

iX6500 series

Service Manual

(iX6510 / iX6520 / iX6530 / iX6540 / iX6550 / iX6560 / iX6580)

Revision 0

QY8-13DG-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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INTRODUCTION

[How to use this Service Manual]

This manual is intended to solve printer problems smoothly, with each section representing the typical service procedures, as shown below.

Troubleshooting

Identify the problem, and handle it accordingly.



Repair

When a part needs to be replaced, see this section.



Adjustment &
Settings

After repair, perform the necessary adjustment and settings.



Verification

At the end of the servicing, verify the printer following the inspection flow in this section.

Appendix

Information that will be necessary for maintenance and repair of the printer.



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

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1. TROUBLESHOOTING

1-1. Troubleshooting by Symptom

	Symptom	Solution
Faulty operation	The power does not turn on. The power turns off immediately after power-on.	(1) Confirm cable connection: - DC harness ass'y => No incomplete connection, cable breakage, or cable caught in units (2) Replace the following item(s): - Logic board ass'y - AC adapter - DC harness ass'y - Panel cable
	A strange noise occurs.	(1) Examine and remove any foreign material from the drive portions. (2) Replace the following item(s): - The part generating the strange noise - Purge drive system unit
	Paper feed problems (multi-feeding, skewed feeding, no feeding).	(1) Examine and remove any foreign material from the following parts: - ASF unit - PE sensor - Paper guide unit - Pressure roller unit - Spur unit (2) Confirm that the paper guides are set properly. (3) Confirm cable connection: - PE sensor cable - Paper feed relay harness ass'y => No incomplete connection, cable breakage, or cable caught in units (4) Replace the following item(s): - ASF unit - PE sensor board ass'y - Pressure roller unit
	Printer not recognized by a USB-connected computer.	(1) Confirm the USB cable connection. (2) Connect the printer to another computer via the USB cable, and check if the printer is recognized. (3) Replace the following item(s): - USB cable - Logic board ass'y
Unsatisfactory print quality	No printing, or no color ejected. Faint printing, or white lines on	See 3-5. Special Notes on Servicing, (1) For smeared printing, uneven printing, or non-ejection of ink , for details. (1) Confirm the ink tank conditions:

<p>printouts. Uneven printing. Improper color hue.</p>	<ul style="list-style-type: none"> - No remainder of the outer film (the air-through must be opened) - Whether the ink tank is Canon-genuine one or not - Whether the ink tank is refilled one or not - Re-setting of an ink tank <p>(2) Remove foreign material from the purge unit caps, if any. (3) Confirm the conditions of the carriage head contact pins. (4) Perform cleaning or deep cleaning of the print head. (5) Perform print head alignment. (6) Replace the following item(s):</p> <ul style="list-style-type: none"> - Print head^{*1}, and ink tanks - Logic board ass'y - Purge drive system unit - Carriage unit
<p>Paper gets smeared.</p>	<p>(1) Clean the inside of the printer. (2) Perform bottom plate cleaning. (3) Perform paper feed roller cleaning. (4) Replace the following item(s):</p> <ul style="list-style-type: none"> - Pressure roller unit (if smearing is heavy) - Print head^{*1} (when smearing is caused by the print head)
<p>The back side of paper gets smeared.</p>	<p>(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):</p> <ul style="list-style-type: none"> - The part in the paper path causing the smearing
<p>Graphic or text is enlarged on printouts in the carriage movement direction.</p>	<p>(1) Confirm that the carriage slit film is free from smearing or scratches:</p> <ul style="list-style-type: none"> - Cleaning of the timing slit strip film. <p>(2) Replace the following item(s):</p> <ul style="list-style-type: none"> - Timing slit strip film - Carriage unit - Logic board ass'y
<p>Graphic or text is enlarged on printouts in the paper feed direction.</p>	<p>(1) Confirm that the LF slit film is free from smearing or scratches:</p> <ul style="list-style-type: none"> - Cleaning of the LF slit film. <p>(2) Replace the following item(s):</p> <ul style="list-style-type: none"> - Timing slit disk feed film - Timing slit disk eject film - Timing sensor unit - Platen unit - Logic board ass'y

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

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

Errors and warnings are displayed by the following ways:

1. Operator call errors are indicated by the Alarm LED lit in orange, and messages are displayed on 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. ON 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.

Cycles of blinking of Alarm LED	Error	Error code	1) Check points	2) Parts that are likely to be faulty
2 times	No paper in the rear tray.	[1000]	Set the paper in the rear tray, and press the Resume/Cancel button. If the error is not cleared, confirm that no foreign material is inside the paper feed slot.	- PE sensor board ass'y - ASF unit - Pressure roller unit
3 times	Paper jam.	[1300]	Remove the jammed paper and press the Resume/Cancel button.	- ASF unit - Pressure roller unit
4 times	Ink may have run out.	[1600]	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.	- Spur unit
	Ink tank not installed.	[1660]	Install the applicable ink tank(s) properly, and confirm that the LED's of all the ink tanks light red.	- Ink tank - Carriage unit
5 times	Print head not installed, or not properly installed.	[1401]	Install the print head properly. If the error is not cleared, confirm that the print head contact pins of the carriage are not bent.	- Print head - Carriage unit
	Faulty print head ID.		Re-set the print head. If the error is not cleared, the print head may be defective. Replace the print head. If the error is not cleared, confirm that the print head contact pins of the carriage are not bent.	- Print head - Carriage unit
	Print head temperature sensor error.	[1403]		
	Faulty EEPROM data of the print	[1405]		

	head.			
7 times	Multiple ink tanks of the same color installed.	[1487]	Replace the wrong ink tank(s) with the correct one(s).	- Ink tank
	Ink tank in a wrong position.	[1680]	Install the ink tank(s) in the correct position.	- Ink tank
8 times	Warning: The ink absorber becomes almost full.	[1700]	<p>Replace the ink absorber, and reset its counter. [See 3-3, Adjustment and Settings in Service Mode.]</p> <p>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.</p>	- Absorber kit
11 times	Failed in automatic print head alignment.	[2500]	<p>Press the Resume/Cancel button to clear the error, then perform the automatic print head alignment again. (Use plain paper.)</p> <p>If the alignment pattern was not printed properly (faint printing, etc.), perform print head cleaning, then perform the print head alignment again.</p>	<ul style="list-style-type: none"> - Carriage unit - Print head - Purge drive system unit
12 times	Premium Contents print error.	[4100]	Non-genuine ink tanks are installed. Install the supported (Canon-genuine) ink tanks.	- Ink tank
13 times	The remaining ink amount unknown (raw ink present).	[1683]	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 printer. 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 EEPROM that the function to detect the remaining ink amount was disabled.	<ul style="list-style-type: none"> - Ink tank - Spur unit

14 times	Ink tank not recognized.	[1684]	An incompatible ink tank is installed (the ink tank LED is turned off). Install the supported ink tanks.	- Ink tank
		[1750]	A non-supported ink tank is installed (the ink tank LED is turned off). Install the supported ink tanks.	- Ink tank
15 times	Ink tank not recognized.	[1682]	A hardware error occurred in an ink tank (the ink tank LED is turned off). Replace the ink tank (s).	- Ink tank
16 times	No ink (no raw ink).	[1688]	Replace the empty ink tank(s), and close the top cover. Printing with an empty ink tank can damage the printer. 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.	- Ink tank - Spur unit

1-3. Service Call Error (by Cyclic Blinking of Alarm and Power LEDs) Troubleshooting

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

- 1) Check each point in "Check points & Solution," and perform the solution if it applies.
- 2) When no solution in "Check points & Solution" is effective, then replace the part listed under "Parts that are likely to be faulty" one by one from the one most likely to be faulty. The parts are listed in the order of likeliness to be faulty.

Cycles of blinking of Alarm and Power LEDs	Error	Error code	1) Check points & Solution	2) Parts that are likely to be faulty (listed in the order of likeliness to be faulty)
2 times	Carriage error	[5100]	<p>(1) Smearing or scratches on the carriage slit film: Clean the film using lint-free paper.</p> <p>(2) Foreign material that obstructs the carriage movement: Remove foreign material.</p> <p>(3) Ink tank conditions: Re-set the ink tanks.</p> <p>(4) Cable connection: - CR FFC (J500, J501, J502, etc.) Re-connect the cables.</p> <p>(5) Scratches or damages to the carriage slit film: Replace the timing slit strip film.</p> <p>(6) Black debris around the carriage rail or pressure roller: Replace the carriage unit.</p>	<ul style="list-style-type: none"> - Timing slit strip film - Carriage unit - Logic board ass'y - Carriage motor
3 times	Line feed error	[6000]	<p>(1) Smearing or scratches on the LF slit film: Clean the LF slit film using lint-free paper.</p> <p>(2) Foreign material in the LF drive: Remove foreign material.</p> <p>(3) Cable connection Re-connect the cables. If any damage or breakage of the cable is found, replace the cable.</p> <p>(4) LF lock arm spring: Attach the spring properly.</p>	<ul style="list-style-type: none"> - Timing slit disk feed film - Timing sensor unit - Paper feed roller unit - Logic board ass'y - Paper feed motor
4 times	Purge cam sensor error	[5C00]	<p>(1) Foreign material around the purge drive system unit: Remove foreign material.</p> <p>(2) Cable connection: - LF encoder cable</p>	<ul style="list-style-type: none"> - Purge drive system unit - Logic board ass'y

			<ul style="list-style-type: none"> - PE sensor cable - Paper feed motor harness ass'y <p>Re-connect the cable.</p> <p>(3) Strange sound at power-on: Replace the purge drive system unit.</p>	
5 times	ASF (cam) sensor error	[5700]	<p>(1) Cable connection:</p> <ul style="list-style-type: none"> - PE sensor cable, etc. <p>Re-connect the cable.</p>	<ul style="list-style-type: none"> - ASF unit - PE sensor board ass'y - Logic board ass'y
6 times	Internal temperature error	[5400]	<p>(1) Cable connection:</p> <ul style="list-style-type: none"> - Between the spur unit and the logic board, J703 connector, etc. <p>Re-connect the cable.</p>	<ul style="list-style-type: none"> - Spur unit - Logic board ass'y - Print head
7 times	Ink absorber full	[5B00] [5B01]	<p>(1) Ink absorber condition: Replace the ink absorber, and reset the ink absorber counter value in the EEPROM.</p>	<ul style="list-style-type: none"> - Absorber kit
8 times	Print head temperature rise error	[5200]	<p>(1) Print head condition (face surface and mold): If a burn mark or heat deformation is seen on the face surface or the mold, replace the print head.</p> <p>(2) Head contact pin condition of the carriage unit: If the pin is bent or deformed, replace the carriage unit.</p> <p>(3) Cable connection: - CR FFC (J500, J501, J502) Re-connect the cable. If any damage or breakage of the cable is found, replace the carriage unit.</p>	<ul style="list-style-type: none"> - Print head - Carriage unit
9 times	EEPROM error	[6800] [6801]	<p>(1) Part replacement: Replace the logic board ass'y.</p>	<ul style="list-style-type: none"> - Logic board ass'y
10 times	VH monitor error	[B200]	<p>(1) Print head condition (face surface and mold): If a burn mark or heat deformation is seen on the face surface or the mold, replace the print head and the logic board in set. (Be sure to replace them at the same time.)</p> <p>(2) Burn mark or heat deformation of the logic board: If a burn mark or heat deformation is seen on the logic board, replace</p>	<ul style="list-style-type: none"> - Print head and logic board ass'y (replace them at the same time) - AC adapter - Carriage unit

			<p>the print head and the logic board in set. (Be sure to replace them at the same time.)</p> <p>(3) Head contact pin condition of the carriage unit: If the pin is bent or deformed, replace the carriage unit.</p> <p>(4) Cable connection: - CR FFC (J502, J501, J500) Re-connect the cable. If any damage or breakage of the cable is found, replace the carriage unit.</p>	
11 times	Carriage lift mechanism error	[5110]	<p>(1) Foreign material that obstructs the carriage movement: Remove foreign material.</p>	<p>- Switch system unit</p> <p>- Carriage unit</p>
12 times	APP position error	[6A80]	<p>(1) Cap absorber and wiper blade of the purge drive system unit: If the cap absorber contacts the wiper blade, lower the cap absorber so that it will not contact the wiper blade.</p> <p>(2) Foreign material around the purge drive system unit: Remove foreign material.</p> <p>(3) Ink absorber right beneath the purge drive system unit: Confirm that the absorber stays in place and does not contact the unit.</p> <p>(4) Foreign material around the ASF unit: Remove foreign material.</p> <p>(5) Cable connection: - PE sensor cable - Motor multi harness ass'y Re-connect the cables. If any damage or breakage of the cable is found, replace the cable.</p> <p>(6) APP slit film condition: Clean the APP slit film using lint-free paper.</p> <p>(7) APP code wheel gear condition: If the gear wears, replace the gear.</p>	<p>- Purge drive system unit</p> <p>- Logic board ass'y</p>
	APP position error during initial purging	[6A81]		
14 times	APP sensor error	[6A90]		
16 times	Pump roller sensor error	[5C20]	<p>(1) Cable connection Re-connect the cable.</p>	<p>- Purge drive system unit</p>
17 times	Paper eject encoder error	[6010]	<p>(1) Smearing on the LF slit film: Clean the LF slit film using lint-free paper.</p>	<p>- Timing slit disk feed film</p> <p>- Timing sensor unit</p>

			<p>(2) Foreign material in the paper path: Remove foreign material.</p> <p>(3) Cable connection: - LF encoder cable - PE sensor cable Re-connect the cable.</p> <p>(4) Scratches on the LF slit film: Replace the timing slit disk feed film.</p>	<ul style="list-style-type: none"> - Platen unit - Logic board ass'y - Paper feed motor
19 times	Ink tank position sensor error	[6502]	<p>(1) Ink tank position: Confirm the ink tanks are installed in the correct slots.</p> <p>(2) Re-set or replacement of ink tanks: If the error persists, replace the ink tanks.</p> <p>(3) Cable connection Re-connect the cable.</p>	<ul style="list-style-type: none"> - Spur unit - Logic board ass'y
20 times	Other errors	[6500]	(1) Part replacement: Replace the logic board ass'y.	
21 times	Drive switch error	[C000]	<p>(1) Foreign material in the drive switch area of the purge drive system unit: Remove foreign material.</p> <p>(2) Ink tank conditions: Confirm that the ink tanks are seated properly and they do not interfere with the carriage movement.</p>	<ul style="list-style-type: none"> - Purge drive system unit - ASF unit - Carriage unit
23 times	Valve cam sensor error	[6C10]	<p>(1) Foreign material around the purge drive system unit: Remove foreign material.</p> <p>(2) Cable connection: - J702 connector Re-connect the cable.</p>	<ul style="list-style-type: none"> - Purge drive system unit - Logic board ass'y



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 "*Guideline for Preventive Replacement of Ink Absorber*," replace the ink absorber. [See [3. ADJUSTMENT / SETTINGS, 3-3. Adjustment and Settings in Service Mode](#), for details.]



2. REPAIR

2-1. Major Replacement Parts and Adjustment

Service part	Recommended removal procedure*1	Adjustment / settings / operation check
Logic board ass'y	(1) Front panel cover L (2) Main case unit (3) Logic board ass'y Caution: - Before replacement, check the ink absorber counter value (by service test print or EEPROM information print). - 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.	In the service mode: 1. Set the ink absorber counter value. 2. Set the destination. 3. Print the integrated inspection pattern. 4. Perform LF / Eject correction (only when streaks or uneven printing occurs). 5. Print the EEPROM information. [See 3-3. Adjustment and Settings in Service Mode, for details.] In the user mode: 6. Perform print head alignment. 7. Print via USB connection.
Absorber kit	(1) Front panel cover L (2) Main case unit (3) Print unit (4) Ink absorber - See 2-2. Disassembly & Reassembly Procedures, (2) Printer unit removal & Ink absorber replacement, for details.	In the service mode: 1. Reset the ink absorber counter. After the ink absorber counter is reset, the counter value is printed automatically [See 3-3. Adjustment and Settings in Service Mode, for details.].
Carriage unit	(1) Front panel cover L (2) Main case unit (3) Timing slit strap (4) Front chassis - Before removal of the carriage upper rail and carriage rail, put marks of their position. (5) Carriage upper rail (6) Carriage rail (7) Carriage unit Caution: - Keep the timing slit strip film (carriage encoder film) free from stain or damage. When returning the film, make sure of its orientation (left and right, front and back). - See 2-2. Disassembly & Reassembly Procedures, (6) Carriage unit removal, for details.	1. Apply grease to the sliding portions of the carriage upper rail and carriage rail. [See 3-4. Grease Application, for details.] In the service mode: 2. Print the integrated inspection pattern. [See 3-3. Adjustment and Settings in Service Mode, for details.] In the user mode: 3. Perform automatic print head alignment.
Switch	(1) Front panel cover L	1. Adjust the paper feed motor.

system unit	<p>(2) Main case unit (3) Print unit (4) See 2-2. Disassembly & Reassembly Procedures.</p> <p>- See 2-2. Disassembly & Reassembly Procedures, (8) Purge drive system unit (right plate) and switch system unit (left plate) removal, for details.</p>	<p>[See 3-5. Special Notes on Servicing, (2) Paper feed motor adjustment, for details.]</p> <p>In the service mode: 2. Print the integrated inspection pattern.</p>
Paper feed motor	<p>- See 2-2. Disassembly & Reassembly Procedures, (9) Engine unit reassembly, for details.</p> <p>Caution: - The screws securing the paper feed motor are allowed to be loosened only for paper feed motor replacement. (DO NOT loosen them in any other cases.)</p>	
Platen unit	<p>(1) Front panel cover L (2) Main case unit (3) Print unit (4) See 2-2. Disassembly & Reassembly Procedures, from this step.</p>	<p>In the service mode: 1. Perform LF / Eject correction (only when uneven printing or streaks appear on printouts after replacement). [See 3-3. Adjustment and Settings in Service Mode, for details.] 2. Print the integrated inspection pattern.</p>
Spur unit	<p>(1) Front panel cover L (2) Main case unit (3) Print unit (4) See 2-2. Disassembly & Reassembly Procedures.</p> <p>Caution: - DO NOT contact the spur edges.</p>	<p>In the service mode: 1. Print the integrated inspection pattern. 2. Perform LF / Eject correction (only when uneven printing or streaks appear on printouts after replacement). [See 3-3. Adjustment and Settings in Service Mode, for details.]</p>
Purge drive system unit	<p>(1) Front panel cover L (2) Main case unit (3) Print unit (4) See 2-2. Disassembly & Reassembly Procedures.</p> <p>- See 2-2. Disassembly & Reassembly Procedures, (8) Purge drive system unit (right plate) and switch system unit (left plate) removal, for details.</p> <p>- See 2-2. Disassembly & Reassembly Procedures, (9) Engine unit reassembly, for details.</p>	<p>In the service mode: 1. Print the integrated inspection pattern.</p>
Carriage rail and carriage	See 2-2. Disassembly & Reassembly Procedures , and Parts Catalog.	1. Apply grease to the sliding portions. [See 3-4. Grease Application , for

upper rail		details.]
APP code wheel gear shaft		In the service mode: 2. Print the integrated inspection pattern.
Paper guide		
Timing slit strip film	See 2-2. Disassembly & Reassembly Procedures , and Parts Catalog.	In the user mode: 1. Perform print head alignment. In the service mode: 2. Print the nozzle check pattern. 3. Perform LF / Eject correction (only when uneven printing or streaks appear on printouts after replacement). [See 3-3. Adjustment and Settings in Service Mode , for details.]
Timing slit disk feed film	Caution: - 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.	
Print head		In the user mode: 1. Perform print head alignment. In the service mode: 2. Print the integrated inspection pattern.

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

General notes:

- Make sure that the flexible cables and wires in the harness are in the proper position and connected correctly. See [2-2. Disassembly & Reassembly Procedures](#) or the Parts Catalog for details.
- Do not drop the ferrite core, which may cause damage.
- Protect electrical parts from damage due to static electricity.
- Before removing a unit, after removing the power cord, allow the machine to sit for approx. 1 minute (for capacitor discharging to protect the logic board ass'y from damages).
- Do not touch the timing slit strip film and the timing slit disk feed film. No grease or abrasion is allowed.
- Protect the units from soiled with ink.
- Protect the housing from scratches.
- Exercise caution with the screws, as follows:
 - i. The screws of the paper feed motor may be loosened only at replacement of the paper feed motor unit (DO NOT loosen them in other cases).
 - ii. Before loosening the 3 screws that fix the carriage upper rail to the main chassis, or the 3 screws that fix the carriage rail to the main chassis, mark the screw positions so that the carriage upper rail or carriage rail will be re-attached to the main chassis in their original position. [See [2-2. Disassembly & Reassembly Procedures](#), (6) Carriage unit removal, for details.]



2-2. Disassembly & Reassembly Procedures [\(Click on the image to enlarge it.\)](#)

Be sure to protect the machine from static electricity in repair servicing, especially for the logic board, panel cover unit, and PE sensor board.

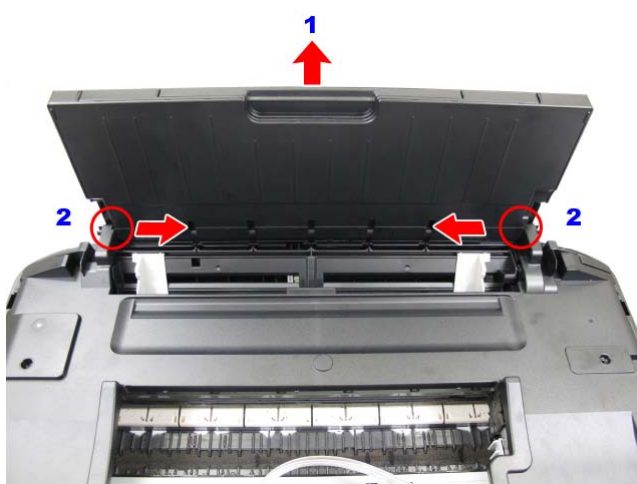
Some of the photos below are from the MG5200 series, since their structure is similar to that of the iX6500 series.

(1) External housing removal

- 1) Remove the access cover and the paper support (no screws).

<The access cover hinges are fitted into the main case. While slightly pulling the cover outward on the left and right sides, lift the cover to separate it from the main case.>

<Hold the center of the paper support, and pull it upward so that the left and right hinges will come out from the main case.>



- 2) Remove the AC adapter (no screws).

<Pull out the AC adapter from the bottom of the bottom case.>



3) Remove the front panel cover L (no screws).

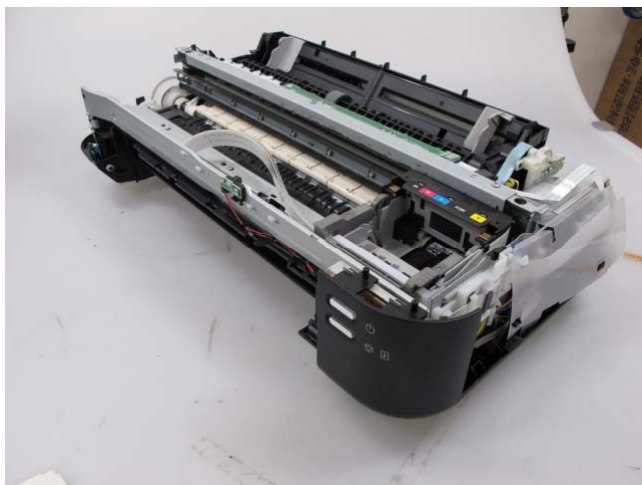
<Slide the cover toward you from the front of the printer.>



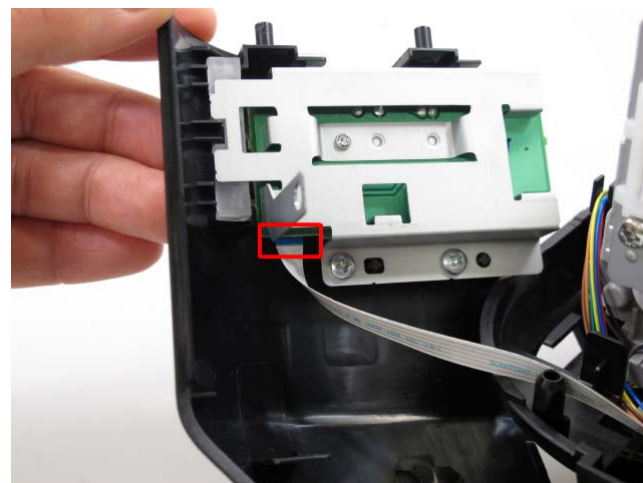
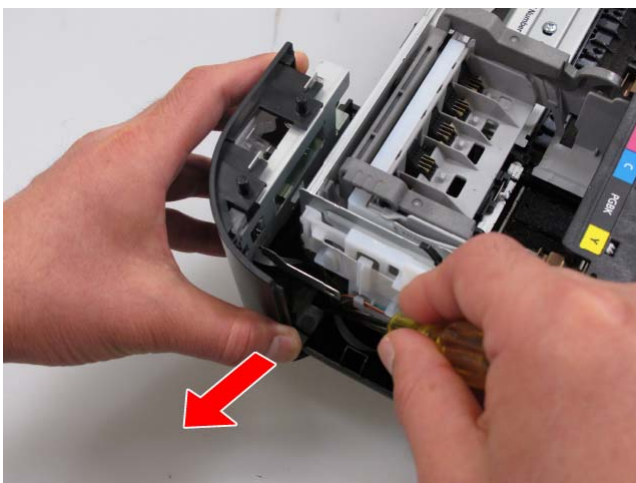
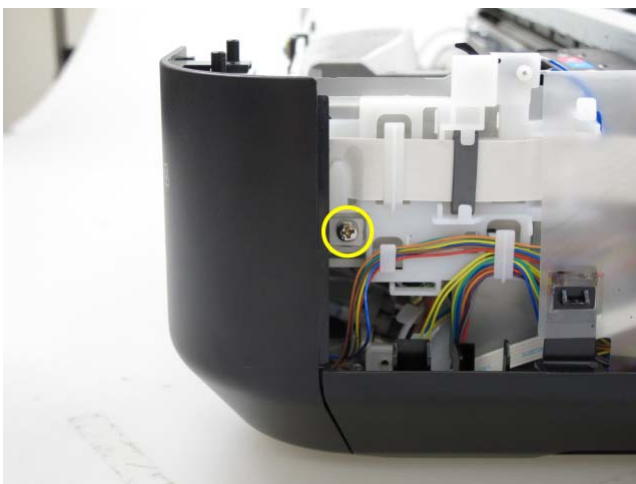
4) Remove the main case (2 screws).

<Lift the main case upward to separate it from the printer.>



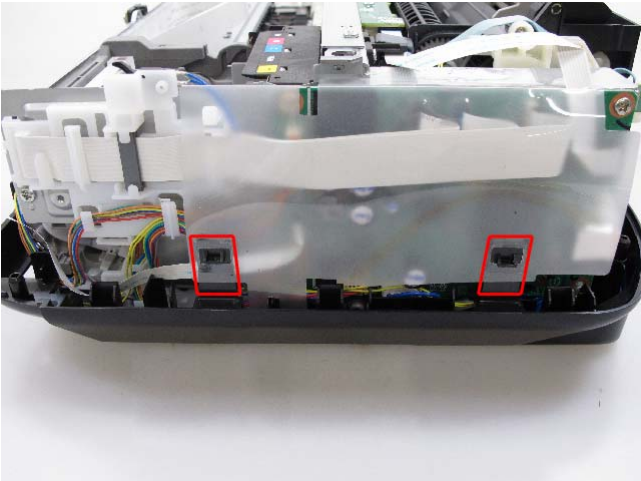


5) Remove the panel cover unit R (1 screw).

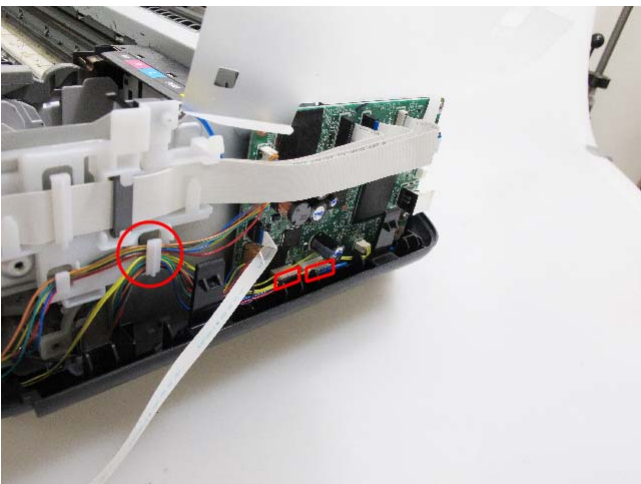


(2) Printer unit removal & Ink absorber replacement

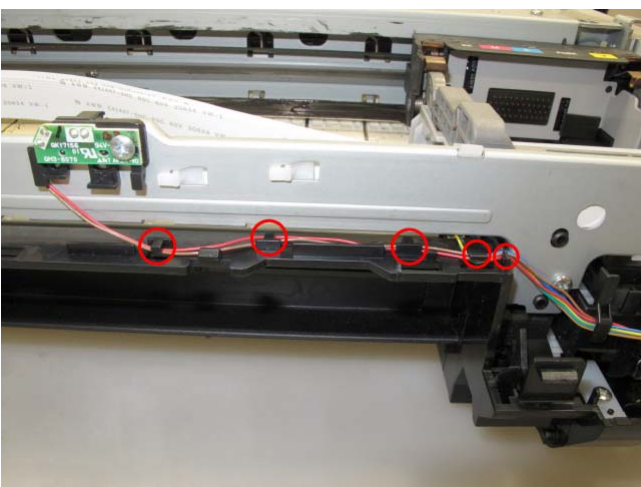
- 1) Remove the protective sheet from the bottom case.



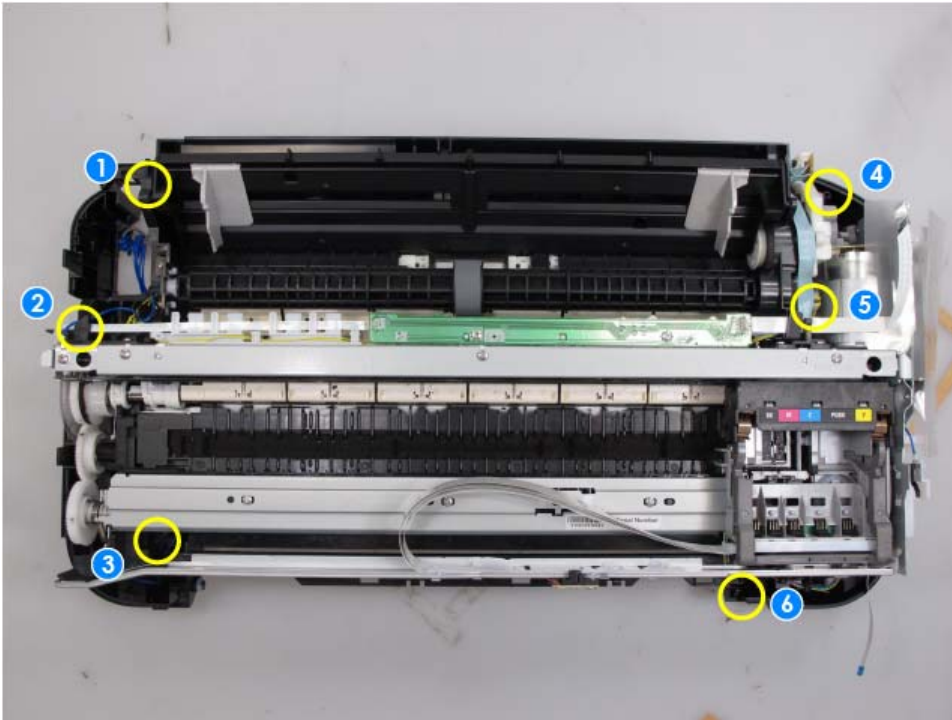
- 2) Disconnect the front cover switch and DC harnesses from the logic board, and release the front cover switch harness from the holder.



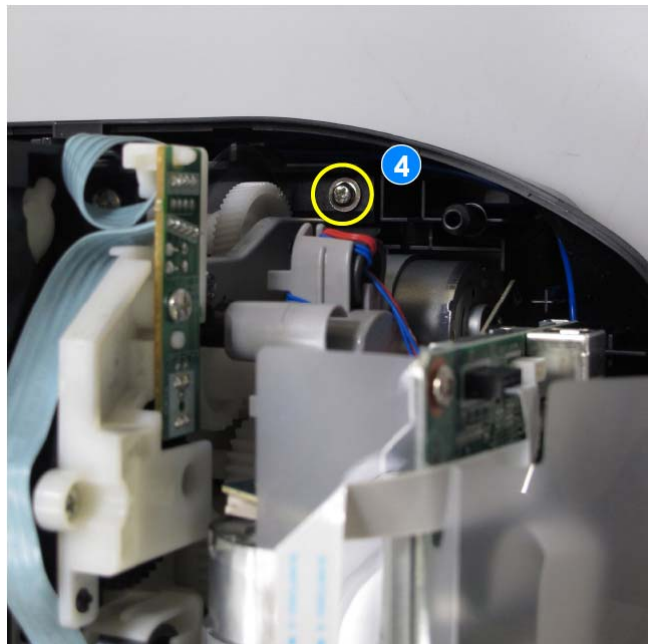
- 3) Release the ink sensor harness and the temperature & ink amount sensor harness from the holders of the bottom case.

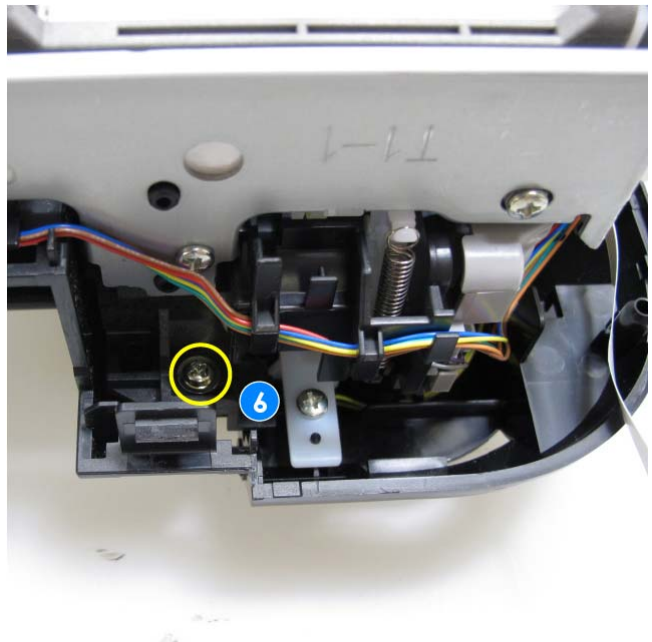
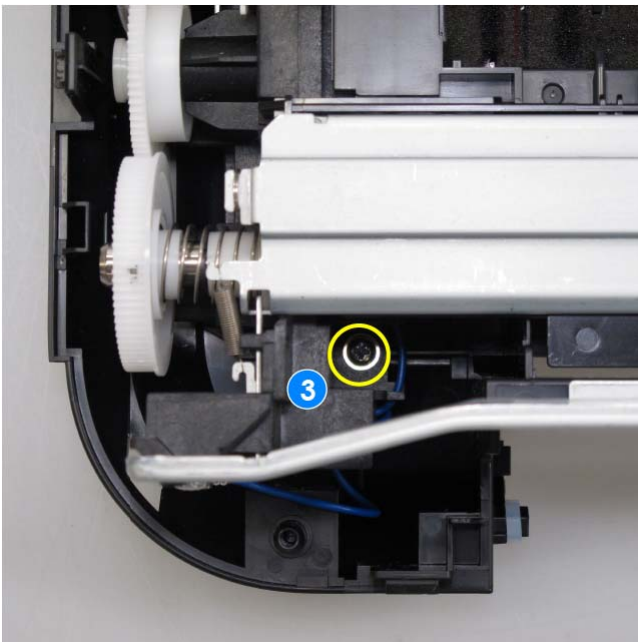
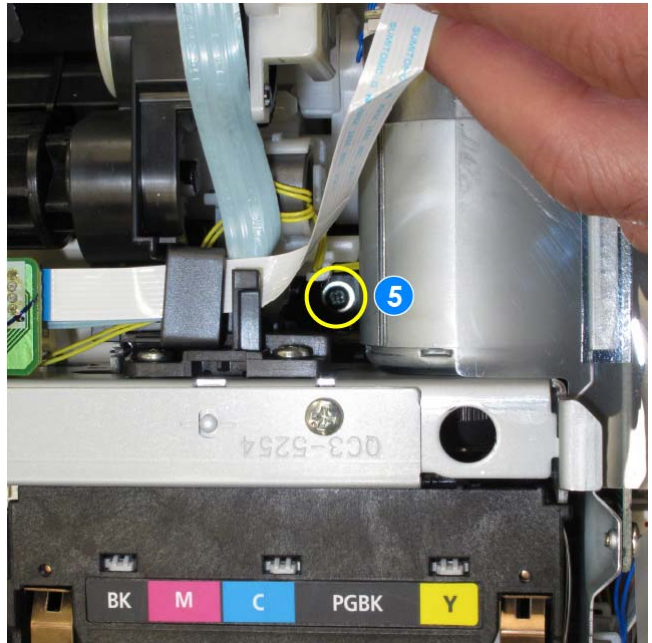
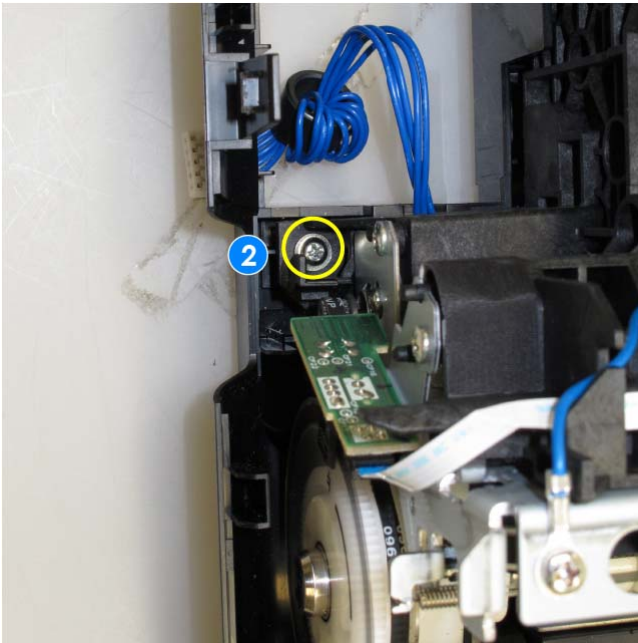


- 4) Remove the printer unit. (6 screws)
<Lift the printer unit.>



Specific screw location:





When the printer unit is separated from the bottom case, ink absorbers can be replaced.

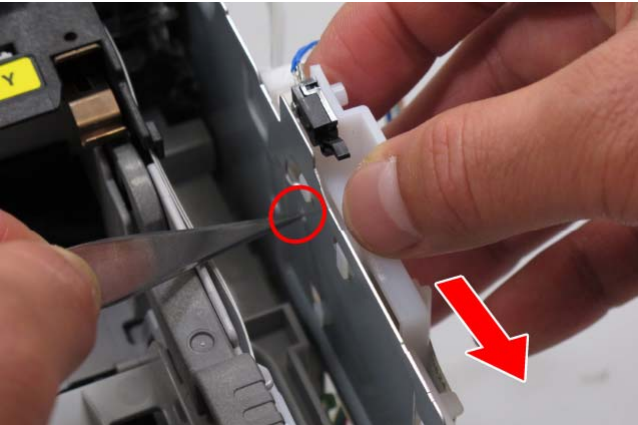
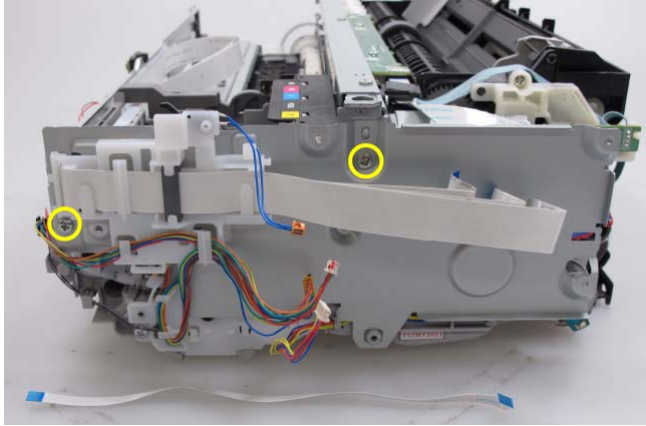
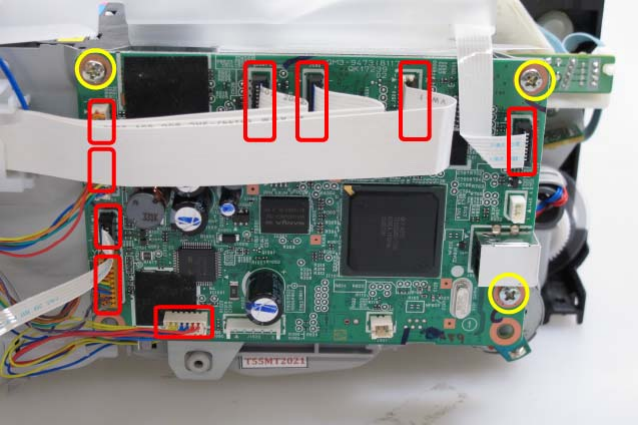


When the ink absorbers are replaced, confirm that the replaced new absorbers fit in place securely, and they do not lift.

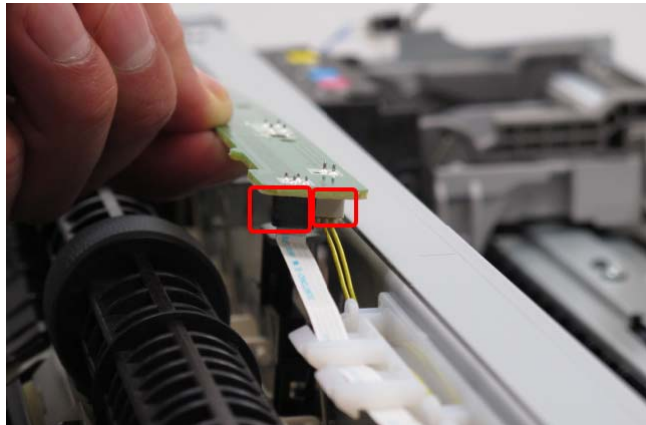
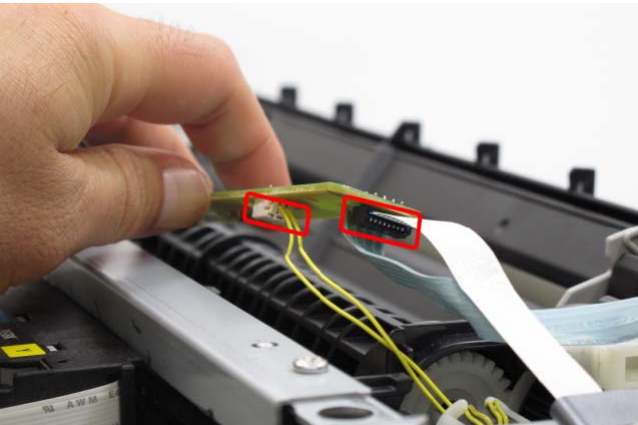
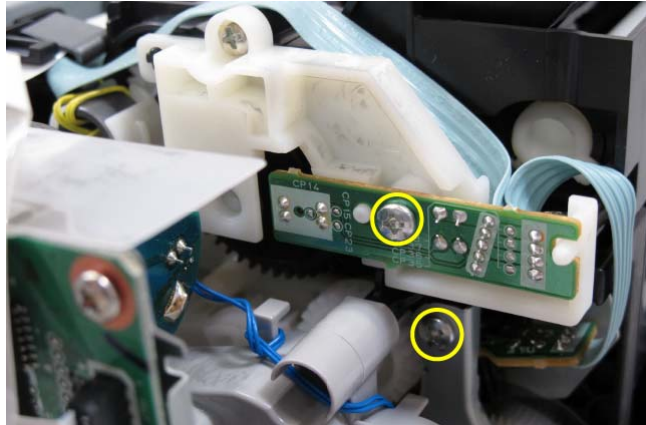
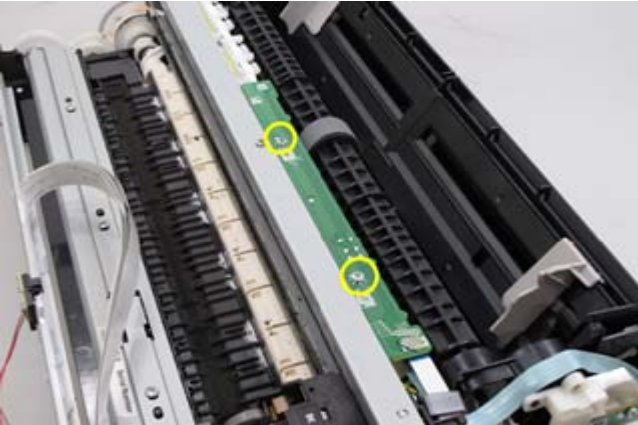
After replacement of the ink absorbers, reset the ink absorber counter value to zero in the service mode. [\[See 3-3. Adjustment and Settings in Service Mode, for details.\]](#)

(3) Board removal

1) Remove the logic board and main PCB chassis (5 screws).

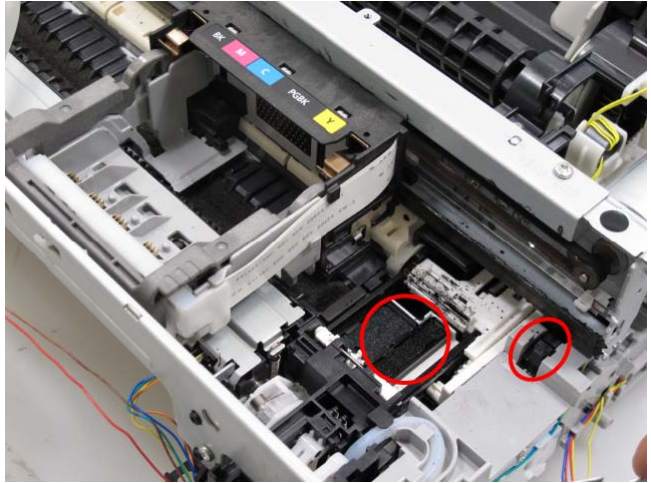
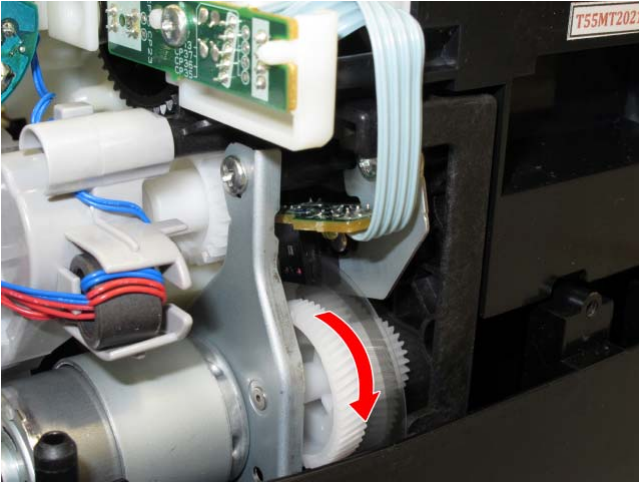


2) Remove the PE sensor board (4 screws).



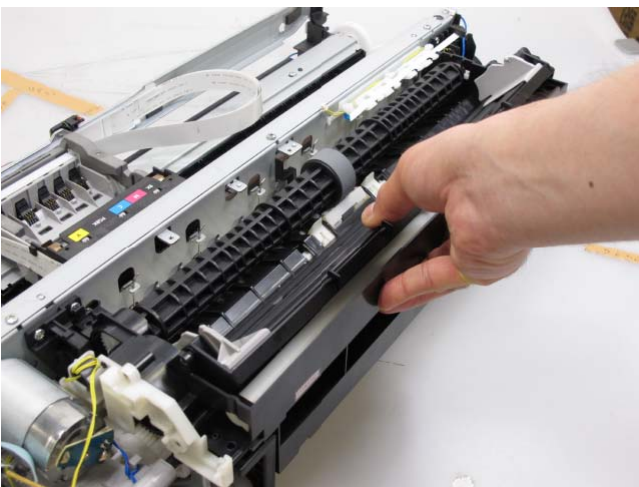
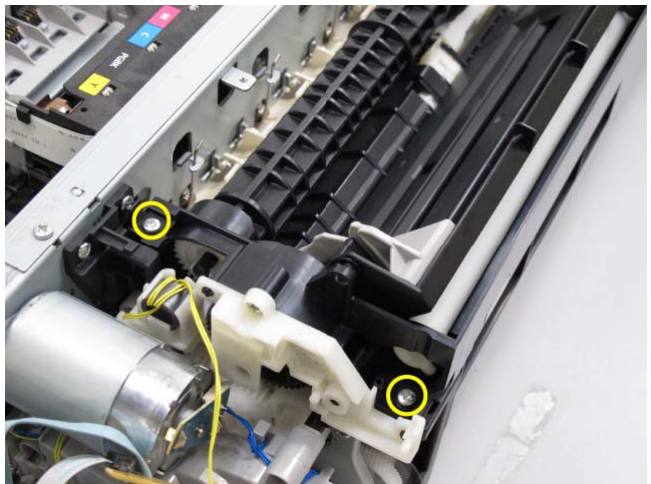
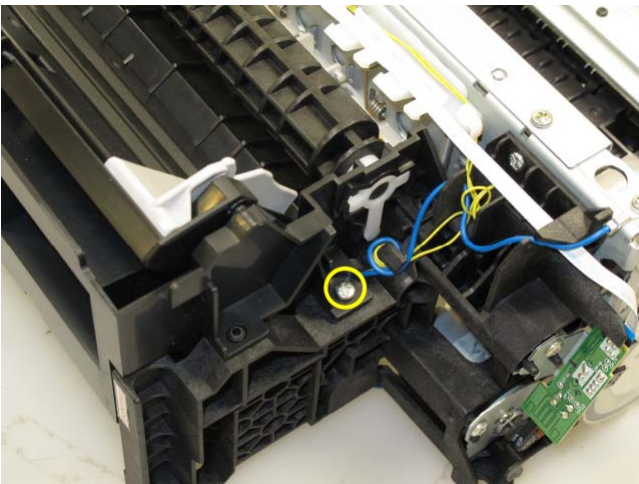
(4) Carriage unlocking

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



(5) ASF unit removal

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

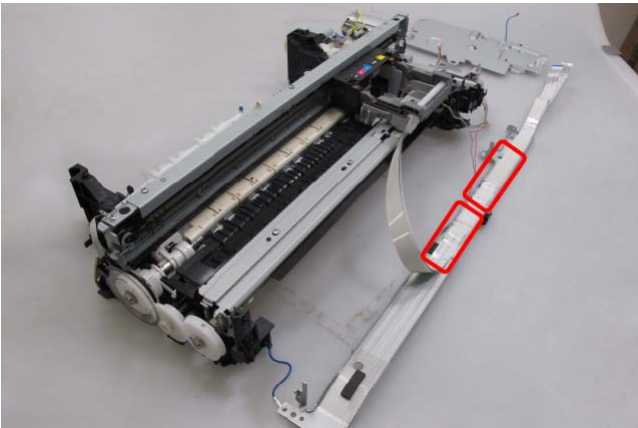


(6) Carriage unit removal

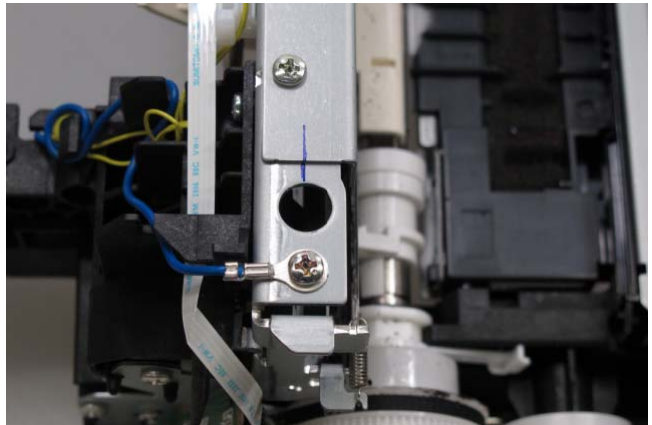
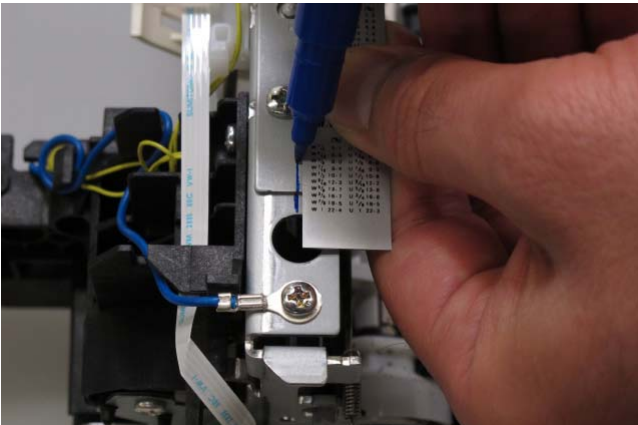
- 1) Remove the front chassis. (From the left side, release the spring and remove 3 screws, then pull the chassis frontward).



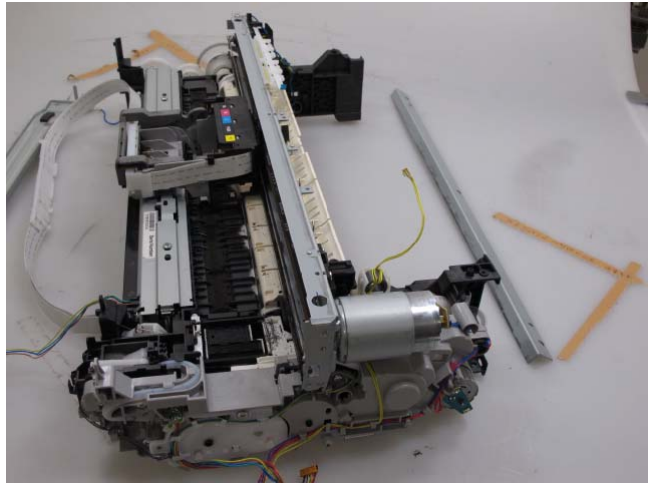
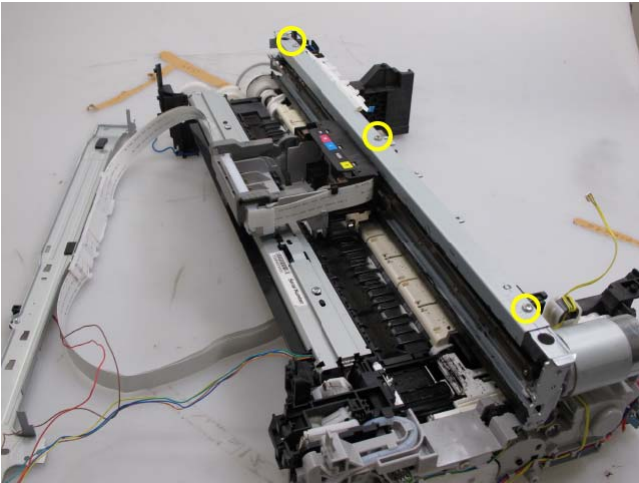
- 2) Remove the carriage cable cover and holder from the front chassis.



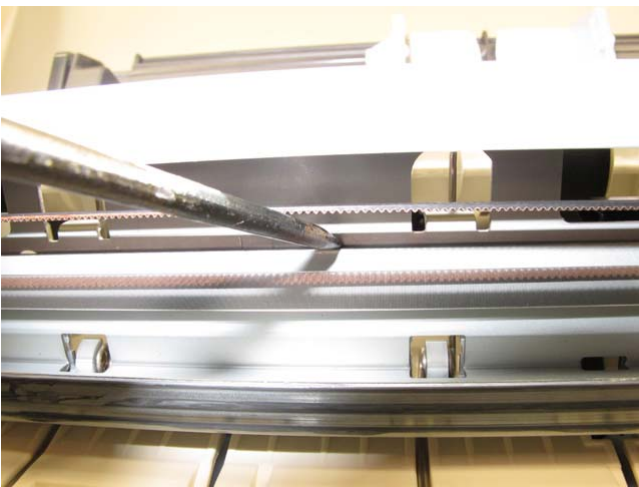
- 3) On the main chassis, mark the position of the carriage upper rail (the positions of the left and right edges of the rail).



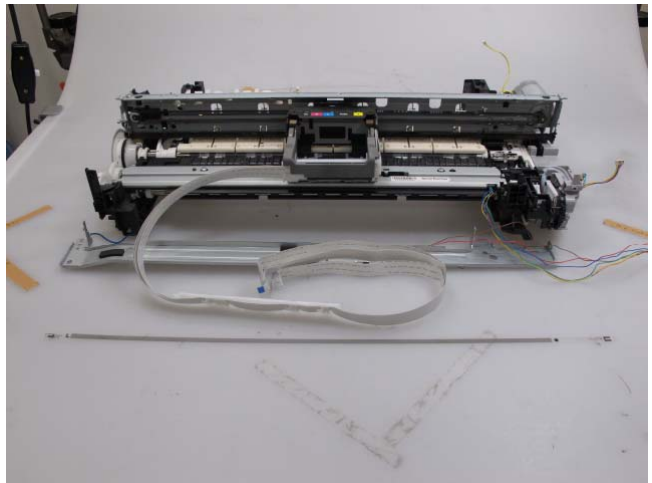
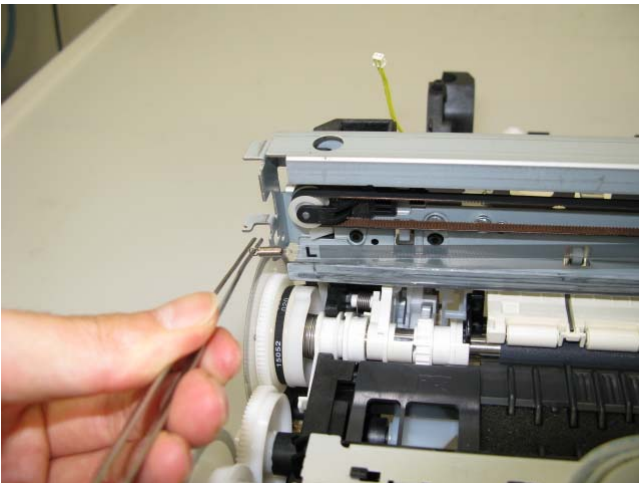
4) Remove the carriage upper rail (3 screws).



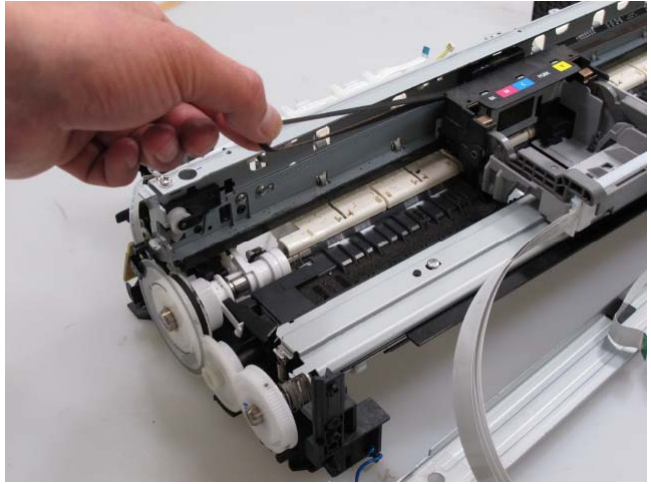
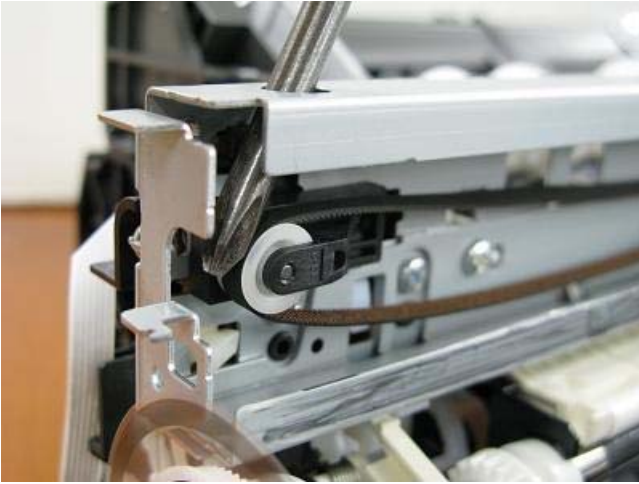
5) On the main chassis, mark the positions of the screws that fix the carriage rail to the main chassis (3 points for each screw: the left, right, and center).



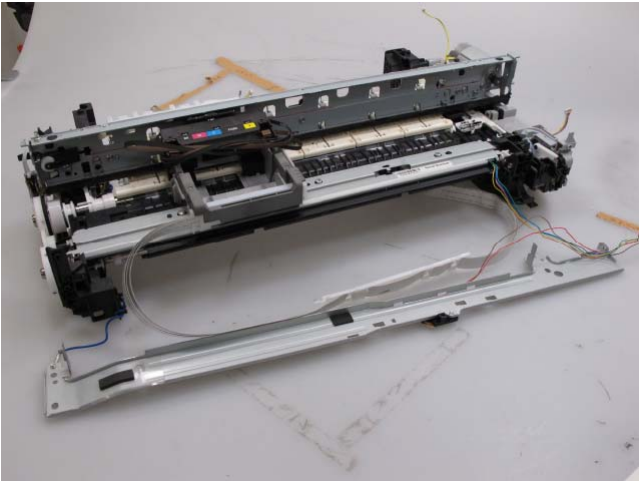
6) Remove the timing slit film. Be cautious to keep it free from any grease or damage.



- 7) Using a pair of pliers, etc., release the left end of the pulley holder spring, then remove the carriage belt. Be cautious to keep it free from any grease.



- 8) Remove 3 screws that fix the carriage rail to the main chassis, and slowly put down the carriage rail.



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

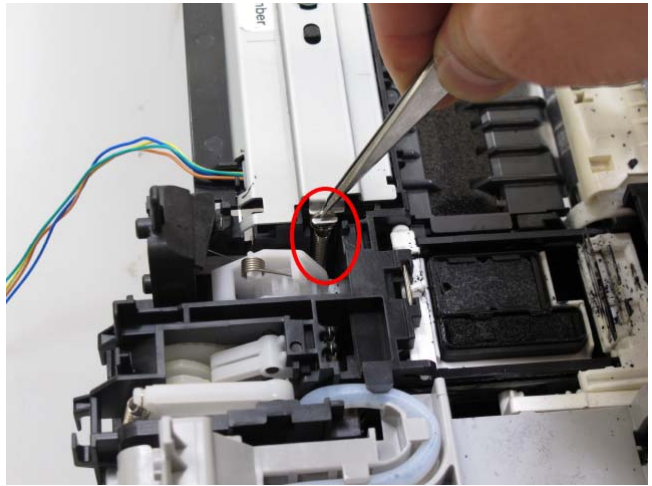
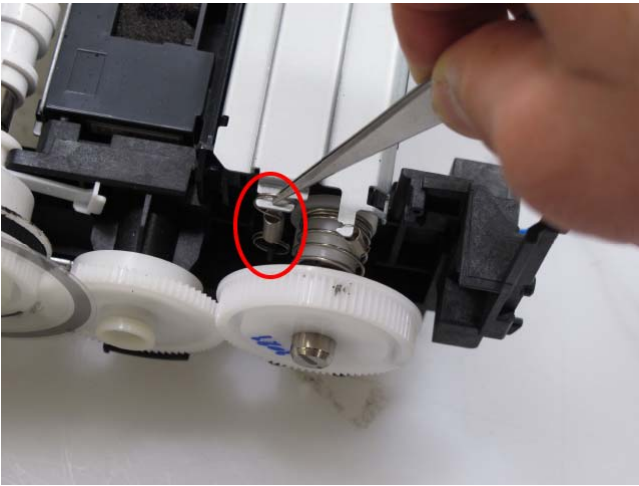


(7) Spur unit and platen unit removal

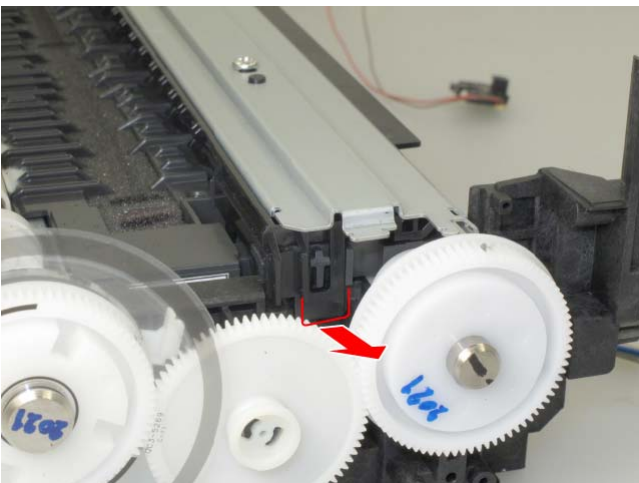
1) Remove the ink sensor from the front chassis (1 screw).



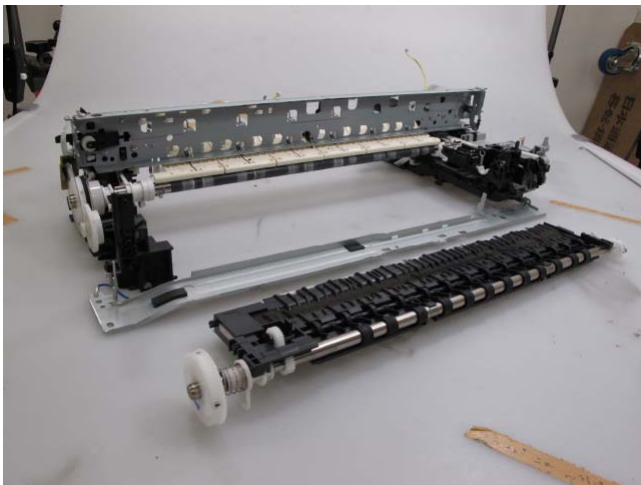
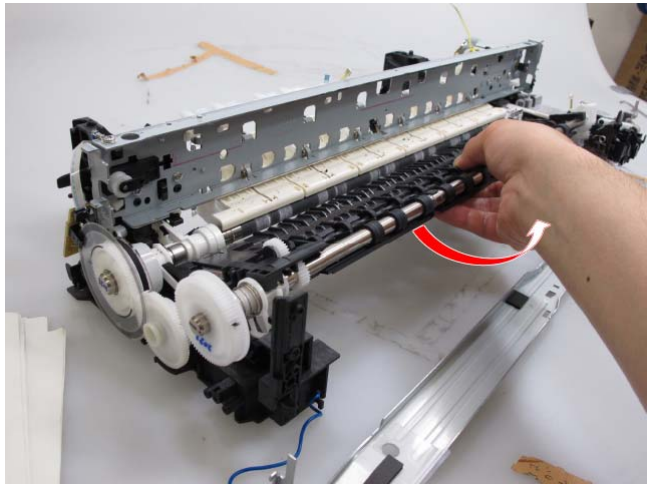
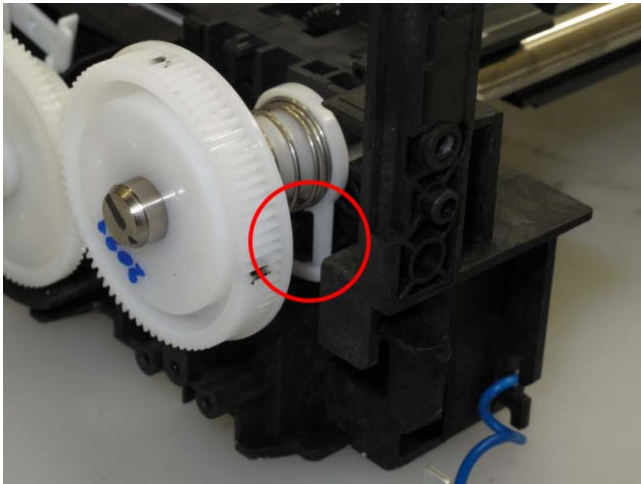
2) From the left and right sides of the spur unit, release the springs (one spring each).



3) On the both ends of the spur unit, pull the hooks outward to release them from the platen unit, and lift the spur unit to separate it from the platen unit.

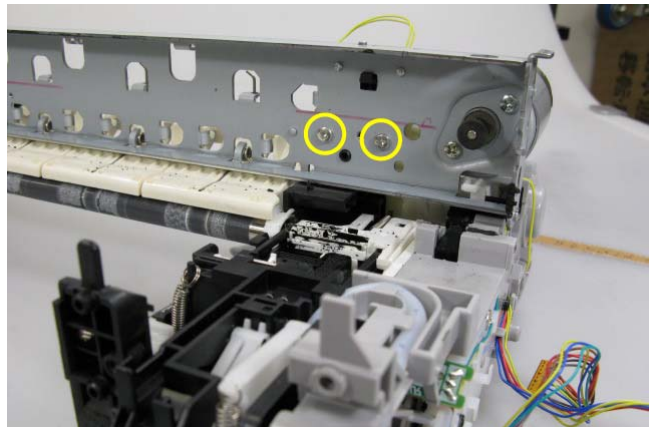
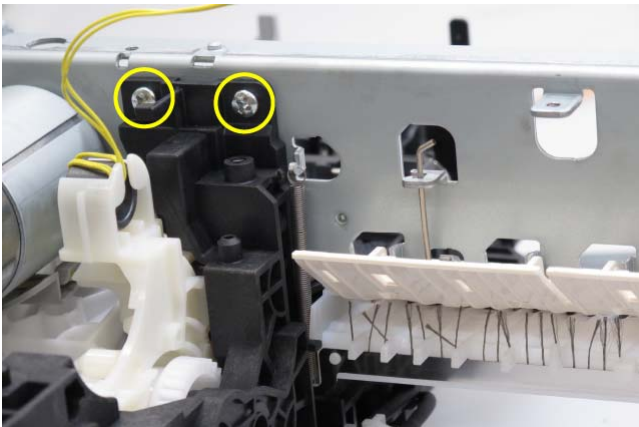
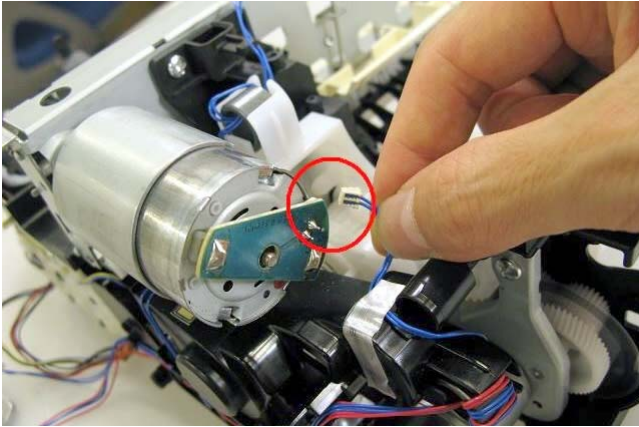


- 4) Unlock the paper eject roller gear. While raising the front of the platen unit, remove the platen unit from the printer unit.

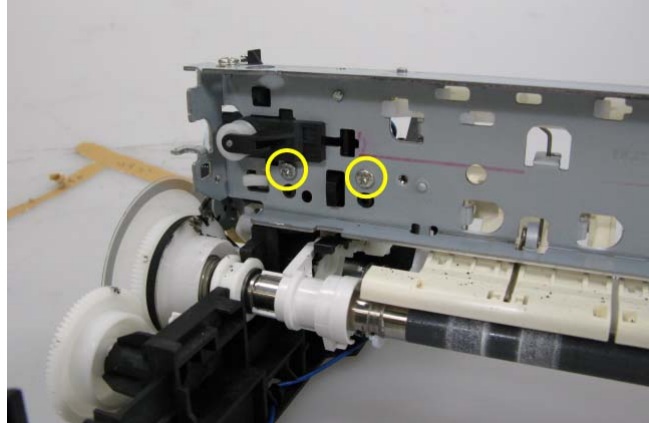
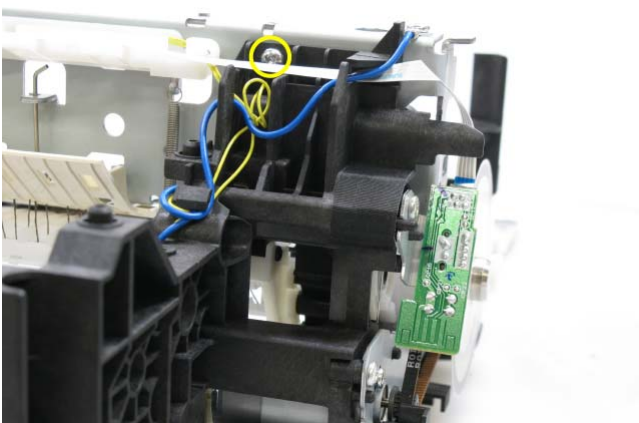


(8) Purge drive system unit (right plate) and switch system unit (left plate) removal

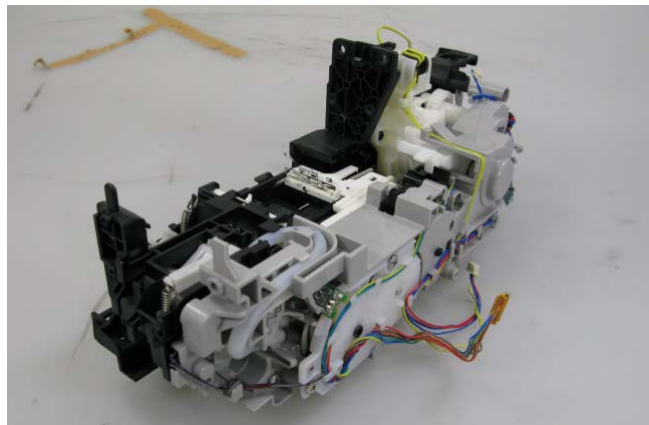
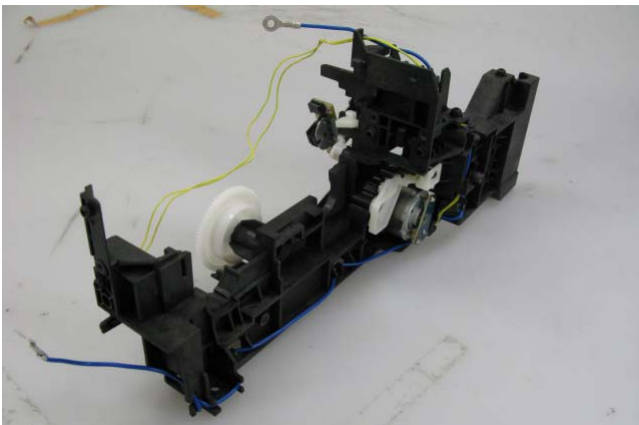
1) Remove the carriage motor cable, and 4 screws from the purge drive system unit.



2) Remove 3 screws from the switch system unit.



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



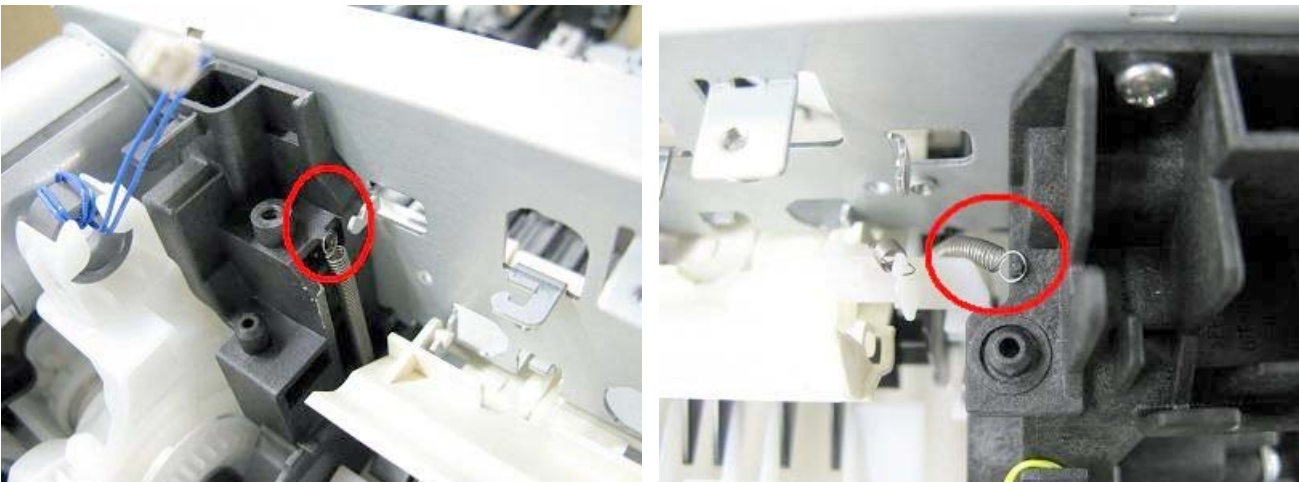
(9) Engine unit reassembly

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

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

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

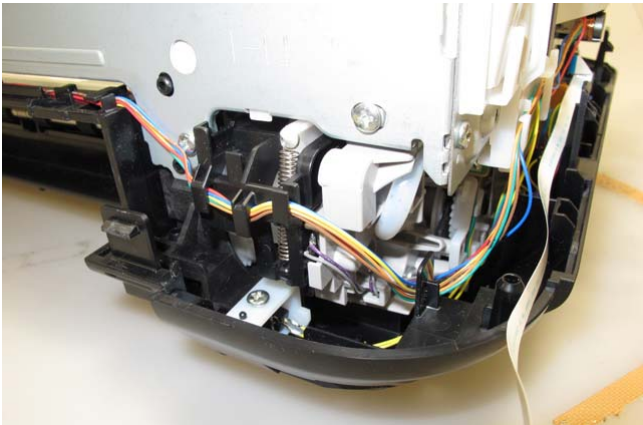
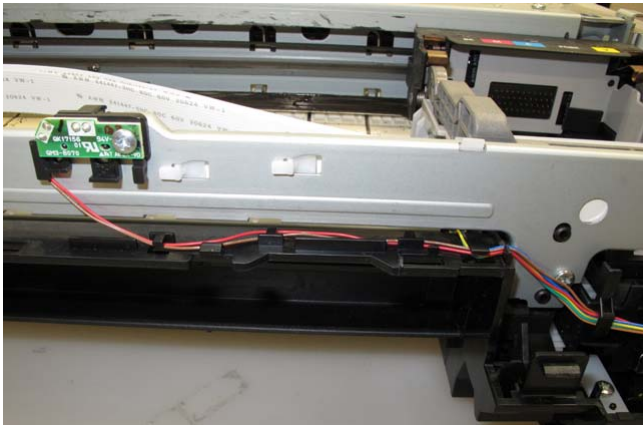
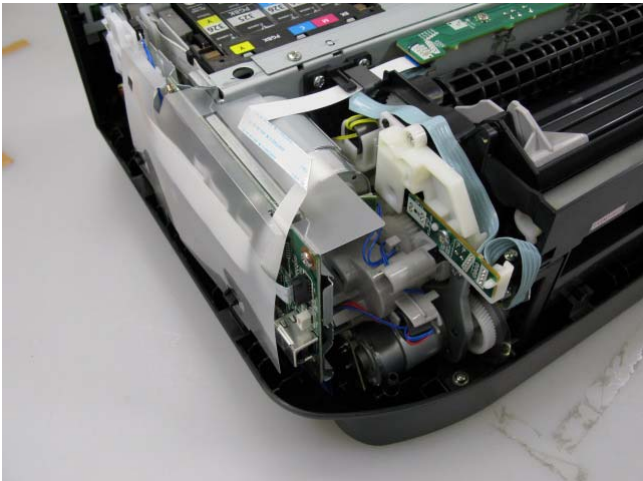
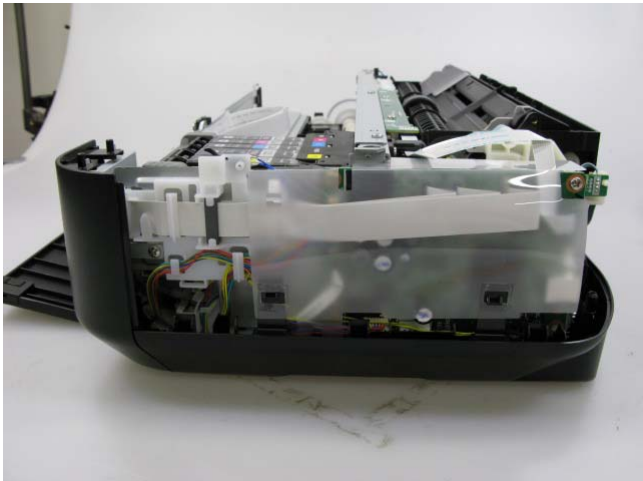
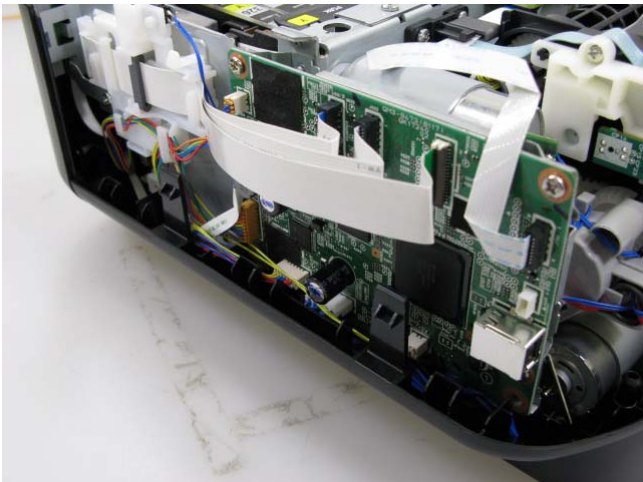
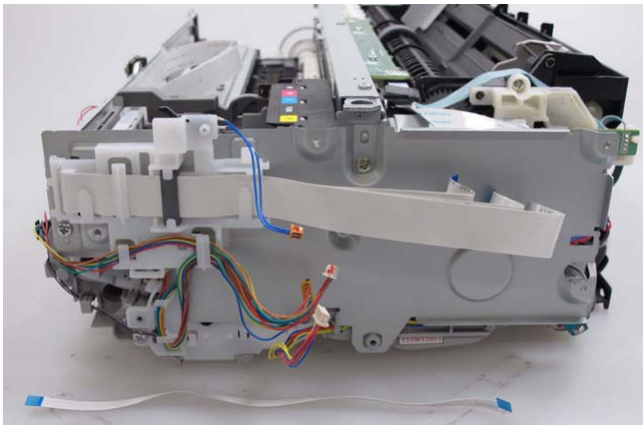
Springs hooked at the right and left plates in step 6):



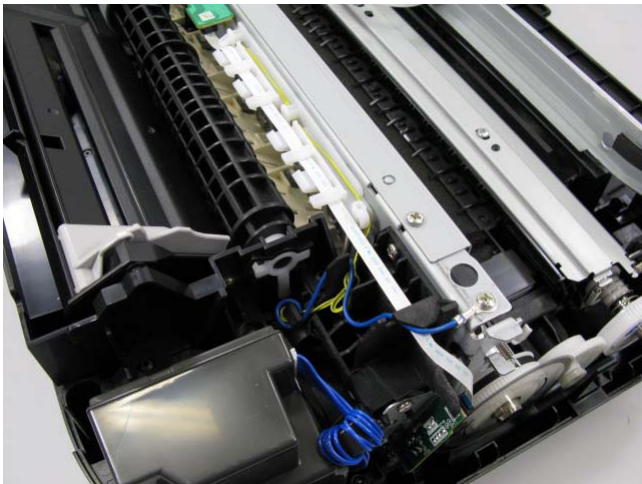
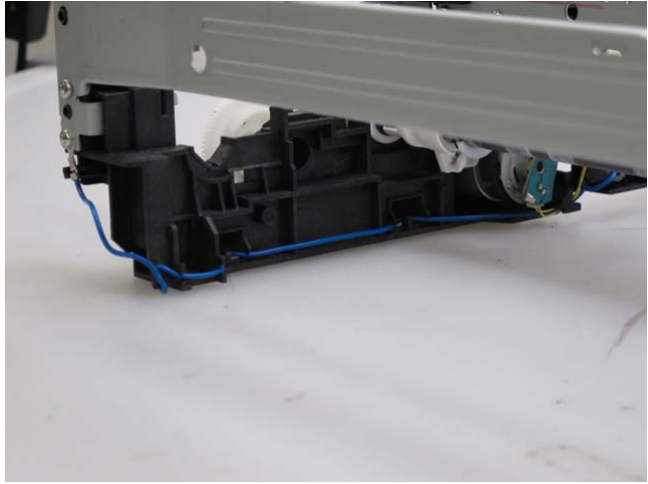
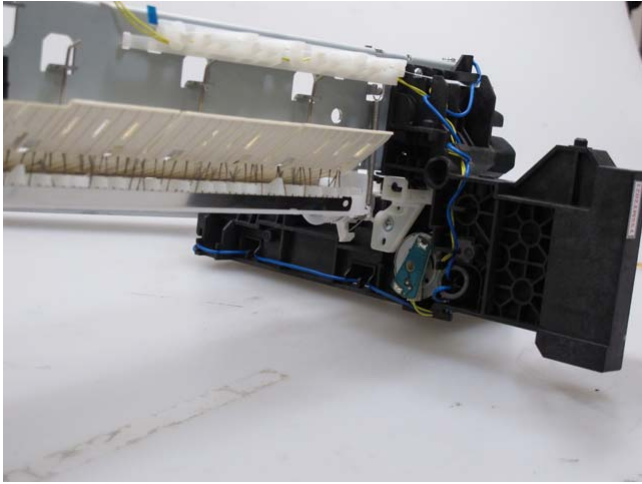
- 11) While being cautious not to damage the carriage FFC, install the front chassis and the ground chassis.
- 12) Attach the ink sensor board to the front chassis.
- 13) Install the ASF unit and attach the PE sensor board.
- 14) Install the PCB chassis.
- 15) Arrange each harness.
- 16) Attach the carriage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

(10) Cable wiring and connection

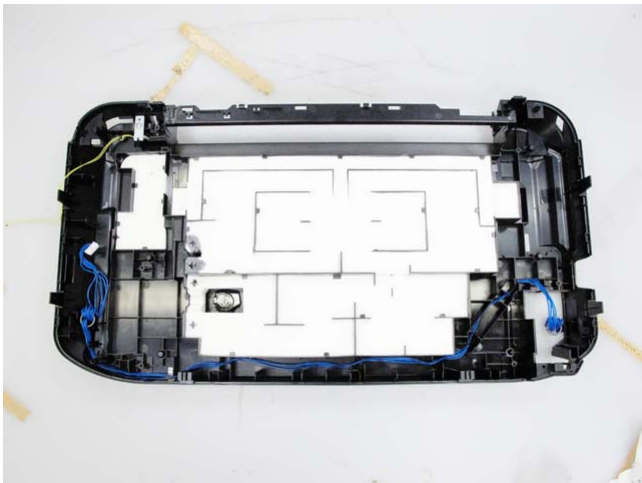
1) Logic board and spur unit:



2) Switch system unit and PE sensor board:



3) Bottom case and DC harness:



◀<2-2. Disassembly & Reassembly Procedures>▶ ▶

3. ADJUSTMENT / SETTINGS

3-1. Adjustment

	Adjustment	Purpose	Method	Approx. time
	Destination settings (EEPROM settings)	To set the printer destination. - At logic board replacement	Service Tool ^{*1} , Set Destination section	1 min.
	Ink absorber counter resetting (EEPROM settings)	To reset the ink absorber counter. - At ink absorber replacement	Service Tool ^{*1} , Main in the Clear Ink Counter section	1 min.
	Ink absorber counter value setting (EEPROM settings)	To set the data of the actual ink amount absorbed in the ink absorber to the EEPROM. - At logic board replacement	Service Tool ^{*1} , Ink Absorber Counter section	1 min.
	Paper feed motor position adjustment	To adjust the belt tension. (Position the paper feed motor so that the belt is stretched tight.) - At paper feed motor replacement	Fix the paper feed motor so that the belt is stretched tight. (See 3-5. Special Notes on Servicing, (2) Paper feed motor adjustment , for details.)	5 min.
	Automatic print head alignment	To secure the dot placement accuracy. - At print head replacement - At logic board replacement - When print quality is not satisfying	Perform automatic print head alignment in the user mode. Recommended for the iX6500 series.	6 min.
	Manual print head alignment	To secure the dot placement accuracy. - At print head replacement - At logic board replacement - When print quality is not satisfying even after automatic print head alignment is performed	Perform manual print head alignment in the user mode.	10 min.
	Grease application	To maintain sliding properties of the applicable portions. - At carriage unit replacement - At APP motor replacement	Using a brush, etc., apply FLOIL KG-107A. (See 3-4. Grease Application , for details.)	1 min.
	Ink system function check	To maintain detection functionality for presence of the ink tanks and each ink tank position. - At logic board replacement - At spur unit replacement - At carriage unit replacement	Service Tool ^{*1} , Test Print in the Print section	1 min.

LF / Eject correction	<p>To correct line feeding when necessary.</p> <ul style="list-style-type: none"> - At paper feed roller replacement - At platen unit replacement - At logic board replacement - At LF slit film replacement - At timing slit film replacement 	<p>Service Tool*¹,</p> <p>(1) In the LF/EJECT Correction section, click Print to print the LF/EJ correction pattern.</p> <p>(2) According to the printed pattern, set the correction value in the LF/EJECT Correction section.</p>	5 min.
Carriage rail position adjustment	<p>To set the carriage rail to the original position prior to removal or replacement of the carriage unit and maintain the head-to-paper distance, put a mark on the main chassis before removal of the carriage unit.</p>	<p>Put a mark using a sharp-pointed metallic stick, such as a wimble.</p>	1 min.

*1: Install the Service Tool to a licensed computer.



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

3-2. Adjustment and Maintenance in User Mode

Function	Procedures	Remarks
Nozzle check pattern printing	Perform from the printer driver Maintenance tab, or via the Resume/Cancel button.	Set a sheet of plain paper (A4 or Letter) in the rear tray.
Print head manual cleaning	<ul style="list-style-type: none"> - Cleaning both Black and Color: Perform from the printer driver Maintenance tab, or via the Resume/Cancel button. - Cleaning Black or Color separately: Perform from the printer 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 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 from the printer driver Maintenance tab, or via the Resume/Cancel button.	Set a sheet of plain paper (A4 or Letter) in the rear tray. If the automatic print head alignment is not effective, perform manual print head alignment.
Manual print head alignment	Perform from the printer driver Maintenance tab.	Set 3 sheets of plain paper (A4 or Letter) in the rear tray.
Print head alignment value printing	Perform from the printer driver Maintenance tab.	Confirmation of the current print head alignment values.
Paper feed roller cleaning	Perform from the printer driver Maintenance tab.	The paper feed rollers 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 from the printer driver Maintenance tab, or via the Resume/Cancel button.	<p>Cleaning of the platen ribs when the back side of paper gets smeared.</p> <p>Fold a sheet of plain paper (A4 or Letter) in half crosswise, then unfold and set it in the rear tray with the folded ridge facing down.</p>

3-3. Adjustment and Settings in 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 ON button. (DO NOT release the buttons.)
- ii. When the Power LED lights in green, while holding the ON button, release the Resume/Cancel button. (DO NOT release the ON button.)
- iii. While holding the ON button, press the Resume/Cancel button 5 times, and release the ON button. (Each time the Resume/Cancel button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in green.)
- 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

Service Tool screen: Version 2.000

Service Tool

MainOther

Print12345

Test PrintEEPROMNozzle Check>>Integration☐ Auto Cleaning

Cleaning67

Deep CleaningMainPlaten

Clear Ink Counter89

EEPROM SavePanel Check

Operation


EEPROM SavePanel Check

Set Destination10

Region :JPNSet

Ink Absorber Counter11

Absorber :MainCounter Value(%) :0Set


Service Tool

Main
Other

CD-R Correction

Print
12

X : 13
-1.0
Y :
-1.0
Set

LF/EJECT Correction

Print
14

LF : 15
Pattern0
EJECT :
Pattern0
Set

Auto LF/EJ (1)

Print
16

Scan

Auto LF/EJ (2)

Print
17

Scan

Blank Paper

Left Margin Correction 18

Print
Paper Source :
RearTray, back side of paper
Correction Value :
-3
Set

Operation

Set Time
19

PTT Parameter Mode In
20

Ink Sensor
21

Head Temp Sensor
22

Wetting Liquid Counter
23

Counter Value(%) :
0
Set

Panel Rank
24

Rank :
Rank0
Set

Flatbed Scanner
25

Set

35 / 52

No.	Name	Function	Remarks
1	Test Print	Service test print	<p>Paper (1 sheet of A3 or Ledger sized paper) will feed from the rear tray.</p> <p>Printed items:</p> <ul style="list-style-type: none"> - Model name - ROM version - USB serial number - Process inspection information - Barcode (model name + destination + printer serial number) - Ink system function check result - DVD / CD sensor check result (not applicable to the iX6500 series)
2	EEPROM	EEPROM information print	<p>The dialog box opens to select the paper source. Select Rear tray and click OK (1 sheet of A4 or Letter sized paper).</p> <p>Printed items:</p> <ul style="list-style-type: none"> - Model name - ROM version - Ink absorber counter value - Print information - Error information, etc.
3	Nozzle Check	Nozzle check pattern print	<p>The dialog box opens to select the paper source. Select Rear tray and click OK (1 sheet of A4 or Letter sized paper).</p> <p>The same pattern as the one in the user mode is printed.</p>
4	Integration	Integrated inspection pattern print	<p>Paper (1 sheet of A3 or Ledger sized paper) will feed from the rear tray.</p> <p>Multiple inspection items are printed just in one page, thus it is recommended to use this function for the standard inspection.</p> <p>Printed items:</p> <ul style="list-style-type: none"> - Model name - ROM version - USB serial number - Nozzle check pattern (same as the one in the user mode) - Process inspection information - Barcode (printer serial number) - Ink system function check result - DVD / CD sensor check result (not applicable to the iX6500 series)
5	Auto Cleaning	Enabling / disabling of automatic print head cleaning	<p>Automatic print head cleaning prior to printing (after replacement of an ink tank or the print head). Select this option to enable the cleaning.</p>
6	Deep Cleaning	Print head deep cleaning	Cleaning of both Black and Color at the same time

			(same as the one in the user mode)
7	Main (Clear Ink Counter)	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 (Clear Ink Counter)	Platen ink absorber counter resetting	Not used.
8	EEPROM Save	EEPROM information saving	The EEPROM information (same as the one in EEPROM information print) is displayed on the PC or is saved to the PC as a text file. This function is not available in most cases of errors.
9	Panel Check	Button and LCD test	Not used.
10	Set Destination	Destination settings	Select the destination, and click Set . ASA, AUS, BRA, CHN, CND, EMB, EUR, JPN, KOR, LTN, TWN, USA
11	Ink Absorber Counter	Ink absorber counter setting	See " (4) Ink absorber counter setting " below.
12	Print (CD-R Correction)	Printing of the pattern for disc label print position correction	Not used.
13	CD-R Correction	Disc label print position correction (X and Y direction)	Not used.
14	Print (LF/ EJECT Correction)	LF / Eject correction pattern print	Perform LF / Eject correction only when streaks or uneven printing occurs after the repair. See " (3) LF / Eject correction " below.
15	LF/ EJECT Correction	LF / Eject correction value settings	Set the correction value based on the printed pattern (14. LF/EJECT correction pattern print). See " (3) LF / Eject correction " below.
16	Auto LF/EJ (1)	Automatic LF / Eject correction	Not used.
17	Auto LF/EJ (2)	Automatic LF / Eject correction	Not used.
18	Left Margin Correction	Left margin pattern print and correction	Not used.
19	Set Time	Time setting	Not used.
20	PTT Parameter Mode In	Entry in the PTT parameter mode	Not used..
21	Ink Sensor	Pressure sensor correction	Not used.
22	Head Temp Sensor	Print head diode sensor correction	Not used.
23	Wetting Liquid Counter	Wetting liquid counter setting	Not used.
24	Panel Rank	Capacitive sensor sensitivity setting	Not used.
25	Flatbed Scanner	Individual scanner adjustment	Not used.

(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.

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

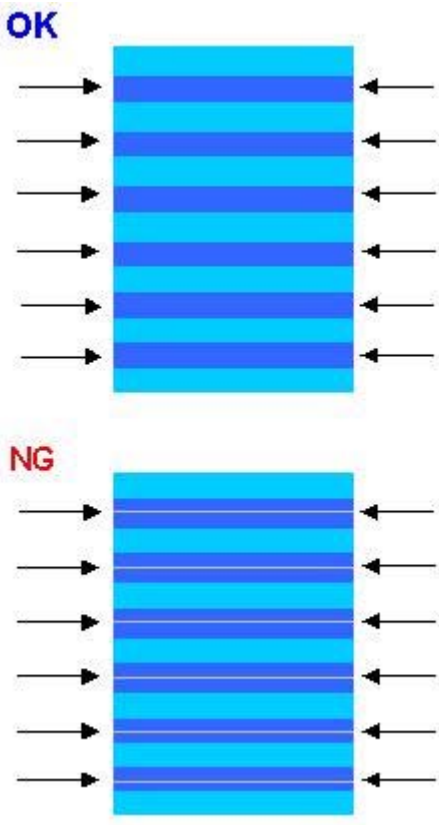
- 1) Print the LF / Eject correction pattern.

Click **Print** in the **LF/EJECT Correction** section of the Service Tool, select the paper source and the paper type, and print the pattern. 5 sheets of A4 paper will be used for the pattern printing.

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

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

- 2) When printing is finished, the printer returns to be ready for selection of another function ("A function was finished" is displayed on the screen).
- 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.

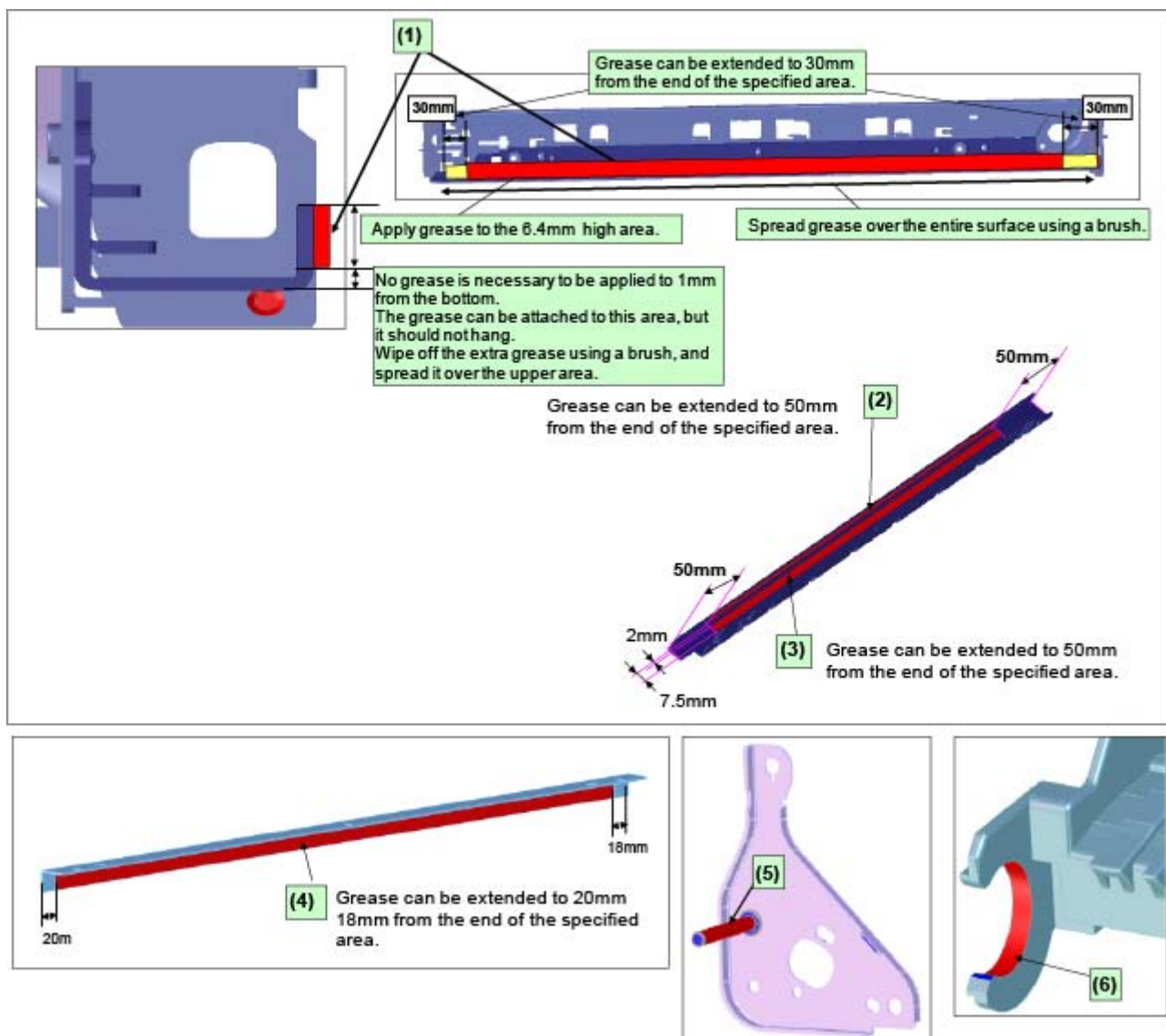
<3-1. Adjustment>

◀ <3-2. Adjustment and Maintenance in User Mode> ▶ ▲
<3-3. Adjustment and Settings in Service Mode>

3-4. Grease Application

No	Part name	Where to apply grease / oil	Drawing No.	Grease	Grease amount (mg)	Number of drops x Location
1	Carriage rail	The surface where the carriage unit slides	(1)	Floil KG107A	310 to 370	---
2	Carriage rail	The surface where the carriage unit slides	(2)	Floil KG107A	240 to 280	---
3	Carriage rail	The surface where the carriage unit slides	(3)	Floil KG107A	240 to 280	---
4	Carriage upper rail	The surface where the carriage unit slides	(4)	Floil KG107A	300 to 360	---
5	APP code wheel gear shaft	APP code wheel gear sliding portion (the entire surface)	(5)	Floil KG107A	9 to 18	1 x 1
6	Paper guide	LF roller sliding portion on the opposite side of the home position	(6)	Floil KG107A	18 to 27	2 x 1

1 drop = 9 to 18 mg



3-5. Special Notes on Servicing

(1) 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.

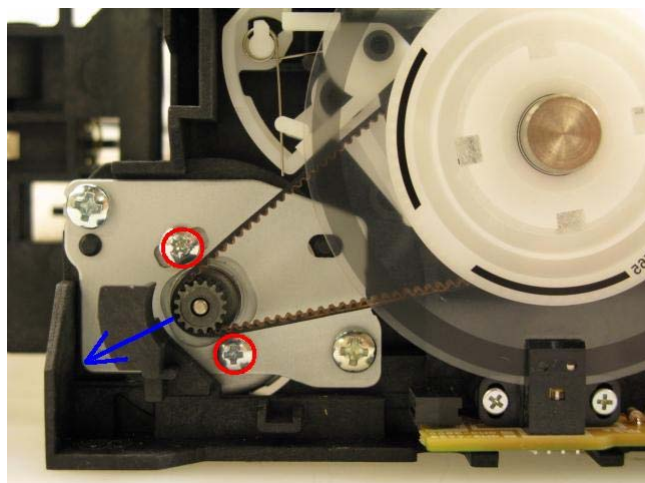
< Procedures >

- 1) Examine the ink tank conditions.
 - Is the outer film completely removed to open the air-through?
 - Re-install the ink tanks.
 - Is the ink tank Canon-genuine or not?
 - Is the ink tank refilled one or not?
- 2) Remove and clean any foreign material from the caps of the purge unit.
- 3) Perform print head cleaning or deep cleaning.
- 4) Perform print head alignment.
- 5) Print the nozzle check pattern.
- 6) If the nozzle check pattern is not printed properly, the print head may be faulty. Perform troubleshooting while referring to the Print Head Workshop Manual or the Print Head Service Manual, 1-4. Troubleshooting.

Manual name	No.	Form	Price (JPY)
Print Head Workshop Manual	QY8-9120-D0C	CD-ROM	50,000
Print Head Service Manual	QY8-9121-D0C	CD-ROM	30,000

(2) Paper feed motor adjustment

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

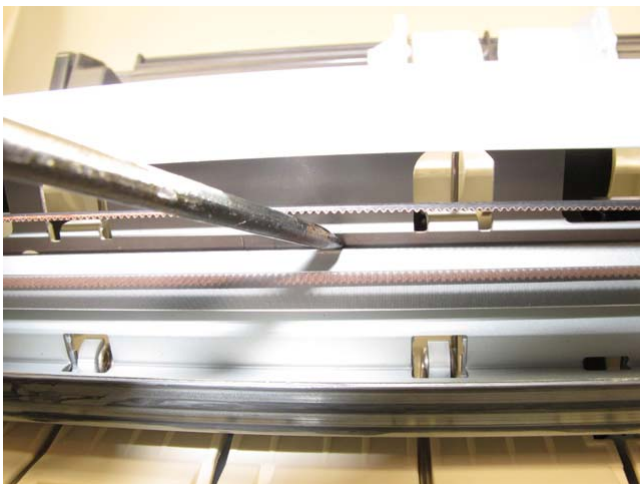
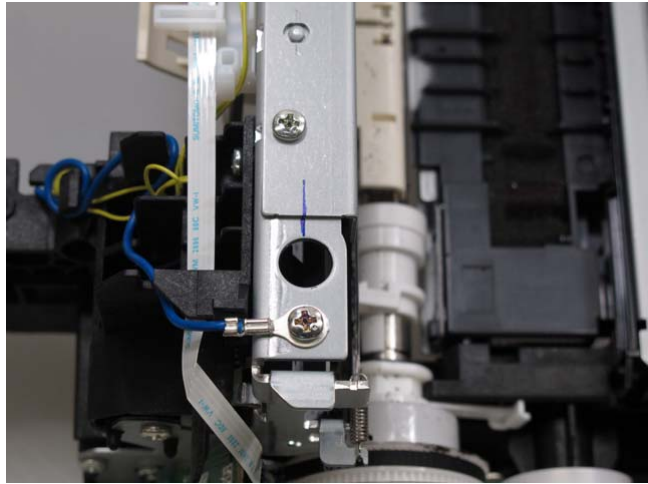
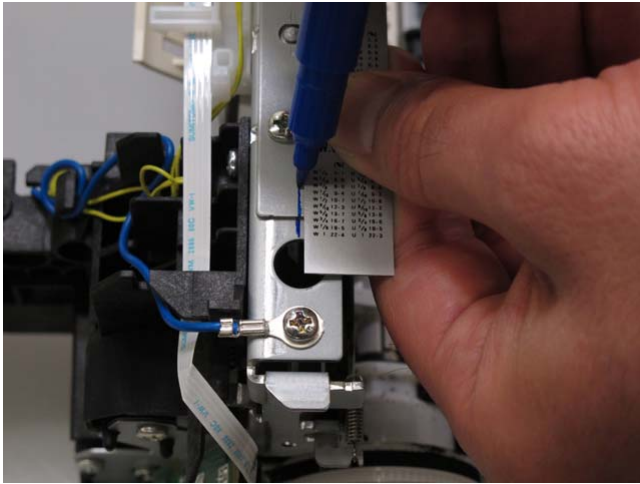


The screws securing the paper feed motor may be loosened only at replacement of the paper feed motor unit. DO NOT loosen them in other cases.

(3) Carriage unit replacement

In the iX6500 series, the carriage upper rail and carriage rail need to be removed from the main chassis. Before removing the screws from the carriage upper rail and carriage rail, put a mark on the main chassis to indicate the rail position.

After replacing the carriage, return the carriage upper rail and carriage rail to the original positions while aligning the rails to the marks on the chassis.



(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 "Guideline for Preventive Replacement of Ink Absorber," replace the ink absorber. When the ink absorber is replaced, reset the applicable ink absorber counter (to 0%). See [3-3. Adjustment and Settings in Service Mode](#).

(5) Preventive replacement of ink absorber

Replace the ink absorber in accordance with the "Guideline for Preventive Replacement of Ink Absorber" even when the ink absorber is not full. (Related Service Information #Q-12E/J-0188)

< Guideline for preventive replacement of ink absorber >

Replace the ink absorber when it falls in either Criteria 1 or Criteria 2.

Criteria	Purpose	How to know the criteria values
Criteria 1: The ink absorber life* is 2 years or less.	To avoid re-repair for ink absorber replacement in a short period of time after repair for other reasons.	For 2009 2H or earlier products: EEPROM information print and the quick reference table (Service Information #Q-12E/J-0188) For 2010 1H and later products: EEPROM information print
Criteria 2: The ink absorber counter value is 80% or more.	To prevent ink leakage during return of the repaired printer to users.	EEPROM information print

* The estimated number of months until the ink absorber will become full

< How to judge >

Print the EEPROM information, and check the "D" (ink absorber counter) and "DF" (ink absorber life) values.

Step 1: Is "D" 80% or more?

Yes (80% or more) -> Replace the ink absorber.

No (less than 80%) -> Proceed to Step 2.

Step 2: Is "DF" 24 or more?

No (less than 24 months) -> Replace the ink absorber.

Yes (24 months or more) -> No need to replace the ink absorber.

Note: - If the "ST" (installation date) value is abnormal, the "DF" (ink absorber life) value may not be correct. Skip Step 2

- The ink absorber life is an estimated value calculated based on the user's printer usage.

< How to read the EEPROM information print >

```
iX6500 SN=T55MT2031 JPN V1.000 ST=2011/02/09-11:10 LPT=2011/02/09-11:27
D=002.5 Ink absorber counter value Installation date
DF=00039 Ink absorber life
ER(ER0=1000 ER1=0000 ER2=0000 ER3=0000 ER4=0000
ER5=0000 ER6=0000 ER7=0000 ER8=0000 ER9=0000)
PC(M=000 R=000 T=001 D=000 C=001 I=001)
TPAGE(TTL=00002)
```

(6) Rating label on the bottom case (except China*)

When the bottom case is replaced, be sure to remove the rating label from the original bottom case and attach it to the replaced new one. The rating label is given to each printer unit respectively, thus the label of one unit is valid only for that unit. For this reason, the label is not available as a service part.

* Note that there is no shipment of the bottom case to China.

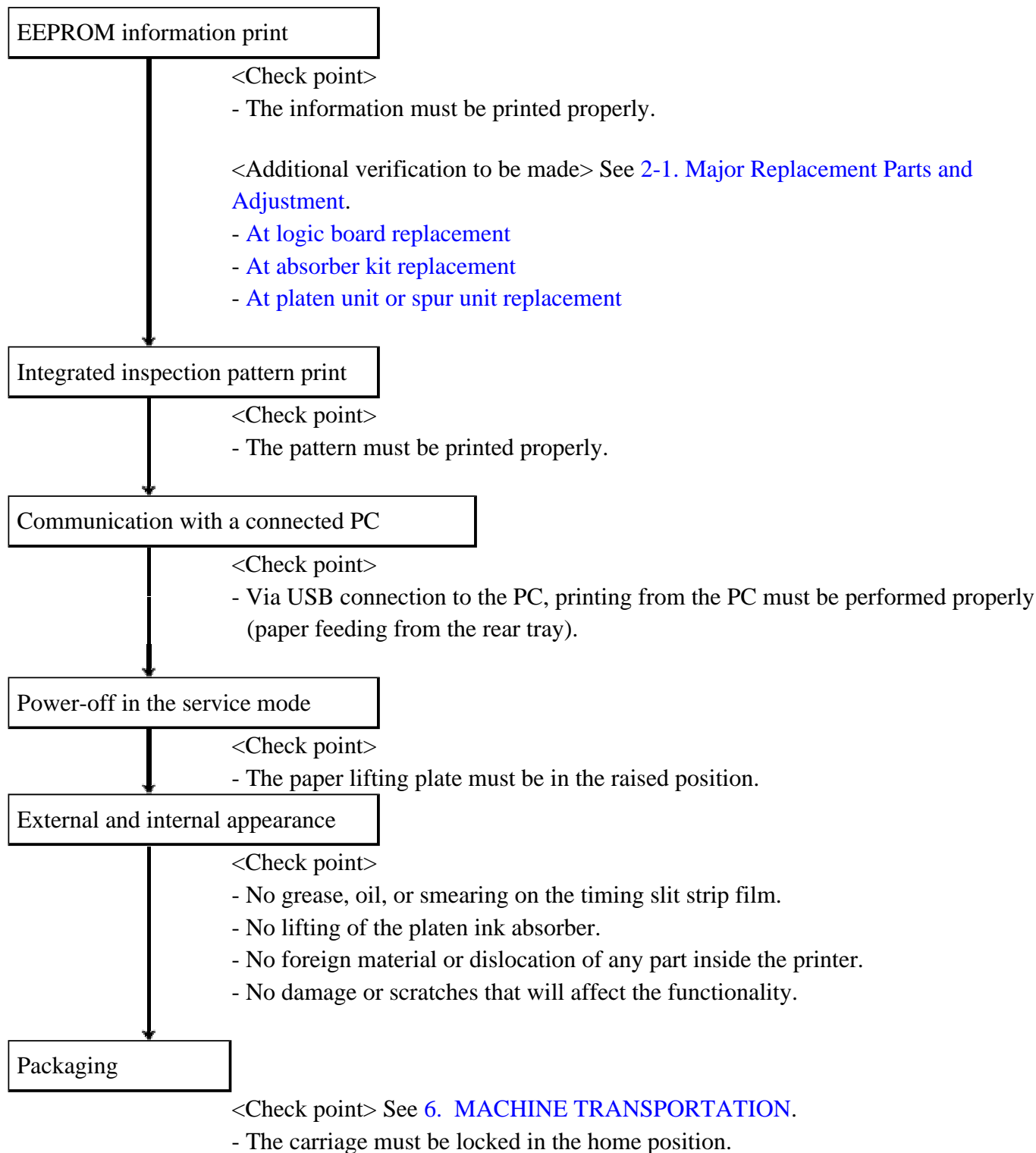
◀ <3-4. Grease Application> ▶
<3-5. Special Notes on Servicing> ▶ ▲



4. VERIFICATION AFTER REPAIR

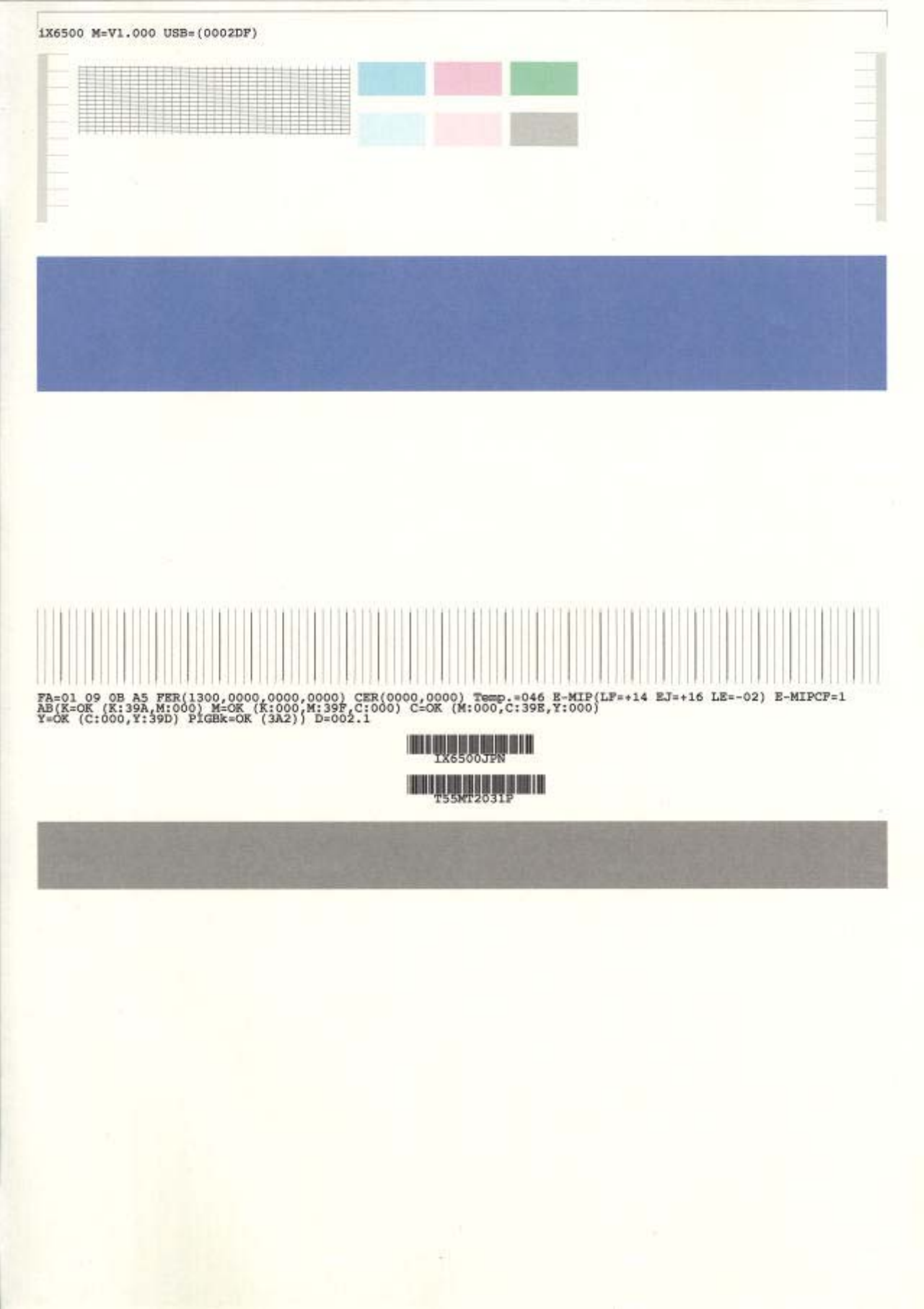
4-1. Standard Inspection Flow

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



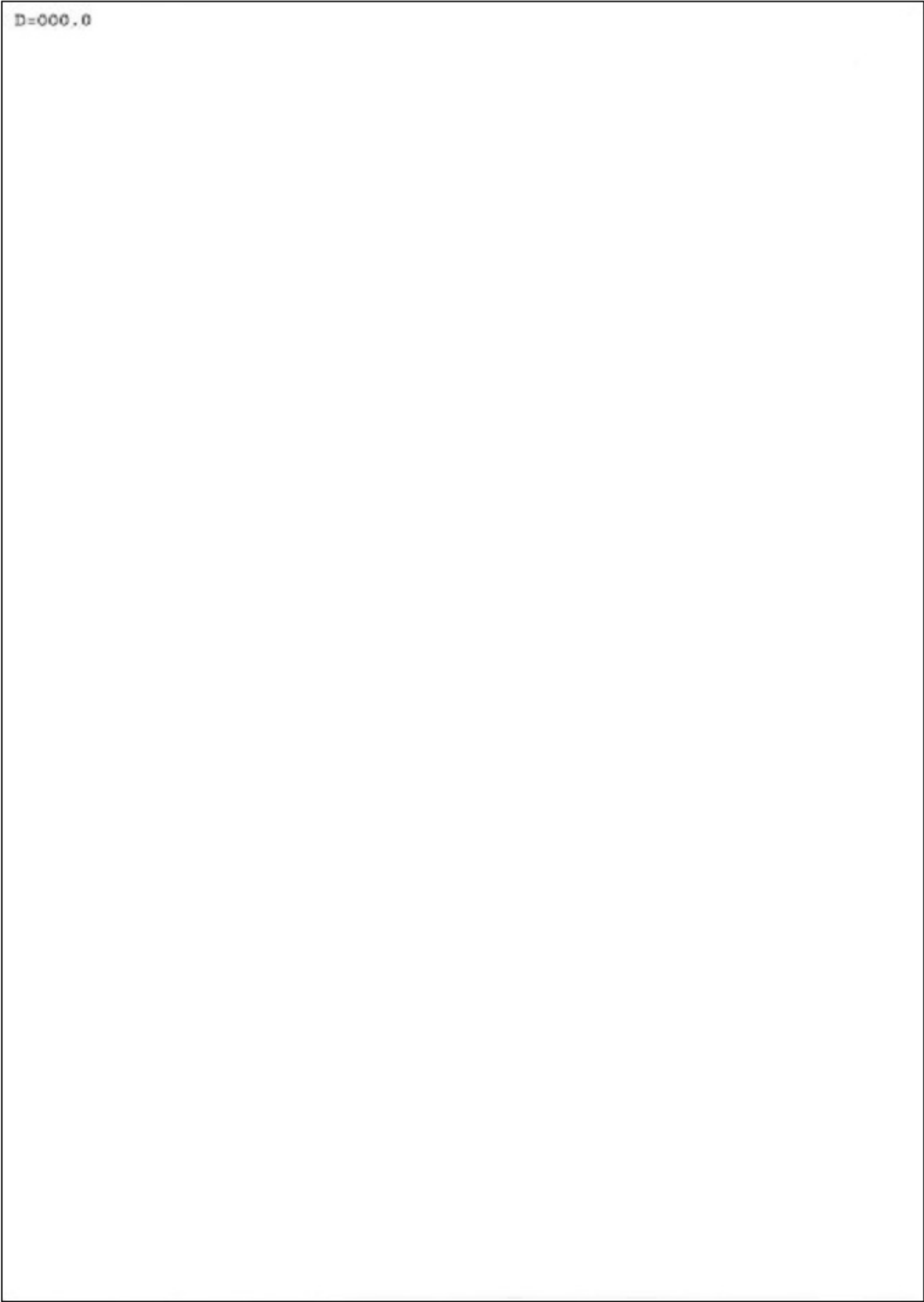
4-2. Integrated Inspection Pattern Print

< Print sample >



4-3. Ink Absorber Counter Value Print

<Print sample>



5. APPENDIX

5-1. Customer Maintenance

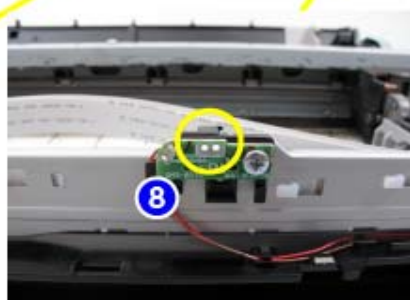
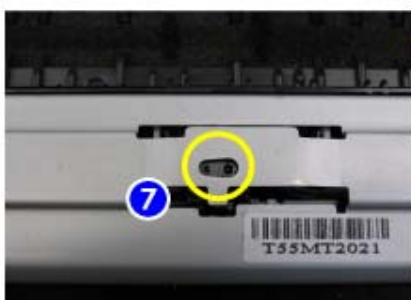
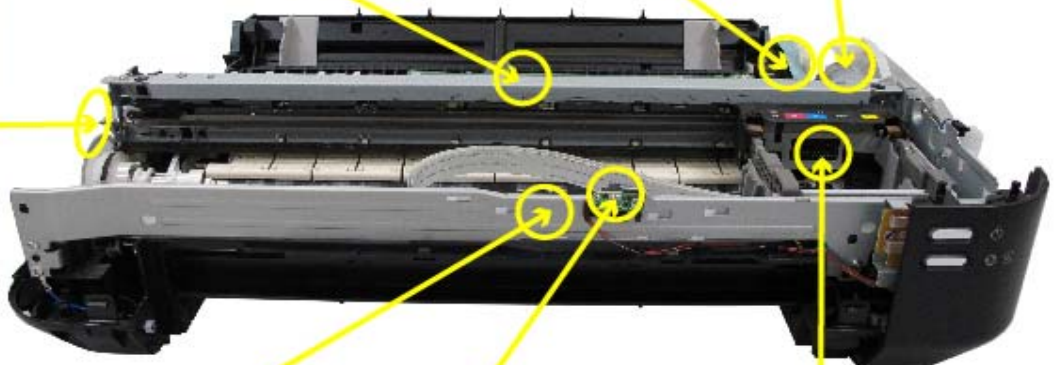
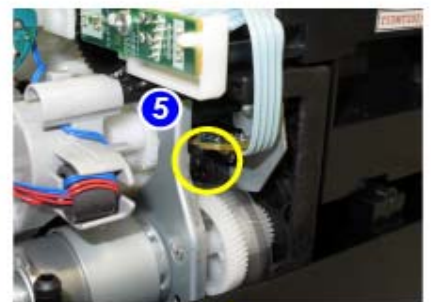
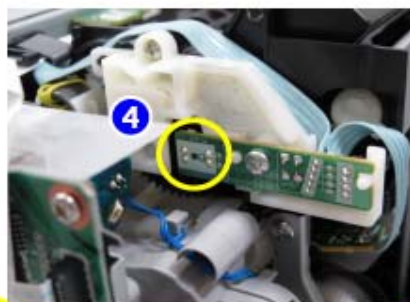
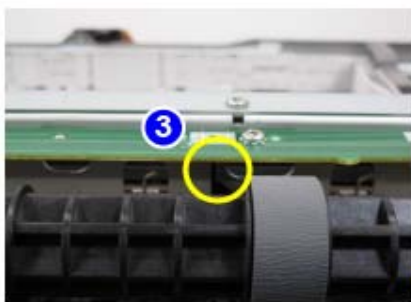
Adjustment	Timing	Purpose	Tool	Approx. time
Automatic print head alignment	- At print head replacement - When print quality is not satisfying (uneven printing, etc.)	To ensure accurate dot placement.	- 1 sheet of A4 or Letter sized plain paper - PC, printer driver	5 min.
Manual print head alignment	- At print head replacement - When print quality is not satisfying (uneven printing, etc.) - When automatic print head alignment is not effective	To ensure accurate dot placement.	- 3 sheets of A4 or Letter sized plain paper - PC, printer driver	10 min.
Print head cleaning	When print quality is not satisfying.	To improve nozzle conditions.	- PC, 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.	- PC, printer driver	2 min.
Ink tank replacement	When an ink tank becomes empty. ("No ink error" displayed on the monitor, 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.	- 3 sheets of A4 or Letter sized plain paper - PC, printer driver	2 min.
Bottom plate cleaning	When the back side of the paper is smeared.	To clean the platen ribs.	- 1 sheet of A4 or Letter sized plain paper - PC, 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 (cloth for cleaning glasses, etc.).	1 min.

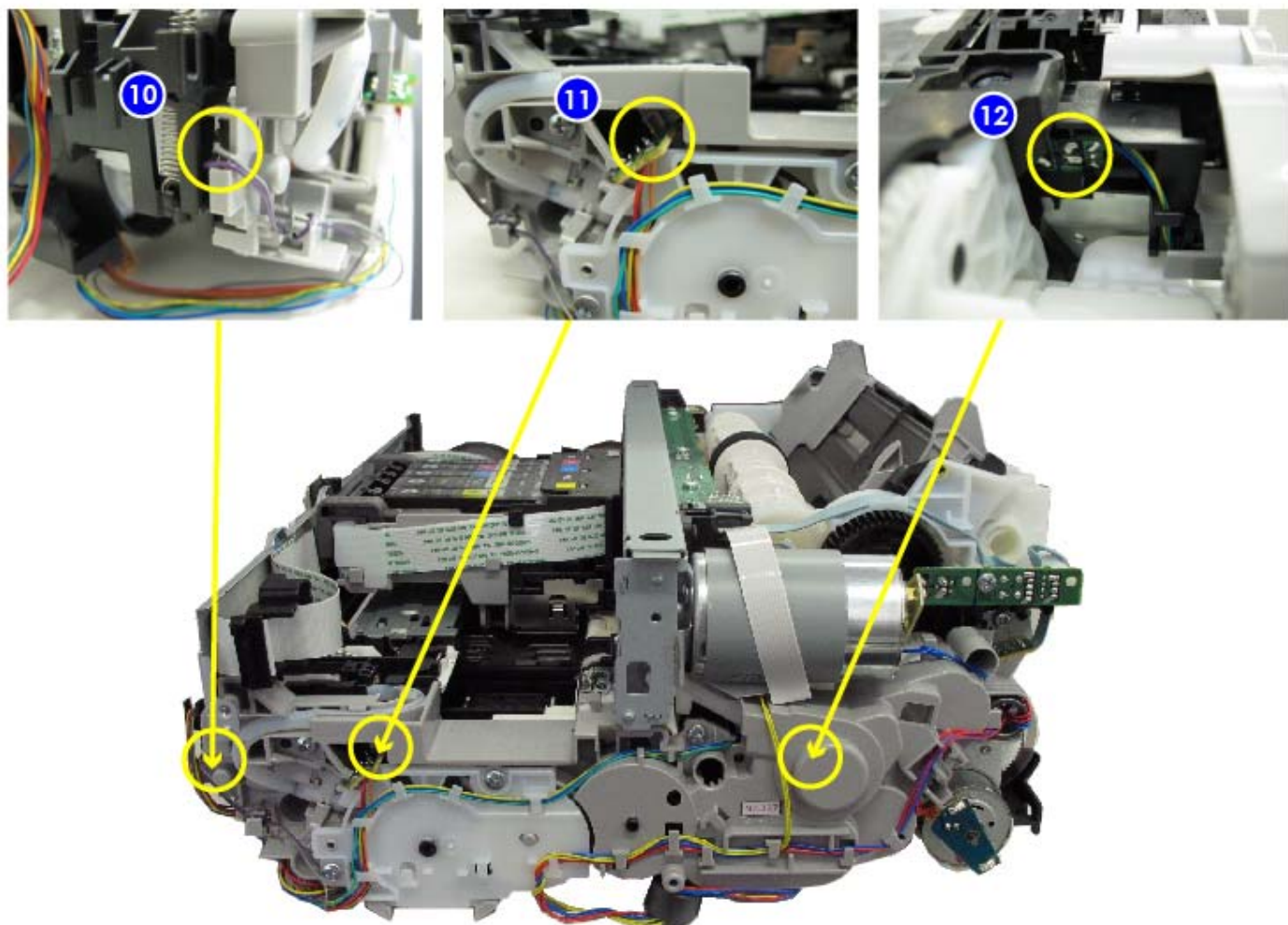
5-2. Special Tools

Name	Tool No.	Application	Remarks
FLOIL KG-107A	QY9-0057-000	To the carriage rail sliding portions.	In common with other products on the market

5-3. Sensors

No.	Sensor	Function	Possible problems detected by the sensor
1	Access cover sensor	Detects opening and closing of the access cover (top cover).	- The carriage does not move to the center even when the top cover is opened.
2	Front door sensor	Detects opening and closing of the front door (front cover).	- The front cover is closed when printing is attempted or during paper feeding.
3	PE sensor	Detects the positions of the leading and trailing edges of paper.	- No paper - Paper jam
4	ASF cam sensor	Detects the position of the ASF cam (during paper feeding from the rear tray).	- ASF cam sensor error - Paper feed problem
5	APP encoder sensor	Detects the amount of rotation of the APP encoder. (Controls purging operation and paper feeding from the rear tray).	- APP sensor error - APP position error
6	LF encoder sensor	Detects the amount of rotation of the LF encoder.	- LF position error - Uneven printing
7	Temperature & Ink amount sensor	Detects the temperature of the inside of the printer and the remaining ink amount.	- Internal temperature error - Low-ink or out-of-ink warning
8	Ink sensor	Detects the position of an ink tank.	- Wrong position of an ink tank - An error indicating that multiple ink tanks of the same color are installed - No recognition of an ink tank
9	Carriage encoder sensor	Detects the position of the carriage.	- Carriage position error - Printing shifts from the correct position. - Uneven printing - Strange sound
10	Valve cam sensor	Detects the position of the purge valve cam. (Controls purging operation.)	- Valve cam sensor error
11	Pump roller sensor	Detects the position of the purge pump roller. (Controls purging operation.)	- Pump roller sensor error
12	Purge cam sensor	Detects the position of the purge main cam. (Controls purging operation.)	- Purge cam sensor error





5-4. Serial Number Location

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



When the printer power is OFF.



When the printer power is ON.

◀5. APPENDIX▶

6. PRINTER TRANSPORTATION

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

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

See Caution 1 below.

- 3) Turn off the printer to securely lock the carriage in the home position. (When the printer is turned off, the carriage is automatically locked in place. **DO NOT** disconnect the power cord from the outlet until the carriage is locked in place.)

See Caution 2 below.



-
- (1) If the print head is removed from the printer 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 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).