




This course teaches about how to service this new of black-and-white printer. It is very similar to the GW version of the Gim-MF1/P1 series, except that the Da-P1 is an A3 printer, whereas the Gim series is A4 only.



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Product Outline

2

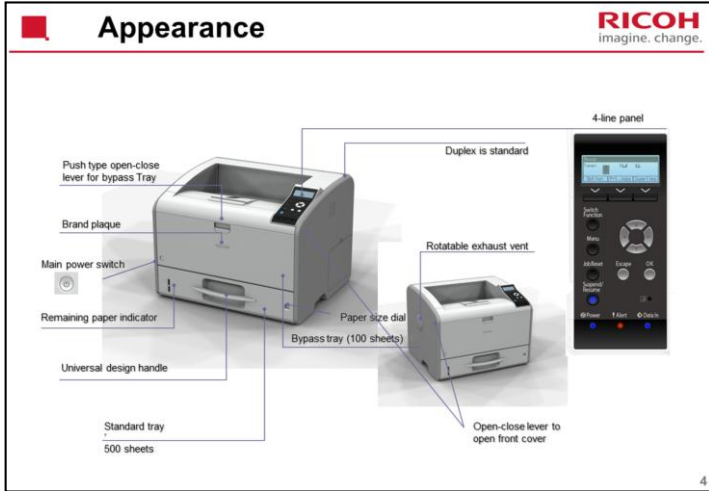
No additional notes



How Many Models?

- Da-P1d (M187): SP 6430DN
 - GW controller
 - Four-line LCD panel
 - 500-sheet paper tray built in
 - A3 printing
 - 38ppm (A4 LEF)
- This model uses a GW+ controller. There is no Kibo controller version of this model.
- There are no meter click models (PM is always by users).
- The engine is very similar to the Gim-P1 A4 printer.

No additional notes



No additional notes



Comparison with Previous Model

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	Kr-P2	Da-P1
PPM	35ppm (A4 LEF)	38ppm (A4 LEF)
First print	6.8sec or less	6.5sec or less (A4/LT LEF)
Paper weight (Bypass)	52-216g/m2 (14-57lb)	52-220g/m2
Paper weight (Std/Optional Tray)	60-216g/m2 (16-57lb)	52-220g/m2
Paper weight (Duplex)	64-105g/m2 (17-28lb)	52-162g/m2
TEC Value	2.403kWh	2.3kWh (NA/EU)
Power Consumption (Sleep mode)	3.9W	1W
Machine size WxDxH	478 x 437 x 404mm (w/o Duplex)	459 x 392 x 347.5mm (w Duplex)
Footprint	2,088cm ² (w/o Duplex)	1,799cm ² (w Duplex)
APV	4K / Max:20K	3K / Max:20K
Estimated Life	5 years or 1200K prints whichever comes first	
Toner Yield (Starting Toner)	6K (ISO 19752 Basis)	
Toner Yield	20K (ISO 19752 Basis)	10K (ISO 19752 Basis)
Maintenance Kit Yield	90K (B10 3P/J)	
PCDU Yield	45K (B10 3P/J)	25K (B10 3P/J)

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No additional notes



Main Specifications - 1

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- Print Speed
 - Single-sided: 38 ppm (A4/LT LEF)
 - Duplex: 29 ppm (A4/LT LEF)
- First Print: 6.5 s or less
- Warm-up: 19 s or less
- Memory
 - Standard: 512 MB
 - Maximum: 1GB
 - Default 512 MB memory must be removed when upgrading to 1024 MB
- HDD: Option only, 250 GB

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No additional notes



Main Specifications - 2

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- Input Paper Capacity
 - Standard Tray: 500 sheets, (80g/m², 20lb. Bond)
 - Bypass: 100 sheets
 - Option: 500 sheets (Max 2 trays)
 - Maximum: Up to 2100 sheets total capacity (Std tray + Option x 3 + Bypass)
- Paper Size
 - Standard Tray, Optional Tray: A3, B4, A4, B5, A5, B6, A6, DLT, Legal, Letter, GLT, HLT, Executive, Com10, Eng Quatro, F/GL, C5, DL Env, F, Foolscap, Folio, 8K, 16K
 - Custom size*: Min. 90mm x 297mm (3.5" x 11.7"), Max. 148mm x 432mm (5.8" x 17")
 - Bypass: A3, B4, A4, B5, A5, B6, A6, DLT, Legal, Letter, GLT, HLT, Executive, Com10, Eng Quatro, F/GL, C6, C5, DL Env, Monarch, F, Foolscap, Folio, 8K, 16K
 - Custom size: Min. 60mm x 297mm (2.4" x 11.7"), Max. 127mm x 1260mm (5" x 49.6")

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Maximum printable area is 296.7 x 420 mm. Guaranteed image area is 292.8 x 415.8 mm



Main Specifications - 3

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- Paper Weight: 56-220g/m² (15-59lb) (14-43 lb), All trays
 - Duplex: 56-162g/m² (15-43lb)
(Supports 52g/m² when feeding along the line of the paper grain.)
- Paper Type
 - Standard Tray, Optional Tray: Plain paper 1/2, Thick paper 1 to 3, Thin paper, Recycled paper, Special paper 1 to 3, Color paper, Letterhead, Preprinted, Prepunched, Bond, Label paper, Envelopes
 - Bypass: Plain paper 1/2, Thick paper 1 to 3, Thin paper, Recycled paper, Special paper 1 to 3, Color paper, Letterhead, Preprinted, Prepunched, Bond, Label paper, Envelopes, Cardstock, OHP
- Output Paper Capacity (80g/m², 20lb. Bond): Up to 500 sheets

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No additional notes



Main Specifications - 4

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- Maximum Power Consumption: 1073W (Full system)
- Energy Saver Mode: Less than 1W
- Average Output Volume per Month: 3.0k
- Estimated Life: 5 years or 1200k prints whichever comes first

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No additional notes




- Standard: PCL6/5e, PostScript3, PDF Direct
- Option: IPDS, XPS (Embedded)

No additional notes



- **Toner cartridges: Only one type**
 - Approx. 10K pages
 - Starter: Approx. 6K pages
- **PCDU:**
 - Approx. 25K pages
- **Maintenance kit: Approx. 90K pages**
 - Contains the fusing unit, transfer roller, and feed rollers and friction pads

Toner yield is measured at standard temperature and humidity. The yield may change depending on the circumstances and printing conditions.

Options: Paper Feed		 <small>imagine. change.</small>		
		Also used with these models:	Similar to:	Note
M456: Paper Feed Unit TK2010	New		Gim-MF1/P1	500 sheets: up to 3 can be installed

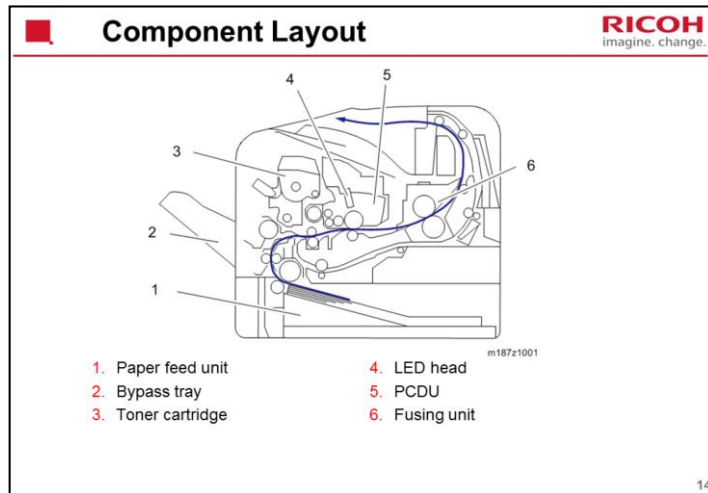
There is no 250-sheet paper feed unit for the overseas market, and no caster table.



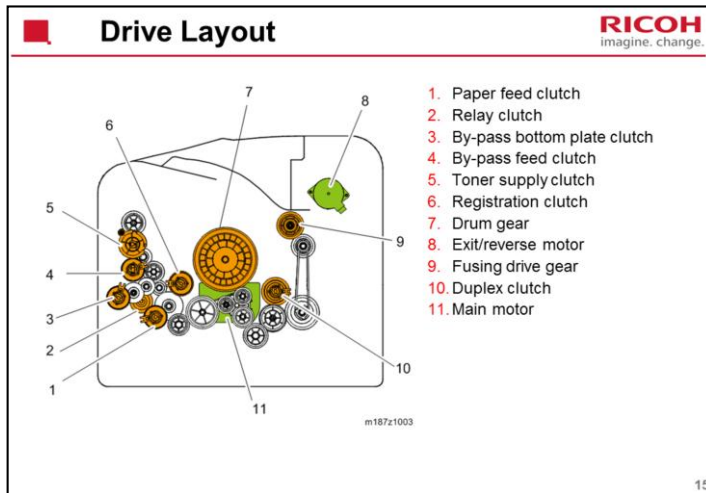
Options: Controller

		Also used with these models:	Similar to:	Note
M444: IPDS Unit Type P4	New			
M444: XPS Direct Print Option Type P4	New			
M444: SD card for NetWare printing Type P4	New			
M444: Hard Disk Drive Option Type P4	New			
M417: VM Card Type W				Memory Unit Type N1 and Hard Disk Drive Option Type P1 must be installed first.
M417: Memory Unit Type N 1GB				
M417: IEEE802.11 Interface Unit Type O				
D3A7: USB Device Server Option Type M12				
B679: IEEE1284 Interface Board Type A		Used with many other models		

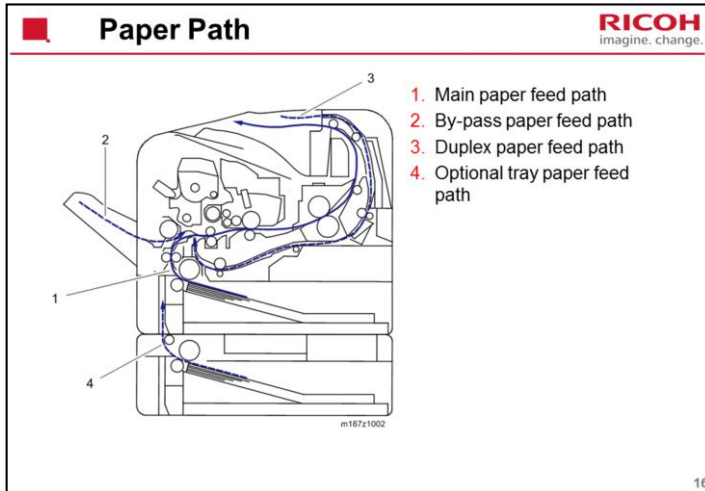
No additional notes



This slide shows the major components. Details will be covered later.
The layout is similar to the Gim-P1 series.



No additional notes

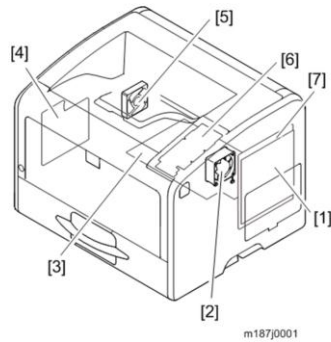


No additional notes



Electrical Components

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1. Controller Board
2. Fusing Fan
3. PSU
4. HVPS
5. PSU Cooling Fan
6. OPU
7. BCU

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No additional notes



Boards - 1

- BCU (Engine Board): The BCU board controls the following functions:
 - Engine sequence
 - Timing control for peripherals
 - Image processing, video control
- CTL (Controller Board): The Controller board controls the following functions:
 - SDRAM
 - 10Base-T/100Base-Tx/Giga Ethernet
 - USB2.0
 - NV-RAM
 - Operation panel interface
- PSU (Power Supply Unit):
 - Generates DC power from a commercial AC power supply, and supplies it to each control circuit
- HVPS (High-Voltage Power Supply):
 - Generates the high-voltage power required for process control.

No additional notes



- **PCDU Set Detection Board**
 - Detects whether or not the PCDU is installed correctly.
- **ID Chip Relay Board**
 - Relays the ID chip data of the toner cartridge.
- **DC Switch**
 - Controls the on/off operation of the DC power supply.
- **Toner End Detection Board (Toner End Sensor)**
 - Detects whether the toner has run out.

No additional notes



- See the following section of the manual for full details:
 - Replacement and Adjustment > Electrical Components
- If an optional hard disk is installed, this must be taken out before you remove the DIMM, because the hard disk is blocking access to the DIMM.



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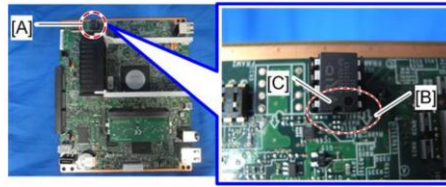
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No additional notes



Replacing the NVRAM on the Controller Board

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d1824054

- See the following section of the manual for full details:
 - Replacement and Adjustment > Electrical Components > NVRAM on the Controller Board
- When replacing the controller board, remove the NVRAM from the old controller board. Then install it at the same position on the new controller board.
- The indentation [C] on NVRAM [A] must face the direction of the arrow [B] that is printed on the controller board.

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No additional notes



Replacing the BCU

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- Remove the EEPROM [A] from the old board and install it on the new board.
 - Install so that the indentation [B] on EEPROM is facing the direction of the dent [C] that is printed on the BCU board.
- After you install the new board, enter the machine's serial number into the new board.
 - If the machine's serial number is not entered correctly into the new BCU board, SC995-01 (serial number entry error) appears.



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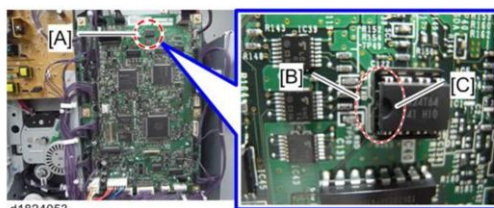
22

No additional notes



Replacing the EEPROM on the BCU Board

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- See the following section of the manual for full details:
 - Replacement and Adjustment > PCBs and Other Items > EEPROM on the BCU
- Install the EEPROM [A] the correct way around.
 - The indentation [C] must point in the direction of the indentation [B] that is printed on the board.

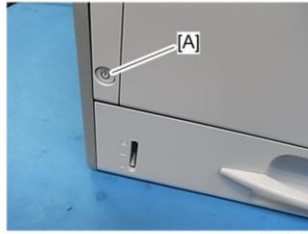
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No additional notes



Caution Before Removing Components

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- Even if you turn the power switch off, +5V is still supplied. So do the following before you start work.
 1. Push the power switch [A] on the machine.
 2. Wait 3 minutes to shut down.
 3. Take out the power cord.
 4. Do either of the following:
 - Wait several minutes
 - Push the power switch [A] again to remove the residual charge.

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No additional notes



Covers

- To improve the appearance of the machine, screw holes are mostly not visible. This means that the covers are held in place by a lot of tabs.
- The locations of these tabs are explained in the removal procedures. Pay attention to these diagrams, so that you do not damage the tabs.
 - Example: Left cover



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No additional notes



Starting the Machine Again

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- To start the machine, press the main power switch.
- If you press the main power switch between the beginning and the end of a shutdown, the machine will not start.

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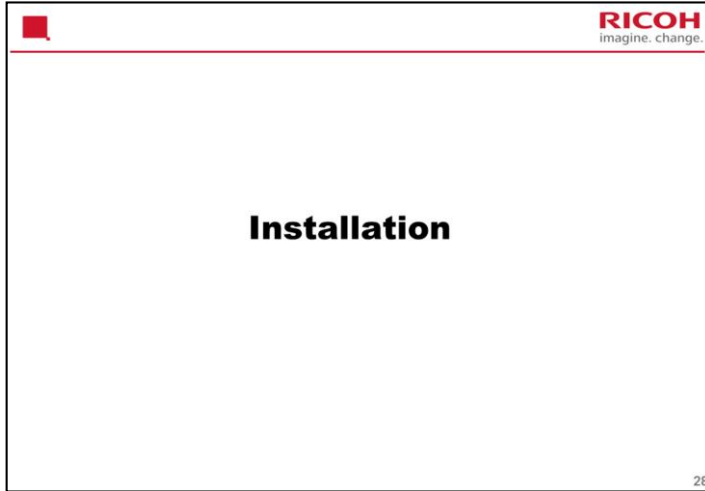
No additional notes



Forced Shutdown

- In case normal shutdown does not complete for some reason, the machine has a forced shutdown function.
- To make a forced shutdown, press and hold the main power switch for 6 seconds.
- In general, do not use the forced shutdown. Forced shutdown may damage the hard disk and memory, and can cause damage to the machine. Use a forced shutdown only if it is unavoidable.

No additional notes



No additional notes



Who Installs the Machine?

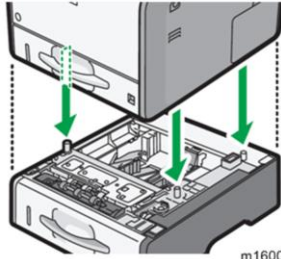
- These machines are installed by users.
- The customer should immediately change the administrator's password for Web Image Monitor, and enable SSL/TLS if required.
 - The Installation section of the service manual has a procedure.

No additional notes



Optional Paper Tray Units

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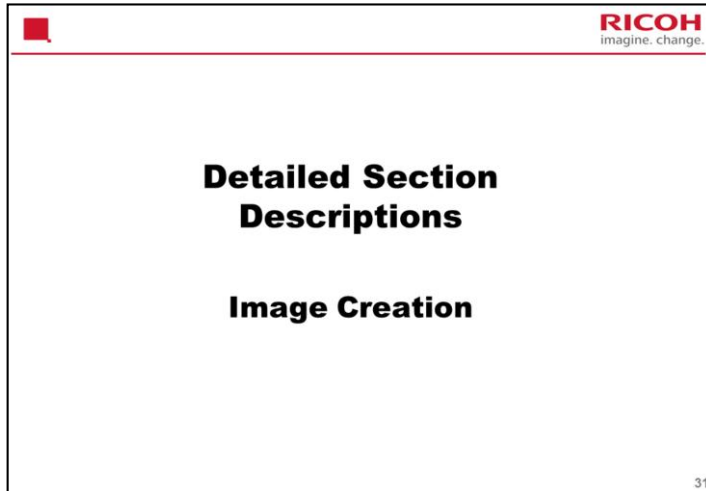


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- To attach two one-tray units at the same time, first stack them one on top of the other, and then attach them as a single unit to the machine.

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No additional notes

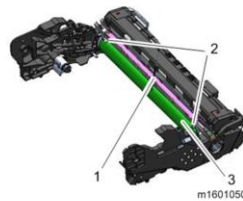
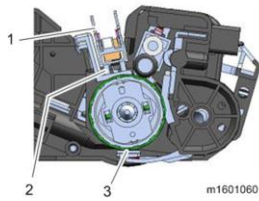


This section explains how a latent image is written on the drum.
The method is the same as the Gim-MF1/P1 series.



Overview

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- An LED array [1] writes the latent image on the OPC [3].
- A spacer [2] on the drum keeps the LED array at the correct distance from the OPC for correct focus.
- The LED writing method contributes to machine downsizing, and is superior to the LD writing method in image quality, noise reduction, and energy saving.

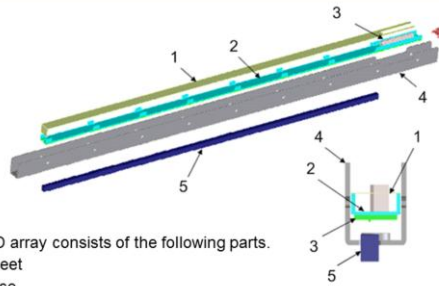
32

No additional notes



Components of the LED Array

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- The LED array consists of the following parts.
 1. Sheet
 2. Base
 3. LED board
 4. Frame
 5. SLA (Self-focusing Lens Array)
- The LED array is replaced as one complete unit. The individual components shown above cannot be replaced in the field.

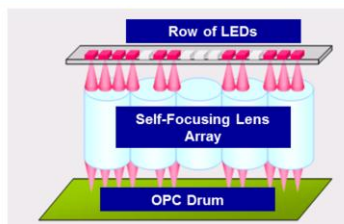
33

No additional notes



Detailed Structure of the LED Array

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- Tiny LEDs capable of creating images at 1200 dpi are arranged in a line. Light beams emitted by the LEDs are focused using the Self-focusing Lens Array (SLA), creating an image on the OPC drum.
- Each LED head has 37 LED chips on board, and each chip has a line of LEDs 8mm in length.
- If a vertical line 8mm in width appears on the image parallel to the direction of paper feed, it may be caused by a broken LED chip.

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No additional notes



- **Image position adjustment**
 - Horizontal (main scan): Adjusted by moving the image position
 - Vertical (sub scan): The timing for the start of writing is changed.
 - No mechanical adjustments
- **LED light intensity**
 - An EEPROM on the LED head contains data which controls the light intensity of each element.
 - There is no adjustment.
- **Adjustment after replacement**
 - The EEPROM on the new LED array contains data on the characteristics of the LED array. No adjustment is needed by the technician.

No additional notes



Moving the Image Position

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- Loosen the screws on the bottom of the tray, and then move the holder to the right or the left (maximum adjustment: 2mm).
- When at the default (± 0) position, the holder is at the location marked by a triangle [1].

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No additional notes



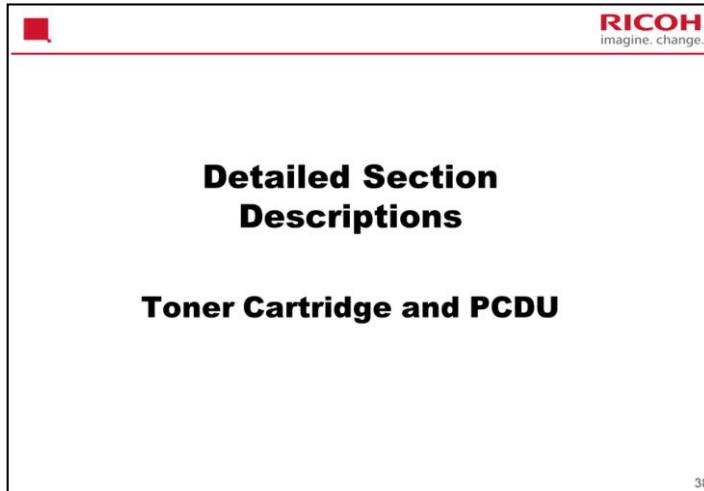
After Replacing the LED Unit

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- After replacing the LED unit, clean the lens of the new unit.
- Also clean the lens after working inside the machine around the LED unit.
- If springs become disengaged when removing the LED unit, refer to the replacement procedure in the service manual for the correct way to reattach the springs.

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No additional notes



This section explains the components of the toner cartridge and the PCDU. The method is the same as the Gim-MF1/P1 series.

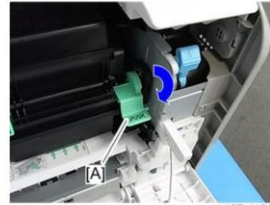


Removing the Toner Cartridge and PCDU

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- Open the front cover.
- To take out both PCDU and toner cartridge, pull the green handle.
- To take out only the toner cartridge, push down the green lever on the right and pull the green handle.

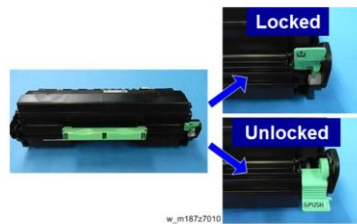
39

No additional notes



Toner Cartridges

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- The toner cartridge contains the toner bottle, toner supply mechanisms, and the used toner collection box.
- The toner cartridge can separate from the PCDU (see the next slide) and can be replaced.
- The toner supply port on the toner cartridge has a shutter that opens when the toner cartridge is installed in the PCDU.

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No additional notes



Toner Cartridge Release Lever

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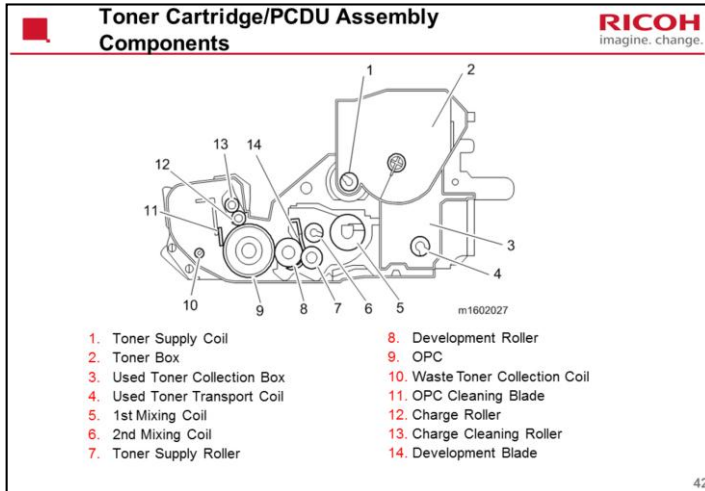


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- This lever releases the toner cartridge from the PCDU.
- The lever works in two steps. First, push the lever down to the horizontal position. Then stop there, then push the lever down to release the cartridge.

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No additional notes

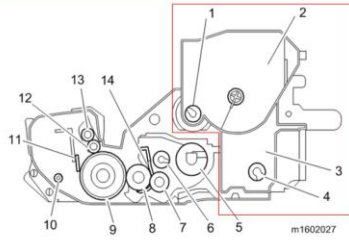


No additional notes



Toner Cartridge

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- The toner cartridge contains the toner box [2], toner supply coil [1], and the used toner collection box [3].
- The toner supply port shutter in the cartridge opens when the toner cartridge is installed in the PCDU.

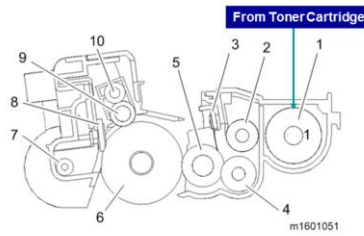
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No additional notes



Toner Supply Mechanism

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- When the toner supply clutch turns on, a coil in the toner cartridge rotates to transfer toner to the cartridge exit and then the PCDU. Toner which falls into the PCDU is transferred to the development section by the 1st mixing coil [1].

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No additional notes



ID Chip

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- Each toner cartridge has an ID chip that contains information such as product information and the number of prints.
- This ID chip also informs the machine when the cartridge is a new one.

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No additional notes



- **Toner near-end:** A counter determines when the toner has almost run out by calculating the remaining toner, based on the initial amount of toner and subsequently replenished toner.
 - Default setting: Toner near-end occurs when about 750 (NA/AP/CHN) or 800 (EU) more pages can be printed before toner runs out. This is about 5 days at the average print volume (APV)
 - APV is about 3,000 sheets per month.
 - Near-end detection can be set to "Normal", "Notify Sooner", or "Notify Later". The default is "Normal".
 - [Menu] key > Maintenance > General Settings > Replacement Alert
- **Toner end:** A sensor checks whether toner is being added to the PCDU. If it cannot see that toner is being replenished, then the machine detects that toner has actually run out, and the machine cannot print.

Approximate number of prints that can be made with each setting:

In accordance with ISO/IEC19752 and A4 paper and with the print density set to the initial factory setting

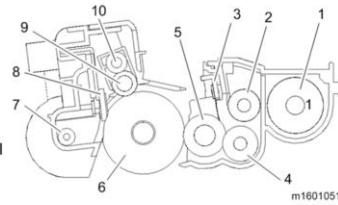


PCDU Layout

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- The PCDU contains the charge roller, photoconductor, development mechanism, and cleaning unit.

1. 1st Mixing Coil
2. 2nd Mixing Coil
3. Development Blade
4. Toner Supply Roller
5. Development Roller
6. OPC
7. Waste Toner Collection Coil
8. OPC Cleaning Blade
9. Charge Roller
10. Charge Roller Cleaning Roller



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No additional notes



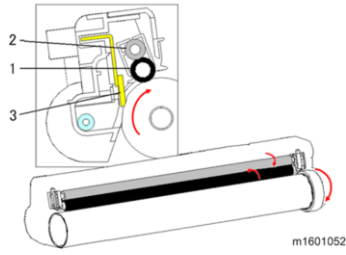
- The PCDU is driven by the main motor through a coupling.

No additional notes



Drum Charge and Cleaning

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- The charge roller [1] gives the drum surface a uniform negative charge.
 - The charge roller [1] rotates in the same direction as the OPC drum.
- If the charge roller [1] is dirty, the applied electric charge becomes uneven. Therefore, the charge roller is always in contact with the cleaning roller [2].
- The OPC cleaning blade [3] removes waste toner from the OPC.

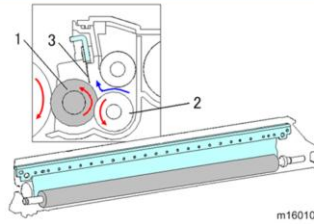
49

No additional notes



Development

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- The development mechanism contains the development roller [1], the toner supply roller [2], and the development blade [3].
- The toner supply roller [2] provides the development roller [1] with toner.
- The development blade [3] keeps the toner attached to the development roller [1] at an even thickness.

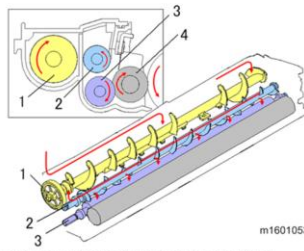
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No additional notes



Mixing

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- The toner moves as shown in the above drawing.
- The 1st mixing coil [1] moves the toner to the left side.
- The 2nd mixing coil [2] moves toner to the right side.
- Finally, the toner supply roller [3] supplies toner to the development roller [4].

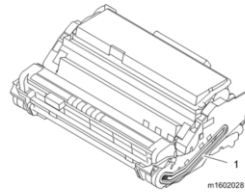
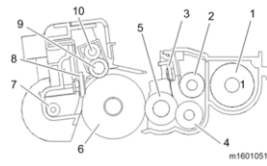
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No additional notes



Waste Toner Collection

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- Toner waste is collected by the waste toner collection coil [7 in the diagram on the left] and sent down to the waste toner bottle.
- The waste toner goes down the path shown by [1] in the diagram on the right

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The waste toner collection mechanism will be explained in more detail later.



New PCDU Detection

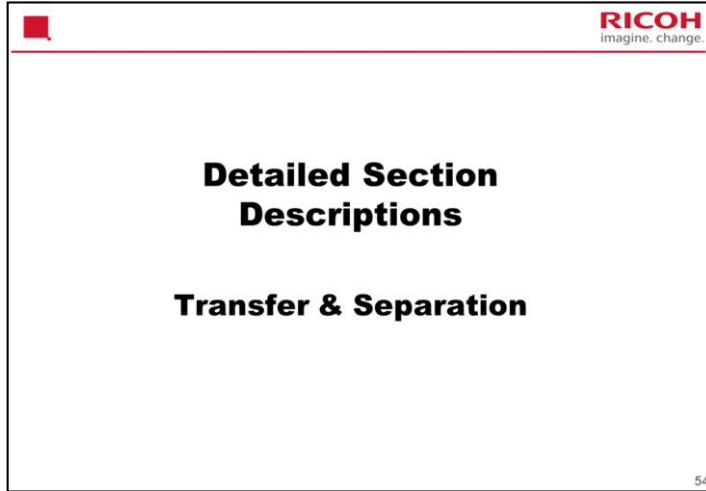
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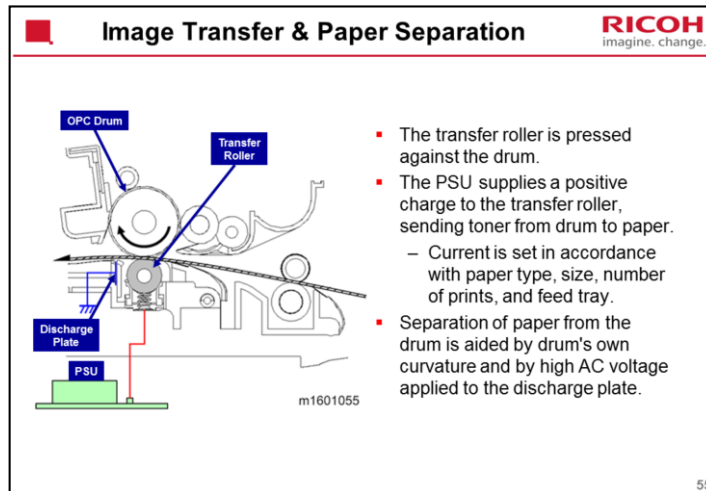
- When a PCDU is placed in the machine, the ID chip [A] is read. In this way, the machine detects when a new PCDU is inserted.

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No additional notes



This is similar to the Gim-MF1/P1 series.



OPC – Organic Photo-Conductor (drum)

PSU – Power Supply Unit

You can adjust the transfer current applied for various situations (SP2-301 T bias control).

Increasing a transfer current level may produce ghost images—some part of image near the leading edge reappears in other part of the page.

Increasing a transfer current level might damage the OPC drum.



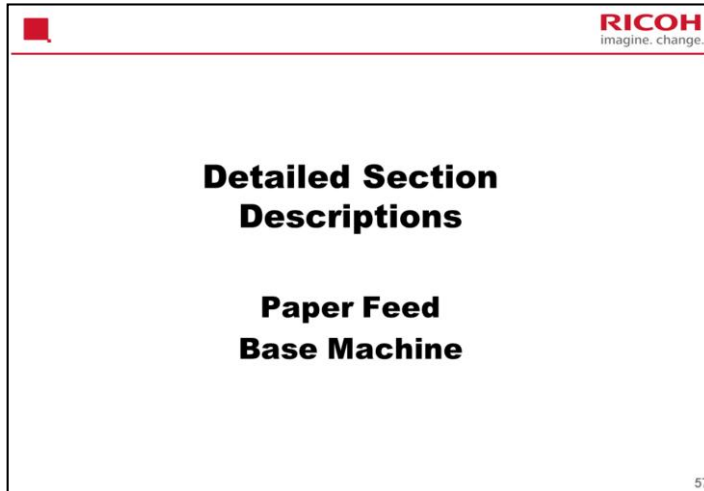
Transfer Roller Cleaning

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- The transfer roller must be cleaned sometimes to prevent toner that has transferred to the roller surface from moving to the rear side of subsequent prints.
- Cleaning is done at the following times:
 - After initial power on
 - After clearing of a copy jam
 - At job end
- To clean the transfer roller, the PSU does the following:
 - First, it applies a negative cleaning current to the transfer roller, causing negatively charged toner on the roller to move back to the drum.
 - It then applies a positive cleaning current to the roller, causing any positively charged toner to migrate back to the drum.

56

No additional notes



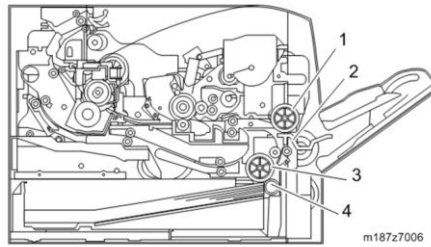
This section explains how paper is fed through the machine.

The method is the similar to the Gim-P1 GW models, except that a friction roller is used instead of a pad.



Overview

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- The machine has a paper tray (tray 1) and a bypass tray.
 1. Bypass Feed Roller
 2. Bypass Friction Pad
 3. Tray 1 Paper Feed Roller
 4. Tray 1 Friction Roller

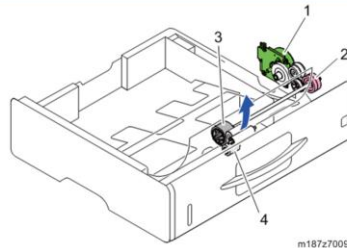
58

No additional notes



Drive

RICOH
imagine. change.



- To start paper feed, the machine turns on the paper feed clutch [2], and the paper feed roller [3] rotates.
- The friction roller [4] ensures that only the top sheet is fed.
- When the paper activates the registration sensor, the paper feed clutch turns off.
- When the toner image on the transfer belt is at the correct position, the registration clutch turns on to feed the paper to the image transfer unit.

59

No additional notes



Paper End Detection

RICOH
imagine. change.

- If the tray becomes empty, a feeler enters a cutout in the bottom plate, and the paper end sensor at the other end of this feeler turns on.

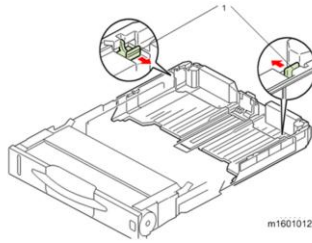
60

No additional notes



Adjustable Cassette

RICOH
imagine. change.



- When shipped from the factory, sizes up to A4 LEF can be loaded in the cassette.
- To support paper sizes longer than A4 LEF, unlock the tray extension lock ([1] in the diagram) to extend the tray.

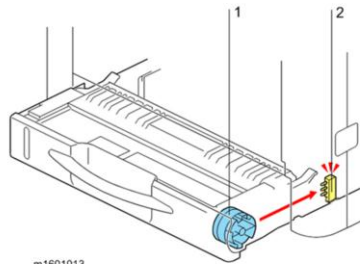
61

No additional notes



Paper Size Detection

RICOH
imagine. change.



m1601013

- The paper size switch [2] detects actuators attached to the paper size dial [1].
- The customer must select the correct paper size with this dial.
- If the customer moves the dial to the "*" position, the size must then be input at the operation panel.

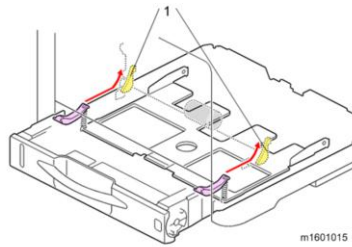
62

No additional notes



Bottom Plate Lift

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- When you slide the paper feed tray into the unit, the bottom plate arm [1] slides along the sloping guide of the main frame, and then the bottom plate is pushed upward by the spring.
- As a result, the lifted bottom plate presses the sheet on the top of the stack up against the paper feed roller.

63

No additional notes



- The bottom plate has an automatic lifting system.
 - When paper is loaded into the tray, the end sensor turns on. When the sensor is on, the bottom plate goes down.
 - When it is off, the bottom plate goes up.
 - To start paper feed, the bottom plate moves up (see the next slide).
- When the main motor rotates in reverse, a one-way clutch transfers the drive to the bottom plate lifting system of the bypass tray.
- Then, a cam (on the left as you face the machine) starts rotating to lift the bottom plate up and down.
- The bottom plate position sensor detects up/down movement of the bottom plate by detecting a sensor actuator on the left side of the cam.
 - Sensor ON: Bottom plate is down
 - Sensor OFF: Bottom plate is rising

No additional notes



Bypass Feed

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- Bypass feed uses a feed roller and friction pad mechanism.
- To start feed, the bottom plate goes up, then the bypass feed clutch starts.
- When the leading edge of the paper is out of the tray, the duplex exit clutch turns on to feed the paper into the machine along the same path as paper from the standard tray.
- The bypass feed clutch turns off when the paper activates the registration sensor.

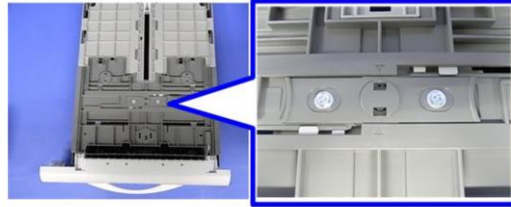
65

No additional notes



Side-to-side Registration Adjustment Built-in Paper Tray

RICOH
imagine. change.



m1601059

- To adjust side-to-side registration, loosen the two screws on the underside of the tray and move the rack and pinion mechanism of the side guides from side to side.

66

No additional notes



Side-to-side Registration Adjustment Bypass Tray

RICOH
imagine. change.

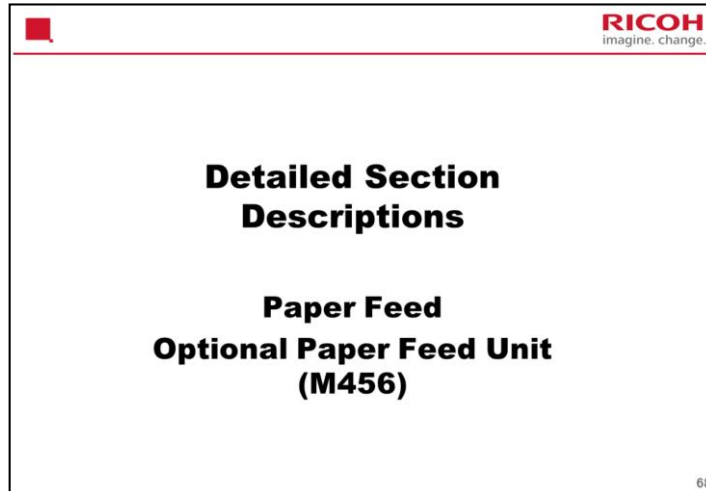


m187z7004

- To adjust side-to-side registration, loosen the screw at the right side of the tray and move the bypass bottom plate and side guides from side to side.

67

No additional notes

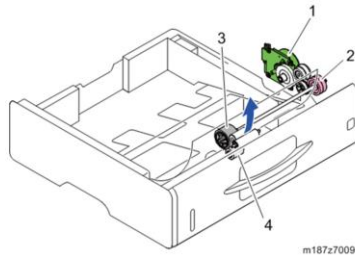


This is very similar to the optional unit for the Gim-MF1/P1 series, except that a friction roller is used instead of a friction pad.



Feed Mechanism

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- Feed roller and friction roller
 1. Paper feed motor
 2. Paper feed clutch
 3. Paper feed roller
 4. Friction roller

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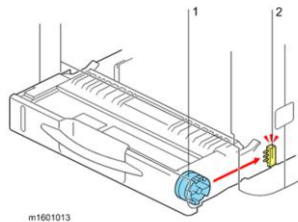
69

No additional notes

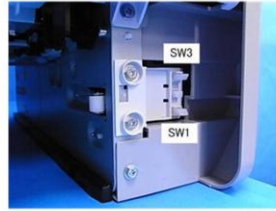


Paper Size Detection

RICOH
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m1601013



w_m1601014

- Paper size is detected by a combination of three detection switches [2].
- The switches are operated by the dial [1] on the right side of the paper feed tray.

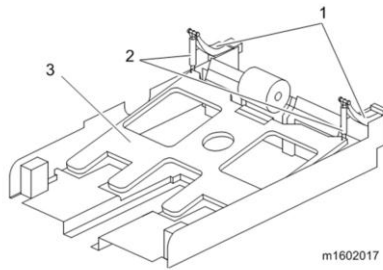
70

No additional notes



Lift

RICOH
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m1602017

- When you push in the paper cassette, the tray arms (1) rise along the groove in the tilted guide and lift the bottom plate (3) using springs (2).

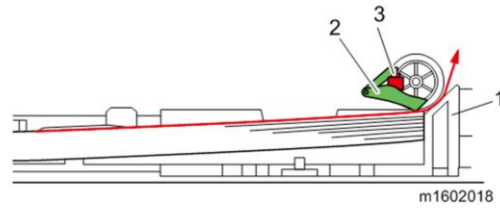
71

No additional notes



Paper End Detection

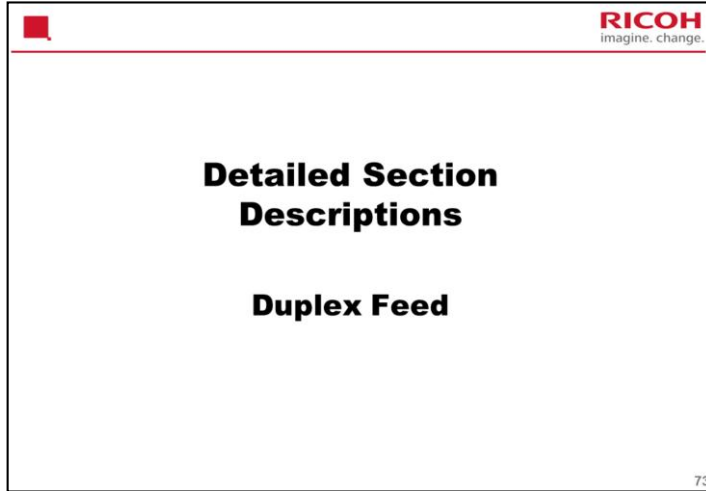
RICOH
imagine. change.



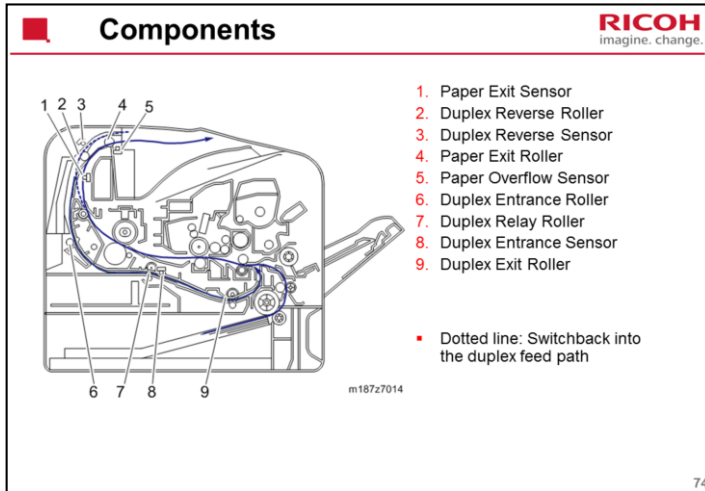
- When paper is all finished, the feeler (2) falls through an opening in the bottom plate and the paper end sensor (3) detects paper end.

72

No additional notes



This is similar to the GW version of the Gim-MF1/P1 series.



No additional notes

Operation **RICOH**
imagine. change.

- For duplex printing, the machine turns the paper over by rotating the duplex reverse roller in reverse.
- After the paper's trailing edge passes the duplex reverse sensor [3], the junction gate returns to its original position before the paper is delivered completely, and the duplex reverse roller [3] rotates forward to feed the paper into the paper path for duplex printing.
- After printing on Side 2, the paper exit roller [4] delivers the paper to the output tray.

75

The paper exit guide plate holds down the trailing edge of each sheet of paper after it exits, in order to prevent it from obstructing the following sheets of paper as they exit.

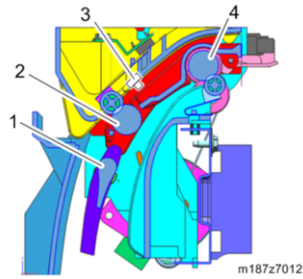
The exit/reverse motor drives both the paper exit roller and duplex reverse roller.

The exit/reverse motor switches the paper path for Duplex and Paper Exit by changing the direction of rotation.



Junction Gate

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imagine. change.



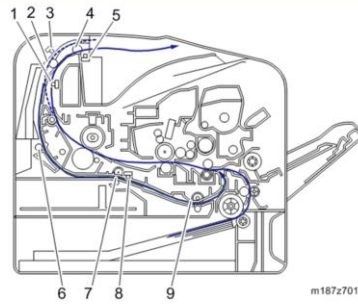
1. Junction Gate
2. Duplex Reverse Roller
3. Duplex Reverse Sensor
4. Paper Exit Roller

m187z7012



Paper Overflow Sensor

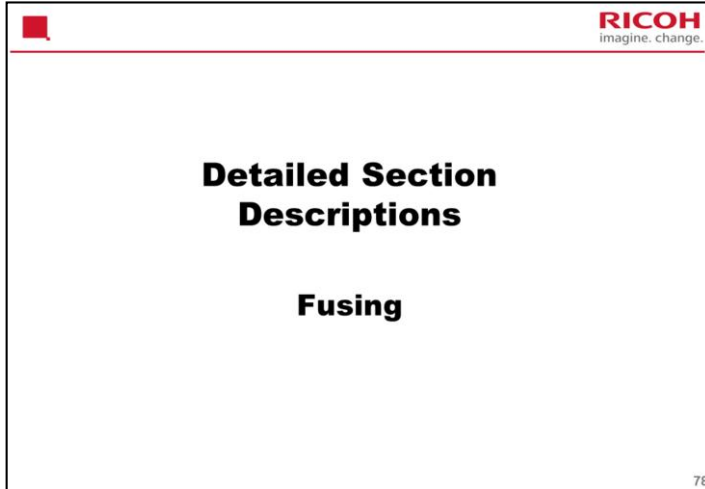
RICOH
imagine. change.



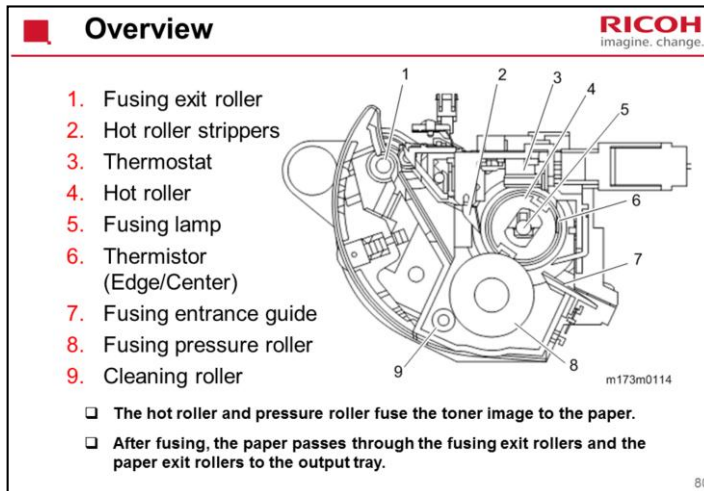
- If the height of the paper stacked on the output tray exceeds a certain limit, the paper overflow sensor [5] detects it based on the position of the paper overflow sensor feeler, and then the machine stops printing.

77

No additional notes



The mechanism is the same as the Gim-MF1/P1 series.



The thermistor detects the temperature of the hot roller to control lamp on/off timing. (See the "Fusing Temperature control" slide.)

The thermostat provides backup overhear protection.



Fusing Unit Drive

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imagine. change.

- The main motor drives the fusing unit and the fusing exit rollers.

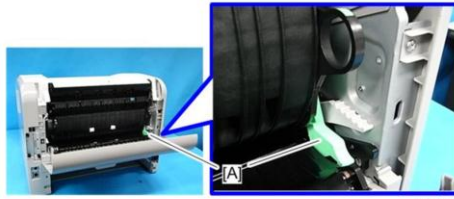
80

No additional notes



Envelope Lever

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m187z7005

- The envelope lever [A] is on the right of the fusing unit.
- Lowering the lever decreases the fusing pressure (to approximately 20% of normal) to reduce wrinkles on envelopes.
- When shipped from the factory, the envelope lever is down, to prevent deformation of the hot roller.
- Keep the envelope lever lowered when not using the machine for a long period (2 weeks or more).

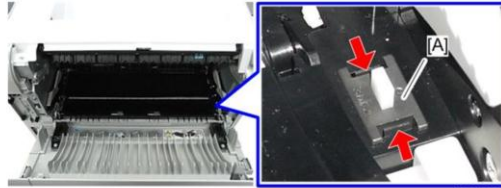
81

No additional notes



Envelope Lever Position Sensor

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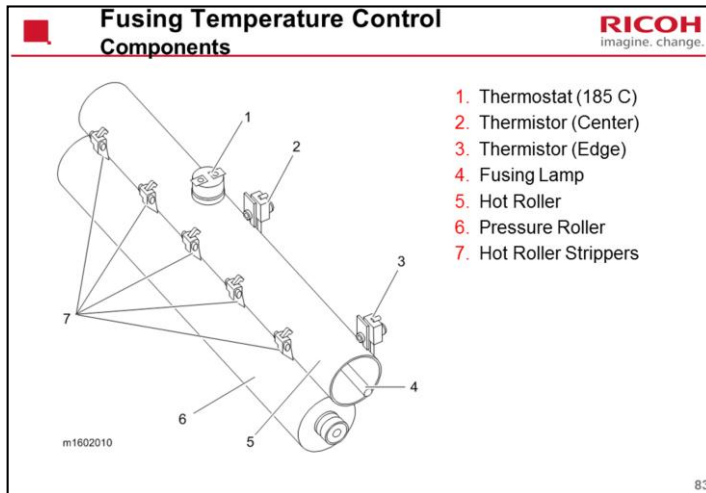


m187z4537

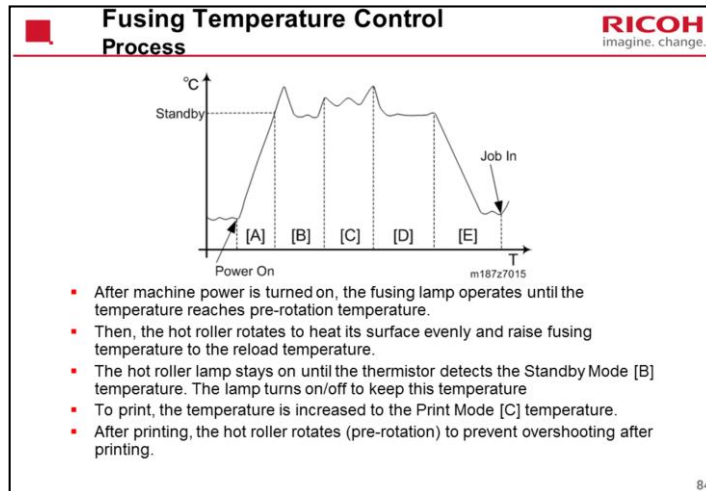
- This switch detects the position of the envelope lever.
- When the switch detects that the envelope lever is down, the machine changes the fusing temperature to a specified temperature that is set in SP1-105-013, and displays "Envelope lever is lowered" on the operation panel.
- While the envelope lever is down, if there is a print job for which envelope is not selected as the paper type, the machine prints the job with the fusing temperature for envelope printing.

82

No additional notes



No additional notes



[A]: Warming Up Mode

[B]: Standby Mode

[C]: Print Mode

[D]: Standby Mode

[E]: Energy Saver Mode

The fusing temperature (Celsius) in each mode is as follows:

Standby Mode: 155 (Atmospheric temp.: 16° C and above), 165 (Atmospheric temp.: 15° C and below)

Energy Saver Mode: Ambient temperature

Print Mode

Plain paper 1: 160

Plain paper 2: 167

Middle Thick: 167

Thick Paper 1, 2: 172

Thick Paper 3: 176

Thin Paper: 150

Envelopes: 179

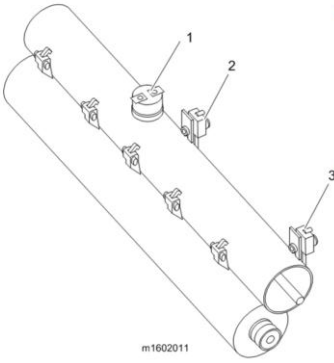
Post Cards: 175

Coated Paper: 185

The fusing temperature, except for Energy Saver mode, can be adjusted in SP mode.

Fusing Temperature Control
Overheat Protection

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The diagram shows a perspective view of a fusing roller assembly. A cylindrical roller is mounted on a frame. Three temperature sensors are positioned to monitor the roller's surface. Sensor 1 is a thermostat located at the top of the roller. Sensor 2 is a thermistor located on the side of the roller. Sensor 3 is a thermistor located at the bottom edge of the roller. The roller is connected to a power source, and the sensors are connected to a control system.

- The thermistor [2] and the thermistor (edge) [3] check the surface temperature of the hot roller.
 - If the temperature is more than 250 ° C, the power to the fusing lamp is cut. SC543 will be generated.
- If the thermistor protection fails, a thermostat [1] also checks the hot roller temperature.
 - If the thermostat detects more than 185 ° C, the thermostat opens, removing power from the fusing lamp. At this time, the machine stops.

m1602011

85

No additional notes



New Unit Detection



M1601019

- There are two types of fusing unit: one for emergency maintenance (EM) and another for periodical replacement.
- The fusing unit for periodical replacement has a new unit detection mechanism.
- When the machine is switched on after replacing the fusing unit, the engine board detects the fuse [A] under the drawer connector of the new fusing unit, and then blows the fuse.

86

No additional notes



Installing a New Fusing Unit

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- At PM (done by the customer)
 - Install a fusing unit with new product detection capability from the Maintenance Kit. (User operation)
- At EM
 - Install a fusing unit without new product detection capability, and reset PM Counter Fuser setting (engine SP 7-804-003) after replacement.

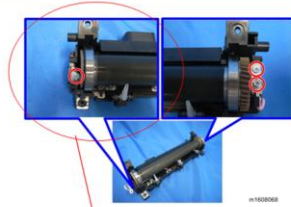
87

No additional notes

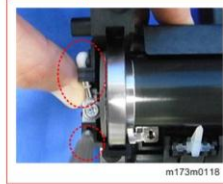


Removing the Fusing Lamp

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imagine. change.



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m173m0118

- Be careful not to break the lamp when removing screws.
- Insert a pin or jeweller's screwdriver into the service hole (see the lower red circle in the photo below), and hold the flat nut with your finger (see the upper red circle in the photo).
- Otherwise, the lamp secured together with the flat nut moves with the rotation of the screw, which can break the lamp.

88

No additional notes



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imagine. change.

Troubleshooting

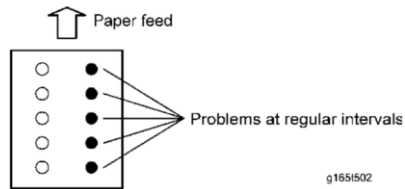
89

No additional notes



Problems at Regular Intervals

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- 29.9 mm: Charge roller
- 50.0 mm: Registration roller
- 25.1 mm: Image transfer roller
- 106.8 mm: Fusing pressure roller
- 108.9 mm: Fusing roller
- 113.0 mm: Paper feed roller
- 50.2 mm: Development roller
- 94.4 mm: Drum

90

No additional notes



Output is Severely Curled

RICOH
imagine. change.

- If the delivered paper is curled, it cannot be stacked properly. In such a case, raise the paper stop on the output tray and remove the delivered paper frequently.
- You can also adjust [Curl Prevention] in the UP mode (Maintenance).
 - If you set [Curl Prevention] to [Active], the machine idles for 20 seconds before it starts printing.
 - By adding the idle time before printing, it takes longer to print, but paper curling can be reduced.
 - To stop the 20-second idling, set [Curl Prevention] to [Inactive].

91

No additional notes



- **Banding: Execute Drum Rotation in the Maintenance Menu.**
 - The drum rotates for 30 s or 55 s depending on which level you select.
 - If this is done very often, the life of the drum will be reduced.
- **Black spots: Execute Fusing Roller Cleaning in the Maintenance menu.**
 - This uses paper from the bypass tray and prints on both sides of this paper.
 - Check the printout, and do the procedure again until the spots disappear.

Troubleshooting > When Vertical Banding is Generated, When Black Spots are Generated



- **Toner smears on the back side: Set 'Fusing Unit Ctrl Priority' in the Maintenance Menu to 'Quality Priority'.**
 - When you keep printing using paper sizes such as A4 SEF or A5, which are narrower than the maximum printable paper this machine supports, and then keep printing using paper sizes such as A4 LEF or A3 SEF, which are wider than those used in the previous print job, toner smears may appear on the backside of the printouts, depending on your environment or usage.
 - Specifying [Quality Priority] prevents the fusing unit temperature from becoming too high, so that consistent print quality can be maintained.
 - After specifying [Quality Priority], printing takes longer than normal. Also, printing may stop for approximately 40 seconds as the machine cools down before the next print job starts.

Menu > Maintenance > Quality Maintenance > Fusing Unit Ctrl Priority



The End