Finisher Rh 100

Machine Code:J361

Field Service Manual
(For EU and NA Models)
Ver.1.0

Latest Release: Mar, 2018
Initial Release: Mar, 2018
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Safety, Conventions, Trademarks

Conventions

Common Terms

This is a list of symbols and abbreviations used in this manual.

Symbol	What it means
	Screw
	Connector
	E-ring
	Clip ring
	Harness clamp
FFC	Flexible Film Cable
JG	Junction Gate

Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

⚠WARNING

- A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

⚠CAUTION

- A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor or moderate injury or damage to the machine or other property.

Important

- **Obey these guidelines to avoid problems such as misfeeds, loss of valuable data and to prevent damage to the machine.**

Note

- This information provides tips and advice about how to best service the machine.

Responsibilities of the Customer Engineer

Reference Material for Maintenance

- Maintenance shall be done using the special tools and procedures prescribed for maintenance of the machine described in the reference materials (service manuals, technical bulletins, operating instructions, and safety guidelines for customer engineers).
- Use only consumable supplies and replacement parts designed for use of the machine.

Safety Precautions to Be Followed

Environments Where the Machine Can Be Used

⚠WARNING

- Do not use flammable sprays or solvents in the vicinity of this machine. Also, avoid placing these items in the vicinity of this machine. Doing so could result in fire or electric shock.
- Do not place vases, plant pots, cups, toiletries, medicines, small metal objects, or containers holding water or any other liquids, on or close to this machine. Fire or electric shock could result from spillage or if such objects or substances fall inside this machine.

⚠CAUTION

- Keep the machine away from humidity and dust. Otherwise a fire or an electric shock might occur.
- Do not place the machine on an unstable or tilted surface. If it topples over, an injury might occur.
- Do not place heavy objects on the machine (except for the printer Ri 100). Doing so can cause the machine to topple over, possibly resulting in injury.
- Do not place the power cord and connection cable in a way that might cause someone to trip and fall. The product might fall over and cause an injury.
- For safety, be sure to disconnect the power plug from the wall outlet after using the product or when the product is not going to be used for some time.
- Do not place the machine on an unstable surface or any heat-sensitive material, and do not use it near flammable materials such as curtains. Because the machine becomes hot, some materials may be damaged.
- Do not place the machine on a place higher than your shoulder. When you take out the fabric, your hands might touch it and be burned.

- Do not use the machine near the fire or in places where it might be splashed with water or oil. Doing so may cause a fire.

Handling Power Cords and Power Plugs

⚠WARNING

- For EU, AS Models:
  Use a single outlet rated for at least 10 A and 220-240 V AC. If other devices are plugged into the same outlet, it may overheat and cause a fire.
- For NA model:
  Use a single outlet rated for at least 15 A and 110-127 V AC. If other devices are plugged into the same outlet, it may overheat and cause a fire.
- Do not use any power sources other than those that match the specifications shown in this manual. Doing so could result in fire or electric shock.
- Do not use any frequencies other than those that match the specifications shown. Doing so could result in fire or electric shock.
- Do not use multi-socket adaptors. Doing so could result in fire or electric shock.
- Do not use extension cords. Doing so could result in fire or electric shock.

⚠CAUTION

- Do not use power cords that are damaged, broken, or modified. Also, do not use power cords that have been trapped under heavy objects, pulled hard, or bent severely. Doing so could result in fire or electric shock.
- It is dangerous to handle the power cord plug with wet hands. Doing so could result in electric shock.
- Touching the prongs of the power cable's plug with anything metallic constitutes a fire and electric shock hazard.
- The supplied power cord is for use with this machine only. Do not use it with other appliances. Doing so could result in fire or electric shock.
- When disconnecting the power cord from the wall outlet, always pull the plug, not the cord. Pulling the cord can damage the power cord. Use of damaged power cords could result in fire or electric shock.
- Be sure to push the plug of the power cord fully into the wall outlet. Partially inserted plugs create an unstable connection that can result in unsafe buildup of heat.
- When performing maintenance on the machine, always disconnect the
- power cord from the wall outlet.

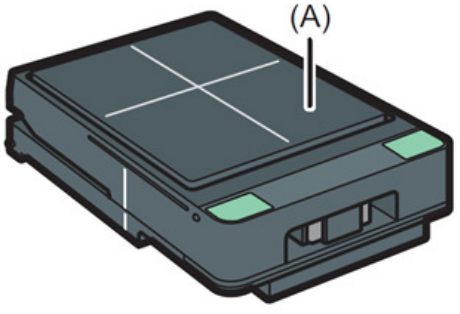
Handling the main machine

⚠WARNING

- Keep the polythene materials (bags, etc.) supplied with this machine away from babies and small children at all times. Suffocation can result if polythene materials are brought into contact with the mouth or nose.
- Be sure to locate the machine as close as possible to a wall outlet. This will allow easy disconnection of the power cord in the event of an emergency.
- Do not touch this machine if a lightning strike occurs in the immediate vicinity. Doing so could result in electric shock.

⚠CAUTION

- Do not leave from the machine while it is being used or energized. Doing so may cause a fire.
- Do not put fabrics on the front cover while it is open. Doing so may damage the machine, cause injury or burns.
- Do not open the front cover if the fabric smokes or ignites. Doing so may cause a fire.
- Do not use this machine for any purpose other than smoothing wrinkles, flattening fibers, or fixing ink. Otherwise, a fire may result.
- Do not place objects other than the printer Ri 100 on this machine. Also, do not place objects in the gap below the machine. Doing so may cause a fire.
- Do not touch the terminals with your hand or a metal object. Doing so may cause a short circuit, resulting in smoke or fire.
- Do not install this machine on top of the printer. The machine may fall and cause damage or injury.
- Unplug the power cord from the wall outlet before you move the machine. While moving the machine, take care that the power cord is not damaged under the machine. Failing to take these precautions could result in fire or electric shock.
- Do not touch the inside of the finisher when you open the front cover. The surface of the heater will be as high as about 180 °C (356 °F). Especially never touch the black heater on the upper part of the inside of the machine.
- When taking a T-shirt out of the cassette after a print image has been fixed to it, do not touch the front side or metal plate (black) on the back side of the casette's table (A) because it is hotter than 100 °C (212 °F).



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- Be careful about the inside of the machine that will be very hot for a certain period of time after the machine is used.
- Do not attach anything except the designated cassette of the printer Ri 100 to this machine. Doing so may cause a fire or injury.

Handling the machine's interior

⚠WARNING

- Do not attempt to disassemble or modify this machine. Doing so risks burns and electric shock.

⚠CAUTION

- Some internal components of the machine are very hot. Do not touch places other than those explicitly mentioned in this manual. Touching them will result in burns.

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1. Replacement and Adjustment

Replacement and Adjustment

Rear Cover Assy

1. Remove the vent hole cover [A].

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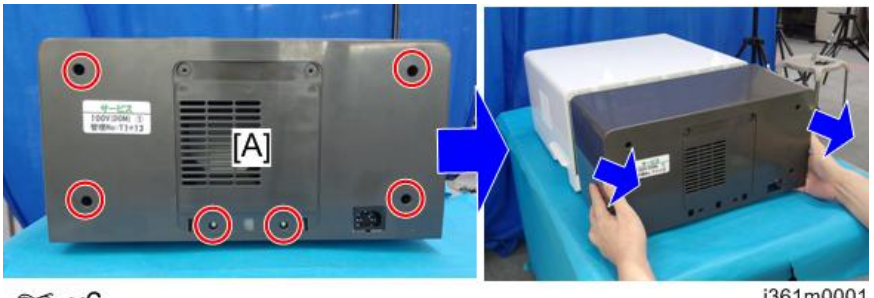
2. Remove the rear cover assy [A].



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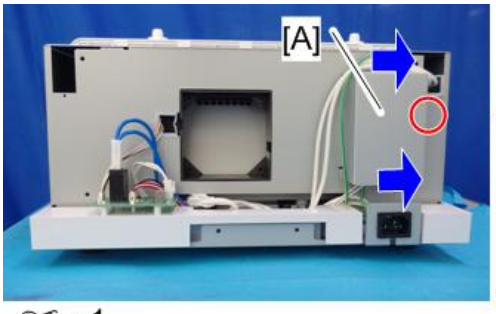
Power PCB

1. Remove the rear cover assy. (page 9 "Rear Cover Assy")

2. **Remove the Power PCB cover [A].**



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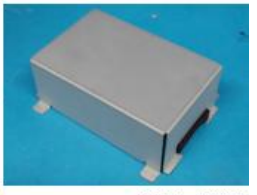

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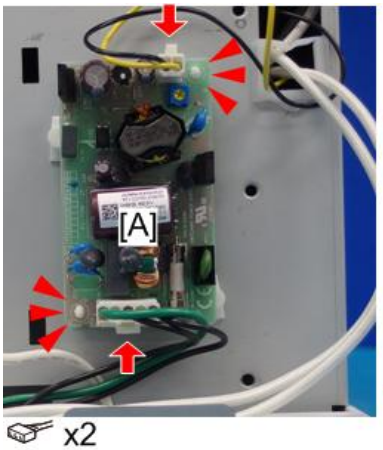
3. **Remove the Power PCB [A].**



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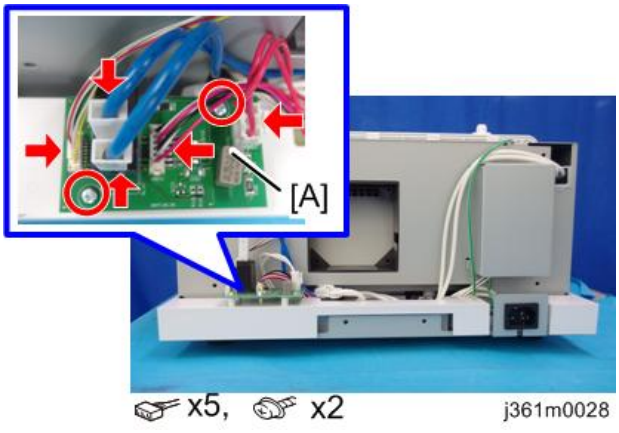
Setting Board

1. **Remove the rear cover assy. (page 9 "Power PCB")**

2. **Disconnect the all connectors and remove the setting board [A].**



Clearing the Counter after Replacing the Setting Board

After replacing the setting board, make sure to clear the usage counters.

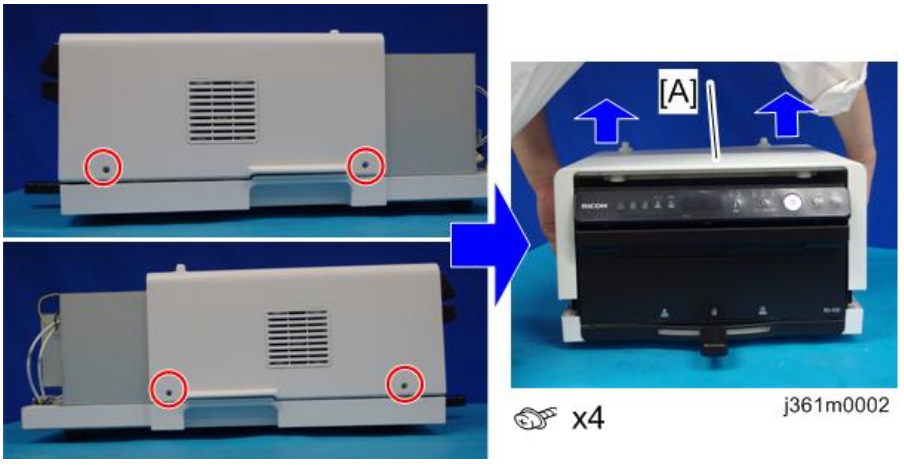
1. **Display the last 4 digits of the counter item which you want to reset. (page 24 "How to Check the Operating State")**
2. **While displaying the last 4 digits of an item to reset, hold down the [Power] button for 1 second or longer.**

   The displayed counter is cleared.
3. **Repeat Steps 1 to 2 as needed.**

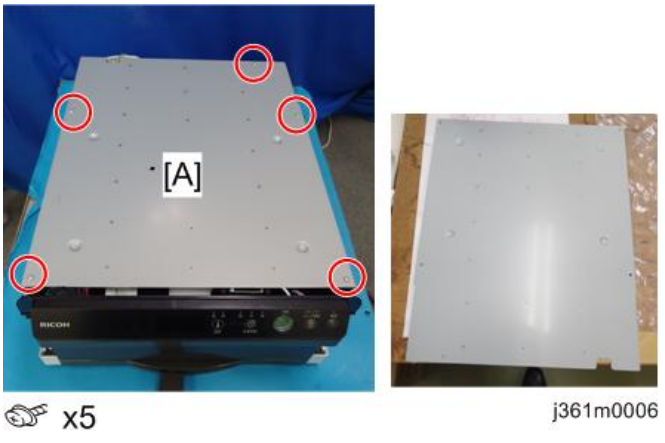
Door Lock Release Solenoid

1. **Remove the rear cover assy. (page 9 "Rear Cover Assy")**

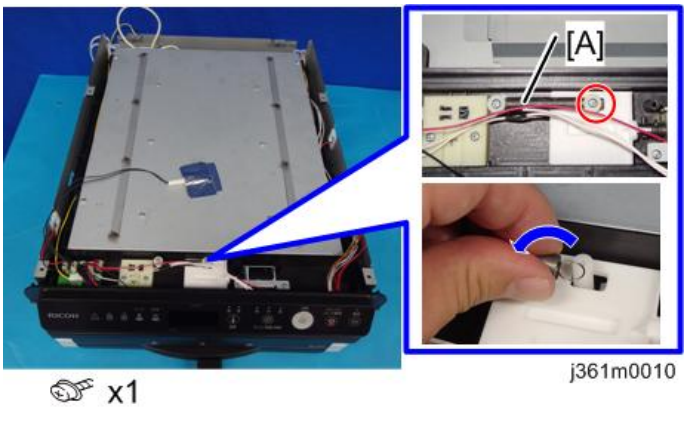
2. **Remove the top cover assy [A].**



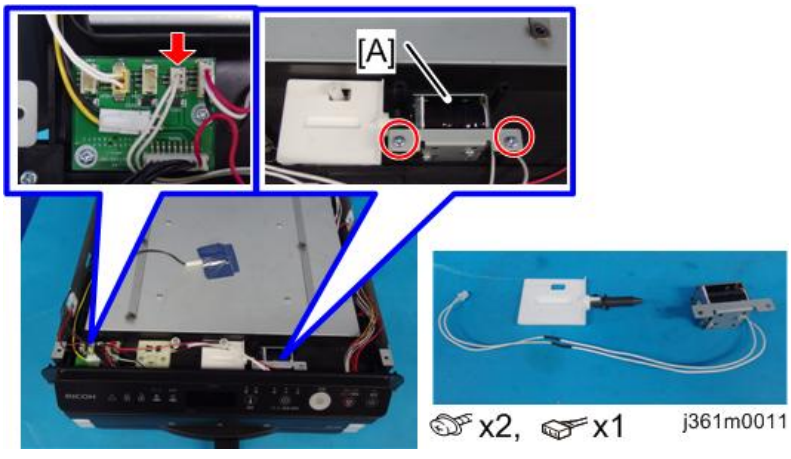
3. **Remove the top inner plate [A].**



4. **Release the spring [A].**

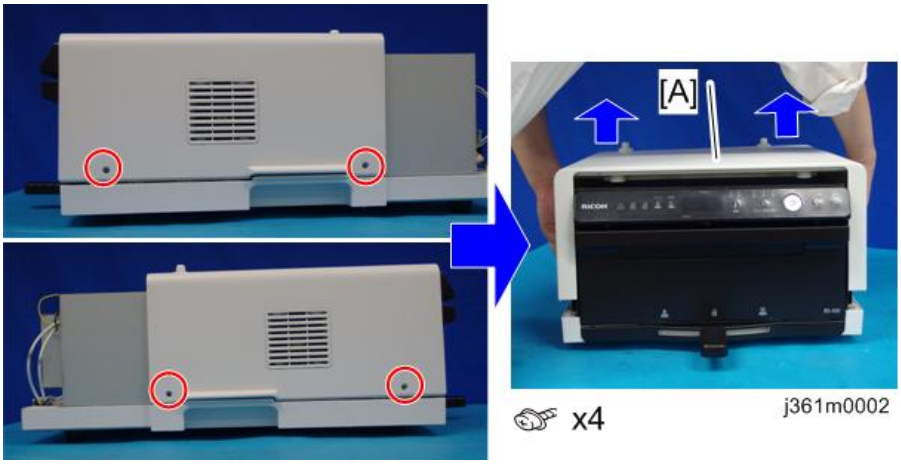


5. Remove the door lock release solenoid [A].

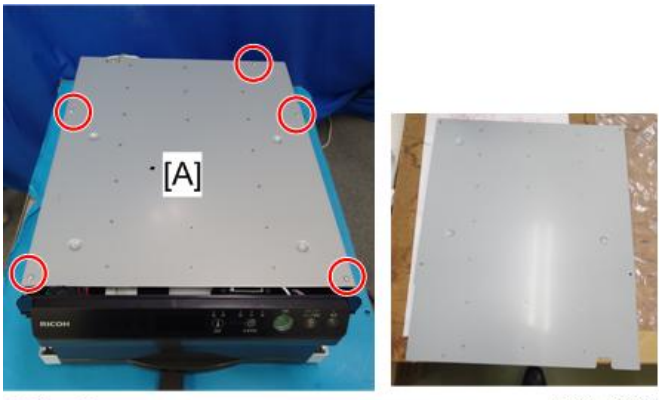


Door Open/Close Sensor

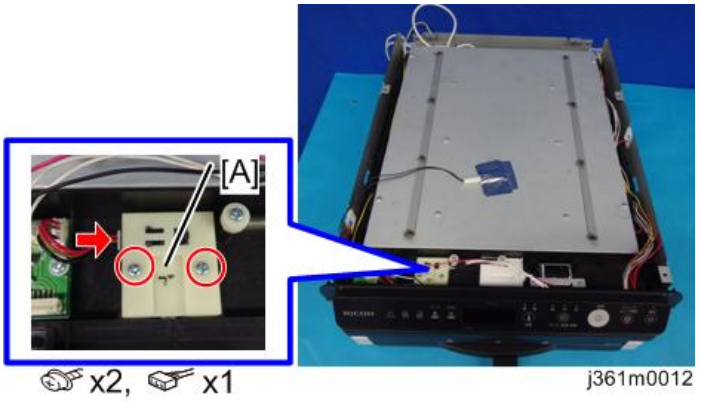
1. Remove the rear cover assy. (page 9 "Rear Cover Assy")
2. Remove the top cover assy [A].



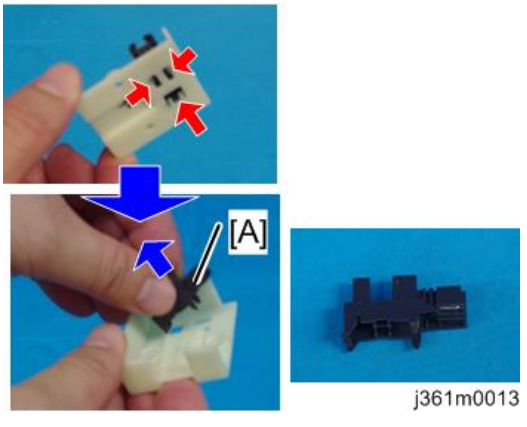
3. **Remove the top inner plate [A].**



4. **Separate the bracket [A] from the machine.**

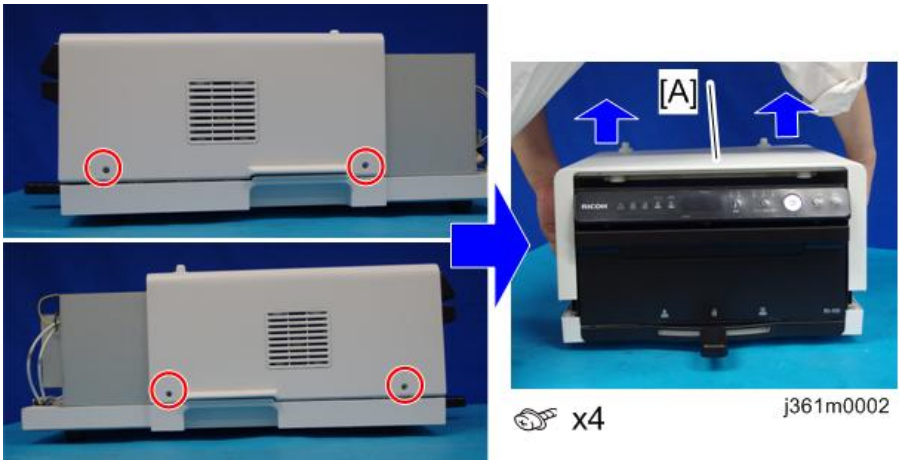


5. **Remove the door open/close sensor [A].**

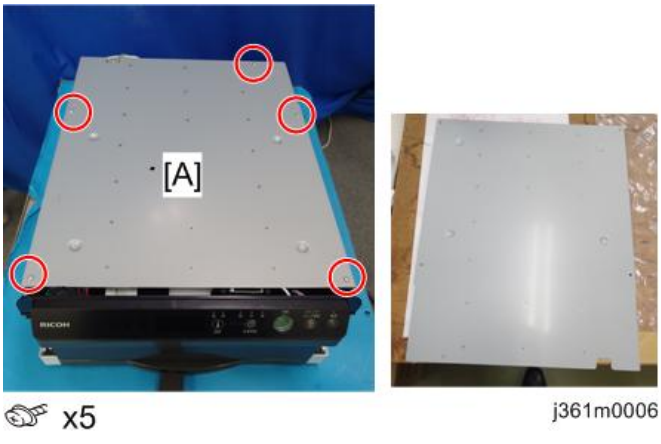


Relay Board

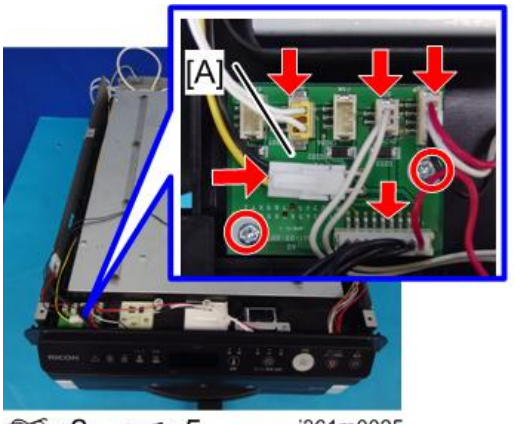
1. Remove the rear cover assy. (page 9 "Rear Cover Assy")
2. Remove the top cover assy [A].



3. Remove the top inner plate [A].

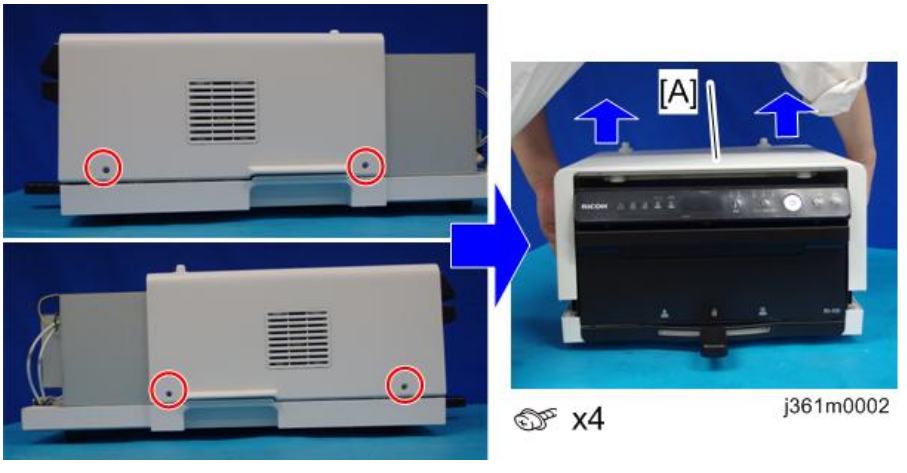


4. Disconnect the all connectors and remove the relay board [A].

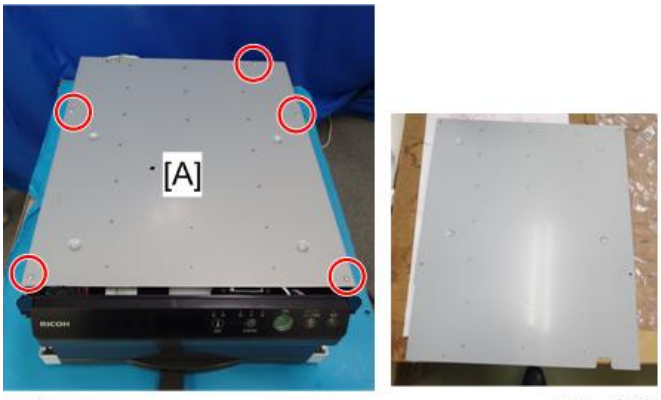


Operation Panel Assy.

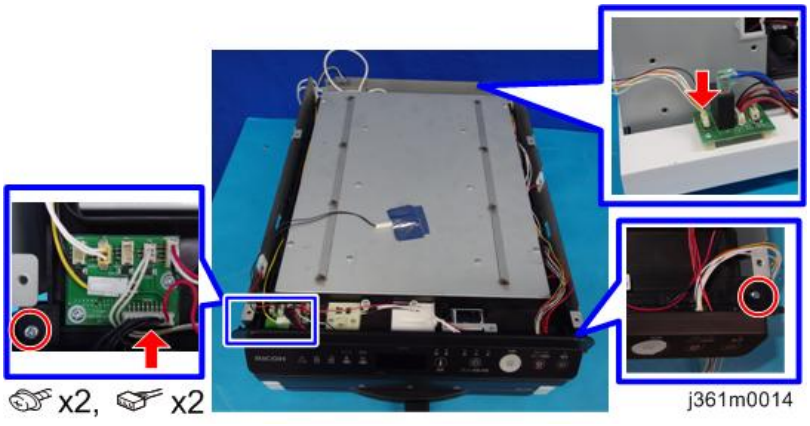
1. Remove the rear cover assy. (page 9 "Rear Cover Assy")
2. Remove the top cover assy [A].



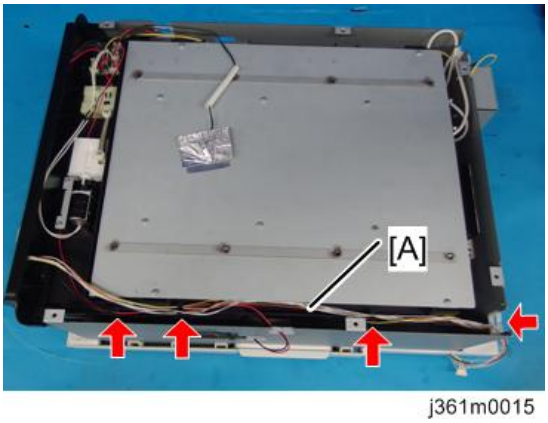
3. Remove the top inner plate [A].



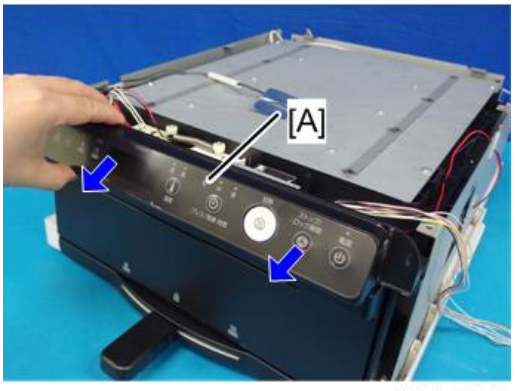
4. Remove the 2 screws and disconnect the 2 connectors.



5. Release the harness [A] from the harness guide.



6. **Remove the Operation panel assy. [A].**



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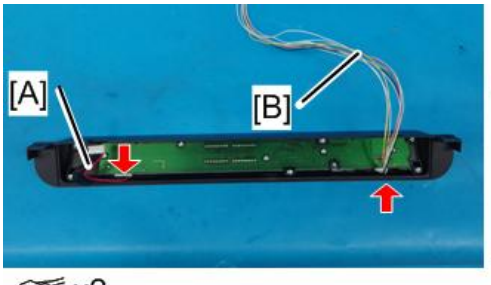
7. **Remove the harnesses [A] and [B].**



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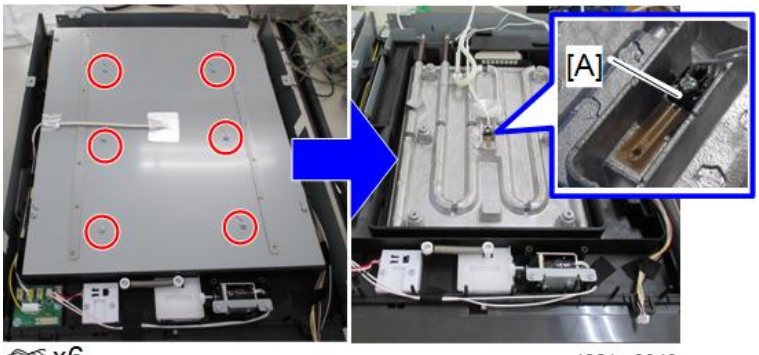
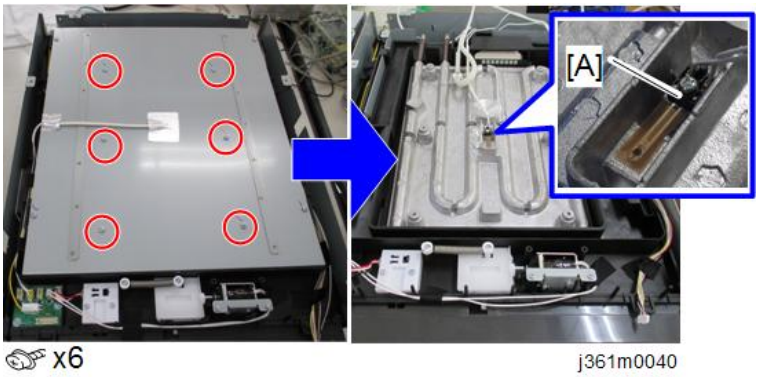
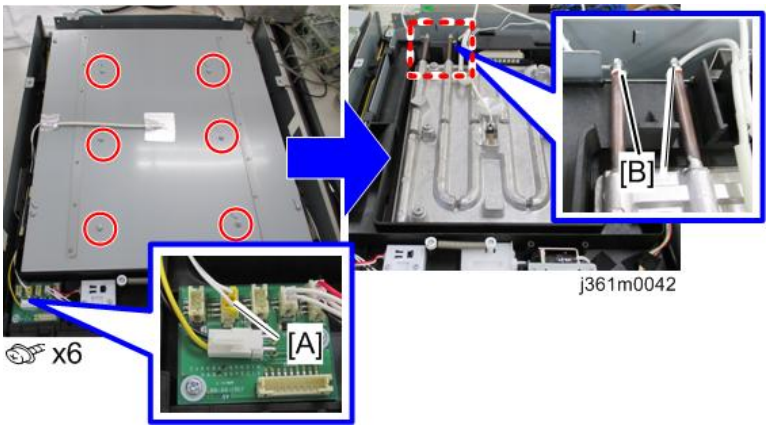
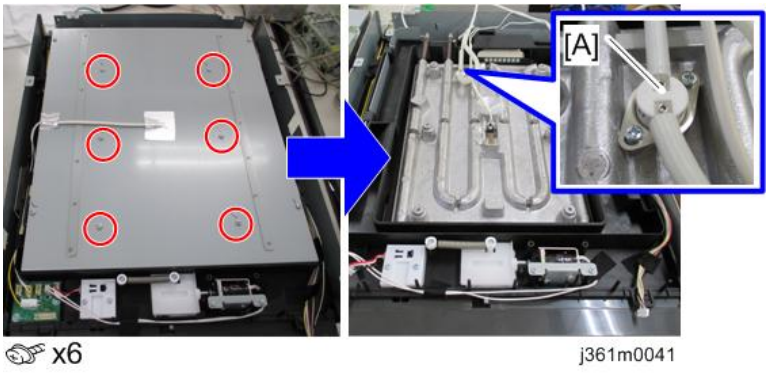
2. Troubleshooting

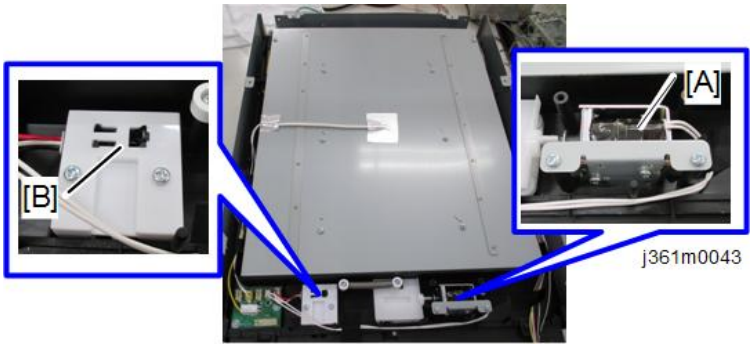
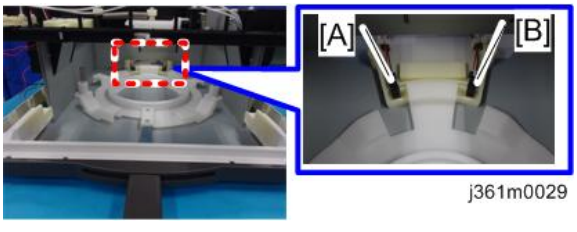
What to Check According to the Problem

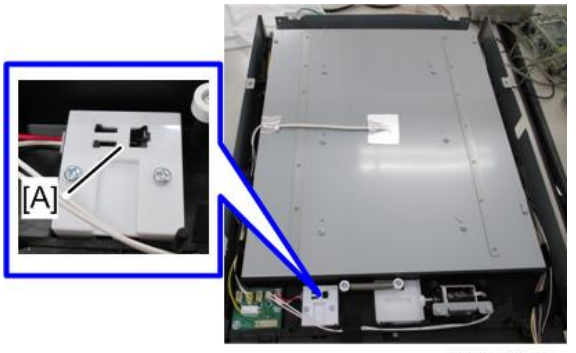
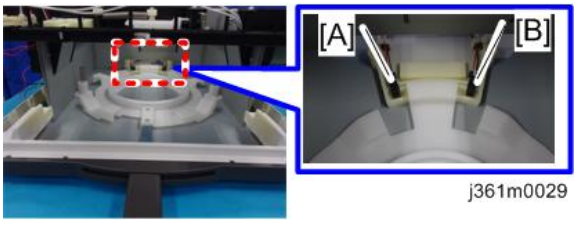
If an Error Code Appears

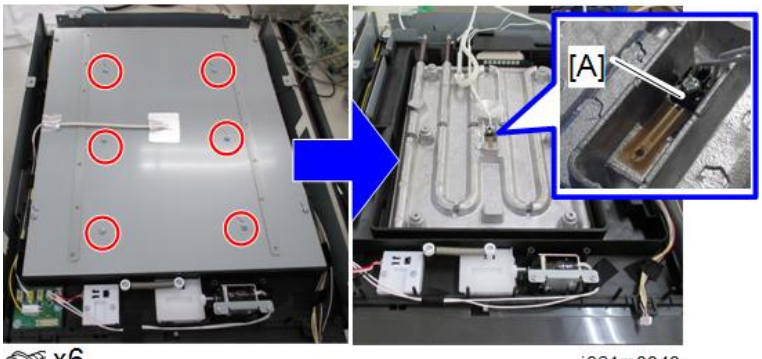
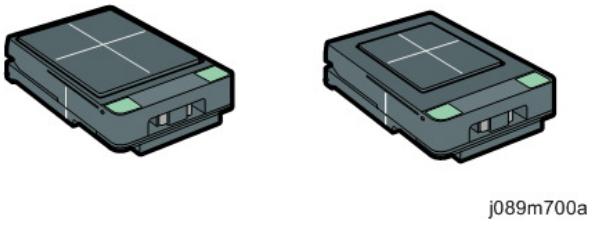
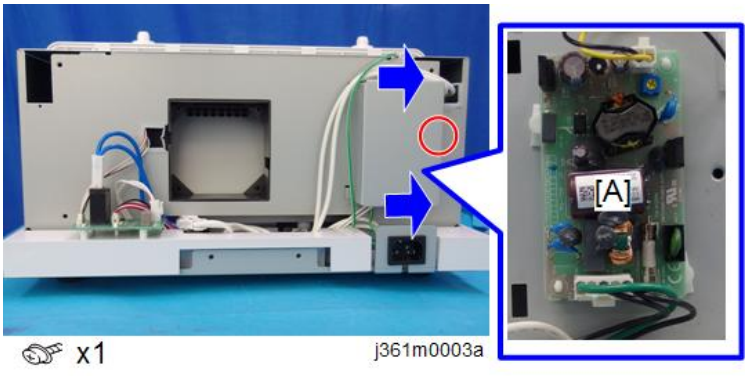
Error Code (Problem)	Possible Cause/What to Check
ER1 (Thermistor Error)	Thermistor [A] failure. 
ER2 (Heater-related Error)	Thermistor [A] failure. 

Error Code (Problem)	Possible Cause/What to Check
ER2 (Heater-related Error)	The heater disconnection, broken cable, or failure. Check for any disconnection or broken cable at the relay PCB's connector [A] or the heater's terminal [B]. If there is no problem, there is a broken cable or failure within the heater. 
ER2 (Heater-related Error)	Check the thermal protector [A]. * If the thermal protector is operating correctly, the heater is broken. 

Other Problems

Problem	Possible Cause/What to Check
The front door does not open.	The door lock release solenoid [A] or front door open/closed sensor [B] failure. 
	Failure in the left sensor [A] or right sensor [B] failure (for detecting the lever position). 

Problem	Possible Cause/What to Check
Pressing/fixing does not start.	Failure in the front door open/closed sensor [A].  j361m0043a
	Failure in the left sensor [A] or right sensor [B] (for detecting the lever position).  j361m0029
The temperature does not rise.	Act according to "ER2 (Heater-related Error)" in page 19 "If an Error Code Appears".

Problem	Possible Cause/What to Check
The cloth after pressing/fixing is often tinged with yellow.	Check the thermistor [A]. * If the thermistor's temperature measuring part is not in contact with the heater, the measured temperature differs from the actual temperature. 
	Check the cassette. * The contact with the heating plate may be incorrect because of warping. 
The power cannot be turned on.	Power PCB [A] failure. 

Checking the Operating State

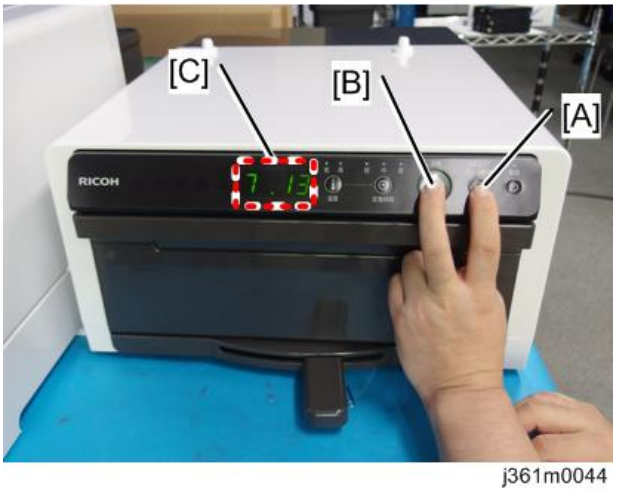
This section explains how to check the machine's operating state. You can check the following items:

- The number of times preheating started
- The number of times pressing started
- The number of times fusing started
- How long the heater was powered on (in seconds)
- The number of times the relay switched on/off

How to Check the Operating State

1. **Connect the machine to the AC power source.**
2. **With the machine power off, hold down the [Stop] button [A] and [Preheat] button [B] at the same time.**

   While you are holding them down, the firmware version [C] appears in the display window.



j361m0044

3. **Holding down the [Stop] button [A] and [Preheat] button [B], press the [Fixing Time] button [C] or [Temperature] button [D].**

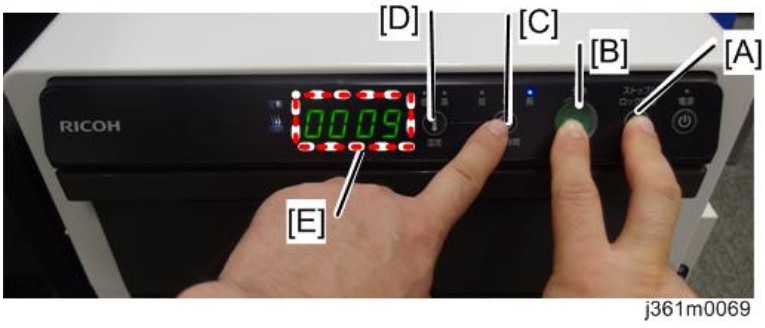
   The operating state appears on the operation panel window [E].

4. **Holding down the [Stop] button [A] and [Preheat] button [B], press the [Fixing Time] button [C] or [Temperature] button [D] to select the item to display.**

Note

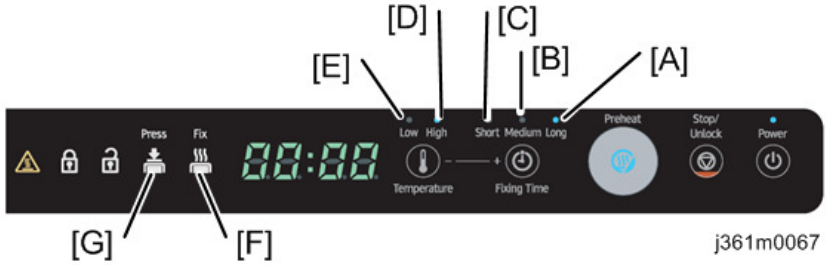
- Be sure to keep holding down the [Stop] button and [Preheat] button. Otherwise, the displayed item disappears.

- For each item, only up to the first or last 4 digits of the number (of times or seconds) appears.



The displayed item and digits can be identified by the LED according to the following figure.

- Each time you press the [Fixing Time] button, the item displayed on the operation panel switches from [A] to [E] (the last 4 digits and then the first 4 digits of each item).
- Each time you press the [Temperature] button, the item displayed on the operation panel switches from [E] to [A] (the first 4 digits and then the last 4 digits of each item).



Lit LED	Displayed item
[A] (Long)	The number of times preheating started
[B] (Medium)	The number of times pressing started
[C] (Short)	The number of times fusing started
[D] (High)	How long the heater was powered on (in seconds)
[E] (Low)	The number of times the relay switched on/off
[F] (Fix)	Lights when displaying the last 4 digits of an item.
[G] (Press)	Lights when displaying the first 4 digits of an item.

Firmware Update

Update the firmware using a PC connected to the machine via the uEASE writing tool.

The machine's connector is on the main PCB, so it is necessary to remove the operation panel.

Equipment Needed

Firmware/Software/Driver

Update Firmware

Contents	File name on the SERES server	Description
Firmware update file	A16096_ML620153B_vx.xx.HEX	"vx.xx" is firmware version No.

Software

Contents	File name	Description
Device information file	jp.zip	Information file for the LSI used with this machine
MWuEASE	U8Dev.zip	Writing software for the update file

Driver

Contents	File name	Description
uEASE Driver	uEASE_inst_pack.zip	USB driver for writing tool

Hardware

1. uEASE (Writing tool. Includes the USB cable [A-miniB], relay board, and connecting harness.)
   * Note that the supplied setup CD is not used.
2. PC (with 1 USB port available)
3. This machine

j361m5001

Preparation

Important

- **Be sure to download the update file and necessary software and driver to the computer from the SERES server and extract them in advance.**

Preparing the Update File

Be sure to download the update file to the computer from the SERES server and extract it in advance.

Software Installation

The required software is as follows:

- Device information file (SetupDevInfo_j.exe)
- MWuEASE (update file writing software)

1. **Log on a PC with an administrator account.**

   Important

   - **If you log on with an account name that includes "&", the program may not be installed properly. To ensure installation is done properly, be sure to log on with an account name that does not include "&".**

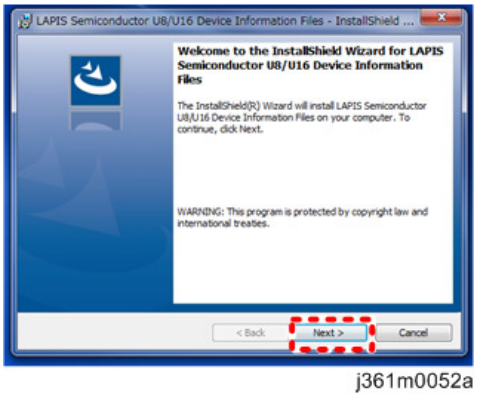
2. **Download the software to be installed, and then extract it.**
3. **According to the software to be installed, execute the following files from the extracted folder.**

Software	Installer
Device information file	\jp\SetupDevInfo_j.exe
MWuEASE	\U8Dev\MWuEASE\MWuEASE.exe

Note

- You may install the software in any order.
- The following procedure applies to all the software.

4. **Click "Next".(The following figure shows a sample wizard for installing the device information file.)**

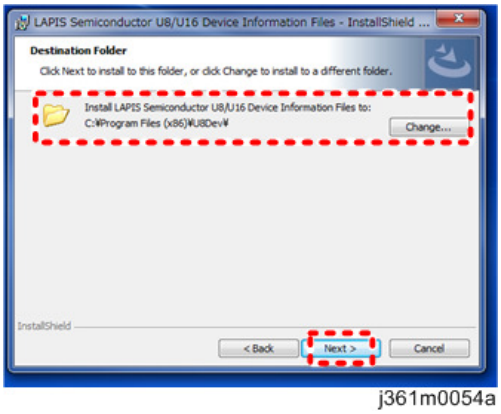


j361m0052a

5. **Check "I accept the terms in the license agreement" and click "Next".**

j361m0053a

6. **Select where to install the file, and then click "Next".**



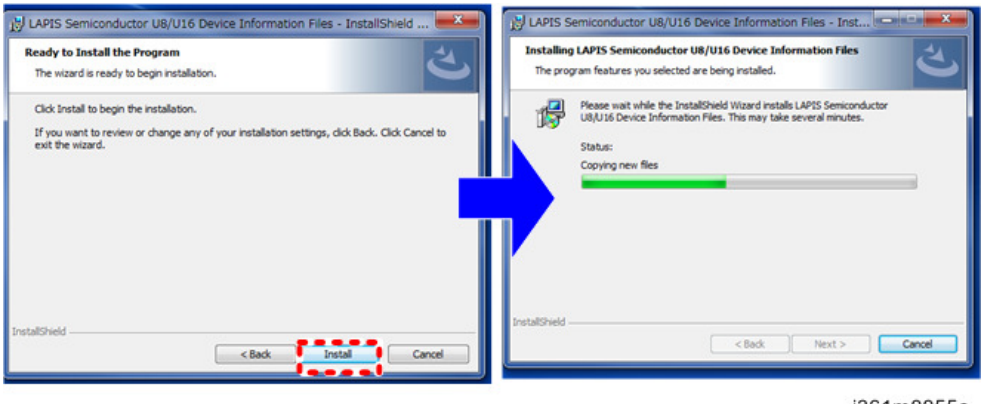
j361m0054a

Note

- Do not include double-byte characters or blanks in the file name or path. If you do, the installation may fail.
- When installing the device information file (SetupDevInfo_j.exe), the sub-folder "HEX" is created in the folder selected in Step 6, and the device information (this machine's LSI information) is installed. Note that LSI information for other models is also installed.
  This machine's device information is "A16096_ML620153X_XXXXXX.HEX". ("X" is the suffix; XXXXXX is the release date [YYMMDD].)

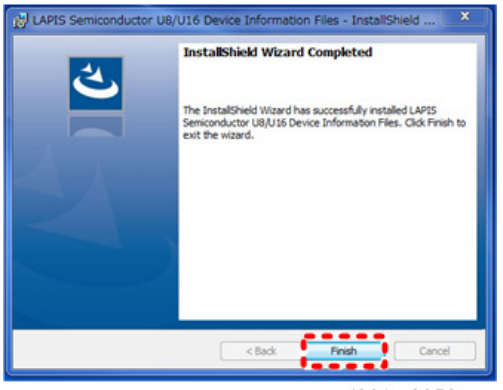
7. **Click "Install".**

Installation starts and the progress bar will be displayed.



j361m0055a

8. **The following dialog will be displayed when installation is successful. Then, click [Finish] to finish installation.**

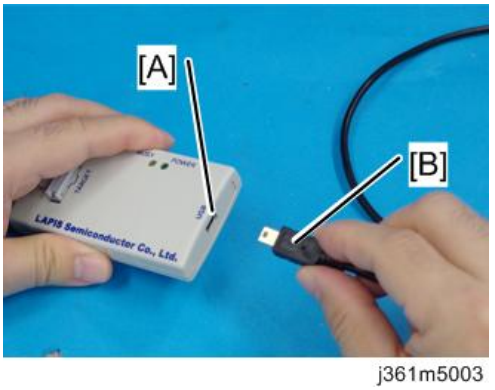


j361m0056a

9. **Repeat steps 2 to 8 until you finish to install all software required**

Installing the USB Driver for uEASE

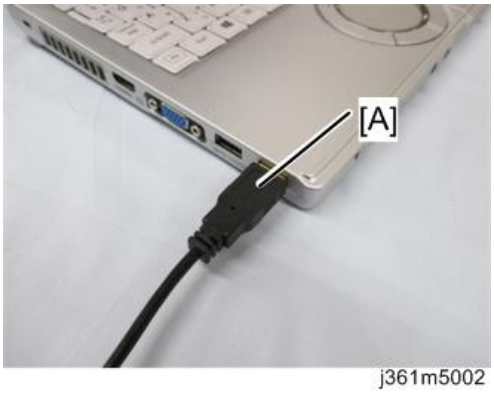
1. **Log on a PC with an administrator account.**
2. **Download the driver, and then extract it.**
3. **Connect the USB-MiniB connector [B] to the uEASE's USB port [A].**



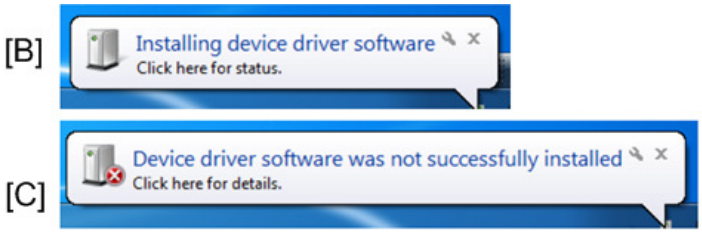
j361m5003

4. **Connect the USB-A connector [A] to the PC's USB port.**

   The following messages [B] and then [C] appear.

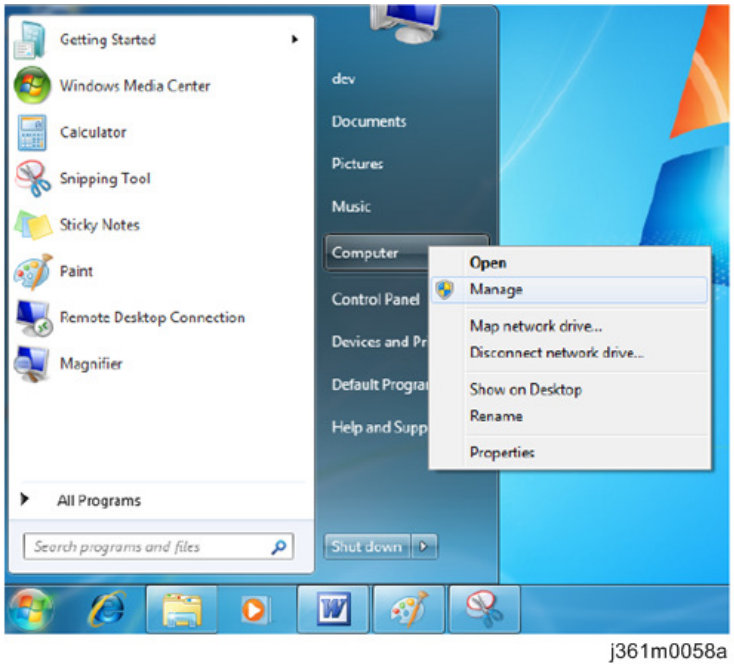


j361m5002



j361m0057a

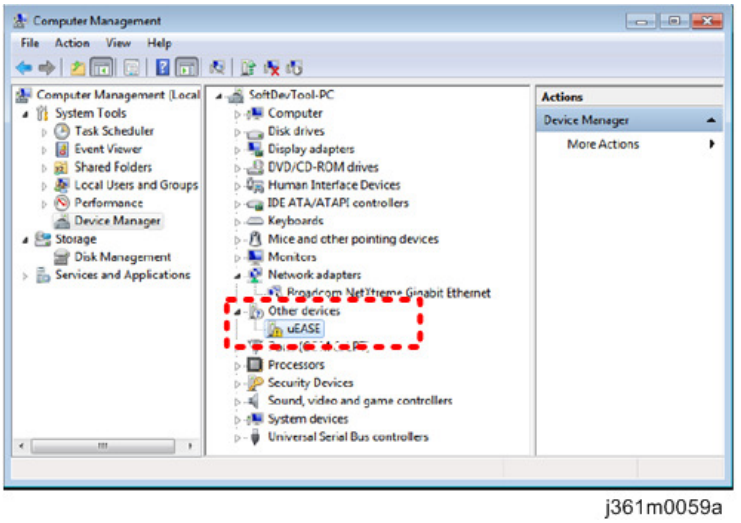
5. **Open the [Start] menu and select [Manage] from the context menu for [Computer].**



j361m0058a

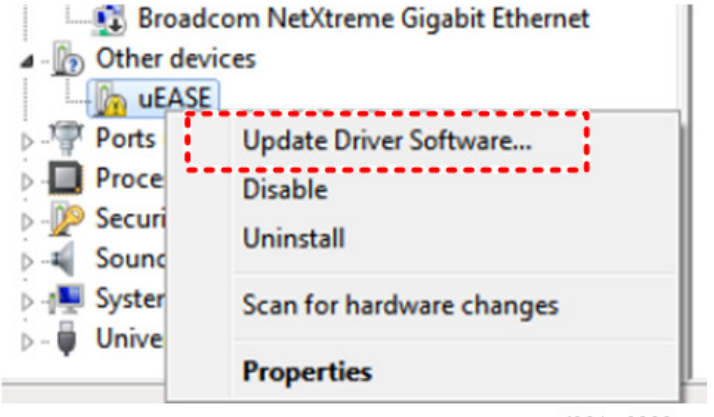
6. **Click the [Device Manager] on [Computer Management] dialog.**

   uEASE with attention mark will be displayed in the [Other devices] on the device list of your computer.



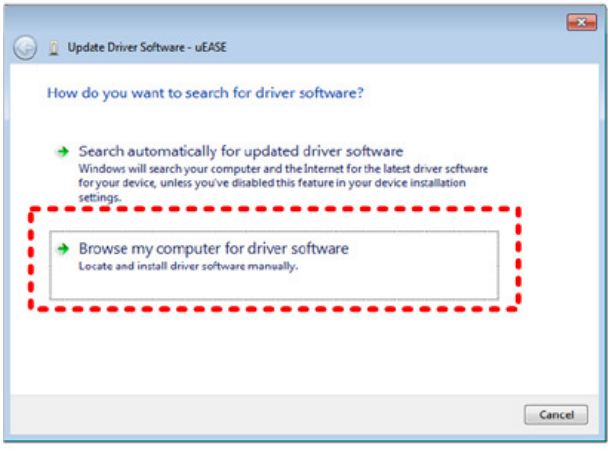
j361m0059a

7. Right-click the “uEASE” and select [Update Driver Software...] on the context menu.



j361m0060a

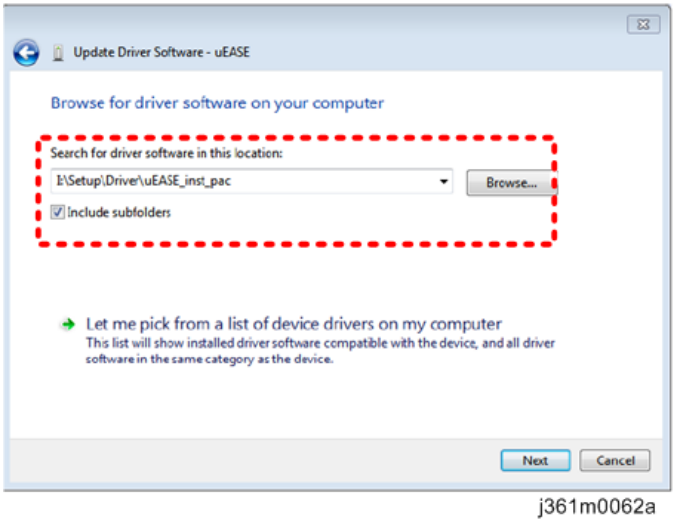
8. **The following dialog will be displayed. Then Select [Browse my computer for driver software].**



j361m0061a

9. **Select the folder extracted in Step 1, and then click "Next".**

¥Setup¥Driver¥uEASE_inst_pac

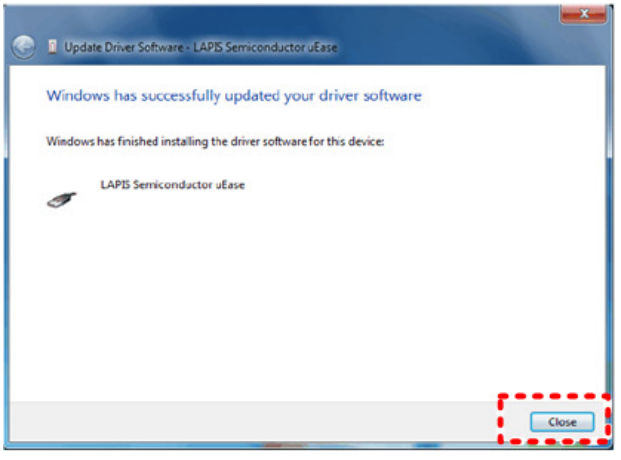


j361m0062a

10. **The dialog box for confirming installation will be displayed. Click the [Install] button.**

Installation starts and the progress bar will be displayed.

11. **The following dialog box will be displayed if installation is successful. Click [Close] to finish installation.**



j361m0063a

12. **Remove the USB cable from the computer's USB port.**

Connecting uEASE and the Machine

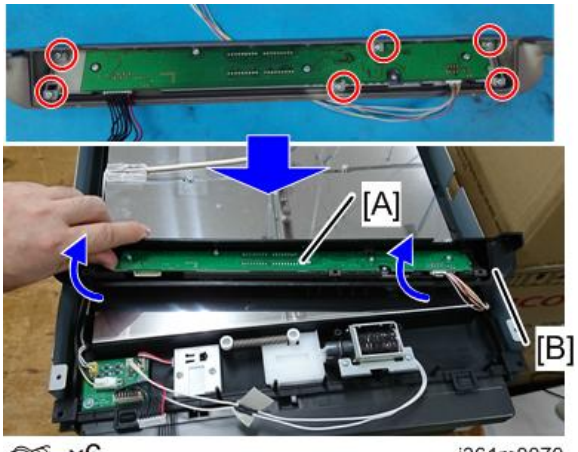
The machine's connector is on the main PCB, so it is necessary to remove the operation panel.

Note

- Before removing the operation panel, be sure to turn the machine's power off and disconnect the power cable.
- When connecting the main PCB to a PC via uEASE, connect uEASE to the main PCB first. If you connect uEASE to the PC first, because of the power supply from the PC, you might receive an electric shock when connecting uEASE and the machine.
- Be sure to install the uEASE driver on the computer in advance. (page 30 "Installing the USB Driver for uEASE")

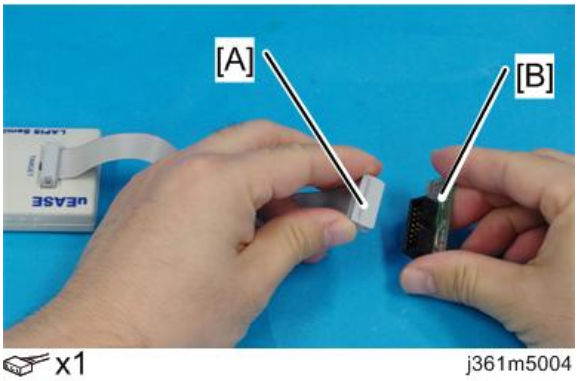
1. **Remove the operation panel Assy. (page 16 "Operation Panel Assy.")**

2. Place the operation panel Assy face down, remove the 6 screws, and then remove or slightly lift the operation panel board [A] and its bracket from the cover [B].



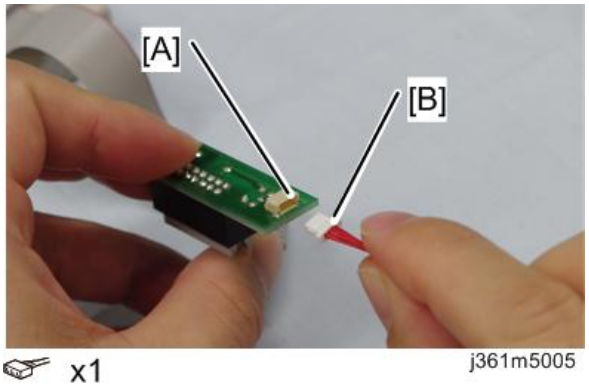
x6 j361m0070

3. Connect the FFC from uEASE [A] to the connector on the relay board [B].



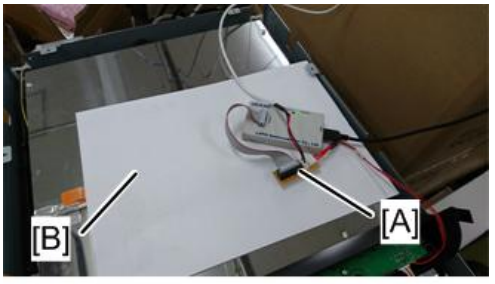
x1 j361m5004

4. Connect the harness [B] to the connector on the relay board [A].



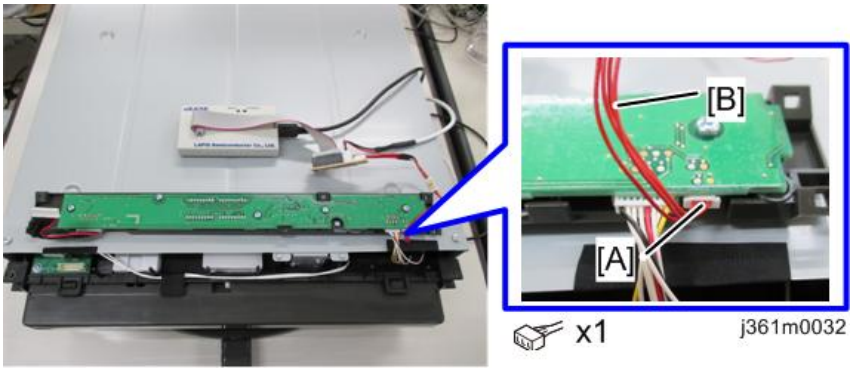
x1 j361m5005

5. **To prevent the uEASE relay board [A] from coming into contact with a metal part, place an insulation mat [B] underneath it.**



j361m0068

6. **Connect the harness from the relay board [B] to the main PCB's connector [A].**



j361m0032

Note

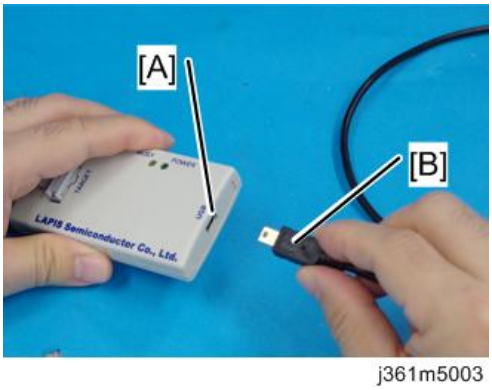
- Do not touch the patterned side of the main PCB.

Connecting uEASE and the PC

Note

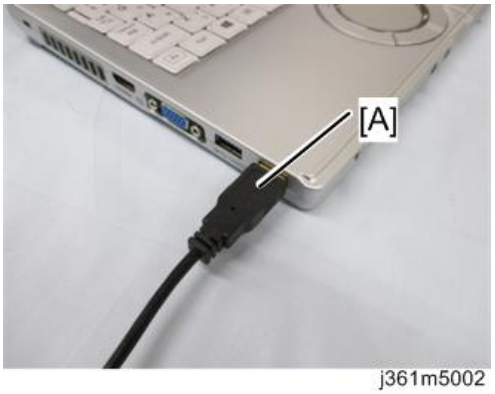
- When connecting the main PCB to a PC via uEASE, connect uEASE to the main PCB first. If you connect uEASE to the PC first, because of the power supply from the PC, you might receive an electric shock when connecting uEASE and the machine.
- Be sure to install the uEASE driver on the computer in advance. (page 30 "Installing the USB Driver for uEASE")

1. Connect the USB-MiniB connector [B] to the uEASE's USB port [A].



j361m5003

2. Connect the USB-A connector [A] to the the PC's USB port.



j361m5002

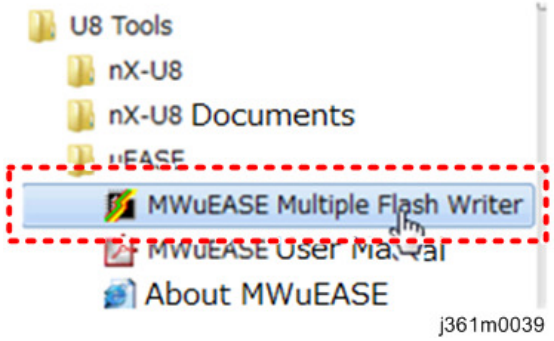
Firmware Update Procedure

1. Carry out preparation. (page 27 "Preparation")
2. Log on a PC with an administrator account.

Important

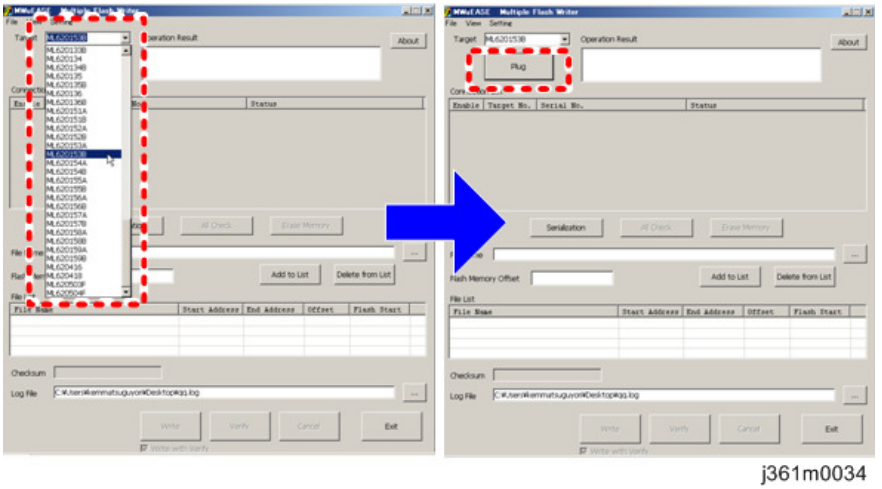
- If you log on with an account name that includes "&", the firmware update may not be done properly. To ensure updating is done properly, be sure to log on with an account name that does not include "&".

3. **From the Start menu, point to "U8 Tools" and "uEASE" and then click "MWuEASE Multiple Flash Writer".**



j361m0039

4. **From the "Target" pull-down menu, select "ML620153X" ("X" is the suffix), and then click "Plug".**

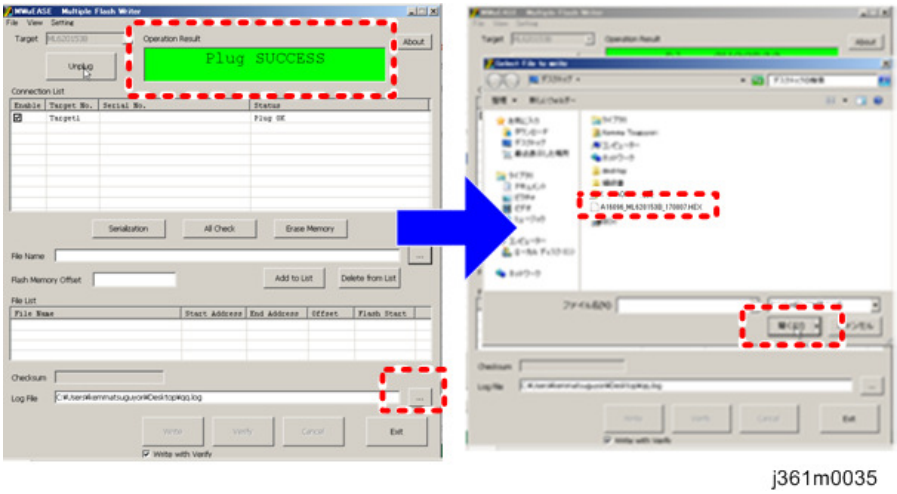


j361m0034

Note

- The device information is "A16096_ML620153X_XXXXXX.HEX" in the sub-folder "HEX" of the folder selected during installation. ("X" is the suffix; XXXXXX is the release date [YYMMDD].) Be careful, because the LSI device information of other models has also been installed in this folder.

5. **If “Plug SUCCESS” appears in “Operation Result”, select the update file (A16096_ML620153X_XXXXXX.HEX), and then click “Open”.**



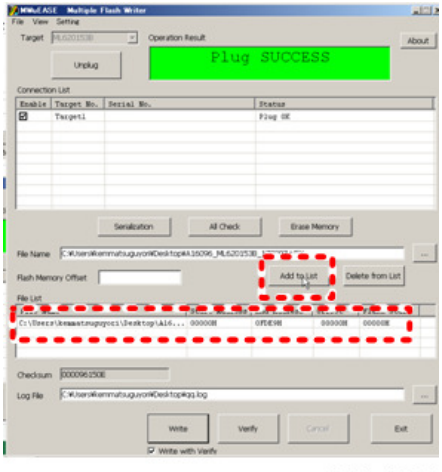
j361m0035

Note

- If “Plug Failure” appears, the device information file may not have been installed correctly, so try installing it again (see page 27 "Software Installation").

6. **Click “Add to List”**

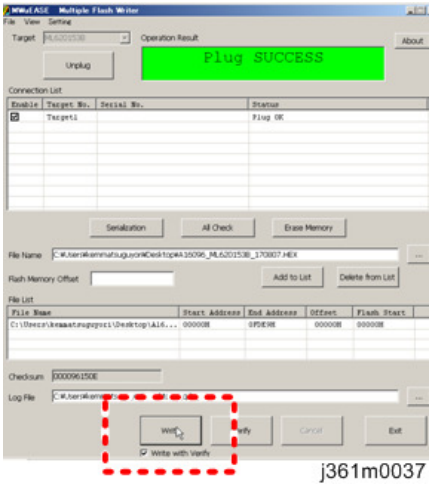
The download file selected in step 3 is added to “File List”.



j361m0036

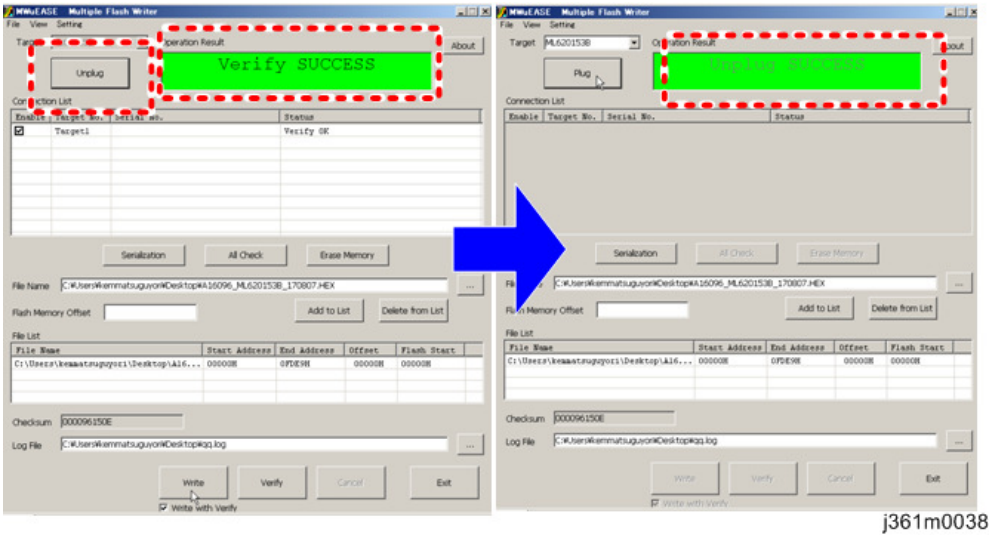
7. **Check the “Write with Verify” box, and then click “Write”.**

Writing of the update file starts. If the update is successful, “Verify SUCCESS” appears in “Operation Result”.



8. **Click "Unplug".**

   "Operation Result" appears in "Unplug SUCCESS" and the connection between the machine and PC is disabled.



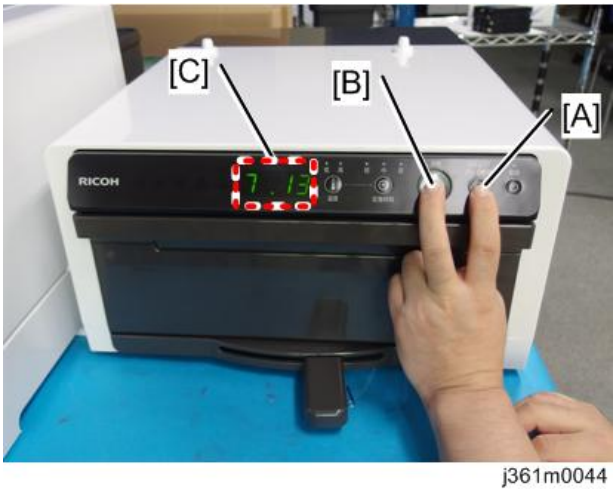
9. **Remove the 2 uEASE USB cables from the computer's USB ports.**
10. **Disconnect the harness connected to the main PCB.**

Version Check after Updating

1. **Assemble the machine and connect it to the AC power source.**

2. **With the machine power off, hold down the [Stop] button [A] and [Preheat] button [B] at the same time.**

   While you are holding them down, the firmware version [C] appears in the display window.



j361m0044

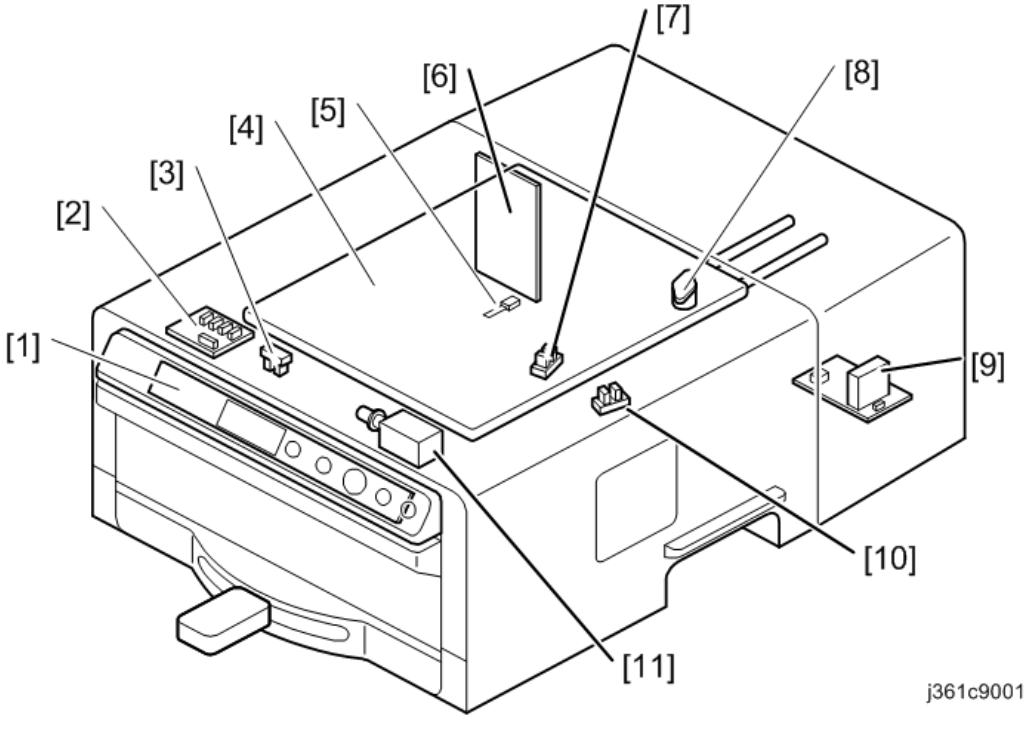
3. Detailed Descriptions

Detailed Descriptions

Specifications

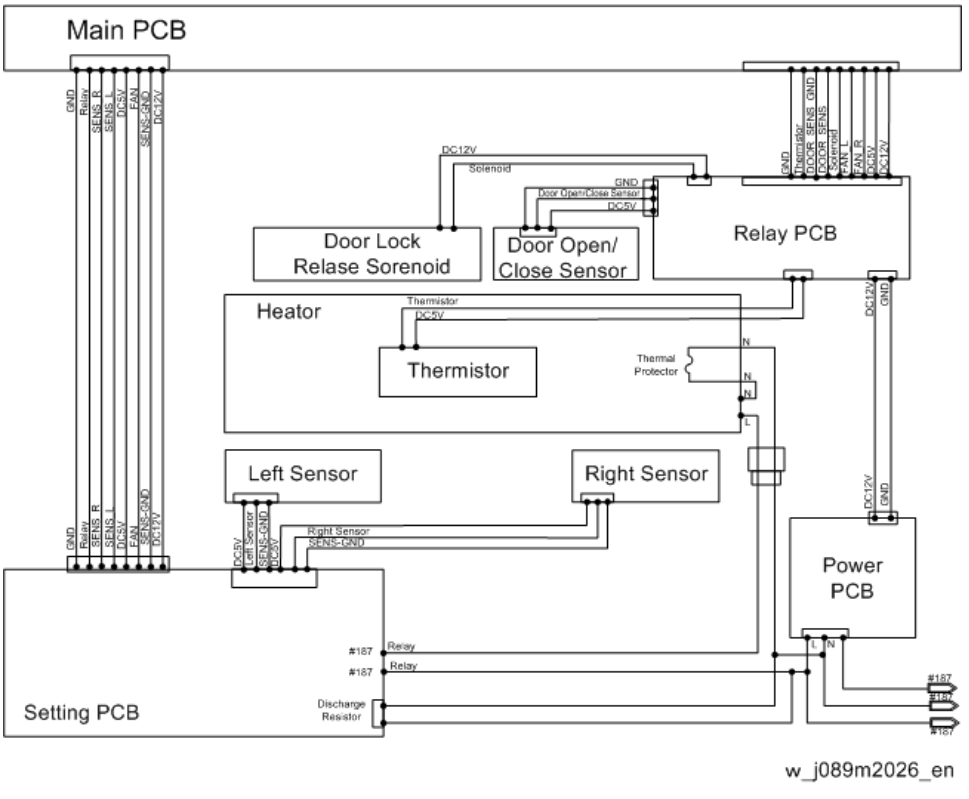
Items	Descriptions
Power source	EU/Asia/China: 220-240 V: 50/60 Hz NA: 110-127 V: 50/60 Hz
Power consumption	1,000 W
External dimensions (W × D × H)	400 × 600 × 200 mm (15.8 × 23.7 × 7.9 inches)
Weight	20 kg (approx. 44.1 lb.)

Electrical Components



No.	Name	No.	Name
1	Main PCB	7	Left Sensor
2	Relay PCB	8	Thermal Protector
3	Front Door Open/Closed Sensor	9	Setting PCB
4	Heater	10	Right Sensor
5	Thermistor	11	Door Lock Release Solenoid
6	Power PCB	-	-

Board Structure

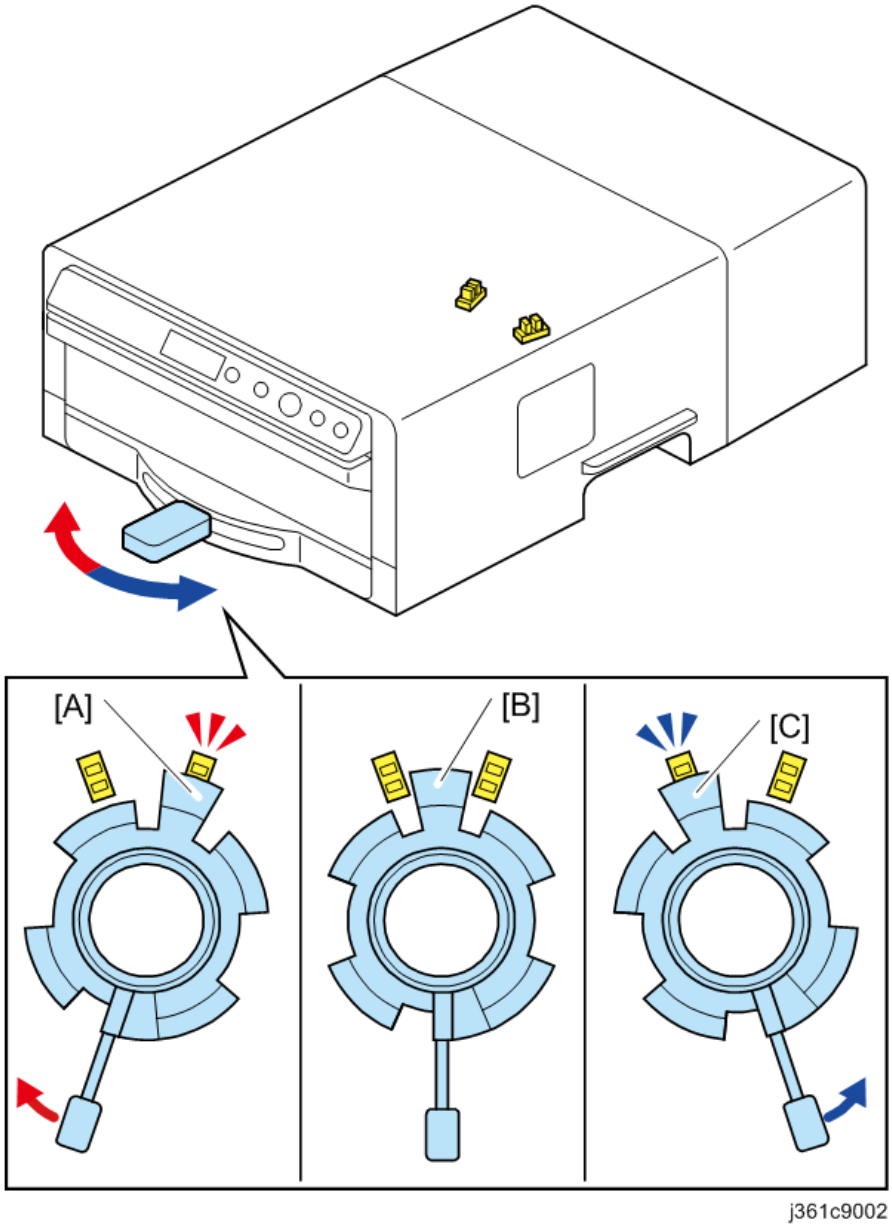


w_j089m2026_en

Mechanism

Lever

When the lever moves to the left or right edges, the finisher detects the lever position by the left or right sensors being shielded.



[A] :Press Mode state (lever = left)

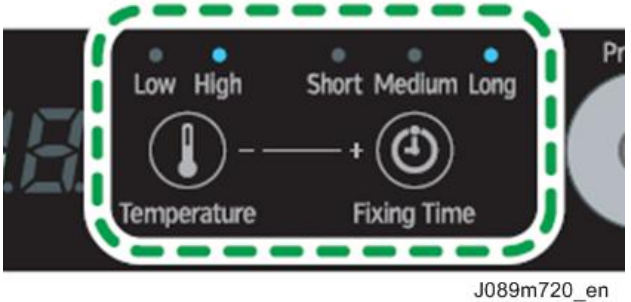
[B]:Unlocked position (lever = middle)

[C]:Fix Mode state (lever = right)

Switching Modes

The finisher has a "Standard Mode" and "Professional Mode".

Switch the mode by pressing the [Temperature] key and [Fixing Time] key simultaneously for 2 seconds or more.



J089m720_en

The factory default setting is set to standard mode.

Standard Mode

This mode has the following two functions to prevent children from touching the inside of the finisher accidentally when it is very hot.

- When the inside of the finisher exceeds 70 °C (158 °F), the front cover locks. To open the front cover, press the [Stop/ Unlock] key for at least 1 second.
- After the pressing and fixing processes are completed, start the cooling operation and cool the inside of the machine to less than 70 °C (158 °F).

When switching this mode, "Std" appears on the display.

j089m721

Professional Mode

To use this mode, switch from standard mode.

As this mode is for users accustomed to the finisher's operations, it does not have the two functions featured in standard mode.

When switching the mode, "Pro" appears on the display.

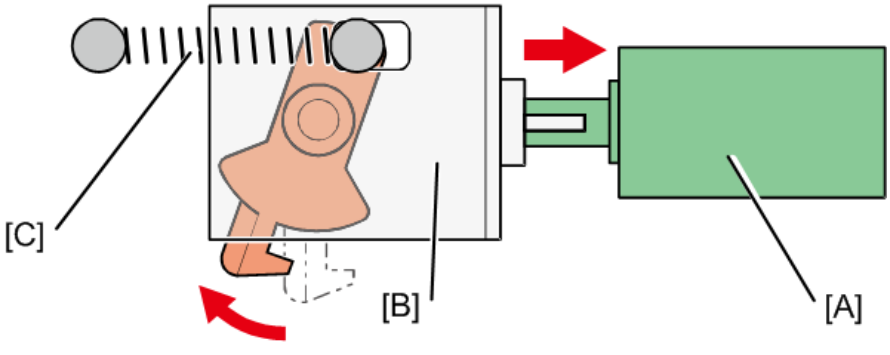
j089m722

Lock Mechanism

The machine is equipped with a lock function to prevent users from touching the inside of the machine while it is hot.

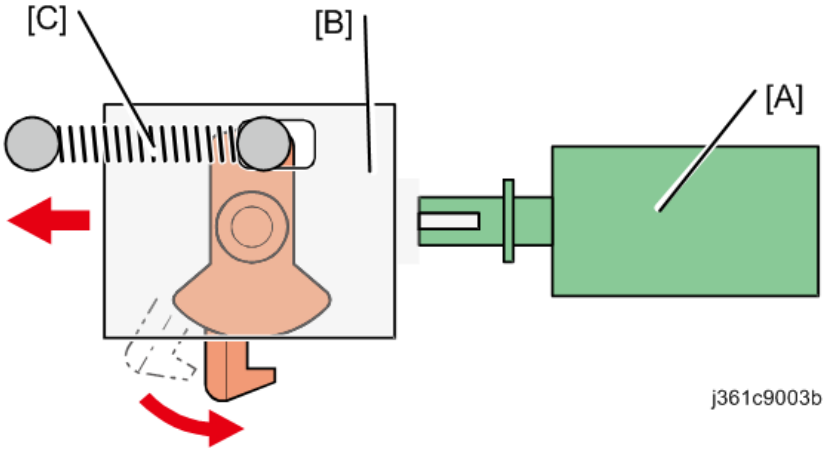
If, when the machine is in standard mode, the thermistor detects that the temperature has risen to 70°C, the locking solenoid [A] that pulls the lock plate [B] to the right is deenergized. The lock plate is then pulled to the left by the spring [C], locking the front door.

When the front door is unlocked



j361c9003

When the front door is locked



j361c9003b

Unlocking Procedure

- When the Power is ON:

  Press the Stop Key for 1 second or more.

- When the Power is OFF:

  Insert a piece of cardboard or card between the front cover and the operation panel and slide it from the right to the left as you pull the front cover towards you.

j361m0024

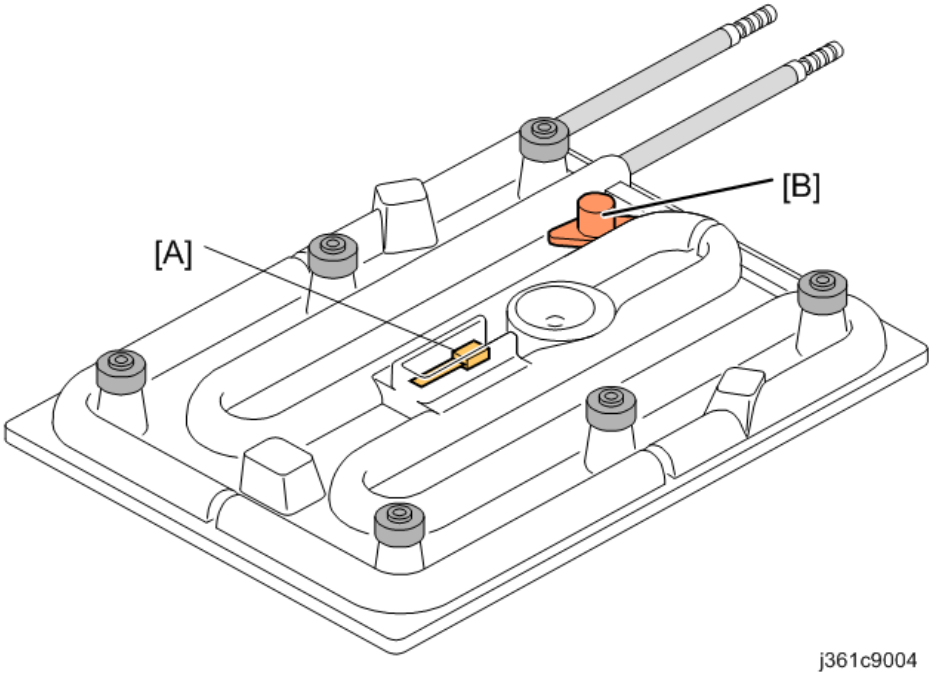
Temperature Control

The machine is heated with a heater. Select "Low" or "High" by using the [Temperature] key for the temperature of the machine's heater.

- If [Temperature] is set to “Low”: 150 °C (302 °F)
- If [Temperature] is set to “High”: 170 °C (338 °F)

Alternatively, you can set a value from 140 °C (284 °F) to 180 °C (356 °F) in increments of 5 by pressing the [Temperature] key for 2 or more seconds.

The temperature is controlled by the thermistor [A]. The machine is also equipped with a thermal protector [B] to prevent overheating.



Note

- In Press mode, the heating time is 30 seconds. In Fix mode, you can set the heating time to "Short" (1 minute), "Medium" (3 minutes), or "Long" (6 minutes) by pressing the [Fixing Time] key.
- The specified heating temperature and heating time settings are maintained even after the power has been turned off.

Temperature Inside the Machine

When operating the heater, the parts inside the machine rise to the following temperatures.

- Heater: 140 °C to 180°C (284 °F to 356 °F)
- Table: 140 °C (284 °F)
- Table (Rear): 120 °C (248 °F)

MEMO

MEMO

MEMO