RICOH

Model BL-MF1
(M086/M085/M104)
Service Training

Draft started: 5 November 2010

Final released: 10 December 2010

Corrections applied to slides 18 & 19: 6 January 2011

Course Contents

- A note to the training supervisor -

This course was written assuming the following requirements. Modify as necessary depending on your situation.

- ❑ Preparation
  - Prior to starting this course, prepare the following items. -
  - ➢ Training machines – M086 (BL-F1a) and M085 (BL-F1b) in the shipping boxes
  - ➢ A set of service tools
  - ➢ The BL-F1 Field Service Manual
  - ➢ The M086 (BL-F1a) and M085 (BL-F1b) User's Manuals
- ❑ Requirements for trainees
  - ➢ Prior to starting this course, the following training or equivalent should be completed.

    Fax basics course

    Copier basics course
  - ➢ The trainee should also be familiar with the Core Technology Manual and be able to reference it during training.
- ❑ Time required to complete this course: 6 hours or less.

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1. Product Outline

No additional notes.

Appearance

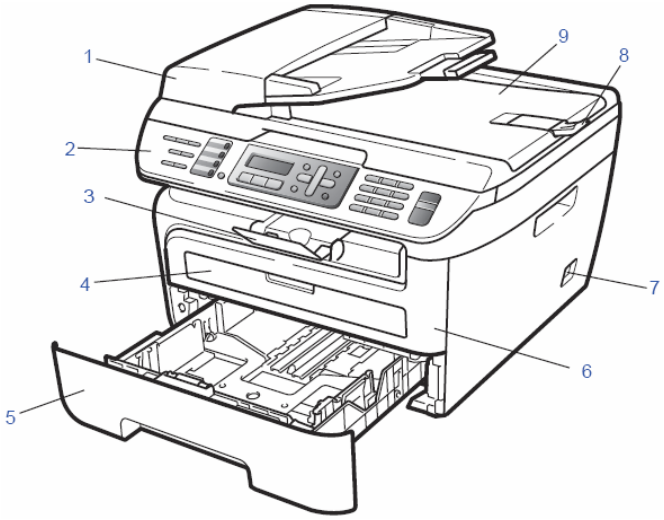
BL-MF1a (M086) **BL-MF1b (M085)**

BL-MF1L (M104)

- **These are the machines you will study in this training course.**
- **The three models have very similar appearance. The operation panels are different because the BL-MF1b has fax capability.**

- Other non-visible differences will be covered later in the course.
- The BL-MF1a (M086) will be marketed in Europe, Asia, and China.
- The BL-MF1b (M085) will be marketed in USA, Europe, Asia/Oceania, and China.
- The BL-MF1L (M104) will be marketed in China only.

External Components – BL-MF1b (M085)

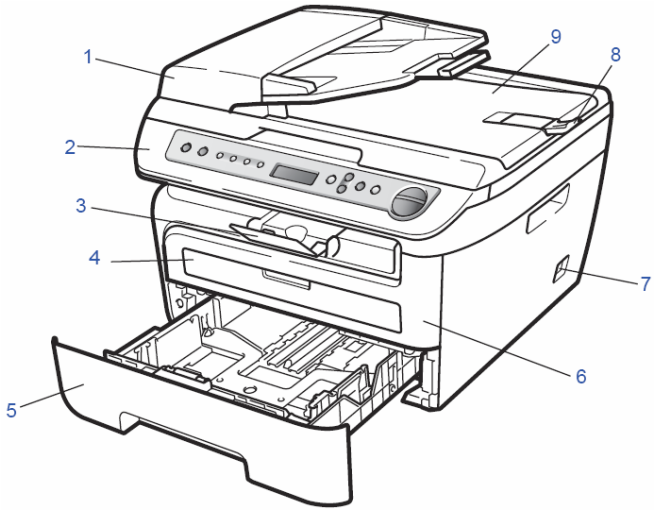


1. Automatic document feeder	6. Front cover
2. Control panel	7. Power switch
3. Face-down output tray support	8. ADF document support flap
4. Manual feed slot	9. Document cover
5. Paper tray	

- See the Quick Start Guide for a list of components in the shipping carton.

No additional notes.

External Components – BL-MF1a (M086) BL-MF1L (M104)



1. Automatic document feeder (BL-MF1a only)	6. Front cover
2. Control panel	7. Power switch
3. Face-down output tray support	8. ADF document support flap (BL-MF1a only)
4. Manual feed slot	9. Document cover
5. Paper tray	

❑ See the Quick Start Guide for a list of components in the shipping carton.

No additional notes.

Operation Panels

- **BL-MF1a/BL-MF1L (No fax)**

- **BL-MF1b (Fax)**

- The BL-MF1b has a more complex operation panel due to the fax capability.
- Refer to the Quick Start Guide for descriptions of the key functions.

Market Positioning and Concept

- **Main Objective**
  - Maintain and expand MIF in the low end market
  - Replacement for the Model PN-MF2a/2b products
- **Target Users**
  - Business personal (1 to 4 users)
  - Small office (5 to 29 users)
  - Can double as a small office printer/copier.
- **Technical Enhancements (compared to predecessor)**
  - The drum unit and toner cartridge can be replaced individually.
  - Smaller footprint and height
  - Printing speed increased from 20ppm to 22ppm.
  - Supports printing via the network and PCL/PS3 emulation.

No additional notes.

Reliability Targets

- **Toner yield: Approximately 2,600 sheets**
  - When printing A4/8½" x 11" paper in accordance with ISO/IEC 19752.
- **Drum yield: Approximately 12,000 sheets**
- **Expected product life: 5 years or 50,000 prints (whichever comes first)**

No additional notes.

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2. Specifications

No additional notes.

General Specifications

- **Resolution:**
  - Print: 1200/600/300 dpi
  - Copy: 600 x 600 dpi, 1200 dpi class
  - Scan from exposure glass: 600 x 2400 dpi
  - Scan from ADF: 600 x 600 dpi
- **Print speed: 22 ppm (A4), 23 ppm (8½" x 11")**
- **Warm up time: Less than 18 s at 23°C**
- **First print time: Less than 10 s**
- **Maximum Original Size: A4/8½" x 11"**
- **Paper tray capacity: 250 sheets**
- **By-pass tray capacity: 1 sheet**
- **Output capacity: 100 sheets**
- **ADF capacity: 35 sheets**

- This slide shows the basic specifications.
- For more detailed specifications, see the field service manual.

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3. Installation

No additional notes.

Overview

- **Generally, the user installs this machine. However, in addition to your maintenance duties, you may also have to install the machine when you are in the field.**
- **The full installation procedure is in the *Setting Up the Machine* section of the *Quick Setup Guide*.**
- **Before you start installation:**
  - Check the accessories.
  - Confirm the location to install the machine.

No additional notes.

Install the Machine

- **The following are the main steps to installation. Refer to the Quick Setup Guide (QSG) for details.**
  - Install the drum unit/toner cartridge assembly.
  - Load paper in the paper tray.
  - Connect the power cord.
  - Connect the phone line.
  - Do the initial setup*
    - » Set the date and time.
    - » Set the station ID (name and fax number to be printed on all fax pages sent).
    - » Set for pulse dialing if necessary (tone dialing is default).
    - » Set the receive mode.

      *Depending on the installation location there may be other initial setup items. (Refer to the QSG. Consult service manager.)
  - Set the LCD contrast.
- **In addition to the above, the user may ask you to set up their computer for printing. (Refer to the QSG.)**

- The *User's Guide* contains a lot more information about machine setup options. Familiarize yourself with it in case the user requests your help.

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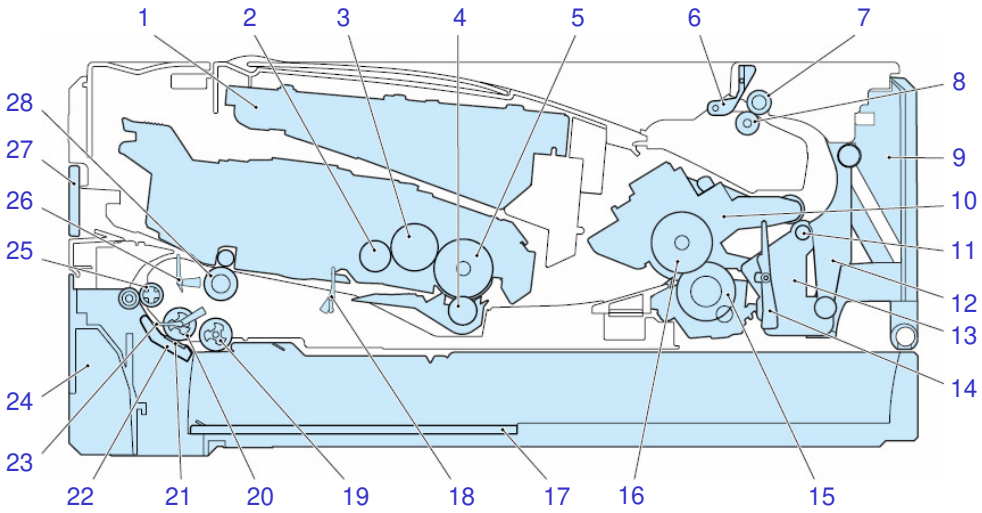
4. Machine Overview

No additional notes.

Component Layout

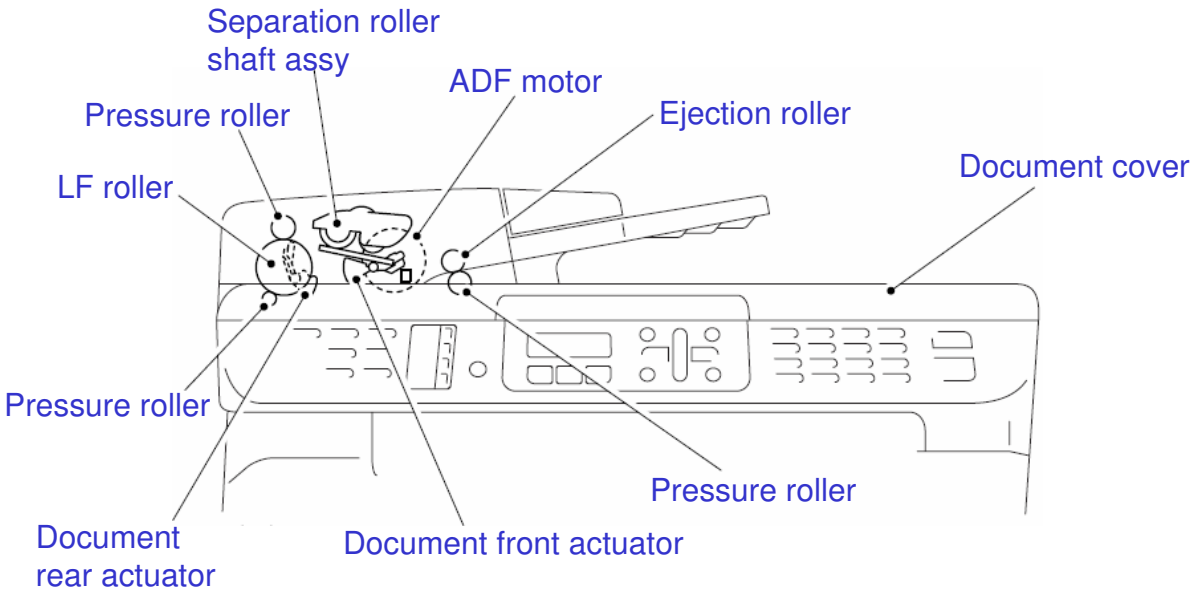


❑ **Main print engine components viewed in cross-section. (The name table is in the notes. Use Notes Page view.)**

❑ Familiarize yourself with the main components.

1. Laser unit	15. Pressure roller
2. Supply roller	16. Heat roller
3. Development roller	17. Bottom plate
4. Transfer roller	18. Registration rear actuator
5. Drum	19. Paper feed roller
6. Paper stack lever	20. Separation roller
7. Eject roller 2	21. Separation pad
8. Pinch roller	22. Separation pad assembly
9. Back cover	23. Edge actuator
10. Fuser unit	24. Paper tray
11. Eject roller 1	25. Front feed roller
12. Outer chute	26. Registration front actuator
13. Fuser cover	27. Manual feed slot cover
14. Eject actuator	28. Registration roller

ADF Component Layout

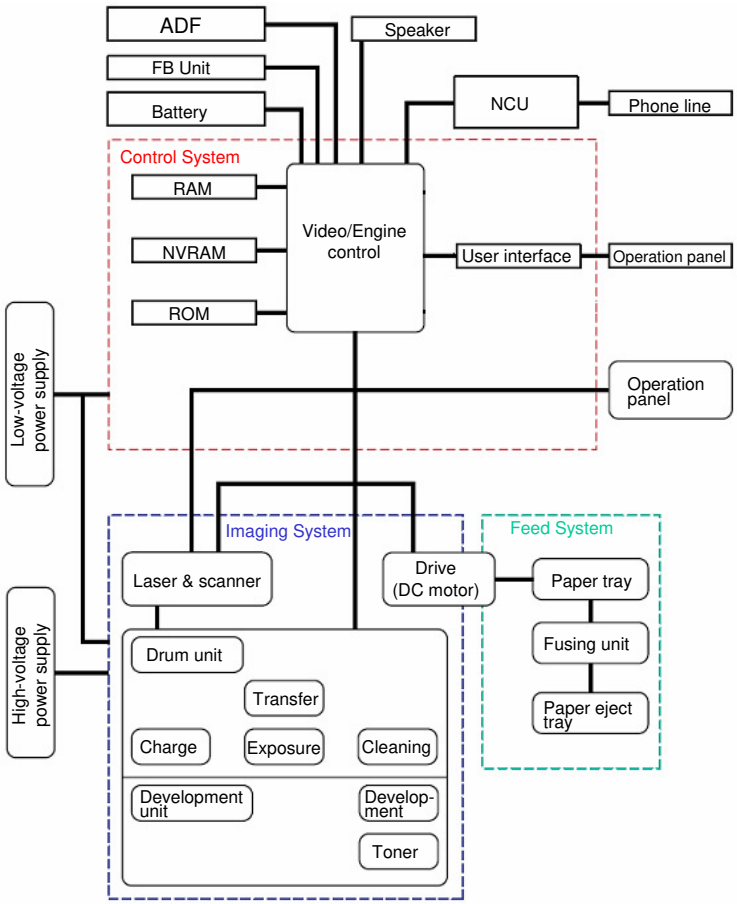


- **Familiarize yourself with the main ADF components shown above.**

No additional notes

General Block Diagram

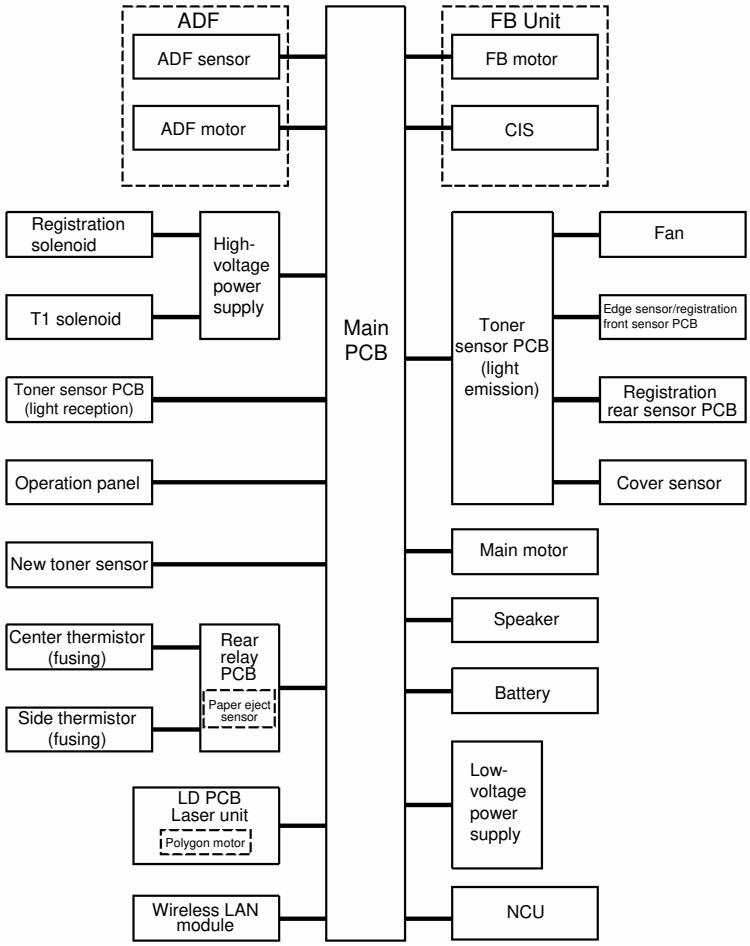
- The chart shows the overall operational flow within the machine.



No additional notes.

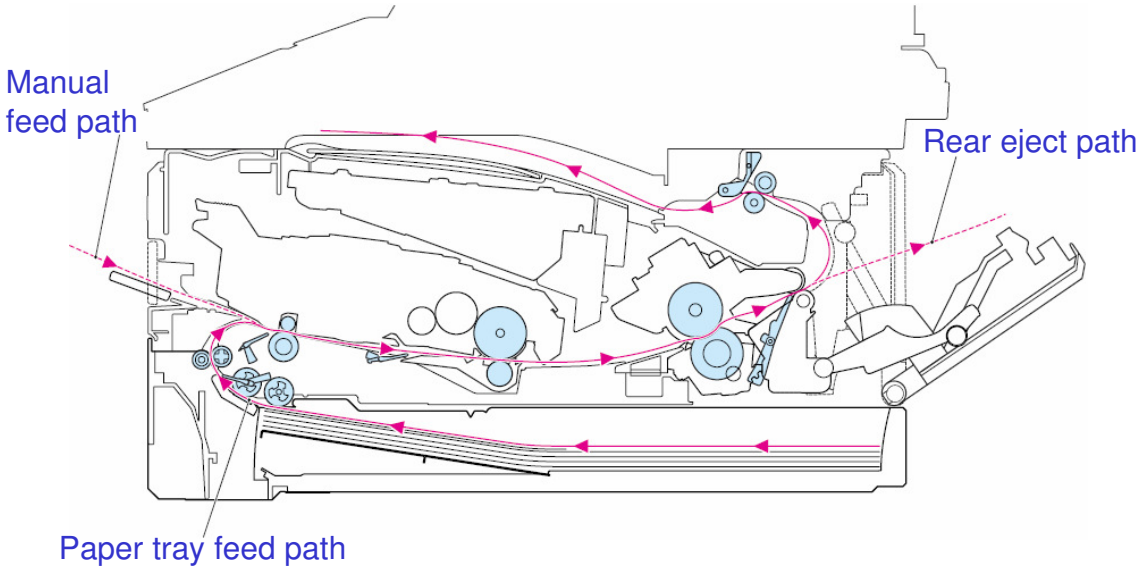
Electronics General Block Diagram

- The chart shows the overall electrical organization of the machine.



No additional notes.

Paper Path



- **The red lines show the paths that paper takes through the machine.**

No additional notes.

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5. Service Maintenance
(Maintenance Mode, Cleaning)

No additional notes.

Maintenance Mode Start

- **For details about entering service maintenance mode, ask your supervisor.**
- **When you enter Maintenance Mode, the machine beeps for one second and displays "MAINTENANCE" on the LCD. (This is the initial stage of the Maintenance Mode.)**
- **Enter the proper 2-digit function code to select a Maintenance Mode function. (See the "List of Maintenance Mode Functions".)**

- Notes:
  - To exit from the maintenance mode and switch to standby, press the 9 key twice in the initial stage of the maintenance mode.
  - Pressing the "Stop/Exit" key after entering only one digit restores the machine to the initial stage of the maintenance mode.
  - If an invalid function code is entered, the machine resumes the initial stage of the maintenance mode.

List of Maintenance Mode Functions

List of Maintenance-mode Functions

Function Code	Function	Reference Page
01	EEPROM Parameter Initialization	p.169
05	Printout of Scanning Compensation Data	p.170
06	Placement of CIS Unit Position for Transportation	p.172
08	ADF Performance Test	p.172
09	Test Pattern	p.173
10	Worker Switch (WSW) Setting	p.174
11	Printout of Worker Switch Data	p.179
12	Operational Check of LCD	p.180
13	Operational Check of Control Panel Button	p.181
25	ROM Version Check	p.182
32	Operational Check of Sensors	p.183

- **Part of the Maintenance Mode Function table is shown above. (Refer to the FSM for the full table.)**
- **Function code numbers that are shaded can be accessed by users.**
- **Go to the machine and practice using the Maintenance Mode functions.**
  - Refer the the "Detailed Description of Maintenance-Mode Functions" section in the FSM for details of each function.

- Refer to "User Maintenance Mode" in the FSM for details about user access procedures.

Resetting the Drum Counter

- **The machine does not automatically reset the drum unit counter when the drum unit is replaced.**
- **Normally the user resets the drum counter as a part of the replacement procedure. However, you may have to do it on occasion.**
- **Refer to the FSM for the procedure and for other details.**
  - FSM → Service Maintenance → Other Service Functions → User Maintenance Mode → Resetting the Drum Counter

- Notes:
  - To exit from the maintenance mode and switch to standby, press the 9 key twice in the initial stage of the maintenance mode.
  - Pressing the "Stop/Exit" key after entering only one digit restores the machine to the initial stage of the maintenance mode.
  - If an invalid function code is entered, the machine resumes the initial stage of the maintenance mode.

Resetting the Developer Bias Counter

- **A new toner cartridge is detected by the new toner sensor and developer bias counter is reset automatically.**
- **If a previously installed toner cartridge (containing sufficient toner) is installed, you must force development bias counter reset.**
- **Refer to the FSM for the procedure and for other details.**
  - FSM → Service Maintenance → Other Service Functions → Resetting the Developing Bias Voltage Counter

- If the developer bias is not reset, print density may be too light.

Cleaning

- **This machine designed for user maintenance; so, it does not have a periodic maintenance schedule.**
- **As a preventive maintenance measure, you may need to clean machine components during service calls.**
- **Go to the machine and practice cleaning procedures.**
  - Pay particular attention to cleaning the drum.
  - Refer to the User's Guide for the cleaning procedures.
  - Pay particular attention to important notes and cautions.

No additional notes.

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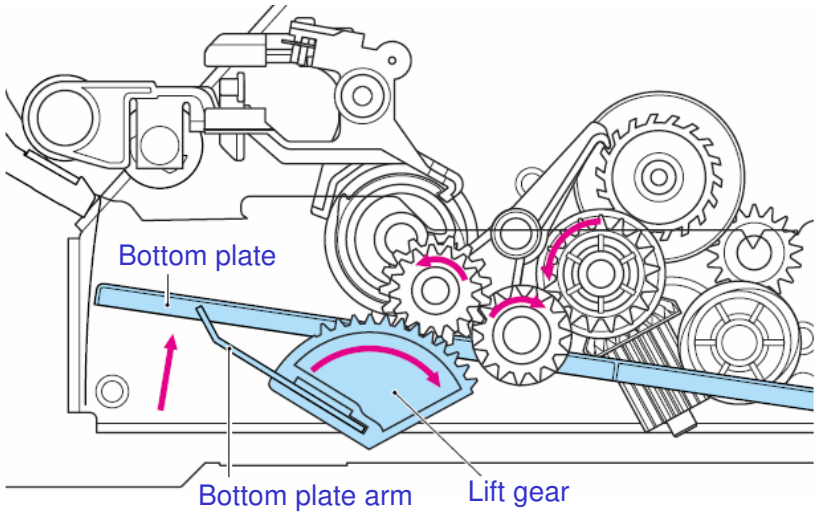
6. Mechanical Operation

No additional notes.

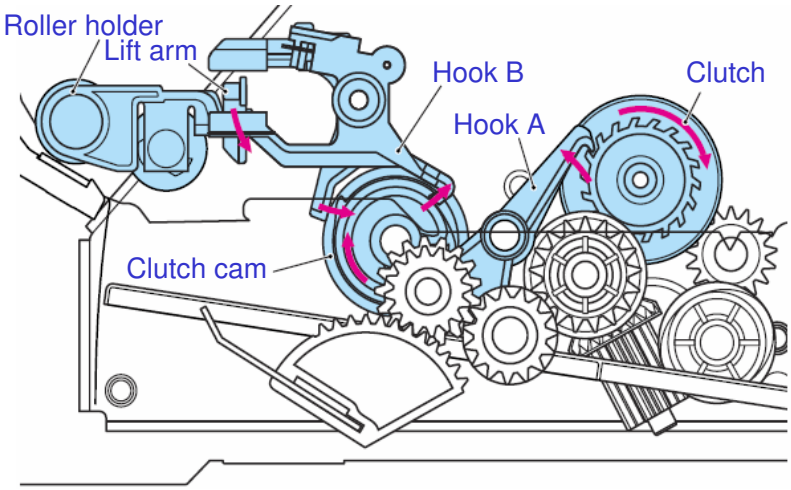
Paper Lift 1



- The bottom plate of the paper tray is pushed up by the main motor (not by springs).
- The pressure is kept constant to optimize paper-feeding performance irrespective of the quantity of paper remaining in the tray.
- After paper is inserted, the main motor drives the lift gear by way of several gears. The bottom plate arm raises the bottom plate.

No additional notes

Paper Lift 2

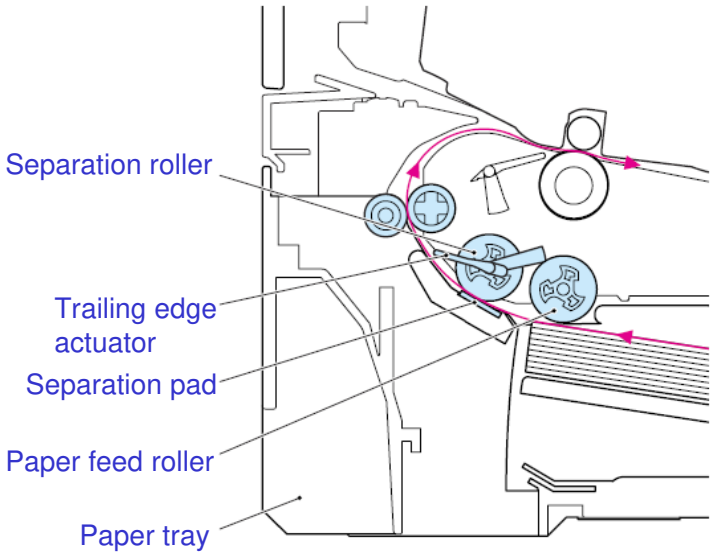


- When paper reaches the feed position, the roller holder goes up. Then the lift arm goes down and hook B is released. The clutch cam released by hook B rotates to push down the rib of the hook A. Hook A releases the ratchet of the clutch and the bottom plate lift arm stops its push-up function.
- Confirm the operation of this mechanism on the machine.

No additional notes

Paper Feed

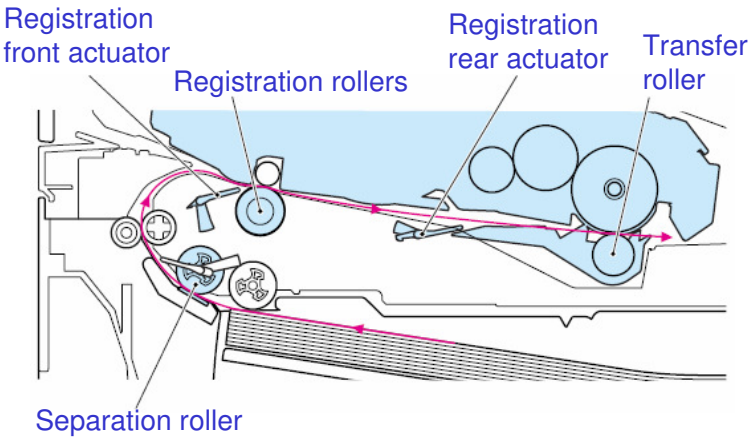
- **The feed roller moves paper to the separation pad and separation roller.**
- **The separation roller turns to feed paper to the separation roller.**
- **The separation pad strips off the top sheet.**
- **The trailing edge actuator is for misfeed detection.**



- This is a typical friction pad feed system. (In this machine the friction pad is called a separation pad.) For a general discussion of the *friction pad* feed system, see the Core Technology Manual.

Paper Registration

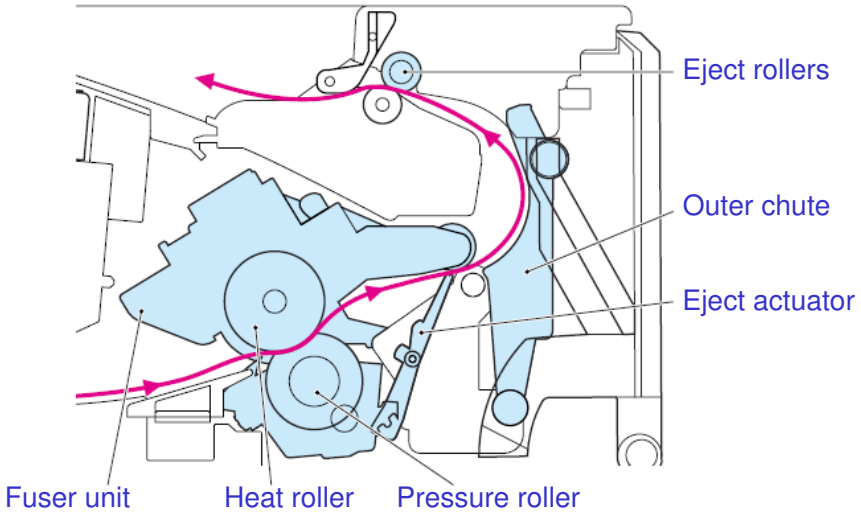
- The registration front actuator detects the leading edge of the paper.
- The leading edge of the paper then contacts the registration rollers, which are not turning at that time, and buckles slightly, correcting skew.
- After skew correction, the registration rollers start turning and the paper is carried to the transfer roller.



Function of Actuators

- The registration front actuator detects the front-edge of paper, and sets the start timing for registration roller drive. It also detects the passage of paper (jam detection).
- The registration rear actuator sets the start timing for writing the image to the drum (image registration). It also detects the passage of paper (jam detection).

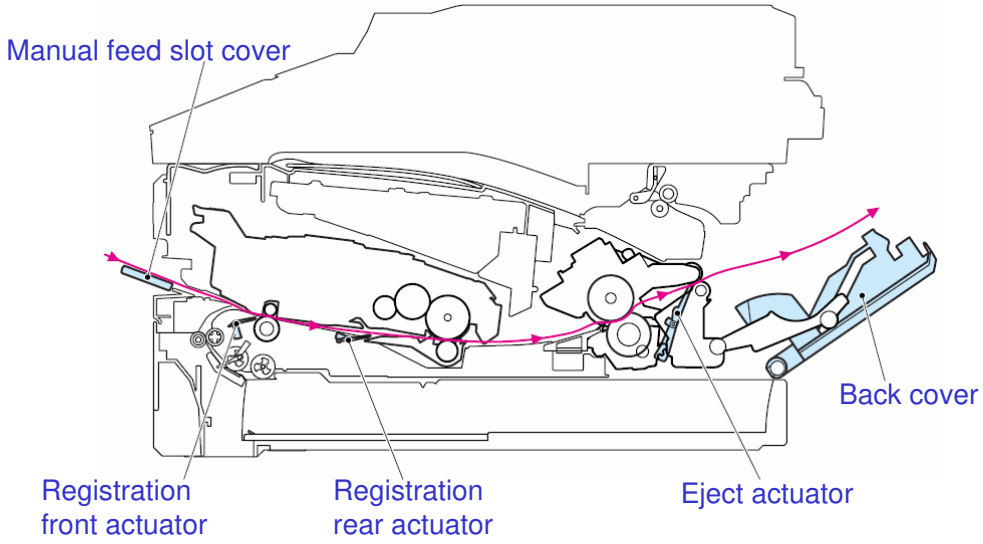
Image Fusing and Paper Ejection



- Toner is fused to the paper by the heat roller and pressure roller of the fuser unit.
- Paper moves along the outer chute and is ejected face-down into the output tray by the eject rollers.
- The eject actuator detects whether or not paper is ejected from the fuser unit (jam detection). When a paper jam is detected near the eject actuator, the main motor reverses to disengage the gears. The eject rollers become free, allowing the paper jam to be cleared.

No additional notes.

Manual Feed and Back Ejection

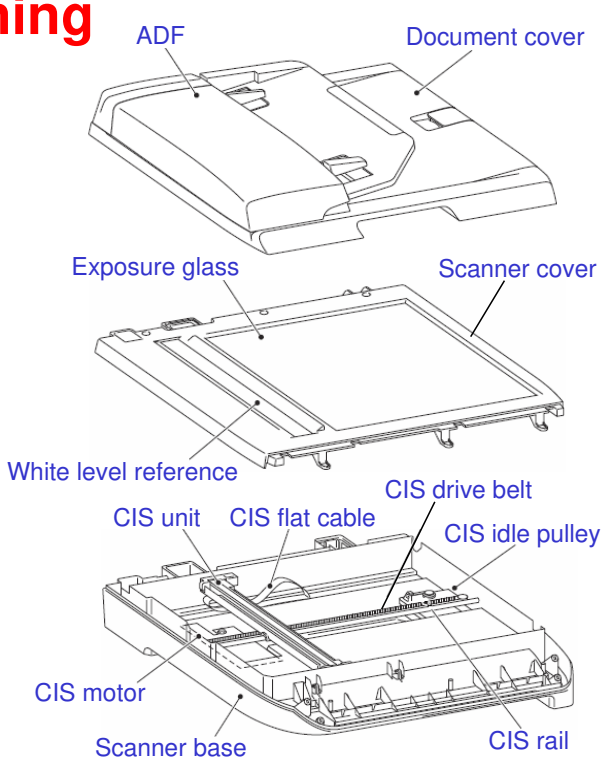


- When manual feeding, one sheet of paper is inserted through the manual feed slot. The registration front actuator detects the paper, and shortly after that the registration rollers start turning to feed the paper.
- When printing with the back cover open, the paper is ejected onto the back cover with its print side up.

No additional notes.

Document Scanning

- The main components of the document scanning mechanism are shown to the right.
- Dual scanning system: ADF scanning and flat-bed scanning.
- In ADF scanning, the document moves past the stationary CIS unit.
- In flat-bed scanning, the CIS moves under a stationary document.



More on scanning

- ADF scanning: Document moves across stationary CIS unit
  - Placing a document ***face up*** in the document support activates the document front sensor, switching to ADF scanning.
  - The CIS unit first moves to the white-level reference film for white level compensation and then to the ADF scanning position. The ADF motor then rotates the document pull-in roller to pull the document into the ADF.
  - The document separation roller feeds the pages one at a time, ***starting from the top,*** to the document feed roller, which feeds the sheet through the ADF. The page is scanned as it passes over the CIS unit. The document is then ejected ***face down*** on the document cover. Subsequent pages are ejected on top of previous pages, preserving document page order.
- Flat-bed scanning: CIS unit moves under stationary document
  - The user places a document ***face down*** on the exposure glass and closes the document cover.
  - The CIS unit first moves to the white level reference film for white level compensation. It then moves right, scanning as it goes. It returns to its home position after the scan.

CSI Operation Details

- The CIS (contact image sensor) is a compact image reading assembly.
- Refer to the Core Technology manual for details of CIS structure and operation.

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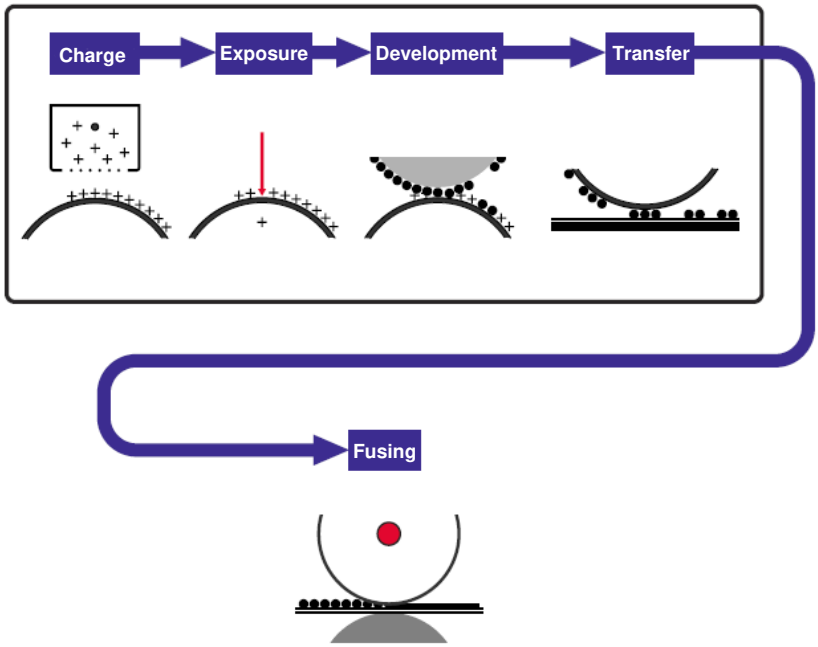
7. Print Processes

No additional notes.

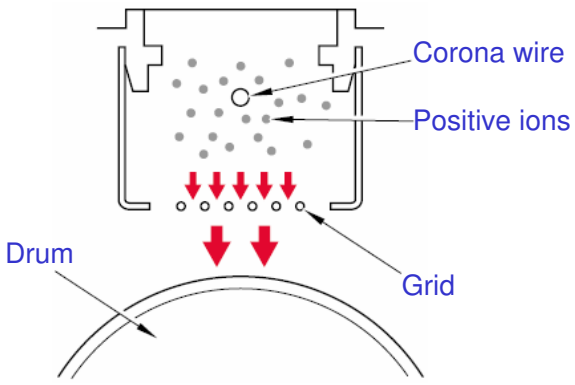
Print Processes 1 – Overview



- Printing is done by the five processes shown above

No additional notes.

Print Processes 2 – Charge

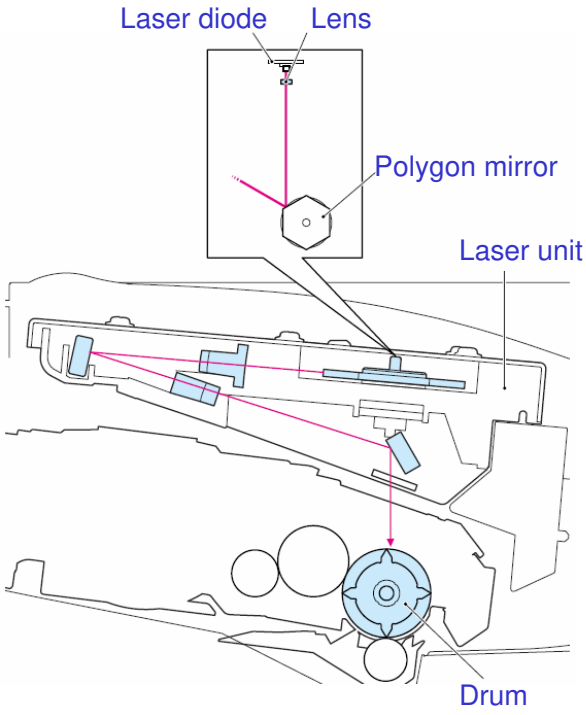


- **Corona charges the surface of the drum to +850 V.**
- **Grid ensures an even charge distribution.**
- **Aluminum sleeve of the drum is grounded, providing a path for the charge to go to ground upon exposure to light.**

- The level of ozone expelled from the machine is less than 3.0 mg/h and therefore is not harmful to the human body.

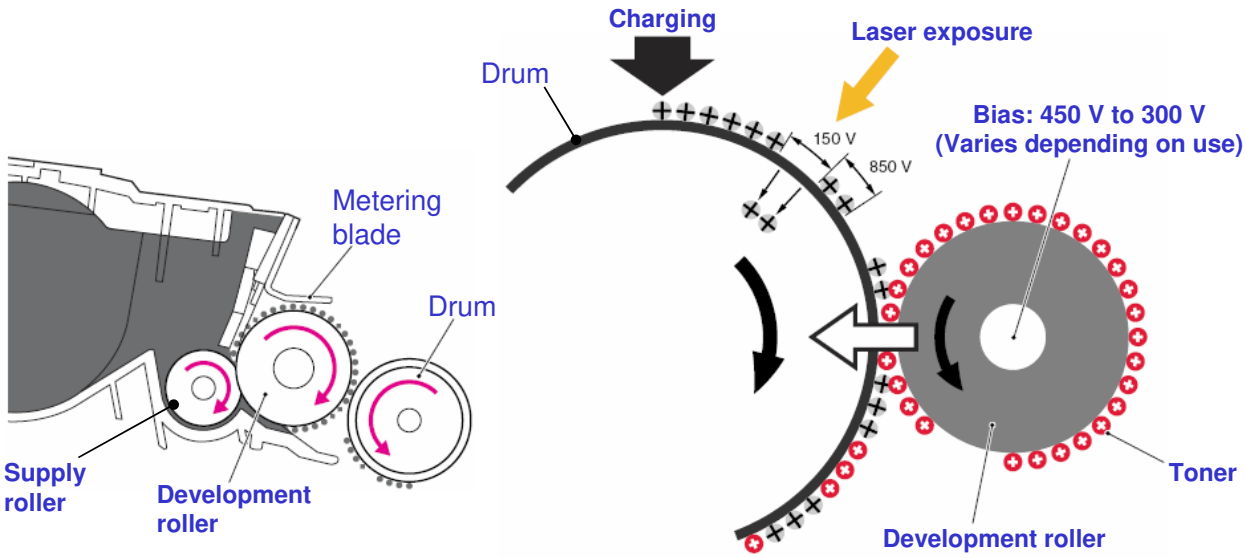
Print Processes 3 – Laser Exposure

- **A latent image is formed on the positively charged drum by light from the laser unit.**
- **Where light strikes, the resistance of the OPC layer drops and the charge on the drum surface goes through the aluminum core to ground.**



- Refer to the Core Technology Manual for more information about laser printing systems.

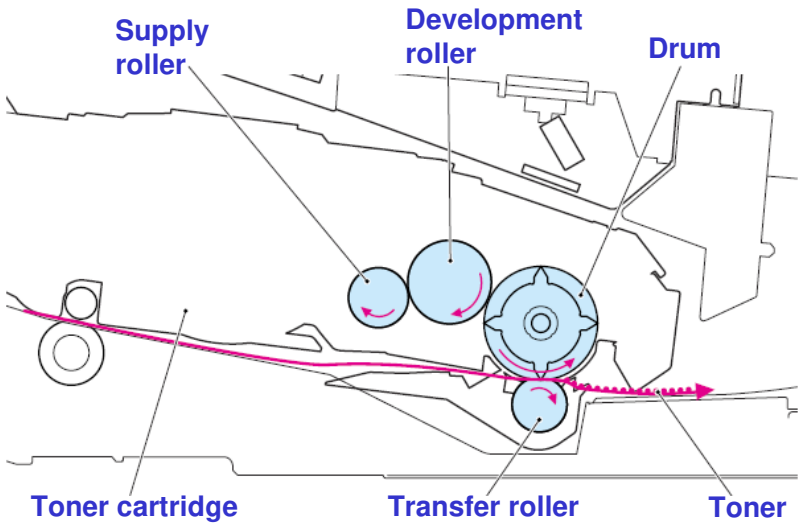
Print Processes 4 – Development



- **Supply roller applies toner to the development roller.**
- **Metering blade controls the thickness of the layer of toner on the development roller.**
- **Toner is attracted to the latent image areas, thereby developing the image.**

- Toner is non-magnetic. It gets a triboelectric positive charge from the rotation of the supply roller and development roller.
- The electrostatic potential between the development roller and the OPC drum causes the toner to be attracted to the latent image areas on the drum surface.

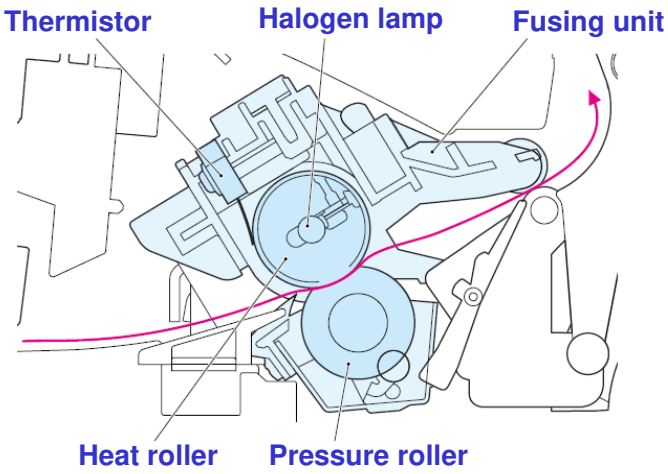
Print Processes 5 – Image Transfer



- The negatively charged transfer roller attracts the toner from the drum to the paper.
- The negative bias applied in the transfer roller is adjusted according to types and sizes of paper so as to keep consistent image quality.

No additional notes.

Print Processes 6 – Fusing



- The image is fixed to the paper by heat and pressure as the paper passes through the fusing unit.
- A thermistor monitors the heat roller temperature and the halogen lamp turns on/off to maintain a constant heat roller temperature.

No additional notes.

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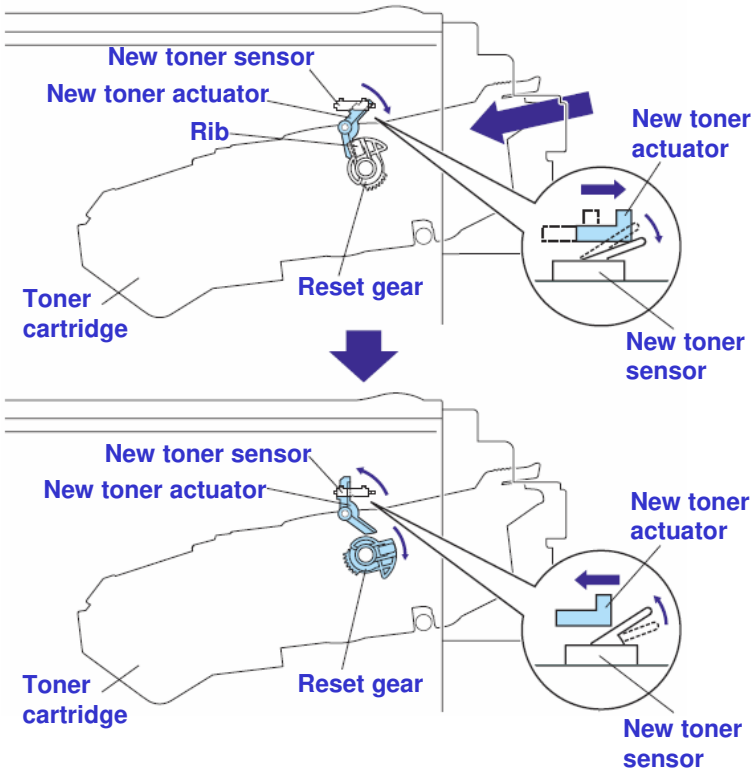
8. Toner Cartridge

No additional notes.

New Toner Cartridge Detection

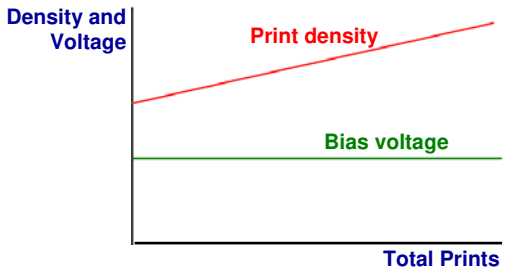
- When a new toner cartridge is installed, the rib on the reset gear rotates the new toner actuator and the new toner switch turns on.
- The main motor turns the reset gear to rotate the reset tab clockwise to the down position.
- Print count and development bias are reset.



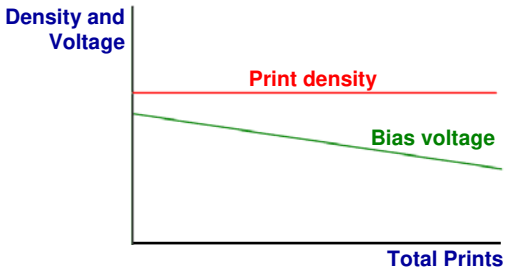
No additional notes.

Development Bias Control

<Toner Properties>



<Actual Bias Control>



- **Toner properties change over the course of usage.**
- **With constant bias, the print density would slowly increase.**
- **To maintain constant print density, the bias voltage is gradually decreased based on print count.**

- When the new toner sensor detects a new toner cartridge, the development bias is set to +450V.
- Over time the toner particles become more strongly charged; so, the development bias is stepped down according to the number of prints.

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9. Replacement and Adjustment

No additional notes.

Before You Start

❑ Safety Precautions

- It is important to observe the all safety precautions during maintenance work.
- Refer to the list of safety precautions in the field service manual.
  - » FSM → Replacement and Adjustment → Safety Precautions
- Additionally, pay attention to all notes and cautions related to specific procedures elsewhere in the FSM.

No additional notes.

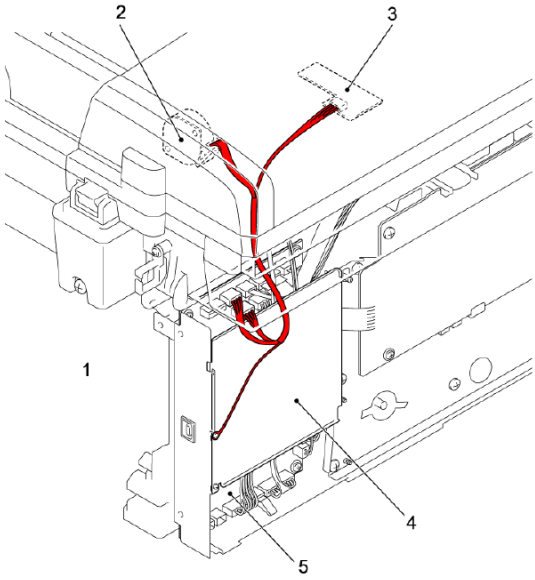
Removing and Replacing Parts

- **Disassembly Flowchart**
  - Refer to the disassembly flowchart in the FSM.
    - » FSM → Replacement and Adjustment → Disassemble Flow
  - The disassembly flowchart shows what components must be removed and the order of removal in order to access target components.
- **Disassembly Practice**
  - Referencing the FSM, go to the machine and practice removing and reinstalling parts.
  - Observe all notes and cautions.

No additional notes.

Harness Routing

- The "Harness Routing" section of the FSM shows the positioning of harnesses and wires in the machine.
- Refer to it when reassembling the machine. (Replacement and Adjustment -> Harness Routing)



< Example Harness Routing Diagram >

No additional notes.

Adjustment after Parts Replacement

- **Adjustments and settings changes are required after replacing the following parts.**
  - Main PCB
    - » 8 adjustment items
  - Laser Unit
  - FB Unit
- **Refer to the FSM for the details.**
  - FSM → Replacement and Adjustment → Adjustments and Updating of Settings, Required After Parts Replacement
    (Note: FB Unit is an alternate name for "Document Scanner Unit". FB = flat bed)

No additional notes.

RICOH

Model BL-MF1 (M086/M085/M104) Service Training

10. Troubleshooting

No additional notes.

Troubleshooting

- **Troubleshooting Practice:**
  - Study the Troubleshooting sections of the FSM appendix and User's Guide.
  - Simulate some of the error conditions on the machine.

No additional notes.

RICOH

Model BL-MF1
(M086/M085/M104)
Service Training

11. Technology for Environmental Conservation

- This section explains the technology used in this machine for environmental conservation, and the default settings of related functions.

Technology for Environmental Conservation

**: New or modified function
*: Has this function
Blank: Does not have this function

Environmental Technology/Feature	Description	H558
1. QSU	- Reduction of warm-up time (Energy saving) - Reduction of CO_2 emissions	
2. Hybrid QSU		
3. IH QSU		
4. Paper-saving features	- Allows documentation to be managed digitally, cutting down on paper consumption. - Improves machine productivity when printing out duplex (double-sided) images.	
5. High-speed duplex output	- Improves machine productivity when printing out duplex (double-sided) images	
6. Ozone reduction design	- Low ozone emissions	*
7. PxP (polymerized) toner	-Energy saving - Conservation of materials/resources (reduced toner consumption)	
8. Noise reduction design	- Low noise	*
9. Minimization of harmful substances	- Minimization of harmful substances	*
10. Environmentally-friendly toner bottle	- Conservation of materials/resources	
11. Toner recycling		
12. Recycle-friendly design		*

- This slide explains what technologies are used for conserving the environment in this product.

Brief Descriptions of the Technologies

- **1. QSU (Quick Start-up)**
  - This technology reduces both the amount of energy consumed while in Standby mode (the Ready condition) is reduced, as well as the time it takes for the machine to warm up to the Ready condition.
  - This is made possible through the utilization of dual fusing lamp heating, low fusing point toner, a pressure roller with a "sponge" surface layer, and a thin surface layer hot roller.
- **2. Hybrid QSU**
  - This technology adds an additional circuit to conventional QSU Technology, which allows the benefits of reduced energy consumption and reduced warm-up time described above to be extended to high-speed machines.

No additional notes

Brief Descriptions of the Technologies

- **3. IH QSU**
  - This technology incorporates IH (Inductance Heating) technology into conventional QSU technology, which allows the benefits of reduced energy consumption and reduced warm-up time to be extended to color machines.
- **4. Paper-saving features**
  - 1) The duplex (double-sided) and Combine features reduce paper consumption.
    2) The Document Server and other electronic document management features reduce paper consumption by offering an electronic method for storing and managing important documents.

No additional notes

Brief Descriptions of the Technologies

- **5. High-speed duplex output**
  - 1) Enables high-speed duplex printing through the utilization of the Duplex Interleaf and high-speed Inverter Transport features.
  - 2) Enables quick printing of duplex jobs through the use of Duplex Scanning.
- **6. Ozone reduction design**
  - Greatly reduces the machine's ozone emissions to near-zero levels by utilizing:
    1) A charge roller/belt instead of a corona wire
    2) An image transfer roller/belt instead of a corona wire-based transfer system

No additional notes

Brief Descriptions of the Technologies

- **7. PxP (polymerized) toner**
  - "PxP toner" is a fine-particle, polyester resin based toner, manufactured using a Ricoh-original polymerization method instead of the conventional pulverization method.
  - This allows the toner to fuse at a lower temperature, which reduces the impact on the environment and contributes to achieving even higher image quality than before.
  - PxP toner also has other benefits, including a reduction in the amount of toner needed to develop the image, as well as an approximate 35% reduction in CO_2 emissions during the toner manufacturing process.

No additional notes

Brief Descriptions of the Technologies

- **8. Noise reduction design**
  - 1) The machine and its components are designed to minimize the overall noise generated by the machine. As a result, all noise levels conform to the local laws and regulations as well as user requirements in each market in which the products are sold.
  - 2) Reduces the noise generated by the polygon mirror motor.
- **9. Minimization of harmful substances**
  - 1) Products sold in the EU conform to the RoHS Directive.
  - 2) Products sold in China conform to China's version of the RoHS Directive.
  - 3) In addition, Ricoh imposes strict internal standards for limiting the presence of harmful substances.

No additional notes

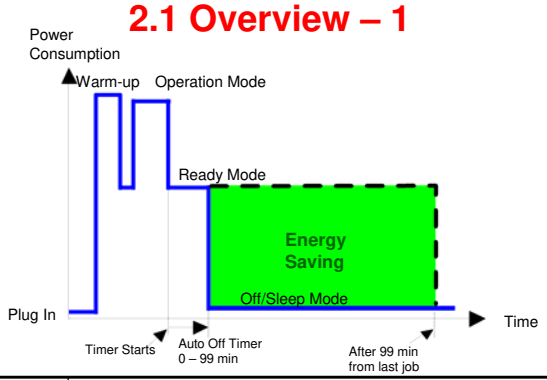
Brief Descriptions of the Technologies

- **10. Environmentally-friendly toner bottle**
  - A changeover from PS/PP/HDP to PET plastics allows approximately 40 percent by weight of the toner bottle to be recycled, and also reduces CO_2 emissions that occur during the toner bottle manufacturing process.
- **11. Toner recycling**
  - Enables effective use of resources by recycling (reusing) the toner left over on the drum surface after image transfer.
- **12. Recycle-friendly design**
  - To maximize the recycling ratio of machine and component materials, as well as the ease of performing the recycling in the field, machine sections and components are designed so that the recyclable parts can be separated out easily.
  - In addition, components are designed so that they can be reused for as long as possible after the machine has reached its operational lifetime.

No additional notes

2. Energy Saving

2.1 Overview – 1

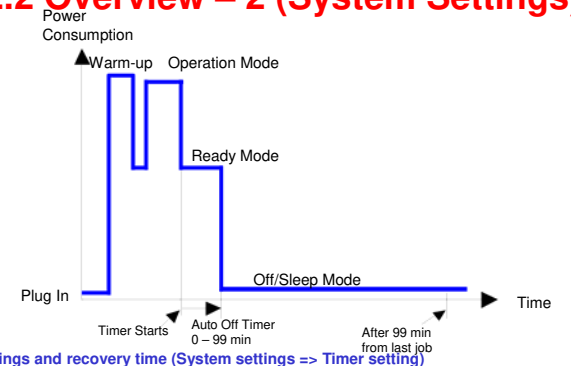


Energy Saver Modes	Description
Sleep Mode	Reduces power consumption.

- When the machine is not being used, the machine enters energy saver mode to reduce the power consumption by turning off the LCD of the operation panel and lowering the fusing temperature.
- The area shaded green in this diagram represents the amount of energy that is saved when the timers are at the default settings. If the timers are changed, then the energy saved will be different. For example, if the timers are all set to 99 minutes, the green area will disappear, and no energy is saved before 99 minutes expires.
- Power consumption during warm-up may be much higher than shown in this diagram.

2. Energy Saving

2.2 Overview – 2 (System Settings)



1) Timer settings and recovery time (System settings => Timer setting)

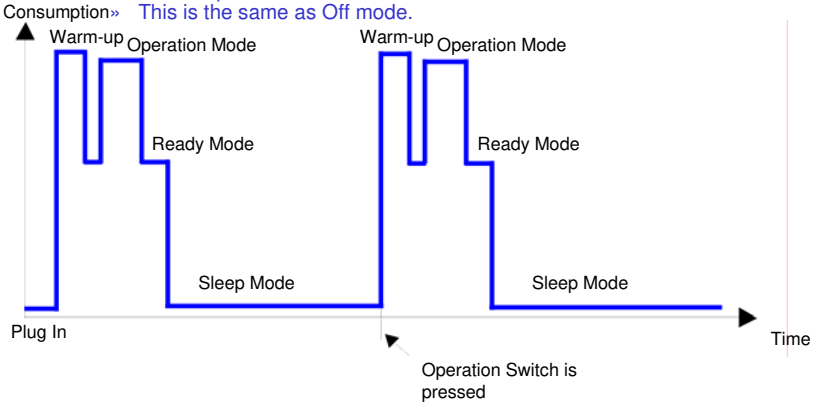
Mode	Timer	Default	Setting range	Recovery time
Sleep Mode	Auto Off Timer	5 min.	0 to 99 min.	18 s

- The user can set these timers with the Menu function.
  - Press Menu, then select Ecology and Sleep Time. Enter the Sleep Mode time (0 – 99 minutes).
  - Refer to the Users Guide for procedure details.
- We recommend that the default settings should be kept.
  - If the customer requests that these settings should be changed, please explain that their energy costs could increase, and that they should consider the effects on the environment of extra energy use.
  - If it is necessary to change the settings, please try to make sure that the Auto Off timer is not too long. Try with a shorter setting first, such as 30 minutes, then go to a longer one (such as 60 minutes) if the customer is not satisfied.
  - If the timers are all set to the maximum value, the machine will not begin saving energy until 240 minutes has expired after the last job. This means that after the customer has finished using the machine for the day, energy will be consumed that could otherwise be saved.
  - If you change the settings, the energy consumed can be measured using SP8941, as explained later in this presentation.
- Power consumption during warm-up may be much higher than shown in this diagram.

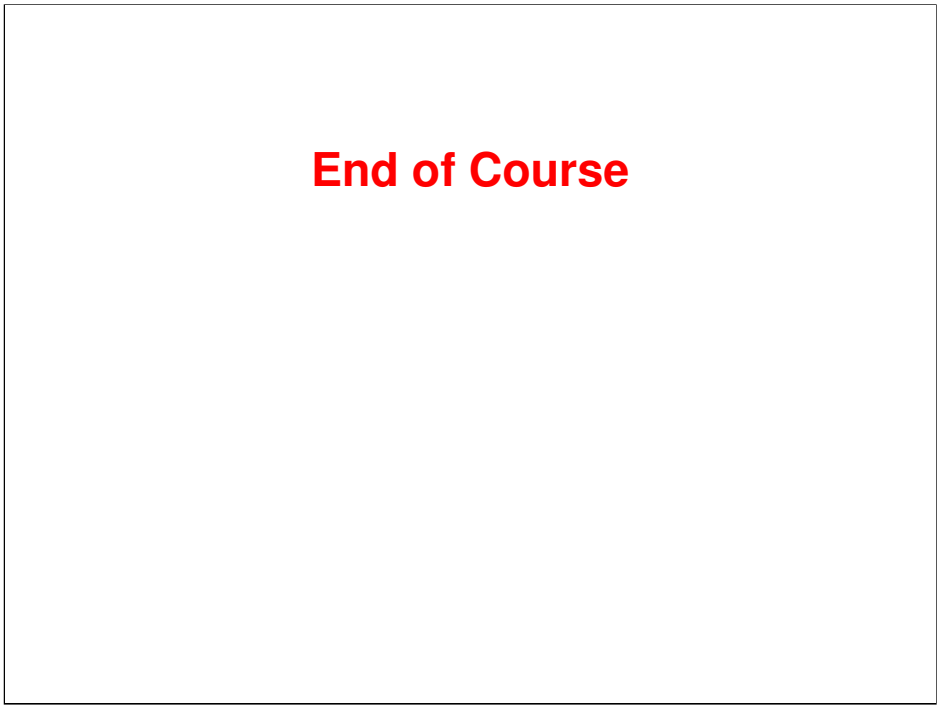
2. Energy Saving

2.2 Energy Saver Mode: Sleep Mode – 3

- **The machine recovers to the ready condition:**
  - **If the operation switch is pressed**
    - » The operation panel lights. When warm-up is finished, the machine goes to the ready condition.
    - » Then, after the job is completed, the machine returns to sleep mode (via ready mode) when the auto off timer runs out or the operation switch is pressed.
    - » This is the same as Off mode.



- This timing chart shows what happens if the operation switch is pressed while the machine in off mode.
- Power consumption during warm-up may be much higher than shown in this diagram.



No additional notes.