



RICOH UNIVERSITY

Learning ♦ Knowledge ♦ Performance



M016/M017
SERVICE MANUAL

005432MIU

LANIER RICOH SAVIN



**M016/M017
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RICOH
Savin**



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WARNING

The Service Manual contains information regarding service techniques, procedures, processes and spare parts of office equipment distributed by Ricoh Americas Corporation. Users of this manual should be either service trained or certified by successfully completing a Ricoh Technical Training Program.

Untrained and uncertified users utilizing information contained in this service manual to repair or modify Ricoh equipment risk personal injury, damage to property or loss of warranty protection.

Ricoh Americas Corporation

LEGEND

PRODUCT CODE	COMPANY			
	GESTETNER	LANIER	RICOH	SAVIN
M016	SP3400SF	SP3400SF	SP3400SF	SP3400SF
M017	SP3410SF	SP3410SF	SP3410SF	SP3410SF

DOCUMENTATION HISTORY

REV. NO.	DATE	COMMENTS
*	11/2009	Original Printing

M016/M017

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M016/M017 SERVICE MANUAL APPENDICES

SEE M016/M017 SERVICE MANUAL APPENDICES SECTION FOR DETAILED TABLE OF CONTENTS

PAPER FEED UNIT TK 1080 (M355)

SEE SECTION M355 FOR DETAILED TABLE OF CONTENTS

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Paper Feed Unit TK1080 (M355)

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Read This First

Safety Notices

Important Safety Notices

Prevention of Physical Injury

1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine power cord is unplugged.
2. The wall outlet should be near the machine and easily accessible.
3. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
4. The machine drives some of its components when it completes the warm-up period. Be careful to keep hands away from the mechanical and electrical components as the machine starts operation.
5. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.

Health Safety Conditions

Toner is non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

Observance of Electrical Safety Standards

The machine and its peripherals must be serviced by a customer service representative who has completed the training course on those models.

Safety and Ecological Notes for Disposal

1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
2. Dispose of used toner, the maintenance unit which includes developer or the organic photoconductor in accordance with local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.

WARNING

- To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols. A fire or an explosion might occur.

CAUTION

- The Controller board on the MF model contains a lithium battery. The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard batteries in accordance with the manufacturer's instructions and local regulations

Laser Safety

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

WARNING

- Use of controls, or adjustment, or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

 WARNING

WARNING:







Turn off the main switch before attempting any of the procedures in the Laser Optics Housing Unit section. Laser beams can seriously damage your eyes.

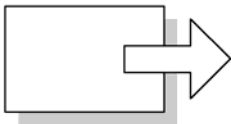
CAUTION MARKING:



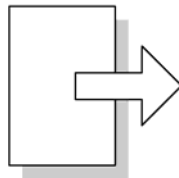
Symbols, Abbreviations and Trademarks

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

	See or Refer to
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
SEF	Short Edge Feed
LEF	Long Edge Feed



Short Edge Feed (SEF)



Long Edge Feed (LEF)

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PRODUCT INFORMATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

1. PRODUCT INFORMATION

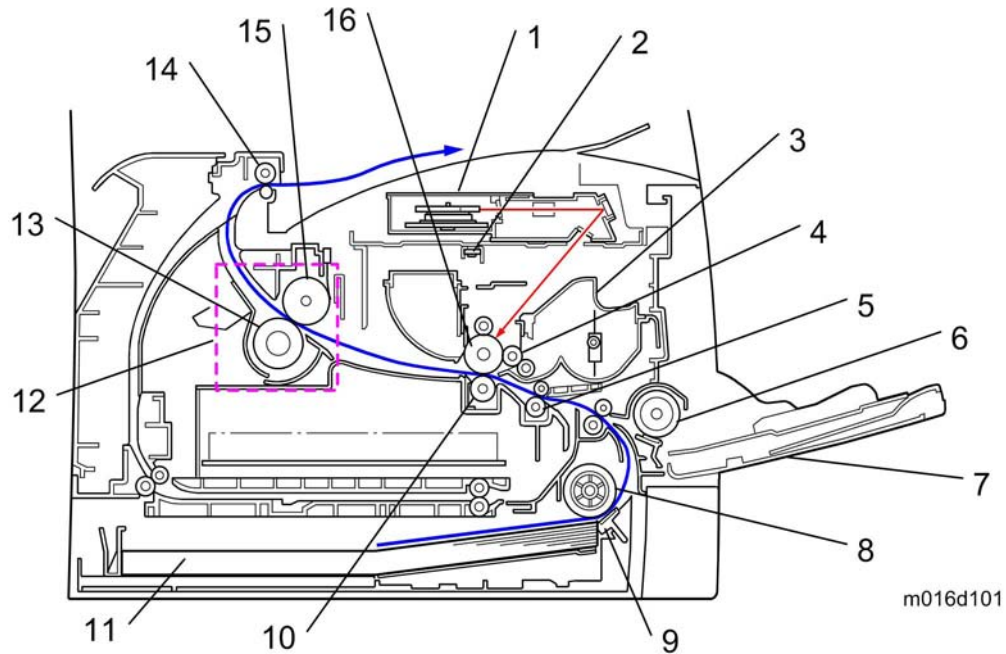
1.1 SPECIFICATIONS

See "Appendices" for the following information:

- "General Specifications"
- "Printer"
- "Copier"
- "Scanner"
- "Fax"
- "Supported Paper Sizes"

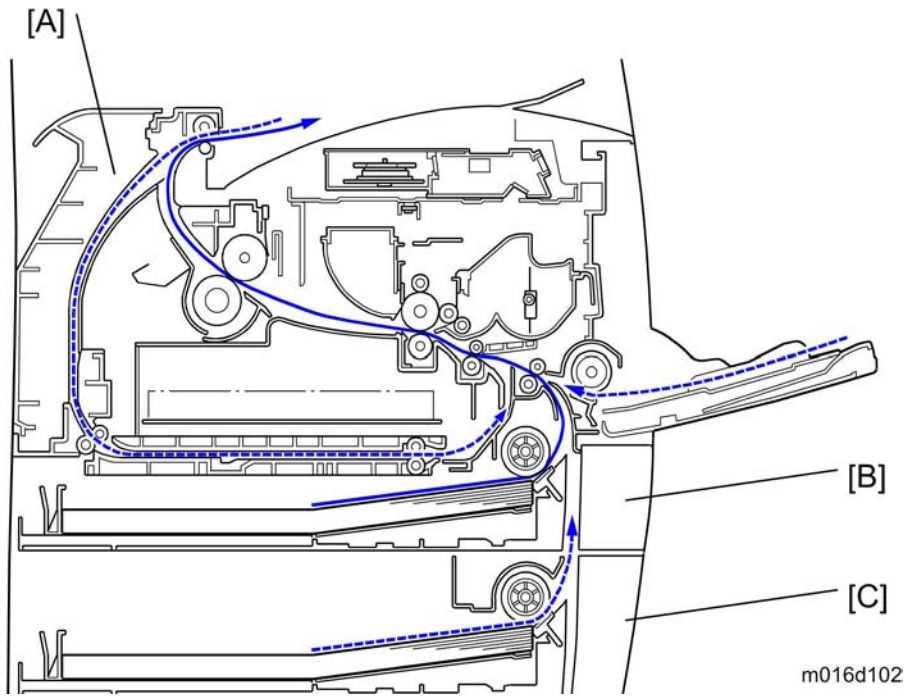
1.2 MACHINE OVERVIEW

1.2.1 COMPONENT LAYOUT



1.	Laser unit	9.	Friction pad
2.	Quenching lamp	10.	Transfer roller
3.	Cartridge (AIO-type)	11.	Paper Tray
4.	Development roller	12.	Fusing Unit
5.	Registration roller	13.	Pressure Roller
6.	By-pass feed roller	14.	Paper exit roller
7.	By-pass feed tray	15.	Hot Roller
8.	Paper feed roller	16.	Drum

1.2.2 PAPER PATH



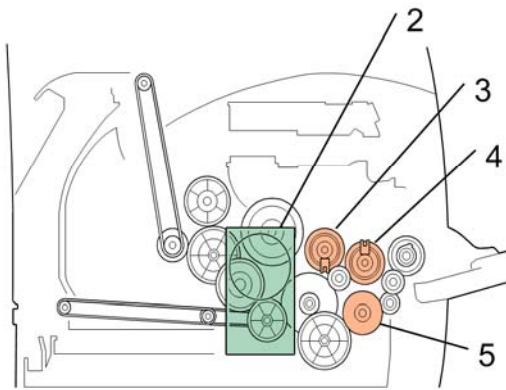
[A] Duplex section (For M017)

[B] Standard paper tray unit

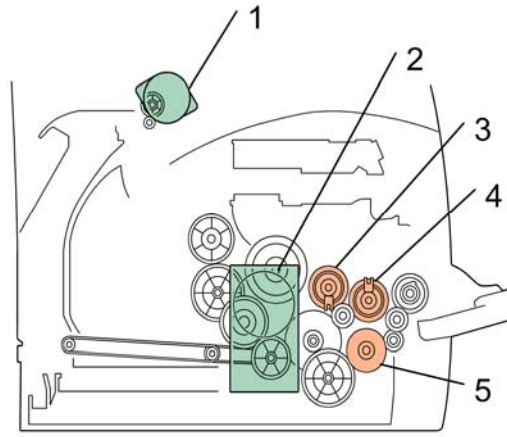
[C] Optional paper tray unit

1.2.3 DRIVE LAYOUT

- M016 -



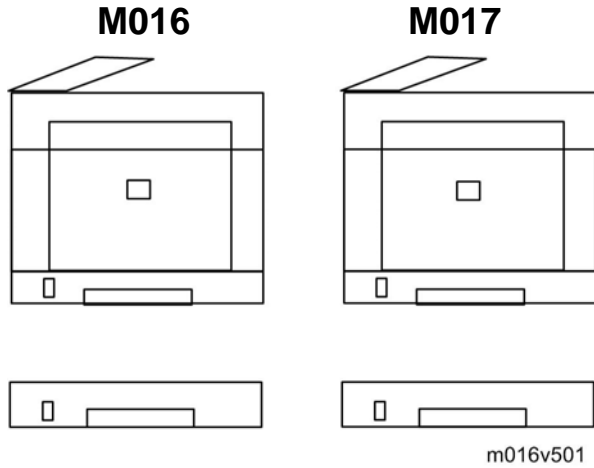
- M017 -



m016d103

1. Duplex Motor	4. Replay Clutch
2. Main Motor	5. Paper Feed Clutch
3. Registration Clutch	

1.3 MACHINE CONFIGURATION



Models	Duplex Unit	Optional Memory	Optional Tray (M355)	PCL PS	Fax	USB Host
M016	NA	NA	250x1	Yes	Yes	Yes
M017	Auto	NA	250x1	Yes	Yes	Yes

NA: Not Available

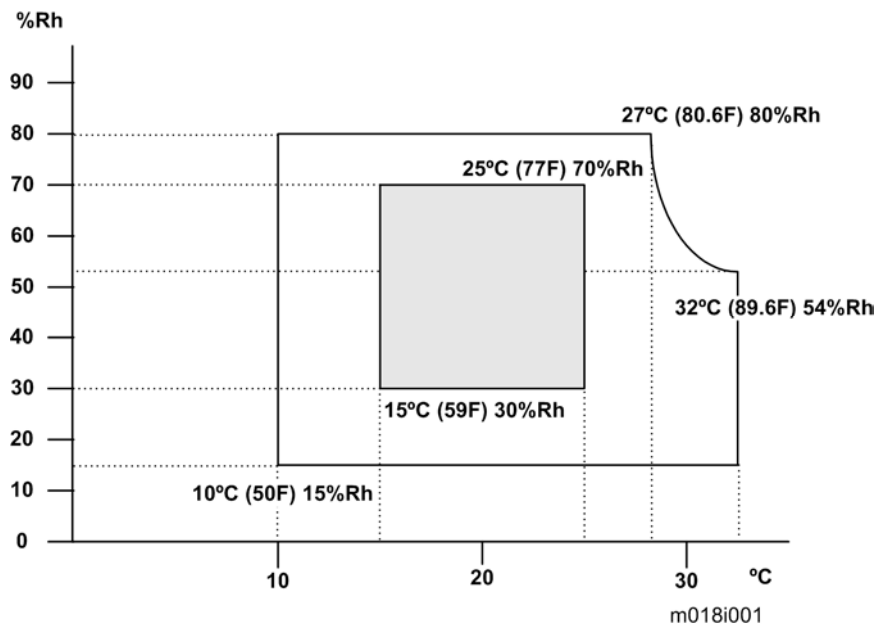
INSTALLATION

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

2. INSTALLATION

2.1 INSTALLATION REQUIREMENTS

2.1.1 ENVIRONMENT



1. Temperature Range: 10°C to 32°C (50°F to 89.6°F)
2. Humidity Range: 15% to 80% RH
3. Ambient Illumination: Less than 2,000 lux (do not expose to direct sunlight)
4. Ventilation: 3 times/hr/person
5. Do not put the machine in areas with sudden temperature changes. This includes:
 - Areas directly exposed to cool air from air conditioning
 - Areas directly exposed to heat from a heating system.
6. Do not put the machine in areas exposed to corrosive gas.
7. Do not install the machine at locations over 2,000 m (6,562 ft.) above sea level.
8. Put the machine on a strong, level base. (Tilting towards any side must be no more than 3 mm.)
9. Do not put the machine in areas with strong vibrations.

2.1.2 MACHINE LEVEL

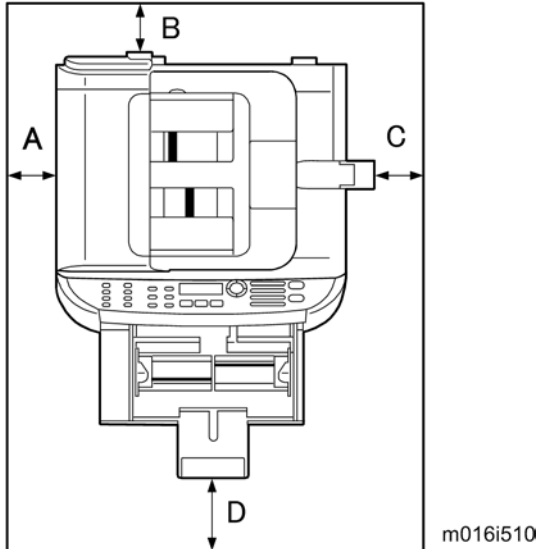
Front to back: Within 5 mm (0.2") of level

Right to left: Within 5 mm (0.2") of level

Installation Requirements

2.1.3 MACHINE SPACE REQUIREMENT

Put the machine near a power source with these clearances:



A: Over 10 cm (4")

B: Over 20 cm (7.9")

C: Over 20 cm (7.9")

D: Over 70 cm (27.6")

2.1.4 POWER REQUIREMENTS

⚠ CAUTION

- Make sure that the plug is tightly in the outlet.
- Avoid multi-wiring.
- Make sure that you ground the machine.

Input voltage level	NA: 120 V, TW: 110 V, 60 Hz: Less than 10 A EU/ Asia/ CHN: 220 V to 240 V, 50 Hz/60 Hz: Less than 5 A
Permitted voltage fluctuation: 10%	
Do not set anything on the power cord.	

2.1.5 INSTALLATION PROCEDURE

Refer to the "User Guide".

PREVENTIVE MAINTENANCE

REVISION HISTORY		
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		None

3. PREVENTIVE MAINTENANCE

3.1 PM INTERVALS

3.1.1 PM PARTS

There are no PM parts in this machine.

Note

- Other than the three Yield Parts listed below, there are essentially no PM parts required for this product.
- These three items will need to be replaced in cases where their yield is near, however, given the ACV (Average Copy Volume) for this product, these "yield parts"^{*1} are expected to outlast the working life of the machine.

^{*1} **"Yield Parts"**: Parts whose expected yield is longer than the machine lifetime when taking into consideration the machine's ACV.

Description	Expected Yield	Q'ty/unit
Paper Feed Roller	120 K prints	1
Transfer Roller	120 K prints	1
Fusing Unit	120 K prints	1

3.1.2 YIELD COUNTER

Yield counters for each yield part can be checked by the following methods.

Configuration Page

Cartridge & Parts Information

Print Cartridge : ■■■■■■
 Fuser Unit : ■■■■■■
 Transfer Roller : ■■■■■■
 Paper Feed Roller : ■■■■■■

m016s115

These yield counters are printed under the supplies Info on the "Configuration Page" as shown above.

Preventive Maintenance

PM Intervals

Web Image Monitor

The screenshot shows the Ricoh Aficio SP 3410SF Web Image Monitor interface. The page is titled "Home" and includes a navigation menu on the left with options like "Machine Settings", "Scan Destination", and "Admin Settings". The main content area is divided into tabs: "Status", "Counter", and "Machine Information". The "Counter" tab is selected, displaying "Print Cartridge & Replaceable Parts Information". This section includes a table with the following data:

Component	Yield Counter	Status
Black Toner	0 / 50 / 100 (Remaining Level 5)	Remaining Level 5
Fuser Unit	0 / 50 / 100 (Status OK)	Status OK
Transfer Roller Unit	0 / 50 / 100 (Status OK)	Status OK
Paper Feed Roller Unit	0 / 50 / 100 (Status OK)	Status OK

Below this is the "Paper Tray" section, which shows the status of Tray 1 and the Bypass Tray. Tray 1 is "Status OK" with "Letter" paper and "Plain Paper" type. The Bypass Tray is "Out of Paper" with "Letter" paper and "Plain Paper" type.

m016s116

These yield counters are displayed under the "Toner" on the "Status" page as shown above.

Note

- The machine displays "Life End Feed Roller", "Life End Transfer Roller" or "Life End Fuser Unit" when one of these counters reaches each yield.

Counter Reset

The process below shows how to reset the yield counters.

1. Enter the "Maintenance Mode".
2. Select "Engine Maintenance", and then press "OK" key.
3. Select "Reset Fusing Unit Life", "Reset Transfer Roller Life" or "Reset Paper Feed Life" and then press "OK" key.
4. Select "Execute" and then press "OK" key.
5. Exit the "Maintenance Mode".

REPLACEMENT AND ADJUSTMENT

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

4. REPLACEMENT AND ADJUSTMENT

4.1 BEFORE YOU START

CAUTION

- If there are printer jobs in the machine, print out all jobs in the printer buffer.
- Turn off the main power switch and unplug the machine before you do the procedures in this section.

4.2 SPECIAL TOOLS

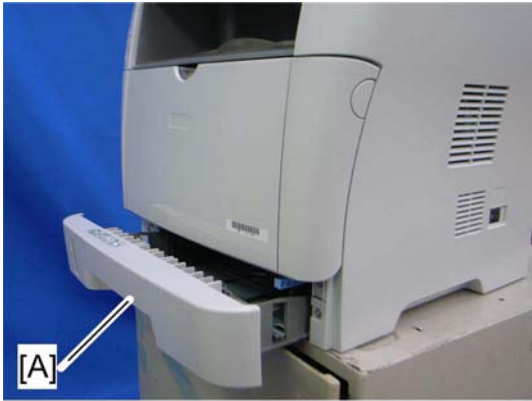
- PC: Windows 2000/XP/Vista, Windows Server 2003/2003 R2, 2008.
- USB or network cable



- A computer is necessary to update the firmware.

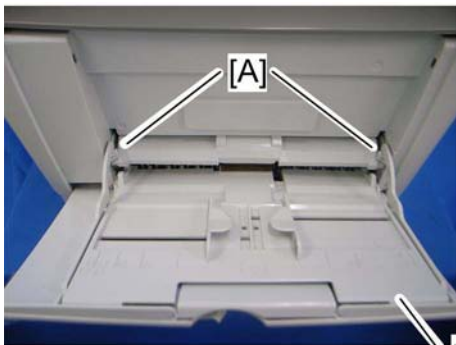
4.3 EXTERIOR COVERS

4.3.1 FRONT COVER



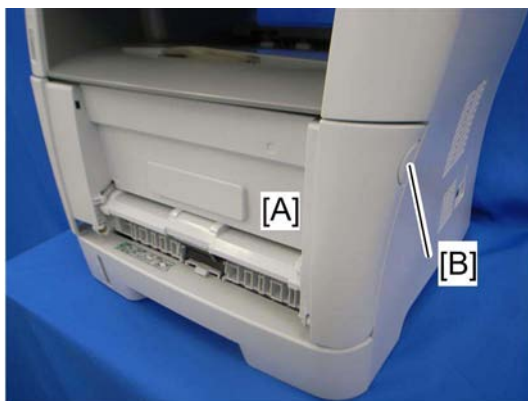
m016i501

1. Pull out the standard paper tray [A].



m016i511

2. Remove two tabs [A].
3. Pull out the bypass tray [B].



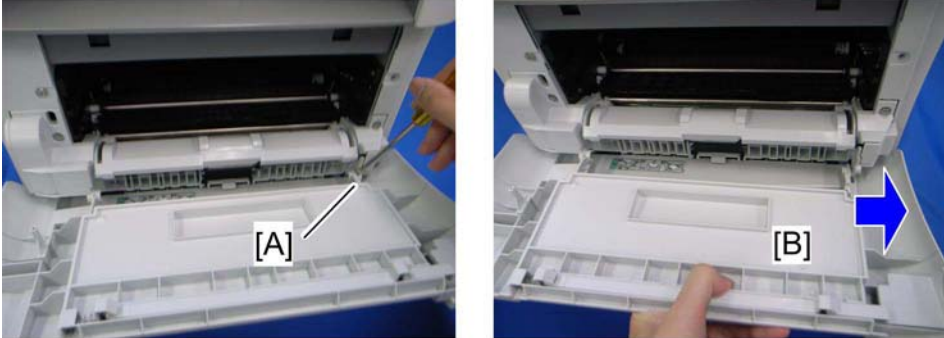
m016r693

4. Open the front cover [A].

Exterior Covers



- To open the front cover, push the cover release button [B] and (carefully) pull the cover forward and open (it hinges downward).

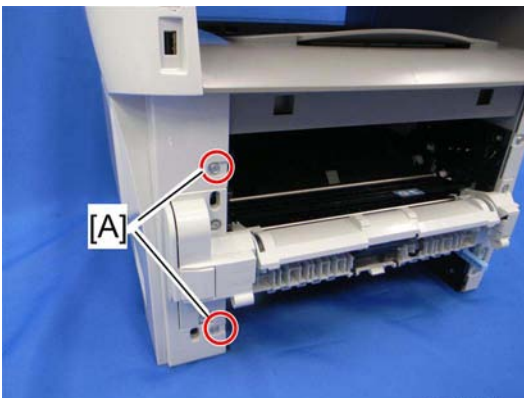


m016r692

5. Push the right hinge [A] to release.
6. Front cover [B]

4.3.2 LEFT COVER

1. Front cover (☛ p.4-3)



m016i502b

2. Remove two screws [A] on the left cover.



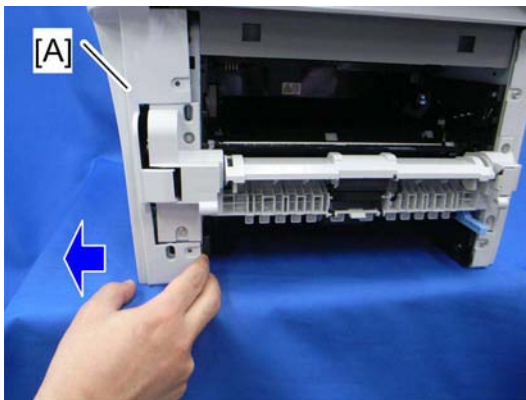
m016r688

3. Pull the front upper part [A] of the left cover (as shown above) to release the hooks.



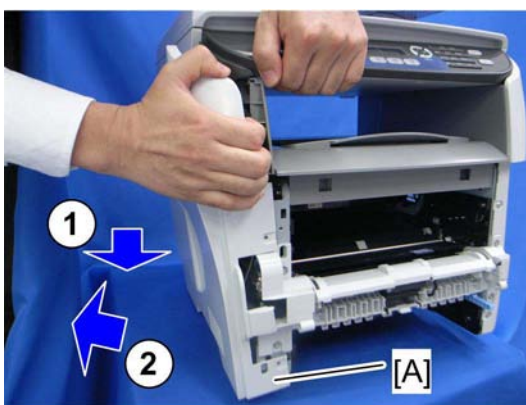
m016r689

4. Pull the rear upper part [A] of the left cover (as shown above) to release the hooks.



m016r690

5. Pull the front bottom part of the left cover [A] (as shown above) to release the hooks.

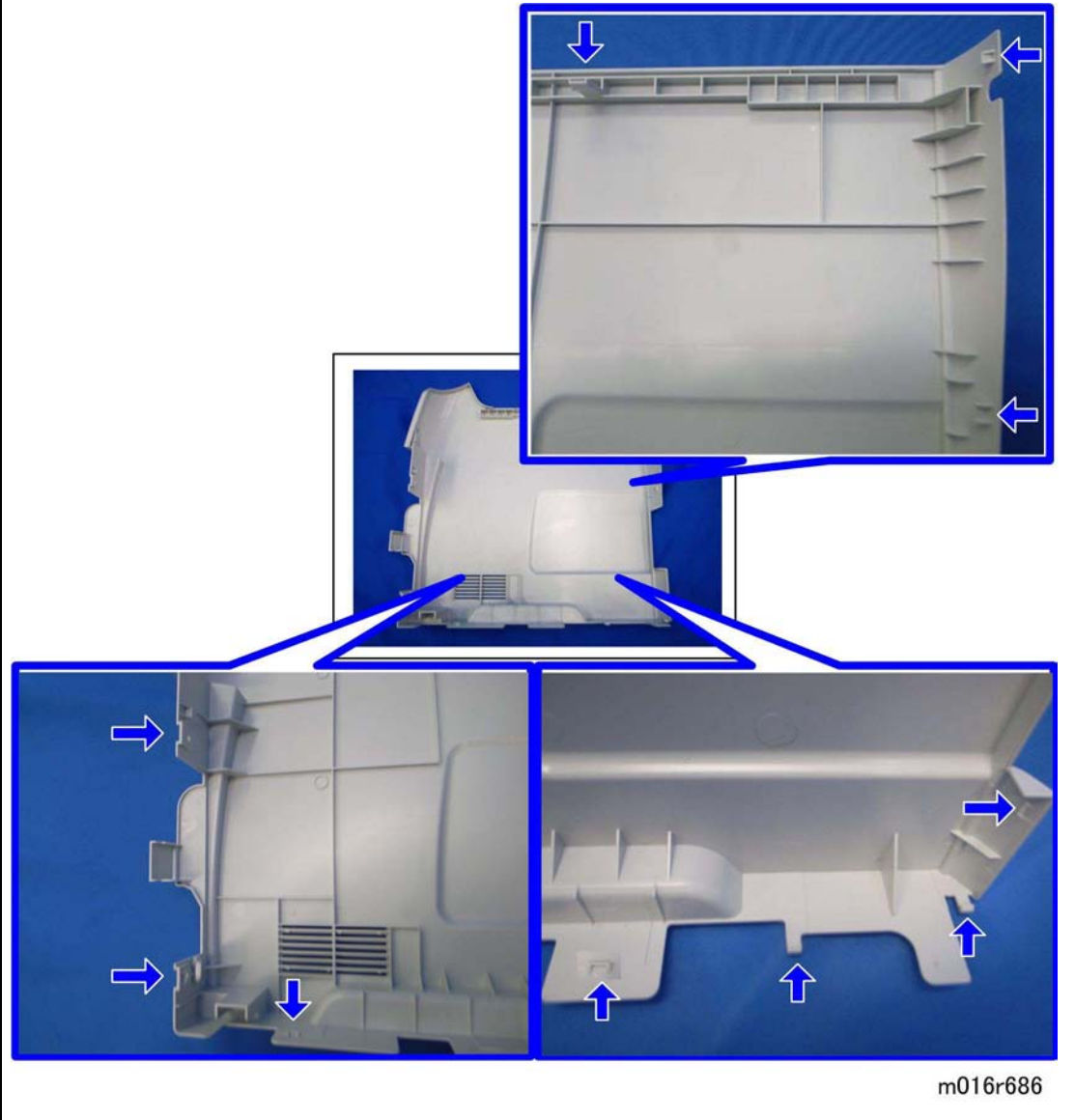


m016r691

6. Remove the Left cover [A] as shown above.
 - There are many hooks and tabs inside the left cover. See the images below in the Note section before removing the left cover.

Exterior Covers

NOTE:



4.3.3 REAR COVER

1. Front cover (☛ p.4-3)
2. Left cover (☛ p.4-4)

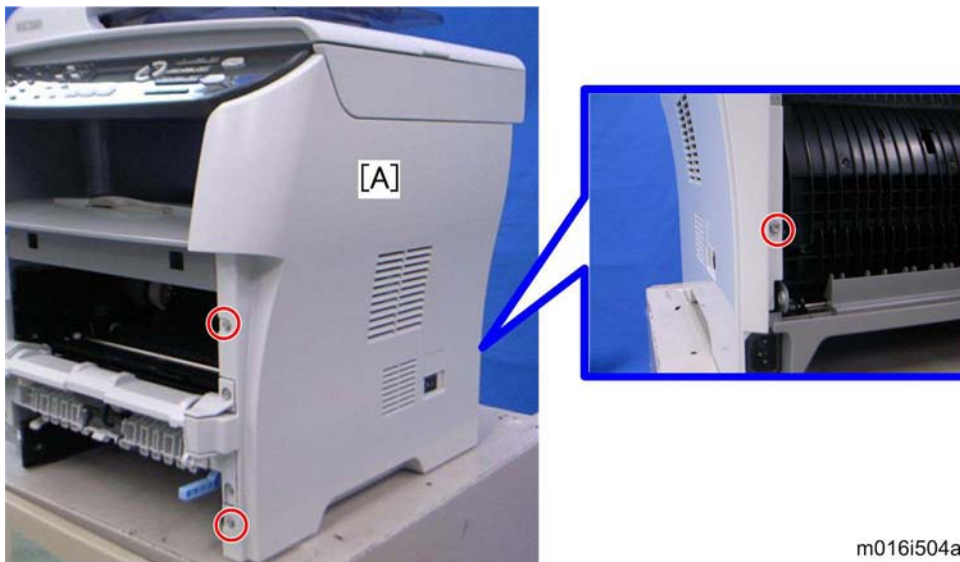


m016i503

3. Open the rear cover [A]
4. Slide the shaft [B] in the direction of the blue arrow, and remove the rear cover [A].

4.3.4 RIGHT COVER

1. Front cover (☛ p.4-3)
2. Rear cover (☛ p.4-7)

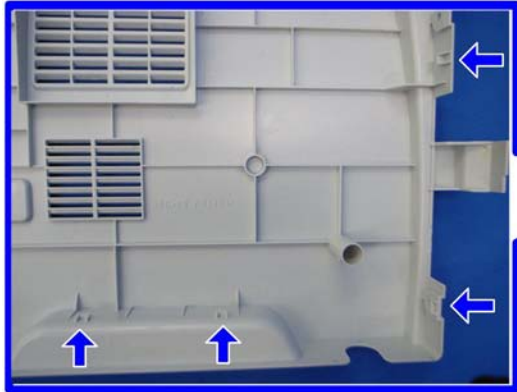


m016i504a

3. Right cover [A] (☛ x 3, hook at arrow mark)
 - There are many hooks and tabs inside the right cover. See the images below in the Note section before removing the right cover.

Exterior Covers

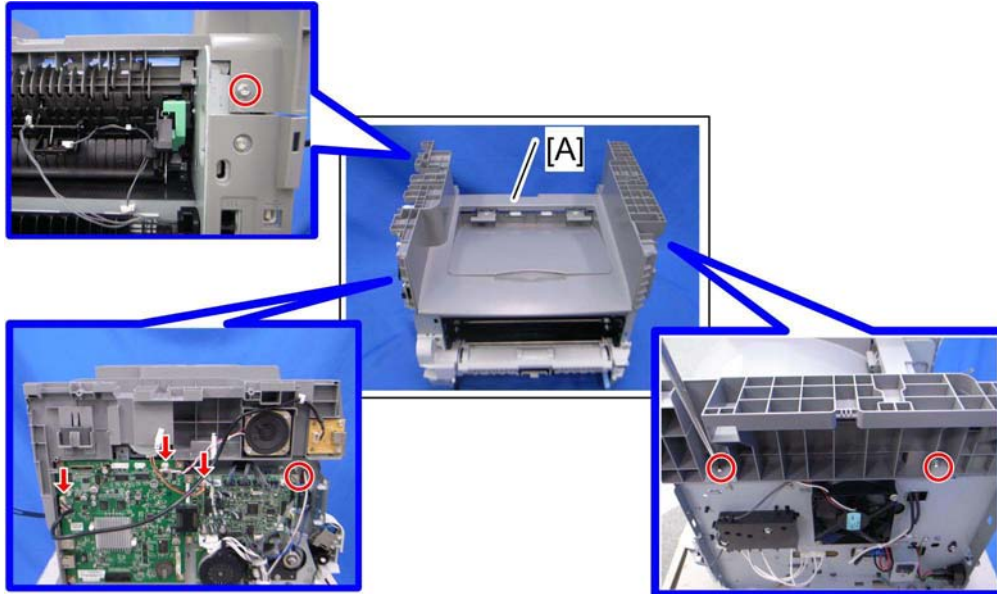
NOTE:



m016r687

4.3.5 TOP COVER

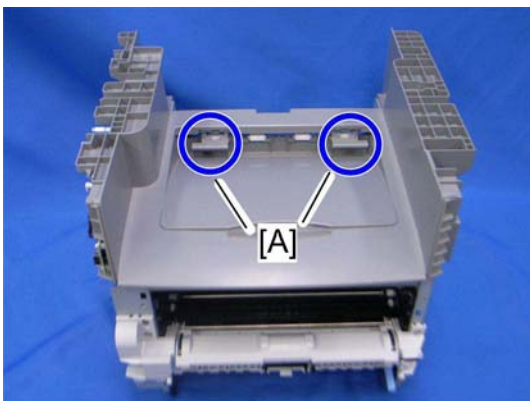
1. Front cover (☛ p.4-3)
2. Left cover (☛ p.4-4)
3. Rear cover (☛ p.4-7)
4. Scanner unit (☛ p.4-21)



m016i506

5. Top cover [A] (☛ x 3, ☛ x 4)

When installing the top cover



m016r685

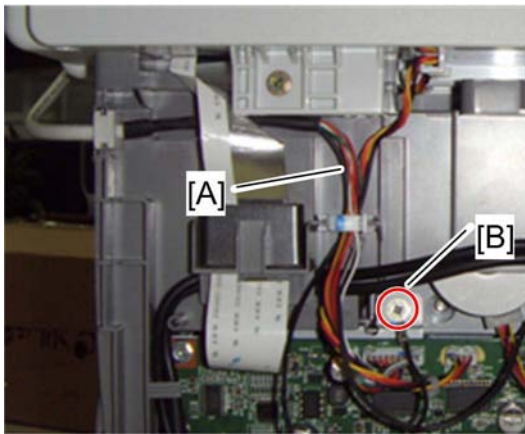
Exterior Covers

- When re-installing the top cover, always verify that the two paperweights [A] are lifted. If they are not lifted to fit into the paper slot, the paperweights [A] could be damaged.
- Make sure that these paperweights [A] can be moved smoothly (up and down) after installing the top cover. If these paperweights do not move smoothly, try installing the top cover again.

4.4 ADF

4.4.1 ADF UNIT

1. Left cover (☞ p.4-4)



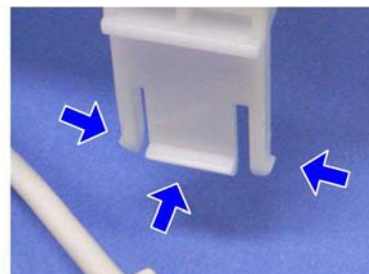
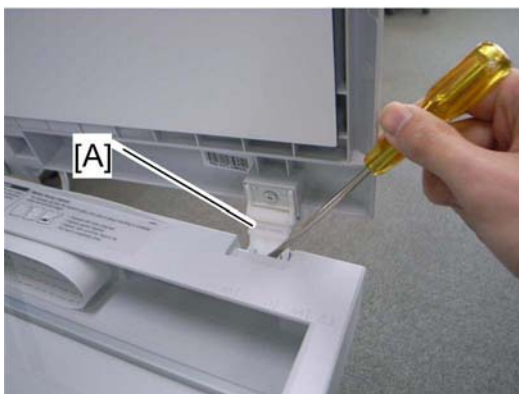
m016r100

2. Disconnect the ADF harness [A] and ground-wire [B] (☞ x 1).



m016r674

3. Open the ADF unit [A]



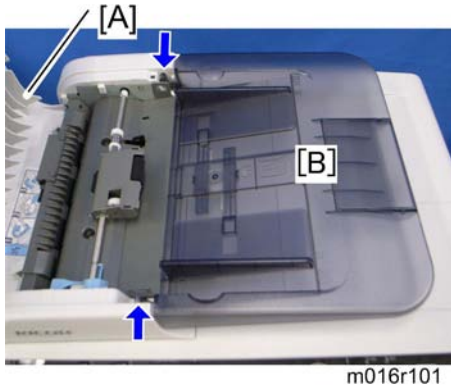
m016r675

4. Release the three hooks of the right hinge [A] with a screw driver, as shown above.

ADF

5. Lift the ADF unit.

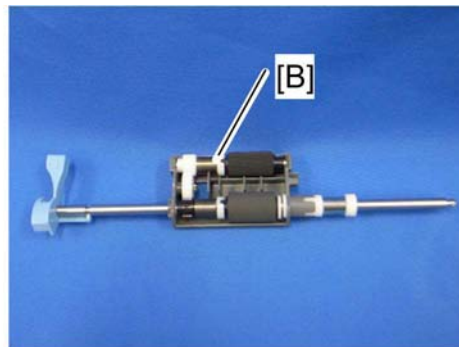
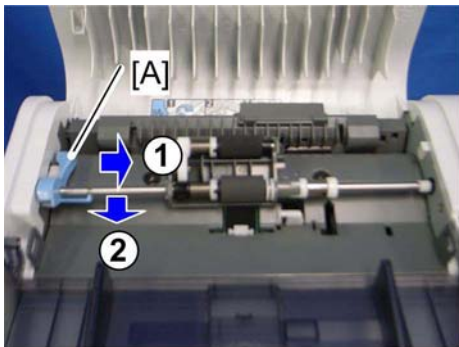
4.4.2 ORIGINAL TRAY



1. Open the ADF cover [A].
2. Original tray [B] (Two tabs)

4.4.3 ADF FEED UNIT

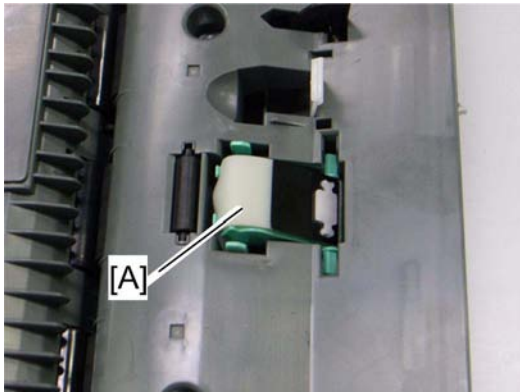
1. Open the ADF cover.



2. Release the lock lever [A]
3. ADF feed unit [B]

4.4.4 ADF SEPARATION PAD

1. Open the ADF cover.
2. ADF feed unit (☞ p.4-12)

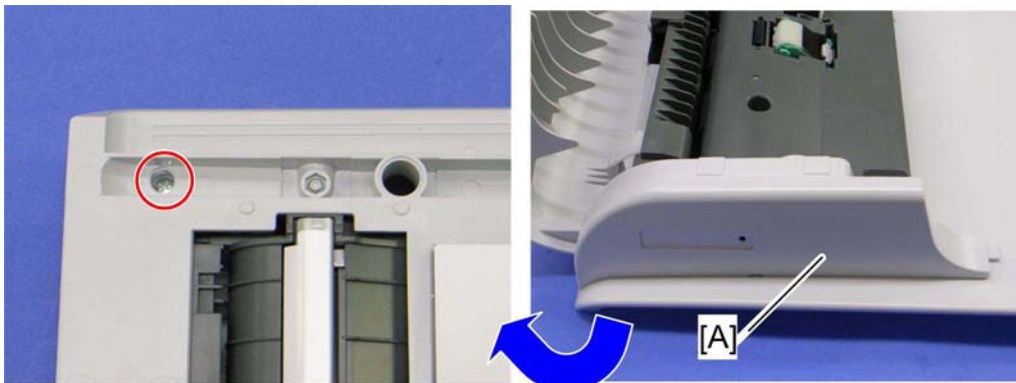


m018r661

3. ADF separation pad [A] (hook x 2, spring x 1)

4.4.5 ADF FRONT COVER

1. ADF unit (☞ p.4-11)
2. Original Tray (☞ p.4-12)
3. ADF feed unit (☞ p.4-12)



m018r663

m018r662

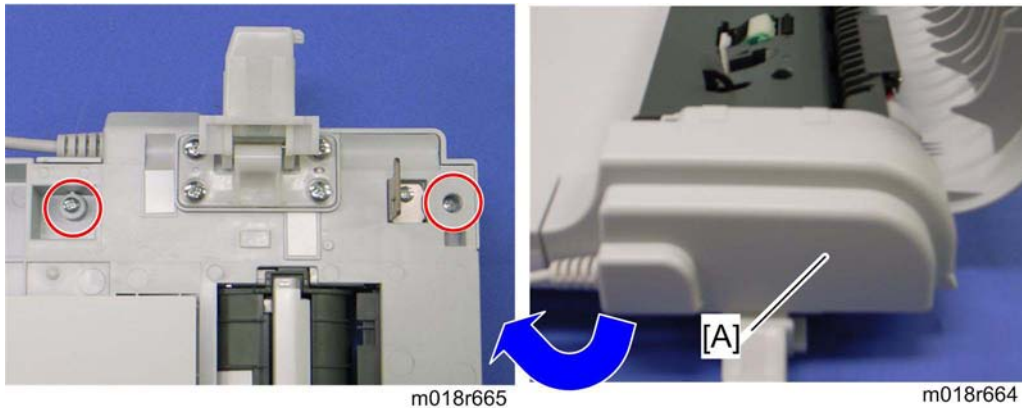
4. ADF front cover [A] (☞ x 1)

Replacement and Adjustment

ADF

4.4.6 ADF REAR COVER

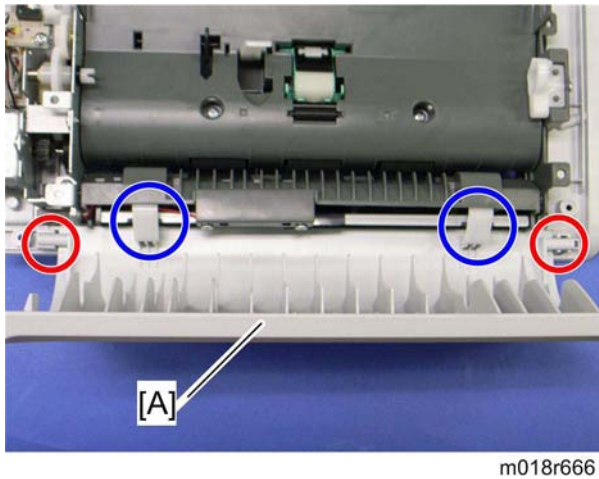
1. ADF unit (☞ p.4-11)
2. Original Tray (☞ p.4-12)
3. ADF feed unit (☞ p.4-12)



4. ADF rear cover [A] (☞ x 2)

4.4.7 ADF COVER

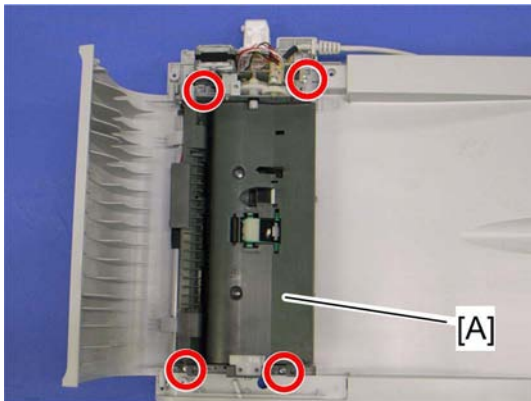
1. ADF unit (☞ p.4-11)
2. ADF front cover (☞ p.4-13)
3. ADF rear cover (☞ p.4-14)



4. ADF top cover [A] (two tabs, two hooks)

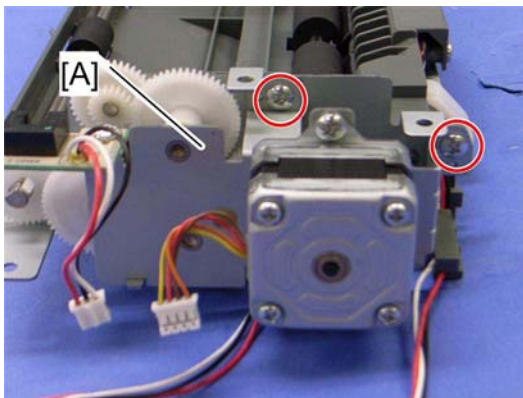
4.4.8 ADF MOTOR

1. ADF unit (☞ p.4-11)
2. Original Tray (☞ p.4-12)
3. ADF feed unit (☞ p.4-12)
4. ADF front cover (☞ p.4-13)
5. ADF rear cover (☞ p.4-14)



m018r667

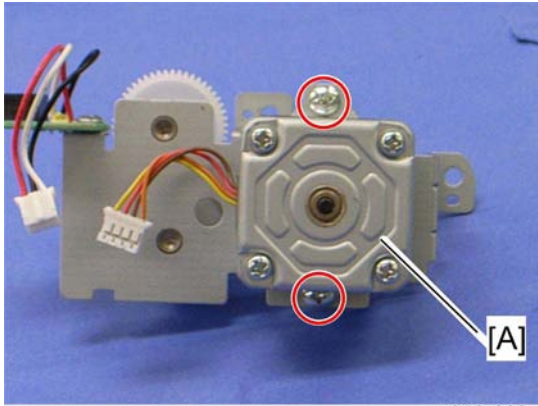
6. ADF drive unit [A] (☞ x 4, all ☞s)



m016r668

ADF

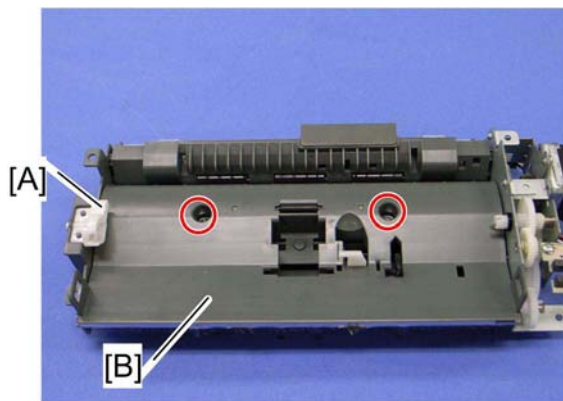
7. ADF motor assembly [A] (🔩 x 2)



8. ADF motor [A] (🔩 x 2)

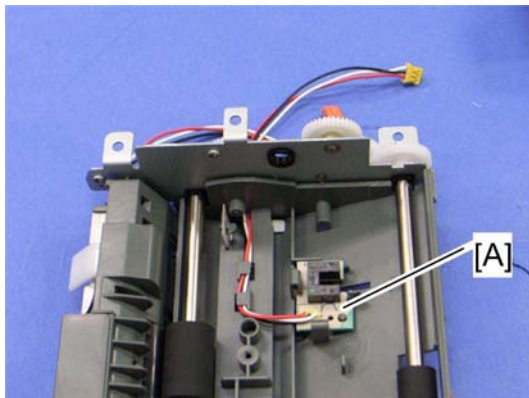
4.4.9 ORIGINAL SET SENSOR

1. ADF unit (☞ p.4-11)
2. ADF feed unit (☞ p.4-12)
3. ADF motor assembly (☞ p.4-15)



m018r670

4. Feed roller holder [A] (☞ x 1)
5. Upper guide [B] (☞ x 2)



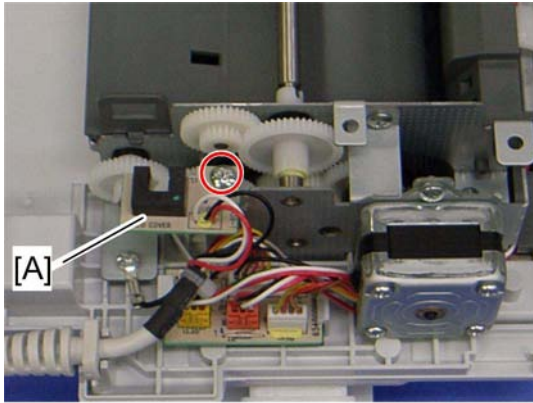
m016r671

6. Original set sensor [A] (hooks)

ADF

4.4.10 ADF COVER OPEN SENSOR

1. Original tray (🔗 p.4-12)
2. ADF rear cover (🔗 p.4-14)

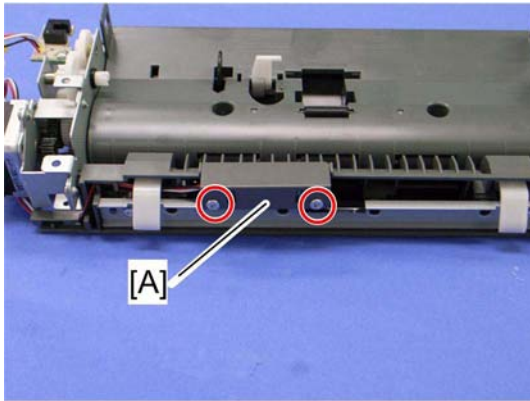


m018r679

3. ADF cover open sensor [A] (🔗 x 1, 📁 x 1)

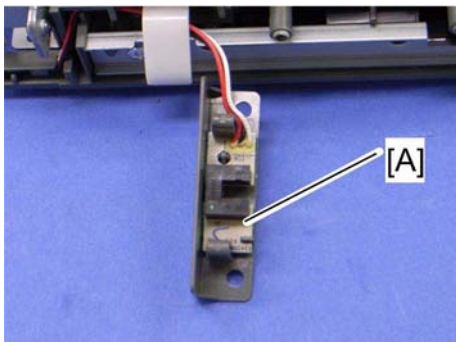
4.4.11 ADF FEED SENSOR

1. ADF unit (☞ p.4-11)
2. ADF feed unit (☞ p.4-12)



m018r680

3. Sensor cover [A] (☞ x 2)



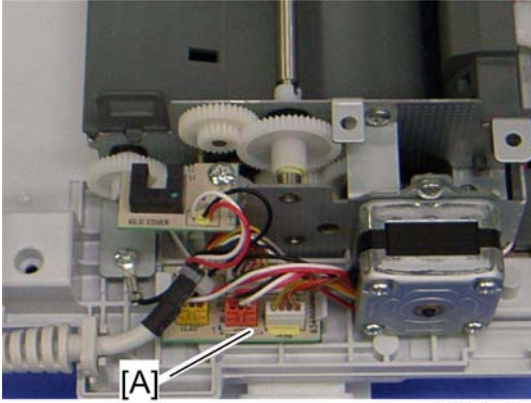
m016r681

4. ADF feed sensor [A] (hooks, ☞ x 1)

ADF

4.4.12 ADF DRIVE BOARD

1. Original tray (☛ p.4-12)
2. ADF rear cover (☛ p.4-14)

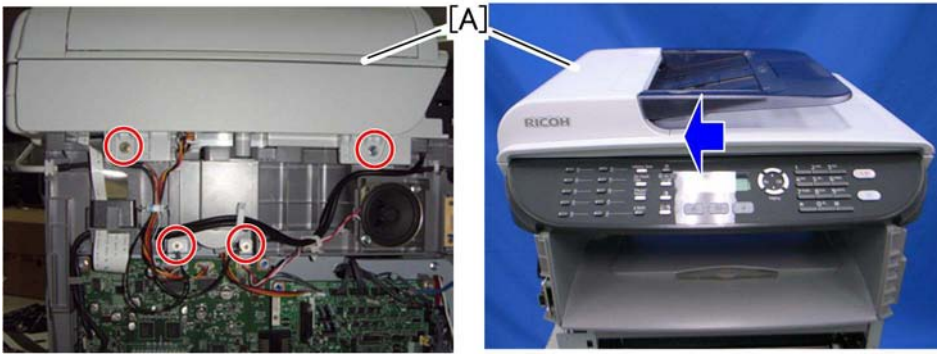


m018r679a

3. ADF drive board [A] (no screws, all plugs (☛)s and hooks)

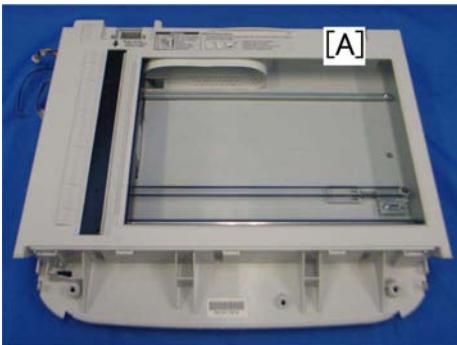
4.5 SCANNER UNIT

1. Front cover (☞ p.4-3)
2. Left cover (☞ p.4-4)
3. Rear cover (☞ p.4-7)



m016r505

4. Slide the scanner unit [A] in the direction of the blue arrow, and remove it (☞ x 4, ground cable x 2, flat cable x 1, ☞ x 3, ☞ x 3).
5. ADF unit (☞ p.4-11)
6. Operation Panel (☞ p.4-22)



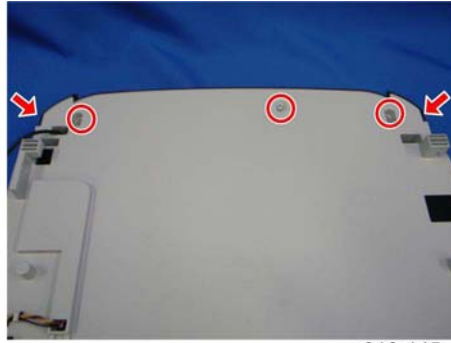
m016r103

7. Scanner Unit [A]

Scanner Unit

4.5.1 OPERATION PANEL

1. Scanner unit (☛ p.4-21)
2. ADF unit (☛ p.4-11)

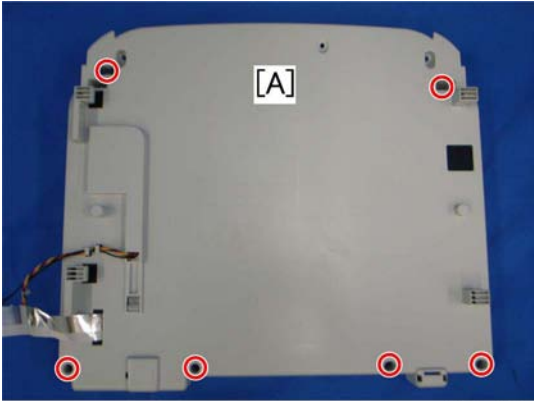


m016r145

3. Turn the scanner unit over.
4. Operation panel [A] (☛ x 3, hooks)

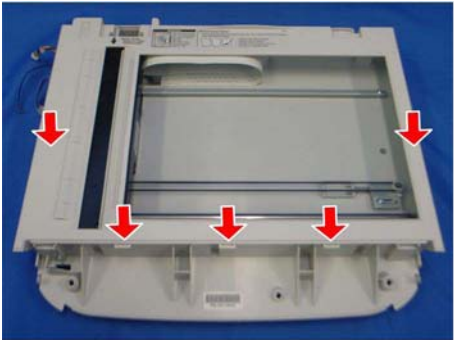
4.5.2 SCANNER TOP COVER

- 1. Scanner unit (☛ p.4-21)
- 2. Turn the scanner unit over.



m016r104

- 3. Remove the six screws on the bottom of the scanner base [A].



m016r105

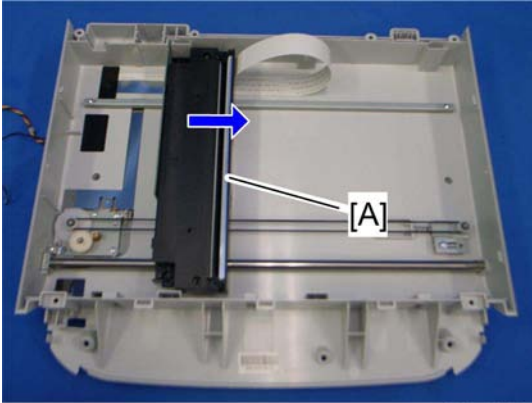
- 4. Scanner top cover [A] (hooks)

Replacement
and
Adjustment

Scanner Unit

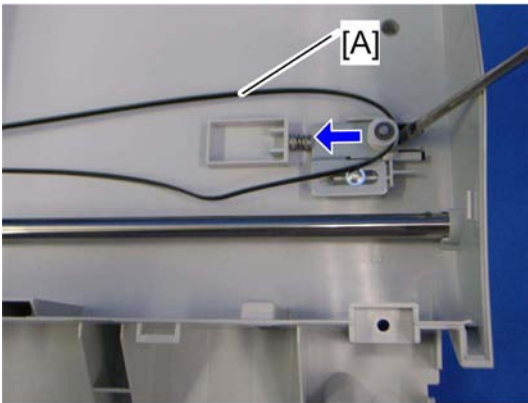
4.5.3 SCANNER CARRIAGE UNIT

1. Scanner unit (☞ p.4-21)
2. Scanner top cover (☞ p.4-23)



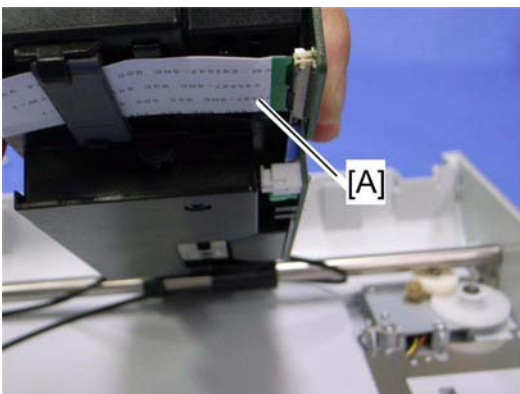
m016r106

3. Slide the scanner carriage unit [A] to the right side.



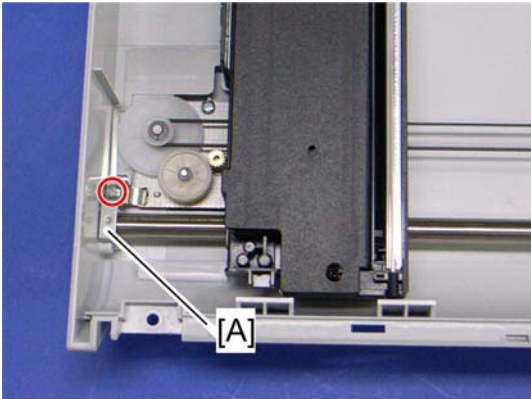
m016r107

4. Loosen the timing belt [A] as shown above, and remove it.



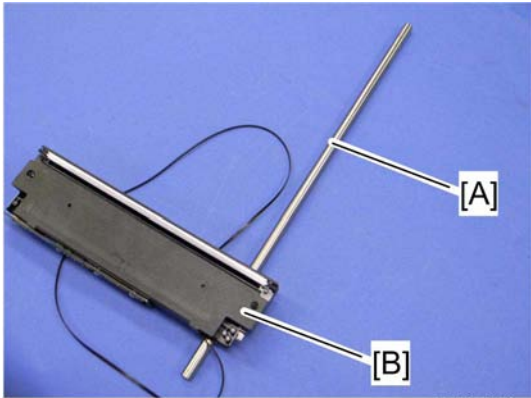
m016r644

5. Remove the flat cable [A] from the scanner carriage unit.



m016r645

- 6. Bar holder [A] (x 1)



m016r646

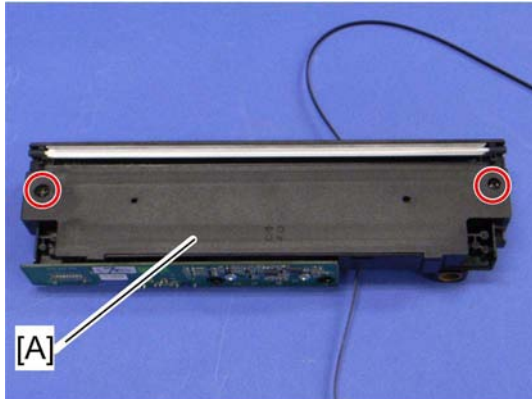
- 7. Carriage bar [A] and scanner carriage unit [B]

Replacement
and
Adjustment

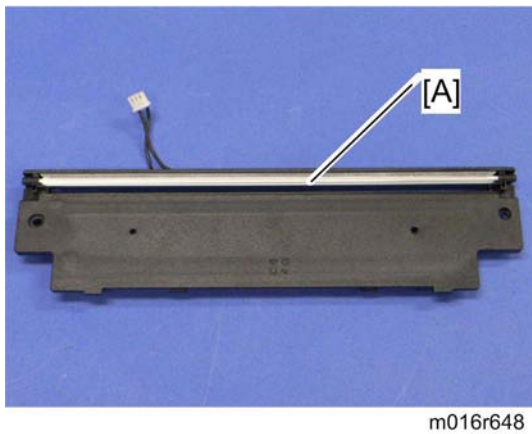
Scanner Unit

4.5.4 EXPOSURE LAMP

1. Scanner carriage unit (☛ p.4-24)

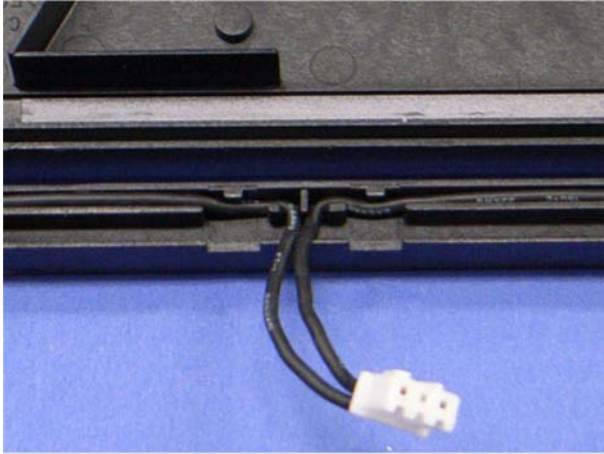


2. Carriage top cover [A] (☛ x 2, ☛ x 1)



3. Exposure lamp [A] (hooks)

When reinstalling the exposure lamp



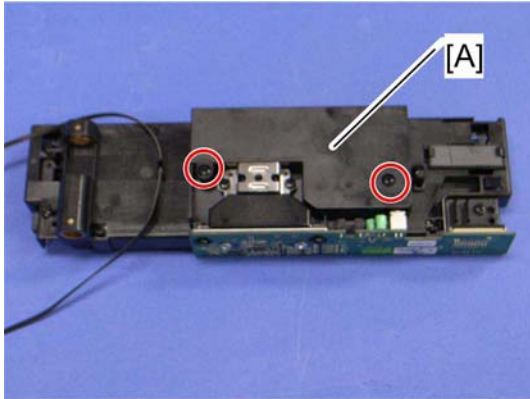
m016r649

Place the lamp cord wires as shown above. Otherwise, the top cover could pinch the lamp cords and damage them when reinstalling the top cover on the scanner carriage unit.

Scanner Unit

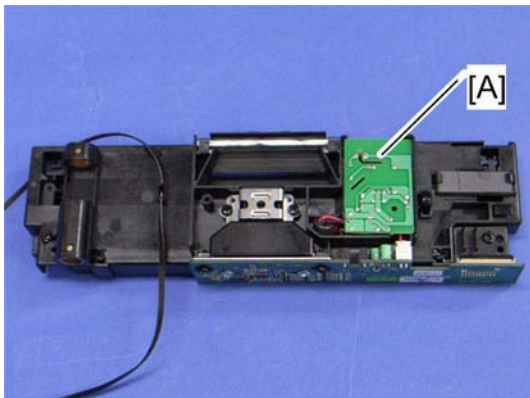
4.5.5 LAMP STABILIZER BOARD

1. Scanner carriage unit



m018r650

2. Carriage bottom cover [A] (🔩 x 2)

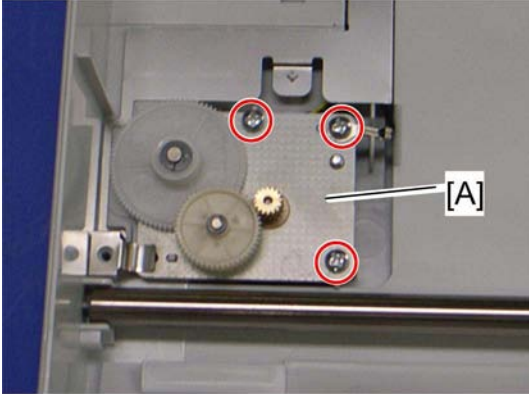


m016r651

3. Lamp stabilizer [A] (🔩 x 1)

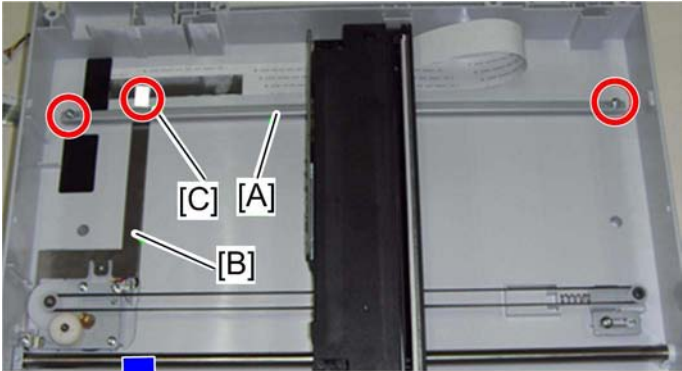
4.5.6 SCANNER MOTOR

- 1. Scanner carriage unit (☞ p.4-24)

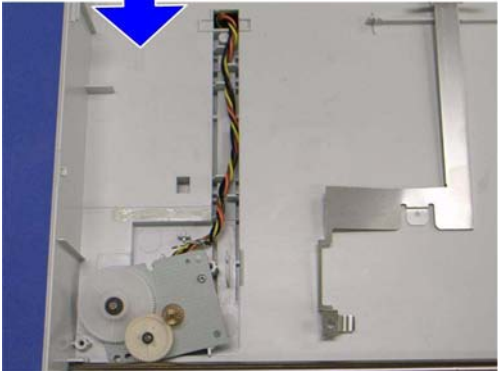


m018r652

- 2. Scanner motor [A] (☞ x 3)



m016r653



- 3. Carriage rail [A] (☞ x 2)
- 4. Ground plate [B] (double-sided tape)
- 5. Conductance tape [C]
- 6. Scanner motor

Replacement
and
Adjustment

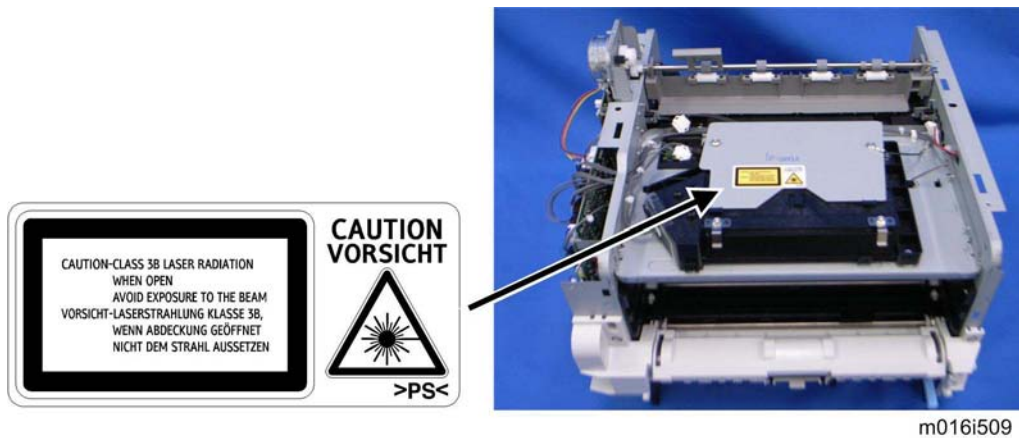
4.6 LASER UNIT

CAUTION

- Turn off the main power switch and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

4.6.1 CAUTION DECAL LOCATIONS

Caution decal is attached as shown below.

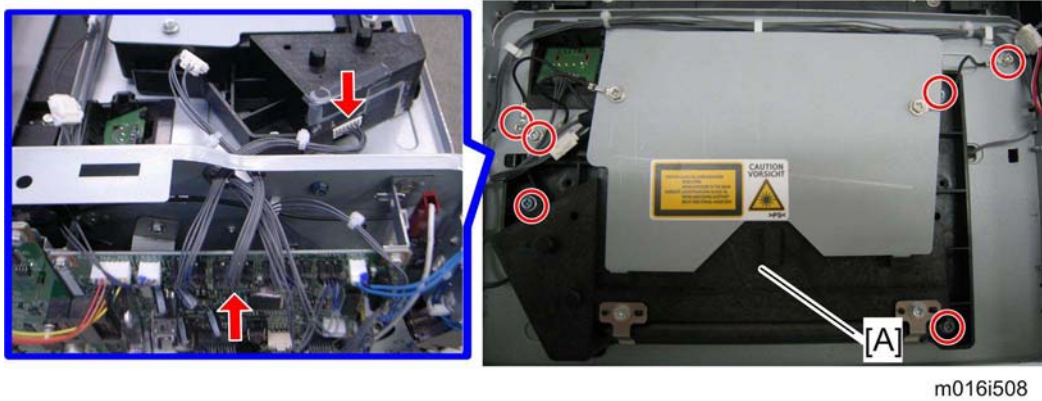


WARNING

- Be sure to turn off the main switch and disconnect the power plug from the power outlet before beginning any disassembly or adjustment of the laser unit. This machine uses a class IIIB laser beam with a wavelength of 648 to 663 nm and an output of 9 mW. The laser can cause serious eye injury.

4.6.2 LASER UNIT

1. Front cover (☞ p.4-3)
2. Left cover (☞ p.4-4)
3. Rear cover (☞ p.4-7)
4. Scanner unit (☞ p.4-21)
5. Top cover (☞ p.4-9)



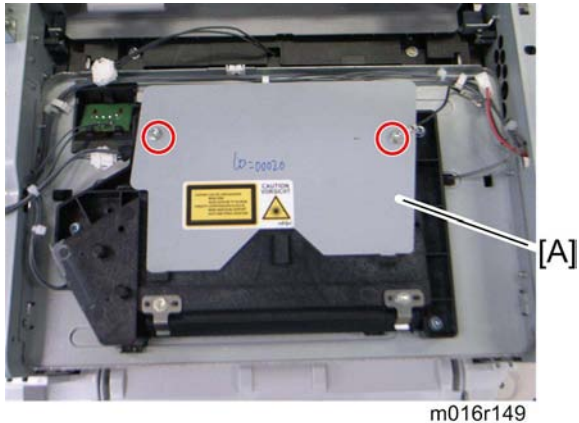
6. Laser unit [A] (☞ x 3, ground screw x 3, ☞ x 2)

4.6.3 POLYGON MIRROR MOTOR

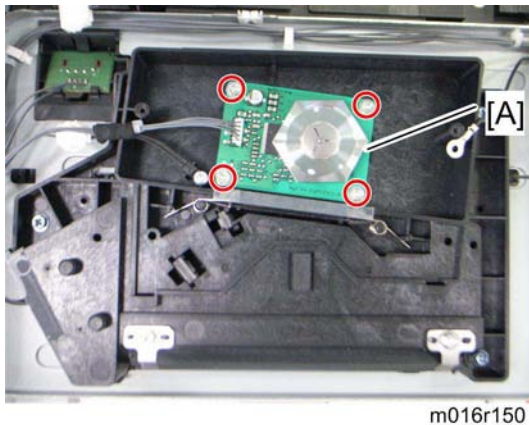
CAUTION

- Turn off the main switch and unplug the machine before attempting any of the procedures in this section. Laser beams can seriously damage your eyes.

1. Laser unit (🔧 p.4-31)



2. Polygon mirror cover [A] (🔧 x 2)



3. Polygon mirror motor [A] (🔧 x 4, 📦 x 1)

 Note

- Never touch the surface of the mirror with bare hands.

4.7 PAPER FEED AND EXIT

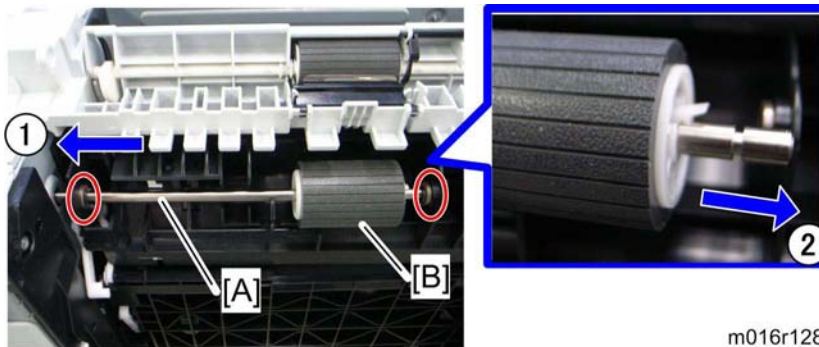
4.7.1 PAPER FEED ROLLER

1. Pull out the standard paper tray.
2. Remove the AIO.



m016r127

3. Set the machine with the rear side facing down, resting on the table.



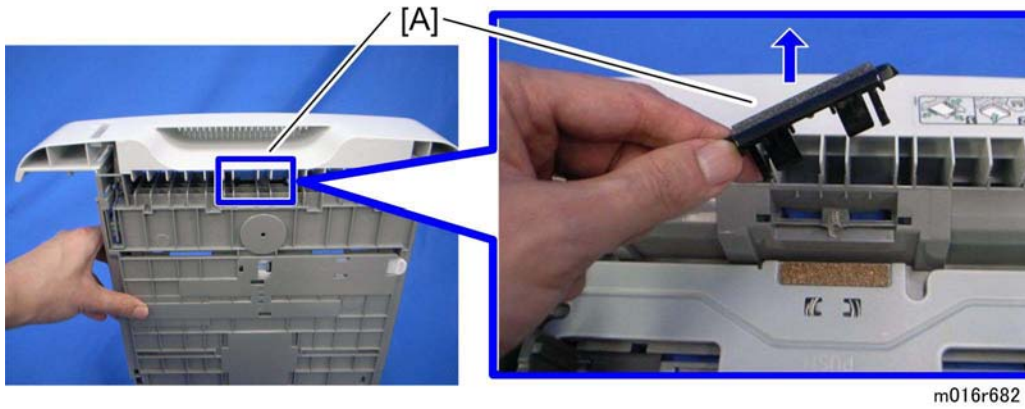
m016r128

4. Slide the paper feed shaft [A] to the left side (☞ x 2).
5. Slide the paper feed roller [B] to right side, and remove it (hook).

After installing a new paper feed roller

1. Enter the "Maintenance Mode".
2. Select "Engine Maintenance", and then press "OK" key.
3. Select "Reset Paper Feed Life" and then press "OK" key.
4. Select "Execute" and then press "OK" key.

4.7.2 FRICTION PAD

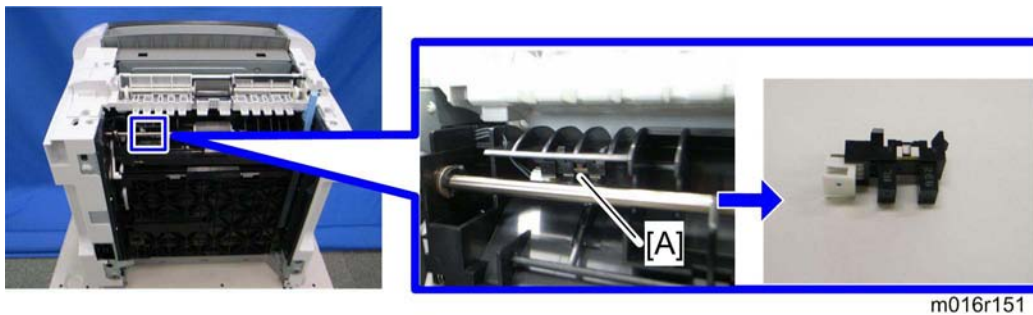



1. Remove the paper tray unit from the machine before removing the friction pad.
2. Friction pad [A] (2 hooks, 1 spring)

When reinstalling the friction pad follow this order:

1. Replace the spring.
2. Insert the right side of the friction pad first, followed by the left side.
3. Gently push the friction pad down into the slot and then pull forward very slightly.

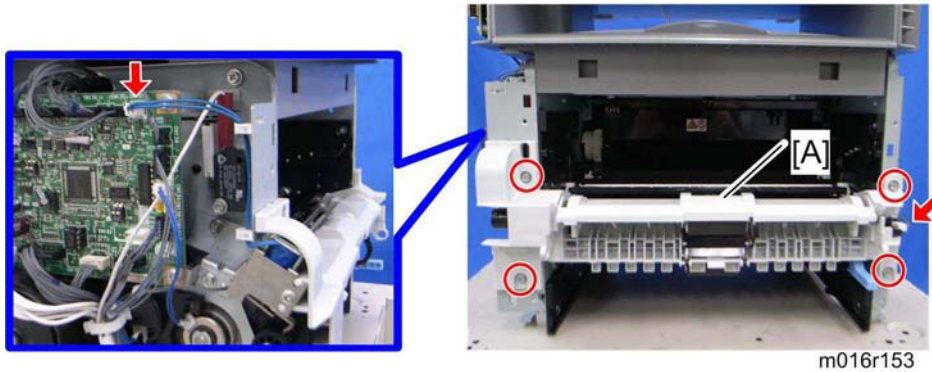
4.7.3 PAPER END SENSOR



1. Set the machine with the rear side facing down, resting on the table.
2. Paper end sensor [A] (hooks,  x 1)

4.7.4 BY-PASS FEED ROLLER

1. Front cover (☛ p.4-3)
2. Left cover (☛ p.4-4)
3. Right cover (☛ p.4-7)
4. Pull out the paper tray.

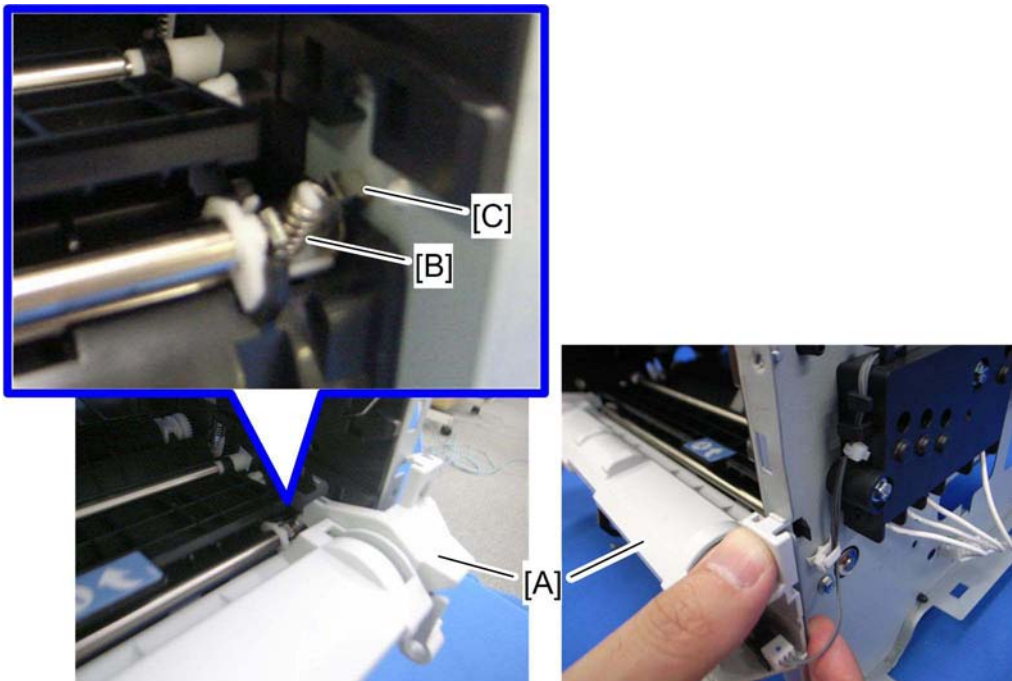


m016r153

5. By-pass lower guide plate [A] (☛ x 4, ☛ x 2)

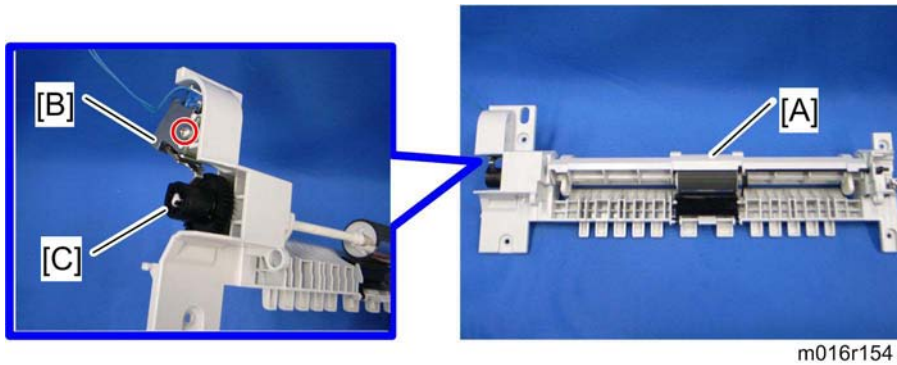
NOTE:

- Reinstall the by-pass lower guide plate [A] while pressing the spring [B].
- Be careful for the spring [B] and the ground plate [C] not to fall inside the machine during reinstallation.

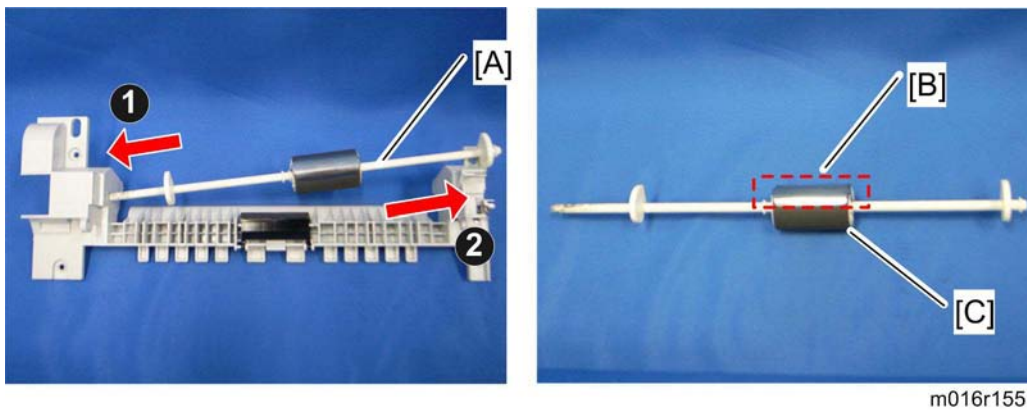


m016r703

Paper Feed and Exit



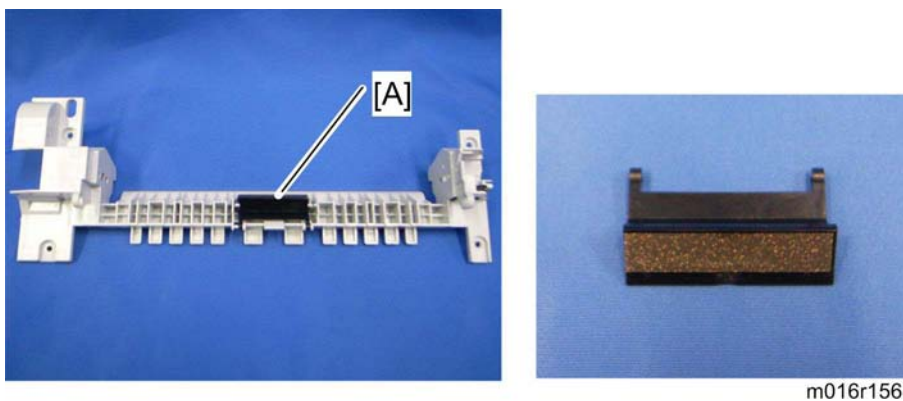
6. By-pass upper guide plate [A] (hooks)
7. By-pass solenoid cover, by-pass solenoid [B] (⚙ x 1)
8. Gear [C] (hook)



9. Slide the by-pass feed roller shaft [A] to the left side, and remove it.
10. Remove the metal cover [B] from the by-pass feed roller [C].

4.7.5 BY-PASS FEED ROLLER FRICTION PAD

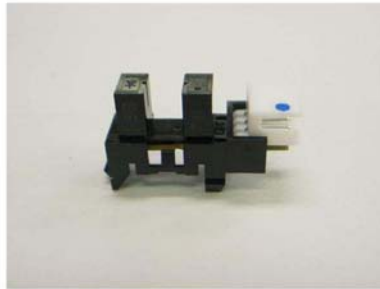
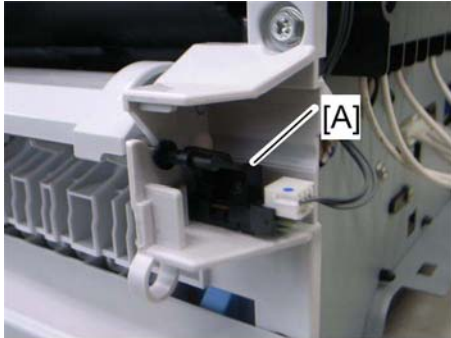
1. By-pass feed roller (⚙ p.4-35)



2. By-pass feed roller friction pad [A] (hooks, spring x 1)

4.7.6 BY-PASS FEED SENSOR

1. Front cover (☞ p.4-3)
2. Right cover (☞ p.4-7)

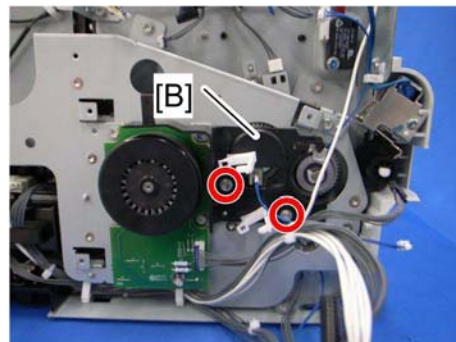
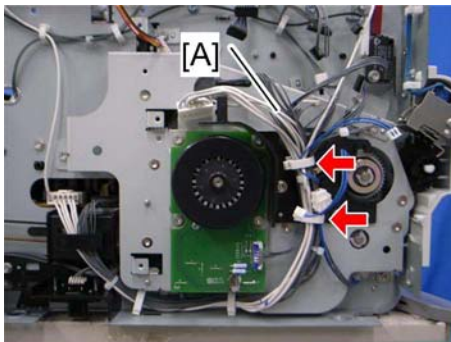


m016r152

3. By-pass feed sensor [A] (hooks, ☞ x 1)

4.7.7 PAPER FEED CLUTCH

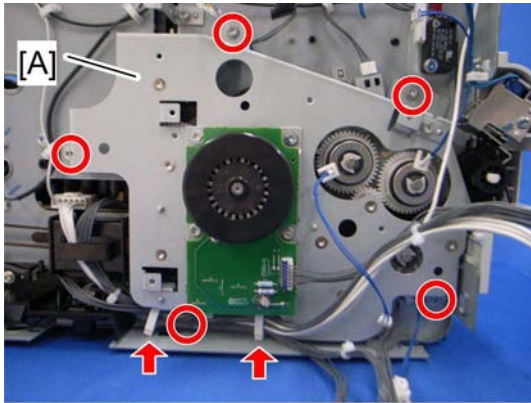
1. Top cover (☞ p.4-9)
2. Scanner unit (☞ p.4-21)
3. ECB (☞ p.4-57)
4. Controller board (☞ p.4-58)
5. FCU (☞ p.4-59)



m016r109

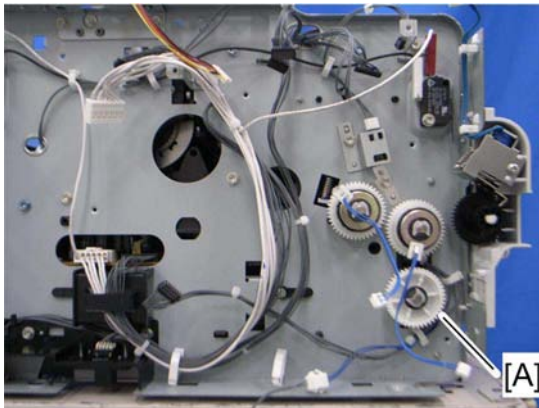
6. Release all harnesses [A] from the clamps.
7. Harness guide plate [B] (☞ x 2)

Paper Feed and Exit



m016r704

8. Drive unit [A] (⚙️ x 5, 📌 x 1, 📌 x 2, timing belt)

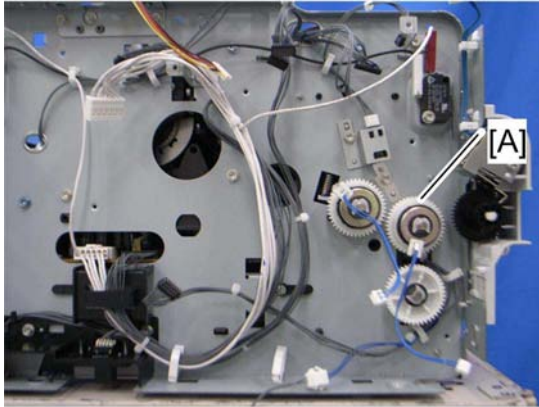


m016r113

9. Paper feed clutch [A] (📌 x 1, 📌 x 1)

4.7.8 RELAY CLUTCH

1. Drive unit (☛ p.4-37 "Paper Feed Clutch")

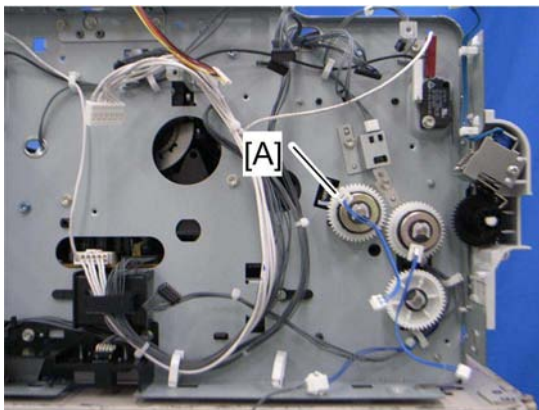


m016r111

2. Relay clutch [A] (☞ x 1)

4.7.9 REGISTRATION CLUTCH

1. Drive unit (☛ p.4-37 "Paper Feed Clutch")

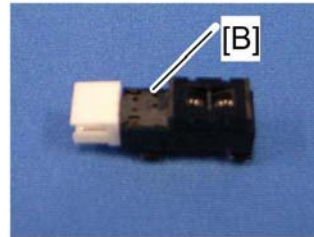
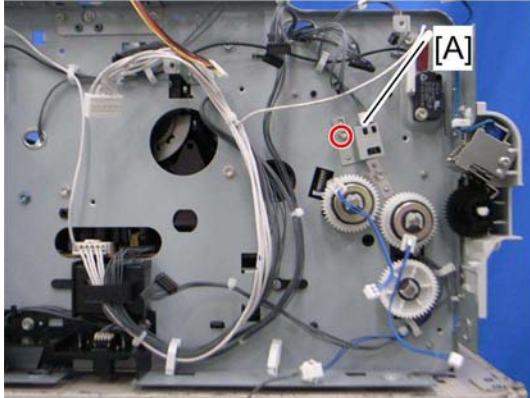


m016r112

2. Registration clutch [A] (☞ x 1)

4.7.10 TONER END SENSOR

1. Drive unit (☞ p.4-37 "Paper Feed Clutch")

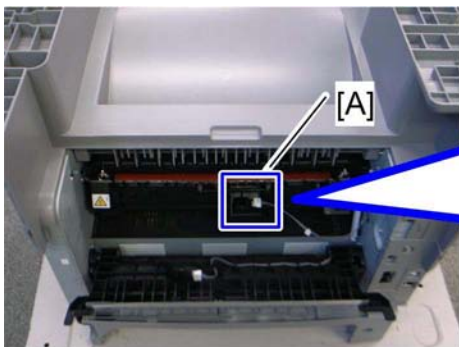


m016r147

2. Reflective sensor with bracket [A] (☞ x 1)
3. Reflective sensor [B]

4.7.11 PAPER EXIT SENSOR

1. Rear cover (☞ p.4-7)

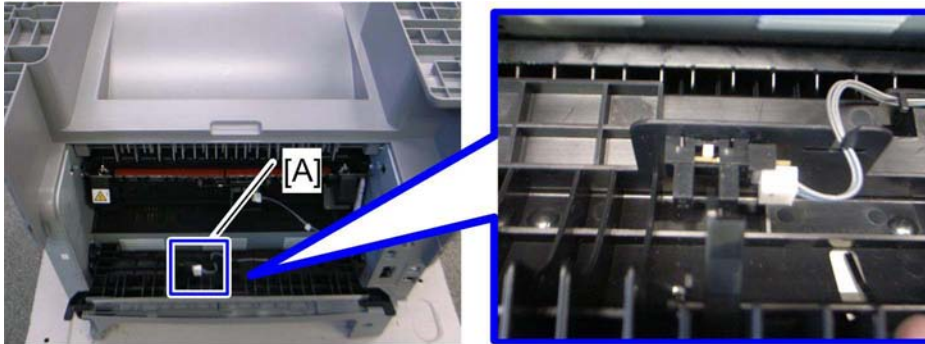


m016r158

2. Paper exit sensor [A] (☞ x 1, hooks)

4.7.12 RELAY SENSOR

1. Rear cover (☛ p.4-7)

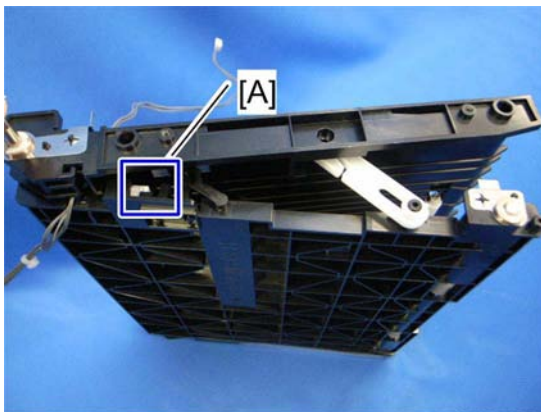


m016r159

2. Relay sensor [A] (☛ x 1, hooks)

4.7.13 INVERTER SENSOR

1. Duplex transport guide (☛ p.4-61 "PSU")



m016r160

2. Inverter sensor [A] (☛ x 1, hooks)

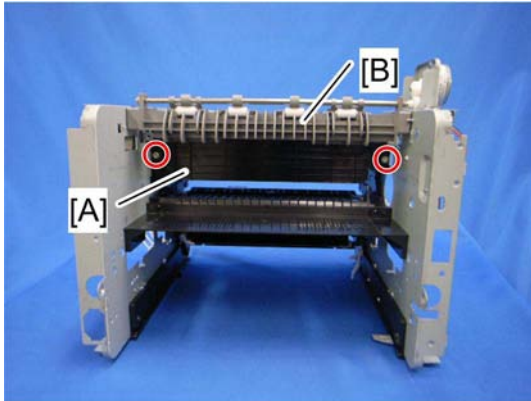
Paper Feed and Exit

4.7.14 REGISTRATION ROLLER AND SENSOR

1. Pull out the paper tray.
2. PSU (☛ p.4-61 "

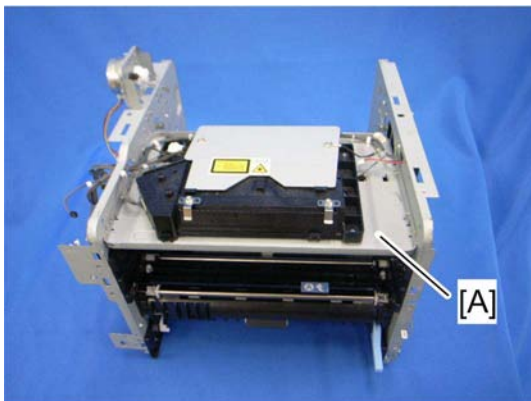
PSU")

3. Paper feed clutch (☛ p.4-37 "Paper Feed Clutch")
4. Relay clutch (☛ p.4-39)
5. Registration clutch (☛ p.4-39)



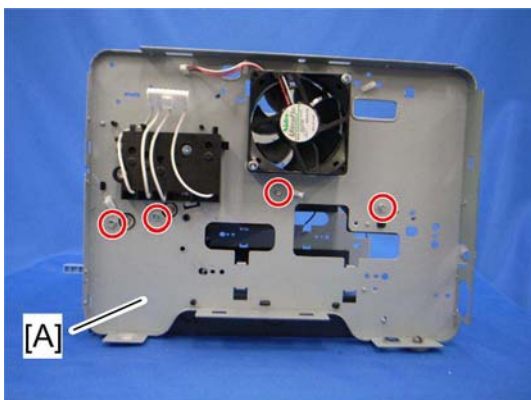
m016r696

6. Heat insulating plate [A] (☛ x 2)
7. Exit roller base [B] (☛ x 2)



m016r694

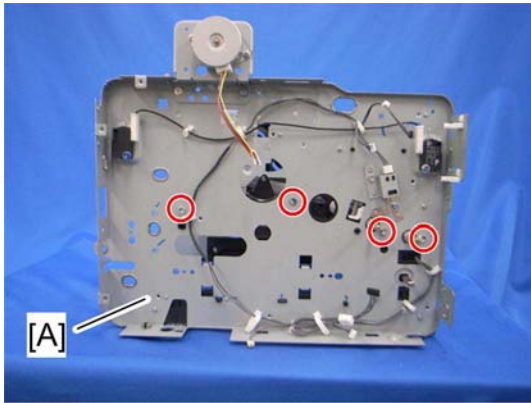
8. Imaging unit base [A] (☛ x 4)



m016r697

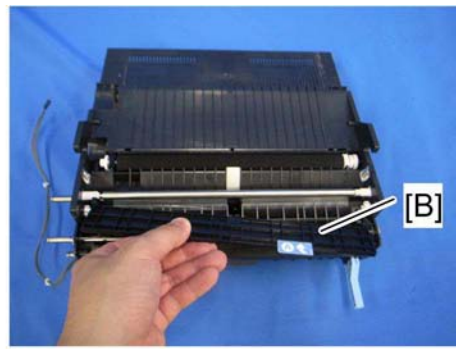
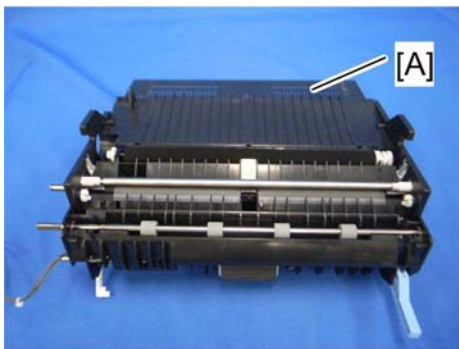
9. Remove the four screws in the right frame [A].

Paper Feed and Exit



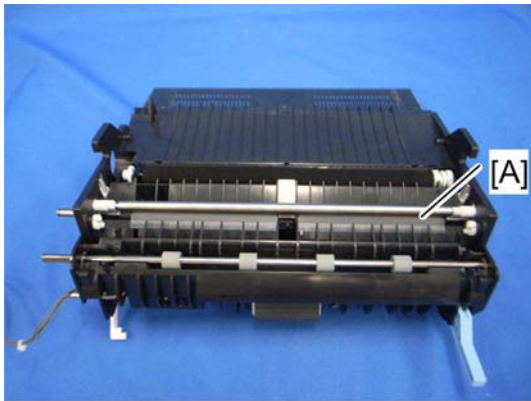
m016r698

10. Remove the four screws in the left frame [A].



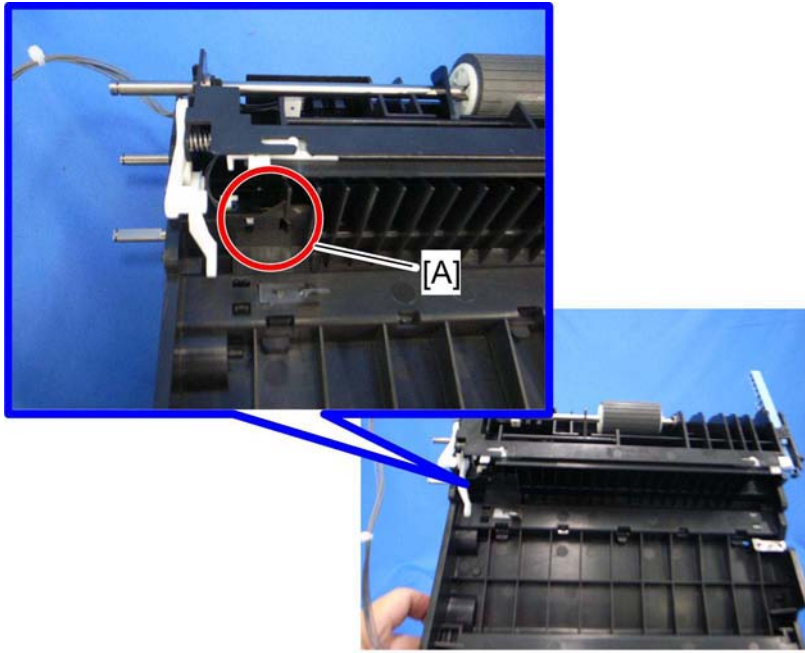
m016r699

11. Registration unit [A]
12. Upper guide plate [B]



m016r700

13. Registration roller [A]



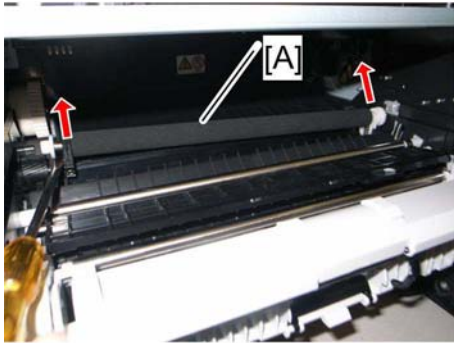
m016r701

14. Registration sensor [A]

4.8 PAPER TRANSFER

4.8.1 TRANSFER ROLLER

1. Front cover (☛ p.4-3)
2. Remove the AIO.



m016r146

3. Remove the transfer roller [A] (Bushing x 1, spring x 2, gear x 1) as shown above.

Note

- Do not touch the transfer roller surface, when reinstalling the new transfer roller.

After installing a new transfer roller




1. Enter the "Maintenance Mode".
2. Select "Engine Maintenance", and then press "OK" key.
3. Select "Reset Transfer Roller Life" and then press "OK" key.
4. Select "Execute" and then press "OK" key.

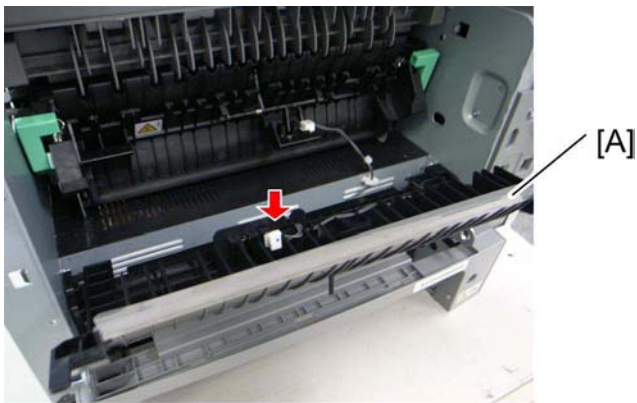
4.9 FUSING

CAUTION


- Switch off the main power, unplug the machine from its power source, and allow the fusing unit to cool before removing it.

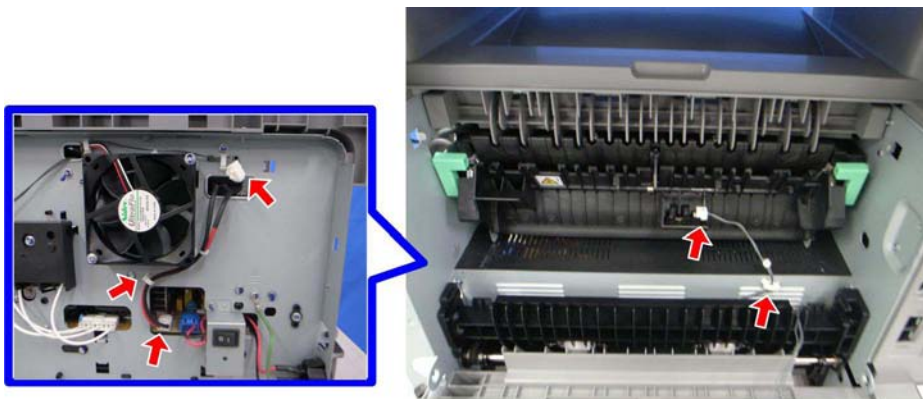
4.9.1 FUSING UNIT

1. Front cover ( p.4-3)
2. Left cover ( p.4-4)
3. Rear cover ( p.4-7)



m016r169

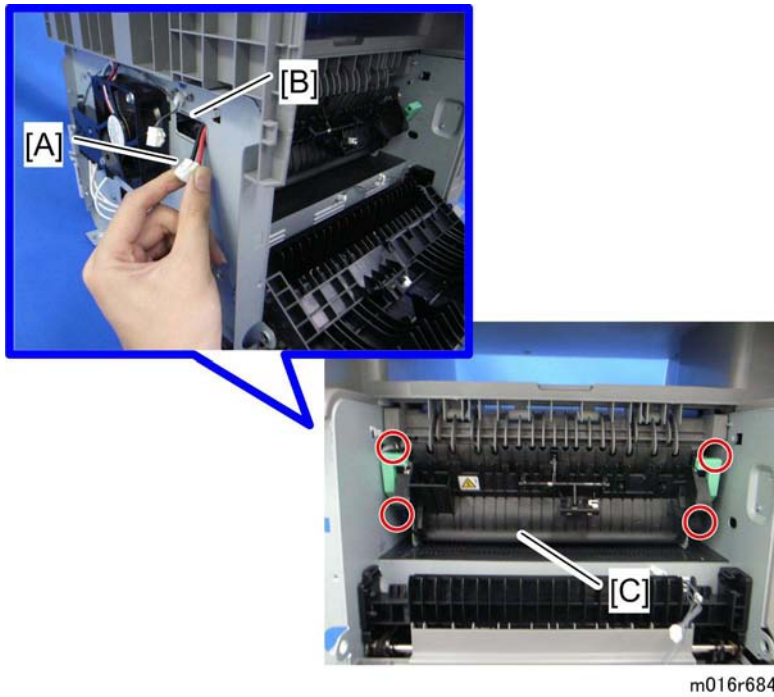
4. Entrance guide [A] ( x 1)



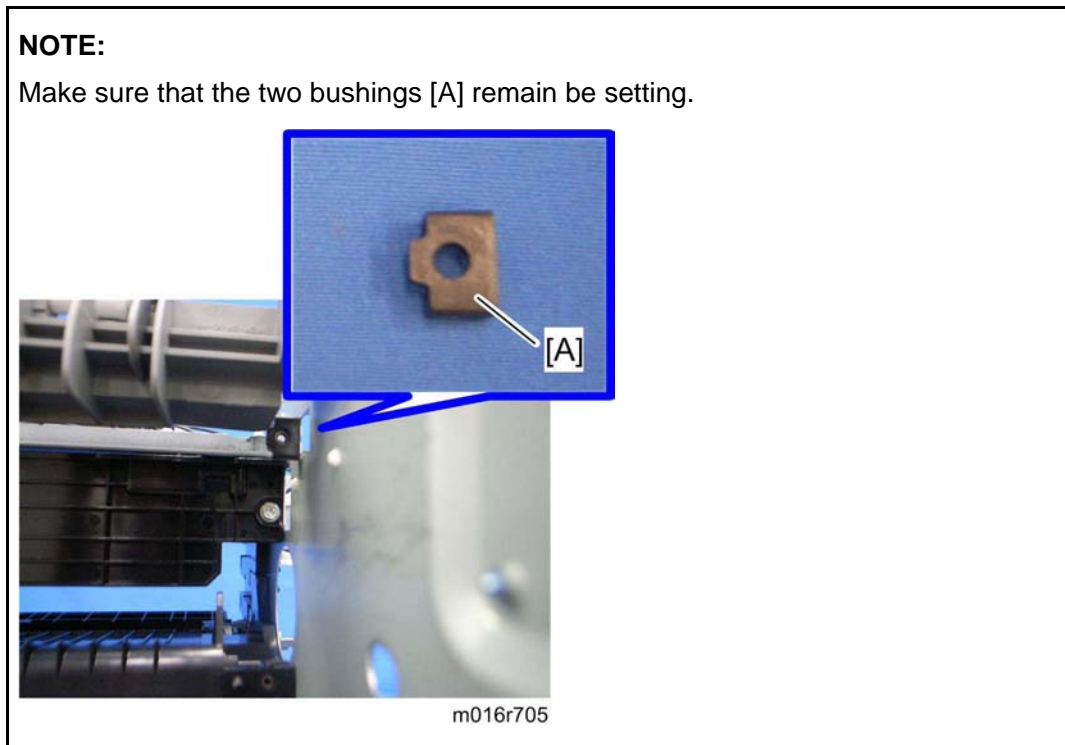
m016r130

5. Disconnect the three harnesses ( x 2)

Fusing

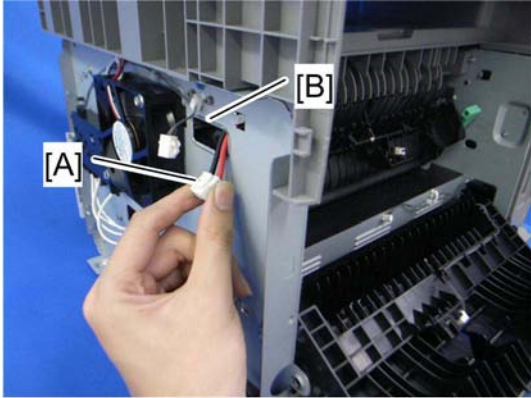


6. Pass the cable [A] through the hole [B] inside the machine.
7. Fusing unit [C] (🔩 x 4)



Reinstallation

Pass the cable [A] of fusing unit through the hole [B] outside, after setting the fusing unit.



m016r702

After installing a new fusing unit


1. Enter the "Maintenance Mode".
2. Select "Engine Maintenance", and then press "OK" key.
3. Select "Reset Fusing Unit Life" and then press "OK" key.
4. Select "Execute" and then press "OK" key.

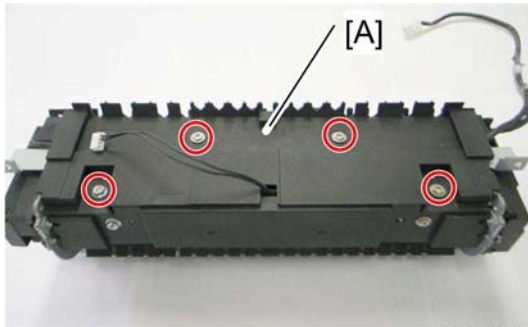
Fusing

4.9.2 THERMOSTAT


CAUTION

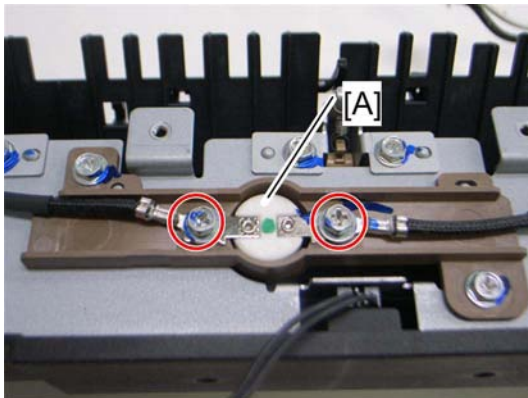
- Do not recycle a thermostick that is already opened. Safety is not guaranteed if you do this.

1. Fusing unit [A] ( x 3)




m016r141

2. Fusing upper cover [A] ( x 4)

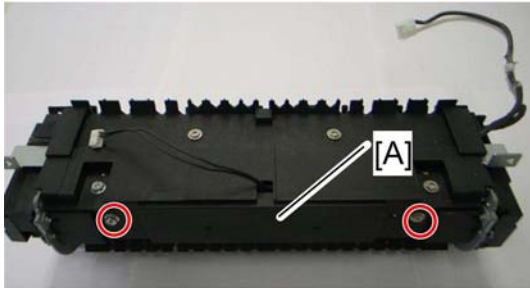


m016r142

3. Thermostat [A] ( x 2)

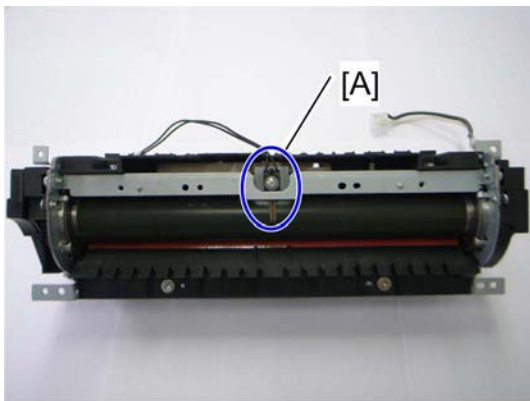
4.9.3 THERMISTOR

1. Fusing unit (☛ p.4-47)



m016r132

2. Fusing front cover [A] (☛ x 2)



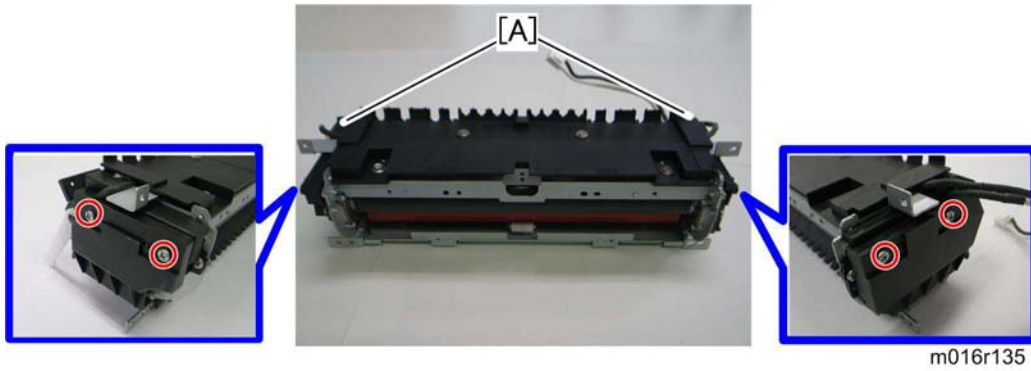
m016r131

3. Thermistor [A] (☛ x 1)

Fusing

4.9.4 FUSING LAMP

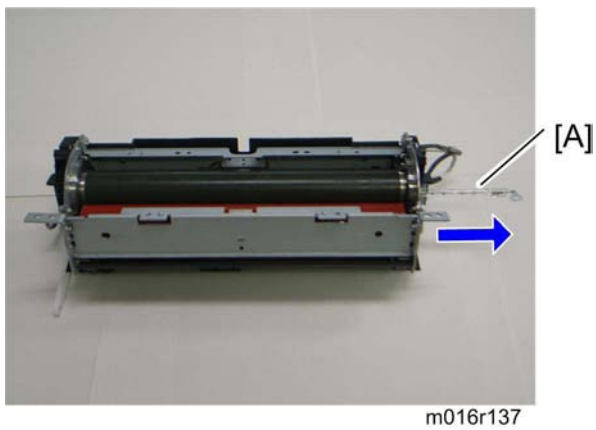
1. Fusing Unit (☞ p.4-47)



2. Fusing side covers [A] (☞ x 2 each)

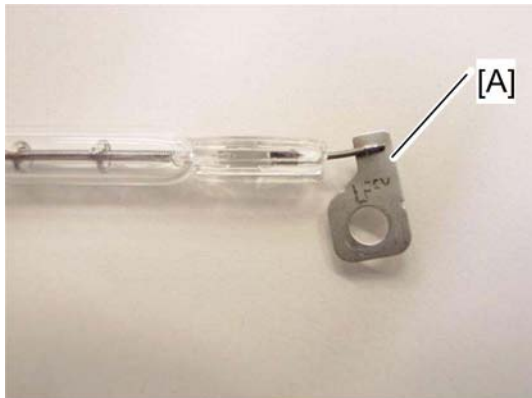


3. Ground-wires (☞ x 1 each)



4. Fusing lamp [A]

When reinstall the fusing lamp

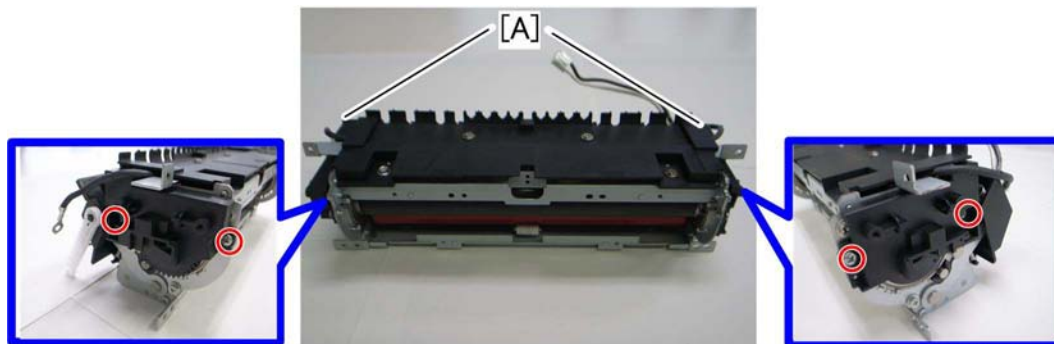


m016r138

The flat terminal [A] must be placed on the right side of the fusing unit (fusing cable side).

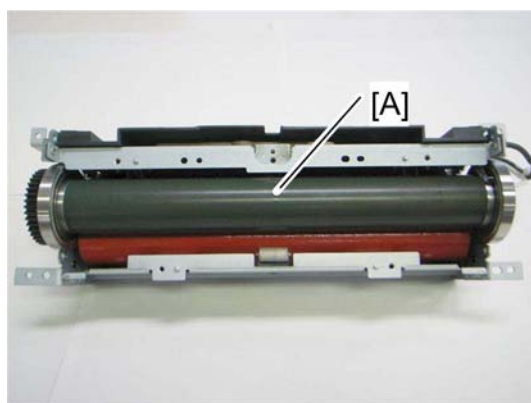
4.9.5 HOT ROLLER

1. Fusing lamp (☛ p.4-52)



m016r139

2. Brackets [A] (☛ x 2)



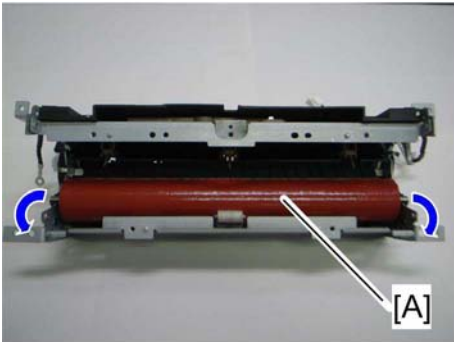
m016r140

3. Hot roller [A] (C-ring x 2, gear x 1, bushing x 2)

Fusing

4.9.6 PRESSURE ROLLER

1. Hot roller (☞ p.4-53)

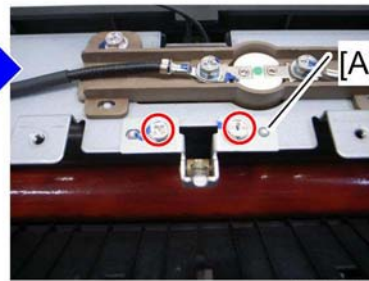
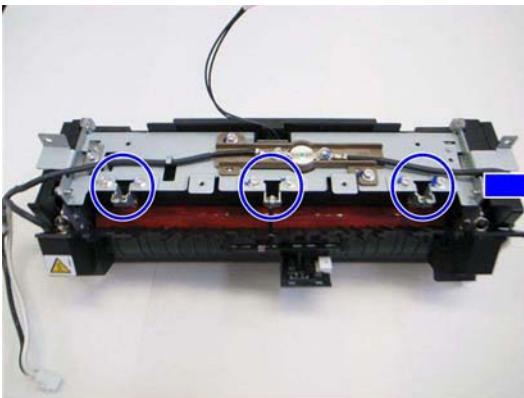


m016r148

2. Pressure roller [A] (Bearing x 2)

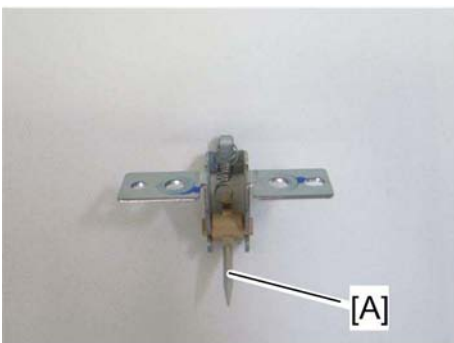
4.9.7 HOT ROLLER STRIPPER PAWLS

1. Fusing unit (☞ p.4-47)
2. Fusing unit upper cover (☞ p.4-50)



m016r143

3. Metal holders [A] (1 holder for each pawl: ☞ x 2 each)



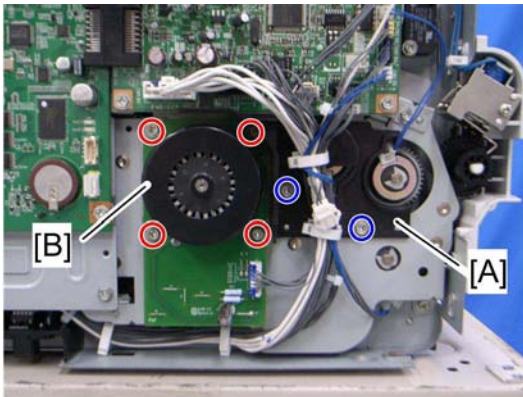
m016r144

4. Hot roller stripper pawls [A] (1 spring for each pawl)

4.10 MOTORS

4.10.1 MAIN MOTOR

1. Front cover (☞ p.4-3)
2. Left cover (☞ p.4-4)

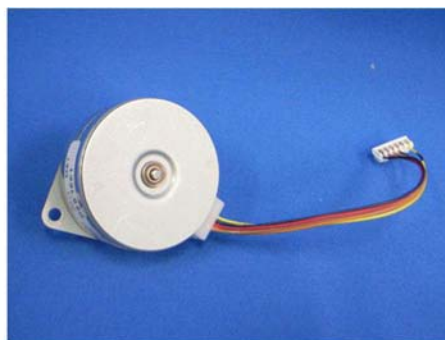
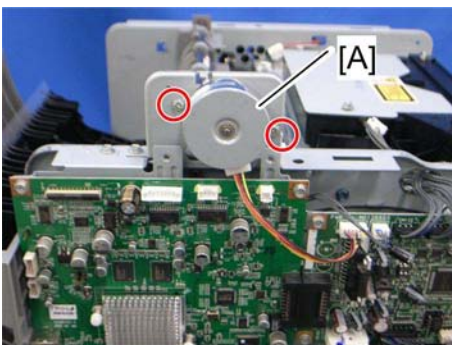


m016r108

3. Harness guide [A] (☞ x 2)
4. Main motor [B] (☞ x 4, ☞ x 1)

4.10.2 DUPLEX MOTOR (FOR M017)

1. Front cover (☞ p.4-3)
2. Left cover (☞ p.4-4)
3. Rear cover (☞ p.4-7)
4. Right cover (☞ p.4-7)
5. Top cover (☞ p.4-9)

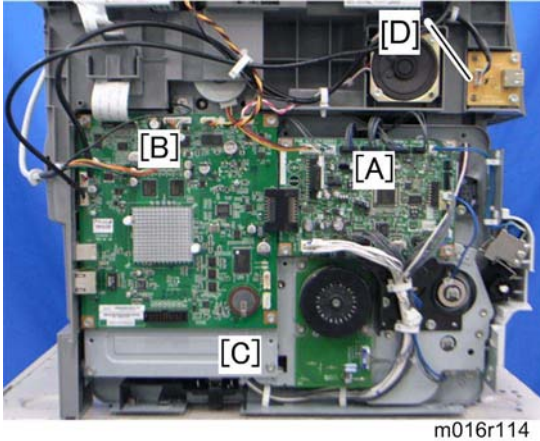


m016r123

6. Duplex motor [A] (☞ x 2, ☞ x 1)

4.11 ELECTRICAL COMPONENTS

4.11.1 LAYOUT OF PC BOARDS

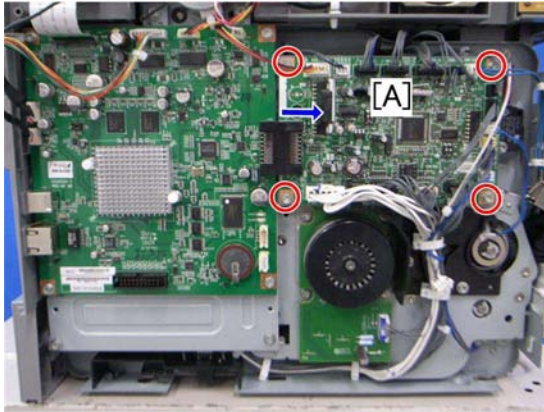


m016r114

[A]	ECB (Engine Controller Board)
[B]	Controller Board
[C]	FCU (Fax Control Unit) - behind the main controller board
[D]	USB Board

ECB (Engine Controller Board)

1. Front cover (🔧 p.4-3)
2. Left cover (🔧 p.4-4)

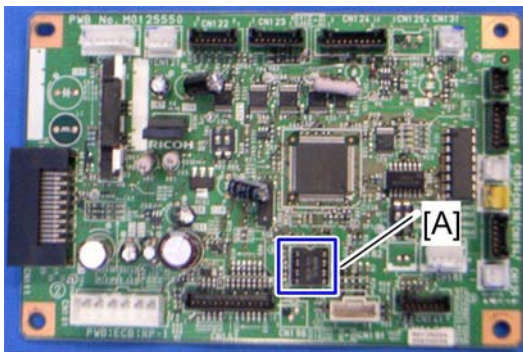


m016r115

3. ECB [A] (🔧 x 4, all 🛠️s)

↓ Note

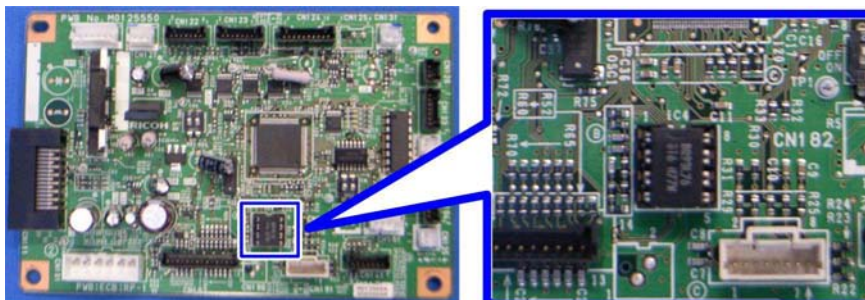
- Do not connect any connectors to CN181 when reinstalling the ECB [A]. CN181 is only used for factory.
- Do not change the dip switch. The dip switch is only for factory use.



m016r118

4. EEPROM (Electrically Erasable Programmable Read Only Memory) [A]

When installing the new ECB (Engine Controller Board)



m016r117

Replacement and Adjustment

Electrical Components

1. Remove the EEPROM from the old ECB.
2. Install it on the new ECB after replacing the ECB.
3. Replace the EEPROM if the EEPROM on the old ECB is defective.

CAUTION

- Keep the EEPROM away from any objects that can cause static electricity. Static electricity can damage EEPROM data.
- Make sure that the EEPROM is correctly installed on the ECB.

EEPROM


- Replacement procedures for the new EEPROM are included in the "ECB (Engine Controller Board)" replacement procedure. Refer to "ECB (Engine Controller Board)" for details.
- Do the following settings after installing a "new" EEPROM.
 - Input the PnP Name, Destination in Maintenance mode.
 - Adjust registration in Maintenance mode.
 - Input serial number on the serial number input display after installing the new EEPROM

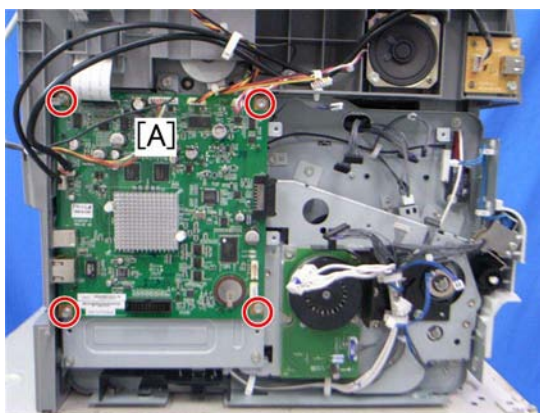
Note

- Ask your supervisor about how to access the serial number input display.

Controller Board

CAUTION

- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
1. ECB ( p.4-57)

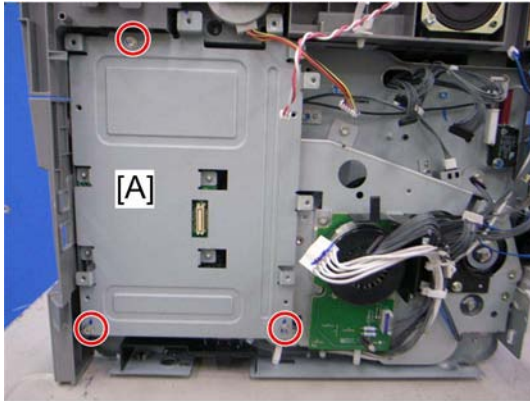


m016r116

2. Controller board [A] ( x 4, flat cable x 1, all s)

FCU

1. ECB (☛ p.4-57)
2. Controller board(☛ p.4-58)



m016r683

3. Controller board bracket [A] (☛ x 3)



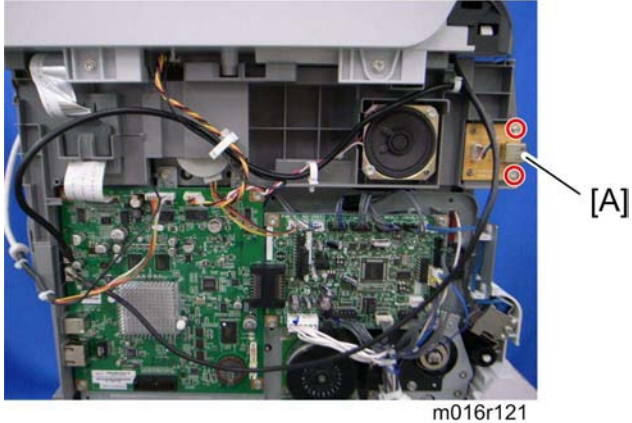
m016r120

4. FCU [A] (☛ x 4)

Electrical Components

USB Host Board

1. Left cover (🔩 p.4-4)

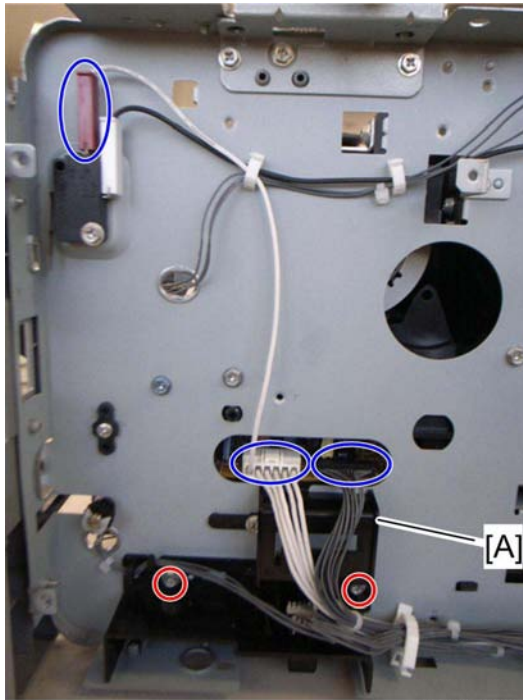


m016r121

2. USB host board [A] (🔩 x 2, 📏 x 1)

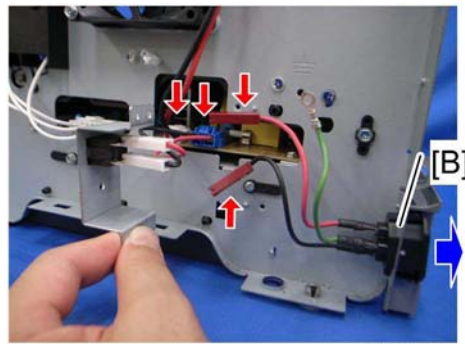
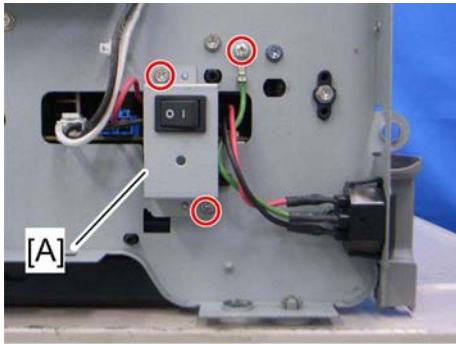
4.11.2 PSU

1. Pull out the standard paper tray.
2. Front cover (🔧 p.4-3)
3. Left cover (🔧 p.4-4)
4. Rear cover (🔧 p.4-7)
5. Right cover (🔧 p.4-7)
6. Scanner unit (🔧 p.4-21)
7. Top cover (🔧 p.4-9)
8. ECB (🔧 p.4-57)
9. Controller board bracket (🔧 p.4-59)
10. Drive unit (🔧 p.4-37 "Paper Feed Clutch")



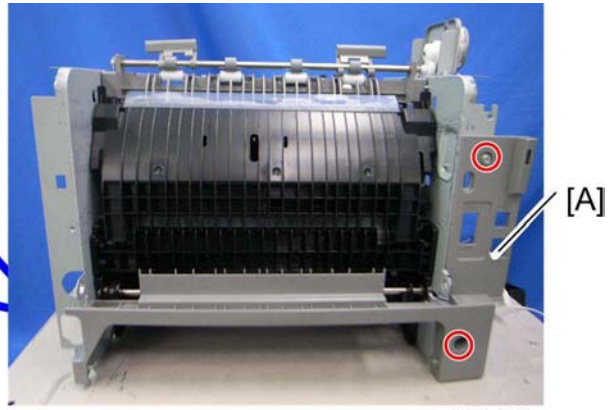
11. Disconnect three connectors in left frame (🔧 x 1)
12. Bracket [A] (🔧 x 2)

Electrical Components



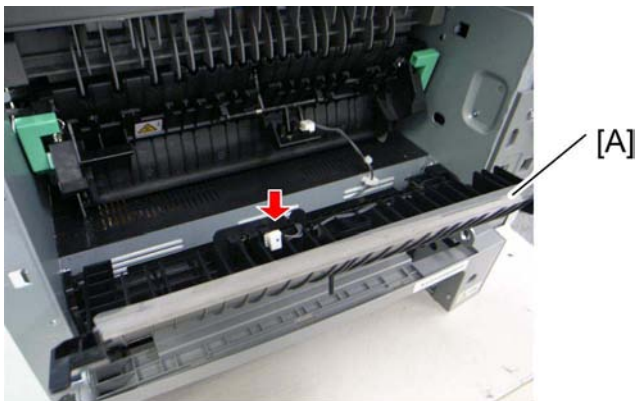
m016r167

13. Main power switch bracket [A] in right frame (🔩 x 2)
14. Remove the main power cord [B] as shown above (🔌 x 2).
15. Remove the ground wire and two connectors.



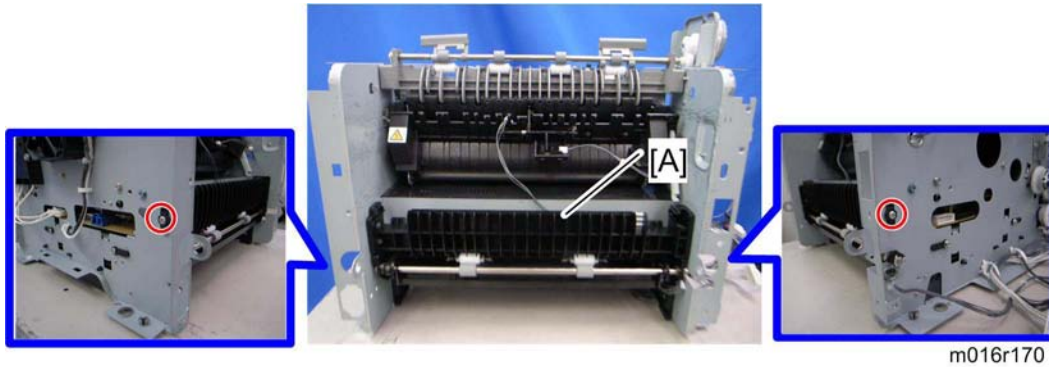
m016r168

16. Rear low cover [A] (🔩 x 3)

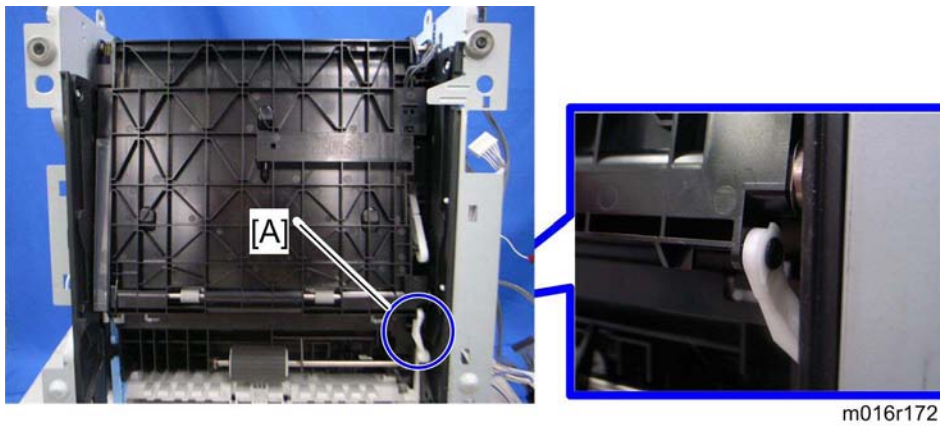


m016r169

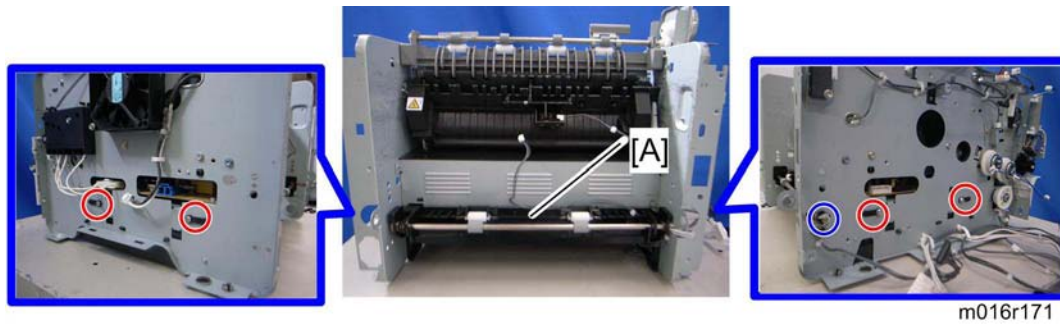
17. Entrance guide [A]
18. Fusing Unit (🔧 p.4-47)



19. **For M017 only:** Duplex transport guide [A] (🔩 x 2)

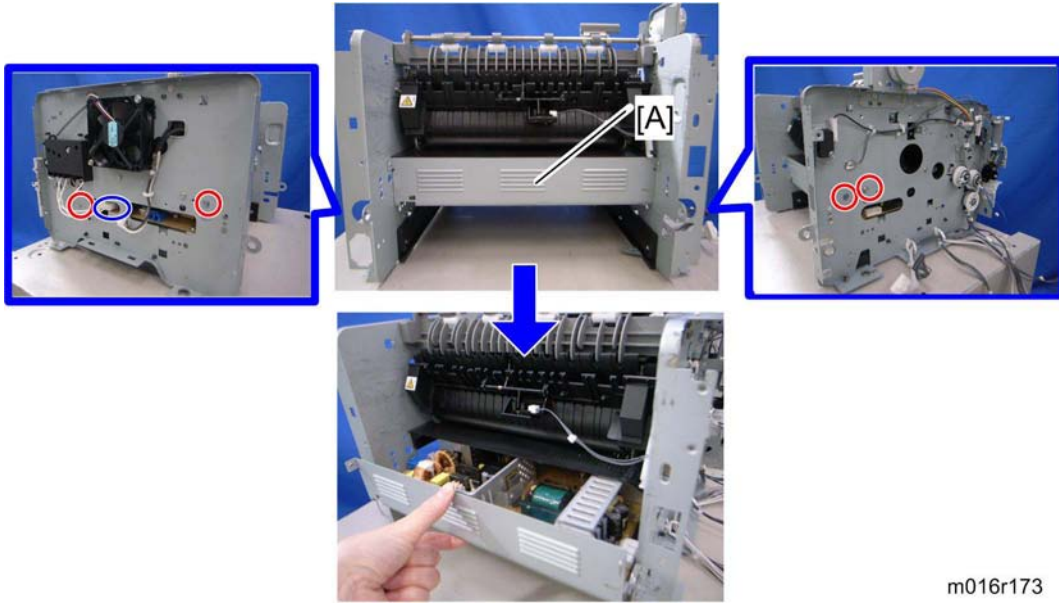


20. **For M017 only:** Set the machine with the front side facing down, resting on the table.
 21. **For M017 only:** Release the link [A] (🔗 x 1)



22. **For M017 only:** Duplex cover [A] (🔩 x 4, Ⓢ x 1, gear x 1)

Electrical Components

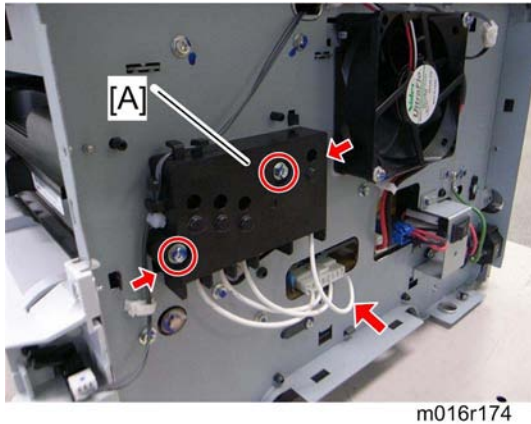


23. PSU [A] (🔩 x 4, 📏 x 1)

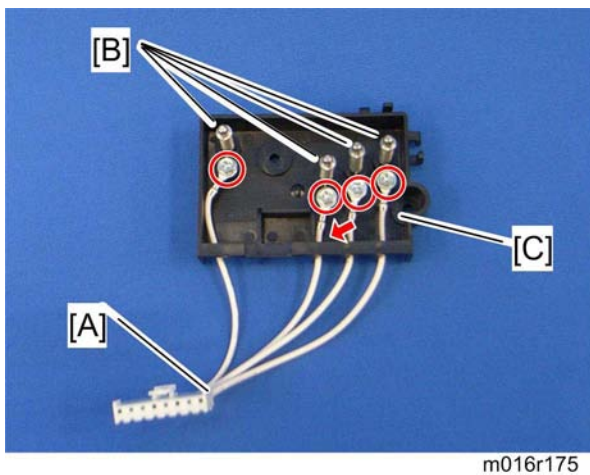
m016r173

4.11.3 CHARGE TERMINAL CASE

1. Right cover (☞ p.4-7)



2. Charge terminal case [A] with the harness (⚙ x 2, 📡 x 1, hooks)



3. Remove the harness [A] (⚙ x 4).
4. Remove the four springs and terminal pins [B].
5. Charge terminal case [C]

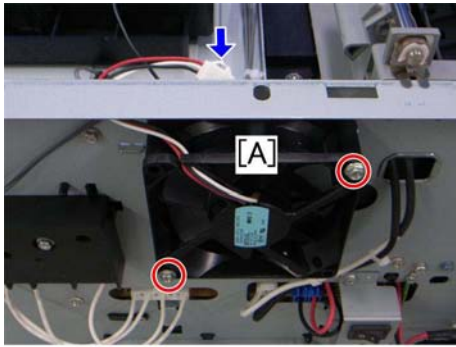
Replacement
and
Adjustment

Others

4.12 OTHERS

4.12.1 COOLING FAN

1. Right cover (☞ p.4-7)



m016r124

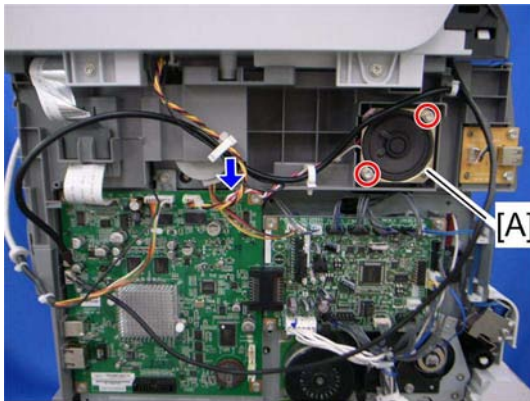
2. Cooling fan [A] (☞ x 2, ☞ x 1)

⚠ CAUTION

- Install the Cooling fan [A] with its decal facing the outside of the machine.

4.12.2 SPEAKER

1. Left cover (☞ p.4-4)

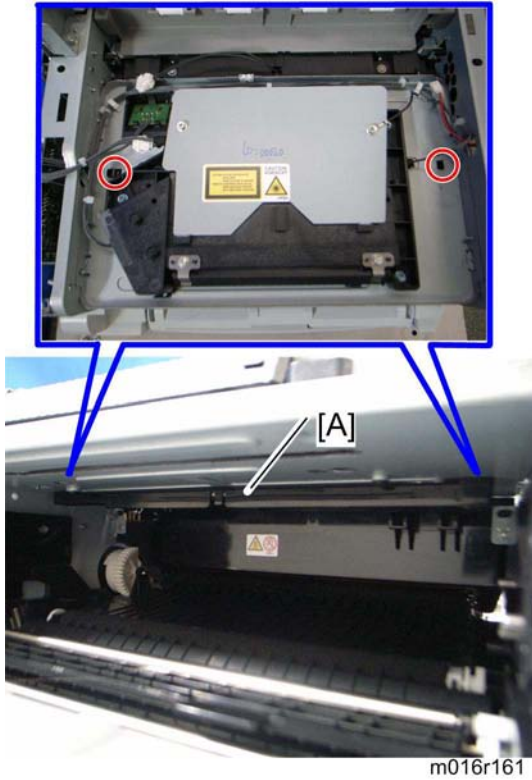


m016r125

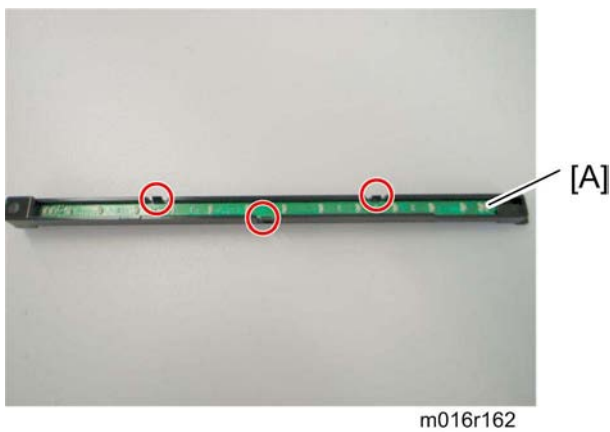
2. Speaker [A] (☞ x 2, ☞ x 1, ☞ x 1)

4.12.3 QUENCHING LAMP

1. Top Cover (☛ p.4-9)



2. Release two hooks of the quenching lamp with the case [A], and remove it.



3. Remove the quenching lamp [A] from the case (hook x 3).

4.13 IMAGE ADJUSTMENT

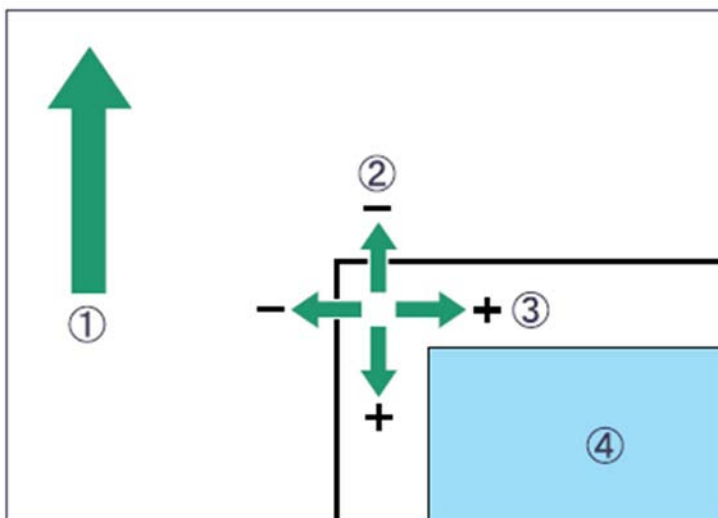
4.13.1 REGISTRATION ADJUSTMENT

User Adjustment

The paper registration can also be adjusted with the user mode ("Engine Maintenance Registration"). For details, see the "User Guide".

Service Adjustment

1. Print the test page (☞ p.6-10).
 - Print out the test pattern before changing the paper registration setting.
2. Enter the "Maintenance Mode".
3. Select "Engine Maintenance", and then press "OK" key.
4. Select the "Registration", and then press "OK" key.



m016t500

- (1): Feed Direction
 - (2): Vertical Adjustment
 - (3): Horizontal Adjustment
 - (4): Print Area
5. Press the "Up" or "Down" keys to set the registration value (mm).
 - Increase the value to shift the print area in the plus direction.
 - Decrease to shift in the minus direction.
 6. Adjust the margins of the test page so that they are equal in size.

SYSTEM MAINTENANCE REFERENCE

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

5. SYSTEM MAINTENANCE REFERENCE

5.1 SERVICE PROGRAM MODE

5.1.1 OVERVIEW

This model has several service menus. Each service menu has several adjustment items. This section explains how to enter each service menu and what you can do in each service menu.

5.1.2 MAINTENANCE MODE MENU

To access Maintenance Mode do the following:

- Type the following keys, in sequence: **[Clear/Stop] > [1] > [0] > [7]**
- Hold down the **[Start Key]** until the Maintenance Mode screen is displayed.

Note: This should take about 3 seconds.

Selecting an Item

To select an item, press the "Up" or "Down" key.

Going into the Next Level/ Returning to the Previous Level

- To go into the next level of an item, select an item then press the "OK" key.
- To return to the previous level of an item, press the "Return" key.

Exiting the Maintenance Mode Menu

To exit the maintenance mode menu, press the "Clear/Stop" or "Return" key until the "Ready" display appears.

Menu List

Display Info		
Model Name		Displays the Model Name, Depends on Engine Firmware Settings
FW Ver.	CTL FW Ver.	Displays the Firmware Version
	FAX FW Ver.	Displays the FAX Firmware Version.
	Engine FW Version	Displays the Engine Firmware Version
	PDL FW Ver.	Displays the PDL Firmware Version.
Counter	Printer Counter	Displays the following counters of the printer engine. Total Page
	Scanner Counter	Displays the sum total of scanner counters for each mode. Total Page/ Black Page/ Color Page / ADF Used
	Jam Counter	Displays the number of paper jams at each location. Total/ ADF/ Outer/ Inner/ Tray1 Misfeed/ Tray2 Misfeed/ Duplex Misfeed/ Bypass Tray Misfeed

Print Reports	
G3 Protocol dump list	G3 protocol dump of the latest communication is printed. Off (Default)/ Error/ On

Engine Maintenance		
P _N P Name	NA Model: RICOH/ 'nul' EU Model: RICOH/ NRG/ LANIER ASIA Model: RICOH/ LANIER China Model: RICOH	
Destination	Sets the destination and updates the engine setting. JPN/ NA/ EU (Default)/ ASIA/ China/ TAIWAN/ COREA	
Registration	Horiz. Tray1	Adjusts the horizontal registration for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Tray1 Plain Paper	Adjusts the vertical registration of plain paper for tray1. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Tray1 Thick Paper	Adjusts the vertical registration of thick paper for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
Registration	Vert. Tray1 Thin Paper	Adjusts the vertical registration of thin paper for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Horiz. Tray2	Adjusts the horizontal registration for tray 1. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]

Service Program Mode

Engine Maintenance		
	Vert. Tray2 Plain Paper	Adjusts the vertical registration of plain paper for tray 2. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Tray2 Thin Paper	Adjusts the vertical registration of thin paper for tray 2. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Tray2 Thick Paper	Adjusts the vertical registration of thick paper for tray 2. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
Registration	Horiz.Bypass	Adjusts the horizontal registration for the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Bypass Plain Paper	Adjusts the vertical registration of plain paper for the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Bypass Thick Paper	Adjusts the vertical registration of thick paper for the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Bypass Thin Paper	Adjusts the vertical registration of thin paper for t the bypass tray. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]

Engine Maintenance		
	Horiz. Dup. Back	Adjusts the horizontal registration the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
Registration	Vert. Dup. Plain Paper	Adjusts the vertical registration of plain paper for the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Dup. Thin Paper	Adjusts the vertical registration of thin paper for the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
	Vert. Dup. Thick Paper	Adjusts the vertical registration of thick paper for the back side in duplex mode. If the machine settings are reset to the factory defaults, this value does not change. [-40 to 40 / 0 (Default) / 0.1 mm/step]
Brand ID	00* – 7F Displays the current brand ID number. Do not change this setting (Designed for Factory Use).	
Fuser SC Reset	This button is for resetting an SC related with the fusing errors.	
Bypass Tray Priority	Turns on or off the paper priority feeding from the bypass tray. [On or Off]	

Service Program Mode

Engine Maintenance		
Reset Transfer Roller Life	Clears the EM counter of the transfer roller.	
Reset Paper Feed Roller Life	Clears the EM counter of the paper feed roller.	
Reset Fusing Unit Life	Clears the EM counter of the fusing unit.	
Motor Rotation Time	Displays the main motor rotation time.	
Print Cartridge Info	Kind ID	Displays the toner cartridge (AIO) information (Kind ID).
	Toner End History	Displays the toner cartridge (AIO) information (Toner End History).
	Refill Flag Status	Displays the toner cartridge (AIO) information (Refill flag status).
	Unit Print Counter	Displays the toner cartridge (AIO) information (Unit Print Counter).
OPC Life Info	OPC Rotation Time	Displays the OPC life information (OPC rotation time).
	Pre-OPC Rotation Time	Displays the OPC life information (Pre-OPC rotation time)
	OPC Alert Status	Displays the OPC life information (Alert status)
	OPC Pre-Alert Status	Displays the OPC life information (Pre-Alert status)

Engine Maintenance		
EM Counter Info	Remain of Transfer Roller	Displays the total counter (Remain of Transfer Roller).
	Transfer Roller - Time	Displays the EM counter (Transfer Roller: Time).
	Transfer Roller - Pages	Displays the EM counter (Transfer Roller: pages).
	Remain of Paper Feed Roller	Displays the total counter (Remain of Paper Feed Roller).
	Paper Feed Roller - Pages	Displays the EM counter (Paper Feed Roller: pages).
	Remain of Fusing Unit	Displays the total counter (Remain of Fusing Unit).
	Fusing Unit - Time	Displays the EM counter (Fusing Unit: time).
	Fusing Unit - Pages	Displays the EM counter (Fusing Unit: pages).
Total Counter Info	Engine Counter	Displays the total counter (Engine).
Clear Engine Memory	Resets the engine settings stored in the EEPROM to factory default.	
SC559 Detection	[On or Off (Default)]	
EM Life Display	Sets the display of alert when each EM parts yield of this machine is reached. [On or Off (Default)]	


Service Program Mode

Engine Maintenance		
Output check	Main Motor	Output check (Main Motor)
	Middle clutch	Output check (Relay Clutch)
	Tray1 clutch	Output check (Paper Feed Clutch)
	Bypass solenoid	Output check (Bypass solenoid)
	Regist clutch	Output check (Registration Clutch)
	Reserve clutch	Output check (Reserve clutch)
	Fan High Speed	Output check (Fan High Speed)
	Fan Low Speed	Output check (Fan Low Speed)
	Erase Lamp	Output check (Quenching Lamp)
	Polygon Motor	Output check (Polygon Motor)
	Tray2 Motor	Output check (Tray2 Motor)
	Dup Motor Normal	Output check (Duplex Motor Normal)
	Dup Motor Reserve	Output check (Duplex Motor Reverse)
Paper Buckle Amount	Vert. Tray1 Plain Paper	Adjusts the amount of paper buckle at the registration roller for each tray and paper type. [-8 to 8 / 0 (Default) / 1 mm/step]
	Vert. Tray1 Thick Paper	
	Vert. Tray1 Thin Paper	Adjusts the amount of paper buckle at the registration roller for each tray and paper type. [-8 to 8 / -2 (Default) / 1 mm/step]
	Vert. Bypass Plain Paper	Adjusts the amount of paper buckle at the registration roller for each tray and paper type. [-8 to 8 / 0 (Default) / 1 mm/step]

Engine Maintenance		
	Vert. Bypass Thick Paper	
	Vert. Bypass Thin Paper	
	Vert. Tray2 Plain Paper	Adjusts the amount of paper buckle at the registration roller for each tray and paper type. [-8 to 8 / 0 (Default) / 1 mm/step]
	Vert. Tray2 Thin Paper	
	Vert. Tray2 Thick Paper	
	Vert. Dup. Plain Paper	Adjusts the amount of paper buckle at the registration roller for each tray and paper type. [-8 to 8 / 0 (Default) / 1 mm/step]
	Vert. Dup. Thin Paper	
	Vert Dup. Thick Paper	
Fusing Unit Temperature	Plain Paper	Adjusts the fusing temperature for plain paper. [150 to 190 / 175 (Default) / 5°C/step]
	Thick1 Paper	Adjusts the fusing temperature for thick 1 paper. [160 to 200 / 185 (Default) / 5°C /step]
	Thick2 Paper	Adjusts the fusing temperature for thick 2 paper. [160 to 200 / 185 (Default) / 5°C/step]
	Standby	Adjusts the fusing temperature in the standby mode. [120 to 175 / 155 (Default) / 1°C/step]

Service Program Mode

Engine Maintenance		
	Low Power	Adjusts the fusing temperature in the low power mode. [80 to 135 / 120 (Default) / 5°C/step]
Fusing Unit Temperature	Thin Paper	Adjusts the fusing temperature for thin paper. [140 to 165 / 150 (Default) / 5°C/step]
	Envelope	Adjusts the fusing temperature for envelope. [170 to 200 / 200 (Default) / 5°C/step]
	Postcard	Adjusts the fusing temperature for postcard. [160 to 200 / 185 (Default) / 5°C/step]
	Recycled	Adjusts the fusing temperature for recycled paper. [150 to 180 / 160 (Default) / 5°C/step]
Charge Bias	Adjusts the charge bias. [1100 to 1300 / 1200 / 20 /step]	
Developer Bias	Adjusts the developer bias. [270 to 330 / 300 / 15 /step]	
Trans. Roller Bias	Adjusts the transfer roller bias. [-6 to 6 / 0 / 1 /step]	
Subscan Magnification	Adjusts the sub scan magnification. [-8 to 8 / 0 / 1 /step]	
Toner Near End To Toner End	Sheets	Adjusts the printable sheets between "toner near end" to "toner end". [0 to 255 / 200 / 1 sheet/step]
	Dot Count	Adjusts the printable dot count between "toner near end" to "toner end". [0 to 255 / 100 / 1 dot/step]

Engine Maintenance		
Waste toner disposal	Independent-Supply Toner	<p>Sets the machine operation at "waste toner full" of the refilled AIO.</p> <p>[On or Off (Default)]</p> <p> Note</p> <ul style="list-style-type: none"> With main motor rotation count feature, machine can be set to stop printing after print total exceeds a certain set value. If print count exceeds this value, then "Replace Print Cartridge" remains in display. Then a new AIO cartridge must be installed. This feature is a safety measure to prevent the used toner tank from becoming full (there is no toner overflow detection mechanism).
Test Pattern	Prints the test pattern.	
Curl Control mode	<p>Corrects the face curl of paper.</p> <p>0: OFF (28ppm)</p> <p>1: Sets the engine speed at 14ppm after printing 1 minute.</p> <p>2: Sets the engine speed at 14ppm.</p> <p>3 to 255: not available</p> <p>[0 to 255 / 0 / 1 /step]</p>	
Adjust of Charge Bias	<p>Charge bias correction for dirty background</p> <p>0: OFF (Default)</p> <p>1: ON</p> <p>2 to 255: not available</p> <p>[0 to 255 / 0 / 1 /step]</p>	

Service Program Mode

Scan Maintenance		
Mono Compression Setting	Sets the monochrome compression type for scanning. MH (Default)/ MR/ MMR	
Regist Adjust	ADF Main Reg.	Adjusts the ADF Scan main-scan registration. [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	ADF Sub Reg.	Adjusts the ADF Scan sub-scan registration. [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	Flatbed Main Reg.	Adjusts the Flatbed Scan main-scan registration. [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
	Flatbed Sub Reg.	Adjusts the Flatbed Scan sub-scan registration. [-2.0 to 2.0 / 0 (Default)/ 0.1 mm/step]
Size Adjust	ADF Main Reg.	Adjusts the ADF Scan main-scan magnification. [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	ADF Sub Reg.	Adjusts the ADF Scan sub-scan magnification. [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	Flatbed Main Reg.	Adjusts the Flatbed Scan main-scan magnification. [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]
	Flatbed Sub Reg.	Adjusts the Flatbed Scan sub-scan magnification. [-0.9 to 0.9 / 0 (Default)/ 0.1 %/step]

Fax Maintenance		
Modem Settings	RX Level	Sets the reception level. [-43 dBm (Default)/ -33 dBm/ -26 dBm / -16 dBm]
	TX Level	Sets the transmission level. [0 dBm/ -1 dBm/ -2 dBm/ -3 dBm/ -4 dBm / -5 dBm/ -6 dBm/ -7 dBm/ -8 dBm/ -9 dBm / -10 dBm/ -11 dBm/ -12 dBm/ -13 dBm / -14 dBm/ -15 dBm]
	Cable Equalizer	These selectors are used to improve the pass-band characteristics of analogue signals on the telephone line. [0Km (Default)/ 1.8Km/ 3.6Km/ 7.2Km]
Protocol Definition	Training Retries	This sets the number of training retries to be repeated before automatic fallback. [1 Time/ 2 Times (Default)/ 3 Times/ 4 Times]
	Encoding	Sets the compression method for Tx/Rx. [MMR+MR+MH (Default)/ MR+MH/ MH]
Protocol Definition Timer	T0 Timer	Timeout for response from the called station in automatic sending mode [35 Sec/ 45 Sec/ 55 Sec (Default)/ 60 Sec/ 90 Sec/ 140 Sec]
	T1 Timer	Set the time length for the T1 timer. [40 Sec (Default)/ 50 Sec]
	T4 Timer	Set the time length for the T4 timer. [3 Sec (Default)/ 4.5 Sec]

Service Program Mode

Fax Maintenance		
RX Settings	Silence Detection Time	<p>Silence (No tone) detection time (Rx mode : FAX/ TAD Only)</p> <p>After the line is connected via the external telephone, the machine can detect silence (no tone) for the time length specified by this setting.</p> <p>[30 sec (Default)]</p>
	CNG Tone Detection Time	<p>CNG tone detection time (RX mode : FAX / TEL, FAX / TAD Only)</p> <p>After the line is connected via the external telephone, the machine can detect a CNG signal for the time length specified by this setting.</p> <p>[5 Sec (Default)/ 10 Sec]</p>
	CNG Cycles	<p>Number of CNG cycles to be detected</p> <p>This setting is only effective for FAX/TAD mode.</p> <p>[1.5 Cycle (Default)/ 2.0 Cycle]</p>
RX Settings	Tone Sound Monitoring	<p>Determines the period when tones from the line are monitored.</p> <p>[No Monitoring/ Up To Phase B (Default)/ All TX Phases]</p>
	Stop/Clear key	<p>Pressing the Stop/Clear key can stop the current receiving operation. Received data is lost.</p> <p>[Not Functional (Default)/ Functional]</p>

Fax Maintenance		
	Off-Hook Level	Sets the off-hook detection threshold. [10V (Default)/ 15V/ 20V/ 25V 35V] "Telephone" was indicated by malfunction when receiving the fax message with some PABX. Some PABX may output more than 25V to the FAX input line. Selecting [35V] for [Off-hook level] by the fax maintenance mode.
TX Settings	Redial Interval	Sets the redial interval when Tx fails. [5 Min/ 6 Min]
	Redialings	Sets the number of redials when Tx fails. [2 times/ 3 Times/ 4 Times/ 5 Times]
Overseas Comm Mode Settings	Overseas Comm Mode	This sets the machine to ignore a DIS signal sent from the called station once in a sending operation. [Off (Default)/ Ignore DIS Once]
	Minimum Time Length	If this setting is set to "On", the machine detects the CNG signal after the line is connected. If it is set to "Off", the machine detects the CNG signal as long as the line is connected. [100 Ms/ 200 Ms/ 300 Ms/ 400 Ms (Default)]
Dial Pulse Setting	Dial Pulse Type	This sets the number of pulses that are generated during dialing. <ul style="list-style-type: none"> ▪ N: Dialing '0' generates 10 pulses --- Dialing '9' generates 9 pulses. ▪ N+1: Dialing '0' generates 1 pulses --- Dialing '9' generates 10 pulses. ▪ 10-N: Dialing '0' generates 10 pulses --- Dialing '9' generates 1 pulse.


Service Program Mode

Fax Maintenance		
Tone Signal Settings	Tone Signal Transmission Time Length	Sets the tone signal transmission time length [100 ms (Default)]
	Minimum Pause In Tone Dialing	Sets the minimum pause during tone dialing [100 ms (Default)/ 150 ms/ 200 ms]
	Attenuator For Pseudo Ring Backtone To the Line	Sets the attenuator for pseudo ringback tone to the line [0 to 15 / 10 (Default)/ 1 dB/step]
	DTMF Level	Sets the transmission level of DTMF tones. [-12 dBu / -11 dBu/ -10 dBu/ -8 dBu/ -6 dBu]
	DTMF Delta	Sets the level difference between high band frequency signals and low band frequency signals when sending DTMF tones. [2 dBu/ 3 dBu]
1Dial Tone Detection	Wait Time	The machine starts dialing after the specified interval without detection of a dial tone when Dial tone detection is set to "No detection". [3.5 Sec (Default)/ 7.0 Sec/ 10.5 Sec / 14.0 Sec]
	Timeout Length	This setting sets the time-out length for the 1st dial tone detection. The machine waits for a dial tone for the specified time and disconnects itself from the line when no dial tone is input. [10 Sec (Default)/ 15 Sec/ 20 Sec/ 30 Sec]

Fax Maintenance		
BT (Busy Tone) Detection	BT Setting	DFU [Off/ On] BT: Busy tone
	BT Frequency	DFU [300-550 Hz/ 300-650 Hz/ 325-525 Hz/ 340-550 Hz/ 350-500 Hz/ 350-550 Hz/ 375-475 Hz/ 380-520 Hz]
	BT Level	DFU [-35 dB/ -36 dB/ -37 dB/ -38 dB/ -39 dB]
	BT Cadence	DFU [0.10/ 0.15/ 0.20/ 0.25/ 0.30/ 0.35/ 0.40/ 0.45/ 0.50/ 0.75]
Comm Settings	RTN Rate	The machine checks the actual data reconstruction errors and then transmits an RTN depending on the decoding error rate that is set by this setting (Number of lines containing an error per page / Total number of lines per page). [10%/ 15%]
	V34 Modem	DFU [Permitted (Default)/ Prohibited]
	V17 Modem	DFU [Permitted (Default)/ Prohibited]

Service Program Mode

Fax Maintenance		
V34 Settings	Equalizer	These selectors set the equalizer's training level to be applied if training fails due to poor line connection. [Automatic (Default)/ 4 Points/ 16 Points]
	Redialing	Resend when a communication error occurs. [Disabled (Default)/ Not Disabled]
	First TX Speed	Sets the first transmission speed choice, before fallback. [2400 Bps/ 4800 Bps/ 7200 Bps/ 9600 Bps / 12000 Bps/ 14400 Bps/ 16800 Bps/ 19200 Bps/ 21600 Bps/ 24000 Bps/ 26400 Bps/ 28800 Bps/ 31200 Bps/ 33600 Bps (Default)]
	Symbol Rate	This setting limits the transmission speed range in V.34 mode by masking the desired symbol rate(s). [Not Used (Default)/ 3429 Sym/Sec / 3200 Sym/Sec/ 3000 Sym/Sec / 2800 Sym/Sec/ 2400 Sym/Sec]

Factory Default		
Factory Default	Not Execute	Does not execute anything. Returns to an upper level.
	Execute	<p>Resets all the settings to factory default.</p> <p> Note</p> <ul style="list-style-type: none"> Clears/ resets the contents of the controller board memory (all data programmed by the user, log data) to factory default. <p>After executing, initial setup menu starts after power-on.</p>

CTL Maintenance		
CTL Maintenance	PDL Mode	<p>ON = "PDL Settings" is shown (Default)</p> <p>OFF = "PDL Settings" is hidden</p>

Service Program Mode

5.1.3 FAX SERVICE TEST MENU

Entering the Fax Service Test Menu

Turn on the machine while pressing the "Fax" key.

Selecting an Item

To select the item, press the "Up" or "Down" key.

Going into the Next Level/ Returning to the Previous Level

- To go into the next level of an item, select an item then press the "OK" key.
- To return to the previous level of an item, press the "Return" key.

Exiting the Maintenance Mode Menu

To exit the maintenance mode menu, press the "Clear/Stop" or "Return" key until the "Ready" display appears.

Menu List

Fax Test		
Off-Hook Test	On Hook	Executes the on hook test.
	Off Hook	Executes the off hook test
CED Test		Executes the CED test.
CNG Test	1100 Hz	Executes the CNG test
ANSam		Executes the ANSam test.
Ring Tone Test		Executes the ring tone test.
DTMF Test	Tone [0] to [9]	Executes the DTMF tone 0 to 9 test.
	Tone [*]	Executes the DTMF tone * test.
	Tone [#]	Executes the DTMF tone # test.
	Tone Stop	Executes the Stop DTMF tone test.
Modem Test	[V34] 33600 bps	Generates the [V34] 33600 bps signal.
	[V34] 28800 bps	Generates the [V34] 28800 bps signal.
	[V17] 14400 bps	Generates the [V17] 14400 bps signal.
	[V17] 12000 bps	Generates the [V17] 12000 bps signal.
	[V17] 9600 bps	Generates the [V17] 9600 bps signal.
	[V17] 7200 bps	Generates the [V17] 7200 bps signal.
	[V29] 9600 bps	Generates the [V29] 9600 bps signal.
	[V29] 7200 bps	Generates the [V29] 7200 bps signal.
	[V27] 4800 bps	Generates the [V27] 4800 bps signal.
	[V27] 2400 bps	Generates the [V27] 2400 bps signal.

Service Program Mode

Fax Test		
	[V21] 300 bps	Generates the [V21] 300 bps signal.
	Signal Stop	Generates the Stop signal.

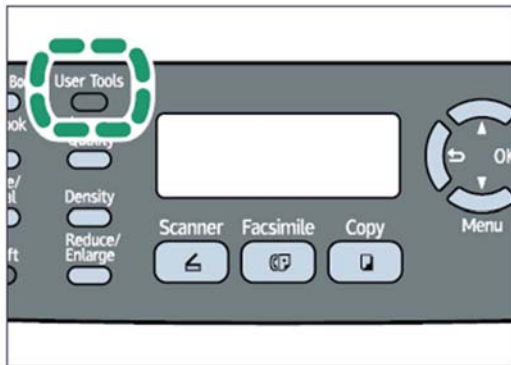
5.2 CONFIGURATION AND MAINTENANCE PAGE

5.2.1 OVERVIEW

The configuration page and maintenance page have information about the machine's status. Print this sheet as shown below. Check the configuration page or maintenance page when doing machine maintenance.

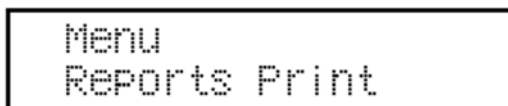
To Print the Configuration Page/ Maintenance Page

1. Turn on the machine.



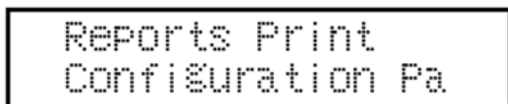
m016s112

2. Press the "User Tools" key.



m016s113

3. Press the "Up" or "Down" key to select "Reports Print", and then press the "OK" key.



m016s114

4. Press the "Up" or "Down" key to select "Configuration Page" or "Maintenance Page", and then press the "OK" key.
5. The configuration page or maintenance page is printed.

Other Types of Reports

You can also check other reports than two reports (configuration page and maintenance page) with "Report Print" in the "Menu".

- Activity Report
Prints a fax transmission and reception report for the last 100 jobs.
- Memory List
Prints a list of unsent fax jobs remaining in the machine's memory.
- Quick Dial List
Prints a list of scan and fax Quick Dial entries.
- Speed Dial List
Prints a list of Speed Dial entries.
 - No Sort
Prints the list with the entries sorted by Speed Dial registration number.
 - Sort By Name
Prints the list with the entries sorted by name.
- Scan Directory List
Prints a list of scan destinations.
- Scan Transmission Log
Prints a scan transmission report.

Total Counter

Total Counter:

The total counter incremented by the "**engine controller board**" each time the board issues a print command to the engine.

The value is calculated as follows:

Total counter = Copier counter + Printer counter + FAX counter + Reports print

Application Counters:

Application counters exist for each individual primary machine function (Copier, Printer, FAX, etc.), and are incremented by the "**controller board**" each time the board issues a print request for the function in question.

5.3 FIRMWARE UPDATING

★ Important

- Never turn the machine's main power off while the firmware is being updated, as this could damage the ECB or controller board.

5.3.1 CHECKING THE MACHINE FIRMWARE VERSION

To update the firmware for this machine, you need the most recent version of the firmware (firmware file downloadable from the Internet).

1. Turn the machine's main power on.
2. Press "User/Tool" Key and select "Reports Print" with the "Up" or "Down" key.
3. Press "OK" and select "Maintenance Page" with the "Up" or "Down" key.
4. Press "OK" to print the "Maintenance Page", which shows the "Firmware Version (Controller)" and "Engine FW version".

5.3.2 UPDATING THE CONTROLLER FIRMWARE

Using the following procedure to update the controller firmware, be sure to print the configuration page both before and after the update. Comparing pre- and post-update configuration pages allows you to check whether or not the update was successful. Follow the procedure carefully, and note that it will vary in parts depending on which version of the firmware is currently installed.

Procedure

When updating firmware, always disconnect any other cable(s) than the one being used for the update operation.

(When updating firmware via USB cable, first disconnect any network and phone line cables, and when updating firmware via LAN cable, first disconnect any USB and phone line cables.)

1. Prepare:
 - Computer
 - USB cable or LAN (Local Area Network) cable
2. Download the firmware files to your computer.

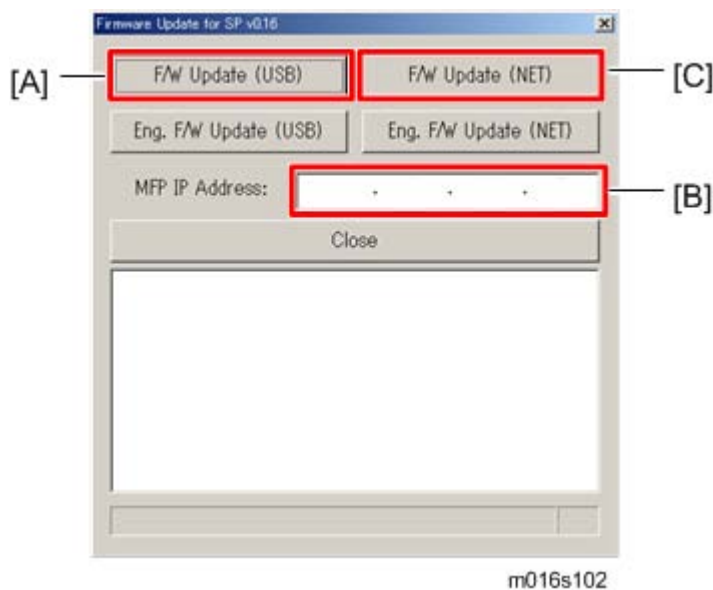


Firmware Updating

3. Make a folder on a local drive of your computer and save the files there.



- "FWUpdate ToolSP.exe": Used for Controller firmware or Engine firmware
 - "FWUpdate Tool.exe": Used for Controller firmware
4. Connect a USB cable between a computer and the machine.
 5. Click the "FWUpdateToolSP.exe" or "FWUpdateTool.exe" file to execute the updating program.



6. For a USB connection, click "F/W Update (USB)" [A]. For a network connection, enter the machine's IP address in "MFP IP Address" [B], and then click "F/W Update (NET)" [C].
7. The message "Download complete" appears.

CAUTION

- Do not turn the main power off from this point until the update procedure is completed.
8. The following message appears on the screen:
"Firmware is Updating ..."
 9. Wait until the update is finished.



- Do not touch the machine during updating!
10. The update is finished when "Firmware Update Done. Please Reboot" appears on the operation panel's display.
 11. Turn the main power of the machine off, and then turn it back on.
 12. Print a configuration page to check the machine's firmware version.

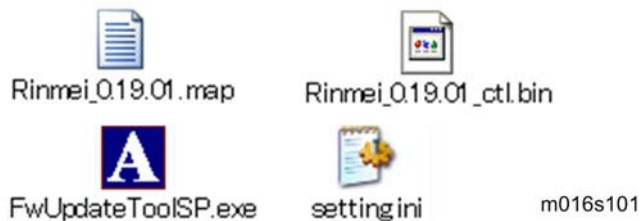
5.3.3 UPDATING THE ENGINE FIRMWARE

Procedure

When updating firmware, always disconnect any other cable(s) than the one being used for the update operation.

(When updating firmware via USB cable, first disconnect any network and phone line cables, and when updating firmware via LAN cable, first disconnect any USB and phone line cables.)

1. Prepare:
 - PC
 - USB cable or network cable
2. Download the firmware file to your computer.

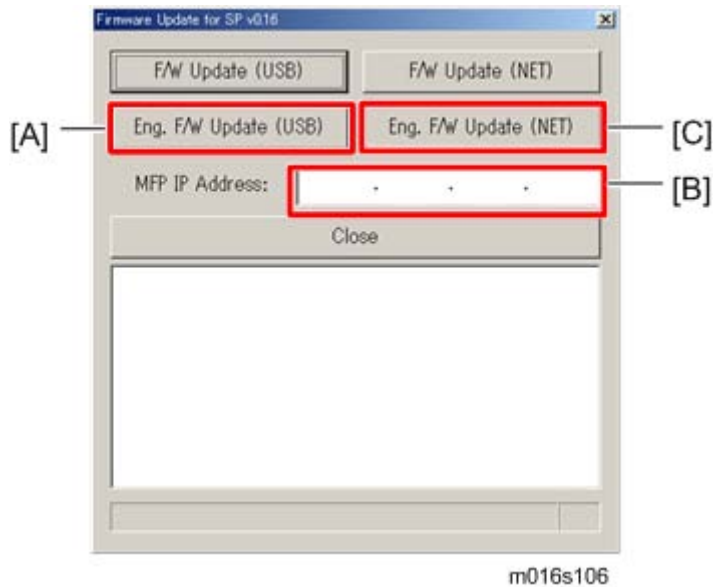


3. Make a folder on a local drive of your computer and save the files there.
4. Connect a USB cable between your computer and the machine.
5. Click the "FWUpdateToolSP.exe" file to execute the updating program.



6. The above updating program should appear on the screen.

Firmware Updating



7. For a USB connection, click "Eng. F/W Update (USB)" [A]. For a network connection, enter the machine's IP address in "MFP IP Address" [B], and then click "Eng. F/W Update (NET)" [C].
8. The update is in progress when "Firmware is Updating" appears.

↓ Note

 - You will see the progress percentage appear while the update is in progress.
 - Do NOT turn the main power of the machine off during updating.
9. The update is finished when "Firmware Update Done. Please Reboot Engine." appears.
10. Turn the main power of the machine off, and then back on.

5.3.4 UPDATING THE BOOT LOADER FIRMWARE

This is also listed on the configuration page, but this firmware is not updated in the field.

5.3.5 UPDATING FAILURE

If the firmware update is not successful, the update process is suspended and an error message should display on the FW Update Tool screen. If this happens, DO NOT turn off the machine, and execute the update procedure again (unless the error message "Downloaded file is broken! Do NOT use print, scan, fax and copy function at the same time." is displayed).

If power is turned off accidentally during a firmware update, the firmware will not be correctly updated, and the machine may not start up normally. If the machine does not start up normally, the controller firmware and/or the engine firmware will need to be updated again.

When the machine does not start up normally, in most cases, the panel display will indicate one of the following two conditions:

- When attempting to restart the machine, the LCD panel display indicates "Initializing" indefinitely.
In this case, the controller firmware update has failed. The controller firmware must be updated again.
- When attempting to restart the machine, the LCD panel display indicates "Please Download Engine FW Again!"
In this case, the engine firmware update has failed. The engine firmware must be updated again.

5.3.6 FW UPDATE TOOL MESSAGES

FW Update Tool Messages: Information

Message for USB update

Messages	Comment	Action
USB Upload : End of data	Send F/W file to MFP successfully. (Transmission Time: <30 sec)	Please reboot MFP after panel shows reboot message.
USB Upload : FAIL	Can not open USB printer driver while F/W file is transmitted.	Check USB cable connection. Check the installation of USB Print Driver if it is available. Check MFP status if it is available.
	F/W file transmission can not be completed. (Transmission will be canceled if timeout.)	Check USB cable connection. Check USB Print Driver if it is available. Check MFP status if it is available.
Can't open ROM file.Please check ROM file.	F/W file does not exist.	Check the download file name in setting.ini. "ImageFile="
		Check the download file and fw update tool is in the same folder.

Messages	Comment	Action
Can't open Eng. ROM file. Please check Eng. ROM file.	Engine F/W file does not exist.	Check the download file name in setting.ini. "EngImageFile=" Check the download file and fw update tool is in the same folder.
New Version: Update FW	AIO FW is transmitting	Not available
Eng FW version: Update Eng FW	Engine FW is transmitting	Not available
Firmware is Updating...	AIO FW is updating	Not available
Eng Firmware is Updating...	Engine FW is updating	Not available
FW Update Done. *** Please reboot the Machine.***	F/W update is completed.	Please reboot the Machine.

Firmware Updating

Message for Network update

Messages	Comment	Action
Connecting...	Connect to MFP.	Please wait a moment.
Net Upload : End of data	Update F/W successfully. (Transmission Time: <30 sec)	Please reboot MFP after panel shows reboot message.
Net Upload : FAIL	Can not open FTP port of MFP before F/W file is transmitted. (Transmission will be canceled if timeout.)	(1) Check network cable connection. (2) Check MFP status if it is available. (3) Check MFP and PC IP address setting. (4) Check PC firewall setting about FTP.
	F/W file transmission can not be completed. (Transmission will be canceled if timeout.)	(1) Check network cable connection. (2) Check MFP status if it is available.
Can't open ROM file. Please check ROM file.	F/W file does not exist.	Check the download file name in setting.ini. "ImageFile="
Can't open Eng. ROM file. Please check Eng. ROM file.	Engine F/W file does not exist.	Check the download file name in setting.ini. "EngImageFile="
		Check the download file and fw update tool is in the same folder.

Messages	Comment	Action
New Version: Update FW	AIO FW is transmitting	Not available
Eng FW version: Update Eng FW	Engine FW is transmitting	Not available
Firmware is Updating...	AIO FW is updating	Not available
Eng Firmware is Updating...	Engine FW is updating	Not available
FW Update Done. *** Please reboot the Machine.***	F/W update is completed.	Please reboot the Machine.

FW Update Tool Messages: Error

Message for USB update

Messages	Comment	Action
Machine is not ready.	Can not get MFP status form USB status channel before F/W file is transmitted.	Check USB cable connection. Check USB Print Driver if it is available. Do not update F/W when MFP is in power-on stage.
Wrong Model.	F/W file is not matched for current machine.	Please check the version of F/W file and machine if it is suitable for MFP.
Machine is busy.	F/W update is running. Other MFP functions are running.	Please wait F/W update is completed. Please wait other MFP functions are completed.
FW Update Done. *** Please reboot the Machine.***	F/W update is completed.	Please reboot the Machine.
Machine loses communication. ***Please check FW Update Done. Then reboot the Machine.***	F/W file has transmitted. Polling F/W update progress fail.	Do not reboot engine till Engine Panel display "Firmware Update Done. Please reboot". Then reboot engine.
Downloaded file is broken! Do NOT use print, scan, fax and copy function at the same time.	F/W checks the downloaded file. And get wrong checksum. So stop to modify F/W.	Check the downloaded file is not broken. Do not use MFP functions when update firmware.

Message for Network update

Messages	Comment	Action
Machine is not ready.	Can not get MFP status form Network status channel before F/W file is transmitted.	Check PC network settings and IP address. Check MFP network settings and IP address. Do not update F/W when MFP is in power-on stage.
Wrong Model.	F/W file is not matched for current machine.	Please check the version of F/W file and machine if it is suitable for MFP.
Machine is busy.	F/W update is running. Other MFP functions are running.	Please wait F/W update is completed. Please wait other MFP functions are completed.
FW Update Done. *** Please reboot the Machine.***	F/W update is completed.	Please reboot the Machine.
Machine loses communication. ***Please check FW Update Done. Then reboot the Machine.***	F/W file has transmitted. Polling F/W update progress fail.	Do not reboot engine till Engine Panel display "Firmware Update Done. Please reboot". Then reboot engine.
Downloaded file is broken! Do NOT use print, scan, fax and copy function at the same time.	F/W checks the downloaded file. And get wrong checksum. So stop to modify F/W.	Check the downloaded file is not broken. Do not use MFP functions when update firmware.

TROUBLESHOOTING

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

6. TROUBLESHOOTING

6.1 SERVICE CALL CONDITIONS

See "Appendices" for the "Error Messages".

6.1.1 SUMMARY

This machine issues an SC (Service Call) code if an error occurs with the machine. The error code can be seen on the operation panel.

Make sure that you understand the following points;

1. All SCs are logged.
2. At first, always turn the main switch off and on if an SC code is displayed.
3. First, disconnect then reconnect the connectors before replacing the PCBs (if the problem concerns electrical circuit boards).
4. First, check the mechanical load before replacing motors or sensors (if the problem concerns a locked motor).

Fusing related SCs

To prevent damage to the machine, the main machine cannot be operated until the fusing related SC has been reset by a service representative.

- Enter the engine maintenance mode.

Press "O.K" in "Fuser SC Reset" with engine maintenance mode, and then turn the main power switch off and on.

6.1.2 ENGINE SC

SC 2xx (Laser Optics Error)

202	Polygon motor on timeout error
	The polygon mirror motor does not reach the targeted operating speed within 10 sec. after turning.
203	Polygon motor off timeout error
	The polygon mirror motor does not leave the READY status within 20 sec. after the polygon mirror motor switched off.
204	Polygon motor lock signal error
	The signal remains HIGH for 200 ms (or 4times in 50msec polling) while the polygon mirror motor is rotating.
	<ul style="list-style-type: none"> ▪ Polygon motor/driver board harness loose or disconnected ▪ Polygon motor/driver board defective ▪ Laser optics unit defective <ol style="list-style-type: none"> 1. Turn the main power off/on the machine. 2. Replace the interface harness of the laser optics unit. 3. Replace the laser optics unit.
220	Beam Synchronize error
	The laser synchronizing detection signal for LD is not output within 400msec after the LD unit has turned on.
	<ul style="list-style-type: none"> ▪ Disconnected cable from the laser synchronizing detection unit or defective connection ▪ Defective laser synchronizing detector ▪ Defective LD ▪ Defective ECB <ol style="list-style-type: none"> 1. Check the connectors. 2. Replace the laser optics unit. 3. Replace the ECB.

268	Video thermistor error
	At power on, the temperature sensor in the optics unit detected a temperature lower than -30°C for more than 4 sec. -or- It detected a temperature higher than 105°C for more than 1sec.
	<ul style="list-style-type: none"> ▪ Thermistor disconnected (causes extremely low temperature reading) ▪ Thermistor damaged and short circuited (causes extremely high temperature reading) <ol style="list-style-type: none"> 1. Turn the machine's main power off, and then on. 2. Replace the thermistor.

SC 4xx (Image Transfer and Transfer Error)

491	Bias leak
	An error signal is detected for 0.2 seconds when changing the development unit.
	<ul style="list-style-type: none"> ▪ Defective transfer roller ▪ Defective high voltage power pack <ol style="list-style-type: none"> 1. Turn the machine's main power off, and then on.

Service Call Conditions

SC 5xx (Motor and Fusing Error)

500	Main motor error
	<p>The machine does not detect a main motor lock signal within 2sec after the main motor started to rotate.</p> <p>-or-</p> <p>The machine does not release a main motor lock signal within 2sec after the main motor switched off.</p> <p>-or-</p> <p>The machine detects a main motor lock signal every 100ms for seven times consecutively, after the main motor started to rotate stably.</p>
	<ul style="list-style-type: none"> ▪ Overload of ▪ Torque load overload ▪ Defective main motor ▪ Disconnect or defective motor harness <ol style="list-style-type: none"> 1. Turn the machine's main power off, and then on. 2. Check or replace the main motor if the torque load is normal. 3. Replace the motor harness.
530	Fusing Fan Motor Error
	The FAN lock signal – High for 10 seconds, after the fan motor started to rotate.
	<ul style="list-style-type: none"> ▪ Disconnected or defective motor harness. <ol style="list-style-type: none"> 1. Turn the machine's main power off, and then on.

541	Fuser thermistor error
	The thermistor output is less than 0°C for 5 seconds after the fusing lamp turns ON.
	<ul style="list-style-type: none"> ▪ Disconnected or defective thermistor ▪ Disconnected or defective fusing lamp <ol style="list-style-type: none"> 1. Check the harness connection of the thermistor. 2. Replace the fusing unit. <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Engine Maintenance Menu" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to ▪ issue this SC code and cannot be operated.
542	Fuser reload error
	<p>This SC is issued if one of following conditions occurs: The fusing temperature rises 8°C or less in 1.5 seconds; and this continues 5 times consecutively.</p> <p>-or-</p> <p>The fusing temperature has not reached 45°C within 9 seconds (after the fusing lamp comes ON while the machine is warming-up).</p> <p>-or-</p> <p>The fusing unit does not attain reload temperature within 35 s. (normal temperature) or 65 s (lower temperature – the thermistor output is less than 18°C) after the fusing temperature control starts.</p>
	<ul style="list-style-type: none"> ▪ Defective or deformed thermistor ▪ Incorrect power supply input at the main power socket <ol style="list-style-type: none"> 1. Defective fusing lamp

Trouble-shooting

Service Call Conditions

543	High temperature error (Software)
	<ul style="list-style-type: none"> ▪ The detected temperature stays at 225°C for 1 second, and this consecutively occurs 10 times.
	<ul style="list-style-type: none"> ▪ Defective ECB ▪ Defective PSU <ol style="list-style-type: none"> 1. Replace the ECB 2. Replace the PSU <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Fuser SC Reset" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to issue this SC code and cannot be operated.
544	High temperature error (Hardware)
	<ul style="list-style-type: none"> ▪ During stand-by mode or a print job, the detected heating roller temperature reaches 250°C.
	<ul style="list-style-type: none"> ▪ Defective ECB ▪ Defective PSU <ol style="list-style-type: none"> 1. Replace the ECB 2. Replace the PSU <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Fuser SC Reset" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to issue this SC code and cannot be operated.

545	Fusing Lamp Overheat Error
	<p>The fusing lamps remained ON at full capacity for more than 9 s after the fusing temperature attains reload temperature.</p> <ul style="list-style-type: none"> ▪ Deformed thermistor ▪ Thermistor not in the correct position ▪ Defective fusing lamp <ol style="list-style-type: none"> 1. Replace the fusing unit. 2. Replace the fusing lamp. <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Fuser SC Reset" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to issue this SC code and cannot be operated.
547	Zero cross error
	<ul style="list-style-type: none"> ▪ The zero cross signal is detected three times even though the fusing lamp relay is off when turning on the main power. ▪ The zero cross signal is not detected for 3 seconds even though the fusing lamp relay is on after turning on the main power or closing the front door. ▪ The detection error occurs twice or more in 11 zero cross signal detections. This error is defined when the detected zero cross signal is less than 45. ▪ The zero cross signal is not detected three times while the main power remains ON. <ul style="list-style-type: none"> ▪ Defective fusing relay ▪ Defective fusing relay circuit ▪ Shorted +24V fuse on the PSU ▪ Unstable power supply. <ol style="list-style-type: none"> 1. Check the power supply source. 2. Replace the +24V fuse on the PSU. 3. Replace the PSU

Trouble-shooting

Service Call Conditions

557	Zero cross frequency error
	The zero cross signal is detected ten times while the fusing lamp relay remains ON after turning on the main power.
	<ul style="list-style-type: none"> ▪ Defective fusing lamp relay ▪ Defective drive circuit of the fusing lamp relay <ol style="list-style-type: none"> 1. Check the power supply source. 2. Replace the fusing unit. <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Fuser SC Reset" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to issue this SC code and cannot be operated.
559	Fuser 3times jam error
	<p>The paper jam counter for the fusing unit reaches 3. The paper jam counter is cleared if the paper is fed correctly.</p> <p>This SC is activated only when this function is enabled with "Engine Maintenance" (default "OFF").</p>
	<ul style="list-style-type: none"> ▪ Defective fusing unit ▪ Defective fusing control <ol style="list-style-type: none"> 1. Clear this SC to send a command after a jam removal. 2. Turn off this function after a jam removal. <p>★ Important</p> <ul style="list-style-type: none"> ▪ Execute "Fuser SC Reset" to recover the machine after completing the recovery procedure. Otherwise, the machine continues to issue this SC code and cannot be operated.

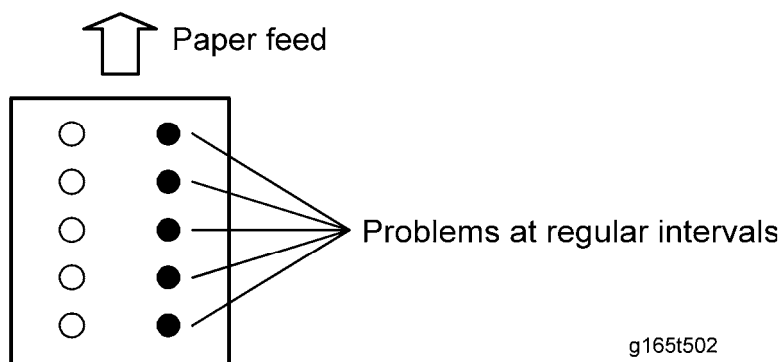
SC 6xx (Communication and Other Error)

669	EEPROM communication error
	An unexpected value exists in the initialization flag of the EEPROM
	<ul style="list-style-type: none"> ▪ EEPROM not connected ▪ Defective EEPROM <ol style="list-style-type: none"> 1. Installing the EEPROM. 2. Replacing the EEPROM.
688	CTL_PRREQ_N signal does not come.
	The ECB does not receive a memory address command from the controller 20 seconds after paper is in the position for registration.
	<ul style="list-style-type: none"> ▪ Defective controller board ▪ Communication error <ol style="list-style-type: none"> 1. Turn the machine's main power off, and then on. 2. Check if the controller board is firmly connected to the ECB.

6.2 IMAGE PROBLEMS

6.2.1 OVERVIEW

Image problems may appear at regular intervals that depend on the circumference of certain components. The following diagram shows the possible symptoms (black or white dots at regular intervals).



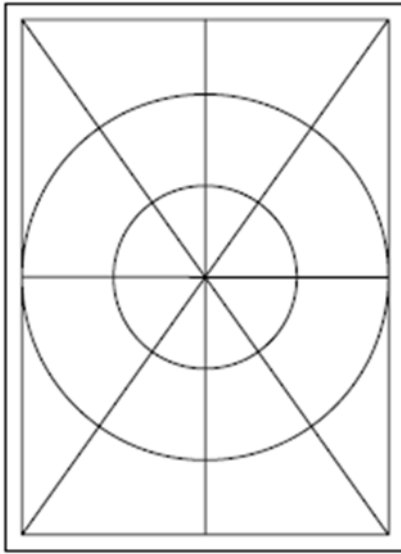
- Abnormal image at 29.8 mm intervals: Charge roller
- Abnormal image at 37.7 mm intervals: Registration roller
- Colored spots at 37.9 mm intervals: Print cartridge (Development roller)
- Abnormal image at 45.8 mm intervals: Transfer roller
- Colored spots at 75.3 mm intervals: Print cartridge (OPC drum)
- Abnormal image at 94.2 mm intervals: Fusing unit (Pressure roller)
- Abnormal image at 93.1 mm intervals: Fusing unit (Hot roller)
- Abnormal image at 100.5 mm intervals: Paper feed roller

6.2.2 TEST PAGE PRINTING

When you check an image problem or other problems, it might be necessary to print a test page. Follow the test page print procedure below to print a test page.

Test Page Print Procedure

1. Press the "User Tools".
 2. Press the "Up" or "Down" keys to select "PDL Settings" and then press the "OK" key.
 3. Press the "Up" or "Down" keys to select "List Print" and then press the "OK" key.
 4. Press the "Up" or "Down" keys to select "Test Page" and then press the "OK" key.
 5. Press the "OK" key to print the test page to preview the settings.
- Test page sample



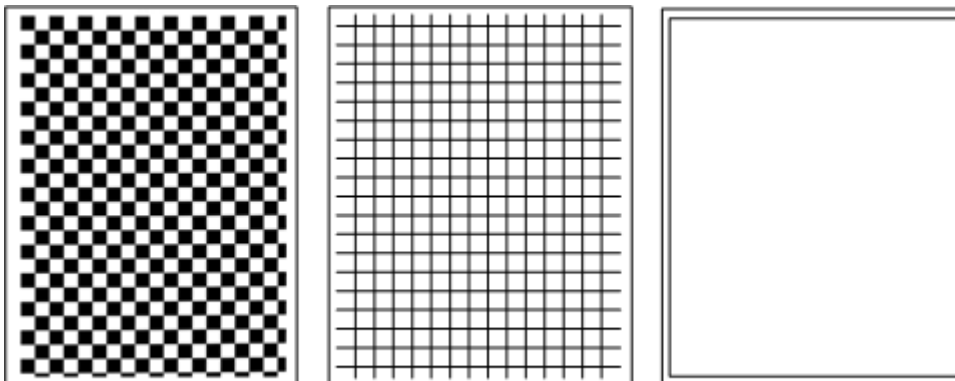
m016t501

6.2.3 TEST PATTERN PRINTING

Follow the test pattern print procedure below to print a test pattern.

Test Pattern Print Procedure

1. Enter the "Maintenance Mode".
2. Select "Engine Maintenance", and then press "OK" key.
3. Select "Test Pattern", and then press "OK" key.
4. The following three test pattern pages (Checker flag/ Grid pattern/ Trimming pattern) are printed.
 - Test pattern samples



m016t502

6.2.4 DARK LINES IN HALFTONE AREAS AT 75MM INTERVALS

Using the machine in a room where humidity level is too low may cause dark lines in halftone areas at 75mm intervals. This is because low-humidity conditions tend to cause variations in light sensitivity across the surface of the drum.

Selecting [On] for [Low Humidity Mode] under [Machine Settings] may help to prevent these lines from appearing.

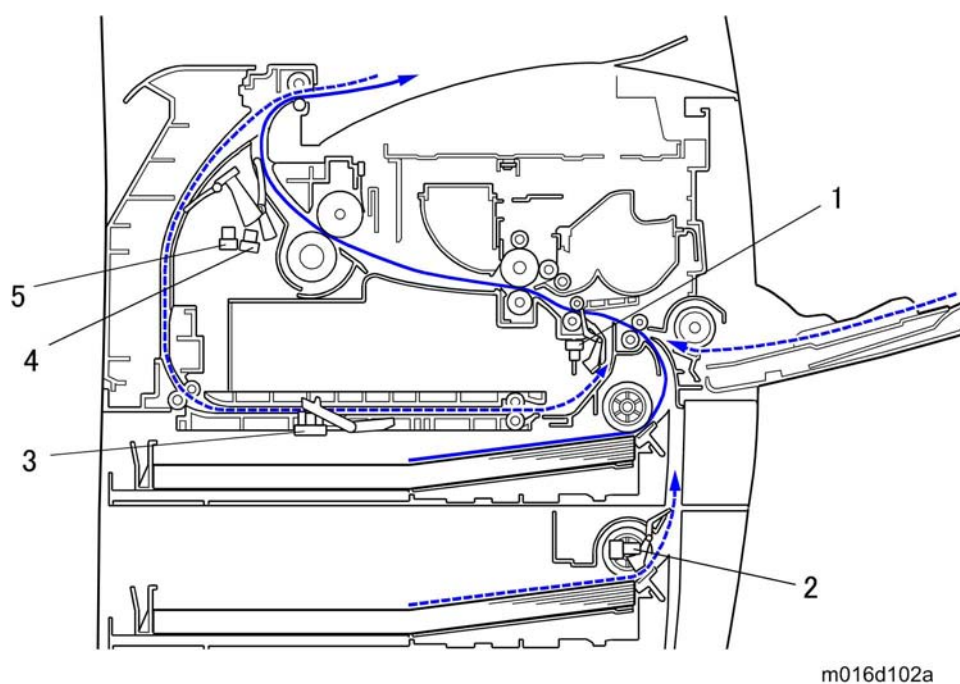
When the humidity mode setting is enabled, the drum is rotated slightly every 15 minutes. This keeps the light sensitivity constant across the entire surface of the drum.

6.3 JAM

6.3.1 JAM SENSOR LAYOUT

There are the sensors of the jam detection as shown below.

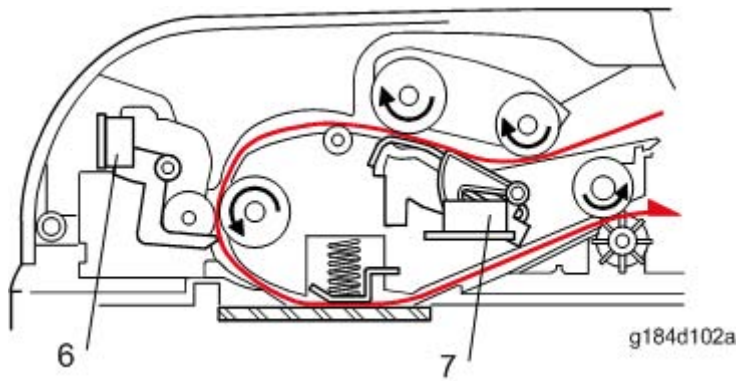
Paper Jam



1. Registration Sensor
2. Tray2 Paper Feed Sensor
3. Inverter Sensor
4. Paper Exit Sensor
5. Relay Sensor

Jam

Original Jam



1. ADF Feed Sensor
2. Original Set Sensor

6.3.2 JAM MESSAGE LIST

Here is a list of common jam messages, a description of the causes.
See the drawing shown above to check the sensor location.

Paper Jam

Related to jam code

Jam message	Cause	Sensor
Bypass Tray Paper Misfeed Jam	Paper does not reach registration sensor (bypass tray)	Registration sensor [1]
Upper Misfeed Jam	Paper does not reach registration sensor (tray1)	Registration sensor [1]
Lower Misfeed Jam	Paper does not reach tray2 convey sensor	Tray2 paper feed sensor [2]
	Paper does not reach registration sensor	Registration sensor [1]
Duplex Jam Duplex Misfeed Jam	Paper does not reach registration sensor (duplex feed tray)	Registration sensor [1]
	Paper does not reach duplex entry sensor	Relay sensor [5]
	Paper does not reach duplex exit sensor	Inverter sensor [3]
Inner Jam	Paper stayed on registration sensor	Registration sensor [1]
	Paper does not reach exit sensor	Paper exit sensor [4]
Outer Jam	Paper stayed on exit sensor	Paper exit sensor [4]

Related to initialize jam

Jam

Jam message	Cause
Lower Misfeed Jam	Tray2 paper feed sensor [2]
Inner Jam	Registration sensor [1]
Outer Jam	Paper exit sensor [4]
Duplex Jam Duplex Misfeed Jam	Relay sensor [5]
	Inverter sensor [3]

Original Jam

Jam message	Cause
"ADF Jam Open ADF Cover and Clear Jam"	ADF Feed sensor [6] Original set sensor [7]

ENERGY SAVING

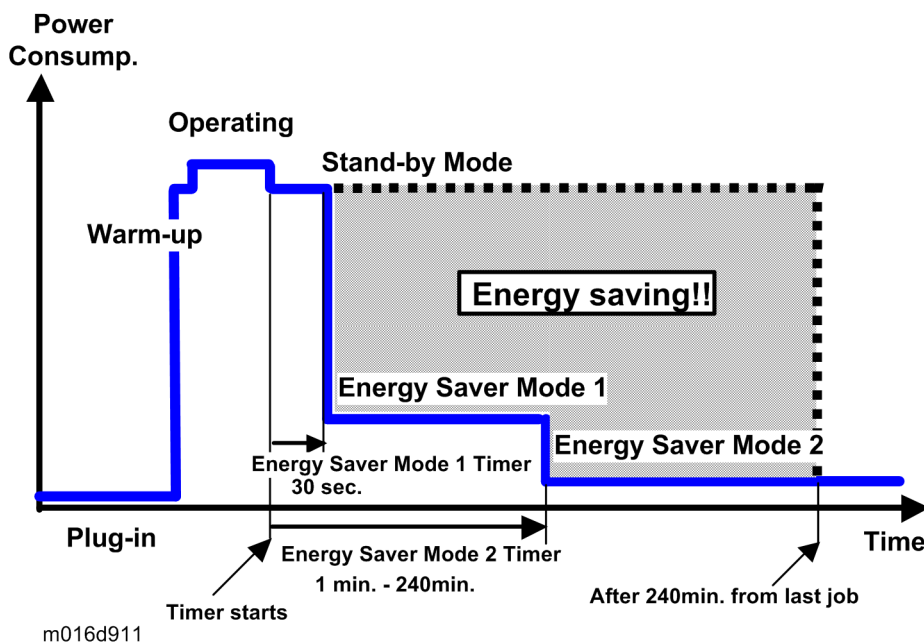
REVISION HISTORY		
Page	Date	Added/Updated/New
		None

7. ENERGY SAVING

7.1 ENERGY SAVE

7.1.1 ENERGY SAVER MODES

Customers should use energy saver modes properly, to save energy and protect the environment.



The backlight of the screen is turned off and "Energy Saver Mode1" appears on the screen, and then the fusing lamp is turned off and "Energy Saver Mode2" appears on the screen. The area shaded grey 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 240 min., the grey area will disappear, and no energy is saved before 240 min. expires.

Timer Settings

The user can set these timers with User Tools (Menu > Admin Settings > Power Saver > Energy Saver Mode1 or Mode2)

- Energy Saver Mode1 (30 sec.): This can be only turned on or off.
- Energy Saver Mode2 (1 to 240 min.): This can be turned on or off and timer setting is adjustable (default: 1min.).

Energy Save

Return to Stand-by Mode

Energy Saver Mode1

- Recovery time: 10 sec.

Energy Saver Mode2

- Recovery time: 23 sec.

Recommendation

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 Energy Saver Mode2 Timer is not too long. Try with a shorter setting first, such as 30 min., then go to a longer one (such as 60 min.) 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.

7.2 PAPER SAVE

7.2.1 EFFECTIVENESS OF DUPLEX/COMBINE FUNCTION

Duplexing and the combine functions reduce the amount of paper used. This means that less energy overall is used for paper production, which improves the environment.

1. Duplex:

Reduce paper volume in half!



d062d102

2. Combine mode:

Reduce paper volume in half!



d062d100

Paper Save

3. Duplex + Combine:

Using both features together can further reduce paper volume by 3/4!



d062d101

To check the paper consumption, look at the total counter and the duplex counter.

The total counter counts all pages printed.

- For one duplex page, the total counter goes up by 2.
- For a duplex job of a three-page original, the total counter goes up by 3.

The duplex counter counts pages that have images on both sides.

- For one duplex page, the duplex counter goes up by 1.
- For a duplex job of a three-page original, the duplex counter will only increase by 1, even though two sheets are used.

Total counter

This machine has a total sides printed counter only (so a duplex print is counted as two, not one). You can check the total counter in the "Maintenance Mode" or on the "Maintenance Page".

- Total counter: "Maintenance Mode" > "Engine Maintenance" > "Total Counter In" or "Maintenance Page"

The following table shows paper savings and how the counters increase for some simple examples of single-sided and duplex jobs

Duplex mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter
1	1	1	0	1
2	2	1	1	2
3	3	2	1	3
4	4	2	2	4
5	5	3	2	5
10	10	5	5	10
20	20	10	10	20

If combine mode is used, the total and duplex counters work in the same way as explained previously. The following table shows paper savings and how the counters increase for some simple examples of duplex/combine jobs.

2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter
1	1	1	0	1
2	2	1	1	1
3	3	2	1	2
4	4	2	2	2
5	5	3	2	3
10	10	5	5	5
20	20	10	10	10

Paper Save

Duplex + 2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter
1	1	1	0	1
2	2	1	1	1
3	3	1	2	2
4	4	1	3	2
5	5	2	3	3
6	6	2	4	3
7	7	2	5	4
8	8	2	6	4
9	9	3	6	5
10	10	3	7	5
11	11	3	8	6
12	12	3	9	6

M016/M017

SERVICE MANUAL APPENDICES

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

M016/M017 APPENDICES

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APPENDIX SPECIFICATIONS

1. APPENDIX: SPECIFICATIONS

1.1 GENERAL SPECIFICATIONS

1.1.1 GENERAL SPECIFICATIONS

Configuration	Desktop	
Paper capacity	Main tray	250 sheets (80g/m ²) 100 postcards
	By-pass tray	50 sheets (80g/m ²) 8 envelopes 20 postcards
	Optional paper feed unit	Plain paper: 250 sheets (80g/m ²)
	Output tray	Face down: 125 sheets
Paper size	Main tray	A4, A5, Letter, Legal, B5, HLT, A6, Executive, Postcard Custom size: Max: 216 x 356mm (8.5 x 14 inch) Min: 100 x 148mm (3.937 x 5.8 inch)
	By-pass tray	A4, A5, A6, Letter, Legal, HLT, Executive, Postcard, B5, Envelope Custom size: Max.: 216 x 356mm (8.5 x 14 inch) Min.: 90 x 148mm (3.5 x 5.8 inch)
	Duplex	A4, Letter, Legal
	Optional paper feed unit	A4, LT, LG, B5, HLT, A5

Paper weight	Main tray	52-162 g/m ² (14-43 lb)
	By-pass tray	52-162 g/m ² (14-43 lb)
	Optional paper feed unit	60-105 g/m ² (16-28 lb)
ADF	Paper weight	52-105 g/m ² (14-28 lb)
	Capacity	35 sheets
	Width	139.7 to 216mm (5.5 to 8.5 inch)
	Length	139.7 to 355.6mm (5.5 to 14 inch)
Machine size (W x D x H)	420 x 397 x 442 mm (16.5 x 15.6 x 17.4 inch) Without Option	
Weight	M016: 17.1 Kg(37.7 lb) M017: 18.0 Kg(39.7 lb) ▪ With a starter AIO cartridge.	
Energy Saver Mode	Selectable 1 to 240 minutes (1 minute steps)	
Power consumption	Maximum	NA/TW: Less than 850 W (energy star compliant) EU/AP/CN: Less than 895 W (energy star compliant)
	Ready mode	120W
	Power save mode	70 W (energy saver mode1) 10 W (energy saver mode2)
Power	NA	120 V, 60Hz ± 3Hz
	TW	110 V, 60Hz ± 3Hz
	EU/AP/CN	220 - 240 V, 50/60Hz ± 3Hz
Noise	Printing	Less than 65.8 dB (A)

General Specifications

	Standby Mode	Less than 40 dB (A)
	Energy Save Mode	Less than 40 dB (A)
Warm up time	Less than 30 seconds	
Machine life	5 years, 200,000 prints (whichever comes first)	
Environmental Standard	Energy star program (M017)	

1.1.2 PRINTER

Print speed	Simplex	30 ppm LT, 28 ppm A4 (600 dpi)
	Duplex (M017 only)	15 ppm LT, 14 ppm A4 (600 dpi)
Printer drivers	PCL, PS3	
Font	80 fonts	
Resolution	Normal	600 x 600 dpi
	RET	1200 x 600 dpi
Toner save mode	Supported	
Warm-up time	Less than 30 seconds	
First print time	Less than 8 seconds	
Duplex print	Supported (M017 only)	
Interface option	USB 2.0, 10/ 100 Base - TX	
Network	Protocol	TCP/IP, IPP
Memory	Standard	128MB
Operation System	PCL: Windows XP, 2000/2003server, Vista, Windows 2008 server PS3: Windows XP, 2000/2003server, Vista, Windows 2008 server Macintosh 10.2.8 -	

1.1.3 COPIER

1st copy speed			Less than 12 sec.
Maximum original size		Flatbed	A4 (210 x 297mm) / Letter (215.9 x 279.4mm)
		ADF	A4 (210 x 297mm) / Letter (215.9 x 279.4mm)/ Legal (215.9 x 355.6mm)
Copy Speed	Single Document	Platen	B/W: 20 cpm (A4), 21 cpm (LT) FC: 20 cpm (A4), 21 cpm (LT)
	Multiple Copy	ADF	B/W: 20 cpm, FC: 20 cpm (A4), B/W: 21 cpm, FC: 21 cpm (LT)
	Multiple Document Single Copy	ADF	B/W: 20 cpm, FC: 10 cpm
Multiple copy			Up to 99
Resolution (H x V)		Scanning	600 x 600 dpi (Flatbed), 600 x 300 dpi (ADF)
		Printing	600 x 600 dpi
Grayscale			256 levels
Reduction / Enlargement		Fix	50, 71, 100, 141, 200%
		Custom	25 - 400% in 1% steps
Copy mode			Text/Photo/Mixed
Memory copy			Yes
Auto-duplex copy			No
Interrupt copy			No
Combine copy			2 in 1, 4 in 1 (Only ADF)

APS/AMS	No/No
Auto Tray Switch	No
Directional Magnification	No
Directional Size Magnification	No
Photo Mode	Yes
Auto Start	No
User Program	No
Electronic Sorting	Standard (collation, ADF only)
Image Rotation	No
Series Copy	No

1.1.4 SCANNER

Scanning Device		CCD array image-sensor
Resolution		Scanner: 1200 x 1200 dpi
		Driver: Max. 19200 x 19200 dpi (interpolated)
Gray scale		256 levels
Scan modes/ speed (A4, 200dpi,Compression)		Less than 5 sec.
Maximum original size	Platen	Width max: Up to 216mm, Length max: Up to 297mm
	ADF	Width max: Up to 216mm, Length max: Up to 356mm
Scan Depth		16 bits color processing (input), 8 bits color processing (output)
PC Interface		USB2.0, 10/100Base-TX
TWAIN Compliment		TWAIN, WIA
Scanner utilities and Drivers		TWAIN Driver, Scanner utility (PageManager)

1.1.5 FAX

Network	PSTN/ PBX	
Compatibility:	T30 (ITU-T Super G3)	
Modem speed:	Automatic Fallback: 33600 bps	
Transmission Speed	Approx. 3sec	
Coding system:	MH/MR/MMR	
Contrast control:	3 Level	
Telephone Connection	Standard: One connection	
Answering Machine Interface	Standard	
Monitor Speaker	3 Level	
Document size:	ADF Width	139.7 to 215.9mm (5.5" to 8.5")
	ADF Length	139.7 to 355.6mm (5.5" to 14")
	Flatbed Width	216mm
	Flatbed Length	297mm
Scanning width:	Max. 215.9 mm (8.5")	
Printing width:	Max. 215.9 mm (8.5")	
Gray scale:	256 levels	
Polling type:	None	
Resolution:	Standard: 200dpi x 100dpi (8 dot/mm x 3.85 line/mm) Fine/Photo: 200dpi x 200dpi (8 dot/mm x 7.7 line/mm)	

General Specifications

Scanning Speed	Less than 5 sec. (A4 SEF, 200 dpi)
Modem Speed	Automatic Fallback: 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800, 2400bps
SAF Memory	100 pages (ITU No.1 chart)
Memory Backup	1 hour
One-touch dial:	20
Abbreviated dial:	50
Broadcasting:	100 stations
Communication source:	Public switched telephone network
PC Fax utility:	Available
Automatic re-dial	Available
Auto Answer	3-5 rings (Default 3 rings)

1.2 SUPPORTED PAPER SIZES

A	Supported, with size molded into tray. Need to select paper size by operation panel/driver.
B	Supported but size is not molded into tray. Need to select paper size by operation panel/driver.
C	Need to input paper size by operation panel and driver.
N	Not supported.

Type	SEF/ LEF	Size	Input Tray			Auto Duplex
			Standard Tray	Option PFU	Bypass Tray	
A4	SEF	210x297	A	A	B	C
B5	SEF	182x257	A	A	B	N
A5	SEF	148x210	A	A	B	N
	LEF	210x148	N	N	C	N
B6	SEF	128x182	B	N	B	N
	LEF	182x128	N	N	N	N
A6	SEF	105x148	B	N	B	N
	LEF	148x105	N	N	N	N
Postcard	SEF	100 x 148	C	N	C	N
	LEF	148 x 100	N	N	N	N
	SEF	200 x 148	C	N	C	N
	LEF	148 x 200	C	N	N	N

Supported Paper Sizes

Type	SEF/ LEF	Size	Input Tray			Auto Duplex
			Standard Tray	Option PFU	Bypass Tray	
Legal	SEF	8 $\frac{1}{2}$ "x14"	A	A	B	B
Letter	SEF	8 $\frac{1}{2}$ "x11"	A	A	B	B
Half Letter	SEF	5 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ "	B	B	B	N
	LEF	8 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ "	N	N	N	N
Executive	SEF	7 $\frac{1}{4}$ "x10 $\frac{1}{2}$ "	A	N	B	Y
F	SEF	8" x 13"	B	N	B	N
Foolscap	SEF	8 $\frac{1}{2}$ " x 13"	B	N	B	N
Folio	SEF	8 $\frac{1}{4}$ " x 13"	B	N	B	N
16 Kai	SEF	195 x 267	B	N	B	N
Env. #10	SEF	4 $\frac{1}{8}$ " x 9 $\frac{1}{2}$ "	N	N	B	N
Env. Monarch	SEF	3 $\frac{7}{8}$ " x 7 $\frac{1}{2}$ "	N	N	B	N
Env. C5	SEF	162 x 229	N	N	B	N
Env. C6	SEF	114 x 162	N	N	B	N
Env. DL	SEF	110 x 220	N	N	B	N
	Width	100-216mm	C	N	C	N
Length	148-156mm	C	N	C	N	
Width	90-216mm	N	N	C	N	
Length	140-356mm	N	N	C	N	

APPENDIX: SP MODE TABLES

2. APPENDIX: SP MODE TABLES

2.1 SERVICE MENU

See "Main Chapters" for "Service Program Mode."

APPENDIX

TROUBLESHOOTING GUIDE

3. APPENDIX: TROUBLESHOOTING GUIDE

3.1 SERVICE CALL CONDITIONS

See "Main Chapters" for "Service Call Conditions."

3.2 ERROR MESSAGES

3.2.1 OVERVIEW

Error codes will be displayed on the LCD panel if the machine has a problem. These can be viewed by a customer.

3.2.2 ERROR MESSAGES LIST

000	Cover Open
	The front or top cover is open.
	<ol style="list-style-type: none">1. Close the front or top cover.2. Replace the interlock switches or actuator mechanism.

010	AIO Set Error
	<ul style="list-style-type: none">▪ Black AIO not set▪ Defective connection of the ID chip terminal on the (black) AIO
	<ol style="list-style-type: none">1. Install the AIO.2. Reinstall or replace the AIO.

014	Waste Toner Bottle Set Error
	<ul style="list-style-type: none">▪ Waste toner bottle not set▪ Disconnected or defective harness of the waste toner bottle set sensor▪ Defective waste toner bottle set sensor
	<ol style="list-style-type: none">1. Install the waste toner bottle.2. Check or replace the harness of the waste toner bottle set sensor.3. Replace the waste toner bottle set sensor.

030	Tray/Paper Selection Error
	<ul style="list-style-type: none"> ▪ No paper in the tray or tray not set in the machine ▪ Paper size requested by the job does not match the paper in the tray
	<ol style="list-style-type: none"> 1. Install the tray or put the correct size paper in the tray. 2. Check the paper setting in the user menu mode.

031	Paper Selection Error: Feed and Exit
	<ul style="list-style-type: none"> ▪ Paper size requested by the job does not match the paper in the tray ▪ Selection error for the paper feed and paper exit location in duplex mode
	Check the paper feed and exit location in the user menu mode.

050	Jam Error: No Feed from Tray 1
	<ul style="list-style-type: none"> ▪ Paper slipped
	Remove the paper jam at tray 1.

052	Jam Error: No Feed from Optional Tray
	<ul style="list-style-type: none"> ▪ Paper slipped
	Remove the paper jam at the optional tray (Tray 2).

055	Inner Jam Error: Registration/ Paper Exit
	<p>A sheet of paper stays at the registration sensor or paper exit sensor.</p> <ul style="list-style-type: none"> ▪ Paper slipped ▪ Paper double feed
	Remove the paper jam at the registration sensor or paper exit sensor.

056	Paper Exit Jam Error: Paper Exit/ Fusing Unit
	A sheet of paper stays at the paper exit sensor or winds around the rollers in the fusing unit. <ul style="list-style-type: none"> ▪ Paper slipped ▪ A sheet of paper is wound around the rollers in the fusing unit
	Remove the paper jam at the paper exit sensor or in the fusing unit.

070	Printing Error: No Paper
	<ul style="list-style-type: none"> ▪ No paper in the tray
	Put paper in the tray.

080	Toner Near End: Black AIO
081	Toner End: Black AIO
	<ul style="list-style-type: none"> ▪ Black toner near-end or end
	Replace the black AIO.

088	Waste Toner Bottle: Near Full
089	Waste Toner Bottle: Full
	<ul style="list-style-type: none"> ▪ Waste toner bottle near-full or full
Replace the waste toner bottle.	

999	Color Registration (MUSIC) Error
	<ul style="list-style-type: none">▪ Color registration (MUSIC) failure
	This error is not displayed even if this error occurs. It is just logged. This error is automatically recovered after the color registration (MUSIC) has been done successfully.

3.2.3 FAX ERROR CODE

This section describes the dial, transmission (TX), and reception (RX) error codes that are printed on the TX Report/Activity Report.

Basic error code structure

Error codes consist of six hexadecimal digits (0–5).

Digit 5 (far left)	TX or RX
TX:	1xxxxx
RX:	2xxxxx

Digit 4	Coding (MH/MR/MMR)
MH:	x1xxxx
MR:	x2xxxx
MMR:	x3xxxx

Digit 3	MODEM mode
V27ter nonECM:	xx1xxx
V29 nonECM:	xx2xxx
V17 nonECM:	xx3xxx
V33 nonECM:	xx4xxx
V34:	xx5xxx
V27ter ECM:	xx9xxx
V29 ECM:	xxaxxx
V17 ECM:	xxbxxx
V33 ECM	xxcxxx

Error Messages

Digit 2	MODEM speed
2400:	xxx1xx
4800:	xxx2xx
7200:	xxx3xx
9600:	xxx4xx
12000:	xxx5xx
14400:	xxx6xx
16800:	xxx7xx
19200:	xxx8xx
21600:	xxx9xx
24000:	xxxaxx
26400:	xxxbxx
28800:	xxxcxx
31200:	xxxdxx
33600:	xxxexx

Error code table

Error Type		Error Description	Error Code
General		Normal (No Error)	0
	STOP	xxxx01	
	H/W Error	Xxxx1f	
	RX T1 Time Out	Not logged in activity report	
	Scanner Error during TX	1xxx11	
	Memory Full during RX	2xxx14	
TX Job Error		TX Job Lost	1xxx18
	TX Job deleted	1xxx19	
Dial failure		Connection Fail	xxxx21
	Dial Fail	xxxx22	
	Redial All Failed	xxxx23	

Error Type		Error Description	Error Code
Comm. Error	1. Phase-B Error	TX T1 Time Out	xxxx31
		V8 negotiation Fail	xxxx32
		Retry Out	xxxx40
		Too many FTT	xxxx41
		Too many CRP	xxxx42
		T2 Time Out	xxxx43
		DCN received	xxxx44
		Command Rec Error	xxxx45
		Resp Rec Error	xxxx46
		Invalid Command/Response RX	xxxx47
		Remoter No RX capability	xxxx48
		T1 time out after EOM	xxxx49
	2. Phase-C Error	T2 Time Out	xxxx50
Image Data not ready		xxxx51	
Phase-C Time Out		xxxx52	
	3. Phase-D Error	Retry Out	xxxx60
T2 Time Out		xxxx61	
DCN received		xxxx62	
Too many CRP		xxxx63	
Too many PPR		xxxx64	

Error Type		Error Description	Error Code
RNR time Out		xxxx65	
RTN/PIN Received, EOR/ERR/DCN		xxxx66	
Invalid Command/Response RX		xxxx67	
Command Rec Error		xxxx68	
Resp Rec Error		xxxx69	
	4. Phase-E Error	Time Out	xxxx70
	5. Other general Comm Error	modem hang-up	xxxx80
V34 abort received		xxxx81	
V34 t1 timeout, control channel error		xxxx82	
V34 t1 timeout, primary channel error		xxxx83	

(M355)

PAPER FEED UNIT TK 1080

REVISION HISTORY		
Page	Date	Added/Updated/New
		None

(M355) Paper Feed Unit TK 1080

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Read This First

Safety and Symbols


Replacement Procedure Safety

CAUTION

- Turn off the main power switch and unplug the machine before beginning any of the replacement procedures in this manual.


Symbols Used in this Manual

This manual uses the following symbols.


: See or Refer to

: Screws

: Connector

: Clamp

: Clip ring

 : E-ring

REPLACEMENT AND ADJUSTMENT

1. REPLACEMENT AND ADJUSTMENT

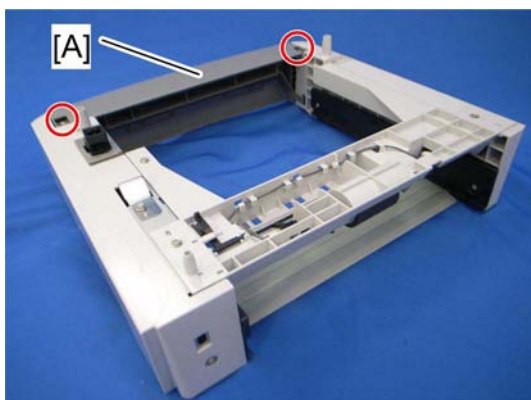
1.1 EXTERNAL COVERS AND PAPER FEED UNIT

CAUTION

- Turn off the main power switch and unplug the machine before attempting any procedure in this section.

1.1.1 REAR COVER

1. Remove the paper tray unit from the main unit.
2. Pull out the paper tray.

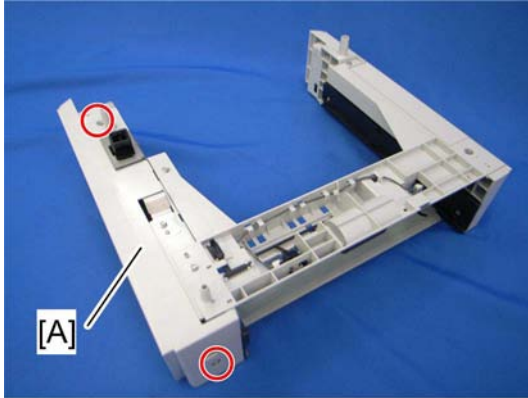


m355r500

3. Rear cover [A] ( x2).

1.1.2 RIGHT COVER

1. Rear cover (🔧 1-1)

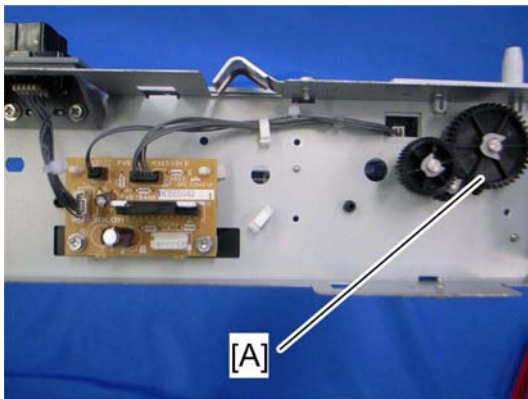


m355r501

2. Right cover [A] (🔧 x2).

1.1.3 PAPER FEED UNIT

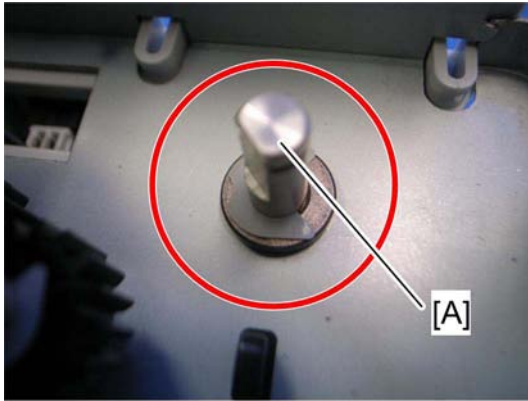
1. Right cover (🔧 p.1-2)
2. Paper feed motor bracket (🔧 p.1-8)



m355r502

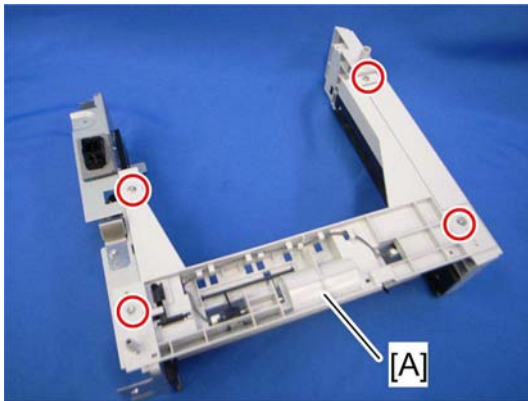
3. Paper feed roller shaft gear [A] (C-ring x1)

External Covers and Paper Feed Unit



m355r503

4. Release paper feed roller shaft [A] (C-ring x1, bushing x1).



m355r505

5. Paper feed unit [A] (🔩 x4)

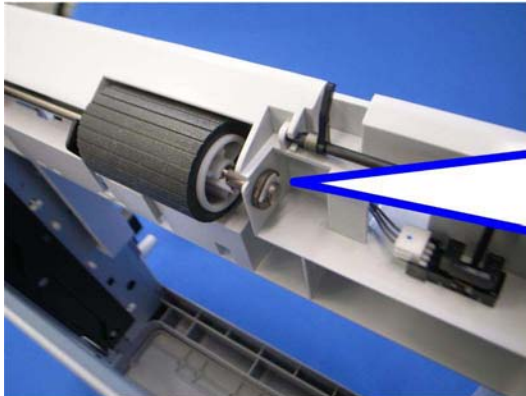
Paper Feed
Unit TK1080
(M355)

1.2 PAPER FEED ROLLER

1.2.1 PAPER FEED ROLLER

Remove the paper feed roller

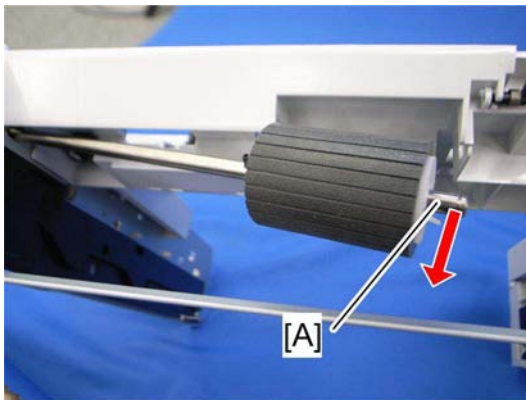
1. Right cover (☞ p.1-2).



m355r510

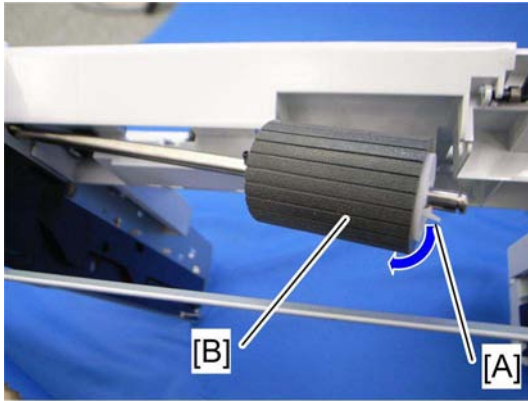


2. Remove a C-ring [A] and a bushing [B].



m355r512

3. Release the paper feed roller shaft [A].

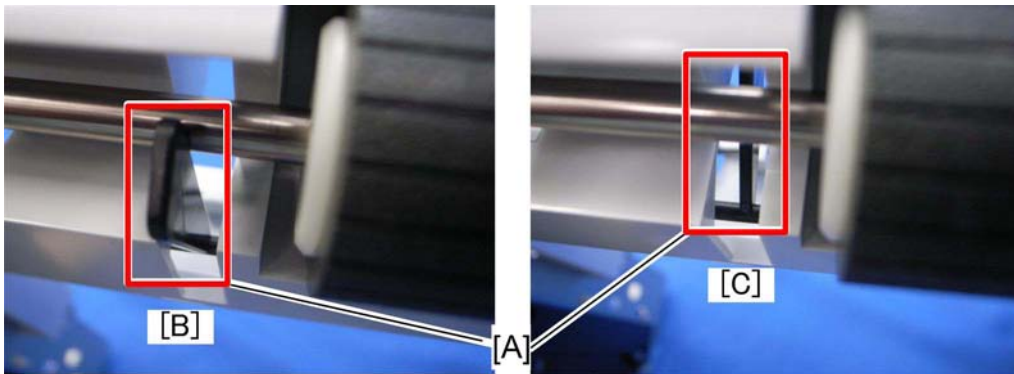


m355r513

4. Release the hook [A] and then move the paper feed roller [B] to the right.

Reinstall the paper feed roller

1. Attach the paper feed roller to the paper feed roller shaft.



m355r514

m355r515

2. Reinstall the paper feed roller shaft correctly.

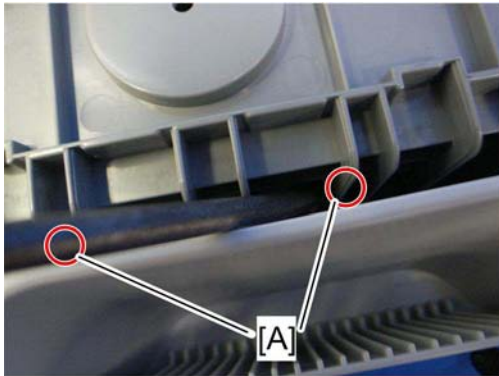
↓ Note

- As shown in the above pictures, the paper feed roller shaft must be installed behind the feeler [A]. The left picture [B] is correct. The right picture [C] is incorrect.
3. Close the right cover first, and then close the rear cover.

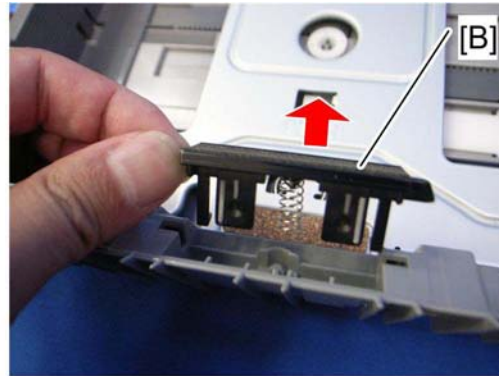
1.3 FRICTION PAD

1.3.1 FRICTION PAD

1. Pull out the paper tray.



m355r516



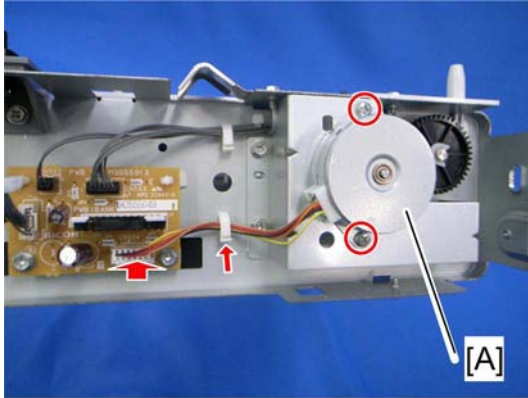
m355r517

2. Turn the paper feed unit over, and release two hooks [A].
3. Turn the unit over again, and remove the friction pad [B].

1.4 PAPER FEED MOTOR AND GEARS

1.4.1 PAPER FEED MOTOR

1. Right cover (🔧 p.1-2)

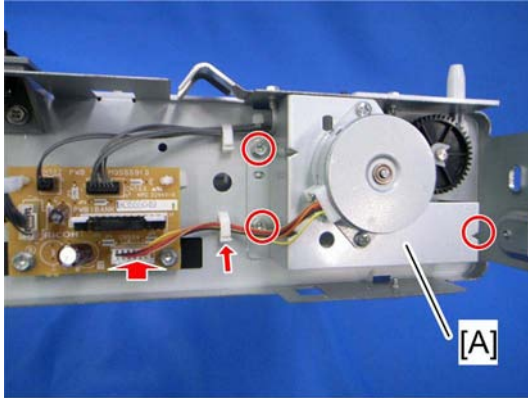


m355r520

2. Paper feed motor [A] (🔧 x2, 🛠️ x1, 🛠️ x1)

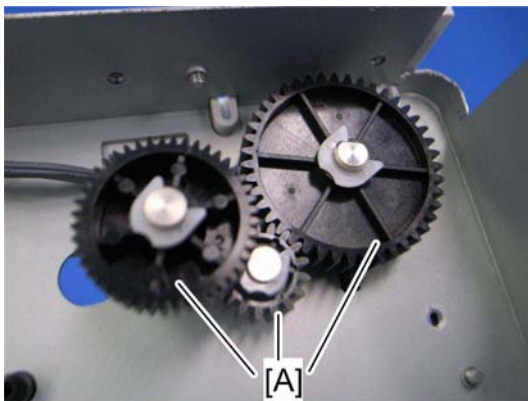
1.4.2 PAPER FEED GEARS

1. Right cover (🔧 p.1-2)



m355r521

2. Paper feed motor bracket [A] (🔧 x3, 📏 x1, 📏 x1)



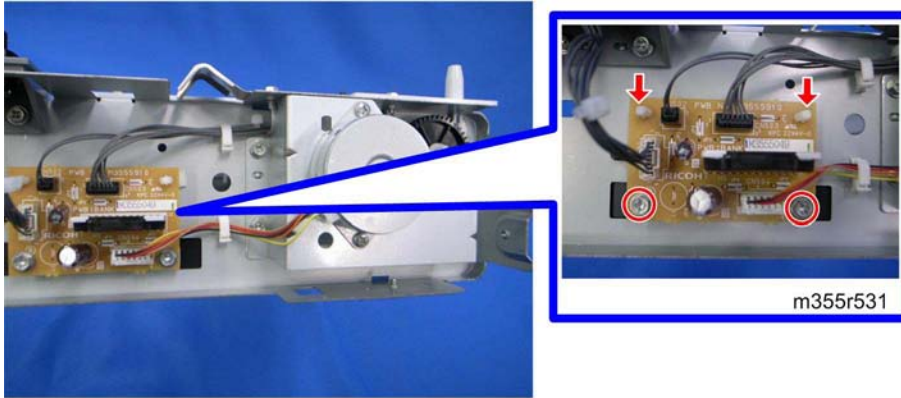
m355r522

3. Paper feed gears [A] (each C-ring x1)

1.5 PAPER TRAY BOARD

1.5.1 PAPER TRAY BOARD

1. Right cover (🔧 p.1-2)



m355r530

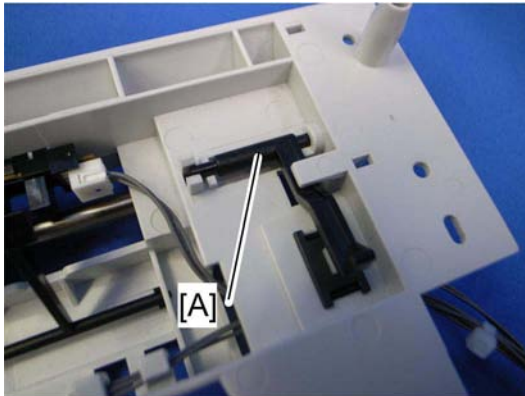
2. Paper Tray Board (🔧 x2, locking support x2, 📏 x 4)

Paper Feed
Unit TK1080
(M355)

1.6 PAPER TRAY UNIT SET SWITCH

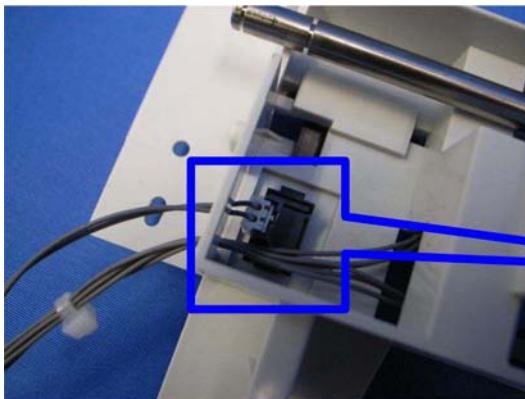
1.6.1 PAPER TRAY UNIT SET SWITCH

1. Paper feed unit (☞ p.1-2)

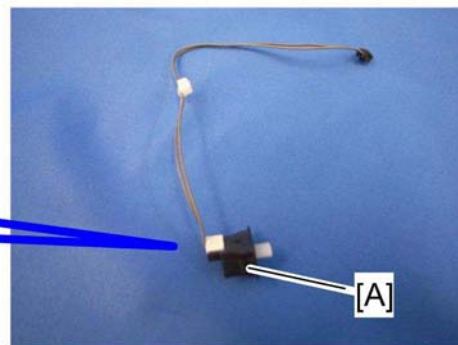


m355r540

2. Feeler [A]



m355r541



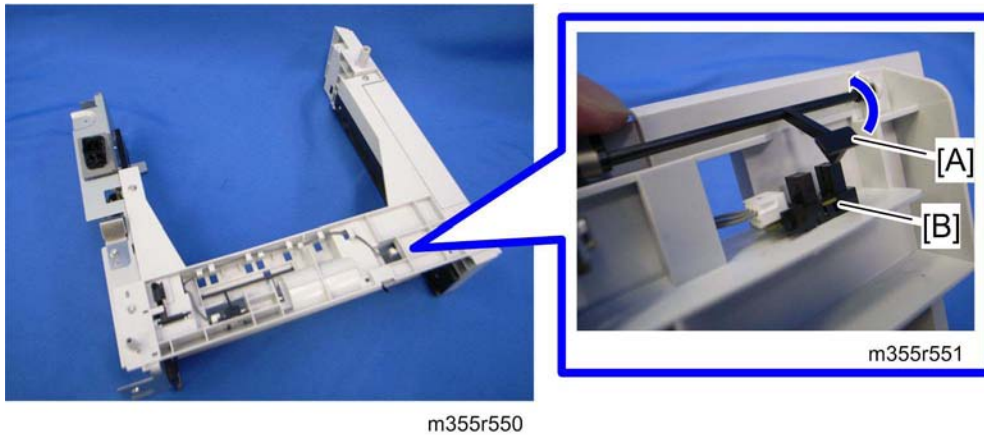
m355r542

3. Paper tray unit set switch [A] (hook x2)

1.7 SENSORS

1.7.1 PAPER FEED SENSOR

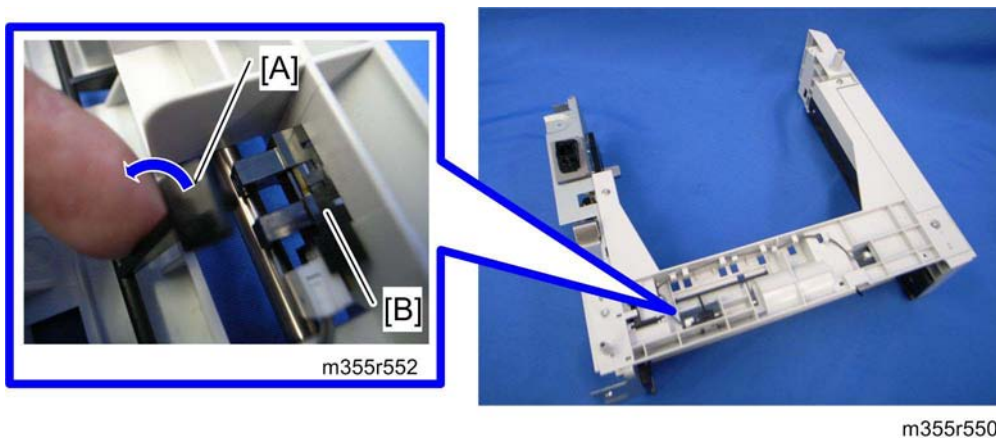
1. Right cover (🔧 p.1-2)



2. Release the actuator [A] from the slot of the paper feed sensor [B]
3. Paper feed sensor [B] (all hooks, 🧰 x1)

1.7.2 PAPER END SENSOR

1. Right cover (🔧 p.1-2)

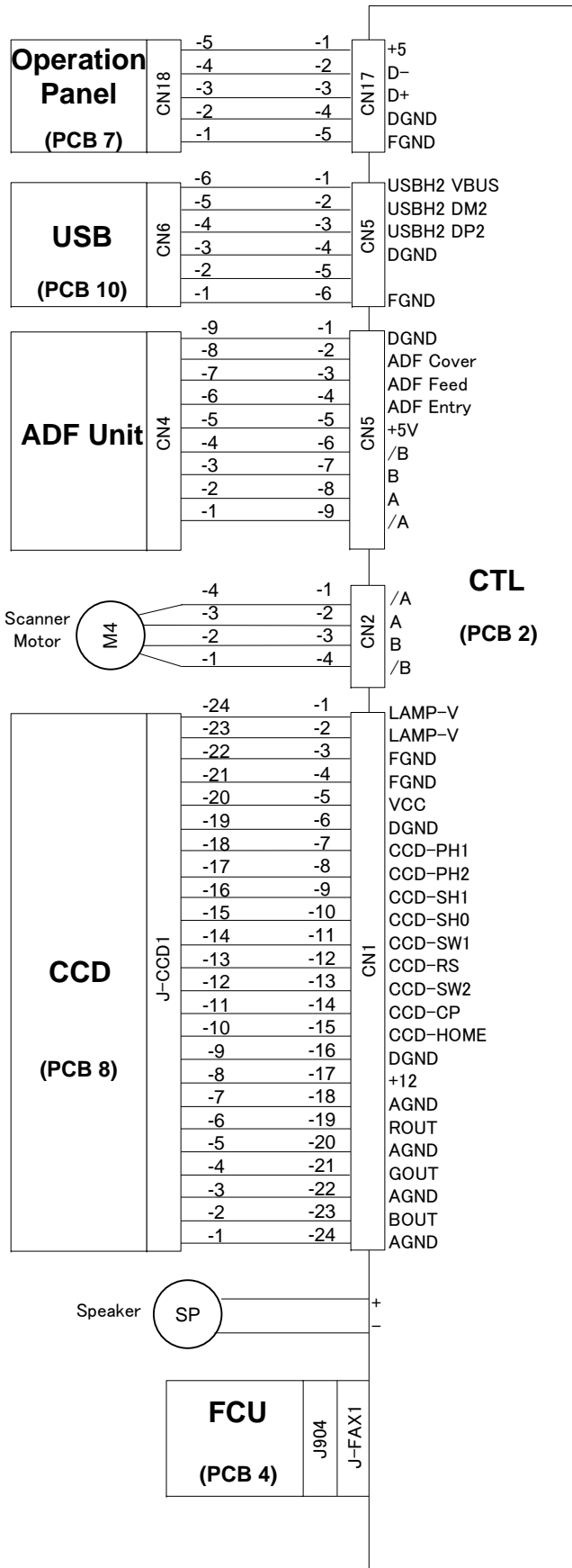


2. Release the actuator [A] from the slot of the paper exit sensor [B]
3. Paper end sensor [B] (all hooks, 🧰 x1)

M016/M017 POINT TO POINT DIAGRAM

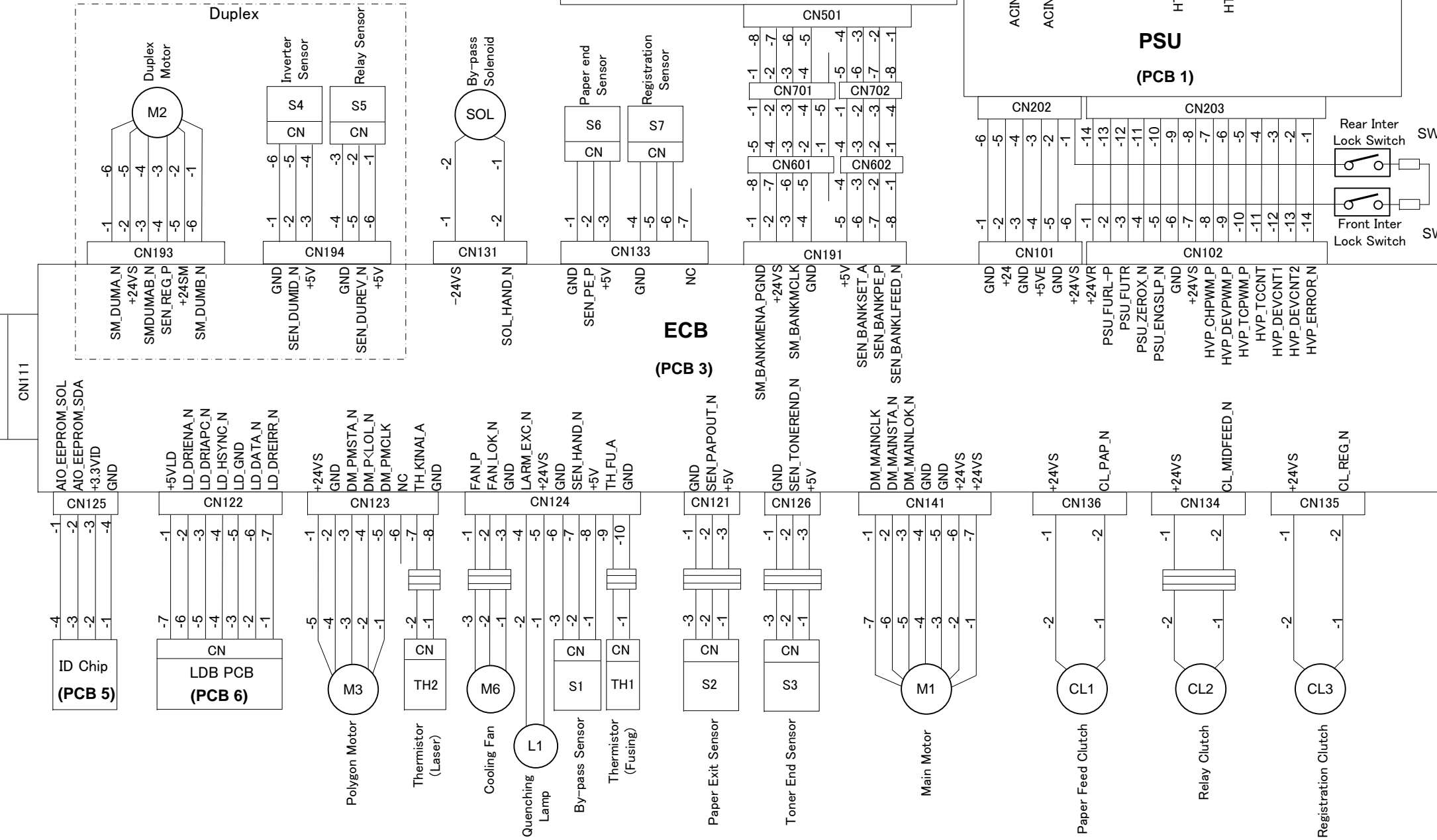
A
B
C
D
E
F

A
B
C
D
E
F



J-FAX1														
1	+3.3V	P	9	FA2	O	17	NC	G	25	IRNQ	I	33	NC	-
2	+3.3V	P	10	SD2	I/O	18	SD6	I/O	26	/SWR	O	34	GND	G
3	+3.3V	P	11	FA3	O	19	/SCS3	O	27	/SWR	O	35	GND	G
4	+3.3V	P	12	SD3	I/O	20	/SCS3	O	28	NC	-	36	GND	G
5	FA0	O	13	FA4	O	21	SD7	I/O	29	RESET	O	37	GND	G
6	SD0	I/O	14	SD4	I/O	22	SDR	O	30	GND	G	38	NC	-
7	FA1	O	15	FA5	O	23	SDR	O	31	GND	G	39	SSD PWM	I
8	SD1	I/O	16	SD5	I/O	24	IRNQ	I	32	NC	-	40	SSD PWM	I

CN111														
1	GND	G	11	+5VE	P	21	CTL_PRTXD	O						
2	CTL_HSYNC_N	O	12	GND	G	22	CTL_PRRXD	I						
3	GND	G	13	GND	G	23	GND	G						
4	CTL_FGATE_N	O	14	+24VE	P	24	GND	G						
5	CTL_ENGRDY_P	O	15	+24VE	P	25	+5VE	P						
6	CTL_PRREQ_N	I	16	GND	G	26	+5VE	P						
7	CTL_IREADY_N	O	17	SDR	I	27	GND	G						
8	GND	G	18	GND	G	28	GND	G						
9	GND	G	19	IRNQ	I	29	+24VE	P						
10	+5VE	P	20	GND	G	30	+24VE	P						



1 2 3 4 5 6 7

M016/M017 ELECTRICAL COMPONENT LAYOUT

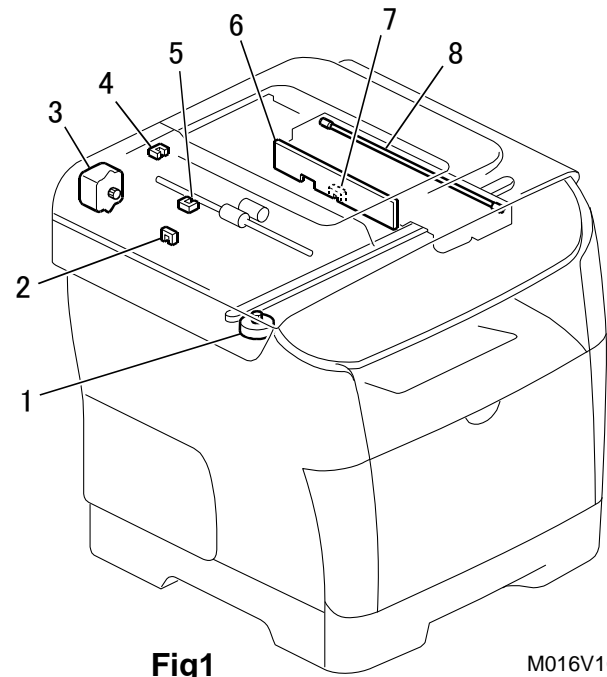


Fig1

M016V101

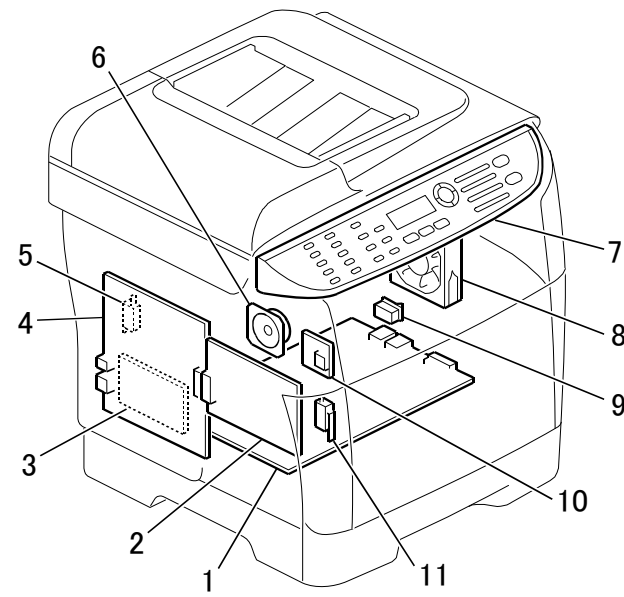


Fig2

M016V102

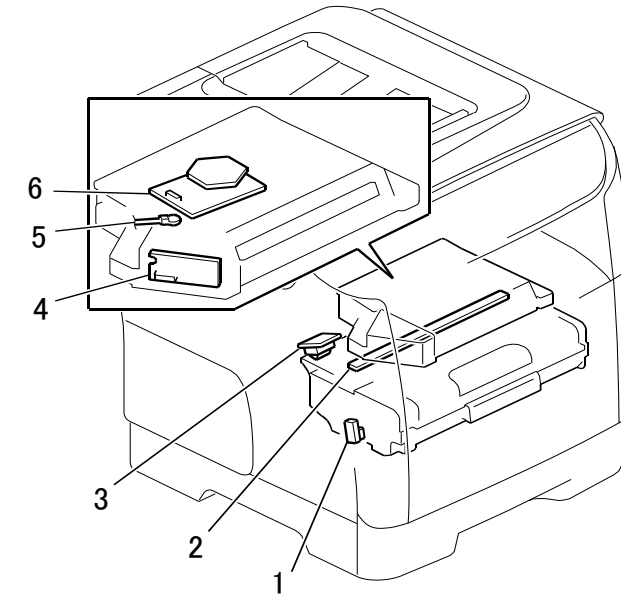


Fig3

M016V103

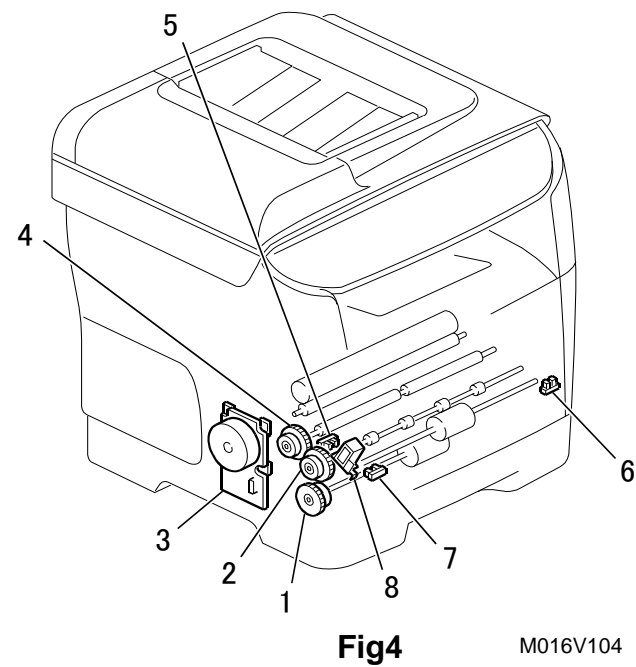


Fig4

M016V104

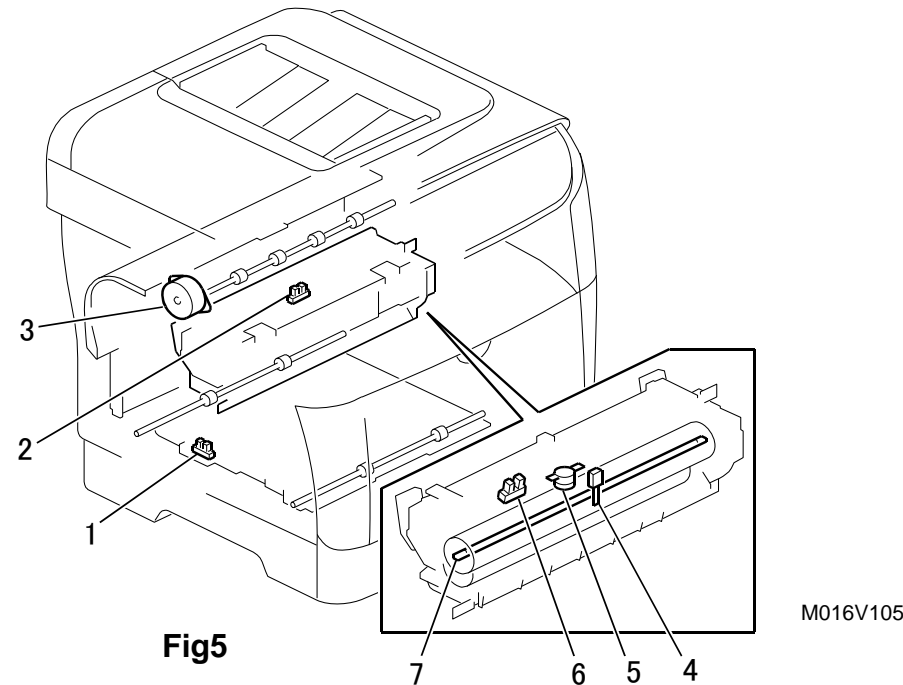


Fig5

M016V105

ELECTRICAL COMPONENT LAYOUT (M355)

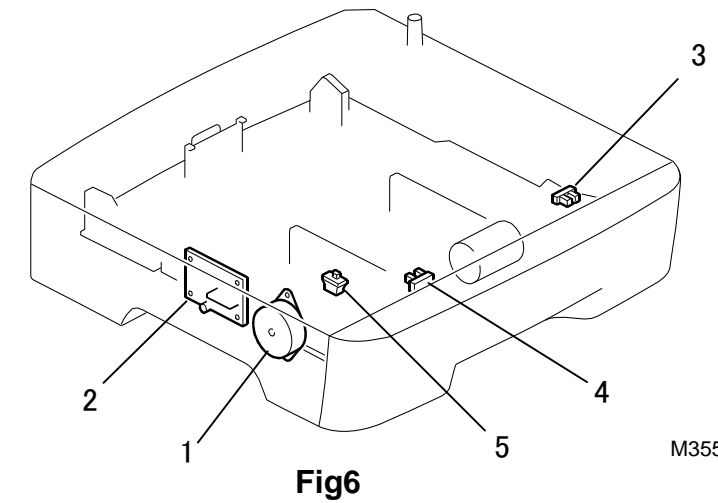


Fig6

M355D002

Symbol	Index No.		Description	P to P	
	a model	b model		a model	b model
Motors					
M1	Fig4-3		Main Motor	F6	
M2	-	Fig5-3	Duplex Motor	-	C3
M3	Fig3-6		Polygon Motor	F4	
M4	Fig1-1		Scanner Motor	C1	
M5	Fig6-1		Paper Feed Motor	A5	
M6	Fig2-8		Cooling Fan Motor	F4	
-	Fig1-3		ADF Motor	-	
Sensors					
S1	Fig4-6		By-pass Sensor	F4	
S2	-	Fig5-2	Relay Sensor	-	C3
S3	Fig3-1		Toner End Sensor	F5	
S4	-	Fig5-1	Inverter Sensor	-	C3
S5	Fig5-6		Paper Exit Sensor	F5	

S6	Fig4-7	Paper End Sensor	C4
S7	Fig4-5	Registration Sensor	C5
S8	Fig6-3	Paper Feed Sensor	A5
S9	Fig6-4	Tray2 Paper End Sensor	A5
-	Fig1-2	ADF Feed Sensor	-
-	Fig1-4	ADF Cover Open Sensor	-
-	Fig1-5	Original Set Sensor	-
-	Fig1-7	Home Position Sensor	-
Magnetic Clutches			
MC1	Fig4-1	Paper Feed Clutch	F6
MC2	Fig4-2	Relay Clutch	F7
MC3	Fig4-4	Registration Clutch	F7
Switches			
SW1	Fig2-11	Front Interlock Switch	C7
SW2	Fig2-5	Rear Interlock Switch	C7
SW3	Fig6-5	Paper Tray Unit Set Switch	A4
SW4	Fig2-9	Main Switch	B6
Solenoids			
SOL1	Fig4-8	By-pass Solenoid	C4

Others			
L1	Fig3-2	Quenching Lamp	F4
L2	Fig5-7	Fusing Lamp	B6
-	Fig1-8	Exposure Lamp	-
TH1	Fig5-4	Thermistor(Fusing)	F4
TH2	Fig3-5	Thermistor(Laser)	F4
TS1	Fig5-5	Thermostat	-
SP	Fig2-6	Speaker	F1
PCBs			
PCB1	Fig2-1	PSU	C6
PCB2	Fig2-4	CTL	C2
PCB3	Fig2-2	ECB	D5
PCB4	Fig2-3	FCU	F1
PCB5	Fig3-3	ID Chip PCB	F3
PCB6	Fig3-4	LDB PCB	F3
PCB7	Fig2-7	Operation Panel	B1
PCB8	Fig1-6	CCD Board	D1
PCB9	Fig6-2	Paper Tray Board	B5
PCB10	Fig2-10	USB Board	B1



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M016/M017
PARTS CATALOG

005433MIU

LANIER RICOH SAVIN



M016/M017
PARTS CATALOG

LANIER
RICOH
SAVIN



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M016/M017 PARTS CATALOG

005433MIU

LANIER RICOH SAVIN®

LEGEND

PRODUCT CODE	COMPANY			
	GESTETNER	LANIER	RICOH	SAVIN
M016	SP3400SF	SP3400SF	SP3400SF	SP3400SF
M017	SP3410SF	SP3410SF	SP3410SF	SP3410SF
M335	Paper Feed Unit TK 1080			

DOCUMENTATION HISTORY

REV. NO.	DATE	COMMENTS
*	01/2010	Original Printing

Unit All



U001
ADF



U002
SCANNER



U003
EXTERIOR



U004
LASER UNIT



U005
PCU



U006
TRANSFER/SEPARATION



U007
MANUAL FEED



U008
MAIN FRAME/PAPER FEED



U009
PAPER TRAY



U010
FUSING



U011
PAPER EXIT



U012
DUPLEX(VERTICAL paper feed)

Unit All



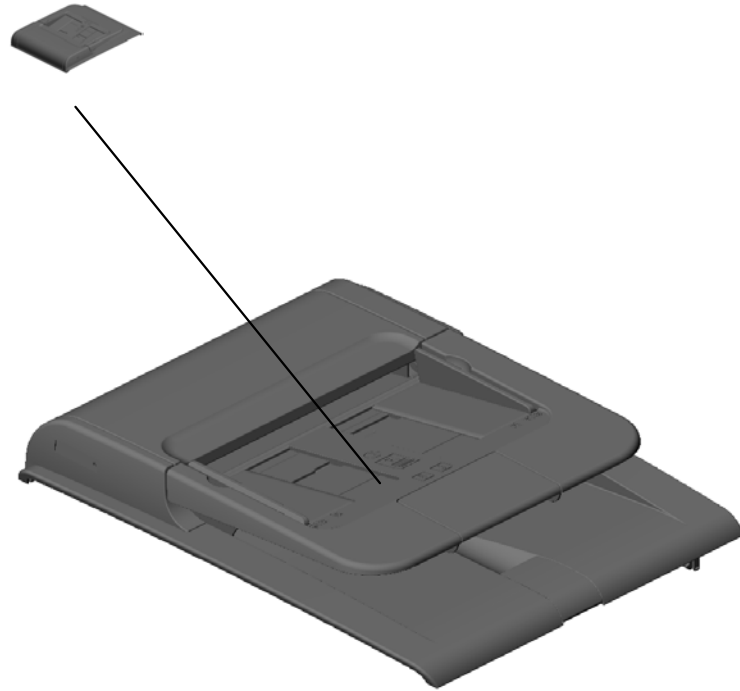
U013
DUPLEX(Horizontal paper feed)



U014
ELECTRICAL

U001.ADF

U001_S001
M0161630
ADF:ASS'Y



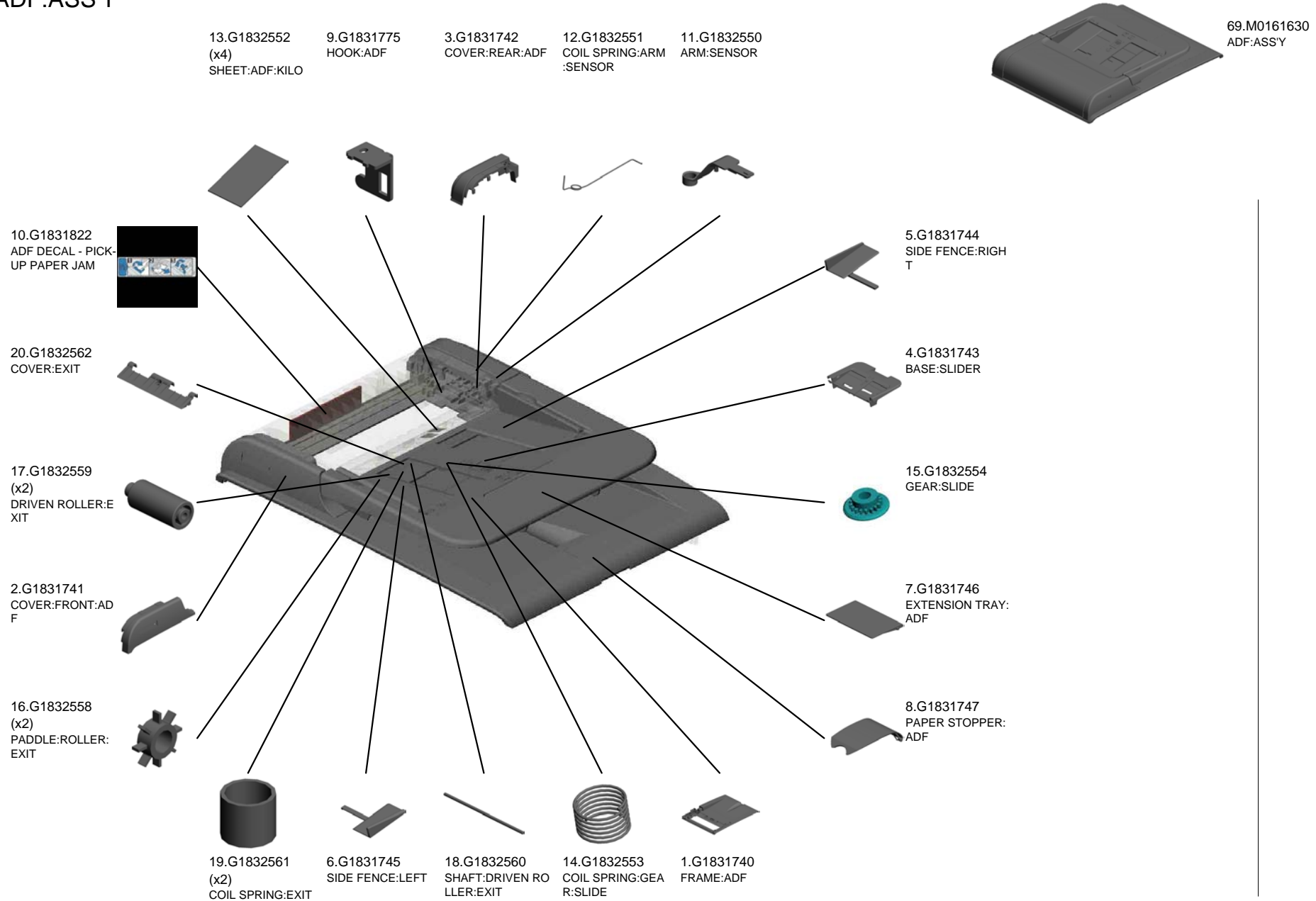
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U001
ADF



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U001_S001
ADF:ASS'Y



U001_S001
ADF:ASS'Y

37.G1832582
SHAFT:DRIVEN ROLLER:FEED

38.G1832583
FIX STAND:SENSOR:FEED

33.G1832577
FEELER:SENSOR:FEED

22.G1832564
COVER:ADF

34.G1832578
(x2)
ARM:PRESSURE RELEASE



69.M0161630
ADF:ASS'Y

39.G1832585
SHEET:FEELER:FEED

36.G1832580
STAY:FEED

32.G1832576
(x4)
COIL SPRING:FEED ROLLER:DRIVEN

35.G1832579
(x3)
DRIVEN ROLLER:FEED

29.G1832572
(x4)
FLANGE:BUSHING

28.G1832571
(x2)
SHEET:GUIDE

30.G1832573
FEED ROLLER:ADF

27.G1832570
PLATE

26.G1832569
COIL SPRING:PLATE

25.G1832567
FRAME:LOWER

24.G1832566
FLANGE:BUSHING:GEAR

40.G1832586
PLATE:REAR

21.G1832563
PCB:DIP:ADF

31.G1832574
EXIT ROLLER:ADF

23.G1832565
SHEET:PRESSURE PLATE

U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U001_S001
ADF:ASS'Y

41.G1832587
GEAR:FEED:44T

48.G1832594
PLATE:MOTOR

45.G1832591
GEAR:21T37T

44.G1832590
(x2)
GEAR:MIDDLE:32T

46.G1832592
GEAR:51T



69.M0161630
ADF:ASS'Y

60.G1832608
SEPARATION UNIT
:ADF

50.G1832598
ROLLER:BACK UP:
FEED

54.G1832602
FRAME:UPPER

53.G1832601
SEPARATION PAD:
ADF

57.G1832605
HOLDER:SEPARAT
ION UNIT

58.G1832606
(x2)
SHEET:STOPPER:
EXIT

51.G1832599
COIL SPRING:SHU
TTER:PAPER

59.G1832607
DISCHARGE BRUS
H:EXIT

52.G1832600
SHUTTER:PAPER

55.G1832603
COIL SPRING:FEE
LER:SET SENSOR

43.G1832589
GEAR:20T39T

49.G1832595
GEAR:DRIVE:40T5
6T

47.G1832593
GEAR:DRIVE:39T5
5T

42.G1832588
GEAR:EXIT:41T

56.G1832604
FEELER:SET SENS
OR

U001_S001
ADF:ASS'Y

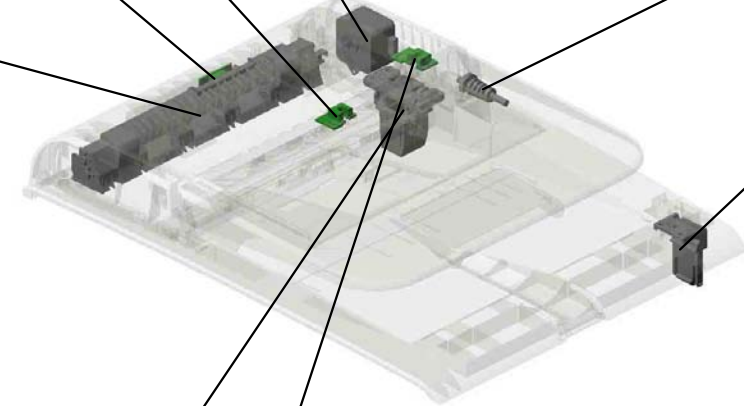
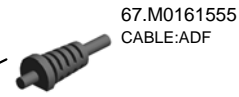
64.G1832612
PCB:DIP:SET SEN
SOR
61.G1832609
DC STEPPER MOT
OR



65.G1832613
PCB:DIP:FEED



68.M0161601
GUIDE:FEED:DRIV
EN



62.G1832610
HINGE:LEFT



66.G1832614
PCB:DIP:ON OFF D
ETECTOR



U002.SCANNER

U002_S001
M0161600
SCANNER:ASS'Y



U002_S002
M0161500
OPERATION PANEL

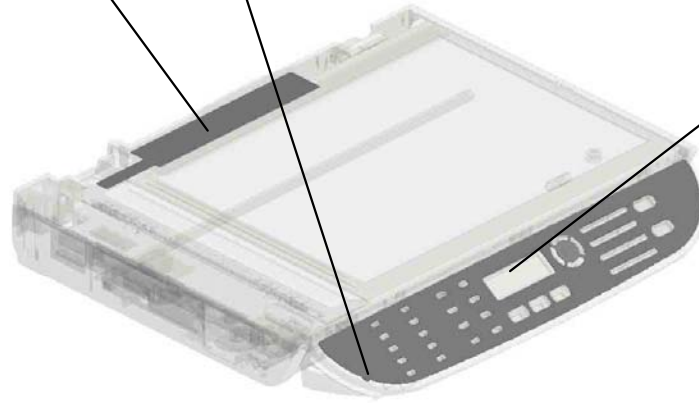
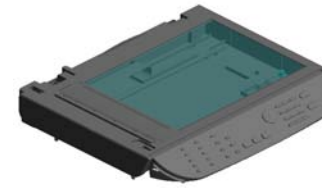


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U002 SCANNER

20.M0160454
DECAL:CAUTION:C
OPY:NA

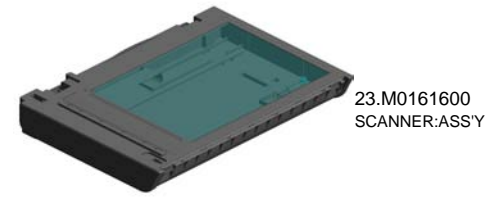
1.04503010N
(x2)
TAPPING SCREW -
M3X10



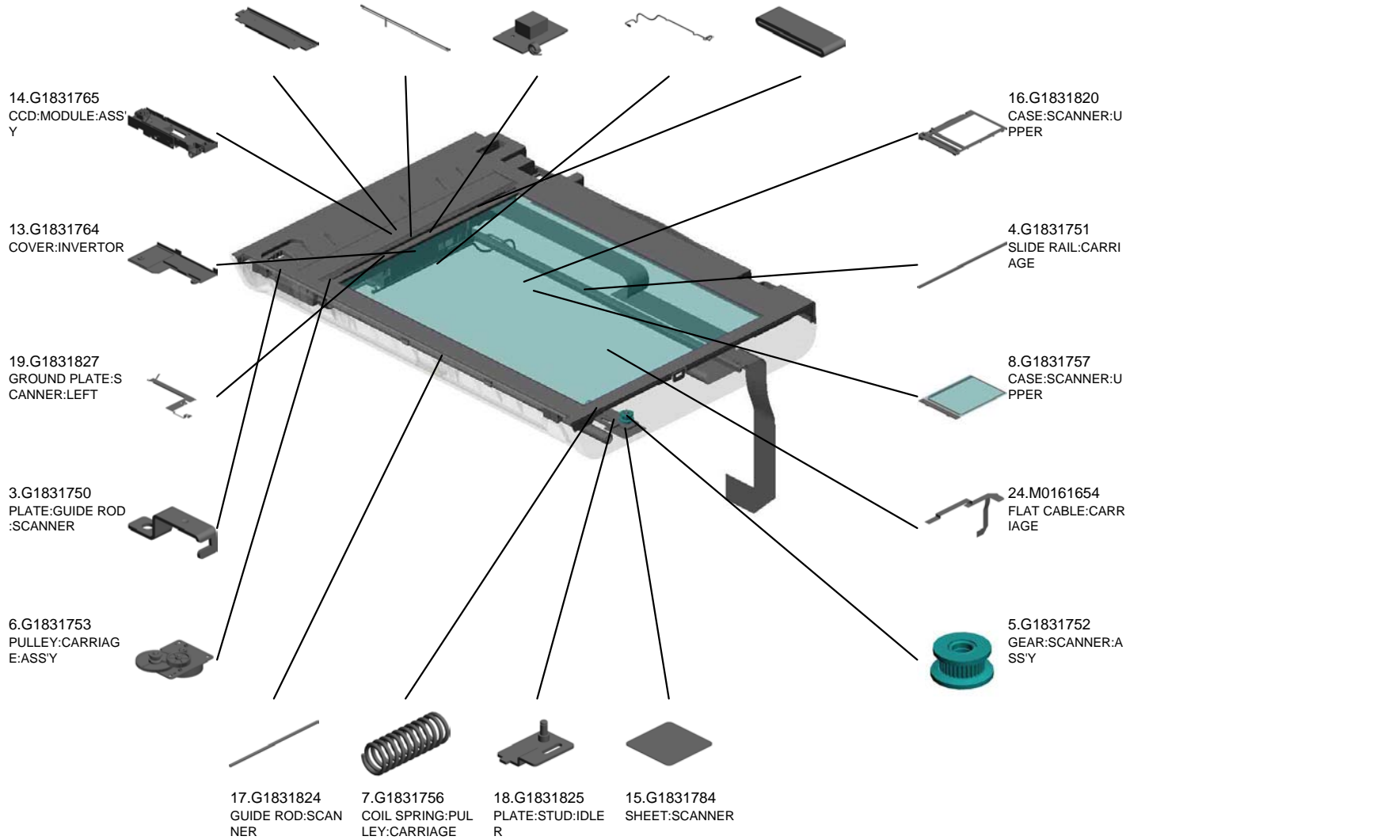
21.M0161410
OPERATION PANE
L SHEET:NA

2.04513006N (x 2)
TAPPING SCREW - 3X6

U002_S001
SCANNER:ASS'Y



- 11.G1831761 COVER:CARRIAGE:UPPER
- 12.G1831762 FLUORESCENT TUBE:CARRIAGE
- 10.G1831759 INVERTOR:CARRIAGE
- 25.M0161655 WIRE:GROUND WIRE:PLATE:MOTOR
- 9.G1831758 CORE:EMI:CARRIAGE



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U002_S002 OPERATION PANEL

35.M0165073
KEYTOP:SETTING

31.M0165068
KEY:SETTING

27.M0165063
SHEET:LCD:OPER
ATION PANEL

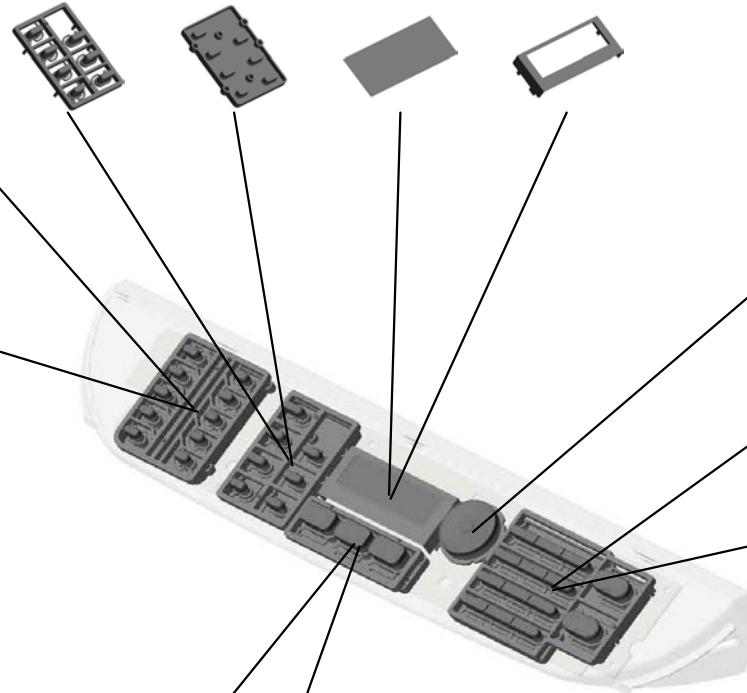
26.M0165062
BRACKET:LCD:OP
ERATION PANEL



22.M0161500
OPERATION PANE
L

36.M0165074
KEYTOP:TELEPHO
NELIST

32.M0165069
KEY:TELEPHONELI
ST



29.M0165066
KEY:MENU

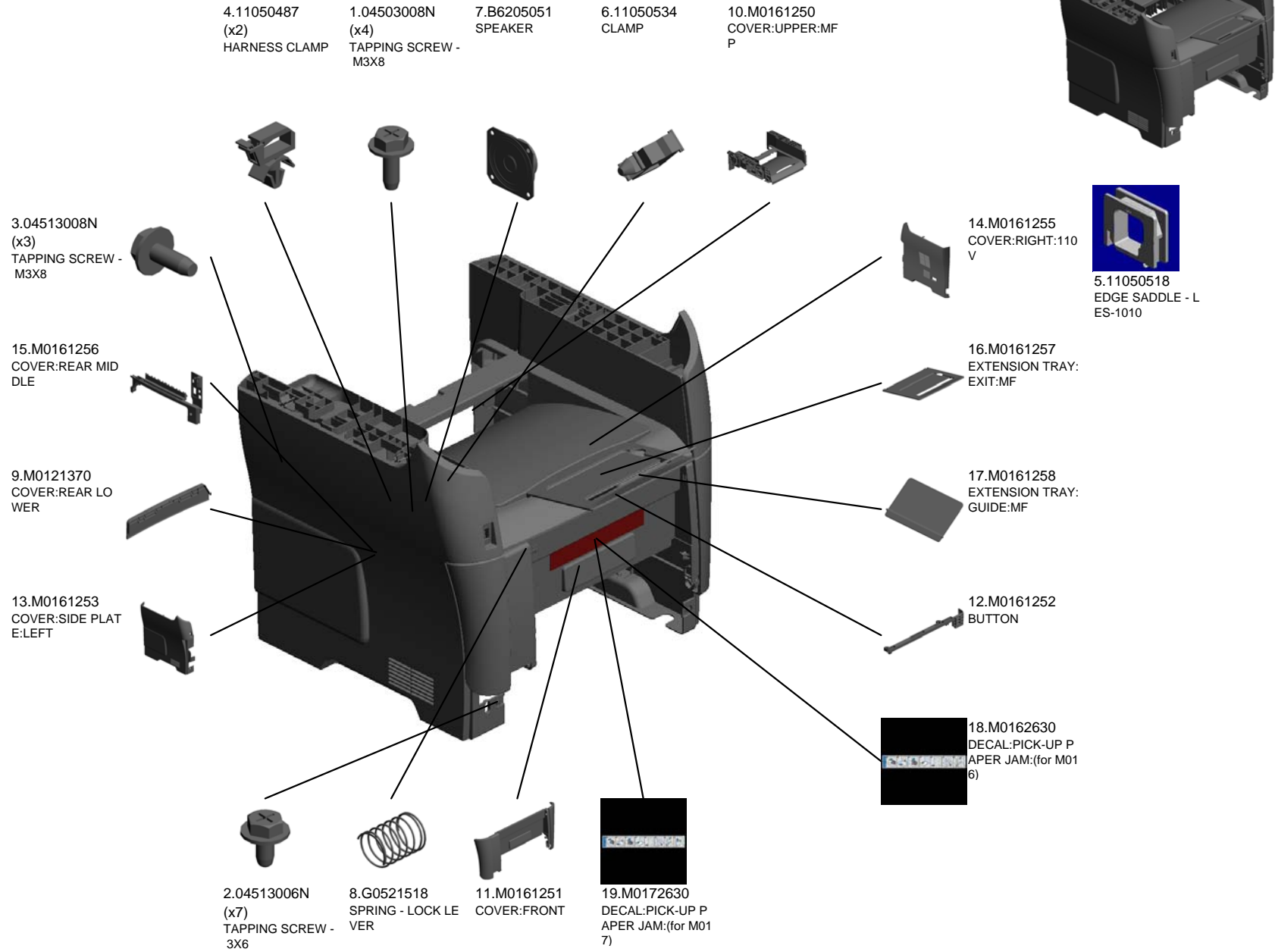
33.M0165071
KEYTOP:START/ST
OP

28.M0165065
KEY:START/STOP

34.M0165072
KEYTOP:FUNCTION
N

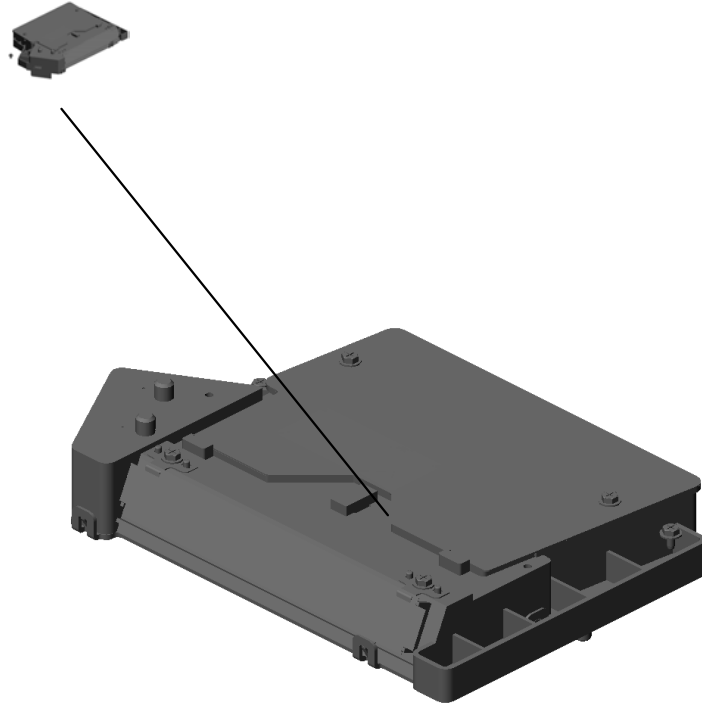
30.M0165067
KEY:FUNCTION

U003 EXTERIOR



U004.LASER UNIT

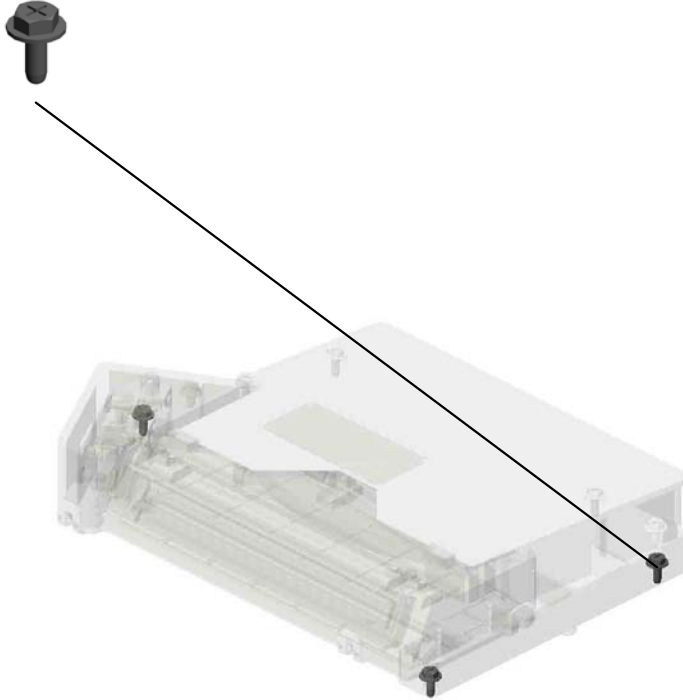
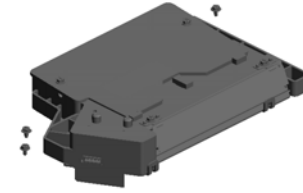
U004_S001
M0121851
IMAGING UNIT



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U004
LASER UNIT

6.04543008Q
(x3)
TAPPING SCREW:
3X8



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
------	------	------	-------------	------	------	------	------	------	------	------	------	------	------

U004_S001 IMAGING UNIT

4.04523010N
BINDING SELF-TAPPING SCREW:3X10

11.M0121980
SEAL:COVER:NO.1

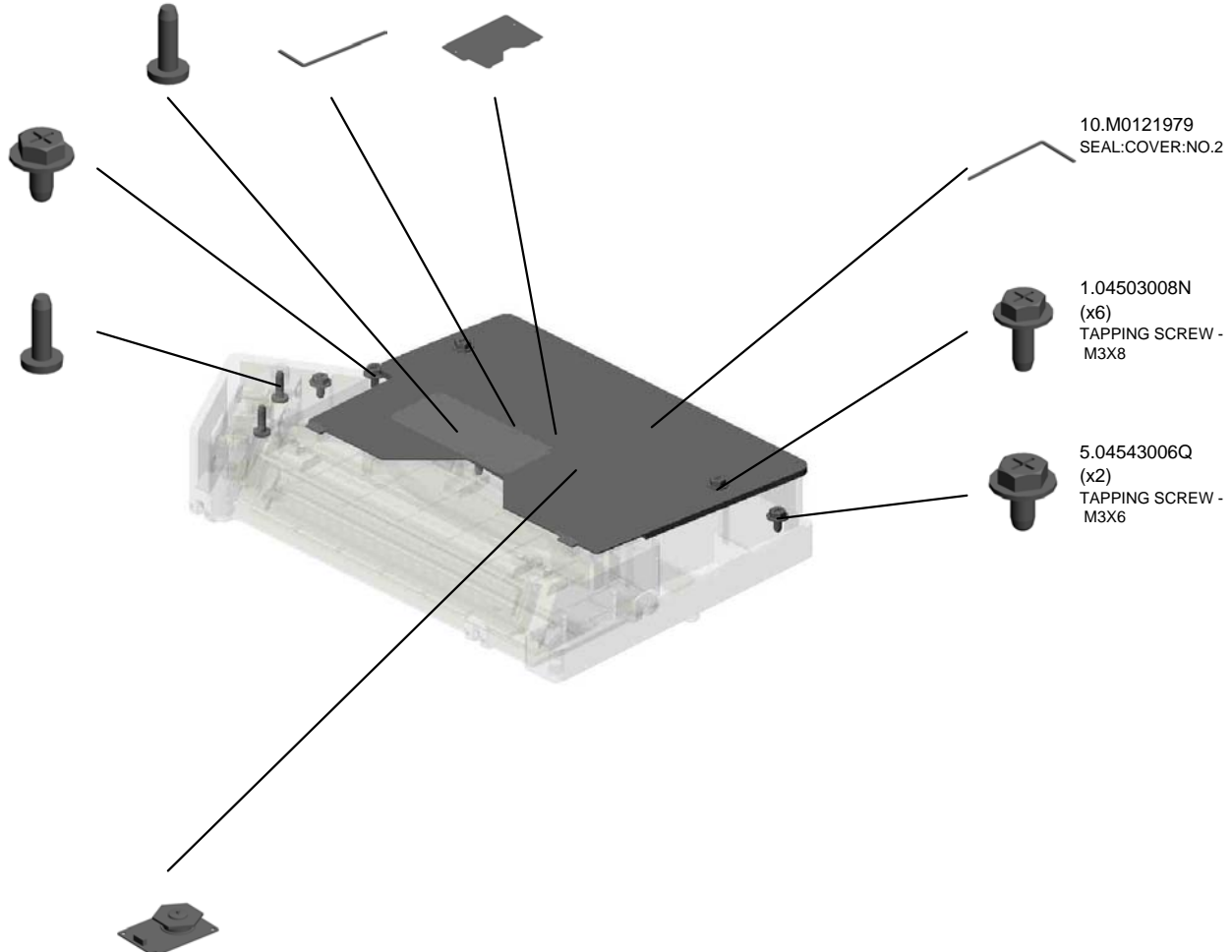
8.M0121908
COVER:OPTICAL UNIT



7.M0121851
IMAGING UNIT

3.04513006N
TAPPING SCREW - 3X6

2.04503012N
(x2)
TAPPING SCREW: 3X12



9.M0121957
POLYGON MOTOR
:DC 18W

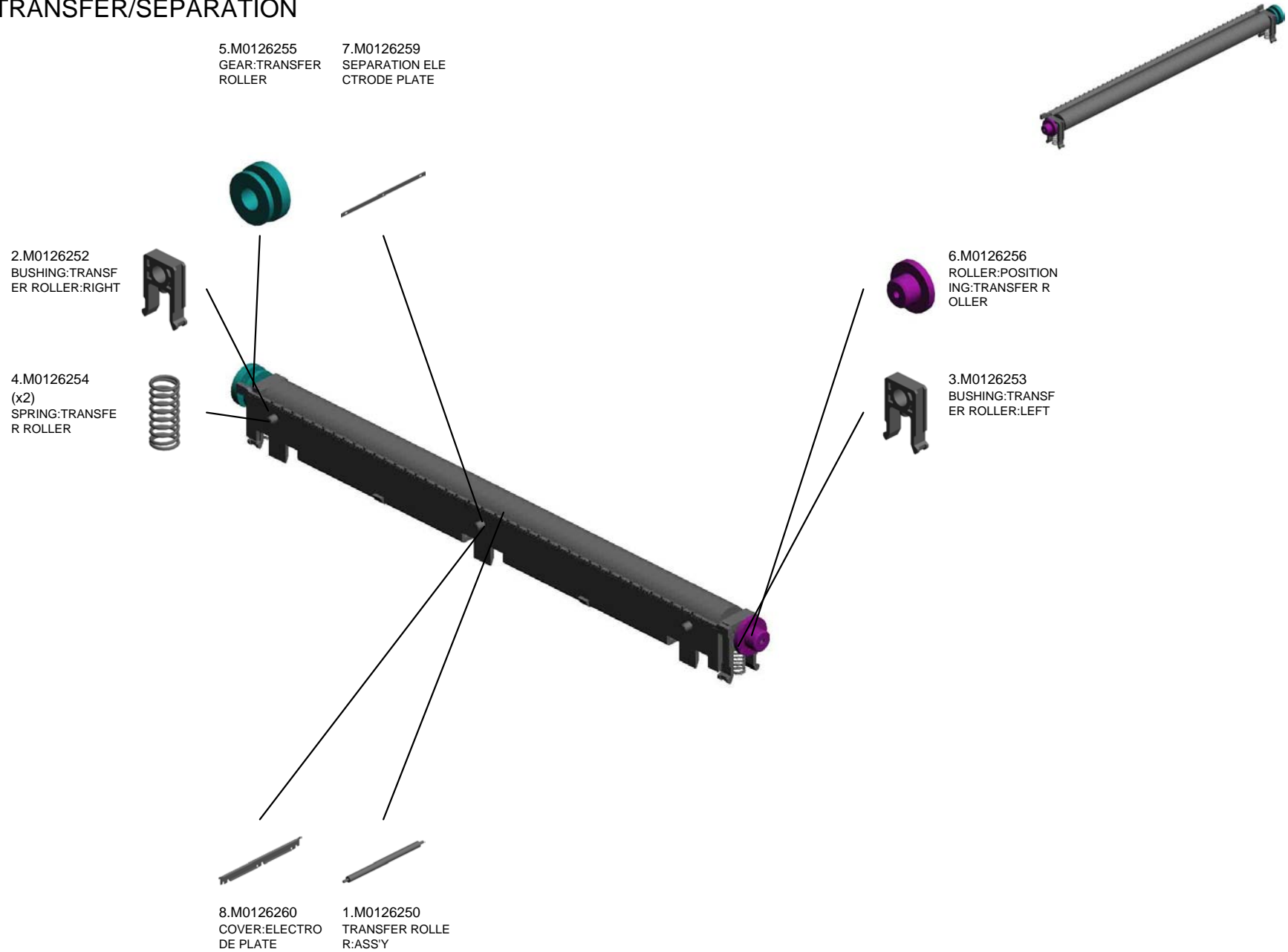
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U005
PCU



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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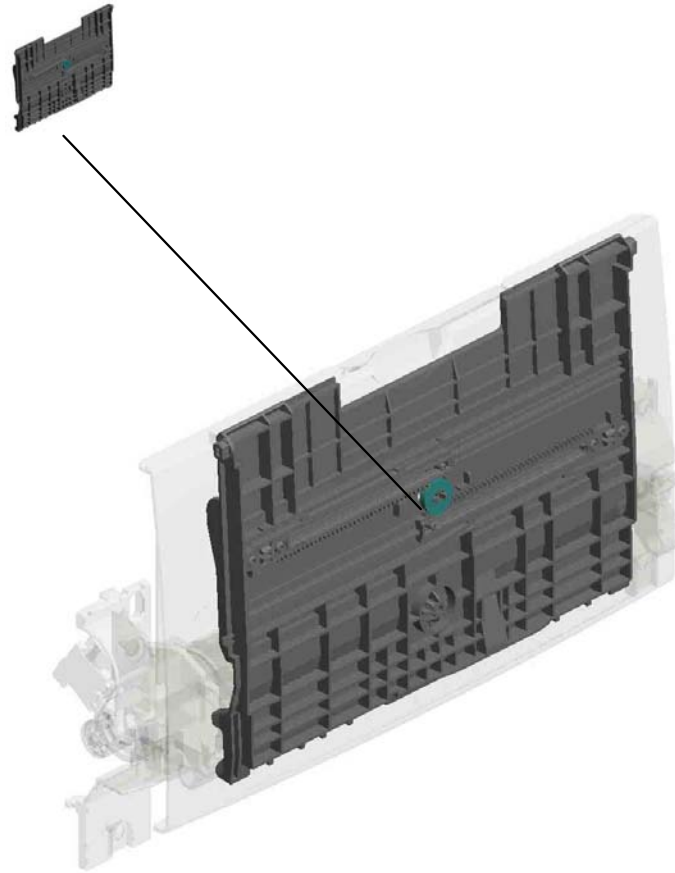
U006 TRANSFER/SEPARATION



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U007.MANUAL FEED

U007_S001
M0122869
MANUAL FEED TABLE:SUB-A
SS'Y



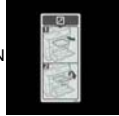
U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
------	------	------	------	------	------	------	------	------	------	------	------	------	------

U007 MANUAL FEED

12.M0122806 SHEET:GUIDE:MANUAL FEED SUB-UNIT
 19.M0122860 PAPER FEED ROLLER:MANUAL FEED
 18.M0122859 GUIDE PLATE:UPPER:MANUAL FEED
 21.M0122870 COVER:MANUAL FEED TABLE
 25.M0122879 EXTENSION TRAY:MANUAL FEED



27.M0162815 DECAL:FEED PAPER AGAIN:PREVENTION



16.M0122831 DC SOLENOID:9.6W:24V



6.G1022717 COVER:DC SOLENOID



2.04523010N BINDING SELF-TAPPING SCREW:3X10



15.M0122830 MECHANICAL SPRING CLUTCH:MANUAL FEED



11.M0122805 GUIDE PLATE:MANUAL FEED:LOWER



26.M0122880 COMPRESSION SPRING:SEPARATION



13.M0122816 FRICTION PAD:HOLDER:MANUAL FEED:ASSY



5.G0292767 BY-PASS FEED COVER



22.M0122874 COMPRESSION SPRING:MANUAL FEED



3.AA143520 SHOULDER SCREW - M3



10.GW020020 PHOTO INTERRUPTOR:LG248NL1



8.G1022789 STOPPER:PHOTO INTERRUPTOR



14.M0122824 FEELER:MANUAL FEED

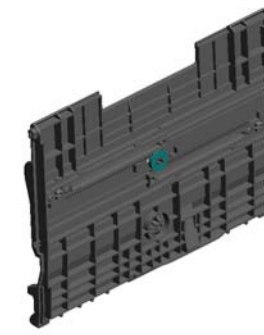


1.04513006N (x3) TAPPING SCREW - 3X6



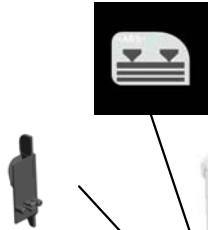
U007_S001
MANUAL FEED TABLE:SUB-ASS'Y

17.M0122833 4.G0123050
DECAL:SIDE FENC SIDE FENCE GEAR
E:MANUAL FEED



20.M0122869
MANUAL FEED TA
BLE:SUB-ASS'Y

23.M0122875
SIDE FENCE:MAN
UAL FEED:RIGHT



7.G1022755
(x2)
RACK:SIDE FENCE
:REAR



24.M0122877
SIDE FENCE:MAN
UAL FEED:LEFT



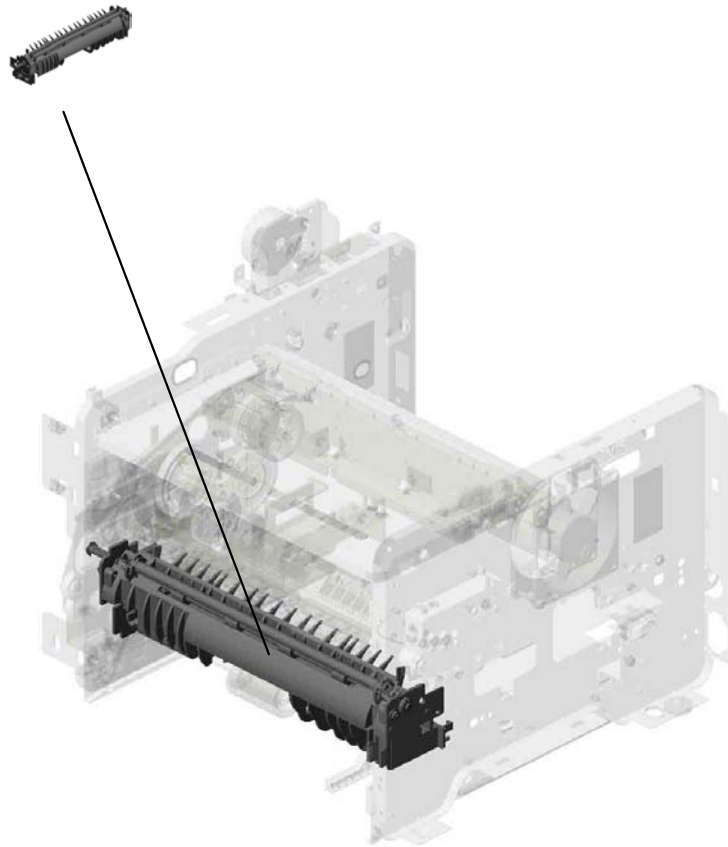
9.GF013001
BOTTOM PLATE P
AD



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U008.MAIN FRAME/PAPER FEED

U008_S001
M0122516
JOINT UNIT:ASSY



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U008 MAIN FRAME/PAPER FEED



- 5.04533006N (x2) TAPPING SCREW - M3X6
- 17.AX050265 STEPPER MOTOR: DC24V 7.2W:(for M 017)
- 8.07200040E RETAINING RING - M4
- 7.04543014Q TAPPING SCREW: 3X14
- 19.B2681085 (x2) SWITCH:LF-105-11

2.04513006N (x33) TAPPING SCREW - 3X6

3.04513014N TAPPING SCREW: 3X14

16.A1532117 ROLLER TERMINAL

12.11050508 (x4) HARNESS CLAMP - LWS-0711

13.11050511 (x12) HARNESS CLAMP - LWS-0306ZC

9.08050088 RETAINING RING - M6

10.08050089 (x12) RETAINING RING - M4

20.G0201160 (x2) SNAP RING

6.04543006Q (x9) TAPPING SCREW - M3X6

1.04503008N (x12) TAPPING SCREW - M3X8

18.AX640199 FAN:MM80:25MM:D C 2.16W

11.09504006N SCREW - M4X6

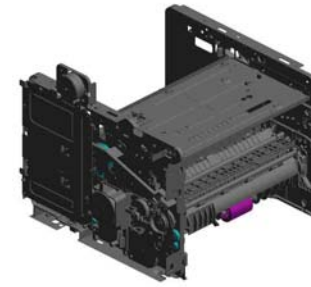
4.04513030N (x2) TAPPING SCREW: 3X30

14.11050534 (x2) CLAMP

15.12042757 SWITCH:SDDJF319 00

U008 MAIN FRAME/PAPER FEED

39.M0121117 GEAR:DRIVE:DRUM
40.M0121118 GEAR:DRIVE:FUSING:NO.1
22.G0521120 SPRING - PAPER EXIT RELEASE
28.M0121037 TONER BOTTLE:CASE
29.M0121040 CASE:DISCHARGE LAMP



25.GW010007 PHOTO REFLECTIVE SENSOR:EXIT

30.M0121046 DUCT:HARNESS

27.M0121013 MECHANICAL DRIVE SECTION:ASSY (for M016)

23.G1272575 (x4) BUSHING - 6X10X6

26.GW020020 (x2) PHOTOINTERRUPTOR:LG248NL1

24.G1272627 PAPER FEED ROLLER - MM32

21.G0271180 (x2) RUBBER FOOT - GF

31.M0121050 FRAME:MAIN:SUB-ASSY

35.M0121088 COIL SPRING:RAIL:RIGHT

33.M0121065 CASE:TERMINAL

38.M0121099 HEAT INSULATING PLATE:FUSING:FRONT

37.M0121097 (x3) SUPPORTER:PAPER:TRANSPORT

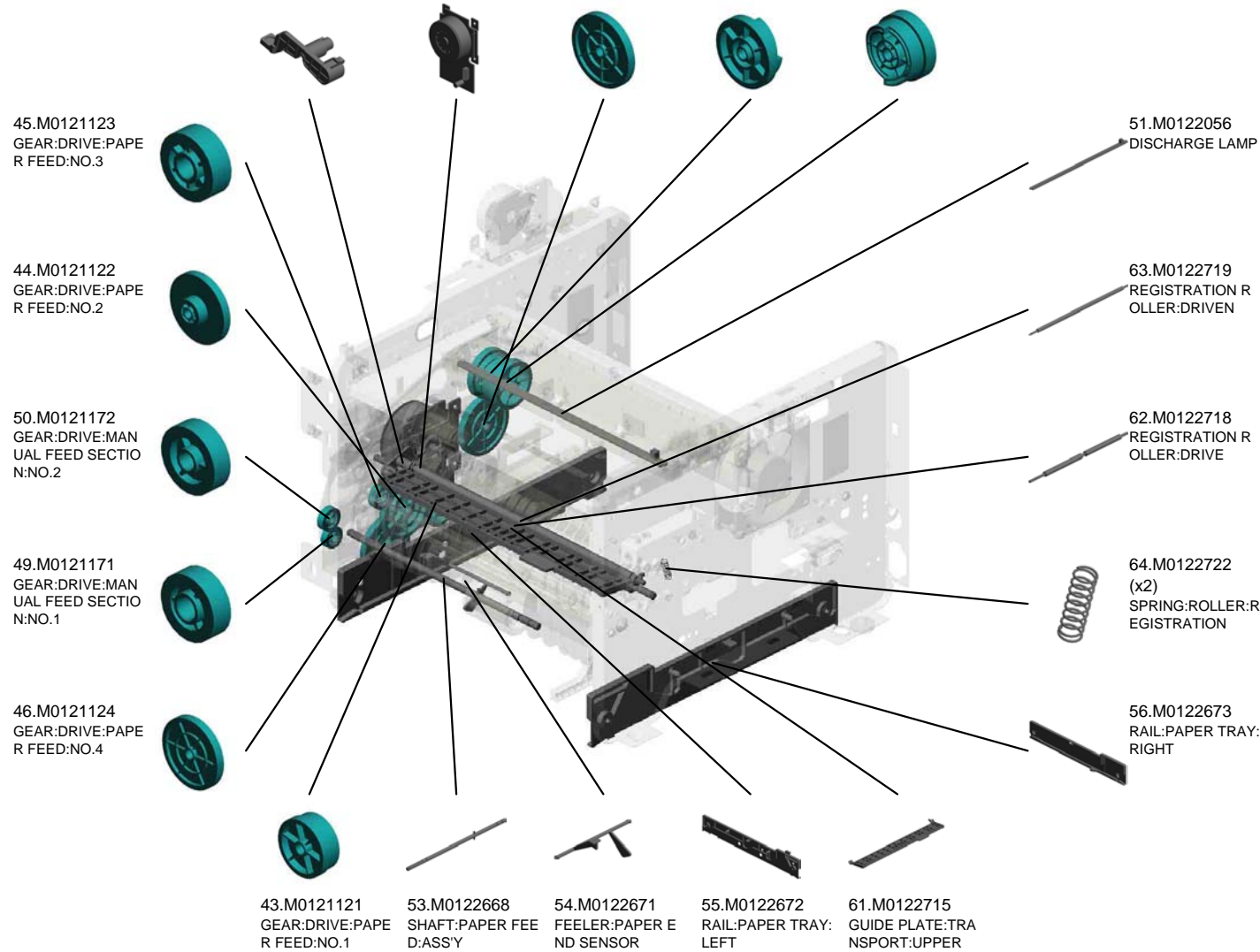
36.M0121089 (x3) GUIDE:PAPER:LEADING EDGE

32.M0121063 (x4) TERMINAL:CHARGE

34.M0121066 (x4) SPRING:TERMINAL:CHARGE

U008 MAIN FRAME/PAPER FEED

60.M0122711 BUSHING:REGISTRATION:DRIVEN:LEFT
 48.M0121150 BRUSHLESS MOTOR:DC 36.7W
 41.M0121119 GEAR:DRIVE:FUSION:NG:NO.2
 42.M0121120 GEAR:DRIVE:FUSION:NG:NO.3
 47.M0121128 GEAR:DRIVE:FUSION:NG:NO.4



U008 MAIN FRAME/PAPER FEED

69.M0122742 GROUND PLATE:DRIVE:REGISTRATION ROLLER
 80.M0131136 GEAR:DRIVE:DUPLICATION SECTION:(for M017)
 81.M0131178 BRACKET:DRIVE:DUPLICATION:(for M017)
 82.M0134610 GEAR:DRIVE:DUPLICATION EX:(for M017)
 77.M0124601 DECAL:LEVER:ENVELOPE:LEFT



68.M0122741 GROUND PLATE:DRIVE:REGISTRATION ROLLER



73.M0122751 (x3) MAGNETIC CLUTCH:TRANSPORT



85.M0134674 LEVER:OPEN AND CLOSE:NO.2:(for M017)



84.M0134673 LEVER:OPEN AND CLOSE:NO.1:(for M017)



83.M0134635 SPRING:OPEN AND CLOSE:RIGHT:(for M017)



66.M0122724 SPRING:FEELER:REGISTRATION



71.M0122744 (x2) GUIDE:REGISTRATION



65.M0122723 FEELER:REGISTRATION:SENSOR



70.M0122743 DECAL:GUIDE PLATE:TRANSPORT:UPPER



86.M0134685 BUTTON:OPEN AND CLOSE:LOWER:(for M017)



75.M0124120 (x3) TENSION SPRING: PICKOFF PAWL



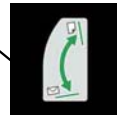
76.M0124270 (x2) THERMAL INSULATING BUSHING:FUSING UNIT



79.M0124699 DECAL:WARNING (HIGH TEMPERATURE):FRONT



78.M0124602 DECAL:LEVER:ENVELOPE:RIGHT



67.M0122730 BUSHING:REGISTRATION:DRIVEN:RIGHT



U008 MAIN FRAME/PAPER FEED

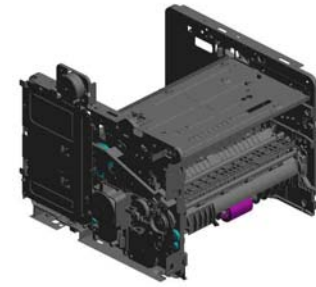
91.M0174611
BRACKET:DRIVE:A
SS'Y:(for M017)

89.M0134698
BRACKET:OPEN A
ND CLOSE:LOWER
:(for M017)

87.M0134696
LEVER:OPEN AND
CLOSE:LEFT:(for M
017)

88.M0134697
LEVER:OPEN AND
CLOSE:RIGHT:(for
M017)

90.M0134785
SPRING:COVER:S
WITCHBACK:OPEN
AND CLOSE:(for M
017)

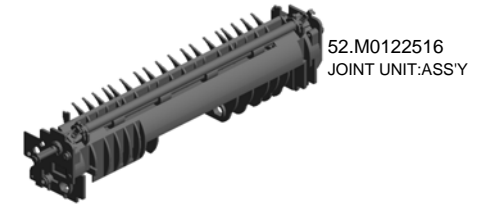


U008_S001
JOINT UNIT:ASS'Y

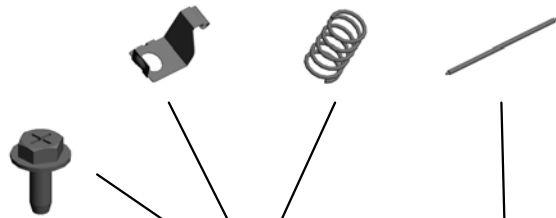
72.M0122745
GROUND PLATE:D
RIVEN

59.M0122705
(x2)
SPRING:ROLLER

58.M0122702
ROLLER:INTERFA
CE:DRIVEN



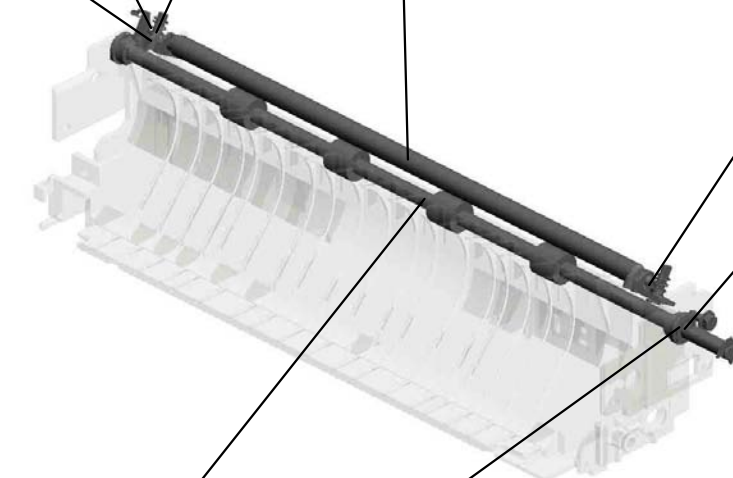
1.04503008N
(x2)
TAPPING SCREW -
M3X8



74.M0122753
(x2)
BUSHING:ROLLER:
DRIVEN



10.08050089
(x3)
RETAINING RING -
M4



57.M0122701
ROLLER:INTERFA
CE:DRIVE

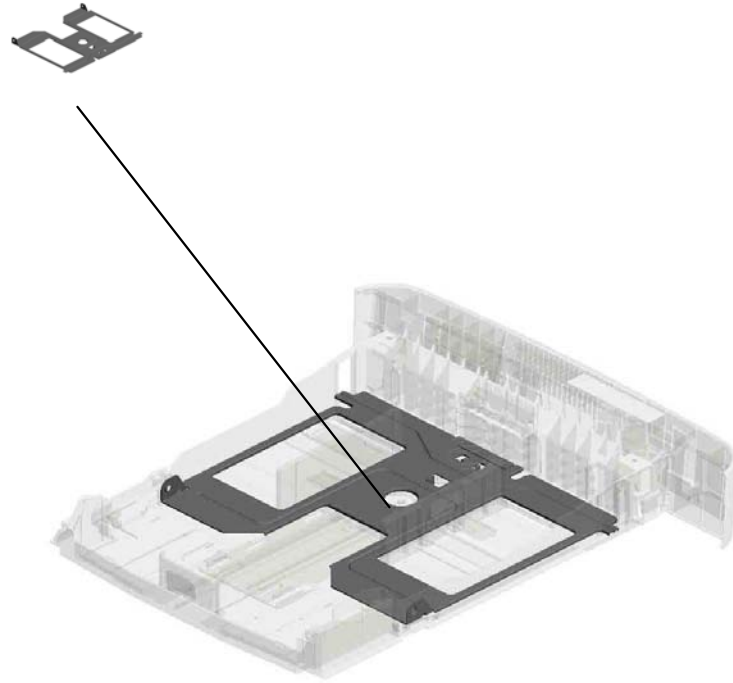
23.G1272575
(x2)
BUSHING - 6X10X6



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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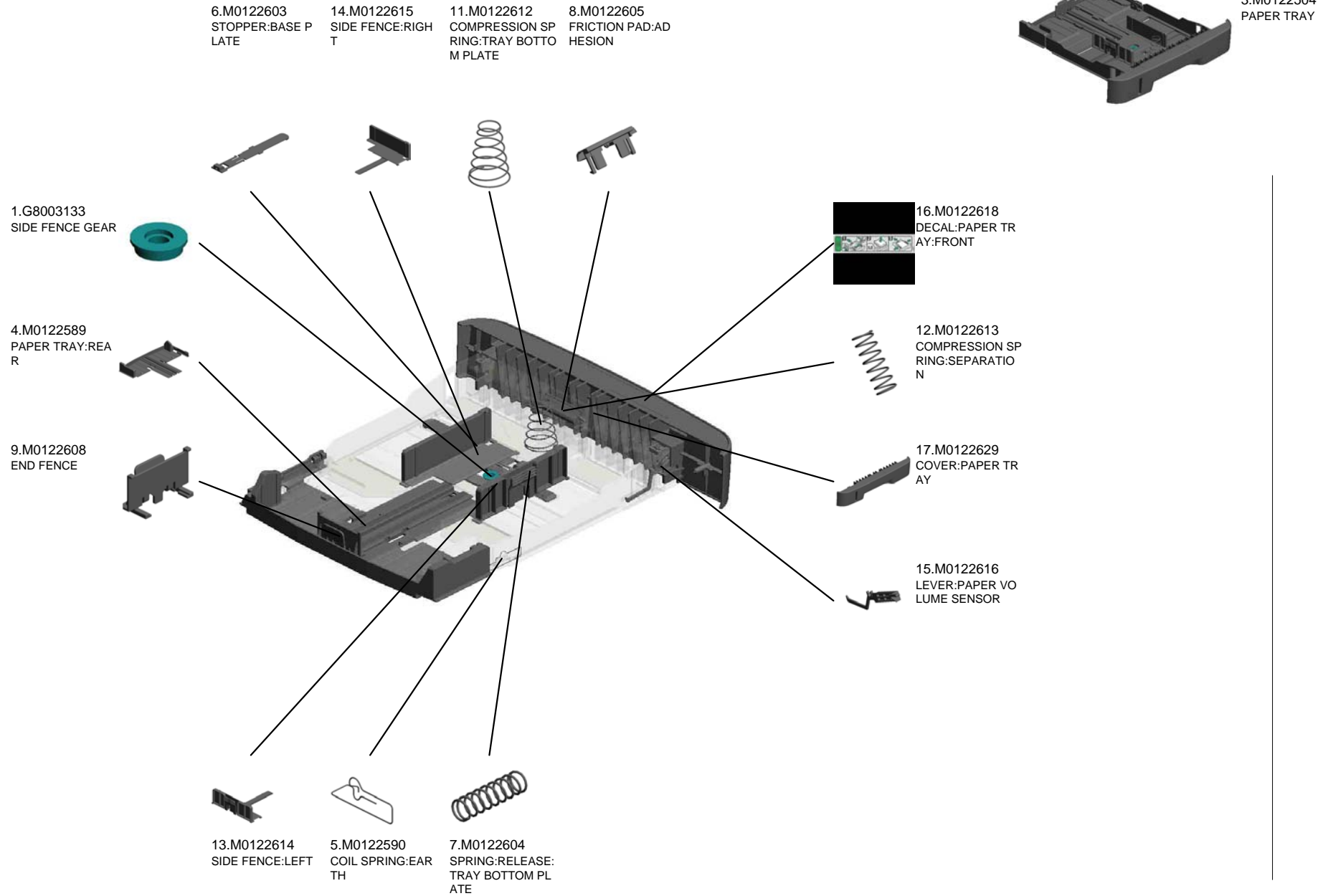
U009.PAPER TRAY

U009_S001
M0122610
TRAY BOTTOM PLATE



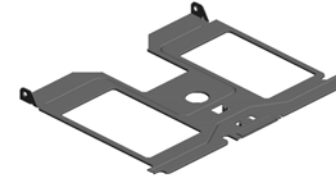
U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U009 PAPER TRAY

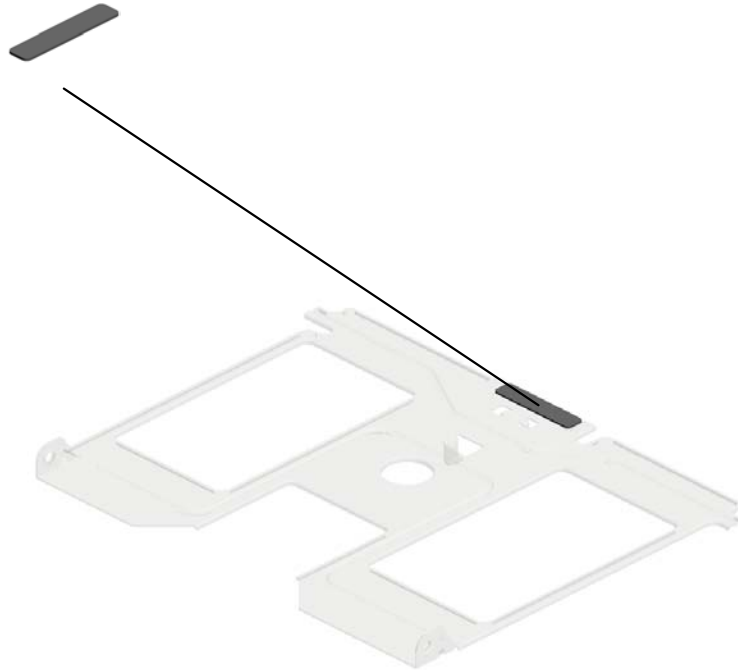


U009_S001
TRAY BOTTOM PLATE

2.GF013001
BOTTOM PLATE P
AD



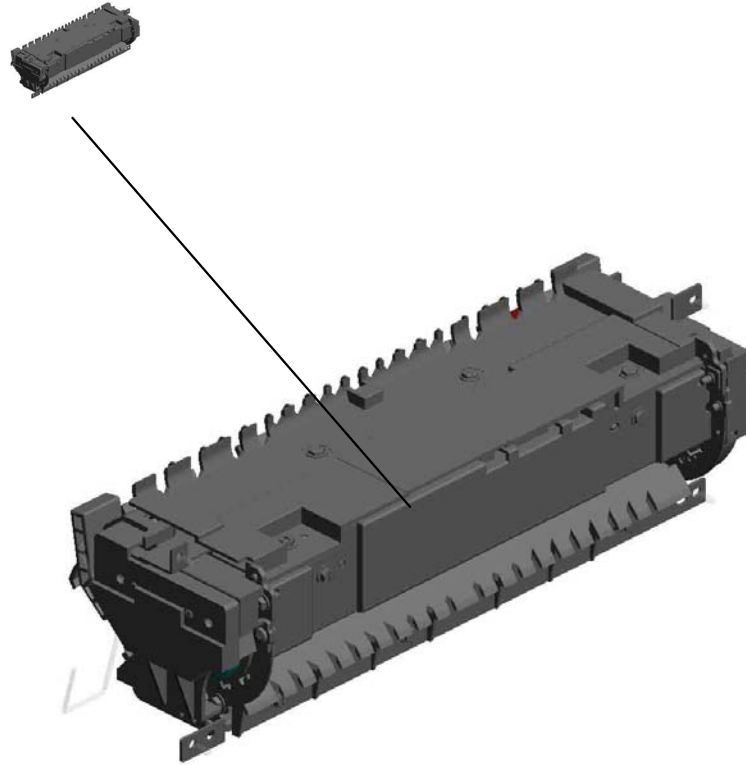
10.M0122610
TRAY BOTTOM PL
ATE



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U010.FUSING

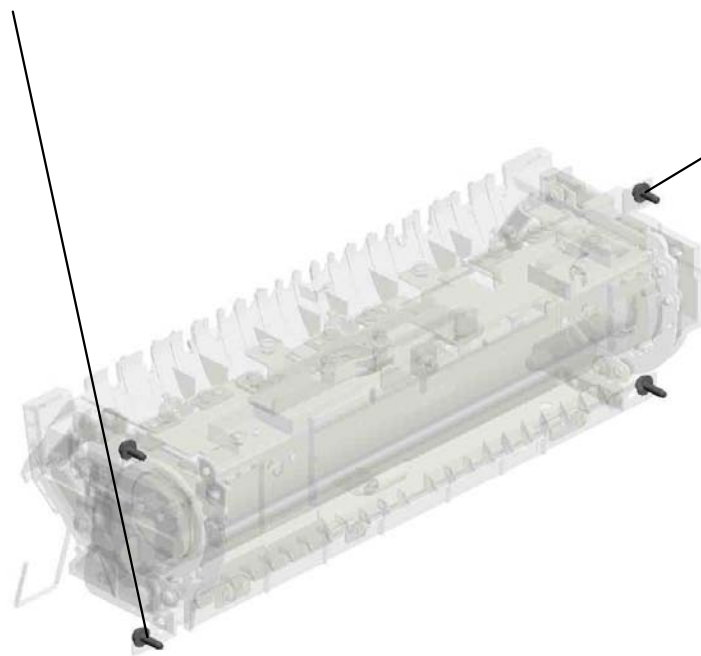
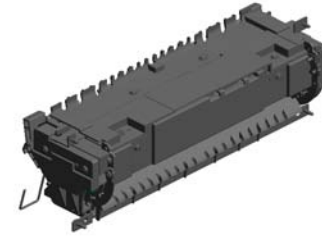
U010_S001
M0124030
FUSING UNIT:NA



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U010 FUSING

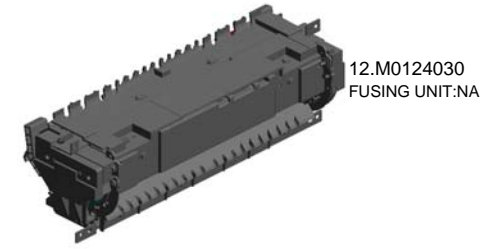
2.04503010N
(x2)
TAPPING SCREW -
M3X10



3.04513008N
(x2)
TAPPING SCREW -
M3X8

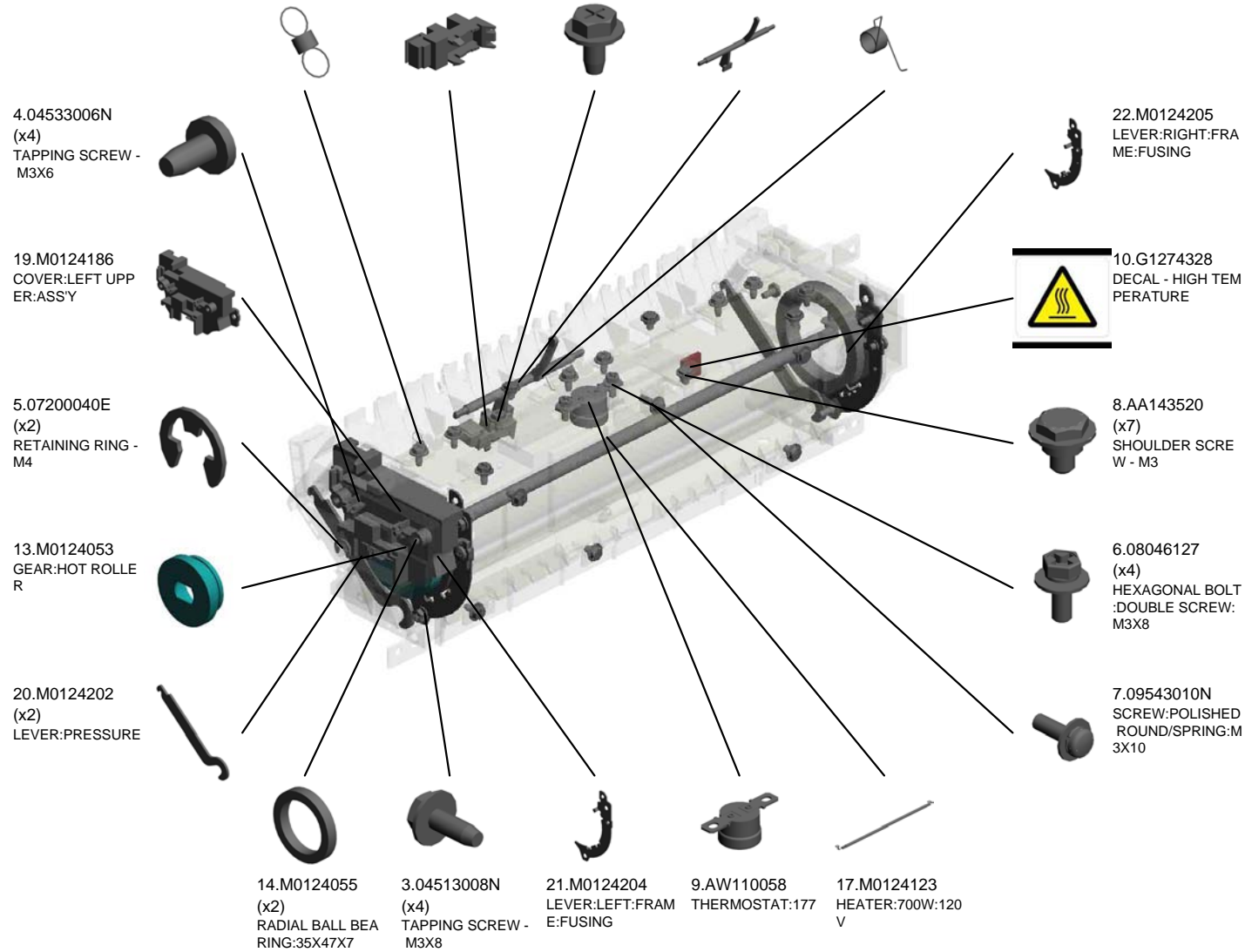
U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U010_S001 FUSING UNIT:NA



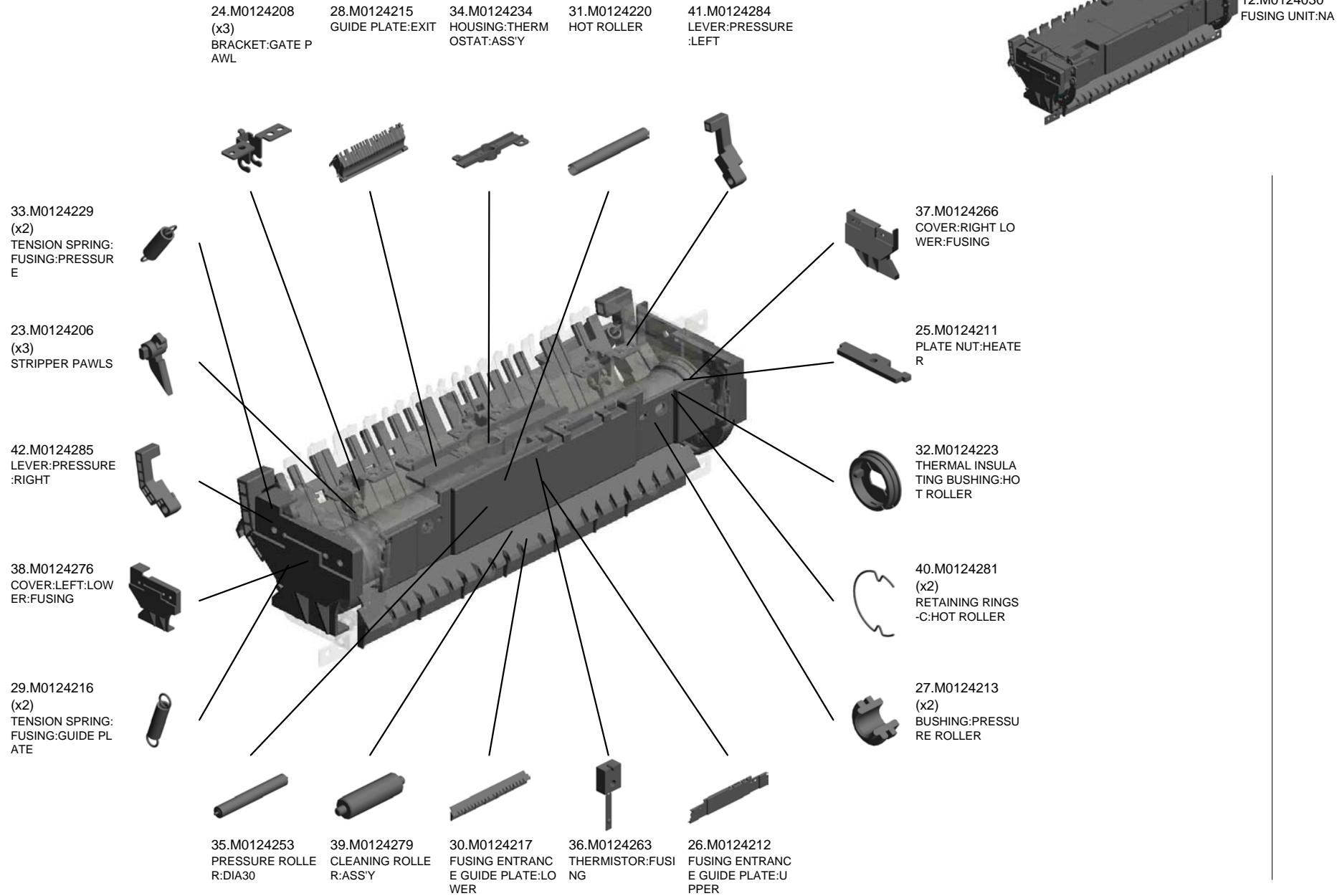
- 16.M0124120 (x3) TENSION SPRING: PICKOFF PAWL
- 11.GW020020 PHOTOINTERRUPTOR:LG248NL1
- 1.03603006N (x11) SCREW - M3X6
- 18.M0124135 FEELER:PAPER FEELER SENSOR
- 15.M0124109 SPRING:FEELER:EXIT

12.M0124030
FUSING UNIT:NA



U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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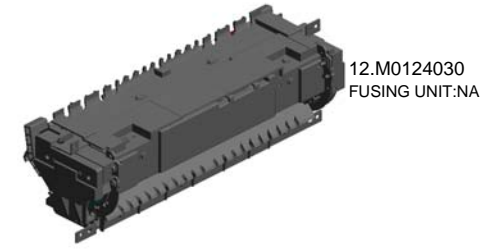
U010_S001
FUSING UNIT:NA



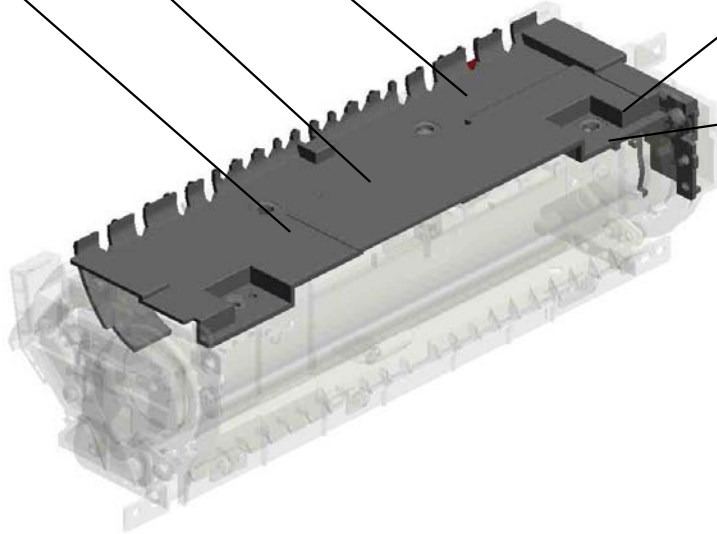
U010_S001
FUSING UNIT:NA

44.M0124292
FUSING COVER:U
PPER

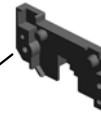
47.M0124603
DECAL:GUIDE PLA
TE:B



45.M0124293
(x4)
EXIT ROLLER:EXIT
:FUSING



43.M0124287
COVER:RIGHT UP
PER:FUSING



46.M0124295
GROUND PLATE:A
SS'Y

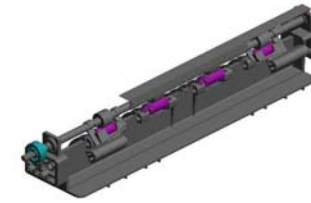


U011 PAPER EXIT

7.M0124458 DISCHARGE BRUSH
H:EXIT:ASS'Y DRA WING

12.M0134470 EXIT ROLLER:DUP
LEX:(for M017)

5.M0124454 (x4)
SPRING:EXIT ROLLER:EXIT



6.M0124457
GROUND PLATE:EXIT:DISCHARGE BRUSH



10.M0124499
GROUND PLATE:EXIT ROLLER



9.M0124482
PLATE:RIGHT:EXIT



2.07200040E (x2)
RETAINING RING - M4



3.G1272575 (x2)
BUSHING - 6X10X6



11.M0134455
GEAR:DRIVE:EXIT ROLLER:(for M017)



4.M0124453 (x4)
EXIT ROLLER



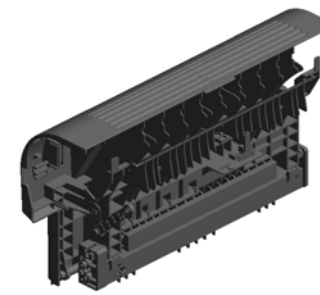
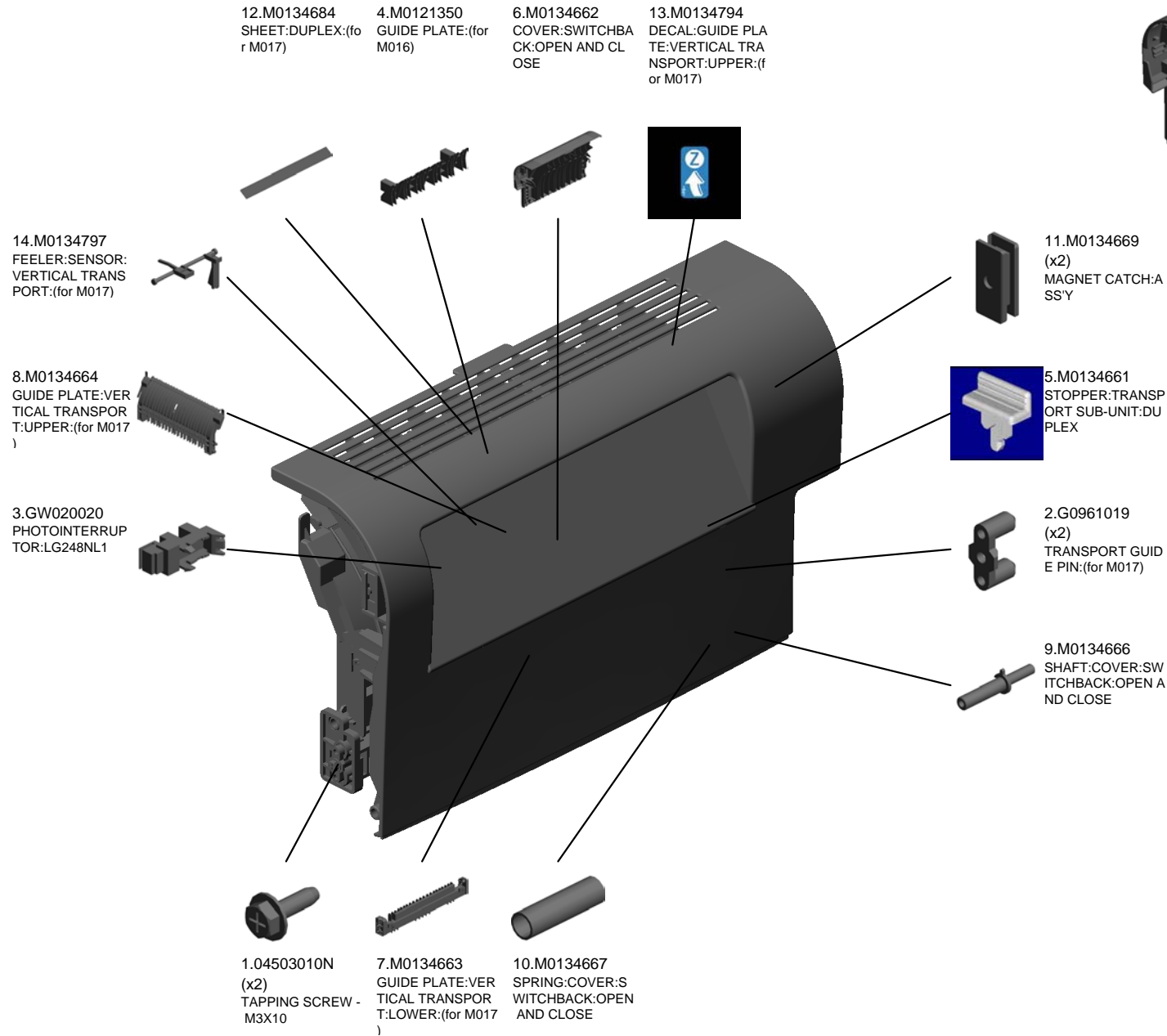
8.M0124481
PLATE:LEFT:EXIT



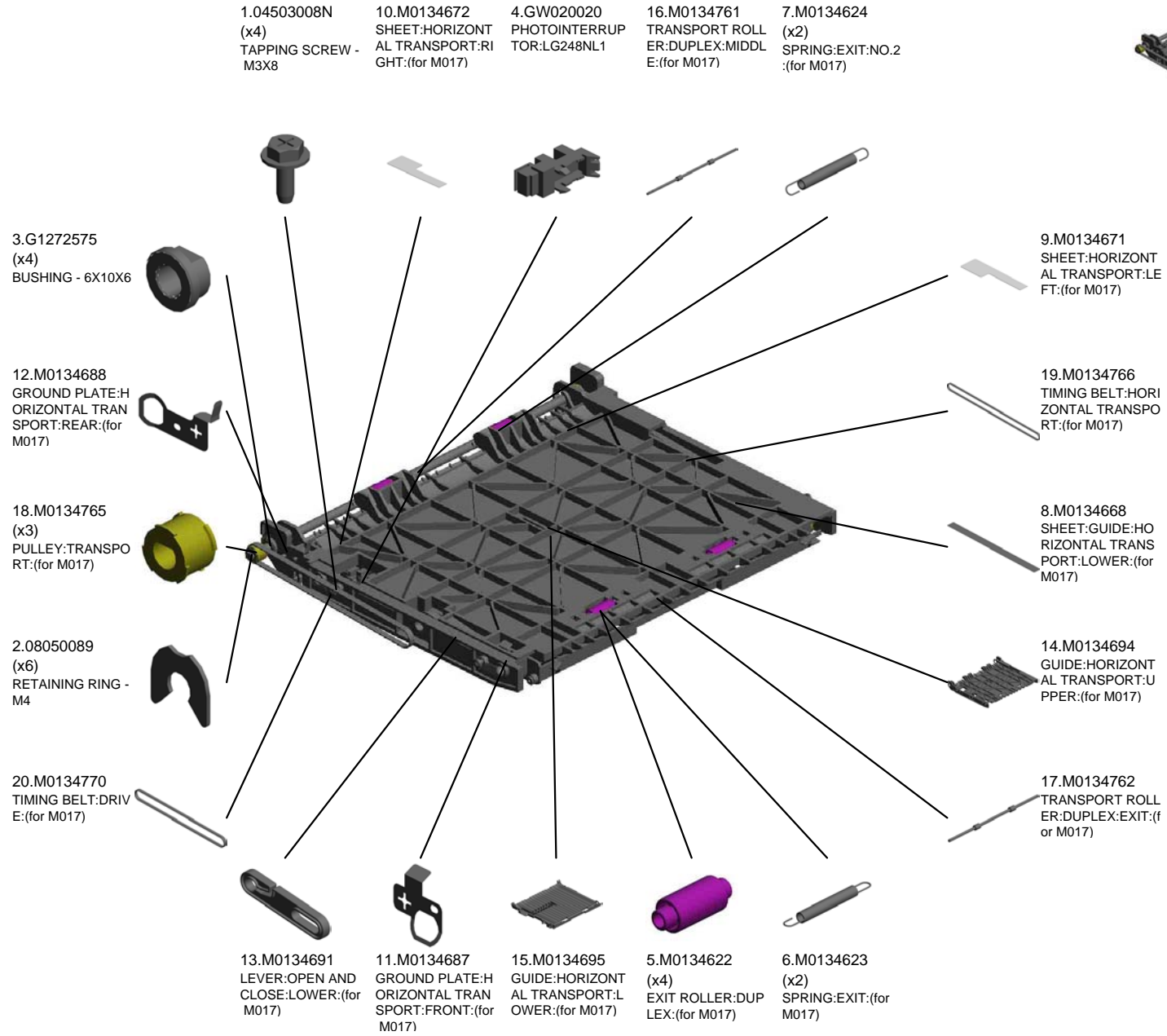
1.04503008N (x2)
TAPPING SCREW - M3X8

U001 U002 U003 U004 U005 U006 U007 U008 U009 U010 U011 U012 U013 U014

U012 DUPLEX(Vertical paper feed)



U013 DUPLEX(Horizontal paper feed)



U013
DUPLEX(Horizontal paper feed)

21.M0134778
FEELER:SENSOR:
HORIZONTAL TRA
NSPORT:(for M017)



22.M0134795
(x4)
PIN:GUIDE:UPPER:
(for M017)

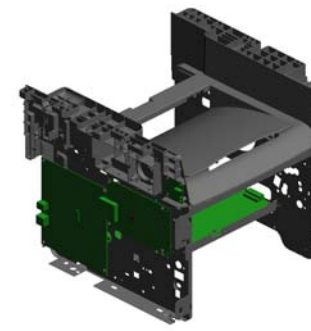
U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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U014 ELECTRICAL

3.14076657
EEPROM:BR93L76-
W

5.M0135451
PCB:ECB:(for M017
)

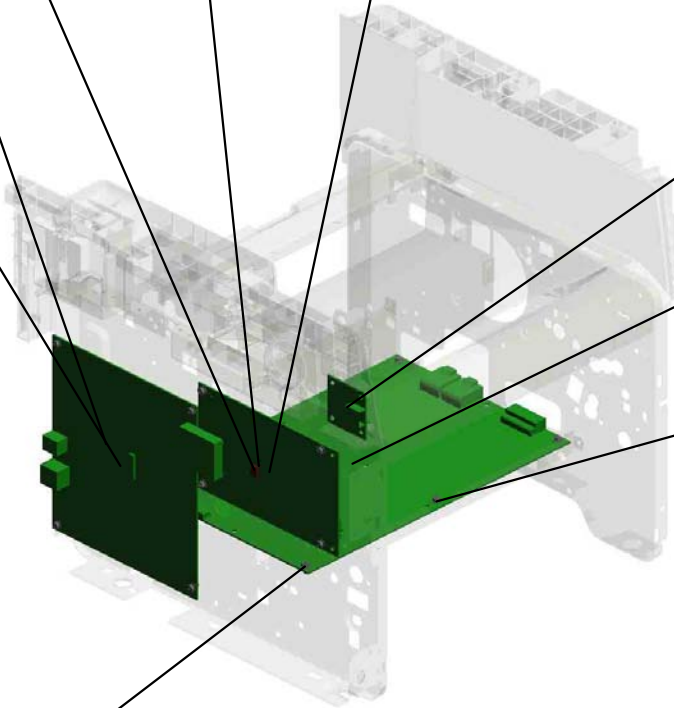
5.M0125451
PCB:ECB:(for M016
)



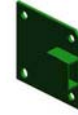
8.M0165045
PCB:FAX:NA:ASS'Y



7.M0165005
PCB:CTL-MF:ASS'Y



6.M0165001
PCB:USBHOST



4.M0125015
POWER SUPPLY U
NIT:NA



2.04513006N
(x10)
TAPPING SCREW -
3X6



1.04503006N
(x2)
TAPPING SCREW -
M3X6

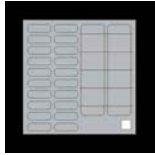


U001	U002	U003	U004	U005	U006	U007	U008	U009	U010	U011	U012	U013	U014
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ACCESSORIES



1.G1661268
LOGO PLATE - RIC



2.G1831475
SHEET:PANEL:ADDRESS



3.H5235350
TELEPHONE CABLE



4.M0125697
POWER SUPPLY CORD:125V
:13A:NA



5.M0160402
MODEL NAME PLATE:(for M0
16)



6.M0160409
MODEL NAME PLATE:NA:GE
R:(for M016)



7.M0170402
MODEL NAME PLATE:(for M0
17)



8.M0170407
MODEL NAME PLATE:NA:GE
R:(for M017)



9.M0160415
DECAL:ID_CARDCOPY:EXP

Exclusive Parts

Number	Part Name	Group	ID
A1532117	ROLLER TERMINAL	U008	16
AA143520	SHOULDER SCREW - M3	U007	3
		U010_S001	8
AW110058	THERMOSTAT:177	U010_S001	9
AX050265	STEPPER MOTOR:DC24V 7.2W:(for M017)	U008	17
AX640199	FAN:MM80:25MM:DC 2.16W	U008	18
B2681085	SWITCH:LF-105-11	U008	19
B6205051	SPEAKER	U003	7
G0123050	SIDE FENCE GEAR	U007_S001	4
G0201160	SNAP RING	U008	20
G0271180	RUBBER FOOT - GF	U008	21
G0292767	BY-PASS FEED COVER	U007	5
G0521120	SPRING - PAPER EXIT RELEASE	U008	22
G0521518	SPRING - LOCK LEVER	U003	8
G0961019	TRANSPORT GUIDE PIN:(for M017)	U012	2
G1022717	COVER:DC SOLENOID	U007	6
G1022755	RACK:SIDE FENCE:REAR	U007_S001	7
G1022789	STOPPER:PHOTOINTERRUPTOR	U007	8
G1272575	BUSHING - 6X10X6	U008_S001	23
		U008	23
		U011	3
		U013	3
G1272627	PAPER FEED ROLLER - MM32	U008	24
G1274328	DECAL - HIGH TEMPERATURE	U010_S001	10
G1661268	LOGO PLATE - RIC		
G1831475	SHEET:PANEL:ADDRESS		
G1831740	FRAME:ADF	U001_S001	1
G1831741	COVER:FRONT:ADF	U001_S001	2
G1831742	COVER:REAR:ADF	U001_S001	3
G1831743	BASE:SLIDER	U001_S001	4
G1831744	SIDE FENCE:RIGHT	U001_S001	5
G1831745	SIDE FENCE:LEFT	U001_S001	6
G1831746	EXTENSION TRAY:ADF	U001_S001	7
G1831747	PAPER STOPPER:ADF	U001_S001	8
G1831750	PLATE:GUIDE ROD:SCANNER	U002_S001	3
G1831751	SLIDE RAIL:CARRIAGE	U002_S001	4
G1831752	GEAR:SCANNER:ASS'Y	U002_S001	5

Number	Part Name	Group	ID
G1831753	PULLEY:CARRIAGE:ASS'Y	U002_S001	6
G1831756	COIL SPRING:PULLEY:CARRIAGE	U002_S001	7
G1831757	CASE:SCANNER:UPPER	U002_S001	8
G1831758	CORE:EMI:CARRIAGE	U002_S001	9
G1831759	INVERTOR:CARRIAGE	U002_S001	10
G1831761	COVER:CARRIAGE:UPPER	U002_S001	11
G1831762	FLUORESCENT TUBE:CARRIAGE	U002_S001	12
G1831764	COVER:INVERTOR	U002_S001	13
G1831765	CCD:MODULE:ASS'Y	U002_S001	14
G1831775	HOOK:ADF	U001_S001	9
G1831784	SHEET:SCANNER	U002_S001	15
G1831820	CASE:SCANNER:UPPER	U002_S001	16
G1831822	ADF DECAL - PICK-UP PAPER JAM	U001_S001	10
G1831824	GUIDE ROD:SCANNER	U002_S001	17
G1831825	PLATE:STUD:IDLER	U002_S001	18
G1831827	GROUND PLATE:SCANNER:LEFT	U002_S001	19
G1832550	ARM:SENSOR	U001_S001	11
G1832551	COIL SPRING:ARM:SENSOR	U001_S001	12
G1832552	SHEET:ADF:KILO	U001_S001	13
G1832553	COIL SPRING:GEAR:SLIDE	U001_S001	14
G1832554	GEAR:SLIDE	U001_S001	15
G1832558	PADDLE:ROLLER:EXIT	U001_S001	16
G1832559	DRIVEN ROLLER:EXIT	U001_S001	17
G1832560	SHAFT:DRIVEN ROLLER:EXIT	U001_S001	18
G1832561	COIL SPRING:EXIT	U001_S001	19
G1832562	COVER:EXIT	U001_S001	20
G1832563	PCB:DIP:ADF	U001_S001	21
G1832564	COVER:ADF	U001_S001	22
G1832565	SHEET:PRESSURE PLATE	U001_S001	23
G1832566	FLANGE:BUSHING:GEAR	U001_S001	24
G1832567	FRAME:LOWER	U001_S001	25
G1832569	COIL SPRING:PLATE	U001_S001	26
G1832570	PLATE	U001_S001	27
G1832571	SHEET:GUIDE	U001_S001	28
G1832572	FLANGE:BUSHING	U001_S001	29
G1832573	FEED ROLLER:ADF	U001_S001	30
G1832574	EXIT ROLLER:ADF	U001_S001	31
G1832576	COIL SPRING:FEED ROLLER:DRIV	U001_S001	32

Exclusive Parts

Number	Part Name	Group	ID
	EN		
G1832577	FEELER:SENSOR:FEED	U001_S001	33
G1832578	ARM:PRESSURE RELEASE	U001_S001	34
G1832579	DRIVEN ROLLER:FEED	U001_S001	35
G1832580	STAY:FEED	U001_S001	36
G1832582	SHAFT:DRIVEN ROLLER:FEED	U001_S001	37
G1832583	FIX STAND:SENSOR:FEED	U001_S001	38
G1832585	SHEET:FEELER:FEED	U001_S001	39
G1832586	PLATE:REAR	U001_S001	40
G1832587	GEAR:FEED:44T	U001_S001	41
G1832588	GEAR:EXIT:41T	U001_S001	42
G1832589	GEAR:20T39T	U001_S001	43
G1832590	GEAR:MIDDLE:32T	U001_S001	44
G1832591	GEAR:21T37T	U001_S001	45
G1832592	GEAR:51T	U001_S001	46
G1832593	GEAR:DRIVE:39T55T	U001_S001	47
G1832594	PLATE:MOTOR	U001_S001	48
G1832595	GEAR:DRIVE:40T56T	U001_S001	49
G1832598	ROLLER:BACK UP:FEED	U001_S001	50
G1832599	COIL SPRING:SHUTTER:PAPER	U001_S001	51
G1832600	SHUTTER:PAPER	U001_S001	52
G1832601	SEPARATION PAD:ADF	U001_S001	53
G1832602	FRAME:UPPER	U001_S001	54
G1832603	COIL SPRING:FEELER:SET SENSOR	U001_S001	55
G1832604	FEELER:SET SENSOR	U001_S001	56
G1832605	HOLDER:SEPARATION UNIT	U001_S001	57
G1832606	SHEET:STOPPER:EXIT	U001_S001	58
G1832607	DISCHARGE BRUSH:EXIT	U001_S001	59
G1832608	SEPARATION UNIT:ADF	U001_S001	60
G1832609	DC STEPPER MOTOR	U001_S001	61
G1832610	HINGE:LEFT	U001_S001	62
G1832611	HINGE:RIGHT	U001_S001	63
G1832612	PCB:DIP:SET SENSOR	U001_S001	64
G1832613	PCB:DIP:FEED	U001_S001	65
G1832614	PCB:DIP:ON OFF DETECTOR	U001_S001	66
G8003133	SIDE FENCE GEAR	U009	1
GF013001	BOTTOM PLATE PAD	U007_S001	9

Number	Part Name	Group	ID
		U009_S001	2
GW010007	PHOTO REFLECTION SENSOR:EXIT	U008	25
GW020020	PHOTOINTERRUPTOR:LG248NL1	U007	10
		U008	26
		U010_S001	11
		U012	3
		U013	4
H5235350	TELEPHONE CABLE		
M0121013	MECHANICAL DRIVE SECTION:ASSY:(for M016)	U008	27
M0121037	TONER BOTTLE:CASE	U008	28
M0121040	CASE:DISCHARGE LAMP	U008	29
M0121046	DUCT:HARNES	U008	30
M0121050	FRAME:MAIN:SUB-ASSY	U008	31
M0121063	TERMINAL:CHARGE	U008	32
M0121065	CASE:TERMINAL	U008	33
M0121066	SPRING:TERMINAL:CHARGE	U008	34
M0121088	COIL SPRING:RAIL:RIGHT	U008	35
M0121089	GUIDE:PAPER:LEADING EDGE	U008	36
M0121097	SUPPORTER:PAPER:TRANSPORT	U008	37
M0121099	HEAT INSULATING PLATE:FUSING:FRONT	U008	38
M0121117	GEAR:DRIVE:DRUM	U008	39
M0121118	GEAR:DRIVE:FUSING:NO.1	U008	40
M0121119	GEAR:DRIVE:FUSING:NO.2	U008	41
M0121120	GEAR:DRIVE:FUSING:NO.3	U008	42
M0121121	GEAR:DRIVE:PAPER FEED:NO.1	U008	43
M0121122	GEAR:DRIVE:PAPER FEED:NO.2	U008	44
M0121123	GEAR:DRIVE:PAPER FEED:NO.3	U008	45
M0121124	GEAR:DRIVE:PAPER FEED:NO.4	U008	46
M0121128	GEAR:DRIVE:FUSING:NO.4	U008	47
M0121150	BRUSHLESS MOTOR:DC 36.7W	U008	48
M0121171	GEAR:DRIVE:MANUAL FEED SECTION:NO.1	U008	49
M0121172	GEAR:DRIVE:MANUAL FEED SECTION:NO.2	U008	50
M0121350	GUIDE PLATE:(for M016)	U012	4

Exclusive Parts

Number	Part Name	Group	ID
M0121370	COVER:REAR LOWER	U003	9
M0121851	IMAGING UNIT	U004_S001	7
M0121908	COVER:OPTICAL UNIT	U004_S001	8
M0121957	POLYGON MOTOR:DC 18W	U004_S001	9
M0121979	SEAL:COVER:NO.2	U004_S001	10
M0121980	SEAL:COVER:NO.1	U004_S001	11
M0122056	DISCHARGE LAMP	U008	51
M0122504	PAPER TRAY	U009	3
M0122516	JOINT UNIT:ASS'Y	U008_S001	52
M0122589	PAPER TRAY:REAR	U009	4
M0122590	COIL SPRING:EARTH	U009	5
M0122603	STOPPER:BASE PLATE	U009	6
M0122604	SPRING:RELEASE:TRAY BOTTOM PLATE	U009	7
M0122605	FRICTION PAD:ADHESION	U009	8
M0122608	END FENCE	U009	9
M0122610	TRAY BOTTOM PLATE	U009_S001	10
M0122612	COMPRESSION SPRING:TRAY BOTTOM PLATE	U009	11
M0122613	COMPRESSION SPRING:SEPARATION	U009	12
M0122614	SIDE FENCE:LEFT	U009	13
M0122615	SIDE FENCE:RIGHT	U009	14
M0122616	LEVER:PAPER VOLUME SENSOR	U009	15
M0122618	DECAL:PAPER TRAY:FRONT	U009	16
M0122629	COVER:PAPER TRAY	U009	17
M0122668	SHAFT:PAPER FEED:ASS'Y	U008	53
M0122671	FEELER:PAPER END SENSOR	U008	54
M0122672	RAIL:PAPER TRAY:LEFT	U008	55
M0122673	RAIL:PAPER TRAY:RIGHT	U008	56
M0122701	ROLLER:INTERFACE:DRIVE	U008_S001	57
M0122702	ROLLER:INTERFACE:DRIVEN	U008_S001	58
M0122705	SPRING:ROLLER	U008_S001	59
M0122711	BUSHING:REGISTRATION:DRIVEN:LEFT	U008	60
M0122715	GUIDE PLATE:TRANSPORT:UPPER	U008	61
M0122718	REGISTRATION ROLLER:DRIVE	U008	62

Number	Part Name	Group	ID
M0122719	REGISTRATION ROLLER:DRIVEN	U008	63
M0122722	SPRING:ROLLER:REGISTRATION	U008	64
M0122723	FEELER:REGISTRATION:SENSOR	U008	65
M0122724	SPRING:FEELER:REGISTRATION	U008	66
M0122730	BUSHING:REGISTRATION:DRIVEN:RIGHT	U008	67
M0122741	GROUND PLATE:DRIVE:REGISTRATION ROLLER	U008	68
M0122742	GROUND PLATE:DRIVEN:REGISTRATION ROLLER	U008	69
M0122743	DECAL:GUIDE PLATE:TRANSPORT:UPPER	U008	70
M0122744	GUIDE:REGISTRATION	U008	71
M0122745	GROUND PLATE:DRIVEN	U008_S001	72
M0122751	MAGNETIC CLUTCH:TRANSPORT	U008	73
M0122753	BUSHING:ROLLER:DRIVEN	U008_S001	74
M0122805	GUIDE PLATE:MANUAL FEED:LOWER	U007	11
M0122806	SHEET:GUIDE:MANUAL FEED SUB-UNIT	U007	12
M0122816	FRICTION PAD:HOLDER:MANUAL FEED:ASS'Y	U007	13
M0122824	FEELER:MANUAL FEED	U007	14
M0122830	MECHANICAL SPRING CLUTCH:MANUAL FEED	U007	15
M0122831	DC SOLENOID:9.6W:24V	U007	16
M0122833	DECAL:SIDE FENCE:MANUAL FEED	U007_S001	17
M0122859	GUIDE PLATE:UPPER:MANUAL FEED	U007	18
M0122860	PAPER FEED ROLLER:MANUAL FEED	U007	19
M0122869	MANUAL FEED TABLE:SUB-ASS'Y	U007_S001	20
M0122870	COVER:MANUAL FEED TABLE	U007	21
M0122874	COMPRESSION SPRING:MANUAL FEED	U007	22
M0122875	SIDE FENCE:MANUAL FEED:RIGHT	U007_S001	23

Exclusive Parts

Number	Part Name	Group	ID
M0122877	SIDE FENCE:MANUAL FEED:LEFT	U007_S001	24
M0122879	EXTENSION TRAY:MANUAL FEED	U007	25
M0122880	COMPRESSION SPRING:SEPARATION	U007	26
M0124030	FUSING UNIT:NA	U010_S001	12
M0124053	GEAR:HOT ROLLER	U010_S001	13
M0124055	RADIAL BALL BEARING:35X47X7	U010_S001	14
M0124109	SPRING:FEELER:EXIT	U010_S001	15
M0124120	TENSION SPRING:PICKOFF PAWL	U008	75
		U010_S001	16
M0124123	HEATER:700W:120V	U010_S001	17
M0124135	FEELER:PAPER FEED SENSOR	U010_S001	18
M0124186	COVER:LEFT UPPER:ASS'Y	U010_S001	19
M0124202	LEVER:PRESSURE	U010_S001	20
M0124204	LEVER:LEFT:FRAME:FUSING	U010_S001	21
M0124205	LEVER:RIGHT:FRAME:FUSING	U010_S001	22
M0124206	STRIPPER PAWLS	U010_S001	23
M0124208	BRACKET:GATE PAWL	U010_S001	24
M0124211	PLATE NUT:HEATER	U010_S001	25
M0124212	FUSING ENTRANCE GUIDE PLATE:UPPER	U010_S001	26
M0124213	BUSHING:PRESSURE ROLLER	U010_S001	27
M0124215	GUIDE PLATE:EXIT	U010_S001	28
M0124216	TENSION SPRING:FUSING:GUIDE PLATE	U010_S001	29
M0124217	FUSING ENTRANCE GUIDE PLATE:LOWER	U010_S001	30
M0124220	HOT ROLLER	U010_S001	31
M0124223	THERMAL INSULATING BUSHING:HOT ROLLER	U010_S001	32
M0124229	TENSION SPRING:FUSING:PRESSURE	U010_S001	33
M0124234	HOUSING:THERMOSTAT:ASS'Y	U010_S001	34
M0124253	PRESSURE ROLLER:DIA30	U010_S001	35
M0124263	THERMISTOR:FUSING	U010_S001	36
M0124266	COVER:RIGHT LOWER:FUSING	U010_S001	37
M0124270	THERMAL INSULATING BUSHING:FUSING UNIT	U008	76

Number	Part Name	Group	ID
M0124276	COVER:LEFT:LOWER:FUSING	U010_S001	38
M0124279	CLEANING ROLLER:ASS'Y	U010_S001	39
M0124281	RETAINING RINGS-C:HOT ROLLER	U010_S001	40
M0124284	LEVER:PRESSURE:LEFT	U010_S001	41
M0124285	LEVER:PRESSURE:RIGHT	U010_S001	42
M0124287	COVER:RIGHT UPPER:FUSING	U010_S001	43
M0124292	FUSING COVER:UPPER	U010_S001	44
M0124293	EXIT ROLLER:EXIT:FUSING	U010_S001	45
M0124295	GROUND PLATE:ASS'Y	U010_S001	46
M0124453	EXIT ROLLER	U011	4
M0124454	SPRING:EXIT ROLLER:EXIT	U011	5
M0124457	GROUND PLATE:EXIT:DISCHARGE BRUSH	U011	6
M0124458	DISCHARGE BRUSH:EXIT:ASS'Y DRAWING	U011	7
M0124481	PLATE:LEFT:EXIT	U011	8
M0124482	PLATE:RIGHT:EXIT	U011	9
M0124499	GROUND PLATE:EXIT ROLLER	U011	10
M0124601	DECAL:LEVER:ENVELOPE:LEFT	U008	77
M0124602	DECAL:LEVER:ENVELOPE:RIGHT	U008	78
M0124603	DECAL:GUIDE PLATE:B	U010_S001	47
M0124699	DECAL:WARNING (HIGH TEMPERATURE):FRONT	U008	79
M0125015	POWER SUPPLY UNIT:NA	U014	4
M0125451	PCB:ECB:(for M016)	U014	5
M0125697	POWER SUPPLY CORD:125V:13A:NA		
M0126250	TRANSFER ROLLER:ASS'Y	U006	1
M0126252	BUSHING:TRANSFER ROLLER:RIGHT	U006	2
M0126253	BUSHING:TRANSFER ROLLER:LEFT	U006	3
M0126254	SPRING:TRANSFER ROLLER	U006	4
M0126255	GEAR:TRANSFER ROLLER	U006	5
M0126256	ROLLER:POSITIONING:TRANSFER ROLLER	U006	6
M0126259	SEPARATION ELECTRODE PLATE	U006	7

Exclusive Parts

Number	Part Name	Group	ID
M0126260	COVER:ELECTRODE PLATE	U006	8
M0131136	GEAR:DRIVE:DUPLEX SECTION:(for M017)	U008	80
M0131178	BRACKET:DRIVE:DUPLEX:(for M017)	U008	81
M0134455	GEAR:DRIVE:EXIT ROLLER:(for M017)	U011	11
M0134470	EXIT ROLLER:DUPLEX:(for M017)	U011	12
M0134610	GEAR:DRIVE:DUPLEX:(for M017)	U008	82
M0134622	EXIT ROLLER:DUPLEX:(for M017)	U013	5
M0134623	SPRING:EXIT:(for M017)	U013	6
M0134624	SPRING:EXIT:NO.2:(for M017)	U013	7
M0134635	SPRING:OPEN AND CLOSE:RIGHT:(for M017)	U008	83
M0134661	STOPPER:TRANSPORT SUB-UNIT:DUPLEX	U012	5
M0134662	COVER:SWITCHBACK:OPEN AND CLOSE	U012	6
M0134663	GUIDE PLATE:VERTICAL TRANSPORT:LOWER:(for M017)	U012	7
M0134664	GUIDE PLATE:VERTICAL TRANSPORT:UPPER:(for M017)	U012	8
M0134666	SHAFT:COVER:SWITCHBACK:OPEN AND CLOSE	U012	9
M0134667	SPRING:COVER:SWITCHBACK:OPEN AND CLOSE	U012	10
M0134668	SHEET:GUIDE:HORIZONTAL TRANSPORT:LOWER:(for M017)	U013	8
M0134669	MAGNET CATCH:ASS'Y	U012	11
M0134671	SHEET:HORIZONTAL TRANSPORT:LEFT:(for M017)	U013	9
M0134672	SHEET:HORIZONTAL TRANSPORT:RIGHT:(for M017)	U013	10
M0134673	LEVER:OPEN AND CLOSE:NO.1:(for M017)	U008	84
M0134674	LEVER:OPEN AND CLOSE:NO.2:(for M017)	U008	85
M0134684	SHEET:DUPLEX:(for M017)	U012	12

Number	Part Name	Group	ID
M0134685	BUTTON:OPEN AND CLOSE:LOWER:(for M017)	U008	86
M0134687	GROUND PLATE:HORIZONTAL TRANSPORT:FRONT:(for M017)	U013	11
M0134688	GROUND PLATE:HORIZONTAL TRANSPORT:REAR:(for M017)	U013	12
M0134691	LEVER:OPEN AND CLOSE:LOWER:(for M017)	U013	13
M0134694	GUIDE:HORIZONTAL TRANSPORT:UPPER:(for M017)	U013	14
M0134695	GUIDE:HORIZONTAL TRANSPORT:LOWER:(for M017)	U013	15
M0134696	LEVER:OPEN AND CLOSE:LEFT:(for M017)	U008	87
M0134697	LEVER:OPEN AND CLOSE:RIGHT:(for M017)	U008	88
M0134698	BRACKET:OPEN AND CLOSE:LOWER:(for M017)	U008	89
M0134761	TRANSPORT ROLLER:DUPLEX:MIDDLE:(for M017)	U013	16
M0134762	TRANSPORT ROLLER:DUPLEX:EXIT:(for M017)	U013	17
M0134765	PULLEY:TRANSPORT:(for M017)	U013	18
M0134766	TIMING BELT:HORIZONTAL TRANSPORT:(for M017)	U013	19
M0134770	TIMING BELT:DRIVE:(for M017)	U013	20
M0134778	FEELER:SENSOR:HORIZONTAL TRANSPORT:(for M017)	U013	21
M0134785	SPRING:COVER:SWITCHBACK:OPEN AND CLOSE:(for M017)	U008	90
M0134794	DECAL:GUIDE PLATE:VERTICAL TRANSPORT:UPPER:(for M017)	U012	13
M0134795	PIN:GUIDE:UPPER:(for M017)	U013	22
M0134797	FEELER:SENSOR:VERTICAL TRANSPORT:(for M017)	U012	14
M0135451	PCB:ECB:(for M017)	U014	5
M0160402	MODEL NAME PLATE:(for M016)		
M0160409	MODEL NAME PLATE:NA:GER:(for		

Exclusive Parts

Number	Part Name	Group	ID
	M016)		
M0160415	DECAL:ID_CARDCOPY:EXP		
M0160454	DECAL:CAUTION:COPY:NA	U002	20
M0161250	COVER:UPPER:MFP	U003	10
M0161251	COVER:FRONT	U003	11
M0161252	BUTTON	U003	12
M0161253	COVER:SIDE PLATE:LEFT	U003	13
M0161255	COVER:RIGHT:110V	U003	14
M0161256	COVER:REAR MIDDLE	U003	15
M0161257	EXTENSION TRAY:EXIT:MF	U003	16
M0161258	EXTENSION TRAY:GUIDE:MF	U003	17
M0161410	OPERATION PANEL SHEET:NA	U002	21
M0161500	OPERATION PANEL	U002_S002	22
M0161555	CABLE:ADF	U001_S001	67
M0161600	SCANNER:ASS'Y	U002_S001	23
M0161601	GUIDE:FEED:DRIVEN	U001_S001	68
M0161630	ADF:ASS'Y	U001_S001	69
M0161654	FLAT CABLE:CARRIAGE	U002_S001	24
M0161655	WIRE:GROUND WIRE:PLATE:MOT OR	U002_S001	25
M0162630	DECAL:PICK-UP PAPER JAM:(for M 016)	U003	18
M0162815	DECAL:FEED PAPER AGAIN:PREV ENTION	U007	27
M0165001	PCB:USBHOST	U014	6
M0165005	PCB:CTL-MF:ASS'Y	U014	7
M0165045	PCB:FAX:NA:ASS'Y	U014	8
M0165062	BRACKET:LCD:OPERATION PANE L	U002_S002	26
M0165063	SHEET:LCD:OPERATION PANEL	U002_S002	27
M0165065	KEY:START/STOP	U002_S002	28
M0165066	KEY:MENU	U002_S002	29
M0165067	KEY:FUNCTION	U002_S002	30
M0165068	KEY:SETTING	U002_S002	31
M0165069	KEY:TELEPHONELIST	U002_S002	32
M0165071	KEYTOP:START/STOP	U002_S002	33
M0165072	KEYTOP:FUNCTION	U002_S002	34
M0165073	KEYTOP:SETTING	U002_S002	35

Number	Part Name	Group	ID
M0165074	KEYTOP:TELEPHONELIST	U002_S002	36
M0170402	MODEL NAME PLATE:(for M017)		
M0170407	MODEL NAME PLATE:NA:GER:(for M017)		
M0172630	DECAL:PICK-UP PAPER JAM:(for M 017)	U003	19
M0174611	BRACKET:DRIVE:ASS'Y:(for M017)	U008	91

Standard Parts



03603006N
SCREW - M3X6



04503006N
TAPPING SCREW - M3X6



04503008N
TAPPING SCREW - M3X8



04503010N
TAPPING SCREW - M3X10



04503012N
TAPPING SCREW:3X12



04513006N
TAPPING SCREW - 3X6



04513008N
TAPPING SCREW - M3X8



04513014N
TAPPING SCREW:3X14



04513030N
TAPPING SCREW:3X30



04523010N
BINDING SELF-TAPPING SCREW:3X10



04533006N
TAPPING SCREW - M3X6



04543006Q
TAPPING SCREW - M3X6



04543008Q
TAPPING SCREW:3X8



04543014Q
TAPPING SCREW:3X14



07200040E
RETAINING RING - M4



08046127
HEXAGONAL BOLT:DOUBLE SCREW:M3X8



08050088
RETAINING RING - M6



08050089
RETAINING RING - M4



09504006N
SCREW - M4X6



09543010N
SCREW:POLISHED ROUND/ SPRING:M3X10



11050487
HARNESS CLAMP



11050508
HARNESS CLAMP - LWS-071
1



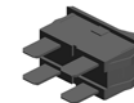
11050511
HARNESS CLAMP - LWS-030
6ZC



11050518
EDGE SADDLE - LES-1010



11050534
CLAMP



12042757
SWITCH:SDDJF31900



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EEPROM:BR93L76-W

