MX850
Service Manual

Revision 0

QY8-13BR-000

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	None. Perform in the service mode.	1 min.
	Destination settings (EEPROM settings)	- At logic board replacement	To set destination.	None. 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.	None. 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.	None. 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.	20 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.	None. 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.	10 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.	13 min.
	Grease application	- At carriage unit replacement - At lift cam replacement - To gears - At Easy-Scroll Wheel replacement	To maintain sliding properties of the following items: - Carriage shaft - Lift cam bushing - Machine sliding portions (gears) - Wheel base	FLOIL KG-107A	1 min.
	Ink system function check	- At logic board replacement - At spur base replacement - At carriage unit replacement	To maintain detection functionality for presence of the ink tanks and each ink tank position.	None. Perform in the service mode.	1 min.
	LCD language	- At logic board replacement	To set the language to be	None.	1 min.

	settings		displayed on the LCD.	Perform in the user mode.	
	Platen glass protection sheet (document pressure sheet) position adjustment	- At protection sheet replacement - At document feed base 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 feed roller ass'y replacement	To correct line feeding (LF roller diameter).	None. 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).	None. Perform in the service mode.	

*1: Only for CD / DVD printing supported regions.

- DO NOT loosen the red screws at both ends of the carriage shaft, securing the print head position, as they are not re-adjustable.
- 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)	10min. (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)	13 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	- Machine buttons - Computer (MP	1 min.

			driver)	
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 rear tray.	- Machine buttons - Computer (MP driver)	2 min.
Rear tray sub-roller cleaning	When the paper fed from the rear tray is smeared due to ink mist attached to the rear tray sub-rollers.	To clean the rear tray sub-rollers.	- Machine buttons	1 min.
Bottom plate cleaning	When the back side of the paper is smeared.	To clean the platen ribs.	- 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	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 shaft sliding portions and lift cam bushing.	In common with the MP600, etc.

1-4. Serial Number Location

On the carriage flexible cable holder (visible on the right of the carriage after the machine is turned on, the scanning unit is opened, and the carriage stops at the ink tank replacement position)

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 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/OFF 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/Reset 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 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.
Print head temperature sensor error.	[1403]	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.
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 MX850, use Matte Photo Paper MP-101.)
The remaining ink amount unknown.	[1683]	U130	(Applicable ink tank icon) The remaining level of the ink cannot be correctly detected.	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/Reset 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 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	The ink has run out. Replace the ink tank. (Applicable ink tank icon)	Replace the empty ink tank(s), and close the scanning unit (printer cover). Printing with an empty ink tank can damage the machine. To continue printing without replacing the ink tank (s), press the Stop/Reset 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.

*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 is displayed on the LCD.

Cycles of blinking of Alarm and Power LEDs	Error	Error code	Conditions	Solution (Replacement of listed parts, which are likely to be faulty)
2 times	Carriage error	[5100]	An error occurred in the carriage encoder signal.	- Carriage unit - Timing slit film - Logic board - Carriage motor
3 times	Line feed error	[6000]	An error occurred in the LF encoder signal.	- Timing sensor unit - Timing slit disk film - Feed roller - Logic board - Paper feed motor
4 times	Purge cam sensor error	[5C00]	An error occurred in the purge unit.	- Purge unit - Logic board
5 times	ASF (cam) sensor error	[5700]	This error takes place when paper feeds from the rear tray after an error occurred in the ASF cam sensor.	- Sheet feed unit - ASF_PE sensor board - Logic board
6 times	Internal temperature error	[5400]	The internal temperature is not normal.	- Logic board
7 times	Ink absorber full	[5B00, 5B01]	The ink absorber is supposed to be full. Message on the LCD: Ink absorber full. Service required. Error codes: 5B00: Main ink absorber is full (overseas). 5B01: Main ink absorber is full (Japan).	- Ink absorber kit
8 times	Print head temperature rise error	[5200]	The print head temperature exceeded the specified value.	- Print head - Logic board
9 times	EEPROM error	[6800, 6801]	A problem occurred in reading from or writing to the EEPROM. Error codes: 6800: Read error 6801: Write error	- Logic board
10 times	VH monitor error	[B200]	The internal temperature exceeded the specified value.	- Print head - Carriage unit - Logic board
11 times	Carriage lift mechanism error	[5110]	The carriage did not move up or down properly.	- Sheet feed unit - PR lift shaft ass'y - Carriage lift sensor unit - Logic board
12 times	AP position error	[6A00]	An error occurred in the AP motor during purging operation.	- Sheet feed unit - Purge unit - Logic board
13 times	Paper feed position error	[6B00]	An error occurred in the paper feed motor during line feeding.	- Sheet feed unit - Logic board
14 times	Paper feed cam sensor error	[6B10]	An error occurred in the paper feed cam sensor during paper feeding from the cassette.	- Sheet feed unit - Logic board

15 times	USB Host VBUS overcurrent	[9000]	The USB Host VBUS is overloaded.	- Logic board
16 times	Pump roller sensor error	[5C20]	The pump roller position cannot be detected.	- Purge unit - Logic board
17 times	Paper eject encoder error	[6010]	An error occurred in the paper eject encoder signal.	- Platen unit - Timing sensor unit - Timing slit disk eject film - Paper feed motor - Logic board
19 times	Ink tank position sensor error	[6502]	None of the ink tank position is detected.	- Platen unit - Logic board
22 times	Scanner home position error	[5010]	The scanner unit cannot detect the home position, or the scanner unit warming-up is not performed properly at power-on. On the LCD, "Scanner is not operating correctly." is displayed.	- Scanner unit
Power LED turned off, and Alarm LED lit	ROM / RAM error	---	The check sum value is incorrect in the ROM check or RAM check at hard-power-on.	- 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. Fax Errors

For errors other than those listed below, please refer to the "*G3 / G4 Facsimile Error Code List (Rev. 2).*"

(1) User error codes

Error code	TX / RX	Meaning
#001	TX	Document jam
#003	TX / RX	Document is too long, or page time-over
#005	TX / RX	Initial identification (T0 / T1) time-over
#009	RX	Recording paper jam, or no recording paper
#012	TX	No recording paper at the receiving machine
#017	TX	Redial time-over, but no DT detected
#018	TX	Auto dialing transmission error, or redial time-over
#022	TX	Call failed (no dial registration)
#037	RX	Memory overflow at reception of an image
#085	TX	No color fax function supported in the receiving machine
#099	TX / RX	Transmission terminated mid-way by pressing the Stop/Reset button
#995	TX / RX	During TX (sending): Memory transmission reservation cancelled During RX (receiving): Image data received in the memory cleared

(2) Service error codes

Error code	TX / RX	Meaning
##100	TX	Re-transmission of the procedure signal has been attempted the specified number of times, but failed.
##101	TX / RX	Sender's modem speed does not match the receiving machine.

##102	TX	Fallback is not available.
##103	RX	EOL has not been detected for 5 seconds (or 15 seconds in CBT).
##104	TX	RTN or PIN has been received.
##106	RX	The procedure signal has been expected for 6 seconds, but not received.
##107	RX	Fallback is not available at the sending machine.
##109	TX	After DCS transmission, a signal other than DIS, DTC, FTT, CFR, or CRP has been received, and re-transmission of the procedure signal has been attempted the specified number of times but failed.
##111	TX / RX	Memory error
##114	RX	RTN has been received.
##200	RX	A carrier has not been detected for 5 seconds during image reception.
##201	TX / RX	DCN has been received in a method other than the binary procedure.
##204	TX	DTC has been received even when there is no sending data.
##220	TX / RX	System error (main program hang-up)
##224	TX / RX	An error has occurred in the procedure signal in G3 transmission.
##226	TX / RX	The stack pointer has shifted from the RAM area.
##229	RX	The recording area has been locked for 1 minute.
##232	TX	The encoder control unit has malfunctioned.
##237	RX	The decoder control unit has malfunctioned.
##238	RX	The print control unit has malfunctioned.
##261	TX / RX	A system error has occurred between the modem and the system control board.
##280	TX	Re-transmission of the procedure signal has been attempted the specified number of times, but failed.
##281	TX	Re-transmission of the procedure signal has been attempted the specified number of times, but failed.
##282	TX	Re-transmission of the procedure signal has been attempted the specified number of times, but failed.
##283	TX	Re-transmission of the procedure signal has been attempted the specified number of times, but failed.
##284	TX	After TCF transmission, DCN has been received.
##285	TX	After EOP transmission, DCN has been received.
##286	TX	After EOM transmission, DCN has been received.
##287	TX	After MPS transmission, DCN has been received.
##288	TX	After EOP transmission, a signal other than PIN, PIP, MCF, RTP, RTN has been received.
##289	TX	After EOM transmission, a signal other than PIN, PIP, MCF, RTP, RTN has been received.
##290	TX	After MPS transmission, a signal other than PIN, PIP, MCF, RTP, RTN has been received.
##670	TX	In V.8 late start, the DIS V.8 ability from the receiving machine was detected, and CI was sent in response; however, the procedure failed, causing T1 time-over.
##671	RX	In V.8 call reception, the procedure fails to proceed to phase 2 after CM detection, causing T1 time-over.
##672	TX	In V.34 transmission, the procedure fails to proceed from phase 2 to phase 3 or later, causing T1 time-over
##673	RX	In V.34 reception, the procedure fails to proceed from phase 2 to phase 3 or later, causing T1 time-over
##674	TX	In V.34 transmission, the procedure fails to proceed from phase 3 or 4 to the control channel or later, causing T1 time-over
##675	RX	In V.34 reception, the procedure fails to proceed from phase 3 or 4 to the control channel or further, causing T1 time-over
##750	TX	After transmitting PPS-NULL in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##752	TX	After transmitting PPS-NULL in ECM transmission, DCN has been received.

##753	TX	After transmitting PPS-NULL in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##754	TX	After transmitting PPS-NULL in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed.
##755	TX	After transmitting PPS-MPS in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##757	TX	After transmitting PPS-MPS in ECM transmission, DCN has been received.
##758	TX	After transmitting PPS-MPS in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##759	TX	After transmitting PPS-MPS in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed.
##760	TX	After transmitting PPS-EOM in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##762	TX	After transmitting PPS-EOM in ECM transmission, DCN has been received.
##763	TX	After transmitting PPS-EOM in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##764	TX	After transmitting PPS-EOM in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed.
##765	TX	After transmitting PPS-EOP in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##767	TX	After transmitting PPS-EOP in ECM transmission, DCN has been received.
##768	TX	After transmitting PPS-EOP in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##769	TX	After transmitting PPS-EOP in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed.
##770	TX	After transmitting EOR-NULL in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##772	TX	After transmitting EOR-NULL in ECM transmission, DCN has been received.
##773	TX	After transmitting EOR-NULL in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##774	TX	After transmitting EOR-NULL in ECM transmission, ERR has been received.
##775	TX	After transmitting EOR-MPS in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##777	TX	After transmitting EOR-MPS in ECM transmission, DCN has been received.
##778	TX	After transmitting EOR-MPS in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##779	TX	After transmitting EOR-MPS in ECM transmission, ERR has been received.
##780	TX	After transmitting EOR-EOM in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##782	TX	After transmitting EOR-EOM in ECM transmission, DCN has been received.
##783	TX	After transmitting EOR-EOM in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.
##784	TX	After transmitting EOR-EOM in ECM transmission, ERR has been received.
##785	TX	After transmitting EOR-EOP in ECM transmission, no significant signal has been received, and re-transmission of the procedure signal has been attempted the number of specified times but failed.
##787	TX	After transmitting EOR-EOP in ECM transmission, DCN has been received.
##788	TX	After transmitting EOR-EOP in ECM transmission, re-transmission of the procedure signal has been attempted the number of specified times but failed, or T5 time-over (60 sec.) has occurred.

##789	TX	After transmitting EOR-EOP in ECM transmission, ERR has been received.
##790	RX	After receiving EOR-EOP in ECM reception, ERR has been transmitted.
##791	TX / RX	During the ECM mode procedure, a signal other than a significant one has been received.
##792	RX	In ECM reception, PPS-NULL between partial pages has not been detected.
##793	RX	During high-speed signal reception in ECM, no effective frame has been detected, and a time-over has occurred.

2-4. 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 (business card, Credit Card size paper, or stickers, etc.) is not supported for paper feeding from the cassette.	Change the paper source to the rear tray.
Cannot specify the followings together. Change one of the settings.	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. Reduce the amount of photos, films, copies to scan.	The memory is not sufficient to perform the print job in copying.	Reduce the amount of data to be printed, or print from a computer.
Press <>. (<>: Color button icon)	The Black button was pressed, but it is invalid.	A temporary error. Press the Color button to continue the operation.
Press <>. (<>: Black button icon)	The Color button was pressed, but it is invalid.	A temporary error. Press the Black button to continue the operation.
There is no photo data.	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.
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.
This layout is available only for A4 or 8.5"x11"(LTR).	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.
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 write-enabled. Remove card and set to read-only mode before performing operation.	With the memory card set to the Read/write mode, Card Direct printing operation was attempted from the menu.	A temporary error. Remove the memory card, change the memory card setting to Read-only, 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/position and check that platen/sheet is 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: - Clean the platen glass, and confirm that the Photo Index Sheet is not smeared. - Place the sheet in the correct orientation and position.
Failed to scan Photo Index Sheet. Check that all items are marked correctly. <See manual>	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. 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.
Document in ADF. Redo operation after checking document in ADF and pressing [OK].	The document is left in the ADF.	Remove the document from the ADF, press the OK button to clear the error, then try the operation again.
Document size is too long. Redo operation after checking document on ADF and pressing [OK].	The document is too long (longer than the Legal size length) for the ADF, or the document jams in the ADF.	Remove the document from the ADF, and press the OK button to clear the error. Confirm that the document size is supported, then try the operation again.
Document size not suitable for two-sided scanning. Press [OK] to cancel operation and discharge document.	The paper size is not supported for scanning on both sides of paper. (Only the A4 and Letter sizes are supported.)	Press the OK button to clear the error. Perform scanning each side of paper separately.

2-5. Warnings

Warning	Message on the LCD	Solution
Low ink	"!" is indicated for an applicable ink tank icon in the Status Monitor.	No special solution. 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	Reset the selected photo information?	- Select **Yes**, and press the OK button.

select information	Yes No	=> 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 scanned photo? Yes No	

2-6. Troubleshooting by Symptom

	Symptom	Solution
Faulty operation	The power does not turn on. The power turns off immediately after power-on.	- Confirm the connection of - the power cord, and - between the logic board and the power supply unit. - Replace the - power supply unit, or - logic board.
	A strange noise occurs.	- Remove foreign material. - Attach a removed part if any. - Check the operation of the moving parts (such as purge unit, carriage unit, and paper feeding mechanism) - Replace a faulty part, if any.
	Nothing is displayed on the LCD.	- Confirm the connection between the operation panel, the LCD unit, and the logic board. - Replace the - operation panel unit, or - logic board.
	A portion of the LCD is not displayed. The display flickers.	- Perform the button and LCD test in the service mode, and confirm that the LCD is displayed without any segments missing or flickering. - Confirm the connection between the operation panel, the scanning unit, and the harness. - Replace the - operation panel unit, or - logic board.
	Paper feed problems (multi-feeding, skewed feeding, no feeding).	- Examine the inside to confirm that no parts are damaged, and the rollers are clean. - Remove foreign material. - Adjust the paper guide properly. - Set the paper properly. - Confirm the following: - selected paper source - attachment of the rear cover - connection of each harness and the logic board - sheet feeder unit operation - Replace the - sheet feeder unit, - cassette unit, or - logic board.
	Carriage movement problems (contact to other parts, strange noise).	- Confirm that the carriage timing slit strip film is free from damage or grease. - Clean the carriage timing slit strip film (with ethanol and lint-free paper). - Remove foreign material. - Replace the - carriage timing slit strip film, or - carriage unit.
	Faulty scanning (no scanning, strange noise).	- Confirm the connection between the scanning unit and the logic board.

		- Replace the - scanning unit, or - logic board.
	The CD / DVD tray is not pulled in the feeder.	- Confirm that the reflector of the CD / DVD tray is clean and is free from any damages. - Replace the - CD / DVD tray, or - logic board.
	No feeding from the ADF (no operation of the ADF motor).	- Confirm the connection - between the ADF motor and the ADF PWB, and - between the ADF PWB and the logic board. - Replace the - document feed unit, or - logic board.
	No sound from the speaker.	- Confirm the connection between the speaker and the logic board. - Replace the - speaker, or - logic board.
Unsatisfactory print quality	No printing, or no color ejected.	- Confirm that the orange tape is properly removed from an ink tank, and the ink tanks are installed properly. - Perform print head maintenance. - Replace the - ink tank, or - print head*1. - Remove foreign material from the purge unit caps, if any. - Replace the - purge unit, or - logic board.
	Printing is faint, or white lines appear on printouts even after print head cleaning. Line(s) not included in the print data appears on printouts.	- Remove and re-install the print head. - Confirm that the ink tanks are installed properly. - Perform print head maintenance. - Replace the - ink tank, or - print head*1. - Perform the following: - Automatic or manual print head alignment in the user mode - LF / Eject correction in the service mode - Clean the paper feed rollers. - Replace the - purge unit, or - logic board.
	Paper gets smeared.	- Feed several sheets of paper. - Perform bottom plate cleaning. - Clean the paper path with a cotton swab or cloth. - Clean the paper feed rollers.
	The back side of paper gets smeared.	- Clean the platen rib (clean the paper path with a cotton swab or cloth). - Confirm that the platen ink absorber fits in place properly. - Confirm that the paper eject rollers are free from ink smear.
	A part of a line is missing on printouts.	- Perform nozzle check pattern printing, and confirm that ink is properly ejected from all the nozzles. - Replace the - ink tank, or - print head*1.

	Color hue is incorrect.	- Confirm that the ink tanks are installed properly. - Perform print head maintenance. - Replace the - ink tank, or - print head*1 - Perform print head alignment.
	Printing is incorrect.	Replace the logic board.
	No ejection of black ink.	- Confirm that the ink tanks are installed properly. - Perform print head maintenance. - Replace the - ink tank, or - print head*1. - Remove foreign material from the purge unit caps, if any. - Replace the purge unit.
	Graphic or text is enlarged on printouts.	**When enlarged in the carriage movement direction:** - Clean grease or oil off the timing slit strip film. - Replace the - timing slit strip film, - carriage unit, - logic board, or - scanning unit (when copying) **When enlarged in the paper feed direction:** - Clean grease or oil off the timing slit disk film or the timing slit disk eject film. - Replace the - timing slit disk film, - timing slit disk eject film, - timing sensor unit, - LF roller, - platen unit, - logic board, or - scanning unit (when copying)
Faulty scanning	No scanning.	- Confirm the connection between the scanning unit and the logic board. - Replace the - scanning unit, or - logic board. - Confirm that the MP drivers are installed properly. - Confirm that the USB cable is connected properly.
	Streaks or smears on the scanned image.	- Clean the platen glass. - Confirm the connection between the scanning unit and the logic board. - Replace the - scanning unit, - logic board, or - document pressure sheet.
	The document slips over the rollers (a copied image is enlarged as a result), or document sheets are not separated from each other.	- Clean the - friction tab, - document feed rollers, and - separation rollers. - Replace the document feed unit.

*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	- 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). [See 3-4. Verification Items, (1) Service test print for details.]	**After replacement:** 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. [See 3-3. Adjustment / Settings, (6) Service mode, for details of 1 to 7.] 8. Perform print head alignment and LCD language setting in the user mode.	- EEPROM information print - Service test print - Printing via USB connection - Copying - Direct printing from a digital camera (PictBridge) - FAX sending and receiving
Absorber kit		**After replacement:** 1. Reset the ink absorber counter. [See 3-3. Adjustment / Settings, (6) Service mode, for details.]	- Ink absorber counter volume print (After the ink absorber counter is reset, the counter value is printed automatically.)
Carriage unit		**At replacement:** 1. Apply grease to the sliding portions. [See 3-3. Adjustment / Settings, (3) Grease application.] 2. Check the ink system function. [See 3-3. Adjustment / Settings, (6) Service mode, for details.] 3. Perform print head alignment in the user mode.	- Service test print (Confirm CD / DVD and automatic print head alignment sensor correction, and ink system function.)
Paper feed motor	- 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:** 1. Adjust the paper feed motor. [See 3-3. Adjustment / Settings, (1) Paper feed motor adjustment, for details.]	
Platen unit		**After replacement:** 1. Check the ink system function. 2. Perform LF / Eject correction. [See 3-3. Adjustment / Settings, (6) Service mode, for details.]	- Service test print
PR lift shaft ass'y		**At replacement:**	- Service test print

Input carriage lift gear		1. Apply grease to the sliding portions. [See 3-3. Adjustment / Settings, (3) Grease application, for details.]	
Document feed base Document pressure sheet		**At replacement:** 1. Confirm the document pressure sheet position. [See 3-3. Adjustment / Settings, (2) Document pressure sheet replacement, for details.]	
Operation panel board ass'y LCD viewer unit Scanner unit	- Be cautious not to scratch or damage the LCD hinge FFC.	**At replacement:** 1. Check the LCD and operation panel. [See 3-3. Adjustment / Settings, (6) Service mode, for details.]	
Timing slit strip film Timing slit disk film Timing slit disk eject 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.]	- Service test print
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 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 MX850 automatic print head alignment, use Matte Photo Paper (MP-101) to ensure alignment accuracy.
- Exercise caution with the screws, as follows:
  - i. The red 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. DO NOT loosen the red screws on both sides of the main chassis, securing the carriage shaft positioning (they are not adjustable in servicing)

3. REPAIR

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

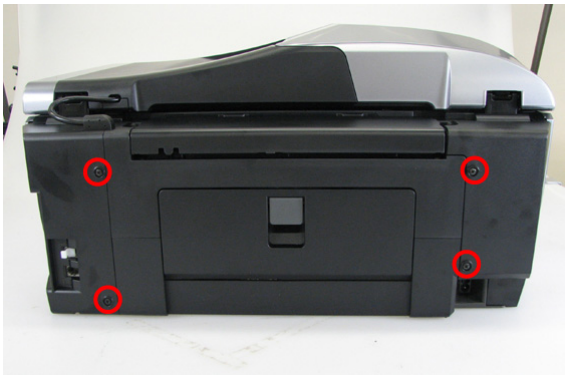
Be sure to protect the machine from static electricity in repair servicing, especially the LCD, operation panel board, scanner unit, logic board, card board, and NCU board.

****
If the power cord is disconnected from the machine (a hard-power-off),
the date/time settings and all the documents saved in the machine memory will be lost.
****

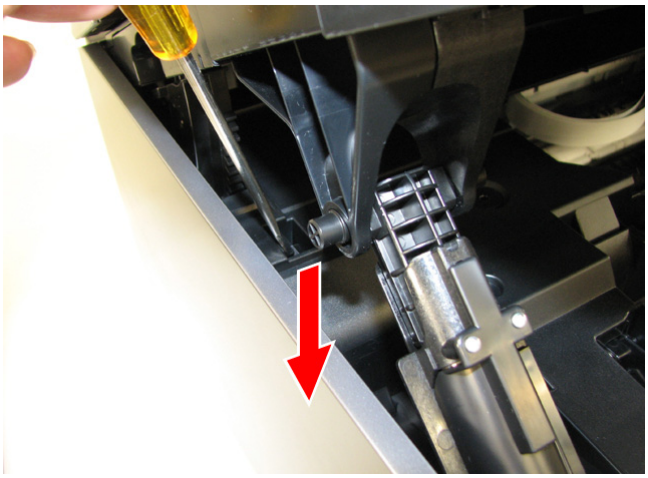
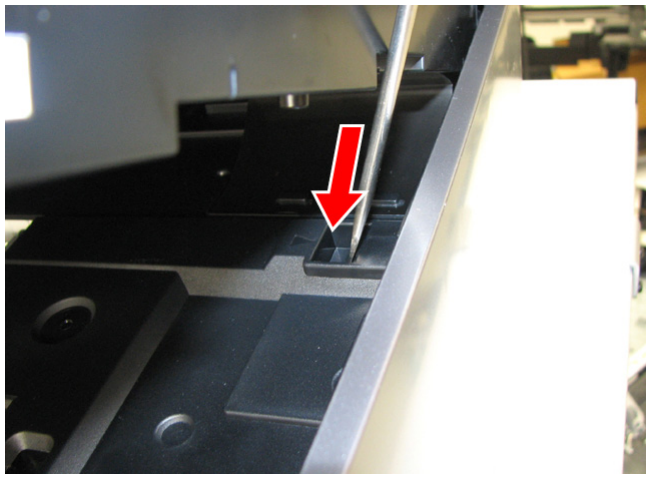
(1) External housing, ADF, and scanner unit removal

1) Remove the cassette, LAN connector cover, and telephone jack cover.
2) Remove the side covers L and R.

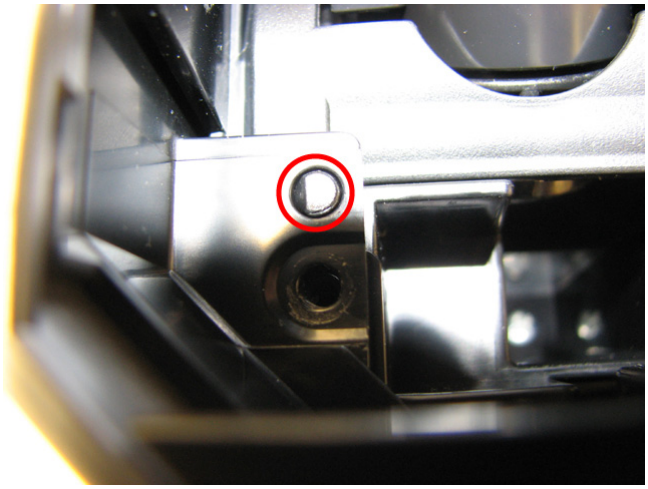
i. Remove 4 screws from the rear cover, and 1 screw each from the front left and front right.

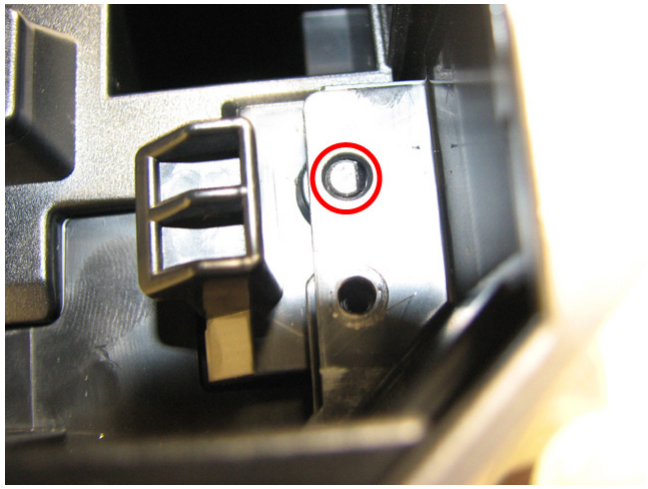



ii. Release the hooks inside the cover.

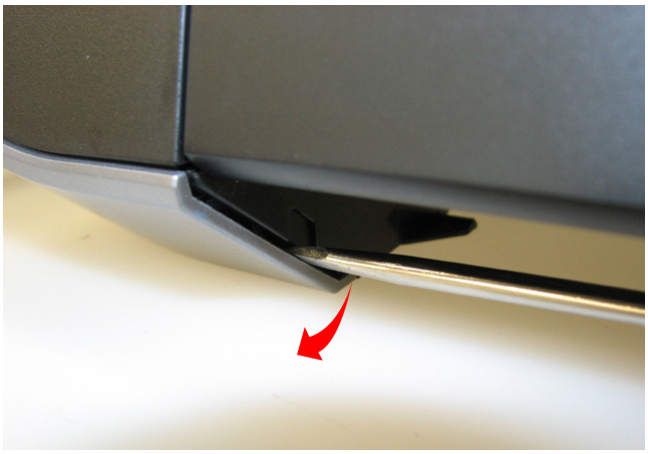



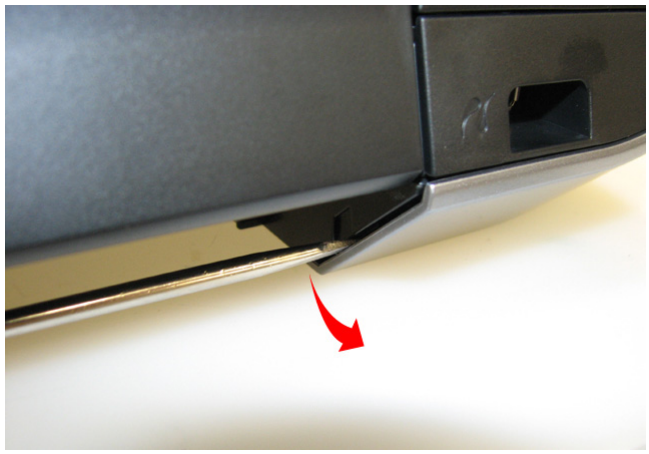
iii. Release the boss on the front right and front left (beside the removed screws).





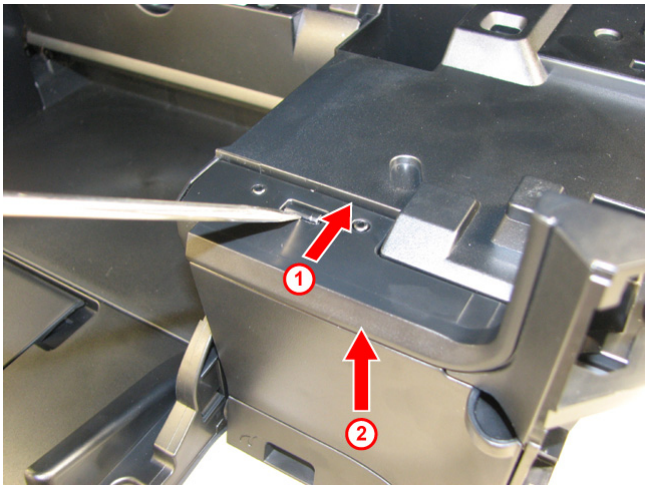
iv. Release the hooks of the cassette slot.

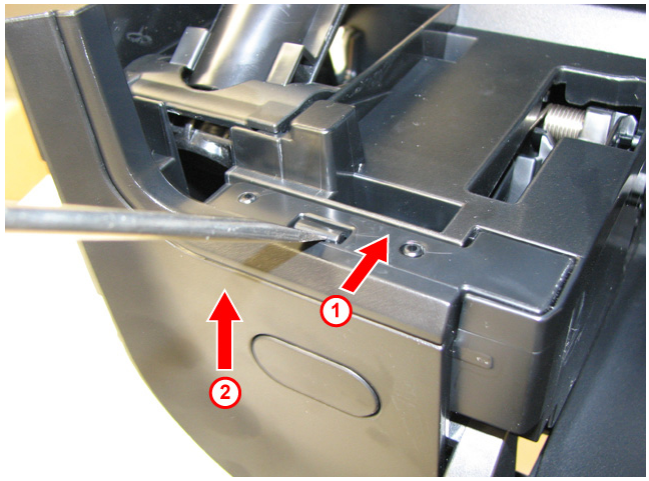




3) Remove the front covers L and R.

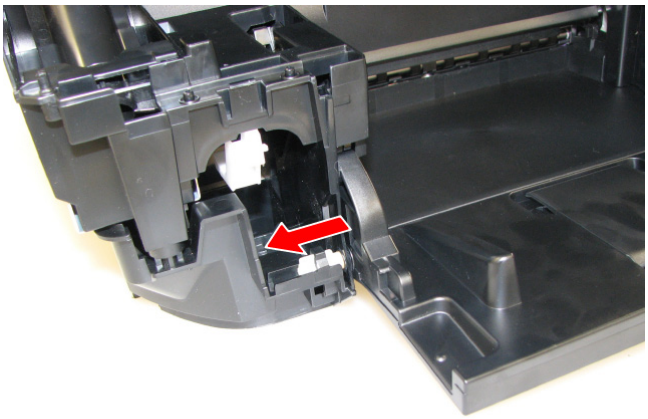
Release the hooks (No.1 in the photos below), and lift the covers (No. 2 in the photos below).





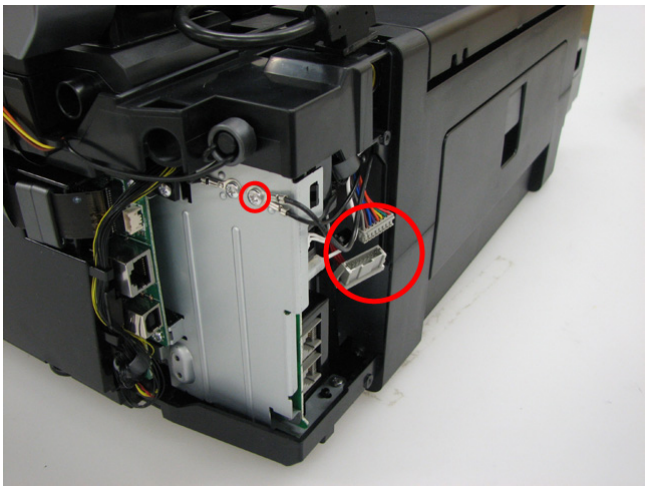
4) Remove the paper output tray.

Slide the door damper to the left until it is released, then remove the tray.

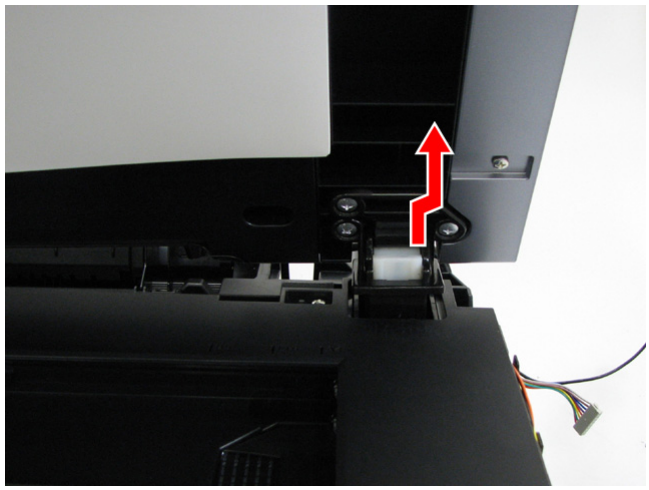


5) Remove the ADF unit.

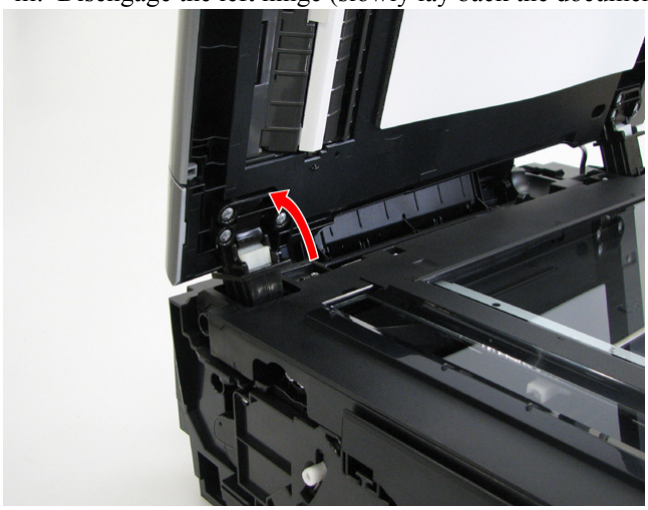
i. Disconnect the connector, and remove the screw.



ii. Disengage the right hinge (while slightly pushing the hinge to the right, pull up the document cover).

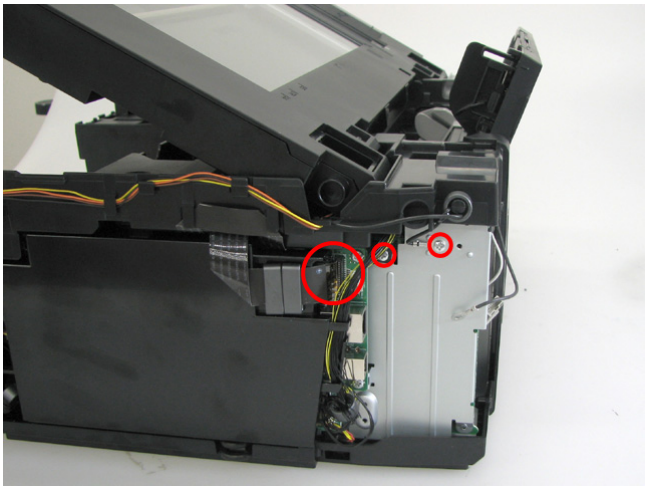


iii. Disengage the left hinge (slowly lay back the document cover).

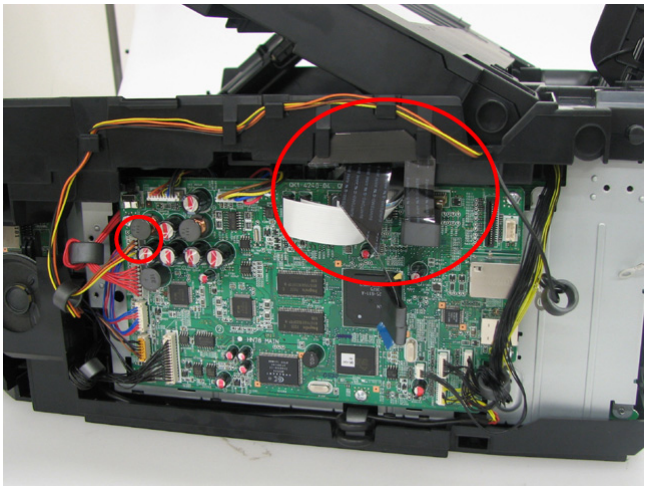


6) Remove the scanner unit.

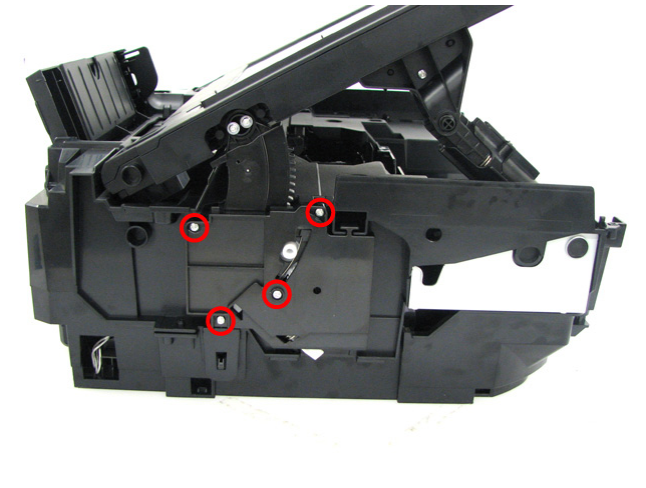
i. On the right side, disconnect the connector and ground wire, and remove the logic board cover (for the ground wire and logic board cover, remove 1 screw each).



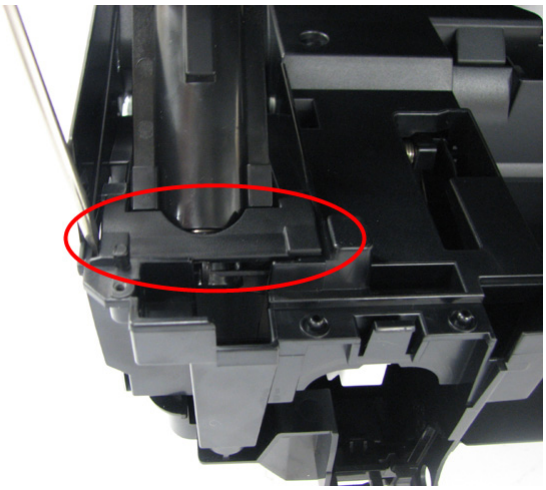
ii. Disconnect the connectors. Remove the core from the flat cable, then put the flat cable inside the main case.



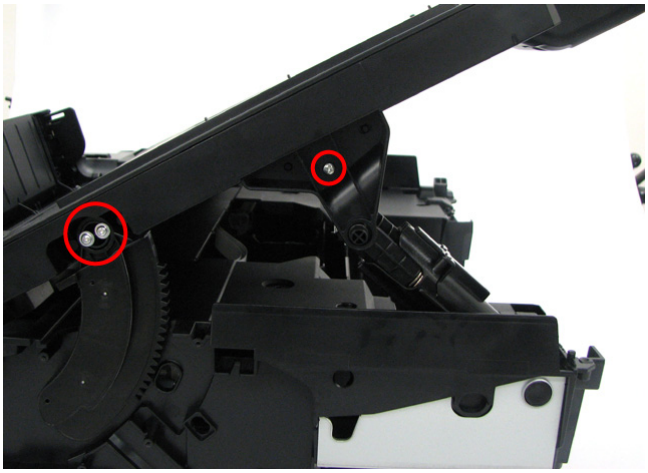
iii. Remove the damper unit (4 screws).



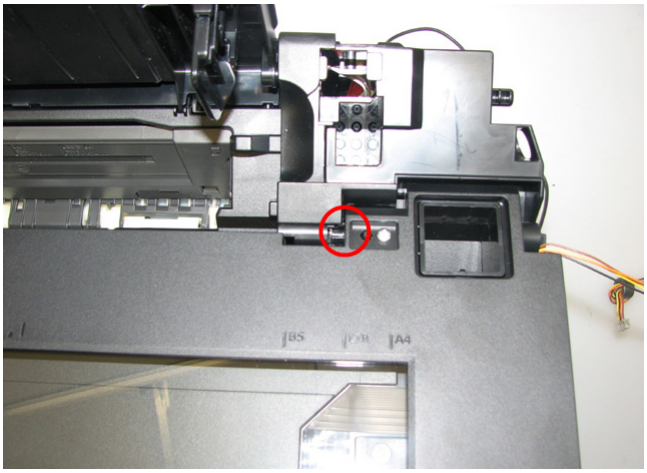
iv. Release the scanner lock hook.



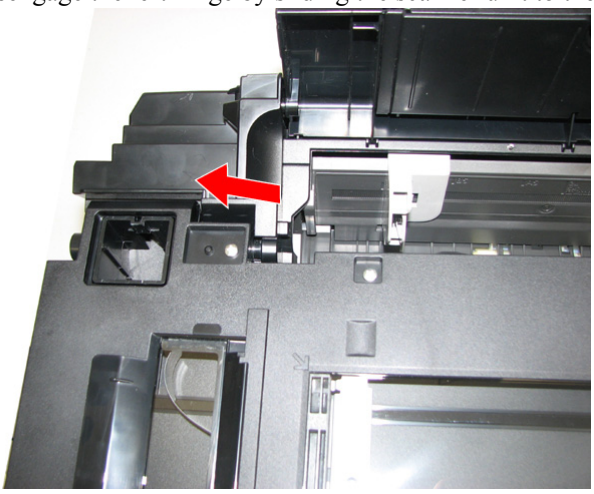
v. Remove the damper gear (2 screws), and release the scanner lock (1 screw). (The scanner unit can be removed without removing the damper gear.)



vi. While holding the scanner unit in the opened position, disengage the right hinge by slightly pushing the hinge to the right and pulling up the scanner unit.

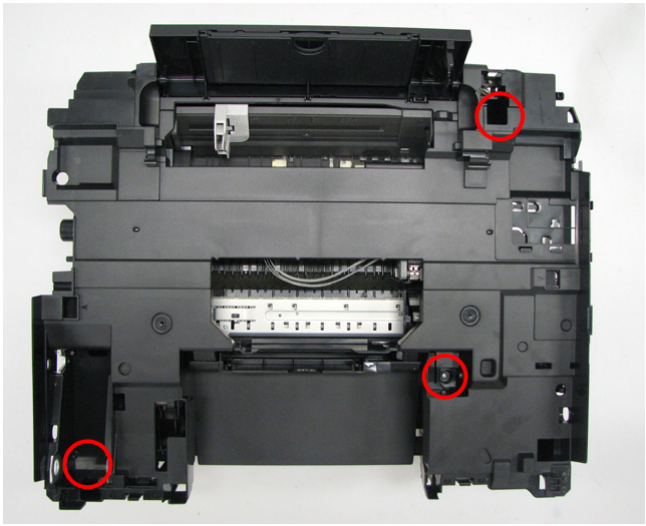


vii. Disengage the left hinge by sliding the scanner unit to the left.

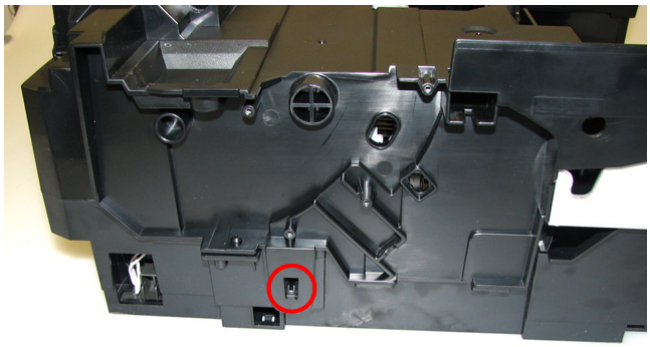


7) Remove the main case.

i. Remove the 3 screws.

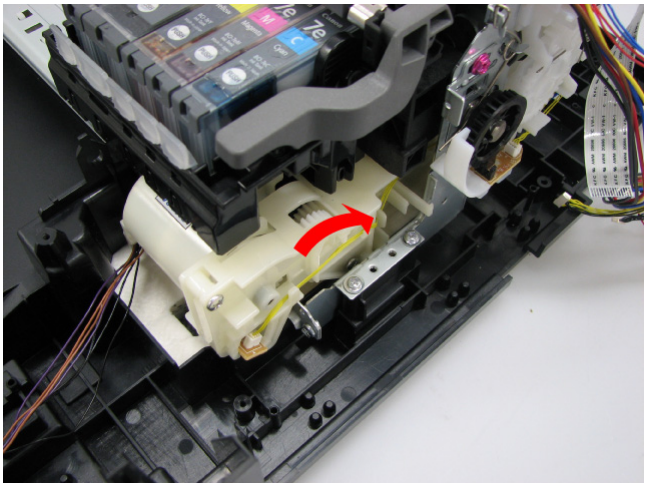


ii. Release the hook on the left side.

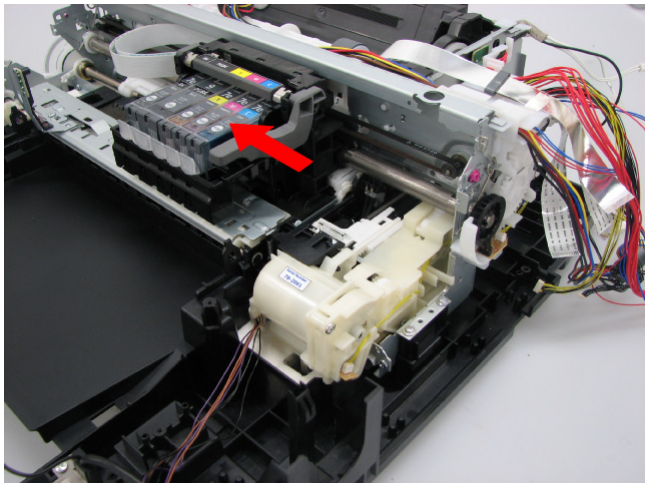


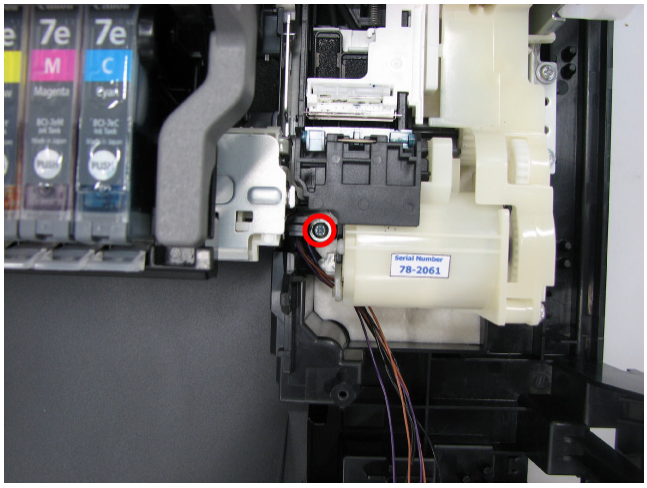
(2) Printer unit separation from the bottom case (how to remove the screw under the purge unit)

1) Rotate the purge unit gear toward the rear side of the machine to unlock the carriage.



2) Slide the carriage to the opposite of the home position (to the left), and remove the screw.

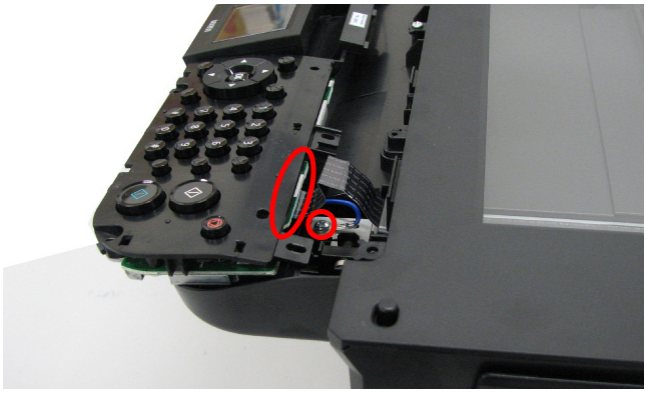




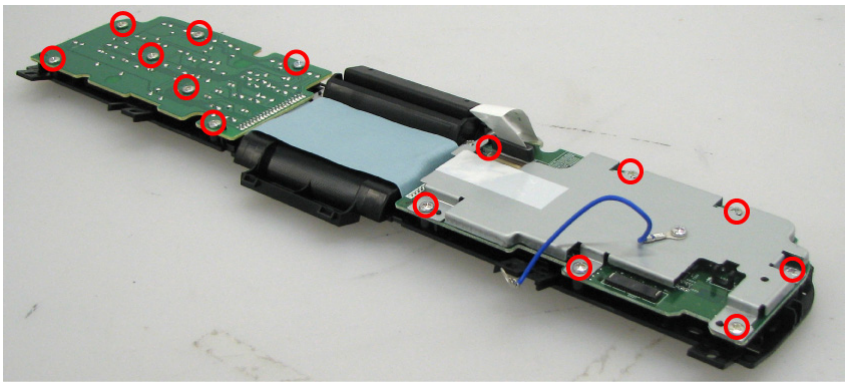
(3) Operation panel removal

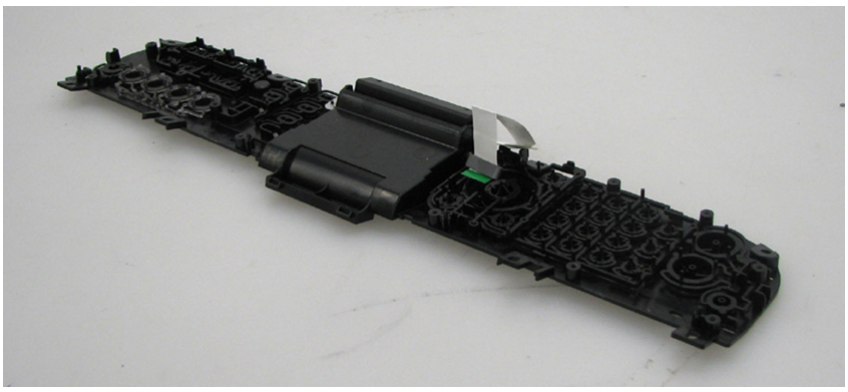
1) Remove the panel cover.
Using a flat-blade screwdriver, release the front side of the panel cover.
While slightly lifting up the cover, pull it toward you.

2) Remove the panel unit.
Remove the 6 screws that fix the panel unit to the scanner unit. Pull the panel unit toward you, then disconnect the connector and the ground wire (1 screw).



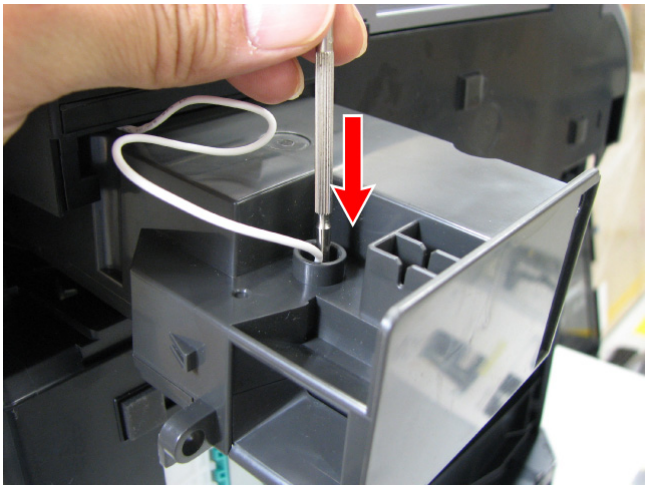
3) Remove the panel board.
Remove the 14 screws and disconnect the connector.
Caution: DO NOT turn over the panel frame after the panel board is removed. The buttons are not fixed to the frame, thus they will fall if the frame is turned over.



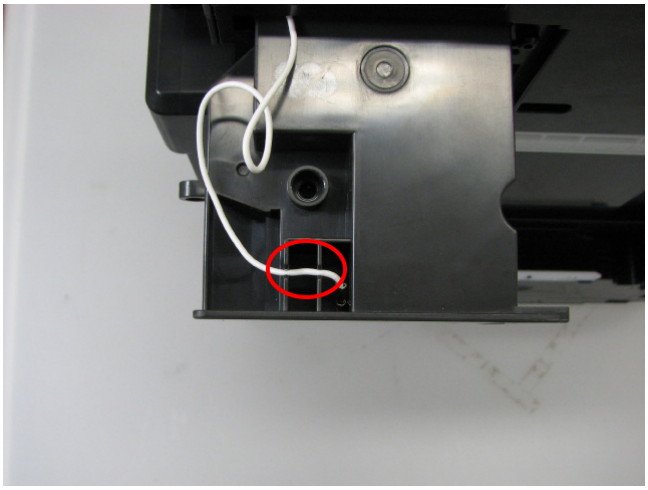


(4) AC adapter attachment

< Japan model >
Using a thin flat-blade screwdriver, push the arrester ground wire until it fits to the arrester ground pin inside the AC adapter.
Note: After connection, gently pull the ground wire and confirm that it will not be removed.



< Other models>
Fit the arrester ground wire in 2 grooves as shown in the photo.

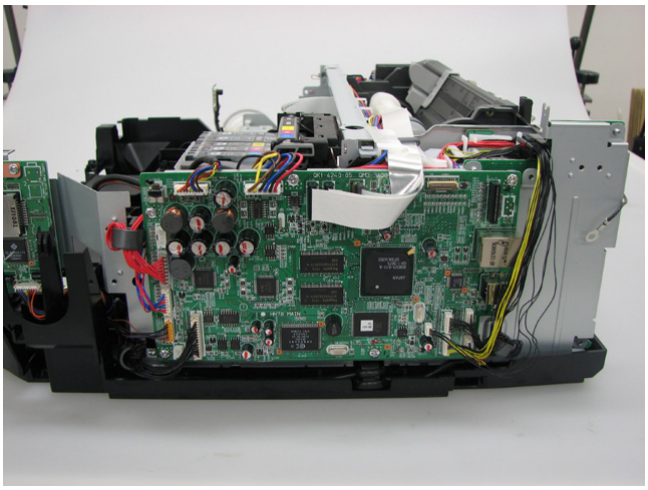


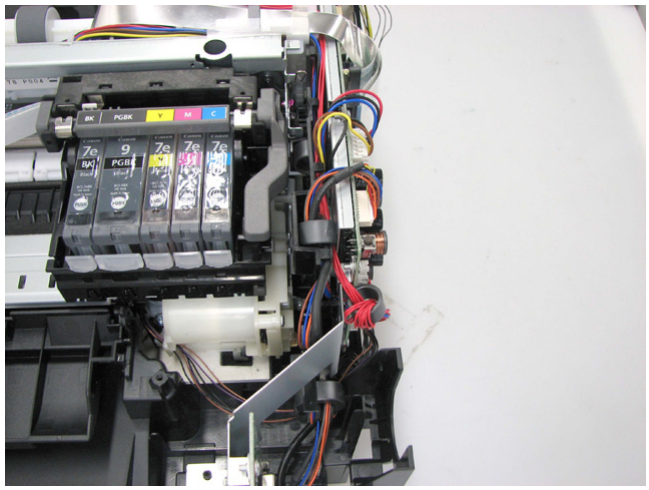
(5) Emblem removal

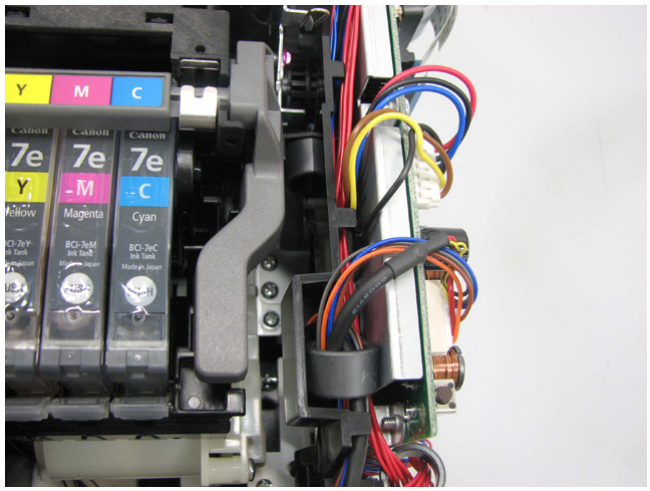
Push the top edge of the emblem to remove it from the double-sided adhesive tape.

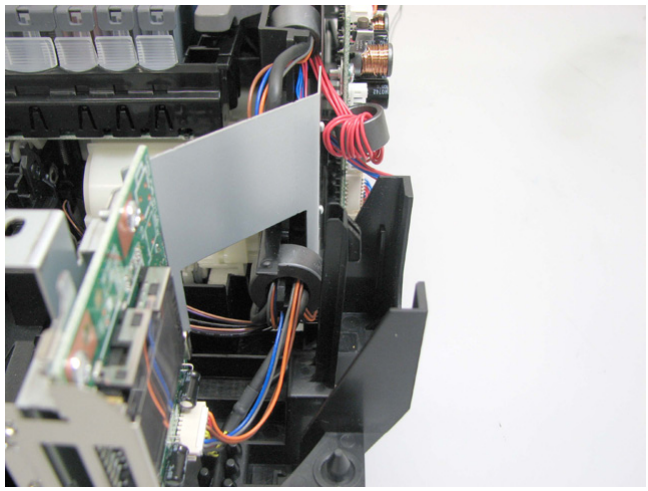
(6) Cable wiring and connection

1) Wiring on the right side
Be cautious of the core position.

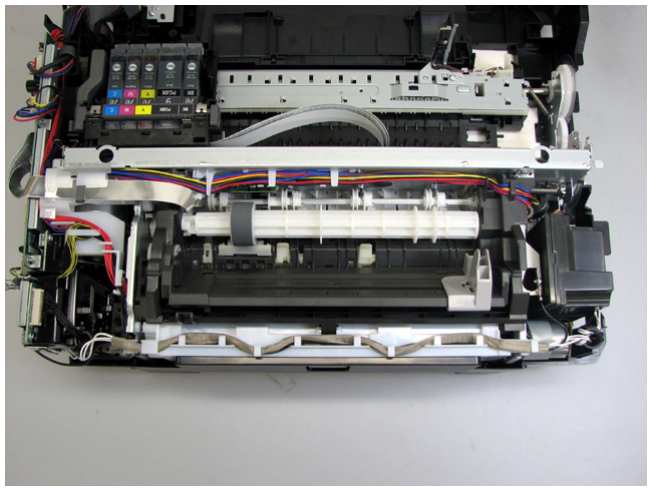




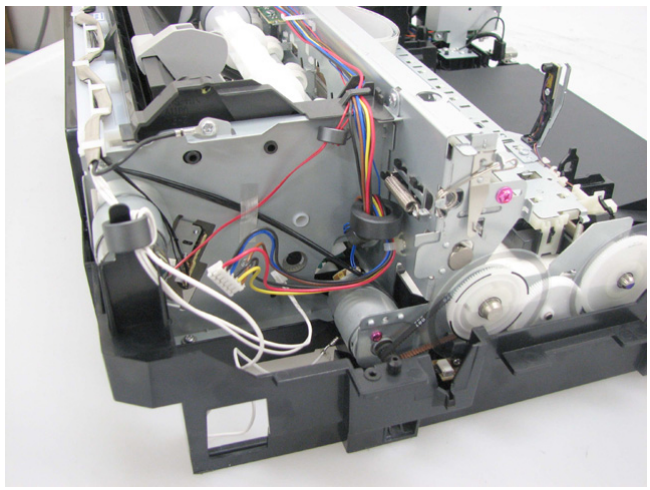




2) Seen from the back side of the machine



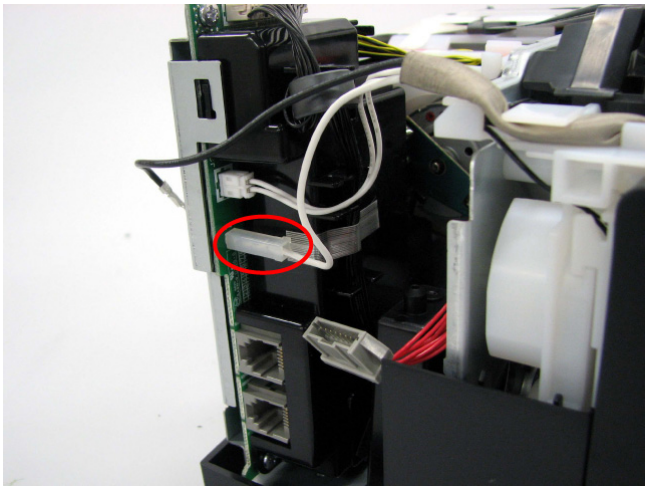
3) Left side of the machine



4) Arrester ground wiring

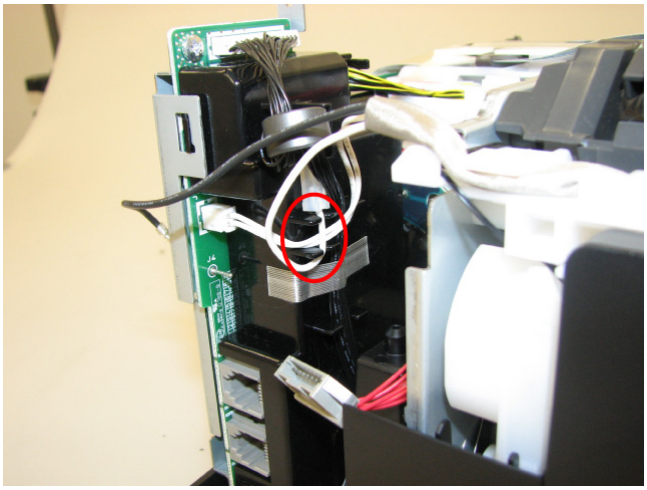
< Japan model>

Connect the wire to the arrester ground pin of the NCU board.



< Other models>

Fit the wire in the grooves of the NCU board cover.



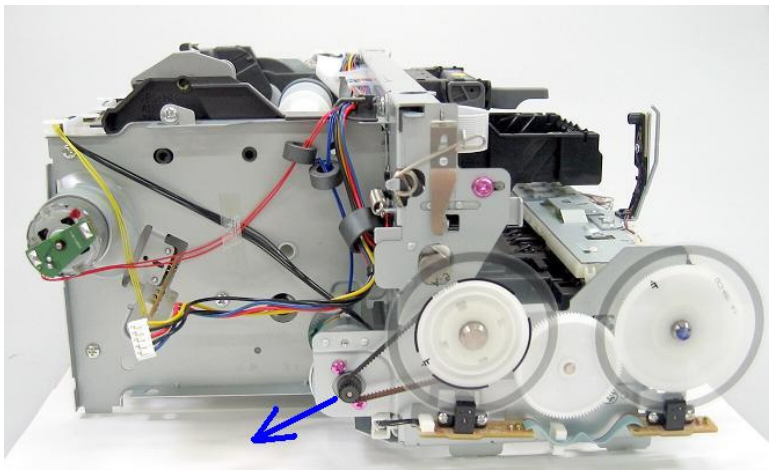
<3-2. Special Notes on Repair Servicing>

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.



CAUTION

- 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 plate 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 auto document feeder while maintaining the hinge position. The document pressure sheet will be attached to the document feed base in the appropriate position.

3) Open the plate to confirm the following:

- No extension of the sponge edges over the mold part of the upper scanner cover.

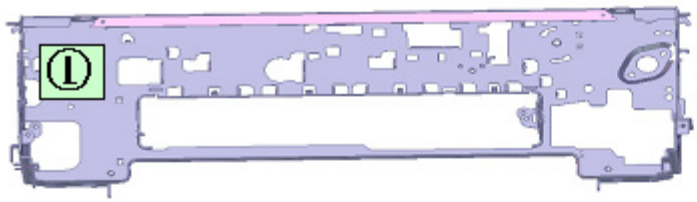
- No gap between the platen glass reference edges and the corresponding sponge edges.

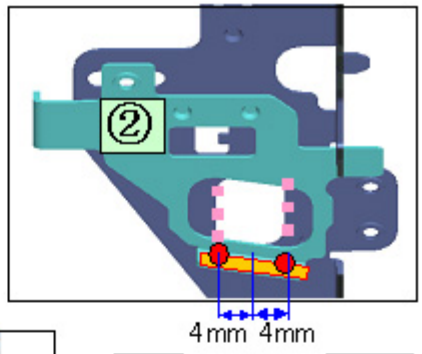
(3) Grease application

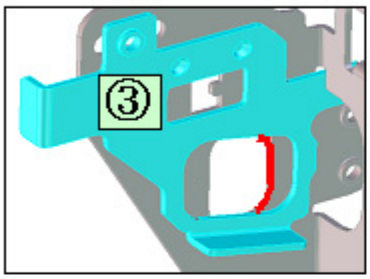
1) Printer unit

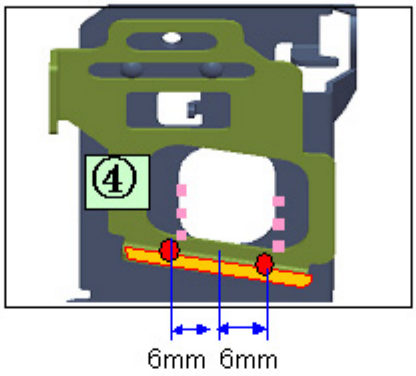
No	Part name	Where to apply grease / oil	Drawing No.	Grease / oil	Grease / oil amount (mg)	Number of drops x locations
1	Chassis ass'y	Entire surface the carriage slider contacts	①	Floil KG107A	27 to 54	3 x 1
2	Adjust plate L	Carriage shaft cam L sliding portion	②	Floil KG107A	18 to 36	2 x 1
3	Chassis ass'y	Carriage shaft sliding portion on the left side of the chassis (1 location)	③	Floil KG107A	9 to 18	1 x 1
4	Adjust plate R	Carriage shaft cam R sliding portion	④	Floil KG107A	18 to 36	2 x 1
5	Chassis ass'y	Carriage shaft sliding portion on the right side of the chassis (1 location)	⑤	Floil KG107A	9 to 18	1 x 1
6	Chassis ass'y	PR lift shaft cam contact portion (3 locations)	⑥	Floil KG107A	18 to 27	1.5 x 3
7	Idler pulley	The shaft surface which contacts the idler pulley hole	⑦	Floil KG107A	9 to 18	1 x 1
8	Carriage shaft	Entire surface of the carriage shaft where the carriage unit slides	⑧	Floil KG107A	200 to 400	
9	Carriage shaft spring L	Carriage shaft sliding portion (to the end of the spring)	⑨	Floil KG107A	9 to 18	1 x 1
10	Carriage shaft	Carriage shaft surface where the carriage unit slides (and where the machine-application of the grease is not feasible)	⑩	Floil KG107A	9 to 18	1 x 1
11	CL gear base	Outer surface of the CL idle gear R cylinder	⑪	Floil KG107A	9 to 18	1 x 1
12	CL gear base	Outer surface of the CL output gear cylinder	⑫	Floil KG107A	9 to 18	1 x 1
13	CL input gear	Joint of the CL gear base	⑬	Floil KG107A	9 to 18	1 x 1
14	CL input gear	CL input gear teeth	⑭	Floil KG107A	9 to 18	1 x 1

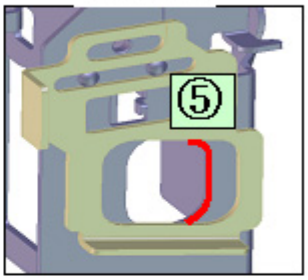
1 drop = 9 to 18 mg


①

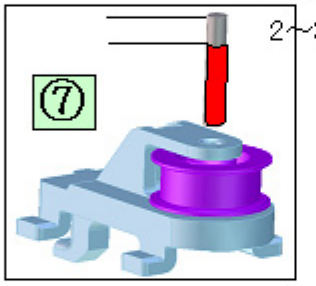

②
4mm 4mm

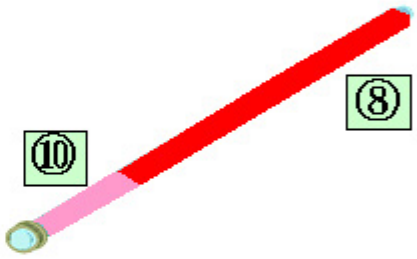

③

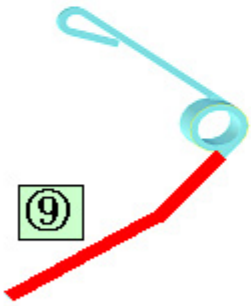

④
6mm 6mm

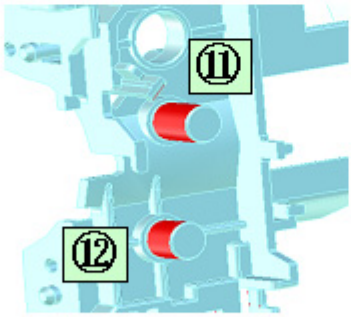

⑤

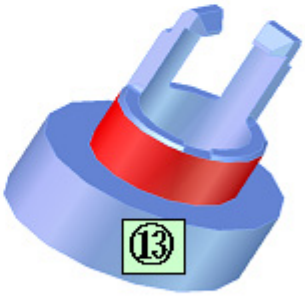

⑥


⑦
2~3mm


⑧
⑩


⑨


⑪
⑫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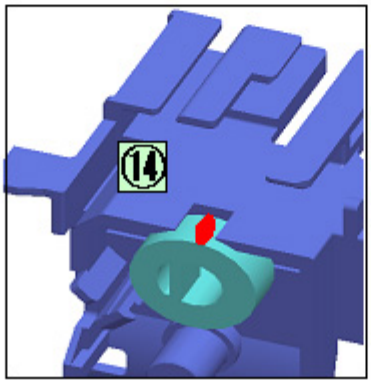

⑭

(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 counter value:

  See 3-4. Verification Items, (1) Service test print.

- How 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 rear tray or the cassette which is selected on the Feed Switch button.
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.	If automatic alignment is not effective, perform manual print head alignment. (2 sheets of A4 Matte Photo Paper)
Manual print head alignment	Perform via the machine operation panel, or from the MP driver Maintenance tab.	Set 4 sheets of plain paper (A4 or Letter) in the rear tray or the cassette which is selected on the Feed Switch button. (4 sheets of A4 plain paper)
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 rotate while being pushed to the paper lifting plate. Since the rollers will wear in this cleaning, it is recommended to 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.

(6) Service mode

<Service mode operation procedures>

1) With the machine power turned off, while pressing the Stop/Reset button, press and hold the ON/OFF button. (DO NOT release the buttons). The Power LED lights in green to indicate that a function is selectable.
2) While holding the ON/OFF button, release the Stop/Reset button. (DO NOT release the ON/OFF button.)
3) While holding the ON/OFF button, press the Stop/Reset button 2 times, and then release both the ON/OFF and Stop/Reset buttons. (Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green, starting with Alarm LED.)
4) When the Power LED lights in green (and "Service Mode CANON Idle" is displayed on the LCD), press the Stop/Reset button the specified number of time(s) according to the function listed in the table below, then press the ON/OFF button. (Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green, starting with Alarm LED.)

Time(s)	LED indication	Function	Remarks
0 times	Green (Power)	Power off	When the print head is not installed, the carriage returns and locks in the home position capped.
1 time	Orange (Alarm)	Service test print	Service test print - Model name - ROM version - Ink absorber counter value (ink amount in the ink absorber) - USB serial number - Destination - EEPROM information - Ink system function check result - Barcode (model name + destination) See 3-4. Verification Items, (1) Service test print, "Service test print sample."
2 times	Green (Power)	EEPROM information print	EEPROM information print - Model name - Destination - ROM version - Ink absorber counter value (ink amount in the ink absorber) - Print information - Error information, etc.
3 times	Orange (Alarm)	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 - Production site E-MIP correction value and enabling of it - Endurance correction value and enabling of it - Left margin correction value - Record of disabling the function to detect the remaining ink amount - Ink absorber counter value (ink amount in the ink absorber)
4 times	Green (Power)	Ink absorber counter resetting	Set a sheet of A4 or Letter sized plain paper in the rear tray or cassette, and reset the ink absorber counter. After the ink absorber counter is reset, the counter value is printed automatically. See "Ink absorber counter resetting" below and the print sample in 3-4. Verification Items, (2) Ink absorber counter value print.
5 times	Orange (Alarm)	Destination settings	Press the Stop/Reset button the specified number of time(s) according to the destination. See "Destination settings" below.
6 times	Green (Power)	Print head deep cleaning	Cleaning of both Black and Color
7 times	Orange (Alarm)	CD / DVD check pattern print	Not used in servicing.
8 times	Green (Power)	CD / DVD print position correction (horizontal: X direction)	Not used in servicing.
9 times	Orange (Alarm)	CD / DVD print position correction (vertical: Y direction)	Not used in servicing.
10 times	Green (Power)	LF / Eject correction	See "LF / Eject correction" below.

11 times	Orange (Alarm)	Return to the menu selection	
12 times	Green (Power)	Button and LCD test	See "Button and LCD test" below.
13 times	Orange (Alarm)	Ink absorber counter setting	See "Ink absorber counter setting" below.
14 times	Green (Power)	Return to the menu selection	
15 times	Orange (Alarm)	Return to the menu selection	
16 times or more	Green (Power)	Return to the menu selection	

Note

If the Stop/Reset button is pressed 16 or more times, the Alarm LED (orange) or Power LED (green) lights steadily without any changes.

<Destination settings>

In the destination settings mode, press the Stop/Reset button the specified number of time(s) according to the destination listed in the table below, and press the ON/OFF button.

Time(s)	LED indication	Destination	CD / DVD print
0 times	Green (Power)	No change of the destination	---
1 time	Orange (Alarm)	Japan	Supported
2 times	Green (Power)	Korea	Not supported
3 times	Orange (Alarm)	US	Not supported
4 times	Green (Power)	Europe	Supported
5 times	Orange (Alarm)	Australia	Supported
6 times	Green (Power)	Asia	Supported
7 times	Orange (Alarm)	China	Supported
8 times	Green (Power)	Taiwan	No sales of the MX850
9 times	Orange (Alarm)	Latin America	No sales of the MX850
10 times	Green (Power)	Brazil	No sales of the MX850
11 times	Orange (Alarm)	Canada	Not supported
12 times or more	Green (Power)	Return to the destination selection	---

Note

After setting the destination, confirm the model name and destination in service test print or EEPROM information print.

<Ink absorber counter resetting>

Reset the ink absorber counter (to 0%) when the ink absorber is replaced, or when necessary after the logic board is replaced.

1) In the service mode, press the Stop/Reset button 4 times, then press the ON/OFF button. The ink absorber counter value of the EEPROM is reset to 0%.
2) The flag for resetting of the ink absorber counter is set to ON, and the ink absorber counter value is automatically printed from the selected paper source.

("D=000.0" is printed at the top left of the paper.) See 3-4. Verification Items, (2) Ink absorber counter value print, "print sample."

<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) In the service mode, press the Stop/Reset button 13 times, then press the ON/OFF button to enter the ink absorber counter setting mode.
3) In the ink absorber counter setting mode, press the ON/OFF button again to enter the main ink absorber counter setting mode. (Since the procedure for setting the ink absorber counter is common among all the models, this step is necessary to set the counter value for the main ink absorber.)
4) The ink absorber counter value can be set in 10% increments by pressing the Stop/Reset button. Press the Stop/Reset button the appropriate number of time(s) to select the value which is closest to the actual ink absorber counter value.

Time(s)	Ink absorber counter value to be set (%)
0 times	0%
1 time	10%
2 times	20%
3 times	30%
4 times	40%
5 times	50%
6 times	60%
7 times	70%
8 times	80%
9 times	90%
10 times or more	Not valid. Press the ON/OFF button to return to the ink absorber counter setting mode.

5) Press the ON/OFF button to set the selected value to the EEPROM. Print EEPROM information to confirm that the value is properly set to the EEPROM.

<LF / Eject correction>

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

Details: Print the LF / Eject correction pattern on a sheet of paper. Select the Pattern No. (0 to 2) in which streaks or lines are the least noticeable, press the Stop/Reset button the same number of time(s) as the selected Pattern No., then press the ON/OFF button. (See the flowchart below.)

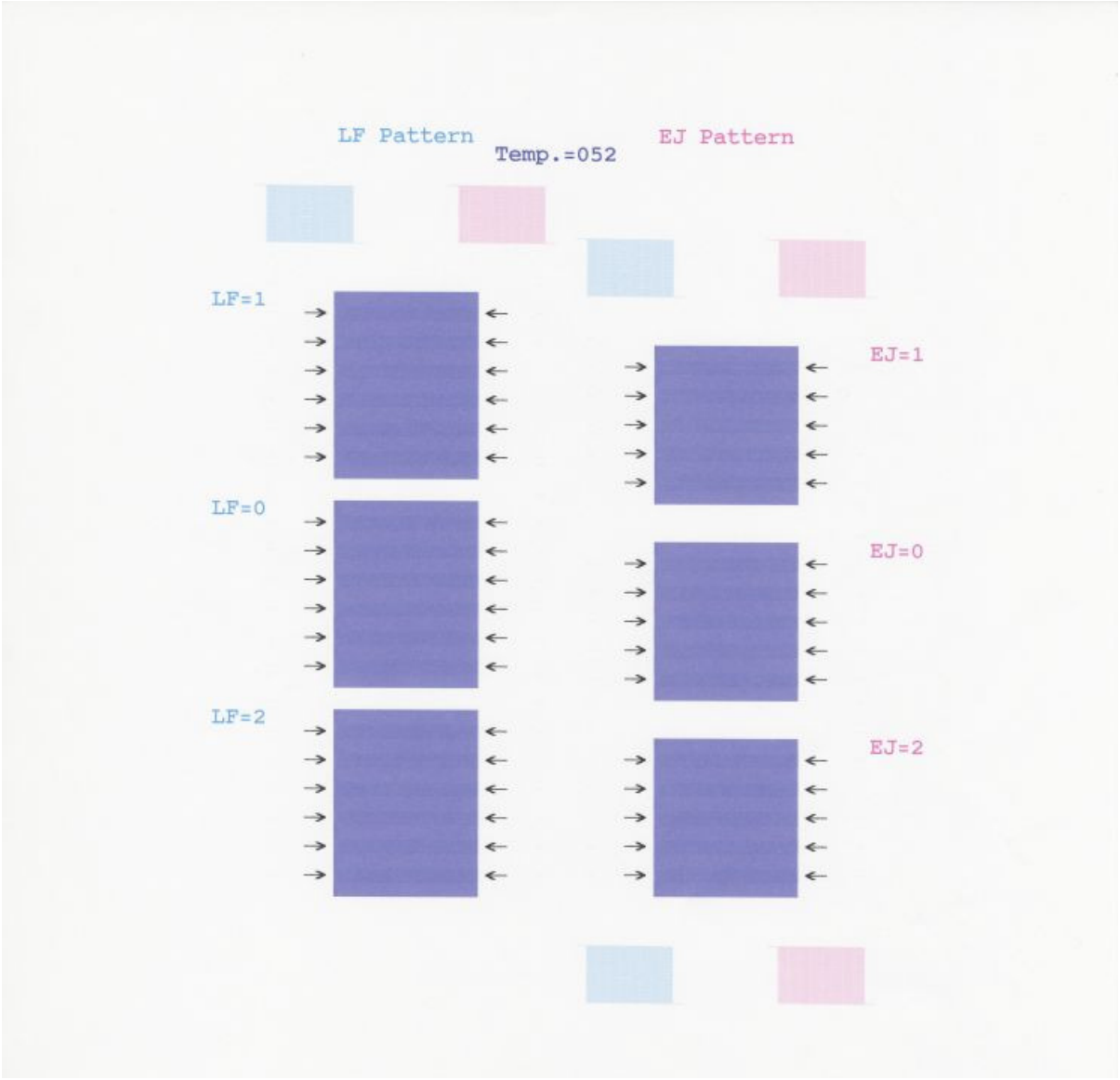
Note: At the production site, the E-MIP correction, which is equivalent to the LF / Eject correction, is performed using the special tool, and the E-MIP correction value is written to the EEPROM as the valid data.
When LF / Eject correction is performed, the LF / Eject correction values become valid instead of the E-MIP correction value (thus, in the initial EEPROM information print, "LF = *" and "EJ = *" are printed).

1) In the LF / Eject correction mode, press the Stop/Reset button the specified number of time(s) according to the paper to be used in LF / Eject correction listed in the table below, then press the ON/OFF button. (Set a sheet of selected paper in the rear tray.)

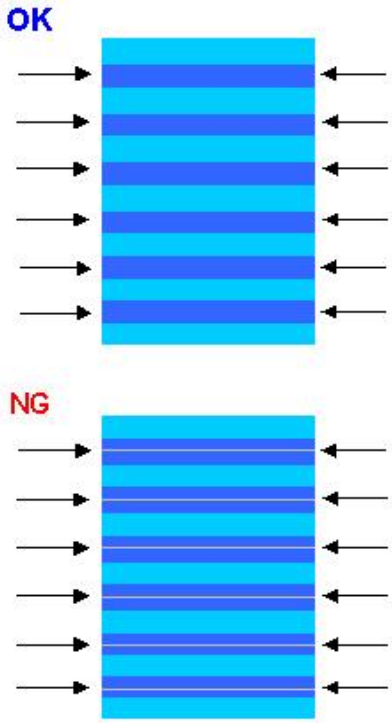
Time(s) (L)	Paper
1 time	HR-101
2 times	GF-500, Office Planner
3 times	HP BrightWhite
4 times	Canon Extra, STEINBEIS

- Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green.
- If the Stop/Reset button is NOT pressed, and only the ON/OFF button is pressed, the machine remains in the LF / Eject correction mode.
- If the Stop/Reset button is pressed 5 times or more, then the ON/OFF button is pressed, the machine returns to the service mode menu selection.

2) The LF / Eject correction pattern for the selected paper is printed. (LF correction values from 0 to 2 on the left, Eject correction values from 0 to 2 on the right)



3) In the printout, select the Pattern No. in which streaks or lines are the least noticeable.



3-1) LF correction value

Press the Stop/Reset button the same number of time(s) as the selected Pattern No., then press the ON/OFF button.

Selected pattern number	Number of times the Stop/Reset button is pressed (M)
1	1 time
0	0 times
2	2 times

Note

- Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green.
- If the Stop/Reset button is pressed 3 times or more, then the ON/OFF button is pressed, the machine returns to the service mode menu selection.

3-2) Eject correction value

Press the Stop/Reset button the same number of time(s) as the selected Pattern No., then press the ON/OFF button.

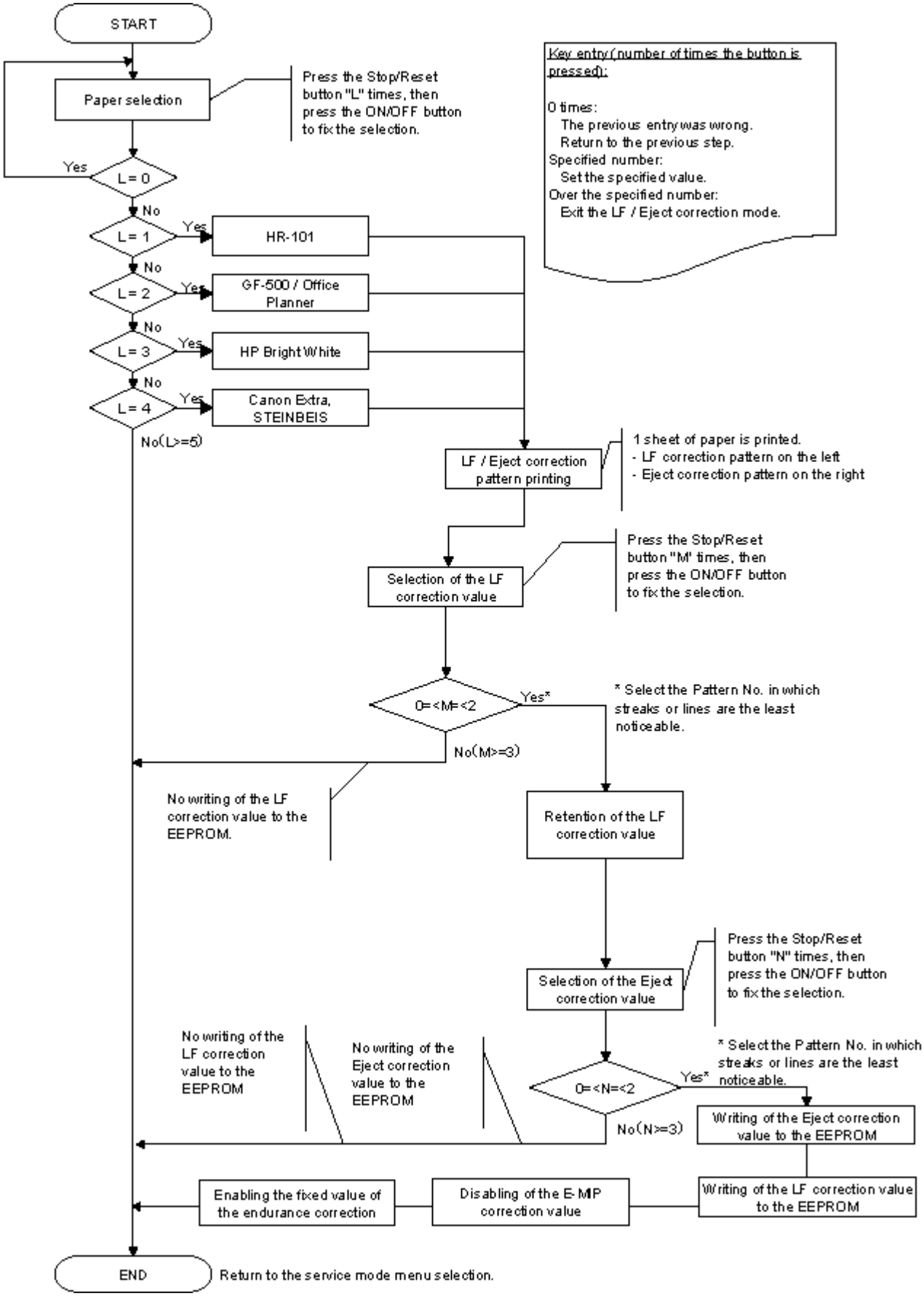
Selected pattern number	Number of times the Stop/Reset button is pressed (N)
1	1 time
0	0 times
2	2 times

Note

- Each time the Stop/Reset button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green.
- If the Stop/Reset button is pressed 3 times or more, then the ON/OFF button is pressed, the machine returns to the service mode menu selection.

4) The selected LF correction value or Eject correction value is written to the EEPROM, and the flag for the E-MIP correction value becomes OFF, enabling the LF / Eject correction values written to the EEPROM. Then, the flag for the fixed value of the endurance correction becomes ON, and the machine returns to the service mode menu selection.

LF / Eject correction flowchart:



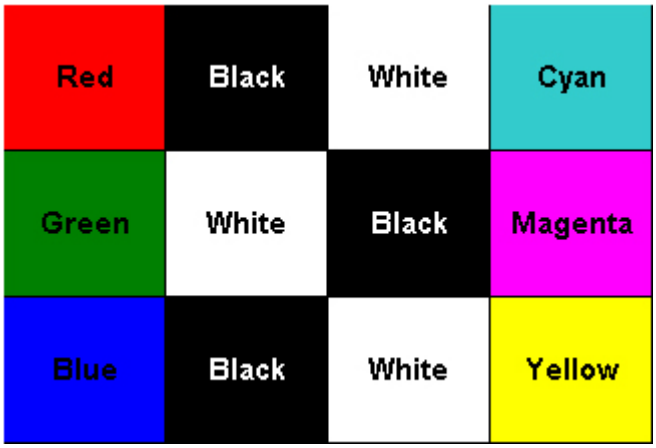
<Button and LCD test>

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

1) In the button and LCD test mode, press the Stop/Reset button. The LCD turns blue, waiting for a button to be pressed.
2) Press each button of the operation panel (total 45 buttons).w
   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 49 segments, representing each button. The color of a segment corresponding to the pressed button changes to red.
3) After all the 45 buttons are pressed, the remaining segments (6, 8, 15, and 49) turn red at the same time.

1. ON/OFF button	19. 08	34. 6
2. COPY button	20. Two-Sided button	35. Coded Dial button
3. FAX button	21. Search button	36. Back button
4. SCAN button	22. Menu button	37. Down cursor button
5. MEMORY CARD button	23. Up cursor button	38. Trimming button
7. Feed Switch button	24. Settings button	39. 7
9. 01	25. 1	40. 8
10. 02	26. 2	41. 9
11. 03	27. 3	42. Hook button
12. 04	28. Redial/Pause button	43. Color button
13. Enlarge/Reduce button	29. Left cursor button	44. Black button
14. FAX Quality button	30. OK button	45. Stop/Reset button
16. 05	31. Right cursor button	46. *
17. 06	32. 4	47. 0
18. 07	33. 5	48. #

4) After the whole LCD turns red, open the scanning unit (printer cover) to display the color pattern.
   If there is any segment left blue in step 3), the display remains unchanged even when the scanning unit (printer cover) is opened.



5) Press the ON/OFF button to return to the service mode menu selection.

(7) PTT parameter mode

Enter the PTT parameter mode in the user mode as below. (The PTT parameter mode cannot be entered in the service mode.)

1) In the user mode, press the SCAN button to enter the scan mode.

2-a) Press #, 9, 7, 6, 9, # to enter the PTT parameter mode.

2-b) Press #, 9, 7, 6, 8, # to print the PTT parameter setting value.

How to finalize the data: Press the OK button to finalize the data, then press the Stop/Reset button to save the data.

How to exit the PTT parameter mode: Press the ON/OFF button to write the saved data to the EEPROM and turn off the machine.

<PTT parameter mode operation procedures>

1. In the user mode, press the SCAN button to enter the scan mode and press #, 9, 7, 6, 9, #.
2. The following message is displayed on the LCD.

PTT PRAMETER #1 BIT SWITCH

   BIT SWITCH menu

3. Each time the right or left arrow key is pressed, the menu is changed.

PTT PRAMETER #2 NUMERIC PARAM.

   NUMERIC PARAM. menu

PTT PRAMETER #3 FAX TYPE

   Note: Not used in servicing.

PTT PRAMETER #4 NCU

   Note: Not used in servicing.

PTT PRAMETER #5 PTT SPECIAL

   Note: Not used in servicing.

PTT PRAMETER #6 FAX TEST

   Note: Not used in servicing.

4. Press the OK button when ?g#1 BIT SWITCH?h or ?g#2 NUMERIC PARAM.?h is displayed to enter either of those modes.

<#1 BIT SWITCH>

1. In the #1 BIT SWITCH menu, the following screen is displayed:

   ```
   PTT PRAMETER
   #1 BIT SWITCH
   SW#01  00000000
   ```

2. Each time the up or down cursor button (or the OK button) is pressed, the SW# changes from 01 to 20.
   Be cautious not to select the SW numbers which are not used in servicing.

   The SW numbers used in servicing: SW# 01, 02, 03, 04, 05, 06, 07, 10, 11, 13
   The SW numbers not used in servicing (as of December 2007): SW# 08, 09, 12, 14 to 20

3. Each SW# has 8bit information. Using the left or right cursor buttons, move the cursor to the bit to be changed, and enter the setting value (1 or 0).

   Bit7 -> 00000000 <- bit0

4. Press the OK button to finalize the setting value. For the definition and description of each bit of each SW#, refer to the " *G3 Facsimile Service Data Service Handbook*."

   English: QY8-13BC-010
   Japanese: QY8-12B6-020

5. Press the Stop/Reset button to save the setting value.
6. Press the ON/OFF button.

<#2 NUMERIC PARAM.>

1. In the #2 NUMERIC PARAM. menu, the following screen is displayed:

   ```
   PTT PRAMETER
   #2 NUMERIC PARAM
   01:  00000
   ```

2. Each time the up or down cursor button (or the OK button) is pressed, the SW# changes from 01 to 60.
   Be cautious not to select the SW numbers which are not used in servicing.

   The SW numbers used in servicing: SW# 01, 02, 04 to 09, 16 to 24, 26, 27, 30, 31, 41, 42
   The SW numbers not used in servicing (as of December 2007): SW# 03, 10 to 15, 25, 28, 29, 32 to 40, 43 to 60

3. Enter a desired setting value, using the right or left cursor button or numeric buttons.
   (Specifiable values vary depending on the item.)

4. Press the OK button to finalize the selected setting value. For the definition and description of each bit of the SW#, refer to the " *G3 Facsimile Service Data Service Handbook*."

   English: QY8-13BC-010
   Japanese: QY8-12B6-020

5. Press the Stop/Reset button to save the setting value.
6. Press the ON/OFF button.

<Confirmation of the setting values>

Print and confirm the PTT parameter setting values in the following procedures:

1) In the user mode, press the SCAN button, then press #, 9, 7, 6, 8, #.
2) The PTT parameter mode values are printed.
   For the definition and description of each bit of the SW#, refer to the "G3 Facsimile Service Data Service Handbook."

   English: QY8-13BC-010
   Japanese: QY8-12B6-020

PTT parameter print sample for the MX850 Japan model:

```
2007 01/01 05:54 FAX                                          001

                          **************************
0.520                     ***   PTT PARAMETER   ***
PRAM 14.1                 **************************

    #1 BIT SW

        SW01 --- 00000000    SW06 --- 00000000    SW11 --- 10000011    SW16 --- 00000000
        SW02 --- 00000000    SW07 --- 00000000    SW12 --- 00000000    SW17 --- 00000000
        SW03 --- 00000000    SW08 --- 00000000    SW13 --- 00000000    SW18 --- 00000000
        SW04 --- 00000100    SW09 --- 00000000    SW14 --- 00110000    SW19 --- 00000000
        SW05 --- 00101010    SW10 --- 00000000    SW15 --- 00000001    SW20 --- 00000000

    #2 NUMERIC PARAM.

        01:     0    13:   150    25:    58    37:     1    49:     0
        02:    10    14:   100    26:    60    38:    45    50:     0
        03:    10    15:     4    27:    44    39:    60    51:     0
        04:    10    16:   100    28:     8    40:    30    52:     0
        05:    15    17:     0    29:     6    41:   120    53:     0
        06:    12    18:   200    30:     0    42:   350    54:     0
        07:  5500    19:   100    31:     0    43:     0    55:     0
        08:  3500    20:     0    32:    10    44:     0    56:     0
        09:  1300    21:   200    33:    25    45:     0    57:     0
        10:   600    22:     4    34:     2    46:     0    58:     0
        11:    60    23:    44    35:     2    47:     0    59:     0
        12:   100    24:    10    36:    10    48:     0    60:     0

    #3 FAX TYPE   ----   JAPAN

    #4 NCU

       1. TONE/PULSE          2. DIAL TONE 1         3. DIAL TONE 2         4. BUSY TONE
                                                        --- 01000000           --- 10000000
        01:  ---    34        01:  ---    10        01:  ---   350        01:  ---     0
        02:  ---   650        02:  ---    80        02:  ---   130        02:  ---    35
        03:  ---    90        03:  ---    14        03:  ---    10        03:  ---    80
        04:  ---   180        04:  ---   130        04:  ---     0        04:  ---    35
        05:  ---     7        05:  ---    12        05:  ---     0        05:  ---    80
        06:  ---     9        06:  ---     7        06:  ---     5        06:  ---     1
                              07:  ---   130        07:  ---     3        07:  ---     3
                              08:  ---     4        08:  ---     0        08:  ---     3

       5. REORDER TONE        6. AUTO RX             7. CNG DETECT
            --- 10000000
        01:  ---     0        01:  ---    15        01:  ---    40
        02:  ---    35        02:  ---    60        02:  ---    60
        03:  ---    70        03:  ---    65        03:  ---    80
        04:  ---    35        04:  ---   120        04:  ---    40
        05:  ---    65        05:  ---  1100        05:  ---    64
        06:  ---     1        06:  ---     0        06:  ---     5
        07:  ---     4        07:  ---     2        07:  ---     2
        08:  ---     3        08:  ---    10        08:  ---    70
                              09:  ---    20
```

<3-3. Adjustment / Settings, (5) and (7)>

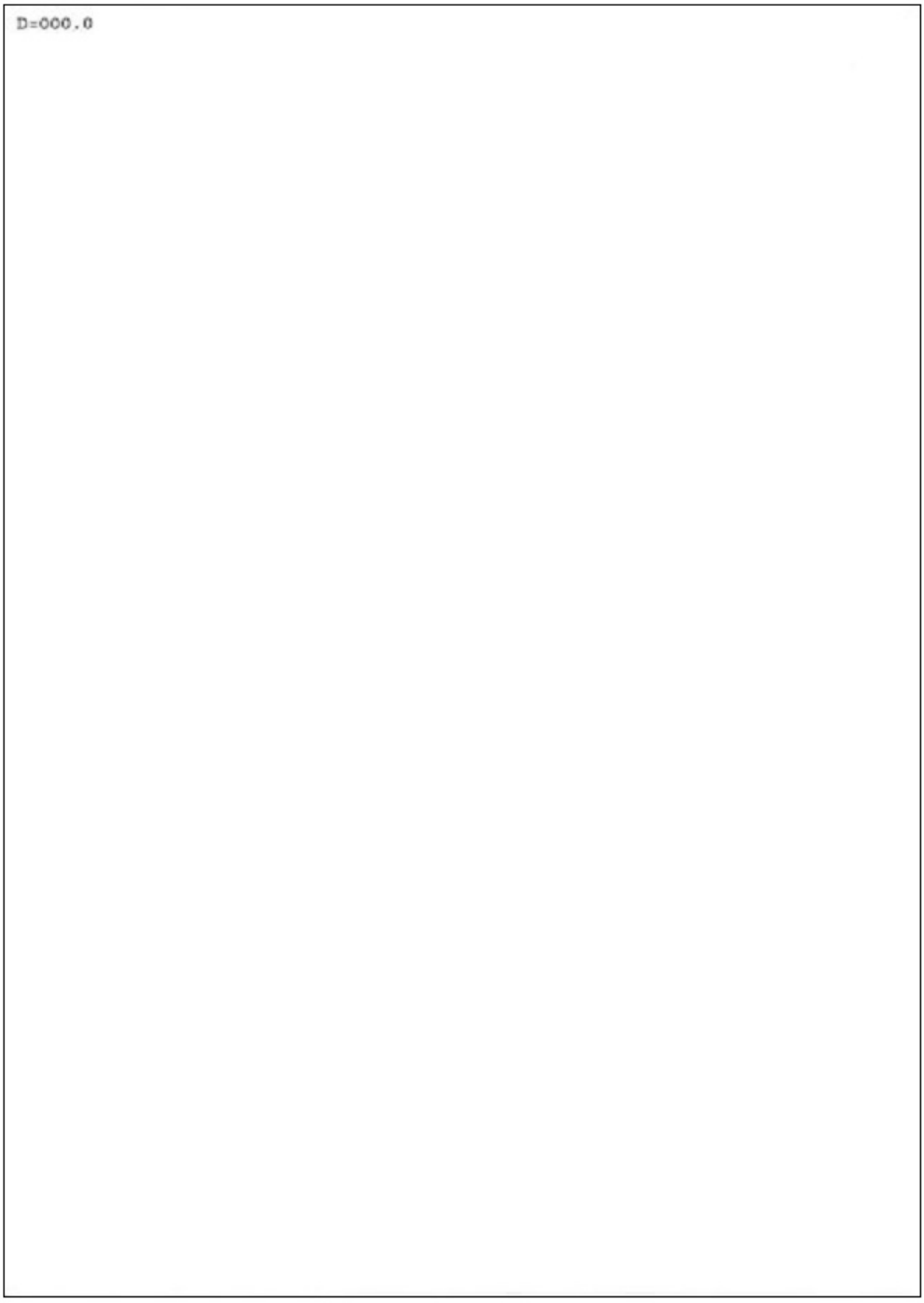
3-4. Verification Items

(1) Service test print

<Service test print sample>

(2) Ink absorber counter value print

<Print sample>



<3-4. Verification Items>

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/OFF 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.

CAUTION

(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.

Memo

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).

<4. MACHINE TRANSPORTATION>