

# MP560 / MP568

# Service Manual

## Revision 0

# QY8-13CL-000

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### Scope

This manual has been issued by Canon Inc., to provide the service technicians of this product with the information necessary for qualified persons to learn technical theory, installation, maintenance, and repair of products. The manual covers information applicable in all regions where the product is sold. For this reason, it may contain information that is not applicable to your region.

This manual does not provide sufficient information for disassembly and reassembly procedures. Refer to the graphics in the separate Parts Catalog.

### Revision

This manual could include technical inaccuracies or typographical errors due to improvements or changes made to the product. When changes are made to the contents of the manual, Canon will release technical information when necessary. When substantial changes are made to the contents of the manual, Canon will issue a revised edition.

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# 1. MAINTENANCE

## 1-1. Adjustment, Periodic Maintenance, Periodic Replacement Parts, and Replacement Consumables by Service Engineer

### (1) Adjustment

	Adjustment	Timing	Purpose	Tool	Approx. time
	EEPROM initialization	- At logic board replacement	To initialize settings	Service Tool <sup>*1</sup> Perform in the service mode.	1 min.
	Destination settings (EEPROM settings)	- At logic board replacement	To set destination.	Service Tool <sup>*1</sup> Perform in the service mode.	1 min.
	Ink absorber counter resetting (EEPROM settings)	- At logic board replacement - At ink absorber replacement	To reset the ink absorber counter.	Service Tool <sup>*1</sup> Perform in the service mode.	1 min.
	Ink absorber counter value setting (EEPROM settings)	- At logic board replacement	To set the ink amount data in the ink absorber to the ink absorber counter.	Service Tool <sup>*1</sup> Perform in the service mode.	1 min.
	Ink absorber replacement	- When the ink absorber becomes full	To replace the ink absorber with a new one.	Screwdriver, a pair of tweezers, etc.	15 min.
	Paper feed motor position adjustment	- At paper feed motor replacement	To adjust the belt tension. (Position the paper feed motor so that the belt is stretched tight.)	None.	5 min.
N	Automatic print head alignment	- At print head replacement - At logic board replacement	To secure the dot placement accuracy.	None (plain paper). Perform in the user mode.	6 min.
	Manual print head alignment	- When print quality is not satisfying			10 min.
	Grease application	- At carriage unit replacement	To maintain sliding properties of the carriage rail.	FLOIL KG-107A	1 min.
	Ink system function check	- At logic board replacement - At spur unit replacement	To maintain detection functionality for presence of the ink tanks and each ink tank position.	Service Tool <sup>*1</sup> Perform in the service mode.	1 min.



		- At carriage unit replacement			
	LCD language settings	- At logic board replacement	To set the language to be displayed on the LCD.	None. Perform in the user mode.	1 min.
	Platen glass protection sheet (document pressure sheet) position adjustment	- At protection sheet replacement - At document bottom cover replacement - At scanner unit replacement	To maintain scanning accuracy, hold the sheet with the long side down, then fit its upper left corner to the platen glass reference mark (back left).	None.	1 min.
	LF / Eject correction	- At logic board replacement - At paper feed roller replacement	To correct line feeding (LF roller diameter).	Service Tool* <sup>1</sup> Perform in the service mode.	5 min. (LF correction and Eject correction is performed at the same time.)
		- At logic board replacement - At platen unit replacement	To correct line feeding (eject roller diameter).		
	Carriage rail position adjustment	- At carriage unit replacement - At carriage unit removal	To set the carriage rail to the original position prior to removal or replacement of the carriage unit, put a mark on the main chassis before removal of the carriage unit.	None.	1 min.

N: New adjustment item

\*1: Install the Service Tool to a pre-registered computer.




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- The screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit.

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## (2) Periodic maintenance

No periodic maintenance is necessary.

## (3) Periodic replacement parts

There are no parts in this machine that require periodic replacement by a service engineer.

## (4) Replacement consumables

There are no consumables that require replacement by a service engineer.

## 1-2. Customer Maintenance

Adjustment	Timing	Purpose	Tool	Approx. time
Automatic print head alignment	<ul style="list-style-type: none"> <li>- At print head replacement</li> <li>- When print quality is not satisfying (uneven printing, etc.)</li> </ul>	To ensure accurate dot placement.	<ul style="list-style-type: none"> <li>- 1 sheet of plain paper</li> <li>- Machine buttons</li> <li>- Computer (MP driver)</li> </ul>	6 min.
Manual print head alignment			<ul style="list-style-type: none"> <li>- 3 sheets of plain paper</li> <li>- Computer (MP driver)</li> </ul>	10 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	<ul style="list-style-type: none"> <li>- Machine buttons</li> <li>- Computer (MP driver)</li> </ul>	1 min.
Print head deep cleaning	When print quality is not satisfying, and not improved by print head cleaning.	To improve nozzle conditions.	<ul style="list-style-type: none"> <li>- Machine buttons</li> <li>- Computer (MP driver)</li> </ul>	2 min.
Ink tank replacement	When an ink tank becomes empty. ("No ink error" displayed on the monitor or on the machine LCD, or short flashing of an ink tank LED)	To replace the empty ink tank.	---	1 min.
Paper feed roller cleaning	<ul style="list-style-type: none"> <li>- When paper does not feed properly.</li> <li>- When the front side of the paper is smeared.</li> </ul>	To clean the paper feed rollers of the selected paper source (rear tray or cassette).	<ul style="list-style-type: none"> <li>- Machine buttons</li> <li>- Computer (MP driver)</li> </ul>	2 min.
Bottom plate cleaning	When the back side of the paper is smeared.	To clean the platen ribs. (Feed the paper from the rear tray.)	<ul style="list-style-type: none"> <li>- Machine buttons</li> <li>- Computer (MP driver)</li> </ul>	1 min.
Exterior cleaning	When necessary	To clean the machine exterior, or to wipe off dusts.	Soft, dry, and clean lint-free cloth.	1 min.

### 1-3. Special Tools

Name	Tool No.	Application	Remarks
FLOIL KG-107A	QY9-0057-000	To the carriage rail sliding portions.	In common with the MP610, etc.

### 1-4. Sensors

No.	Sensor	Function	Possible problems
1	Scanner unit open sensor	Detects opening and closing of the scanning unit (cover).	- The carriage does not move to the center.
2	PE sensor	Detects the position of the leading and trailing edges of paper.	- No paper - Paper jam
3	ASF cam sensor	Detects the position of the ASF cam (for paper feeding from the rear tray)	- ASF cam sensor error - Paper feed problem
4	APP encoder sensor	Detects the amount of rotation of the APP encoder. (Controls paper feeding and purging operation.)	- APP sensor error - APP position error
5	Carriage encoder sensor	Detects the position of the carriage.	- Carriage position error - Printing shifts from the correct position. - Uneven printing - Strange noise
6	Temperature & Ink amount sensor	Detects the temperature of the inside of the machine and the remaining ink amount.	- Internal temperature error - Low-ink or out-of-ink warning
7	Ink sensor	Detects the position of an ink tank.	- Wrong position of an ink tank - An error indicating that multiple ink tanks of the same color are installed - No recognition of an ink tank
8	LF encoder sensor	Detects rotation of the LF encoder. (Controls paper feeding.)	- LF position error - Uneven printing
9	Valve cam sensor	Detects the position of the purge valve cam. (Controls purging operation.)	- Valve cam sensor error
10	Pump roller sensor	Detects the position of the purge pump roller. (Controls purging operation.)	- Pump roller sensor error
11	Purge cam sensor	Detects the position of the purge main cam. (Controls purging operation.)	- PG cam sensor error



1. Scanner unit open sensor



2. PE sensor



4. APP encoder sensor



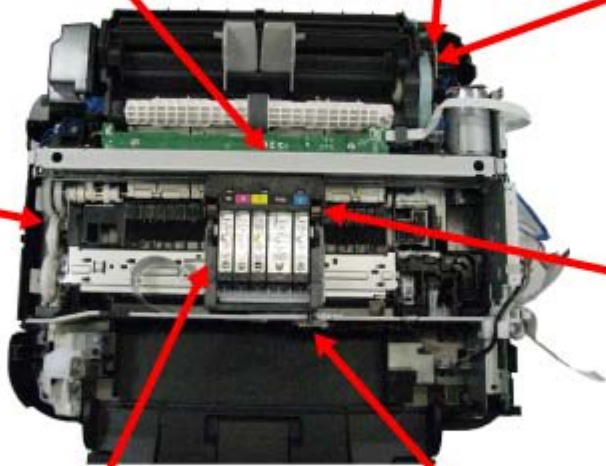
3. ASF cam sensor



8. LF encoder sensor



5. Carriage encoder sensor



6. Temperature & Ink amount sensor

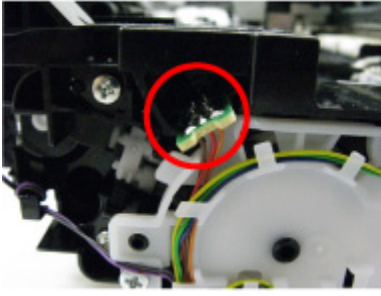


7. Ink sensor

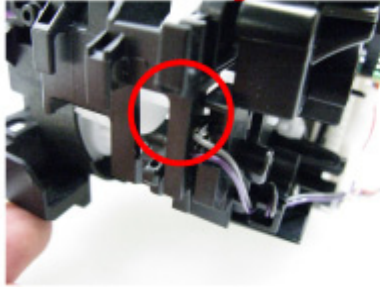




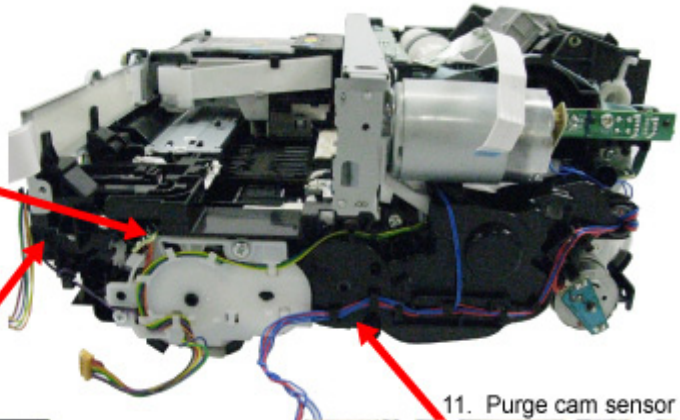
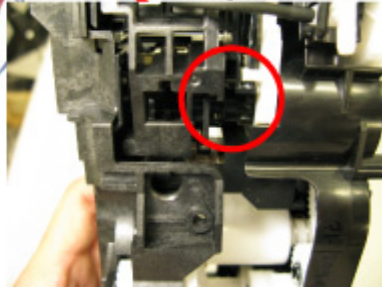
10. Pump roller sensor



9. Valve cam sensor

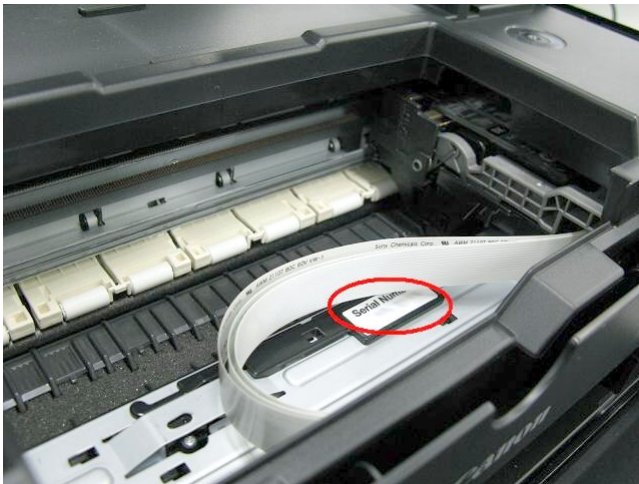


11. Purge cam sensor



### 1-5. Serial Number Location

On the inner guide over the upper portion of the spur holder (visible when the scanning unit (cover) is opened)



When the machine power is OFF.



When the machine power is ON.

◀<1. MAINTENANCE>▶ ▲



## 2. LIST OF ERROR DISPLAY / TROUBLESHOOTING

Errors and warnings are displayed by the following ways:

1. Operator call errors are indicated by the Alarm LED lit in orange, and the error messages are displayed by the MP driver Status Monitor.
2. Error codes (the latest 10 error codes at the maximum) are printed in the "operator call/service call error record" area in EEPROM information print

Buttons valid when an operator call error occurs:

1. ON button: To turn the machine off and on again.
2. OK button: To clear and recover from an error. In some operator call errors, the error will automatically be cleared when the cause of the error is eliminated, and pressing the OK button may not be necessary.
3. Stop button: To cancel the job at error occurrence, and to clear the error.

### 2-1. Operator Call Errors (by Alarm LED Lit in Orange)

Error	Error code	U No.	Message on the LCD	Solution	Parts that are likely to be faulty
No paper in the rear tray.	[1000]	---	Rear tray. There is no paper. Load paper and press [OK].	Confirm that the rear tray is selected as the paper source. Set the paper in the rear tray, and press the OK button.	- ASF unit - Pressure roller unit - PE sensor board unit
No paper in the cassette.	[1003]	---	Cassette. There is no paper. Load paper and press [OK].	Confirm that the cassette is selected as the paper source. Set the paper in the cassette, and press the OK button. Note that the cassette is for plain paper only.	- Pick-up arm unit - Pressure roller unit - Cassette unit
Paper jam.	[1300]	---	The paper is jammed. Clear the paper and press [OK].	Remove the jammed paper and press the OK button.	- Pick-up arm unit - ASF unit - Pressure roller unit - Cassette unit - Rear guide unit
Paper jam in the rear guide.	[1303]	---			
Paper jam in the under guide.	[1304]	---			
Paper size not supported for automatic duplex printing (MP560 / MP568 only)	[1310]	---	This paper is not compatible with duplex printing. Remove the paper and press [OK].	Set paper with a supported size and press the OK button. Data which was to be printed on the back side	

				of paper at error occurrence is skipped (not printed).	
Ink may have run out.	[1600]	U041	The following ink may have run out. Replacing the ink tank is recommended.	Replace the applicable ink tank, or press the Stop button to clear the error without ink tank replacement. When the error is cleared by pressing the Stop button, ink may run out during printing.	- Spur unit
Ink tank not installed.	[1660]	U043	The following ink tank cannot be recognized. (Applicable ink tank icon)	Install the applicable ink tank(s) properly, and confirm that the LED's of all the ink tanks light red.	- Ink tank - Carriage unit
Print head not installed, or not properly installed.	[1401]	U051	Print head is not installed. Install the print head.	Install the print head properly.	- Print head - Carriage unit
Faulty print head ID.		U052	The type of print head is incorrect. Install the correct print head.	Re-set the print head. If the error is not cleared, the print head may be defective. Replace the print head.	- Print head - Carriage unit
Print head temperature sensor error.	[1403]				
Faulty EEPROM data of the print head.	[1405]				
Multiple ink tanks of the same color installed.	[1487]	U071	More than one ink tank of the following color is installed.	Replace the wrong ink tank(s) with the correct one(s).	- Ink tank
Ink tank in a wrong position.	[1680]	U072	Some ink tanks are not installed in place.	Install the ink tank(s) in the correct position.	- Ink tank
Warning: The ink absorber becomes almost full.	[1700]	---	The ink absorber is almost full. Press [OK] to continue printing. Contact the service center for replacement.	Replace the ink absorber, and reset its counter. [See <a href="#">4-2. Service Mode.</a> ] Pressing the OK button will exit the error, and enable printing without replacing the ink absorber. However, when the ink absorber	The ink absorber will become full soon (service call error).

				becomes full, no further printing can be performed unless the applicable ink absorber is replaced.	
The connected digital camera or digital video camera does not support Camera Direct Printing.	[2001]	---	The device may be incompatible. Remove the device and check the manual supplied with the connected device.	Remove the cable between the camera and the machine.	
The remaining ink amount unknown (raw ink present).	[1683]	U130	The remaining level of the following ink cannot be correctly detected. Replace the ink tank.	An ink tank which has once been empty is installed. Replace the applicable ink tank with a new one. Printing with a once-empty ink tank can damage the machine. To continue printing without replacing the ink tank(s), press the Stop button for 5 sec. or longer to disable the function to detect the remaining ink amount. After the operation, it is recorded in the machine EEPROM that the function to detect the remaining ink amount was disabled.	- Ink tank - Spur unit
Ink tank not recognized.	[1684]	U140	The following ink tank cannot be recognized. (Applicable ink tank icon)	A non-supported ink tank (an ink tank that is sold in a different region from where the machine was purchased) is installed (the ink tank LED is turned off). Install the supported ink tanks.	- Ink tank
Ink tank not recognized.	[1682]	U150	The following ink tank cannot be recognized. (Applicable ink tank icon)	A hardware error occurred in an ink tank (the ink tank LED is turned off). Replace the ink tank(s).	- Ink tank



No ink (no raw ink).	[1688]	U163	The following ink has run out. Replace the ink tank (Applicable ink tank icon)	<p>Replace the empty ink tank(s), and close the scanning unit (cover). Printing with an empty ink tank can damage the machine.</p> <p>To continue printing without replacing the ink tank(s), press the Stop button for 5 sec. or longer to disable the function to detect the remaining ink amount. After the operation, it is recorded in the machine that the function to detect the remaining ink amount was disabled.</p>	<ul style="list-style-type: none"> <li>- Ink tank</li> <li>- Spur unit</li> </ul>
Non-supported hub.	[2002]	---	An unsupported USB hub is connected. Remove the hub.	Remove the applicable USB hub from the PictBridge (USB) connector.	

## 2-2. Service Call Errors (by Cyclic Blinking of Alarm and Power LEDs)

Service call errors are indicated by the number of cycles the Alarm and Power LEDs blink.

Cycles of blinking of Alarm and Power LEDs	Error	Error code	Conditions	Solution (Check points and replacement items)
2 times	Carriage error	[5100]	An error occurred in the carriage encoder signal.	(1) Smearing or scratches on the carriage slit film; clean the timing slit film. (2) Foreign material or paper debris that obstructs the carriage movement; remove foreign material. (3) Ink tank conditions; re-set the ink tanks. (4) Cable connection (5) Part replacement: - Timing slit disk film - Carriage unit - Logic board - Carriage motor
3 times	Line feed error	[6000]	An error occurred in the LF encoder signal.	(1) Smearing or scratches on the LF / EJ slit film; clean the LF / EJ slit film. (2) Foreign material or paper debris in the LF drive; remove foreign material. (3) Cable connection (4) Part replacement: - LF / EJ slit film - LF / EJ timing sensor unit - Paper feed roller unit - Logic board - Paper feed motor
4 times	Purge cam sensor error	[5C00]	An error occurred in the purge unit.	(1) Foreign material or paper debris around the purge drive system unit; remove foreign material. (2) Cable connection (3) Part replacement: - Purge drive system unit - Logic board
5 times	ASF (cam) sensor error	[5700]	An error occurred in the ASF cam sensor (during paper feeding from the rear tray).	(1) Cable connection (2) Part replacement: - ASF unit - PE sensor board unit - Logic board

6 times	Internal temperature error	[5400]	The internal temperature is not normal.	(1) Cable connection (2) Part replacement: - Spur unit - Logic board - Print head
7 times	Ink absorber full	[5B00, 5B01]	The ink absorber is supposed to be full. <u>Error codes:</u> 5B00: Main ink absorber is full (overseas). 5B01: Main ink absorber is full (Japan).	(1) Ink absorber condition (2) Part replacement: - Ink absorber kit and double-sided adhesive tape (3) Ink absorber counter value in the EEPROM; reset the ink absorber counter.
8 times	Print head temperature rise error	[5200]	The print head temperature exceeded the specified value.	(1) Print head condition (2) Head contact pin condition of the carriage unit (2) Cable connection (3) Part replacement: - Print head - Carriage unit
9 times	EEPROM error	[6800, 6801]	A problem occurred in reading from or writing to the EEPROM.	(1) Part replacement: - Logic board
10 times	VH monitor error	[B200]	The internal temperature exceeded the specified value.	(1) Head contact pin condition of the carriage unit (2) Cable connection (especially the carriage FFC) (3) Part replacement: - Print head and logic board (Replace them at the same time.) - Power supply unit - Carriage unit
11 times	Carriage lift mechanism error	[5110]	The carriage did not move up or down properly.	(1) Foreign material or paper debris that obstructs the carriage movement; remove foreign material. (2) Part replacement: - Switch system unit - Carriage unit
12 times	APP position error	[6A80]	An error occurred in the APP motor.	(1) Foreign material or paper debris around the purge drive system unit; remove foreign material, and confirm that the ink

14 times	APP sensor error	[6A90]	An error occurred during paper feeding or purging.	<p>absorber right beneath the purge drive system unit stays in place and does not contact the unit.</p> <p>(2) Foreign material or paper debris around the ASF unit; remove foreign material.</p> <p>(3) Cable connection</p> <p>(4) Part replacement: - Purge drive system unit - Logic board</p>
15 times	USB host Vbus overcurrent	[9000]	The USB host Vbus overloaded.	(1) Part replacement: - Logic board
16 times	Pump roller sensor error	[5C20]	The pump roller position cannot be detected.	(1) Cable connection (2) Part replacement: - Purge drive system unit
19 times	Ink tank position sensor error	[6502]	None of the ink tank position is detected.	(1) Ink tank position; confirm the ink tank position. (2) Re-set or replacement of ink tanks (3) Cable connection (4) Part replacement: - Spur unit - Logic board
20 times	Other errors	[6500]	An unidentified error or a network error occurred.	(1) Part replacement: - Logic board
21 times	Drive switch error	[C000]	Drive was not switched properly.	(1) Foreign material or paper debris in the drive switch area; remove foreign material. (2) Ink tank conditions; confirm that the ink tanks are seated properly, or re-set the ink tanks properly. (3) Part replacement: - Purge drive system unit - ASF unit - Carriage unit
22 times	Scanner error	[5011]	An error occurred in the scanner.	(1) Document pressure sheet conditions (2) Cable connection (3) Part replacement: - Document pressure sheet - Scanner unit - Logic board

23 times	Valve cam sensor error	[6C10]	The valve cam sensor was faulty at power-on or when purging was attempted.	(1) Foreign material or paper debris around the purge drive system unit; remove foreign material. (2) Cable connection (3) Part replacement: - Purge drive system unit - Logic board
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Before replacement of the logic board ass'y, check the ink absorber counter value (by service test print or EEPROM information print). If the counter value is 7% or more, also replace the ink absorber kit when replacing the logic board ass'y. If the counter value is less than 7%, register the current ink absorber counter value to the replaced new logic board instead. [\[See 4-2. Service Mode, for details.\]](#)

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## 2-3. Troubleshooting by Symptom

	Symptom	Solution
Faulty operation	The power does not turn on. The power turns off immediately after power-on.	(1) Confirm connection of the power supply unit: - Harness and connector conditions (2) Replace the following item(s): - Logic board - Power supply unit
	A strange noise occurs.	(1) Examine and remove any foreign material or paper debris. (2) Replace the following item(s): - The part generating the strange noise - Logic board
	The LCD does not display properly. A portion of the LCD is not displayed. The display flickers.	(1) Confirm cable connection (LCD FFC and panel harness): - Harness and connector conditions - No cable breakage, etc. (2) Replace the following item(s): - LCD FFC - LCD unit - Panel board - Logic board
	Paper feed problems (multi-feeding, skewed feeding, no feeding).	(1) Examine and remove any foreign material or paper debris. (2) Confirm that the paper is supported and that the paper guides are set properly. (3) Confirm the PF rear cover and the cassette conditions. (4) Confirm cable connection. (5) Replace the following item(s): - ASF unit (for paper feeding error from the rear tray) - PF pick-up unit (for paper feeding error from the cassette) - PE sensor board - Pressure roller unit - Cassette unit
	Faulty scanning (no scanning, strange noise).	(1) Confirm cable connection (scanner motor cable and CIS FFC): - Harness and connector conditions - No cable breakage, etc. (2) Confirm the conditions of the inside of the platen glass: - FCC damper condition, etc. (3) Replace the following item(s): - Scanner unit

		- Logic board
	Machine not recognized by a USB-connected PC	(1) Confirm USB cable connection. (2) Connect the machine to another PC to see if the machine is recognized. (3) Replace the following item(s): - USB cable - Logic board
Unsatisfactory print quality	No printing, or no color ejected. Faint printing, or white lines on printouts. Uneven printing. Improper color hue.	(1) Confirm the ink tank conditions: - Confirmation of the air-through of an ink tank - Re-setting of an ink tank (2) Remove foreign material from the purge unit caps, if any. (3) Confirm the head contact pin condition of the carriage unit. (4) Perform cleaning or deep cleaning of the print head. (5) Perform print head alignment. (6) Replace the following item(s): - Print head <sup>*1</sup> , and ink tanks - Logic board - Purge drive system unit - Carriage unit
	Paper gets smeared.	(1) Clean the inside of the machine. (2) Perform bottom plate cleaning. (3) Perform paper feed roller cleaning. (4) Replace the following item(s): - Pressure roller unit (if smearing is heavy) - Print head <sup>*1</sup> (when smearing is caused by the print head)
	The back side of paper gets smeared.	(1) Clean the inside of the machine. (2) Perform bottom plate cleaning. (3) Examine the platen ink absorber. (4) Examine the paper eject roller. (5) Replace the following item(s): - The part in the paper path causing the smearing
	Graphic or text is enlarged on printouts in the carriage movement direction.	(1) Confirm that the carriage slit film is free from smearing or scratches: - Cleaning of the timing slit film. (2) Replace the following item(s): - Timing slit film - Carriage unit - Logic board - Scanner unit (for copying)
	Graphic or text is enlarged	(1) Confirm that the LF slit film is free from

	on printouts in the paper feed direction.	smearing or scratches: - Cleaning of the LF slit film.. (2) Replace the following item(s): - LF slit film - LF timing sensor unit - Platen unit - Logic board - Scanner unit (for copying)
Faulty scanning	No scanning.	(1) Replace the following item(s): - Scanner unit - Logic board
	Streaks or smears on the scanned image.	(1) Clean the platen glass and the document pressure sheet. (2) Confirm the position of the document pressure sheet. (3) Replace the following item(s): - Scanner unit - Document pressure sheet - Logic board
Network connection problem	No printing.	(1) Examine if printing is performed properly via USB connection. (2) Confirm the network settings. (3) Replace the following item(s): - Logic board (for wireless LAN <sup>*2</sup> ) - WLAN board (for wireless LAN <sup>*2</sup> )

\*1: Replace the print head only after the print head deep cleaning is performed 2 times, and when the problem persists.

\*2: For the MP560 / MP568 only.

◀ <2. LIST OF ERROR DISPLAY / INDICATION > ▶ ▲





## 3. REPAIR

### 3-1. Major Replacement Parts (and Notes on Disassembling / Reassembling)

Service part	Est. time required (min.)	Recommended removal procedure <sup>*1</sup> / Notes on replacement <sup>*2</sup>	Adjustment / settings	Operation check
Logic board ass'y	15	(1) Cassette unit (2) Operation panel cover / Right guide (3) Right cover (2 screws) (4) Operation panel unit (7 screws) (5) Left cover (2 screws) (6) Document cover / Scanning unit (7) Main case (3 screws) (8) Sub-case (9) Logic board (4 screws)  - Before removal of the logic board ass'y, remove the power cord, and allow for approx. 1 minute (for discharge of capacitor's accumulated charges), to prevent damages to the logic board ass'y. - Before replacement, check the ink absorber counter value (by service test print or EEPROM information print).	<b>After replacement:</b> 1. Initialize the EEPROM. 2. Set the ink absorber counter value. 3. Set the destination in the EEPROM. 4. Correct the CD / DVD and automatic print head alignment sensors. 5. Check the ink system function. 6. Perform LF / Eject correction (only when streaks or uneven printing occurs). Perform 1 to 6 in the service mode. [See 4-2. <a href="#">Service Mode</a> , for details.] 7. Perform print head alignment in the user mode.	- EEPROM information print - Service test print - Printing via USB connection - Copying - Direct printing from a digital camera (PictBridge)
Absorber kit	15	(1) to (8) Same as the logic board ass'y (9) Front door unit (10) Printer unit (11 screws) (11) Ink absorber  - See 3-2. <a href="#">Part Replacement Procedures</a> , (11) <a href="#">Ink absorber replacement</a> , for details.	<b>After replacement:</b> 1. Reset the ink absorber counter. [See 4-2. <a href="#">Service Mode</a> , for details.]	- Ink absorber counter value print (After the ink absorber counter is reset, the counter value is printed automatically.)
Carriage unit	15	(1) to (8) Same as the logic board ass'y (9) Carriage cable cover	<b>At replacement:</b> 1. Apply grease to the sliding portions of	- Service test print (Confirm CD / DVD sensor correction)

		<p>(10) Timing slit strap  (11) Carriage rail  (12) Carriage unit</p> <ul style="list-style-type: none"> <li>- Before removal of the carriage rail, put a mark of the carriage rail position.</li> <li>- Keep the timing slit strap (carriage encoder film) free from stain or damage. When returning the strap, make sure of its orientation (left and right, front and back).</li> <li>- See <a href="#">3-2. Part Replacement Procedures, (7) Carriage unit removal</a>, for details.</li> </ul>	<p>the carriage rail.  [See <a href="#">4-3. Grease Application</a>, for details.]</p> <ol style="list-style-type: none"> <li>2. Check the ink system function.  [See <a href="#">4-2. Service Mode</a>, for details.]</li> <li>3. Perform print head alignment in the user mode.</li> </ol>	<p>value, automatic print head alignment sensor value, and ink system function.)</p>
Switch system unit	25	<p>(1) to (9) Same as the logic board ass'y  (10) Front door link (2 screws)  (11) PictBridge board (2 screws)  (12) Bottom case unit (7 screws)  (13) Right chassis (3 screws)  (14) PE sensor board  (15) ASF unit (3 screws)  (16) Carriage rail  (17) Carriage unit (3 screws)  (18) Spur unit  (19) Platen unit (3 screws)  (20) LF controller unit  (21) Switch system unit / Paper feed motor</p> <ul style="list-style-type: none"> <li>- The screws securing the paper feed motor are allowed to be loosened only for paper feed motor replacement. (DO NOT loosen them in any other cases.)</li> <li>- See <a href="#">3-2. Pars Replacement Procedures, (9) Purge drive system unit (right plate) and switch system unit (left</a></li> </ul>	<p><b>At replacement:</b></p> <ol style="list-style-type: none"> <li>1. Adjust the paper feed motor.  [See <a href="#">4-4. Special Notes on Servicing, (2) Paper feed motor adjustment</a>, for details.]</li> </ol>	<ul style="list-style-type: none"> <li>- EEPROM information print</li> <li>- Service test print</li> </ul>
Paper feed motor				

		<p>plate) removal, for details.</p> <p>- See 3-2. Pars Replacement Procedures, (10) Engine unit reassembly, for details.</p>		
Platen unit	25	<p>(1) to (9) Same as the logic board ass'y</p> <p>(10) Front door link (2 screws)</p> <p>(11) PictBridge board (2 screws)</p> <p>(12) Bottom case unit (7 screws)</p> <p>(13) Right chassis (3 screws)</p> <p>(14) PE sensor board</p> <p>(15) ASF unit (3 screws)</p> <p>(16) Carriage rail</p> <p>(17) Carriage unit (3 screws)</p> <p>(18) Spur unit</p> <p>(19) Platen unit (3 screws)</p>	<p><b>After replacement:</b></p> <p>1. Perform LF / Eject correction in the service mode (only when uneven printing or streaks appear on printouts after replacement).</p> <p>[See 4-2. Service Mode, for details.]</p>	<p>- EEPROM information print</p> <p>- Service test print</p>
Spur unit	25	<p>(1) to (9) Same as the logic board ass'y</p> <p>(10) Front door link (2 screws)</p> <p>(11) PictBridge board (2 screws)</p> <p>(12) Bottom case unit (7 screws)</p> <p>(13) Right chassis (3 screws)</p> <p>(14) PE sensor board</p> <p>(15) ASF unit (3 screws)</p> <p>(16) Carriage rail</p> <p>(17) Carriage unit (3 screws)</p> <p>(18) Spur unit</p> <p>- DO NOT contact the spur edges.</p>	<p><b>After replacement:</b></p> <p>1. Check the ink system function.</p> <p>2. Perform LF / Eject correction in the service mode (only when uneven printing or streaks appear on printouts after replacement).</p> <p>[See 4-2. Service Mode, for details.]</p>	<p>- EEPROM information print</p> <p>- Service test print</p>
Purge drive system unit	25	<p>(1) to (20) Same as the switch system unit and the paper feed motor</p> <p>(21) Purge drive system unit</p> <p>- See 3-2. Pars Replacement Procedures, (9) Purge drive system unit (right plate) and switch system unit (left plate) removal, for details.</p>	<p><b>After replacement:</b></p> <p>1. Confirm the purging operation and the machine operation.</p> <p>[See 4-5. Verification After Repair for details.]</p>	<p>- Service test print</p>

		- See <a href="#">3-2. Pars Replacement Procedures, (10) Engine unit reassembly</a> , for details.		
Carriage rail and main chassis	25	(1) to (9) Same as the logic board ass'y (10) Front door link (2 screws) (11) PictBridge board (2 screws) (12) Bottom case unit (7 screws) (13) Right chassis (3 screws)	<b>At replacement:</b> 1. Apply grease to the sliding portions. [See <a href="#">4-3. Grease Application</a> , for details.]	- Service test print
Idler pulley parallel pin	25	(14) PE sensor board (15) ASF unit (3 screws) (16) Carriage rail (17) Carriage unit (3 screws)		
APP code wheel gear shaft	25	(18) Spur unit (19) Platen unit (3 screws) (20) LF roller unit (21) Switch system unit / Paper feed motor (22) Purge drive system unit		
Document pressure sheet	10	(1) Operation panel cover / Right guide (2) Right cover (2 screws) (3) Operation panel unit (7 screws) (4) Left cover (2 screws) (5) Document cover / Scanner unit	<b>At replacement:</b> 1. Confirm the document pressure plate sheet position. [See <a href="#">4-4. Special Notes on Servicing, (4) Document pressure sheet replacement</a> , for details.]	- Service test print
Document bottom cover				
Scanner unit				
LCD unit	10	(1) Operation panel cover / Right guide (2) Right cover (2 screws) (3) Operation panel unit (7 screws) (4) LCD unit  - Be cautious not to scratch or damage the LCD cable.	<b>At replacement:</b> 1. Perform button and LCD test. [See <a href="#">4-2. Service Mode</a> , for details.]	- Service test print
Timing slit strip film	15	(1) Cassette unit (2) Operation panel cover / Right guide (3) Right cover (2 screws) (4) Operation panel unit (7	<b>After replacement:</b> 1. Perform print head alignment in the user mode. 2. Perform LF / Eject	- EEPROM information print - Service test print

Timing slit disk feed film	15	<p>screws)</p> <p>(5) Left cover (2 screws)</p> <p>(6) Document cover / Scanner unit</p> <p>(7) Main case (3 screws)</p> <p>- Upon contact with the film, wipe the film with ethanol.</p> <p>- Confirm no grease is on the film. (Wipe off any grease thoroughly with ethanol.)</p> <p>- Do not bend the film.</p>	<p>correction in the service mode (only when uneven printing or streaks appear on printouts after replacement).</p> <p>[See 4-2. <a href="#">Service Mode</a>, for details.]</p>	
Print head	1		<p><b>After replacement:</b></p> <p>1. Perform print head alignment in the user mode.</p>	- Service test print
Wireless LAN board ass'y	15	<p>(1) Cassette unit</p> <p>(2) Operation panel cover / Right guide</p> <p>(3) Right cover (2 screws)</p> <p>(4) Operation panel unit (7 screws)</p> <p>(5) Left cover (2 screws)</p> <p>(6) Document cover / Scanner unit</p> <p>(7) Main case (3 screws)</p> <p>(8) Wireless LAN board ass'y</p>	<p><b>After replacement:</b></p> <p>1. Reset the LAN settings in the user mode.</p> <p>2. Print the EEPROM information in the service mode to confirm that the WLAN MAC address is properly updated.</p> <p>[See 4-2. <a href="#">Service Mode</a>, for details.]</p>	- EEPROM information print - Service test print

\*1: To reassemble the unit after replacement, follow the procedures in the reverse order.

\*2: General notes:

- Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly. See [3-2. Part Replacement Procedures](#) or the Parts Catalog for details.
- Do not drop the ferrite core, which may cause damage.
- Protect electrical parts from damage due to static electricity.
- Before removing a unit, after removing the power cord, allow the machine to sit for approx. 1 minute (for capacitor discharging to protect the logic board ass'y from damages).
- Do not touch the timing slit strip film, timing slit disk feed film, and timing slit disk eject film. No grease or abrasion is allowed.
- Protect the units from soiled with ink.
- Protect the housing from scratches.
- Exercise caution with the screws, as follows:
  - i. The screws of the paper feed motor may be loosened only at replacement of the paper feed motor unit (DO NOT loosen them in other cases).
  - ii. Before loosening the 3 screws that fix the carriage rail to the main chassis, mark the screw positions so that the carriage rail will be re-attached to the main chassis in its original position. [See [3-2. Part Replacement Procedures](#), (7) [Carriage unit removal](#), for details.]

◀ <3-1. Major Replacement Parts> ▶ ▲



## 3-2. Part Replacement Procedures [\(Click on the image to enlarge it.\)](#)

Be sure to protect the machine from static electricity in repair servicing, especially for the logic board.

Some of the photos are of the MP540 as a sample.

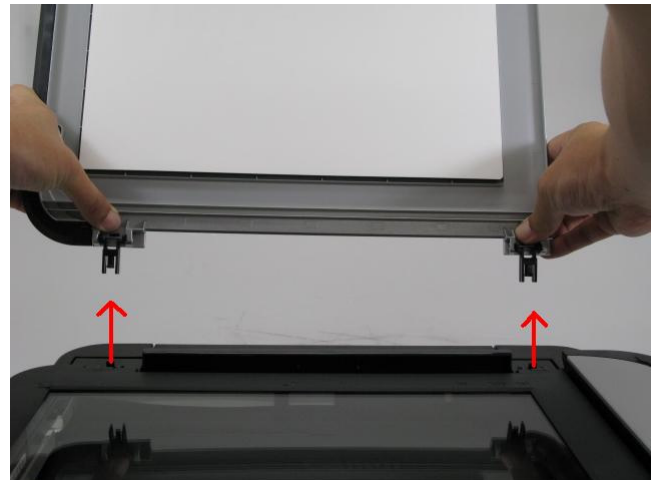
### (1) External housing removal

1) Remove the cassette.



2) Remove the document cover.

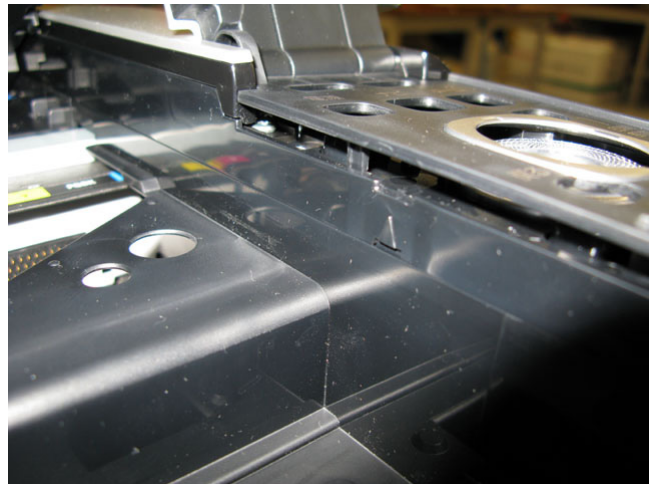
<Pull the document cover upward.>





3) Remove the operation panel cover and the right guide.

<Open the scanning unit (cover). At the triangle mark on the inner right side, push the right guide upward, then release all the claws.>



4) Remove the side cover R.

<Remove 2 screws from the back side of the machine, then release the claw on the front by pulling the side cover R outward.>

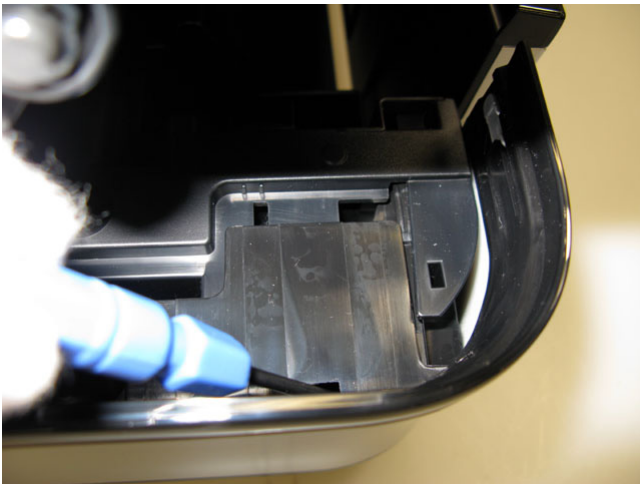




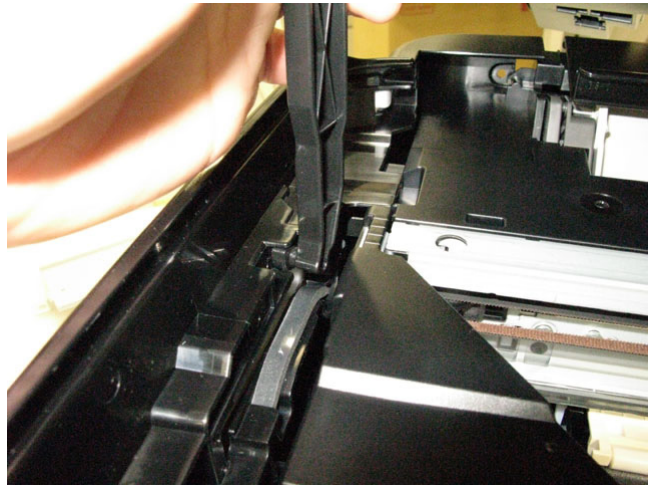
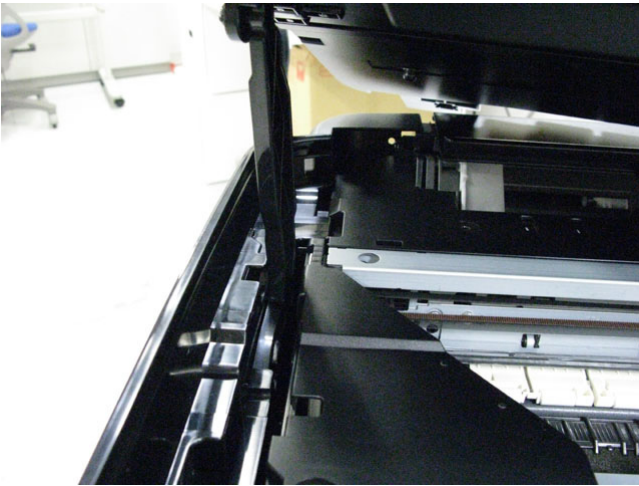


5) Remove the side cover L.

<Remove 2 screws from the back side of the machine, then push the claws downward to release them.>

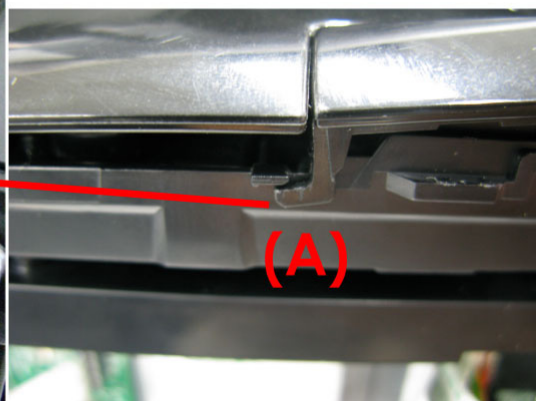
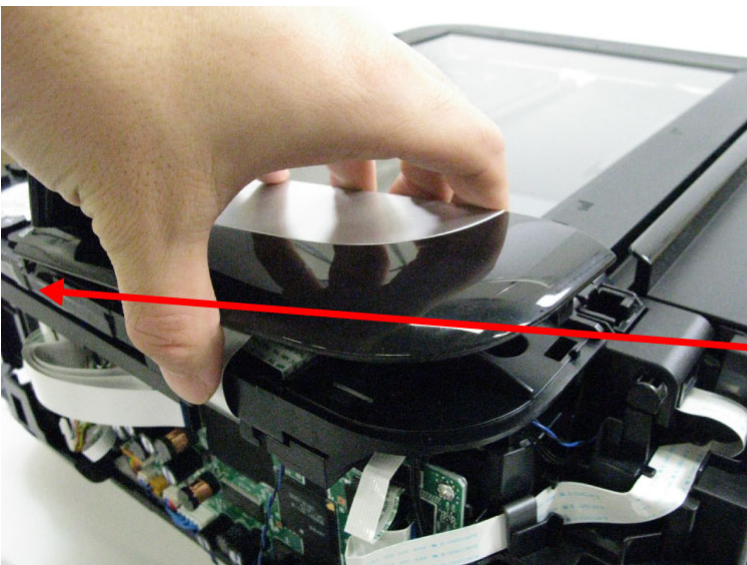
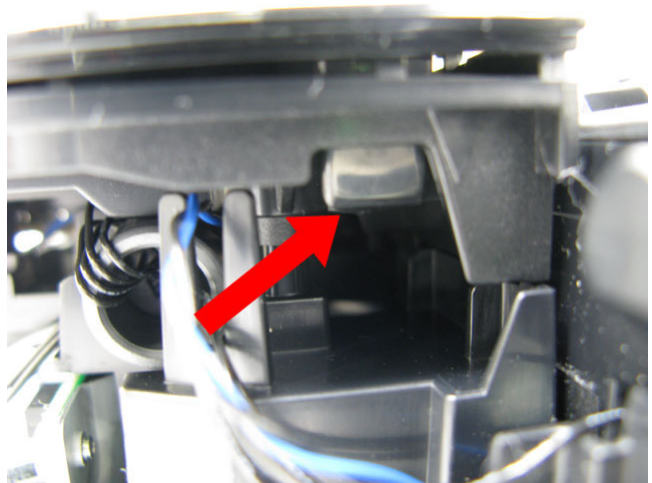


<Disengage the scanner stay.>



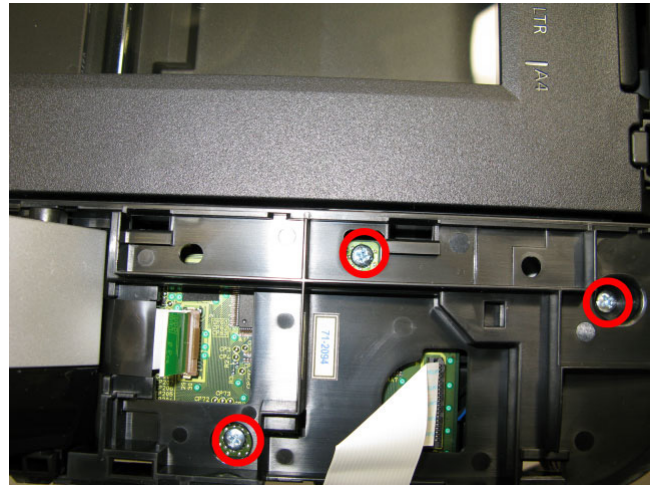
6) Remove the operation panel unit.

<Press the claw on the back of the machine, then pull the operation panel unit upward while being cautious not to damage the claw (A) on the right front of the operation panel unit.>

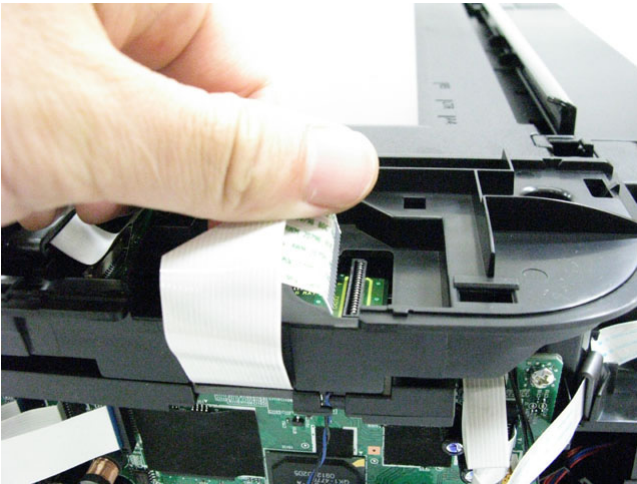




<Remove 5 screws.>

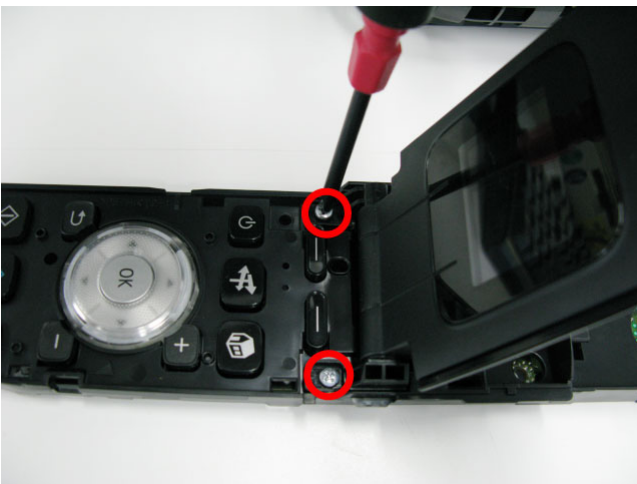


<Disconnect the FFC cable, then separate the operation panel unit from the machine.>

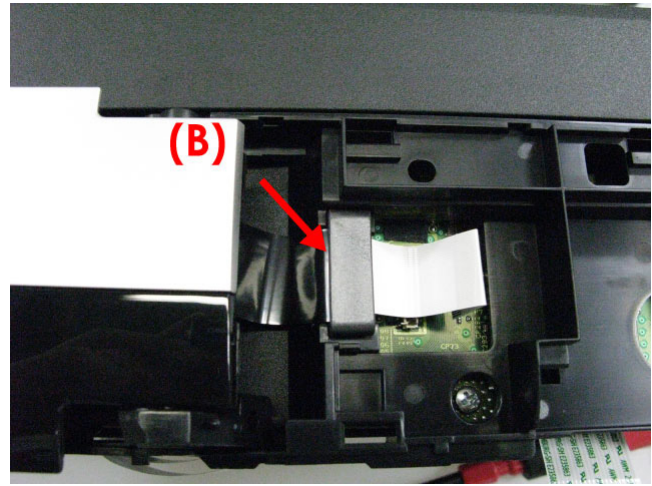
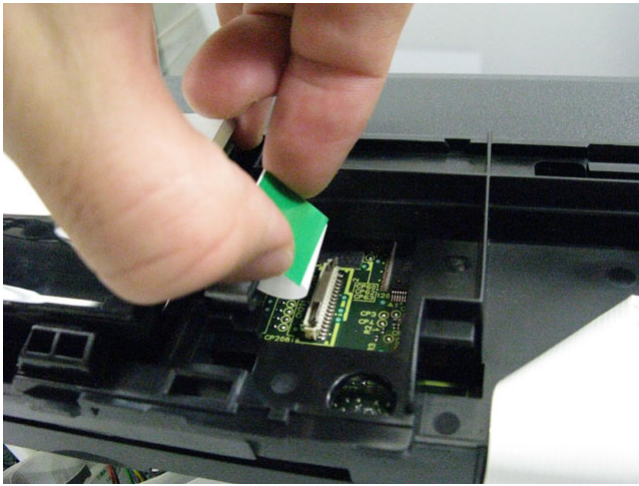


7) Remove the LCD unit.

<Remove 2 screws.>

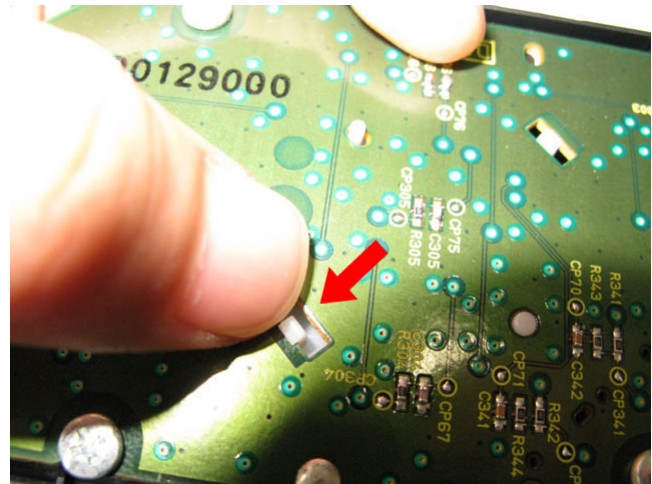


<Unlock the LCD FFC, peel off the double-sided adhesive tape at location (B), then remove the LCD unit.>

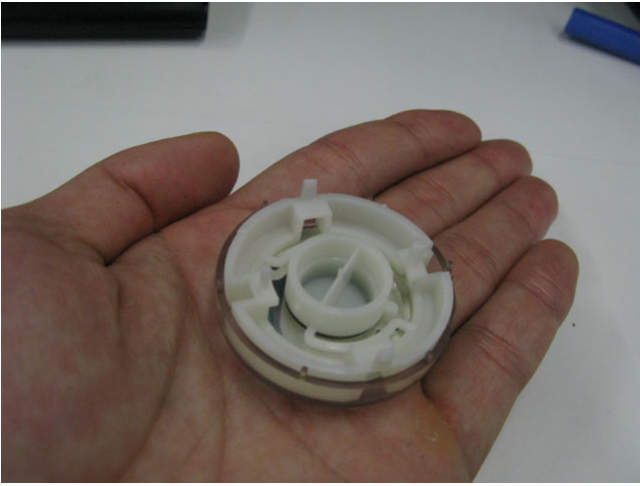


8) Disassemble the operation panel unit.

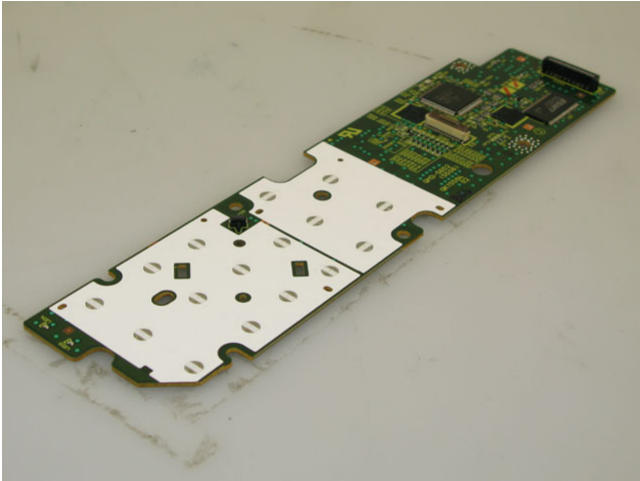
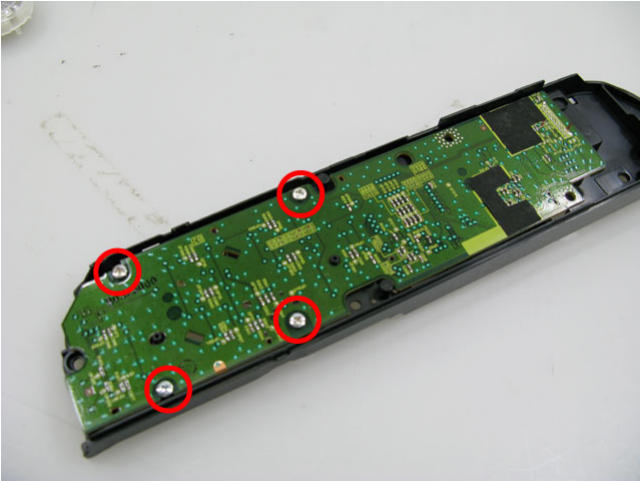
<Turn the panel unit over so that you see the bottom of the unit. Release the claw (indicated by the red arrow in the photo), and remove the jog wheel.>







<Remove 4 screws, then the operation panel board.>

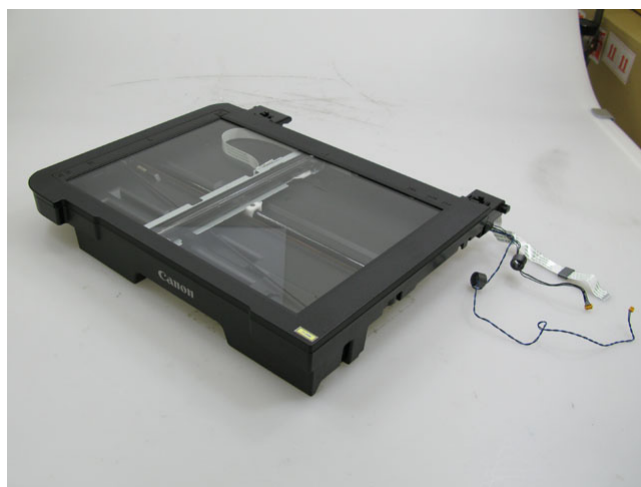
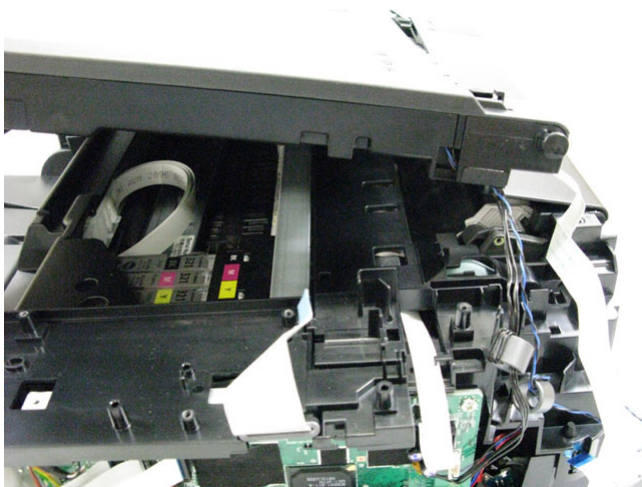
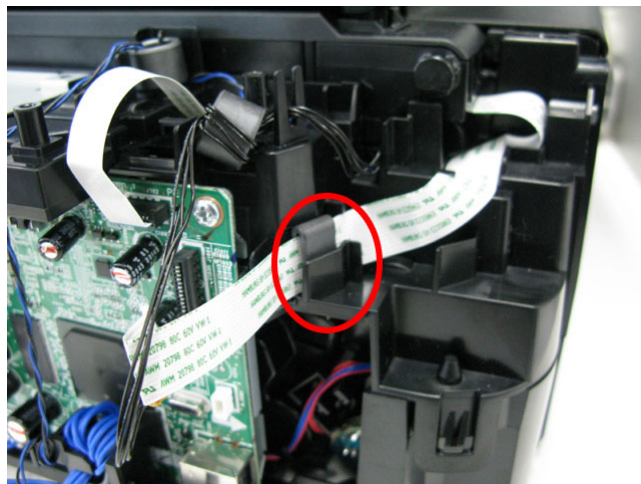
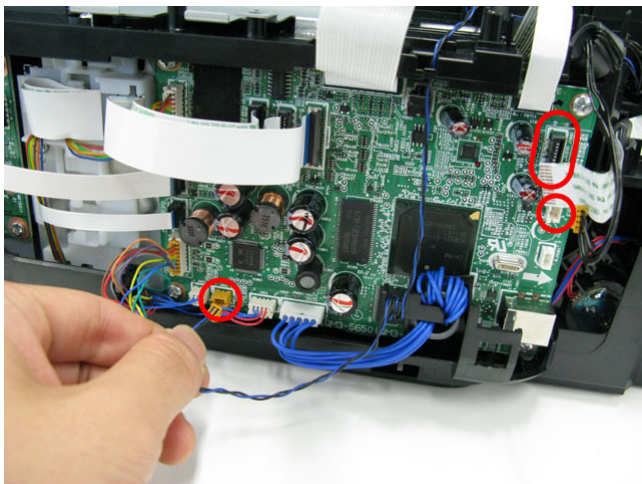


<Remove a set of buttons.>



9) Remove the scanner unit.

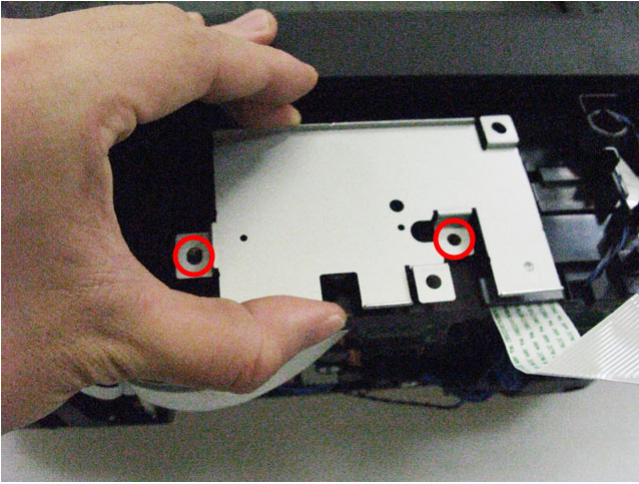
<Disconnect the harnesses (two locations indicated by the red circles) and FFC (one location).  
Remove one core.>



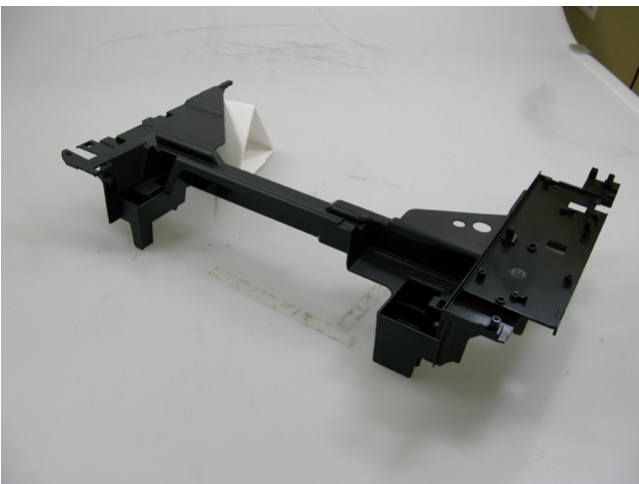
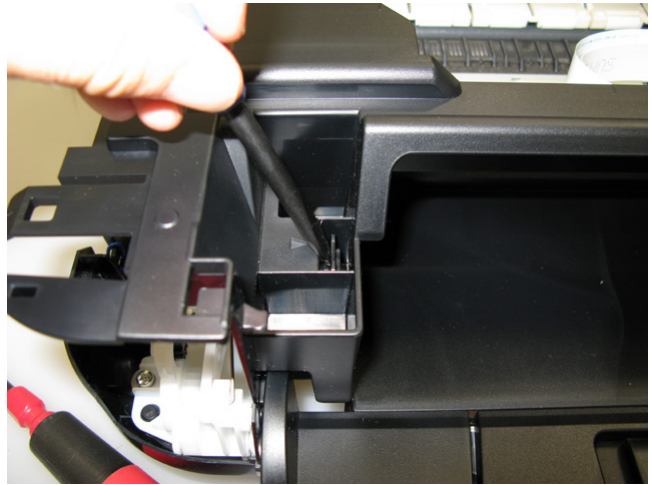
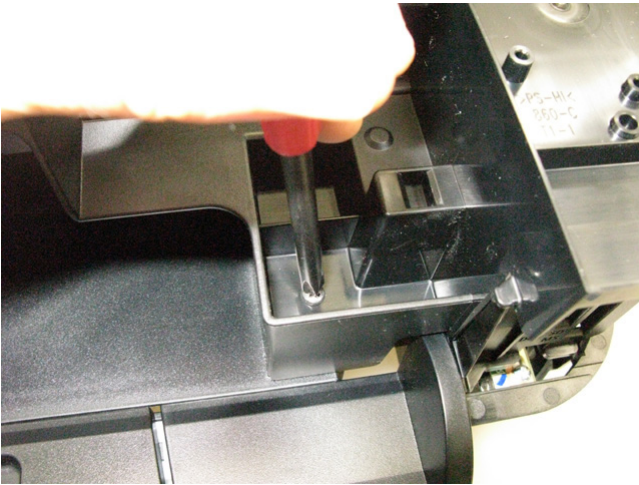


10) Remove the main case.

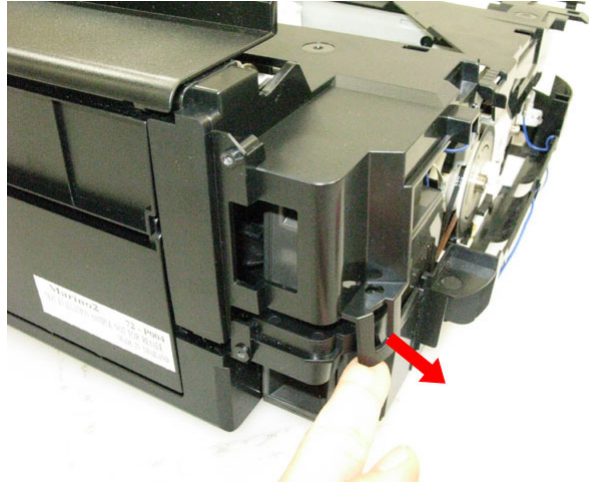
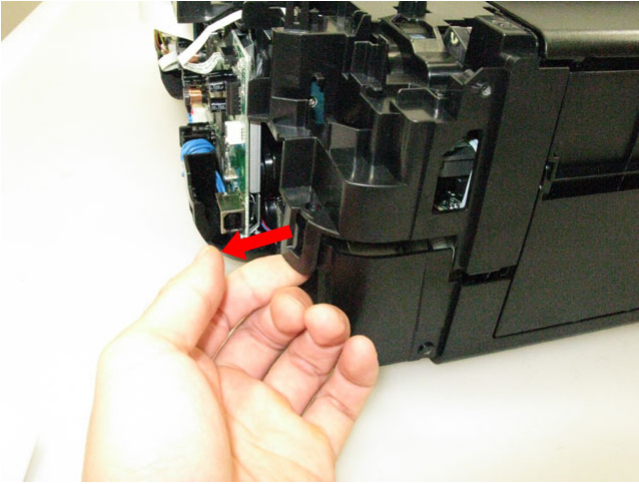
<Remove 2 screws.>



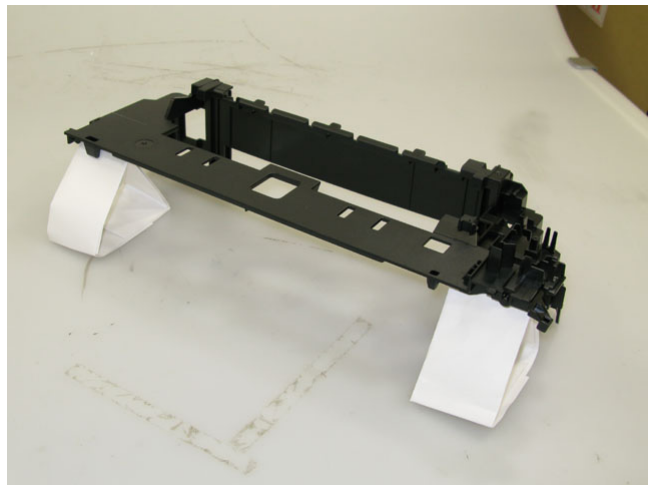
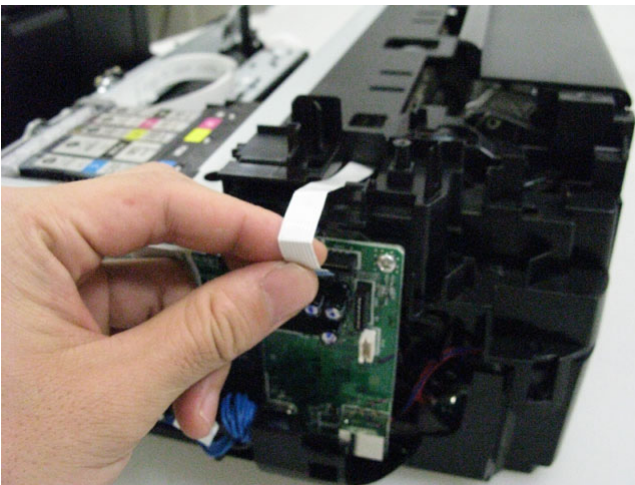
<Remove 1 screw on the right side (on the purge unit side), release the claw on the left side, then remove the main case.>



(11) Remove the sub-case and the ASF cover.  
<Release 2 claws on the back side of the machine.>



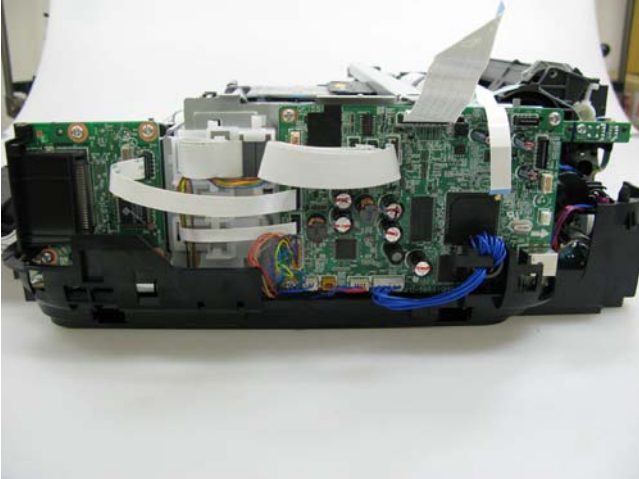
<Remove the PE sensor FFC.>



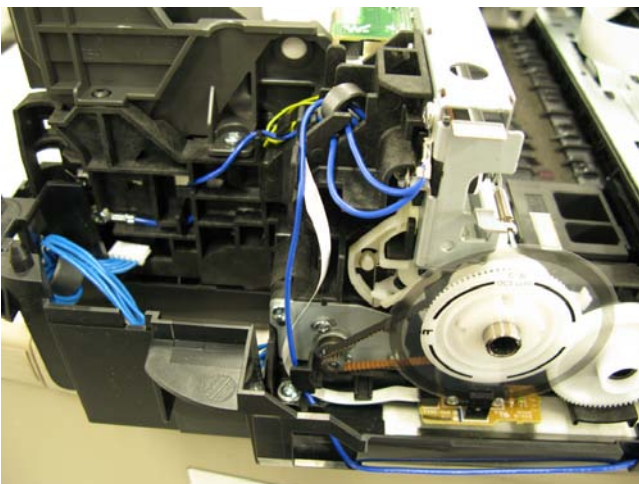
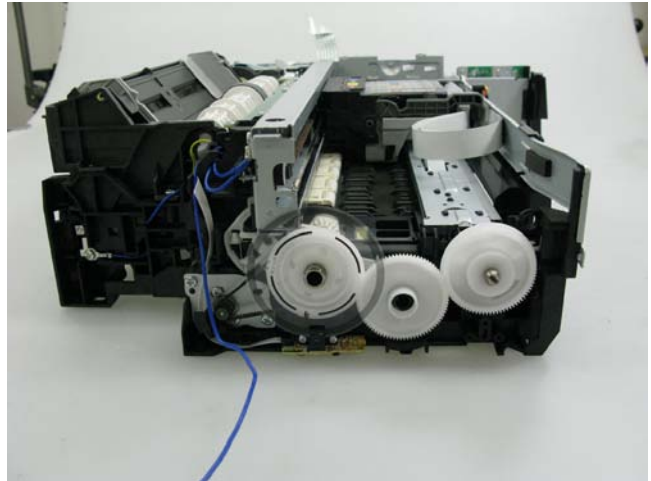
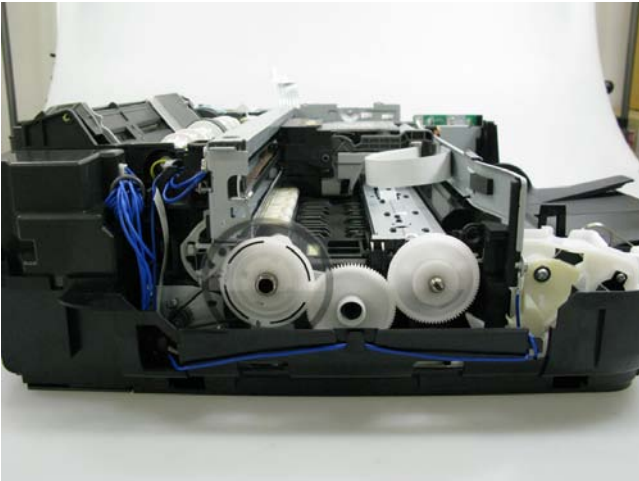


## (2) Cable wiring and connection

### 1) Wiring on the right side (with / without the bottom case)



### 2) Wiring on the left side (with / without the bottom case)



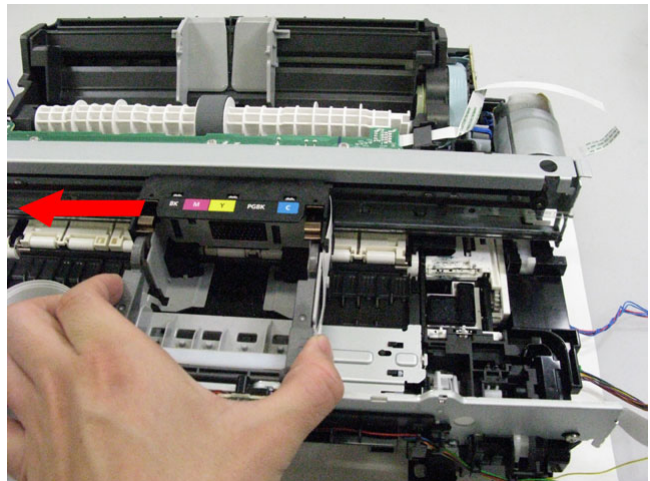
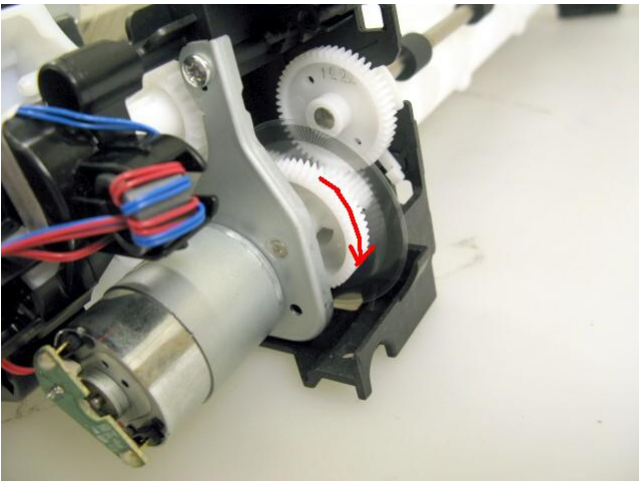
### (3) Emblem removal

Push the emblem bottom to remove from the double-sided adhesive tape.



### (4) Carriage unlocking

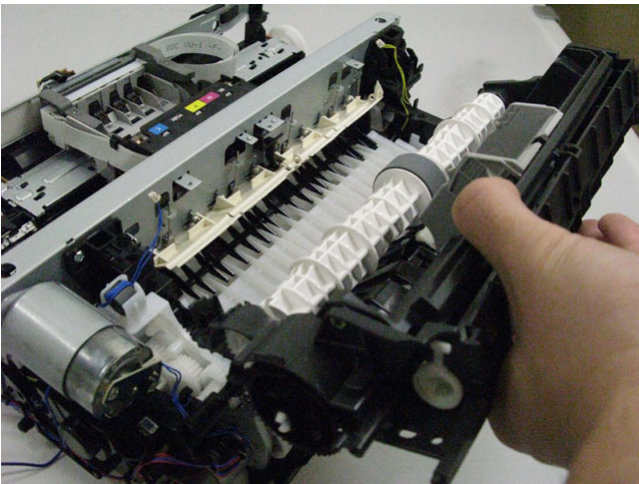
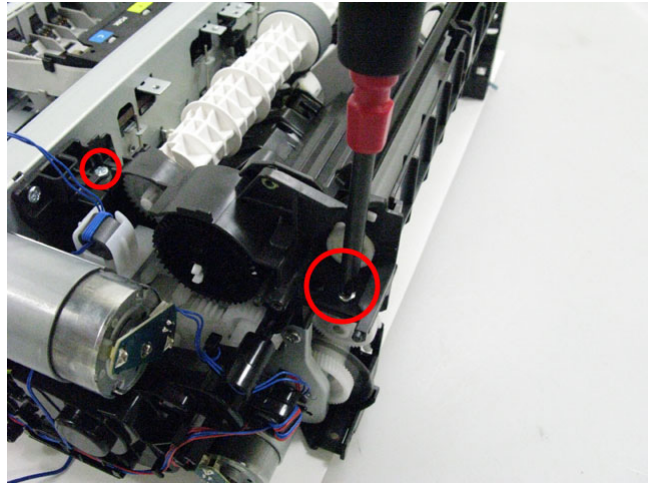
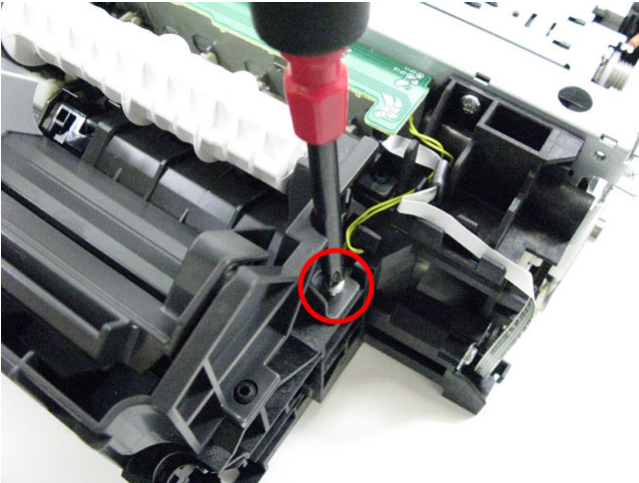
- 1) Rotate the drive unit gear toward the back of the machine to unlock the carriage.  
Slide the carriage to the left (the opposite of the home position).





## (5) ASF unit removal

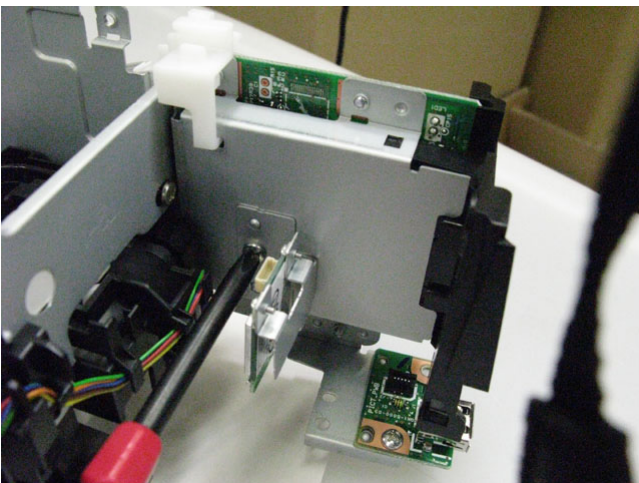
1) Remove 1 screw from the left plate, and 2 screws from the right plate.



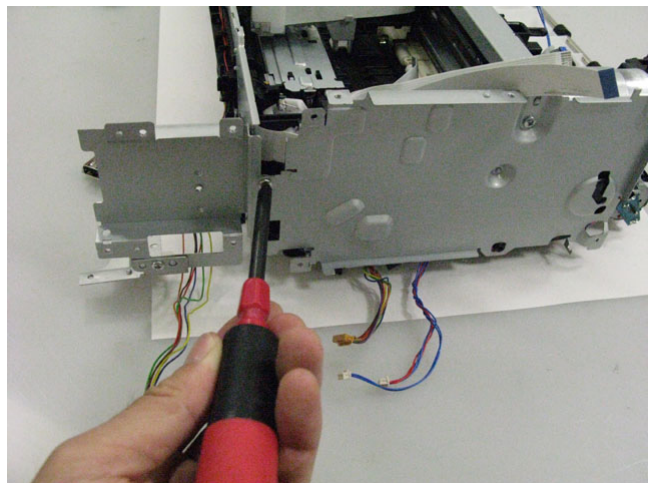
## (6) Right chassis removal

1) [MP560 / MP568 only]

Remove the wireless LAN board. (1 screw)



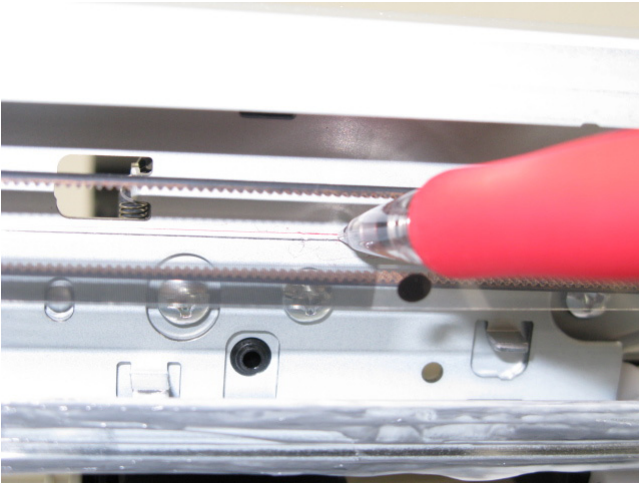
2) Remove the right chassis. (3 screws)



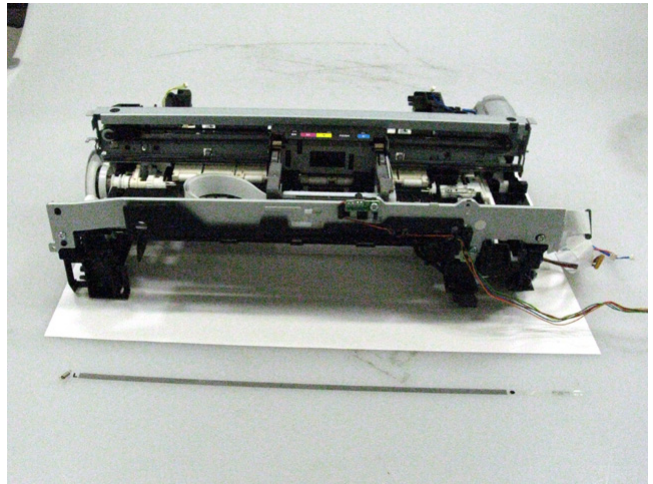
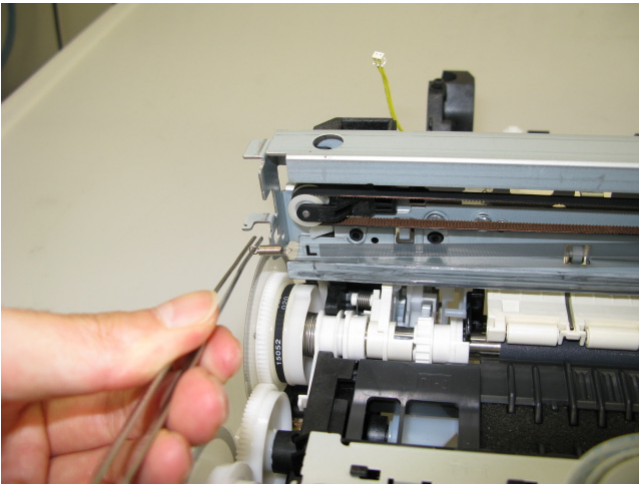


## (7) Carriage unit removal

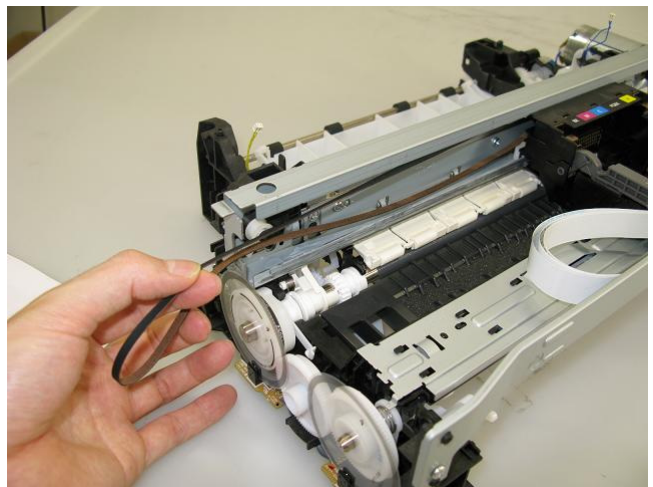
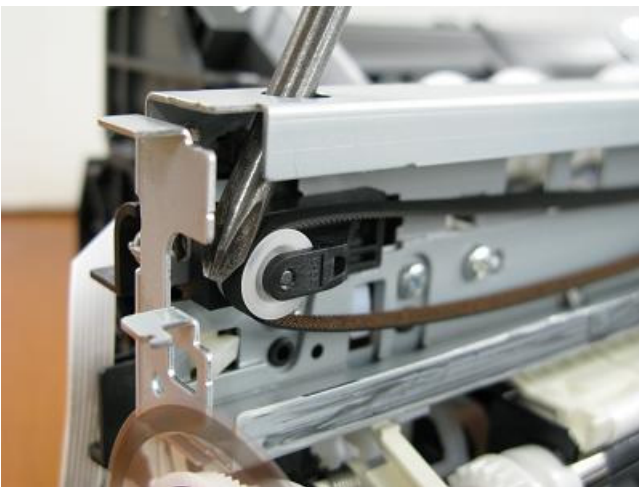
- 1) On the main chassis, mark the positions of the screws that fix the carriage rail to the main chassis (3 points for each screw: the left, right, and center).



- 2) Remove the timing slit film. Be cautious to keep it free from any grease or damage.

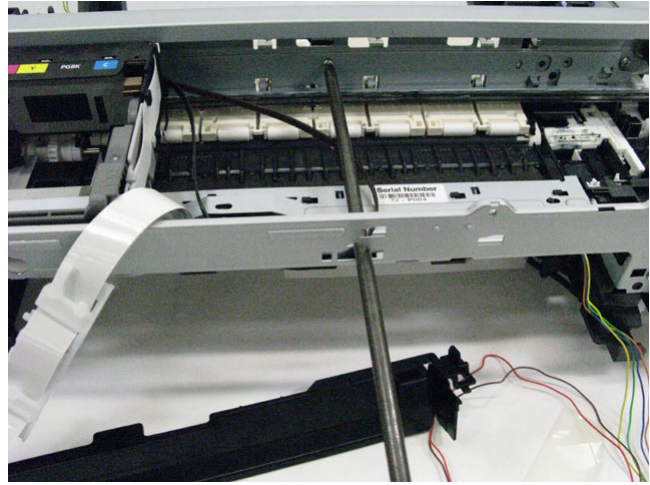
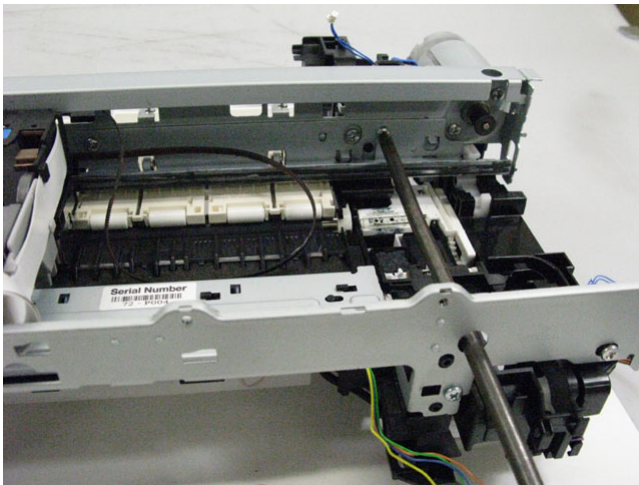
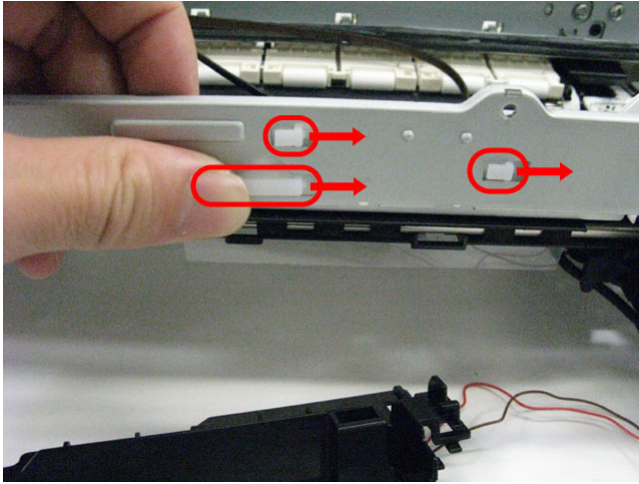


- 3) Pass the head of a flat-blade screwdriver through the hole of the main chassis, and press the carriage belt to release it from the pulley. Be cautious to keep it free from any grease.

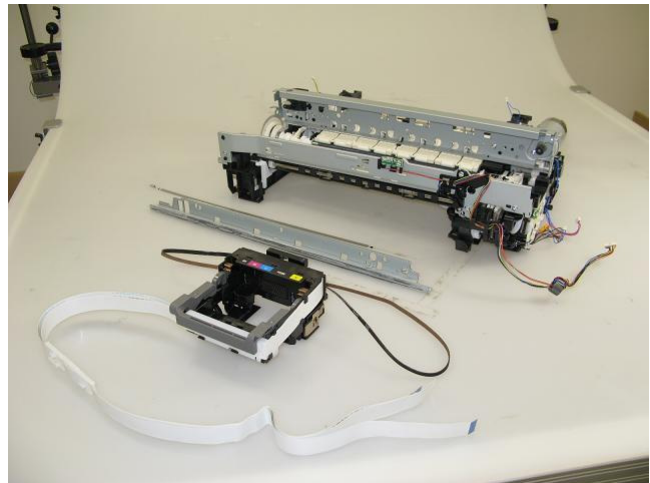
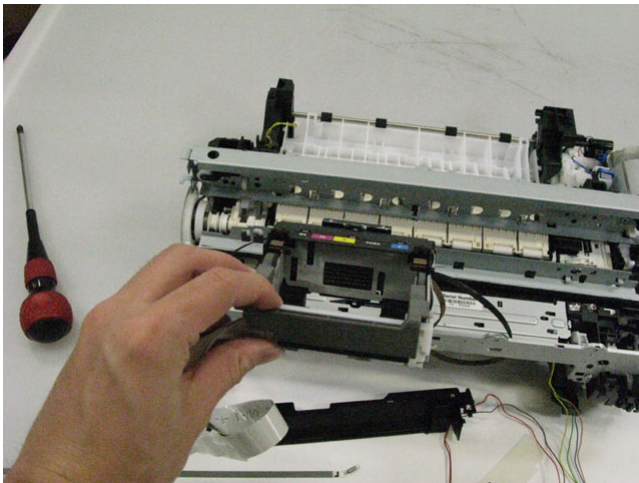




4) Remove the carriage cable holder from the front chassis. Remove 3 screws that fix the carriage rail to the main chassis, then slowly put down the carriage rail.

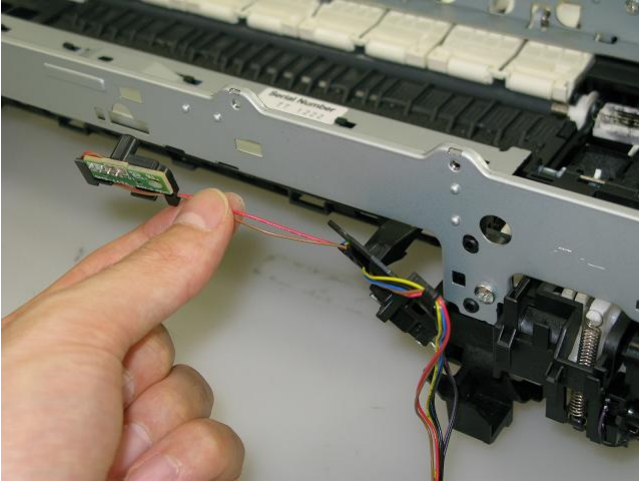


5) Remove the carriage unit. Be cautious that the grease will not attach to any parts.

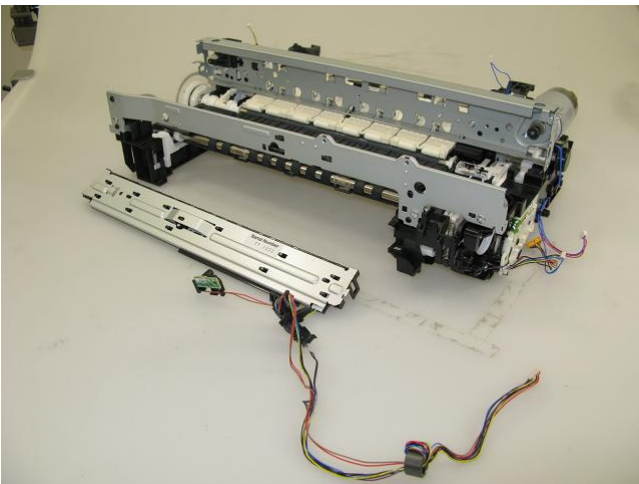
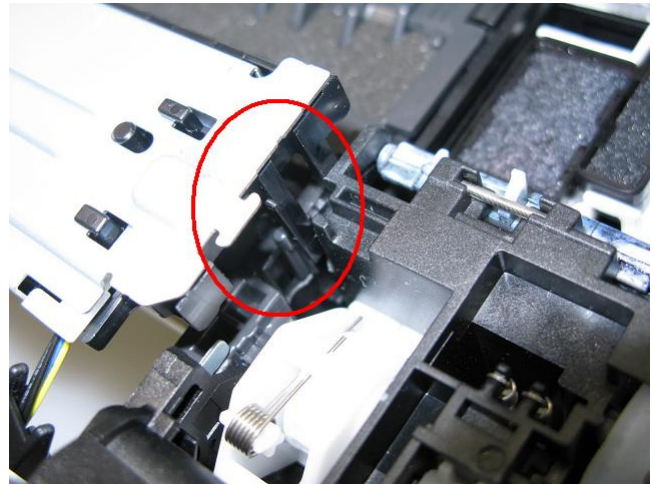
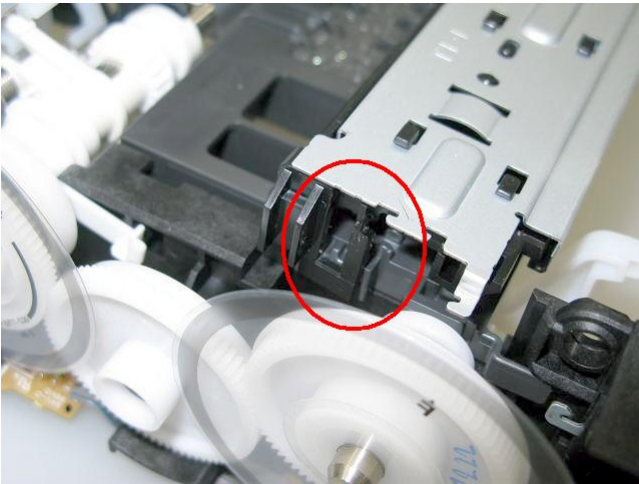


## (8) Spur unit and platen unit removal

1) Remove the ink sensor and the inner cover sensor from the front chassis (1 screw each).

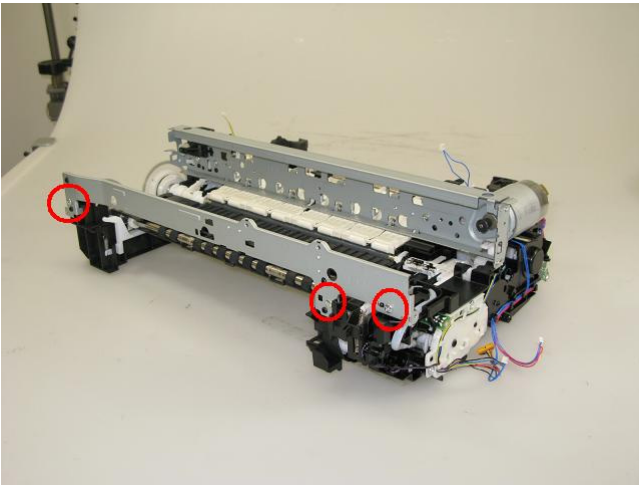


2) From the left and right sides of the spur unit, release the springs (2 on the left side, 1 on the right side). Then, slowly pull the spur unit upward to remove it from the platen unit.

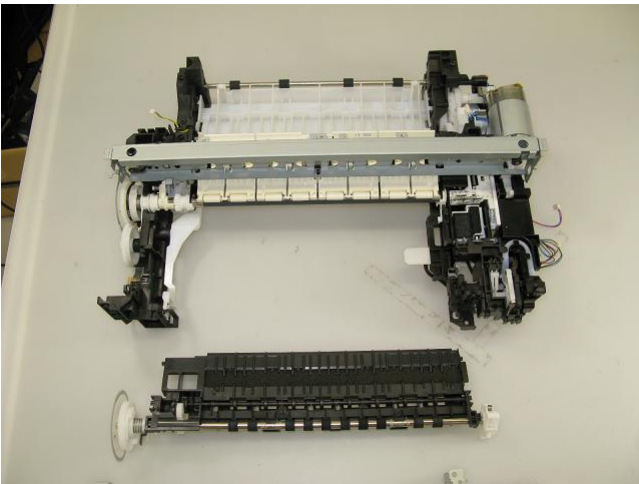
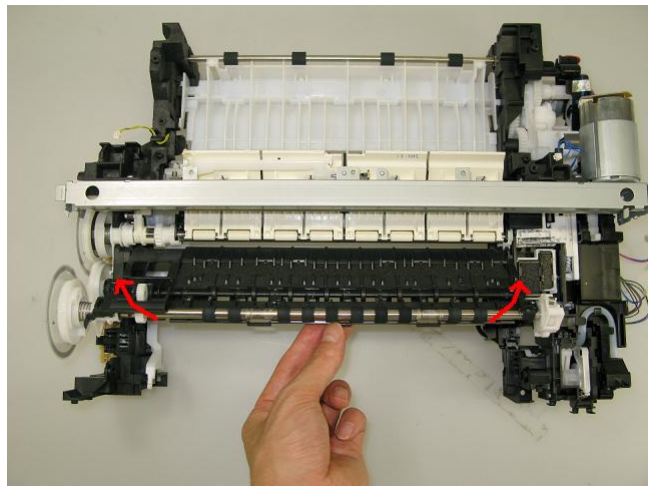
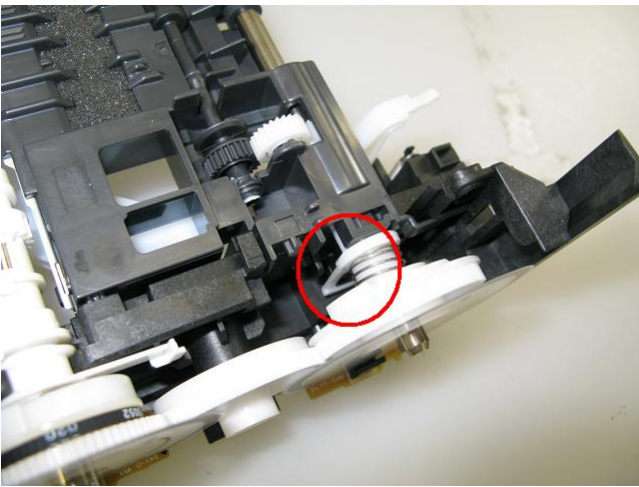




3) Remove the front chassis.

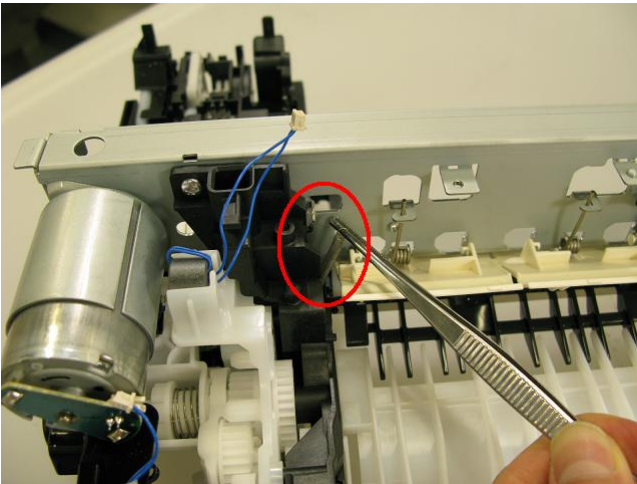
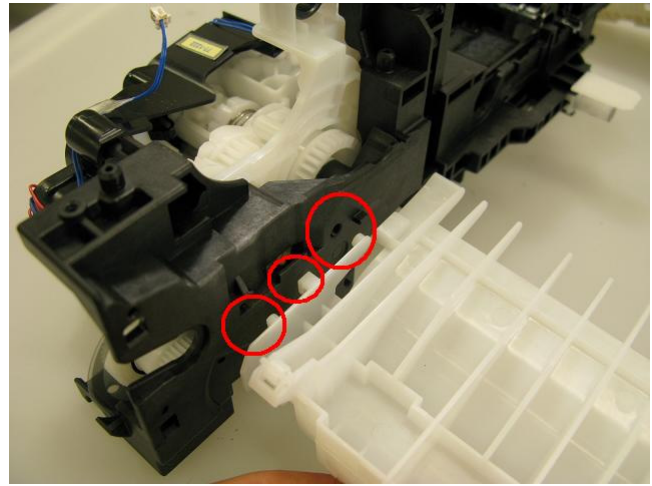
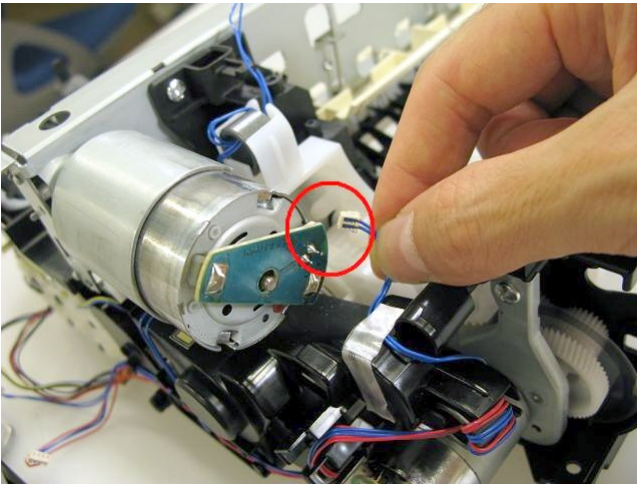
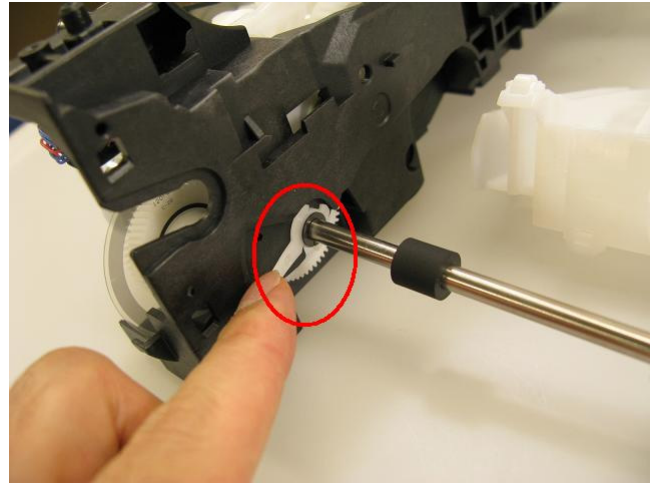
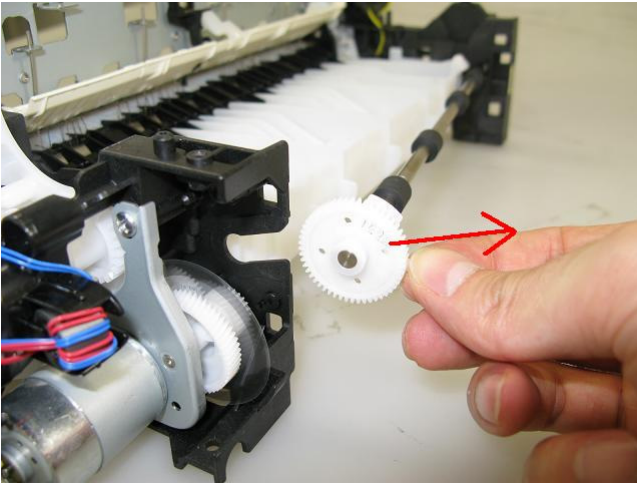


4) Unlock the paper eject roller gear. While raising the front of the platen unit, remove the platen unit from the printer unit.



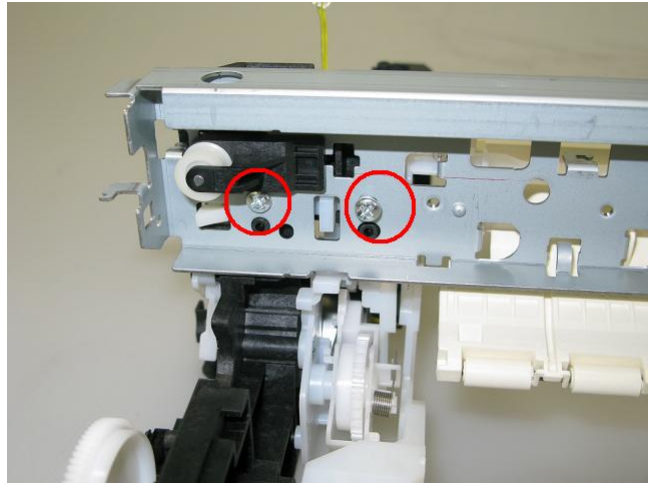
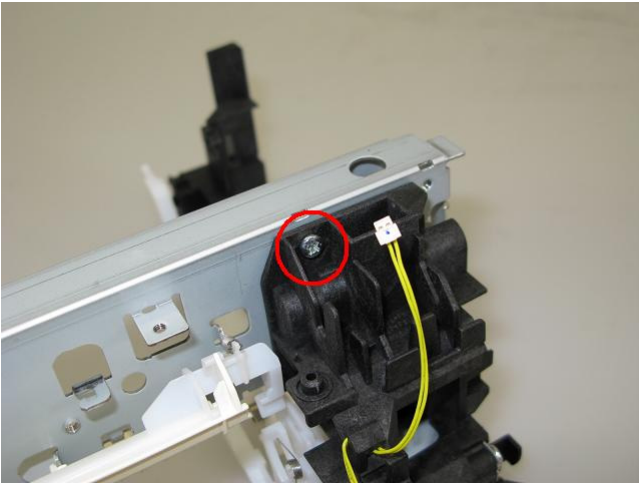
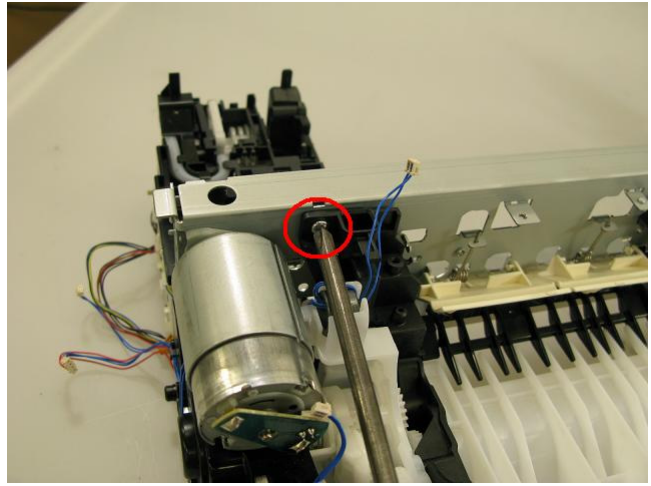
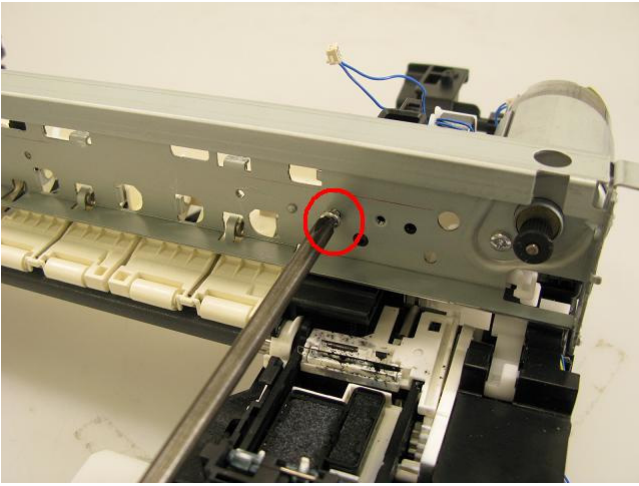
## (9) Purge drive system unit (right plate) and switch system unit (left plate) removal

- 1) Release the springs of the carriage motor cable, duplex printing paper feed roller, cassette feed roller, cassette feed guide, and paper guide unit (both sides). (See the Parts Catalog for details.)



- 2) Remove 4 springs between the pressure roller unit and the main chassis.
- 3) Remove the screws that fix the units to the main chassis (2 on the right, 3 on the left).

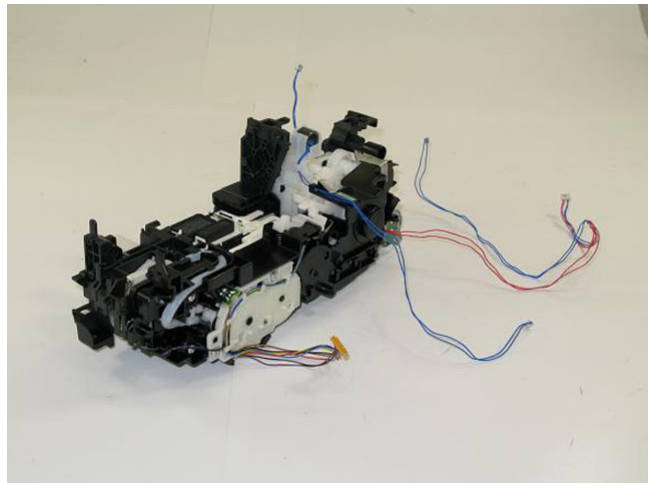
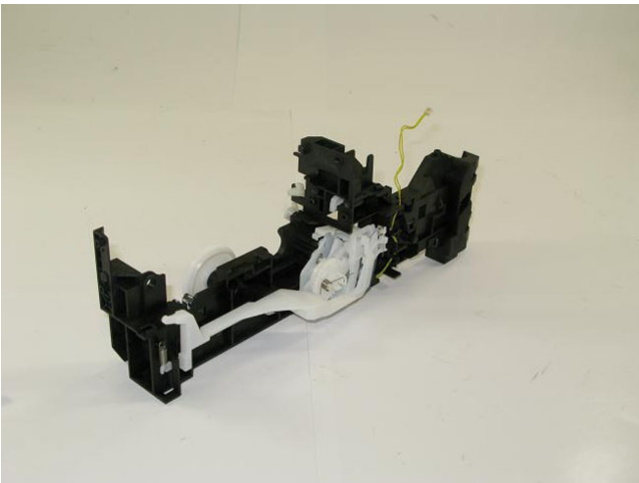




4) Separate the main chassis from the switch system unit and the purge drive system unit.

Switch system unit:

Purge drive system unit:



## (10) Engine unit reassembly

After repair, reassemble each unit of the printer engine on the bottom case in the procedures listed below.

Depending on the replaced unit, some steps can be omitted. For specific part names and locations, refer to the Parts Catalog.

- 1) Install the switch system unit in the bottom case, and fasten the screws.
- 2) Attach the duplex print paper feed roller unit to the purge drive system unit, and fix them to the bottom case with the screws.
- 3) Attach the cassette feed guide.
- 4) Install the cassette feed roller unit.
- 5) Install the paper feed roller (LF roller) unit and attach the paper feed belt.
- 6) Attach the paper guide unit to the paper feed roller (LF roller), and attach the springs to each side of the guide unit. (Hook the other end of each spring on the protrusion of the right and left plates respectively.)
- 7) Install the platen unit and the spur unit.
- 8) Connect the springs on each side of the spur holder to the switch system unit and the purge drive system unit respectively.
- 9) Fix the pressure roller unit to the main chassis (screw it to the right and left plates).
- 10) Attach the carriage unit and the carriage rail to align with the marks on the main chassis.
- 11) Hook the torsion springs of the pressure roller unit to the main chassis, then the springs kept at the right and left plates in step 6) to the main chassis.

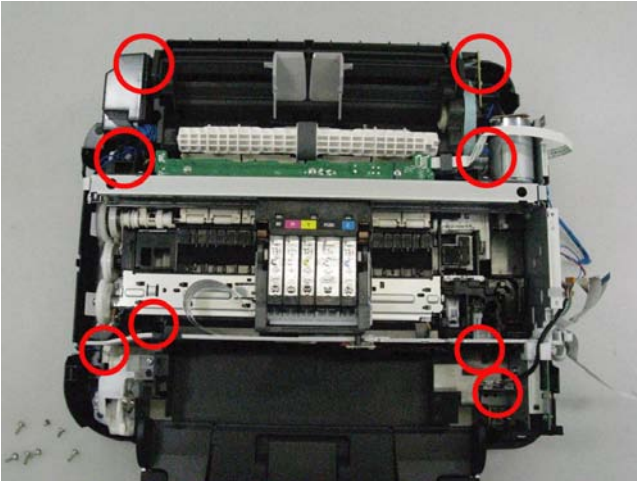


- 12) While being cautious not to damage the carriage FFC, install the front chassis and the ground chassis.
- 13) Attach the ink sensor board to the front chassis.
- 14) Install the ASF unit and attach the PE sensor board.
- 15) Install the main PCB chassis.
- 16) Arrange each harness.
- 17) Attach the carriage encoder.
- 18) Install the logic board.

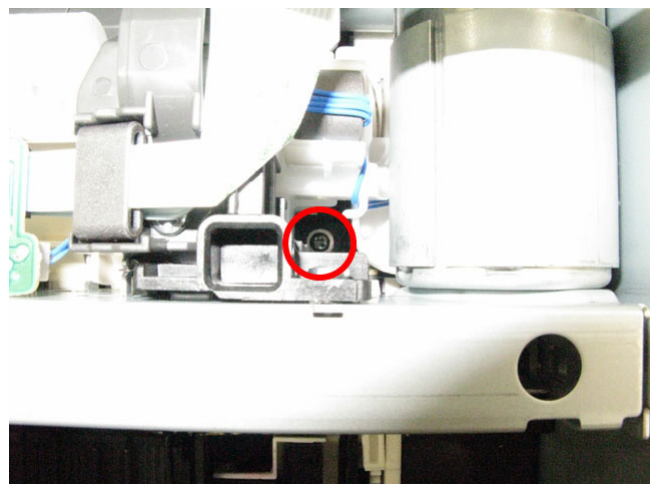
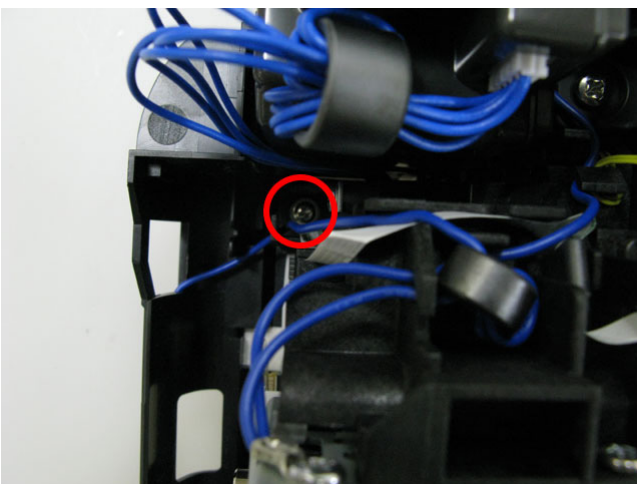
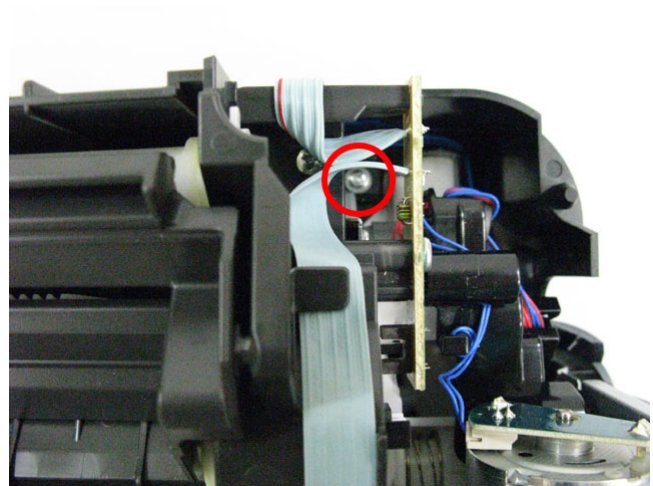
## (11) Ink absorber replacement

If the ink absorber alone needs to be replaced (because the ink absorber becomes full, etc.) and no other engine parts are replaced, the ink absorber can be replaced only by separating the print unit from the bottom case. It is not necessary to disassemble the whole engine unit.

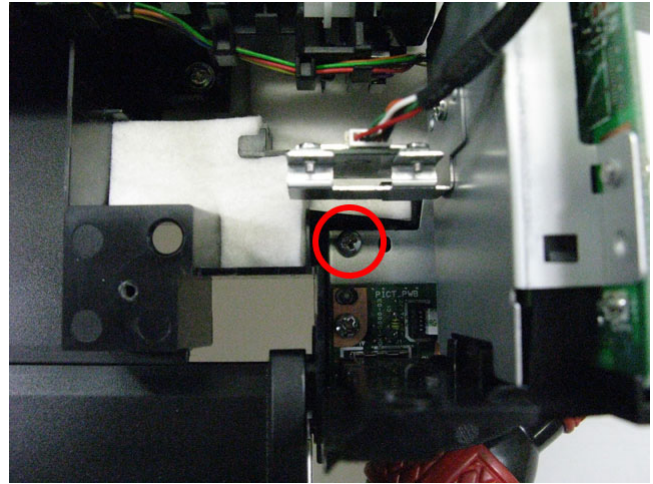
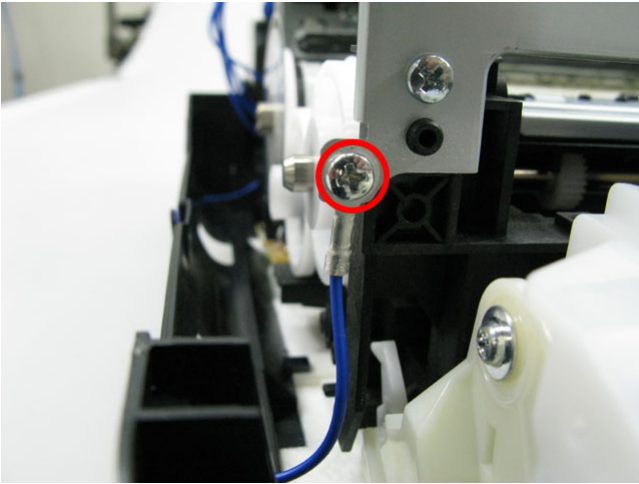
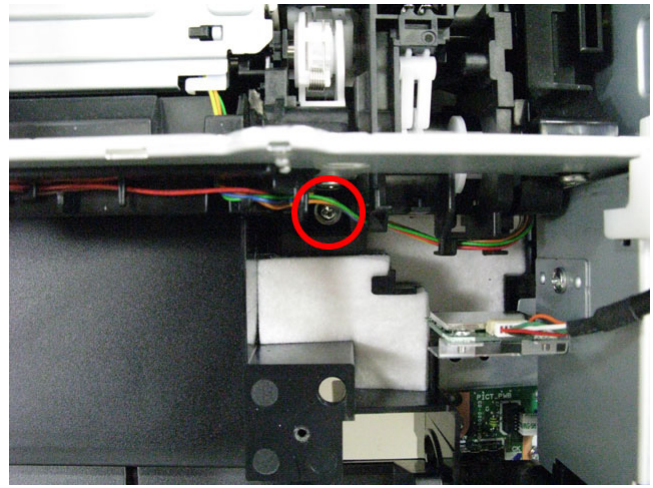
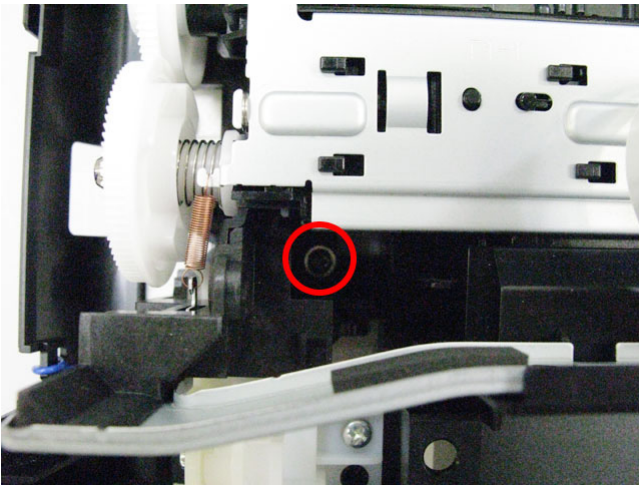
- 1) Disconnect the DC harness, PictBridge FFC, and front door sensor cable from the logic board.
- 2) Remove a total of 8 screws:
  - 3 screws fixing the switch system unit to the bottom case
  - 3 screws fixing the purge drive system unit to the bottom case
  - 1 screw fixing the PictBridge chassis to the bottom case
  - 1 screw fixing the ground harness ass'y to the front chassis



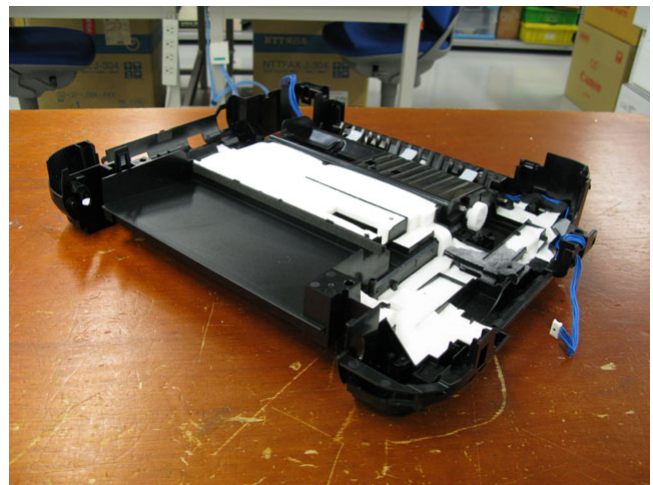
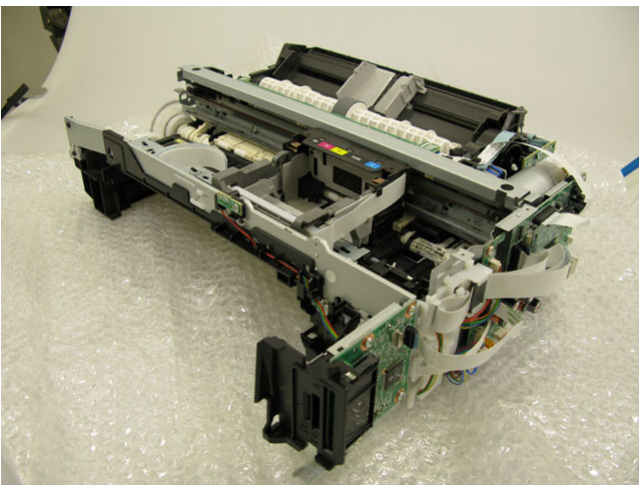
Specific screw location:







3) Release the ground harness ass'y from the bottom case, and slowly lift the print unit to separate it from the bottom case. Be cautious of the PictBridge board.



- 4) Replace the ink absorber.  
Confirm that the replaced new ink absorber completely fits in place and is not lifted or dislocated.
- 5) While being cautious of the ink tube and each harness location, return the print unit to the bottom case, and fasten the screws (removed in step 2).
- 6) Properly arrange and connect the harnesses, and attach the external housing.

Note: After replacement of the ink absorber, reset the ink absorber counter (or set the appropriate counter value) in the service mode. For details, see [4-2. Service Mode](#).



## 4. ADJUSTMENT / SETTINGS

### 4-1. User Mode

Function	Procedures	Remarks
Nozzle check pattern printing	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Set a sheet of plain paper (A4 or Letter) in the cassette, or the rear tray if selected.
Print head manual cleaning	<p>- Cleaning both Black and Color: Perform via the machine operation panel.</p> <p>- Cleaning Black or Color separately, or both Black and Color: Perform from the MP driver Maintenance tab.</p>	<p>Unclogging of the print head nozzles, and maintenance to keep the print head conditions good.</p> <p>If there is a missing portion or white streaks in the nozzle check pattern printout, perform this cleaning.</p>
Print head deep cleaning	Perform via the machine operation panel, or from the MP driver Maintenance tab.	If print head manual cleaning is not effective, perform this cleaning. Since the deep cleaning consumes more ink than regular cleaning, it is recommended to perform deep cleaning only when necessary.
Automatic print head alignment	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Set 1 sheet of plain paper in the cassette. If the automatic print head alignment is not effective, perform manual print head alignment.
Manual print head alignment	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Set 3 sheets of plain paper (A4 or Letter) in the cassette, or the rear tray if selected.
Print head alignment value printing	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Confirmation of the current print head alignment values.
Paper feed roller cleaning	Perform via the machine operation panel, or from the MP driver Maintenance tab.	The paper feed rollers of the selected paper source (the rear tray or the cassette) rotate while being pushed to the paper lifting plate. Since the rollers will wear out in this cleaning, it is recommended that you perform this only when necessary.
Bottom plate cleaning	Perform via the machine operation panel, or from the MP driver Maintenance tab.	<p>Cleaning of the platen ribs when the back side of paper gets smeared.</p> <p>Fold a sheet of plain paper (A4 or Letter) in half crosswise, then unfold and set it in the rear tray with the folded ridge facing down. (No paper feeding from the cassette)</p>
Reset of LAN settings	Perform via the machine operation panel, or using IJ Network Tool	Reset of the LAN settings (to default settings at purchase of the machine) via the operation panel ( <b>Settings -&gt; Device settings -&gt; LAN settings -&gt; Reset LAN settings</b> ), or using IJ Network Tool.

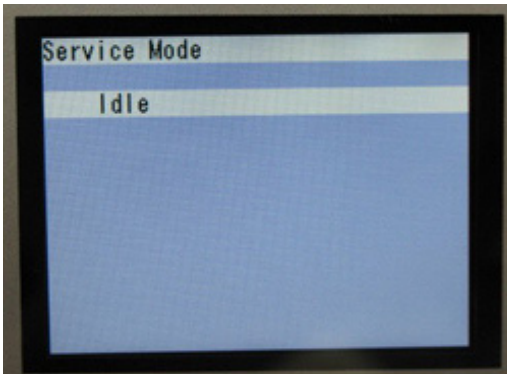
## 4-2. Service Mode

### (1) Service mode operation procedures

Use the Service Tool on the connected computer.

- 1) Start the machine in the service mode.
  - i. With the machine power turned off, while pressing the Stop button, press and hold the ON button. (DO NOT release the buttons.)
  - ii. When the Power LED lights in green, while holding the ON button, release the Stop button. (DO NOT release the ON button.)
  - iii. While holding the ON button, press the Stop button 2 times, and then release both the ON and Stop buttons. (Each time the Stop button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green, starting with Alarm LED.)
  - iv. When the Power LED lights in green and the machine displays "Service Mode Idle," the machine is ready for the service mode operation.

LCD ready for the service mode operation:



- 2) Start the Service Tool on the connected computer.
  - i. When a button is clicked in the Service Tool dialog box, that function is performed. During operation of the selected function, all the Service Tool buttons are dimmed and inactive.
  - ii. When the operation is completed, "A function was finished." is displayed, and another function can be selected.
  - iii. If a non-supported function is selected, "Error!" is displayed. Click **OK** in the error message dialog box to exit the error.



## (2) Service Tool functions

Service Tool screen: Version 1.05

The screenshot displays the 'Service Tool' application window. At the top right, the 'USB Port' is set to 'USB006' with a 'Reload' button. The interface is organized into several functional sections:

- Print:** Contains buttons for 'Test Print' (1), 'EEPROM' (2), 'Nozzle Check' (5), 'Integration' (6), 'CD-R' (3), 'LF/EJECT' (4), and 'Left Margin' (7).
- Cleaning:** Includes a 'Deep Cleaning' button (8).
- Clear Ink Counter:** Features 'Main' and 'Platen' buttons (9).
- Operation:** Includes 'EEPROM Clear' and 'Panel Check' buttons (10).
- Set Destination:** A 'Region' dropdown is set to 'JPN' with a 'Set' button (12).
- CD-R Correction:** 'X' and 'Y' dropdowns are both set to '-1.0' with a 'Set' button (13).
- LF/EJECT Correction:** 'LF' and 'EJECT' dropdowns are both set to 'Pattern0' with a 'Set' button (14).
- Left Margin Correction:** 'Paper Source' is set to 'RearTray, back side of pap' and 'Correction Value' is set to '-3', with a 'Set' button (15).
- Ink Absorber Counter:** 'Absorber' is set to 'Main' and 'Counter Value(%)' is set to '0', with a 'Set' button (16).
- Wetting Liquid Counter:** 'Counter Value(%)' is set to '0' with a 'Set' button (17).

No.	Name	Function	Remarks
(1)	Test Print	Service test print	<p>Paper (2 sheets) will feed from the rear tray.</p> <p>Service test print items:</p> <ul style="list-style-type: none"> <li>- Model name</li> <li>- ROM version</li> <li>- USB serial number</li> <li>- EEPROM information</li> <li>- Process inspection information</li> <li>- Barcode (model name + destination + machine serial number)</li> <li>- Ink system function check result</li> <li>- CD / DVD sensor check result (printed on the second sheet)</li> </ul>
(2)	EEPROM	EEPROM information print	<p>The dialog box opens to select the paper source. Select <b>Rear tray</b> or <b>Cassette</b>, and click <b>OK</b>.</p> <p>EEPROM information print items:</p> <ul style="list-style-type: none"> <li>- Model name</li> <li>- ROM version</li> <li>- Ink absorber counter value (ink amount in the ink absorber)</li> <li>- Print information</li> <li>- Error information, etc.</li> </ul>
(3)	CD-R	CD-R check pattern print	Not used in servicing.
(4)	LF / Eject	LF / Eject correction pattern print	Perform LF / Eject correction only when streaks or uneven printing occurs after the repair. See " <a href="#">LF / Eject Correction</a> " below.
(5)	Nozzle check	Nozzle check pattern print	The dialog box opens to select the paper source. Select <b>Rear tray</b> or <b>Cassette</b> , and click <b>OK</b> .
(6)	Integration	Successive print of (1) service test pattern, (2) EEPROM information, and (5) nozzle check pattern	Paper will feed from the rear tray.
(7)	Left Margin	Left margin pattern print	Not used.
(8)	Deep Cleaning	Print head deep cleaning	Cleaning of both Black and Color at the same time
(9)	Main	Main ink absorber counter resetting	Set a sheet of A4 or Letter sized plain paper. After the ink absorber counter is reset, the counter value is printed automatically.
	Platen	Platen ink absorber counter resetting	Not used.
(10)	EEPROM Clear	EEPROM initialization	<p>The following items are NOT initialized, and the shipment arrival flag is not on:</p> <ul style="list-style-type: none"> <li>- USB serial number</li> <li>- Destination settings</li> </ul>



			<ul style="list-style-type: none"> <li>- Record of ink absorber counter resetting and setting</li> <li>- Record of repair at the production site</li> <li>- CD / DVD print position correction value</li> <li>- LF / Eject correction values</li> <li>- Left margin correction value</li> <li>- Production site E-MIP correction value and enabling of it</li> <li>- Endurance correction value and enabling of it</li> <li>- Record of disabling the function to detect the remaining ink amount</li> <li>- Ink absorber counter value (ink amount in the ink absorber)</li> </ul>
(11)	Panel Check	Button and LCD test	See " <a href="#">Button and LCD Test</a> " below.
(12)	Set Destination	Destination settings	Select the destination, and click <b>Set</b> . ASA, AUS, BRA, CHN, CND, EUR, JPN, KOR, LTN, TWN, USA
(13)	CD-R Correction	CD / DVD print position correction (X and Y direction)	Not used.
(14)	LF / EJECT Correction	LF / Eject correction value setting	Set the correction value according to the result of (4) LF / Eject correction pattern print. See " <a href="#">LF / Eject Correction</a> " below.
(15)	Left Margin Correction	Left margin correction value setting	Not used.
(16)	Ink Absorber Counter	Ink absorber counter setting	See " <a href="#">Ink Absorber Counter Setting</a> " below.
(17)	Wetting Liquid Counter	Wetting liquid counter setting	Not used.

### (3) LF / Eject correction

After replacement of the feed roller, platen unit, LF / Eject encoder, encoder film, or logic board in repair servicing or in refurbishment operation, perform the adjustment to maintain the optimal print image quality.

If the print quality is considered unaffected by replacement of those parts, it is not necessary to perform LF / Eject correction.

1) Print the LF / Eject correction pattern.

Click **LF/EJECT** of the Service Tool on the connected computer, select the paper source and the paper type, and print the pattern. 5 sheets of A4 paper will be used for the pattern printing.

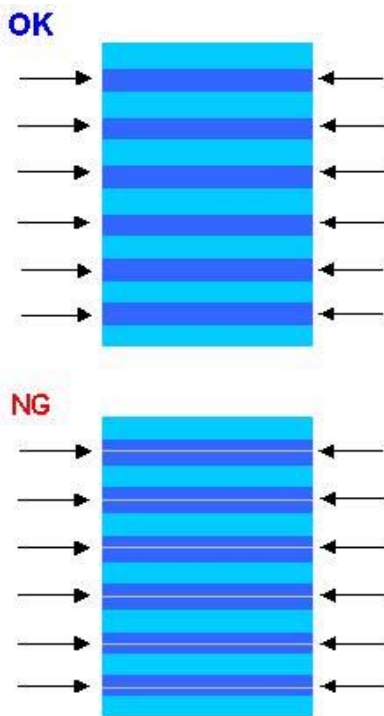
- Paper source: Select either **Rear tray** or **Cassette**.

- Media type: Select one from **HR-101**, **GF-500/Office Planner**, **HP Bright White**, and **Canon Extra/STEINBEIS**.

2) When printing is finished, "A function was finished" is displayed on the computer, and the machine returns to be ready for selection of another function.

3) In the printout, determine the Pattern No. in which streaks or lines are the least noticeable for the LF check pattern and the Eject check pattern respectively.

(LF Pattern No. 0 to 4, Eject Pattern No. 0 to 4)



4) Select and set the correction values.

In the **LF/EJECT Correction** section of the Service Tool, select the Pattern No. (from 0 to 4) determined in step 3) for **LF** and **EJECT** respectively, and click **Set**.

5) The selected LF and Eject correction values are written to the EEPROM, making the E-MIP correction value (which was set at shipment from the production site) invalid.

Note: At the production site, the E-MIP correction, which is equivalent to the LF / Eject correction, is performed using the special tool, and the E-MIP correction value is written to the EEPROM as the valid data.

When LF / Eject correction is performed, the LF / Eject correction values become valid instead of the E-MIP correction value (thus, in the initial EEPROM information print, "LF = \*" and "EJ = \*" are printed, but the selected values are printed after the LF / Eject correction).

#### (4) Button and LCD test

Confirm the operation after replacement of the panel board or LCD unit.

##### 1) Button check

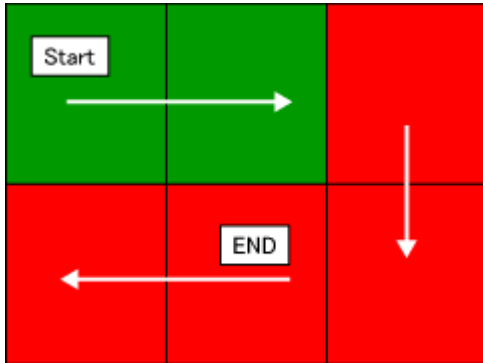
- 1-1) Click **Panel Check** of the Service Tool on the connected computer. All the machine LED's turn on, and the machine LCD turns blue, waiting for a button to be pressed.
- 1-2) Press each button of the operation panel, to see if every button functions properly.
- 1-3) The LCD is divided into 16 segments, representing each button. The color of a segment corresponding to the pressed button changes to red. If 2 or more buttons are pressed at the same time, only one of them is considered to be pressed, and the other buttons are ignored.

1	2	3	4
12	13	14	5
11	16	15	6
10	9	8	7

- |                        |                           |
|------------------------|---------------------------|
| 1. ON button           | 9. Color button           |
| 2. Back button         | 10. Stop button           |
| 3. OK button           | 11. NAVI button           |
| 4. Up cursor button    | 12. HOME button           |
| 5. Down cursor button  | 13. Left function button  |
| 6. Left cursor button  | 14. Right function button |
| 7. Right cursor button | 15. + button              |
| 8. Black button        | 16. - button              |

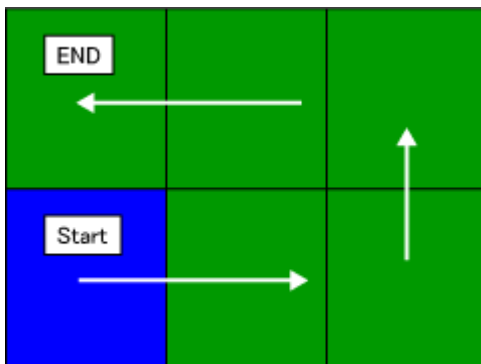
## 2) Easy-Scroll Wheel check

2-1) Press the OK button, then rotate the Easy-Scroll Wheel clockwise step by step. The LCD is divided into 6 segments, representing each step. The color of a segment corresponding to the step changes from red to green. If the wheel is rotated counterclockwise before clockwise round completes, the color of segment(s) corresponding to the number of steps the wheel is rotated counterclockwise returns to red. If the wheel keeps rotated clockwise over 1 round (6 steps), the color of segment(s) corresponding to the extra number of steps returns to red, starting with the "Start" segment in the figure below.

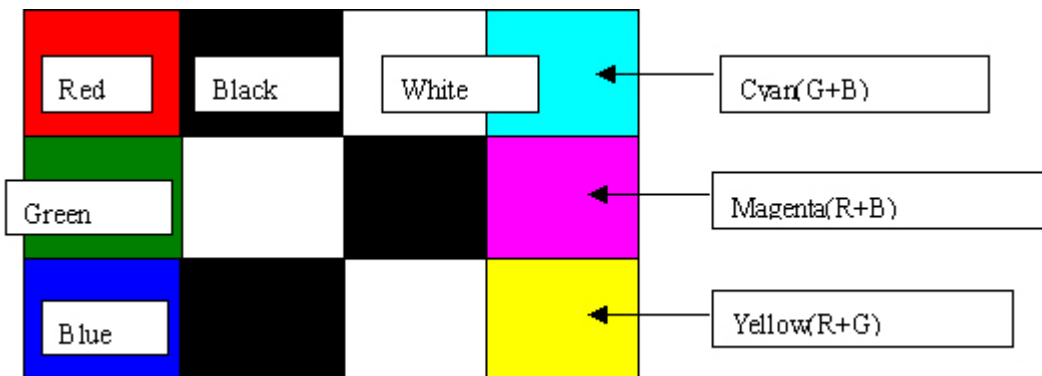


2-2) When the Easy-Scroll Wheel is rotated clockwise 1 round (6 steps), press the OK button.

2-3) Rotate the Easy-Scroll Wheel counterclockwise step by step. The LCD is divided into 6 segments, representing each step. The color of a segment corresponding to the step changes from green to blue. If the wheel is rotated clockwise before counterclockwise round completes, the color of segment(s) corresponding to the number of steps the wheel is rotated clockwise returns to green. If the wheel keeps rotated counterclockwise over 1 round (6 steps), the color of segment(s) corresponding to the extra number of steps returns to green, starting with the "Start" segment in the figure below.

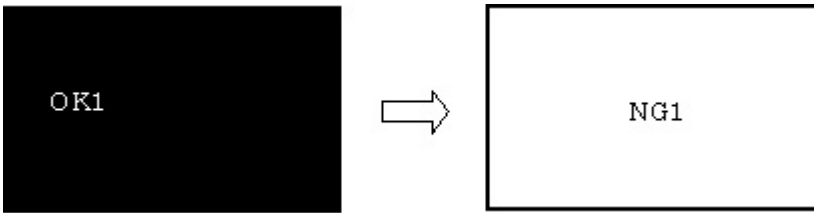


2-4) When the Easy-Scroll Wheel is rotated counterclockwise 1 round (6 steps, and all the segments are in blue), press the OK button. The color pattern is displayed on the LCD. If there is any segment that is not in blue when the OK button is pressed, the display remains unchanged.

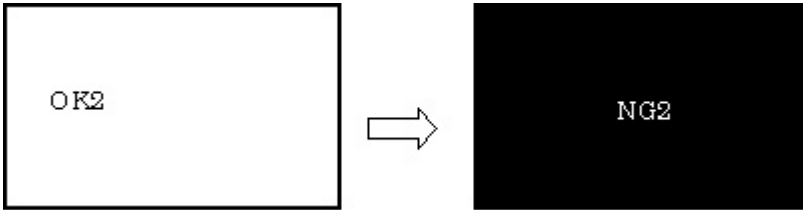


### 3) Transparent pattern display check

- 3-1) Press the OK button. "OK1" in white is displayed on the black background. If the result is not good, "NG1" in black is displayed on the white background (transparent color) immediately after "OK1."  
Wait for approx. 2 seconds.



- 3-2) Press the OK button. "OK2" in black is displayed on the white background. If the result is not good, "NG2" in white is displayed on the black background (transparent color) immediately after "OK2."



### 4) LCD flicker adjustment

- 4-1) Press the OK button. The LCD flicker adjustment screen is displayed.



- 4-2) By pressing the left or right cursor button, change the VrefPWM value to eliminate flicker on the screen. The specifiable VrefPWM values are from 36 to 3D (hexadecimal).
- 4-3) Press the OK button. The machine returns to be ready for selection of another function ("Service Mode Idle" is displayed on the LCD).

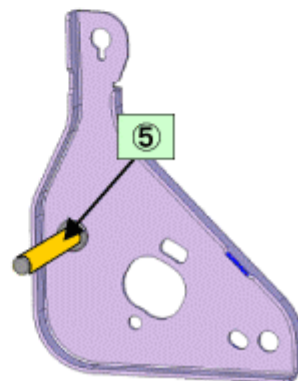
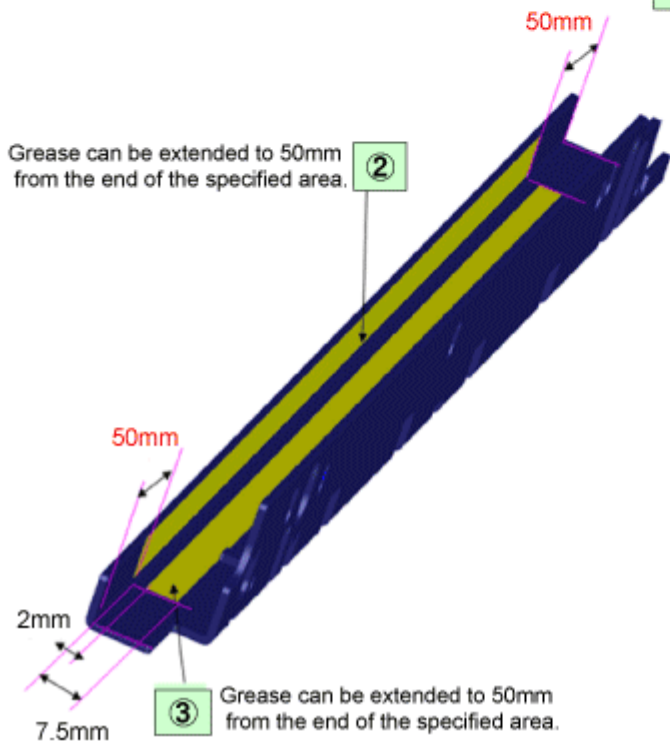
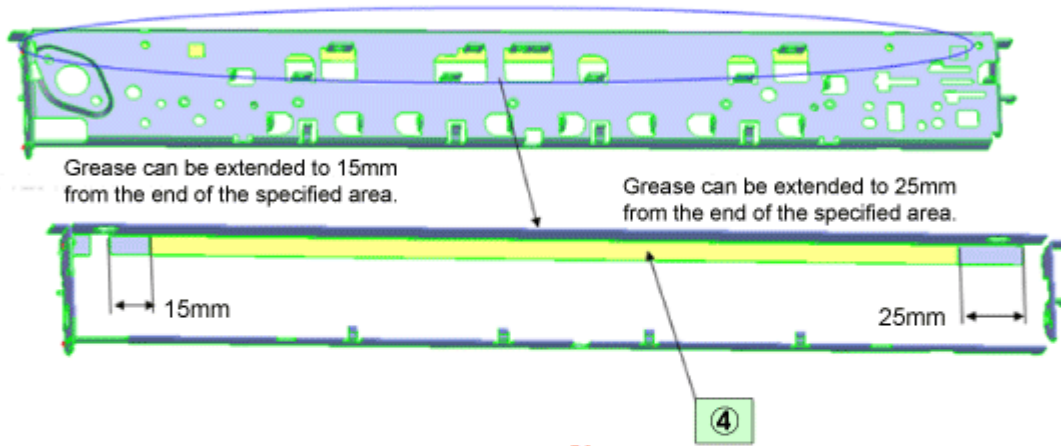
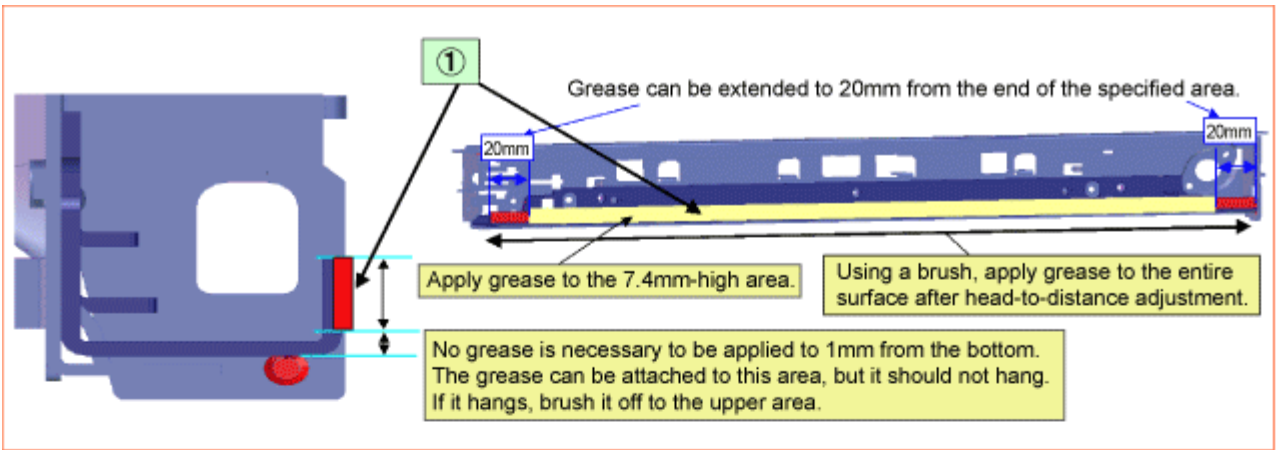
## (5) Ink absorber counter setting

Set the ink absorber counter value to a new EEPROM after the logic board is replaced in servicing.

- 1) Before replacement of the logic board, check the ink absorber counter value in EEPROM information print.
- 2) After replacement of the logic board, the ink absorber counter value should be set in the service mode using the Service Tool.  
In the **Ink Absorber Counter** section of the Service Tool, select **Main** from the **Absorber** pull-down menu.  
From the **Counter Value(%)** pull-down menu, select the value (in 10% increments) which is the closest to the actual counter value confirmed before replacement of the logic board, and click **Set**.
- 3) Print EEPROM information to confirm that the value is properly set to the EEPROM.

### 4-3. Grease Application

No	Part name	Where to apply grease / oil	Drawing No.	Grease	Grease amount (mg)
1	Carriage rail	The surface where the carriage unit slides	①	Floil KG107A	230 to 290
2	Carriage rail	The surface where the carriage unit slides	②	Floil KG107A	180 to 220
3	Carriage rail	The surface where the carriage unit slides	③	Floil KG107A	180 to 220
4	Main chassis	The surface where the carriage unit slides	④	Floil KG107A	230 to 290
5	APP code wheel gear shaft	APP code wheel gear sliding portion (the entire surface)	⑤	Floil KG107A	9 to 18



## 4-4. Special Notes on Servicing

### (1) Print head problem (smear printing, uneven printing, non-ejection of ink, etc.)

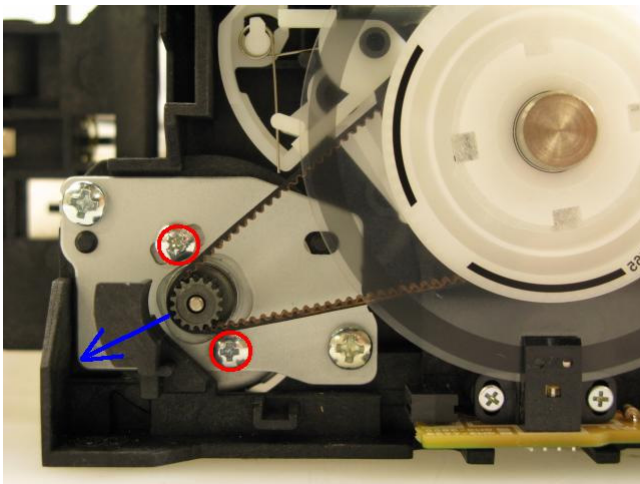
For problems that are supposed to be caused by the print head (smear printing, uneven printing, or non-ejection of ink, etc.), print the nozzle check pattern to determine whether the print head is faulty or not.

< Procedures >

- 0) Using the tool print head, confirm that the test printer (to be used to examine the print head in question) operates properly, then install the print head in question in that test printer.
- 1) Print the nozzle check pattern (in the user mode or in the service mode).
- 2) If there is a missing portion in the printed pattern, perform the print head cleaning (2 times at the maximum), and print the nozzle check pattern again.
- 3) If the problem persists even after the print head cleaning is performed 2 times, perform the print head deep cleaning, then print the nozzle check pattern again.
- 4) If the problem is still not resolved, i) turn off the machine and leave it for 24 hours or longer, ii) perform the print head cleaning, and iii) print the nozzle check pattern again.
- 5) If the problem still persists after steps 1) to 4), the print head may be faulty. Replace the print head.

### (2) Paper feed motor adjustment

- 1) When attaching the motor, fasten the screws so that the belt is properly stretched (in the direction indicated by the blue arrow in the photo below).
- 2) After replacement, be sure to perform the service test print, and confirm that no strange noise or faulty print operation (due to dislocation of the belt or gear, or out-of-phase motor, etc.) occurs.

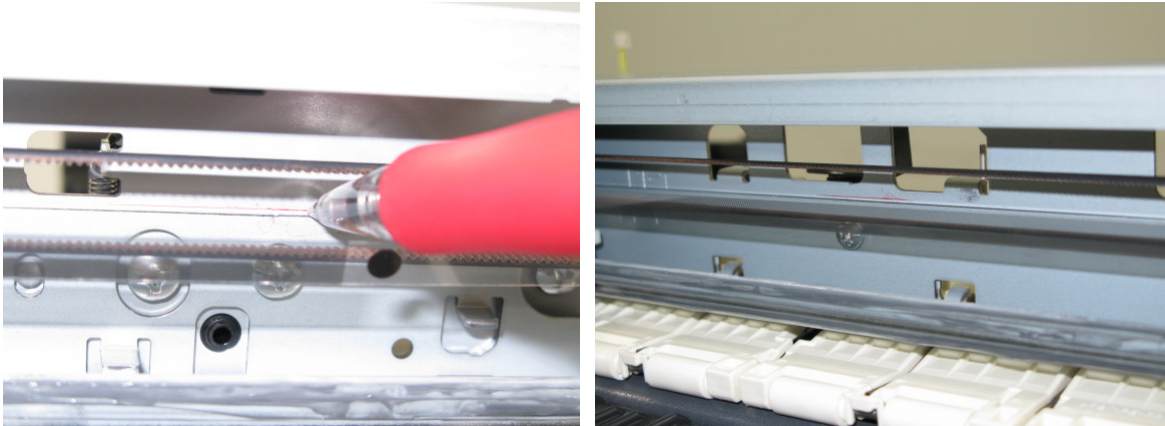


The screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit. DO NOT loosen them in other cases.

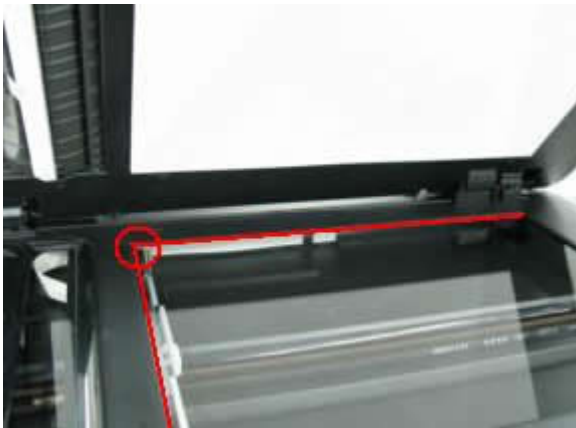


### (3) Carriage unit replacement

To replace the carriage, the carriage rail must be removed from the main chassis (by removing the screws). Before removing the screws, put a mark on the main chassis to indicate the carriage rail position. After replacing the carriage, return the carriage rail to the original position while aligning the rail to the mark on the chassis.



### (4) Document pressure sheet (sponge sheet) replacement



- 1) Peel off the cover sheet from the double-sided adhesive tape on the back of the document pressure sheet. With the long-side down, position the upper-left corner of the document pressure sheet at the scanning reference point on the platen glass (back left where the red lines cross in the photo above).
- 2) Slowly close the document pressure plate while maintaining the hinge position. The document pressure sheet will attach to the plate frame.
- 3) Open the plate to confirm the following:
  - No extension of the sponge edges over the mold part of the upper scanner cover.
  - No gap between the platen glass reference edges and the corresponding sponge edges.
  - No shades or streaks in monochrome test printing without a document on the platen glass.

### (5) Ink absorber counter setting

Before replacement of the logic board, check the ink absorber counter value, and register it to the replaced new logic board. (The value can be set in 10% increments.)

In addition, according to the ink absorber counter value, replace the ink absorber (ink absorber kit). When the ink absorber is replaced, reset the applicable ink absorber counter (to 0%).

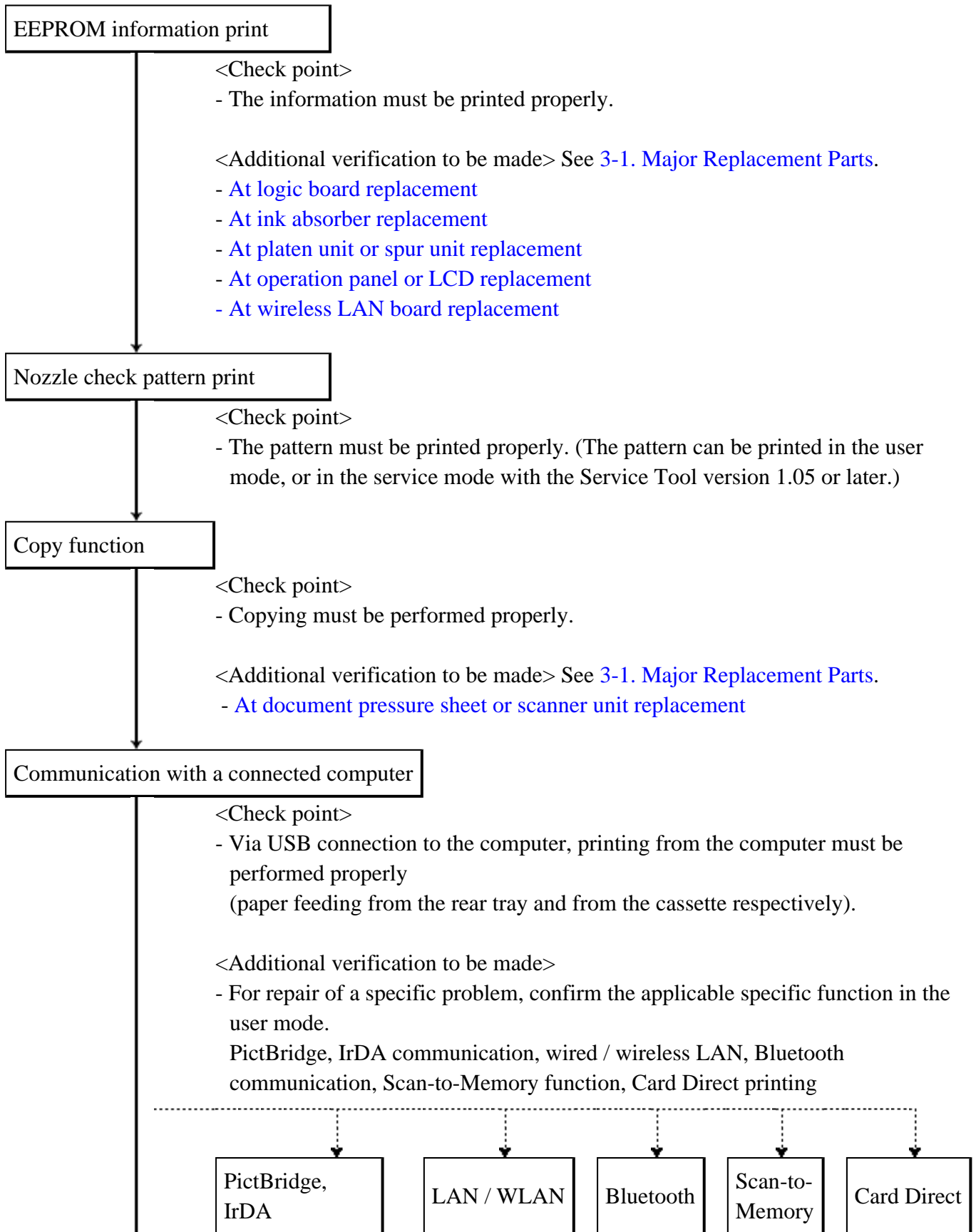
- How to check the ink absorber value and the way to set the ink absorber counter:

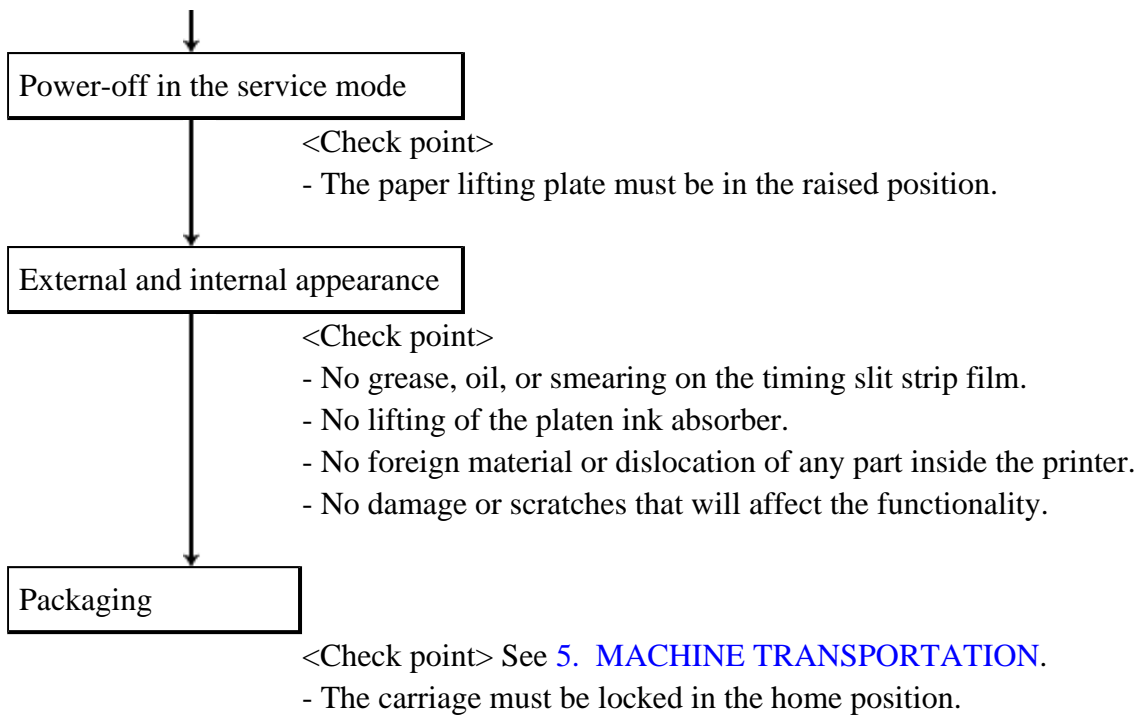
See [4-2. Service Mode](#).

## 4-5. Verification After Repair

### (1) Standard inspection flow

In each step below, confirm that printing is performed properly and the machine operates properly without any strange noise.



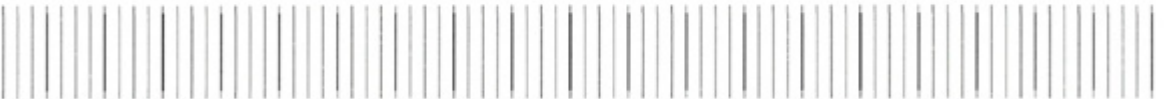
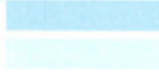


**(2) Service test print**

<Service test print sample>

- First page:

MP550 M=V1.010 USB=(1004DF)



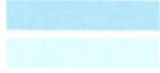
FA=01 OD 16 85 Temp.=050 E-MIP(LF=-07 EJ=-06 LE=-01) SET=JPN E-MIPCF=1  
AB(K=OK (K:3A9,M:04D) M=OK (K:054,M:3AB,Y:04E) Y=OK (M:059,Y:3AA,C:006)  
C=OK (Y:005,C:3A8) PIGbk=OK (3A0)  
LEDTIME=0000 0000 0000 SELF(H=000 000 000 L=000 000 000) C=V95.24 D=003.5





- Second page:

MP560 M=V1.030 USB=(100354)



FA=01 OD 14 87 Temp.=058 E-MIP(LF=-08 EJ=+08 LE=-16) SET=JPN E-MIPCF=1  
AB(K=OK (K:3B7,M:051) M=OK (K:066,M:3B9,Y:065) Y=OK (M:04F,Y:3B6,C:006)  
C=OK (Y:005,C:3B6) PIGbk=OK (3B2) WMAC=(00-1E-8F-3A-D5-1D)  
LEDTIME=0000 0000 0000 SELF(H=000 000 000 L=000 000 000) C=V95.22 D=008.3



### (3) Ink absorber counter value print

<Print sample>



## 5. MACHINE TRANSPORTATION

This section describes the procedures for transporting the machine for returning after repair, etc.

- 1) In the service mode, press the ON button to finish the mode, and confirm that the paper lifting plate of the rear tray is raised.
- 2) Keep the print head and ink tanks installed in the carriage.

See Caution 1 below.

- 3) Turn off the machine by pressing the ON button to securely lock the carriage in the home position. (When the machine is turned off, the carriage is automatically locked in place. DO NOT disconnect the power cord until the carriage is completely locked in place.)

See Caution 2 below.



- 
- (1) If the print head is removed from the machine and left alone by itself, ink (the pigment-based black ink in particular) is likely to dry. For this reason, keep the print head installed in the machine even during transportation.
  - (2) Securely lock the carriage in the home position, to prevent the carriage from moving and applying stress to the carriage flexible cable, or causing ink leakage, during transportation. Make sure that the carriage is locked in place at power-off.
- 



- If the print head must be removed from the machine and transported alone, attach the protective cap (used when the packing was opened) to the print head (to protect the print head face from damage due to shocks).

◀ <5. MACHINE TRANSPORTATION> ▶