JV400-LX　DC1

Heater Replacement Manual

MIMAKI ENGINEERING CO., LTD.
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D901995-10

Heater Replacement Manual

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Status	**Index**	**Rev.**	changes		
Released	-	-	New issued		

Model	JV400-LX	Issued	2013.06.06	Revised		F/W ver		Remark		Rev.
JV400-LX DC1 Heater Replacement										1.0

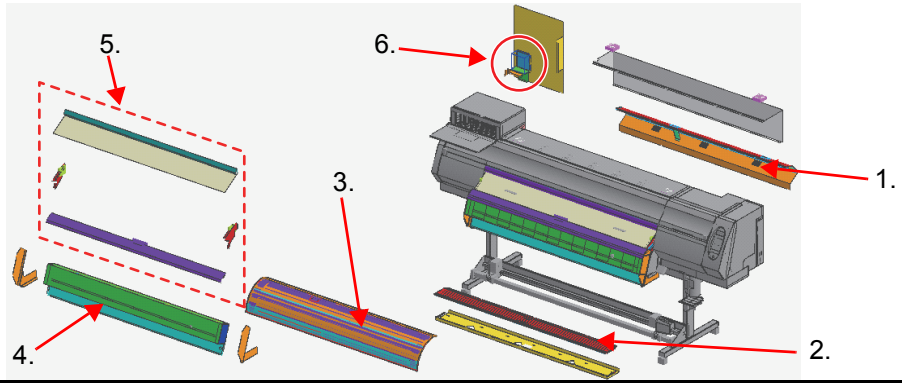
■ Purpose

Replace the heater to eliminate uneven drying on left and right ends, and to improve drying performance.

■ Tools

1. Phillips screwdriver
2. 4mm hex wrench
3. Nippers
4. Cutter
5. Hydraulic punch (provided by development divisions)
6. Dielectric strength tester (provided by development divisions)
7. Alcohol (for degreasing)
8. Tester (if a dielectric strength tester is not available)
9. Acetate tape

■ Replacement parts



1. Platen cover R
2. P Platen
3. Platen cover F
4. Drying heater
5. Front cover, Drying fan side plate and etc. covers.
6. W filter parts

■ Work procedure (outline)

1. Preliminary work(Removal the covers and drying heater)・・・Work time: 30 minutes
2. Heater replacement(Pre, Print, After)・・・Work time: 60 minutes
3. Drying heater, cover installation・・・Work time:30 minutes
4. W filter installation・・・Work time:15 minutes
5. Parameter changes・・・Work time:10 minutes
6. Operation check・・・Work time:20 minutes

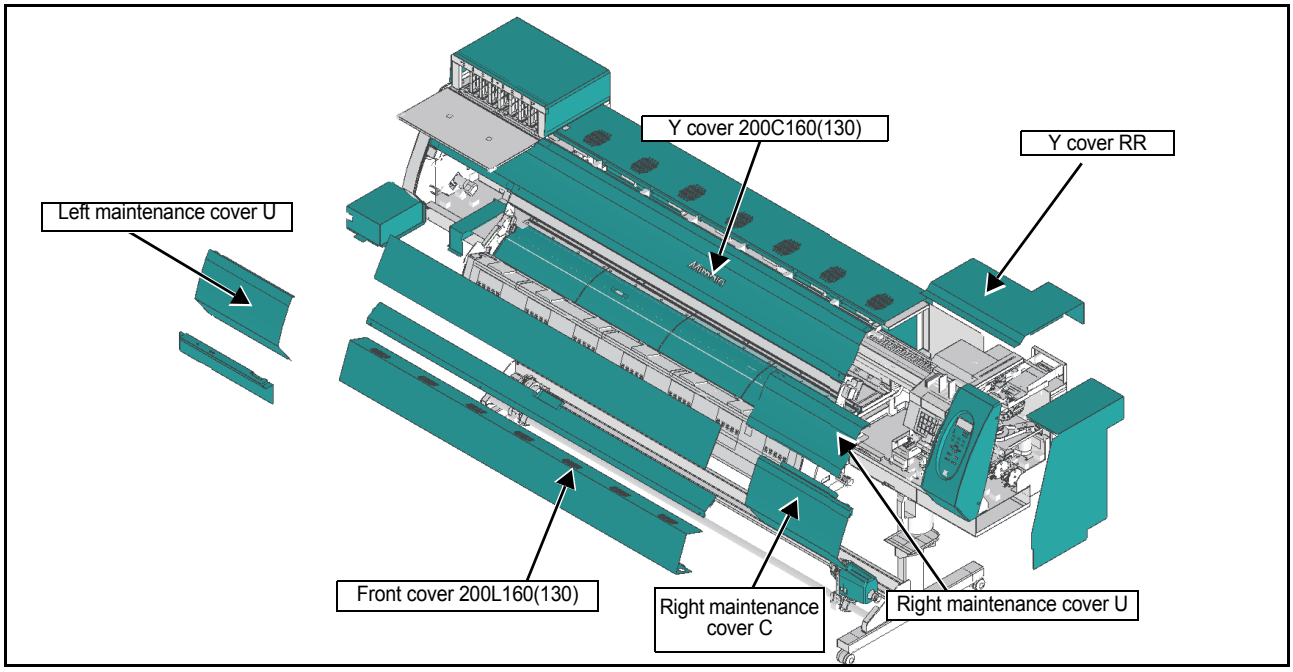
Total work time ; 165 minutes (2 hours 45 minutes)

＊ Heater replacement should be performed by two people.

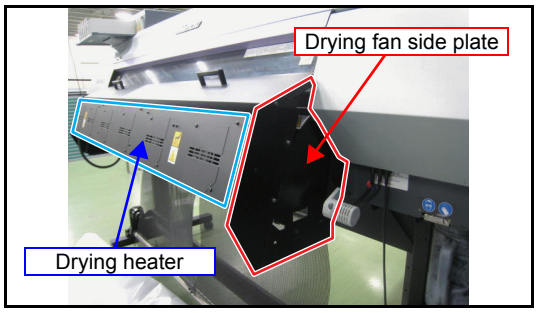
JV400-LX DC1 Heater Replacement

■ Work procedure (detailed)

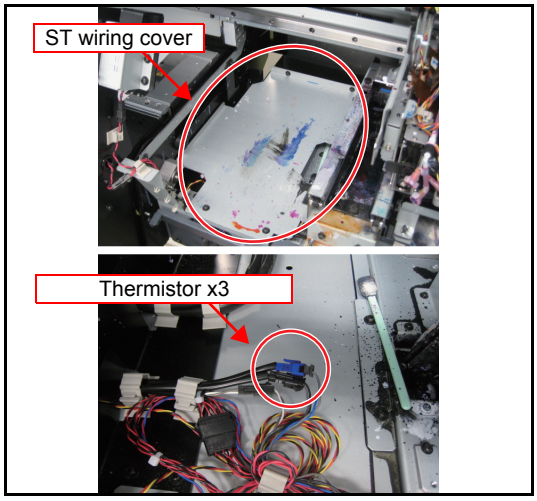
☐ 1. Preliminary work



1. Remove the exterior cover.（Right maintenance cover C, Right maintenance cover U, Left maintenance cover U, Y cover RR, Rear cover LU, Front cover 200L160(130), Y cover 200C160(130)）
2. Remove the Drying heater and Drying fan side plate.



☐ 2.Replacement of the heater

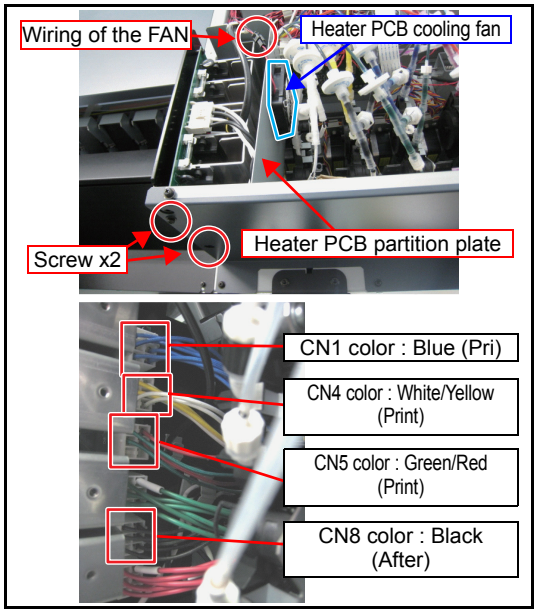


1) Remove the wiring.

1. Disconnect the thermistor cable from the heater.

> IMPORTANT: If the machine has an ST wiring cover installed, the ST wiring cover should be removed as the first step.

Remove the thermistor cables(x3).

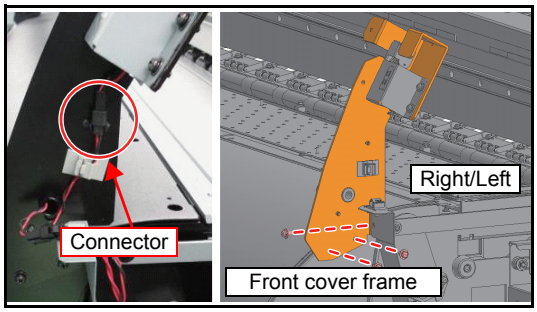


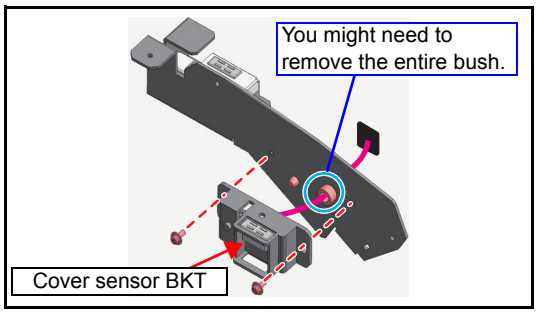
2. Disconnect the cables connected to CN1, CN4, CN5, and CN8 on the heater PCB, and remove the clamped wires. Remove the screws in the 2 locations shown in the figure to the left, and remove the heater PCB partition plate.

> IMPORTANT: If the machine has a cooling fan installed on the heater PCB, remove the fan's wiring.

2) Removal the Platen cover F (should be performed by 2 people)

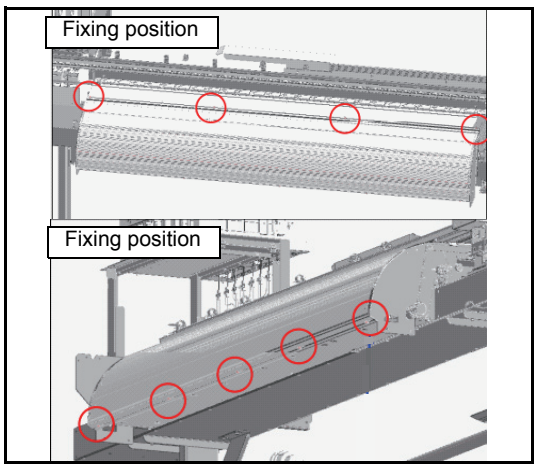
3. Disconnect the relay cable (connector) for the cover sensor, and remove the front cover frames on the left and right sides.





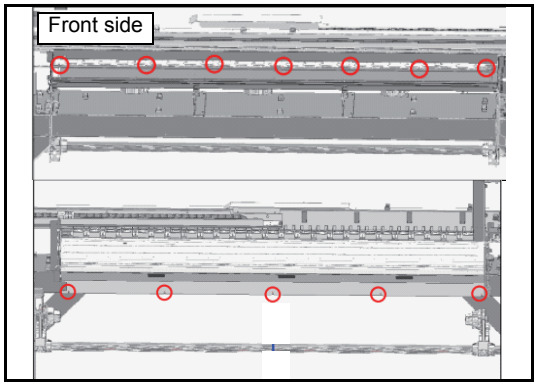
4. Remove the Cover sensor BKT from the front cover frames removed in Step 3.

> IMPORTANT
> On some machines, the relay cable cannot be removed. In such cases, remove the cable together with the entire bush.



5. Remove the screws shown in the figure on the left (160: 9 locations, 130: 8 locations), and then remove Platen cover F.

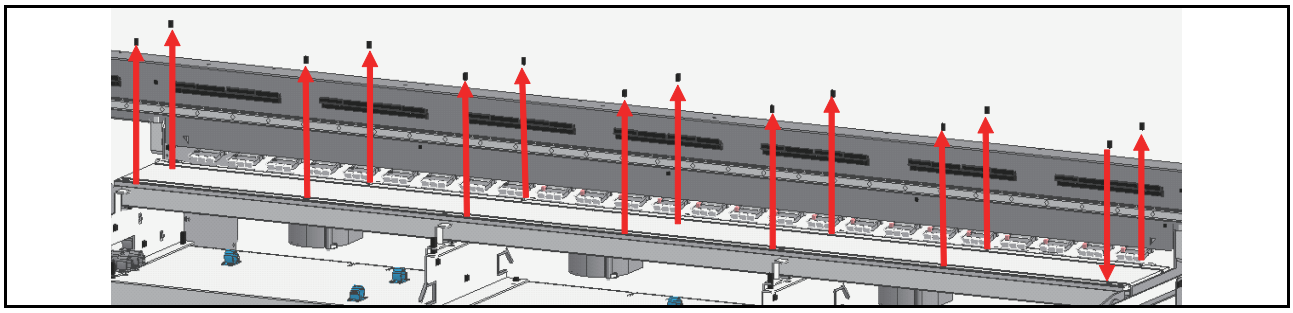
3) Removal the Platen cover R (should be performed by 2 people)

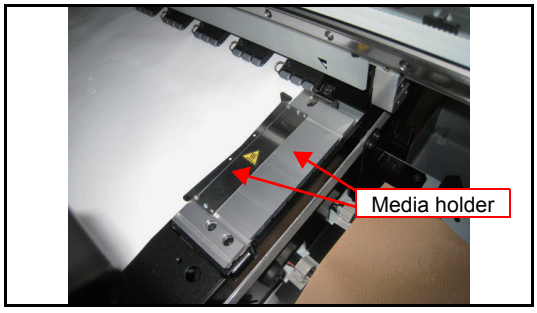


6. Remove the screws shown in the figure on the left (160: 12 locations, 130: 11 locations), and then remove Platen cover R.

4) Remove and modify the Platen.

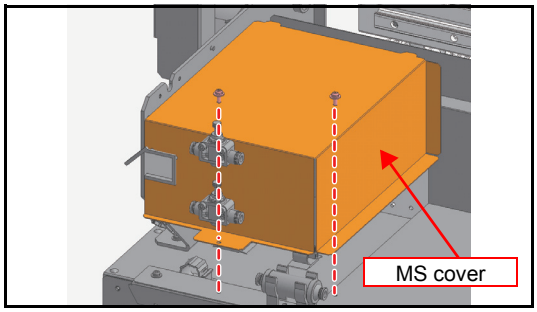
7. Remove the screws shown in the figure on the below (160: 14 locations, 130: 12 locations), and then remove P platen.



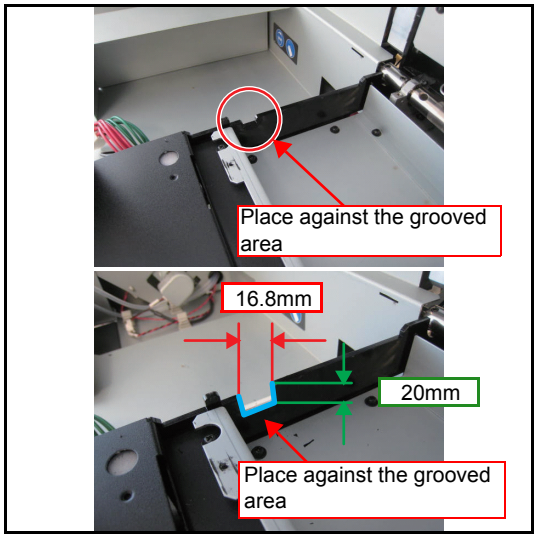


8. Remove the media holder (x2) from P platen removed in Step 7. 。

> IMPORTANT
> These parts will be used again. Take care not to lose them.

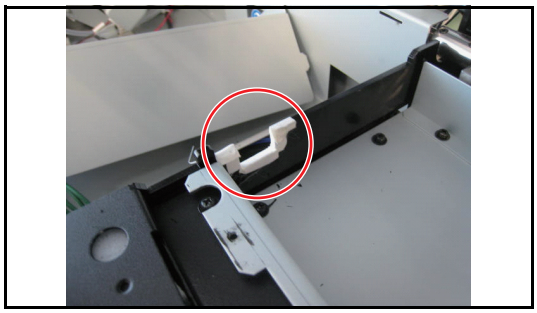


9. When using the hydraulic punch, first remove the MS cover (2 screws). Otherwise, the MS cover will interfere with the hydraulic punch.

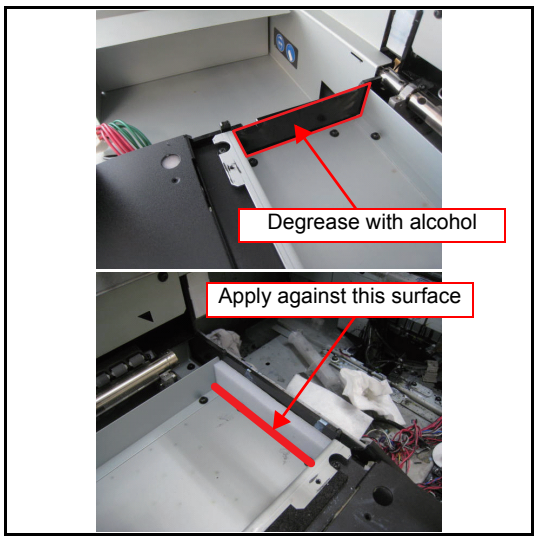


10. Use the hydraulic punch to make a square hole in the left end of the P board. (Use a 16.8mm ☐ punch.)
Place the punch against the grooved area, and punch a hole with the dimensions shown in the figure on the bottom left.

> IMPORTANT
> Chips are left when punching holes. Be sure to clean the area around the equipment after punching holes.



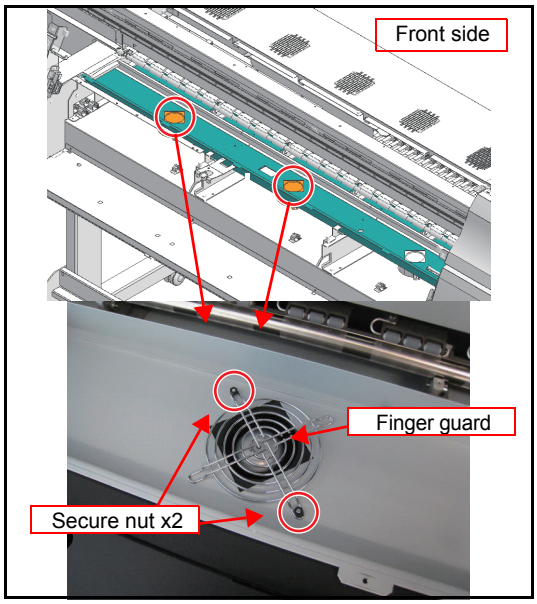
11. Use acetate tape to protect the area around the punched location.

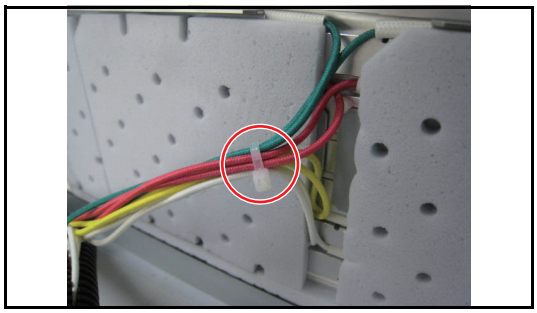


12. Apply Bantekuto to both ends inside the platen.
    Use alcohol to degrease the surface where Bantekuto will be applied.

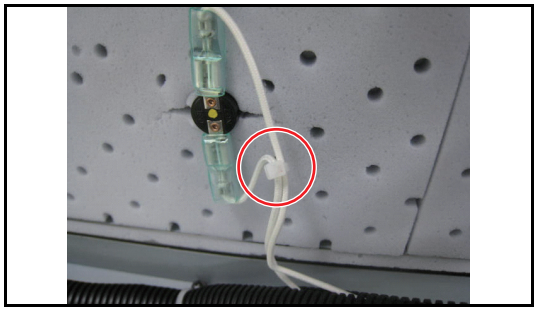
5) Wiring inside the platen

13. Install the finger guard on the suction fan (2 locations).

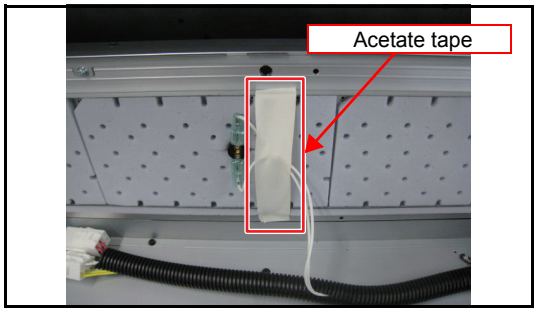




14.Use a cable tie to bundle the wires coming out from the center of the platen.

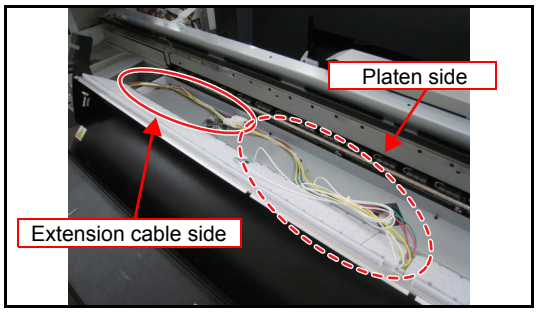


15.Use a cable tie to bundle the wires on the thermostat.

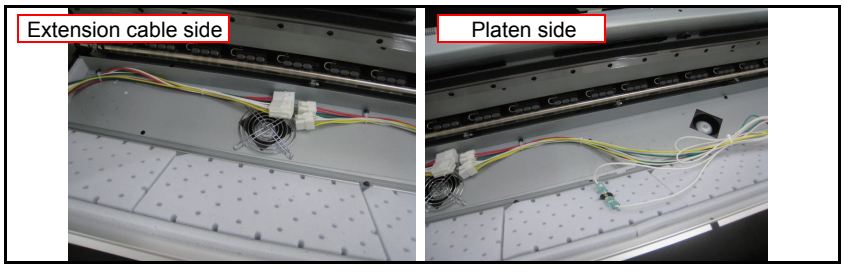


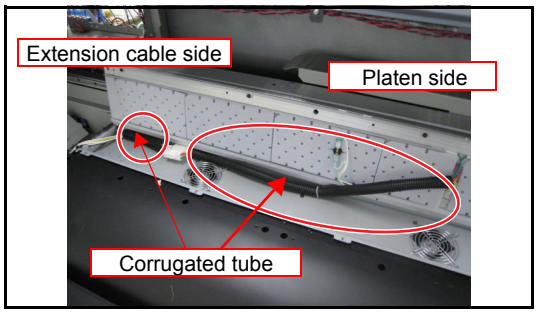
16.Apply acetate tape over the wires bundled in Step 15.

> IMPORTANT
> Apply the tape over the wires and all the way to the bottom of the metal plate.

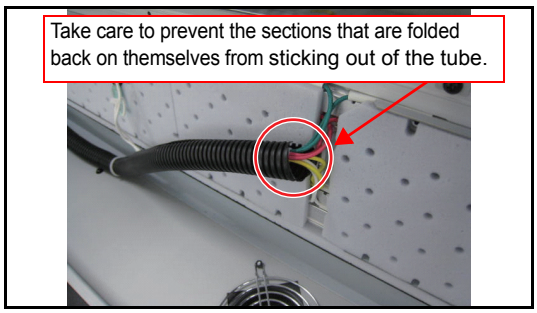


17. Wire the platen heater cable and extension cable.
Connect cables of the same color between the heater cable and extension cable.



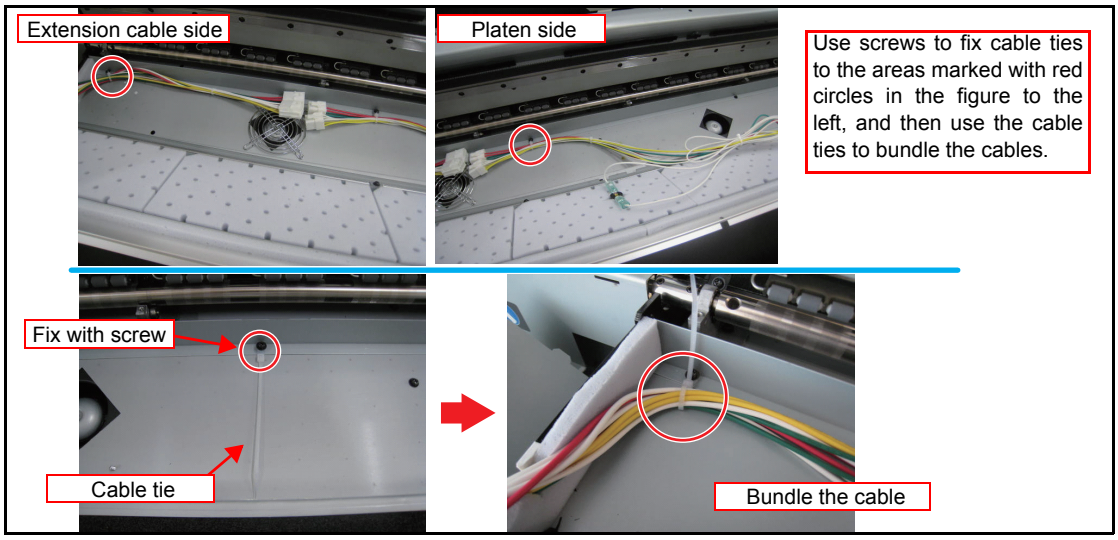


18. Cover both the heater cable and extension cable with a corrugated tube.



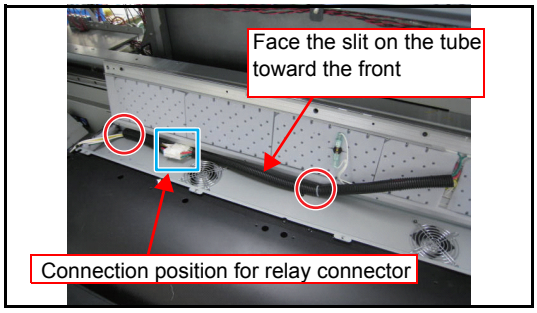
Take care to prevent the sections of heater wire that are folded back on themselves from sticking out of the tube.

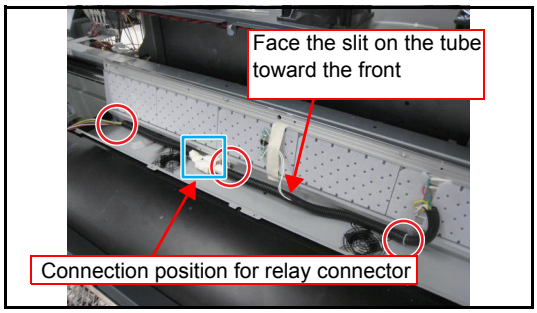
19. Fix a cable tie with a screw, and then fix the cables with the cable tie.



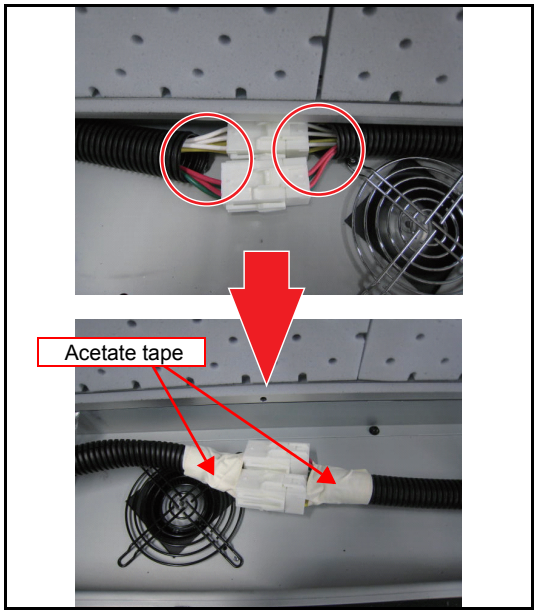
The routing for each cable size is shown in the photographs below.

● Size 130:
Fix with cable ties in the areas indicated with red circles in left figure. (2 locations)





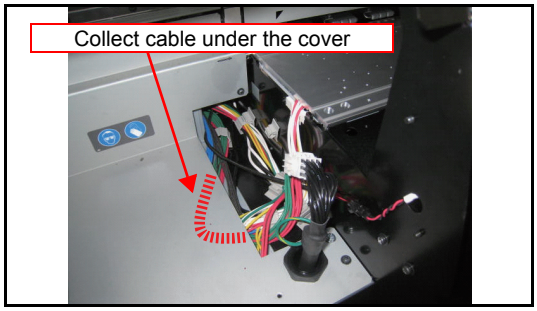
● Size 160:
Fix with cable ties in the areas indicated with red circles in left figure. (3 locations)



20. Wrap acetate tape around the areas where the cables from the relay connectors are exposed.

21. Since the new platen has a thermistor installed, dispose of the one installed on the old heater.
For size 160, use an extension cable.

22. Excess cable from the heater should be routed along the outside of the platen collected under the cover.



6) Attachment of the P platen

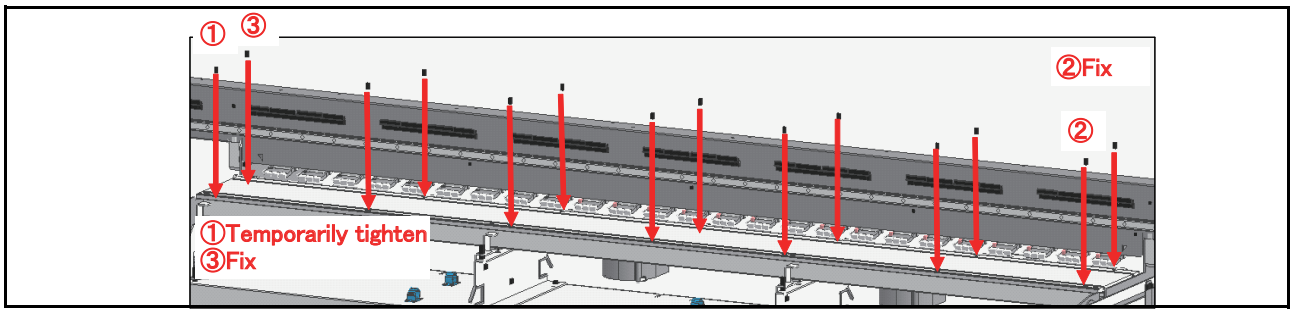
23. Install the media holders removed in Step 8 onto the platen.

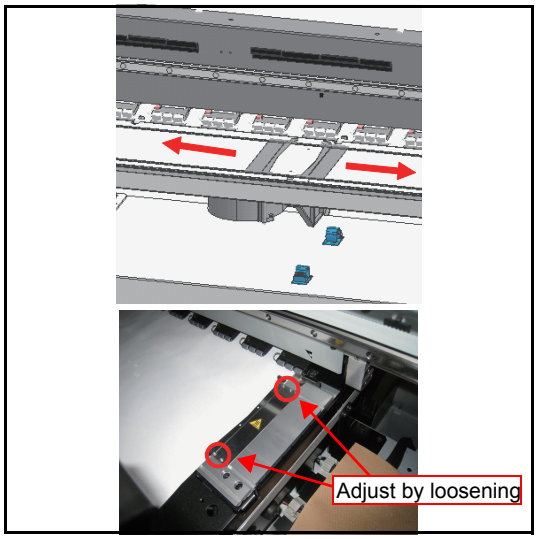
24.Fix the platen with screw. (See the figure below.)

> IMPORTANT
> Take care to prevent heater wiring from becoming pinched in metal plates.

Order to tighten screws: In order from ① to ③ , and then as desired.

> IMPORTANT
> Take care not to tighten screws too tight.

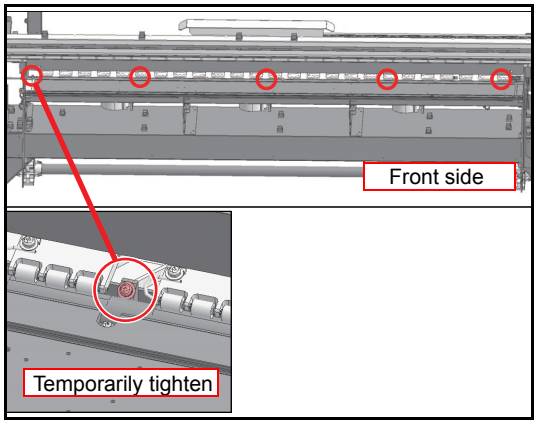




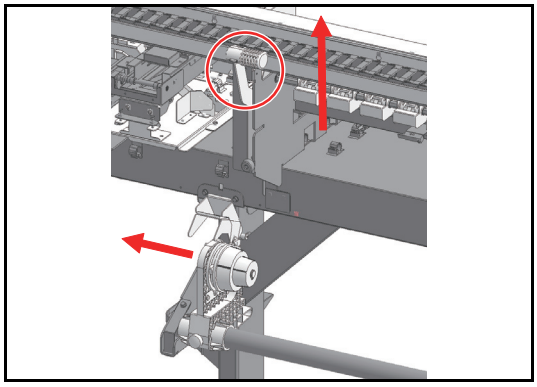
25.Confirm that the media holders move smoothly on the top of the platen. If they do not move smoothly, adjust them by loosening the screws indicated by red circles in the photograph on the bottom left.

7) Attachment of the Platen cover R

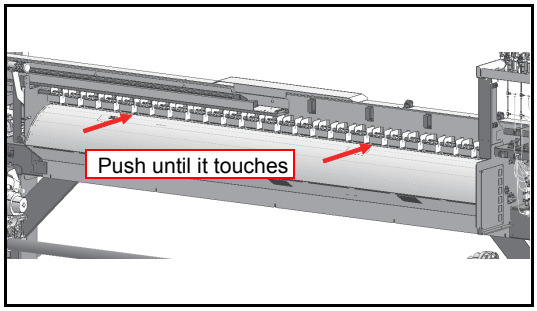
> IMPORTANT
> ■ Take care to prevent heater wiring from becoming pinched in metal plates.
> ■ If you are performing this work alone, remove Y cover 200R(160 or 130) before starting this work.



26.Temporarily tighten the screws.



27.Raise the clamp lever, and move the roll holder to the end.

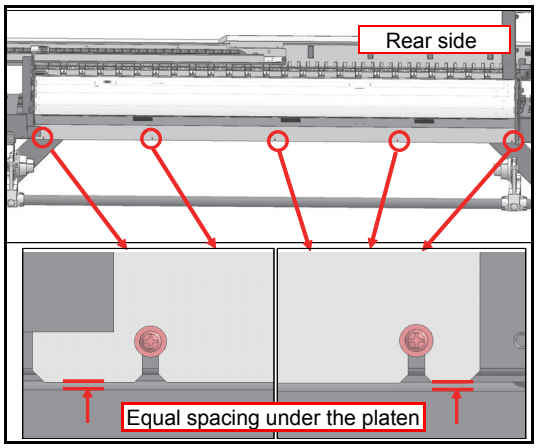


28. Install platen cover R on the temporarily tightened screws. Push the cover until it touches the screws, and then fix one of the screws.

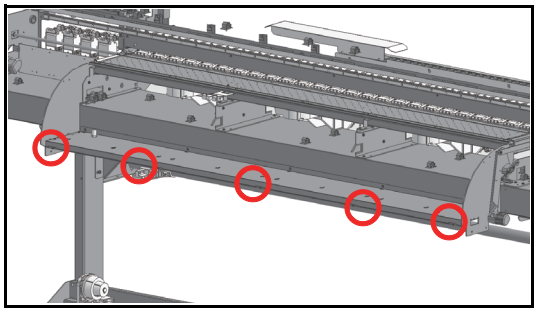
29. Confirm that no cables are pinched in the cover, and then move the cables to the outside of the boards at the left and right ends.

30.Push the platen cover against the screws, and then fix the temporarily tightened screws.

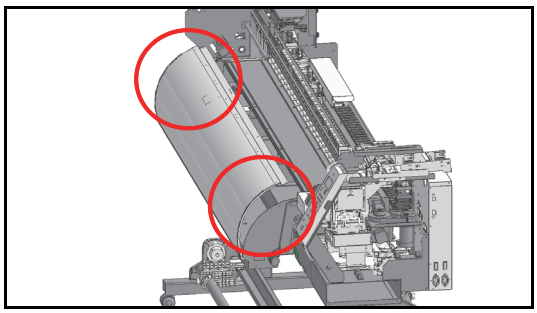
31.Make sure the space below the platen cover is the same width all the way across (rear of the machine), and then fix the temporarily tightened screws.



8) Attachment of the Platen cover F

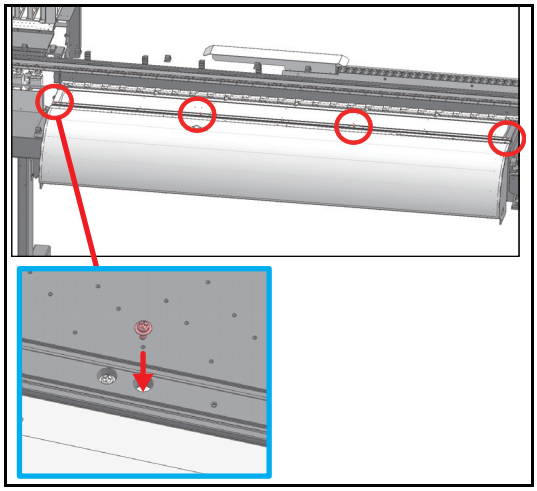


32. Temporarily tighten the screws on the platen cover F base. (160: 5 locations, 130, 4 locations)

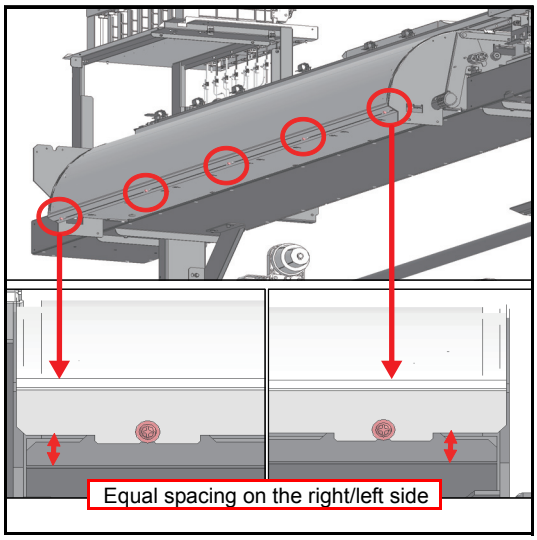


33. Fit platen cover F on the temporarily tightened screws, and move the cables to the outside of the boards at the left and right ends.

> IMPORTANT
> Take care to prevent heater wiring from becoming pinched in metal plates.

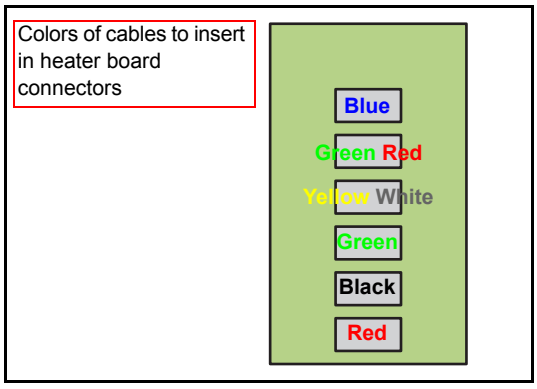


34. Fit platen cover F on the platen, and fix the screws. (4 locations)



35. Make sure the spaces on the left and right below platen cover F are the same width all the way across, and then fix the temporarily tightened areas.

JV400-LX DC1 Heater Replacement



9) Heater cable wiring

Wire the heater cable in the combinations shown below.

- Connect the Pre-heater (blue) to heater PCB CN1.
- Connect the Print heater (red/green, white/yellow) to heater boards CN4, CN5.
- Connect the After heater (black) to heater board CN8.

Wire the thermistor cable in the combinations shown below.

- Connect the thermistor (blue connector) to the blue cable.
- Connect the thermistor (white connector) to the white cable.
- Connect the thermistor (black connector) to the black cable.

☐ 3.Attachment of the Drying heater and cover

1. attach the Drying fan side plate.
2. Attach the Drying fan heater.
   (For details, see the installation guide.)

IMPORTANT

- Reinstall the original screws for the belt on the drying fan side plate.
- Take care to not drop the Drying heater. Doing so could result in damage. (This work should be performed by 2 people.)

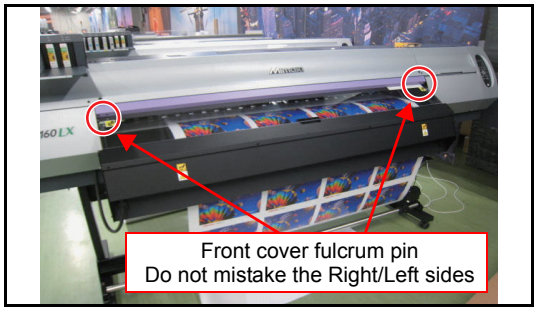
Attachment of the cover.

3. attach the Sensor cover BKT and connect the cover sensor cable.

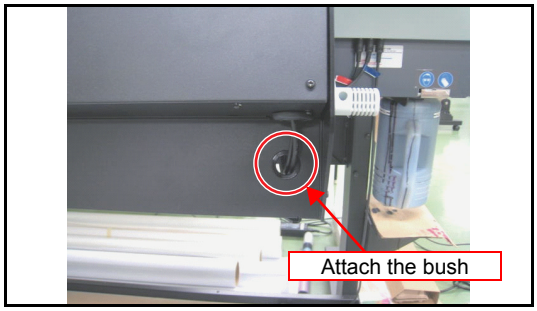
4. Attach the Front cover.

IMPORTANT

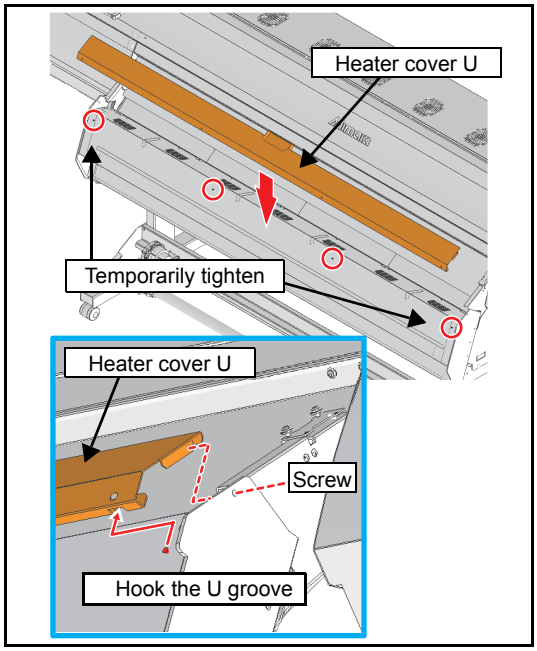
- Reinstall the original cover fulcrum pin that was installed on the front cover.
- Note that the cover fulcrum pin is shaped differently on its left and right sides.
  (If the pin is not installed correctly, the front cover cannot be opened/closed correctly.)



5. After closing the front cover, confirm that the sensor is pressing the dog correctly.
   If not, adjust it by loosening the screws shown in the figure on the left. (2 locations)

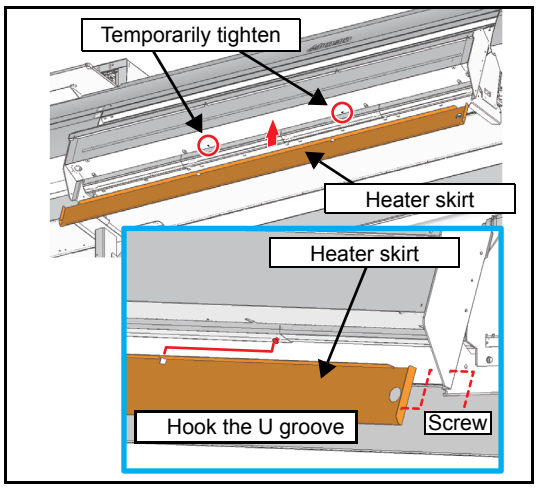


6. Connect the cables of the Heater cover, drying fan and thermo sensor.
7. Attach the bush to the heater skirt.



8. Attach the Heater cover U.
   Temporarily tighten the screws on the drying heater Assy.
   Hook the U groove at the bottom of the heater cover on this screw.
   Then, fix the screws.

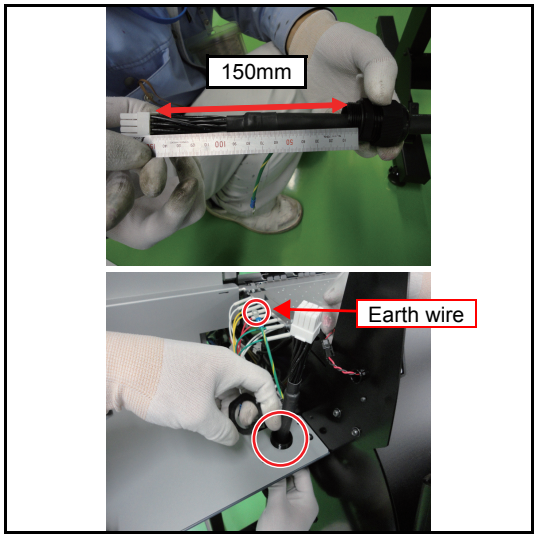
JV400-LX DC1 Heater Replacement



9. Attach the heater skirt.
   Temporarily tighten the screws on the Drying heater Assy.
   Hook the U groove at the bottom of the heater skirt on this screw.
   Then, fix the screws.
   Fix the Heater skirt to the Drying fan side plate with screws.

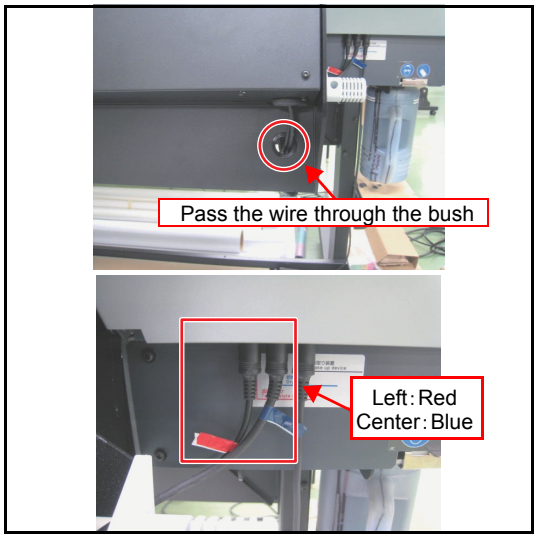
Connect the External heater

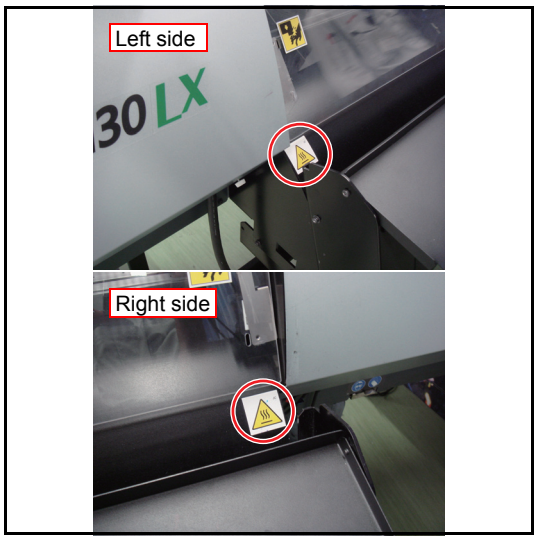
10. Lock the cable 150mm from the connector.



Remove the ring, pass the cable through, and then connect the cable.
Secure the ring again.
Fix the earth wire (green wire) with a screw.

11. Connect the cables of the Fan and thermo sensor.



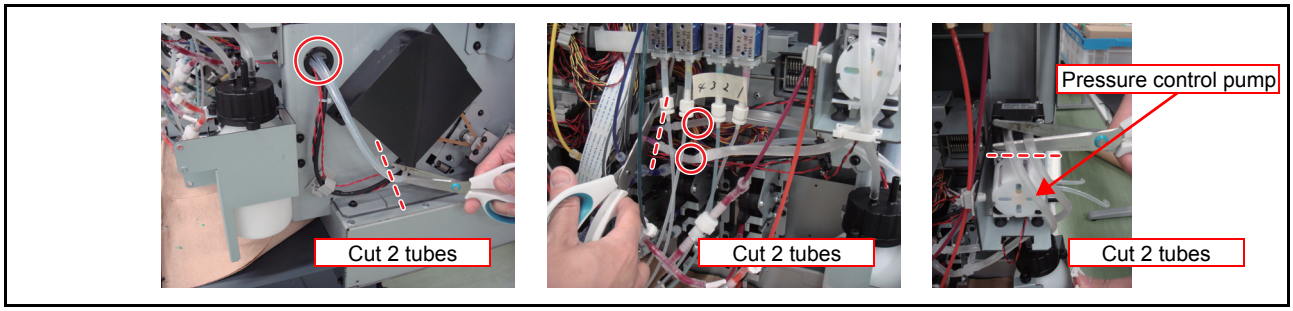


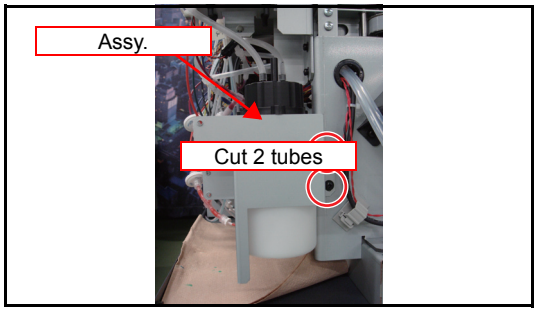
12.Apply the included seals, shown below, to the left and right ends of the platen.

☐ 4.Attachment of the W filter

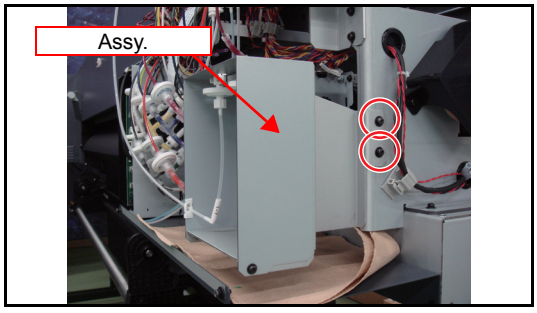
1. Remove the Rear cover LU and Light maintenance cover 200.

2. Cut the tubes in the location shown in the figure below.





3. Remove the Chamber bottle Assy. (The 2 screws will be used again.)



4. Attach the W filter Assy. (x 2 screws.)

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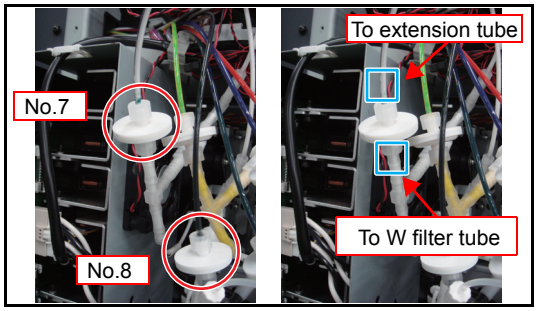
JV400-LX DC1 Heater Replacement

5. Install the fitting on one end of the W filter tubes (attached to the L-shaped pipe, 2 tubes). (There is already a fitting on the other end.)

> IMPORTANT Perform curing to prevent ink leakage.

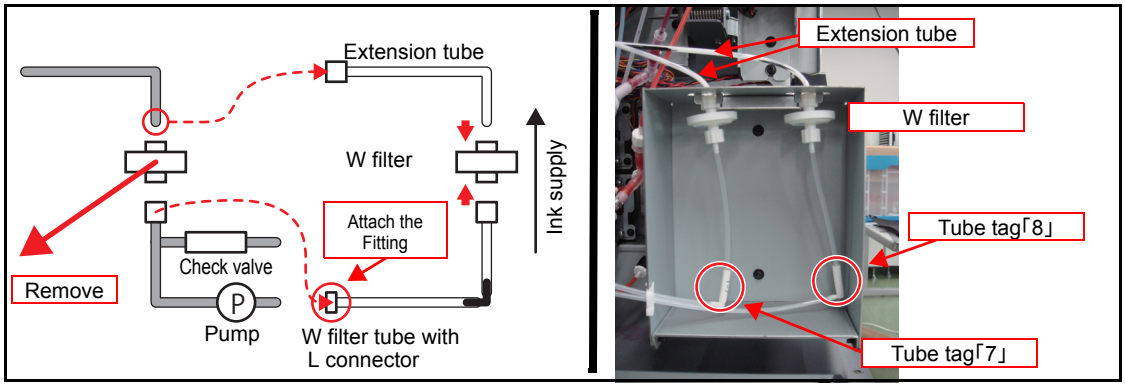
6. Remove the filters of No.7 and No.8.。



> IMPORTANT Perform curing to prevent ink leakage.

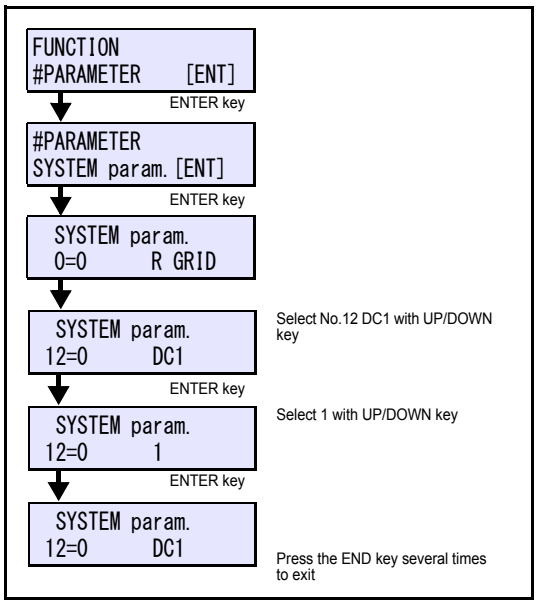
7. Connect the Extension tube and W filter tube to the W filter.

   There are two types of tubes, "7" and "8", with different lengths. Looking at the machine from the rear, install the No. 7 tube on the left-side filter.



8. Attach the Left cover 200 and New rear cover LULx.

☐ 5.Changing of the Parameter



1. Select #PARAMETER/SYSTEM param. in the Function menu, and change No.12DC1 to 1.

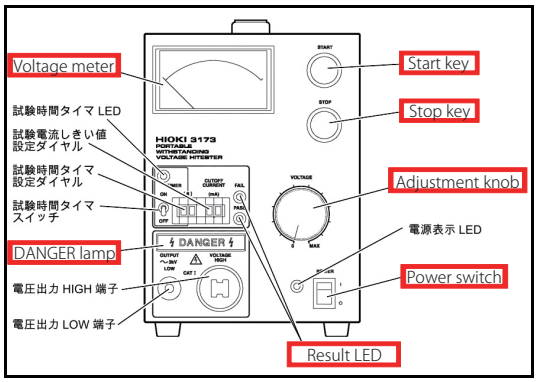
2. Restart the machine.

☐ 6. Checking operations

1) Checking dielectric strength voltage

注意

- When taking measurements, do not touch the machine with your hands. Doing so could result in electric shock.
- Take sufficient care that the machine is touched by nobody in the nearby area, and not only the person taking measurements.
- After testing is complete, confirm that the DANGER lamp on the resistance voltmeter is off before touching the machine.

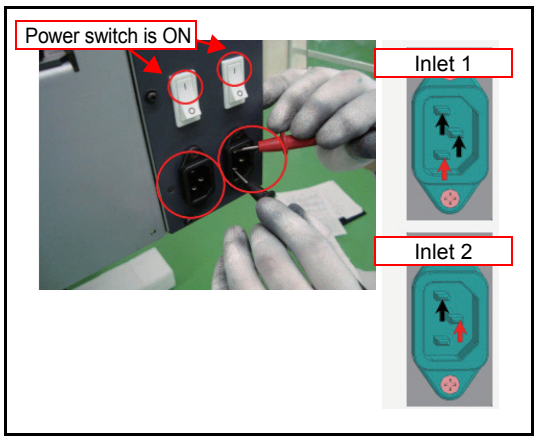


1. Turn the power switch ON, and connect the jig to inlet 1.
2. Press the START key, and turn the output voltage adjustment knob to adjust the voltage to 15kV.
3. Press the STOP key.
4. Press the START key to start the test.
5. If the test results are OK, the DANGER lamp goes off and "OK" appears on the test results LED.
6. Perform the same test again for inlet 2.
7. Confirm that the DANGER lamp is off, and then turn the power switch off.

If a dielectric strength isolation voltage meter is not available, use a tester to check for short circuits.

1. Turn the dial on the tester to "Check for conduction".

IMPORTANT The positions on the dial will vary according to the model of tester used.



2. Insert the probes from the tester into the inlet to check for a short circuit.
   * Make sure the power switch is ON.
   If OK: The value shown on the tester will approach infinity.
   There will be no beeping sound.
   If not OK: A beeping sound will be emitted continuously from the tester, and the value shown will approach 0.

2) Checking for an increase in heater temperature

1. Turn on the main power supply and then the remote switch (in that order), and confirm that [Local] is displayed.
2. Select SETUP → HEATER, and then make the following settings: Pre: 40°C, Print: 50°C, After: 60°C.
   (To check for mistaken thermistor connections)
3. Press the HEATER key, and check if each heater reaches the set temperature.
4. Select #TEST → EXTERNAL HEATER, and confirm that the temperature of the external heater increases and that the heater fan runs.

☐ 7.Ink filling up

Select "MAINTENANCE - FILL UP INK", and fill only head 2 with ink.

(Because air will enter the ink fill path when W filter parts are installed)

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