

Chapter 7 Removal and Replacement of Parts (without Calibration)

This chapter describes how the printer can be disassembled for repair and maintenance. This section covers the removal of parts that can be reassembled without calibration. To reassemble the printer, reverse the order of the procedure. Where required, additional explanation will also be provided for any special adjustments or procedure steps (such as instances where reassembly differs from disassembly).

You should also take note that it may not be necessary to disassemble the printer to service certain components.

Removal and Replacement Tools

To disassemble the printer, you will need the following tools :

1. A TORX® screwdriver with T-10 and T-20 screw bits.
2. Needle nose pliers.
3. Straight tweezers.
4. A flat-blade screw driver (Philips no.1 or flathead no.5).
5. Instruction manual.

It is strongly recommended that proper tools (including screws) be used for the job.

Before You Begin

Check the following before you begin disassembly :

1. The printer is turned off and the power cable has been disconnected from the socket.
2. Paper has been removed from the tray.
3. Ink cartridges and pens are removed from the printer.

Caution

- Your body may discharge static current which may damage the fragile PCAs. Before disassembly please ensure that the proper precautions to prevent damage by electrostatic discharge (ESD) to ESD-sensitive printer components have been taken with ESD heel or wrist straps. Ensure also that the work area is similarly free of static current.
- When disassembling the printer, ensure that the capacitors are fully discharged before you handle power supply components. As a precaution, switch off the printer before disconnecting it from the power socket, and wait five seconds before commencing disassembly.

Important Notes about Printer Components and Disassembly

The printer has been built to a modular architecture which uses one-way snap-fit technology – that is, parts are designed so that they will only fit with each other in one direction. Please exercise care and apply only the force required to remove each component, as excessive force could damage the parts.

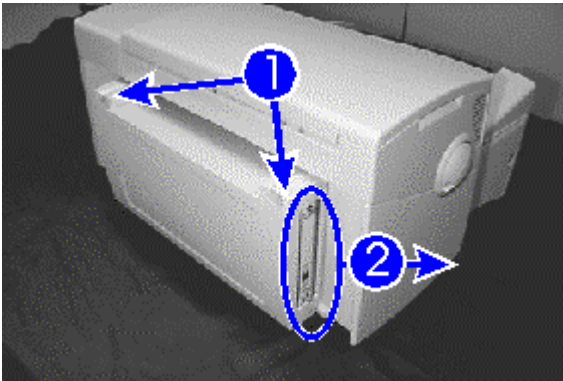
When reassembling the printer, remember to use the correct screw type when putting the components together.

Replacement of Parts

Replacement of PCA

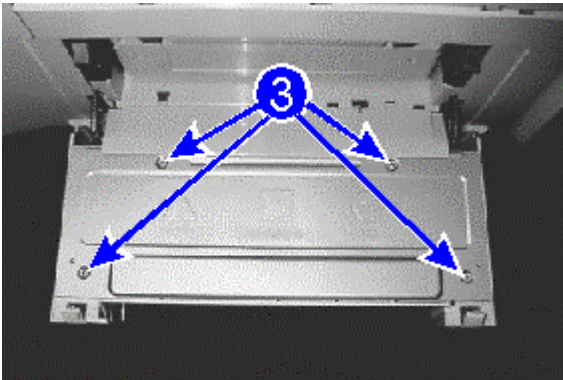
You will be removing the PCA from the printer and installing a new PCA.

Removing the PCA

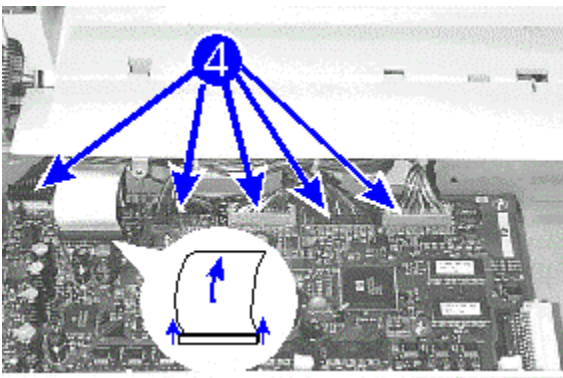


Step 1. Lift the two latches on both the right top and left top corners of the rear access door to unlatch it.

Step 2. If you have any peripheral accessory (e.g. MIO network card), remove it by loosening the two screws on the card and slide it out from the right side of the rear access door. Set the card aside.

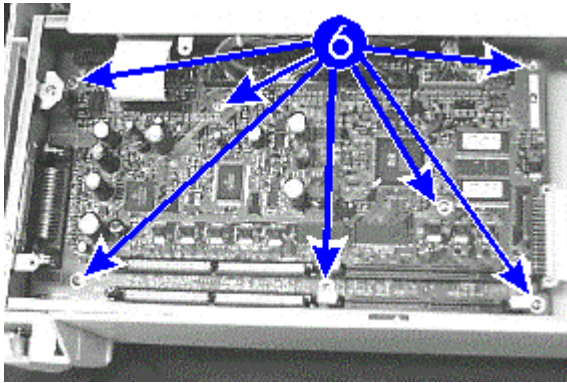


Step 3. Unscrew the four screws on the metal PCA cover and set them aside. Remove the PCA cover.

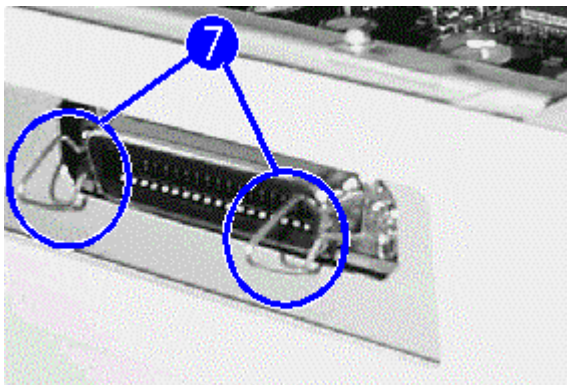


Step 4. Unplug all connectors (two in black and two in grey) and the power connector (blue) from the main PCA.

Step 5. Carefully remove the two flex cables from the main PCA by lifting the black plastic fastener at both ends and sliding the flex out.



Step 6. Remove all the seven screws securing the PCA to the chassis.



Step 7. Check that the clips on the parallel port cable plug do not impede the PCA removal ; position them to stand straight out from the plug. Make sure that all cables and connectors are moved out of the way. Remove the PCA.

Replacement of Parts

Installing the PCA

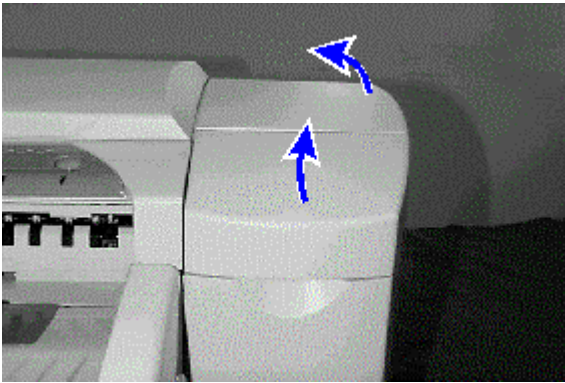
- Step 1. Attach the new PCA board, ensuring that the clips on the parallel port cable plug and the various connector cables do not cause any obstruction.
- Step 2. Replace the seven screws back to secure the PCA to the chassis.
- Step 3. Reattach the flex connectors carefully, gently pushing both ends of the black plastic fastener till they are seated firmly in the slots. Also reattach the power connector and the four connectors, ensuring that the black connectors are connected to the black slots, and the grey connectors to the grey slots respectively.
- Step 4. Place the metal PCA cover over the PCA card and ensure that the screw holes are aligned properly. Replace the four screws to fasten the cover plate to the rear access door.
- Step 5. If you have any peripheral accessory (e.g. MIO network card), reconnect it by sliding it in on the right side of the rear access door and tightening the two screws on the card to attach it firmly.
- Step 6. Close the rear access door. Plug in the power cord and turn on the printer.

Replacement of Parts

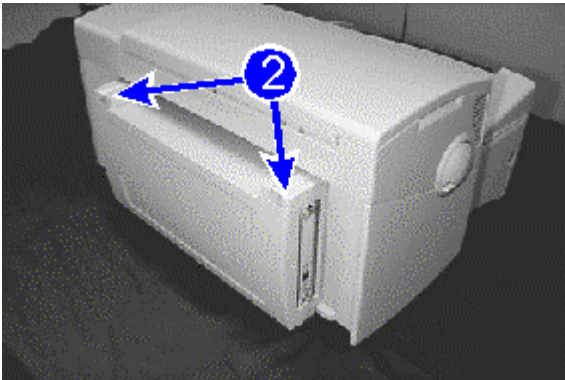
Replacement of Service Station

You will be removing the Service Station from the printer and installing a new Service Station.

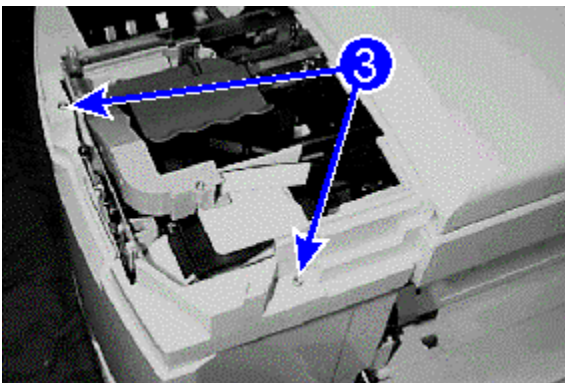
Removing the Service Station



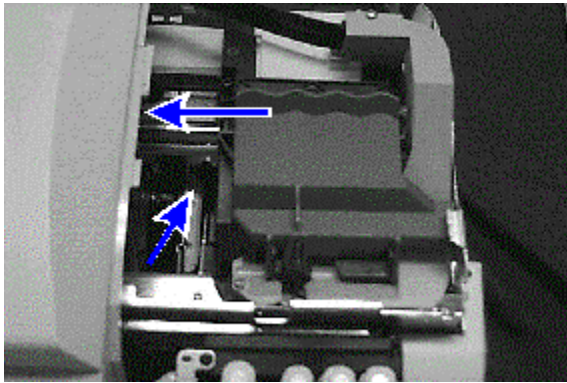
Step 1. Remove the printhead access cover by opening the ink cartridge door and tilting the access cover to the side.



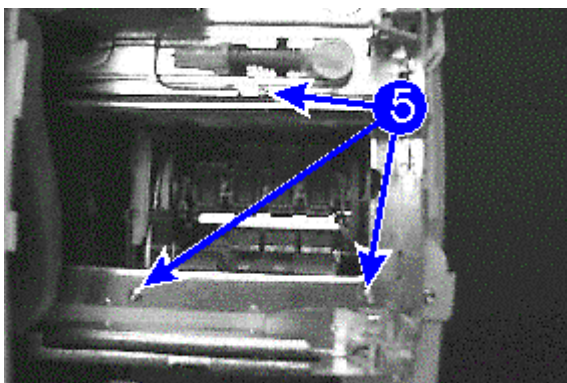
Step 2. Lift the two latches on both the right top and left top corners of the rear access door to unlatch it.



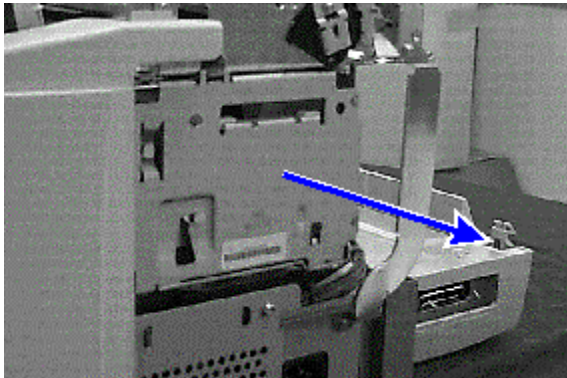
Step 3. Remove the service station side cover by unscrewing the two screws securing it and lifting it up.



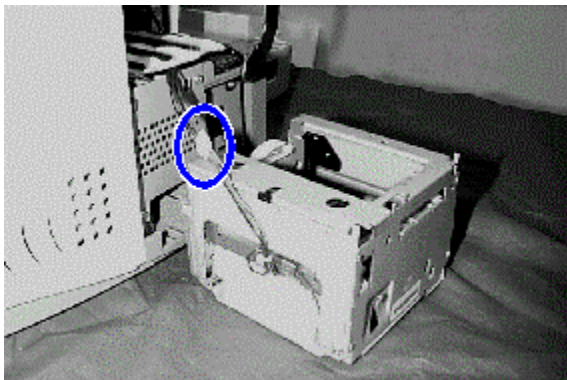
Step 4. Slide the ink carriage mechanism along the carriage rod to the left under the top cover. This will expose three screws, previously concealed under the ink carriage mechanism, that secure the service station.



Step 5. Unscrew the three screws in the order shown on the chassis.



Step 6. Remove the service station by sliding it out. Be careful of connecting cables when removing the service station.



Step 7. Disconnect the service station connector.

Replacement of Parts

Installing the Service Station

- Step 1. Gently slide the new service station into the printer until the screw holes are aligned.
- Step 2. Reconnect the service station connector. Ensure that it is properly plugged in.
- Step 3. Replace the three screws at the top of the service station in order (that is, replace number one, followed by two and then three).
- Step 4. Put back the service station side cover.
- Step 5. Replace the two screws for the service station side cover.
- Step 6. Close the rear access door.
- Step 7. Place the printhead access door by fitting the left tab under the top cover.
- Step 8. Plug in the power cord and turn on the printer.

Note

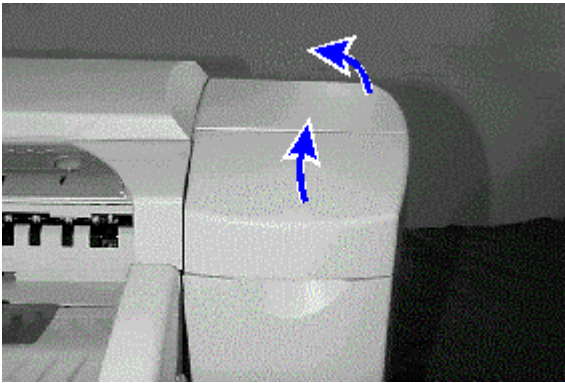
To ensure that the alignment of the Service Station with the Printheads is correct, replace the Service Station screws in the correct order when installing the Service Station.

Replacement of Parts

Replacement of LED PCA

You will be removing the LED PCA from the printer and installing a new LED PCA.

Removing the LED Panel

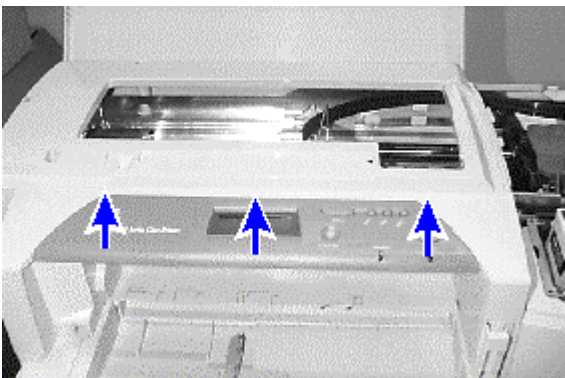


Step 1. Remove the printhead access cover by opening the ink cartridge door and tilting the access cover to the side.

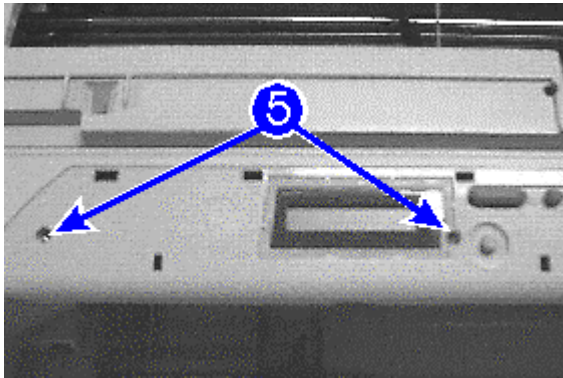


Step 2. Remove the output tray (Tray 1).

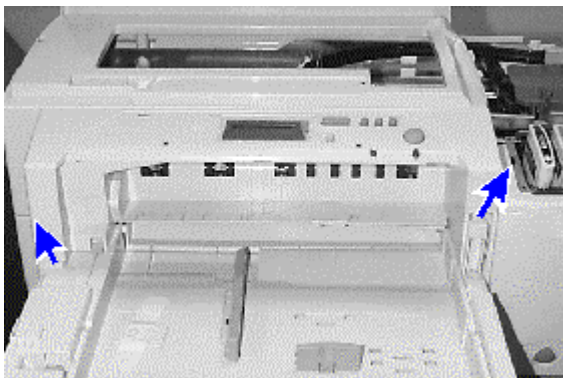
Step 3. Open the top cover of the printer.



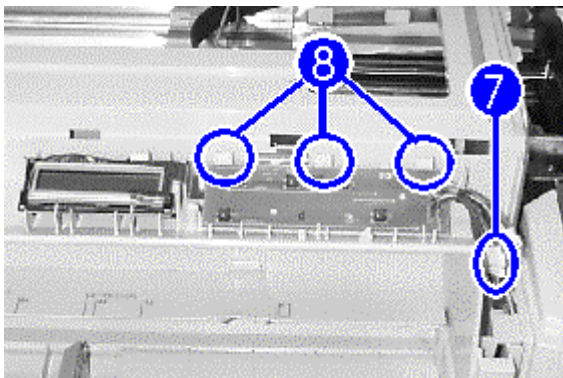
Step 4. Remove the LCD cover by unsnapping three catches, pushing it upward from the left side first, then the right. Set the cover aside.



Step 5. Remove the two screws on the chassis and set them aside.



Step 6. Release the latches from left first, then the right. Unlatch the one on the right with a screw driver. Set the panel aside.



Step 7. Locate and disconnect the LED PCA connectors.

Step 8. Remove the LED PCA by pushing back on the hooks securing it and lifting it up.

Replacement of Parts

Installing the LED PCA

Step 1. Install the new LED PCA by fitting it in from the bottom first before pushing it down till it snaps into place. Ensure that the plastic holders secure the LED panel properly.

Step 2. Reconnect the LED PCA connector.

Caution!

Please note that the colors of the LCD connector wiring are different from that of the LED connector wiring. When attaching both connectors, check that the sequences of the colors of the connectors correspond on both ends.

Step 3. Reinstall the key panel by latching the four rear hinges to the chassis first.

Step 4. Snap the panel into the latches from the right side first towards the left side.

Step 5. Replace the two screws at the top of the panel.

Step 6. Reinstall the LCD cover by fitting in the hinges at the back first before pushing it down from the right first, then the left.

Step 7. Close the top cover of the printer.

Step 8. Reinstall the output tray (Tray 1) into place.

Step 9. Reinstall the printhead access door.

Step 10. Plug in the power cord and turn on the printer.

Replacement of Parts

Replacement of LCD Assembly

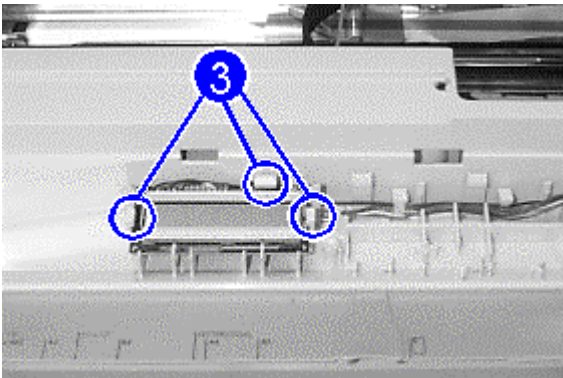
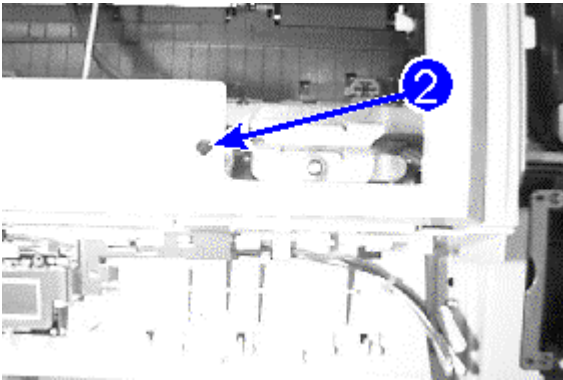
You will be removing the LCD assembly from the printer and installing a new LCD assembly.

Removing the LCD Assembly

Step 1. Remove the **LED PCA** (refer to the procedure in **Replacement of LED PCA**).

Step 2. Remove the LCD harness by removing one screw (as indicated in callout **2**) and lifting it up from the LCD.

Step 3. Remove the LCD by unlatching its wiring from under the plastic hooks and unsnapping the LCD from under the plastic holders.



Replacement of Parts

Installing the LCD Panel

- Step 1. Install the new LCD panel by fitting it in from the bottom first before pushing it down till it snaps into place. Make sure the plastic holders secure the LCD panel properly.
- Step 2. Latch the wiring back in the plastic hooks neatly.
- Step 3. Reinstall the LCD harness and replace the screw securing it.
- Step 4. Reconnect both the LCD and LED connectors. Make sure the connectors are correctly secured.

Caution!

Please note that the colors of the wiring of the LCD connector are different from that of the LED connector. When connecting, please check that the sequences of the colors of the connectors match on both ends.

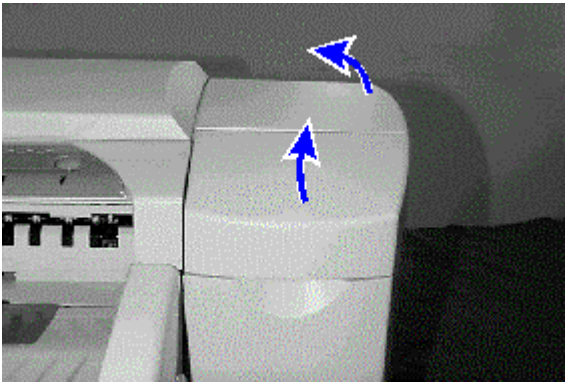
- Step 5. Replace the remaining components for the LED PCA (refer to the procedures in **Installing the LED PCA** from **Replacement of LED PCA**).

Replacement of Parts

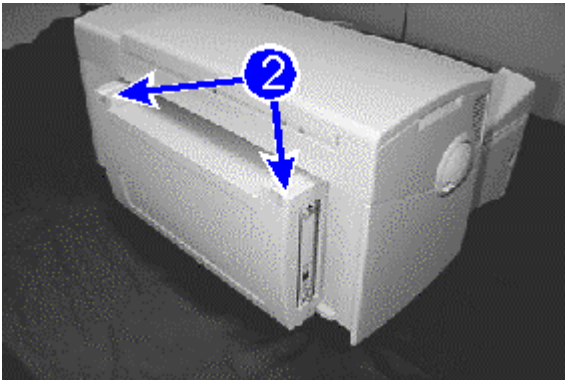
Replacement of Power Knob

You will be removing the power knob from the printer and installing a new power knob.

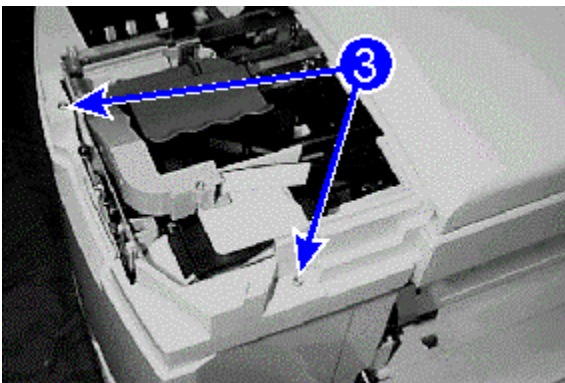
Removing the Power Knob



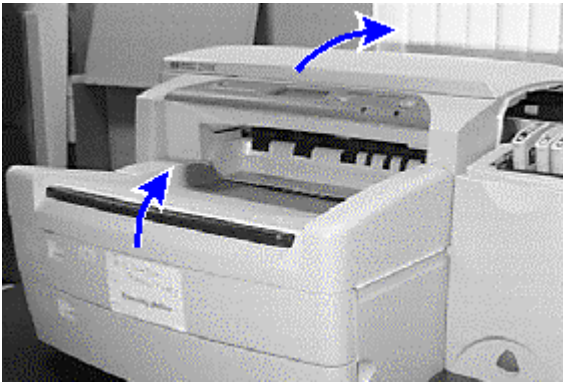
Step 1. Remove the printhead access cover by opening the ink cartridge door and tilting the access cover to the side.



Step 2. Lift the two latches on both the right top and left top corners of the rear access door to unlatch it.

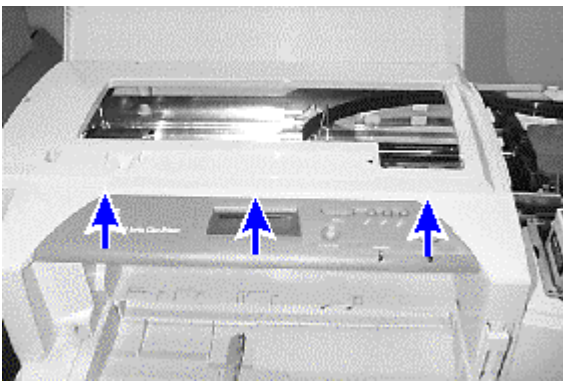


Step 3. Remove the service station side cover by unscrewing the two screws securing it and lifting it up. Set the screws and cover aside.

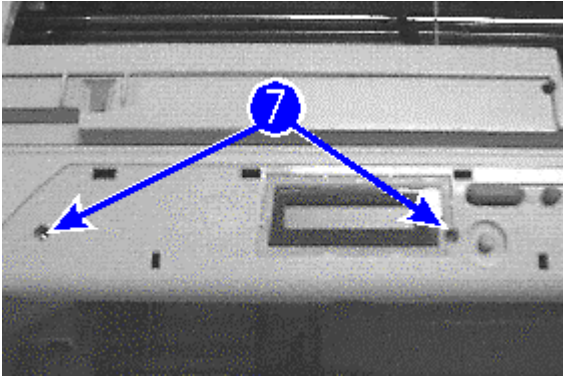


Step 4. Remove the output tray (Tray 1) by lifting it up. Set it aside.

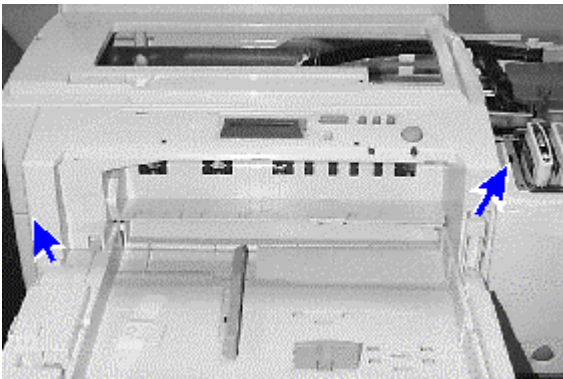
Step 5. Open the top cover of the printer.



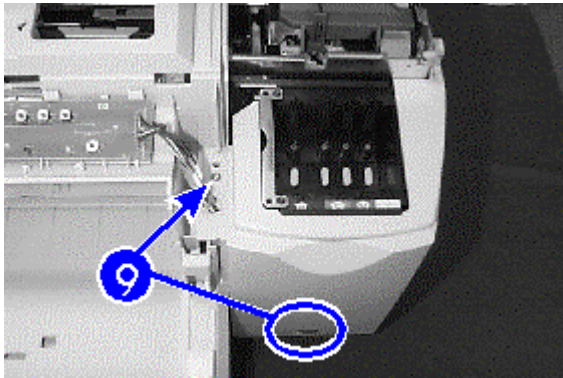
Step 6. Remove the LCD cover by unsnapping it with your thumbs pushing it upward from the left side first, then the right (facing the printer). Set the cover aside.



Step 7. Unscrew the two screws and set them aside.



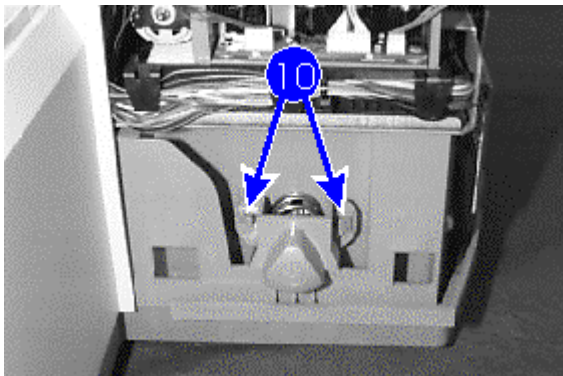
Step 8. Unhook the latches from left first, then the right. Unlatch the one on the right with the help of a screw driver if necessary. Be careful not to break the latches. Set the panel aside.



Step 9. Remove the ink supply station cover by unscrewing the screw near LCD and LED connectors. Then lift up the cover. Set the cover aside.

Note

There is an additional screw hole available for the ISS cover.



Step 10. Locate the power knob and unlatch both sides of the knob. Be careful not to break the latches !

Replacement of Parts

Installing the Power Knob

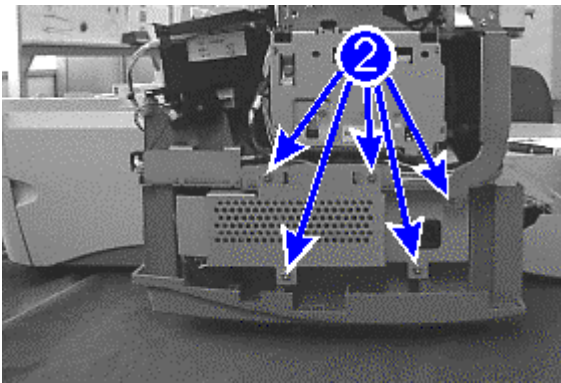
- Step 1. Fit the latches on the printer to the holes on both sides of the new knob. Make sure the knob is secured properly.
- Step 2. Reinstall the ink supply station cover.
- Step 3. Replace the screw in any of the two screw holes given near the LCD and LED connectors.
- Step 4. Reinstall the key panel by latching the hinges behind first.
- Step 5. Snap the panel into the latches from the right side first towards the left side. Make sure the connectors are properly covered.
- Step 6. Replace the two screws at the top of the panel.
- Step 7. Reinstall the LCD cover by fitting in the hinges at the back first before pushing it down from the right first, then the left. Make sure the cover snaps into place.
- Step 8. Close the top cover of the printer.
- Step 9. Reinstall the output tray (Tray 1) into place.
- Step 10. Cover the service station with the side cover. Make sure it is fitted in properly.
- Step 11. Replace the two screws for the service station side cover.
- Step 12. Close the rear access door.
- Step 13. Reinstall the printhead access door by fitting in the tabs on the left of it to the top cover and unfold downwards. Flip the ink cartridge down.
- Step 14. Plug in the power cord and turn on the printer.

Replacement of Parts

Replacement of Power Supply

You will be removing the power supply from the printer and installing a new power supply.

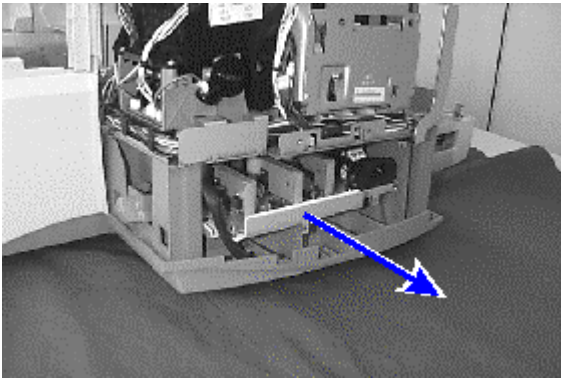
Removing the Power Supply



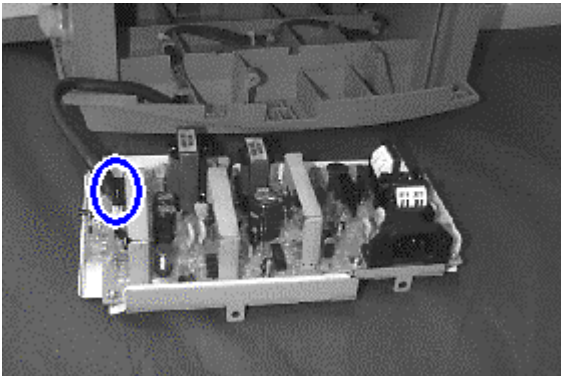
Step 1. Follow **Steps 1-9 of Removing the Power Knob** from **Replacement of Power Knob**.

Step 2. Locate the side of the power supply and unscrew five screws (one of which is attached to the ESD strap). Set the screws aside.

Step 3. Lift up the cover of the power supply. Be careful of the ESD clip.



Step 4. Slide the power supply out. Be careful of any cable or wire.



Step 5. Disconnect the power supply connector.

Replacement of Parts

Installing the Power Supply

- Step 1. Slide in the new power supply.
- Step 2. Reconnect the power supply connector. Make sure the connector is secured properly.
- Step 3. Reinstall the power supply cover. Make sure the ESD clip is on the outside of the cover and the screw holes are aligned.
- Step 4. Replace the five screws. Do not over-tighten the plastic screws (the two at the bottom of the cover).
- Step 5. Replace the remaining components for the power supply (refer to **Steps 3-14** of **Installing the Power Knob** from **Replacement of Power Knob**.)

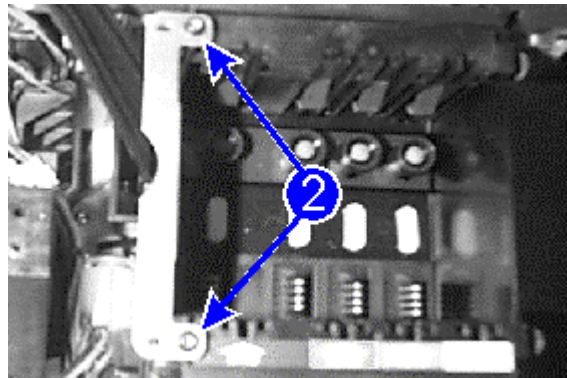
Replacement of Parts

Replacement of Modular Ink Delivery System (MIDS)

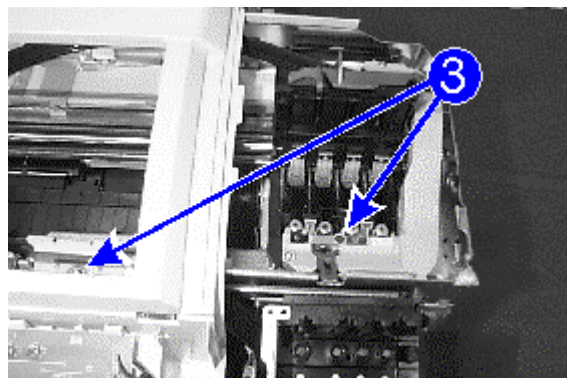
You will be removing the Modular Ink Delivery System (MIDS) from the printer and installing a new MIDS.

Removing the MIDS

Step 1. Follow **Steps 1-9** of **Removing the Power Knob** from **Replacement of Power Knob**.



Step 2. Remove both screws from the ink supply station, then remove the pump section.



Step 3. Detach the MIDS by removing the retainer clip from the carriage assembly and the center screw between the letters **C** and **M** on the print carriage. Keep the retainer clip aside as it will be used when the new MIDS is installed.

Replacement of Parts

Installing the MIDS

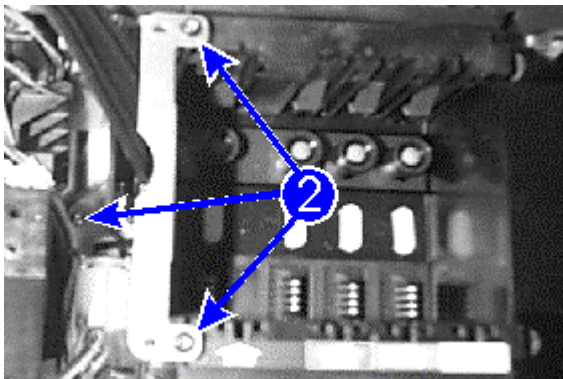
- Step 1. Attach the retainer clip to the tubes and to fasten them in place to the chassis with the screw.
- Step 2. Fasten the screw between “C” and “M”.
- Step 3. Replace the pump section, tilting it an angle such that the catch next to the yellow nozzle is latched first, and replace the screws.
- Step 4. Replace the remaining components for the MIDS (refer to **Steps 3-14 of Installing the Power Knob** from **Replacement of Power Knob.**)

Replacement of Parts

Replacement of Ink Supply Station

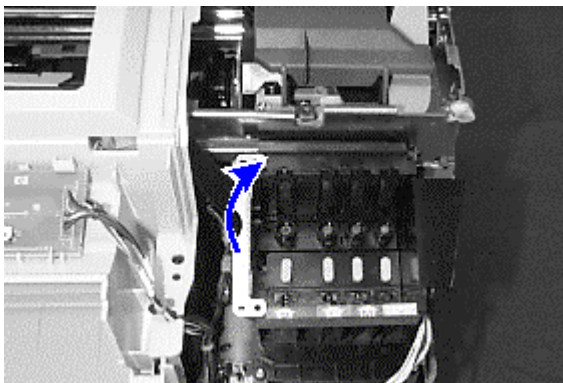
You will be removing the ink supply station from the printer and installing a new ink supply station.

Removing the Ink Supply Station

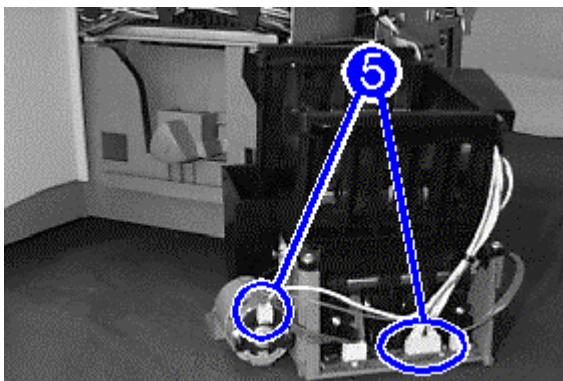


Step 1. Follow **Steps 1-9** of **Removing the Power Knob** from **Replacement of Power Knob**.

Step 2. Locate the three screws securing the ink supply station and unscrew them. Two of the screws are at the top right of the ink supply station. The third one is at the base of the ink supply station which require long screw driver to unscrew. Set them aside.



Step 3. Remove the ink delivery system by lifting the unit up and folding towards the right.



Step 4. Remove the ink supply station by sliding from the right (facing the printer). Be careful of the loose wires.

Step 5. Locate two connectors that connect to the ISS motor and the PCB. Unhook and disconnect them.

Replacement of Parts

Installing the Ink Supply Station

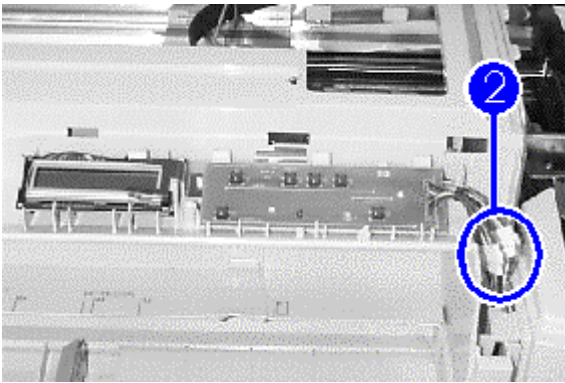
- Step 1. Install the new ink supply station. Make sure the screws are put in first.
- Step 2. Reinstall the ink delivery system by looping in the hinge on the right first, then place it down.
- Step 3. Latch the wires back into the hooks and reconnect the ink supply station motor and PCB connectors. Make sure the connectors are secured properly.
- Step 4. Replace the two screws at the right side of the ink delivery system.
- Step 5. Replace the remaining components for the ink supply station (refer to **Steps 3-14** of **Installing the Power Knob** from **Replacement of Power Knob**.)

Replacement of Parts

Replacement of Main Case

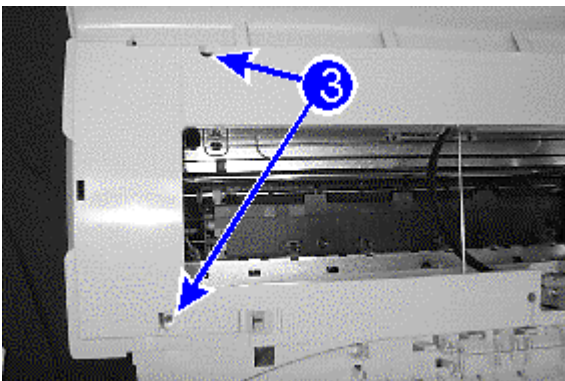
You will be removing the main case from the printer and installing a new main case.

Removing the Main Case

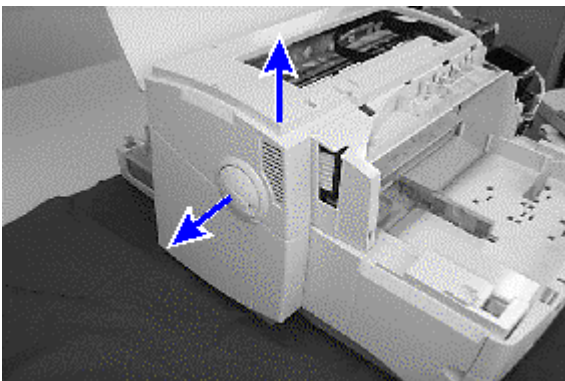


Step 1. Follow **Steps 1-9** of **Removing the Power Knob** from **Replacement of Power Knob**.

Step 2. Disconnect the LCD and LED connectors.



Step 3. Unscrew the two screws at the top of the main case and set them aside.



Step 4. Pull out the paper knob a little and lift up the main case.

Replacement of Parts

Installing the Main Case

Step 1. Pull the paper knob out and place the new main case down.

Step 2. Replace the two screws at the top of the main case.

Step 3. Reconnect the LCD and LED connectors.

Caution!

Please note that the colors of the wiring of the LCD connector are different from that of the LED connector. When connecting, please check that the sequences of the colors of the connectors match on both ends.

Step 4. Replace the remaining components for the **Power Knob** (refer to **Steps 3-14** of **Installing the Power Knob** from **Replacement of Power Knob**.)

Replacement of Parts

Replacement of Paper Knob

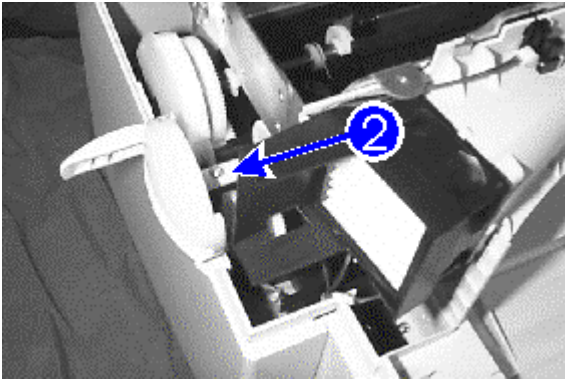
You will be removing the paper knob from the printer and installing a new paper knob.

Removing the Paper Knob

Step 1. Remove the **Main Case** (refer to the procedures in **Removing the Main Case** from **Replacement of Main Case**).

Step 2. Locate and unscrew the screw securing the paper knob. Set it aside.

Step 3. Remove the paper knob.



Replacement of Parts

Installing the Paper Knob

Step 1. Put in the paper knob and replace the screw.

Step 2. Replace the remaining components for the **Main Case** (refer to the procedures in **Installing the Main Case** from **Replacement of Main Case**).

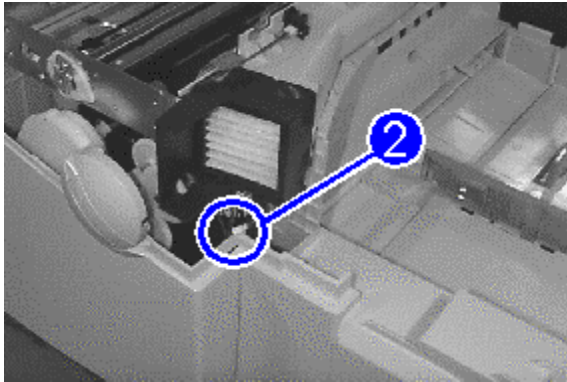
Replacement of Parts

Replacement of Fan

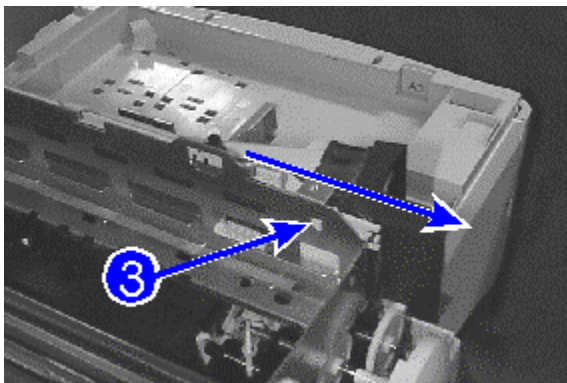
You will be removing the fan case from the printer and installing a new fan.

Removing the Fan

Step 1. Remove the **Main Case** (refer to the procedures in **Removing the Main Case** from **Replacement of Main Case**).



Step 2. Disconnect the connector of the fan to the motor as well as the connector of the main access door sensor.



Step 3. Remove the fan by unlatching the catch securing the fan and sliding it out. Be careful of wires and connectors.

Replacement of Parts

Installing the Fan

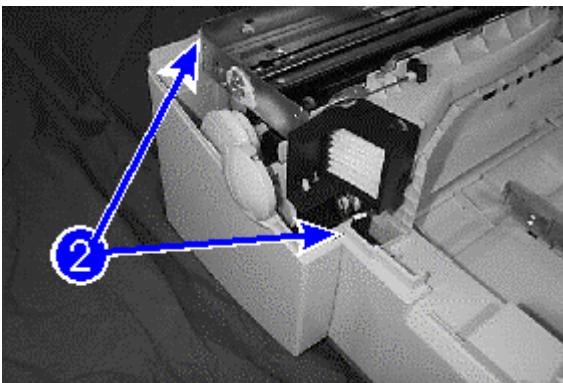
- Step 1. Slide in the new fan until it is secured with a click. Make sure the wires or connectors are not in the way.
- Step 2. Reconnect the main access door sensor connector.
- Step 3. Reconnect the connector of the fan motor.
- Step 4. Replace the remaining components for the **Main Case** (refer to the procedures in **Installing the Main Case** from **Replacement of Main Case**).

Replacement of Parts

Replacement of Carriage Motor

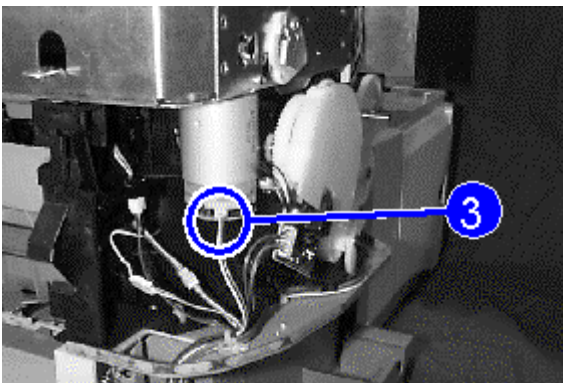
You will be removing the carriage motor from the printer and installing a new carriage motor.

Removing the Carriage Motor

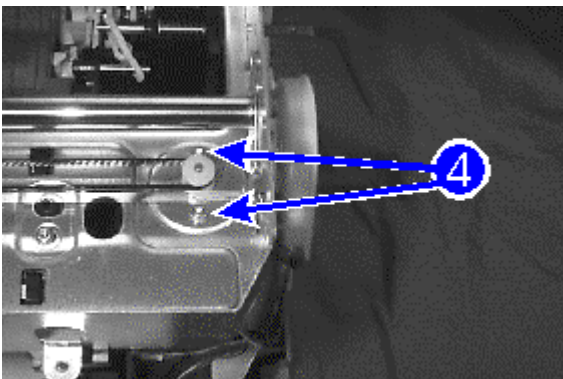


Step 1. Remove the **Paper Knob** (refer to the procedures in **Removing the Paper Knob** from **Replacement of Paper Knob**).

Step 2. Unlatch the catches under the fan and remove casing. Set the cover aside.



Step 3. Disconnect the connector leading to the carriage motor.



Step 4. Remove the screws on top of the carriage motor. Holding on to the motor because of the tension created by the drive belt.

Step 5. Unattach the drive belt from the carriage motor.

Replacement of Parts

Installing the Carriage Motor

- Step 1. Reinstall the new carriage motor by putting one screw loosely into the screw hole, reattach the drive belt and secure the screws back in.
- Step 2. Reconnect the wiring of the carriage motor.
- Step 3. Slot the cover back to place. Make sure it is properly secured.
- Step 4. Replace the remaining components for the **Paper Knob** (refer to the procedures in **Installing the Paper Knob** from **Replacement of Paper Knob**).

Replacement of Parts

Replacement of Assembly Harness Cover

You will be removing the assembly harness cover from the printer and installing a new assembly harness cover.

Removing the Assembly Harness Cover

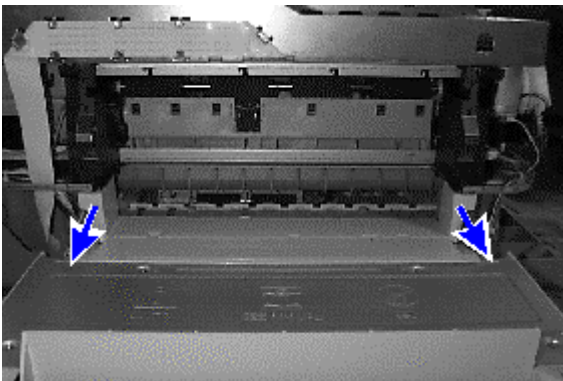
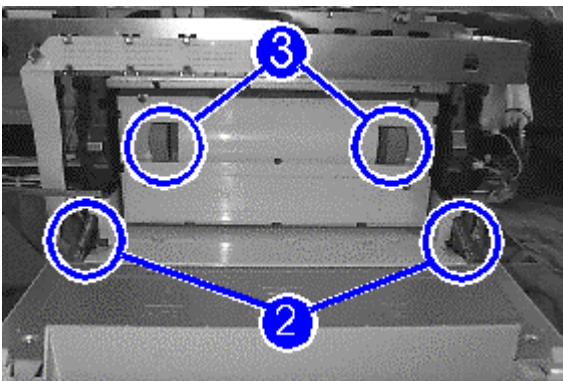
Step 1. Remove the **Main Case** (refer to the procedures in **Removing the Main Case** from **Replacement of Main Case**).

Step 2. Remove the two springs attached on both sides of the rear door.

Step 3. Remove the back panel by pulling both the handles and sliding it out of the printer.

Step 4. Push in the flaps of the assembly harness cover on both the right and the left.

Step 5. The assembly harness cover pops out by giving it a pull.



Replacement of Parts

Installing the Assembly Harness Cover

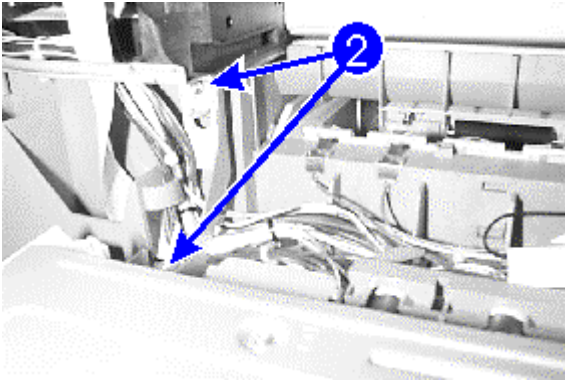
- Step 1. Latch the hinges of the assembly harness cover first.
- Step 2. Push in both flaps of the assembly harness cover. Make sure the cover is secured properly.
- Step 3. Reattach the springs on both sides of the rear door.
- Step 4. Close the rear door.
- Step 5. Replace the remaining components for the **Main Case** (refer to the procedures in **Installing the Main Case** from **Replacement of Main Case**).

Replacement of Parts

Replacement of Rear Door

You will be removing the rear door from the printer and installing a new rear door.

Removing the Rear Door



- Step 1. Remove the **Assembly Harness Cover** (refer to the procedures in **Removing the Assembly Harness Cover** from **Replacement of Assembly Harness Cover**).
- Step 2. Remove the four screws connecting the rear door to the main panel and set them aside.
- Step 3. Detach the rear door from the printer.

Replacement of Parts

Installing the Rear Door

- Step 1. Reinstall the rear door to the main panel by realigning the screw holes.
- Step 2. Replace the four screws. Do not over tighten.
- Step 3. Replace the remaining components for the **Assembly Harness Cover** (refer to the procedures in **Installing the Assembly Harness Cover** from **Replacement of Assembly Harness Cover**).

Replacement of Parts

Replacement of Encoder Strip

You will be removing the encoder strip from the printer and installing a new encoder strip.

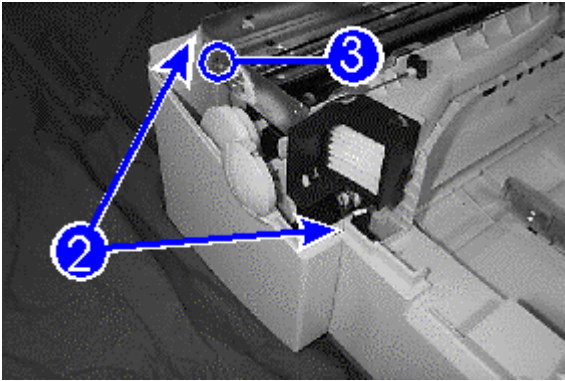
Removing the Encoder Strip

Step 1. Remove the **Paper Knob** (refer to the procedures in **Removing the Paper Knob** from **Replacement of Paper Knob**).

Step 2. Unlatch the catch under the fan and remove casing. Set the cover aside.

Step 3. Unlatch the encoder strip from both ends.

Step 4. Slide the encoder strip out through the carriage.



Replacement of Parts

Installing the Encoder Strip

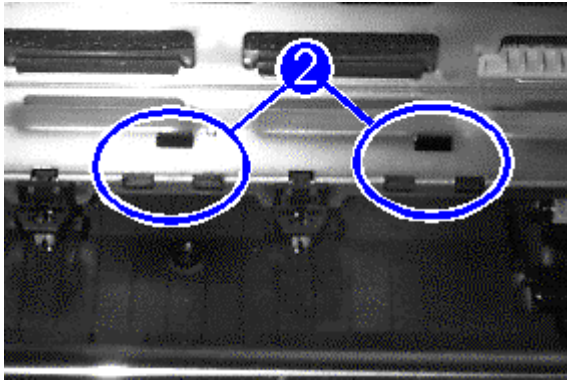
- Step 1. Slide a new encoder strip through the carriage.
- Step 2. Latch the encoder strip on both ends. Be careful not to touch the middle portion of the strip.
- Step 3. Slot the cover back to place. Make sure it is properly secured.
- Step 4. Replace the remaining components for the **Paper Knob** (refer to the procedures in **Installing the Paper Knob** from **Replacement of Paper Knob**).

Replacement of Parts

Replacement of Primary Star Wheel

You will be removing the primary star wheel from the printer and installing a primary new star wheel.

Removing the Primary Star Wheel



- Step 1. Remove the **Main Case** (refer to the procedures in **Removing the Main Case** from **Replacement of Main Case**).
- Step 2. Push the main latch of the primary star wheel downwards from the top of the printer.
- Step 3. Slide the star wheel out easily from the front of the printer.

Replacement of Parts

Installing the Primary Star Wheel

- Step 1. Snap the two small latches of the primary star wheel from the front of the printer.
- Step 2. Push the star wheel upwards till the main latch snaps in place. Use a screw driver if required.
- Step 3. Replace the remaining components for the **Main Case** (refer to the procedures in **Installing the Main Case** from **Replacement of Main Case**).

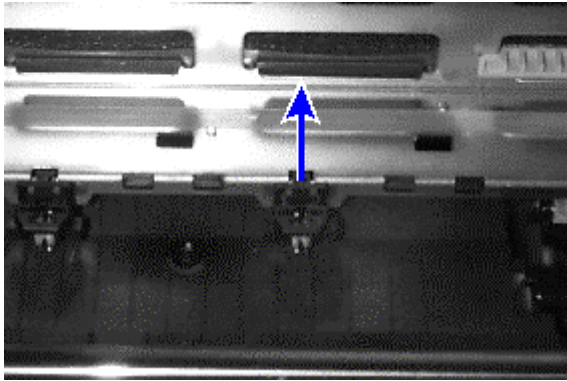
Replacement of Parts

Replacement of Secondary Star Wheel

You will be removing the secondary star wheel from the printer and installing a secondary new star wheel.

Removing the Secondary Star Wheel

Step 1. Remove the **Main Case** (refer to the procedures in **Removing the Main Case** from **Replacement of Main Case**).



Step 2. From the front of the printer, push the two small latches of the secondary star wheel in and the main latch upwards. Use a screw driver if required.

Step 3. Slide the star wheel up from the top of the printer.

Replacement of Parts

Installing the Secondary Star Wheel

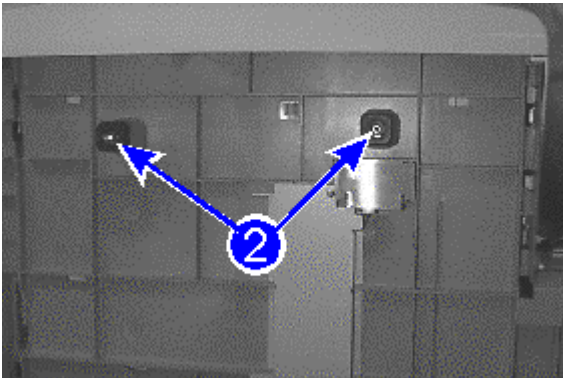
- Step 1. Push the new secondary star wheel downwards from the top of the printer till it snaps in place.
- Step 2. Replace the remaining components for the **Main Case** (refer to the procedures in **Installing the Main Case** from **Replacement of Main Case**).

Replacement of Parts

Replacement of Rubber Foot

You will be removing the rubber foot from the printer and installing a new rubber foot.

Removing the Rubber Foot



Step 1. Sit the printer on its back gently.

Step 2. Remove the rubber foot by unscrewing the screw attaching it to the printer.

Replacement of Parts

Installing the Rubber Foot

Step 1. Align the screw hole of the new rubber foot to that of the printer.

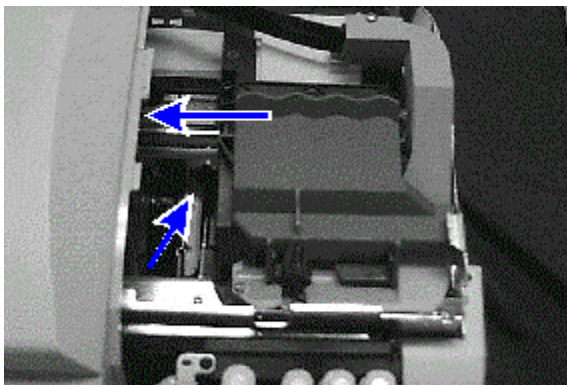
Step 2. Replace the screw. Make sure the rubber foot is secured properly.

Replacement of Parts

Replacement of Absorbers

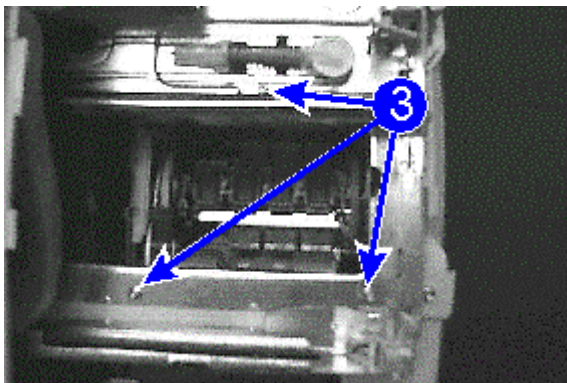
You will be removing the absorbers from the printer and installing new absorbers.

Removing the Absorbers



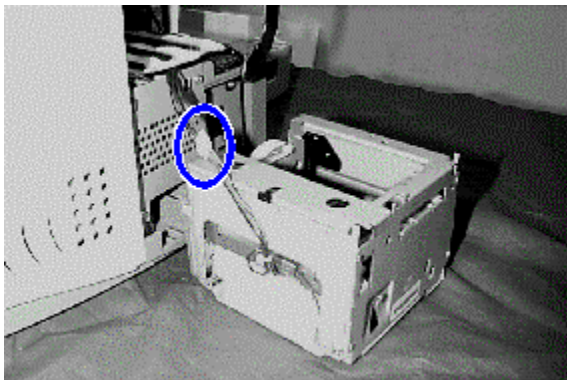
Step 1. Remove the **Ink Supply Station** (refer to procedures in **Removing the Ink Supply Station** from **Replace of Ink Supply Station**).

Step 2. Slide the ink carriage mechanism along the carriage rod to the left under the top cover. This will expose three screws, previously concealed under the ink carriage mechanism, that secure the service station.

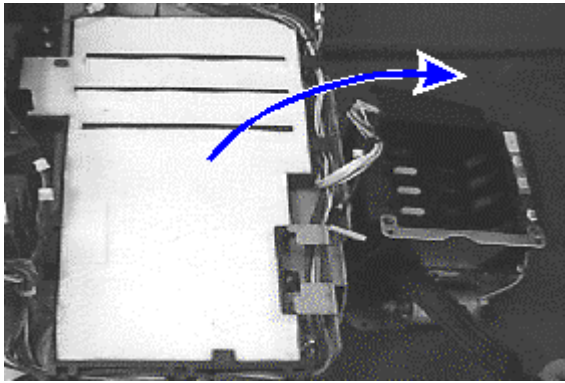


Step 3. Unscrew the three screws in the order shown on the chassis.

Step 4. Remove the service station by sliding it out. Be careful of connecting cables when removing the service station.



Step 5. Disconnect the service station connector.



Step 6. Remove the absorbers.

Replacement of Parts

Installing the Absorber

- Step 1. Replace the absorbers into position.
- Step 2. Gently slide the new service station into the printer until the screw holes are aligned.
- Step 3. Replace the service station connector. Ensure that it is properly plugged in.
- Step 4. Replace the three screws at the top of the service station in order (that is, replace number one, followed by two and then three).
- Step 5. Replace the remaining components for the **Ink Supply Station** (refer to the procedures in **Installing the Ink Supply Station** from **Replacement of Ink Supply Station**).

7-48 Removal and Replacement of Parts (without Calibration)