

MP630 / MP638

Service Manual

Revision 0

QY8-13CB-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* ² Perform in the service mode.	1 min.
Destination settings (EEPROM settings)	- At logic board replacement	To set destination.	Service Tool* ² 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* ² 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* ² 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.
CD / DVD detection sensor light volume correction* ¹	- At carriage unit replacement - At logic board replacement	To correct the light volume for the CD / DVD detection sensor.	Service Tool* ² Perform in the service mode.	5 min.
Automatic print head alignment	- At print head replacement - At logic board replacement - When print quality is not satisfying	To secure the dot placement accuracy.	None. Perform in the user mode.	7 min. (Use MP-101.)
Manual print head alignment	- At print head replacement - At logic board replacement - When print quality is not satisfying	To secure the dot placement accuracy.	None. Perform in the user mode.	10 min.
Grease application	- At carriage unit replacement - At Easy-Scroll Wheel replacement	To maintain sliding properties of the following items: - Carriage rail - Wheel base	FLOIL KG-107A	1 min.
Ink system function check	- At logic board replacement - At spur unit replacement - At carriage unit replacement	To maintain detection functionality for presence of the ink tanks and each ink tank position.	Service Tool* ² Perform in the service mode.	1 min.
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* ² Perform in the service mode.	5 min. (LF correction)

		- At logic board replacement - At platen unit replacement	To correct line feeding (eject roller diameter).	Service Tool* ² Perform in the service mode.	and Eject correction is performed at the same time.)
N	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: Only for CD / DVD printing supported regions.

*2: New Service Tool that operates only on a pre-registered computer.



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- The red screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit.
 - For the automatic print head alignment, use Matte Photo Paper (MP-101), which is packed with the machine before shipment. If Matte Photo Paper (MP-101) is not available, perform manual print head alignment using plain paper.
-

(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	- At print head replacement - When print quality is not satisfying (uneven printing, etc.)	To ensure accurate dot placement.	- Machine buttons - Matte Photo Paper (MP-101) - Computer (MP driver)	7 min. (Use MP-101.)
Manual print head alignment	- At print head replacement - When print quality is not satisfying (uneven printing, etc.)	To ensure accurate dot placement.	- Machine buttons - Computer (MP driver)	10 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	- Machine buttons - Computer (MP driver)	1 min.
Print head deep cleaning	When print quality is not satisfying, and not improved by print head cleaning.	To improve nozzle conditions.	- Machine buttons - Computer (MP driver)	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	- When paper does not feed properly. - When the front side of the paper is smeared.	To clean the paper feed rollers of the selected paper source (rear tray or cassette).	- Machine buttons - Computer (MP driver)	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.)	- Machine buttons - Computer (MP driver)	1 min.
Scanning area cleaning	When the platen glass or document pressure sheet is dirty.	To clean the platen glass and pressure sheet.	Soft, dry, and clean lint-free cloth.	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, and Easy-Scroll Wheel base.	In common with the MP610, etc.

1-4. 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 / INDICATION

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 and its solution are displayed on the LCD in text and by icon.
2. Messages during printing from a computer are displayed on the MP driver Status Monitor.
3. 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
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.
No CD / DVD tray* ¹ .	[1001]	---	There is no CD-R tray. Attach the tray and press [OK].	Set the CD / DVD tray, and press the OK button.
No CD or DVD* ¹ .	[1002]	---	Printable disc is not set. Correctly place a disc in the CD-R tray and press [OK].	Set a CD or DVD in the CD / DVD tray, and inset the CD / DVD tray in the proper position. Then, press the OK button.
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.
Paper jam.	[1300]	---	The paper is jammed. Clear the paper and press [OK].	Remove the jammed paper, and press the OK button.
Paper jam in the rear guide.	[1303]	---		
Paper jam in the under guide.	[1304]	---		
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 OK button to clear the error without ink tank replacement. When the error is cleared by pressing the OK button, ink may run out during printing.
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.
Print head not installed, or not properly installed.	[1401]	U051	Print head is not installed. Install the print head.	Install the print head properly.
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 temperature sensor error.	[1403]			
Faulty EEPROM data of the print head.	[1405]			
Inner cover error.	[1841] ^{*2} , [1846] ^{*2} , [1851] ^{*1} , [1856] ^{*1}	---	Inner cover is open. Close the inner cover and press [OK].	Close the inner cover, and press the OK button.
	[1850] ^{*1} , [1855] ^{*1}	---	Open the inner cover, place the CD-R tray and press [OK].	Open the inner cover which functions as the CD / DVD tray feeder, set the CD / DVD tray in the feeder, and press

				the OK button.
Multiple ink tanks of the same color installed.	[1681]	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 in a wrong position.	[1680]	U072	Some ink tanks are not installed in place.	Install the ink tank(s) in the correct position.
Warning: The ink absorber becomes almost full.	[1700, 1701]	---	Contact the support center or service center for ink absorber replacement. Press [OK] to continue printing.	Replace the ink absorber, and reset its counter. [See 3-3. Adjustment / Settings, (6) Service mode.] Pressing the OK button will exit the error, and enable printing without replacing the ink absorber. However, when the ink absorber 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.
Automatic duplex printing cannot be performed.	[1310]	---	This paper is not compatible with duplex printing. Remove the paper and press [OK].	The paper length is not supported for duplex printing. Press the OK button to eject the paper being used at error occurrence. Data which was to be printed on the back side of paper at error occurrence is skipped (not printed).
Failed in automatic print head alignment.	[2500]	---	Auto head align has failed. Press [OK] and repeat operation. <See manual>	Press the OK button to clear the error, then perform the automatic print head again. (In the MP630 / MP638, use Matte Photo Paper MP-101.)
The remaining ink amount unknown.	[1683]	U130	(Applicable ink tank icon) 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 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 not recognized.	[1410 to 1419]	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).
No ink (no raw ink).	[1688]	U163	Printer detected ink out condition of the following ink. Replace the ink tank. (Applicable ink tank icon)	Replace the empty ink tank(s), and close the scanning unit (cover). Printing with an 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 that the function to detect the remaining ink amount was disabled.
Non-supported hub	[2002]	---	An unsupported USB hub is connected. Remove the hub.	Remove the applicable USB hub from the PictBridge (USB) connector.
Time-out in CD / DVD print operation.	[1830*1]	---	Timeout error has occurred. Press [OK].	A prescribed period of time (12 minutes) has elapsed without any printing since printing was attempted. Press the OK button to clear the error.
Time-out for the scanner device	[2700]	---	Timeout error has occurred. Press [OK].	The buffer became full in the middle of scanning operation, and 60 minutes have elapsed since then, making re-scanning unstable. Press the OK button to clear the error.

*1: Only for models supporting CD / DVD printing

*2: Only for models not supporting CD / DVD printing

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, and the corresponding error code with the message,

"Printer error has occurred. Turn off power then back on again. If problem persists, see the manual." is displayed on the LCD.

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.	<ol style="list-style-type: none"> (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: <ul style="list-style-type: none"> - Timing slit disk film - Carriage unit - Logic board - Carriage motor
3 times	Line feed error	[6000]	An error occurred in the LF encoder signal.	<ol style="list-style-type: none"> (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: <ul style="list-style-type: none"> - 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.	<ol style="list-style-type: none"> (1) Foreign material or paper debris around the purge drive system unit; remove foreign material. (2) Cable connection (3) Part replacement: <ul style="list-style-type: none"> - Purge drive system unit - Logic board
5 times	ASF (cam) sensor error	[5700]	An error occurred in the ASF cam sensor.	<ol style="list-style-type: none"> (1) Cable connection (2) Part replacement: <ul style="list-style-type: none"> - ASF unit - PE sensor board unit - Logic board
6 times	Internal temperature error	[5400]	The internal temperature is not normal.	<ol style="list-style-type: none"> (1) Cable connection (2) Part replacement: <ul style="list-style-type: none"> - Carriage unit - Logic board - Print head
7 times	Ink absorber full	[5B00, 5B01]	<p>The ink absorber is supposed to be full.</p> <p><u>Message on the LCD:</u> Ink absorber full. Service required.</p> <p><u>Error codes:</u> 5B00: Main ink absorber is full (overseas). 5B01: Main ink absorber is full</p>	<ol style="list-style-type: none"> (1) Ink absorber condition (2) Part replacement: <ul style="list-style-type: none"> - Ink absorber kit (3) Ink absorber counter value in the EEPROM; reset the ink absorber counter.

			(Japan).	
8 times	Print head temperature rise error	[5200]	The print head temperature exceeded the specified value.	(1) Print head condition (2) Cable connection (3) Part replacement: - Print head - Logic board
9 times	EEPROM error	[6800, 6B01]	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) Part replacement: - Print head and logic board (Replace them at the same time.) - Power supply 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. (2) Foreign material or paper debris around the ASF unit; remove foreign material.
14 times	APP sensor error	[6A90]	An error occurred during paper feeding or paper ejection.	(3) Cable connection (4) Part replacement: - Purge drive system unit - Logic board
	Paper feed cam sensor error	[6B10]	An error occurred in the paper feed cam sensor during paper feeding from the cassette, or the paper absorbing a large amount of ink jammed in the PF rear guide.	(1) Jammed paper in the PF rear guide (when a large amount of ink was absorbed in the paper); remove the jammed paper and foreign material. (2) Foreign material or paper debris in the cassette or in the PF rear guide; remove foreign material. (3) Part replacement: - PF pick-up unit - Logic board
15 times	USB Host VBUS overcurrent	[9000]	The USB Host VBUS is 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
17 times	Paper eject encoder error	[6010]	An error occurred in the paper eject 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 paper path; remove foreign material. (3) Cable connection (4) Part replacement: - LF / EJ slit film - LF / EJ timing sensor unit - Platen unit - Logic board - Paper feed motor
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 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) Part replacement: - Purge drive system unit - ASF 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 (sponge sheet) - Scanner unit - Logic board
	Flatbed motor error	[5012]	An error occurred in the scanner flatbed motor.	(1) Cable connection (2) Part replacement: - Scanner unit
	Scanner electric circuit error	[5050]	The AFE was faulty.	(1) Cable connection (2) Part replacement: - Scanner unit
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



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 3-3. Adjustment / Settings, \(6\) Service mode, for details.\]](#)

2-3. Other Error Messages

Message on the LCD	Cause	Solution
The selected paper cannot be fed from cassette. Change the paper source and press [OK].	The paper type being used is not supported for paper feeding from the cassette.	Change the paper source to the rear tray.
Cannot apply the following setting(s). Change the setting(s).	Settings made conflict each other. (e.g. Selecting borderless printing on plain paper)	Change the settings so that they will not conflict each other.
Device memory is full. Cannot continue process. Reduce the number of documents (photos, etc.) to scan or copy.	The memory is not sufficient to do the print job in copying.	Reduce the amount of data to be printed, or print from a computer.
Press [Color].	The Black button was pressed, but it is invalid.	A temporary error. Press the Color button to continue the operation.
Press [Black].	The Color button was pressed, but it is invalid.	A temporary error. Press the Black button to continue the operation.
There are no photos in memory card.	Supported image files are not in the memory card.	A temporary error. - Confirm that supported image files are in the memory card. - Images with double-byte characters used in the file name (or folder name) may not be recognized. Change the file (or folder) name so that it contains only single-byte alphanumeric characters. - If images are edited on the computer, print them from the computer.
The value exceeds the number of copies you can print.	During selecting images or specifying the number of copies, the total print quantity exceeds the prescribed value of 999.	A temporary error. The last operation before the error is cancelled, and the total print quantity returns to the value before the error.
Memory card is not set. Insert the card after checking the direction.	The memory card is not inserted in the slot properly.	Set a memory card properly.
DPOF information is not saved.	DPOF print was selected in the menu, but no DPOF files are contained in the memory card.	A temporary error. The LCD automatically returns to the display before the error occurrence.
The number of copies to print is not set. Input the number of copies using [+]/[-].	Printing was attempted with the print quantity left "0" (zero).	A temporary error. Specify the print quantity.
This layout is available only for A4 or 8.5"x11"(215x279).	In Layout print, "Mixed 1, 2, or 3" which is available only with A4 or Letter size paper is selected, but the paper size is not set to A4 or Letter.	A temporary error. The LCD automatically returns to the display before the error occurrence.
Cannot specify "stickers" and "half-side layout" together. Check markings on handwriting sheet.	The selected layout on the handwriting sheet is not supported for Stickers.	A temporary error. Press the OK button to clear the error. The LCD returns to the display before the error occurrence.
Cannot print via wireless communication. - No photo data - Unsupported photo data - Photo data too large	The received data via infrared communication is not image data.	A temporary error. The LCD automatically returns to the display before the error occurrence.
Change the setting after removing the card.	With a memory card inserted in the slot, change of the Read/Write attribute was attempted.	A temporary error. Remove the memory card, then change the Read/Write attribute.
The card is currently writable from PC. Set to [Not writable from PC].	With the memory card set to "Writable from PC," Card Direct printing operation was	A temporary error. Remove the memory card, change the memory card setting to Read-only,

	attempted from the menu.	then perform Card Direct printing.
The paper size is not correct. Check the page size you have set.	Non-supported size of paper for Camera Direct printing via PictBridge connection is selected.	Cancel printing on the digital camera. Confirm the paper size, and print again.
Failed to scan Photo Index Sheet. Check orientation and position, and make sure platen and sheet are clean. <See manual>	The machine failed in scanning the Photo Index Sheet.	Press the OK button to clear the error. Confirm the following, then try again: - Fill in all the circles on the Photo Index Sheet. - Place the sheet in the correct orientation and position.
Failed to scan handwriting sheet. Check orientation and position, and make sure platen and sheet are clean.	The machine failed in scanning the handwritten Photo Index Sheet.	
Failed to scan DVD/CD handwriting sheet. Check orientation and position, and make sure platen and sheet are clean.	The machine failed in scanning the handwritten DVD / CD sheet.	
Failed to scan Photo Index Sheet. Check for missed and improper markings.	The machine scanned the Photo Index Sheet, but markings in the sheet were incorrect.	Press the OK button to clear the error. Confirm the following, then try again: - Fill in all the circles on the Photo Index Sheet properly. - Place the sheet in the correct orientation and position.
Failed to scan handwriting sheet. Check for missed and improper markings.	The machine scanned the handwritten Photo Index Sheet, but markings in the sheet were incorrect.	
Failed to scan DVD/CD handwriting sheet. Check for missed and improper markings.	The machine scanned the DVD/CD handwritten sheet, but markings in the sheet was incorrect.	
Failed to scan. Either document cannot be scanned or is not placed on the platen glass.	The machine failed in scanning the document for Fit-to-page copy.	Press the OK button to clear the error. Correct the settings, then try the operation again.
Cover is open. Close cover.	The cover was opened during printing.	Close the cover. The LCD returns to the display before the error occurrence.
Scanner is not operating correctly.	The CIS cannot detect the home position, or the scanner unit warming-up is not performed properly at power-on.	Press the OK button to clear the error, and turn the machine off and on again. If the error still occurs, repair servicing is required.

2-4. Warnings

Warning	Message on the LCD	Solution
Low ink	"!" is indicated for an applicable ink tank icon in the Status Monitor.	Since the ink will be used up soon, prepare for a new ink tank.
Print head temperature rise	If the print head temperature does not fall, the print head error will occur.	When the print head temperature falls, the error is automatically cleared. If the print head error is indicated, repair servicing is required.
Protection of excess rise of the print head temperature	If the print head temperature does not fall, the print head error will occur.	If the print head temperature exceeds the specified limit, an intermission is inserted during printing.
Restrictions on paper	The current paper cannot be set. Change the size and type.	Re-select the supported paper type and size.
USB cable not connected	Set the PC to start scan.	Connect the USB cable, then turn on the computer.
Cancellation of image select information	Reset the selected photo information? Yes No	- Select Yes , and press the OK button. => The image selection is cancelled, and the menu or sub-menu is displayed. - Select No , and press the OK button. => The LCD returns to the display immediately before the message was displayed.
	Do you want to clear the image scanned from the photo? Yes No	
	Do you want to clear the scanned image and rescan? Yes No	

2-5. 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 - Panel board
	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 FCC and panel harness): - Harness and connector conditions - No cable breakage, etc. (2) Replace the following item(s): - LCD FCC - LCD viewer 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 the PF rear cover and the cassette conditions. (3) Confirm cable connection. (4) 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) Replace the following item(s): - Scanner unit - Logic board
	The CD / DVD tray is not pulled in the feeder.	(1) Confirm the reflector of the back of the CD / DVD tray: - Cleaning of the reflector. (2) Replace the following item(s): - Logic board - CD / DVD tray
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 (proper removal of the orange tape) - Re-setting of an ink tank (2) Remove foreign material from the purge unit caps, if any. (3) Perform cleaning or deep cleaning of the print head. (4) Perform print head alignment. (5) Replace the following item(s): - Print head* ¹ , and ink tanks - Logic board - Purge drive system unit
	Paper gets smeared.	(1) Clean the inside of the machine. (2) Perform bottom plate cleaning. (3) Perform paper feed roller cleaning.
	The back side of paper gets smeared.	(1) Clean the inside of the machine. (2) Perform cleaning or deep cleaning of the print head. (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 on printouts in the paper feed direction.	(1) Confirm that the LF / EJ slit film is free from smearing or scratches: - Cleaning of the LF / EJ slit film.. (2) Replace the following item(s): - LF / EJ slit film - LF / EJ 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

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

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

3. REPAIR

3-1. Notes on Service Part Replacement (and Disassembling / Reassembling)

Service part	Notes on replacement*1	Adjustment / settings	Operation check
Logic board ass'y	<ul style="list-style-type: none"> - 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). 	After replacement: <ol style="list-style-type: none"> 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. 7. Perform button and LCD test. Perform 1 to 7 in the service mode. [See 3-3. Adjustment / Settings, (6) Service mode, for details.] 8. Perform print head alignment and LCD language setting in the user mode. 	<ul style="list-style-type: none"> - EEPROM information print - Service test print - Printing via USB connection - Copying - Direct printing from a digital camera (PictBridge)
Absorber kit		After replacement: <ol style="list-style-type: none"> 1. Reset the ink absorber counter. [See 3-3. Adjustment / Settings, (6) Service mode, for details.] 	<ul style="list-style-type: none"> - Ink absorber counter volume print (After the ink absorber counter is reset, the counter value is printed automatically.)
Carriage unit		At replacement: <ol style="list-style-type: none"> 1. Before removal of the carriage rail, mark the carriage rail position. [See 3-2. Special Notes on Repair Servicing, (7) Carriage unit removal, for details.] 2. Apply grease to the sliding portions of the carriage rail. [See 3-3. Adjustment / Settings, (3) Grease application, for details.] 3. Check the ink system function. [See 3-3. Adjustment / Settings, (6) Service mode, for details.] 4. Perform print head alignment in the user mode. 	<ul style="list-style-type: none"> - Service test print (Confirm CD / DVD and automatic print head alignment sensor correction, and ink system function.)
Switch system unit	<ul style="list-style-type: none"> - The red 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.) 	At replacement: <ol style="list-style-type: none"> 1. Adjust the paper feed motor. [See 3-3. Adjustment / Settings, (1) Paper feed motor adjustment, for details.] 	<ul style="list-style-type: none"> - EEPROM information print - Service test print
Paper feed motor			
Platen unit		After replacement: <ol style="list-style-type: none"> 1. Perform LF / Eject correction in the service mode. [See 3-3. Adjustment / Settings, (6) Service mode, for details.] 	<ul style="list-style-type: none"> - EEPROM information print - Service test print
Spur unit	<ul style="list-style-type: none"> - DO NOT contact the spur edges. 	After replacement: <ol style="list-style-type: none"> 1. Check the ink system function. 2. Perform LF / Eject correction in the service mode. [See 3-3. Adjustment / Settings, 	<ul style="list-style-type: none"> - EEPROM information print - Service test print

		(6) Service mode , for details.]	
Purge drive system unit		After replacement: 1. Confirm the purging operation and the machine operation. [See 3-4. Verification After Repair for details.]	- Service test print
Carriage rail and main chassis		At replacement: 1. Apply grease to the sliding portions. [See 3-3. Adjustment / Settings, (3) Grease application , for details.]	- Service test print
Idler pulley parallel pin			
Easy-Scroll Wheel base			
APP code wheel gear shaft			
Document pressure sheet		After replacement: 1. Confirm the document pressure plate sheet position. [See 3-3. Adjustment / Settings, (2) Document pressure sheet replacement , for details.]	- Service test print
Document bottom cover			
Scanner unit			
Panel board ass'y	- Be cautious not to scratch or damage the LCD cable.	At replacement: 1. Perform button and LCD test. [See 3-3. Adjustment / Settings, (6) Service mode , for details.]	- Service test print
LCD viewer unit			
Timing slit strip film	- Upon contact with the film, wipe the film with ethanol. - Confirm no grease is on the film. (Wipe off any grease thoroughly with ethanol.) - Do not bend the film	After replacement: 1. Perform print head alignment in the user mode. 2. Perform LF / Eject correction in the service mode. [See 3-3. Adjustment / Settings, (6) Service mode , for details.]	- EEPROM information print - Service test print
Timing slit disk feed film			
Timing slit disk eject film			
Print head		After replacement: 1. Perform print head alignment in the user mode.	- Service test print

***1: General notes:**

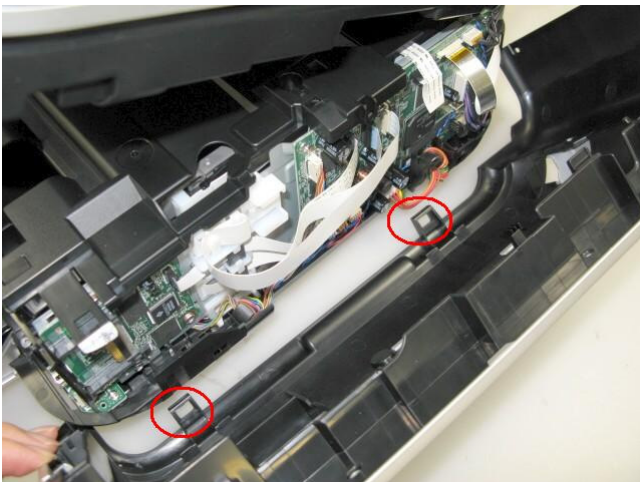
- Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly. See [3-2. Special Notes on Repair Servicing](#) or the Parts Catalog for details.
- Do not drop the ferrite core, which may cause damage.
- Protect electrical parts from damage due to static 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.
- For the MP630 / MP638 automatic print head alignment, use Matte Photo Paper (MP-101) to ensure alignment accuracy.
- 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.

3-2. Special Notes on Repair Servicing (Click on the image to enlarge it.)

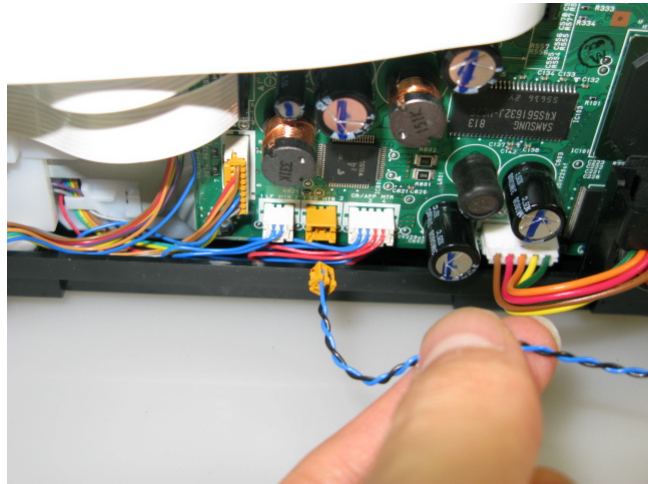
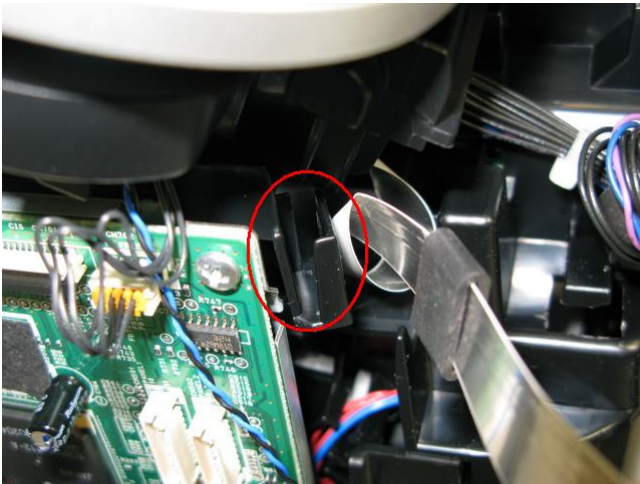
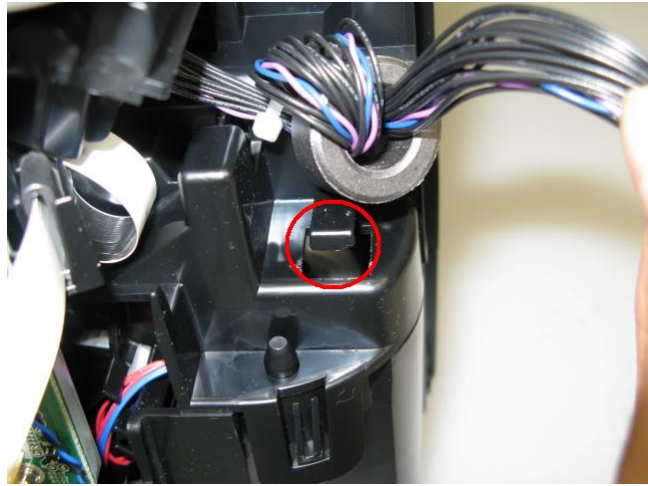
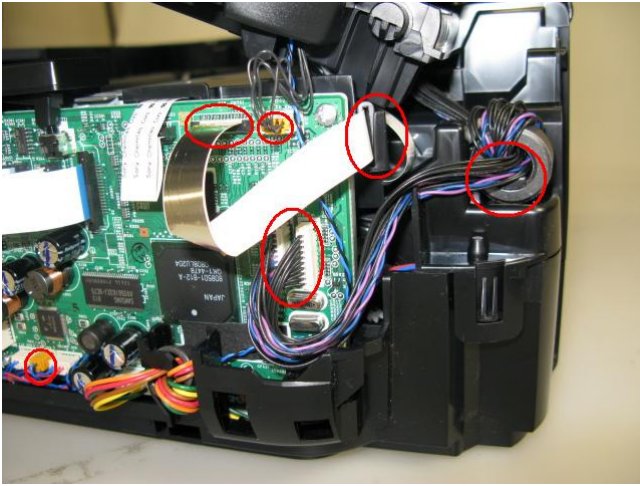
Be sure to protect the machine from static electricity in repair servicing, especially for the LCD, operation panel board, scanner unit, logic board, card board, IrDA board, and PE sensor board.

(1) External housing, scanner unit, and document cover removal

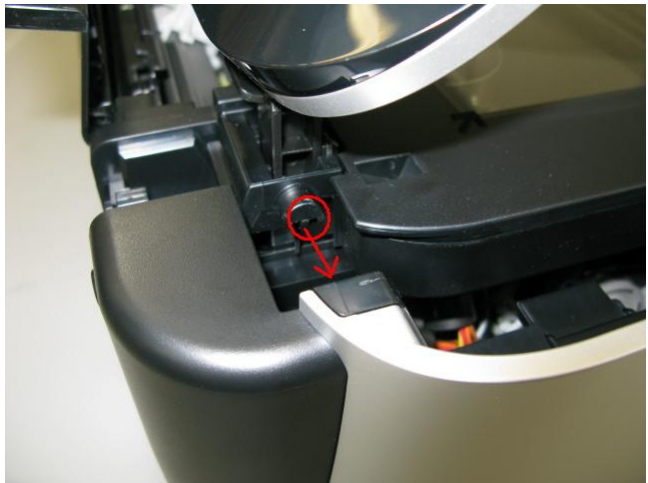
- 1) Remove the cassette.
- 2) Open the front door and scanner unit, then remove the side cover R (2 screws).
<The scanner unit hinges are fitted in the right and left side covers.>

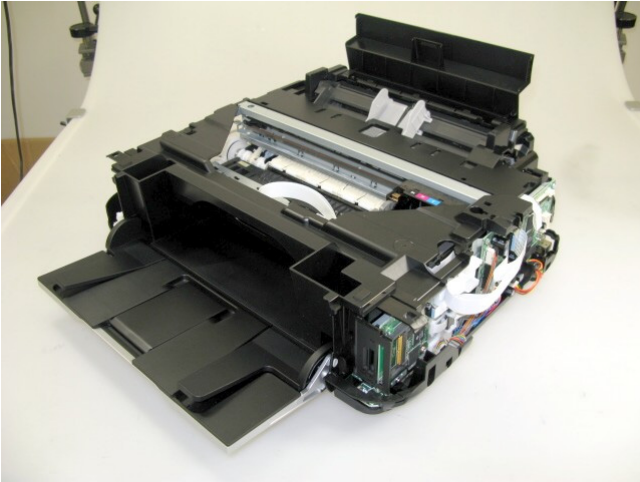
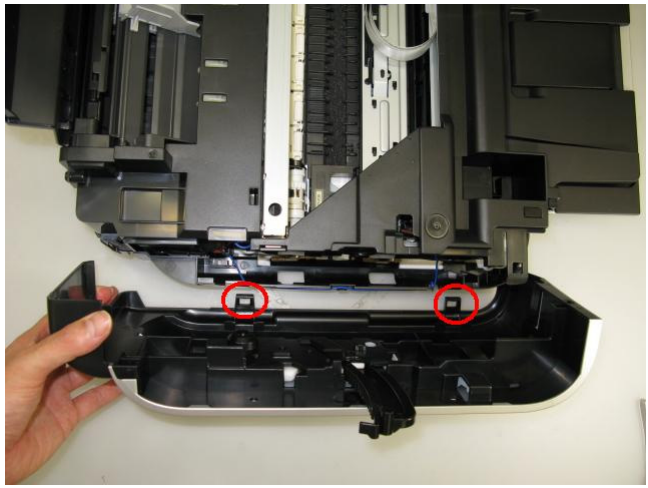


3) Remove the scanner cable, panel cable, FB encoder cable, and core.
<The core is fixed on the rib of the sub-case (back of the main case).>

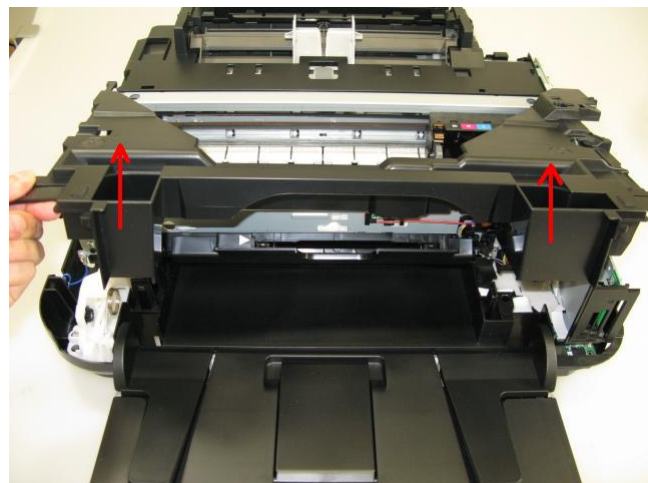
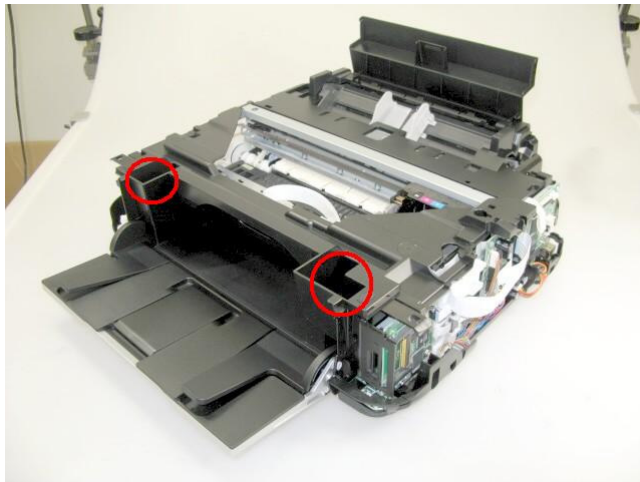


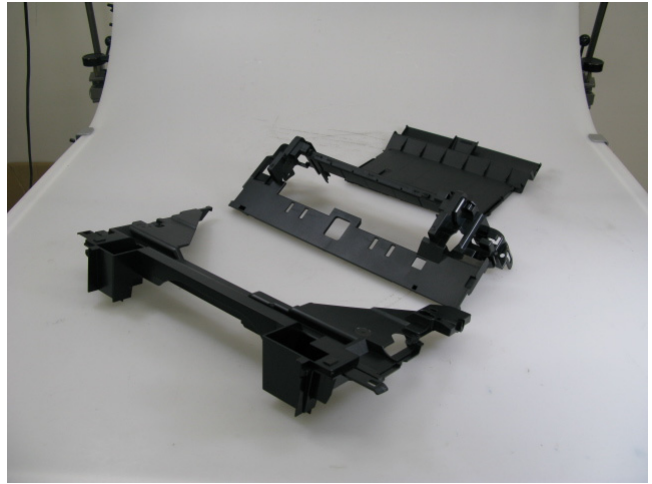
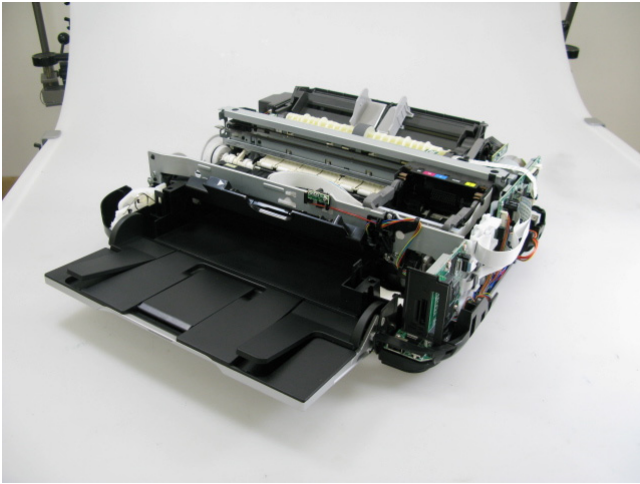
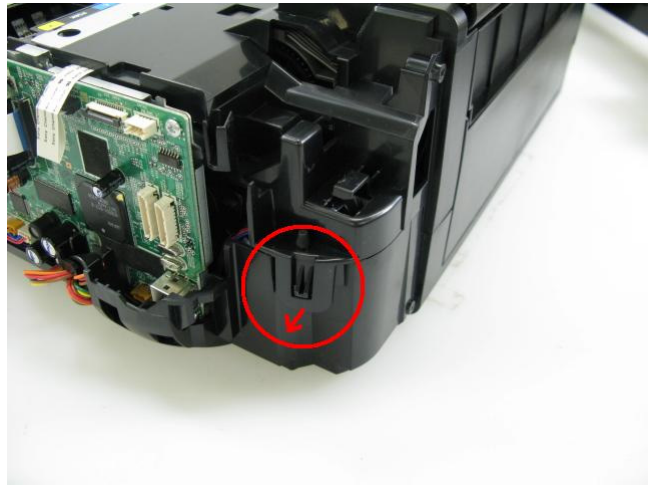
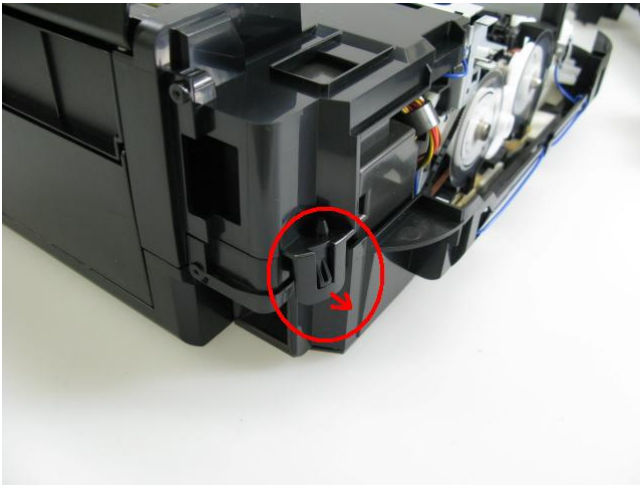
4) Remove the side cover L, scanner unit, then document pressure plate unit (2 screws).
<While holding the scanner unit, remove the side cover L, then disengage the scanner unit from the scanner support arm.>





5) Remove the main case and sub-case.



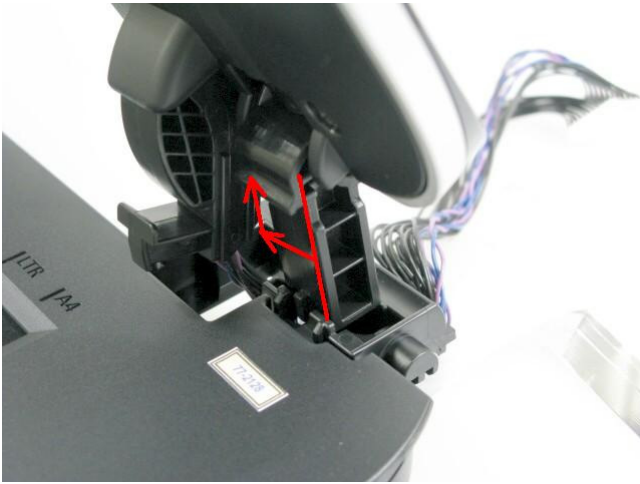


(2) Operation panel removal

1) Separate the document pressure plate from the scanner unit.

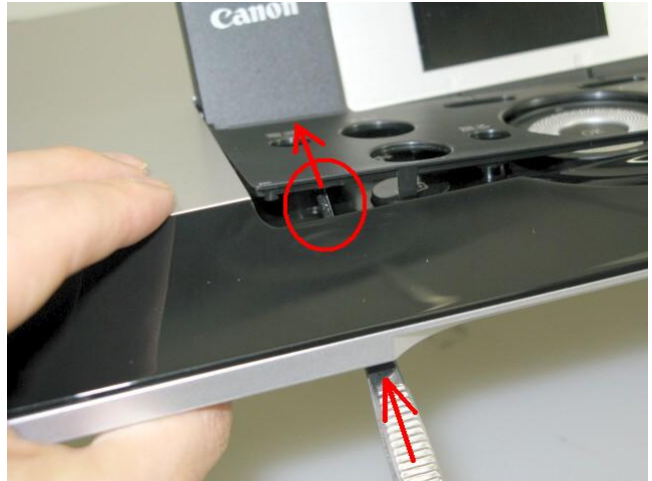
<While pushing the hinge edge inward, pull the plate upward to separate it from the scanner unit.>

<Remove the panel cable from the scanner unit. It will make it easier if the cable core is removed first.>



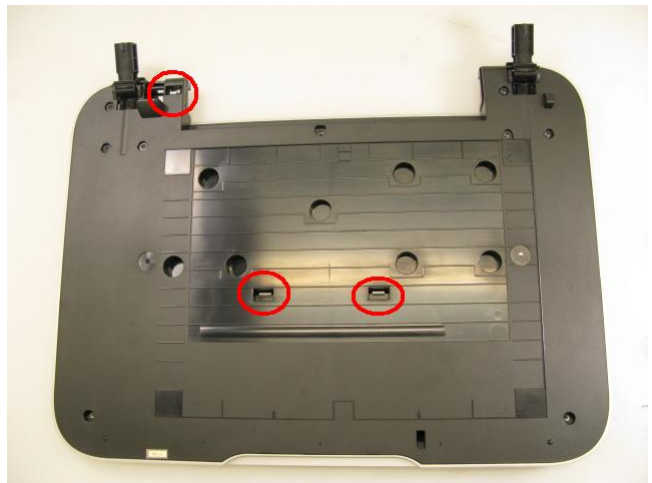
2) Remove the panel cover.

<Insert a pair of tweezers through into the hole in the bottom of the document pressure plate, and push the panel cover to release it from the plate base.>



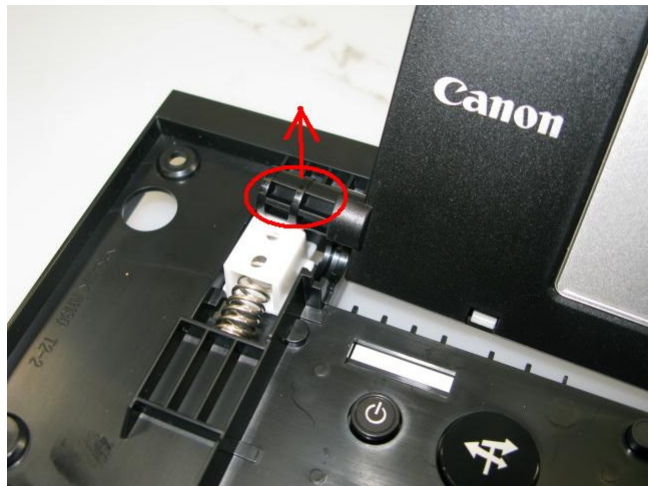
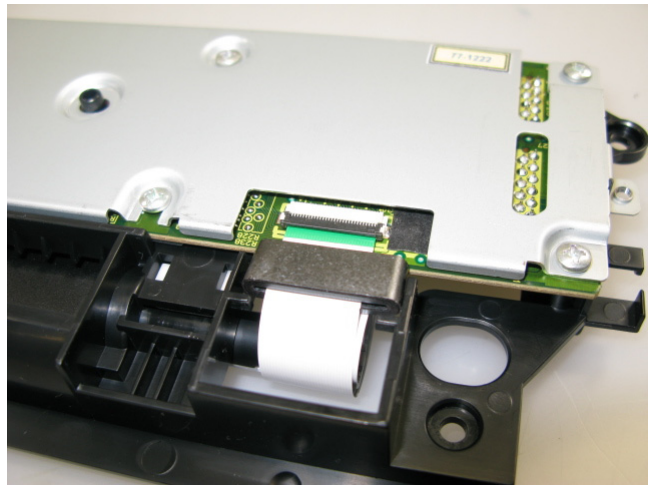
3) Remove the top cover from the base (9 screws).

<There are 2 claws at the center of the top cover where the document pressure sheet (sponge sheet) is attached.>

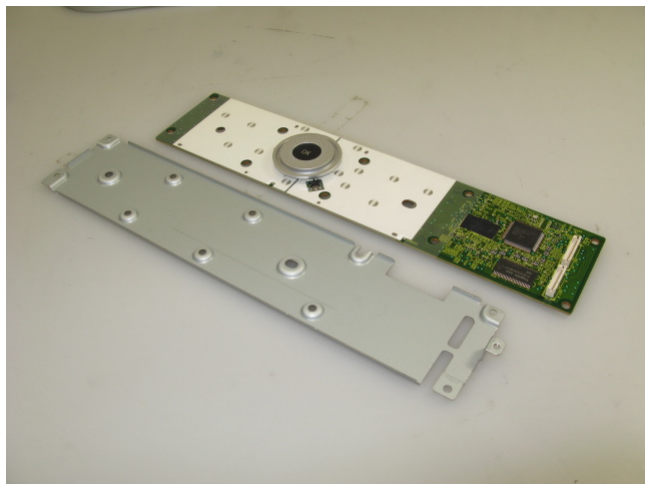
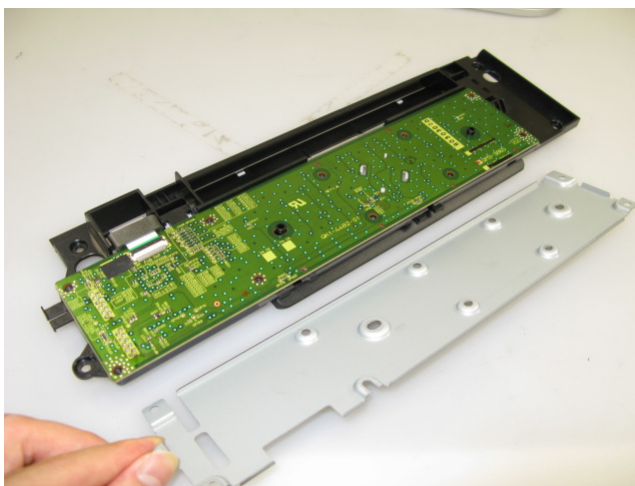
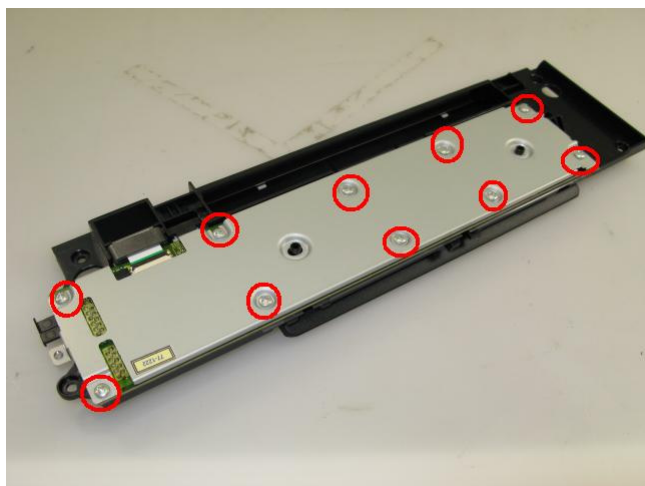


4) Remove the operation panel unit from the base (4 screws).

<For the hinge cable core position and cable layout, see the photos below. Use the longnose pliers in disengaging the hinge and in releasing the spring.>



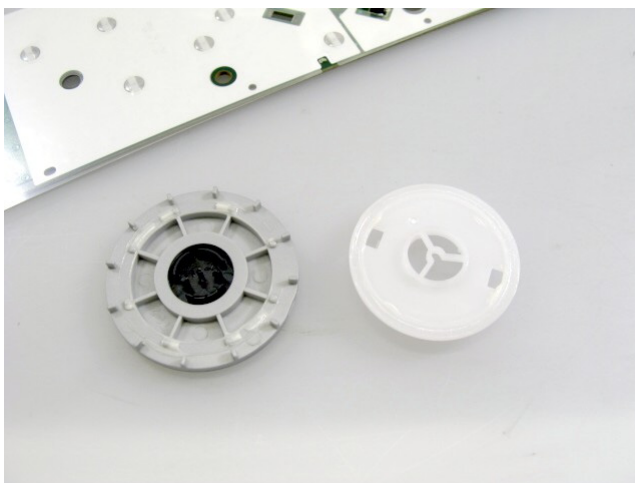
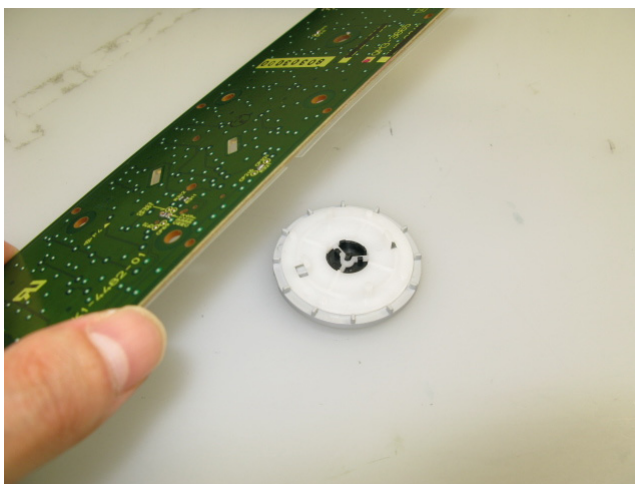
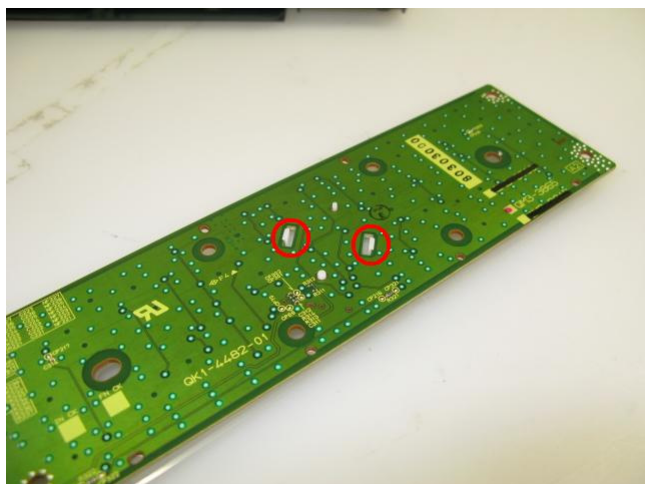
5) Remove the panel board (10 screws).



6) Remove the Easy-Scroll Wheel from the panel board.

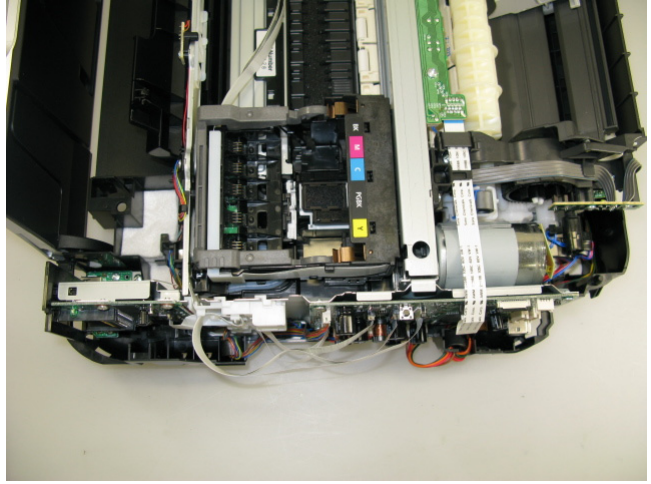
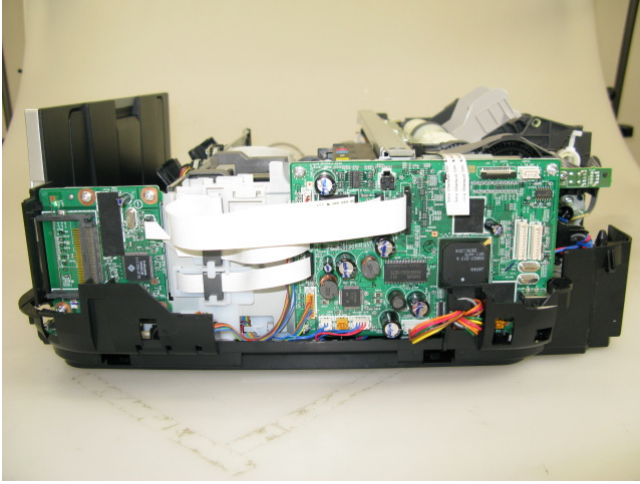
<Be cautious not to touch the grease between the wheel base and the wheel.>

See 3-3. [Adjustment / Settings](#), (3) [Grease application](#).

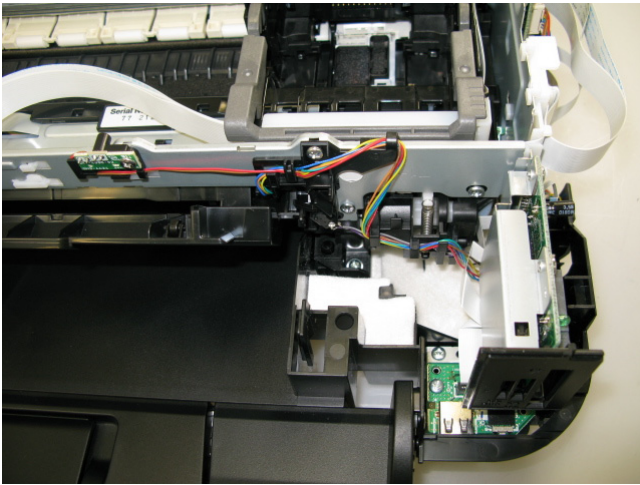


(3) Cable wiring and connection

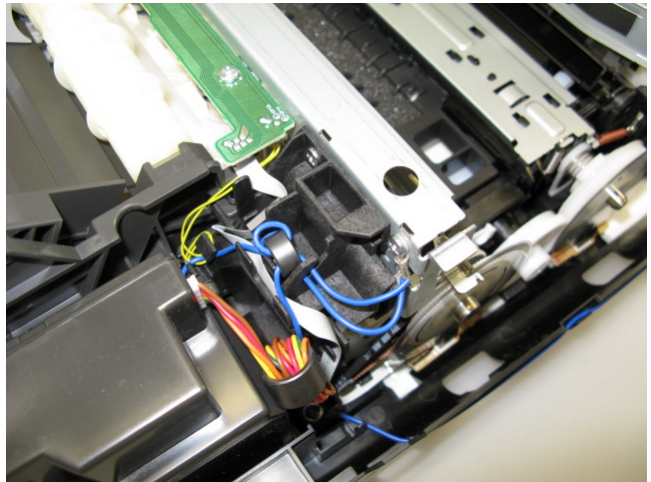
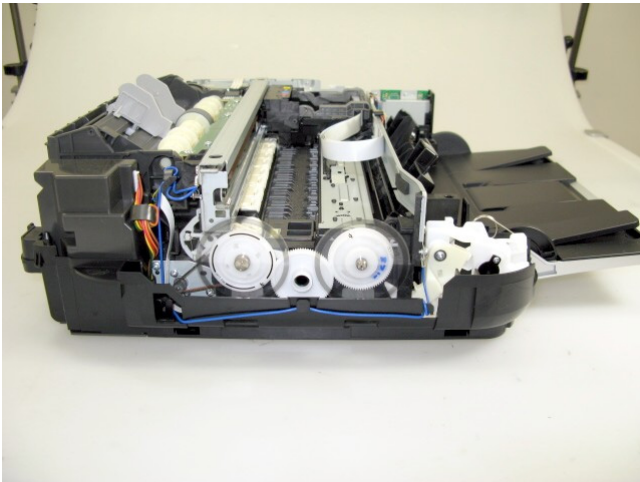
1) Wiring on the right side



2) Wiring of the ink sensor cable and the inner cover open sensor cable

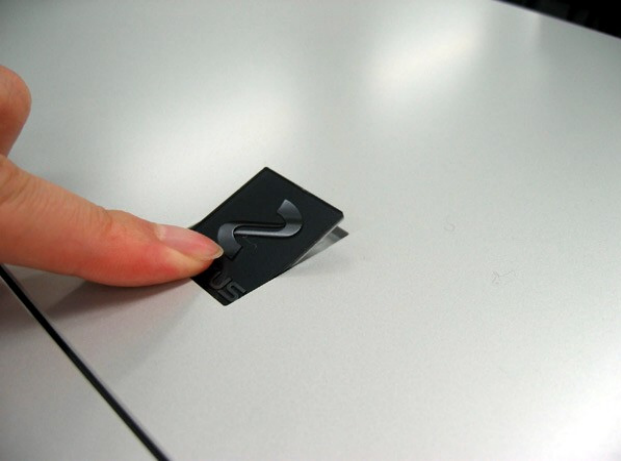


3) Wiring on the left side. Hook the ground cable on the side of the bottom case.



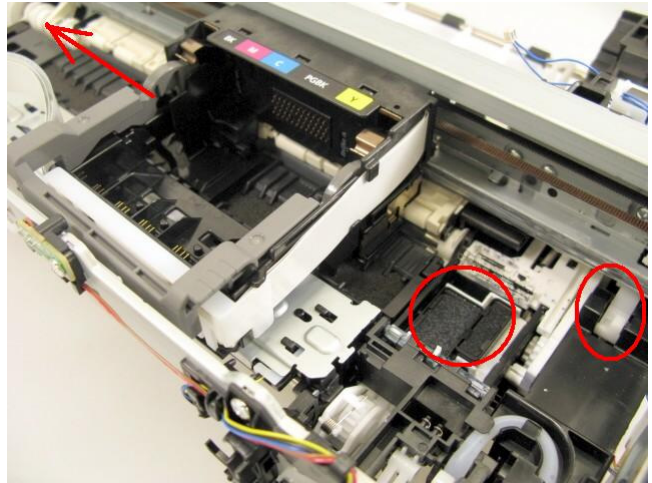
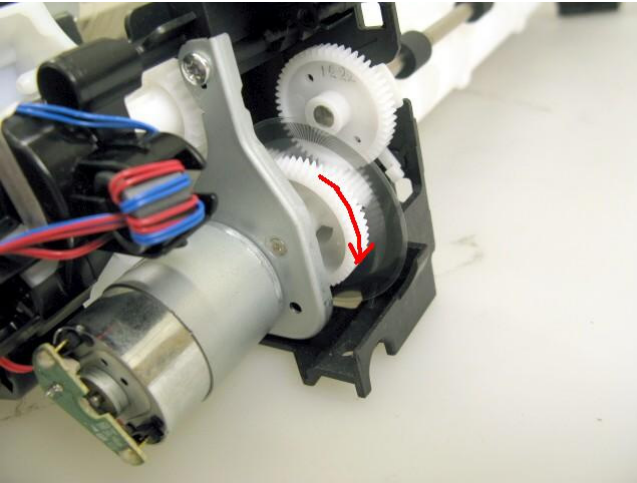
(4) Emblem removal

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



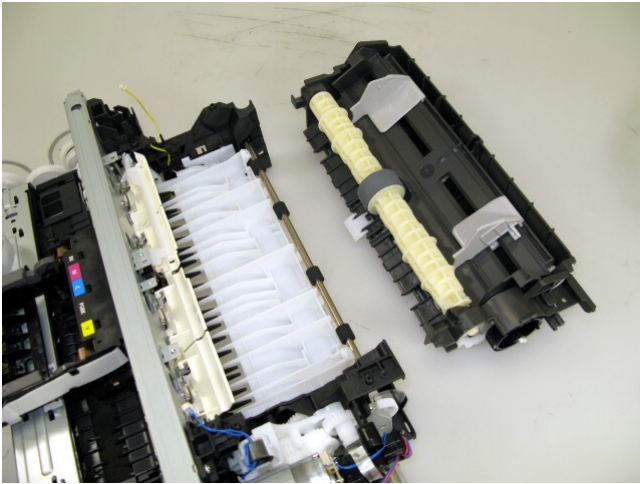
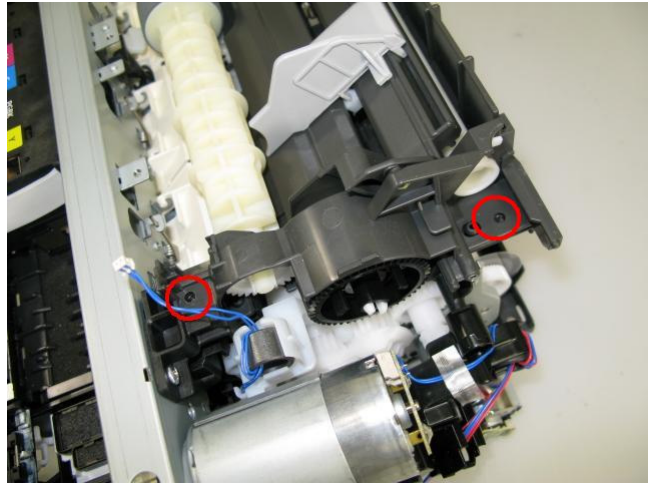
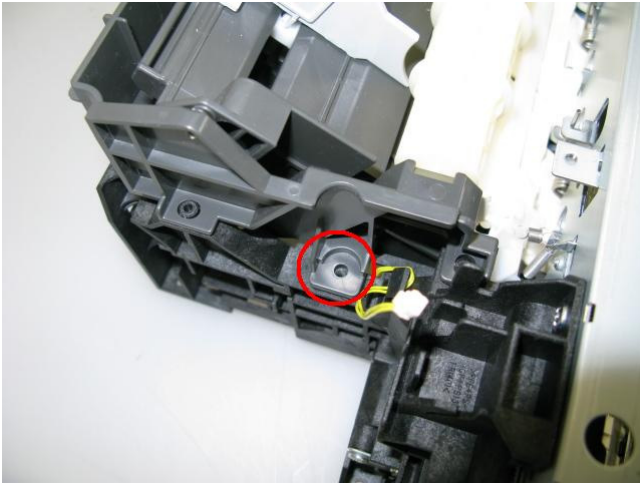
(5) Carriage unlocking, and ink absorber replacement

- 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).



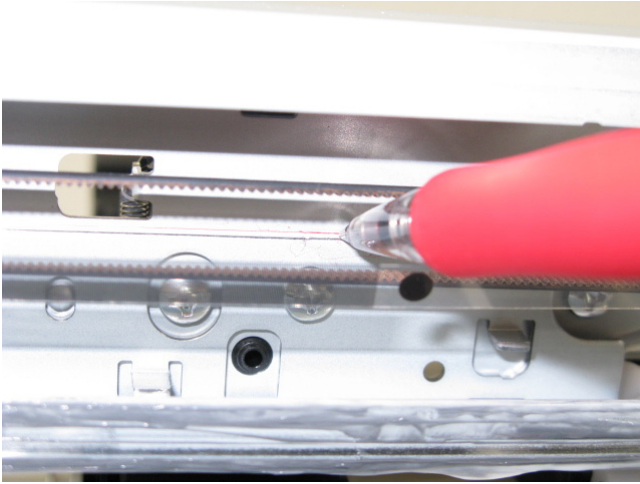
(6) ASF unit removal

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

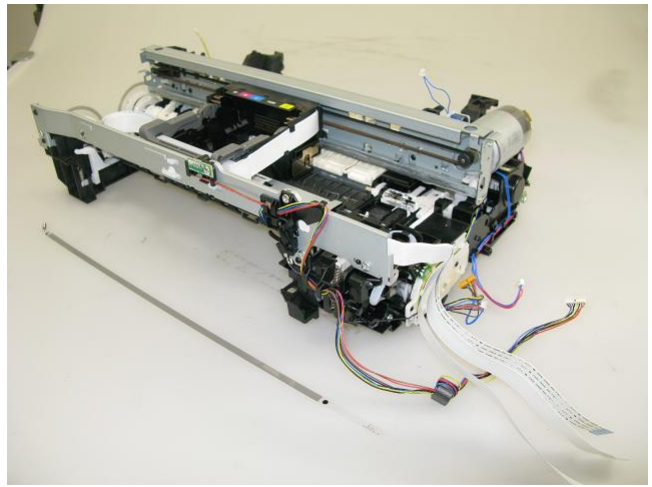
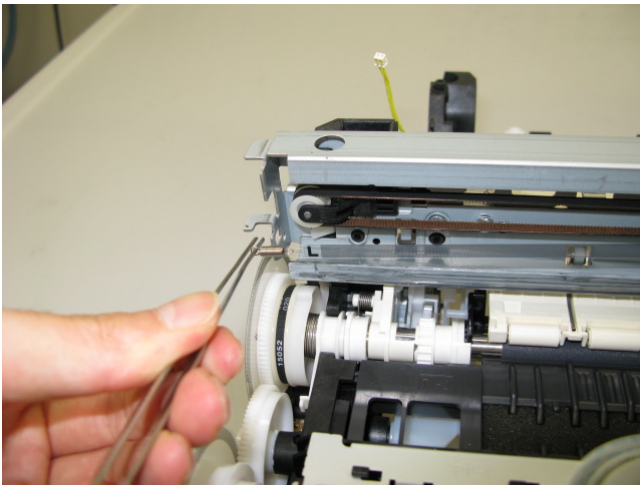


(7) Carriage unit removal

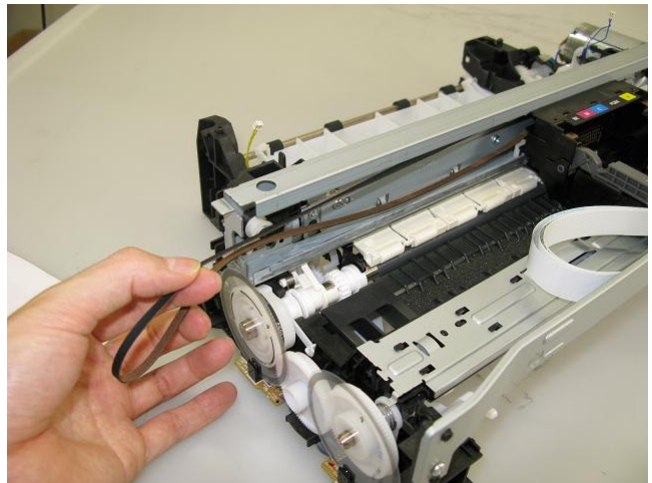
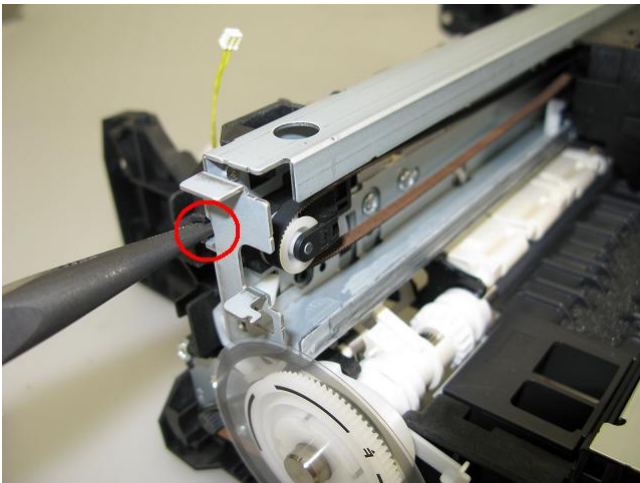
- 1) At first, on the main chassis, mark the positions of the screws that fix the carriage rail to the main chassis (3 points for each screw: the left, right, and center).



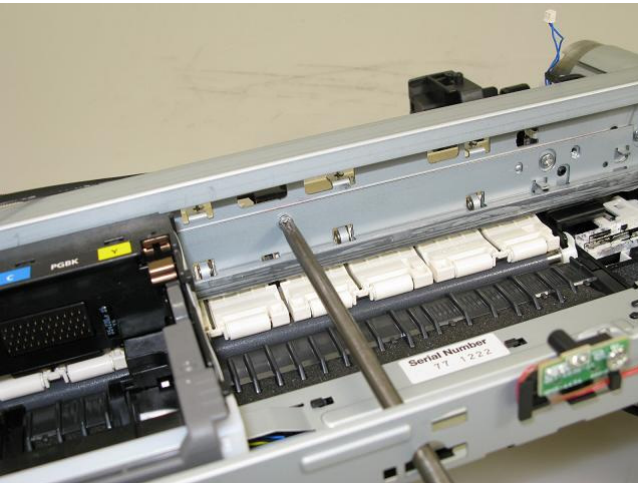
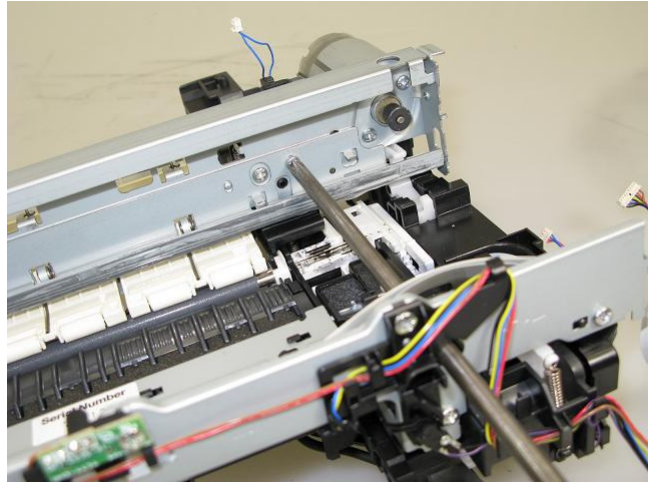
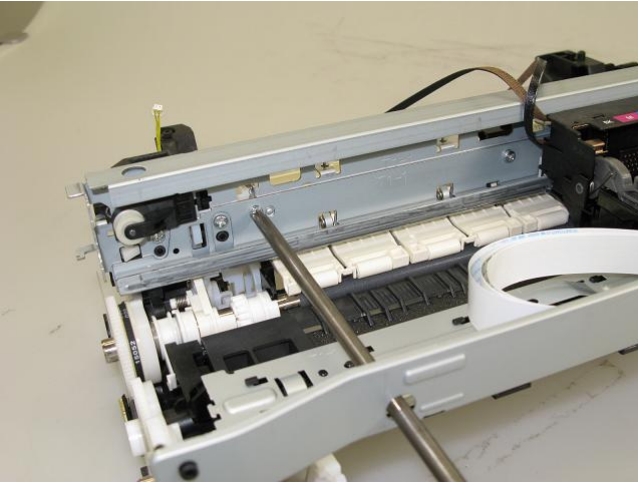
- 2) Remove the timing slit film. Be cautious to keep the film free from any grease or scratches.



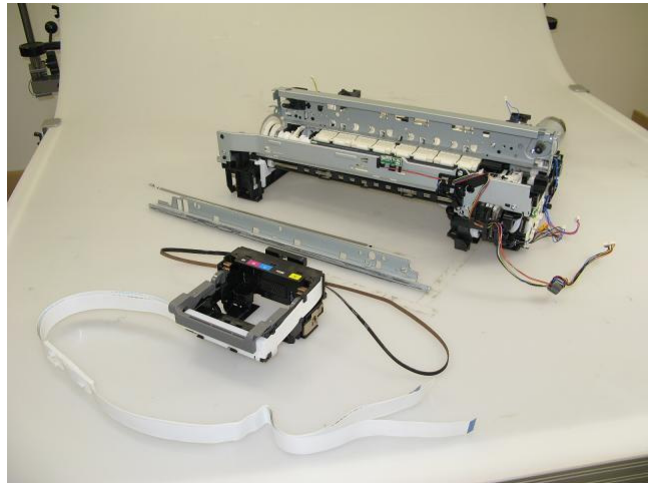
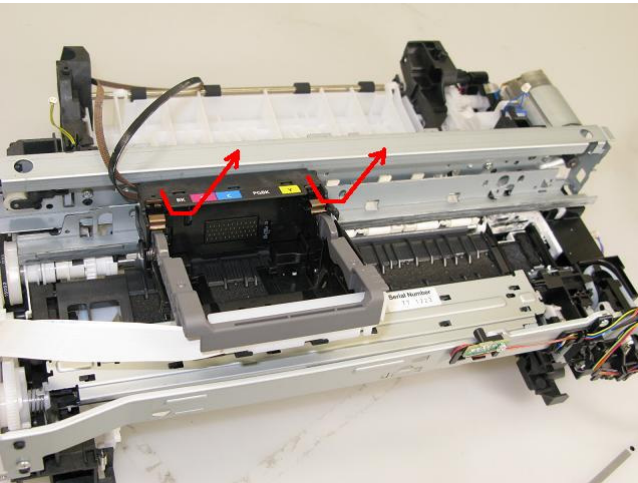
- 3) Using a longnose pliers, release the left end of the pulley holder spring, and remove the carriage belt. Be cautious to keep the belt free from any grease.



4) Remove 3 screws that fix the carriage rail to the main chassis. Before removing the center screw, remove the carriage cable holder from the front chassis. After the 3 screws are removed, slowly put down the carriage rail.

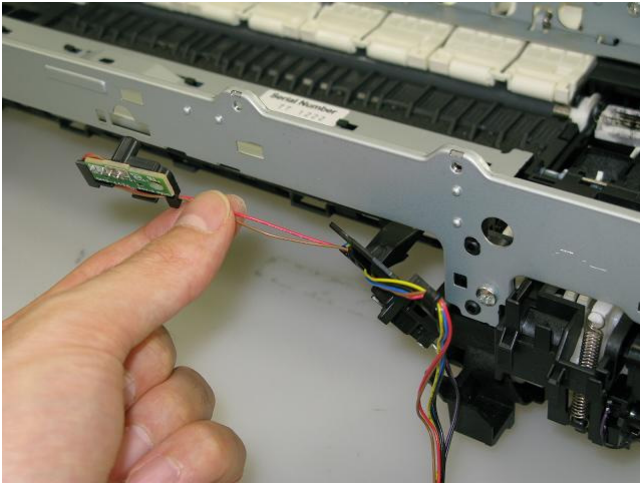


5) Remove the carriage unit. Be cautious that the grease will not attach to any parts.

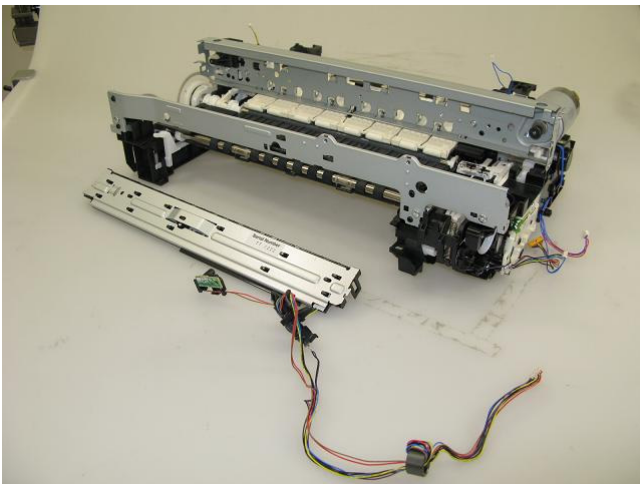
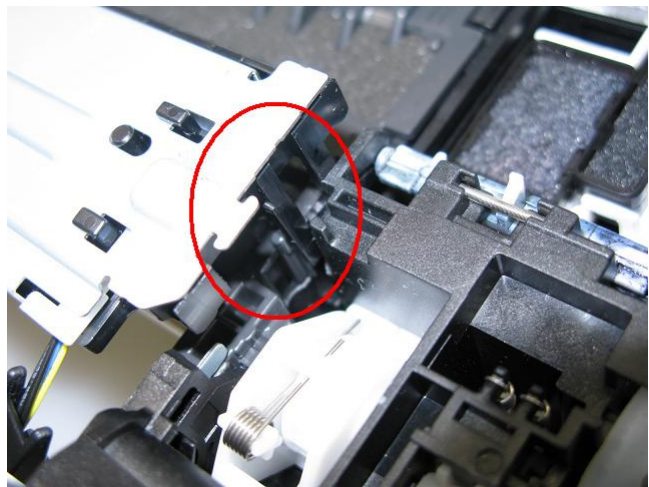
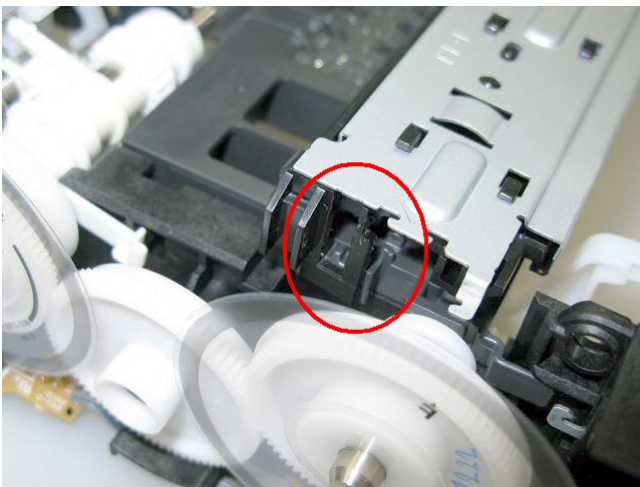


(8) Spur unit and platen unit removal

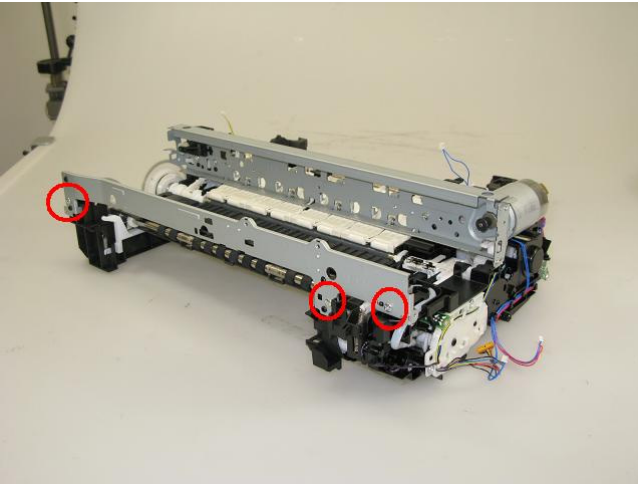
1) Remove the ink sensor and the inner cover sensor from the front chassis (1 screw each).



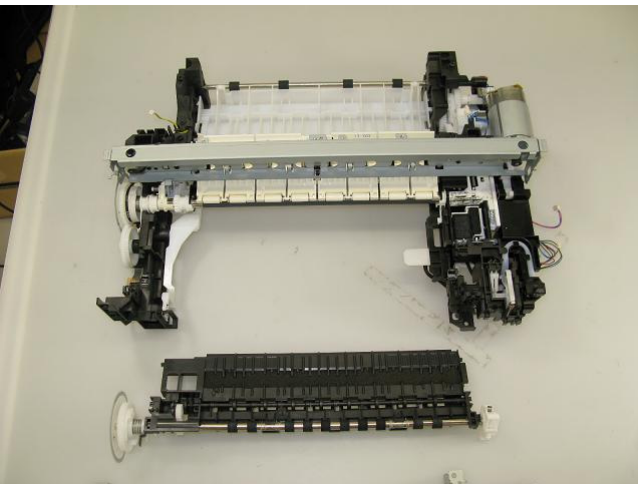
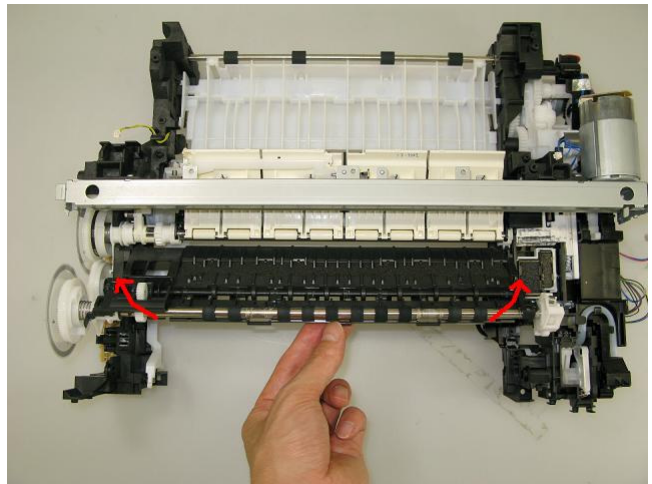
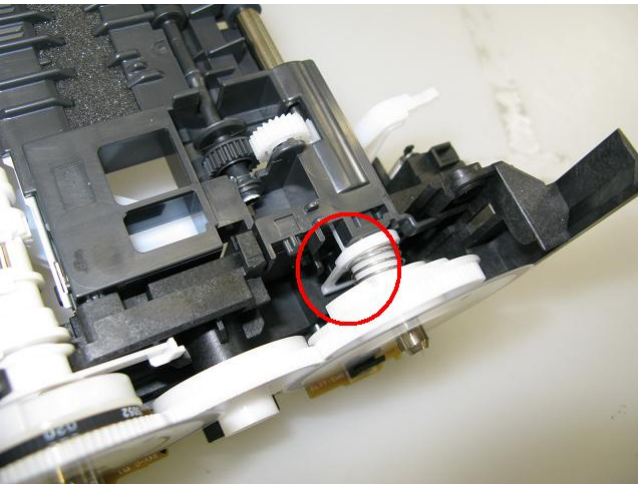
2) From the left and right sides of the spur unit, release the springs (2 on the left side, 1 on the right side). Then, slowly pull the spur unit upward to remove it from the platen unit.



3) Remove the front chassis (3 screws).

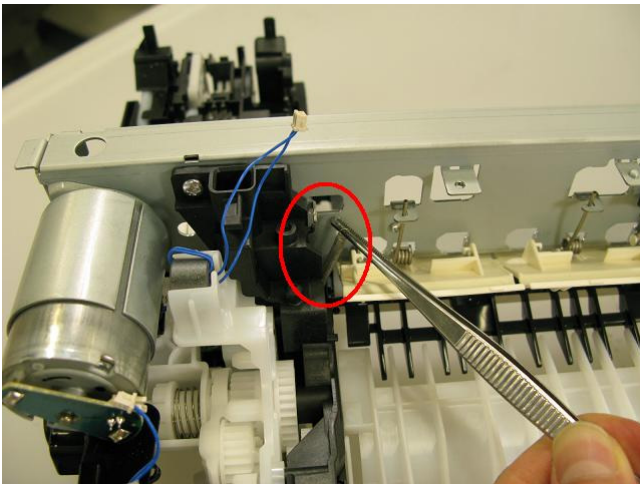
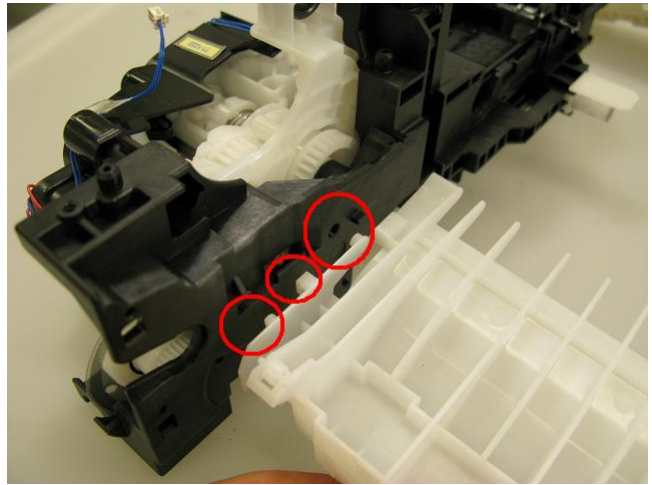
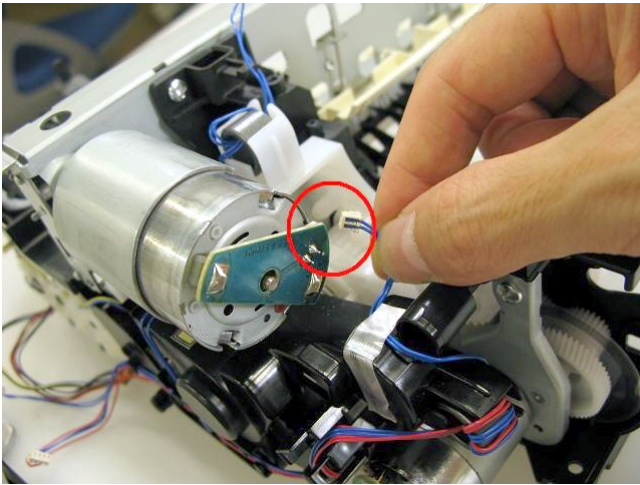
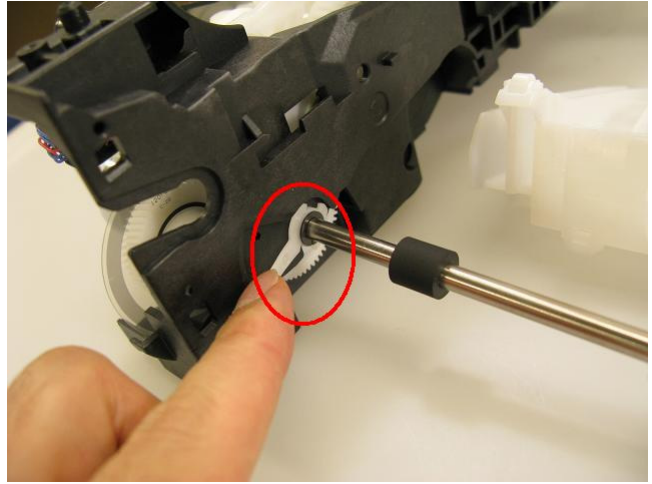
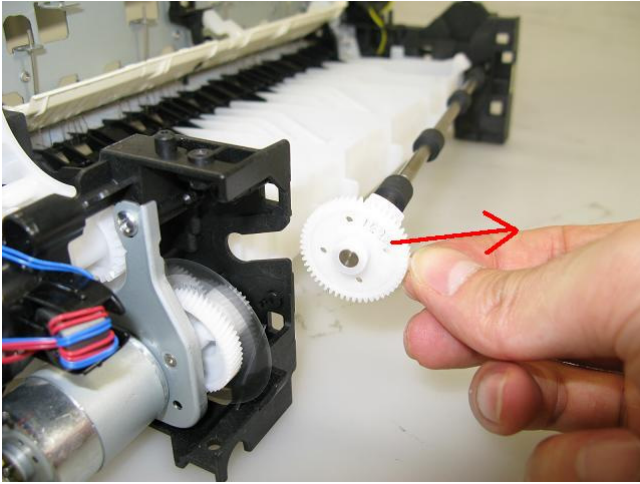


4) Unlock the paper eject roller gear. While raising the front of the platen unit, remove the platen unit from the printer unit.



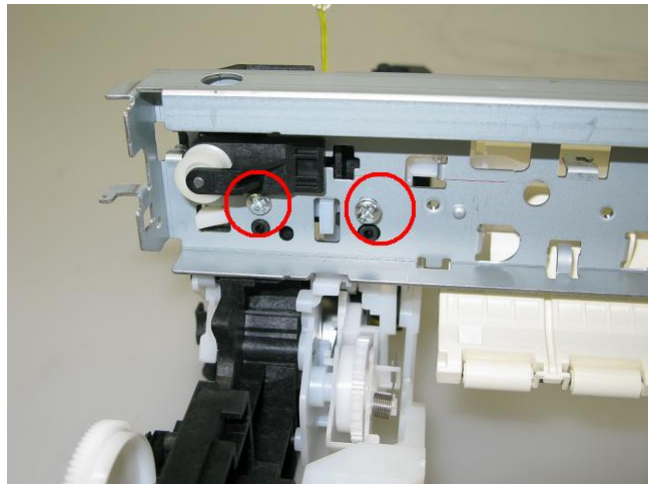
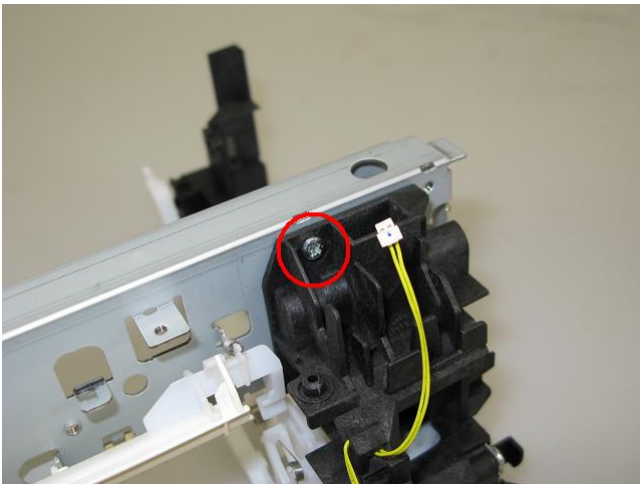
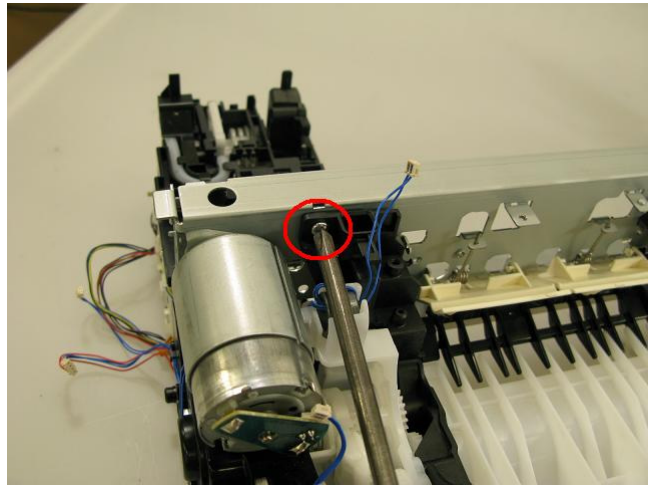
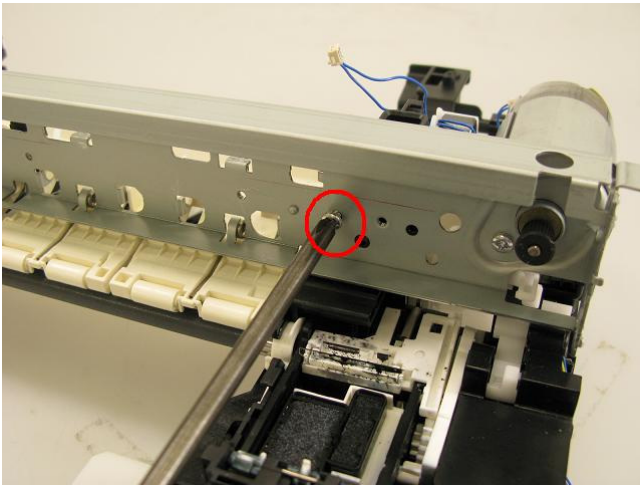
(9) Purge drive system unit (right plate) and switch system unit (left plate) removal

- 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.)

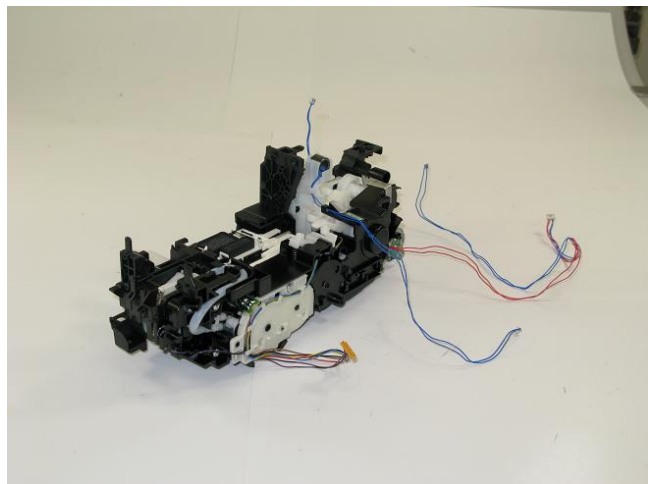
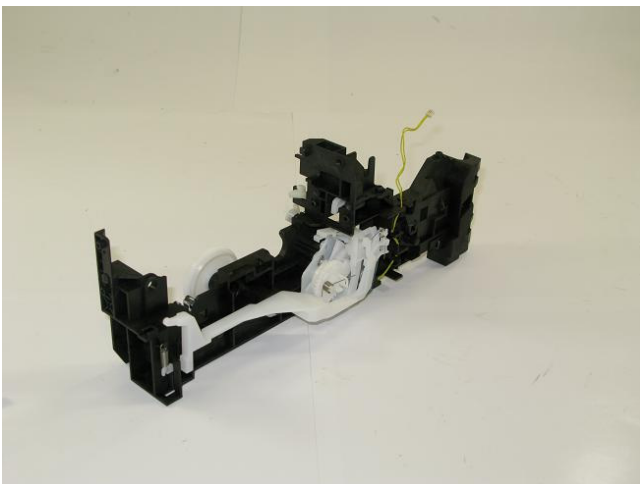


2) Remove the pressure roller springs (both the left and the right ones).

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.

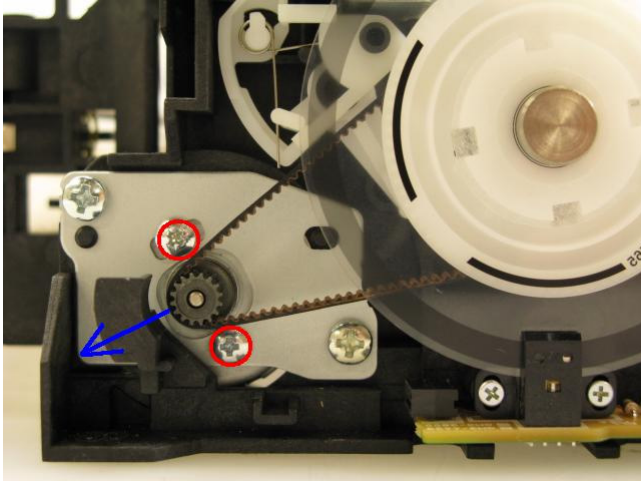


◀<3-2. Special Notes on Repair Servicing>▶ ▲

3-3. Adjustment / Settings

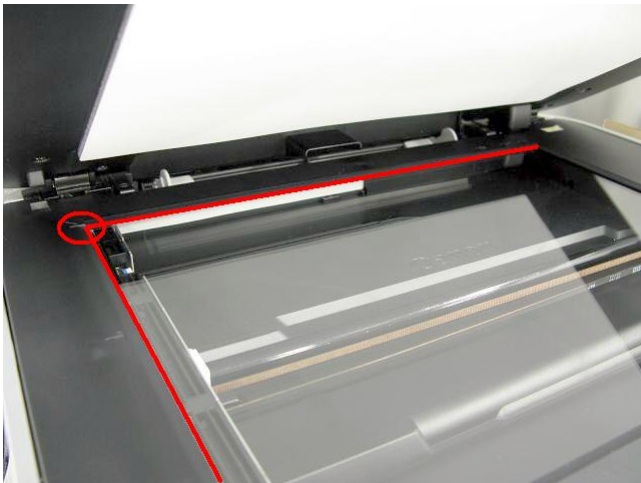
(1) Paper feed motor adjustment

- 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.

(2) Document pressure sheet (sponge sheet) replacement



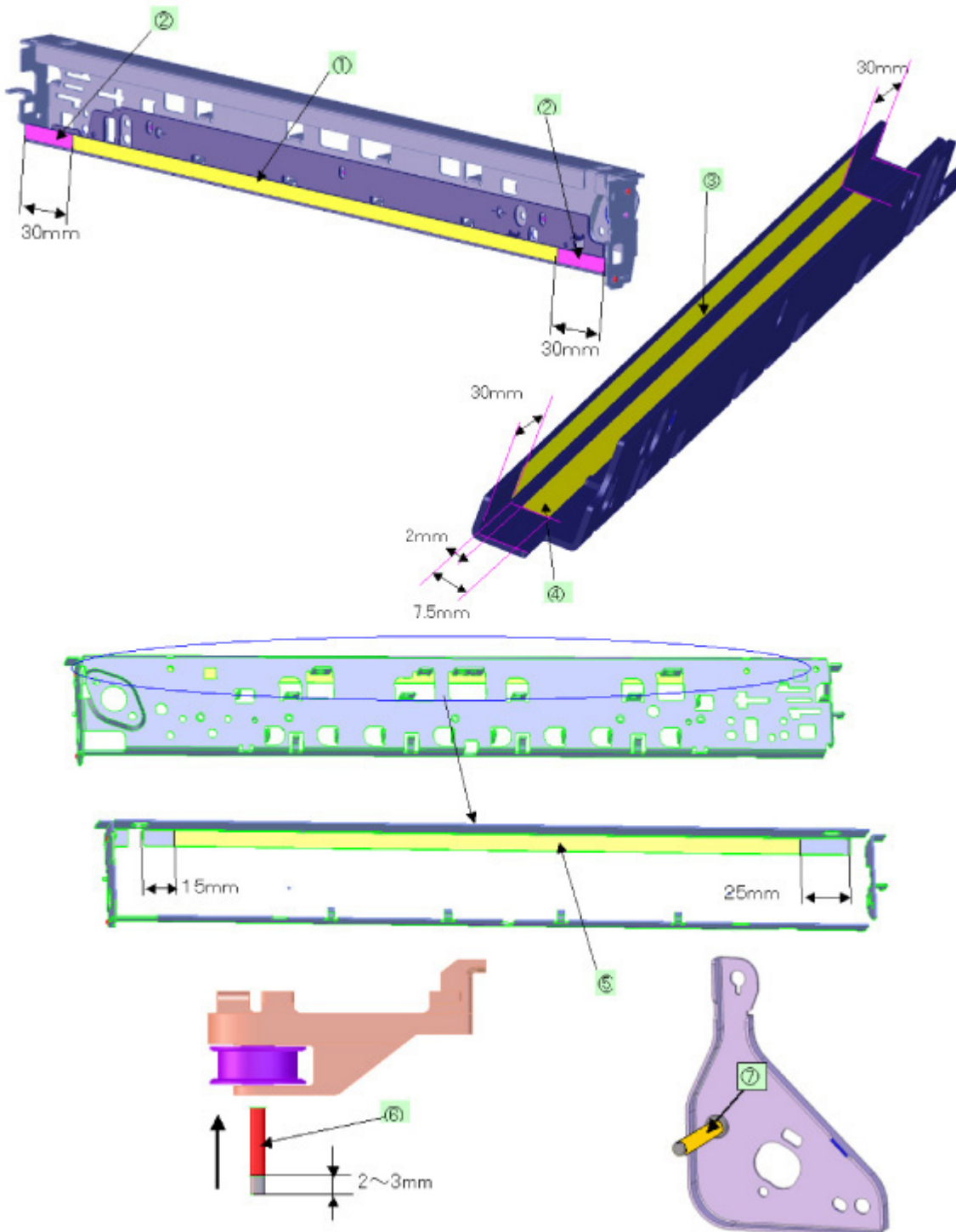
- 1) Peel off the cover sheet from the double-sided adhesive tape on the back of the document pressure sheet.
With the long-side down, position the upper-left corner of the document pressure sheet at the scanning reference point on the platen glass (back left where the red lines cross in the photo above).
- 2) Slowly close the document pressure plate while maintaining the hinge position. The document pressure sheet will attach to the plate.
- 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.

(3) Grease application

1) Printer unit

No	Part name	Where to apply grease / oil	Drawing No.	Grease	Grease amount (mg)	Number of drops x locations
1	Carriage rail	The surface where the carriage unit slides	(1)	Floil KG107A	270 to 330	---
2	Carriage rail	The surface where the carriage unit slides	(2)	Floil KG107A	18 to 36	1 x 2
3	Carriage rail	The surface where the carriage unit slides	(3)	Floil KG107A	360 to 440	---
4	Carriage rail	The surface where the carriage unit slides	(4)	Floil KG107A	360 to 440	---
5	Main chassis	The surface where the carriage unit slides	(5)	Floil KG107A	230 to 290	---
6	Parallel pin	The pin surface which contacts the idler pulley hole	(6)	Floil KG107A	9 to 18	1 x 1
7	APP code wheel gear shaft	APP code wheel gear sliding portion (the entire surface)	(7)	Floil KG107A	9 to 18	1 x 1

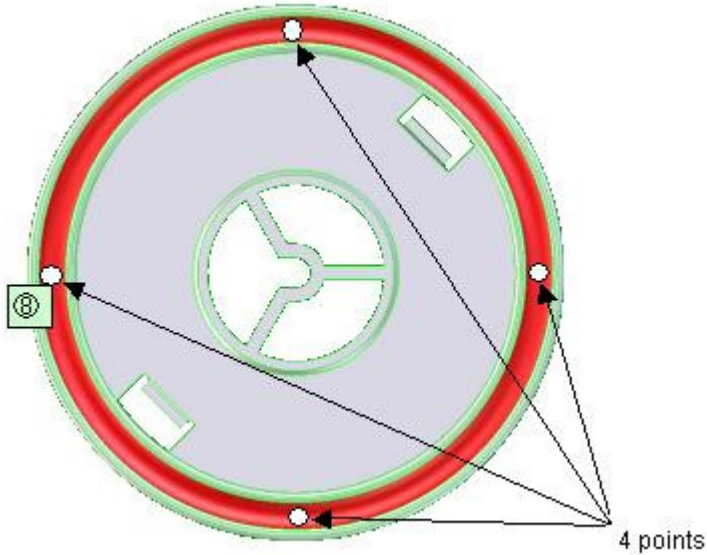
1 drop = 9 to 18 mg



2) Operation panel / Easy-Scroll Wheel

No	Part name	Where to apply grease / oil	Drawing No.	Grease	Grease amount (mg)	Number of drops x locations
8	Easy-Scroll Wheel base	Easy-Scroll Wheel sliding portions	(8)	Floil KG107A	9 to 18	---

1 drop = 9 to 18 mg



(4) 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 [3-3. Adjustment / Settings, \(6\) Service mode, "Ink absorber counter setting."](#)

◀ <3-3. Adjustment / Settings, (1) to (4)> ▶ ▲

(5) 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	- Cleaning both Black and Color: Perform via the machine operation panel. - Cleaning Black or Color separately, or both Black and Color: Perform from the MP driver Maintenance tab.	Unclogging of the print head nozzles, and maintenance to keep the print head conditions good. If there is a missing portion or white streaks in the nozzle check pattern printout, perform this cleaning.
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 A4 Matte Photo Paper (MP-101) in the rear tray. If automatic 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.	Cleaning of the platen ribs when the back side of paper gets smeared. 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)

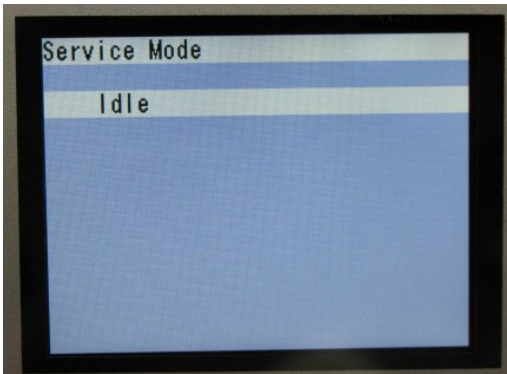
(6) Service mode

<Service mode operation procedures>

Use the Service Tool on the connected computer.

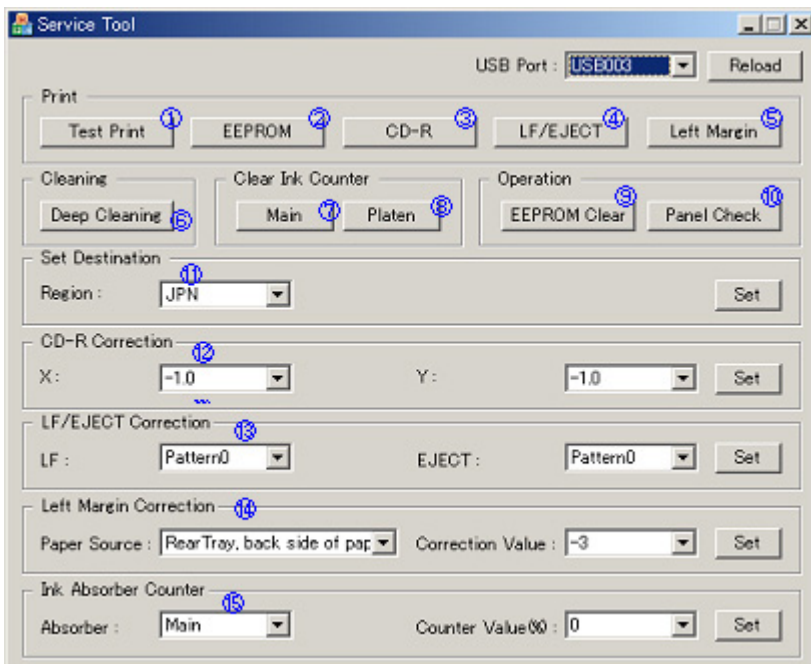
- 1) Start the machine in the service mode.
 - i. With the machine power turned off, while pressing the Stop button, press and hold the ON button. (DO NOT release the buttons.)
 - ii. When the Power LED lights in green, while holding the ON button, release the Stop button. (DO NOT release the ON button.)
 - 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.

<Service Tool functions>



No.	Name	Function	Remarks
(1)	Test Print	Service test print	Paper will feed from the rear tray. Service test print: - Model name - ROM version - Ink absorber counter value (ink amount in the ink absorber) - USB serial number - Destination - EEPROM information - Process inspection information - Barcode (model name + destination) - Ink system function check result - CD / DVD sensor check result
(2)	EEPROM	EEPROM information print	The dialog box opens to select the paper source. Select Rear tray or Cassette , and click OK . EEPROM information print: - Model name - ROM version - Ink absorber counter value (ink amount in the ink absorber) - Print information - Error information, etc.
(3)	CD-R	CD-R check pattern print	For refurbishment use. Not used in servicing.
(4)	LF / Eject	LF / Eject correction pattern print	See " LF / Eject correction " below.
(5)	Left Margin	Left margin pattern print	Not used.
(6)	Deep Cleaning	Print head deep cleaning	Cleaning of both Black and Color at the same time
(7)	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.
(8)	Platen	Platen ink absorber counter resetting	Not used.
(9)	EEPROM Clear	EEPROM initialization	The following items are NOT initialized, and the shipment arrival flag is not on: - USB serial number - Destination settings - Record of ink absorber counter resetting and setting - Record of repair at the production site - CD / DVD print position correction value - LF / Eject correction values - Left margin correction value - Production site E-MIP correction value and enabling of it - Endurance correction value and enabling of it - Record of disabling the function to detect the remaining ink amount - Ink absorber counter value (ink amount in the ink absorber)
(10)	Panel Check	Button and LCD test	See " Button and LCD test " below.
(11)	Set Destination	Destination settings	Select the destination, and click OK . ASA, AUS, BRA, CHN, CND, EUR, JPN, KOR, LTN, TWN, USA
(12)	CD-R Correction	CD / DVD print position correction (X and Y direction)	Also for printing of the CD / DVD check pattern in refurbishment operation. The reference center in the X direction and in the Y direction can be adjusted respectively. (Adjustable range between -1.0 mm to +1.0 mm, in 0.1 mm increment)
(13)	LF / EJECT Correction	LF / Eject correction value setting	See " LF / Eject correction " below.
(14)	Left Margin Correction	Left margin correction value setting	Not used.
(15)	Ink Absorber Counter	Ink absorber counter setting	See " Ink absorber counter setting " below.

<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.

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 paper will be used for the pattern printing.

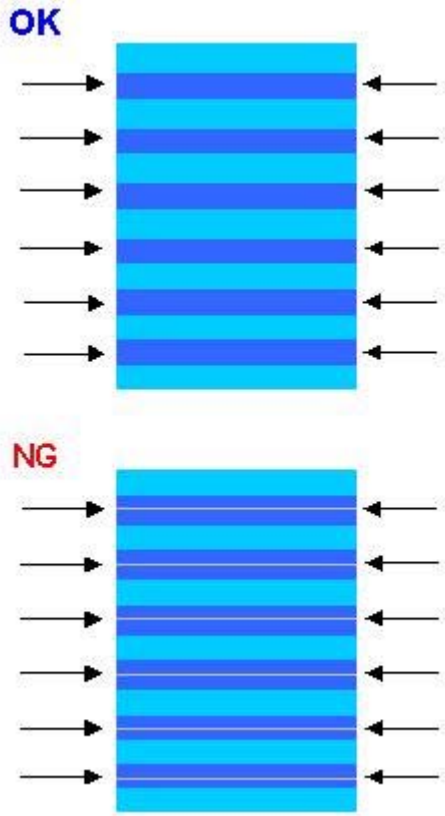
- Paper source: Select either **Rear tray** or **Cassette**.

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

2) When printing is finished, the machine returns to be ready for selection of another function ("Service Mode Idle" is displayed on the LCD).

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) 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).

<Button and LCD test>

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

- 1) Click **Panel Check** of the Service Tool on the connected computer. The machine LCD turns blue, waiting for a button to be pressed.
- 2) Press each button of the operation panel.
- 3) Only one button should be pressed at one time. 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.

The LCD is divided into 16 segments, representing each button. The color of a segment corresponding to the pressed button changes to red.

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

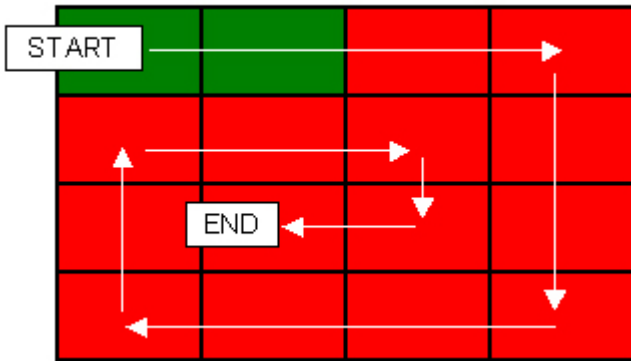
- | | |
|------------------------|---------------------------|
| 1. ON button | 11. NAVI button |
| 2. Back button | 12. HOME button |
| 3. OK button | 13. Left function button |
| 4. Up cursor button | 14. Right function button |
| 5. Down cursor button | 15. [+] button |
| 6. Left cursor button | 16.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

- 4) Rotate the Easy-Scroll Wheel clockwise and counterclockwise 1 round (16 steps) each, as follows:

- 4-1) Rotate the Easy-Scroll Wheel clockwise step by step. The LCD is divided into 16 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 (16 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.

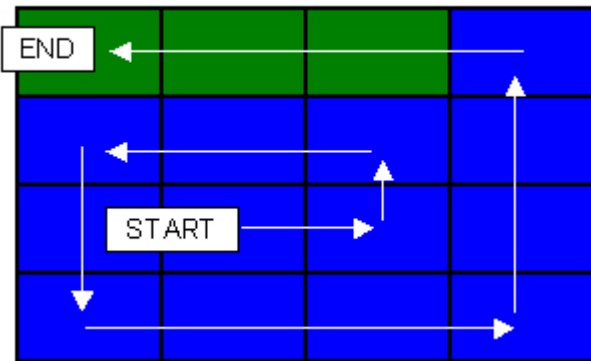


- 4-2) When the Easy-Scroll Wheel is rotated clockwise 1 round (16 steps), press the OK button.

4-3) Rotate the Easy-Scroll Wheel counterclockwise step by step. The LCD is divided into 16 segments, representing each step. The color of a segment corresponding to the step changes from green to blue.

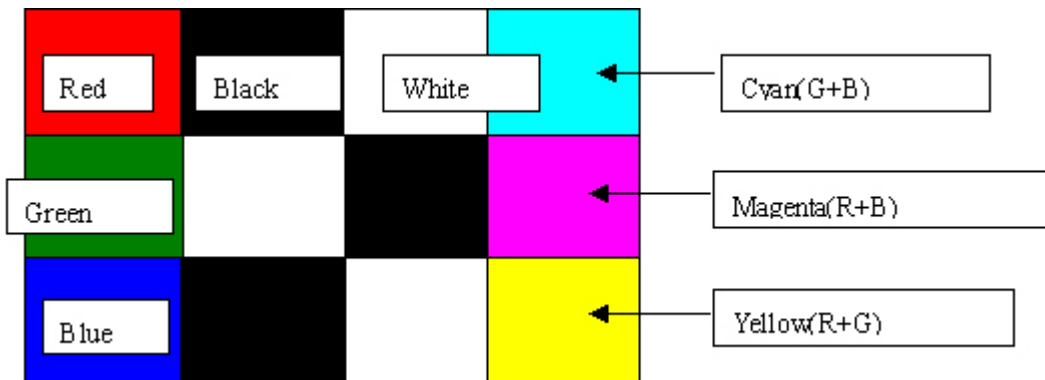
If the wheel is rotated clockwise before counterclockwise round completes, the color of segment(s) corresponding to the number of steps the wheel is rotated clockwise returns to green.

If the wheel keeps rotated counterclockwise over 1 round (16 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.



4-4) When the Easy-Scroll Wheel is rotated counterclockwise 1 round (16 steps, and all the segments are in blue), press the OK button. The color pattern is displayed on the LCD.

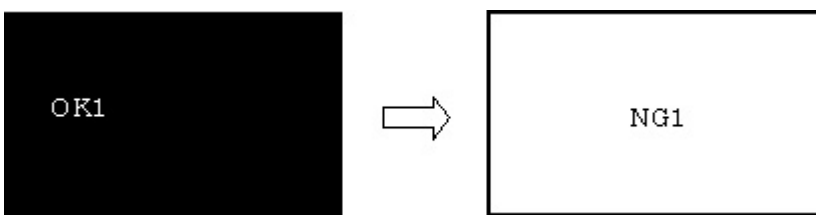
If there is any segment that is not in blue when the OK button is pressed, the display remains unchanged.



5) Adjust the transparent color and LCD flicker, as follows:

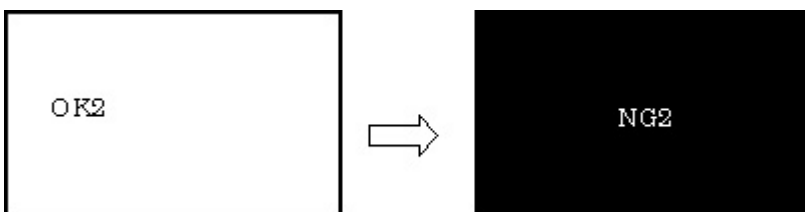
5-1) Press the OK button. "OK1" in white is displayed on the black background.

If the result is not good, "NG1" in black is displayed on the white background (transparent color) immediately after "OK1."



5-2) 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."



5-3) Press the OK button. The machine returns to be ready for selection of another function ("Service Mode Idle" is displayed on the LCD).

<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**.

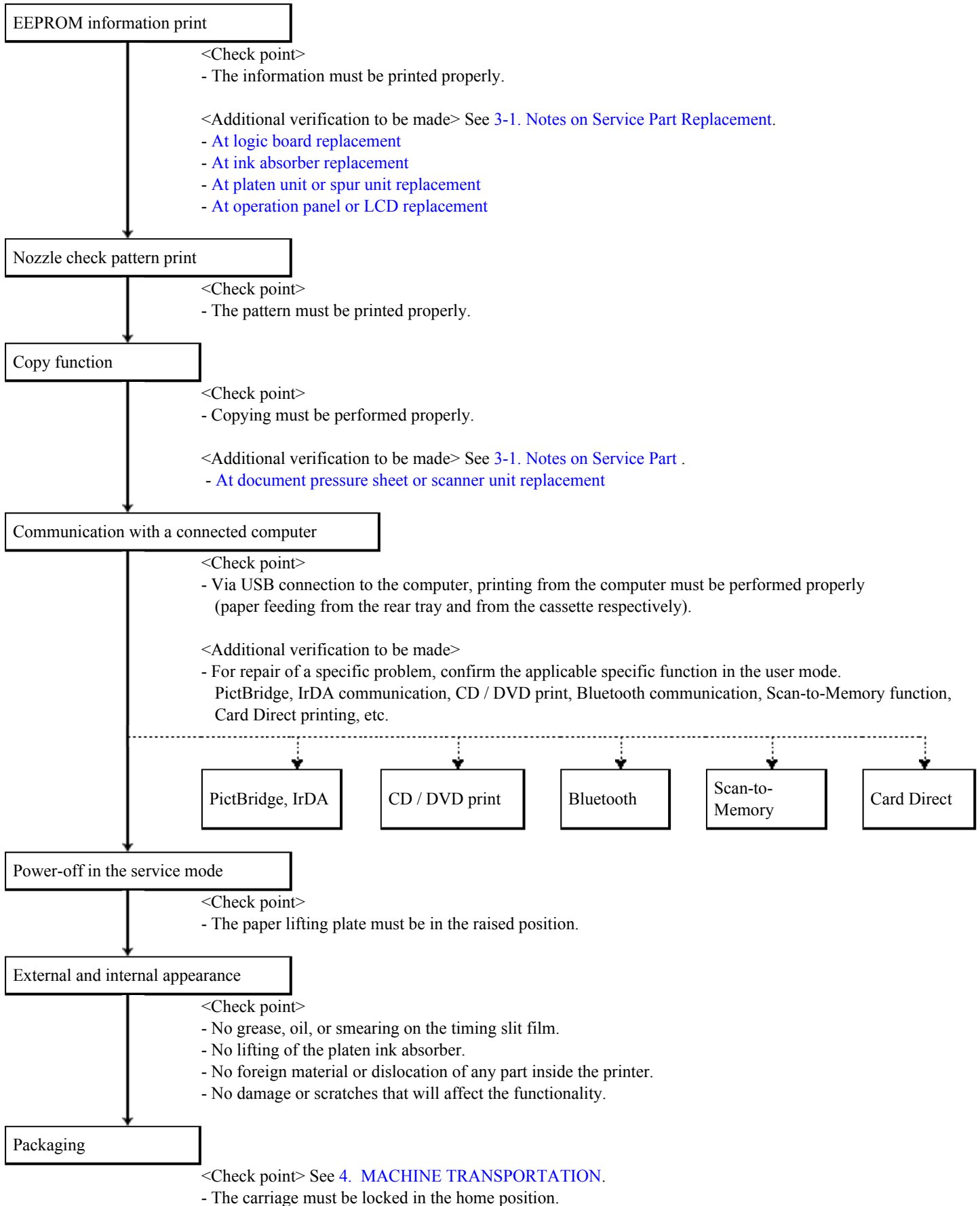
- 3) Print EEPROM information to confirm that the value is properly set to the EEPROM.

◀ <3-3. Adjustment / Settings, (5) and (6)> ▶ ▲

3-4. Verification After Repair

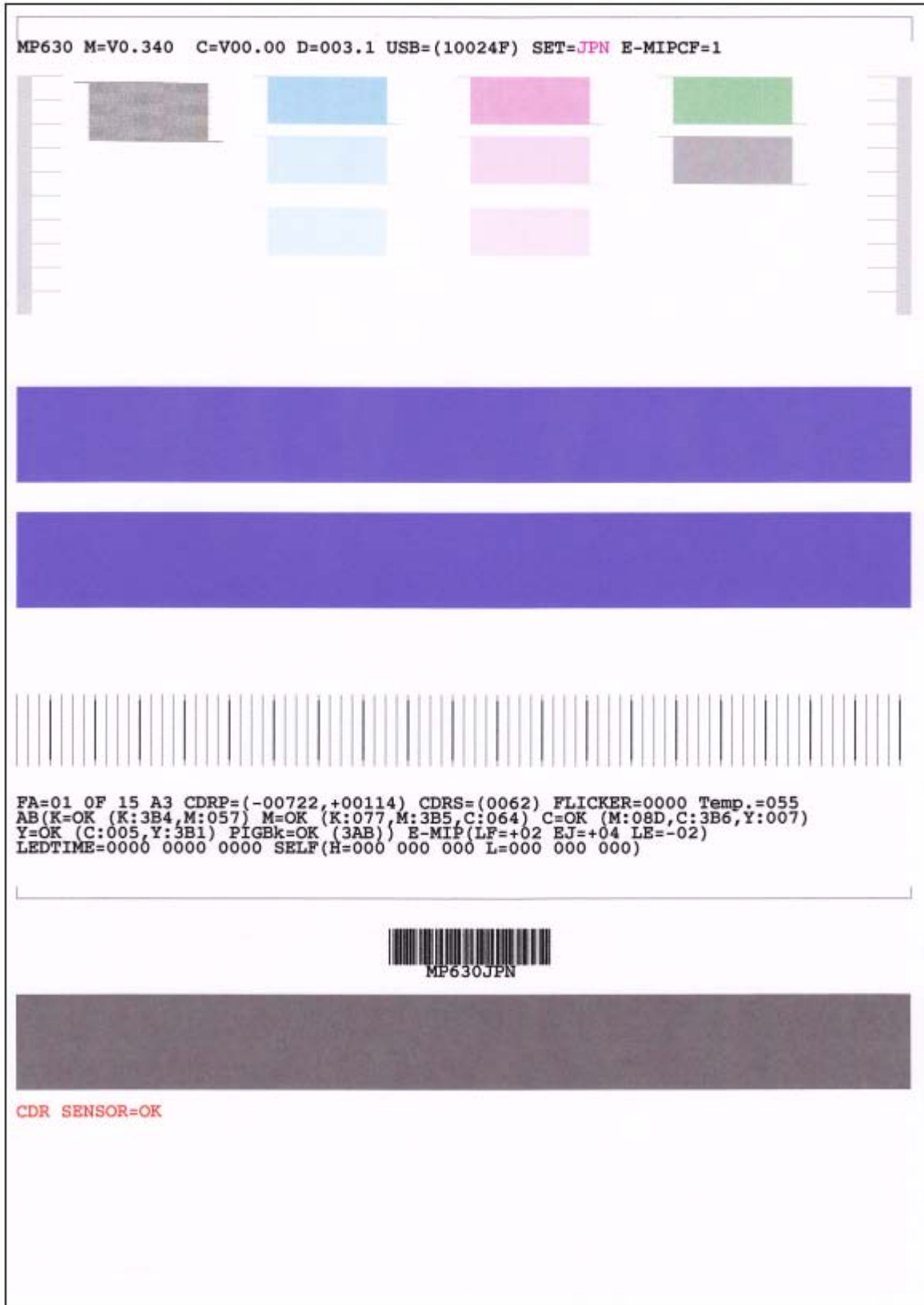
(1) Standard inspection flow

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>



(3) Ink absorber counter value print

<Print sample>

D=000.0

4. 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 to securely lock the carriage in the home position. (When the machine is turned off, the carriage is automatically 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.
-



- 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).
- If the packing material that fixed the carriage from the factory is still available, re-use it to fix the carriage (to prevent the carriage unlocked during transportation).

 <4. MACHINE TRANSPORTATION> 