

**MG2100 series, MG3100 series, MG4100 series
MG2200 series, MG3200 series, MG4200 series
SIMPLIFIED SERVICE MANUAL**

**(MG2110 / MG2120 / MG2130 / MG2140 / MG2150 / MG2160 / MG2170 / MG2180,
MG3110 / MG3120 / MG3130 / MG3140 / MG3150 / MG3160 / MG3170 / MG3180,
MG4110 / MG4120 / MG4130 / MG4140 / MG4150 / MG4160 / MG4170 / MG4180,
MG2210 / MG2220 / MG2240 / MG2250 / MG2260 / MG2270,
MG3210 / MG3220 / MG3230 / MG3240 / MG3250 / MG3260 / MG3270,
MG4210 / MG4220 / MG4230 / MG4240 / MG4250 / MG4260 / MG4270 / MG4280)**

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1. LIST OF ERROR DISPLAY / TROUBLESHOOTING

1-1. Operator Call Error (Alarm LED Lit In Orange)

Errors and warnings are displayed by the following ways:

- Operator call errors are indicated by the Alarm LED lit in orange, and the error and its solution are displayed on the LCD.
- Messages during printing from a PC are displayed on the printer driver Status Monitor.
- Error codes are printed in the "operator call/service call error record" area in EEPROM information print

Buttons valid when an operator call error occurs:

- ON button: To turn the machine off and on again.
- OK button: In the MG2100 series, MG2200 series, MG3100 series, and MG3200 series, the Color button functions as the OK button.
To clear and recover from an error. In some operator call errors, the error will automatically be cleared when the cause of the error is eliminated, and pressing the OK button may not be necessary.
- Stop button: To cancel the job at error occurrence, and to clear the error.

Error	Error code	*1	U No. *2	Message on the LCD *2	Solution	Parts that are likely to be faulty
No paper in the front tray.	[1003]	E02	---	Front tray. There is no paper. Load paper and select [OK].	-Set the paper in the front tray, and press the OK button. -Confirm that there is no foreign material in the paper path (front tray, inside of the rear cover, etc.). -Confirm that the paper guides are set properly. (If they are not aligned to the paper edge properly, the error can occur.)	- Pick-up arm unit
Paper output cover is open.	[1202]	E06	---	Paper output cover is open. Close the paper output cover.	-Close the paper output cover.	
Paper output tray is closed.	[1250]	E17	---	Paper output tray is closed. Open the paper output tray.	-Open the paper output tray.	
Paper jam.	[1300]	E03	---	The paper is jammed. If a memory card is inserted, remove it, then clear the paper and select [OK].	-Remove the jammed paper, and press the OK button. When the jammed paper is seen in the paper output slot, pull it out from the slot. In other cases, open the rear cover (transport unit) or the paper output cover to remove the jammed paper. DO NOT pull out any paper from the front tray. -Prior to printing, confirm that the paper guides are set properly. (If they are not aligned to the paper edge properly, the error can occur.)	
Paper jam in the front tray.	[1303]					
Paper jam in automatic double-sided printing. (MG3100 series, MG3200 series, MG4100 series, MG4200 series only)	[1304]					
Automatic double-sided printing cannot be performed. (MG3100 series, MG3200 series, MG4100 series, MG4200 series only)	[1310]	E10	---	This paper is not compatible with two-sided printing. Remove the paper and press [OK].	The paper length is not supported for double-sided printing. Press the OK button to eject the paper being used at error occurrence. Data which was to be printed on the back side of paper at error occurrence is skipped (not printed).	

Error	Error code	*1	U No.*2	Message on the LCD*2	Solution	Parts that are likely to be faulty
Ink cartridge not installed.	[1401]	E05	U051	Print head is not installed. Install the print head.	<ul style="list-style-type: none"> - Re-set the ink cartridge properly. - Confirm that the carriage contact pins are free from any foreign material, damages, or bending. - Replace the ink cartridge. 	- Carriage unit
Ink cartridge temperature sensor error.	[1403]	E05	U052	The type of print head is incorrect. Install the correct print head.		
Non-supported ink cartridge is installed.	[1485]	E05	U059	Appropriate ink cartridge is not installed. Install the appropriate ink cartridge.		
Ink cartridge in a wrong position.	[1486]	E07	U076	Some ink cartridges are not installed in place.		
Multiple ink cartridges of the same color installed.	[1487]	E07	U075	Some ink cartridges are not installed in place.		
Ink cartridge hardware error	[1682]	E15	U150	The following ink cartridge cannot be recognized.		
Ink cartridge region code is wrong.	[1684]	E14	U140	The following ink cartridge cannot be recognized.		
The remaining ink amount unknown.	[1686]	E13	U162	The ink may have run out. Replacing the ink cartridge is recommended.	<ul style="list-style-type: none"> - Replace the applicable ink cartridge, or press the Stop button for 5 sec. or longer to continue printing without replacing the ink cartridge(s). When the error is cleared by pressing the Stop button, the function to detect the remaining ink amount is disabled. 	
Ink cartridge not completely installed.	[1687]	E04	U053	The following ink cartridge cannot be recognized.	<ul style="list-style-type: none"> - Re-set the ink cartridge(s). - Replace the ink cartridge(s). 	
No ink (BK).	[1688]	E16	U163	The ink has run out. Replace the ink cartridge.	<ul style="list-style-type: none"> - Replace the applicable ink cartridge, or press the Stop button for 5 sec. or longer to continue printing without replacing the ink cartridge(s). When the error is cleared by pressing the Stop button, the function to detect the remaining ink amount is disabled. 	
Warning: The ink absorber becomes almost full. - Main (Black) - Main (Color) - Platen (home position) - Platen (away)	[1702] [1703] [1704] [1705] [1712] [1713] [1714] [1715]	E08	---	The ink absorber is almost full. Select [OK] to continue printing. Contact the service center for replacement.	<ul style="list-style-type: none"> - Replace the ink absorber, and reset the applicable ink absorber counter. See 3-2, Main Ink Absorber Replacement, for details. Pressing the OK button will exit the error, and enable printing without replacing the ink absorber. However, when the ink absorber becomes full, no further printing can be performed unless the applicable ink absorber is replaced and its counter is reset. 	

Error	Error code	*1	U No.*2	Message on the LCD*2	Solution	Parts that are likely to be faulty
Packing material not removed.	[1890]	E40	---	Remove the protective material or tape if it is attached to the holder.	-Open the paper output cover, remove the tapes and packing material from the carriage, then close the paper output cover.	
Time-out for the scanner device. (MG4100 series, MG4200 series only)	[2700]	---	---	Timeout error has occurred. Select [OK].	-The buffer became full in the middle of scanning operation, and 60 minutes have elapsed since then, making re-scanning unstable. Press the OK button to clear the error.	
Premium Contents print error.	[4100]	E12	---	Cannot print the data.	-Non-genuine ink cartridge are installed. Install the supported (Canon-genuine) ink cartridges.	- Carriage unit

*1: MG2100 series, MG2200 series, MG3100 series, and MG3200 series only

*2: MG4100 series and MG4200 series only

1-2. Service Call Error (by Cyclic Blinking of Alarm and Power LEDs)

Cycles of LED blinking	Error	Error code	*1	Check points & Solution	Parts to be replaced if the listed solutions are not effective
2 times	Carriage error	[5100]	P02	<p>(1) Foreign material that obstructs the carriage movement: -> Remove foreign material.</p> <p>(2) Smearing, scratches, or dislocation of the timing slit strip film: -> Clean and re-attach the film. If the film is damaged, replace it.</p> <p>(3) Carriage flexible cable condition (wrong or imperfect connection, connection at an angle, damage, etc.): -> Re-connect the cable. If the cable is damaged, replace the carriage unit.</p> <p>(4) Carriage motor harness condition (wrong or imperfect connection, connection at an angle, damage, etc.): -> Re-connect the cable. If the cable is damaged, replace the carriage motor. Note that the carriage motor is not designated as a service part.</p> <p>(5) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").</p>	-Carriage unit -Logic board ass'y

Cycles of LED blinking	Error	Error code	*1	Check points & Solution	Parts to be replaced if the listed solutions are not effective
3 times	Line feed error	[6000]	P03	<p>(1) Foreign material in the LF drive (gear): -> Remove foreign material.</p> <p>(2) Smearing, scratches, or conditions of the LF slit disk: -> Clean and re-attach the LF slit disk. If the disk is damaged, replace the timing slit strip film. If the disk is coming off, replace it to a new one (since the double-sided adhesive tape is deteriorated).</p> <p>(3) LF motor harness condition (wrong or imperfect connection, connection at an angle, damage, etc.): -> Re-connect the harness. If the harness is damaged, replace the LF motor. Note that the LF motor is not designated as a service part.</p> <p>(4) Deformation or damage to the LF roller and LF drive gears: -> If they are deformed or damaged, replace them. Note that the LF rollers and the LF drive gears are not designated as service parts.</p> <p>(5) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").</p>	-Carriage unit -Logic board ass'y
6 times	Internal temperature error	[5400]	P06	-> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").	-Logic board ass'y
7 times	Ink absorber almost full - Main (Black) - Main (Color) - Platen (home position) - Platen (away)	[5B02] [5B03] [1704] [5B05] [5B12] [5B13] [5B14] [5B15]	P07	<p>(1) Ink absorber: -> Replace the applicable ink absorber (absorber kit), and reset its counter value. See 3-2, Main Ink Absorber Replacement, for details.</p>	
8 times	Print head temperature rise error	[5200]	P08	<p>(1) Ink level: -> Check the remaining ink amount, and replace the ink cartridge with sufficient ink when necessary.</p> <p>(2) Head contact pin condition of the carriage unit: -> Remove any foreign material. If the pin is bent or deformed, replace the carriage unit.</p> <p>(3) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").</p>	-Logic board ass'y

Cycles of LED blinking	Error	Error code	*1	Check points & Solution	Parts to be replaced if the listed solutions are not effective
9 times	EEPROM error	[6800] [6801]	P09	(1) Part replacement: -> Replace the logic board ass'y.	-Logic board ass'y
10 times	VH monitor error	[B200]	P10	(1) Head contact pin condition of the carriage unit: -> Remove any foreign material. If the pin is smeared, bent, or deformed, replace the carriage unit. (2) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").	-Ink cartridge -Logic board ass'y -AC adapter
22 times	Scanner error	[5011] [5012]	P22	(1) Scanner flexible cable conditions (wrong or imperfect connection, connection at an angle, damage, etc.): -> Re-connect the cable. If the cable is damaged, replace the scanner unit. (2) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").	-Scanner unit -Logic board ass'y
26 times	Network related error (MG3100 series, MG3200 series, MG4100 series, MG4200 series only)	[690#] [691#]	P26	(1) WLAN flexible cable condition (wrong or imperfect connection, connection at an angle, damage, etc.): -> Re-connect the cable. If the cable is damaged, replace it. Note that the WLAN flexible cable is not designated as a service part. (2) If the error still occurs: -> Replace the part(s) listed on the right (under "Parts to be replaced if the listed solutions are not effective").	-WLAN unit -Logic board ass'y Note: The WLAN unit is not designated as a service part.
27 times	USB related error	[693#]	P27	-> Power off the machine, and power it on again. If the error still occurs, replace the part listed on the right (under "Parts to be replaced if the listed solutions are not effective").	-Logic board ass'y
28 times	USB sub-system firmware error	[694#] except 6942	P28		
29 times	USB sub-system timeout error	[6942]	P29		

2. ADJUSTMENT / SETTINGS

2-1. Service Mode

(1) Service mode operation procedures

Use the Service Tool on the connected computer.

1) Start the machine in the service mode.

MG2100 series, MG2200 series, MG3100 series, MG3200 series:

- i. With the machine power turned off, while pressing the Stop/Reset button, press and hold the ON button. (DO NOT release the buttons).
- ii. When the Plain Paper LED lights in green, while holding the ON button, release the Stop/Reset button.
- iii. While holding the ON button, press the Stop/Reset button 5 times^{*1}, and release the ON button. (Each time the Stop/Reset button is pressed, the Alarm and Plain Paper LEDs light alternately, Alarm in orange and Plain Paper in green)
- iv. When the Plain Paper LED lights in green, the machine is ready for the service mode operation.

*1: To disable the scanner error detection and start the machine in the service mode, press the Stop/Reset button 6 times. This way, the service mode is available without the scanner.

MG4100 series, MG4200 series:

- i. With the machine power turned off, while pressing the Stop button, press and hold the ON button. (DO NOT release the buttons.)
- ii. When the Power LED lights in blue, while holding the ON button, release the Stop button.
- iii. While holding the ON button, press the Stop button 5 times^{*1}, and release the ON button. (Each time the Stop button is pressed, the Alarm and Power LEDs light alternately, Alarm in orange and Power in blue.)
- iv. When the Power LED lights in blue, the machine is ready for the service mode operation.

*1: To disable the scanner error detection and start the machine in the service mode, press the Stop button 6 times. This way, the service mode is available without the scanner.

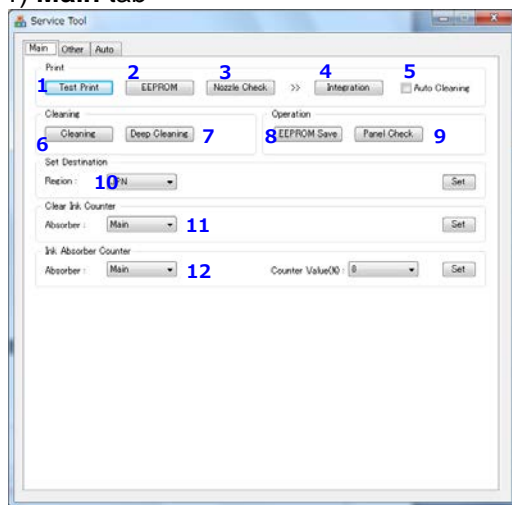
2) Start the Service Tool on the connected computer.

- 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 v3.400 operation

Use the functions in the **Main** or **Auto** tab. In the MG2100 series, MG2200 series, MG3100 series, MG3200 series, MG4100 series, and MG4200 series, the **Other** tab is not used.

1) Main tab



No.	Name	Function	Remarks
1	Test Print	Service test print	Set a sheet of A4 or Letter sized paper in the front tray. The Service Test Pattern will be printed. Printed items: - Model name - ROM version - USB serial number - Process inspection information Note: For the MG2200 series, MG3200 series, and MG4200 series, a new Service Test Pattern is adopted. For details, see 3-6, "New Service Test Pattern."
2	EEPROM	EEPROM information print	Set a sheet of A4 or Letter sized paper in the front tray. The dialog box opens for selecting the paper source. Select Cassette , and click OK . The following EEPROM information items will be printed: - Model name - ROM version - Ink absorber counter value - Print information - Error information, etc.
3	Nozzle Check	Nozzle check pattern print	Set a sheet of A4 or Letter sized paper in the front tray. The dialog box opens for selecting the paper source. Select Cassette , and click OK .
4	Integration	Integrated inspection pattern print	Set a sheet of A4 or Letter sized paper in the front tray. The dialog box opens for selecting the paper source. Select Cassette , and click OK . Printed items: - Model name - ROM version - USB serial number - Nozzle check pattern - Process inspection information Note: For the MG2200 series, MG3200 series, and MG4200 series, the same new pattern is printed in the Service Test Pattern and the Integrated Inspection Pattern print. For details, see 3-6, "New Service Test Pattern."

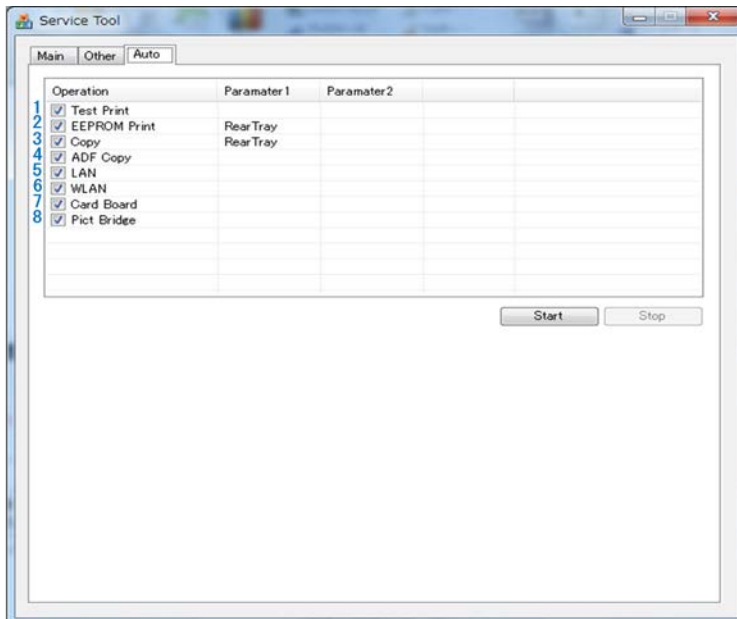
No.	Name	Function	Remarks
5	Auto Cleaning	Enabling / disabling of automatic print head cleaning	Automatic print head cleaning prior to printing (after replacement of an ink tank or the print head). Select this option to enable the cleaning.
6	Cleaning	Print head cleaning	- MG2100 series, MG3100 series, MG4100 series: Not available - MG2200 series, MG3200 series, MG4200 series: The manual print head cleaning is performed.
7	Deep Cleaning	Print head deep cleaning	Cleaning of both Black and Color at the same time (same as the one in the printer driver)
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	See (3) < Button and LCD test > below.
10	Set Destination	Destination settings	Select the destination, and click Set . ASA, AUS, BRA, CHN, CND, EMB, EUR, JPN, KOR, LTN, TWN, USA
11	Clear Ink Counter	Ink absorber counter resetting	Set a sheet of A4 or Letter sized paper in the front tray. Select one of the options (listed below) from the pull-down menu, and click Set . After the ink absorber counter is reset, the counter value is printed automatically. - Main_Black: Resets the main ink absorber counter for Black - Main_Color: Resets the main ink absorber counter for Color - Platen_Away: Resets the counter of the platen ink absorber opposite to the home position - Platen_Home: Resets the counter of the platen ink absorber on the home position side. - All: Resets all the four ink absorber counters.
12	Ink Absorber Counter	Ink absorber counter setting	See (3) < Ink absorber counter setting > below.

2) Auto tab

The selected item(s) are performed automatically in series, and the test results are indicated.

Special notes:

- The **Auto** tab (one-click full inspection mode) is to check a series of basic operation of the machine after repair, and it is not suitable to see if a specific problem pointed out by a user is repaired.
- DO NOT use the test on this tab to confirm that the user complaints are resolved.
- The tests of **LAN, WLAN, Card Board, and PictBridge** examine electric connection, and do not examine the functionalities. Thus, the test results do not guarantee the functions themselves.



No.	Name	Function	Remarks
1	Test Print	Service test print	Set a sheet of A4 or Letter sized paper in the front tray. The Service Test Pattern will be printed. Printed items: - Model name - ROM version - USB serial number - Process inspection information - Barcode (model name + destination + machine serial number) Note: For the MG2200 series, MG3200 series, and MG4200 series, a new Service Test Pattern is adopted. For details, see 3-6, "New Service Test Pattern."
2	EEPROM	EEPROM information print	Set a sheet of A4 or Letter sized paper in the front tray. Select Cassette for Parameter1 . The EEPROM information will be printed to check the following items: - Model name - ROM version - Ink absorber counter value - Print information - Error information, etc.
3	Copy	Copy test	Set a sheet of A4 or Letter sized paper in the front tray, and select Cassette for Parameter1 . Set the document to be copied on the platen glass.
4	ADF Copy	Copy test from the ADF	Not used. "skip!" will be displayed when selected.

No.	Name	Function	Remarks
5	LAN	Electric check of the wired LAN board and line connection	Not used. "skip!" will be displayed when selected.
6	WLAN	Electric check of the wireless LAN board and connection	For the MG3100 series, MG3200 series, MG4100 series, and MG4200 series only. When no problems are detected in the electric connection, "success!" is displayed. When a problem is detected in the electric connection, "failure!" is displayed. Suspected causes of failure: -The WLAN FFC is disconnected. -The WLAN board or the FFC is faulty. -The logic board is faulty.
7	Card Board	Electric check of the card board connection	For the MG4100 series and MG4200 series only. When no problems are detected in the electric connection, "success!" is displayed. When a problem is detected in the electric connection, "failure!" is displayed. Suspected causes of failure: - The card board FFC is disconnected. - The card board or the FFC is faulty. - The logic board is faulty. Note: If the Access lamp does not turn on when a memory card is inserted in the slot, it is likely that the memory card itself or the card board is faulty.
8	PictBridge	Electric check of the PictBridge board connection	Not used. "skip!" will be displayed when selected.

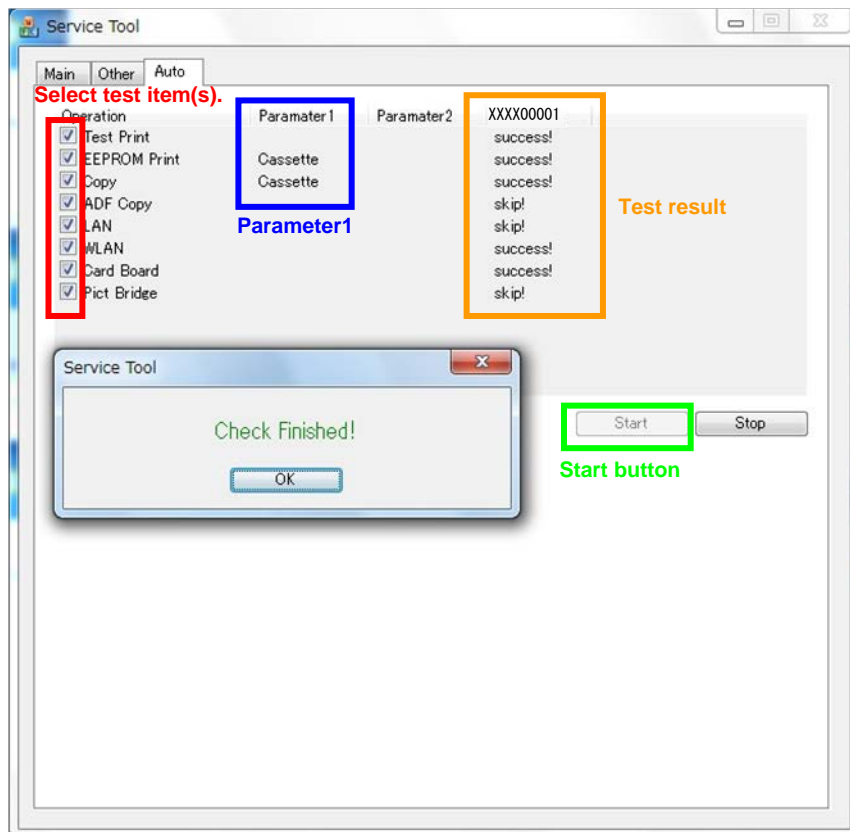
How to use the **Auto** tab:

i. Preparation

- Set three sheets of A4 or Letter sized paper in the front tray (for the test items of **Test Print**, **EEPROM Print**, and **Copy**).
- Set a document (any desired one) on the platen glass for copying.

ii. Operation

- Select the test item(s).
- For **EEPROM Print** or **Copy**, double-click **Parameter1**. The dialog box opens for selecting the paper source. Select **Cassette**.
- Click **Start**. The selected test(s) will be performed. (The test time is approx. 2 minutes in total when all the test items are selected.)
- The test result ("success", "failure", or "skip" for non-supported function) will be indicated on the right side of each test item as shown below.
- Confirm that EEPROM print or copying is performed properly.



(3) Service mode functions

< Button and LCD test >

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

- 0) Start the machine in the service mode, and click **Panel Check** of the Service Tool.

MG2100 series, MG2200 series, MG3100 series, MG3200 series:

1) LED check

All the LED's are turned on. Press the Color button multiple number of times, and confirm that the LED turns off in the following order:

Alarm -> Color Ink -> Black Ink -> Plain Paper -> Photo Paper (upper lamp) -> Photo Paper (lower lamp) -> Fit to Page

2) Button check

Press each button of the machine.

"1" is displayed at the beginning, and it is incremented by one each time the button is pressed. When all the buttons are pressed, "E" is displayed. (If the same button is pressed more than once, only the first one is counted, and the others are ignored.)

- 3) Press the ON button to exit the Button and LCD test and return to the menu selection (the ON button is invalid until this step during the panel check).

MG4100 series, MG4200 series:

1) LED check

The LCD turns blue, the Power LED is turned off, and the Alarm and Wi-Fi LED's are turned on.

Press the OK button twice, and confirm that the LED turns off in the following order:

Wi-Fi -> Alarm

2) Button check

Press each button of the operation panel, to see if every button functions properly.

The LCD is divided into 21 segments, representing each button. The color of a segment corresponding to the pressed button changes to red.

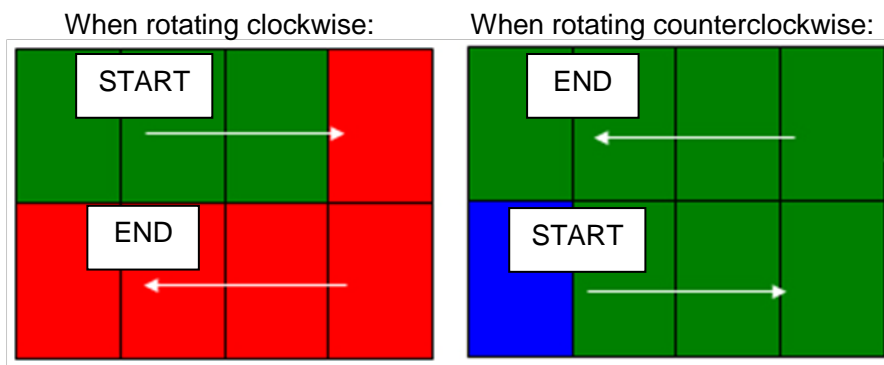
When all the 15 buttons are pressed, the entire LCD turns red.

1	2	3	4	5	6
16	17	18	19	20	7
15	24	23	22	21	8
14	13	12	11	10	9

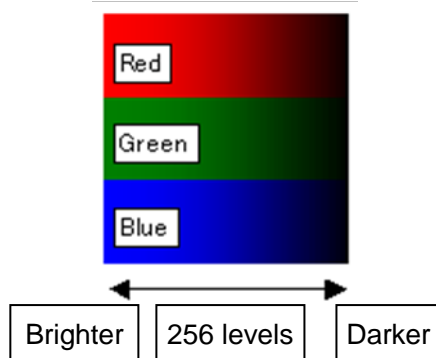
- 1: Back button
 2: OK button
 3: ▲ button
 4: ▼ button
 5: ◀ button
 6: ▶ button
 7: Black button
 8: Color button
 9: Stop button
 10: HOME button
 11: left function button
 12: center function button
 13: right function button
 14: +
 15: -

3) Scroll Wheel check (MG4100 series only)

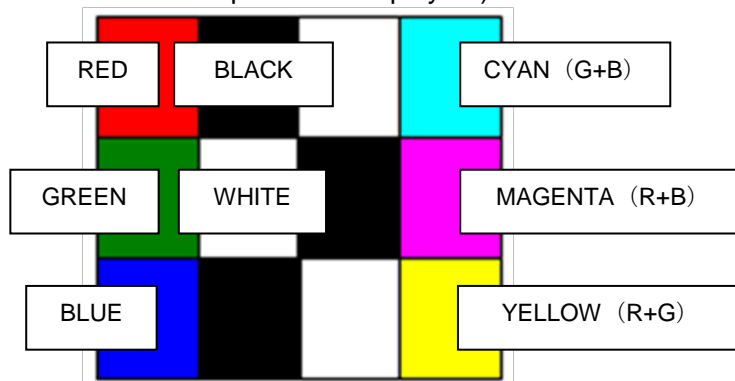
- i. Press the OK button, and rotate the Scroll Wheel clockwise step by step. (The LCD is divided into segments, and the color of a segment corresponding to the step changes from red to green.)
- ii. When the entire LCD turns green, press the OK button.
- iii. Rotate the Scroll Wheel counterclockwise step by step. (The LCD is divided into segments, and the color of a segment corresponding to the step changes from green to blue.)
- iv. When the entire LCD turns blue, press the OK button.



- 4) LCD reset line check (MG4100 series only)
 - i. Press the OK button. The entire LCD turns white.
 - ii. Press the OK button again. The LCD turns off.
- 5) LCD data line short / open check
Press the OK button. The gradation pattern is displayed on the LCD. (No button is valid for approx. 2 seconds after the pattern is displayed.)



- 6) Color pattern check
Press the OK button. The color pattern is displayed on the LCD. (No button is valid for approx. 2 seconds after the pattern is displayed.)



- 7) Press the ON button to exit the Button and LCD test and return to the menu selection (the ON button is invalid until this step during the panel check).

< 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.
Start the machine in the service mode.
In the **Ink Absorber Counter** section of the Service Tool, select **Main_Black**, **Main_Color**, **Platen_Away**, or **Platen_Home** from the **Absorber** pull-down menu.
- 3) 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**.

2-2. Adjustment

Adjustment	Purpose	Method	Approx. time
Destination settings (EEPROM settings)	To set the printer destination. - At logic board ass'y replacement	Service Tool, Set Destination section	1 min.
Ink absorber counter resetting (EEPROM settings)	To reset the ink absorber counter. - At ink absorber replacement	Service Tool, 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 ass'y replacement	Service Tool, Ink Absorber Counter section	1 min.
Grease application	To maintain sliding properties of the applicable portions. - At carriage unit replacement	Using a brush, etc., apply FLOIL KG-107A. See 2-5, Grease Application, for details.	1 min.

2-3. User Mode

Function	Procedures	Remarks	Approx. time
Nozzle check pattern printing	Perform from the printer driver Maintenance tab, or via the machine operation panel.	Set a sheet of plain paper (A4 or Letter) in the front tray.	1 min.
Print head cleaning	Perform from the printer driver Maintenance tab, or via the machine operation panel.	If there is a missing portion or white streaks in the nozzle check pattern printout, perform this cleaning, to unclog the print head nozzles, and to keep the print head conditions good.	1 min.
Print head deep cleaning	Perform from the printer driver Maintenance tab, or via the machine operation panel.	If print head 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.	1.5 min.
Automatic print head alignment (See 3-4, "Print Head Alignment.")	Perform via the machine operation panel.	To correct the dot placement accuracy. - At ink cartridge replacement - At logic board ass'y replacement - When the print quality is not satisfying, etc.	4 min.
Manual print head alignment (See 3-4, "Print Head Alignment.")	Perform from the printer driver Maintenance tab.		6 min.
Print head alignment value printing	Perform from the printer driver Maintenance tab, or via the machine operation panel.	To confirm the current print head alignment values.	1 min.

Function	Procedures	Remarks	Approx. time
LCD language settings	Perform via the machine operation panel.	To set the language to be displayed on the LCD. Not necessary when the machine is set to the default at shipment from the production site (On arrival at user's, the user is to set the language during setup.) - At logic board replacement	1 min.

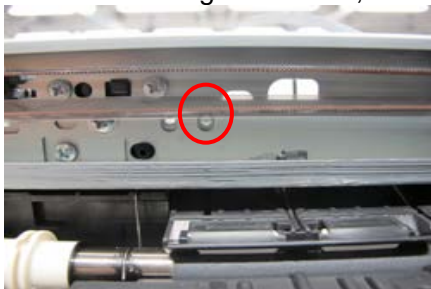
2-4. Special Notes on Assembling

(1) Carriage rail and main chassis adjustment

< Carriage rail >

Perform the following adjustments when attaching the carriage rail:

- 1) Before loosening the screws, mark their positions on the rail.



- 2) In attaching the carriage rail, make sure that the screws fit to the marks made in step 1) respectively, then fasten the screws.
- 3) Be sure to perform the confirmation test detailed below; confirm that the print quality is proper and the print head is not contacting the paper.

< Main chassis >

After the main chassis is attached, be sure to perform the confirmation test detailed below; confirm that the print quality is proper and the print head is not contacting the paper.

< Confirmation test >

Using Photo Paper Pro II, print an image and confirm that the print quality is proper, and the print head is free from contacting the paper.

If the print quality is not proper, or the print head contacts the paper, adjust the head-to-paper distance in the following procedures:

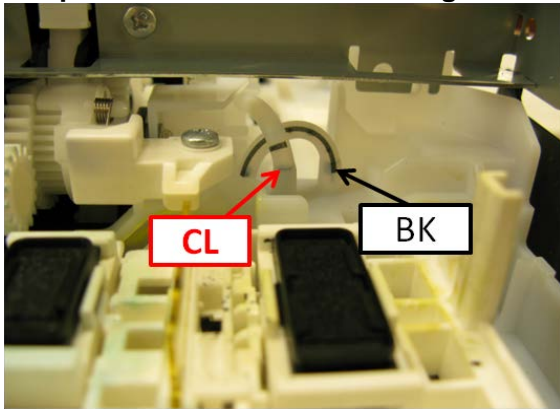
< How to adjust the head-to-paper distance >

- 1) Mark the current position of the screws at the both ends of the chassis.
- 2) Loosen the screws, and adjust the head-to-paper distance.
 - To prevent the print head from contacting the paper, raise the carriage rail from the current position.
 - To improve the print quality, lower the carriage rail from the current position.

(2) Document pressure sheet adjustment

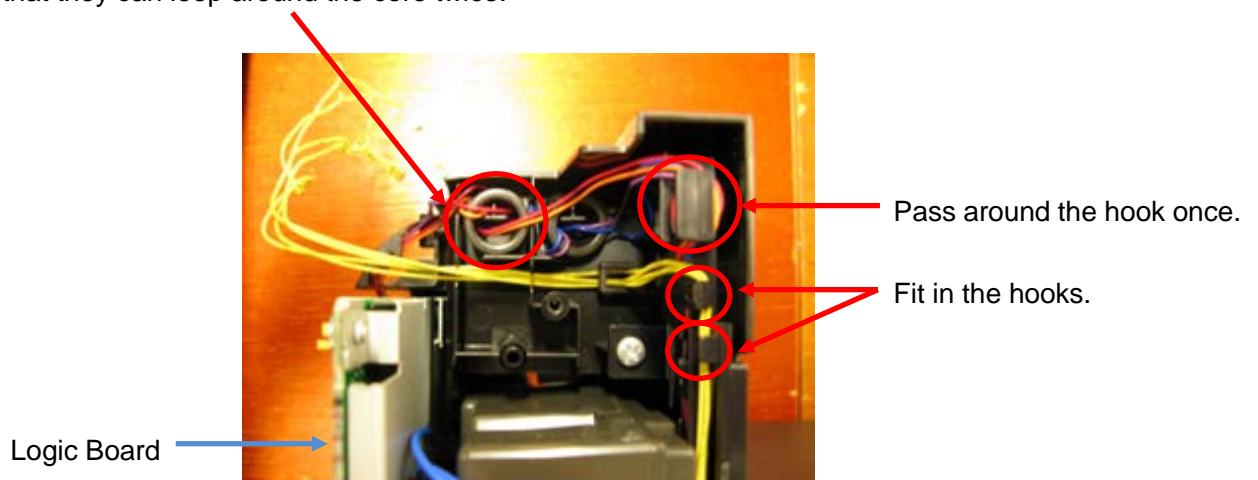
- 1) With the long-side down, position the upper-left corner of the document pressure sheet at the scanning reference point on the platen glass, then peel off the cover sheet from the double-sided adhesive tape on the back of the document pressure sheet.
- 2) Slowly close the document cover. The document pressure sheet will attach to the cover.

(3) Cap-blade unit: ink tube arrangement

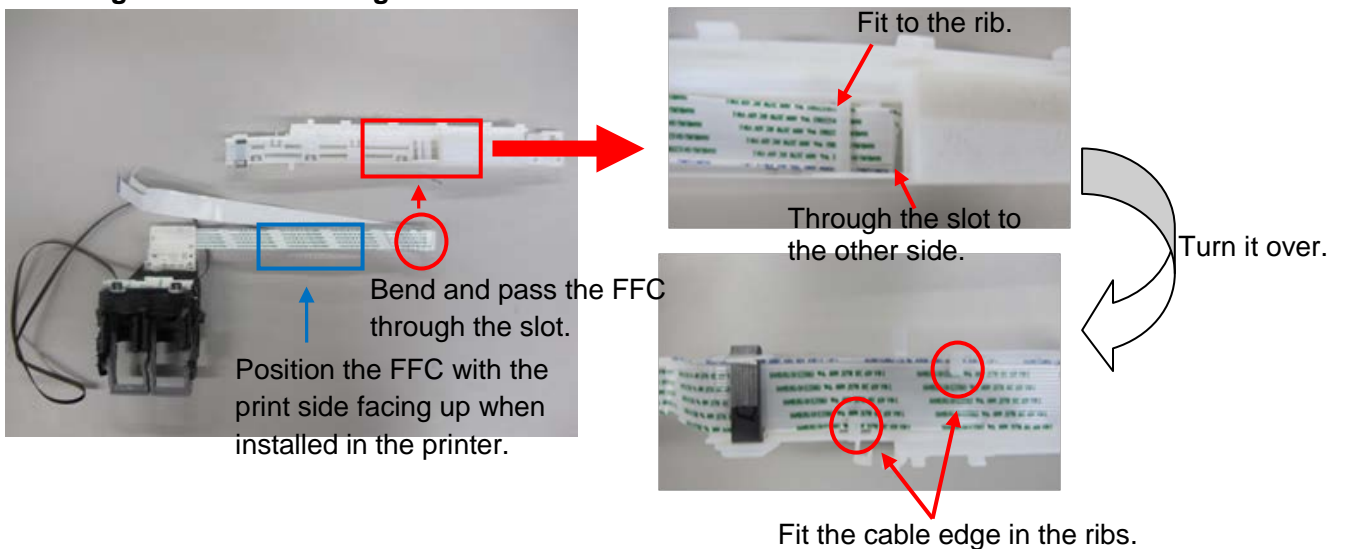


(4) Logic board: cable wiring

Pass the cables through the carriage motor core so that they can loop around the core twice.

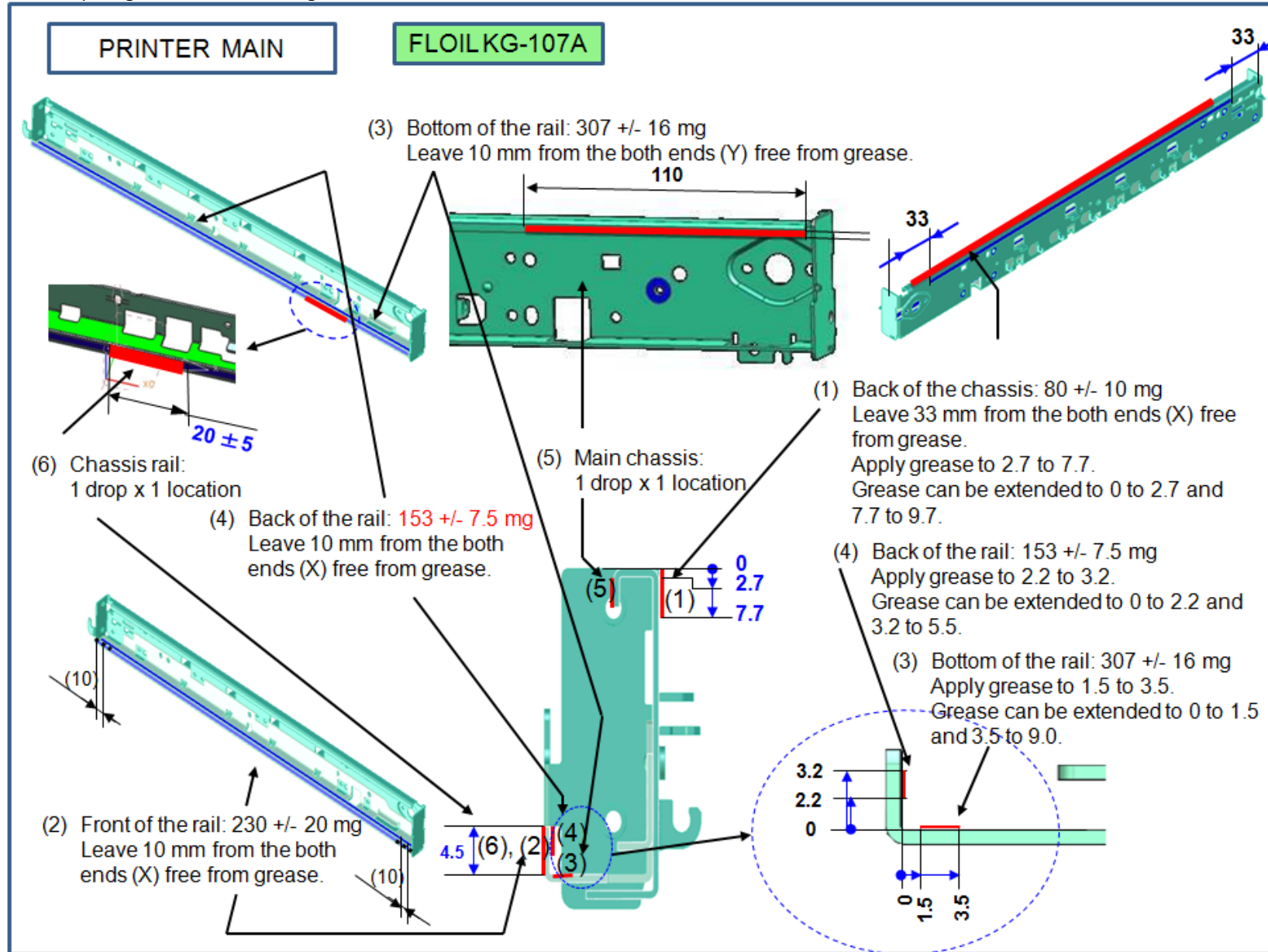


(5) Carriage unit: FFC arrangement



2-5. Grease Application

One drop of grease = 9 to 18 mg



3. SPECIAL NOTES ON SERVICING

3-1. Ink Absorber Configuration

(1) Configuration

The ink absorber is divided into the following four portions:

- Main ink absorber (Black): Main ink absorber for the black ink
- Main ink absorber (Color): Main ink absorber for the color ink
- Platen ink absorber (Home Position): Platen ink absorber on the home position side (on the right when seen from the front)
- Platen ink absorber (Away): Platen ink absorber on the opposite side of the home position (on the left when seen from the front).

The main ink absorbers can be replaced in two ways, Easy Replacement or Regular Replacement. (See 3-2, Main Ink Absorber Replacement, for details.)

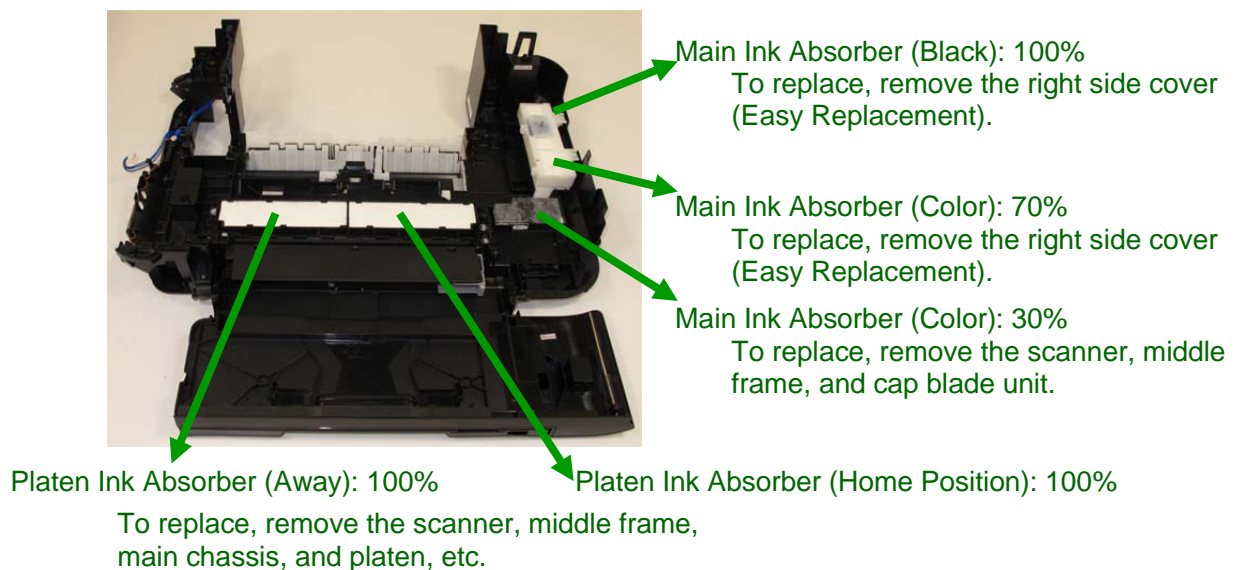
The platen ink absorbers can be replaced only by Regular Replacement.

(2) Ink absorber counter

Each portion of the ink absorber has a separate ink absorber counter.

At the error indicating that the ink absorber is full, check which ink absorber is full first. Then, replace the applicable ink absorber, and reset its counter (to “zero”).

(3) Ink absorber location, its counter, and available replacement method



Ink absorber	Counter code*	Replacement		Absorber capacity to be replaced	Approx. time required
		Type	Procedures		
Main (Black)	D (BK)	Easy	Remove the right side cover.	100%	4 min.
Main (Color)	D (CL)	Easy	Remove the right side cover.	70%	4 min.
		Regular	Remove the scanner, middle frame, and cap blade unit.	100%	13 min.
Platen (Away)	Dp (AW)	Regular	Remove the scanner, middle frame, main chassis, and platen, etc.	100%	20 min.
Platen (Home Position)	Dp (HM)	Regular	Remove the scanner, middle frame, main chassis, and platen, etc.	100%	20 min.

* Printed in the EEPROM information print

(4) Preventive replacement of ink absorbers other than the full one

When the error occurs indicating that the ink absorber is full, check the life of all the four ink absorbers (DF values in the EEPROM information print) first, and determine whether other ink absorbers than the full one be replaced at the same time (as a prevention of another error in a short period of time).

For determination criteria, see 3-3, Preventive Replacement of Ink Absorber.

3-2. Main Ink Absorber Replacement

(1) Easy Replacement

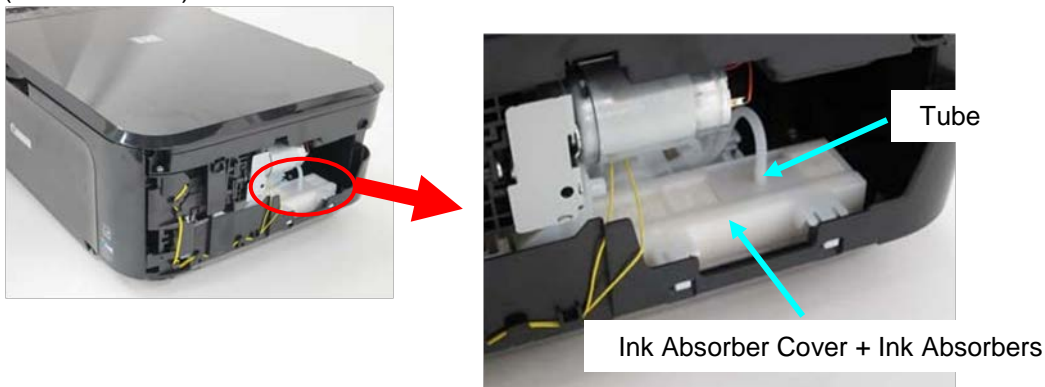
Remove only the right side cover, and replace the ink absorber.

(Time required: approx. 4 min. including the operation check after replacement)

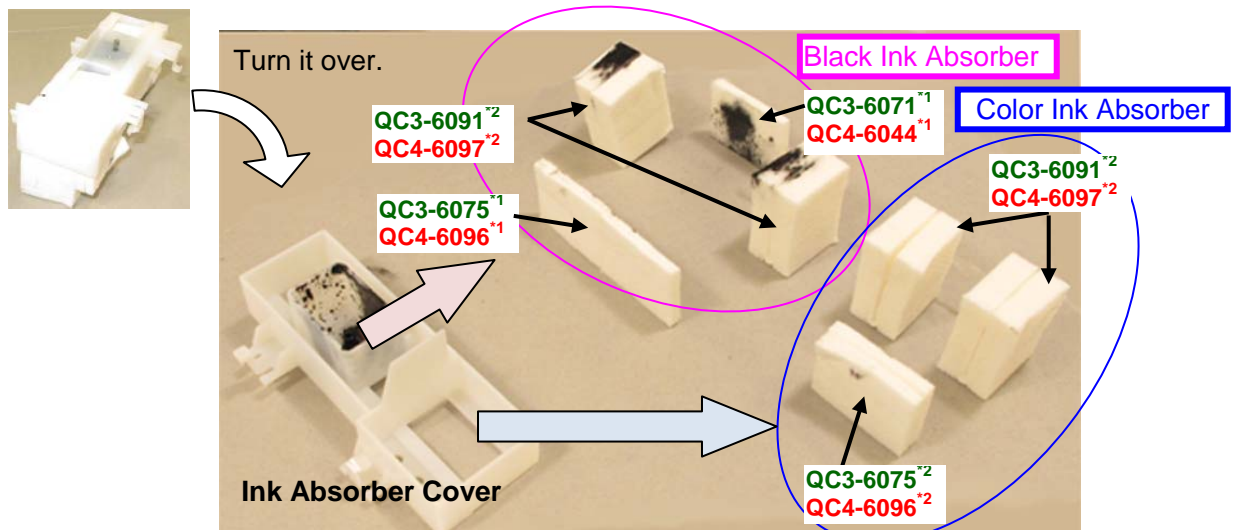
- Main ink absorber (Black): 100% replaceable
- Main ink absorber (Color): 70% replaceable

< How to perform the partial replacement >

- 1) Remove the right side cover (4 screws).
- 2) Release the two claws and tube, then take out the Ink Absorber Cover with the Main Ink Absorbers (Black & Color) fitted in.



- 3) Replace the ink absorbers with the new ones (Main Ink Absorber Kit: QY5-0356).



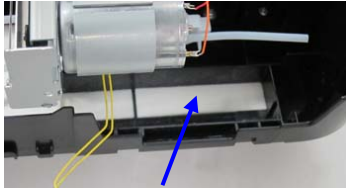
*1: Install it as is.

*2: Fold it in the middle and install it.

Part number in green: MG2100 series, MG3100 series, MG4100 series only

Part number in red: MG2200 series, MG3200 series, MG4200 series only

- 4) Replace the Black Ink Absorber at the bottom.



QC3-6072 (MG2100/MG3100/MG4100 series)

QC4-6099 (MG2200/MG3200/MG4200 series)

- 5) Install the Ink Absorber Cover with the new Ink Absorbers in the machine, and lock the claws.
- 6) Connect the tube.
- 7) Attach the right side cover.

< How to reset the ink absorber counter >

Set the specified value to the applicable ink absorber counter after Easy Replacement.

Start the machine in the service mode, and set the value in the **Ink Absorber Counter** section of the Service Tool. (See 2-1, Service Mode, for details.)

- Main_Black: 0%

- Main_Color: 30%

(2) Regular Replacement

Remove the external housing and cap blade unit, and replace all the ink absorbers.

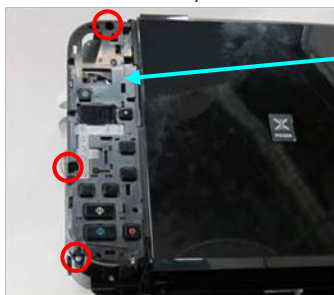
After replacement, reset the ink absorber counters (to 0%).

(Time required: approx. 20 min. including the operation check after replacement)

< How to perform the partial replacement >

- 1) Remove the right side cover (4 screws).
- 2) Remove the left side cover (2 screws).
- 3) Remove the operation panel cover.
- 4) Remove the operation panel (3 screws in the MG2100 series, MG2200 series, MG3100 series, and MG3200 series, 4 screws in the MG4100 series and MG4200 series).

MG2100 series, MG2200 series,
MG3100 series, MG3200 series



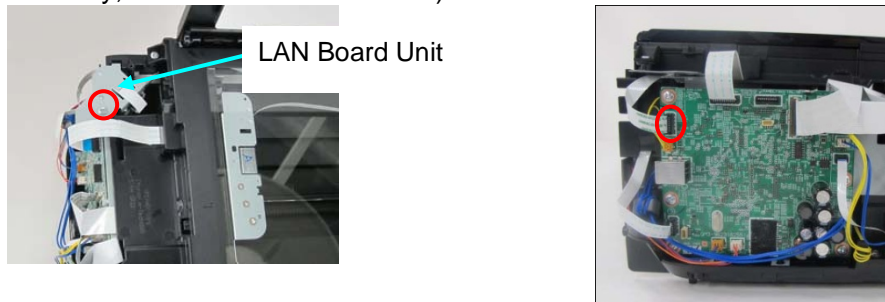
MG4100 series,
MG4200 series



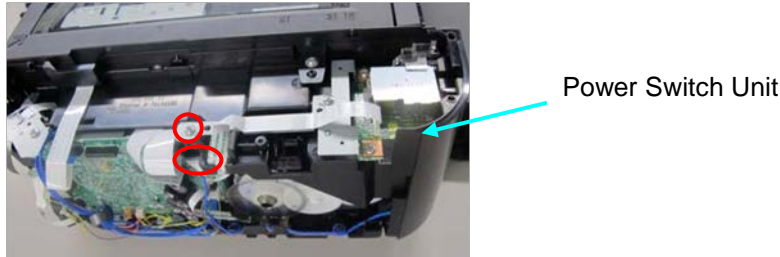
Operation Panel



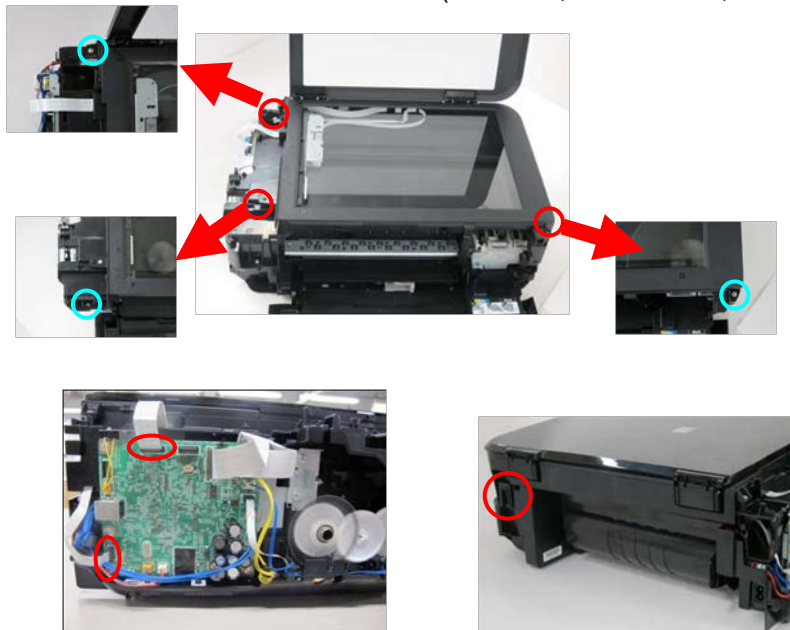
- 5) Remove the LAN board unit (MG3100 series, MG3200 series, MG4100 series, and MG4200 series only, 1 screw and 1 connector).



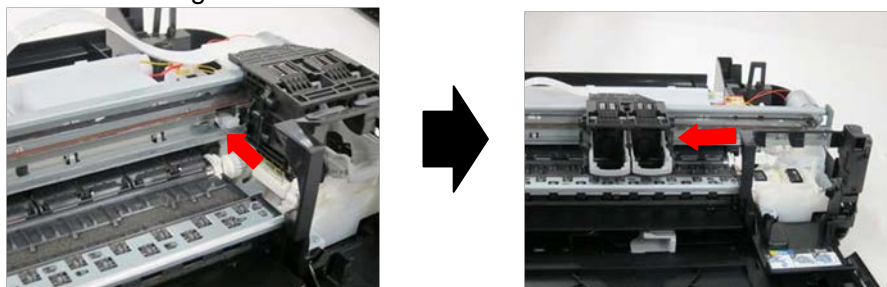
- 6) Remove the power switch unit (MG4100 series and MG4200 series only, 1 screw).



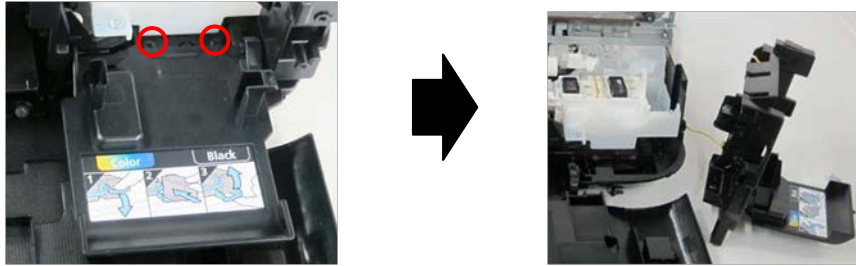
- 7) Remove the scanner middle frame (3 screws, 1 connector, 1 claw).



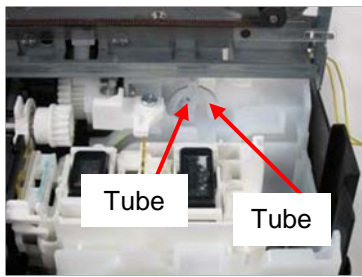
- 8) Unlock the carriage by pressing the lock to the back of the machine. Slide the carriage to the center.



9) Remove the HS door (2 screws).



10) Remove the cap blade unit (4 screws, 2 tubes).

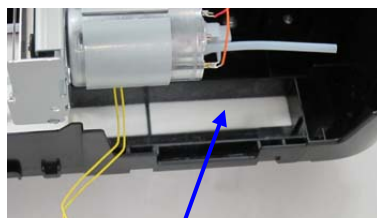


11) Release the two claws and tube, then take out the Ink Absorber Cover with the Ink Absorbers fitted in.

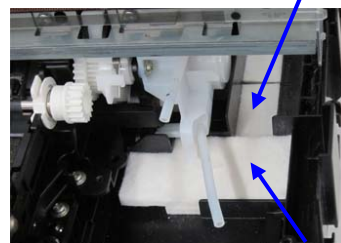


12) Replace the three sheets of ink absorbers in the bottom unit.

QC3-6074 (MG2100/MG3100/MG4100 series)
QC4-6100 (MG2200/MG3200/MG4200 series)



QC3-6072 (MG2100/MG3100/MG4100 series)
QC4-6099 (MG2200/MG3200/MG4200 series)



QC3-6073 (MG2100/MG3100/MG4100 series)
QC4-6098 (MG2200/MG3200/MG4200 series)

13) Replace the ink absorbers in the Ink Absorber Cover to the new ones, and install them in the machine.
 (For replacement procedures, see (1) Easy Replacement, step 3).)

14) Install and attach the cap blade unit, HS door, scanner middle frame, and right side cover.

< How to reset the ink absorber counter >

Set the specified value to the applicable ink absorber counter after Regular Replacement.

Start the machine in the service mode, and set the value in the **Ink Absorber Counter** section of the Service Tool. (See 2-1, Service Mode, for details.)

- Main_Black: 0%

- Main_Color: 0%

3-3. 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 (refer to Service Information #Q-12E/J-0188 for details). 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 machine 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" and "Dp" (ink absorber counter) and "DF" (ink absorber life) values.

Step 1: Is "D" or "Dp" 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 2011/07/31 earlier, the "DF" (ink absorber life) value is incorrect. Skip Step 2.

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

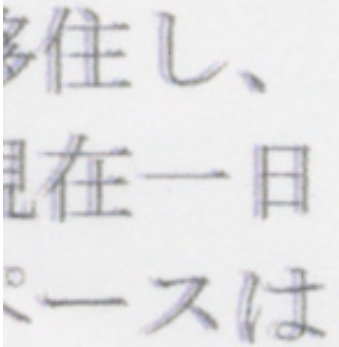
< How to read the EEPROM information print >

Installation date	
MG3100 SN=L59MT2239 JPN V0.622 ST=2011/07/21-18:39 LPT=2011/07/20-21:59	
D(BK=006.8 CL=004.3) Dp(AW=090.9 HM=000.4)	Ink absorber counter value (%)
DF(BK=00932 CL=00957 AW=00091 HM=67292)	Ink absorber life (months)
EP/EP0-1202 EP1-EP12 EP2-1202 EP3-EP12 EP4-1202	

3-4. Print Head Alignment

When the following print problems occur, perform print head alignment in the user mode:

- In double-sided printing (with plain paper or postcard), text or lines are doubled.



- Lines are broken (dot misalignment on a line).

< How to perform print head alignment >

1) Automatic print head alignment

Perform via the machine operation panel, or from the printer driver Maintenance tab.

Print the print head alignment pattern, and scan the printed pattern.

Note: Scanning of the printed pattern is likely to be omitted.

Be sure to fully advise users of this.

2) Manual print head alignment

Perform this alignment if the problem is not resolved by automatic print head alignment.

i. In the Maintenance tab of the Printer Properties, select **Custom Settings**.

ii. Select **Align heads manually**.

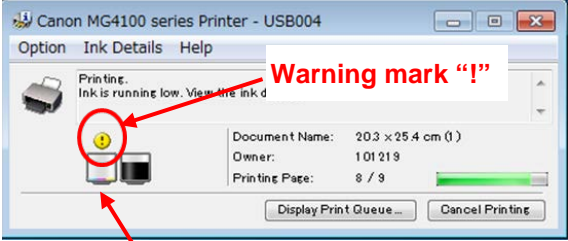
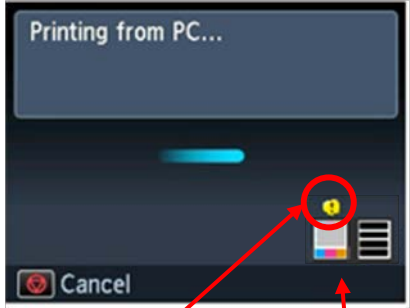
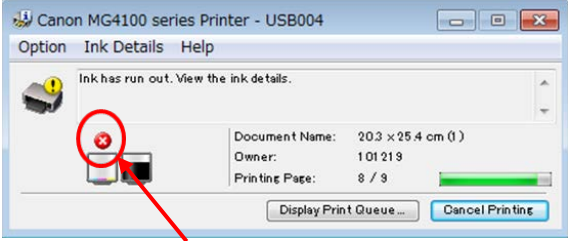
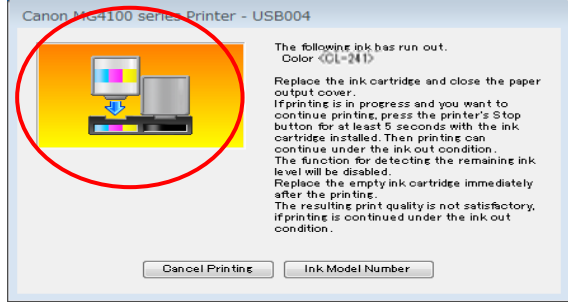

Note that the manual print head alignment is available only from the connected PC.

iii. In the Maintenance tab, select **Print Head Alignment**.

3-5. Detection of Remaining Ink Amount



According to the level of the ink remained, the following three types of messages will be displayed (based on the detection of the ink amount by dot count):

- Warning 1 and 2, "Low Ink": Ink may be used up. Although the displayed icon indicates that there is one level of ink left, printing may become faint.
- Error, "No Ink": Ink is completely exhausted.

Machine condition	Status Monitor	LCD panel (MG4100 series, MG4200 series only)
<p>Low Ink warning (1)</p> <p>Printing does not stop.</p> <p>Printing may become faint after the message is displayed.</p>	 <p style="color: red; text-align: center;">Warning mark "!"</p> <p style="color: red; text-align: center;">One level of ink remained</p> <p>The dialog box does not pop up.</p>	 <p style="color: red; text-align: center;">Warning mark "!"</p> <p style="color: red; text-align: center;">One level of ink remained</p>
<p>Low Ink warning (2)</p> <p>Printing does not stop.</p>	<p>The same dialog box as the above automatically pops up.</p>	
<p>No Ink error</p> <p>MG2100/MG2200 series: E16</p> <p>MG3100/MG3200 series: E16</p> <p>MG4100/MG4200 series: U163</p> <p>Printing stops.</p> <p>Pressing the Stop/Reset or Stop button for five seconds or longer will disable the function to detect the remaining ink amount, and enable printing without replacement of the applicable ink cartridge.</p>	 <p style="color: red; text-align: center;">Error mark "X"</p> 	

< For reference > Error: Remaining ink amount unknown

If an ink cartridge is replaced to the one that has been installed in another machine and has ever had the “No Ink” error, the error will be displayed when printing is attempted thereafter, indicating that the ink level is unknown. Printing stops, and the Status Monitor dialog box automatically pops up.

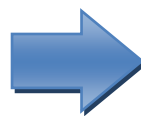
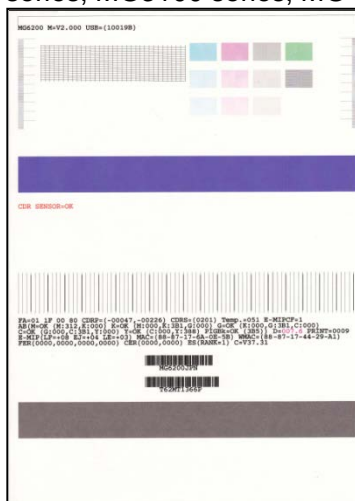
Machine condition	Status Monitor	LCD panel (MG4100 series only)
<p>Ink Level Unknown error</p> <p>MG2100/MG2200 series: E13</p> <p>MG3100/MG3200 series: E13</p> <p>MG4100/MG4200 series: U162</p> <p>Printing stops. Pressing the Stop/Reset or Stop button for five seconds or longer will disable the function to detect the remaining ink amount, and enable printing without replacement of the applicable ink cartridge.</p>	 <p>The dialog box automatically pops up.</p>	

3-6. New Service Test Pattern

The new Service Test Pattern that focuses on the use in servicing has been adopted, where the items unnecessary for servicing have been eliminated and the EEPROM information has been added instead. Compared with the previous pattern, the new pattern is more visible and prints in a shorter time.

MG2100 series, MG3100 series, MG4100 series

MG2200 series, MG3200 series, MG4200 series



3-7. Encoder Film Cleaning

The errors listed below may be caused by smearing of the encoder film. Check the encoder film, and clean it if it is smeared.

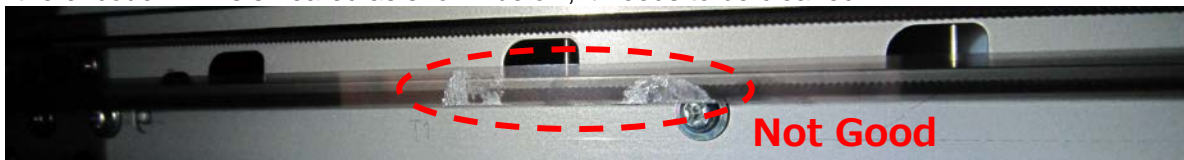
Errors concerned:

- Error 5100
- Vertical streaks or improper shift of the print position (dot mis-alignment)



< How to check the encoder film >

If the encoder film is smeared as shown below, it needs to be cleaned.



< How to clean the encoder film >

Items required:

- Cotton swab
- Water with a few drops of neutral detergent (2 to 3 drops of neutral detergent in 1/4 cup of tap water)

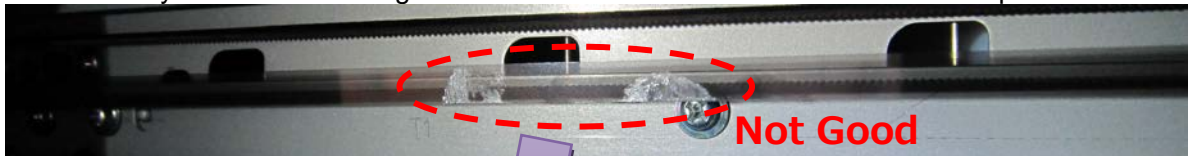
1) Moisten a cotton swab with the prepared cleaning water. Eliminate extra water so that no water drops.

2) Using the moistened cotton swab, wipe the encoder film.

Caution: Be cautious so that no water drops inside the printer.



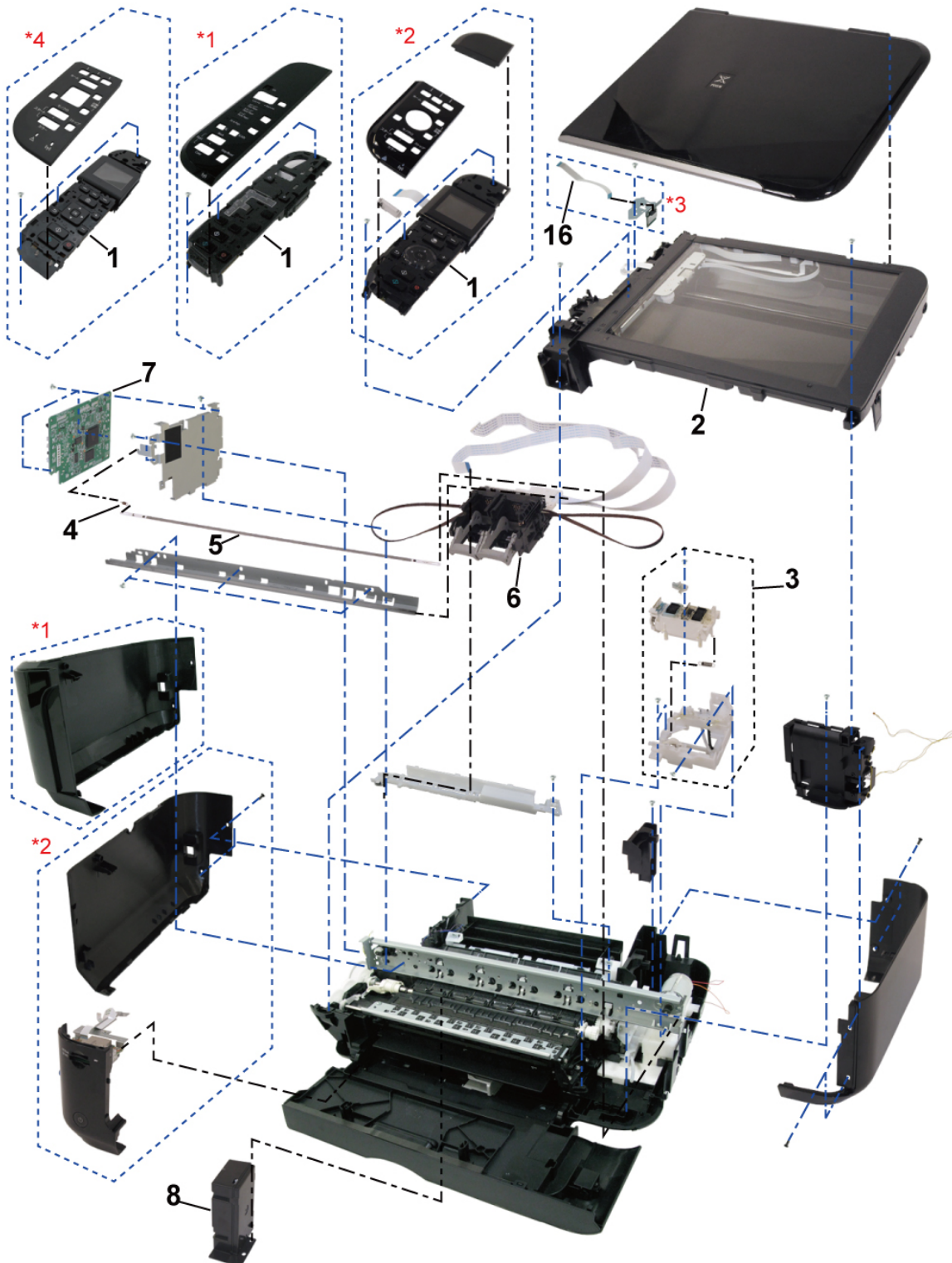
3) Eliminate any stains or smearing from the film until the entire film becomes transparent and clear.



4. EXTERNAL VIEW / PARTS LIST

4-1. External View

External View (1/2)



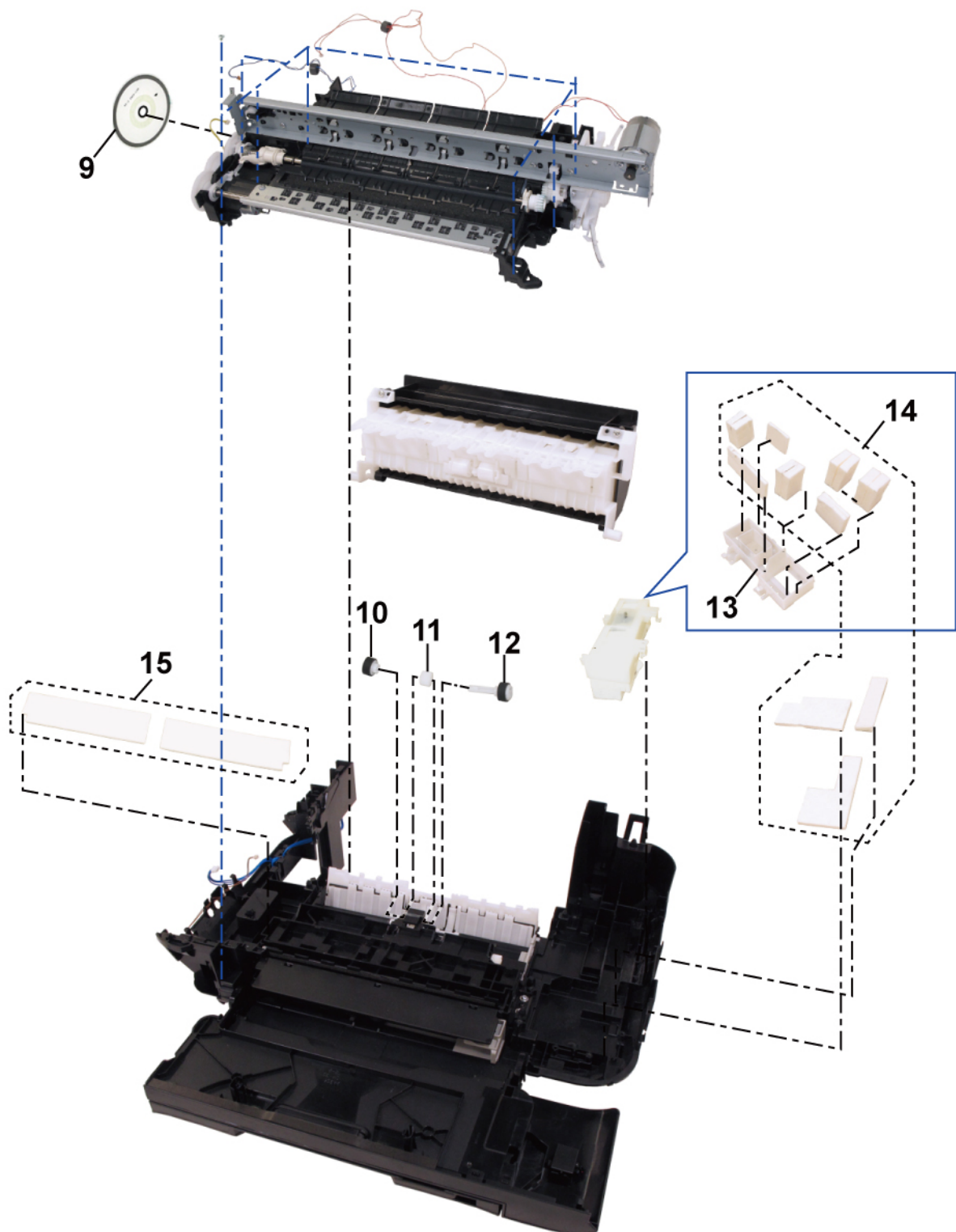
*1: MG2100series / MG3100series/ MG2200series / MG3200series

*2: MG4100series/MG4200series

*3: MG3100series / MG4100series/ MG3200series / MG4200series

*4: MG4200series

External View (1/2)



4-2. Parts List

MG2100series/MG3100series/MG4100series

Key	PartsNo	Q'ty	Description	Remarks
1	QM3-8228-000	1	OPERATION PANEL UNIT	MG2100series
1	QM3-8254-000	1	OPERATION PANEL UNIT	MG3100series
1	QM3-8274-000	1	OPERATION PANEL UNIT	MG4100series
2	QM3-8221-000	1	SCANNER UNIT	MG2100series/MG3100series
2	QM3-8281-000	1	SCANNER UNIT	MG4100series
3	QM3-8246-000	1	CAP-BLADE UNIT	MG2100series/MG3100series
3	QM4-0240-000	1	CAP-BLADE UNIT	MG4100series
4	QC3-6212-000	1	SPRING, TENSION	
5	QC3-6204-000	1	FILM, TIMING SLIT STRIP	
6	QM3-8244-000	1	CARRIAGE UNIT	MG2100series/MG3100series
6	QM3-8287-000	1	CARRIAGE UNIT	MG4100series
7	QM3-9573-000 QM3-9573-010	1	LOGIC BOARD ASS'Y	MG2100series (SI No.Q11-12J/E-0136)
7	QM3-9623-000 QM3-9623-010	1	LOGIC BOARD ASS'Y	MG3100series(SI No.Q11-12J/E-0136)
7	QM3-9653-000 QM3-9653-010	1	LOGIC BOARD ASS'Y	MG4100series(SI No.Q11-12J/E-0136)
8	QK1-7305-000	1	AC ADAPTER: 100/240V 50/60HZ	
8	QK1-7306-000	1	AC ADAPTER: 100/240V 50/60HZ	CN
9	QC2-6384-000	1	FILM, TIMING SLIT DISK	
	QM3-8240-000	+	PICK-UP ARM UNIT	(SI No.Q11-12J-0135)
10	QM4-1893-000	1	PICK-UP ROLLER L UNIT	(SI No.Q11-12J-0135)
11	QC3-6201-000	1	GEAR, PICK-UP ROLLER	(SI No.Q11-12J-0135)
12	QM4-1894-000	1	PICK-UP ROLLER R UNIT	(SI No.Q11-12J-0135)
13	QC3-6058-000	1	COVER, ABSORBER	MG2100series/MG3100series
13	QC3-6500-000	1	COVER, ABSORBER	MG4100series
14	QY5-0356-000	1	ABSORBER KIT, MAIN	
	QY5-0357-000	+	ABSORBER KIT, PLATEN	(SI No.Q11-12J-0132)
15	QC4-5950-000	2	ABSORBER, PLATEN	(SI No.Q11-12J-0132)
16	QK1-7367-000	1	FLEXIBLE FLAT CABLE, WLAN	MG3100series/MG4100series(SI No.Q11-12J-0140)
	CK-0562-000	1	GREASE, MOLYKOTE PG-641	
	QY9-0057-000	1	LUBU, FLOIL KG107A, OIL	
	QYR-0013-000	1	PRINTING INSPECTION FILM	MG2100series/MG3100series(SI No.Q11-12J-0145)

MG2200series/MG3200series/MG4200series

Key	PartsNo	Q'ty	Description	Remarks
1	QM3-8228-000	1	OPERATION PANEL UNIT	MG2200series
1	QM4-1827-000	1	OPERATION PANEL UNIT	MG3200series
1	QM4-1868-000	1	OPERATION PANEL UNIT	MG4200series
2	QM4-1823-000	1	SCANNER UNIT	MG2200series/MG3200series
2	QM4-1864-000	1	SCANNER UNIT	MG4200series
3	QM3-8246-000	1	CAP-BLADE UNIT	
4	QC3-6212-000	1	SPRING, TENSION	
5	QC3-6210-000	1	FILM, TIMING SLIT STRIP	
6	QM4-2155-000	1	CARRIAGE UNIT	
7	QM7-1545-000	1	LOGIC BOARD ASS'Y	MG2200series
7	QM7-1565-000	1	LOGIC BOARD ASS'Y	MG3200series
7	QM7-2600-000	1	LOGIC BOARD ASS'Y	MG4200series
8	QK1-7305-000	1	AC ADAPTER: 100/240V 50/60HZ	
8	QK1-7306-000	1	AC ADAPTER: 100/240V 50/60HZ	CN , MG4200series
9	QC2-6384-000	1	FILM, TIMING SLIT DISK	
10	QM4-1893-000	1	PICK-UP ROLLER L UNIT	
11	QC3-6201-000	1	GEAR, PICK-UP ROLLER	
12	QM4-1894-000	1	PICK-UP ROLLER R UNIT	
14	QY5-0368-000	1	ABSORBER KIT, MAIN	
15	QC4-6101-000	2	ABSORBER, PLATEN	
16	QK1-7367-000	1	FLEXIBLE FLAT CABLE, WLAN	MG3200series/MG4200series
	CK-0562-000	1	GREASE, MOLYKOTE PG-641	
	QY9-0057-000	1	LUBE, FLOIL KG107A, OIL	
	QYR-0010-000	1	PRINTING INSPECTION FILM	MG4200series
	QYR-0013-000	1	PRINTING INSPECTION FILM	MG2200series/MG3200series
	QYR-0014-000	1	PRINTING INSPECTION FILM	MG4200series