

iX7000

Service Manual

Revision 0



QY8-13CJ-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 ^{*1} Perform in the service mode.	1 min.
	Destination settings (EEPROM settings)	- At logic board replacement	To set destination.	Service Tool ^{*1} 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 ^{*1} 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 ^{*1} Perform in the service mode.	1 min.
	Wetting liquid counter value setting (EEPROM settings)	- At logic board replacement - At blade cleaner unit replacement	To set the wetting liquid counter value.	Service Tool ^{*1} 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.
	Blade cleaner unit replacement	- When the wetting liquid is used up	To replace the blade cleaner unit with a new one.	Screwdriver, etc.	10 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.
	Automatic print head alignment	- At print head replacement - At logic board replacement	To secure the dot placement accuracy.	None. (Plain paper) Perform in the user mode.	6 min.
	Manual print				10 min.

	head alignment	- When print quality is not satisfying			
	Grease application	- At carriage unit replacement - At other part replacement	To maintain sliding properties of the carriage shaft, other sliding parts, and gears.	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* ¹ Perform in the service mode.	1 min.
	LF / Eject correction	- At logic board replacement - At paper feed roller replacement - At platen unit replacement	To correct the paper feeding amount according to each LF and eject roller.	Service Tool* ¹ Perform in the service mode.	5 min.

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



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) Periodic maintenance

No periodic maintenance is necessary.

(3) Periodic replacement parts

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

(4) Replacement consumables

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

1-2. Customer Maintenance

Adjustment	Timing	Purpose	Tool	Approx. time
Automatic print head alignment	<ul style="list-style-type: none"> - At print head replacement - When print quality is not satisfying (uneven printing, etc.) 	To ensure accurate dot placement.	<ul style="list-style-type: none"> - Printer buttons - Computer (printer driver) 	6 min.
Manual print head alignment			<ul style="list-style-type: none"> - Computer (printer driver) 	10 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	<ul style="list-style-type: none"> - Printer buttons - Computer (printer driver) 	1 min.
Print head deep cleaning	When print quality is not satisfying, and not improved by print head cleaning.	To improve nozzle conditions.	<ul style="list-style-type: none"> - Computer (printer driver) 	2 min.
Ink tank replacement	When an ink tank becomes empty. ("No ink error" displayed on the PC monitor, or short flashing of an ink tank LED)	To replace the empty ink tank.	---	1 min.
Pick-up roller cleaning (Roller Cleaning)	<ul style="list-style-type: none"> - When paper does not feed properly. - When the front side of the paper is smeared. 	To clean the pick-up rollers of the rear tray and the cassette.	<ul style="list-style-type: none"> - Computer (printer 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.)	<ul style="list-style-type: none"> - Printer buttons - Computer (printer driver) 	1 min.
Exterior cleaning	When necessary.	To clean the printer exterior, or to wipe off dusts.	Soft, dry, and clean lint-free cloth.	1 min.
Ink agitation	When uneven printing occurs, or when the automatic ink agitation ("Execute ink quality maintenance automatically" in the printer driver) is disabled for one or more weeks.	To prevent sedimentation of the pigment.	<ul style="list-style-type: none"> - Computer (printer driver) 	2 min.
Paper feed roller cleaning (Sheet Cleaning)	When "You need to execute sheet cleaning because the predetermined print count has been reached." is displayed on the computer (at every 5,000 pages of feeding from the cassette). Use the Cleaning Sheet.	To clean the paper feed rollers.	<ul style="list-style-type: none"> - Cleaning sheet - Computer (printer driver) 	2 min.

1-3. Special Tools

Name	Tool No.	Application	Remarks
FLOIL KG-107A	QY9-0057-000	To the printer's sliding portions.	In common with other models on the market.

1-4. Sensors

No.	Sensor	Function	Possible problems
1	Top cover open sensor	Detects opening and closing of the top cover.	- The carriage does not move to the center.
2	LF position sensor	Detects the standard rotation position of the feed roller.	- LF position error
3	Carriage encoder sensor	Detects the position of the timing slit film, and controls printing.	- Printing shifts from the correct position. - Carriage position error
4	Carriage lift sensor	Detects the position of the carriage lift cam.	- Carriage lift mechanism error
5	Cassette sensor	Detects the cassette.	- No cassette
6	Paper sensor for manual feeding	Detects paper in the front tray and manual feed slot	- No paper in the front tray - Paper in the manual feed slot - Paper not properly set in the manual feed slot
7	Valve cam sensor	Controls valve unit operation.	- Reactor error
8	PE sensor	Detects paper feeding and ejection.	- No paper - Paper jam
9	Purge cam sensor	Controls purging operation.	- PG cam sensor error
10	Pump roller sensor	Detects the position of the pump roller	- Pump roller sensor error
11	Buffer tank sensor	Detects Clear ink in the buffer tank	- No Clear ink - Reactor error
12	Clear ink tank sensor	Detects the Clear ink tank.	- No Clear ink tank
13	LF encoder sensor	Detects rotation of the LF encoder, and controls its drive.	- Uneven printing - LF position error
14	Eject encoder sensor	Detects rotation of the eject encoder, and controls its drive.	- Uneven printing at the trailing edge of paper - Eject encoder error
15	Ink sensor	Detects the position of an ink tank.	- No recognition of an ink tank - Wrong position of an ink tank
16	Temperature sensor	Detects the temperature of the inside of the printer.	- Internal temperature error
17	Front tray open sensor	Detects opening and closing of the front tray.	- Front tray closed

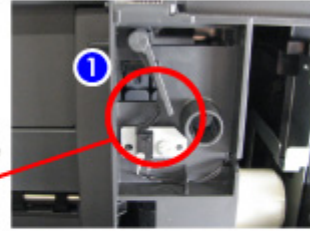
18	ASF cam sensor	Detects the position of the ASF cam (for paper feeding from the rear tray).	- ASF cam sensor error - Paper feeding problem
19	RR encoder sensor	Detects rotation of the Clear ink application roller encoder, and controls its drive.	- RR position error
20	AP encoder sensor	Controls paper feeding and purging operation.	- AP position error
21	PF cam sensor	Detects the position of the cassette (and front tray) paper feeding cam (for paper feeding from the cassette).	- No paper feeding from the cassette (from the front tray) - PF cam sensor error
22	Rear cover PE sensor	Detects paper feeding and ejection at the rear cover.	- No paper - Paper jam in the rear cover
23	Reactor roller paper jam sensor	Detects if paper winds around the reactor roller.	- Paper jam
24	PF encoder sensor	Detects rotation of the encoder during paper feeding from the cassette, and controls its drive.	- PF position error
25	Liquid sensor	Detects supply of the Clear ink to the Clear ink application roller.	- Reactor error
26	PFPE sensor	Detects paper feeding and ejection from the cassette (or front tray).	- No paper in the cassette - Paper jam in the cassette - Paper not properly set in the manual feed slot



Click on the image to enlarge it.



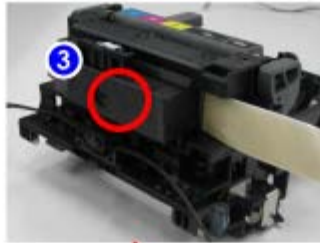
1. Top Cover Open Sensor



2. LF Position Sensor



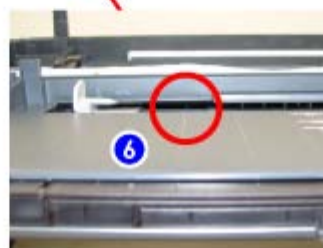
3. Carriage Encoder Sensor



4. Carriage Lift Sensor



5. Cassette Sensor

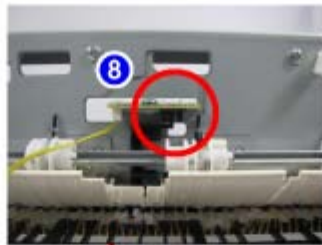


6. Paper Sensor for Manual Feeding

7. Valve Cam Sensor



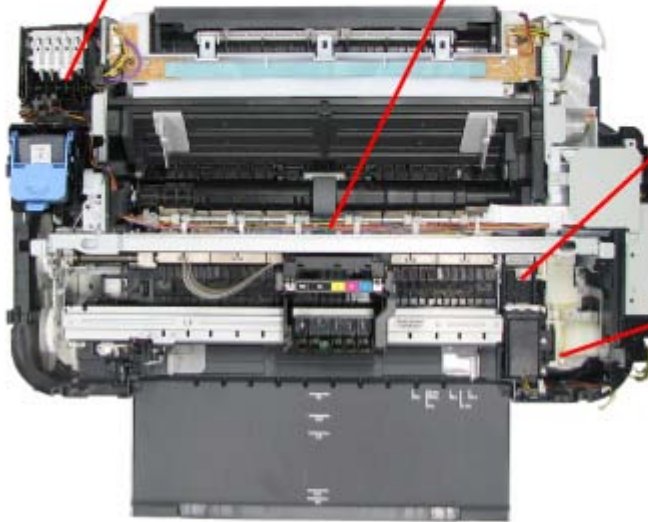
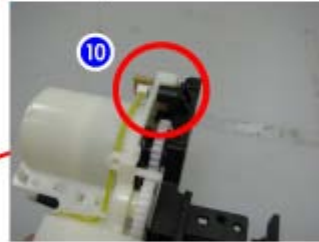
8. PE Sensor



9. Purge Cam Sensor



10. Pump Roller Sensor



11. Buffer Tank Sensor



12. Clear Ink Tank Sensor



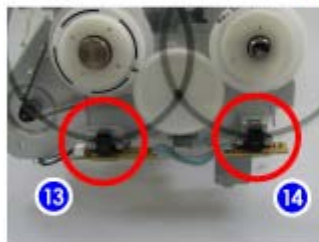
15. Ink Sensor

16. Temperature Sensor

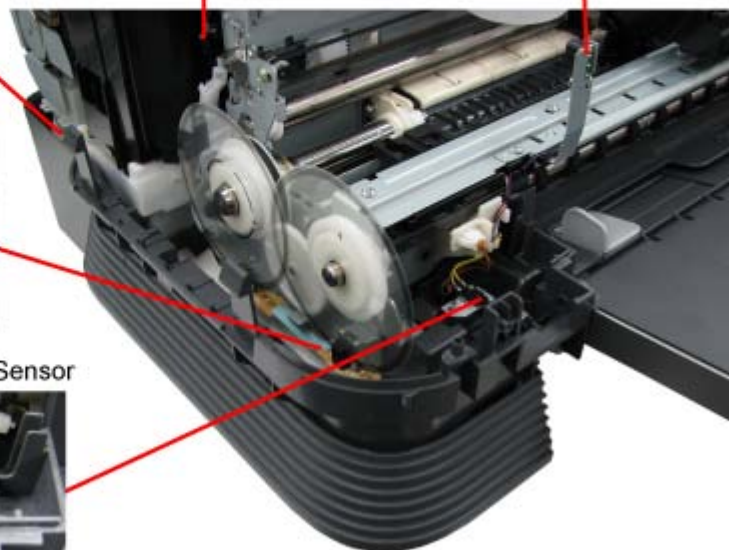


13. LF Encoder Sensor

14. Eject Encoder Sensor



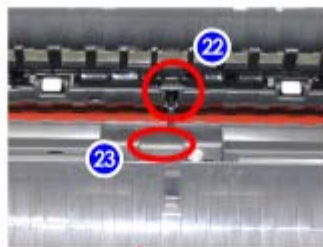
17. Front Tray Open Sensor



- 18. ASF Cam Sensor
- 19. RR Encoder Sensor
- 20. AP Encoder Sensor
- 21. PF Cam Sensor



- 22. Rear Cover PE Sensor
- 23. Reactor Roller Paper Jam Sensor



25. Liquid Sensor



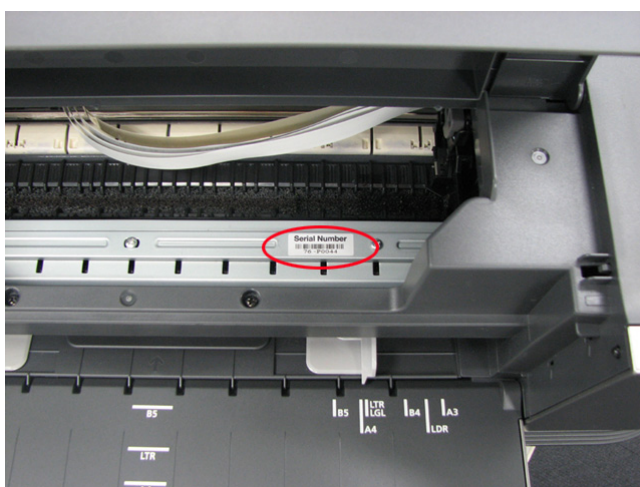
26. PFPE Sensor



24. PF Encoder Sensor

1-5. Serial Number Location

On the spur holder (visible when the top cover is opened).



When the printer power is OFF.



When the printer power is ON.



2. LIST OF ERROR DISPLAY / TROUBLESHOOTING

Errors and warnings are displayed by the following ways:

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

Buttons valid when an operator call error occurs:

1. Power button: To turn the printer off and on again.
2. Resume/Cancel button: To cancel the job at error occurrence, and to clear the error.

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

Alarm LED blinking in orange	Error	Error code	U No.	Solution	Parts that are likely to be faulty
2 times	No paper in the rear tray.	[1000]	---	Confirm that the rear tray is selected as the paper source. (The rear tray is only for photo papers and post cards.) Set the paper in the rear tray, and press the Resume/Cancel button.	- ASF unit - Pressure roller unit - PE sensor - Paper feed motor
	No paper in the cassette.	[1003]	---	Confirm that the cassette is selected as the paper source. (The cassette is only for plain paper.) Set the paper in the cassette, and press the Resume/Cancel button.	- ASF unit - Cassette
	No paper in the manual feed slot..	[1005]	---	Confirm that the manual feed is selected as the paper source. (Manual feeding is available only with plain paper.) Set the paper in the manual feed slot, and press the Resume/Cancel button.	- Bottom case unit
3 times	Front tray closed.	[1250]	---	Open the front tray. (The error is indicated when the front tray is not opened at start of printing, or when the front tray is closed during printing.)	- Bottom case unit
	Paper jam in the rear tray.	[1300]	---	Remove the jammed paper or foreign material causing a paper	- ASF unit - Pressure roller unit

			jam (paper remainings, clips, pens, etc.), and press the Resume/Cancel button.	<ul style="list-style-type: none"> - PE sensor - Feed roller - Platen unit
	Paper jam in the cassette.	[1303]	---	Remove the jammed paper or foreign material causing a paper jam (paper remainings, clips, pens, etc.), and press the Resume/Cancel button. <ul style="list-style-type: none"> - ASF unit - Pressure roller unit - PE sensor - Feed roller - Platen unit - Cassette
	Paper jam during automatic duplex printing.	[1304]	---	Remove the jammed paper or foreign material causing a paper jam (paper remainings, clips, pens, etc.), and press the Resume/Cancel button. <ul style="list-style-type: none"> - ASF unit - Bottom case unit - PE sensor - Feed roller - Platen unit
	Paper in the manual feed slot.	[1306]	---	Remove the paper from the manual feed slot, and press the Resume/Cancel button. (The error is indicated when paper is left in the manual feed slot at start of paper feeding from the cassette.) <ul style="list-style-type: none"> - Rear tray unit - Rear tray holder R unit
	Paper jam in the rear cover.	[1307]	---	Open the rear cover, remove the jammed paper or foreign material causing a paper jam (paper remainings, clips, pens, etc.), then press the Resume/Cancel button. (The error is indicated at paper jam in the rear cover during paper feeding from the cassette or during manual paper feeding from the front tray.) <ul style="list-style-type: none"> - ASF unit
4 times	Ink may have run out.	[1600]	U044	Replace the applicable ink tank, or press the Resume/Cancel button to clear the error without ink tank replacement. When the error is cleared by pressing the Resume/Cancel button, ink may run out during printing. <ul style="list-style-type: none"> - Ink tank - Logic board
	Ink tank not installed.	[1660]	U043	Install the applicable ink tank(s) properly, and confirm that the LED's of all the ink tanks light red. <ul style="list-style-type: none"> - Ink tank - Carriage unit - Logic board
	Clear ink is low.	[1692]	U045	Replace the Clear ink tank, or press the Resume/Cancel button to clear the error without ink <ul style="list-style-type: none"> - Clear ink tank - Valve unit - ASF unit

				tank replacement. When the error is cleared by pressing the Resume/Cancel button, Clear ink may run out during printing.	
5 times	Print head not installed, or not properly installed.	[1401]	U051	Install the print head properly.	- Print head - Carriage unit - Logic board
	Faulty print head ID.		U052	Re-set the print head. If the error is not cleared, the print head may be defective. Replace the print head.	- Print head - Logic board
	Print head temperature sensor error.	[1403]			
	Faulty EEPROM data of the print head.	[1405]			
6 times	Paper not set properly in the manual feed slot.	[1330]	---	Set the paper in the manual feed slot properly, and press the Resume/Cancel button. (The error is indicated when paper does not feed from the front tray though paper is supposed to be set in the manual feed slot.)	- ASF unit - Bottom case unit - Cassette
7 times	Multiple ink tanks of the same color installed.	[1487]	U071	Replace the wrong ink tank(s) with the correct one(s).	- Ink tank - Logic board
	Ink tank in a wrong position.	[1680]	U072	Install the ink tank(s) in the correct position.	
8 times	Warning: The ink absorber becomes almost full.	[1700]	---	Replace the ink absorber, and reset its counter. [See 4-4. Special Notes on Servicing, (4) Ink absorber counter setting.] Pressing the Resume/Cancel 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.	- Absorber kit
10 times	Paper size not supported for automatic duplex printing.	[1310]	---	Set a supported size of paper, and press the Resume/Cancel button.	- ASF unit

	No cassette.	[1282]	---	Set the cassette, and press the Resume/Cancel button.	- Bottom case unit
11 times	Failed in automatic print head alignment	[2500]	---	Press the Resume/Cancel button to clear the error, then perform the automatic print head alignment again.	- Print head - Ink tank - Carriage unit - Logic board
	Paper size smaller than specified	[1062]	---	Press the Resume/Cancel button. (The paper will be ejected, and the print job will be cancelled automatically.) The error is indicated when the size of paper actually set is smaller than the one selected in the printer driver, to prevent printing on the platen. (e.g. When A4 paper is set in the printer though A3 is selected in the printer driver, the error occurs. If A3 paper is set in the printer and A4 is selected in the printer driver, then the error does not occur.)	- Carriage unit - Logic board
	Smearing on the paper feed rollers	[1870] *1	---	Perform Sheet cleaning, using the Cleaning Sheet. (The error is indicated at every 5,000 pages of paper feeding from the cassette.)	
12 times	Ink tank replaced during printing	[1350] *1	---	If ink runs out and the empty ink tank is replaced during printing, ink agitation is performed after the ink tank replacement, then printing stops with the message displayed on the screen. To resume printing, press the Resume/Cancel button. Printing resumes after cleaning is performed.	
14 times	Ink tank not recognized.	[1684]	U140	A non-supported ink tank (an ink tank that is sold in a different region from where the printer was purchased) is installed (the ink tank LED is turned off). Install the supported ink tanks.	- Ink tank - Logic board - Carriage unit
15 times	Ink tank not recognized.	[1682]	U150	A hardware error occurred in an ink tank (the ink tank LED is turned off). Replace the ink	- Ink tank - Logic board - Carriage unit

				tank(s).	
16 times	No Clear ink (during printing).	[1693]	U165	<p>Replace the Clear ink tank, or press the Resume/Cancel button to clear the error without ink tank replacement. When the error is cleared by pressing the Resume/Cancel button, the print job is cancelled.</p> <p>Printing on plain paper cannot be performed until the Clear ink tank is replaced with a new one. If the error persists even after replacement of the Clear ink tank, press and hold the Resume/Cancel button in the user mode until the Alarm lamp blinks 9 times, release the button, then remove and re-install the Clear ink tank.</p>	<ul style="list-style-type: none"> - Clear ink tank - ASF unit - Valve unit - Logic board
	No Clear ink (printing is not performed).	[1694]	U166	<p>Replace the Clear ink tank, and press the Resume/Cancel button.</p> <p>Unless the Clear ink tank is replaced with a new one, the error will not be cleared only by pressing the Resume/Cancel button.</p> <p>If the error persists even after replacement of the Clear ink tank, press and hold the Resume/Cancel button in the user mode until the Alarm lamp blinks 9 times, release the button, then remove and re-install the Clear ink tank.</p>	<ul style="list-style-type: none"> - Clear ink tank - ASF unit - Valve unit - Logic board
	Clear ink tank not installed.	[1696, 1697]	---	Install the Clear ink tank.	<ul style="list-style-type: none"> - Clear ink tank holder - Logic board
17 times	No ink (no raw ink).	[1688, 1698]	U172	<p>Replace the empty ink tank(s). This error is indicated when the applicable ink tank has never been removed until ink is used up. (Printing cannot be continued even when the Resume/Cancel button is pressed for 5 sec. or longer.) If the ink tank is removed and re-set again (without being</p>	<ul style="list-style-type: none"> - Ink tank - Logic board - Carriage unit

				replaced with a new one), the error of 18 blinks is indicated.	
18 times	Remaining ink amount unknown.	[1683, 1699]	U182	<p>Replace the ink tank with a new one.</p> <p>This error is indicated when the applicable ink tank has been removed before the error occurrence.</p> <p>Printing with an empty ink tank can damage the printer.</p> <p>To continue printing without replacing the ink tank(s), press the Resume/Cancel button for 5 sec. or longer to disable the function to detect the remaining ink amount. After the operation, it is recorded in the printer that the function to detect the remaining ink amount was disabled.</p>	<ul style="list-style-type: none"> - Ink tank - Logic board - Carriage unit

*1: In the EEPROM information print in the service mode, the error is indicated as "FFFF" (the two types of errors are not distinguished since neither of them are a trouble).

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, "A printer error has occurred. Turn the printer off and then on again. If this doesn't clear the error, see the user's guide for more detail." is displayed in the printer driver Status Monitor.

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

			feeding from the rear tray.	- ASF unit - Logic board
6 times	Internal temperature error	[5400]	The internal temperature is not normal.	(1) Cable connection (2) Part replacement: - Spur base unit - Logic board - Print head
7 times	Ink absorber full	[5B00, 5B01]	The ink absorber is supposed to be full. <u>Error codes:</u> 5B00: Overseas 5B01: Japan (In EEPROM information print, "5B00" is printed instead of "5B01.")	(1) Ink absorber condition (2) Part replacement: - Ink absorber kit (3) Ink absorber counter value in the EEPROM: reset the ink absorber counter.
	No wetting liquid	[5250]	The wetting liquid is used up.	(1) Part replacement: - Blade cleaner unit (2) Wetting liquid counter value in the EEPROM: reset the wetting liquid counter.
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
	Reactor error	[B300]	A hardware error occurred in supplying Clear ink.	(1) Part replacement: - Valve unit - Sheet feed unit - Logic board
9 times	EEPROM error	[6800, 6801]	A problem occurred in reading from or writing to the EEPROM.	(1) Part replacement: - Logic board
10 times	VH monitor error	[B200]	The VH (print head drive voltage) is out of the specified value.	(1) Part replacement: - Print head and logic board (Replace them at the same time.) - Carriage unit - 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: - Carriage lift gear unit - Carriage lift sensor - ASF unit

				- Logic board
12 times	AP position error	[6A00]	An error occurred in the AP motor (on the right side of the ASF unit).	(1) Foreign material or paper debris around the ASF unit: remove foreign material.
13 times	PF position error	[6B00]	An error occurred in the PF motor (paper feeding from the cassette).	(2) Cable connection (3) Part replacement: - ASF unit - Logic board
	RR position error	[B310]	An error occurred in the RR (reactor roller) motor.	
14 times	PF cam sensor error	[6B10]	An error occurred during paper feeding from the cassette.	(1) Cable connection (2) Part replacement: - ASF unit - Logic board
16 times	Pump roller sensor error	[5C20]	The pump roller position is not detected.	(1) Cable connection (2) Part replacement: - Purge unit
17 times	Paper eject encoder error	[6010]	An error occurred in the paper eject encoder signal.	(1) Smearing or scratches on the EJ slit disk film: clean the EJ slit disk film. (2) Foreign material or paper debris in the paper path: remove foreign material. (3) Cable connection (4) Part replacement: - EJ slit disk 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 base unit - Logic board
20 times	Other errors	[6500]	An unidentified error or a network error occurred.	(1) Part replacement: - 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 [4-4. Special Notes on Servicing, \(4\) Ink absorber counter setting](#), for details.]

2-3. Troubleshooting by Symptom

	Symptom	Solution (Parts that are likely to be faulty)
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 cover unit
	A strange noise occurs.	(1) Examine and remove any foreign material or paper debris. (2) Replace the following item(s): - The part generating the strange noise - Logic board
	Paper feed problems (multi-feeding, skewed feeding, no feeding).	(1) Examine and remove any foreign material or paper debris. (2) Confirm cable connection. (3) Replace the following item(s): - ASF unit - PE sensor board - Pressure roller unit - Platen unit
Unsatisfactory print quality	No printing, or no color ejected. Faint printing, or white lines on printouts. Uneven printing. Improper color hue.	(1) Confirm the ink tank conditions: - Confirmation of the air-through of an ink tank - Re-setting of an ink tank (2) Remove foreign material from the purge unit caps, if any. (3) 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 unit
	Paper gets smeared.	(1) Clean the inside of the printer. (2) Perform bottom plate cleaning. (3) Perform pick-up roller cleaning (Roller Cleaning).
	The back side of paper gets smeared.	(1) Clean the inside of the printer. (2) Perform bottom plate cleaning. (3) Examine the platen ink absorber. (4) Examine the paper eject roller. (5) Replace the following item(s): - The part in the paper path causing the

		smearing
	Graphic or text is enlarged on printouts in the carriage movement direction.	<p>(1) Confirm that the timing slit film is free from smearing or scratches:</p> <ul style="list-style-type: none"> - Cleaning of the timing slit film. <p>(2) Replace the following item(s):</p> <ul style="list-style-type: none"> - Timing slit film - Carriage unit - Logic board
	Graphic or text is enlarged on printouts in the paper feed direction.	<p>(1) Confirm that the LF / EJ slit film is free from smearing or scratches:</p> <ul style="list-style-type: none"> - Cleaning of the LF / EJ slit film.. <p>(2) Replace the following item(s):</p> <ul style="list-style-type: none"> - LF / EJ slit film - LF / EJ timing sensor unit - Platen unit - 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 / TROUBLESHOOTING> ▶ ▲



3. REPAIR

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

Service part	Est. time required (min.)* ¹	Recommended removal procedure / Notes on replacement* ²	Adjustment / settings	Operation check
Logic board ass'y	10	(1) External housing (2) Logic board cover (3) 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).	After replacement: 1. Initialize the EEPROM. 2. Set the ink absorber counter value. 3. Set the destination in the EEPROM. 4. Check the ink system function. 5. Perform LF / Eject correction. 6. Set the wetting liquid counter value. [See 4-2. Service Mode, for details.] 7. Perform print head alignment in the user mode.	- EEPROM information print - Service test print* ² - Printing via USB connection
Absorber kit	15	(1) External housing (2) Printer unit (3) Absorber kit	After replacement: 1. Reset the ink absorber counter. [See 4-2. Service Mode, for details.]	- Ink absorber counter value print (After the ink absorber counter is reset, the counter value is printed automatically.)
Blade cleaner unit	5	(1) External housing (2) Blade cleaner unit	After replacement: 1. Reset the wetting liquid counter. [See 4-2. Service Mode, for details.]	- EEPROM information print
Carriage unit	15	(1) External housing (2) Logic board holder (3) Carriage unit - The screws on the carriage shaft adjustment plate are allowed to be loosened only at replacement of the carriage unit. DO NOT loosen them in other cases.	At replacement: 1. Apply grease to the sliding portions of the carriage shaft. [See 4-3. Grease Application, for details.] 2. Check the ink system function. [See 4-2. Service Mode, for details.]	- Service test print (Confirm ink system function.)

			3. Perform print head alignment in the user mode.	
Paper feed motor	15	(1) External housing (2) Printer unit (3) Paper feed motor - The screws securing the paper feed motor are allowed to be loosened only for paper feed motor replacement. DO NOT loosen them in other cases.	At replacement: 1. Adjust the paper feed motor. [See 4-4. Special Notes on Servicing, (3) Paper feed motor adjustment , for details.]	- EEPROM information print - Service test print
Platen unit	20	(1) External housing (2) Printer unit (3) Spur base unit (4) Platen unit	After replacement: 1. Perform LF / Eject correction in the service mode. [See 4-2. Service Mode , for details.]	- EEPROM information print - Service test print
Spur base unit	15	(1) External housing (2) Printer unit (3) Spur unit - DO NOT contact the spur edges.	After replacement: 1. Confirm the printer operation. [See 4-5. Verification After Repair , for details.]	- EEPROM information print - Service test print
Purge unit	15	(1) External housing (2) Printer unit (3) Blade cleaner unit (4) Purge unit	After replacement: 1. Confirm the purging operation and the printer operation. [See 4-5. Verification After Repair for details.]	- Service test print
Feed roller ass'y	35	(1) External housing (2) Printer unit (3) Spur base unit (4) Platen unit (5) Sheet feed unit (6) Pressure roller ass'y (7) Feed roller ass'y	After replacement: 1. Perform LF / Eject correction in the service mode. [See 4-2. Service Mode , for details.]	- Service test print
Timing slit strip film	5	(1) External housing (2) Timing slit strip film / Timing slit disk feed film - Upon contact with the film, wipe the film with ethanol.	After replacement: 1. Perform print head alignment in the user mode. 2. Perform LF / Eject correction in the service mode. [See 4-2. Service Mode , for details.]	- EEPROM information print - Service test print
Timing slit disk feed film	5	- Confirm no grease is on the film. (Wipe off any grease thoroughly with ethanol.)		

		- Do not bend the film.		
Print head	1		After replacement: 1. Perform print head alignment in the user mode. 2. Perform nozzle check pattern printing in the user mode.	- Service test print
Sheet feed unit	25	(1) External housing (2) Printer unit (3) Logic board ass'y (4) Sheet feed unit	After replacement: 1. Confirm the printer operation. [See 4-5. Verification After Repair , for details.]	- EEPROM information print - Service test print *2
Valve unit	15	(1) External housing (2) Printer unit (3) Clear ink tank holder (4) Valve unit	After replacement: 1. Confirm the printer operation. [See 4-5. Verification After Repair , for details.]	- EEPROM information print - Service test print *2

*1: Not including adjustment time after replacement.

*2: Be sure to perform the service test print. For details, see [4-4. Special Notes on Servicing, \(1\) Service test print](#).

General notes:

- Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly. See [3-2. Part Replacement Procedures](#) or the Parts Catalog for details.
- Do not drop the ferrite core, which may cause damage.
- Protect electrical parts from damage due to static electricity.
- Before removing a unit, after removing the power cord, allow the printer to sit for approx. 1 minute (for capacitor discharging to protect the logic board ass'y from damages).
- Do not touch the timing slit strip film, timing slit disk feed film, and timing slit disk eject film. No grease or abrasion is allowed.
- Protect the units from soiled with ink.
- Protect the housing from scratches.
- Exercise caution with the screws, as follows:
 - i. The screws of the paper feed motor may be loosened only at replacement of the paper feed motor unit (DO NOT loosen them in other cases). [See [4-4. Special Notes on Servicing, \(3\) Paper feed motor adjustment](#), for details.]

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

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

(1) External housing removal

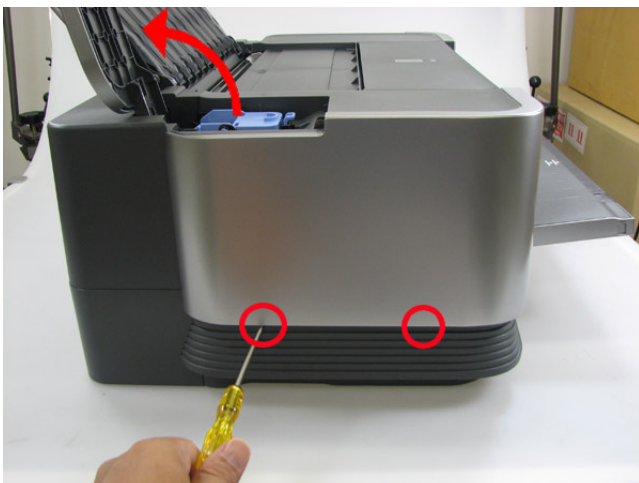
- 1) Remove the cassette.



- 2) Remove the LAN connector cap, if attached.

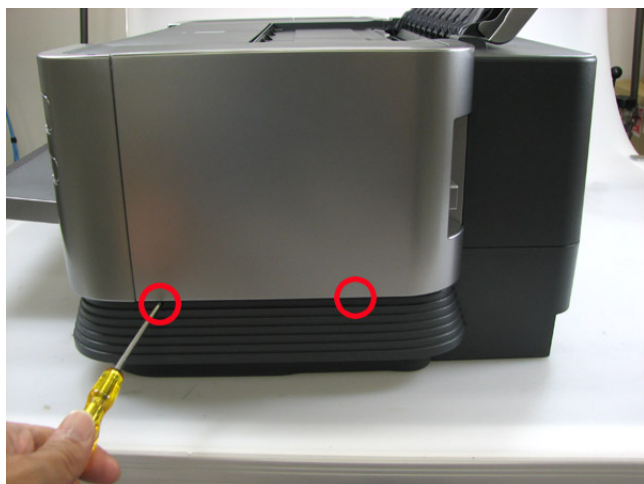


- 3) Remove the side cover L.
Open the Clear ink tank cover, and release 3 tabs.



4) Remove the side cover R.

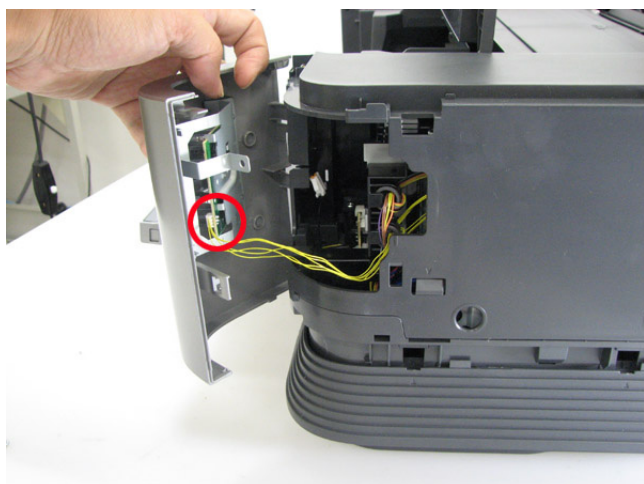
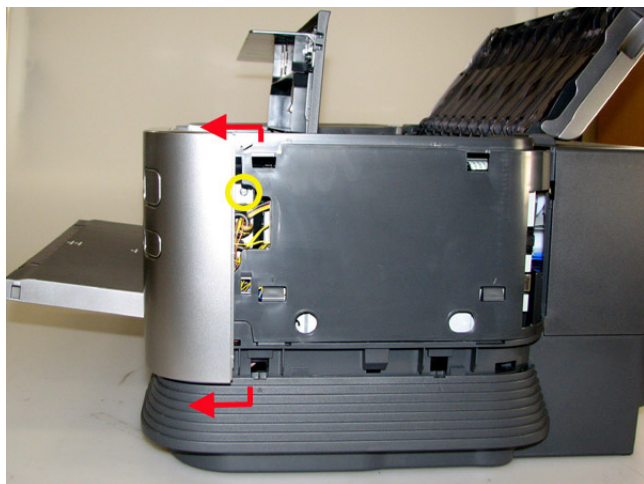
Release 2 tabs.



5) Remove the panel cover.

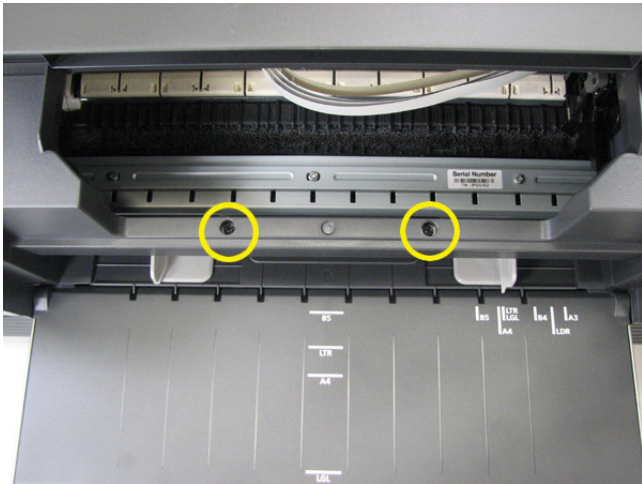
Remove one screw. While pulling the top and bottom edges of the panel outward, slide the panel cover toward you to release the two tabs on the front of the printer.

Disconnect one connector.



6) Remove the front cover.

Remove 2 screws.

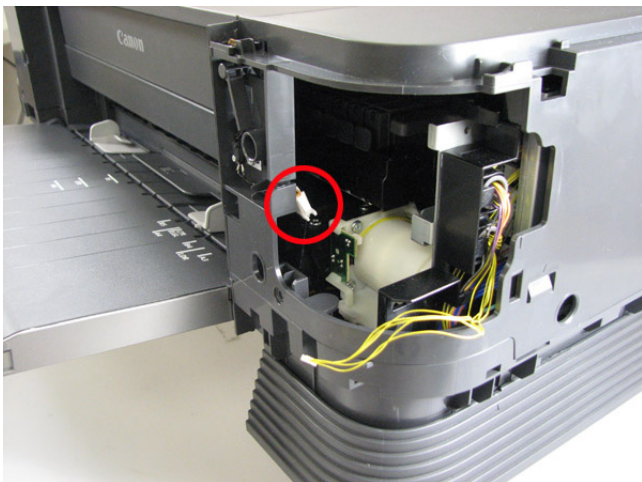


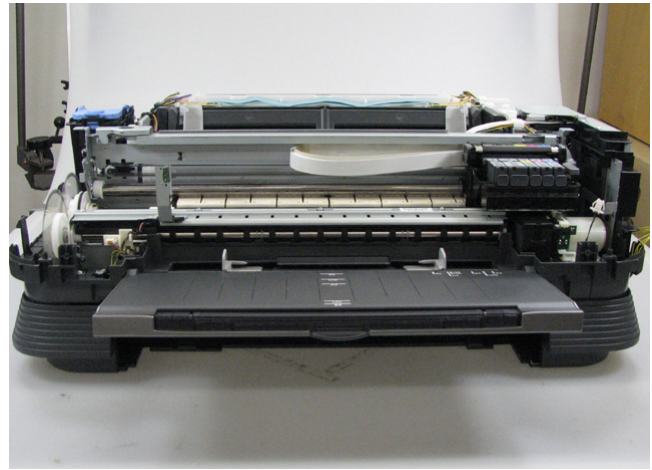
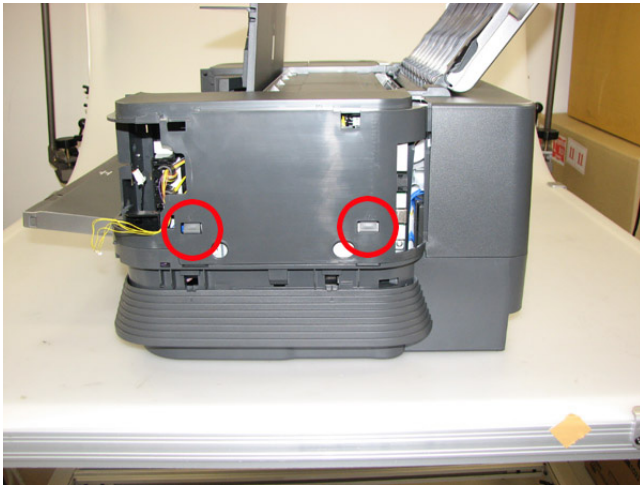
7) Remove the main case.

Remove 2 screws from the front and 2 screws from the back (total of 4 screws).

Disconnect the connector.

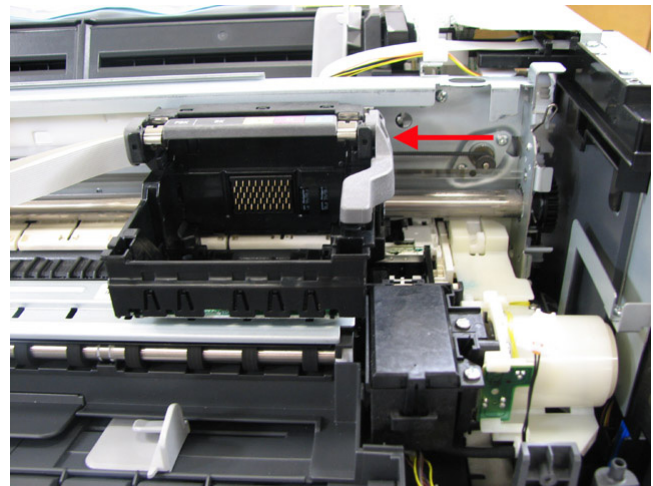
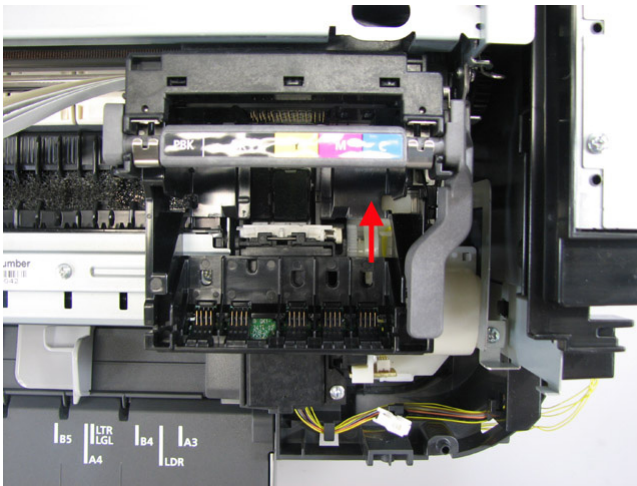
Release 2 tabs each on the left and right sides.





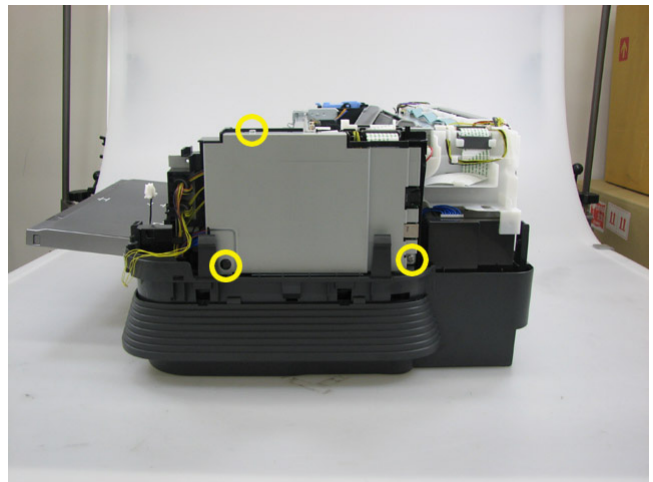
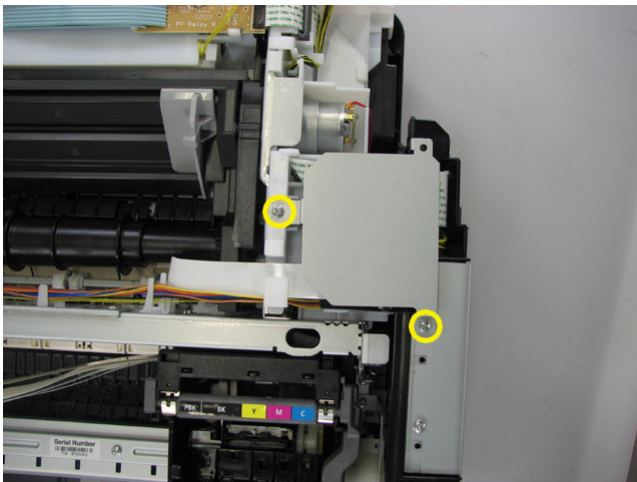
(2) Carriage unlocking

Rotate the gear of the purge unit to unlock the carriage, and slide the carriage to the left (to the opposite of the home position).

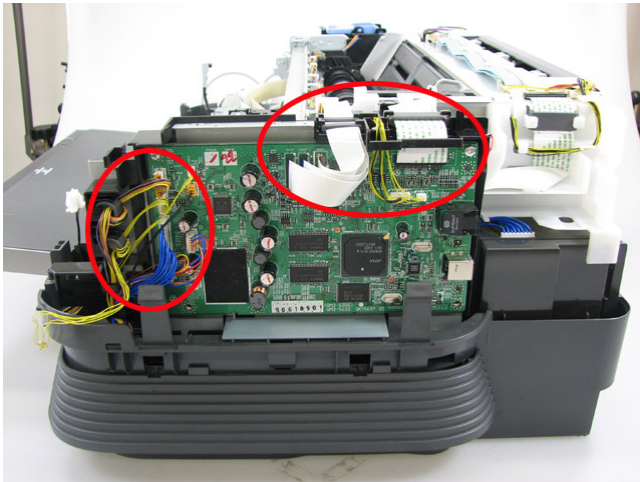


(3) Printer unit removal

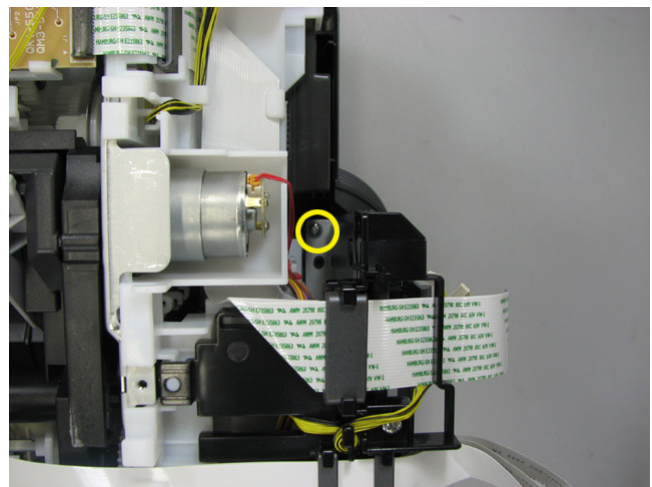
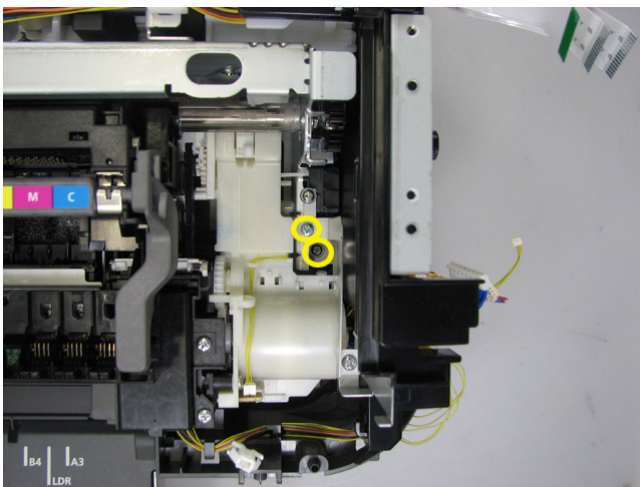
1) Remove the top cover (2 screws) and the logic board cover (3 screws).



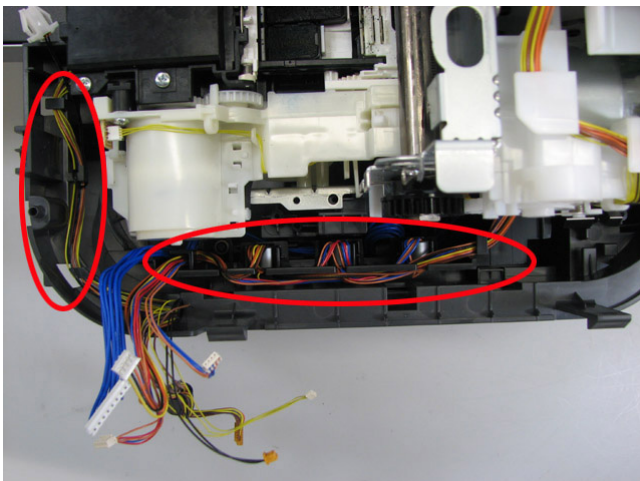
2) Disconnect the connectors from the logic board, and release the cables from the logic board holder.



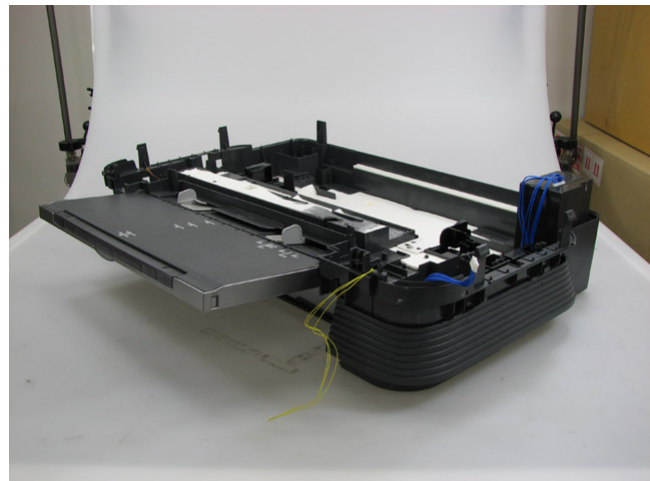
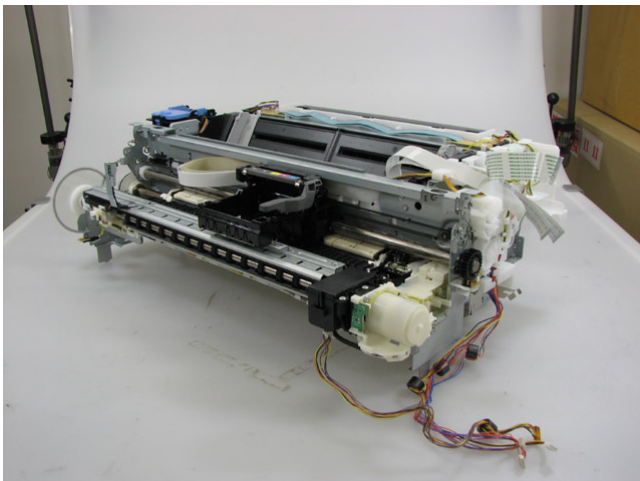
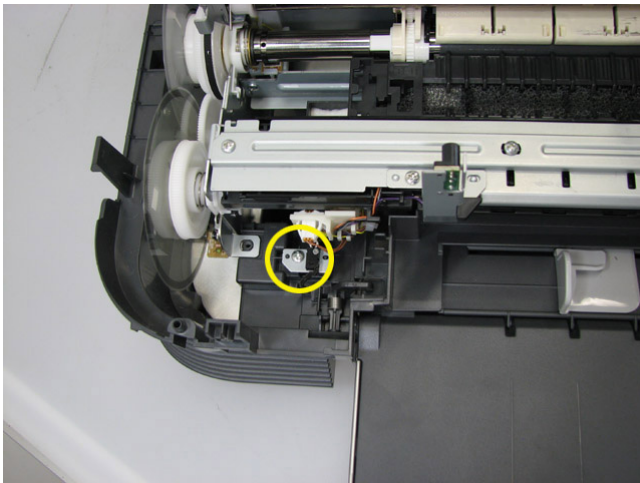
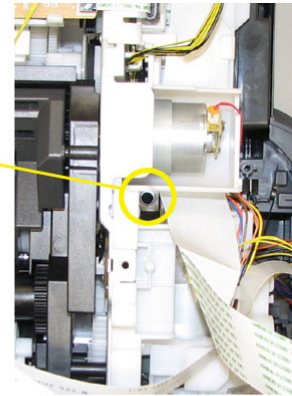
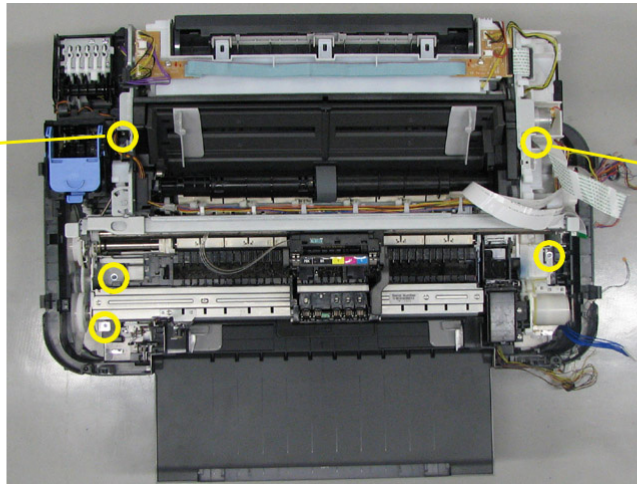
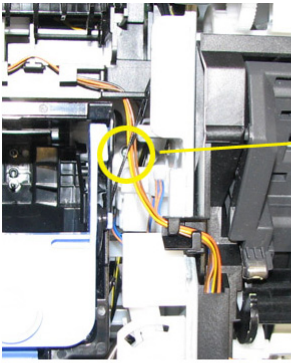
3) Remove 3 screws and the logic board holder.



4) Release the cables except the power cable (the blue cable) from the bottom case.

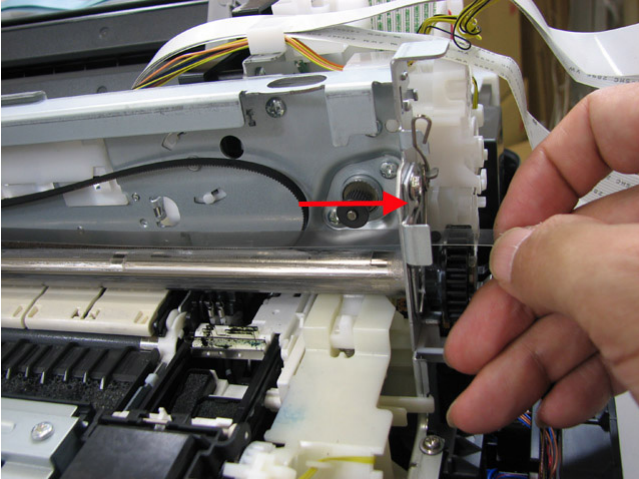


5) Remove 5 screws that fix the printer unit to the bottom case and 1 screw from the front tray sensor, then separate the printer unit from the bottom case.

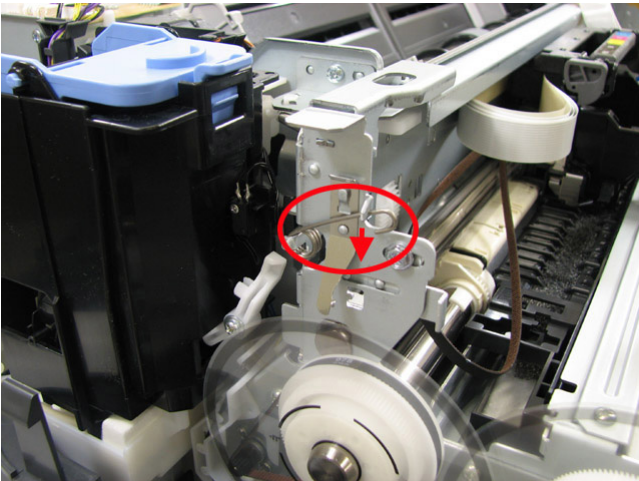


(4) Carriage unit removal

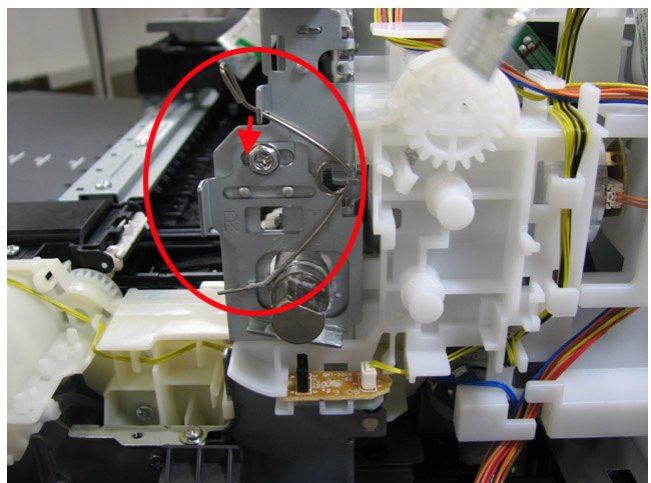
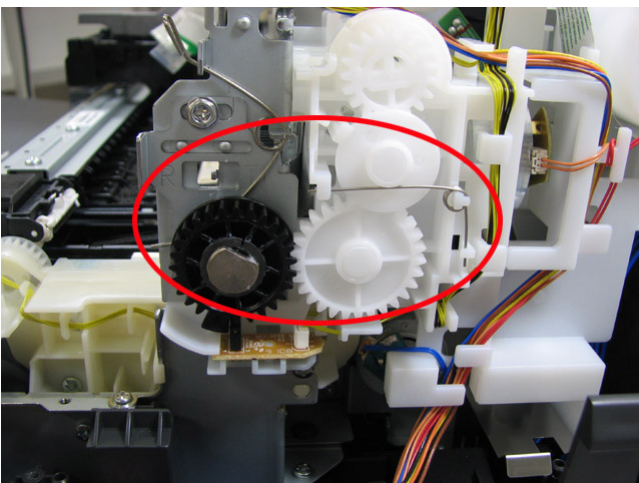
1) Remove the timing slit film. Be cautious to keep it free from any grease or damage.



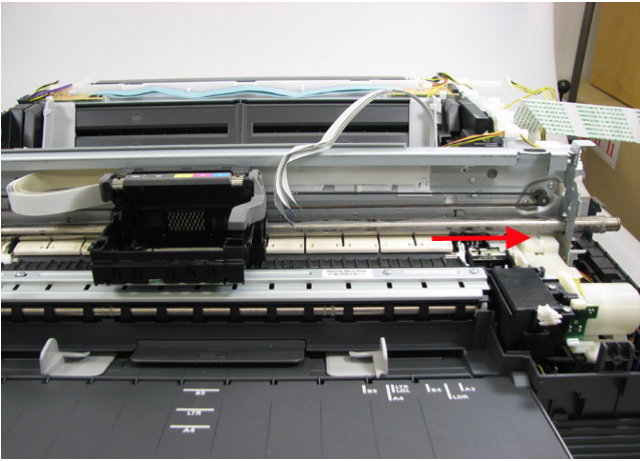
2) Remove the carriage shaft that fixes spring L.



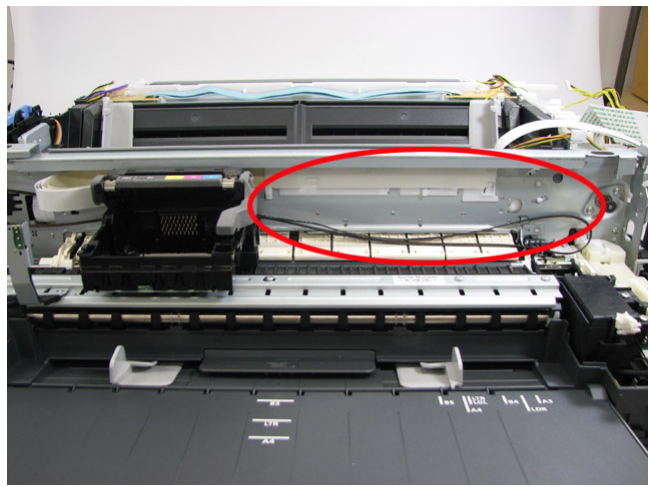
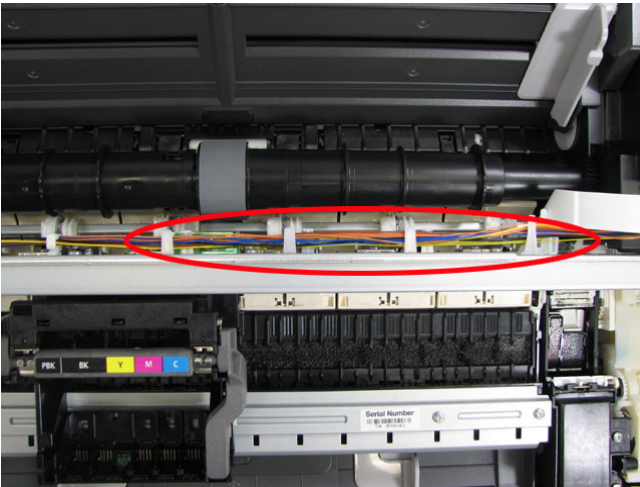
3) Disengage the gear spring, the carriage lift gears (two locations), and the carriage shaft cam, then remove the carriage shaft that fixes spring R.



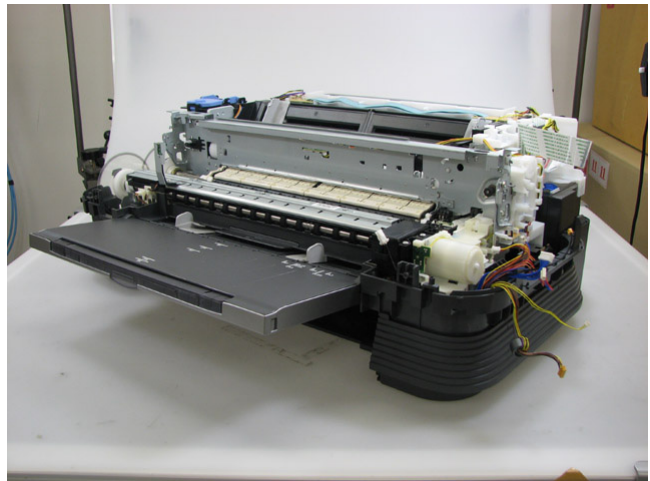
4) Remove the carriage shaft.



5) Release the cables at the back of the chassis, and remove the carriage cable holder and carriage belt. Then remove the carriage unit.



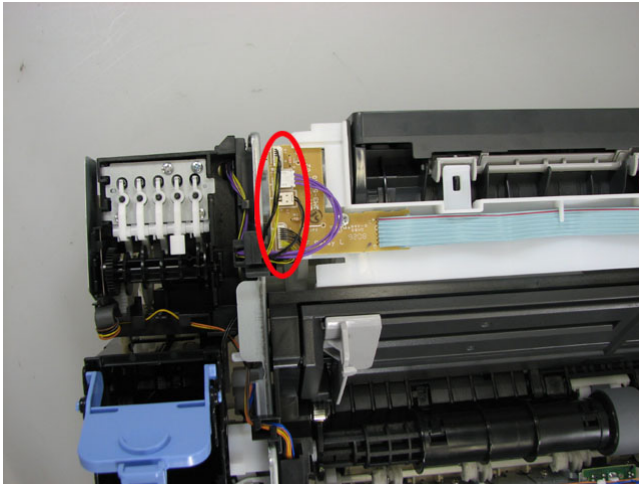
6) Remove the carriage shaft, and the cam on the left side.



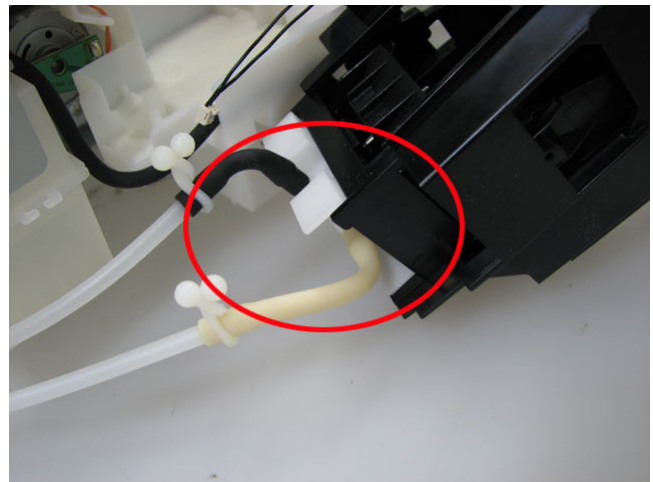
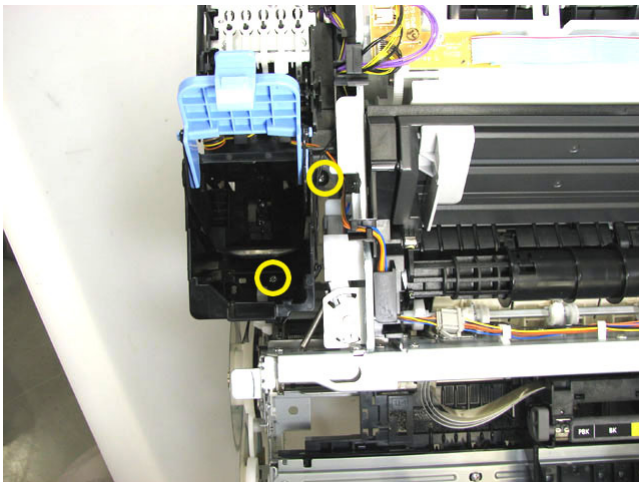
(5) ASF unit removal

1) Remove the Clear ink tank holder.

Disconnect all the connectors from the PF relay L board.

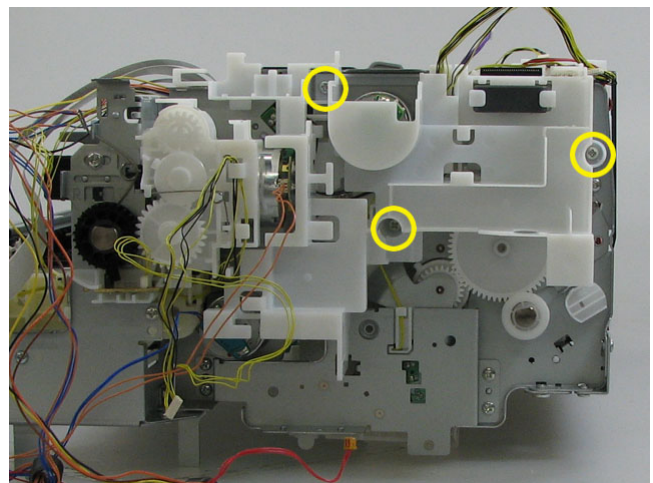
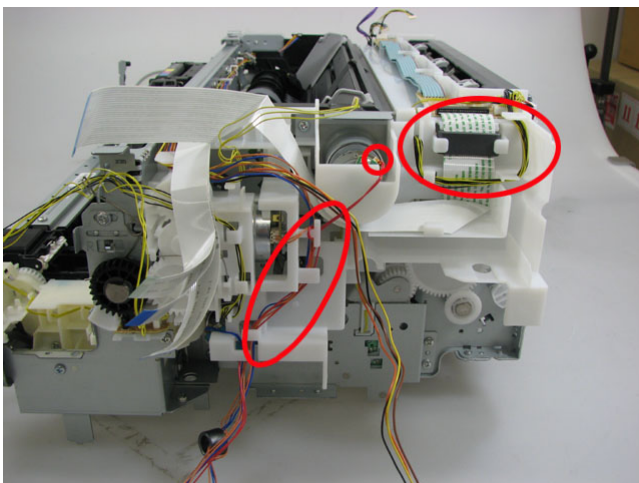


Remove 2 screws, and release the tube.

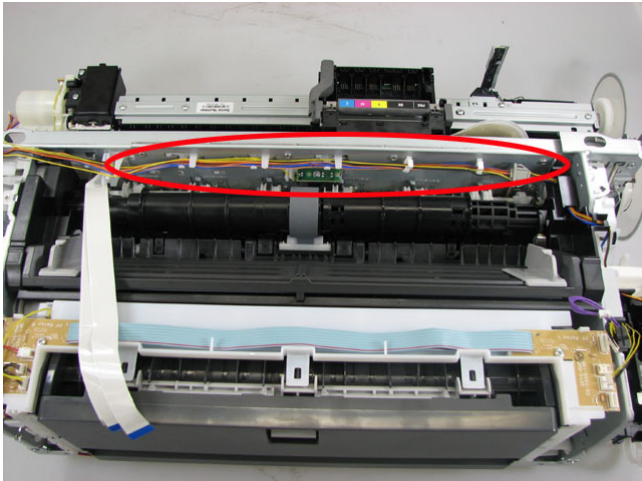


2) Remove the cable holder on the right side.

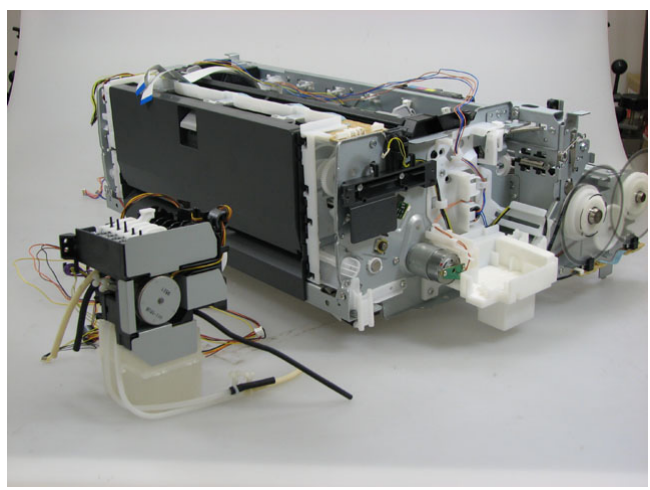
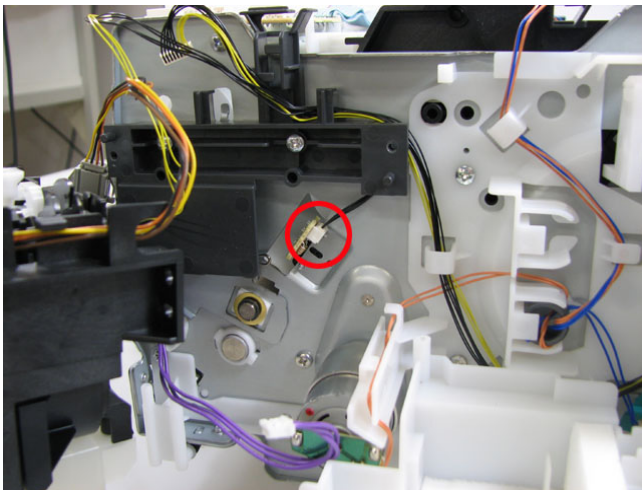
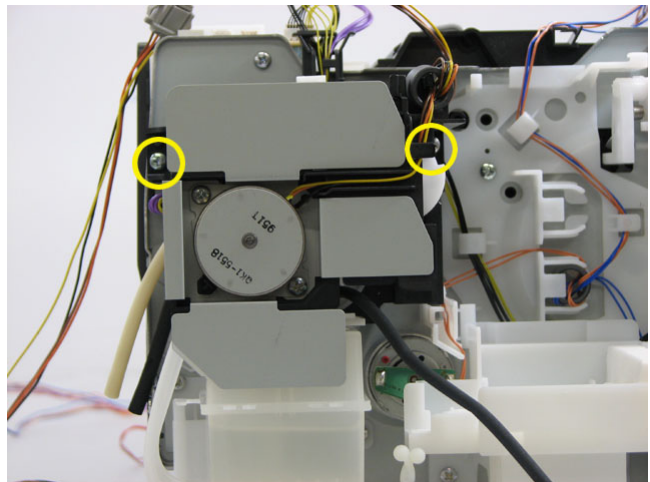
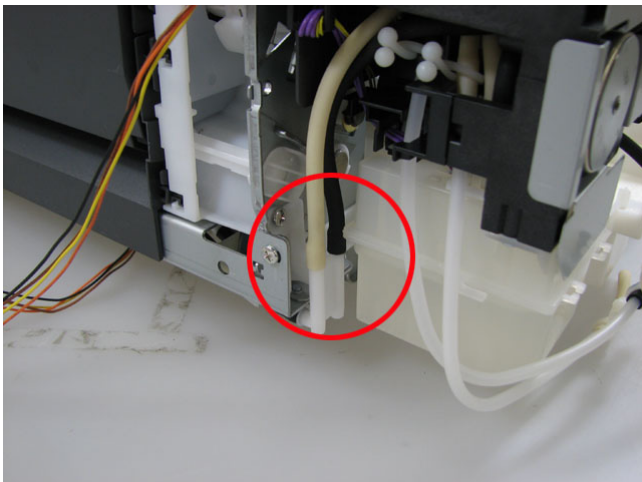
Disconnect one connector and release the cables from the cable holder, then remove 3 screws.



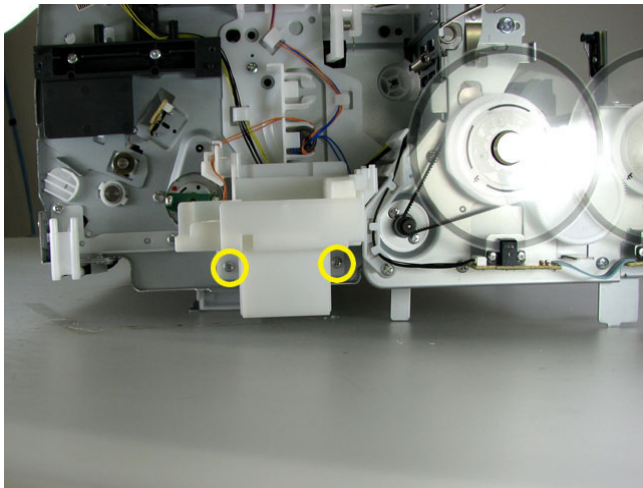
3) Release the cables from the cable holder.



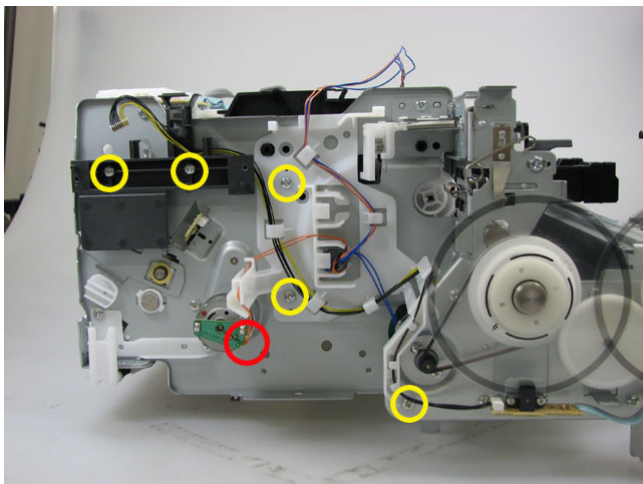
4) Remove the valve unit.
Disconnect the tube.
Remove 2 screws.
Disconnect the connector.



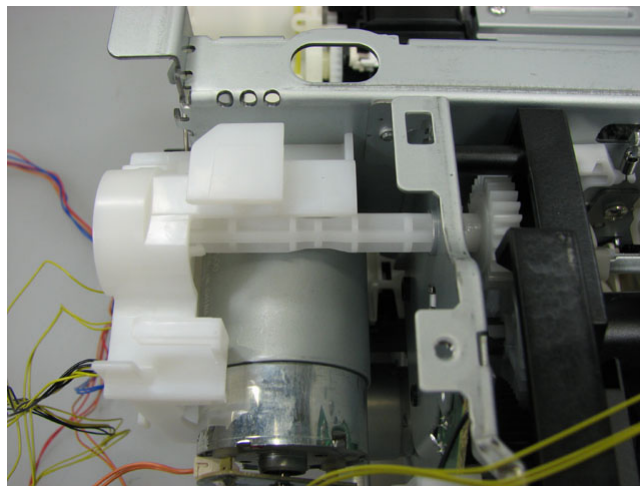
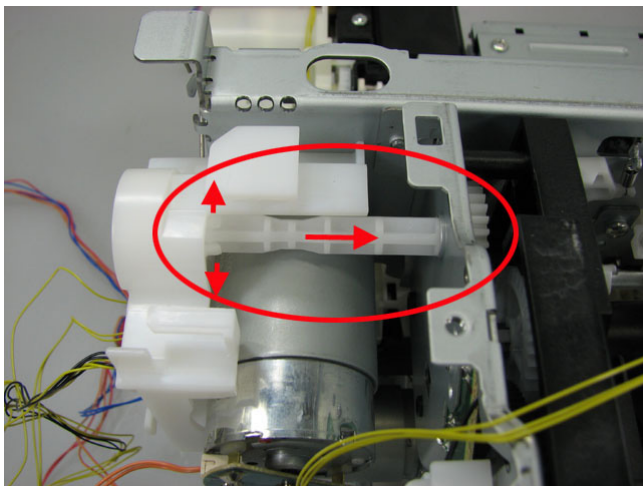
5) Remove the Clear ink tank holder (2 screws).



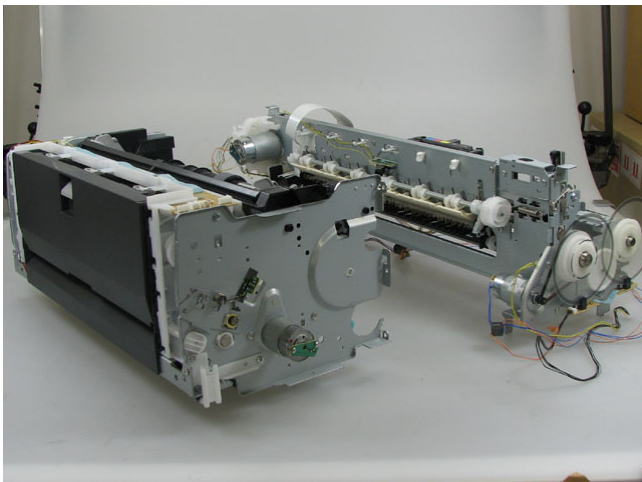
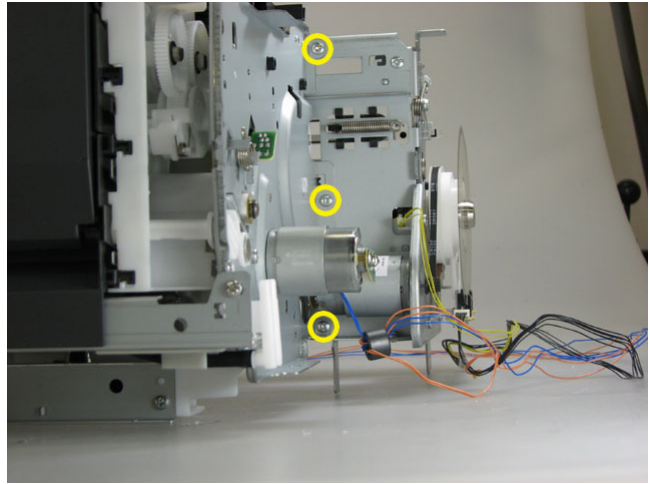
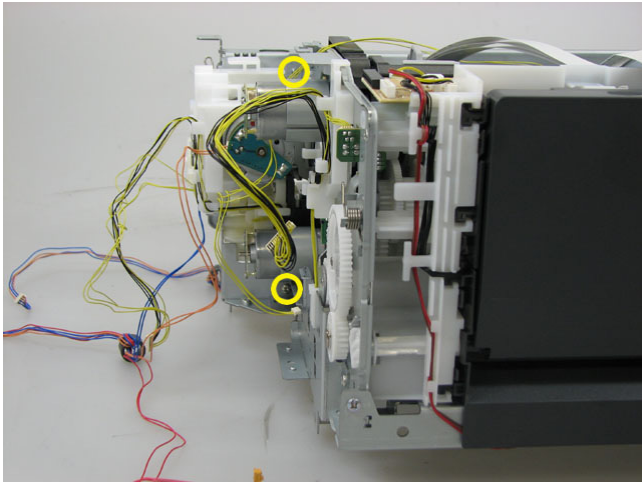
6) Remove the cable holder L and the valve unit base (5 screws and one connector).



7) Disengage the gear that connects to the carriage lift mechanism.

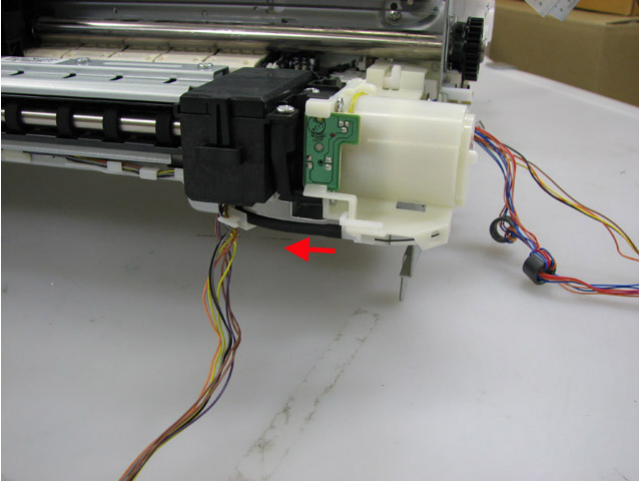


8) Remove the ASF unit (5 screws).

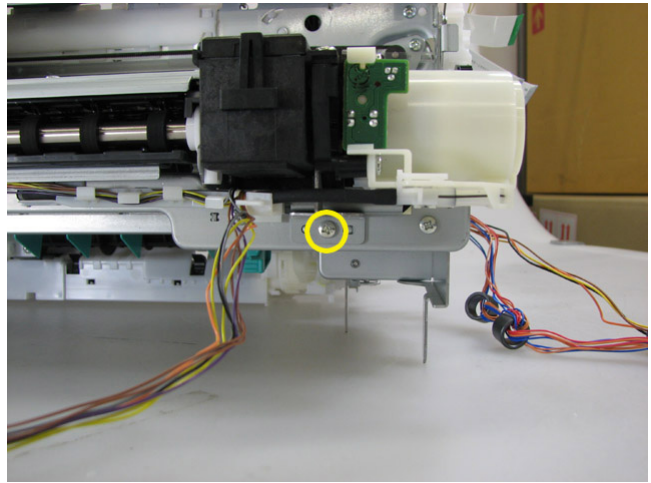
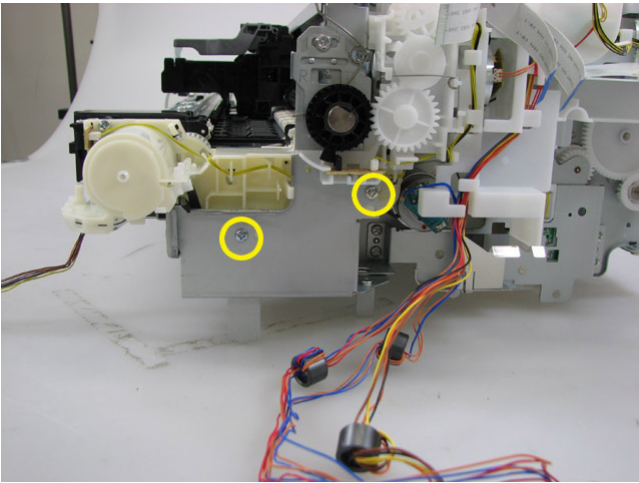


(6) Purge unit removal

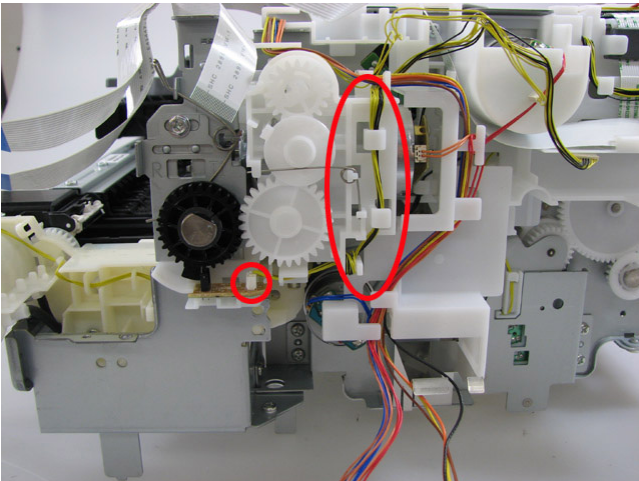
1) Disconnect the tube.



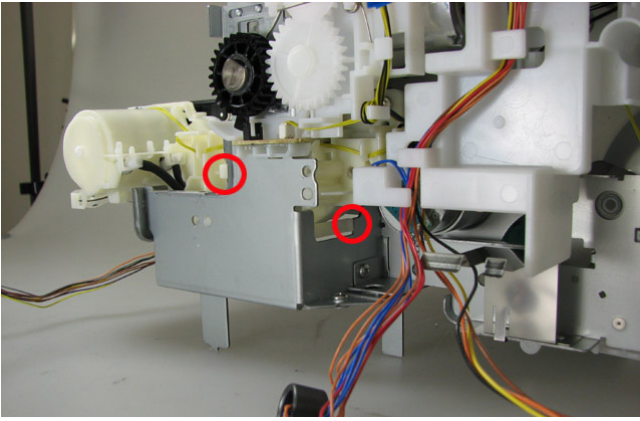
2) Remove 3 screws.



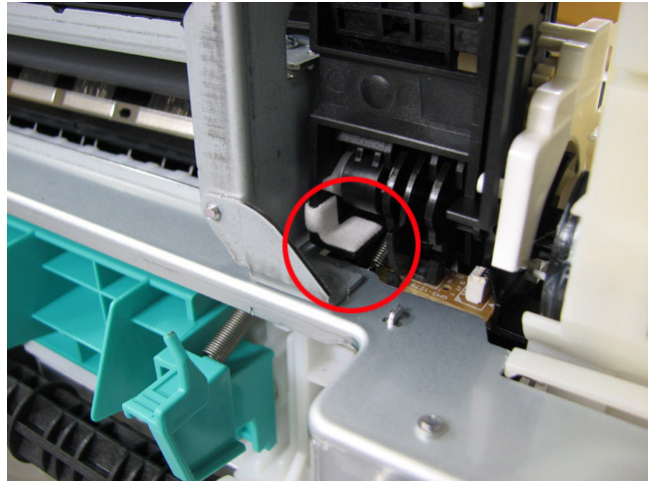
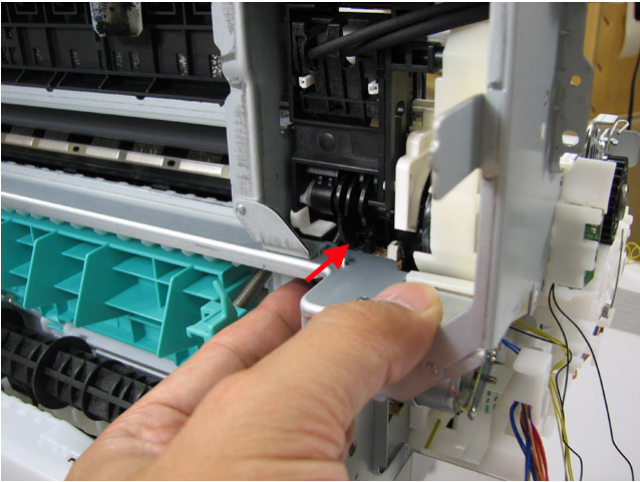
3) Disconnect the carriage lift sensor connector, and release the cables from the holder.



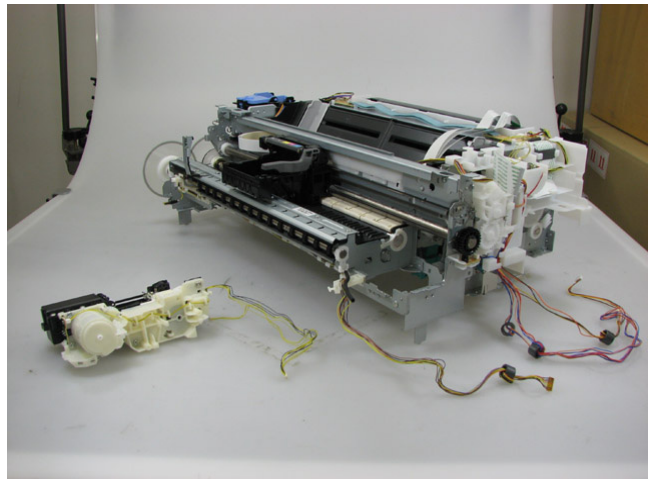
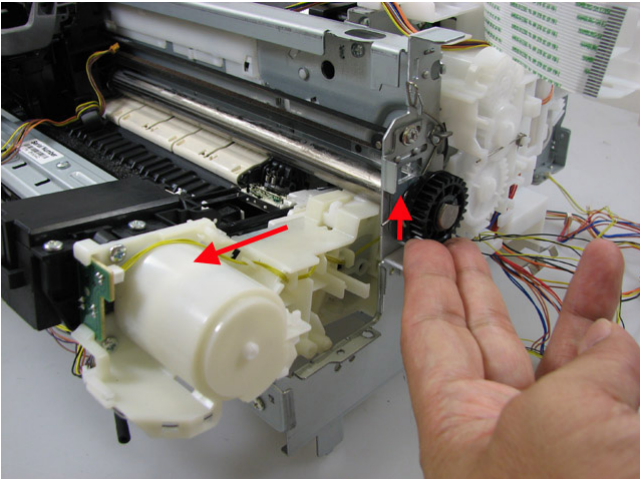
4) Release 2 tabs.



5) From under the chassis at the back of the printer, push the purge unit to release it.

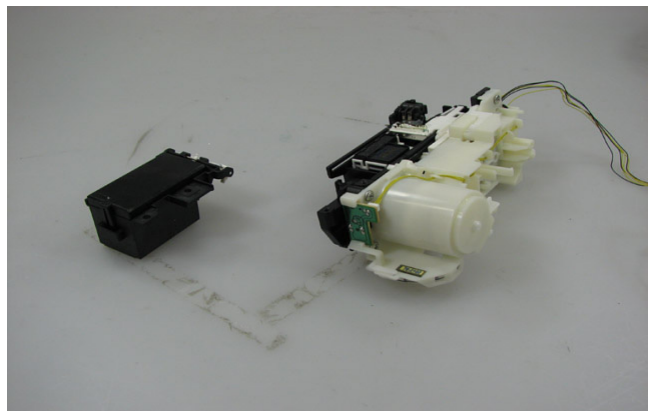
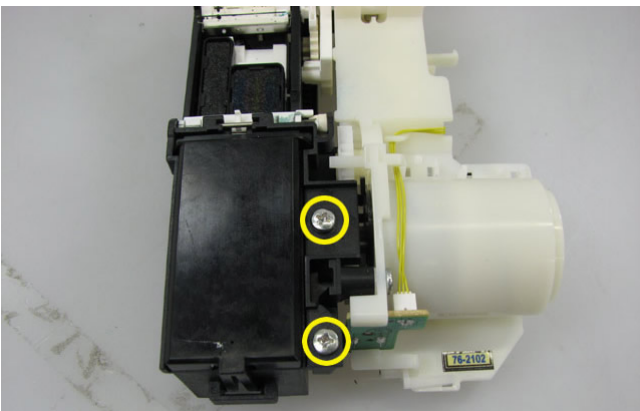


6) Lift the carriage shaft, and pull the purge unit to remove from the chassis.



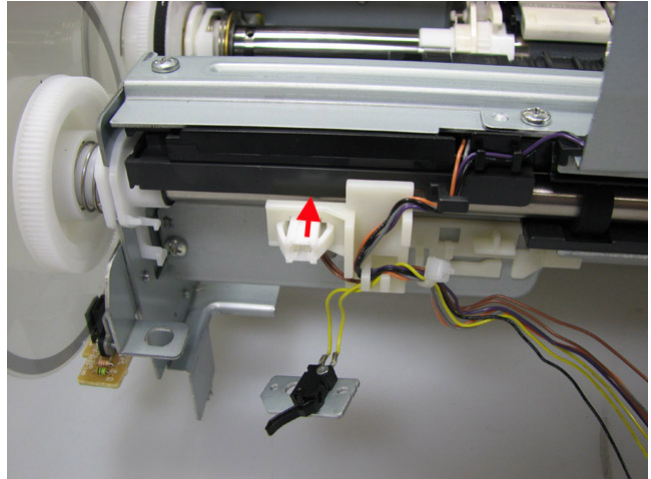
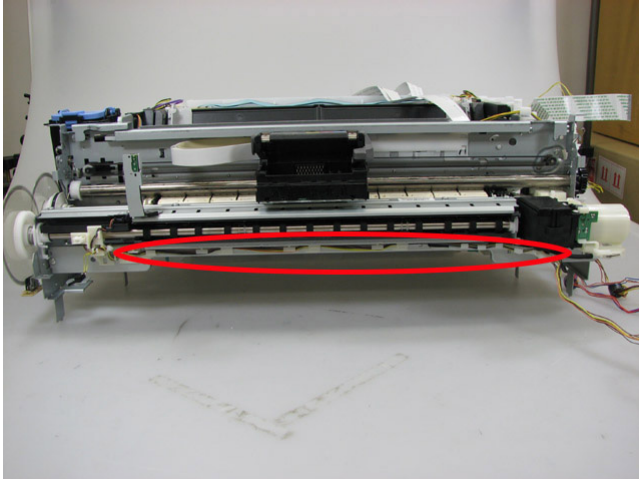
7) Separate the blade cleaner unit from the purge unit (2 screws).

(Note that the blade cleaner unit alone can be removed only by removing the external housing.)

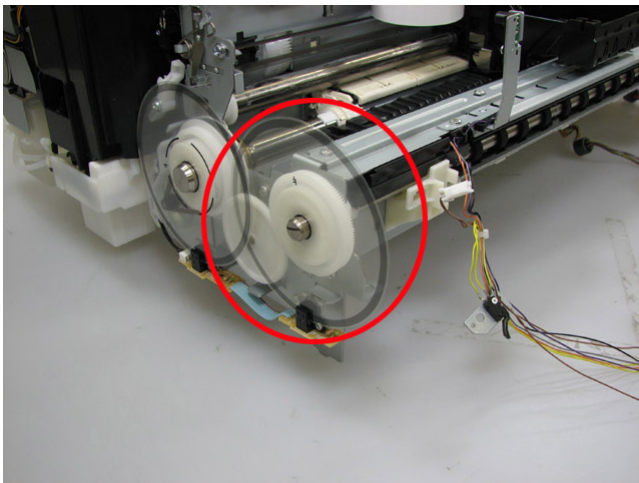


(7) Spur base unit and platen unit removal

1) Release the cables from the cable holder and disconnect the connector.

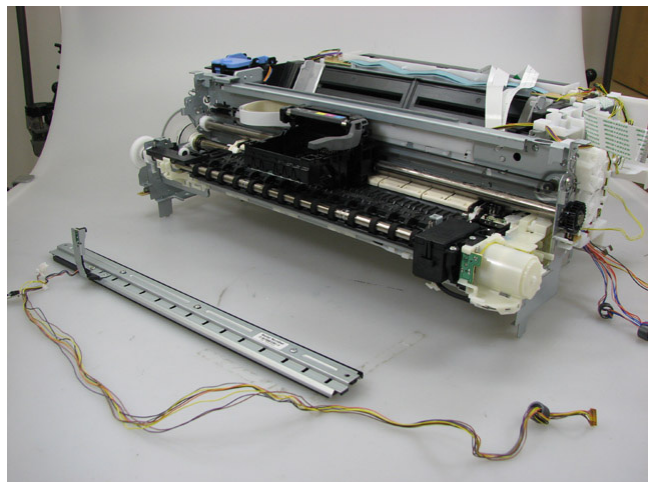
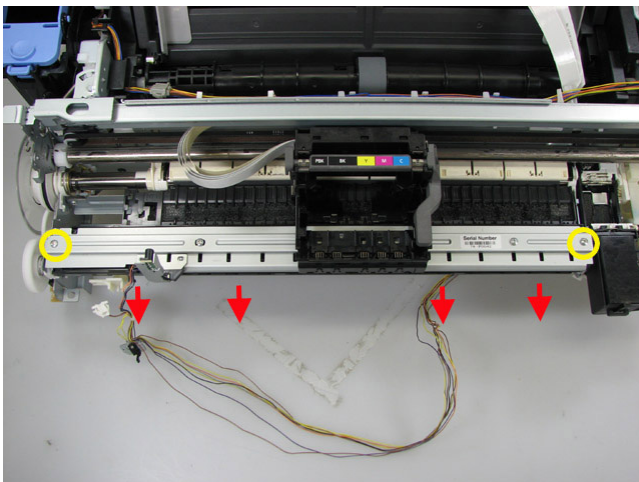


2) Remove the eject timing slit disk.

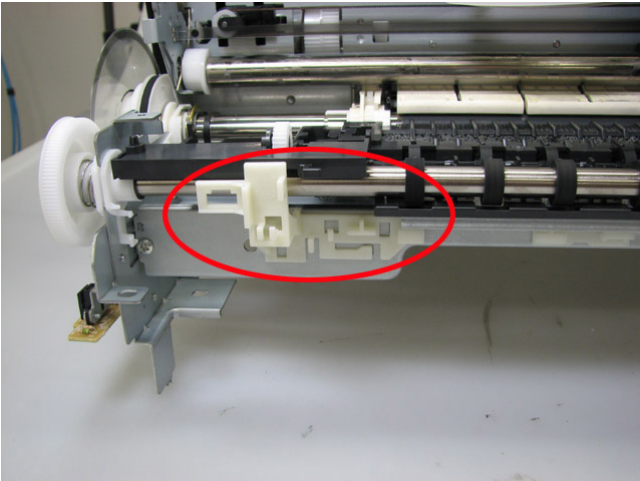


3) Remove the spur base unit.

From the top of the spur base unit, remove 2 screws at the left and right ends.
Slide the spur base unit toward you to remove it.

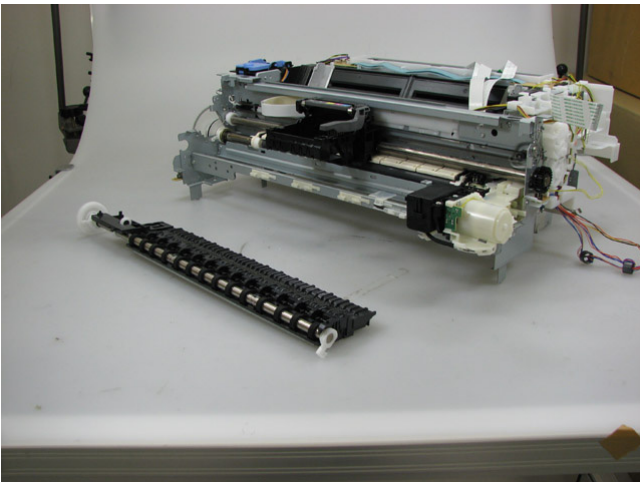
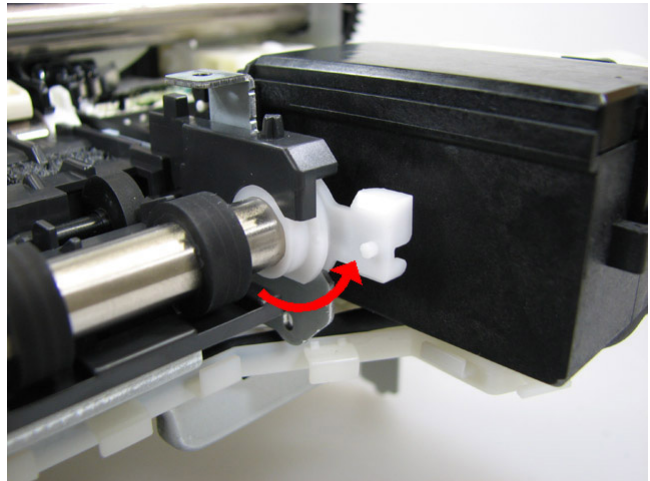
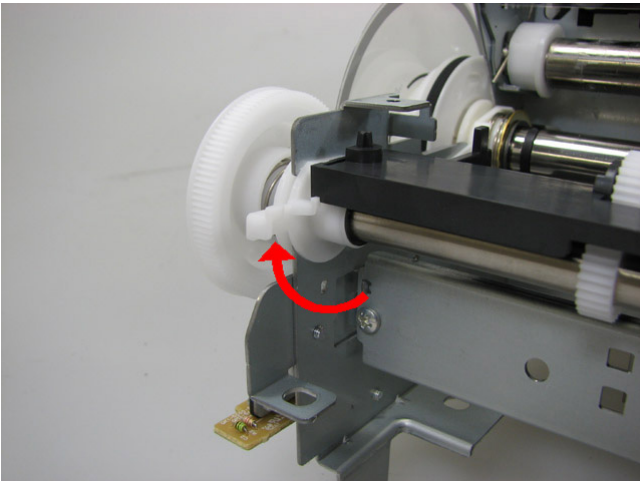


4) Remove the cable holder.



5) Remove the platen unit.

Rotate the bushing of the eject roller to disengage the roller, and pull the platen unit to remove it.



◀<3-2. Part Replacement Procedures>▶▶

4. ADJUSTMENT / SETTINGS

4-1. User Mode

User mode functions can be performed via the Resume/Cancel button or from the printer driver Maintenance tab.

<Standalone printer operation>

- 1) Turn on the printer in the user mode.
- 2) Press and hold the Resume/Cancel button until the Power LED blinks in green the specified number of times listed in the table below, and release it. The operation starts.

Function	Procedures	Power LED blinking	Remarks
Print head manual cleaning	<ul style="list-style-type: none"> - Cleaning of all colors at the same time: Perform via the Resume/Cancel button. - Cleaning of Black, Color, or all colors at the same time: Perform from the printer driver Maintenance tab. 	1 time	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.
Nozzle check pattern printing	Perform via the Resume/Cancel button, or from the printer driver Maintenance tab.	2 times	Set a sheet of plain paper (A4 or Letter) in the cassette. (No paper feeding from the rear tray)
Print head deep cleaning	Perform from the printer 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 Resume/Cancel button, or from the printer driver Maintenance tab.	4 times	Set 2 sheets of plain paper (A4 or Letter) in the cassette. (No paper feeding from the rear tray)
Manual print head alignment	Perform from the printer driver Maintenance tab.	---	Set 2 sheets of plain paper (A4 or Letter) in the cassette. (No paper feeding from the rear tray)
Print head alignment value printing	Perform from the printer driver Maintenance tab.	---	Confirmation of the current print head alignment values.
Pick-up roller cleaning	Perform from the printer driver Maintenance tab (Roller Cleaning).	---	The pick-up rollers of 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 Resume/Cancel button, or from the printer driver Maintenance tab.	5 times	Cleaning of the platen ribs when the back side of paper gets smeared. Fold a sheet of plain paper (A4 or Letter) in half lengthwise, then unfold and set it in the rear tray with the folded ridge facing down. (No paper feeding from the cassette)
Ink agitation	Perform from the printer driver Maintenance tab (Ink Quality Maintenance).	---	When "Execute ink quality maintenance automatically" is not selected in Custom Settings , periodic ink agitation is not performed automatically. Manually perform ink agitation once a week.
Periodic paper feed roller cleaning	Perform from the printer driver Maintenance tab (Sheet Cleaning).	---	When "You need to execute sheet cleaning because the predetermined print count has been reached." is displayed, perform Sheet cleaning using the Cleaning Sheet.
Exit from "no Clear ink" error	Perform via the Resume/Cancel button.	9 times	If the error of 16 blinks of the Alarm lamp (no Clear ink) is not cleared even after replacement of the Clear ink tank with a new one, perform this, then remove and re-install the Clear ink tank. The error can be cleared.

4-2. Service Mode

(1) Service mode operation procedures

Use the Service Tool on the connected computer.

- 1) Start the printer in the service mode.
 - i. With the printer power turned off, while pressing the Resume/Cancel button, press and hold the Power button. (DO NOT release the buttons.)
 - ii. When the Power LED lights in green, while holding the Power button, release the Resume/Cancel button. (DO NOT release the Power button.)
 - iii. While holding the Power button, press the Resume/Cancel button 2 times, and then release both the Power and Resume/Cancel buttons. (Each time the Resume/Cancel 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, the printer is ready for the service mode operation.
- 2) Start the Service Tool on the connected computer.
 - i. When a button is clicked in the Service Tool dialog box, that function is performed. During operation of the selected function, all the Service Tool buttons are dimmed and inactive.
 - ii. When the operation is completed, "A function was finished." is displayed, and another function can be selected.
 - iii. If a non-supported function is selected, "Error!" is displayed. Click **OK** in the error message dialog box to exit the error.

(2) Service Tool functions

Use the Service Tool version 1.05 or later. (The screen below is for Version 1.05.)

No.	Name	Function	Remarks
(1)	Test Print	Service test print	<p>Paper will feed from the cassette. Paper size: A3 or LDR Service test print items:</p> <ul style="list-style-type: none"> - Model name - ROM version - USB serial number - Process inspection information - Ink system function check result - Ink absorber counter value (ink amount in the ink absorber) - Barcode (model name + destination + printer serial number)
(2)	EEPROM	EEPROM information print	<p>The dialog box opens to select the paper source. Select Rear tray or Cassette, and click OK.</p> <p>EEPROM information print items:</p> <ul style="list-style-type: none"> - 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	Not used.
(4)	LF / Eject	LF / Eject correction pattern print	See " LF / Eject Correction " below.
(5)	Nozzle check	Nozzle check pattern print	The dialog box opens to select the paper source. Select Rear tray or Cassette , and click OK .
(6)	Integration	Successive print of (1) service test pattern, (2) EEPROM information, and (5) nozzle check pattern	Paper will feed from the cassette.
(7)	Left Margin	Left margin pattern print	Not used.
(8)	Deep Cleaning	Print head deep cleaning	Cleaning of all colors at the same time
(9)	Main	Main ink absorber counter resetting	Set a sheet of A4 or Letter sized plain paper. After the ink absorber counter is reset, the counter value is printed automatically.
	Platen	Platen ink absorber counter resetting	Not used.
(10)	EEPROM Clear	EEPROM initialization	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 - Production site E-MIP 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) - Wetting liquid counter value
(11)	Panel Check	Button and LCD test	Not used.
(12)	Set Destination	Destination settings	Select the destination, and click Set . ASA, AUS, BRA, CHN, CND, EUR, JPN, KOR, LTN, TWN, USA
(13)	CD-R Correction	CD / DVD print position correction (X and Y direction)	Not used.
(14)	LF / EJECT Correction	LF / Eject correction value setting	Not used.
(15)	Left Margin Correction	Left margin correction value setting	Not used.
(16)	Ink Absorber Counter	Ink absorber counter setting	See " Ink Absorber Counter Setting " below.
(17)	Wetting Liquid Counter	Wetting liquid counter setting	See " Wetting Liquid Counter Setting " below.

(3) LF / Eject correction

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

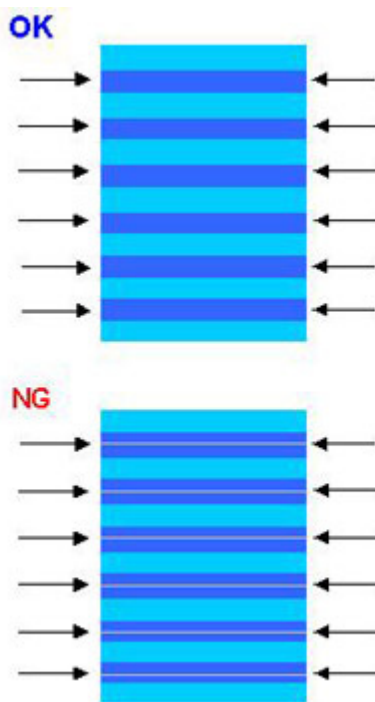
- 1) Print the LF / Eject correction pattern.

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 A4 paper will be used for the pattern printing.

- Paper source: Select **Cassette**.

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

- 2) When printing is finished, "A function was finished" is displayed on the computer, and the printer returns to be ready for selection of another function.
- 3) In the printout, determine the Pattern No. in which streaks or lines are the least noticeable for the LF check pattern and the Eject check pattern respectively.
(LF Pattern No. 0 to 4, Eject Pattern No. 0 to 4)



- 4) Select and set the correction values.

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

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

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

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

(4) 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.

(5) Wetting liquid counter setting

Set the wetting liquid counter value to a new EEPROM after the blade cleaner unit or logic board is replaced in servicing.

<When the blade cleaner unit is replaced>

- 1) After replacement of the blade cleaner unit, the wetting liquid counter value should be reset in the service mode using the Service Tool.

In the **Wetting Liquid Counter** section of the Service Tool, select **0** (zero) from the **Counter Value(%)** pull-down menu, and click **Set**.

- 2) Print EEPROM information to confirm that the value is set to "0.00" (W = 0.00).

<When the logic board is replaced>

- 1) Before replacement of the logic board, check the wetting liquid counter value (W = ###) in EEPROM information print.
- 2) After replacement of the logic board, the wetting liquid counter value should be set in the service mode using the Service Tool.

In the **Wetting Liquid Counter** section of the Service Tool, 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 (W = ###) is properly set to the EEPROM.

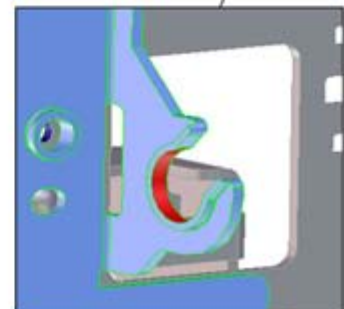
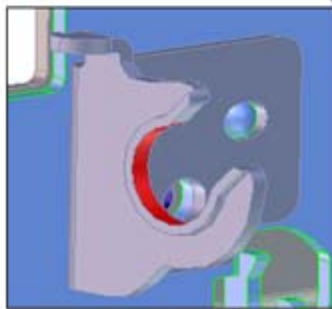
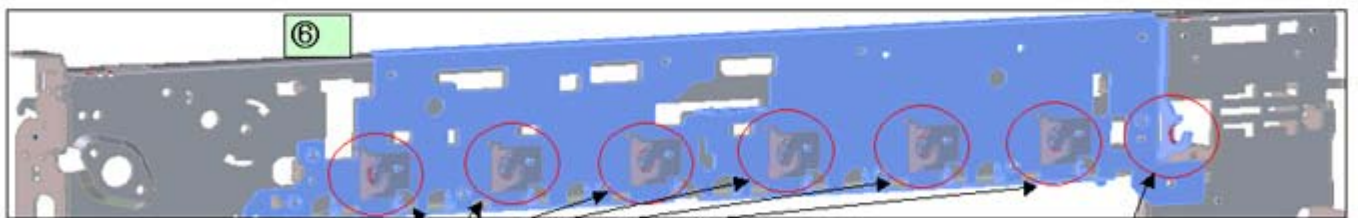
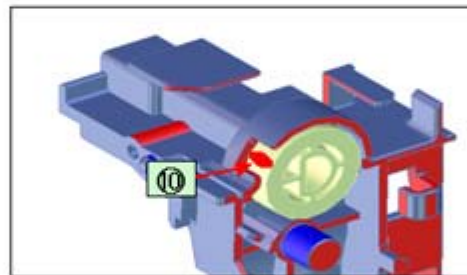
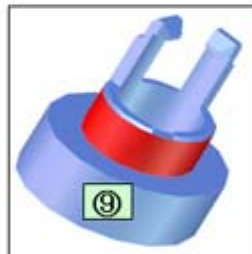
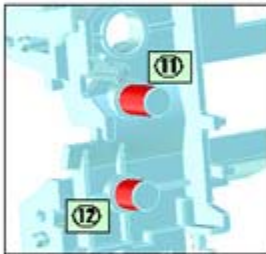
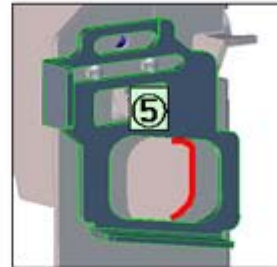
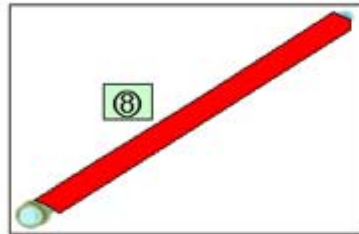
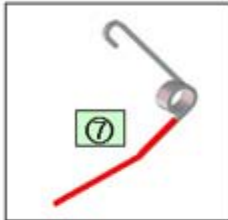
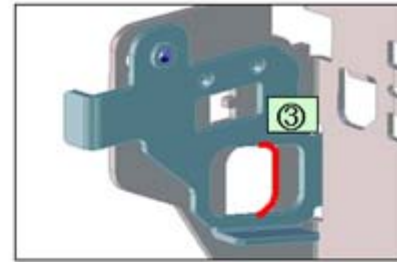
◀ <4-1. User Mode & 4-2. Service Mode> ▶ ▲

4-3. Grease Application

(1) Printer unit

No	Part name	Where to apply grease / oil	Grease	Grease amount (mg)	Number of drops*	Number of locations to apply grease
1	Chassis	Carriage sliding portion	KG107A	36 to 72	4	1
2	Adjust plate L	Carriage shaft cam L sliding portion	KG107A	18 to 36	2	1
3	Chassis	Carriage shaft sliding portion	KG107A	9 to 18	1	1
4	Adjust plate R	Carriage shaft cam R sliding portion	KG107A	18 to 36	2	1
5	Chassis	Carriage shaft sliding portion	KG107A	9 to 18	1	1
6	Chassis	PR lift shaft sliding portion	KG107A	13.5 to 27	1.5 x 4	7
7	Carriage shaft spring L	Carriage shaft sliding portion	KG107A	9 to 18	1	1
8	Carriage shaft	The entire surface where the carriage slides	KG107A	280 to 580	---	---
9	CL input gear	CL gear base sliding portion	KG107A	9 to 18	1	1
10	CL input gear	CL input gear tooth surface	KG107A	9 to 18	1	1
11	CL gear base	CL idle gear sliding portion	KG107A	9 to 18	1	1
12	CL gear base	CL output gear sliding portion	KG107A	9 to 18	1	1

* 1 drop = 9 to 18 mg



4-4. Special Notes on Servicing

(1) Service test print

Be sure to perform the service test print after replacement of the logic board, valve unit, or ASF unit.

If the printer is started in the user mode without performing the service test print after replacement of the logic board (or the valve unit in some instances), the reactor error (8 times of cyclic blinking of the Alarm and Power LED's) occurs.

< Purpose of the service test print >

Before service test printing, Clear ink is supplied to see if the sensors inside the valve unit operate properly or the tubes are securely connected. (If a sensor is faulty or a tube is disconnected, too much Clear ink will be supplied, causing leakage of Clear ink.)

< If nothing is printed in service test printing >

When the valve unit sensor detects a problem, nothing is printed in service test printing (no error indication).

In that case, perform the following, then print the service test pattern again:

- 1) Confirm that the tubes are securely connected.
- 2) Replace the Clear ink tank.
- 3) Replace the valve unit.

(2) For smeared printing, uneven printing, or non-ejection of ink

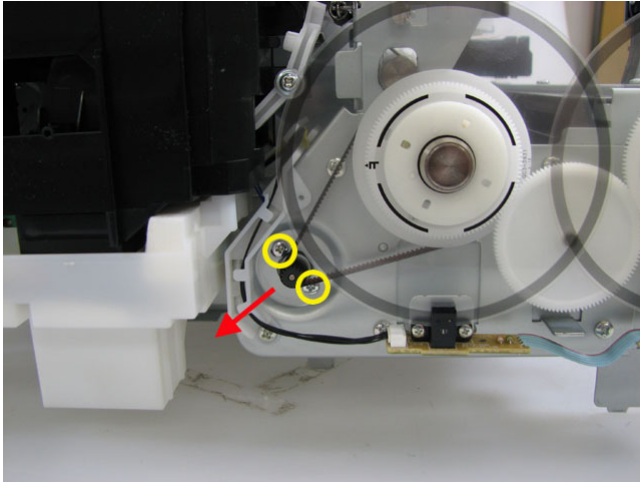
When smeared printing, uneven printing, or non-ejection of ink occurs, print the nozzle check pattern to determine whether the print head is faulty or not.

< Procedures >

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

(3) 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.

(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 [4-2. Service Mode](#), [\(4\) Ink absorber counter setting](#).

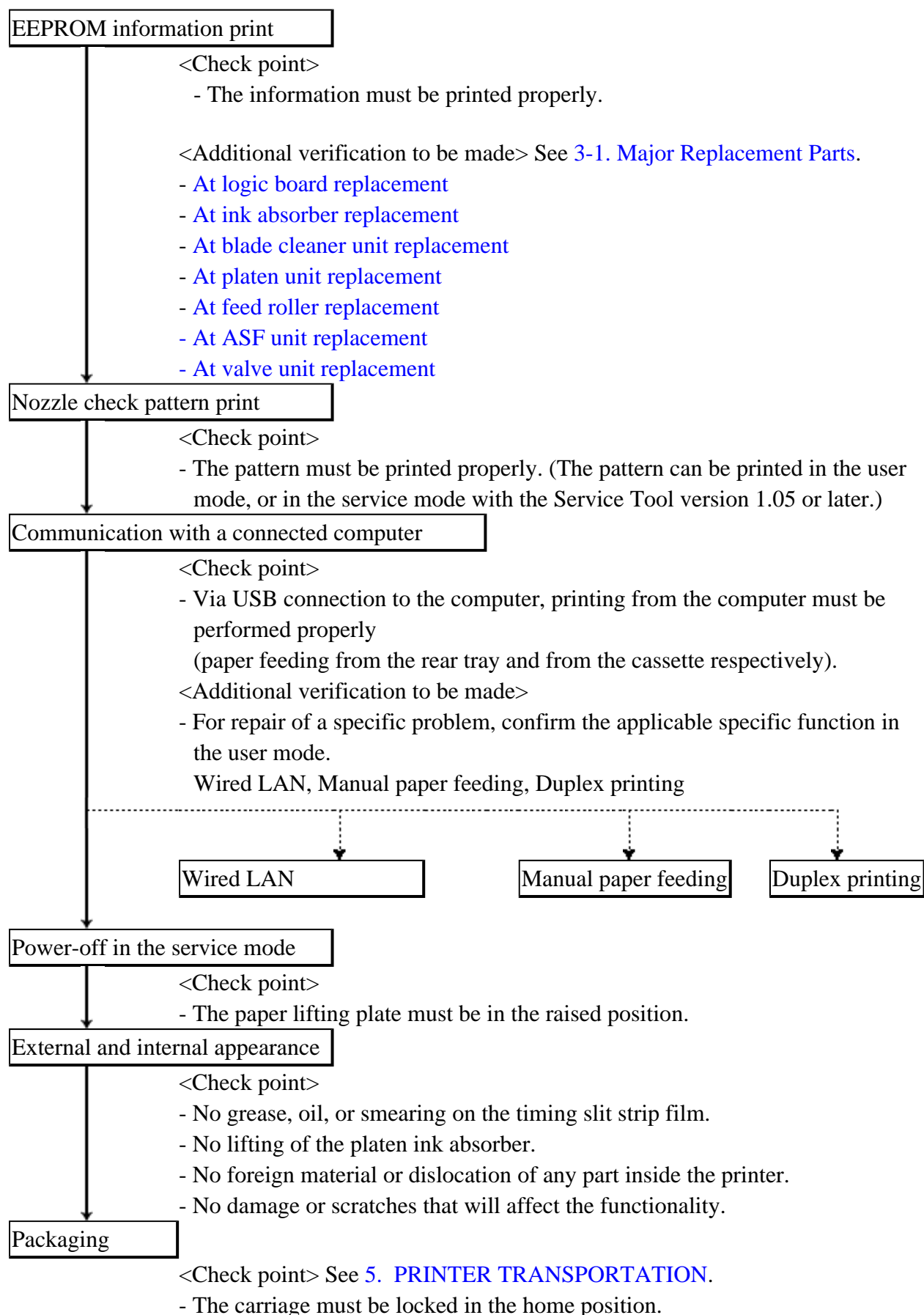
◀<4-3. Grease Application & 4-4. Special Notes on Servicing>▶ ▲



4-5. Verification After Repair

(1) Standard inspection flow

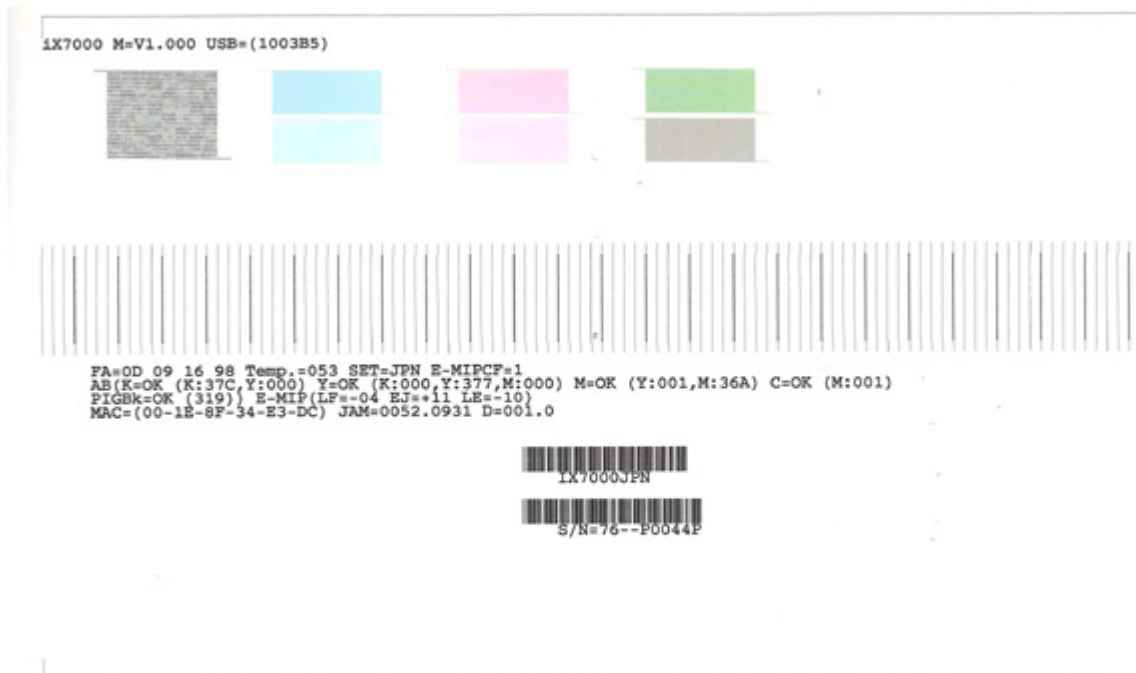
In each step below, confirm that printing is performed properly and the printer operates properly without any strange noise.



(2) Service test print

<Service test print sample>

Print on A3 or LDR sized paper.



(3) Ink absorber counter value print

<Print sample>

D=000.0



5. PRINTER TRANSPORTATION

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

- 1) In the service mode, press the Power 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 printer to securely lock the carriage in the home position. (When the printer is turned off, the carriage is automatically locked in place.)

See Caution 2 below.



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



- If the print head must be removed from the printer 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).