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SC-F3000 Series

How to Replace the Print Head

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Contents

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Introduction

Notes on Doing User Self-Repair Work

Work Flow

How to Start in User Self-Repair Mode

How to Do Diagnosis

Replacement Procedure

Adjustment Work

Introduction

Meaning of Symbols

⚠ *Warning:*	Warnings must be followed to avoid serious bodily injury.

⚠ *Caution:*	Cautions must be followed to avoid bodily injury.

❗ *Important:*	Important must be followed to avoid damage to this product.

Note:	Notes contain useful or additional information on the operation of this product.

☞	Indicates related content.

Illustrations

The illustrations (including photos) may differ slightly from the model you are using. Please be aware of this when using the manual.

Notes on Doing User Self-Repair Work

Only people who have been trained in User Self-Repair should do User Self-Repair work.

Use the replacement Print Head and User Self-Repair Mode for the following purposes only.

❏   When the part has reached the end of its service life and needs to be replaced

❏   When print results are not correct and clogged nozzles cannot be cleared

Notes on Safety

This section lists precautions that must be taken to use the product safely and prevent damage to property or injury to operators or others.

In addition, be sure to read the "Safety Instructions" in the *Setup Guide* (booklet) or the *Safety Instructions* (booklet), which is a separate manual.

Notes on Handling

⚠ Warning
🚫	**Do not replace a Print Head without having been trained for User Self-Repair.** An electric shock or injury could occur.

Work Flow

When a Print Head Needs to Be Replaced

A Print Head needs to be replaced in the following situations. The work is different for both situations.

When the part has reached the end of its service life:

A Print Head has reached the end of its service life if any of the following 16 digit numbers appears in the enclosure shown on screen.

"0000020000000000"/"0000040000000000"/"0000060000000000"

Make a note of the number, then press **Replace Parts** to turn off the printer. Next, start the printer in User Self-Repair Mode, and then replace the Print Head with the replacement one.
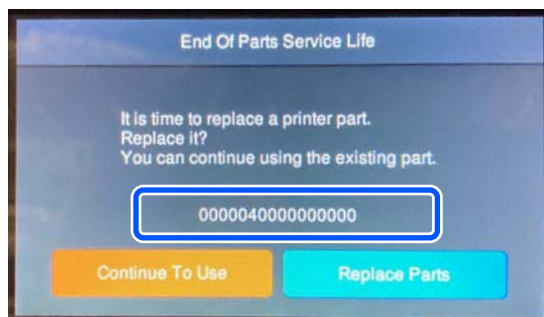
If a number other than those above is displayed, contact your dealer or Epson Support and tell them the 16 digit code.

When print results are not correct:

If the print results are not improved after doing the following measures, start the printer in User Self-Repair Mode and do a **Diagnosis**.

❏ Execute **Head Cleaning** - **Cleaning(Heavy)**
If the clogs are not cleared after doing this once, then execute **Cleaning(Heavy)** again one more time.

❏ Clean around the Print Heads and the edges of the metal

❏ Clean the Suction Cap

❏ Replace the Anti-Drying Caps

For the procedures to clean and replace the various parts, see the *User's Guide* (Online Manual).

Only replace a Print Head with a replacement one if the **Diagnosis** determines that a Print Head needs to be replaced.

Work Flow

Overview of Work

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1. Start the printer in User Self-Repair Mode

☞ "How to Start in User Self-Repair Mode" on page 8

If the print results are not correct, do a **Diagnosis**, and take measures according to the diagnosis results.

The Print Head may not need to be replaced if you just change the settings or do **Cleaning(Heavy)**.

☞ "How to Do **Diagnosis**" on page 10

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2. Replacing a Print Head

☞ "Replacement Procedure" on page 12

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3. Adjusting a Print Head

☞ "Adjustment Work" on page 22

How to Start in User Self-Repair Mode

You can check the procedure in a video on YouTube.

Epson Video Manuals

1 Check that the printer's power is off.

2 Place right thumb or an approximately 25 mm diameter coin on the [ ] area shown in the illustration of the printer screen, so it is not exposed to light.

3 While maintaining the conditions from step 2, press and hold the power button until the screen in the illustration appears. (about 20 seconds)
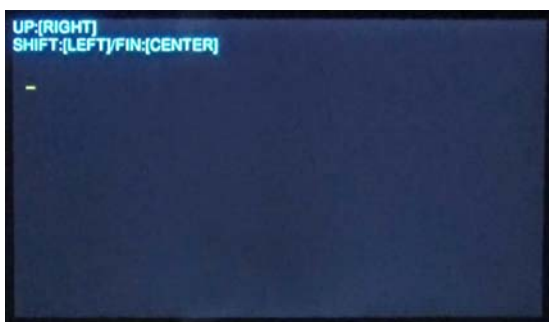
If the screen in the illustration does not appear, and the power just comes on as normal, turn off the power and redo the procedure from step 2.

4 Input the "32998" passcode.

❏ Press the right side of the screen to change the numbers from 0 to 9.

❏ Press the left side of the screen to confirm the selected number and advance to the next digit for input.
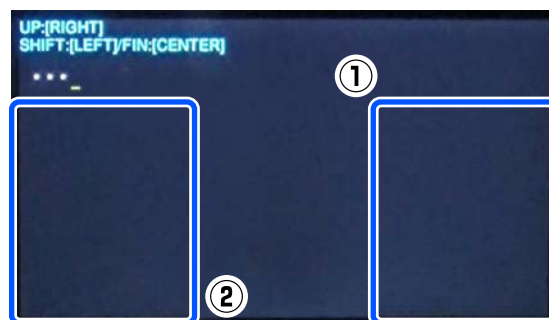
5 Press the center of the screen to confirm the passcode.

The printer starts in User Self-Repair Mode.

6 Check the on-screen messages, and then press **OK**.
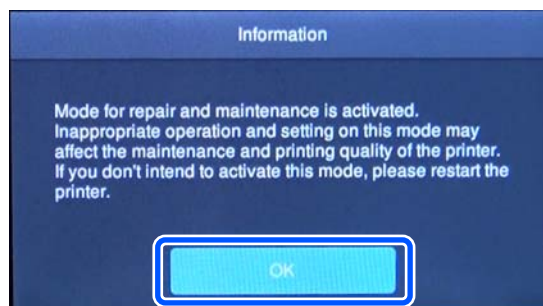
Starting is successful if User Self Repair Mode appears in the upper left of the screen, as in the illustration.

How to Start in User Self-Repair Mode

If it does not appear, turn off the power and redo
the procedure from step 2.

If it does not appear, turn off the power and redo
the procedure from step 2.

How to Do Diagnosis

1 Start the printer in User Self-Repair Mode.

U "How to Start in User Self-Repair Mode" on page 8

2 Press in the order of ☰ (menu) - **Maintenance** - **Repair Menu** - **Diagnosis**.

3 Press **Start**.
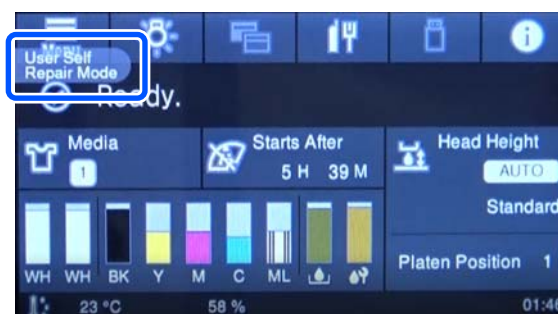
Wait until the diagnosis results appear on screen.

4 The diagnosis results appear on screen.

1. When Cleaning(Heavy) needs to be executed

Make a note of the Print Head and row that need cleaning. Press **Close** to exit **Diagnosis**, and then do **Cleaning(Heavy)**.

U "How to Do **Cleaning(Heavy)**" on page 10

2. When the Nozzle Compensation settings need to be changed

Press **Close** to exit **Diagnosis**, and then set **Nozzle Compensation** to **On**.

U "Changing the Settings for **Nozzle Compensation**" on page 10

When neither 1 nor 2 is needed

Press **Done** to confirm which Print Head needs to be replaced. Next, press **Close** to exit **Diagnosis**, and then replace the Print Head with a new one.

U "Replacement Procedure" on page 12

How to Do Cleaning(Heavy)

1 Press ⌂ (Home), and then press in the order of ☰ (menu) - **Maintenance** - **Head Cleaning** - **Cleaning(Heavy)**.

2 Select the Print Head and row that you noted needed cleaning when you executed **Diagnosis**.

Selecting **All Nozzles** cleans all the rows of both Print Heads.

3 Check the message, and then press **Start**.

Cleaning starts. When cleaning is finished, we recommend that you select **Yes** in the confirmation screen, and then print a nozzle check pattern to confirm that the clogs have been eliminated.

If clogging is cleared

Go to step 4.

If clogging is not cleared

Return to step 1, select **Cleaning(Heavy)** again, and execute cleaning for the row that had gaps in the check pattern.

If the clogs are not cleared after executing **Cleaning(Heavy)** 2 times, execute **Diagnosis** again.

U "How to Do **Diagnosis**" on page 10

4 Turn off the power to the printer, and start it normally.

5 Send an actual print job to confirm if the print results are improved.

> **‼ Important:**
>
> *Print jobs cannot be received while in User Self-Repair Mode. Be sure to restart in the normal way before you send a print job.*

If the print results are not improved, execute **Diagnosis** again.

U "How to Do **Diagnosis**" on page 10

Changing the Settings for Nozzle Compensation

1 Press ⌂ (Home), and the press in the order of ☰ (menu) - **General Settings** - **Maintenance Setting** - **Nozzle Compensation**.

How to Do Diagnosis

2   Change the settings to **On**.

3   Turn off the power to the printer, and start it normally.

4   Send an actual print job to confirm if the print results are improved.

> **⚠ Important:**
>
> *Print jobs cannot be received while in User Self-Repair Mode. Be sure to restart in the normal way before you send a print job.*

If the print results are not improved, execute **Diagnosis** again.

Replacement Procedure

Preparation

Use the following to do replacement work.

Replacement Print Head

Do not remove it from the protective case until just before replacement.

Gloves (provided with replacement Print Head), protective glasses and mask (commercially available)

Prevent waste ink from coming into contact with your skin or from entering your eyes or mouth.

Adjustment Film Sheet (1 sheet)

Use to check for clogged nozzles after replacing the Print Head. Use the ones distributed during User Self-Repair training.

If you do not have any Adjustment Film Sheets on hand, contact your dealer or Epson Support.

M size platen

Use one that has no grip pad on it.

Sprayer (commercially available)

Use the sprayer to dampen the platen with water to position the Adjustment Film Sheet.

Notes on Handling

Print Heads are precision components.

When handling them, follow the procedures and precautions in this manual.

Notes on Storage

❏ Do not open the outer carton or the protective case before doing replacement work. There is a risk of lint or dust getting on the nozzle surfaces and ink supply ports.

❏ Store them in the following environment, away from direct sunlight.
-20 °C to 60 °C (without condensation)

❏ Do not store in damp location.

❏ Store correctly in upright orientation.

❏ Do not stack more than 3 boxes.

Notes on Opening

❏ Confirm the box is upright before opening it.

❏ Use the outer carton, plastic bag, and protective case to pack the used Print Head to send it to your dealer or Epson Support. Open them carefully without tearing anything.

❏ Do not open the protective case until you are ready to replace the Print Head. There is a risk of lint or dust getting on the nozzle surfaces and ink supply ports.

Correctly Holding the Print Head

When removing a Print Head or taking it out of the protective case, hold the Print Head with both hands by the positions outlined in the illustration.
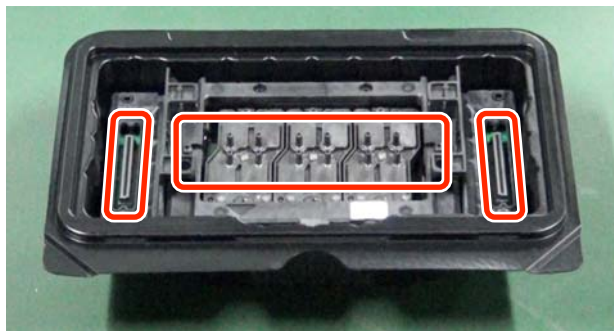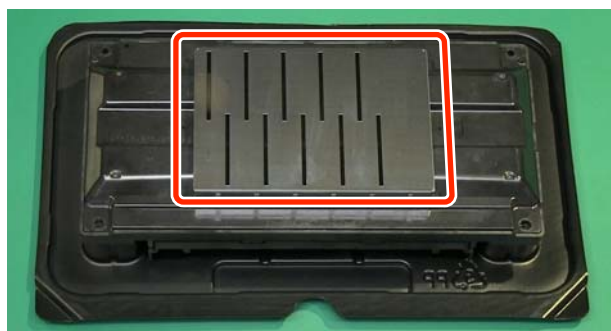

Do Not Touch These Areas

Do not touch the areas outlined in the following illustration when handling the replacement Print Head. Otherwise, a malfunction may occur.

Connectors (left/right) and ink supply ports

Nozzle surfaces (bottom side of Print Head)

How to Remove

You can check the procedure in a video on YouTube.

Epson Video Manuals

> ⚠️ *Important:*
>
> *Touch a metal object before starting operations to disperse any static electricity from your body.*

1 Start the printer in User Self-Repair Mode.

U "How to Start in User Self-Repair Mode" on page 8

2 Press in the order of ☰ (menu) - **Maintenance** - **Repair Menu** - **Replace Print Head**.

3 Select the Print Head you want to replace, and then press **Start**.

> ⚠️ *Important:*
>
> *If you select the wrong one, the end of service life error and the print result malfunction will not be eliminated and you will need to redo the work. Also, if the Print Head is installed incorrectly, it cannot be reused. Select this carefully.*

The following table shows the relationship between the number that is displayed for the end of service life error and the item you should select.

Number	Item to select
0000020000000000	Color (front side)
0000040000000000	White (back side)
0000060000000000	Select both
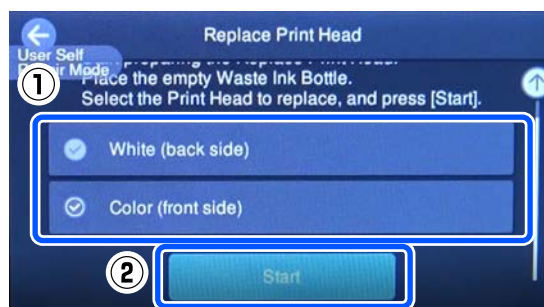
The 🔘 icon indicates the Print Head that is selected to be replaced. (In the illustration above, the **Color (front side)** is to be replaced.)

4 Check the on-screen messages, and then press **Start**.

5 When the following message is displayed on screen, turn off the power to the printer.

After turning off the power, replace the print heads.
The replacement should be completed within 30 minutes.
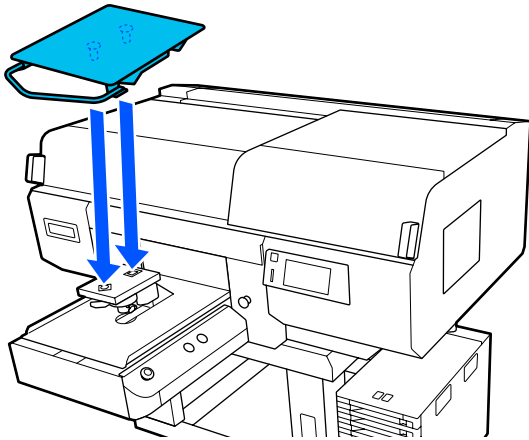**If replacement takes too long, clogged nozzles may not improve.**

6 Unplug the power cable on the back of the printer from the electric outlet.

Replacement Procedure

7 Hold a M size platen without grip pad, and insert the shafts into the holes.
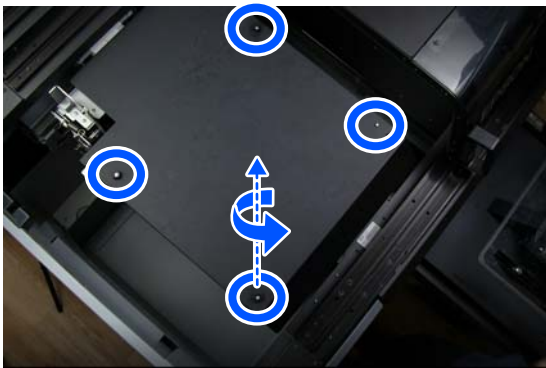
Insert them so that the hanger is at the front.

8 Open the left side of the printer cover.

9 Put on the protective glasses and mask.

Removing screws is difficult while wearing gloves, so put them on after removing the screws in step 12.

10 Turn the screws (4 pc) counterclockwise to remove them.

Use your fingers to turn and remove the screws.

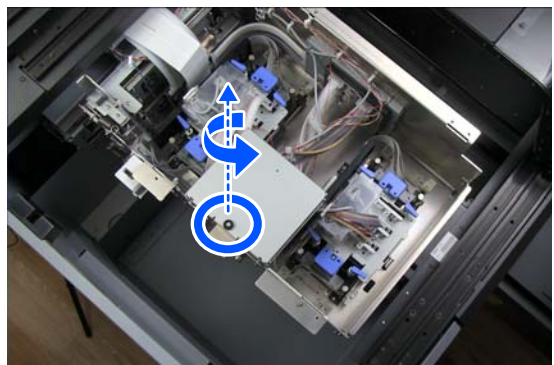Keep the screws you removed to use later, do not lose them.

11 Lift the cover straight up to remove it.

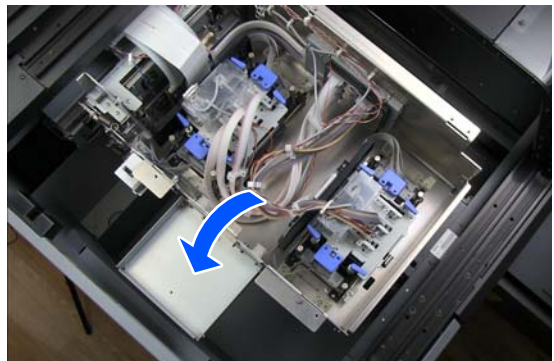After removing the cover, place it on the top of the Printer Cover with the inside facing upward.

12 Turn the screw (1 pc) counterclockwise to remove them.

Use your fingers to turn and remove the screws.

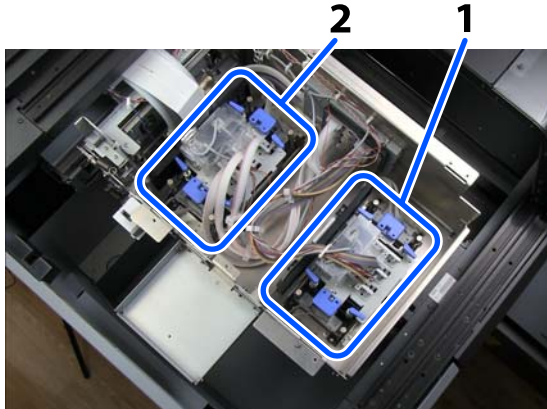This screw is the same as the screws removed in step 10. Keep this screw to use later, do not lose it.

13 Open the temporary platform.

14

Replacement Procedure

**14** Confirm the position of the Print Head you want to replace.

The front one is Print Head 1 (color), and the back one is Print Head 2 (white).

> **❗ Important:**
>
> *The replacement Print Head can be used for either 1 or 2, but if you mistake the Print Head to be replaced, you will need to redo this work. Also, if the Print Head is installed incorrectly, it cannot be reused.*

15 Turn the fixing levers (4 locations) sideways to release the locks of the Print Head you want to replace.
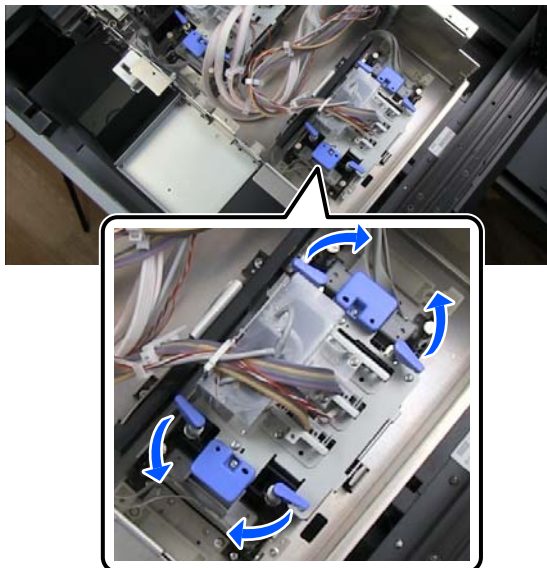
16 Swing the Ink Damper Unit up and down a little with both hands and lift it straight up, and then place it on the temporary platform in the orientation shown in the illustration.
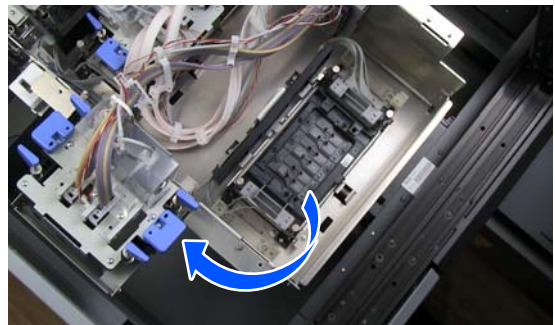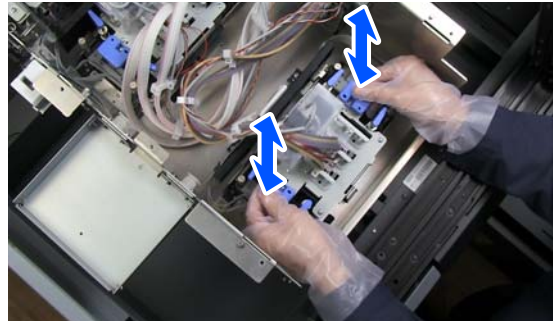
> **❗ Important:**
>
> *Do not touch the bottom of the Ink Damper Unit. There is a risk of deforming the ink supply ports.*
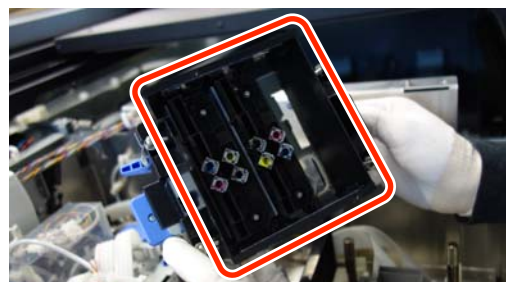
17 Use your fingers to turn the connector fixing screws (4 pc) counterclockwise to loosen them.

If you cannot loosen the screws with your fingers, use a coin or flathead screwdriver to loosen them.

15

Replacement Procedure

You can loosen the screws, but they cannot be removed from the connector.
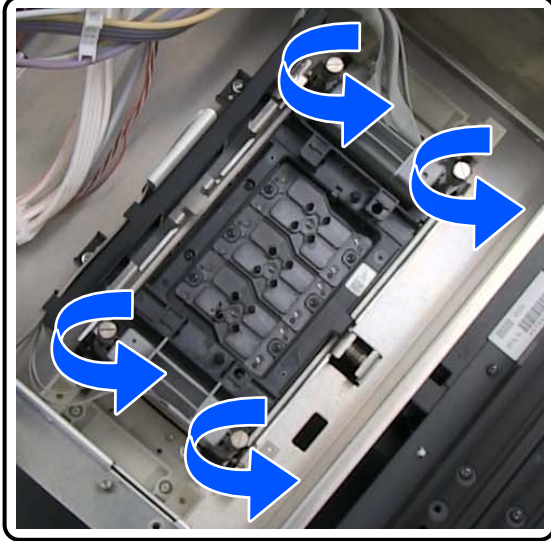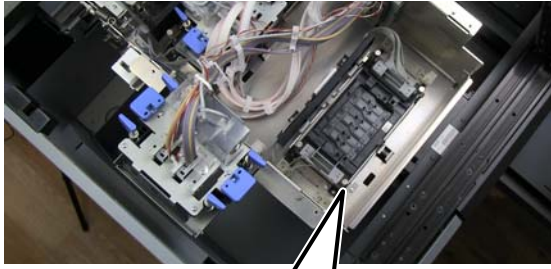
18 Lift the right side connector straight up, and place it on the holder.

> **❗ Important:**
>
> *Press down on the Print Head as you remove the connector so the connector's pins are not deformed or damaged.*

19 Remove the left side connector in the same way, and place it on the holder.

Replacement Procedure

20 Open the protective case of the replacement Print Head, and place it so the inside of the lid is facing upwards.
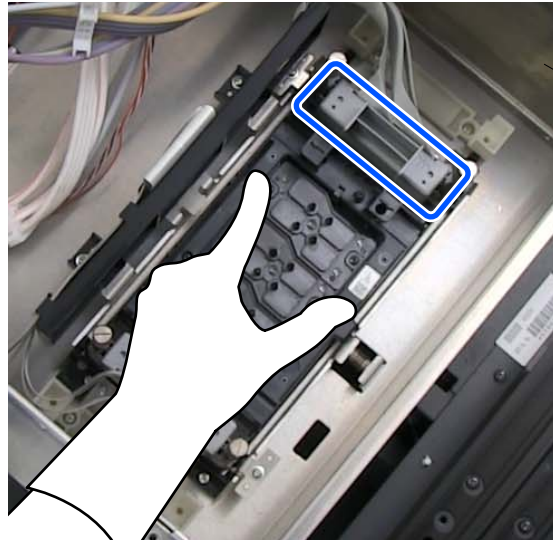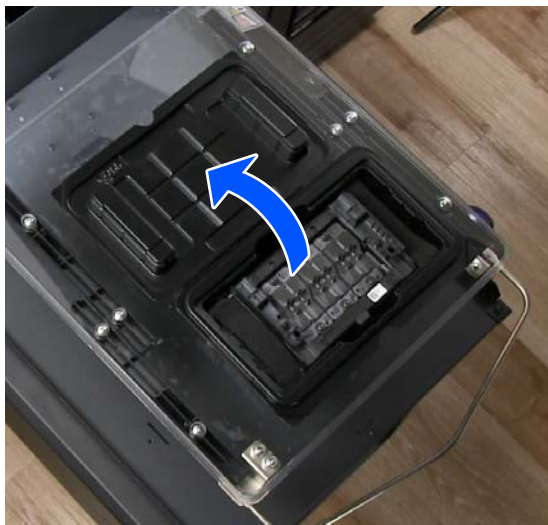

Later, you will place the used Print Head that you removed on the upside down lid.

21 Use both hands to lift the Print Head straight up and remove it.

Hold the Print Head correctly.

U "Correctly Holding the Print Head" on page 12

22 Place the used Print Head that you removed on the lid of the protective case.

How to Install

You can check the procedure in a video on YouTube.

Epson Video Manuals

Hold the Print Head correctly.

U "Correctly Holding the Print Head" on page 12
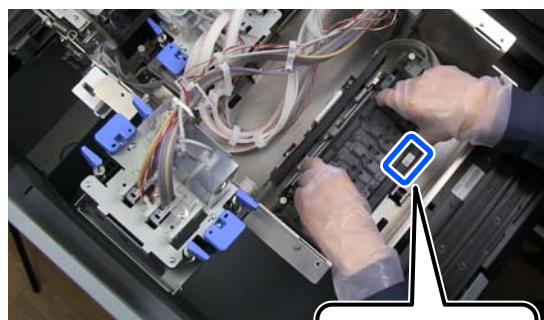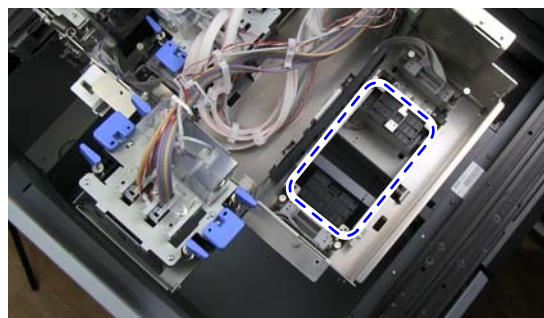
> **!** *Important:*
>
> *Do not touch the areas you should not touch while handling the replacement Print Head.*
>
> U *"Do Not Touch These Areas" on page 12*

1 Use both hands to take the replacement Print Head out of the protective case and install it in the printer.

Install it so the label can be seen towards the front.
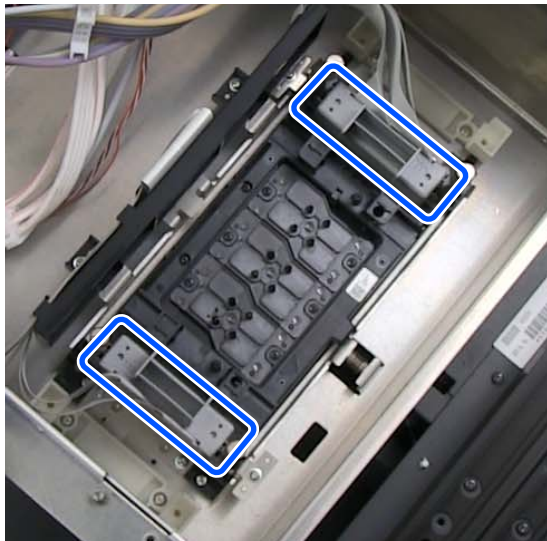
Replacement Procedure

> ❗ *Important:*
>
> ❑ *Immediately install the Print Head to the printer after removing it from the case. There is a risk of lint or dust getting on it.*
>
> ❑ *Placing the nozzle side on a surface can cause malfunctions.*

2 Connect the left and right connectors.

Lightly press on the top of the connectors to assure they are inserted.

3 Use your fingers to turn the fixing screws (4 pc) clockwise to secure the connector.

❑ Use your fingers to tighten each of the screws in the order shown in the following illustration until they stop turning.

❑ If screw (1) spins freely, the Print Head is not correctly installed. Remove it and then re-install it.
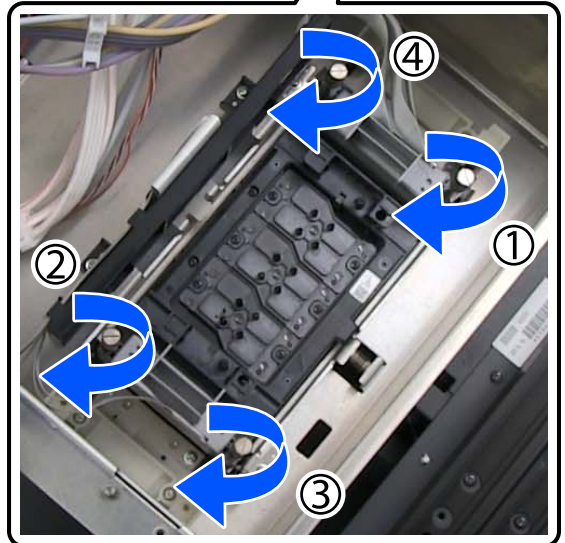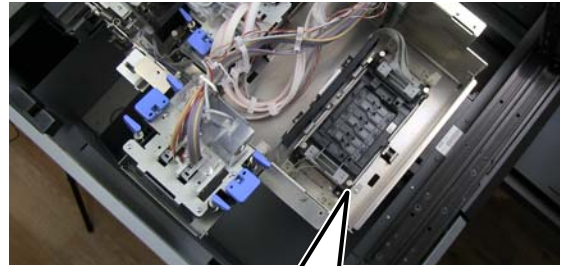
4 Hold the Ink Damper Unit in both hands, and install it on the Print Head.

> ❗ *Important:*
>
> *Do not touch the bottom of the Ink Damper Unit. There is a risk of deforming the ink supply ports.*

18
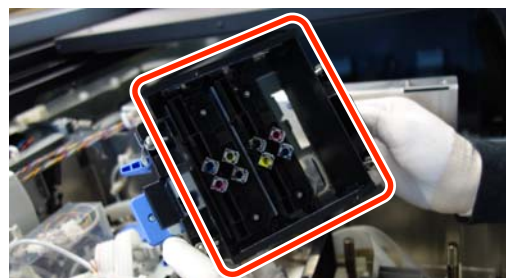
Replacement Procedure

5 Lightly press on the handles of the Ink Damper Unit to assure it is installed.
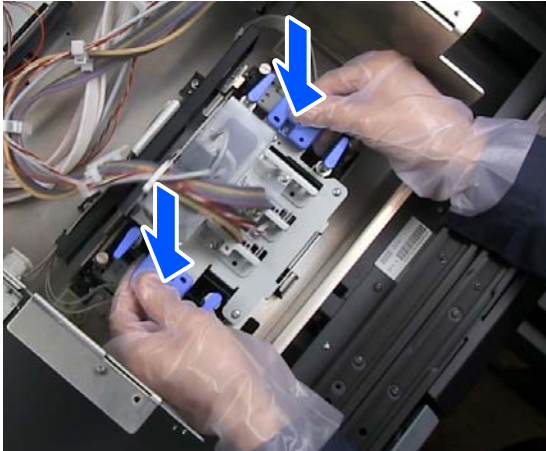
6 Turn all the fixing levers (4 locations) back lengthwise to lock them.
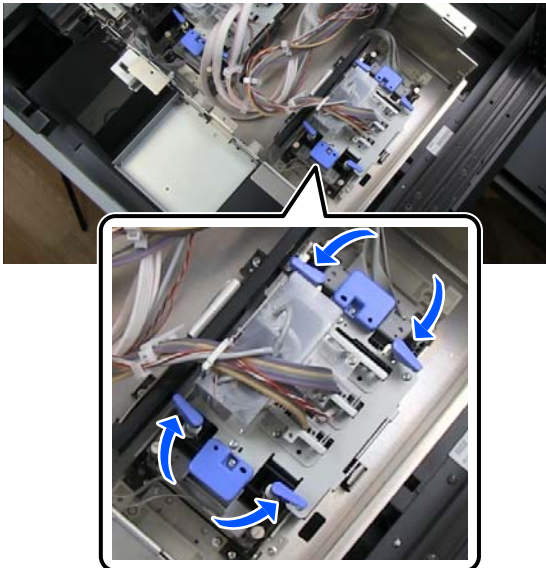
> ⚠️ *Important:*
>
> *Be sure to lock all the fixing levers.*
>
> *If they are not locked, ink could leak when the printer is used.*

7 Put the temporary platform back, and secure it with a screw (1 pc).

Use your fingers to tighten the screw until it stops turning.
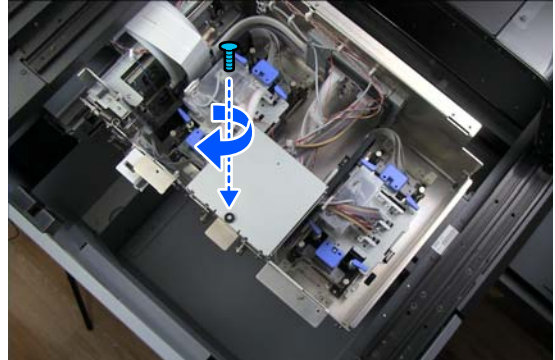
8 Align the cover with the protrusions on the printer to install it.
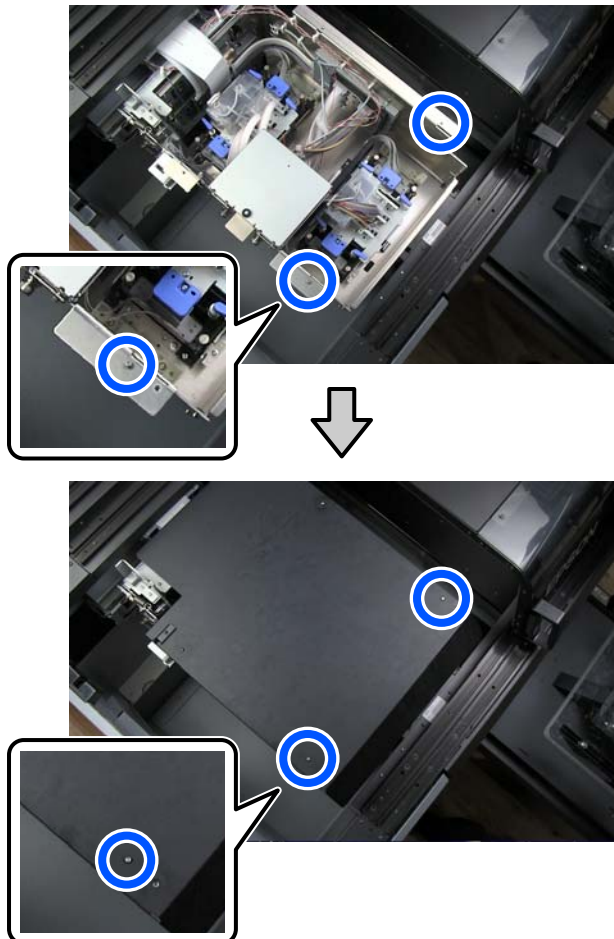
Confirm that the protrusions stick out of the holes near the screw holes.

9 Turn the screws (4 pc) clockwise to secure it.

User your fingers to tighten the screws until they stop turning.

Tighten the screws in order in a diagonal pattern.
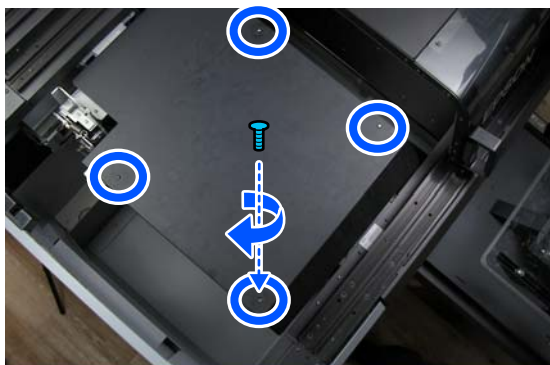
10 Close the left side of the printer cover.

Disposing of Used Print Heads

U "Disposing of Used Print Heads" on page 21

Process after Replacement

This section explains how to fill a Print Head with ink and confirm it was replaced correctly.

1 Check that an M size platen without a grip pad is installed.

There should be nothing on the platen.

2 Connect the power cable to an electrical outlet.

3 Start the printer in User Self-Repair Mode.

U "How to Start in User Self-Repair Mode" on page 8

The ink starts filling.

4 Mark guidelines for the position on the platen to set the film, as shown in the illustration.

5 Use a sprayer to spray water on the center of the platen.

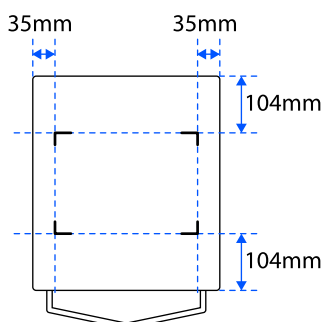If you do not dampen the surface of the platen with water, you cannot correctly set the Adjustment Film Sheet.

6 Starting from the front of the platen, slide the Adjustment Film Sheet along the surface of the platen so it aligns with the marks as you place it.
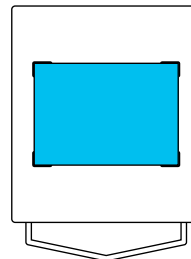
Be sure to align the film with the markings. If it is placed in a different position, the platen may be soiled with ink.

7 Be sure that the film adheres correctly.

❏ If there is air between the film and the platen, as shown in the illustration, return to step 6 and reset it.

❏ If there is any water on the surface of the film, use a soft cloth that is not likely to generate lint to wipe it off.

8 When the screen changes to **Print Head Nozzle Check**, press **Start**.

The nozzle check pattern is printed.

9 Check the nozzle check pattern.

If there are no clogged nozzles

Select ⬭.

If there are clogged nozzles

Select ✖, and then do **Head Cleaning** until the clogged nozzles are cleared.

Replacement Procedure

When the screen changes to **Print Head Alignment**, all the head replacement work is complete.

Next, do the adjustment work.

Disposing of Used Print Heads

Pack the used Print Head according to the following procedure, and then contact your dealer or Epson Support.

How to Pack

| 1 | Apply commercially available adhesive tape to the contacts of the connectors on the used Print Head. |

Be sure to apply the tape so that any ink left in the nozzles cannot leak out during transport and get into the contacts of the connectors.

| 2 | Put the Print Head into the protective case and close the lid. |

| 3 | Put the protective case in the plastic bag in which was wrapped the replacement Print Head, and then put it all in the outer carton and seal it with adhesive tape. |

Pack it securely so that the Print Head does not come out of the box during transport.

Adjustment Work

Adjustment work comprises 3 types of adjustments that are done in order.

Preparation

Use the following to do adjustment work.

Adjustment Film Sheet (3 sheet)

Use the ones distributed during User Self-Repair training.

M size platen
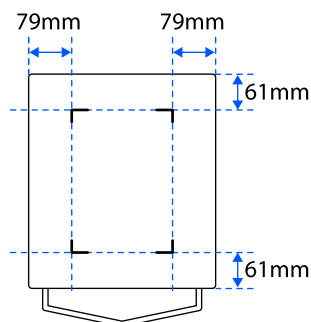
Use one that has no grip pad on it.

Execute Print Head Alignment

1 Mark guidelines for the position on the platen to set the film, as shown in the illustration.

2 Use a sprayer to spray water on the center of the platen.

If you do not dampen the surface of the platen with water, you cannot correctly set the Adjustment Film Sheet.

3 Starting from the front of the platen, slide a new Adjustment Film Sheet along the surface of the platen so it aligns with the marks as you place it.
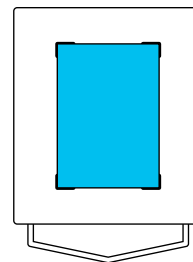
Be sure to align the film with the markings. If it is placed in a different position, the platen may be soiled with ink.

4 Be sure that the film adheres correctly.

❏ If there is air between the film and the platen, as shown in the illustration, return to step 3 and reset it.

❏ If there is any water on the surface of the film, use a soft cloth that is not likely to generate lint to wipe it off.

5 Press **Start**.

Pressing the ◇ button starts printing the adjustment pattern. When printing the pattern is complete, the adjustment value entry screen is displayed. Continue to the next procedure.

6 Check the printed adjustment pattern.
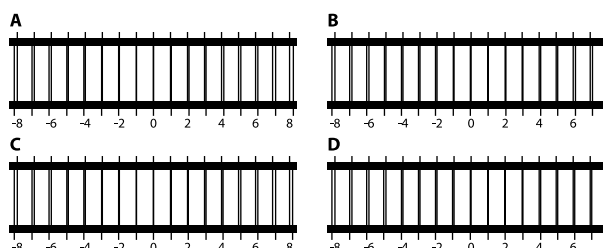
Check the 4 patterns A to D, and select from -8 to +8, where the line appears thinnest (lines overlap) in the pattern.

Given the following illustration, select "-1".
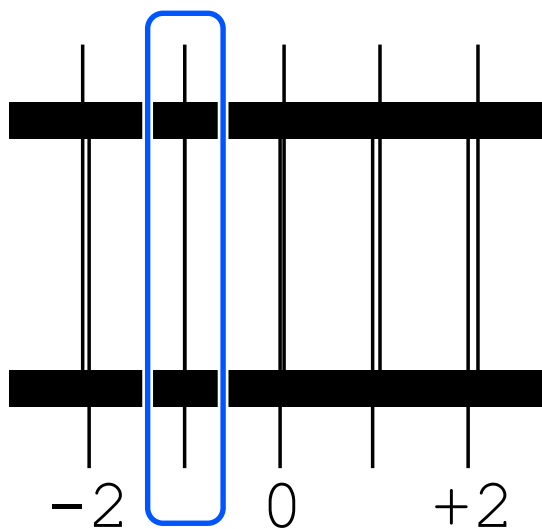
Check all the patterns, and then go to the next step.

7 Input the adjustment values.

Input the adjustment values in order A to D that you selected in step 6 for all of the blocks #1 to #4.

Inputting all of the adjustment values and pressing **OK** opens a screen for confirming the adjustment values.

Check the adjustment results and press **OK** to reflect the adjustment results to the printer.

Next, execute **Head Interval X Uni-D Adjustment**.

Executing Head Interval X Uni-D Adjustment

1 Use a sprayer to spray water on the center of the platen.

If you do not dampen the surface of the platen with water, you cannot correctly set the Adjustment Film Sheet.

2 Starting from the front of the platen, slide a new Adjustment Film Sheet along the surface of the platen so it aligns with the marks as you place it.

Be sure to align the film with the markings. If it is placed in a different position, the platen may be soiled with ink.

3 Be sure that the film adheres correctly.

❏ If there is air between the film and the platen, as shown in the illustration, return to step 2 and reset it.

❏ If there is any water on the surface of the film, use a soft cloth that is not likely to generate lint to wipe it off.

4 Press **Start**.

Pressing the ◊ button starts printing the adjustment pattern. When printing the pattern is complete, the adjustment value entry screen is displayed. Continue to the next procedure.
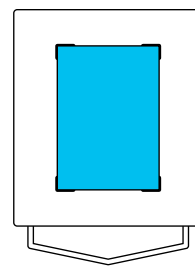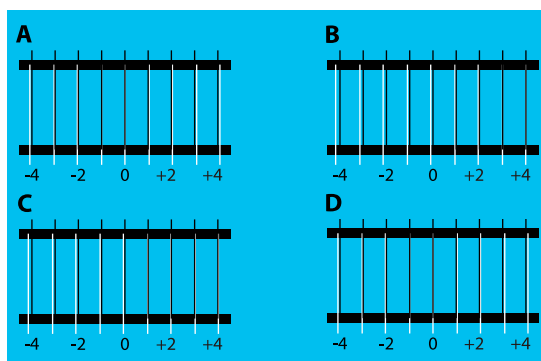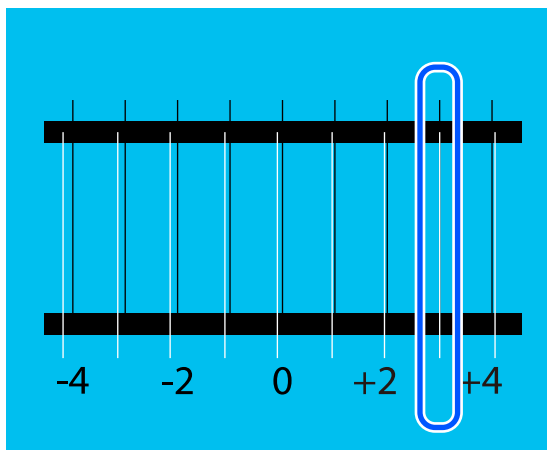
5 Check the printed adjustment pattern.

Adjustment Work

Check the pattern, and select from -4 to +4, where the white and black lines overlap most closely in the pattern.

Given the following illustration, select "+3".

6 Input the adjustment values.

Input the adjustment values in order A to D that you selected in step 5.

Inputting all of the adjustment values and pressing **OK** opens a screen for confirming the adjustment values.

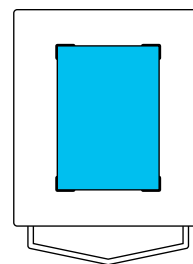Check the adjustment results and press **OK** to reflect the adjustment results to the printer.

Next, execute **Head Interval Y Adjustment**.

Executing Head Interval Y Adjustment

1 Use a sprayer to spray water on the center of the platen.

If you do not dampen the surface of the platen with water, you cannot correctly set the Adjustment Film Sheet.

2 Starting from the front of the platen, slide a new Adjustment Film Sheet along the surface of the platen so it aligns with the marks as you place it.

Be sure to align the film with the markings. If it is placed in a different position, the platen may be soiled with ink.

3 Be sure that the film adheres correctly.

❏ If there is air between the film and the platen, as shown in the illustration, return to step 2 and reset it.
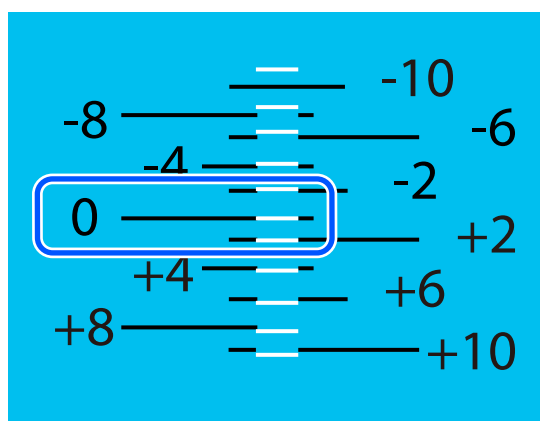

❏ If there is any water on the surface of the film, use a soft cloth that is not likely to generate lint to wipe it off.

4 Press **Start**.

Pressing the ◇ button starts printing the adjustment pattern. When printing the pattern is complete, the adjustment value entry screen is displayed. Continue to the next procedure.

5 Check the printed adjustment pattern.

Adjustment Work

Check the pattern, and select from -10 to +10, where the white and black lines overlap most closely in the pattern.

Given this illustration, select "0".

| 6 | Input the adjustment values. |

Inputting the adjustment values selected in step 5 and then pressing **OK** opens a screen for confirming the adjustment values.

Check the adjustment results and press **OK** to reflect the adjustment results to the printer.

When the screen display returns to the home screen, all the adjustment work is complete.

Confirm the Adjustment Results

| 1 | Turn off the power to the printer, and start it normally. |

| 2 | Send an actual print job to confirm if the print results are improved. |

> **⚠ Important:**
>
> *Print jobs cannot be received while in User Self-Repair Mode. Be sure to restart in the normal way before you send a print job.*

If there are problems with the print quality, do **Media Settings** - **Print Adjustments**. For details on **Print Adjustments**, see the *User's Guide* (PDF).

If the problem is not eliminated by doing **Print Adjustments**, contact your dealer or Epson Support.