with a step size of 2%
Optical power adjustment for low-speed printing	Selectable Controls: -10 - 10 (%), with a step size of 2%

6.7 Print Settings

Purpose: Applicable when the Printer fails to print normally, and the relevant information needs to be accessed in the panel service mode.

6.7.1 Display of basic information

Panel control	Action Specifications
Total printed pages	Display the counter
Total copied pages	Display the counter
Serial number	Display the serial number
Product name	Display the product name

6.7.2 Restore backup board data

Purpose: Restore data from the backup board to the data board after the data board is replaced.

Specifications: Click the Restore Backup Board Data button, and the firmware copies data from the backup board to the data board. During the restoration, the Restore button is not displayed, and it shows "Restoring, the Printer will automatically restart after restoration is complete."

After restoration is complete, the Printer will automatically restart.

Panel control	Action Specifications
Restore Backup Board Data button	Press the button to copy data from the backup board to the data board

6.8 Event log

Record the printer service logs (up to 1000 entries), including:

- 1) Time, number of printed pages, serial number of toner cartridge, and remaining amount of toner cartridge when consumables are replaced;
- 2) Time and number of printed pages when errors occur
- 3) Job type (copy/print/scan), job source (USB/INTERNET, etc.), job print count, and job scan count
- 4) Firmware version after firmware update, and update time

6.8.1 Display log

Specifications: Users open the printer WebPage with the computer, enter the password for service mode, download logs (in text format) to the computer, and then open them with software.

6.8.2 Print Log

Purpose: Print out all log information

Specifications: Print out all log information

6.9 Set user password

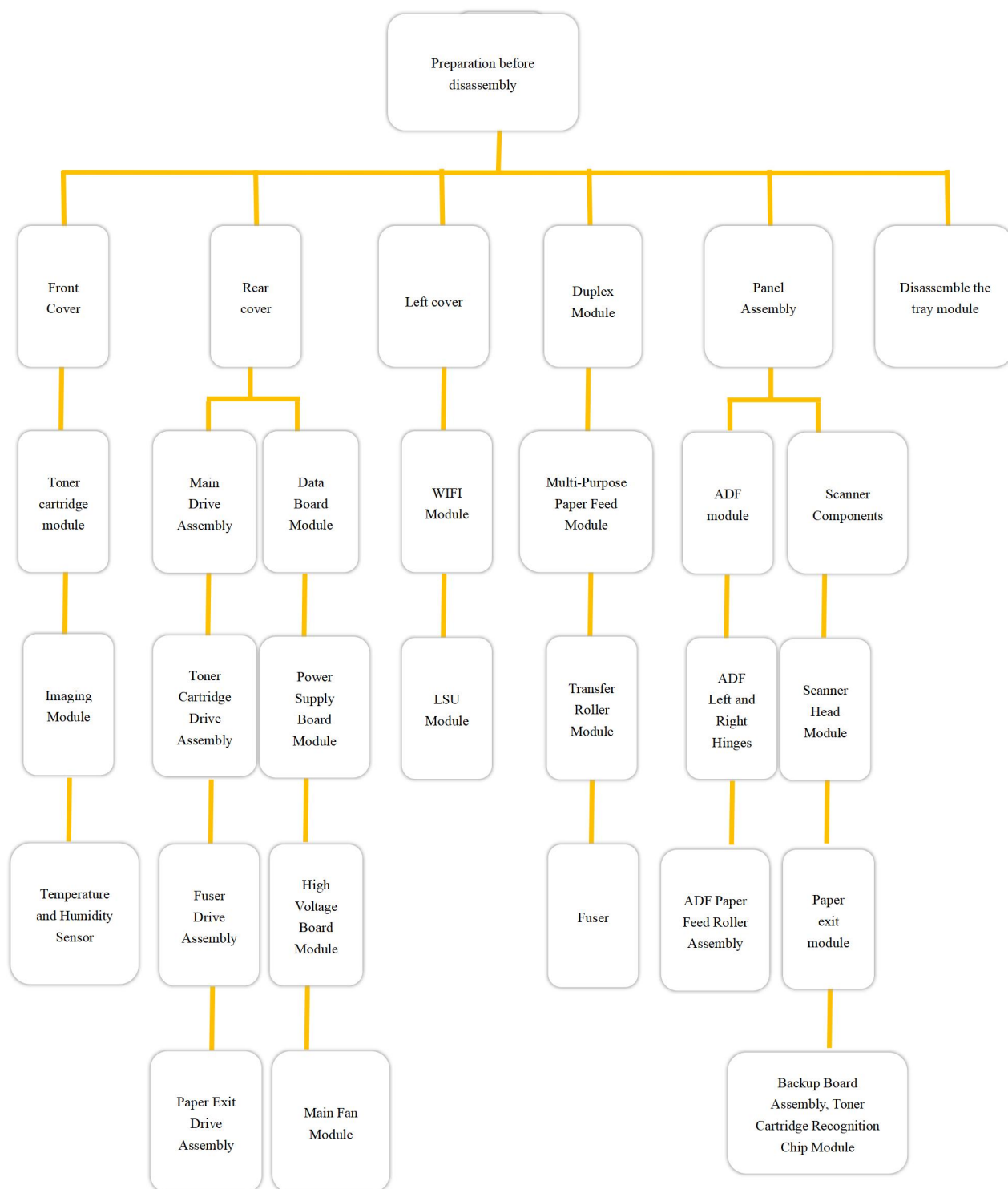
The administrator password reset function is added in diagnostic mode. The default password for factory settings is provided, which can be modified by the user. The default password is 000000, and the option to change the password is available in the administrator interface.

7. Removal and Installation

Preparation before disassembly:

1. When performing the removal procedure, all external power connections of the printer should be disconnected.
2. When performing the removal procedure, the cable tie should be removed. The cable tie must be replaced during reassembly to avoid wire pinching, obstruction of the paper path, or restricted mechanical movement.
3. After the toner cartridge module is removed, it must be kept away from light to avoid any impact on print quality.
4. Unless otherwise specified, components should be reinstalled in the reverse order of removal.
5. To prevent injury when disassembling the machine for the first time, please wear gloves before disassembling the printer.

7.1 Diagram of disassembling steps



7.2 Disassembly tools

Phillips screwdriver



Tweezers



Spring Hook



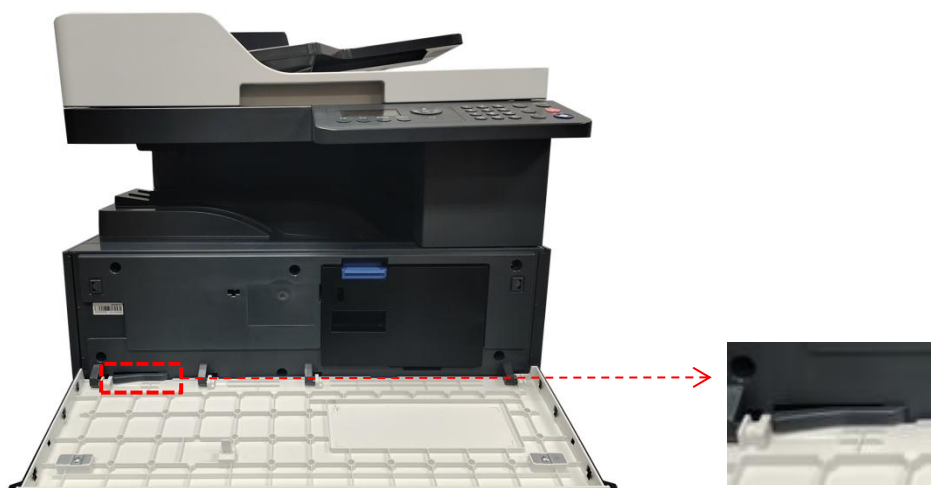
7.3 Removal steps

7.3.1 Disassemble the front cover

1. Grip both sides and open the front cover outward.



2. Push the front door clip inward and remove the front cover from the right side.



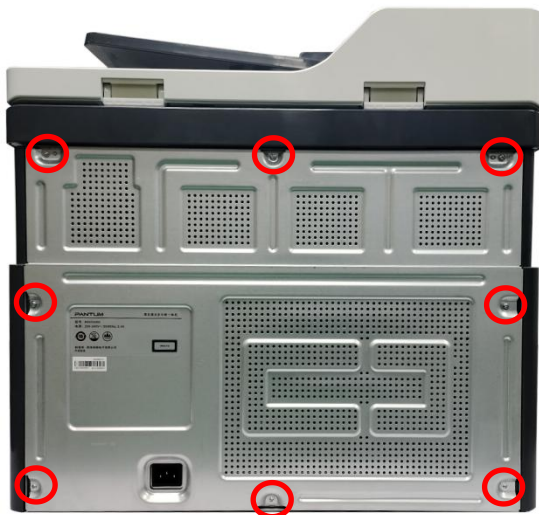
7.3.2 Disassemble the tray module

1. Grip both sides of the tray and pull it outwards.



7.3.3 Disassemble the rear cover

1. Remove the screws (8).



2. Lift the rear cover upwards and slowly pull it outwards.



7.3.4 Disassemble the left cover

1. Remove the rear cover.
2. Remove the screws (6).



3. Pull the left cover outwards.



7.3.5 Disassemble the panel assembly

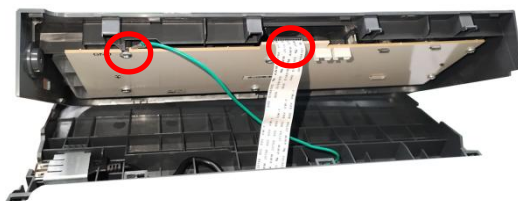
1. Remove the screw (1) on the panel



2. Pry up the bottom 5 fasteners and lift the panel assembly upwards.

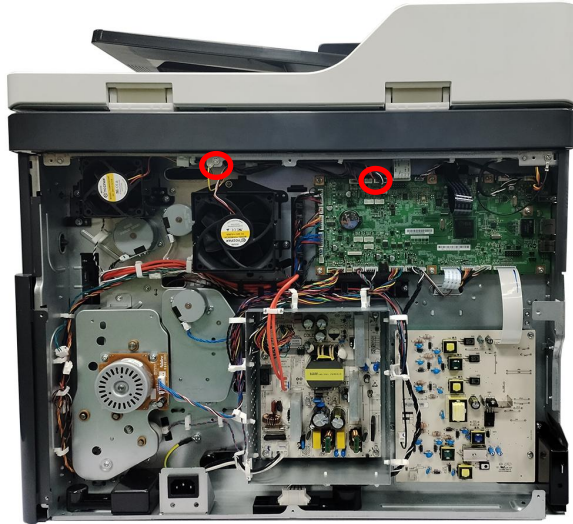


3. Remove the screw (1) and disconnect the internal cables of the panel assembly.



7.3.6 Disassemble the ADF module

1. Remove the rear cover.
2. Remove the screw (1), and disconnect the ADF cable.

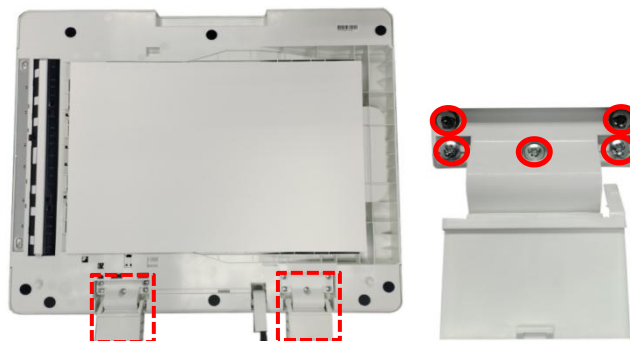


3. Lift up the ADF module and pull it outwards.



7.3.7 Disassemble the ADF left and right hinges

1. Remove the ADF module.
2. Place the ADF on a flat table, remove the screws (5), and take out the left and right hinges

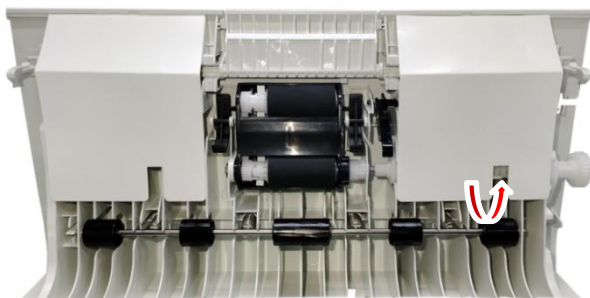


7.3.8 Disassemble the ADF paper feed roller assembly

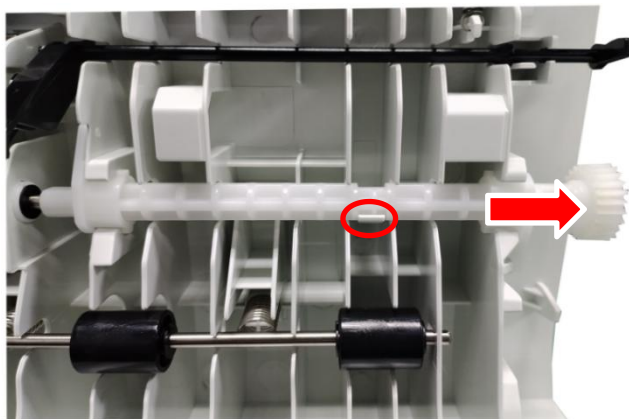
1. Open the ADF cover



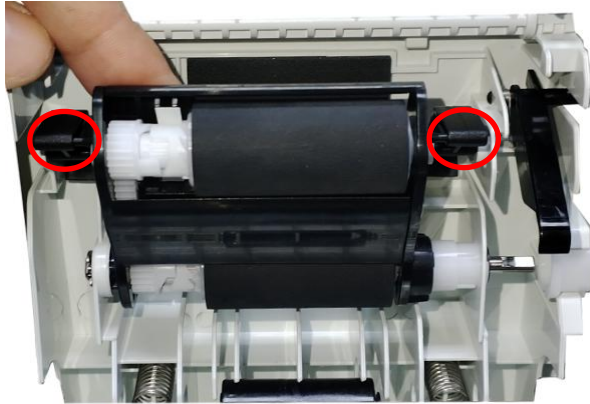
2. Slowly tear the ADF paper path right stopper from the bottom.



3. Press down the fastener and pull out the paper pick-up drive shaft from the right side.



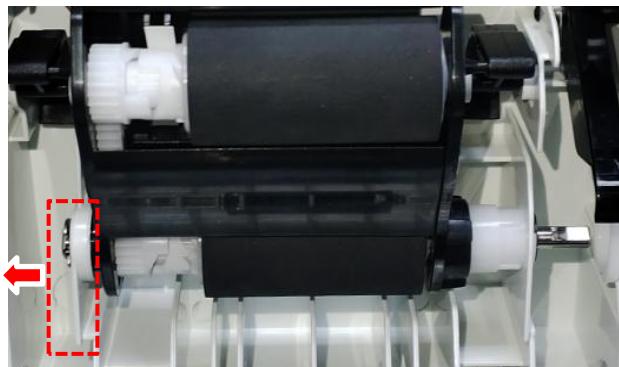
4. Press down the ADF paper pick-up roller assembly to 30°, and remove the paper pick-up roller bracket from both sides.



5. Press down the ADF paper pick-up roller to 45°, and remove the spring with the spring hook.

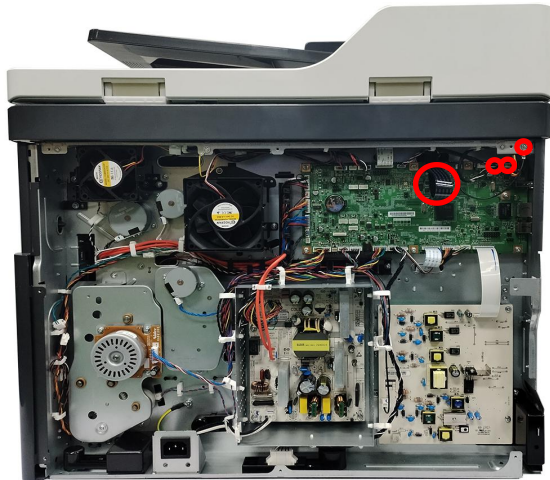


6. Pry to open the left cover frame and tilt it 45° to slowly remove the ADF pick-up roller assembly from the upper left side.



7.3.9 Disassemble the scanner components

1. Remove the rear cover.
2. Remove the ADF module.
3. Remove the screw (1) and disconnect and organize the scanner component cables.



4. Remove the panel assembly.
5. Remove the screws (4), and detach the rear cover of control panel.



6. Remove the screws (6).



7. Pry up the fasteners (2#), and lift up and remove the scanner components from the rear.

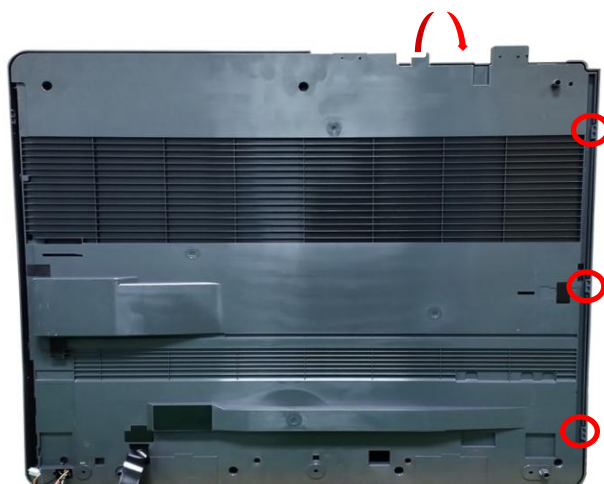


7.3.10 Disassemble the scanner head module

1. Remove the rear cover.
2. Remove the ADF module.
3. Remove the panel assembly.
4. Disassemble the scanner components.
5. Remove the screws (9).



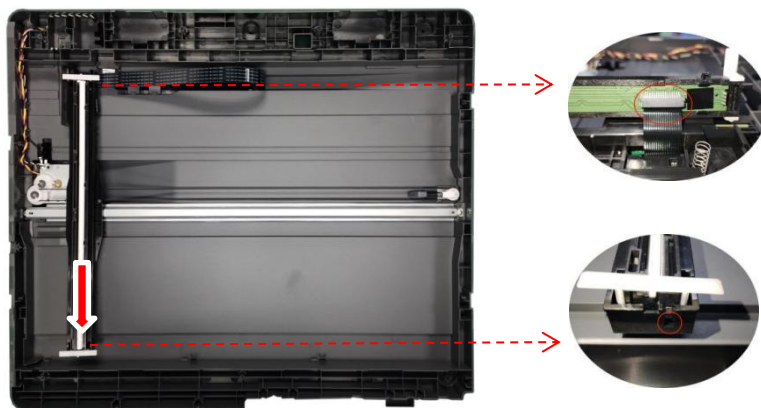
6. Lift up the scanner components to a 90° angle, press down on the scanner bottom cover support rod with the left hand, and use tweezers to pry up the three fasteners on the right side of the scanner components.



7. Place the scanner components on a flat table, and grip both sides to slowly take out the glass platen.



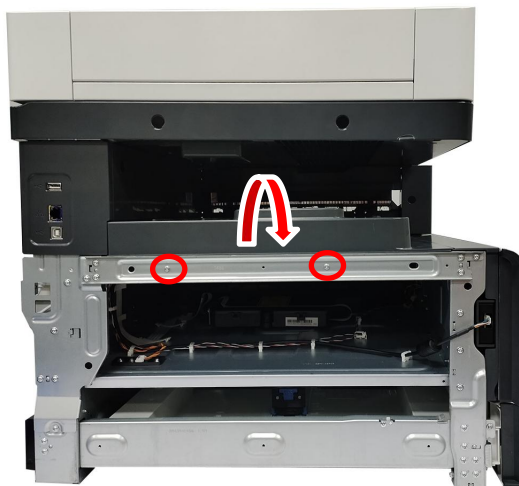
8. Pry up both ends of the scanner head with tweezers, slowly lift it outward at a 30° angle, then unplug the scanner head FFC and remove it.



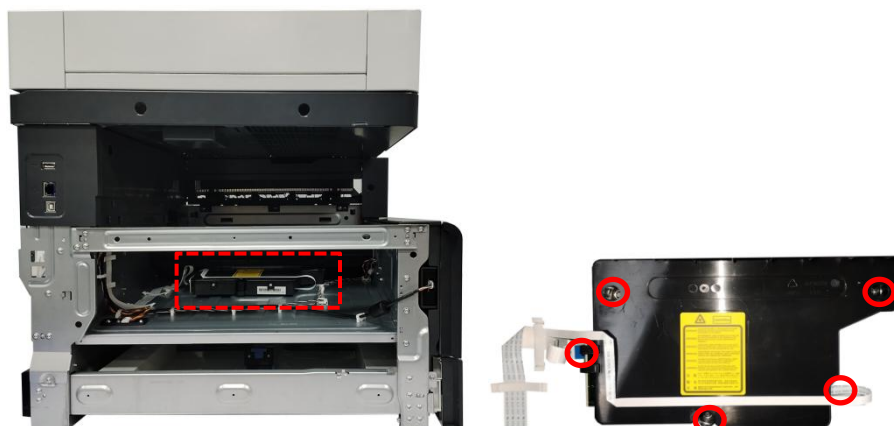
7.3.11 Disassemble the LSU module

When the LSU is replaced, data calibration is required, please refer to Section 9: [Precautions for Spare Part Replacement](#)

1. Remove the rear cover.
2. Remove the left cover.
3. Remove the screws (2), and lift the upper cover of the main body upwards to remove it.

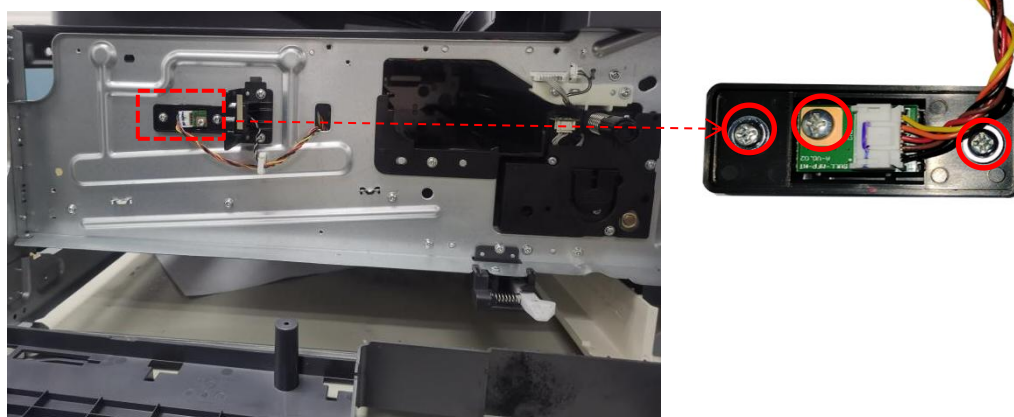


3. Disconnect the cables, remove the screws (3), and take out the LSU module.



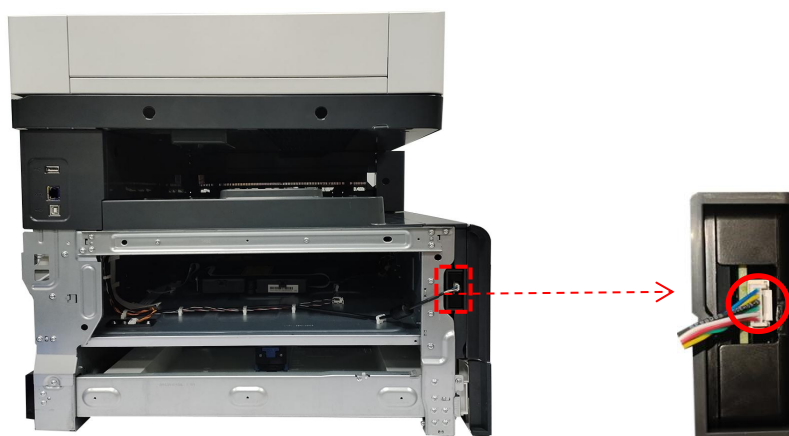
7.3.12 Disassemble the temperature and humidity sensor

1. Remove the left cover.
2. Remove the front cover and inner front cover.
3. Disconnect the cables, remove the screws, and take out the temperature and humidity sensor.



7.3.13 Disassemble the WIFI module

1. Remove the rear cover.
2. Remove the left cover.
3. Disconnect the cables and remove the WIFI module outwards.



7.3.14 Disassemble the duplex module

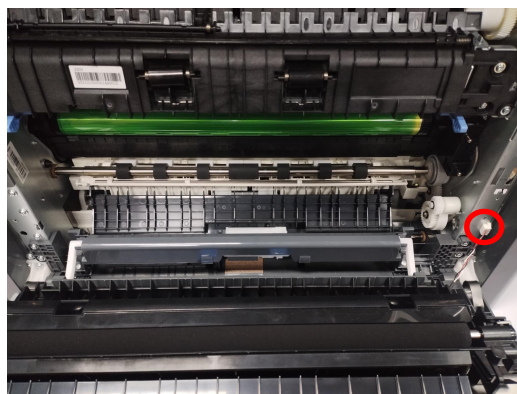
1. Remove the rear cover and the multi-purpose tray.
2. Lift the fastener outward and open the duplex module.



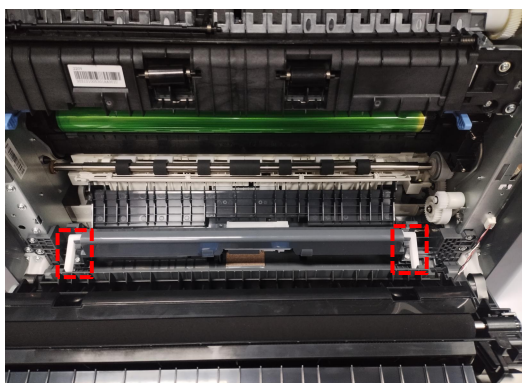
3. Remove the screws (4) for the duplex printing support belt.



4. Disconnect the duplex printing cables.

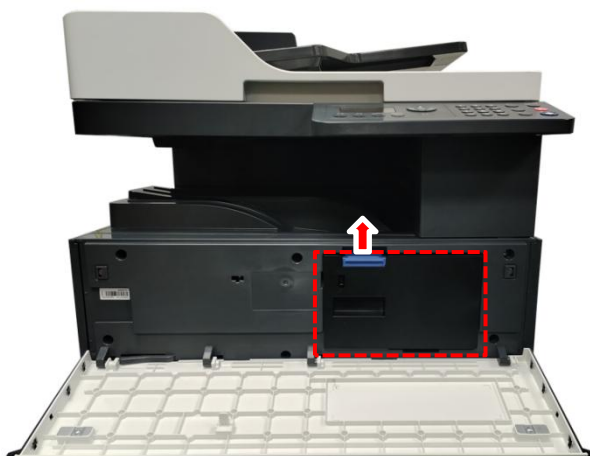


5. Pry up the manual tray support rod outward, and remove the duplex module.



7.3.15 Disassemble the toner cartridge module

1. Open the front cover.
2. Press the blue clip and pull out the toner cartridge module.



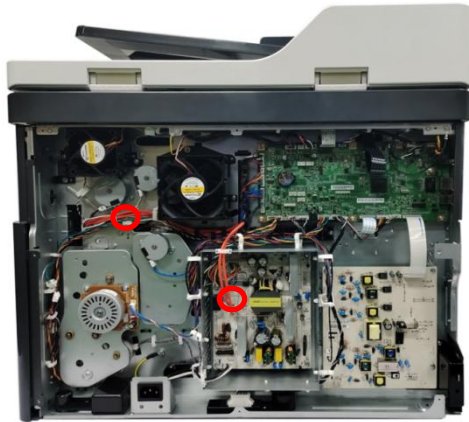
7.3.16 Disassemble the imaging module

1. Open the front cover.
2. Remove the toner cartridge module.
3. Disconnect the cables, remove the screws (2), and take out the imaging module.

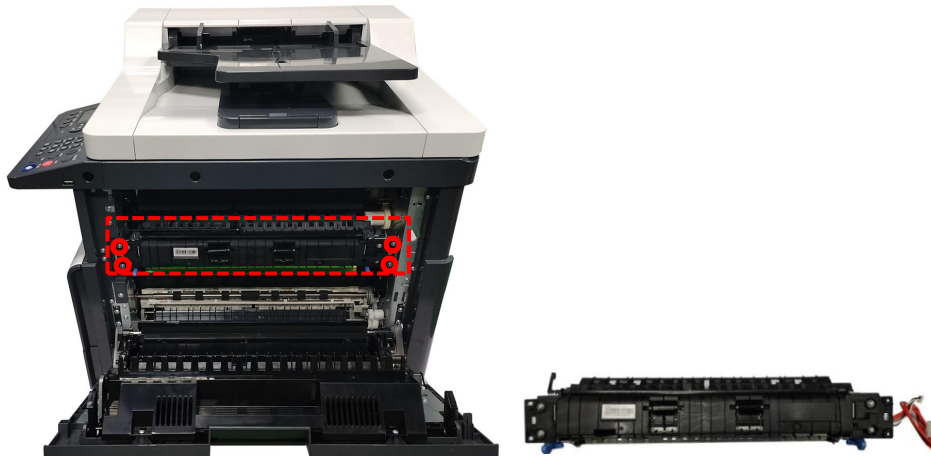


7.3.17 Disassemble the fuser

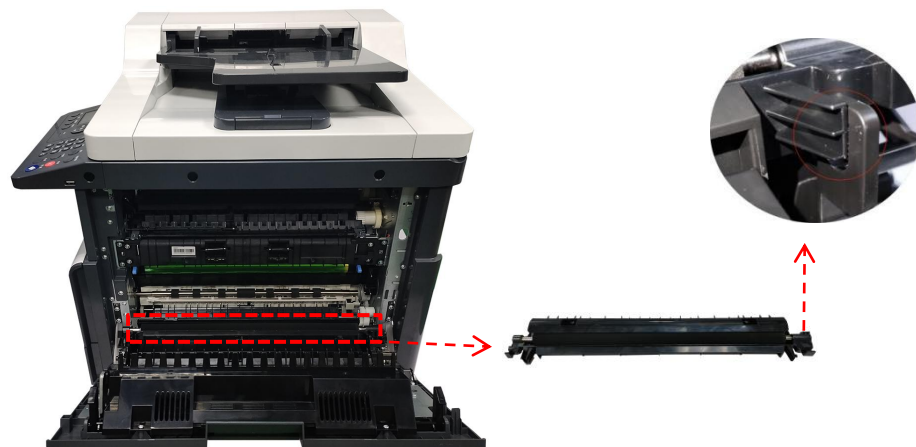
1. Remove the rear cover.
2. Unplug and organize the rear cover fuser cables.



4. Open the duplex module.
3. Remove the fuser screws (4), and pull out the fuser.

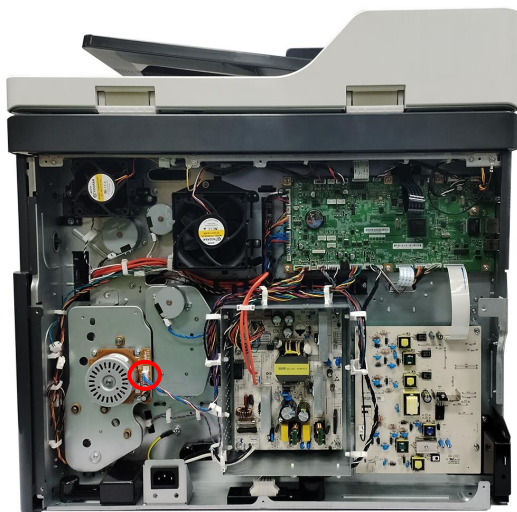
**7.3.18 Disassemble the transfer roller module**

1. Open the duplex module.
2. Pry up the fastener from the left and remove the transfer roller module.

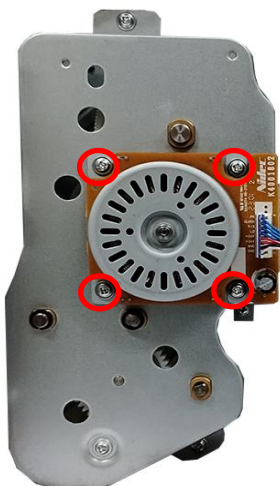


7.3.19 Disassemble the main drive assembly

1. Disconnect the main motor cables.



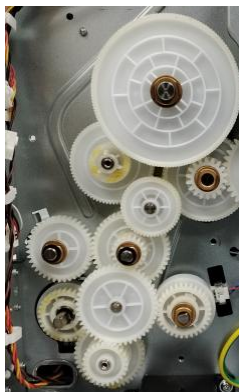
2. Remove the screws (4) to detach the main drive main motor.



3. Remove the screws (6) and the retaining clip, and take out the drive main motor cover.

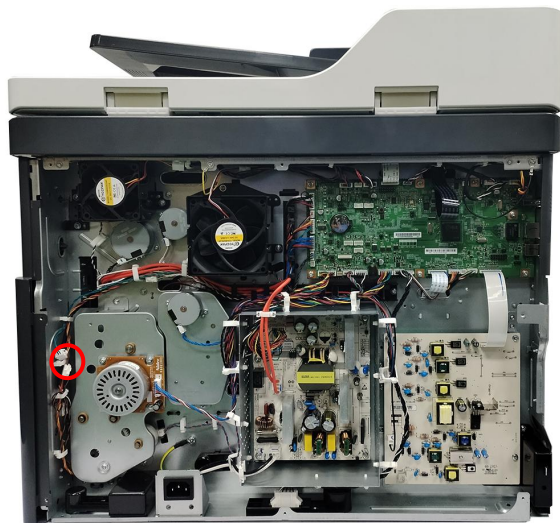


4. Remove the retaining clip and copper cap to remove the gear and clutch assembly.

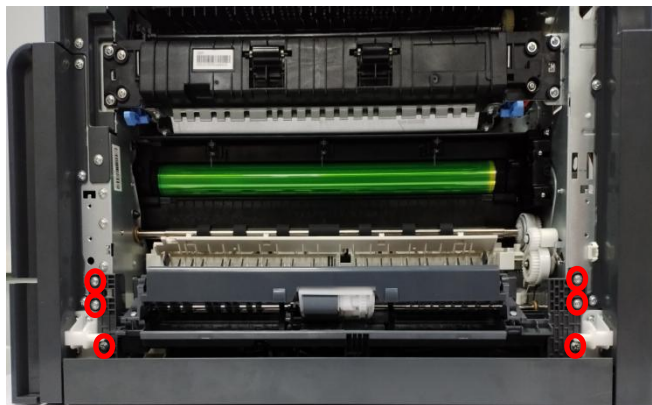


7.3.20 Multi-Purpose Paper Feed Module

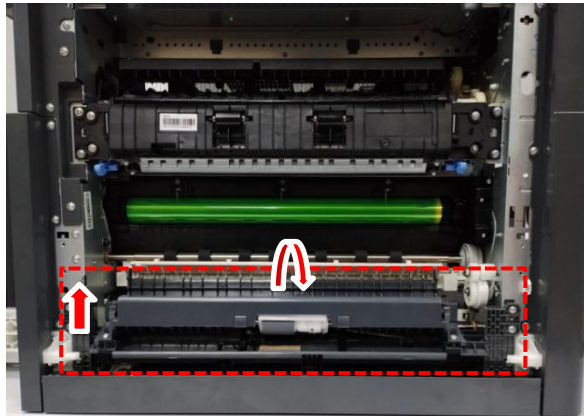
1. Remove the rear cover.
2. Disconnect the cables.



3. Remove the duplex module.
4. Remove the screws (6).

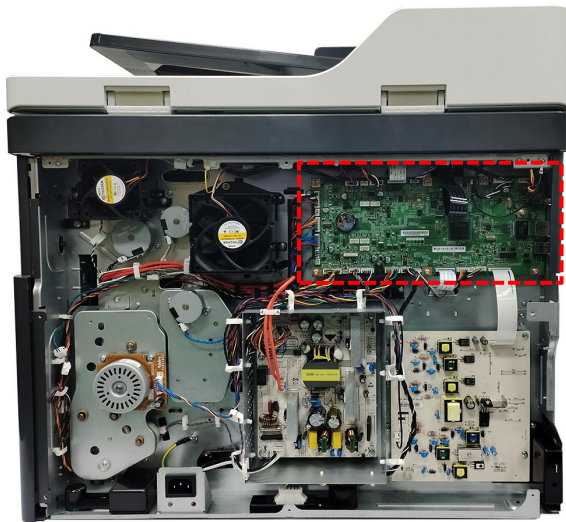


5. Open the paper guide outwards, lift the left side upwards, and remove the multi-purpose paper feed module.



7.3.21 Disassemble the data board module

1. Remove the rear cover.
2. Disconnect all cables on the data board.



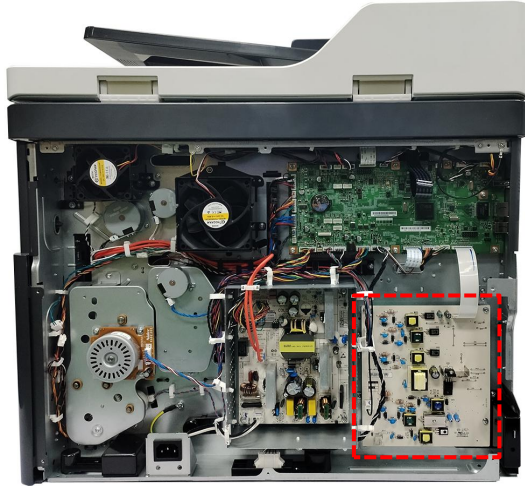
3. Remove the screws (7) and take out the data board module.



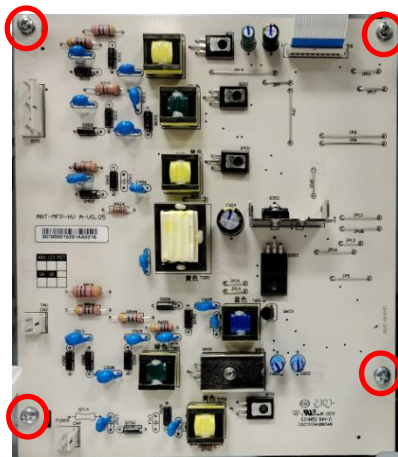
7.3.22 Disassemble the high voltage board module

When the high voltage board is replaced, data calibration is required, please refer to Section 9: [Precautions for Spare Part Replacement](#)

1. Remove the rear cover
2. Disconnect all cables on the high voltage board.

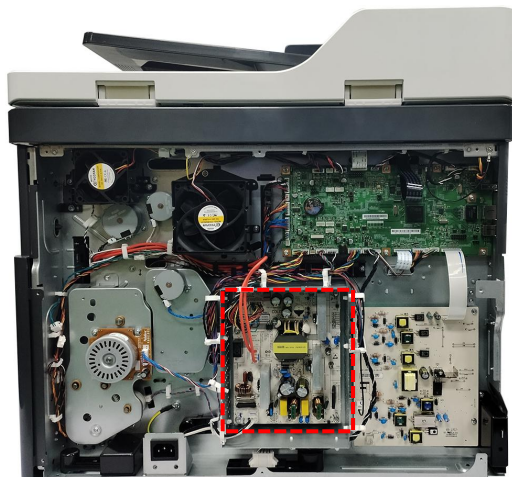


3. Remove the screws (4) to take out the high voltage board.

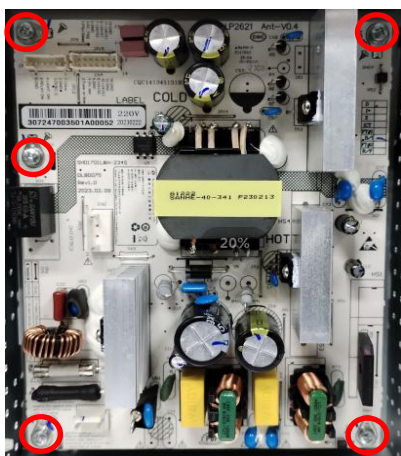


7.3.23 Disassemble the power supply board module

1. Remove the rear cover.
2. Disconnect all cables on the power supply board.

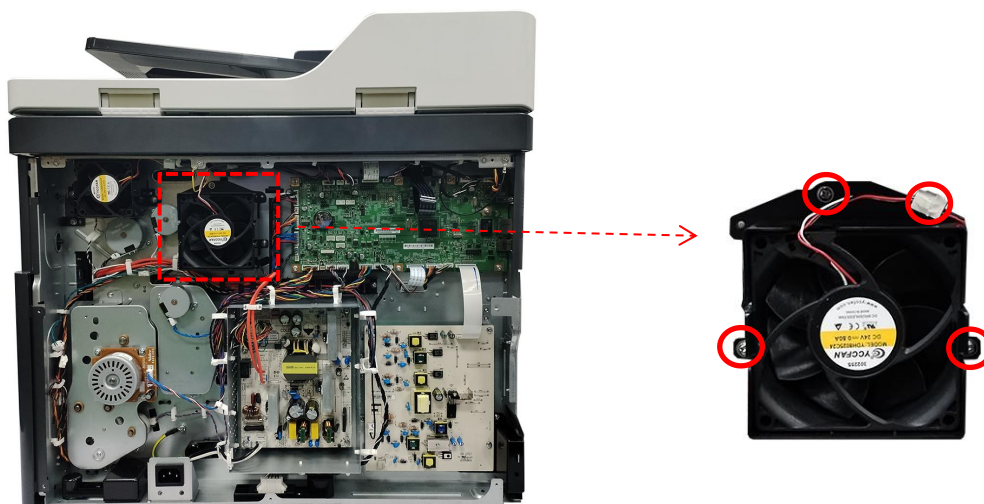


3. Remove the screws (5) to take out the power supply board.



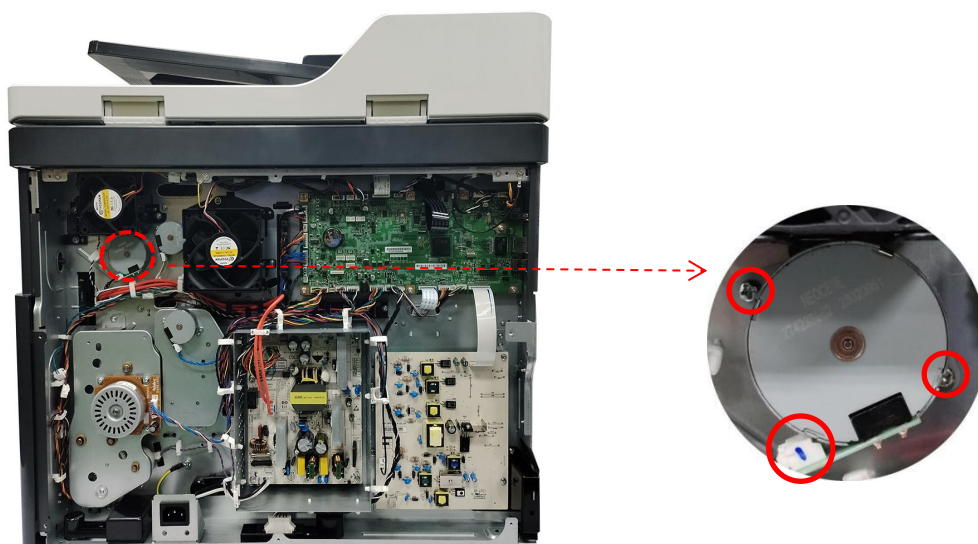
7.3.24 Disassemble the main fan module

1. Remove the rear cover.
2. Disconnect the cables, and remove the screws (3) to take out the main fan module.



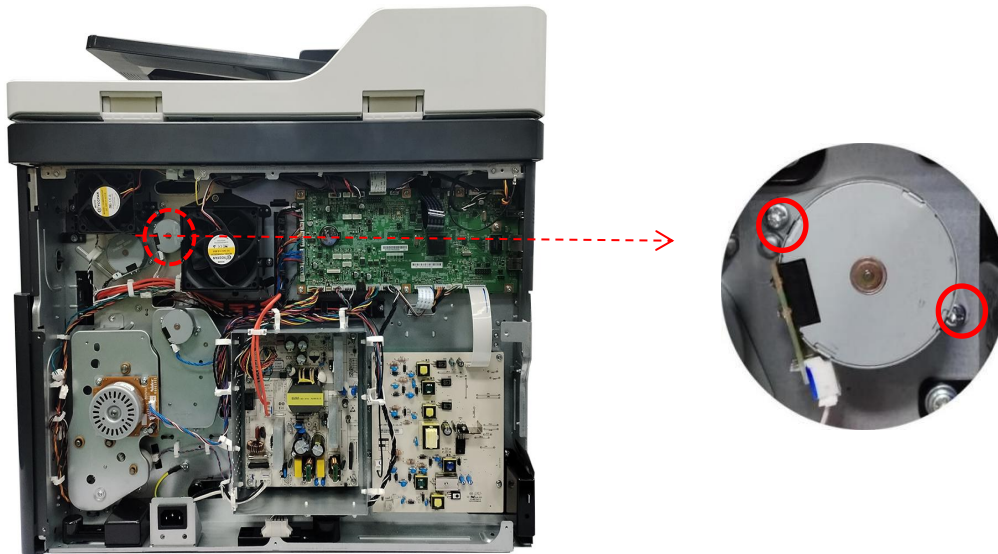
7.3.25 Disassemble the fuser drive assembly

1. Remove the rear cover.
2. Disconnect the cables, and remove the screws (2) to take out the fuser drive assembly.

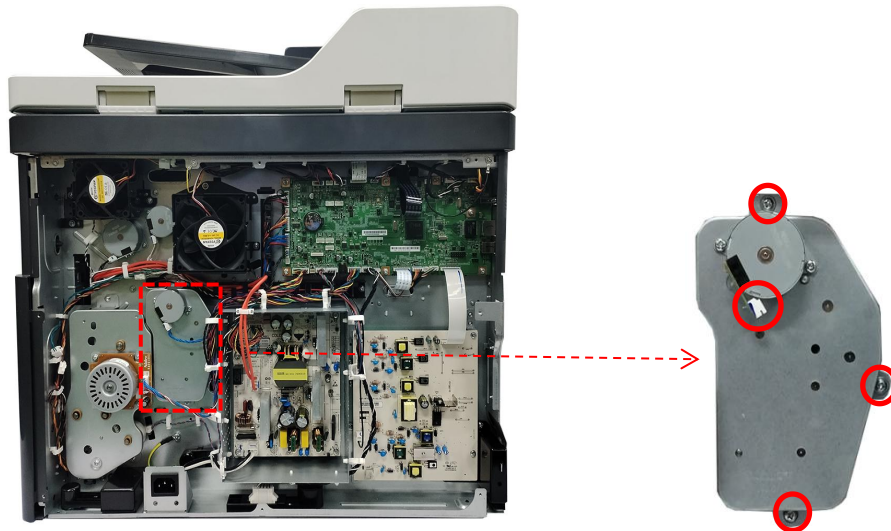


7.3.26 Disassemble the paper exit drive assembly

1. Remove the rear cover
2. Disconnect the cables, and remove the screws (2) to take out the paper exit drive assembly.

**7.3.27 Disassemble the toner cartridge drive assembly**

1. Remove the rear cover.
2. Disconnect the cables, remove the screws (3), and take out the toner cartridge drive assembly.



7.3.28 Disassemble the paper exit module

1. Remove the toner cartridge module.
2. Remove the rear cover, left cover, and top cover assembly of main body.
3. Remove the ADF module, panel assembly, and scanner components.
4. Remove the screws (3), and take out the paper exit trim panel of main body.



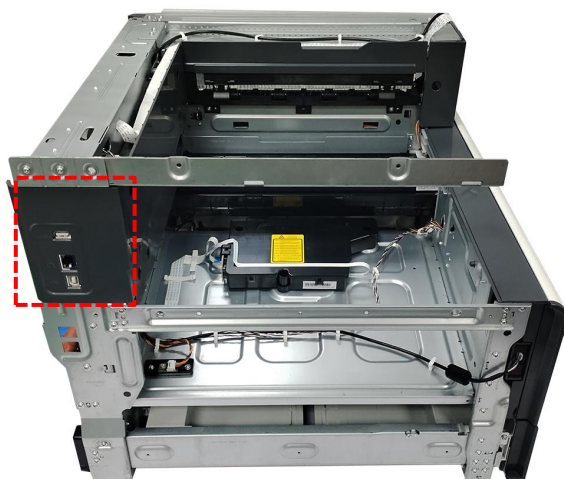
5. Remove the screws (5), and take out the paper exit module.



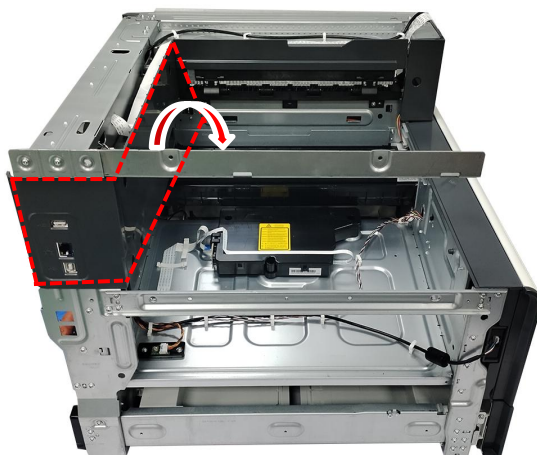
7.3.29 Disassemble the backup board assembly and toner cartridge recognition chip module

When the backup board is replaced, data calibration is required, please refer to Section 9: [Precautions for Spare Part Replacement](#)

1. Remove the toner cartridge module.
2. Remove the rear cover, left cover, and top cover assembly of main body.
3. Remove the ADF module, panel assembly, and scanner components.
4. Pry up two clips on the left side of upper trim panel of left cover on the main body.



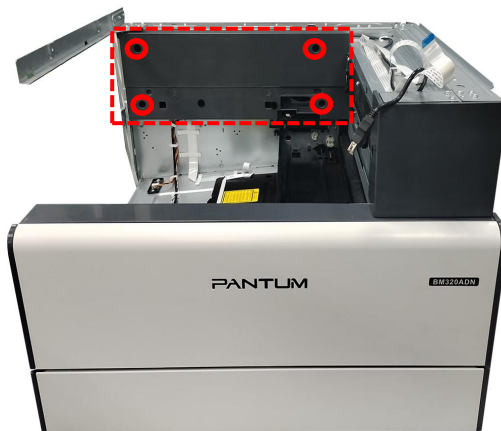
5. Take out the upper trim panel of left cover and rear trim panel of top cover on the main body.



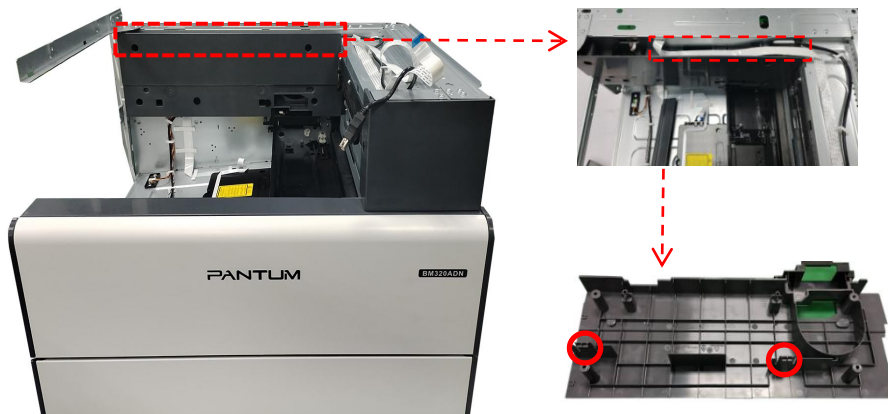
6. Remove the screws (3), and take out the paper exit trim panel of main body.



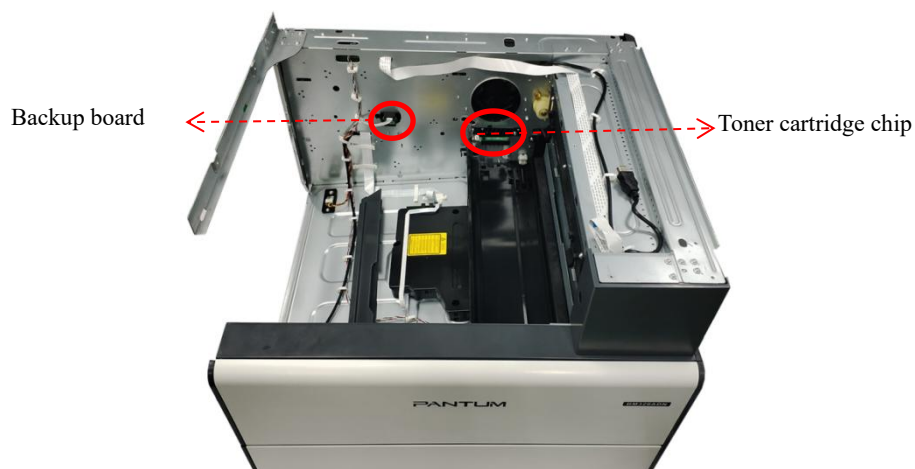
7. Remove the screws (4) of the rear trim panel of top cover on the main body.



8. Unplug the panel cable behind the rear trim panel of top cover on the main body, and pry up the clips.



9. Unplug the cables, remove the screw (1) of the backup board assembly and the screws (2) of the toner cartridge recognition chip module, and take them out.



8. Precautions for Spare Part Replacement

8.1 Backup Board, Laser Scanner Unit (LSU), or High Voltage Board

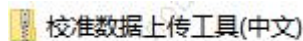
When the backup board, laser scanner unit (LSU), or high voltage board in the Printer of this series are replaced, the corresponding calibration data of the spare parts must be imported into the Printer before use, otherwise it may affect the printing quality. The operation is as follows:

8.1.1 Replacement Instructions

1. Enter the serial number of the spare part (10 digits) in the “Accessory Information” interface of the CSS after-sales system. For the backup board, click the “Get EEPROM Parameter File” button. For the LSU, click the “Download Calibration Data File” button. For the high voltage board, click the “Download High Voltage Parameter File” button.



2. Send the downloaded files to the Printer by the “Calibration Data Transmission Tool”. The Printer will automatically calibrate and get ready after completion.



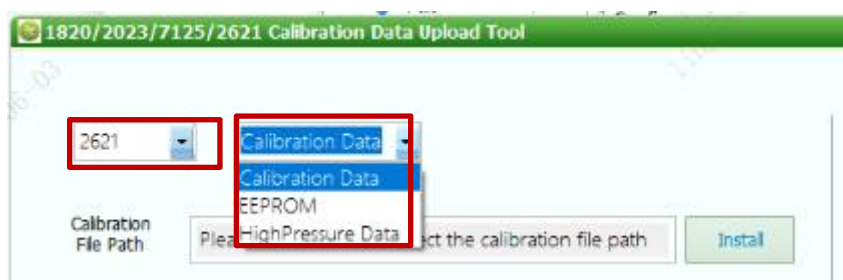
3. Replacement plan 2 for high voltage board

High Pressure Parameter Settings: After replacing the high voltage board, enter the menu. The panel displays the current settings, and the maintenance personnel directly inputs the high voltage setting parameters on the panel. After clicking the “Save” button, the panel displays the execution result (setting completed/setting failed).

Method to obtain high voltage parameters: Enter the 18-digit part number of the high voltage board in the “Accessory Information” interface of the CSS after-sales system, and click the “Download High Voltage Parameter File” button. Open the file and find the corresponding voltage parameters. (Refer to Appendix 4 for the correspondence table between file voltage parameters and panel voltage parameters).

8.1.2 Tool Instructions

1. Open the “Calibration Data Transmission Tool”, select the model “7125/2621”, select the category of spare part (select “EEPROM” for the backup board, “Calibration Data” for the LSU, and “High Voltage Parameter” for the high voltage board).



2. Double-click to select the calibration file path, and then click “One-Key Setting”. The data is automatically sent to the Printer. After successful transmission, click “OK” as shown in the figure below. The Printer will automatically calibrate and get ready after completion.

8.2 Standard tray module/paper separation assembly

After the standard tray or paper feed module is replaced, it is necessary to reset the paper feed page service life counter in service mode.

Appendix 1: Circumferences of All Rollers in the Device

Name	Image cycle mm
OPC	30.6
Paper Feed Roller	33
Feed roller	16.2
Fusing	28
Paper exit roller	13.75
Correction roller	16.2
ADF scan paper feed roller	18.2
ADF paper feed roller	20

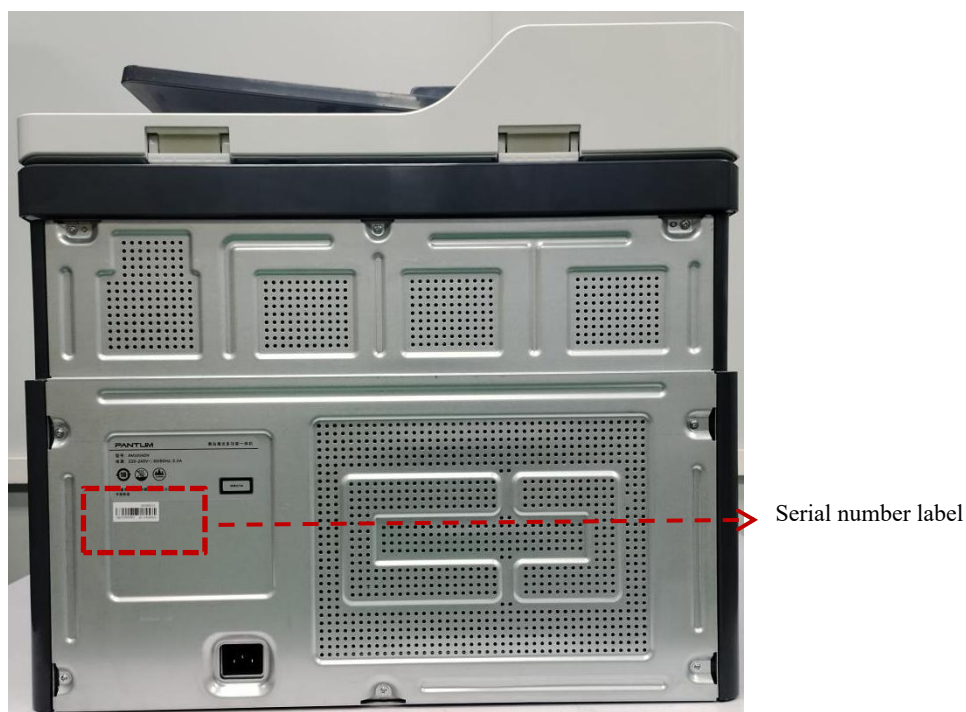
Appendix 2 Description of Product Serial Number

Each printer carries its own product serial number label. The code meaning of serial number and the position where label is attached are described below.

Code meaning:



Label attaching position:



Appendix 3 Glossary of Special Terms for This Manual

The following table explains all the special terms involved in this Manual.

Terms	Explanations
CFR	Safety standards for laser products
LCD	Liquid Crystal Display
CIS	Scanner head
PPM	Pages per minute
HVPS	High-voltage power supply board
LVPS	LVPS board
OPC	Photosensitive drum
PCR	Primary charge roller
DR	Developer roller
TR	Transfer roller
LSU	Laser Scanning Unit
FFC	Flat Flexible Cable
ITB	Transfer belt

Appendix 4 Comparison Table of Panel High Voltage Parameters vs. CSS

Downloaded High Voltage Parameters

High Voltage Correction Procedure - Record of Test Data for High Voltage Formula Parameters			Numbers, negative sign, and decimal point can be entered
Charging Voltage	Field of CSS High Voltage Parameter File	Printer Panel Field Display	Action Specifications
Charging Voltage K - Parameter B	MB	K - Parameter B	Range: 1367.00~ 1671.00
Developing Voltage			
Developing Voltage K Value B	DB	K - Parameter B	Range 352.00~430.00
Developing AC High Voltage			
Developing AC High Voltage Value B	DAC_B	Parameter B	Range: -146.00~-119.00
High Voltage of Cleaning Needle			
High Voltage of Cleaning Needle Value B	SB	Parameter B	845.00~1033.00
High Voltage of Fuser			
High Voltage of Fuser Value B	FB	Parameter B	Range: -267.41~-218.79
High Voltage of Secondary Transfer			
First Segment of High Voltage of Secondary Transfer Value A	TA1	First Segment - Parameter A	Range: 50.10~61.30
First Segment of High Voltage of Secondary Transfer Value B	TB1	First Segment - Parameter B	Range: -2398.37~-1491.41
Second Segment of High Voltage of Secondary Transfer Value A	TA2	Second Segment-Parameter A	Range: 42.80~76.30
Second Segment of High Voltage of Secondary Transfer Value B	TB2	Second Segment - Parameter B	Range: -2411.75~-1973.25

Appendix 5 Wiring Diagram

