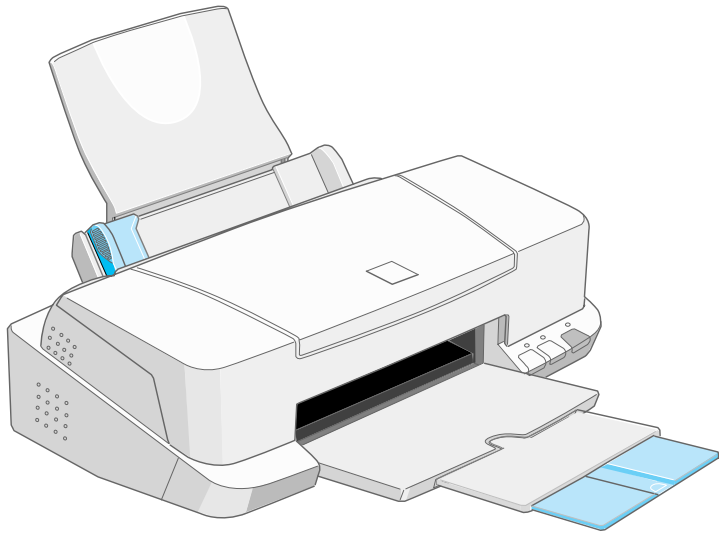


# SERVICE MANUAL



Color ink jet printer

**EPSON Stylus COLOR 660**



**EPSON®**

SEJ99005

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# PRECAUTIONS

Precautionary notations throughout the text are categorized relative to 1) Personal injury and 2) damage to equipment.

**DANGER** Signals a precaution which, if ignored, could result in serious or fatal personal injury. Great caution should be exercised in performing procedures preceded by DANGER Headings.

**WARNING** Signals a precaution which, if ignored, could result in damage to equipment.

The precautionary measures itemized below should always be observed when performing repair/maintenance procedures.

## **DANGER**

1. ALWAYS DISCONNECT THE PRODUCT FROM THE POWER SOURCE AND PERIPHERAL DEVICES PERFORMING ANY MAINTENANCE OR REPAIR PROCEDURES.
2. NOWORK SHOULD BE PERFORMED ON THE UNIT BY PERSONS UNFAMILIAR WITH BASIC SAFETY MEASURES AS DICTATED FOR ALL ELECTRONICS TECHNICIANS IN THEIR LINE OF WORK.
3. WHEN PERFORMING TESTING AS DICTATED WITHIN THIS MANUAL, DO NOT CONNECT THE UNIT TO A POWER SOURCE UNTIL INSTRUCTED TO DO SO. WHEN THE POWER SUPPLY CABLE MUST BE CONNECTED, USE EXTREME CAUTION IN WORKING ON POWER SUPPLY AND OTHER ELECTRONIC COMPONENTS.

## **WARNING**

1. REPAIRS ON EPSON PRODUCT SHOULD BE PERFORMED ONLY BY AN EPSON CERTIFIED REPAIR TECHNICIAN.
2. MAKE CERTAIN THAT THE SOURCE VOLTAGES IS THE SAME AS THE RATED VOLTAGE, LISTED ON THE SERIAL NUMBER/RATING PLATE. IF THE EPSON PRODUCT HAS A PRIMARY AC RATING DIFFERENT FROM AVAILABLE POWER SOURCE, DO NOT CONNECT IT TO THE POWER SOURCE.
3. ALWAYS VERIFY THAT THE EPSON PRODUCT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE REMOVING OR REPLACING PRINTED CIRCUIT BOARDS AND/OR INDIVIDUAL CHIPS.
4. IN ORDER TO PROTECT SENSITIVE MICROPROCESSORS AND CIRCUITRY, USE STATIC DISCHARGE EQUIPMENT, SUCH AS ANTI-STATIC WRIST STRAPS, WHEN ACCESSING INTERNAL COMPONENTS.
5. REPLACE MALFUNCTIONING COMPONENTS ONLY WITH THOSE COMPONENTS BY THE MANUFACTURE; INTRODUCTION OF SECOND-SOURCE ICs OR OTHER NONAPPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.

# PREFACE

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of Stylus COLOR 660. The instructions and procedures included herein are intended for the experienced repair technicians, and attention should be given to the precautions on the preceding page. The chapters are organized as follows:

## **CHAPTER 1. PRODUCT DESCRIPTIONS**

*Provides a general overview and specifications of the product.*

## **CHAPTER 2. OPERATING PRINCIPLES**

*Describes the theory of electrical and mechanical operations of the product.*

## **CHAPTER 3. TROUBLESHOOTING**

*Provides the step-by-step procedures for troubleshooting.*

## **CHAPTER 4. DISASSEMBLY AND ASSEMBLY**

*Describes the step-by-step procedures for disassembling and assembling the product.*

## **CHAPTER 5. ADJUSTMENTS**

*Provides Epson-approved methods for adjustment.*

## **CHAPTER 6. MAINTENANCE**

*Provides preventive maintenance procedures and the lists of Epson-approved lubricants and adhesives required for servicing the product.*

## **CHAPTER 7. APPENDIX**

*Provides the following additional information for reference:*

- *EEPROM Address Map*
- *Connector Pin Assignments*
- *Circuit Diagram*

## Revision Status

Revision	Issued Date	Description
A	August 25, 1999	First Release

**CHAPTER**

**1**

**PRODUCT DESCRIPTION**

## 1.1 FEATURES

**EPSON Stylus Color 660/660** are designed for PC users at home and low price for hat high performance. Also, Stylus Color 440 printer has the same high color print quality (720 X 720dpi) as Stylus ProXL, and **Stylus Color 640,740,660** have the same high color print quality (1440 X 720) as Stylus Color 600 and Stylus Pro 5000. The major printer features are;

- High color print quality
  - 720 (H) x 720 (V) dpi printing (for Stylus Color 440)
  - 1440 (H) X 720 (V) dpi printing (for Stylus Color 640, 660, 740)
  - 4 color printing (YMCK)
  - Traditional and New Microwave
  - Black 64 nozzles, CMY 21 nozzles (for Stylus Color 440)
  - Black 64 nozzles, CMY 32/color nozzles (for Stylus Color 640, 660)
  - Black 144 nozzles, CMY 48/color nozzles (for Stylus Color 740)
- Built-in auto sheet feeder
  - Holds 100 cut-sheets (64g/m<sup>2</sup>)
  - Holds 10 envelopes
  - Holds 30 transparency films
  - Holds 65 special papers
- High-speed print
  - 200 cps (for Stylus Color 440, 740)
  - Normal 200 cps, Draft 400 cps (only for Stylus Color 640, 660)
  - By using head drive frequency 14.4KHz, printing speed is twice faster than Stylus Color.
- Compact size
  - 429mm (W) x 231mm (D) x 155mm (H) (for Stylus Color 440)
  - 429mm (W) x 231mm (D) x 157mm (H) (for Stylus Color 640, 660)
  - 429mm (W) x 261mm (D) x 157mm (H) (for Stylus Color 740)
  - Weight : 5.2Kg (for 3 models)
- Acoustic noise
  - Approximately 45 dB (for Stylus Color 440)
  - Approximately 47 dB (for Stylus Color 640, 660, 740)
- Interface
  - Bi-directional parallel I/F IEEE-1284 level 1 device (for 3 models)
  - Mac serial I/F up to approx. 1800 kbps (only for Stylus Color 740)
  - USB (only for Stylus Color 740)
- One unit combined black and CMY head
- Windows exclusive (for Stylus Color 440, 640, 660)
- Standard, NLSP, 5 Scaleable fonts (only for Stylus Color 740)
- Stylus Color 660 is the refresh version based on Stylus Color 640. The difference points are as follows;**
  - **Following EEPROM Datas**

Address	Data
*02H:	03H
*72H:	36H
*73H:	36H
*74H:	30H

**See the Table A-20 to A-26 for EEPROM address map of EPSON Stylus Color 440/640/740 Service Manual.**

The rest contents of Product Description is the same as of EPSON Stylus Color 640/660/740.



**CHAPTER**

**2**

**OPERATING PRINCIPLES**

The contents of Operating Principles is the same as of EPSON Stylus Color 640/660/740.

**CHAPTER**

**3**

# **TROUBLESHOOTING**

The contents of Trouble Shooting is the same as of EPSON Stylus Color 640/660/740.

**CHAPTER**

**4**

**DISASSEMBLY AND ASSEMBLY**

The contents of Disassembly and Assembly is the same as of EPSON Stylus Color640/660/740.

**CHAPTER**

**5**

**ADJUSTMENT**

## 5.1 Overview

This chapter describes adjustments required for Stylus Color 640/660 when the printer is disassembled and assembled after repair. Refer to Stylus Color 740/640/440 Service Manual for things that are not described here.

### 5.1.1 Required Adjustments

Stylus Color 640/660 requires the following adjustments. (Refer to Table 5-1) Perform any necessary adjustment referring to the figures and procedures described throughout this chapter.

**Table 5-1 Adjustment Required**

No.	Adjustment Item	Conditions
1	Parallelism Adjustment	<ul style="list-style-type: none"> <li>When you replace or remove the Carriage guide shaft.</li> <li>When you move the parallelism adjustment bushing.</li> </ul>
2	Initial Ink Charge	<ul style="list-style-type: none"> <li>When you replace or remove the printhead.</li> </ul>
3	Head Voltage ID Input	<ul style="list-style-type: none"> <li>When you replace the printhead.</li> <li>When you replace the main board.</li> </ul> <p><b>Note)</b> The values stored in this address are not erased by EEPROM reset operation.</p>
4	Printing Head Angle Adjustment	<ul style="list-style-type: none"> <li>When you replace or remove the printhead.</li> <li>When you move the printhead angle adjusting lever.</li> </ul>
5	Bi-D Adjustment	<ul style="list-style-type: none"> <li>When you replace or remove the printhead.</li> <li>When you replace the main board.</li> <li>When you replace the CR Motor.</li> </ul>

Table below shows the actions taken and required adjustments in the order to be performed.

**Table 5-2 Actions Taken and Adjustment Required**

No.	Content of Operation	Adjustment Procedure
1	Removal of the printhead	<ol style="list-style-type: none"> <li>Perform initial ink charge.</li> <li>Perform printhead angle adjustment.</li> <li>Perform Bi-d Adjustment.</li> </ol>
2	Replacement of the printhead	<ol style="list-style-type: none"> <li>Perform Vh voltage writing operation.</li> <li>Perform initial ink charge.</li> <li>Perform printhead angle adjustment.</li> <li>Perform Bi-d Adjustment.</li> </ol>
3	Replacement of the main board	<ol style="list-style-type: none"> <li>Perform Vh voltage writing operation.</li> <li>Perform Bi-d adjustment.</li> </ol> <p><b>Note)</b> After performing the above adjustment, replace the following parts.</p> <ul style="list-style-type: none"> <li>Ink cartridge</li> <li>Waste Ink Pad</li> </ul> <p>The above two kinds of software counter are erased by replacing the Main board.</p>
4	Replacement or Removal of the Carriage Unit	<ol style="list-style-type: none"> <li>Perform parallel adjustment.</li> <li>Perform printhead angle adjustment.</li> <li>Perform Bi-d adjustment.</li> </ol>
5	Replace of the CR Motor	<ol style="list-style-type: none"> <li>Perform Bi-d adjustment.</li> </ol>
6	Replacement of the Printer Mechanism	<ol style="list-style-type: none"> <li>Perform Head Voltage ID Input.</li> <li>Perform initial ink charge.</li> <li>Perform Bi-d adjustment.</li> </ol>



## 5.1.2 Adjustment Tools Required

Table 5-3 below shows adjustment tools for Stylus Color 640/660.

**Table 5-3 Adjustment Tools Required**

No.	Name	Adjustment Item	Contents/Spec.
1	Thickness Gauge	Parallelism Adjustment	1.04 mm
2	Adjustment Program	Each Mechanism Settings	Exclusive Program; Stylus COLOR 600 640 660



- **Never use the bent (curved or tilted) or rusty thickness gauge.**
- **Erase any dirt, grease or obstacles on the thickness gauge before you use it.**

## 5.2 Adjustment

This section explains the specific procedures for making the adjustments using the exclusive adjustment program for Stylus Color 640/660.

### 5.2.1 Adjustment by Adjustment Program

For this printer, it is necessary to set the correct information for each printer mechanism in order to maintain consistent printing function and quality, eliminating differences among each printer mechanism's characteristics.

Therefore, in case that the combination of the printer mechanism and main board changes or the printhead is replaced during repair, you must set and save the correct information to the main board, using the exclusive adjustment program.

#### 5.2.1.1 About Adjustment Program

The adjustment program (Program name: Stylus COLOR 600 640 660) enables you to set various values correctly to prevent malfunction and fluctuation of printing quality and printing function caused by difference in components and assembly when the printer components are replaced during repairs. Basic adjustment menu in this program are shown in Figure 5-1. Options in the Program.

**NOTE:** This Adjustment Program can not be used in Windows NT and Dos environment.

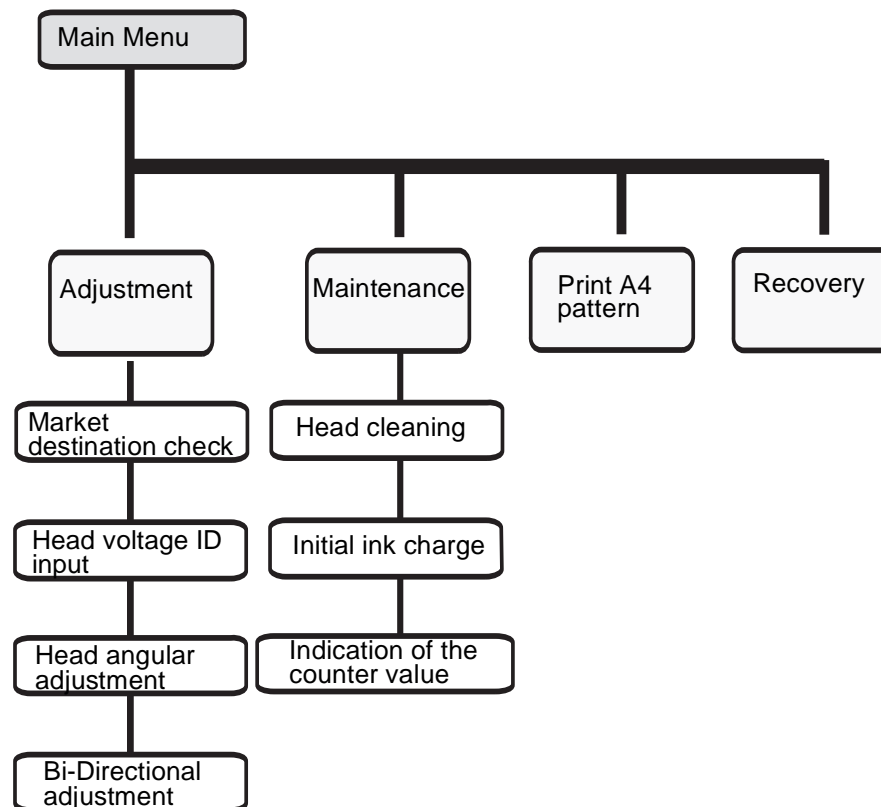


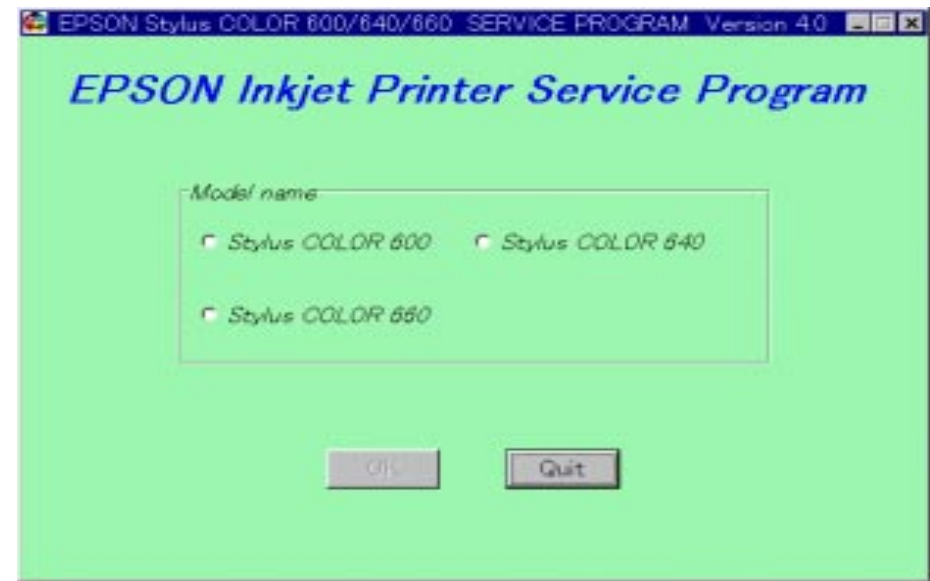
Figure 5-1. Options in the Program

### 5.2.1.2 Entering Stylus COLOR 660 SERVICE PROGRAM

To perform any adjustment, you need to enter the Stylus COLOR 660 SERVICE PROGRAM first. Read the following instructions and these steps will bring you to the service program screen.

1. Connect the printer and PC and turn on the printer.
2. Insert Disk 1 for the adjustment program to the floppy disk drive.
3. Execute Setup.exe of Disk 1.
4. The Setup Wizard for the adjustment program “EPSON Stylus COLOR 600/640/660 SERVICE PROGRAM Version 4.0” starts, and you can follow the direction indicated by the wizard.
5. The Setup Wizard says “Setup Needs The Next Disk.”
6. Take out Disk 1 and insert Disk 2.
7. Program will be installed in your appointed folder.
8. Go to the appointed folder and open the adjustment program.

9. The following screen appears.



**Figure 5-2. Initial Screen (1)**

10. Choose Stylus Color 660, and click OK. By doing so, the model name will be written in the EEPROM.

**NOTE:** If you select wrong model name in the above menu between Stylus COLOR 640 and 660, the model name will be written in the EEPROM anyway because SC 640 and 660 have compatibility. Be careful not to choose wrong model name. The wrong model name will not be written in EEPROM between SC 660 and SC 640 or between SC 600 and SC 660.

11. In the next screen, choose the market destination according to the market.

- Standard: All the market except ESP.India and Korea
- ESP.India: for ESP India
- Korea: for EKL

**NOTE:** When you choose the market destination, the respective dot size used in the economy mode will be written in the EEPROM (6E<H>).

Default setting: Normal x 2 dot (Standard)  
Normal x 1 dot (ESP. India)

**NOTE:** When Korea is selected, the setting will be the same as in the case Standard is selected.



Figure 5-3. Initial Screen (2)

12. Click OK.

13. Following screen appears.

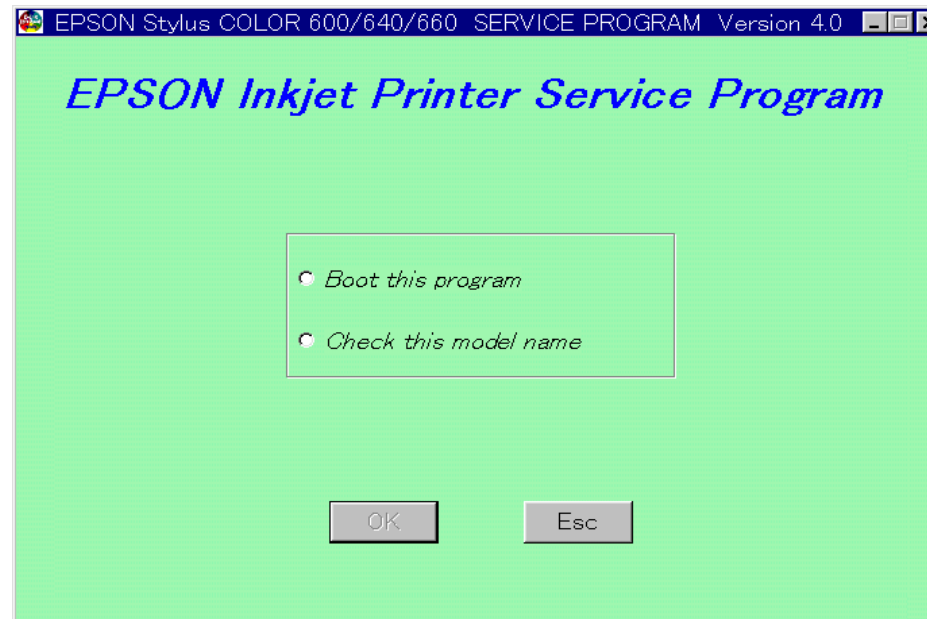


Figure 5-4. Initial Screen (3)

- ➔ If you want to check this model name, choose “Check this model name” and click OK. (See step 14)
- ➔ If you do not need to check the model name or finished checking, select “Boot this program”. (See step 17)

14. When you select “Check this model name”, the following screen appears.

**NOTE:** While checking the model name, keep the printer ON.



Figure 5-5. Checking the model name (1)

15. After a few seconds, the model name appears on the screen shown below.



Figure 5-6. Checking the model name (2)

16. Press “OK (Esc)” to go back to the initial screen (3) (Figure 5-4).

**NOTE:** If the Model name is wrong, choose the right model name on Figure 5-2.

17. In the initial screen (3) (Figure 5-4), select “Boot this program” and you will enter Stylus COLOR 660 SERVICE PROGRAM.
18. Stylus COLOR 660 SERVICE PROGRAM shown below appears.

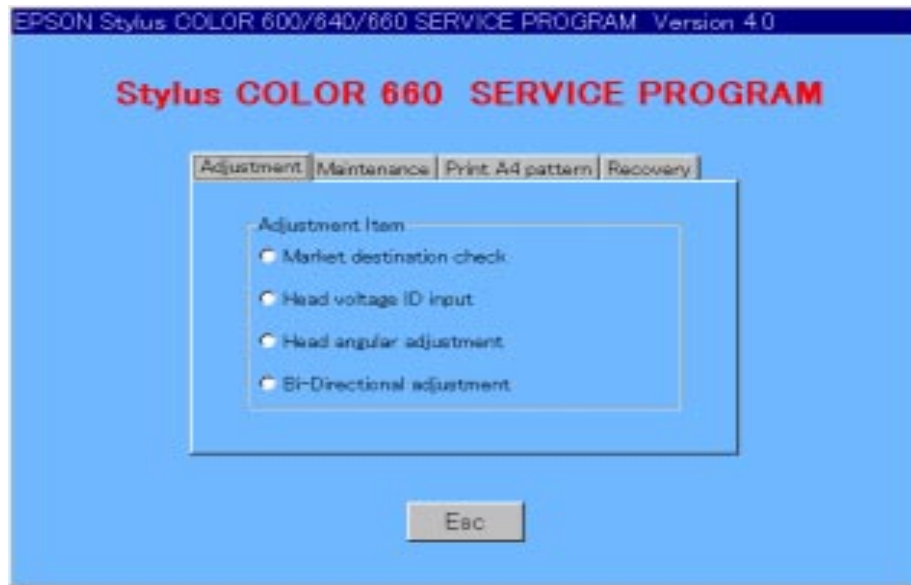


Figure 5-7. Stylus COLOR 660 SERVICE PROGRAM

### 5.2.1.3 Initial Ink Charge

There is no ink charged in the ink path of a spare printhead and printer mechanism. Therefore, after you replaced any of the following units, perform initial ink charge and return the printer after making sure that ink is ejected correctly from the printhead.

- After replacing the printer mechanism
- After replacing or removing the printhead

1. On the Stylus COLOR 660 SERVICE PROGRAM, select maintenance menu.



Figure 5-8. Maintenance Menu

2. Select "Initial ink charge" from the maintenance menu. The following screen appears.

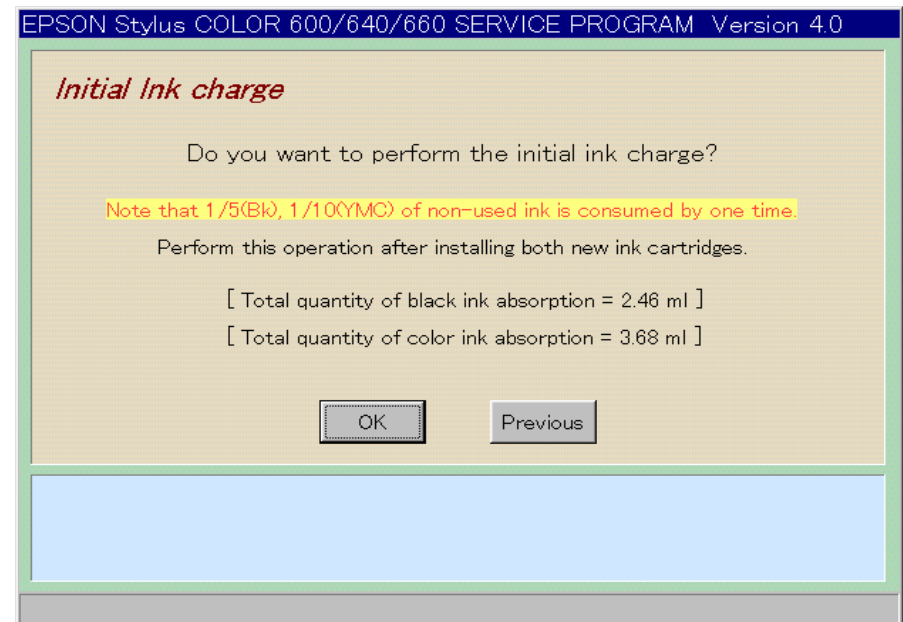


Figure 5-9. Initial Ink Charge



**Before you set the initial ink charge, replace the installed cartridges with new ones, because the ink amount used for the initial ink charge operation is so large.**

3. Click OK, and the printer enters the initial ink charge sequence. (It takes 90 seconds for this operation to complete the whole sequence.)

### 5.2.1.4 Head Cleaning

Stylus Color 660 have no dummy cleaning sequence called CL3, which was performed to prevent ink from being unnecessarily consumed when cleaning was repeated without any printout. However, Stylus Color 660 is alternatively equipped with the strongest cleaning sequence CL2 contained in this adjustment program. With this sequence, you can forcibly solve the clogged nozzle problem caused by viscous ink.



**If you can not recover the clogged nozzles despite you performed CL2 operation, enter the Initial ink charge sequence by referring to Section 5.2.1.3.**

1. On Stylus COLOR 660 SERVICE PROGRAM, select Maintenance menu.



Figure 5-10. Maintenance Menu

2. From Maintenance menu, select "Head cleaning". The following screen appears.

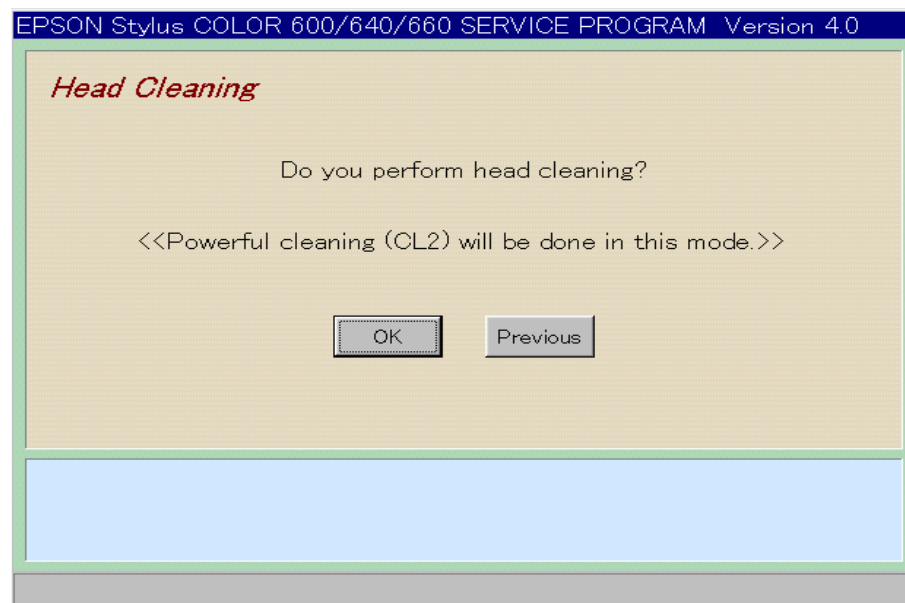


Figure 5-11. Head Cleaning

3. Click OK. The printer enters the CL2 sequence. **(It takes 60 seconds for the process to complete.)**



### 5.2.1.5 Indication of the counter value

The program provided with this manual can let you confirm or clear the current protection counter value.

[Confirming the current protection counter value]

1. On Stylus COLOR 660 SERVICE PROGRAM, select the Maintenance menu.



Figure 5-12. Maintenance Menu

2. From the maintenance menu, select "Indication of the counter value. The screen below appears".

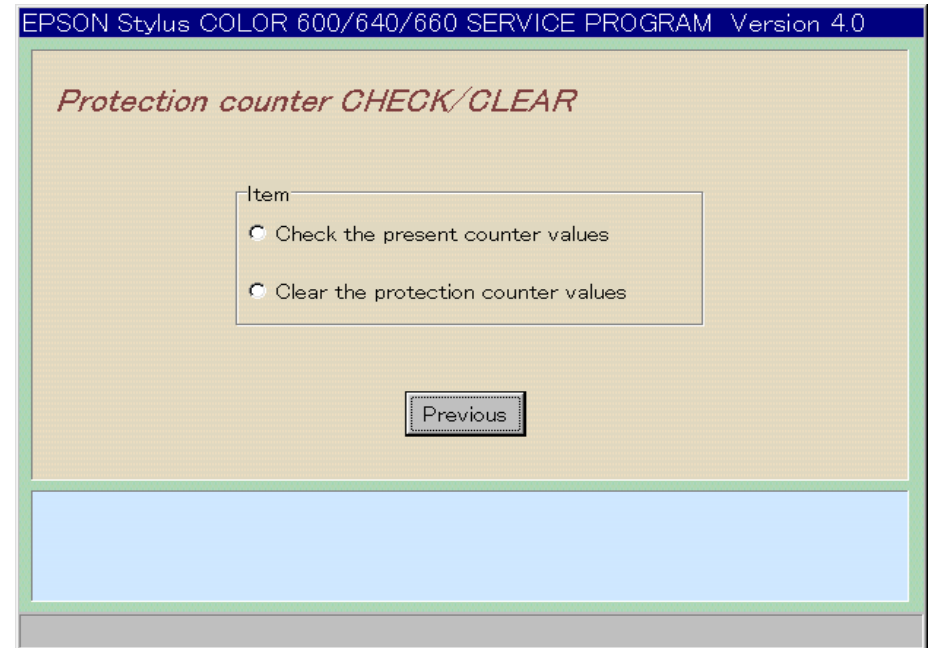
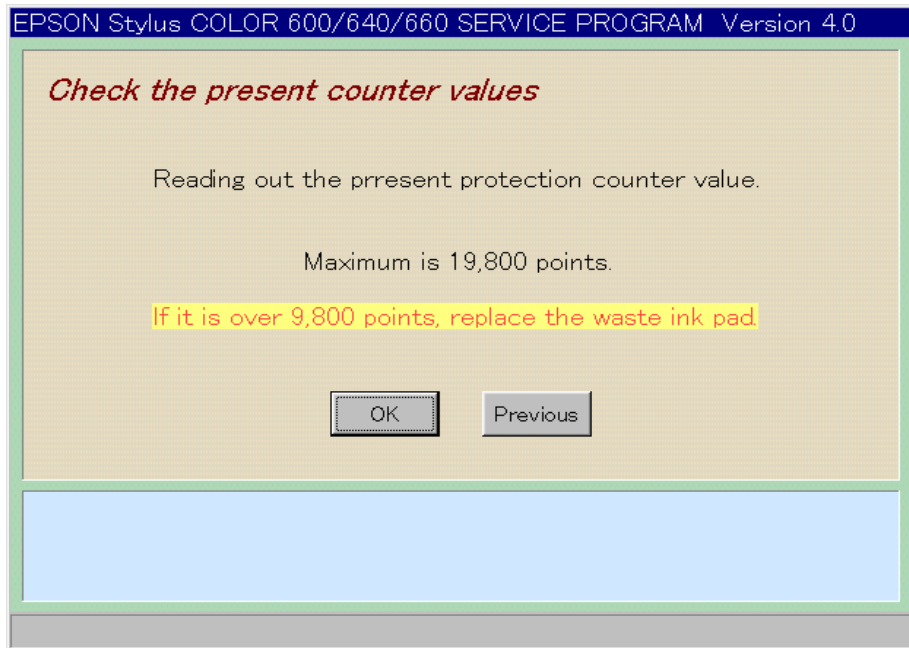


Figure 5-13. Protection Counter CHECK/CLEAR

- Click “Check the present counter values”. The screen below appears.



**Figure 5-14. Check the present counter values**

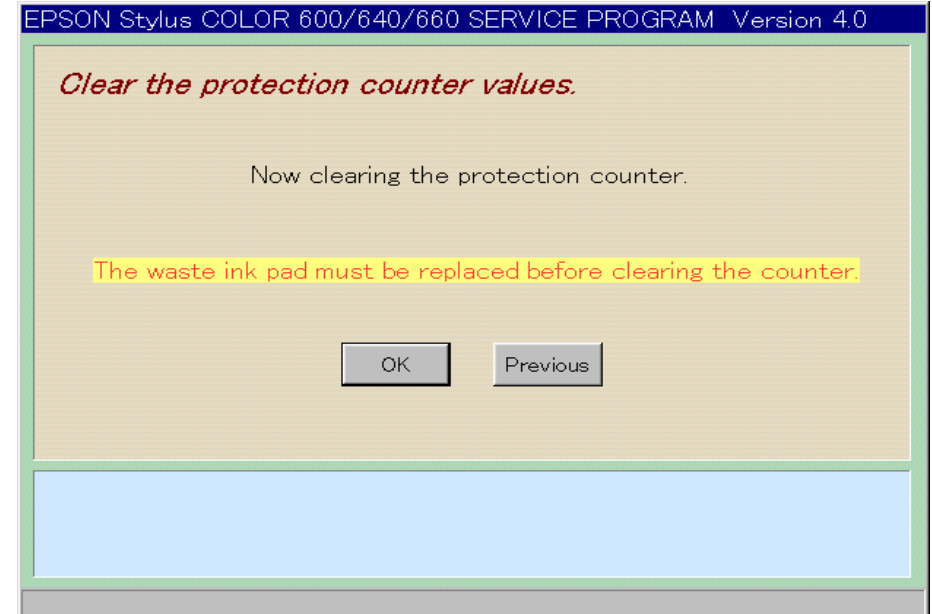
- If the present counter value is over 9800 points, advise your customer to replace the Waste ink drain pad with new one.

### [Clearing the current protection counter value]



**Be sure to replace the installed waste ink pad with a new one after or before you clear the current protection counter value.**

- From the maintenance menu (Figure 5-8), select “Indication of the counter value”. The Protection counter CHECK / CLEAR Screen shown in Figure 5-13 appears.
- Click “Clear the protect counter values” on the screen. The screen shown below appears.



**Figure 5-15. Clear the protection counter values**

- Click OK. At the bottom of the screen, it says “The protect counter has been reset to zero”.

### 5.2.1.6 Market Destination

For Stylus Color 660, the market destination is originally set.

1. To check the market destination, click “Market destination check” on the adjustment menu shown below.

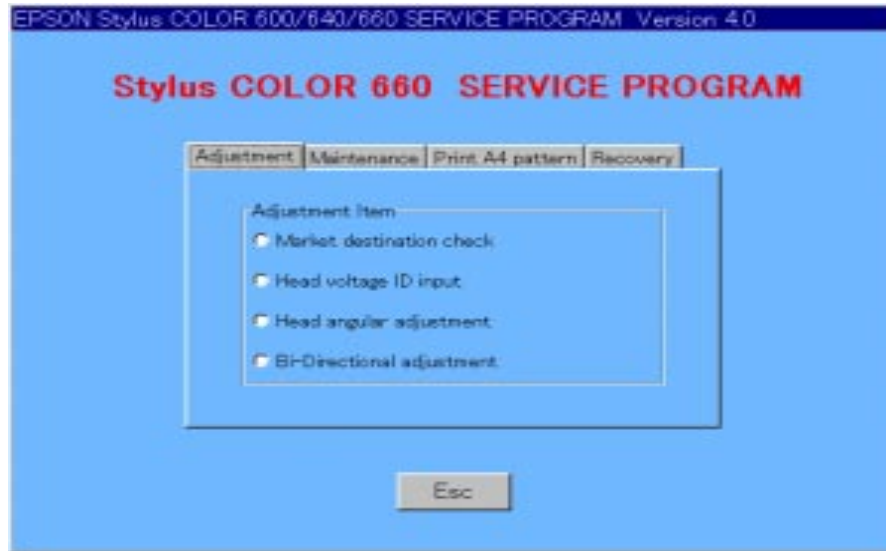


Figure 5-16. Adjustment Menu

2. The Market Destination Check screen shown below appears.

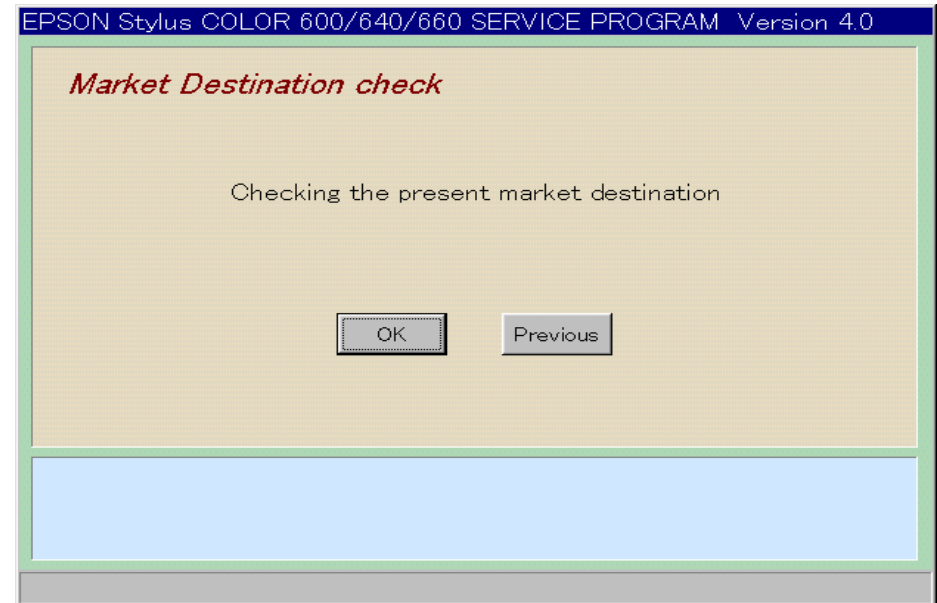


Figure 5-17. Market Destination check

3. Click OK. After a few seconds, market destination appears at the bottom.

**NOTE:** If the market destination is wrong, click the correct market destination in Figure 5-3. The correct information will be written in the EEPROM.

### 5.2.1.7 Head Voltage ID Input

Head voltage value adjustment function enables you to write printhead ID. This operation is considered the most important to maintain proper printhead operation. If an ID is not written correctly, it results in white or color lines and also gives bad influence on dot weight. This adjustment is required in the following cases.

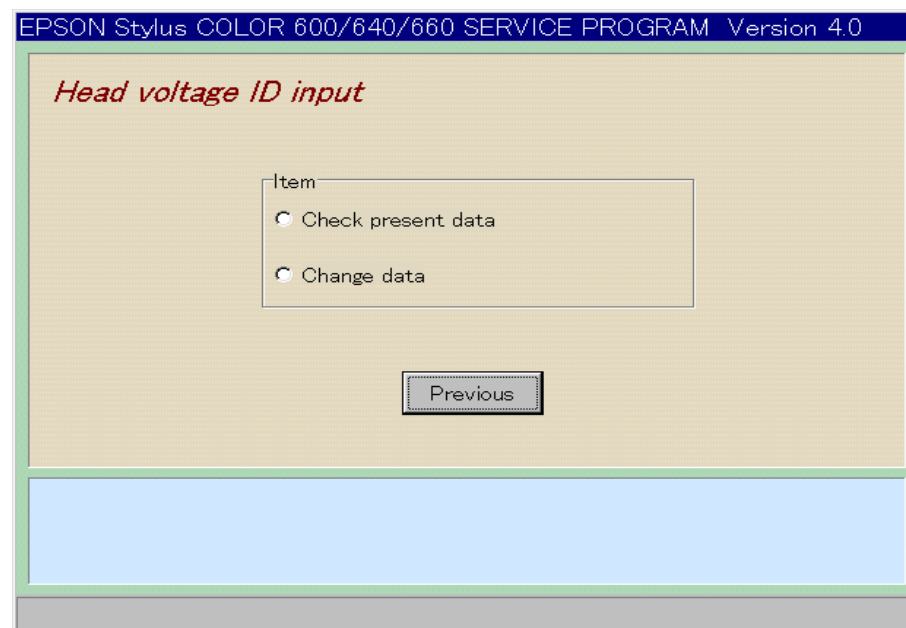
- When exchanging the main board
- When exchanging the printhead
- When exchanging the printer mechanism



**Before or after performing this operation, refer to the Table 5-2 on page 16 and perform any appropriate adjustments or operations.**

1. When replacing any of the parts above, make a note of VH voltage ID appointed in advance. You can find the VH voltage ID on the following position:
  - Printhead: On the side face of the printhead.
  - Printer mechanism: On the label of the packing box of the printer mechanism.
2. On Stylus COLOR 660 SERVICE PROGRAM, select Adjustment menu (Figure 5-16).
3. Select "Head voltage ID input".

4. The following screen appears.



**Figure 5-18. Head Voltage ID Input (1)**

5. Select "Change data", and the following screen appears.

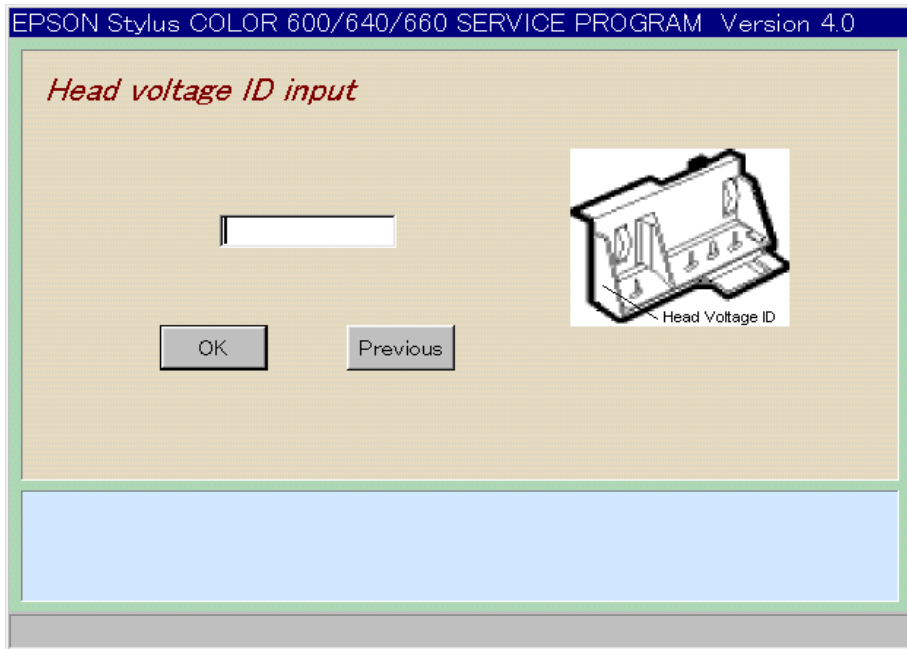


Figure 5-19. Head voltage ID input (2)

6. Input the new head voltage ID number, and click OK. The new ID number will be automatically written in the EEPROM.

7. Select "Check present data" on the previous screen (Figure 5-18). The screen below appears.

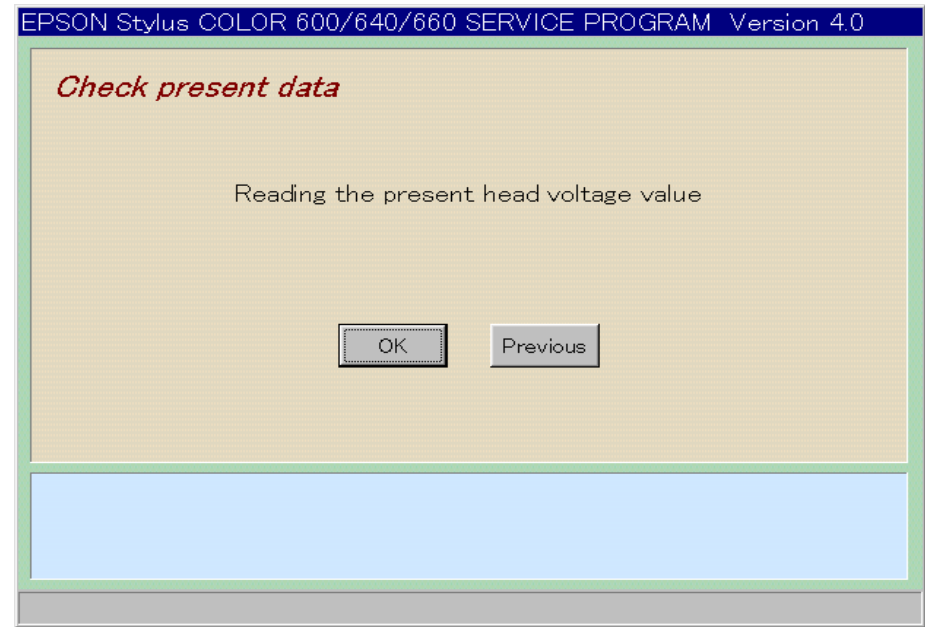


Figure 5-20. Check present data

8. Click OK, and check the head voltage ID is renewed.

**NOTE:** Although the possibility is quite low, if the logic circuit is still alive when replacing the main board, you can read Head ID of the failed main board by using this function without removing the head.

### 5.2.1.8 Head Angular Adjustment

This adjustment is required in the following cases.

- When a printhead is replaced.
- When the carriage unit is replaced.
- When the angle adjustment lever is moved.

By moving the angle adjustment lever, you can adjust the printhead angle without removing the ink cartridge.

Print the check pattern in the adjustment program to determine the angle degree needed for the printhead. Then move the adjustment lever in the carriage unit to set the printhead angle referring to the printed check pattern.

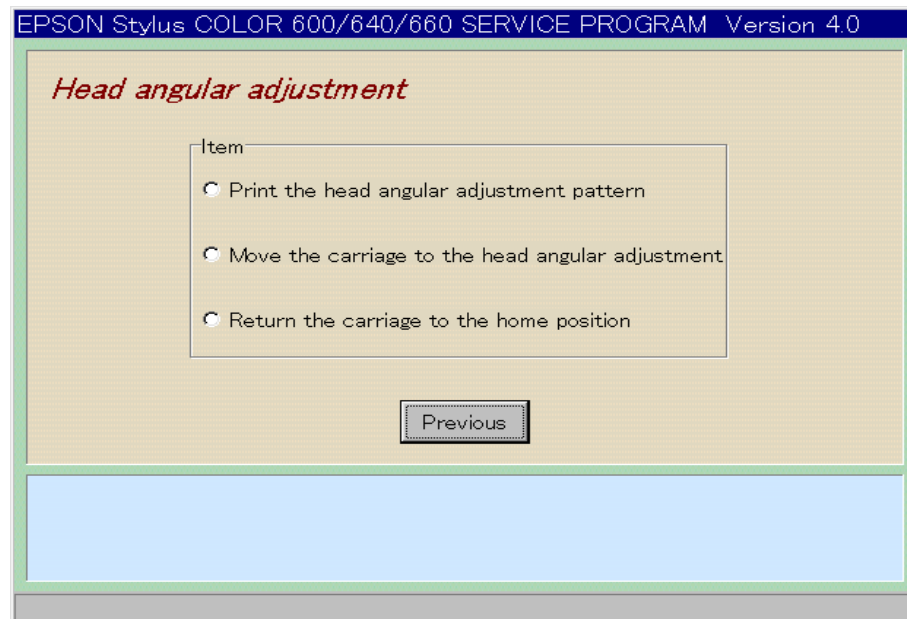


**Before or after performing this operation, refer to Table 5-2 on page 16 and perform appropriate adjustments or operations.**

1. Remove the upper case from the main unit. (Refer to Chapter 4.)

**NOTE:** If you perform this adjustment with the upper case installed, select “Move the carriage to the head angular adjustment” on Head Angular Adjustment (Figure 5-21) before loosening the screw.

2. Select “Head angular adjustment” in the adjustment menu (Figure 5-16). The following screen appears.



**Figure 5-21. Head Angular Adjustment**

3. Select “Print the head angular adjustment pattern”. The printer prints the head angular adjustment pattern (Figure 5-22).

#### Head Angular Adjustment Pattern (BK-M)



**Figure 5-22. Sample of Head Angular Adjustment Pattern**

4. Move the carriage to the head angular adjustment.  
For Stylus COLOR 660, the head angular adjustment is at the center, not at the ink cartridge replacing position.

- Loosen the screw securing the printhead on the carriage. (You don't need to remove it completely.)

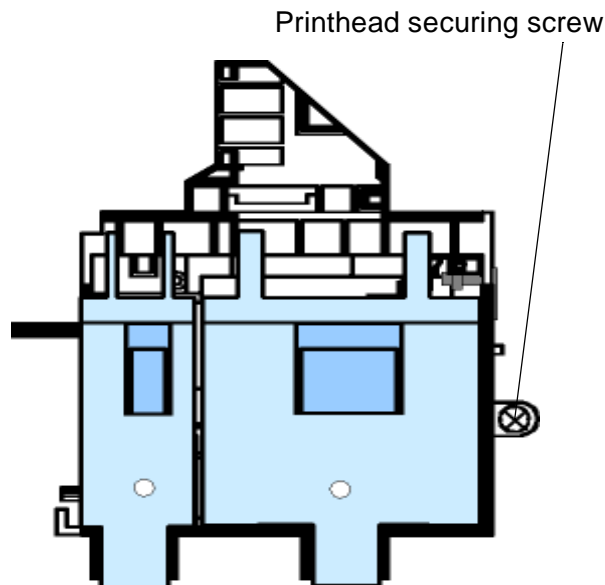


Figure 5-23. Screw Position

**NOTE:** Make sure to loosen this screw. Otherwise, the printhead angle will no change even if the adjusting lever moves.



If more than five minutes passed after moving the carriage, the CR motor becomes OFF and cannot accept the command to move the carriage. In order to avoid this, the program indicates the message. When the message “The printer has been left alone for 5 minutes” appears at the bottom of the head angular adjustment screen, click the OK button.

- Look at the black/magenta combination in the pattern and move the adjusting lever to make the magenta lines stay between the black lines with even space. The figure below shows how the pattern changes as the adjusting lever moves right (rear) or left (front).

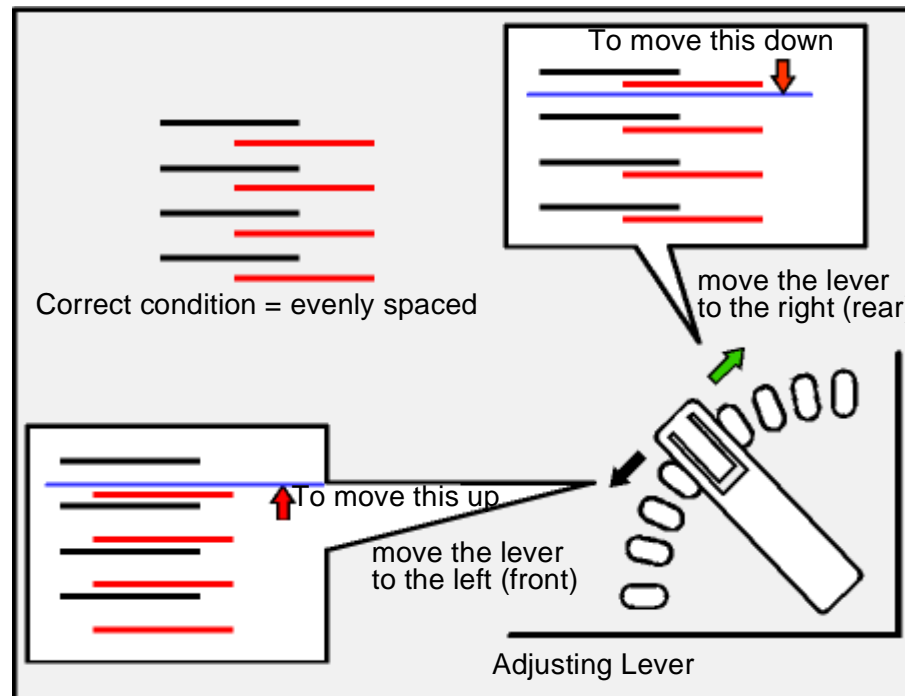


Figure 5-24.

**Lever Operation and Corresponding Change in Pattern**

- Repeat the procedures from step 3 to step 6 until the combination pattern of black/magenta is correct.
- After completing the adjustment, tighten the loosened screw, and reinstall the upper case only when you remove it.

9. After tighten the screw, print the check pattern again to confirm.  
If there is any gap, make the adjustment again.



**If a certain amount of gap is generated at a certain direction by tightening the screw, make an adjustment considering the expected gap amount and tighten the screw.**



### 5.2.1.9 Bi-D Adjustment

You perform this adjustment to correct differences in printing positions, which is caused by incorrect printing timing in right and left directions during the Bi-directional printing. Therefore, you are required to perform this adjustment after performing the following operations.

- Replacing the Print mechanism
- Replacing the main board
- Replacing the CR motor
- Replacing the Carriage Assembly
- Replacing the Printhead

1. Select "Bi-Directional Adjustment" in the adjustment menu (Figure 5-16). The following screen appears.

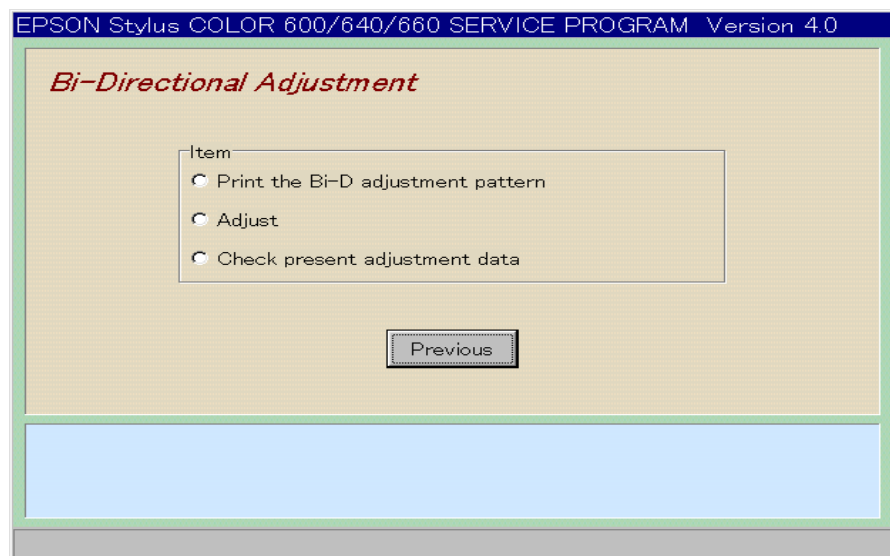


Figure 5-25. Bi-D Adjustment Menu

2. Select "Print the Bi-D adjustment pattern" on the screen, and the screen below appears.

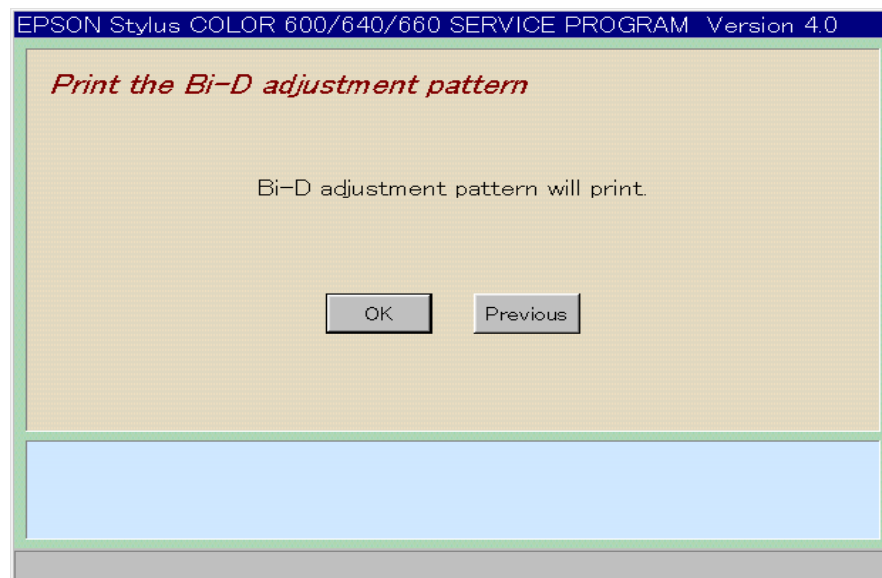


Figure 5-26. Print the Bi-D pattern

3. Click OK. The printer starts printing a Bi-D adjustment pattern. (See the sample pattern in the following page.)

**NOTE:** As shown in the sample, gaps between passes are sometimes created in different directions among patterns. This unexpected change in direction is caused by an ink jet printer inevitable reason, which is an ink jet printer inevitably performs a periodical cleaning specified by the flashing timer even during Bi-D pattern printing, so that the printing direction suddenly changes. However, this directional difference among Bi-D patterns should not be considered, and you can always confirm and adjust the pattern correctly by referring to gap amount only.

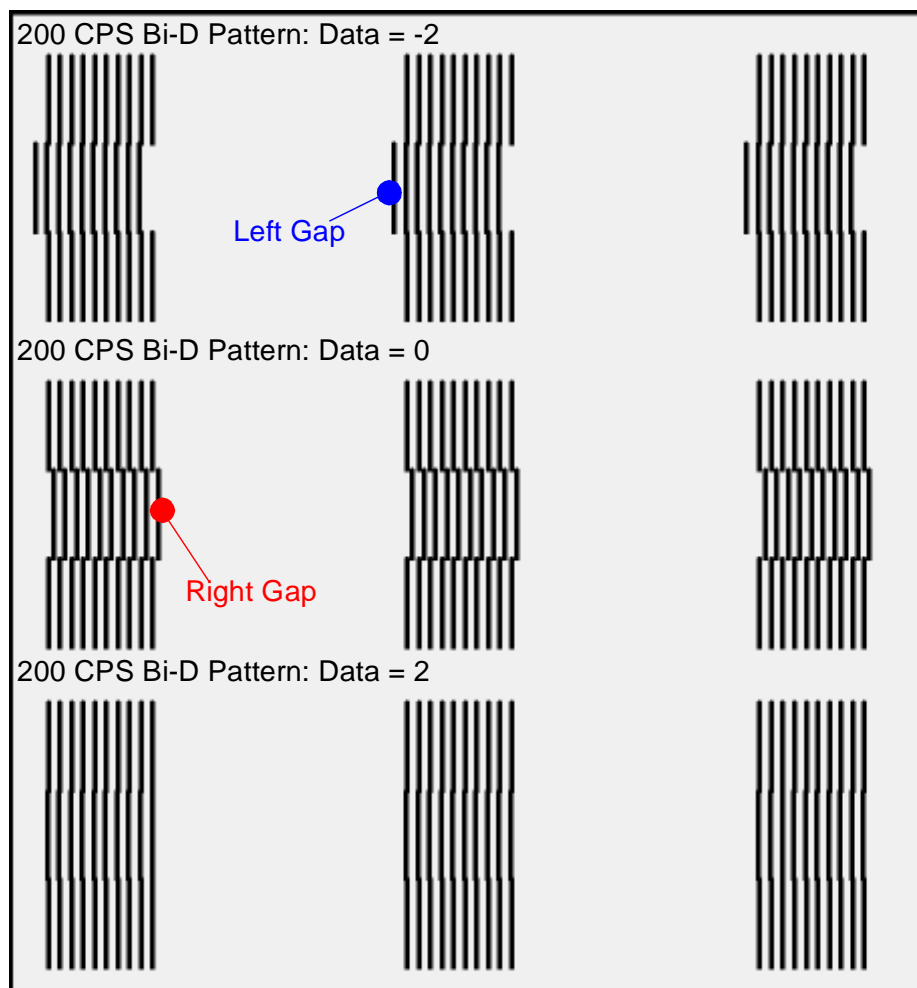


Figure 5-27. Bi-D ADjustment Pattern Sample

- Go back to “Bi-D Adjustment” screen (Figure 5-25), select “Adjust”. The screen below appears.

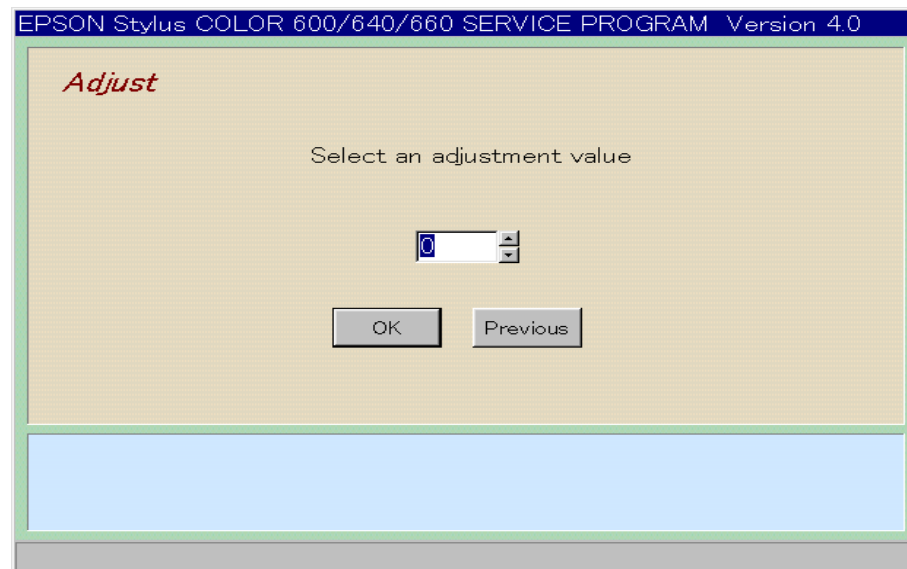


Figure 5-28. Adjust

- The value “0” (blue) appears in the center of the screen and changes up/down every time you press the Up/Down arrow key. If you put plus number, the 2nd path pattern shifts to the left; if you put minus number, the 2nd path pattern shifts to the right. Using the keys, apply the number for the most properly aligned pattern in the Bi-D adjustment pattern print.
- After you set the value correctly, click OK, and the program stores the selected value.
- Click “Previous”. The current screen returns to the Bi-D adjustment menu. (See Figure 5-25.)
- Repeat the procedure from step 2 to step 7 until the Bi-D adjustment pattern is correct.

### 5.2.1.10 Print A4 Pattern

For Stylus Color 660, you can check all the adjustment has done correctly by executing “print A4 pattern”.

1. In the following screen, click OK.

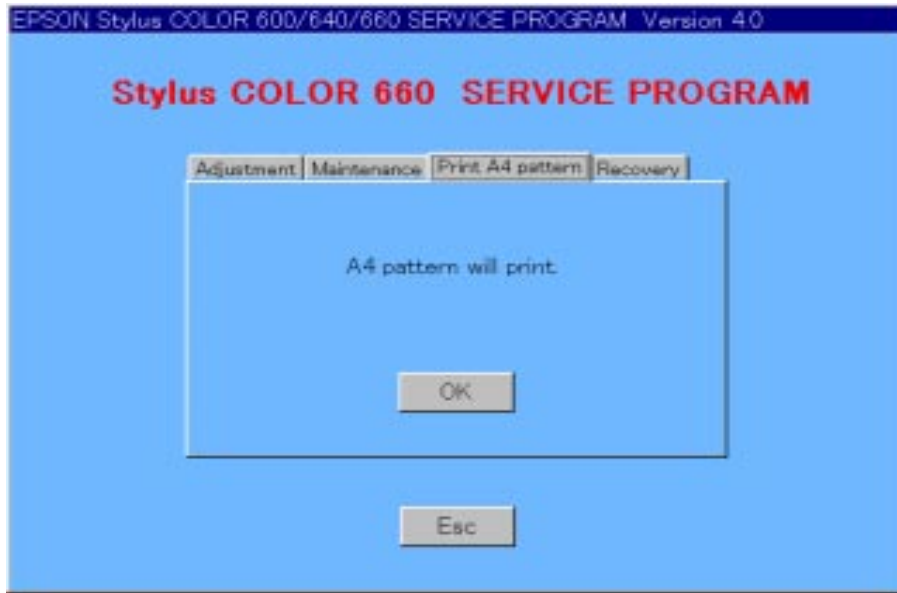


Figure 5-29. Print A4 Pattern (1)

2. The printer starts printing the pattern, and the screen below appears.

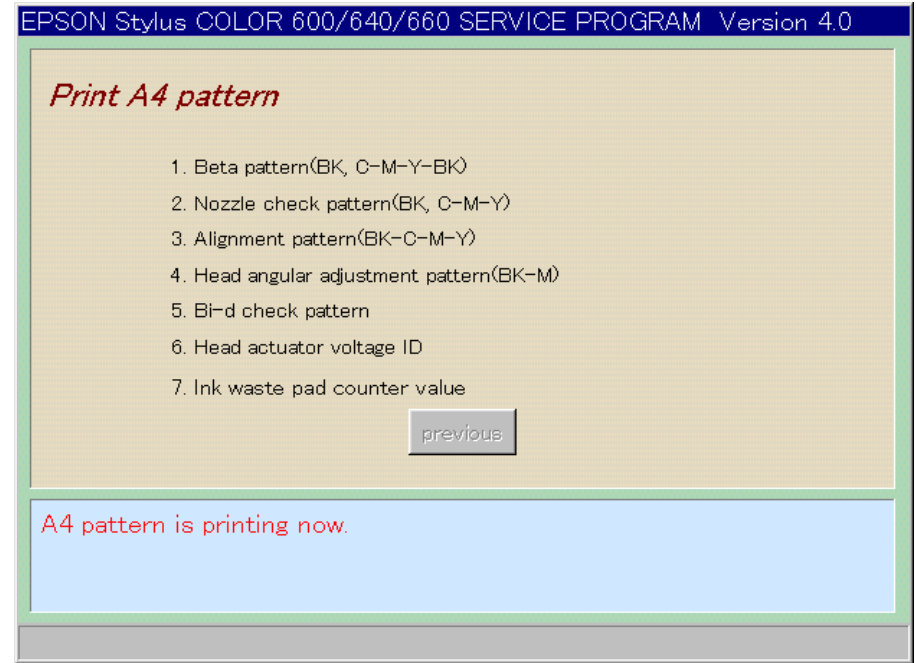


Figure 5-30. Print A4 Pattern (2)

3. After printing all patterns indicated in the menu, press “Previous”.

**NOTE:** If you find any white streaks or shades shown below, do the adjustment again.



Figure 5-31. Nozzle Check (BK)

### 5.2.1.11 Recovery

By using this program, you can clean the clogged nozzle. Stylus Color 660 alternately executes CL2 and Nozzle Check Pattern.

1. In the following screen, click OK.

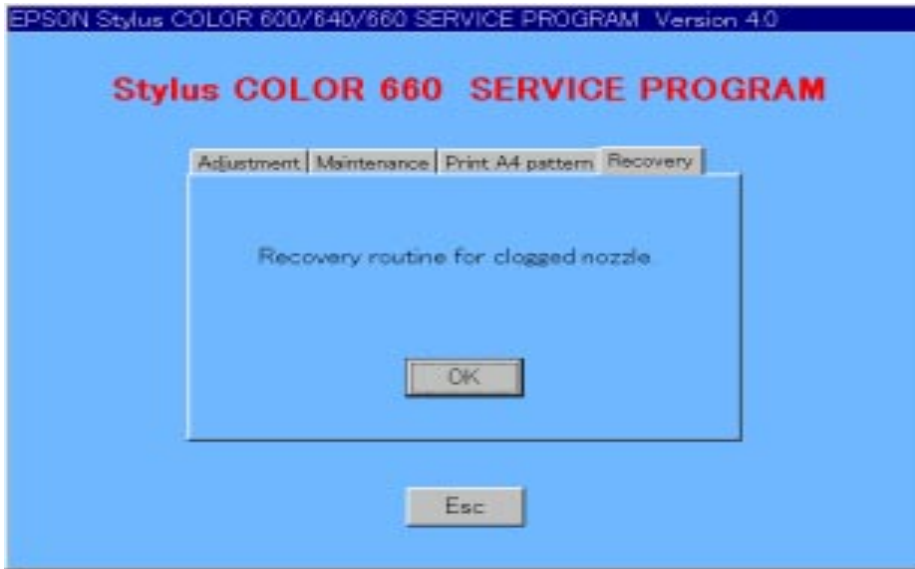


Figure 5-32. Recovery

2. The following screen appears. Click OK.

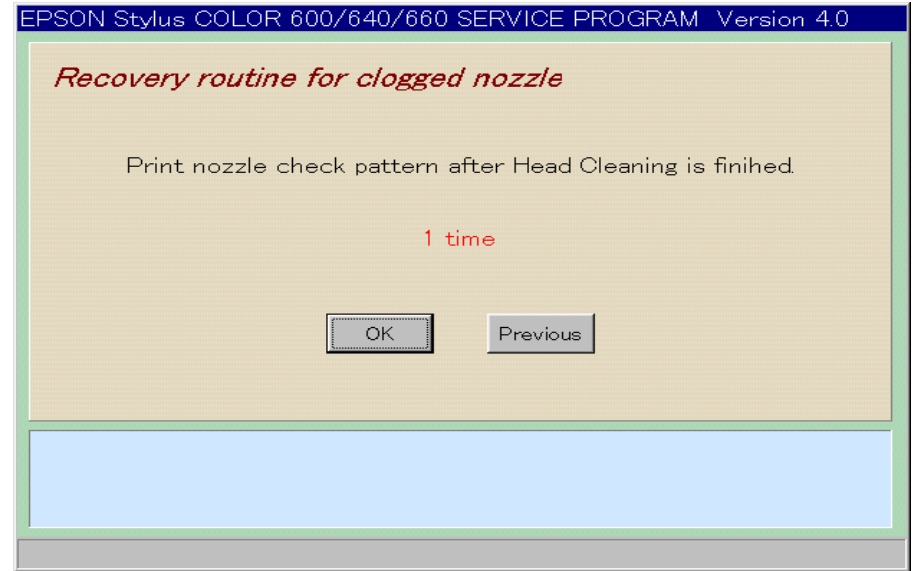


Figure 5-33. Recovery routine for clogged nozzle

3. The printer executes Head Cleaning and prints out the nozzle check pattern below.

**NOTE:** You can do this operation repeatedly. The program counts how many times the operation is executed.

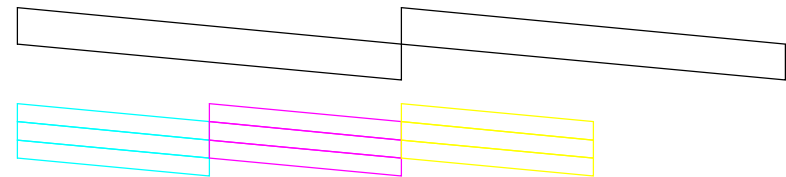


Figure 5-34. All Nozzle Test Pattern

**CHAPTER**

**6**

**MAINTENANCE**

The contents of Maintenance is the same as of EPSON Stylus Color 640/660/740.

**CHAPTER**

**7**

**APPENDIX**

The contents of Appendix is the same as of EPSON Stylus Color 640/  
660/740.