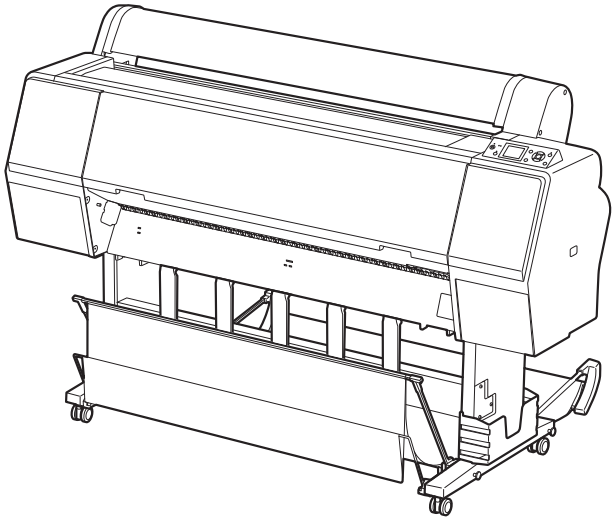
SERVICE MANUAL



Large Format Color Inkjet Printer

SC-P9000 Series
SC-P7000 Series
SC-P8000 Series
SC-P6000 Series

EPSON
EXCEED YOUR VISION

SE Group Confidential (Related Staff Only)

SEPS15-003

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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. NO WORK 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.
4. WHEN DISASSEMBLING OR ASSEMBLING A PRODUCT, MAKE SURE TO WEAR GLOVES TO AVOID INJURY FROM METAL PARTS WITH SHARP EDGES.

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 NON-APPROVED COMPONENTS MAY DAMAGE THE PRODUCT AND VOID ANY APPLICABLE EPSON WARRANTY.
6. WHEN AIR DUSTER IS USED ON THE REPAIR AND THE MAINTENANCE WORK, THE USE OF THE AIR DUSTER PRODUCTS CONTAINING THE INFLAMMABLE GAS IS PROHIBITED.

About This Manual

About This Manual: This manual is made for the sole purpose of providing necessary information in order that a serviceperson qualified by Epson performs his / her appropriate repair / maintenance for the applicable Epson's products. You shall not use this manual out of this purpose.
This manual is Epson's confidential information. When you use this manual, you shall hold it in strict confidence and shall not disclose to any third party without prior consent of Epson.
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.

Manual Configuration

This manual consists of six chapters and Appendix.

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

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 4.DISASSEMBLY / ASSEMBLY

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

CHAPTER 5.ADJUSTMENT

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:

- Connectors
- Panel Menu Maps

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Be aware of all symbols when they are used, and always read NOTE, CAUTION, or WARNING messages.

Indicates an operating or maintenance procedure, practice or condition that is necessary to keep the product's quality.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in injury or loss of life.

Indicates that a particular task must be carried out according to a certain standard after disassembly and before re-assembly, otherwise the quality of the components in question may be adversely affected.

Indicates that lubrication is needed for the parts after disassembly, when doing a maintenance or replacing a part with a new one.

Revision Status

Revision	Date of Issue	Description
A	October 30, 2015	First release
B	November 2, 2015	Revised

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Chapter 6 MAINTENANCE

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CHAPTER

1

PRODUCT DESCRIPTION

1.1 Product Description

SC-P9000 Series/SC-P7000 Series/SC-P8000 Series/SC-P6000 Series is a wide-format color inkjet printer that supports up to 44 inch-wide (Super B0)/24 inch-wide (Super A1) paper. The main features are;

- Supports very large-sized paper

  Maximum available paper width:
  SC-P9000 Series/SC-P8000 Series: 1,118 mm (44 inch)
  SC-P7000 Series/SC-P6000 Series: 610 mm (24 inch)

- Realizing High Resolution

  The newly developed ink technology provides high definition for photo, fine art, and proofing paper.

- Pigmented inks with superior resistance

  Pigment inks maintain more beautiful and more vibrant prints over a long period of time with their high light fastness.

- Two types of black ink with maximum black density (Dmax)

  By automatically switching to suit the paper type being used, the two types of black ink provided are Photo Black which realizes a smooth, professional finish on glossy paper, and Matte Black which increases black optical density using matte paper.

- Chooses between two sets of 10 color inks to suit your use (SC-P9000 Series/SC-P7000 Series)

  - Light Light Black inkset ideal for gradations

    Three types of black ink density, Photo Black, Light Black and Light Light Black, allows you to bring out delicate tone differences in black-and-white images.

  - Violet inkset providing a wide range of color reproduction

    As well as Orange and Green, this set comes with eight color inks including the newly developed Violet. By realizing superior color reproduction creating bright and vivid images in green to yellow and yellow to red, as well as deep shades of blue, we have achieved the industry's best PANTONE cover ratio.

- Basic eight color inks including three types of black (SC-P8000 Series/SC-P6000 Series)

  The Epson UltraChrome HD (SC-P8000 Series/SC-P6000 Series) ink realizes delicate tone differences in black-and-white images using three types of black ink density, Photo Black, Light Black, and Light Light Black, in addition to five basic color inks for photo and proofing.

- Media handling

  - Supports a variety of media
  - Spindle-less makes roll paper handling easier
  - Paper basket comes as standard
  - Equips high speed auto cutter for roll paper
  - Borderless print is supported.

- Superior Ease of Use

  - Improved color adjustment function (Epson Color Calibration Utility)

    The Epson Color Calibration Utility software provided on the software disc supplied allows you to easily perform color calibration using the printer's built-in sensors.

- Options

  The following options are available.
  - Hard Disk Unit
  - SpectroProofer
    Enables color measurement after printing
  - Auto Take-up Reel (SC-P9000 Series/SC-P8000 Series)
    Winds the roll paper automatically

1.2 Basic Specifications

1.2.1 Basic Specifications

Table 1-1. Basic Specifications

Item		Specification
Print method		On-demand ink jet
Nozzle configuration		☐ SC-P9000 Series/SC-P7000 Series 360 nozzles x 10 colors ☐ SC-P8000 Series/SC-P6000 Series 360 nozzles x 8 colors
Maximum resolution		2880 x 1440 dpi
Control code		ESC/P raster
Media feed method		Friction feed
Built-in memory	Main	1GB
	Network	64MB
Network Functions		IPv4, IPv6, WSD, SSL, communication, IEEE802.1X
Temperature	Operating	10 to 35 °C (50 to 95°F)
	Storage (before unpacking)	-20 to 60 °C (-4 to 140°F) (within 120 hours at 60 °C (140°F), within a month at 40 °C (104°F)
	Storage (after unpacking)	-20 to 40 °C (-4 to 104 °F) (within a month at 40 °C (104 °F))
Humidity	Operating	20 to 80% (without condensation)
	Storage (before unpacking, after unpacking)	5 to 85% (without condensation)

☐ Nozzle configuration

Table 1-2. Nozzle configuration (SC-P9000 Series/SC-P7000 Series)(K3)

Row A	Row B	Row C*	Row D	Row E
Cyan (C)	Vivid Magenta (VM)	Photo Black/ Matte Black (PK/MK)	Light Black (LK)	Orange (OR)
Row F	**Row G**	**Row H**	**Row I**	**Row J**
Green (GR)	Light Light Black (LLK)	Yellow (Y)	Vivid Light Magenta (VLM)	Light Cyan (LC)

Table 1-3. Nozzle configuration (SC-P9000 Series/SC-P7000 Series)(Violet)

Row A	Row B	Row C*	Row D	Row E
Cyan (C)	Vivid Magenta (VM)	Photo Black/ Matte Black (PK/MK)	Light Black (LK)	Orange (OR)
Row F	**Row G**	**Row H**	**Row I**	**Row J**
Green (GR)	Violet (V)	Yellow (Y)	Vivid Light Magenta (VLM)	Light Cyan (LC)

Table 1-4. Nozzle configuration (SC-P8000 Series/SC-P6000 Series)

Row A	Row B	Row C	Row D	Row E
Cyan (C)	Vivid Magenta (VM)	Photo Black/ Matte Black (PK/MK)	Light Black (LK)	---
Row F	**Row G**	**Row H**	**Row I**	**Row J**
---	Light Light Black (LLK)	Yellow (Y)	Vivid Light Magenta (VLM)	Light Cyan (LC)

Note *: Switched by an Ink Selector

1.2.2 Electric Specifications

Item		Specification
Rated voltage		AC 100 to 240 V
Rated frequency		50 to 60 Hz
Rated current		2A
Power consumption	Operating	☐ SC-P9000 Series/SC-P8000 Series Approximately 75 W ☐ SC-P7000 Series/SC-P6000 Series Approximately 65 W
	Ready mode	Approximately 19 W
	Sleep mode	Approximately 2.0 W
	Power off	0.5 W or less

1.2.3 Ink Specifications

Item	Specification
Type	Special ink cartridges
Pigment ink	☐ SC-P9000 Series/SC-P7000 Series Black: Light Light Black, Light Black, Photo Black, Matte Black Color: Cyan, Light Cyan, Vivid Magenta, Vivid Light Magenta, Yellow, Orange, Green, Violet ☐ SC-P8000 Series/SC-P6000 Series Black: Light Light Black, Light Black, Photo Black, Matte Black Color: Cyan, Light Cyan, Vivid Magenta, Vivid Light Magenta, Yellow
Use by date	See the date printed on the package (at normal temperature)
Print quality guarantee expiry	Six months (after installing in the printer)
Ready mode	Uninstalled: -20 to 40°C (within a month at 40°C) Installed in printer: -20 to 40°C (within a month at 40°C) Transporting: -20 to 60°C (within 1 month at 40°C, within 72 hours at 60°C)
Capacity	150 ml/350 ml/700 ml
Cartridge dimensions	☐ 350 ml/150 ml (W) 40 x (D) 240 x (H) 107mm ☐ 700 ml (W) 40 x (D) 320 x (H) 107mm

CAUTION

- **Ink will be frozen if left under below -15°C circumstances for a long time. In such a case, leave it in the room temperature (25°C) more than 4 hours to melt the frozen ink before using it. (no condensation)**
- **Never disassemble ink cartridges or refill ink in them.**

1.3 Printing Specifications

1.3.1 Paper Feed Specifications

Item	Specification
Paper feed method	Friction feed
Return pitch	2.2 µm (1/11,520 inch)
Paper feeder	☐ Roll paper manual feed ☐ Cut sheet manual feed
Feed speed	Max. 3 inch/sec

1.3.2 Paper Specification

The following explains the supported paper sizes and thickness.

CAUTION

- **Do not use wrinkled, scuffed, torn, or soiled paper.**
- **Load paper just before printing. Do not leave paper loaded on the printer when not printing. Store paper properly following the instruction that comes with the paper.**
- **When large quantities of paper need to be prepared in advance, make a test print using the paper before purchase.**

ROLL PAPER

Item	Specification
Roll core size	2 inch and 3 inch
Roll paper outer diameter	2-inch core: 103 mm or less
	3-inch core: 150 mm or less
Paper Width	☐ SC-P9000 Series/SC-P8000 Series 254 mm (10 inches) to 1,118 mm (44 inches)
	☐ SC-P7000 Series/SC-P6000 Series 254 mm (10 inches) to 610 mm (24 inches)
Paper Length	2-inch core: 45 m or less
	3-inch core: 202 m or less
Thickness	0.08mm to 0.5mm
Available width for borderless printing	10 inches, 300 mm, 13 inches (Super A3), 16 inches, 17 inches, 515 mm (B2), 594 mm (A1), 24 inches (Super A1), 728 mm (B1)*, 841 mm (A0)*, 36 inches*, 44 inches (Super B0)*

Note *: SC-P9000 Series/SC-P8000 Series only

CUT SHEET

Item	Specification
Paper Width	☐ SC-P9000 Series/SC-P8000 Series: 182 mm (B5) to 1,118 mm (44 inches) ☐ SC-P7000 Series/SC-P6000 Series: 182 mm (B5) to 620 mm*1
Paper Length*2	☐ SC-P9000 Series/SC-P8000 Series: 297 mm (A4) to 1580 mm (B0+) ☐ SC-P7000 Series/SC-P6000 Series: 297 mm (A4) to 914 mm (A1+)
Thickness	0.08 mm to 1.5 mm (0.5 mm to 1.5 mm for thick paper)
Available width for borderless printing	10 inches, 300 mm, 13 inches (Super A3), 16 inches, 17 inches, 515 mm (B2), 594 mm (A1), 24 inches (Super A1), 728 mm (B1)*3, 841 mm (A0)*3, 36 inches*3, 44 inches (Super B0)*3

Note *1: The printable area is until 610 mm (24 inches).

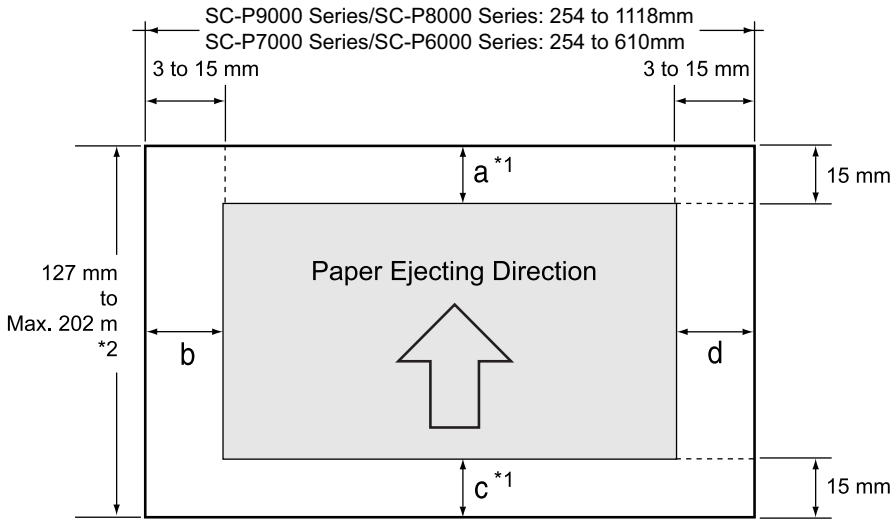
*2: 762 mm for thick paper.

*3: SC-P9000 Series/SC-P8000 Series only

1.3.3 Designated Paper

ROLL PAPER

Margins for roll paper depends on the ROLL PAPER MARGIN settings in the PRINTER SETUP menu.



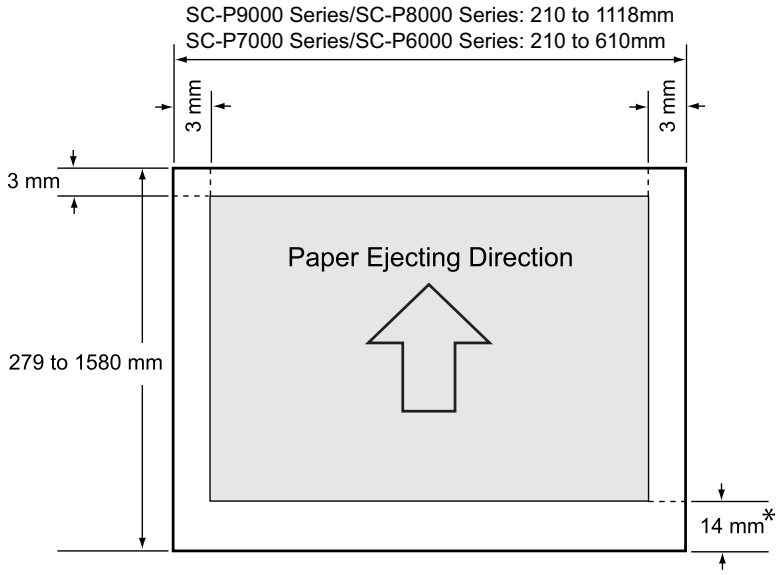
ROLL PAPER MARGIN settings	Explanation
Default	a = c = 15 mm *3
	b = d = 3 mm
TOP/BOTTOM 15mm	a = c = 15 mm
	b = d = 3 mm
TOP 35/BOTTOM 15MM	a = 35 mm
	c = 15 mm
	b = d = 3 mm
TOP 150/BOTTOM 15MM	a = 150 mm
	c = 15 mm
	b = d = 3 mm
3 mm	a, b, c, d = 3 mm
15 mm	a, b, c, d = 15 mm

Note *1: When the “Roll Paper (Banner)” is selected for the “Source” in the “Paper Settings” of the printer driver, the top and bottom margins become 0 mm.

*2: The maximum paper length satiable with the printer driver is as follows.
Windows: 15,000 mm (590.6 inch)
Mac OS X: 15,240 mm (600 inch)
When printing on paper longer than this, you need commercially available banner printing software. In this situation, select Roll Paper (Banner) from Source in the printer driver.

*3: When Normal is selected, the value for (1) is 20 mm for the following paper.
Premium Glossy Photo Paper (250)/Premium Semigloss Photo Paper (250)/Premium Luster Photo Paper (260)/Premium Semimatte Photo Paper (260)

CUT SHEET



Note "*": 15.5 mm when printing Enhanced Matte Poster Board.

1.3.4 Borderless Printing Specification

AVAILABLE PAPER TYPE

For the paper types and sizes that support the borderless printing, see "1.3.2 Paper Specification" on page 14.

BORDERLESS PRINTING MODE

The following types of borderless printing are available with the printer driver.

Table 1-5. Borderless Printing Mode

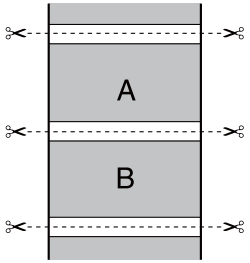
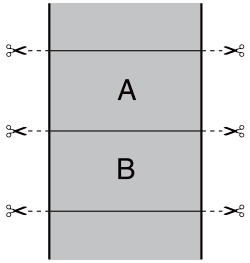
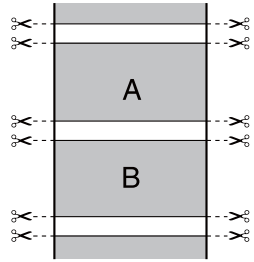
Driver Setting	Printer Operation	Remarks
Normal Cut		Default
Single Cut		☐ Printing is interrupted for cutting off the top margin of the first page. This may cause color inconsistencies depending on the print data. ☐ The cut line between pages may be slightly off the border. ☐ When you print one page only or print one page multiple times, the operation is the same as that for Double Cut. When continuously printing multiple sheets, the printer cuts 1 mm inside on the top edge of the first page and the bottom edge of the subsequent pages to avoid showing margins.

Table 1-5. Borderless Printing Mode

Driver Setting	Printer Operation	Remarks
Double Cut		☐ Printing is interrupted for cutting off the top margin of the first page. This may cause color inconsistencies depending on the print data. ☐ The top and bottom sides of each page are cut off at the position slightly inward the image edges so that no white margin appears on the edges of the cut pages. This causes the vertical length of the cut page about 2mm shorter than the specified length. ☐ After cutting the bottom edge of the previous page, the printer feeds the paper, and then cuts the top edge of the following page. Although this produces 60 to 127 mm cut-off pieces, the cut is more accurate.

1.4 Hardware Specifications

This section provides the printer dimensions and shows the main components.

1.4.1 Dimensions and Weight

MAIN UNIT

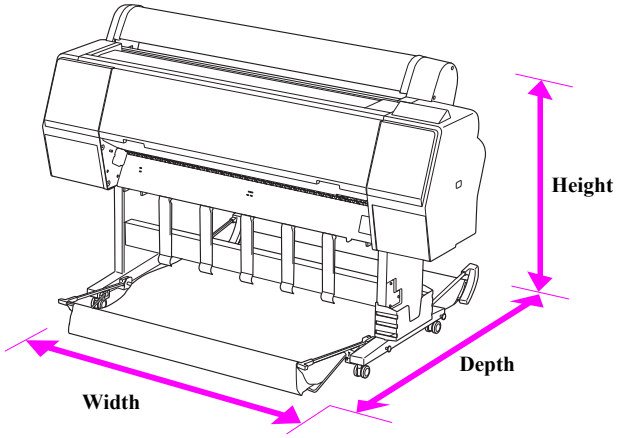


Figure 1-1. Dimensions

Table 1-6. Dimensions and Weight

Model	Paper basket	External Dimensions			Weight
		Width	Depth	Height	
SC-P9000 Series/ SC-P8000 Series	Paper basket closed	1,864 mm	667 mm	1,218 mm	Approx. 135 kg
	Using the paper basket (opened fully)	1,864 mm	1,318 mm	1,218 mm	
SC-P7000 Series/ SC-P6000 Series	Paper basket closed	1,356 mm	667 mm	1,218 mm	Approx. 101 kg
	Using the paper basket (opened fully)	1,356 mm	903 mm	1,218 mm	

1.4.2 Installation Room Requirement

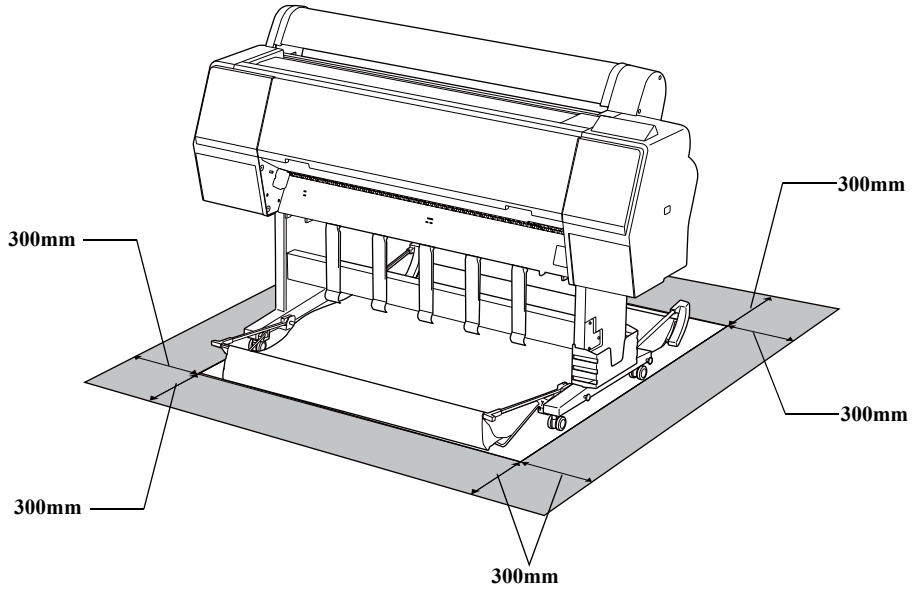


Figure 1-2. Installation Room Requirement

1.4.3 Part Names

FRONT

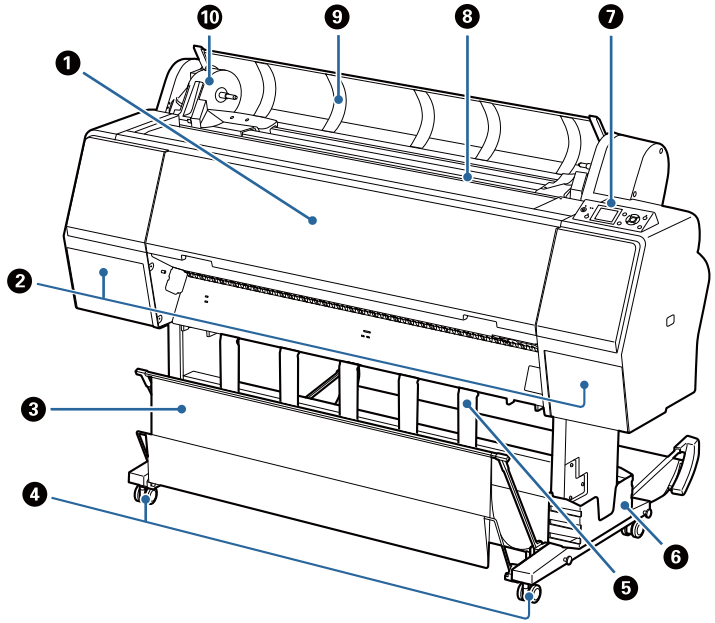


Figure 1-3. Front

Table 1-7. Part Names (Front)

No.	Name
1	Front cover
2	Ink covers (on the left and right)
3	Paper basket
4	Casters
5	Paper support
6	Manual box
7	Control panel
8	Paper feed slot
9	Roll paper cover
10	Adapter holder

BACK

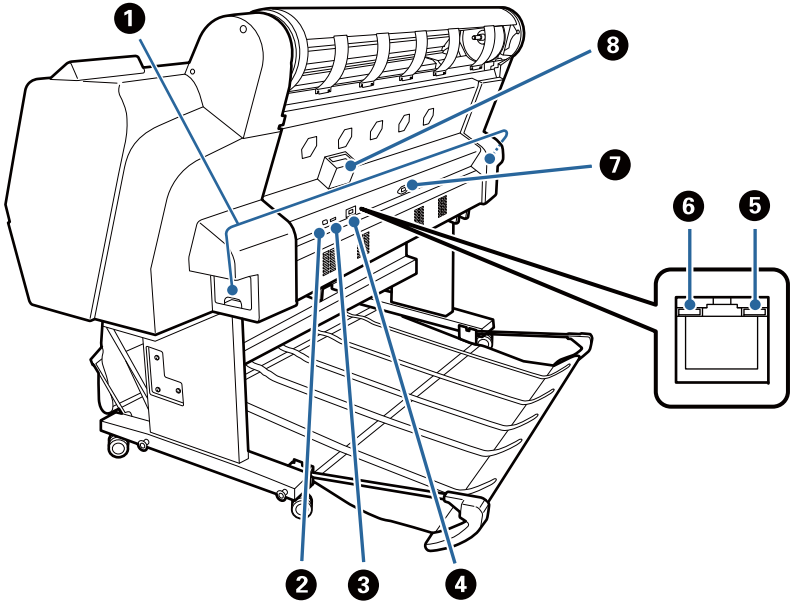


Figure 1-4. Back

Table 1-8. Part Names (Back)

No.	Name
1	Maintenance Box
2	USB port
3	Option port
4	LAN port
5	Data light
6	Status light
7	AC inlet
8	Option slot

ROLL PAPER ADAPTER

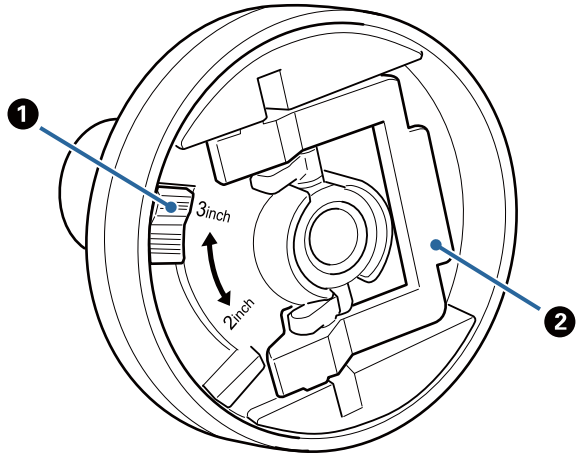


Figure 1-5. Roll paper adapter

Table 1-9. Roll paper adapter

No.	Name
1	Size lever
2	Adapter lock lever

1.5 Control Panel

CONTROL PANEL

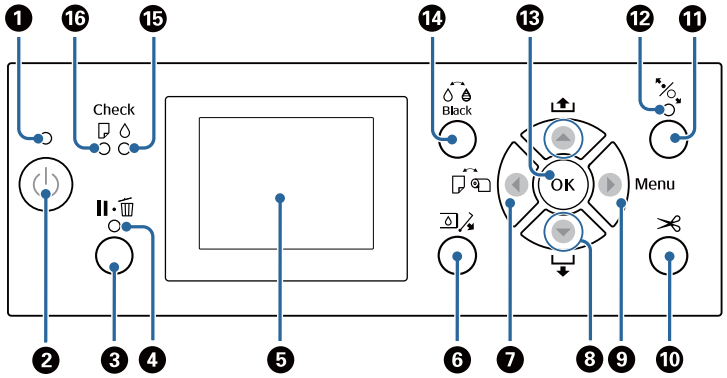


Figure 1-6. Control panel

Table 1-10. Control panel

Name		Description
1	Power light	The printer's operational status is indicated by a lit or flashing light ☐ On: The power is on. ☐ Flashing: The printer is receiving data or cleaning the print head or performing other operations in the course of being shut down. ☐ Off: The power is off.
2	Power button	Turns the printer on or off.
3	Pause/Cancel button	☐ The printer enters pause status if this is pressed while printing. To release the pause status, press the button again, or select Pause Cancel on the screen and then press the button. To cancel print jobs being processed, select Job Cancel on the screen and then press the button. ☐ Pressing this button while a menu is displayed closes the menu and returns the printer to ready status.

Table 1-10. Control panel

Name		Description
4	Pause light	☐ On: Cannot print. (The printer is paused, a job is being canceled, a menu is displayed, an error has occurred, and so on.) ☐ Off: Ready to print.
5	Screen	Displays the printer's status, menus, error messages, and so on.
6	Open ink cover button	Press to open the ink cover when replacing the ink cartridges and so on. When you select the ink cover you want to open, the ink cover opens approximately 5 mm when you press the OK button. Button operations are disabled while printing or cleaning.
7	Paper source button	☐ If this is pressed before loading paper, the Paper Source screen is displayed, and you can select roll paper or cut sheets. ☐ If this is pressed while a menu is displayed, you are returned to the previous menu.
8	Paper feed button	☐ When roll paper is loaded, press the ▼ button to feed the roll paper. Press the ▲ button to rewind. Keep the ▼ button pressed to feed the paper up to 3 m. Keep the ▲ button pressed to rewind the paper up to 20 cm. ☐ If this is pressed while pressure roller is released, you can adjust the strength of the paper suction for the loading path in three stages. ☐ If you press ▼ when the thickness of the loaded cut sheets is less than 0.5 mm, the paper is fed and the printer is ready to print. ☐ Press ▼ to eject paper when cut sheets are loaded. ☐ Press to select menu items and parameter when a menu is displayed.
9	Menu button	☐ If this is pressed when the printer's menu can be changed (the printer is ready to print or there is no paper), the Settings menu is displayed. ☐ If this is pressed while a menu is displayed, you are taken to the next menu.
10	Paper cut button	It is used to manually cut roll paper using the built-in cutter.

Table 1-10. Control panel

Name		Description
11	Load paper button	☐ Locks or releases the pressure roller. When you want to load paper, press once to release the lock, and then adjust the paper to the loading position. Press again to feed the paper and the printer is ready to print. ☐ If this is pressed when Roll Paper Remaining is set to On in the Paper menu, a barcode is printed on the edge of the roll paper, and the pressure roller is released.
12	Load paper light	☐ On: The pressure roller is released. When the light is on, printing cannot be performed. ☐ Off: The pressure roller is locked.
13	OK button	☐ If this is pressed while a parameter is selected from the Menu, the parameter is set or executed. ☐ If this is pressed when no paper is loaded, the Paper Loading Method menu is displayed. When the paper type is selected, you can check the loading method. ☐ If this is pressed while drying ink or a color chart, drying is canceled.
14	Change black ink button	☐ Changes the type of black ink. ☐ If this is pressed when the paper setting name or the password entry screen is displayed, you can change the type of letters.
15	Ink check light	☐ On: Indicates errors such as an installed ink cartridge is expended, an ink cartridge is not installed, or a wrong ink cartridge is installed. Check the contents of the error on the control panel's screen. ☐ Flashing: The ink is low. We recommend replacing the ink cartridge as soon as possible because the ink may be expended while printing. ☐ Off: No error.
16	Paper check light	☐ On: Indicates an error such as there is no paper or that the paper differs to the paper setting. Check the contents of the error on the control panel's screen. ☐ Flashing: Indicates an error such as a paper jam or that the paper has skewed. Check the contents of the error on the control panel's screen. ☐ Off: No error.

STARTUP THE INSPECTION MODE

Mode	Operation
Custom mode	Turn the printer on by pressing the **[Pause/Cancel]** button.
Serviceman mode	Turn the printer on by pressing the **[OK]**, **[Paper Feed/Down]**, and **[Menu/Right]** buttons.
F/W update mode	Turn the printer on by pressing the **[Paper feed/Up]**, **[Paper Feed/Down]**, **[Menu]** and **[Paper source]** buttons.

LCD

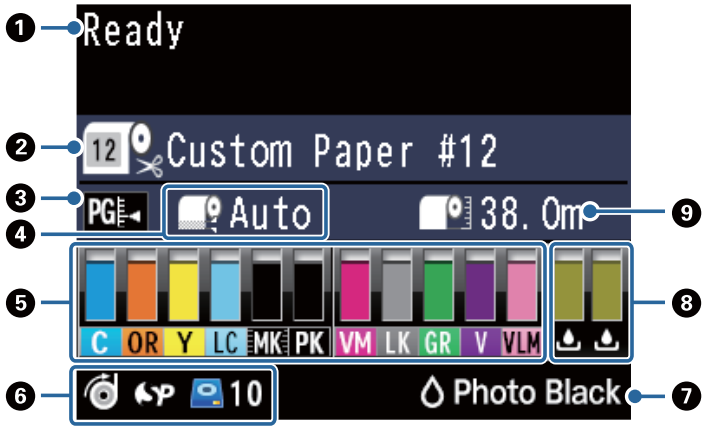


Figure 1-7. LCD

No.	Item	Description
1	Message	Printer status, operating status, or an error message is displayed.
2	Paper Source	The settings for Paper Source (roll paper or cut sheets) and Auto Cut for roll paper are indicated by the icons in the following table. : Prints on roll paper. The paper is cut automatically after printing one page. : Prints on roll paper. Auto cut is not performed. : Prints on cut sheets.
3	Platen Gap	Displays the Platen Gap settings. PG: Standard is selected PG: Narrow is selected PG: Wide is selected PG: Wider is selected PG: Widest is selected
4	Roll Paper Margin	Displays the value set for Roll Paper Margin. ☐ Auto: Standard is set ☐ 15 mm: Top 15 mm/Bottom 15 mm is set ☐ 35/15 mm: Top 35mm/Bottom 15 mm is set ☐ 150/15 mm: Top 150 mm/Bottom 15 mm is set ☐ 3 mm: 3 mm is set ☐ 15 mm: 15 mm is set
5	Approximate amount of ink remaining for each color	Displays the amount of ink remaining for each color.
6	Usage status of optional item	Displays the availability of optional item.
7	Usage status of black ink	Displays the selected black ink.
8	Approximate space in Maintenance Box	Displays the approximate amount of space in the Maintenance Box.
9	Roll paper remaining	The remaining amount of the roll paper is displayed.

1.5.1 Menu Mode Settings

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Maintenance	Nozzle Check			Press the OK button to print a nozzle check pattern. Inspect the pattern visually and perform head cleaning if you detect faint or missing colors.
	Head Cleaning	All Nozzles	Normal	Select the combination of ink colors for head cleaning, and the strength of the cleaning. Only use this menu when nozzles are clogged.
			Heavy	
		XX/XX	Normal	
			Heavy	
	Head Alignment	Auto	Uni-D	Perform print head alignment when setting up the printer for the first time, and after moving or transporting the printer. Perform print head alignment when the print results look grainy or out-of-focus. Normally, select Auto.
			Bi-D 2-color	
			Bi-D All Color	
			Bi-D #1 to #4	
		Manual	Uni-D	
			Bi-D 2-color	
			Bi-D All Color	
	Cutter Maintenance	Adjust Cut Position	-3 to 3mm	You can fine tune the cut position when printing to roll paper with no margins in all directions. The cut position can be adjusted in increments of 0.2 mm.
		Replace Cutter Moves the		Moves the cutter to the replacement position so it can be replaced. Press the OK button to move the cutter to the replacement position. The paper must be removed before the cutter can be replaced. Remove the paper before proceeding.

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)				Explanation
Print Queues	Print Queue	XXXXXXXXXXX (name of print queue)		Waiting Job Name	Lists the estimated start time and time needed to print the selected job. The reason that printing cannot be performed is displayed in Remote Manager or LFP HDD Utility, and you can hold or cancel the job.
				User	
				Estimated Start Time	
				Estimated Print Time	
	Hold Queue				Displays the print settings for held jobs and the reason the job is held. Jobs that are held because the job print settings differ from those currently selected for the printer can be printed as described below. 1. Replace the paper and take whatever other steps may be necessary to ready the device for printing. 2. Select Resume All Jobs.
		View Hold Queue			
			XXXXXXXXXXX (name of hold queue)	Paused Job Name	
				User	
				Paper Type	
				Source	
				Size	
				Reason For Hold	
		Resume All Jobs			Press the OK button to resume all held jobs currently in the queue.
	Saved Job Queue				Shows the status of the selected stored job when it was last printed. If you press the ▶ button after confirmation, the File Options menu is displayed.
		XXXXXXXXXXX (name of stored job)		Stored Job Name	
				User	
				Paper Length	
				Pages	
				Paper Type	
				Copies	
				Source	
				Size	
				Estimated Print Time	

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Paper	Select Paper Type	Photo Paper		Select the type of paper loaded. When loading commercially available paper, or when using customized paper settings, select the Custom Paper settings name.
		Proofing Paper		
		Fine Art Paper		
		Matte Paper		
		Plain Paper		
		Others		
		Custom Paper		
	Custom Paper Setting			Register paper information when using commercially available paper or when using customized paper settings for genuine Epson paper. See the following table for details on the setting content.
	Print Paper List			Press the OK button to print a list of custom paper settings.
	Roll Paper Remaining			You can set the length for the currently loaded roll paper.
		Roll Paper Remaining	On	Select whether to display/record (On) or not to display/record (Off) the amount of remaining roll paper. If On is selected, you will be prompted to enter the length of the roll. When a length has been entered for the loaded roll paper, a barcode will automatically be printed on the roll stating the length remaining, the value selected for the roll remaining alert, and the paper type when the roll is removed. The barcode is automatically read and settings adjusted the next time the paper is used, improving efficiency when multiple rolls of paper are used.
			Off	
		Roll Paper Remaining	5.0 to 99.5	Displayed when On is selected for Roll Paper Remaining. Set the length for the loaded roll paper to 5.0 to 99.5 m. You can set in 0.5m increments.
		Remaining Alert	1 to 15 m	Displayed when On is selected for Roll Paper Remaining. Set within a range from 1 to 15 m to display a warning when the amount of remaining roll paper drops below that limit. You can set in 1 m increments.
	Roll Paper Setup			Only available when printing on roll paper.
		Auto Cut	On	Choose On to automatically cut roll paper using the built-in cutter as each page is printed or Off to disable auto paper cutting. The setting selected with the printer driver takes priority when the printer driver is used.
			Off	

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Paper		Page Line	On	If Auto Cut is Off, you can choose to print (On) or not print (Off) cut lines on roll paper. Cut lines are not printed if Auto Cut is On or when cut sheets or poster board is used. Note, however, that if the roll width selected with the computer is narrower than the paper loaded in the printer, cut lines will be printed regardless of the option selected for Auto Cut. The setting selected with the printer driver takes priority when the printer driver is used.
			Off	
		Roll Paper Margin	Normal	When set to Normal, the top and bottom margins are 15 mm, and the left and right margins are 3 mm. Except for 15mm, the left and right margins for all other settings are 3 mm.
			Top15mm/ Bottom15mm	
			Top35mm/ Bottom15mm	
			Top150mm/ Bottom15mm	
			3mm	
			15mm	
		Refresh Margin	On	If On is selected during borderless printing, the printer will automatically trim the leading edge to remove any ink stains that may have been left by the previous copy; to disable this feature, choose Off.
			Off	
	Roll End Option		Continue	Select the action to perform for a roll after replacement: print the remaining data (Continue) / do not print (Stop Printing) / print again from the beginning (Reprint). Reprint is only available when the optional hard disk unit is installed.
			Stop Printing	
			Reprint	
	Roll Paper Tension		1 to 5	This setting is used if Extra High is set as one of the following settings: Paper menu - Custom Paper Setting - Roll Paper Tension, or Paper Configuration - Roll Paper Back Tension in the printer driver. If wrinkles are formed on the paper during printing when the abovementioned Roll Paper Back Tension is High, set it to Extra High, and then configure the strength of the tension using this setting. Higher values produce higher tension.
	XXXXXXXXXXX			Displays the registered setting name.

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Custom Paper Setting		Select Reference Paper	Photo Paper	You can select the media type that is the closest to the paper you are using. Select No Paper Selected if you do not want to specify a specific paper type. However, in Epson Color Calibration Utility you cannot use No Paper Selected as the Select Reference Paper setting. Make sure you select one of the other paper types.
			Proofing Paper	
			Fine Art Paper	
			Matte Paper	
			Plain Paper	
			Others	
			No Paper Selected	
		Platen Gap	Narrow	Select the platen gap, which is the distance between the print head and the paper. Normally, select Standard. Select a wider setting if print results are scratched or smudged. If, upon performing head alignment, you feel that it is still not completely aligned, select Narrow.
			Standard	
			Wide	
			Wider	
			Widest	
		Detect Paper Thickness		Press the OK button to print a pattern to determine the thickness of the current paper. Select the pattern number with the least misalignment from the print results. In the following example image, “4” is the best choice.
		Paper Feed Adjust	Pattern	Use this setting if you are unable to resolve banding issues (horizontal striped lines or uneven colors) in the standard print area (for cut sheets, the area excluding the 1 to 2 cm strip at the bottom of the paper) even after head cleaning or head alignment.
			Value	
		Paper Suction	-4 to 0	It is important to choose the appropriate amount of suction for the paper used in order to maintain the correct distance between the paper and the print head. Choosing too high a value for thin or soft paper will increase the distance between the paper and the print head, causing print quality to decline or preventing the paper feeding correctly. In such cases, you will need to lower the paper suction. The suction power is weakened when the parameter is lowered.
		Drying Time Per Pass	0 to 10 seconds	Select the time the print head pauses to allow drying after each pass. Choose from values between 0.0 and 10.0 seconds. Depending on the paper type, the ink may take a while to dry. If the ink blurs on the paper, set a longer time for drying the ink. Increasing the drying time increases the time needed to print.

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Custom Paper Setting		Roll Paper Tension	Standard	Select High or Extra High if the paper wrinkles while printing on roll paper. If Extra High is set, the Roll Paper Tension setting in the Paper menu is enabled. It is not necessary to set this option for cut sheets.
			High	
			Extra High	
		Remove Skew	On	Select whether to enable (On) or disable (Off) paper skew reduction while printing on roll paper. It is not necessary to set this option for cut sheets.
			Off	
		Setting Name		Enter a name of up to 22 characters for custom paper settings. Choose an easy-to-remember name for quick selection.
		Restore Settings	Yes	Restore the selected custom paper settings to default values.
			No	
Printer Setup	Platen Gap		Narrow	Select the Platen Gap, which is the distance between the print head and the paper. Normally, select Standard. Select a wider setting if print results are scratched or smudged. Select Narrow if you feel the print head is not completely aligned after performing head alignment.
			Standard	
			Wide	
			Wider	
			Widest	
	Paper Size Check		On	Choose whether the printer automatically detects (On), or does not automatically detect (Off), the width of the media. We generally recommend to operate with this setting set to On. Try choosing Off if a paper setting error is displayed when the paper is correctly loaded. Note, however, that the printer may print outside the paper when Off is selected. If it prints beyond the edges of the paper, the inside of the printer becomes dirty with ink.
			Off	
	Paper Skew Check		On	If On is selected, an error will be displayed in the control panel and printing will stop if the paper is skewed; select Off to disable this feature. On is recommended in most circumstances as skewed paper may cause the printer to jam.
			Off	
	Auto Nozzle Check			Set the timing that you want the printer to check the status of the nozzles, and if clogged nozzles are detected, set the number of times to perform auto cleaning. If the nozzles are not clogged, cleaning is not performed.

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Printer Setup		Auto Cleaning Setting	Periodically	Set the timing for performing an Auto Nozzle Check that will run before printing starts. Periodically: Checks at fixed intervals at a timing determined by the printer. Every Job: Checks at each job. Off: Checks only under specific conditions. When Off is selected, Timer Cleaning is automatically set to 60 hours.
			Every Job	
			Off	
		Auto Clean Max Repeat	1 to 3	When clogged nozzles are detected, set the number of times to automatically repeat cleaning.
	Timer Cleaning		XX hours	When the following operations are performed after the set time has passed from the time the last print was completed, cleaning is performed automatically. If the nozzles are not clogged, cleaning is not performed. ☐ The printer is turned on. ☐ The printer returns from sleep mode.
			Off	
	Print Nozzle Pattern		Every 10 pages	Prints a nozzle check pattern at the top of the page after printing every page or every 10 pages. You can check by viewing the pattern after printing, and determine if there are any problems in the print results before and after printing.
			Every Page	
			Off	
	Auto Black Ink Change		On	If the black ink type setting in the printer and the printer driver differ, it can be changed automatically to the selected type by the printer driver. On: The black ink type is changed automatically, and printing is performed. Off: An error message is displayed on the control panel's screen, and printing is paused.
			Off	
	Calibration Setting		On	You can make settings whether to enable the calibration data for Epson Color Calibration Utility. For details on the calibration procedure and so on, see the software manual.
			Off	

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)				Explanation
Printer Setup	Store Held Job			On	This item is available when an optional hard disk unit is installed. If On is selected, print jobs that require a paper type, source, or output paper size (width) that differs from those currently selected with the printer will be saved as held jobs; select Off to disable this feature. If Off is selected, an error will be displayed and will printing will stop if the source selected for the print job does not match that selected with the printer. If On is selected, printing will not stop if an error occurs; instead, jobs with non-matching settings will be saved to the hard disk unit as held jobs. Held jobs can be printed from the Print Queue menu after the printer has been readied by, for example, loading the correct type of paper.
				Off	
	Restore Settings			Yes	If Yes is selected, the Printer Setup is restored to default values.
				No	
Printer Status	Firmware Version				You can see the firmware version.
	Option Status				Lists the optional accessories currently connected to the printer and available for use (Hard Disk Unit, SpectroProofer, Auto Take-up Reel Unit).
	Print Status Sheet				Press the OK button to print a list of current printer settings. Choose this option to view settings at a glance.
	Calibration Date				Displays the latest Epson Color Calibration Utility execution log. You can check details on operations and so on in Epson Color Calibration Utility.
Option Setup	SpectroProofer				You can check the current status of the SpectroProofer mounter installed on the printer, and initialize the settings.
		SProofer Status			You can check the status of the SpectroProofer mounter.
			Device Version:ILS30		Displays the version of the ILS30EP installed on the mounter.
			Calibration Tile S/N		Displays the calibration tile serial number of the ILS30EP installed on the mounter.
			Device Temperature		Displays the temperature of the ILS30EP installed on the mounter.
			Firmware Version		Displays the version of the mounter.
			Air Temperature		Displays the air temperature around the mounter.

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Option Setup			Backing Color	Displays the backing colors installed in the mounter. If the color differs from the actual color, check the status of the backing and make sure it is installed correctly. For details on installing the SpectroProofer mounter, see the “Setup Guide” (booklet).
		SProofer Setting		The printer automatically initializes the settings for the SpectroProofer mounter. For details on procedures for initializing settings and so on, see the “User's Guide” (PDF).
	Auto Take-up Reel Unit			Displays the firmware version of the auto take-up reel unit installed on the printer.
Network Setup	IP Address Setting		Auto	Select whether to use DHCP to set the IP address (Auto), or to set the address manually (Panel). Choose Panel to enter the IP Address, Subnet Mask, and Default Gateway. Contact your system administrator for detailed information.
			Panel	
	IPv6 Setting		On	Select whether to enable or disable the IPv6 function.
			Off	
	IEEE802.1x Setting		On	Select whether to enable or disable the IEEE802.1X function.
			Off	
	HTTPS Redirect Setting		On	Select whether to enable or disable the function to auto-direct HTTP to HTTPS.
			Off	
	Print Status Sheet			Press the OK button to print a list of the Network Setup. Use this information for a complete overview of network settings.
	Restore Settings		Yes	Select Yes to restore all Network Setup content to default values.
			No	

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Preferences	Language		Japanese	Select the language used on the control panel's screen.
			English	
			French	
			Italian	
			German	
			Portuguese	
			Spanish	
			Dutch	
			Russian	
			Korean	
			Chinese	
	Unit: Length		m	Select the unit of length which is displayed on the control panel's screen or printed on the patterns.
			ft/in	
	Unit: Temperature		°C	Select the temperature units used in the control panel display.
			°F	
	Sleep Mode		5 to 210 minutes	The printer will enter sleep mode if no errors have occurred, no print jobs have been received, and no actions are performed on the control panel for an extended period of time. This setting selects the amount of time until the printer enters sleep mode.
	Power Off Timer		Off	The printer turns off automatically when there are no errors, no print jobs being received, and no control panel or other operations are performed for eight hours. The delay before the printer turns off can be selected from values between 1 and 24 hours in increments of 1 hour. Choose Off to prevent the printer turning off automatically.
			1 to 24 hours	
Administrator Menu	Change Password			Enter an administrator password of up to 20 characters.
	Operational Control			Choose whether the administrator password is required to access Network Setup from the control panel or Remote Manager.
		Network Setup	Password Required	
			No Password Required	

Table 1-11. Menu Mode Settings List

Top Menu	Menu Item/Settings (shaded one is the default)			Explanation
Administrator Menu	Powerful Cleaning		All Nozzles	Performs more powerful cleaning than Head Cleaning from the Maintenance menu. Check the ink colors with faint or missing segments in the check pattern, and then specify which nozzles to clean. The displayed items differ depending on the printer model and ink sets being used. ☐ If there are faint or missing segments in all colors: Select All Nozzles. ☐ If there are faint or missing segments in only a few colors: Select the specific ink colors you want to clean. You can select multiple items at the same time.
			XX/XX	
	Date And Time		MM/DD/YY HH:MM	Set the printer's built-in clock. The time provided by the clock is used when printing logs and status sheets.
	Time Zone			Enter the difference between the current time zone and GMT. The selected time zone is used in e-mail notifications sent by Remote Manager when an error occurs.
	Manage HDD			Select Yes to format the optional hard disk unit currently attached to the printer. Formatting the hard disk unit deletes all stored print jobs. Hard disk units that have been used with other printers must be formatted before they can be used this printer.
		Format Hard Disk	Yes	
			No	
	Reset All Settings		Yes	Select Yes to restore defaults for all settings except the Date And Time, Language, and Unit: Length options in the Preferences menu.
			No	

1.5.2 Serviceman Mode

The Serviceman Mode is intended to be used by a service personnel for servicing the printer.

HOW TO START & QUIT

1. Turn the printer on by pressing the **[OK]**, **[Paper Feed/Down]**, and **[Menu/Right]** buttons.
2. Turn the printer off to quit the Serviceman Mode.

SERVICEMAN MODE MENU LIST

Table 1-12. Serviceman Mode

Menu				Explanation
Item	1	2	3	
Mecha Adjustment	Paper			Adjusts the Paper Thickness Sensor.
	Rear AD			Adjusts the AD value of the Rear Sensor (PE Sensor).
	Selector Check			Checks the operation of the ink selector.
	Cleaning PG	Adjustment		Runs the cleaning PG adjustment.
		Check		Runs the cleaning PG check.
	PG Adj.			Adjusts the platen gap.
	Board Paper Check			Executes a Board Paper feeding check.
	LCD RGB Check	Red		Checks the operation of the LCD.
		Green		
		Blue		
	Panel Check			Checks the operation of the Buttons and the LEDs.
Life	CR	PG		Configures the durability settings of the mechanism and the printhead.
		H to F Speed		
		F to H Speed		
		Page Size		
		Fan		
		Life Count		

Table 1-12. Serviceman Mode

Menu				Explanation
Item	1	2	3	
Life	PF	Feed Amount 1		Configures the durability settings of the mechanism and the printhead.
		Feed Speed 1		
		Feed Amount 2		
		Feed Speed 2		
		Wait		
		Fan		
		Life Count		
	RLS	Wait1		
		Wait2		
		Life Count		
	APG	PG		
		Wait		
		Life Count		
	Cutter	Length		
		Return Length		
		Speed		
		Return Speed		
		Wait1		
		Wait2		
		Life Count		
	Display Count	Display Count		

CHAPTER

2

OPERATING PRINCIPLES

2.1 Main Body

2.1.1 Housing

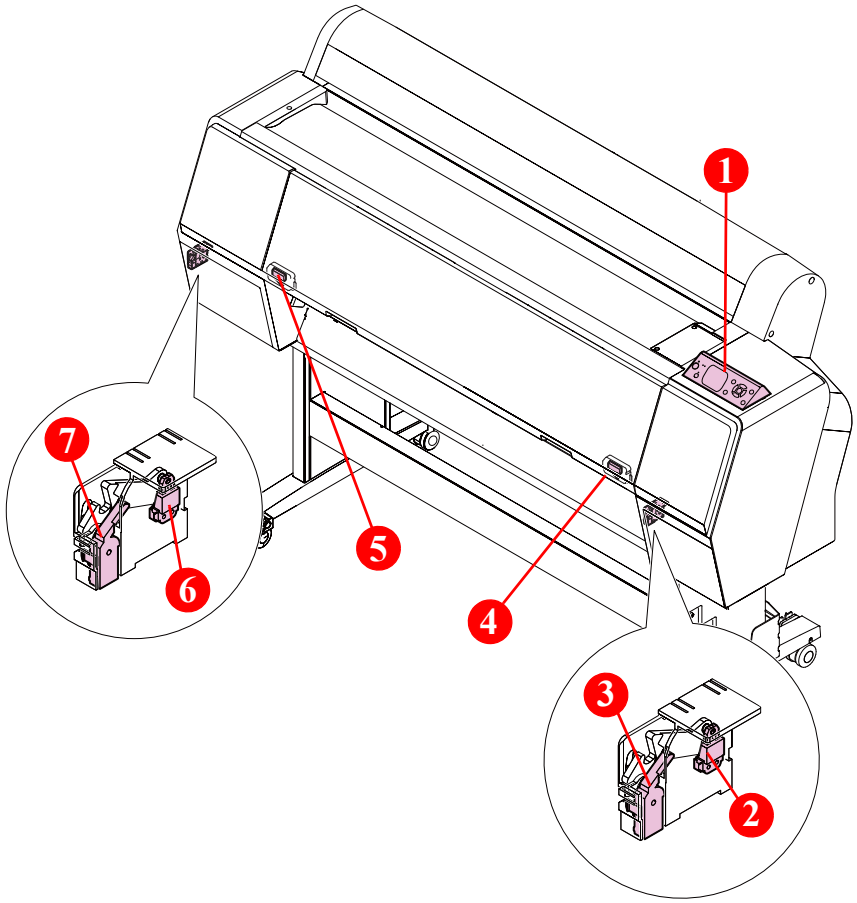


Figure 2-1. Housing

Diagram	Name	Description
1	Control Panel	☐ Operations and configurations of the printer ☐ Displays the printer's status, and each value for the settings on LCD display. ☐ Indicates the printer's (error) statuses with LEDs.
2	IC Cover Unlock Solenoid R	Unlocks the IC Cover R.
3	IC Cover Sensor Assy R	Detects the Open/Closed status of the IC Cover R.
4	Front Cover Sensor R	Detects the Open/Closed status of the Front Cover.
5	Front Cover Sensor L	Detects the Open/Closed status of the Front Cover.
6	IC Cover Unlock Solenoid L	Unlocks the IC Cover L.
7	IC Cover Sensor Assy L	Detects the Open/Closed status of the IC Cover L.

2.1.2 Electric Circuit Components

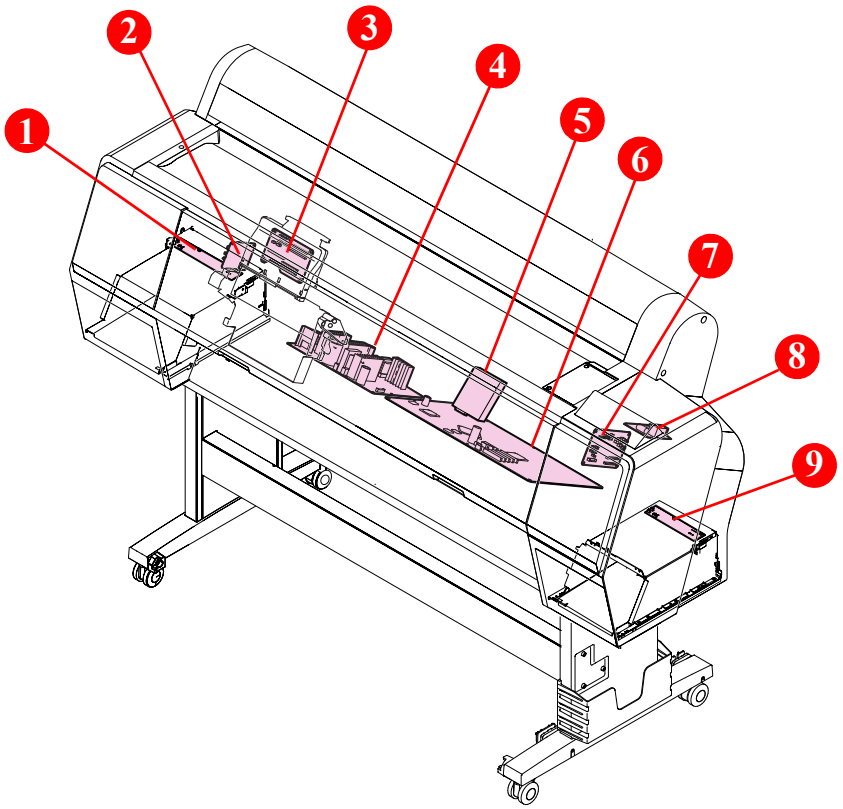


Figure 2-2. Electric Circuit Components

Diagram	Name	Description
1	Ink Holder Board Assy L	Relays the connection between the Main Board Assy and electric parts/components of every kind. See "Block Wiring Diagram" (p. 380) for specific connections to the concerning parts/components.
2	Sub Board Assy; C	Relays the connection between the Main Board Assy and electric parts/components of every kind. See "Block Wiring Diagram" (p. 380) for specific connections to the concerning parts/components.
3	Sub Board Assy	Relays the connection between the Main Board Assy and electric parts/components of every kind. See "Block Wiring Diagram" (p. 380) for specific connections to the concerning parts/components.
4	Power Supply Board Assy	Generates the DC voltage for this printer from the AC power supply.
5	HDD (Option)	Stores the print job data.
6	Main Board Assy	☐ Communicates with the computer. ☐ Processes received data. ☐ Controls the printer mechanism. ☐ Stores the correction values and various counters. ☐ Generates the voltages for the logic system from the voltage of 42V supplied from the Power Supply Board Assy.
7	Sub Board Assy; B	Relays the connection between the Main Board Assy and electric parts/components of every kind. See "Block Wiring Diagram" (p. 380) for specific connections to the concerning parts/components.
8	AID Board	The board to perform the AID function which detects dot missing automatically.
9	Ink Holder Board Assy R	Relays the connection between the Main Board Assy and electric parts/components of every kind. See "Block Wiring Diagram" (p. 380) for specific connections to the concerning parts/components.

2.1.3 Carriage Mechanism

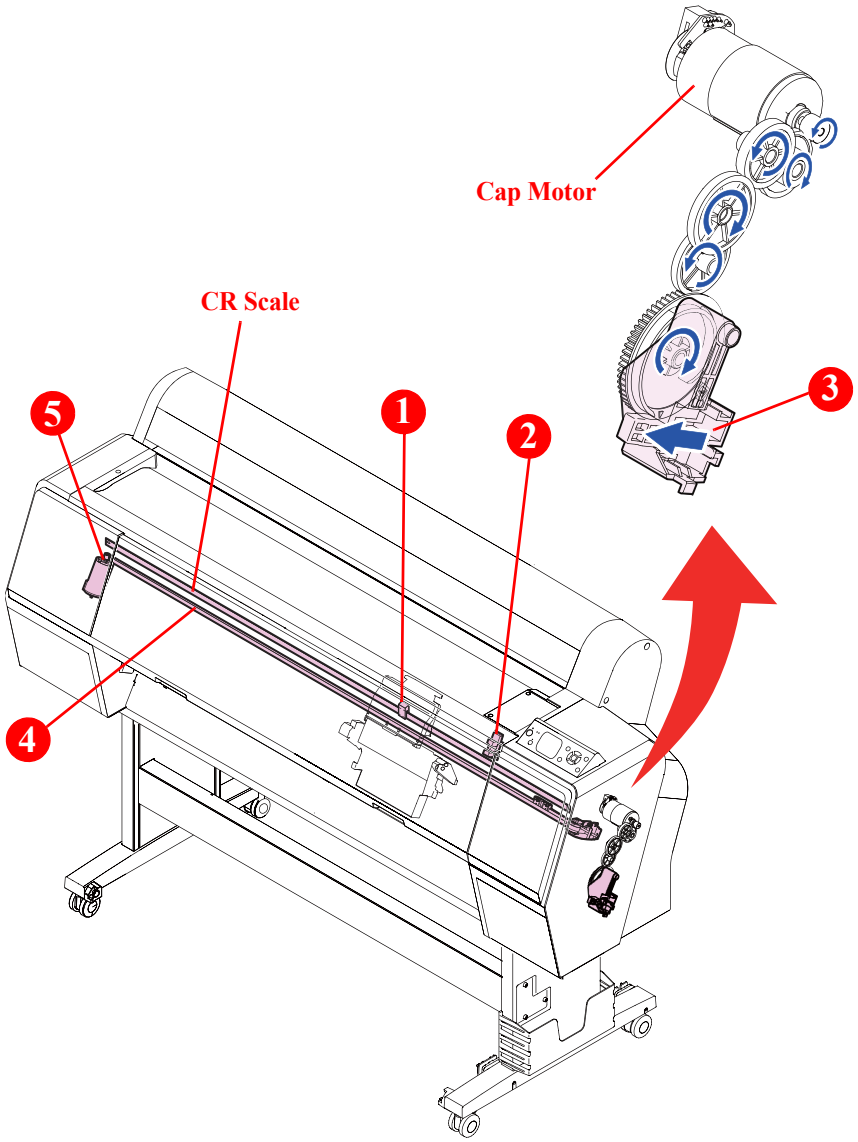


Figure 2-3. Carriage Mechanism

Diagram	Name	Description
1	CR Encoder	Detects the scale patterns to control the position of the Carriage Unit.
2	CR HP Sensor	Detects the home position of the Carriage Unit.
3	CR Lock	Locks the Carriage Unit. It is driven by the Cap Motor. (See p. 45.)
4	CR Belt	Conveys the drive force of the CR Motor to the Carriage Unit.
5	CR Motor	The motor to drive the Carriage Unit.

2.1.4 APG Mechanism

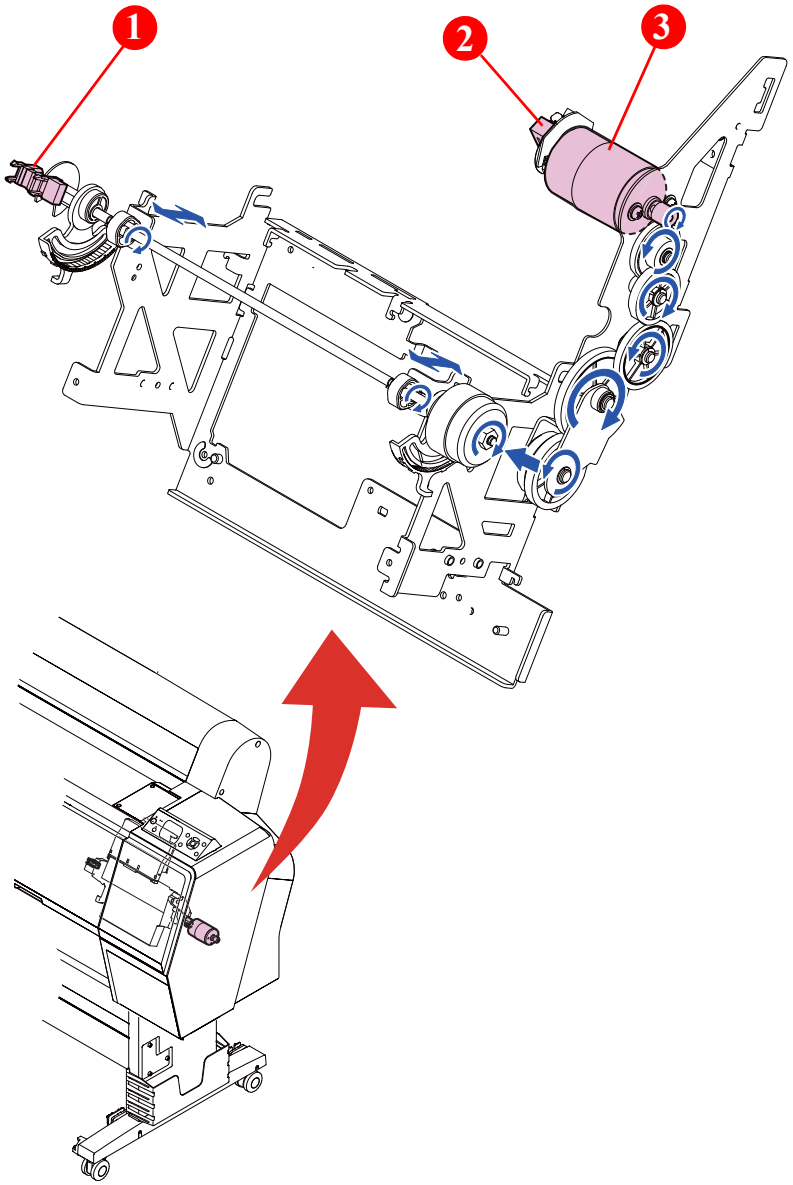


Figure 2-4. Paper Feed Mechanism

Diagram	Name	Description
1	PG HP Sensor	Detects the origin position of the platen gap.
2	APG Encoder Sensor	Detects patterns of the scale attached on the motor to control the rotation of the APG Motor.
3	APG Motor	The motor to move the Carriage Unit automatically so as to change the platen gap.

2.1.5 Paper Feed Mechanism

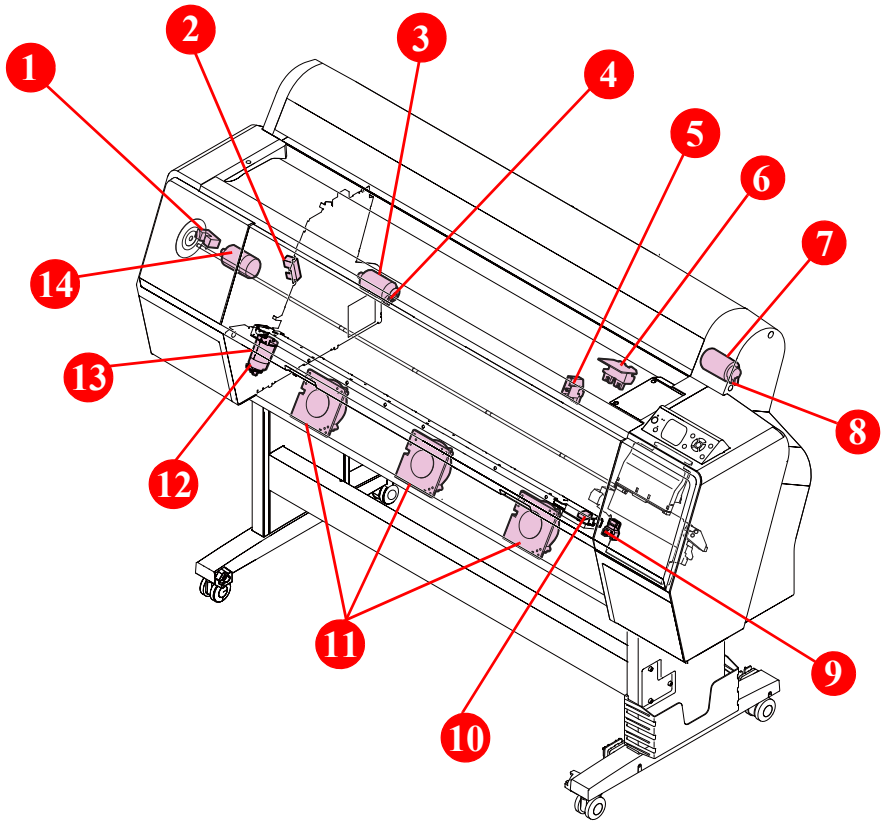


Figure 2-5. Paper Feed Mechanism

Diagram	Name	Description
1	PF Encoder	Detects the PF Scale patterns to control the paper feeding (operation of the PF Motor).
2	Roller Release HP Sensor	Detects the position (Contact/Separate status) of the driven roller.
3	Driven Roller Release Motor Assy	Drives the driven roller. A DC motor with an encoder scale mounted on it is employed.
4	Driven Roller Release Motor Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Driven Roller Release Motor Assy.
5	PE Sensor	A reflective photo interrupter to detect the presence of paper.
6	Paper Thickness Sensor	Detects the thickness of paper being inserted into the printer.
7	Rewind Motor	Takes up the slack of the roll paper when the motor rotates normally, and rewinds the roll paper when it rotates reversely. A DC motor with an encoder scale mounted on it is employed.
8	Rewind Motor Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Rewind Motor.
9	PW Sensor	Detects the width of paper on the platen. It is a reflective photo interrupter and detects the difference of the amount of reflection between paper (white) and the platen (black).
10	Cutter Sensor	Detects the origin position of the cutter.
11	Suction Fans	Suck paper to the platen so as to stabilize the position of paper when printing. Three fans are mounted for SC-P9000 Series/SC-P8000 Series, and two fans for SC-P7000 Series/SC-P6000 Series.
12	Cutter Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Cutter Motor.
13	Cutter Motor	Drives the cutter. A DC motor with an encoder scale mounted on it is employed.
14	PF Motor	The motor to drive the Feed Roller.

2.1.6 Ink System

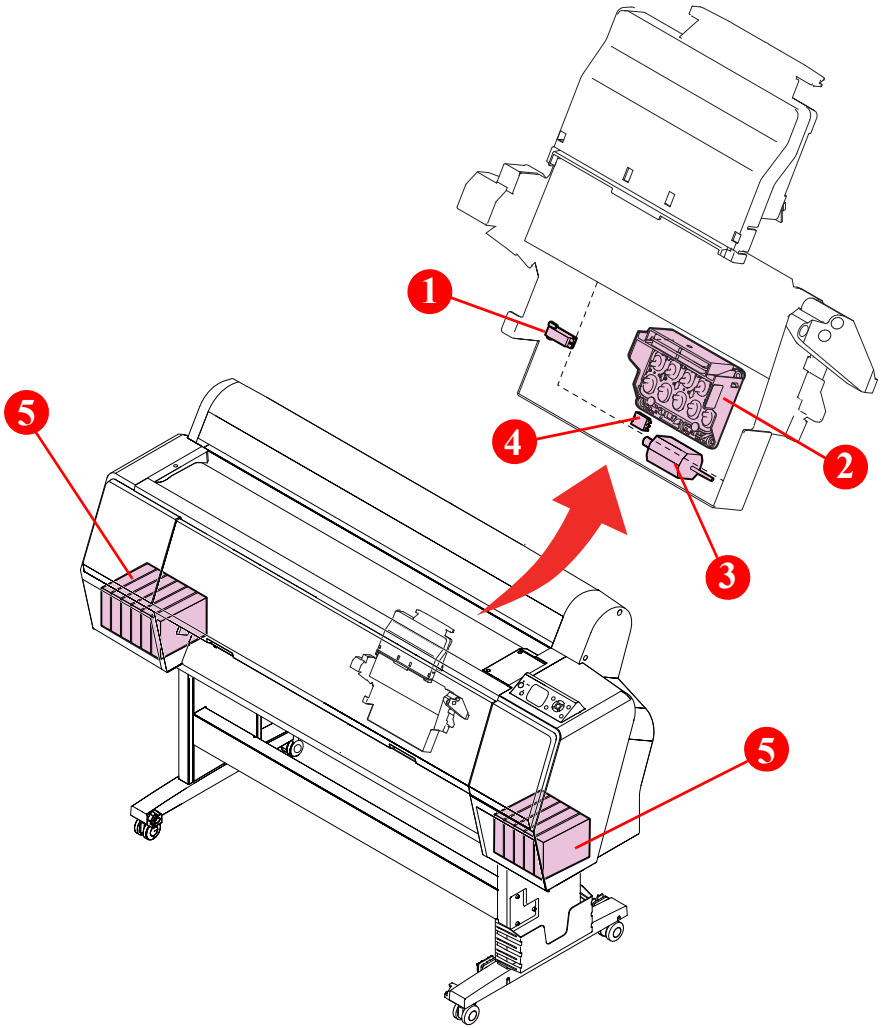


Figure 2-6. Ink System

Diagram	Name	Description
1	Ink Mark Sensor	The sensor to execute the functions below. ☐ Auto Bi-D adjustment (pattern reading) ☐ Auto Uni-D adjustment (pattern reading) ☐ Remaining roll paper detection (remaining block pattern reading)
2	Printhead	☐ Nozzle per row: 360 nozzles ☐ Rows: 10 ☐ Photo Black and Matte Black use one row in common.
3	Ink Selector Motor	Drives the Ink Selector.
4	Ink Selector Sensor	Detects the position of the Ink Selector (selected ink color)
5	Ink Cartridges *	The cartridges storing ink. They mount CSIC.

Note "*": SC-P7000 Series/SC-P6000 Series: Only the ink cartridges on the right are used.

INK SYSTEM UNIT

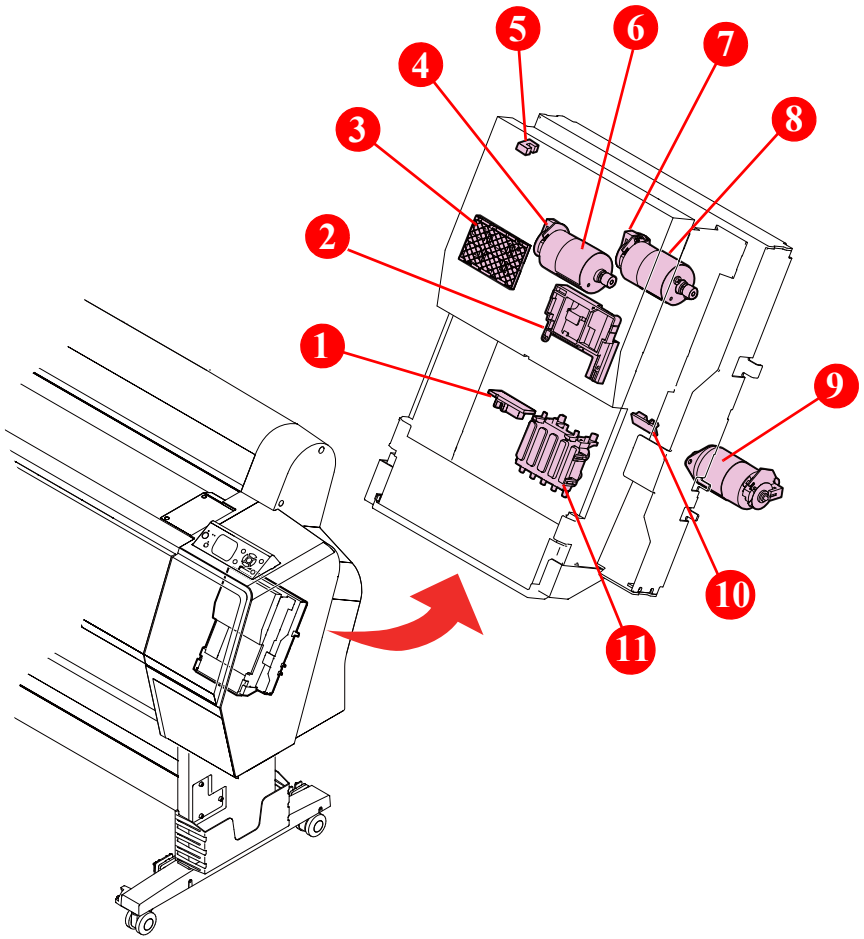


Figure 2-7. Ink System Unit

Diagram	Name	Description
1	Cap HP Sensor	Detects the origin position of the Cap.
2	Wiper	Cleans the nozzle surface of the Printhead. It is driven by the Wiper Motor.
3	Flushing Box	The box to receive the flushed ink. It is driven by the Wiper Motor.
4	Wiper Motor Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Wiper Motor.
5	Wiper HP Sensor	Detects the origin position of the Wiper.
6	Wiper Motor	Slides the Wiper and the Flushing Box. A DC motor with an encoder scale mounted on it is employed.
7	Cap Motor Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Cap Motor.
8	Cap Motor	Drives the Cap and the CR Lock.
9	Pump Motor	Drives the pump to suck ink. A DC motor with an encoder scale mounted on it is employed.
10	Valve HP Selector	Detects the origin position of the valve.
11	Cap	Caps the Printhead to protect the nozzle surface. It is driven by the Cap Motor.

PRESSURIZING UNIT

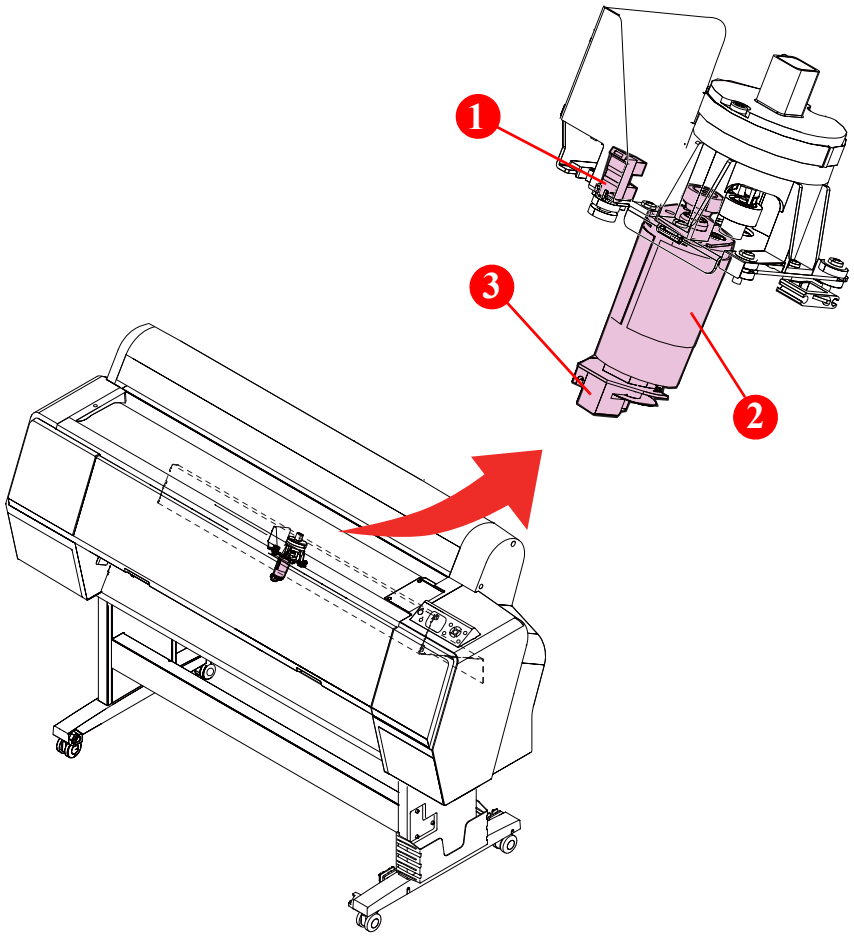


Figure 2-8. Pressurizing Unit

Diagram	Name	Description
1	Pressure Sensor	A transmissive photo interrupter to detect the pressurizing status. It detects the status of the actuator which operates when the pressure reaches up to the specified amount.
2	Pressurizing Pump Motor	Supplies air to pressurize the ink pack. A DC motor with an encoder scale mounted on it is employed.
3	Pressurizing Pump Motor Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Pressurizing Pump Motor.

2.2 Options

2.2.1 Auto Take-up Reel

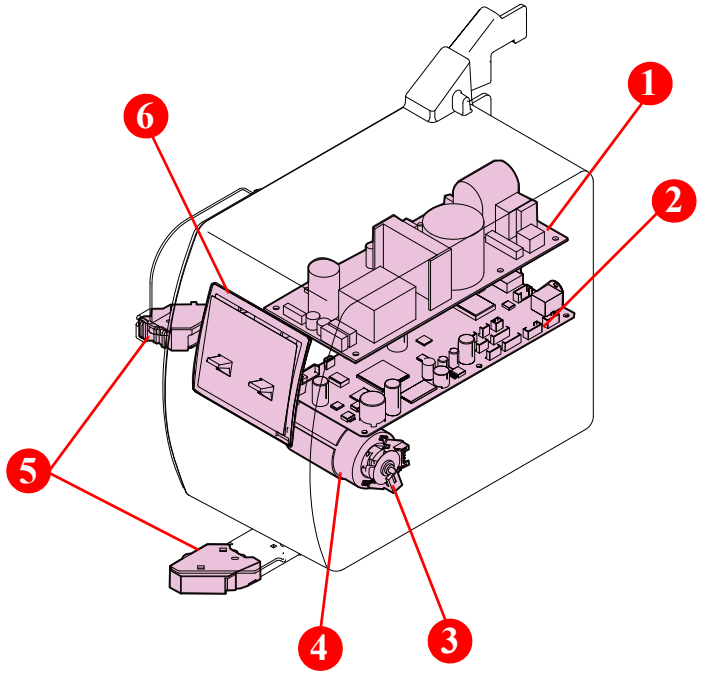


Figure 2-9. Auto Take-up Reel

Diagram	Name	Description
1	Power Supply Board	Generates the DC voltage for the Auto Take-up Reel from the AC power supply.
2	Main Board	Controls the Auto Take-up Reel.
3	Auto Take-up Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Auto Take-up Motor.
4	Auto Take-up Motor	A motor to wind paper. A DC motor with an encoder scale mounted on it is employed.
5	Slack Sensor	Detects the slack of paper. When detecting the slack, the Auto Take-up Motor rotates and winds the paper.
6	Control Panel	Consists of various switches and LEDs to indicate the status of the Auto Take-up Reel.

2.2.2 SpectroProofer

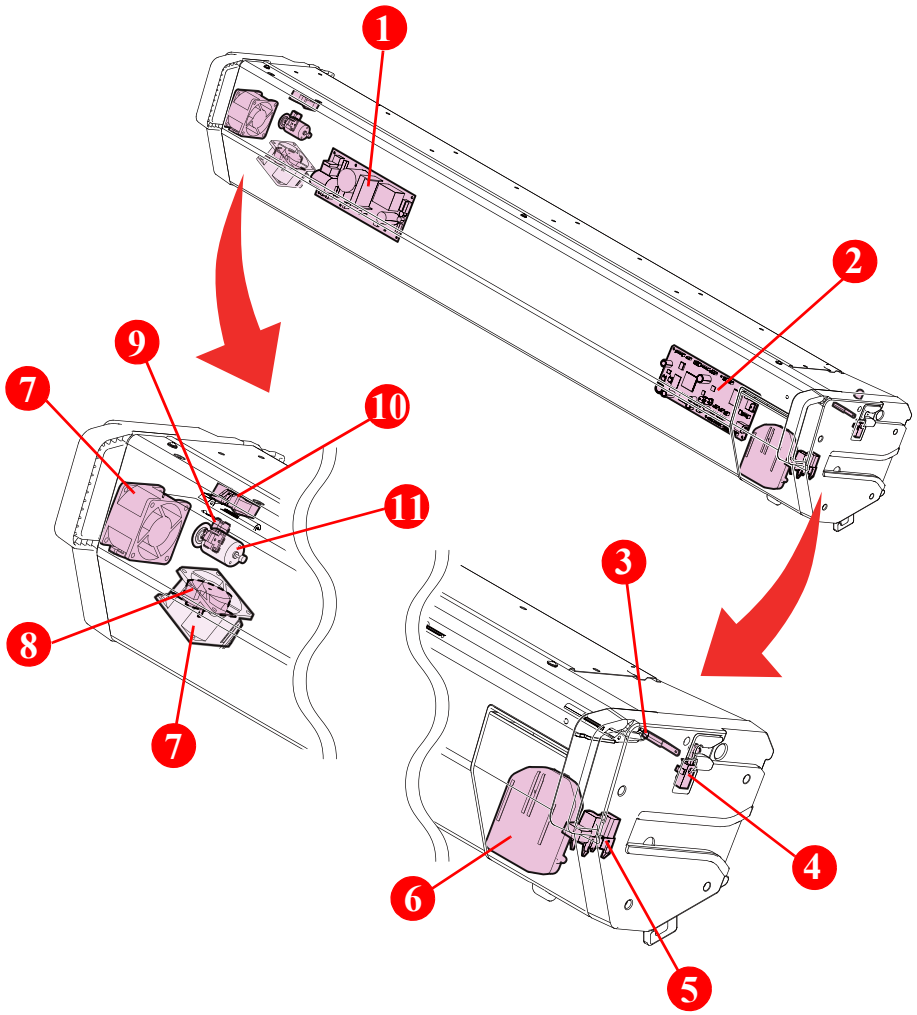


Figure 2-10. SpectroProofer

Diagram	Name	Description
1	Power Supply Board	Generates the DC voltage for the SpectroProofer from the AC power supply.
2	Main Board	Controls the SpectroProofer.
3	Thermistor	Detects the temperature and feeds it back to the dry control section. The drying time is changed according to the detected temperature.
4	Mount Sensor	Detects the presence of the Mounter.
5	CR HP Sensor	Detects the origin position of the carriage mounting the Auto Colorimeter.
6	Auto Colorimeter	The device to measure the color of printed result automatically.
7	Cooling Fan	Dries the printed paper.
8	Carriage Motor	Drives the carriage mounting the Auto Colorimeter.
9	Paper Pressing Encoder	Detects patterns of the scale attached on the motor to control the rotation of the Paper Pressing Motor.
10	Paper Pressing Plate Sensor	Detects the position of the Paper Pressing Plate.
11	Paper Pressing Motor	Drives the Paper Pressing Plate.

CHAPTER

3

TROUBLE SHOOTING

3.1 Overview

This section explains the basic procedure for troubleshooting problems on the printer quickly and efficiently.

When carrying out the troubleshooting procedures, take a flexible measure following your sales company's policy and considering the troubling situation.

3.1.1 Preliminary Check

Make sure to verify or perform the following basic items whenever servicing the printer.

3.1.1.1 Check for the usage environment

Check the user's usage environment.

- Temperature/humidity of the installation site.
- What type of media is used (manufacturer/type/width/thickness)?
- Genuine ink or 3rd party's ink?
- F/W version (the latest?)
- Error code
- Check also the following if necessary.

Phenomenon	Check Item
Bad print quality	The installation site inclined?
	Any vibrating equipment near the site?
	The user's panel settings
	Is the interior dirty? Clean it if dirty.
Missing dots/bad print quality	Near a conditioner's ventilation duct?

3.1.1.2 Recurrence check of the trouble

Check if the trouble the user claims recurs with the returned printer.

- If the F/W was not the latest, with the user's agreement, update the F/W to the latest one and check if the trouble recurs.

3.1.1.3 Check for the counter values/history

Download NVRAM and check the following with NVRAM Viewer. (For the check method, see Chapter 5.)

- Counter history of the periodic replacement parts. (if any part's life is near.)
- Printer's operating history (if any cause for the trouble exists)
- Error history (the frequency/history of errors related with the trouble)

3.1.1.4 Test print check

For the trouble related with print quality, carry out “Image Print” and check the current adjustment status. (For the procedure of test print, see Chapter 5.)

3.1.2 Troubleshooting Procedure

Refer to the following items according to the observed symptom, carry out the corresponding troubleshooting following the procedures described in the next sections.

1. Trouble with a Maintenance Request or Service Call Error. (See P.52, P. 54)
2. Trouble on print quality (See P.78)
3. Trouble on SpectroProofer (See P.81)
4. Trouble on SpectroProofer/Auto Take-up Reel (See P.84)
5. Trouble on Service Program (See P.89)
6. Trouble on NVRAM Viewer (See P.90)

3.1.3 Procedure after troubleshooting

3.1.3.1 If the trouble has been successfully solved

- Check if the movement of the covers is normal (without any damage, noises). If any abnormality is found, lubricate or replace the faulty parts.
- Carry out the cleaning after repair.
- Prepare a report (nozzle check pattern and images of trouble such as ink leakage should be attached) on the repair. (follow your company/local office's policy.)

3.1.3.2 If necessary to escalate the trouble case

Make a report with the following data.

- Backed-up NVRAM data
- Firmware version
- Service program version
- For bad print quality: a print sample with the marked symptom and a printed test pattern.
- For faulty parts: the faulty parts themselves and a photos of the troubling section.
- Information on the user/the repair listed below
  This is a format of the escalation report. At least check out the items on the list and register the case in the escalation system.

  - Model name
  - Serial number
  - With or without options
  - Content of the claim from the user
  - Date of occurrence
  - Trouble occurrence conditions/recurrence method
  - What the service person actually observed
    (Check items before check, the content of troubleshooting and repair.)
  - Date of escalation
  - Purpose of escalation
    (Measures what the user/service person want done)
  - Degree of urgency (S/A/B/C)
    S: High (those which may cause a death, ignition, etc.)
    A: Problems, bugs
    B: Strong request
    C: Inquiry
  - Deadline for the response
  - Repair history
  - Part-replacement history

3.2 Remedies for Maintenance Requests

This section describes the remedies for maintenance requests. Maintenance requests do not effect the printer's operation; therefore, you can continue the current printing. When a maintenance request error occurs, the printer displays on the LCD a hexadecimal code of "NNNN" which correspond to the bit numbers assigned to error statuses as shown in the table below.

Table 3-1. About the Maintenance Request NNNN

	Bit assignment (Binary)																NNNN (Hexa-decimal)	Cause	Remedy
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0002	The CR scan pass counter has come near the specified life. (ink supply tube has come near its end of life.)	Replace the Ink Tube (L & R) with a new one, and clear the counter using the Service Program.
	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0008	The RTC backup battery becomes exhausted.	Replace the battery with a new one, and execute RTC initialization using the Service Program.
	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0010	Refer to Page 53.	
	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0040	The pump counter has come near the specified life.	Replace the Ink System Unit and clear the life counter using the Service Program.
	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0080	The date has not been set.	Execute RTC initialization using the Service Program to set date and time.
	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0800	The number of replacement counter of the ink cartridges has come near the specified life. (the life of the waste ink pad attached to the ink cartridge holder)	Check if the waste ink pads attached to the ink cartridge holders are contaminated. If it has already absorbed a considerable amount of ink, exchange the ink cartridge holder (L and R), and clear the counter using the Service Program.
	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1000	The number of operation counter of the Ink Selector has come near the specified life.	Replace the Ink Selector, and clear the counter using the Service Program.
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4000	Refer to Page 53.	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8000	Refer to Page 53.	
Ex.	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0088	The RTC backup battery becomes exhausted and the date has not been set.	Install a battery, and execute RTC initialization using the Service Program to set date and time.
Description	Unassigned	CR life	Unassigned	RTC backup battery exhaustion	AID error	Unassigned	Pump unit life	Date not set	Unassigned	Unassigned	Unassigned	Holder ink pad life	Ink selector life	Unassigned	AID error	AID error			

Note : Ex): When "Maintenance Request 0088" is displayed.
As "0088" in hexadecimal means "1000 1000" in binary, you can find out the code is assigned to Bit-3 and Bit-7 referring to the above table. In this case, two errors are occurring simultaneously. (Bit-3: battery exhaustion/ Bit-7: the date and time has not been set.)

REMEDY FOR NO. 0010/4000/8000

If the Maintenance Request No. 0010/4000/8000 occurs, take the following measure according to the procedure below.

NOTE : There is a priority for occurrence of No. 0010/4000/8000. Because No. 0010 has the priority, when both No. 0010 and No. 4000 (or No. 8000) occur at the same time, No. 4000 (or No. 8000) is not displayed, but No. 0010 is displayed only. When the cause of No. 0010 is removed, No. 4000 (No. 8000) is displayed then.

Table 3-2. Remedy for Maintenance Request No. 0010/4000

Request No.	Description	Cause	Remedy/Check Point	
0010	Communication with the AID Board is not established.	Connection failure of FFC or FFC is broken.	1	Check the connection to the AID Board, and correct it if any failure found.
	The voltage applied to the Flushing Box does not reach the specified level.	Due to accumulated ink and such around the Flushing Box, the electric current is leaking.	2	Check around the Flushing Box, and remove accumulated ink or dust if any. (Through accumulated ink or dust, the electric current may leak.)
			3	Replace the Ink System Unit. (See P.179)
		High voltage power module in the AID Board is broken.	4	Replace the AID Board. (See P.207)
4000	It detects twice in a row that all the nozzles are clogging.	Printhead is broken.	1	Print the nozzle check pattern to check this. If all the colors have nozzle clogging, replace the Printhead. (See P.183)
		Connection failure of AID cable or AID cable is broken.	2	Check the connection to the AID Board, and correct it if any failure found.
			3	Replace the Ink System Unit. (See P.179)
8000	Detects Noises during AID operation.	There is a noise source near the printer.	1	Turn the printer off once, then turn it on again.
			2	Move the noise source away from the printer.

3.3 Remedies for Service Call Error

The following tables explain the Service Call error messages and remedies.

CHECK POINT

Make sure to check the related connectors and cables for poor connection or any abnormality before replacing any electrical part as instructed in the Remedy column. If the replacement does not solve the problem, replace the main board.

☐ List of Service Call Error

Error Code	Error Name	Page
0001	NMI error	p57
0002	System error	p57
1101	CR life error	p57
1125	CR HP detection error	p69
1138	Over current error	p57
1139	Oscillation error	p57
113A	Overload error	p57
113B	Over speed error	p57
113C	Reversing error	p58
113D	Driving time-out error	p58
113E	Velocity deviation error	p58
113F	Lock error	p58
1229	Oscillation error	p58
122A	Overload error	p58
122B	Over speed error	p59
122C	Reversing error	p59
122D	Driving time-out error	p59
122E	Velocity deviation error	p59
122F	Lock error	p59
131B	Head driver (transmission gate) overheat error	p71
13F0	ICL operation error	p63
1411	Select error	p63
1412	Pump life error	p63
1417	Oscillation error	p63
1427	CSIC destination setting error	p72
1430	Holder ink pad error	p63
1431	Ink selector life error	p64
1434	IC cover unlock error	p64
1439	Cap error	p64
143A	Overload error	p64
143B	Over speed error	p64
143C	Reversing error	p64
143D	Driving time-out error	p64
143E	Velocity deviation error	p65
143F	Lock error	p65
1440	Oscillation error	p65
1449	Oscillation error	p65
144A	Overload error	p65
144B	Over speed error	p65
144C	Reversing error	p66
144E	Velocity deviation error	p66
144F	Lock error	p66
1487	Oscillation error	p66
1488	Flushing box position error	p67
1489	Wiper error	p67
148A	Overload error	p67
148B	Over speed error	p67
148C	Reversing error	p67
148D	Driving time-out error	p67
148E	Velocity deviation error	p67
148F	Lock error	p68
1494	Ink selector error	p68
1496	Ink selector sensor error detection	p68
1497	Switching time-out error	p68

Error Code	Error Name	Page
149D	Driving time-out error	p68
14D9	Pump release error	p68
14DA	Overload error	p68
14DB	Over speed error	p68
14DC	Reversing error	p69
14DD	Driving time-out error	p69
14DE	Velocity deviation error	p69
14DF	Lock error	p69
1501	Release motor phase detection error	p69
150C	PG phase detection error	p70
1519	Oscillation error	p59
151A	Overload error	p59
151B	Over speed error	p60
151C	Reversing error	p60
151D	Driving time-out error	p60
151E	Velocity deviation error	p60
151F	Lock error	p60
1530	Driven roller HP detection error	p60
1536	Pressurizing reset error	p66
1537	Pressurizing error	p66
1539	Oscillation error	p66
153A	Overload error	p61
153B	Over speed error	p61
153C	Reversing error	p61
153D	Driving time-out error	p61
153E	Velocity deviation error	p61
153F	Lock error	p61
1540	Cutter HP detection error	p61
1541	Cutter return error	p70
1548	Oscillation error	p62
1549	Motor disconnection error	p62
154A	Overload error	p62
154B	Over speed error	p62
154C	Reversing error	p62

Error Code	Error Name	Page
154D	Driving time-out error	p62
154E	Velocity deviation error	p63
154F	Lock error	p63
1551	Paper thickness determining error	p70
1561	Paper thickness at power-on error	p70
159A	Overload error	p70
159B	Over speed error	p70
159C	Reversing error	p70
159D	Driving time-out error	p71
159E	Velocity deviation error	p71
159F	Lock error	p71
1622	Driving time-out error	p71
1800	AID voltage error	p71
1801	AID communication error	p71
1A23	Incorrect RTC data error	p72
1A26	RTC Access T/O error	p72
1A37	Thermistor error	p72
1A38	Transistor environmental temperature error	p72
1A39	Head error	p72
1A40	IC22 error	p72
1A41	Head rank ID input error	p72
1A50	I2C communication error (Between elements on ASIC and MAIN)	p72
1A51	I2C communication error (Between elements on SUB and MAIN)	p72
1A60	IC2 communication error during IMS operation	p73
1A81	IE option board voltage drop error	p73
1A88	Main Board SN system voltage drop error	p73
1F80	CSIC error	p73
1F81	CSIC error	p73
1F82	CSIC error	p73
1F83	CSIC error	p73
1F84	CSIC error	p73
1F85	CSIC error	p74
1F86	CSIC error	p74
1F87	CSIC error	p74
1F88	CSIC error	p74

Error Code	Error Name	Page
1F89	CSIC error	p74
1F8C	IES error	p74
1F8D	IES error	p74
1FB9	IES error	p74
1FC4	IES error	p74
1FC5	IES error	p75
1FC6	IES error	p75
1FC7	IES error	p75
1FC8	IES error	p75
1FC9	IES error	p75
1FCA	IES error	p75
1FCB	IES error	p76
1FCC	IES error	p76
1FCD	IES error	p76
1FCE	IES error	p76
1FCF	IES error	p76
2000	NVRAM error	p76
2001	FLASH ERROR	p76
2002	SDRAM error	p76
2003	FLASH BOOT SUM CHECK error	p77
2008	Wrong flash device error	p77
2009	FLASH SUM CHECK ERROR	p77
200A	F/W load error	p77
200C	Servo interrupt watchdog time-out error	p77
200D	System interrupt watchdog time-out error	p77
200E	Unknown NMI	p77
2030	Internal timeout error	p77
3000	AC shut-off	p77
Dxxx	Debug error	p77
Fxxx	CPU-related error	p77

☐ Remedies for Service Call Error

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
0001	EMG	NMI error	Firmware failure Main Board failure	Install the correct firmware. Replace the Main Board Assy. (See P.137)
0002	EMG	System error	Firmware failure MAIN BOARD failure	Install the correct firmware. Replace the Main Board Assy. (See P.137)
1101	CR	CR life error	The number of Carriage movement cycles reached the specified upper limit. (Ink tube's life)	Replace the ink tube (L & R), and clear the counter using the Service Program. In addition, check the statuses of the CR Motor, the driven pulley, the Carriage Unit, and the Head FFC, if any abnormal noise or wear is found, replace the corresponding part(s) along with the ink tube.
1138	CR	Over current error	The electric current flowing when driving the motor is irregularly large. (To protect the motor driver) ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the CR Encoder and the Main Board Assy. Check the connection between the CR Motor and the Main Board Assy. Replace the CR Encoder Sensor. (See P.148) Replace the CR Motor. (See P.152)
1139	CR	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the CR Motor. (See P.152)
113A	CR	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if the Carriage Unit is correctly installed. Check if there is some foreign material on the driving section of the Carriage Unit. Check the connection between the CR Encoder and the Main Board Assy. Check the connection between the CR Motor and the Main Board Assy. Replace the CR Encoder Sensor. (See P.148) Replace the CR Motor. (See P.152)
113B	CR	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the CR Encoder Sensor. (See P.148)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
113C	CR	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the CR Encoder and the Main Board Assy. Check the connection between the CR Motor and the Main Board Assy. Replace the CR Encoder Sensor. (See P.148)
113D	CR	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
113E	CR	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the CR Encoder Sensor. (See P.148) Replace the Main Board Assy. (See P.137) Replace the CR Motor. (See P.152)
113F	CR	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if the Carriage Unit is correctly installed. Check if there is some foreign material on the driving section of the Carriage Unit. Check the connection between the CR Encoder and the Main Board Assy. Check the connection between the CR Motor and the Main Board Assy. Replace the CR Encoder Sensor. (See P.148) Replace the CR Motor. (See P.152)
1229	PF	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the PF Motor. (See P.177)
122A	PF	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load between the PF Motor and the PF roller. Check the connection between the PF Encoder Sensor and the Main Board Assy. Check the connection between the PF Motor and the Main Board Assy. Replace the PF Encoder Sensor. (See P.176) Replace the PF Motor. (See P.177)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
122B	PF	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the PF Encoder Sensor. (See P.176)
122C	PF	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the PF Encoder Sensor and the Main Board Assy. Check if there is some foreign material causing extra load between the PF Motor and the PF roller. Replace the PF Encoder Sensor. (See P.176)
122D	PF	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
122E	PF	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the PF Encoder Sensor. (See P.176) Replace the Main Board Assy. (See P.137) Replace the PF Motor. (See P.177)
122F	PF	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load between the PF Motor and the PF roller. Check the connection between the PF Encoder Sensor and the Main Board Assy. Check the connection between the PF Motor and the Main Board Assy. Replace the PF Encoder Sensor. (See P.176) Replace the PF Motor. (See P.177)
151A	APG	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load between the APG Motor and the carriage unit. Check the connection between the APG Motor Sensor and the Main Board Assy. Replace the APG Motor. (See P.154)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
151B	APG	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the APG Motor. (See P.154)
151C	APG	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the APG Motor Sensor and the Main Board Assy. Replace the APG Motor. (See P.154)
151D	APG	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
151E	APG	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the APG Motor. (See P.154) Replace the Main Board Assy. (See P.137)
151F	APG	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load between the APG Motor and the carriage unit. Check the connection between the APG Motor Sensor and the Main Board Assy. Replace the APG Motor. (See P.154)
1530	Driven Roller	Driven roller HP detection error	The home position of the Driven Pulley is not detected.	Check the connection of the Roller Release HP Sensor. Check if the Driven Pulley rotates smoothly without any overload. Replace the Roller Release HP Sensor. (See P.167) Replace the Driven Roller Release Motor. (See P.166)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
153A	RLS	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the driven roller release system. Check the connection between the Driven Roller Release Motor and the Main Board Assy. Replace the Driven Roller Release Motor. (See P.166)
153B	RLS	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Driven Roller Release Motor. (See P.166)
153C	RLS	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Driven Roller Release Motor and the Main Board Assy. Replace the Driven Roller Release Motor. (See P.166)
153D	RLS	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
153E	RLS	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Driven Roller Release Motor. (See P.166) Replace the Main Board Assy. (See P.137)
153F	RLS	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the driven roller release system. Check the connection between the Driven Roller Release Motor and the Main Board Assy. Replace the Driven Roller Release Motor. (See P.166)
1540	Cutter	Cutter HP detection error	The home position of the Cutter is not detected.	Check the connection of the Cutter Sensor. Replace the Cutter Unit. (See P.170)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1548	Cutter	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137)
1549	1549	Motor disconnection error	The Cutter Unit operation is not detected even the electric current flows when the printer is turned on. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Encoder failure ☐ Motor failure ☐ Irregular load	Check the connection between the Cutter Unit and the Main Board Assy. Replace the Cutter Unit. (See P.170)
154A	CUT	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the Cutter Unit. Check the connection between the Cutter Unit and the Main Board Assy. Replace the Cutter Unit. (See P.170)
154B	CUT	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Cutter Unit. (See P.170)
154C	CUT	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Cutter Unit and the Main Board Assy. Replace the Cutter Unit. (See P.170)
154D	CUT	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
154E	CUT	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Cutter Unit. (See P.170) Replace the Main Board Assy. (See P.137)
154F	CUT	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the Cutter Unit. Check the connection between the Cutter Unit and the Main Board Assy. Replace the Cutter Unit. (See P.170)
13F0	ICL	ICL operation error	IC Cover Unlock Solenoid is not operating normally.	Check the connection between the Cartridge Cover Sensor and the Main Board Assy. Replace the Cartridge Cover Sensor (L/R) with new ones. (See P.134, P.135) Replace the Main Board Assy. (See P.137)
1411	Valve HP Selector	Select error	Valve select operating failed.	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179) Replace the Main Board Assy. (See P.137)
1412	Pump	Pump life error	The number of pump counter reached the specified upper limit. (Pump Motor's life (Ink System Unit's life))	Replace the Ink System Unit (See P.179), and clear the counter using the Service Program.
1417	Pump	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the Ink System Unit. (See P.179)
1430	Holder Ink Pad	Holder ink pad error	The number of replacement counter of the ink cartridges has reached the specified life. (the life of the waste ink pad attached to the ink cartridge holder)	Check if the waste ink pads attached to the ink cartridge holder are contaminated. If it has already absorbed a considerable amount of ink, exchange the ink cartridge holder (L and R), and clear the counter using the Service Program.

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1431	Ink Selector	Ink selector life error	The number of operation counter of the Ink Selector has reached the specified life.	Replace the Ink Selector, and clear the counter using the Service Program.
1434	IC Cover	IC cover unlock error	The IC Cover can not be opened.	Check if the IC Cover is correctly installed. Check if the sensor which detects the open/closed status of the cover, and the solenoid which locks the cover have any defects. Replace the Cartridge Cover Sensor (L/R) with new ones. (See P.134, P.135)
1439	Cap	Cap error	The home position of the Cap is not detected.	Check the connection of the Cap HP Sensor. Replace the Ink System Unit. (See P.179)
143A	CAP	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
143B	CAP	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Ink System Unit. (See P.179)
143C	CAP	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
143D	CAP	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
143E	CAP	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Ink System Unit. (See P.179) Replace the Ink System Unit. (See P.179)
143F	CAP	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
1440	CAP	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the Ink System Unit. (See P.179)
1449	PRS	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the Pressurizing Unit. (See P.188)
144A	PRS	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the Pressurizing Unit and the Main Board Assy. Replace the Pressurizing Unit. (See P.188)
144B	PRS	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Pressurizing Unit. (See P.188)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
144C	PRS	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Pressurizing Unit and the Main Board Assy. Replace the Pressurizing Unit. (See P.188)
144E	PRS	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Pressurizing Unit. (See P.188) Replace the Main Board Assy. (See P.137)
144F	Pressurizing Pump	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the Pressurizing Unit and the Main Board Assy. Replace the Pressurizing Unit. (See P.188)
1536	Pressurizing Pump	Pressurizing reset error	The pressurizing cannot be reset. The Pressure Sensor remains on, even after the pressurizing has been reset.	Replace the Pressurizing Unit. (See P.188)
1537	Pressurizing Pump	Pressurizing error	The motor driving does not end even after the specified period of time has passed.	Check the connection of the Pressurizing Unit. Check the connection of the Pressure tubes. Replace the Pressurizing Unit. (See P.188)
1539	RLS	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the Driven Roller Release Motor. (See P.166)
1487	WIPE	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1488	Flushing Box	Flushing box position error	Detects that the Flushing Box is not set in the correct position.	Turn the printer off once, then turn it on again. Install the latest firmware. Replace the Ink System Unit. (See P.179)
1489	WIPE	Wiper error	The home position of the Wiper is not detected.	Check the connection of the Wiper HP Sensor. Replace the Ink System Unit. (See P.179)
148A	WIPE	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the Wiper system. Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
148B	WIPE	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Ink System Unit. (See P.179)
148C	WIPE	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
148D	WIPE	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
148E	WIPE	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Ink System Unit. (See P.179) Replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
148F	WIPE	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check the connection between the Ink System Unit and the Main Board Assy. Replace the Ink System Unit. (See P.179)
1494	Ink Selector	Ink selector error	Ink select operation failed. ☐ Ink Selector Motor is broken. ☐ Ink Selector Sensor is broken. ☐ Ink Selector is overloaded.	Check the connection between the Ink Selector and the Main Board Assy. Replace the Ink Selector. (See P.211) Replace the Main Board Assy. (See P.137)
1496	ISL	Ink selector sensor error detection	Ink select operation failed. ☐ Ink Selector Sensor is broken.	Check the connection between the Ink Selector and the Main Board Assy. Replace the Ink Selector. (See P.211) Replace the Main Board Assy. (See P.137)
1497	ISL	Switching time-out error	The ink selecting operation does not end even after the specified period of time has passed because the Ink Selector (the sensor or motor) is broken.	Replace the Ink Selector. (See P.211)
149D	Ink Selector	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
14D9	PUMP	Pump release error	Pump release operation failed.	---
14DA	PUMP	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	---
14DB	PUMP	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	---

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
14DC	PUMP	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	---
14DD	PUMP	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	---
14DE	PUMP	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	---
14DF	PUMP	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	---
1125	CR	CR HP detection error	The home position of the carriage unit is not detected.	Check the connection of the CR HP Sensor. Replace the CR HP Sensor. (See P.149) Check if the carriage lock is operating.
1501	Driven Roller Release	Release motor phase detection error	When releasing the driven roller, the Roller Release HP Sensor cannot detect the change of status.	Check the installation status of the Roller Release HP Sensor. (See P.167) Check the connection between the Roller Release HP Sensor and the Main Board Assy. Replace the Roller Release HP Sensor. (See P.167)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
150C	PG	PG phase detection error	During PG operation, the PG HP Sensor cannot detect the change of status.	Check the installation status of the PG HP Sensor. (See P.157) Check the connection between the PG HP Sensor and the Main Board Assy. Replace the PG HP Sensor. (See P.157)
1519	APG	Oscillation error	Detects that the motor is still driven even though the firmware sends has commanded it to stop. ■ Motor driver failure ■ Motor failure	Replace the Main Board Assy. (See P.137) Replace the APG Motor. (See P.154)
1541	Cutter	Cutter return error	Abnormal Cutter operation is detected. ☐ Slipping of the teeth of the timing belt. ☐ Slack of the timing belt. ☐ Abnormality of the cutter sensor.	Check the connection between the Cutter Unit and the Main Board Assy. Replace the Cutter Unit. (See P.170)
1551	Sensor	Paper thickness determining error	During detection of paper thickness, the thickness cannot be determined because chattering occurs.	Replace the Main Board Assy. (See P.137)
1561	Mechanism system	Paper thickness at power-on error	At power-on, the paper thickness sensor detects more than 2.2 mm paper thickness.	Execute the Paper Thickness Sensor Position Adjustment. (See P.328) Replace the Paper Thickness Sensor. (See P.162)
159A	ROLL	Overload error	The electric current flowing when driving the motor is irregularly large. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the Rewind Unit. Check the connection between the Rewind Unit and the Main Board Assy. Replace the Rewind Motor. (See P.168)
159B	ROLL	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping. ☐ Irregular load ☐ Encoder failure	Replace the Rewind Motor. (See P.168)
159C	ROLL	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction. ☐ The polarity of encoder cable is opposite. ☐ The polarity of motor cable is opposite. ☐ Encoder failure ☐ Irregular load	Check the connection between the Rewind Unit and the Main Board Assy. Replace the Rewind Motor. (See P.168)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
159D	ROLL	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
159E	ROLL	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value. ☐ Irregular load ☐ Encoder failure ☐ Motor driver failure ☐ Motor failure	Replace the Rewind Motor. (See P.168) Replace the Main Board Assy. (See P.137)
159F	ROLL	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value. ☐ Encoder cable is damaged. ☐ Motor cable is damaged. ☐ Irregular load ☐ Encoder failure ☐ Motor failure	Check if there is some foreign material causing extra load on the Rewind Unit. Check the connection between the Rewind Unit and the Main Board Assy. Replace the Rewind Motor. (See P.168)
1622	PRS	Driving time-out error	Detects that the driving period is irregularly long. ☐ Irregular load ☐ Firmware becomes out of control.	Replace the Main Board Assy. (See P.137)
1800	AID	AID voltage error	Due to the leak of AID current, the specified voltage cannot be achieved.	Check the flushing box and around it, and remove ink and dust if attached on it. (Electric current may leak through the accumulated ink or dust.) Replace the AID Board. (See P.207) Replace the Ink System Unit. (See P.179)
1801	AID	AID communication error	Communication with the AID Board is not established.	Check the connection between the AID Board and the Main Board Assy. Check if the FFC between the AID Board and the Main Board has any scratch or damage. Replace the Main Board Assy. (See P.137) Replace the AID Board. (See P.207)
131B	Printhead	Head driver (transmission gate) overheat error	The temperature of the Head Driver rises, and reaches the specified level.	Check the connection of the Head FFC, and if there is abnormality (slant connection or the like), correct it. Replace the Printhead. (See P.183)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1A37	Printhead	Thermistor error	The Head FFC is not connected correctly.	Check the connection of the Head FFC, and if there is abnormality (slant connection or the like), correct it.
			The thermistor detects a temperature out of the specification.	Replace the Printhead. (See P.183)
			The thermistor is broken.	
1A41	Printhead	Head rank ID input error	The information of the Head rank ID is wrong.	Configure the Head rank ID again. (See P.304)
1427	CSIC	CSIC destination setting error	An Ink Cartridge for a wrong destination has been installed.	Replace the Ink Cartridge with a correct one for this printer.
1A23	RTC	Incorrect RTC data error	The value information on various absolute time stored on NVRAM is abnormal.	Check if the RTC backup battery is installed properly.
				Replace the Main Board Assy. (See P.137)
1A26	RTC	RTC Access T/O error	The RTC circuit on the Main Board Assy malfunctions.	1. Turn the power off and remove the RTC backup battery. 2. After several seconds, re-attach the battery and turn the power back on. 3. If the printer recovers from the error, set the date and time using the Service Program.
1A38	Hardware	Transistor environmental temperature error	The transistor has a defect.	Replace the Printhead. (See P.183)
			The thermistor detects a temperature out of the specification.	
1A39	Hardware	Head error	The drive circuit in the Printhead is damaged due to a slant connection of the Head FFC, etc., or the fuse of the Main Board Assy may has blown because of such a wrong connection.	1. Check the connection of the Head FFC to the Sub Board Assy, and correct it if there is a slant connection or the cable is disconnected. If any connection terminal of the Head FFC is damaged, replace it with a new one. 2. Replace the Printhead.(See P.183) 3. If the printer does not recover from the error after trying 1 and 2., replace the Main Board Assy. (See P.137) (The fuse of the Main Board Assy may have blown due to a slant connection of the Head FFC.)
1A40	Hardware	IC22 error	The destination is wrong.	Configure the destination again.
1A50	Hardware	I2C communication error (Between elements on ASIC and MAIN)	Communication error.	Replace the Main Board Assy. (See P.137)
1A51	Hardware	I2C communication error (Between elements on ASIC and SUB)	Communication error.	1. Check the connection between the Sub Board Assy and the Main Board Assy if the FFC is connected correctly (no slant connection exists). Correct it if any abnormality exists. 2. If the printer does not recover from the error after trying 1, replace the FFC between the Sub Board Assy and the Main Board Assy. 3. If the printer does not recover from the error even after trying 2, replace the Sub Board Assy. (See P.141)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1A60	Hardware	IC2 communication error during IMS operation	Communication error.	1. Check the connection between the Sub Board Assy and the Main Board Assy if the FFC is connected correctly (no slant connection exists). 2. If the printer does not recover from the error after trying 1, replace the FFC between the Sub Board Assy and the Main Board Assy. 3. If the printer does not recover from the error even after trying 2, replace the Sub Board Assy. (See P.141) 4. If the printer does not recover from the error even after trying 3, replace the Main Board Assy. (See P.137)
1A81	Hardware	IE option board voltage drop error	The voltage of the HDD (option) power supply. (due to short-circuiting or a failure)	1. Remove the HDD (option) and check if there is any foreign material on the connection point. 2. If the printer does not recover from the error even after trying 1, replace the HDD (option). (See P.129) 3. If the printer does not recover from the error even after trying 2, replace the Main Board Assy. (See P.137)
1A88	Hardware	Main Board SN system voltage drop error	The voltage has dropped. (due to short-circuiting, a slant connection or a failure)	1. Check if the Main Board Assy, Sub Board Assy, Sub Board Assy; B, Sub Board Assy; C, and Ink Board Holder Assy are correctly connected and there is no slant connection of an FFC. 2. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1F80	CSIC control	CSIC error	The 42V fuse has blown.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. Replace the Main Board Assy. (See P.137)
1F81	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F82	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F83	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F84	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1F85	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F86	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F87	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F88	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F89	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F8C	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1F8D	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1FB9	CSIC control	CSIC error	---	1. Replace the Ink Cartridge Holder. (See P.190, P. 197) 2. Replace the Main Board Assy. (See P.137)
1FC4	IES control	IES error	An ASIC register read error occurs during HeadFuse check.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1FC5	IES control	IES error	An ASIC register write error occurs during HeadFuse check.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FC6	IES control	IES error	An ASIC register read error occurs during IES check.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FC7	IES control	IES error	An ASIC register write error occurs during IES check.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FC8	IES control	IES error	An ASIC register read error occurs during IES detecting A.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FC9	IES control	IES error	An ASIC register write error occurs during IES detecting A.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FCA	IES control	IES error	An ASIC register read error occurs during IES detecting B.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)

Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
1FCB	IES control	IES error	An ASIC register write error occurs during IES detecting B.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FCC	IES control	IES error	An ASIC register read error occurs during undefined process.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FCD	IES control	IES error	An ASIC register write error occurs during undefined process.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FCE	IES control	IES error	An ASIC register read error occurs during IES detecting E.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
1FCF	IES control	IES error	An ASIC register write error occurs during IES detecting E.	1. Check the FFC connection between the Ink Holder Board Assy and the Main Board Assy. 2. If the printer does not recover from the error even after trying 1, replace the Ink Holder Board Assy. (See P.203, P. 205) 3. If the printer does not recover from the error even after trying 1, replace the Main Board Assy. (See P.137)
2000	Memory	NVRAM error	NVRAM erase or write error has occurred.	Replace the Main Board Assy. (See P.137)
2001	Memory	FLASH ERROR	The Flash ROM has a defect.	Replace the Main Board Assy. (See P.137)
2002	Memory	SDRAM error	SDRAM read/write error has occurred.	Replace the Main Board Assy. (See P.137)

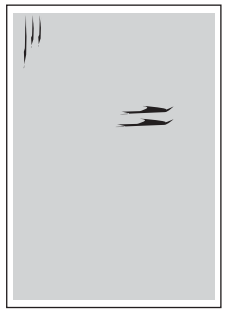
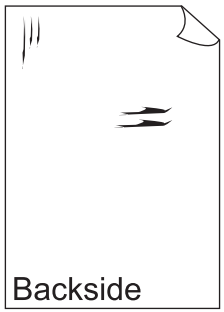
Error Code	Error Details		Description	Remedy
	Failed Part	Error Name		
2003	Memory	FLASH BOOT SUM CHECK error	Installation of the firmware has been failed.	Re-install the firmware.
				Replace the Main Board Assy. (See P.137)
			The Flash ROM has a defect.	Replace the Main Board Assy. (See P.137)
2008	Memory	Wrong flash device error	New or old F/W--Detects inconsistency between the new and old Flash devices.	Install the correct firmware.
2009	Memory	FLASH SUM CHECK ERROR	Installation of the firmware has been failed.	Re-install the firmware.
			The Flash ROM is damaged.	Replace the Main Board Assy. (See P.137)
200A	Memory	F/W load error	Reading/decompressing the firmware has been failed.	Re-install the firmware.
				Replace the Main Board Assy. (See P.137)
200C	System	Servo interrupt watchdog time-out error	Installation of the firmware has been failed.	Install the correct firmware.
			Main Board is damaged.	Replace the Main Board Assy. (See P.137)
200D	System	System interrupt watchdog time-out error	Firmware failure Main Board failure	Replace the Main Board Assy. (See P.137)
200E	System	Unknown NMI	The CPU has detected an unknown NMI.	Replace the Main Board Assy. (See P.137)
2030	System	Internal timeout error	---	Replace the Main Board Assy. (See P.137)
3000	Shut down	AC shut-off	The AC power has been shut off due to a power failure, unplugged, power supply board failure, or main board failure or the like.	Check the connection of the AC cable, and if there is abnormality, correct it.
				Replace the Power Supply Board Assy. (See P.140)
				Replace the Main Board Assy. (See P.137)
Fxxx *xxx represents error number	CPU	CPU-related error	The firmware has a defect.	Install the correct firmware.
			The Main Board Assy is broken.	Replace the Main Board Assy. (See P.137)
Dxxx *xxx represents error number	–	Debug error	This is a debug error that occurs at product development. In principle, it does not occur for mass-produced products; however, it might occur due to unexpected causes such as external noises.	1. Restart the printer. If the error does not occur, observe the printer for recurrence. 2. Re-install the firmware. 3. Replace the Main Board Assy. (See P.137)

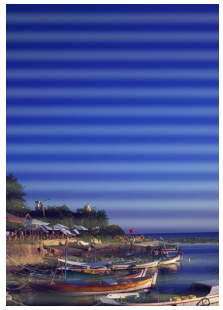
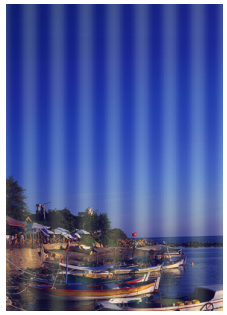
3.4 Remedies for Print Quality Troubles

3.4.1 Remedies for Print Quality Troubles

This section provides troubleshooting of print quality troubles classifying them by observed symptom.
Before performing troubleshooting, refer to *"5.6 Image & Test Print (p288)"* and print the test pattern. Confirm the printed result of the test pattern, and if any maladjustment is found, perform the adjustment.

Symptom	Description	Remedy/Points to be checked
Dot missing	Ink stuck inside/on the surface of the nozzles.	Perform a cleaning (normal cleaning, clean each color, power cleaning).
	The pump is not operating normally.	Check the connection of the pump tube.
		Check if there is any broken or pressed part on the pump tube.
		Check the connection of the Pump Motor.
		Replace the Ink System Unit. (See P.179)
	The Wiper is not operating normally.	Check the Wiper for any damage.
		Check the connection of the Wiper Motor.
		Replace the Ink System Unit. (See P.179)
	There is something wrong in the ink path.	Check the connections between Ink Cartridge, Ink Cartridge Holders, Ink tubes, Damper, and the Printhead for abnormality.
	The Head FFC is not connected correctly.	Check the connection of the Head FFC, and if there is abnormality (slant connection or the like), correct it.
	The case those remedies above do not improve the symptom.	Replace the following parts: • Ink System Unit (See P.179) • Printhead (See P.183) • Main Board Assy (See P.137)

Symptom	Description	Remedy/Points to be checked
Ink smear (printed area) 	Paper is curled or creased.	Change the paper with a new one.
	The printed area of paper is contaminated by ink smear in the paper feed path.	Check the PF roller for ink smudges, and clean it if any dirt is observed.
	Paper is rubbed against the printhead.	Widen the platen gap.
	There is a foreign material or dirt absorbing ink around the Printhead.	Check around the Printhead for a dirt or foreign material, and remove it if any.
	Paper is floating from the platen.	Change the setting of [PAPER SUCTION] to a higher level from the Control Panel.
		Check the operation of the Suction Fan, and replace it with a new one if there is abnormality. (See P.174)
	This smear occurs because the paper on which ink dries slowly is used.	Change the setting of [DRYING TIME] from the Control Panel.
	If the smear occurs the leading/posterior edge, the paper may touch the Printhead due to the deformation resulted from the high duty printing.	Try printing the current job again with the top and bottom margins widened.
Ink smear (backside) 	Paper is curled or creased.	Change the paper with a new one.
	The backside of paper is contaminated by ink smear in the paper feed path.	Check the platen and PF roller for ink smudges, and clean them if any dirt is observed.
	Printing is made on the platen, and it is contaminated.	If the [PAPER SIZE CHECK] in the [PRINTER SETUP] menu is set to OFF, the printer will print on the platen. It results in the ink smear. Therefore, set the [PAPER SIZE CHECK] ON or configure the correct paper size.
		Carry out the Platen Position Adjustment.
	The waste ink pads for borderless printing are not securely attached and contaminating paper.	Check the waste ink pads for borderless printing and reattach them correctly if there is abnormality.

Symptom	Description	Remedy/Points to be checked
Horizontal banding 	Paper setting made in the printer driver is wrong.	Correct the paper setting of the printer driver.
	There is something wrong with paper feeding.	Check the PF Scale for scratch, contamination, and correct it if any.
		Check the PF Encoder for contamination, and clean it if needed.
		Carry out the T&B&S Adjustment. (See P.326)
		Carry out the PF Timing Belt Tension Adjustment. (See P.322)
		Replace the PF Encoder Sensor. (See P.176)
		Replace the PF Motor. (See P.177)
	The printhead has not been adjusted properly.	Carry out the Printhead Slant Adjustment (CR). (See P.308)
		Carry out the Printhead Slant Adjustment (PF). (See P.311)
	If the banding occurs soon after replacing the Main Board Assy, the parameter settings of the NVRAM may be incorrect.	Import the NVRAM parameters from the former Main Board Assy.
	The Printhead has a defect.	Replace the Printhead. (See P.183)
Vertical banding 	Adjustments have not been carried out properly.	Carry out the Auto Uni-D Adjustment. (See P.313)
		Carry out the Auto Bi-D Adjustment. (See P.314)
	The carriage unit cannot move smoothly.	Check the CR Timing Belt and the Drive Pulley for a defect.
		Check the CR motor is correctly installed and correct it if there is abnormality.
		Carry out the CR Timing Belt Tension Adjustment. (See P.292)

3.5 Problems on SpectroProofer

This section describes the possible trouble on abnormal SpectroProofer operations, their causes, and their remedies.

Table 3-3. Problems on SpectroProofer

Symptom	Cause	Check Item	Remedy
SpectroProofer is not operating/recognized	Not connected to printer properly	☐ Communication cable properly connected? ☐ Mounter not completely fit to the printer because of a foreign object?	☐ Turn the printer off. Re-insert the communication cable and then turn on the printer. ☐ Take out any foreign objects and reattach the mounter.
	Communication cable was connected while the printer is ON	Was communication cable connected while the printer is OFF?	Turn the printer off. Re-insert the communication cable and turn on the printer.
	Full side front corner of Backing damaged	Any troubles in Backing corner?	Replace Backing if damaged.
	Power/USB cable not connected to SpectroProofer	☐ Is USB cable between Mounter from SpectroProofer properly connected? ☐ IS DC cable between Mounter from SpectroProofer properly connected?	Turn the printer off, and connect the cables properly.
	Foreign object in the path of paper pressing plate initialization.	Foreign object in the path of paper pressing plate initialization.	Remove any foreign objects.
	Firmware version is not “xx111E8” or later (ILS30EP is supported by “xx111E8” or later) (xx is alphabet)	Is firmware version is “xx111E8” or later?	Install the latest Firmware. (See P.287)
Paper smeared with ink	Ink on the paper pressing plate or Backing is transferred to the paper	Check if the paper pressing plate or Backing is not dirty.	☐ Backing is dirty: Wipe off the dirt with a soft dry cloth. If there are any hard-to-remove stain, wipe with a cloth damped with water and then wipe off remaining liquid with a dry cloth. ☐ Paper pressing plate is dirty: Wipe off the dirt with a soft cloth damped with diluted mild detergent, and then wipe off remaining liquid with a dry cloth.
		Check if the paper is set upside-down.	Re-set the paper.

Table 3-3. Problems on SpectroProofer

Symptom	Cause	Check Item	Remedy
Color measurement failure	Poor quality printings	Check if the printings has no quality problems such as dot missing or color unevenness.	Adjust the printer if there are any print quality problem (Refer to Remedies for Print Quality Troubles (P.78)
	Paper set position is not proper (color measurement fails when the paper is set too far to the HOME/FULL side, since the pattern overlaps the paper pressing plate frame)	Check if the paper is set in proper position.	Re-set the paper.
	Improper paper settings	Check if the paper setting matches the paper set.	Re-do the settings.
	Improper Backing	Check if a black Backing is not used when measuring a clear film.	Use a white Backing when measuring a clear film.
	White calibration tile is not recognized.	☐ Is “Error Code 80” displayed? (See P.88) ☐ Check if the white calibration tile is attached. ☐ Check if the white calibration tile is not dirty.	☐ Attach white calibration tile properly. ☐ Clean the white calibration tile.
	SpectroProofer lens is dirty.	☐ Is “Error Code 80” displayed? (See P.88) ☐ Check if the SpectroProofer lens has dust or dirt on.	Blow away the dust and dirt with air.
	SpectroProofer lamp burned out.	☐ Is “Error Code 80” displayed? (See P.88) Check if the SpectroProofer lamp burned out	Replace the lamp.
	Error in CR HP Sensor	☐ Check if the CR HP Sensor is attached properly.	☐ Attach CR HP Sensor properly. ☐ Replace the sensor if it is not working properly.
Color measurement result cannot be saved	Not enough storage capacity in HDD for saving the color measurement results	Check if there is enough capacity in HDD for saving the color measurement results	Increase the disk space.
	Improper file attribute	Check if the file attribute is set to “Writable” when overwriting the file.	Set the file attribute is set to “Writable” when overwriting the file.
	Connection cable not supported	Check if a USB2.0 supported cable is used.	Replace the cable.

Table 3-3. Problems on SpectroProofer

Symptom	Cause	Check Item	Remedy
Odd color measurement result	Color calibration not done properly	Check the following: ☐ Is "Error Code 80" displayed? (See P.84) ☐ Is the Backing attached to the proper position? ☐ Is the white calibration tile not dirty? ☐ Is the SpectroProofer calibrated?	☐ Attach the Backing and the white calibration tile properly. ☐ Clean the white calibration tile. ☐ If the remedies above do not help, replace the SpectroProofer and the white calibration tile.
	Ripples/warp in the paper	☐ Are the paper settings and the printing settings proper? ☐ Are the paper not rippled or warped? ☐ Is the ink density proper (not too dense)?	☐ Make the paper/printing/ink density settings according to the media used. ☐ Replace distorted paper.
	Paper pressing plate impressing the paper too much	☐ Is the ink density proper (not too dense)? ☐ Is the ink drying time proper (long enough to dry up)? ☐ Do the paper settings match the paper set?	☐ Adjust ink density if it is too dense. ☐ Adjust ink drying time if it is too short. ☐ Match the paper settings to the paper set.
SpectroProofer does not operate when operate the application suddenly	The communication between the printer and the attachment is disconnected while measuring color is in progress.	☐ Is AC cable of the Mounter properly connected? ☐ Is USB cable between PC from the printer properly connected? ☐ Is USB cable between the Mounter from the printer properly connected?	Turn the printer off. Re-insert the USB cable and then turn on the printer.
If none of the remedies above helps	Problem on SpectroProofer	---	Replace the SpectroProofer and the white calibration tile.

3.6 Remedies for Error Messages related to SpectroProofer/Auto Take-up Reel

The Error messages and their corresponding remedies are explained below.

NOTE: Auto Take-up Reel-related errors do not occur on SC-P7000 Series/SC-P6000 Series because it does not support the Auto Take-up Reel. Errors related to the Auto Take-up Reel do not occur on SC-P7000 Series/SC-P6000 Series.

Error No.	Section	Error Name	Status	Cause	Remedy/Check Point	Program Check
D3	Motor	Driving auto take-up system error	A fatal error of controlling Auto Take-up Motor occurs.	One of the errors (Error No.40 to 45) might be occurring.	Refer to Error No.40 to 45.	---
D6	Motor	Driving paper pressing system error	A fatal error of controlling Paper Pressing Motor occurs.	One of the errors (Error No.30 to 35) might be occurring.	Refer to Error No.30 to 35.	---
65	Motor	Cooling Fan lock detection error	Cooling Fan does not work.	There might be some foreign material stuck to the fan.	Check manually if the fan rotates.	---
				A connection failure might occur.	Check the connection between the Cooling Fans and the Main Board Assy.	
				Cooling Fan is broken.	Replace the Cooling Fan. (See P.253, P. 254)	
12	Sequence	Paper Pressing Plate Sensor no detection error	Detection status of the Paper Pressing Plate Sensor does not change.	A connection failure might occur.	Check the connection between the Paper Pressing Plate Sensor and the Main Board Assy.	---
				Detection flag for the Paper Pressing Plate is damaged.	Replace the Paper Pressing Unit. (See P.260)	
				Paper Pressing Plate Sensor is broken.	Replace the Paper Pressing Plate Sensor. (See P.246)	
13	Sequence	Foreign material detection error in paper pressing	Due to one of the reasons listed on the right, the Paper Pressing Plate does not work correctly.	Backing is not installed correctly.	Install the backing correctly.	Yes
				There is some foreign material between the Paper Pressing Plate and the backing.	Remove the Auto Colorimeter once, and remove the foreign material around the backing (if any).	
				Paper that does not meet the specifications is used. The printer is used out of the specified usage environment.	Check if the paper type and usage environment are correct.	
			There is something wrong with the Paper Pressing Motor.		Check the connection between the Paper Pressing Motor and the Main Board Assy.	
					Replace the Paper Pressing Motor. (See P.257)	

Error No.	Section	Error Name	Status	Cause	Remedy/Check Point	Program Check
14	Sequence	Paper pressing origin position detection failure error	Origin position detection was not successfully made.	Drive gear(s) of the Paper Pressing Plate is/are broken.	Replace the drive gear(s).	---
				Paper Pressing Unit is broken.	Replace the Paper Pressing Unit. (See P.260)	
				Paper Pressing Plate is not installed to the printer correctly.	Synchronize the phases on the left and on the right of the Paper Pressing Plate. (See P.260)	
15	Sequence	CR HP Sensor no detection error	Due to one of the reasons listed on the right, the Paper Pressing Plate does not work correctly.	There is some foreign material within the carriage movement range.	Remove the Auto Colorimeter once, and remove the foreign material around the backing (if any).	---
				Backing is not installed correctly.	Install the backing correctly.	
				White calibration tile holder is not installed correctly.	Install the white calibration tile holder correctly.	
				• Paper that does not meet the specifications is used. • The printer is used out of the specified usage environment.	Check if the paper type and usage environment are correct.	
				Because the phases on the left and on the right of the Paper Pressing Plate are misaligned, and the plate is distorted, it is blocking the carriage.	Synchronize the phases on the left and on the right of the Paper Pressing Plate. (See P.260)	
				There is something wrong with the carriage mechanism.	Check the following and correct the status or replace the corresponding part(s) if any abnormality is found. • Origin detection flag for the carriage • Slipped-off or damaged carriage belt • Unhooked driven spring • Damaged main shaft/sub shaft of carriage	

Error No.	Section	Error Name	Status	Cause	Remedy/Check Point	Program Check
16	Sequence	Paper pressing system abnormal measurement value error	Detects a load over the specified range when measuring it.	There is something wrong with the Paper Pressing Motor.	Replace the Paper Pressing Motor. (See P.257)	---
				Paper Pressing Unit is not installed correctly.	Dowels and positioning holes on the right and left plates that secure the Paper Pressing Unit are mis-aligned, or the screws that secure the plate are loose.	
				A gear or a shaft making up the Paper Pressing Unit is broken.	Replace the Paper Pressing Unit. (See P.260)	
				The phases on the left and on the right of the Paper Pressing Plate are misaligned.	Synchronize the phases on the left and on the right of the Paper Pressing Plate. (See P.260)	
17	Sequence	Take-up system abnormal measurement value error	Detects a load over the assumed range when measuring.	Auto Take-up Reel Unit is not installed correctly.	Install the Auto Take-up Reel Unit correctly.	---
				Paper core is not installed correctly.	Install the paper core correctly.	
				Extremely heavy paper core or media is used.	Use paper satisfying the specifications.	
				There is something wrong with the Auto Take-up Motor	Replace the Auto Take-up Motor. (See P.230)	
				There is something wrong with the drive transmission path.	Check the following and correct the status or replace the corresponding part(s) if any abnormality is found. • Damaged or worn drive gears • Bent drive shaft • Damaged or worn bearings	
20	Sequence	Slack Sensor no detection error	Detection status of the Slack Sensor does not change even after rotating the Auto Take-up Motor by the specified number of revolutions.	When the auto take-up is set by the Auto switch, there might be an obstacle such as a foot or the like at the sensor.	Remove the thing blocking the detection.	---
				Slack Sensor is broken.	Replace the Slack Sensor. (See P.224)	
01	Sequence	Mechanism is not installed (Mount Sensor is OFF)	Because the Auto Colorimeter is not installed correctly, the printer does not work properly.	Auto Colorimeter is not installed correctly.	Turn off the power, then install the Auto Colorimeter correctly.	Yes
				Mount Sensor is broken.	Replace the Mount Sensor. (See P.249)	
30	Paper pressing	Driving time-out error	Detects that the driving period is irregularly long.	Firmware becomes out of control.	Replace the Main Board Assy. (See P.243)	Yes

Error No.	Section	Error Name	Status	Cause	Remedy/Check Point	Program Check
31	Paper pressing	Overload error	The electric current flowing when driving the Paper Pressing Motor is irregularly large.	Encoder cable is damaged.	Replace the cable.	Yes
				Motor cable is damaged.	Replace the Paper Pressing Motor. (See P.257)	
				Paper Pressing Encoder is broken.	Replace the Paper Pressing Encoder. (See P.251)	
				Paper Pressing Motor is broken.	Replace the Paper Pressing Motor. (See P.257)	
32	Paper pressing	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping.	Paper Pressing Encoder is broken.	Replace the Paper Pressing Encoder. (See P.251)	Yes
33	Paper pressing	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction.	The polarity of the encoder cable is opposite.	Check the connection.	Yes
				The polarity of the motor cable is opposite.		
				Paper Pressing Encoder is broken.	Replace the Paper Pressing Encoder. (See P.251)	
34	Paper pressing	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value.	Paper Pressing Encoder is broken.	Replace the Paper Pressing Encoder. (See P.251)	Yes
				Motor driver is broken.	Replace the Main Board Assy. (See P.243)	
				Paper Pressing Motor is broken.	Replace the Paper Pressing Motor. (See P.257)	
35	Paper pressing	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value.	Encoder cable is damaged.	Replace the cable.	Yes
				Motor cable is damaged.	Replace the Paper Pressing Motor. (See P.257)	
				Paper Pressing Encoder is broken.		
				Paper Pressing Motor is broken.		
40	Take-up system	Driving time-out error	Detects that the driving period is irregularly long.	Firmware becomes out of control.	Replace the Main Board Assy. (See P.233)	Yes
41	Take-up system	Overload error	The electric current flowing when driving the motor is irregularly large.	Encoder cable is damaged.	Replace the cable.	Yes
				Motor cable is damaged.	Replace the Auto Take-up Motor. (See P.230)	
				Slack Sensor is broken.		
				Auto Take-up Motor is broken.		
42	Take-up system	Over speed error	Detects that it is being driven at an irregularly faster speed than the specified value just before stopping.	Slack Sensor is broken.	Replace the Auto Take-up Motor. (See P.230)	Yes

Error No.	Section	Error Name	Status	Cause	Remedy/Check Point	Program Check
43	Take-up system	Reversing error	Detects that it is being driven in the opposite direction to the specified driving direction.	The polarity of the encoder cable is opposite.	Check the connections.	Yes
				The polarity of the motor cable is opposite.		
				Slack Sensor is broken.	Replace the Auto Take-up Motor. (See P.230)	
44	Take-up system	Velocity deviation error	Detects that it is being driven at an irregularly faster speed than the specified value.	Slack Sensor is broken.	Replace the Auto Take-up Motor. (See P.230)	Yes
				Motor driver is broken.	Replace the Main Board Assy. (See P.233)	
				Auto Take-up Motor is broken.	Replace the Auto Take-up Motor. (See P.230)	
45	Take-up system	Lock error	Detects that it is being driven at an irregularly slower speed than the specified value.	Encoder cable is damaged.	Replace the cable.	Yes
				Motor cable is damaged.	Replace the Auto Take-up Motor. (See P.230)	
				Slack Sensor is broken.		
				Auto Take-up Motor is broken.		
20	CR	Driving time-out error	Detects that the driving period is irregularly long.	Firmware becomes out of control.	Replace the Main Board Assy. (See P.233)	Yes
80	---	ILS Calibration error	Color measurement was not performed correctly.	☐ Abnormality of White Plate holder ☐ Abnormality of il Calibrator	Check if the White Plate holder is attached, and the plate is dirty or not. If it is dirty, clean it.	Yes
					Check if there is dust or dirt attached on the lens on the calibrator. If there is any, clean it.	
					Check if the lamp of the calibrator burned out or not.	
					Replace the calibrator and the White Plate.	

3.7 Trouble on Service Program

This section describes possible troubles on Service Program and their causes and remedies.

Table 3-4. Troubles on Service Program

Symptom	Cause	Check Item	Remedy
Service Program does not start	The operating system is not supported.	Are you running the program on the following operating systems? ☐ Supported OS: Windows Vista, Windows 7, Windows 8/8.1	Run the program on the supported operating systems.
	The printer is not connected to the computer properly.	Is there any problem with the connection between the printer and computer?	Connect them properly.
	There is something wrong with the program file.	Try with another computer. Does the program start normally?	If the program still does not start, the program files may be broken. Download the set of program files again.
	Registration information of the program is wrong.	Did you get the program through the official channel? Check it with the license agreement displayed at the start-up screen.	Download the program file including security files through the official channel.
	More than one printers are connected to the computer.	Is there any printer connected to the USB port on the computer other than the one for adjustment?	Disconnect the printer which is not necessary for the adjustment.
The printer does not react to the program command.	☐ The printer is turned off. ☐ The printer is in a status that cannot accept the program command.	1. Is the printer powered on? 2. Is there any error occurring on the printer?	1. Turn the printer on. 2. Correct the printer errors.
	After the USB ID is changed, the printer has not been reselected.	1. Is the printer powered on? 2. Is there any error occurring on the printer?	Select the printer (USB port) correctly.
MAC address cannot be set.	The printer is connected with a USB cable.	---	Connect the printer with a network cable.
“Media is feeding” error	The selected adjustment does not require printing, but paper is loaded on the printer.	---	Remove the paper from the printer.

3.8 Trouble on NVRAM Viewer

This section describes possible troubles on NVRAM Viewer and their causes and remedies.

Table 3-5. Trouble on NVRAM Viewer

Symptom	Cause	Check Item	Remedy
NVRAM Viewer does not start.	Check if log in administrator rights.	Log in administrator rights.	Log in administrator rights.

CHAPTER

4

DISASSEMBLY & ASSEMBLY

4.1 Overview

This chapter describes procedures for disassembling the main components of SC-P9000 Series/SC-P7000 Series/SC-P8000 Series/SC-P6000 Series. Unless otherwise specified, disassembled units or components can be reassembled by reversing the disassembly procedure.

- ☐ WARNING
  Procedures which, if not strictly observed, could result in personal injury are described under the heading “WARNING”.
- ☐ CAUTION
  “CAUTION” signals a precaution which, if ignored, could result in damage to equipment.
- ☐ CHECK POINT
  Important tips for procedures are described under the heading “CHECK POINT”.
- ☐ REASSEMBLY
  If the assembly procedure is different from the reversed disassembly procedure, the correct procedure is described under the heading “REASSEMBLY”.
- ☐ ADJUSTMENT
  Any adjustments required after reassembly of components or parts are described under the heading “ADJUSTMENT REQUIRED”. Be sure to perform the specified adjustments with reference to Chapter 5 “ADJUSTMENT”.

CHECK POINT

The disassembly/assembly procedures are provided based on SC-P9000 Series/SC-P8000 Series. The procedures for SC-P7000 Series/SC-P6000 Series are basically the same unless otherwise specified. However, the quantity of some screws and hooks, or the size of some parts may differ in Epson SC-P9000 Series/SC-P8000 Series.

4.1.1 Precautions

Before starting the disassembly or reassembly of the product, read the following precautions given under the headings “WARNING” and “CAUTION”.

WARNING

- **When the Front Cover is opened, a safety-interlock mechanism causes the CR motor and the PF motor to stop. Never disable the interlock function for operator protection.**
- **This printer is equipped with a lithium battery. When handling the lithium battery, the following precautions should be followed.**
  - **When replacing the battery, replace only with a specified type of battery. Using a different type of battery may cause excess heat or explosion.**
    Recommended battery: CR2032 (Sony/Panasonic/Maxell)
  - **Dispose of used batteries according to manufacture’s instructions and local regulations. Contact your local government agency for information about battery disposal and recycling.**
  - **When disposing of the battery, be sure to securely cover its (+) end with tape to prevent combustion or explosion.**
  - **Do not recharge the battery.**
  - **Do not use the battery if it is discolored or damaged, or if any leakage of electrolyte is observed.**
  - **Do not dismantle, solder or heat the battery. Doing so could result in leakage of electrolyte, heat generation, or explosion.**
  - **Do not heat the battery or dispose of it in fire.**
  - **If the electrolyte leaked from the battery contacts with your skin or gets into your eyes, rinse it off with clean water and see a doctor immediately.**

警告

如果更換不正確之電池型式會有爆炸的風險

請依製造商說明書處理用過之電池

WARNING

- The power switch for this printer is installed on the secondary side of the power circuit; therefore, the power is always supplied unless the AC Cable is unplugged. To prevent electric shock and circuit damage during servicing, make sure to follow the instructions below.
  - Before removing a circuit board, make sure to unplug the AC Cable from the AC outlet and confirm the LEDs are turned off by pressing the Power button on the Operating Panel. This operation discharges the residual charge in the printer.
  - Make sure not to place the removed circuit boards on the metal and such directly.
- Always wear gloves for disassembly and reassembly to avoid injury from sharp metal edges.
- Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If irritation occurs, contact a physician.
- If ink gets in your eye, flush the eye with fresh water and see a doctor immediately.
- When powering this product, high-voltage current may be applied on the following parts/components. To prevent ELECTRIC SHOCK, do not touch the parts/components when the power is ON. If the shock should happen, the flowing current is very tiny, about a few hundreds μA, therefore it will not do any harm on the human body.
  - Ink System Unit (Flushing Box)
  - Power Supply Board Assy
  - AID Board
- When replacing the Main Board, Power Supply Board, or Power harnesses and such, make sure to check visually if any harness is caught in between or any wrong connection exists.

CAUTION

- Make sufficient work space for servicing.
- Locate the printer on a stable and flat surface.
- The ink-path-related components or parts should be firmly and securely reinstalled on the printer to prevent the ink from leakage.
- Use only recommended tools for disassembly, assembly or adjustment of the printer.
- When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.
- Apply lubricants and adhesives as specified.
- Be careful not to soil the printer or the floor with the leaked ink when removing the ink-path-related components or parts. Spread a sheet of paper or cloth on the floor in advance.
- Do not touch electrical circuit boards with bare hands as the elements on the board are so sensitive that they can be easily damaged by static electricity. If you have to handle the boards with bare hands, use static electricity discharge equipment such as anti-static wrist straps.
- When reassembling the printer, make sure to connect the connectors of the electric components or parts correctly and securely. Use extreme care when connecting FFCs (flexible flat cables). Improper connection of the FFCs, such as inserting them diagonally into the connectors, could cause short-circuiting and lead to breakdown of the electric elements on the boards.
- When reassembling the printer, make sure to route the FFCs and other cables as specified in this chapter. Failure to do so may cause an unexpected contact of the cables with sharp metal edges, or lead to lower the noise immunity.
- When the printer has to be operated with the covers removed, take extra care not to get your fingers or clothes caught in moving parts.
- When you have to remove any parts or components that are provided as after-service-parts but are not described in this chapter, carefully observe how they are installed and make sure to remember it before removing them.

CAUTION

- **The cutter blade is razor-sharp. Be especially careful when handling the cutter.**
- **Carbide blade employed for the cutter blade is hard but brittle. Be careful not to hit it against metal parts of the printer as it can be easily damaged.**
- **When you removed any parts (especially cables) that are secured with acetate tape or two-sided tape, be sure to reinstall and secure them with the tape as exactly the same as they were.**
- **Disassembling the frame and some components of the printer is prohibited because they are assembled with precise measurements in 1/100 mm unit at the factory.**
- **When moving the Carriage Unit manually, make sure to remove paper.**

4.1.2 Orientation Definition

The terms used for indicating the orientation/direction throughout this chapter are as follows.

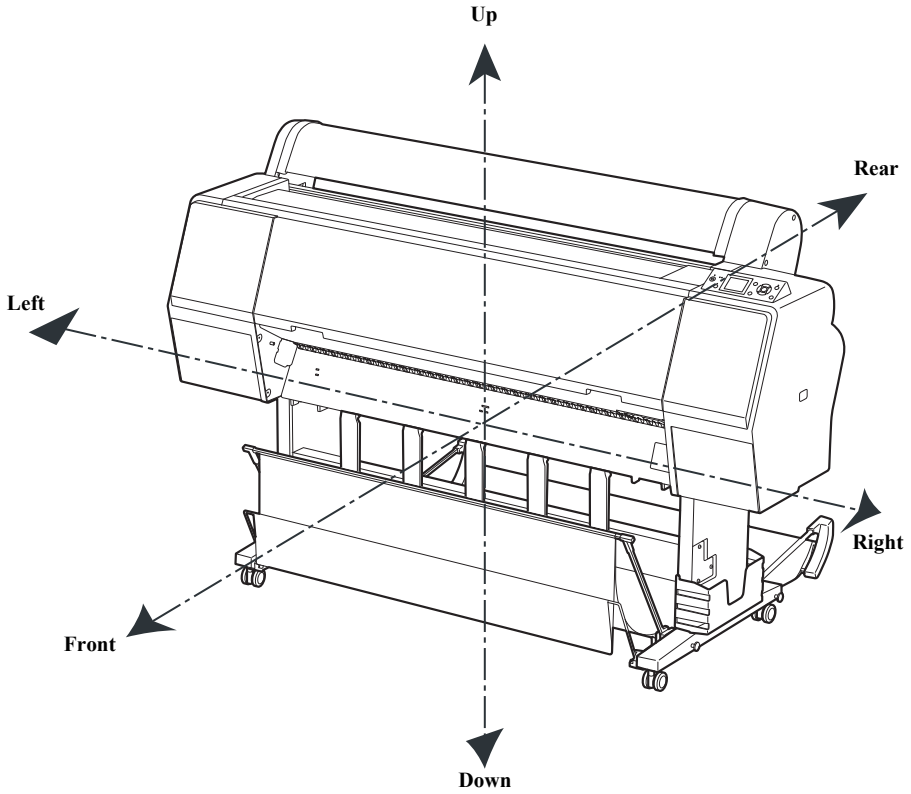


Figure 4-1. Orientation Definition

4.1.3 Recommended Tools

To protect this product from damage, use the tools indicated in the following table.

Table 4-1. Tools

Name	Epson Part Number	Note
Phillips screwdriver, No. 1	Commercially available	---
Phillips screwdriver, No. 2	Commercially available	Prepare the drivers in the following length. ☐ Approx. 30 cm ☐ Approx. 20 cm ☐ Stubby driver
Hexagonal Box driver	Commercially available	5 mm
Hexagonal wrench	Commercially available	3 mm
Long-nose pliers	Commercially available	---
Tweezers	Commercially available	---
Nipper	Commercially available	---
Torque driver	Commercially available	---

4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy

For this printer, so as to drive the CR Motor and PF Motor properly, the characteristics of them are stored in the Main Board Assy, and used to optimize the performance in accordance with the Power Supply Board Assy. Therefore, when replacing the parts mentioned below, check if the motor characteristics label is attached on the motor, and make sure to perform an appropriate measure for the concerning replacement.

Parts to replace	Presence of motor characteristics label		Measure
	CR Motor	PF Motor	
Power Supply Board Assy	Yes	Yes	Replace the Power Supply Board Assy only.
	No	No	Replace the CR Motor and the PF Motor along with the Power Supply Board Assy. After replacement, perform “CR/PF Motor Measurement”.
	Yes	No	Replace the PF Motor along with the Power Supply Board Assy. After replacement, perform “PF Motor Measurement”.
	No	Yes	Replace the CR Motor along with the Power Supply Board Assy. After replacement, perform “CR Motor Measurement”.
Main Board Assy (When parameter (NVRAM) backup is failed.)	Yes	Yes	Replace the Main Board Assy only. After replacement, perform “CR/PF Motor Measurement”.
	No	No	Replace the CR Motor and the PF Motor along with the Main Board Assy. After replacement, perform “CR/PF Motor Measurement”.
	Yes	No	Replace the PF Motor along with the Main Board Assy. After replacement, perform “PF Motor Measurement”.
	No	Yes	Replace the CR Motor along with the Power Supply Board Assy. After replacement, perform “CR Motor Measurement”.

4.2 Parts Diagram

See the pages written under brackets for the disassembly/assembly procedure.

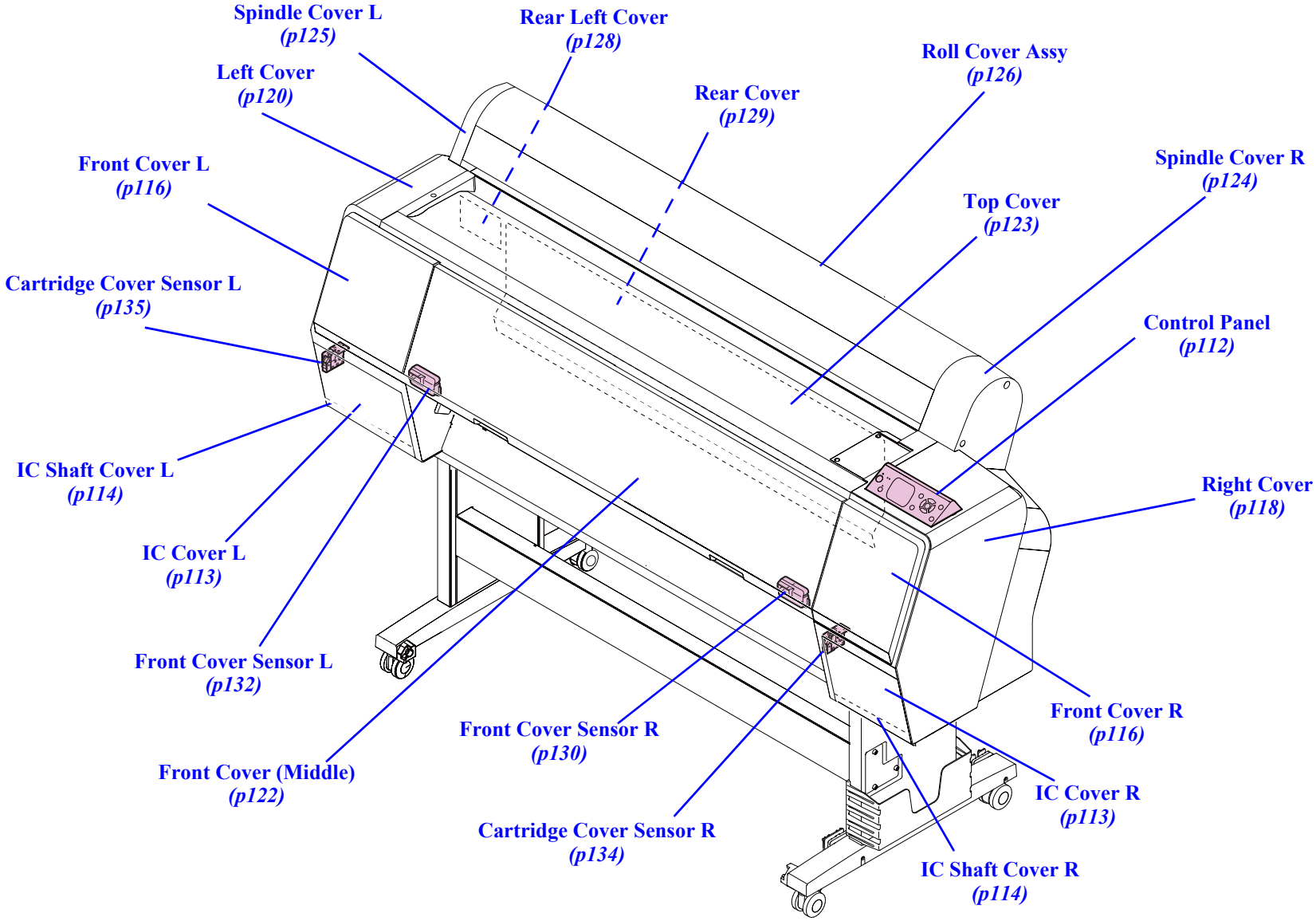


Figure 4-2. Housing

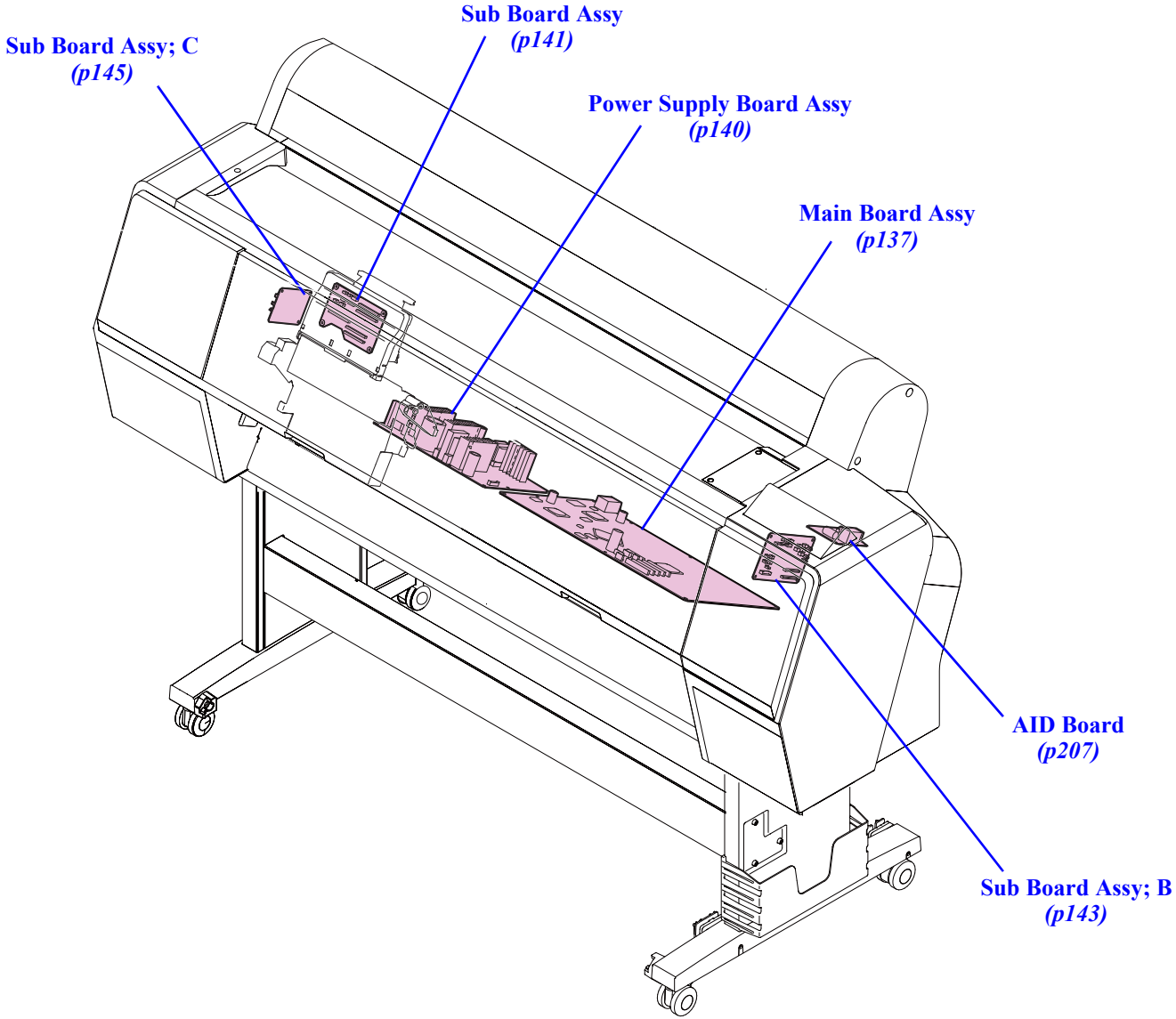


Figure 4-3. Electric Circuit Components

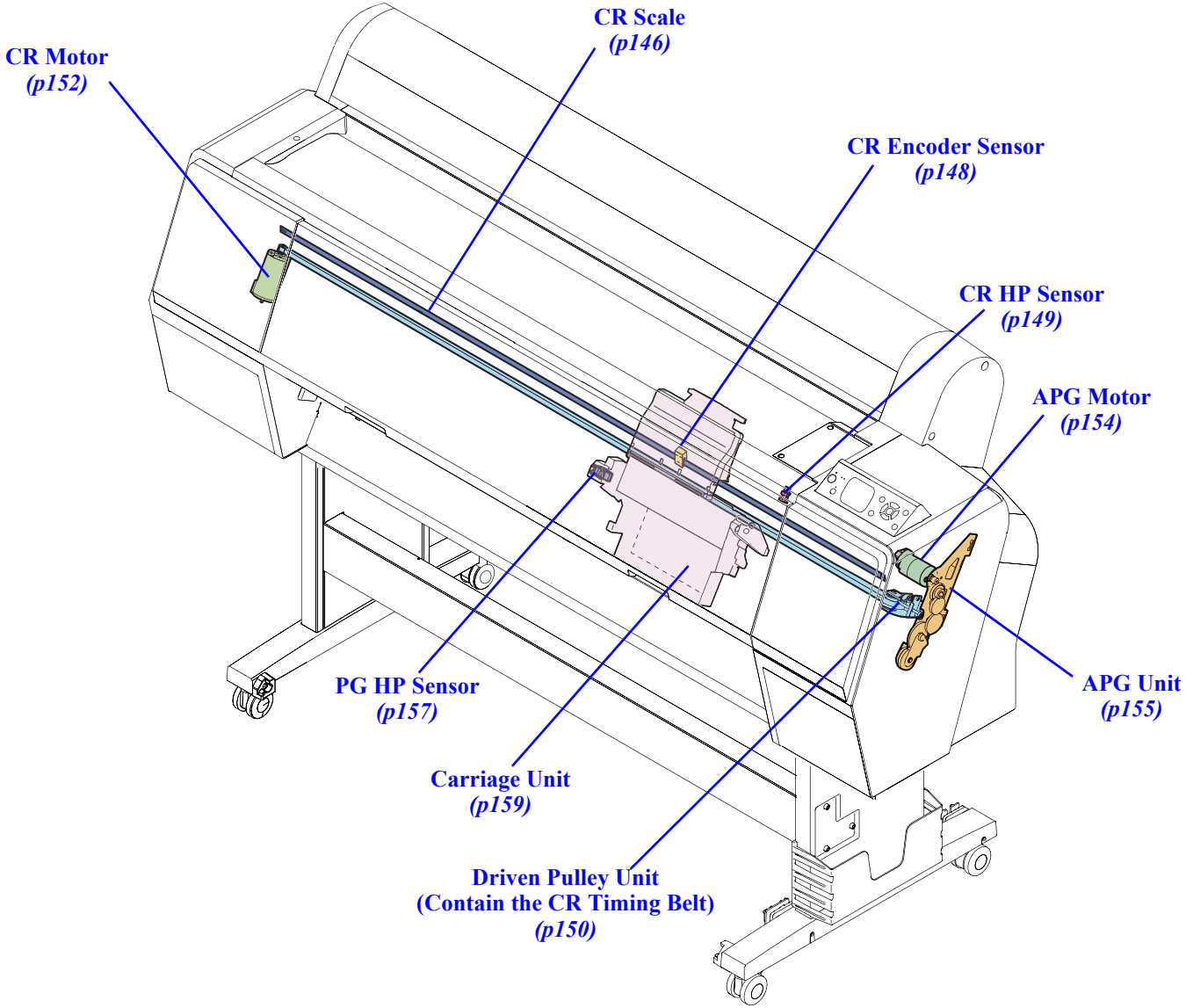


Figure 4-4. Carriage Mechanism

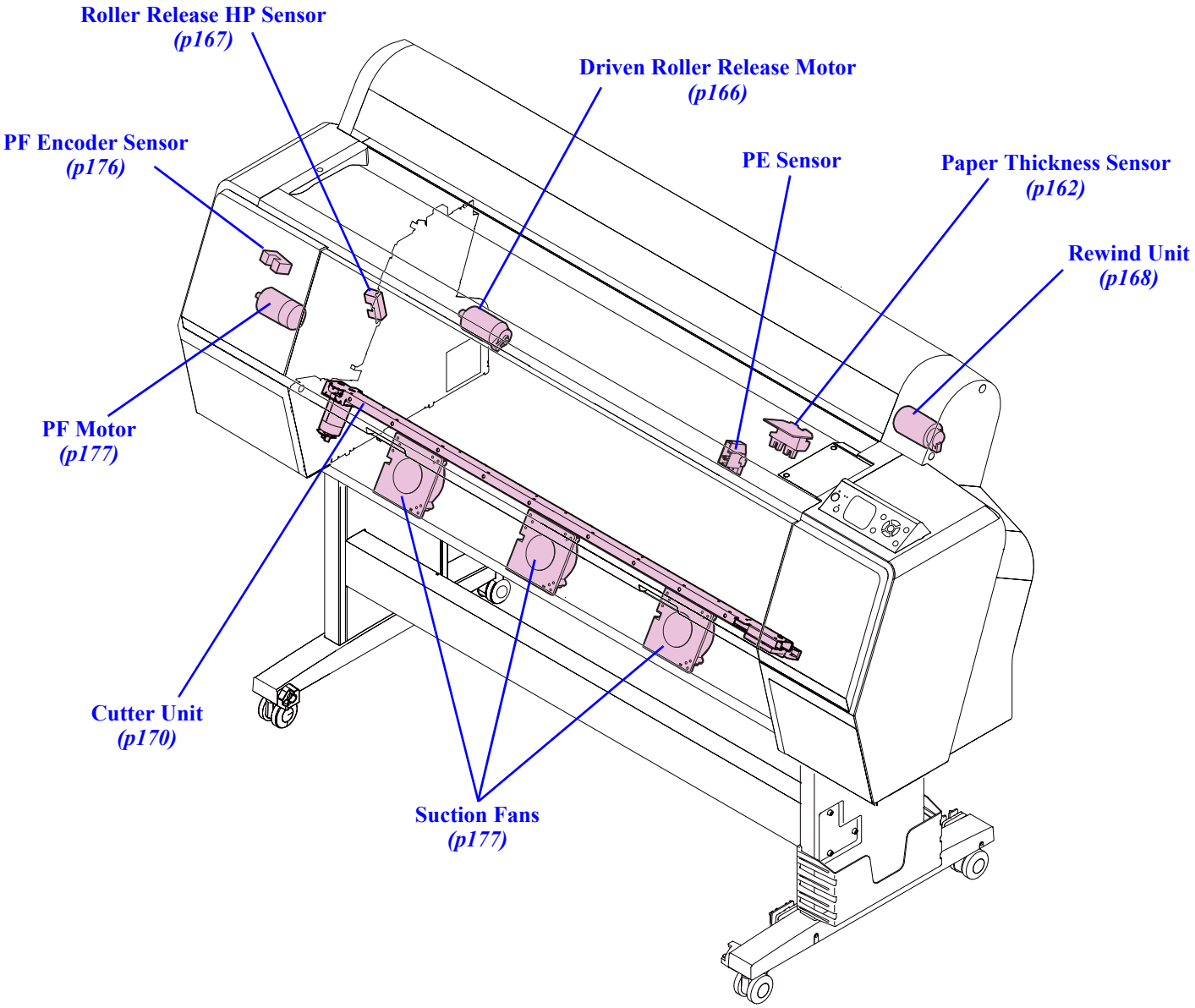


Figure 4-5. Paper Feed Mechanism

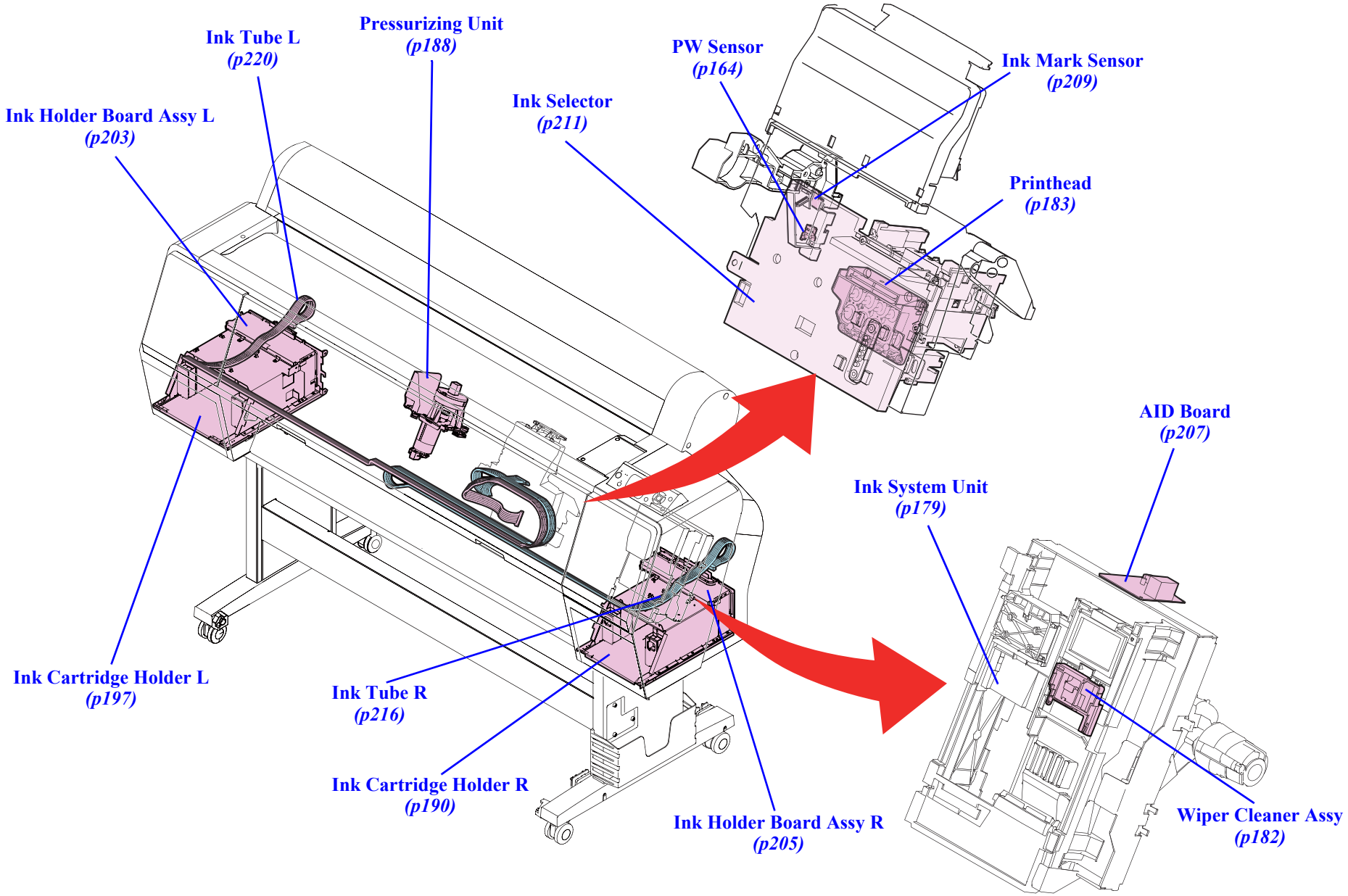


Figure 4-6. Ink System Mechanism

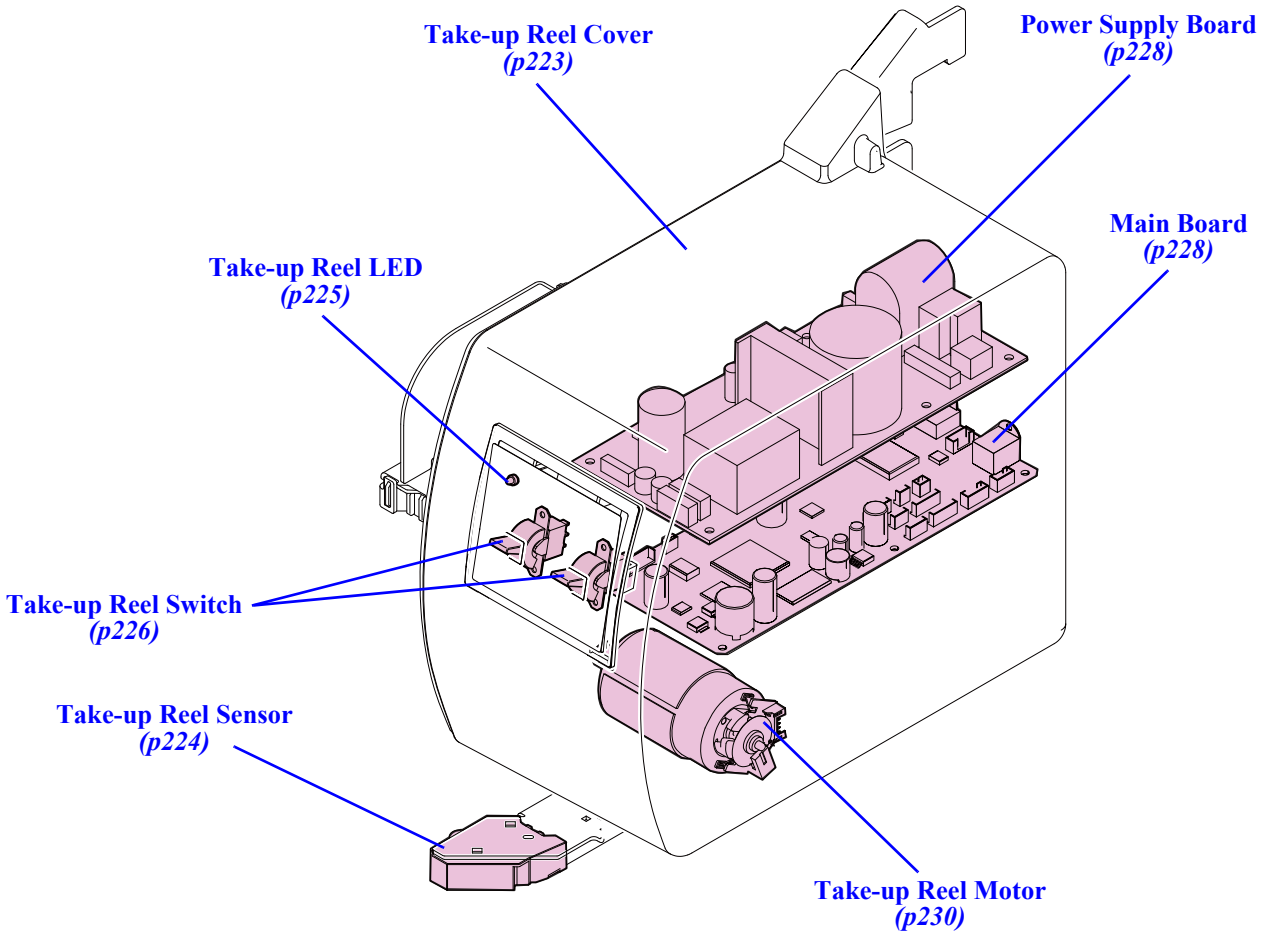


Figure 4-7. Auto Take-up Reel

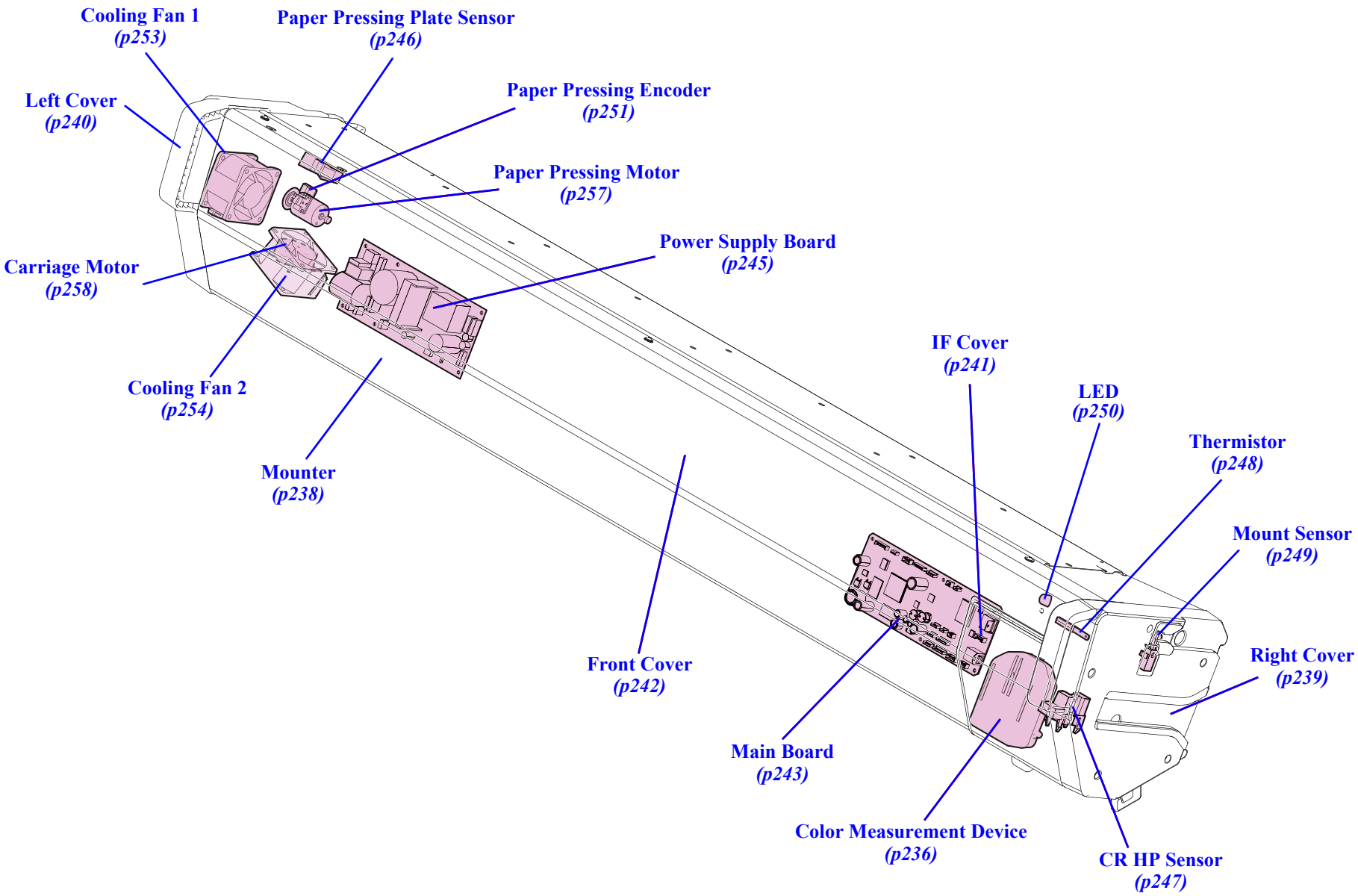
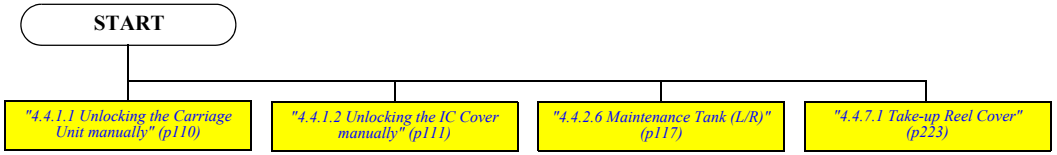


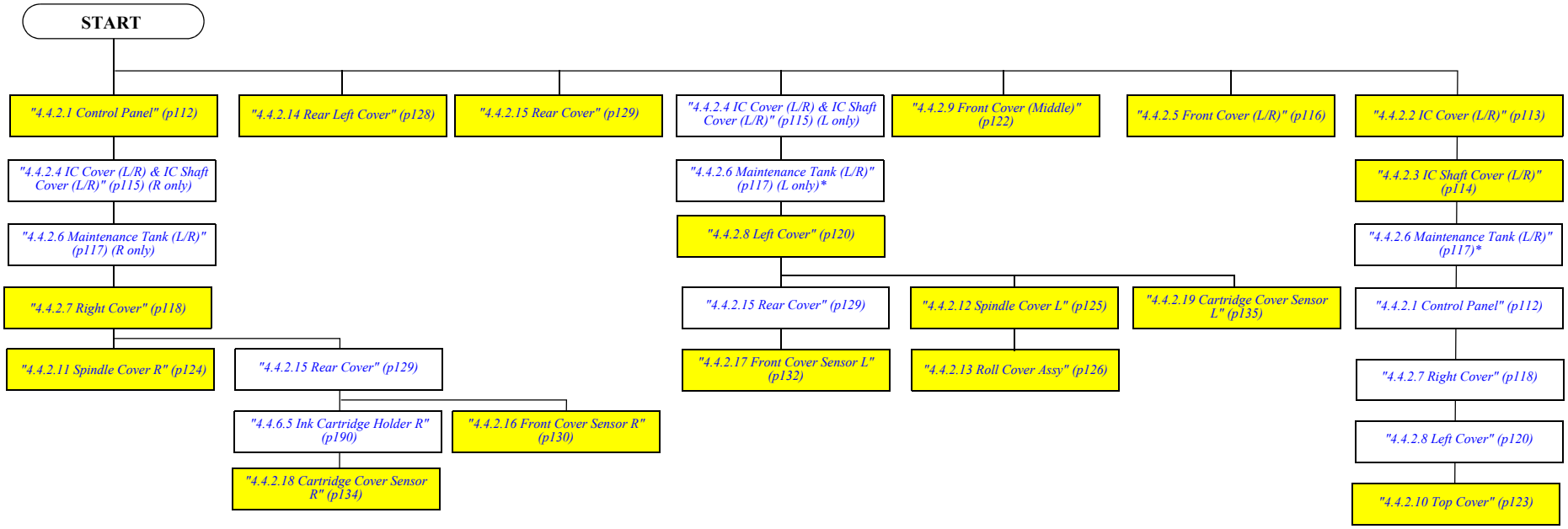
Figure 4-8. SpectroProofer

4.3 Disassembly Flowchart

CONSUMABLES/ACCESSORIES

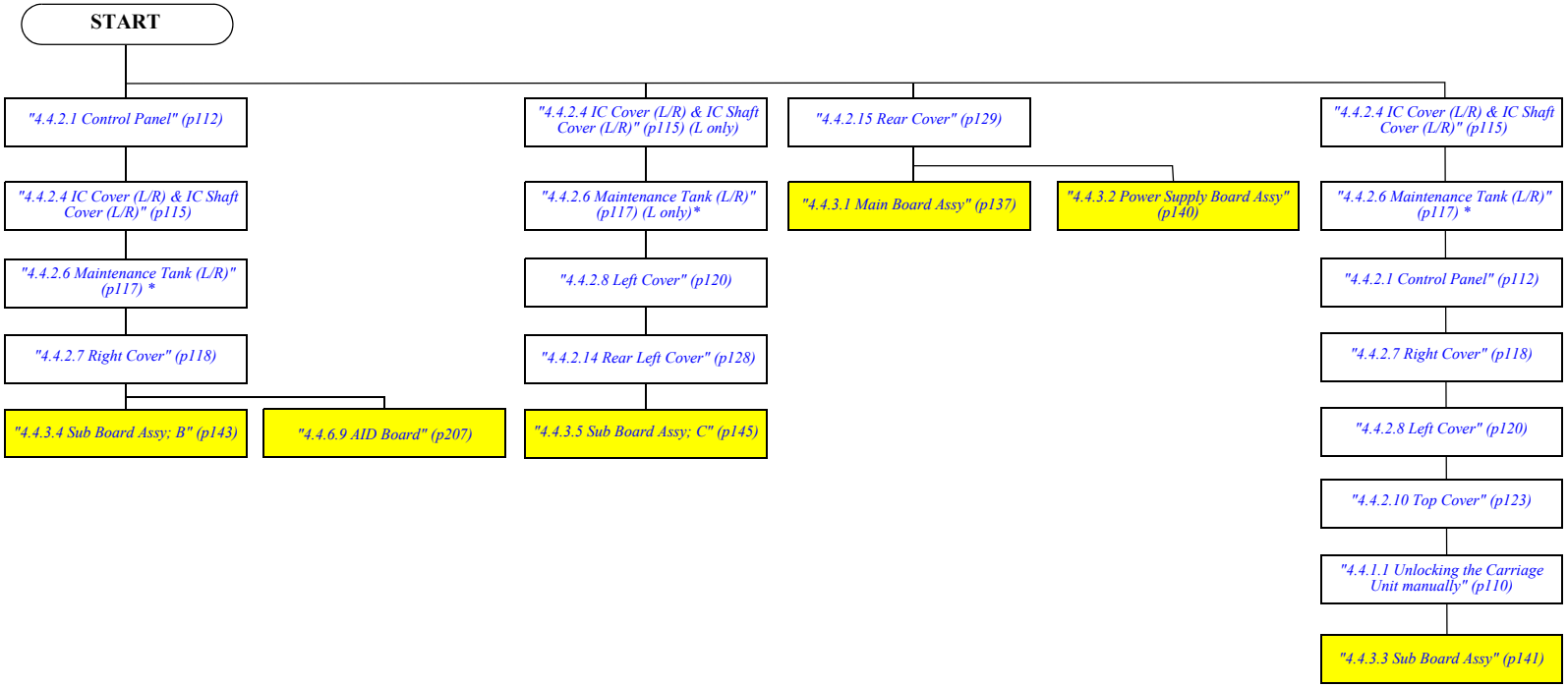


HOUSING



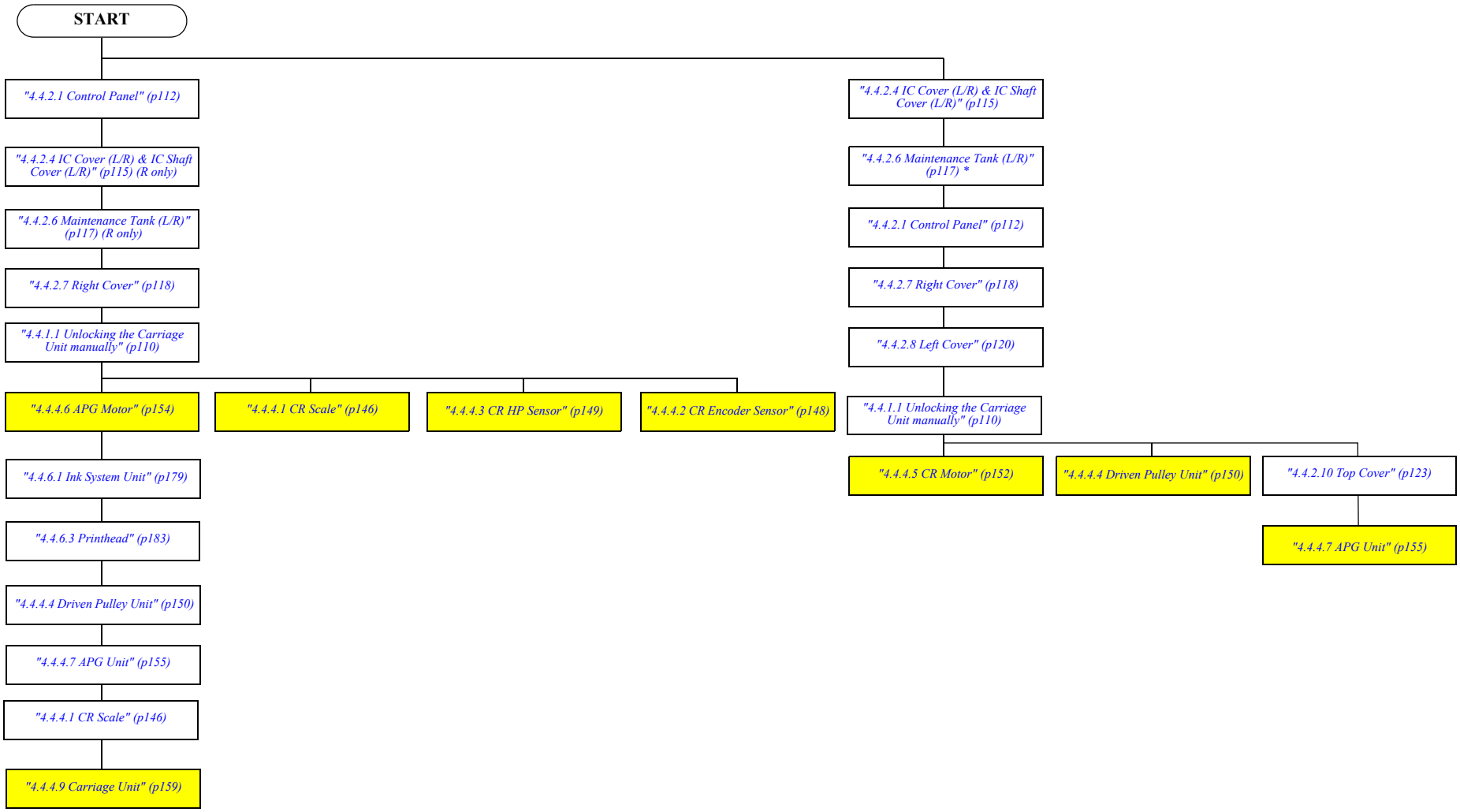
NOTE * : Maintenance Tank L is only for SC-P9000 Series/SC-P8000 Series.

ELECTRIC CIRCUIT COMPONENTS



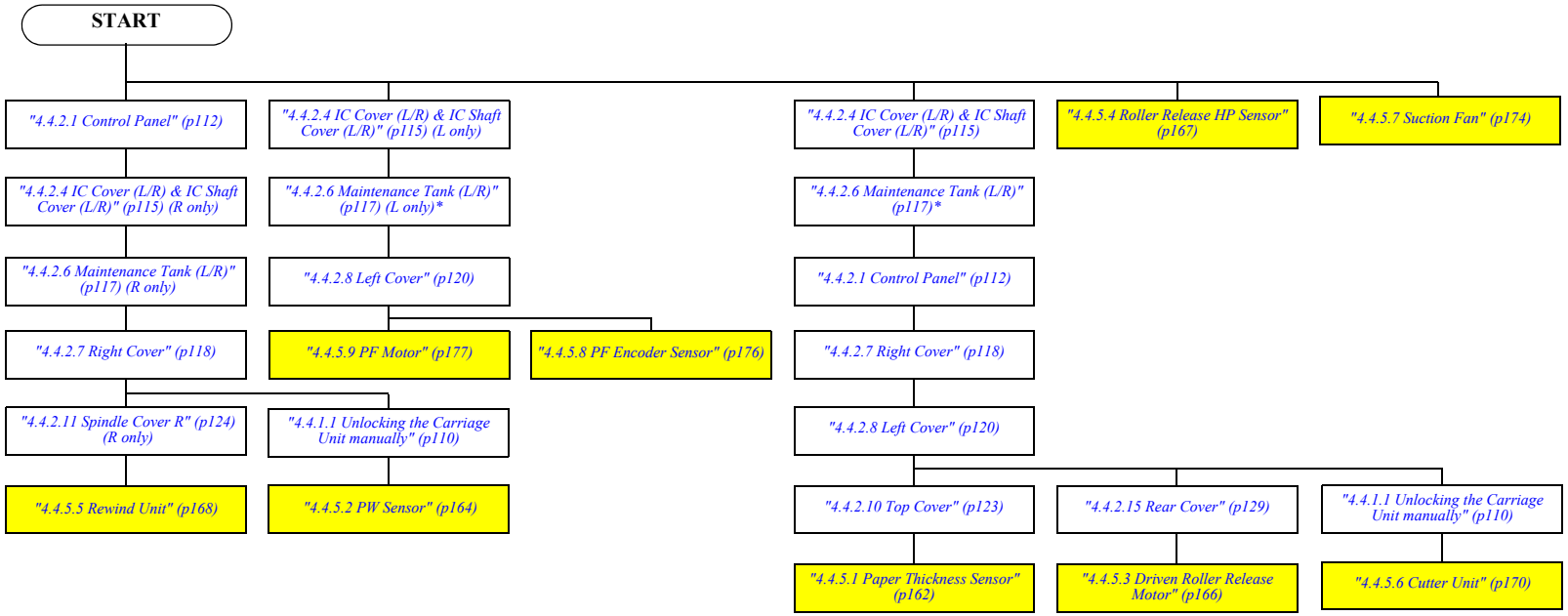
NOTE * : Maintenance Tank L is only for SC-P9000 Series/SC-P8000 Series.

CARRIAGE MECHANISM



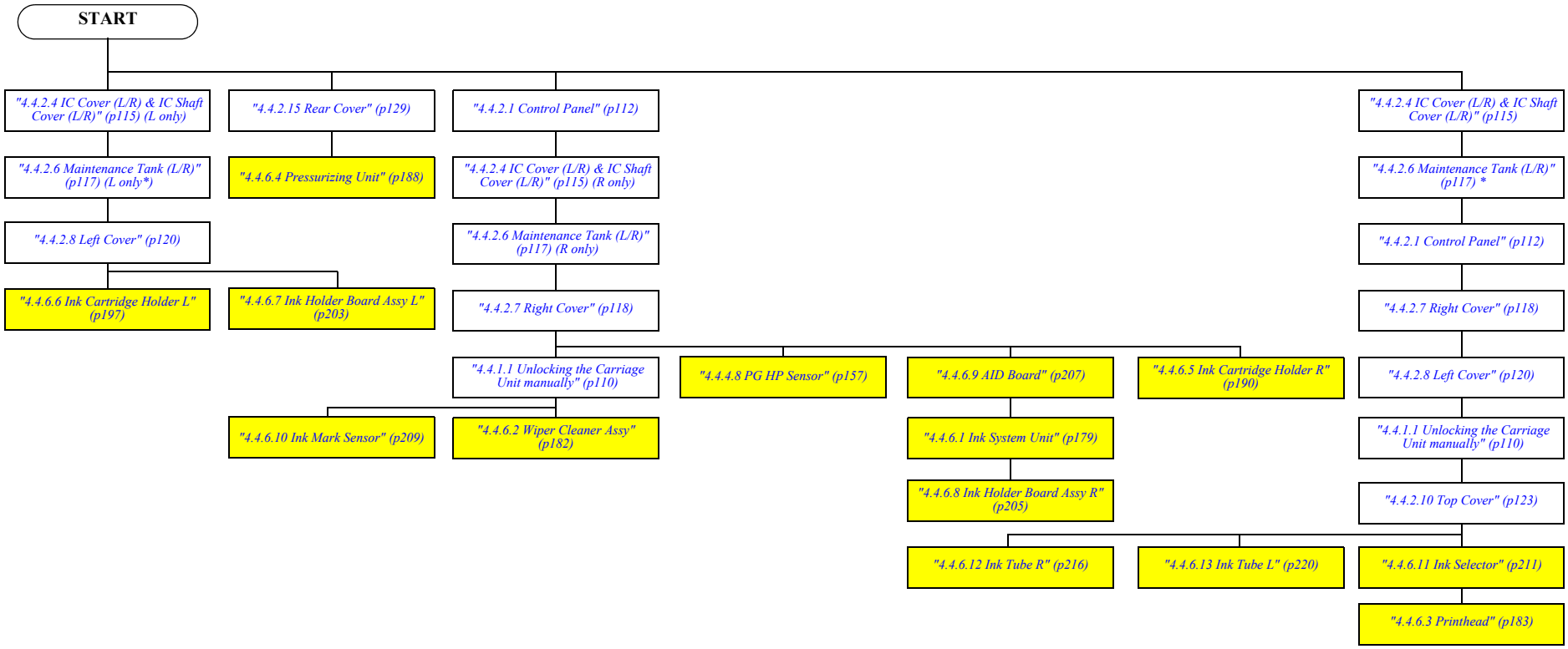
NOTE * : Maintenance Tank L is only for SC-P9000 Series/SC-P8000 Series.

PAPER FEED MECHANISM



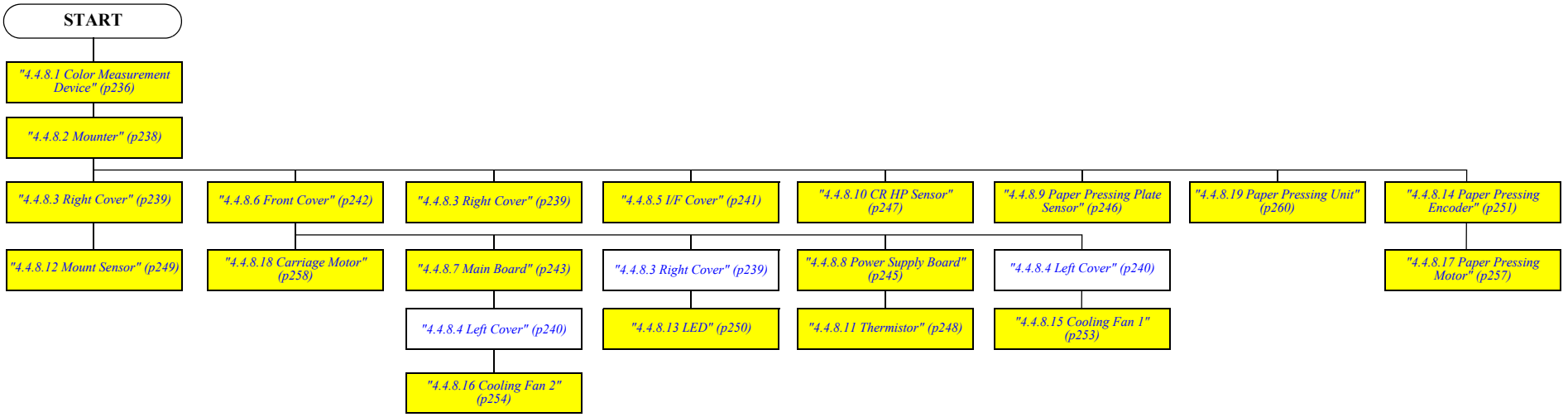
NOTE * : Maintenance Tank L is only for SC-P9000 Series/SC-P8000 Series.

INK SYSTEM MECHANISM

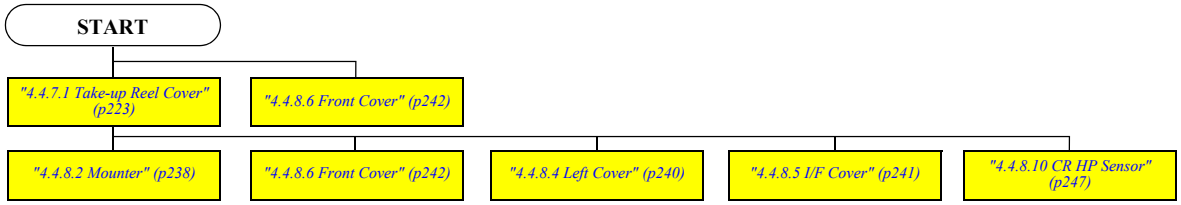


NOTE * : Maintenance Tank L is only for SC-P9000 Series/SC-P8000 Series.

SPECTROPROOFER



AUTO TAKE-UP REEL



4.4 Disassembly and Assembly Procedure

This section describes procedures for disassembling the components allowed to be disassembled. Unless otherwise specified, disassembled units or components can be reassembled by reversing the disassembly procedure.

4.4.1 Special operation for servicing

4.4.1.1 Unlocking the Carriage Unit manually

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Rotate the gear shown in the figure clockwise to unlock the Carriage Unit.

CAUTION

When unlocking the lock manually according to this procedure, turn on the printer to initialize it after reassembling. (In this initialization process, the Carriage Unit will be locked, and the Printhead will be capped.)

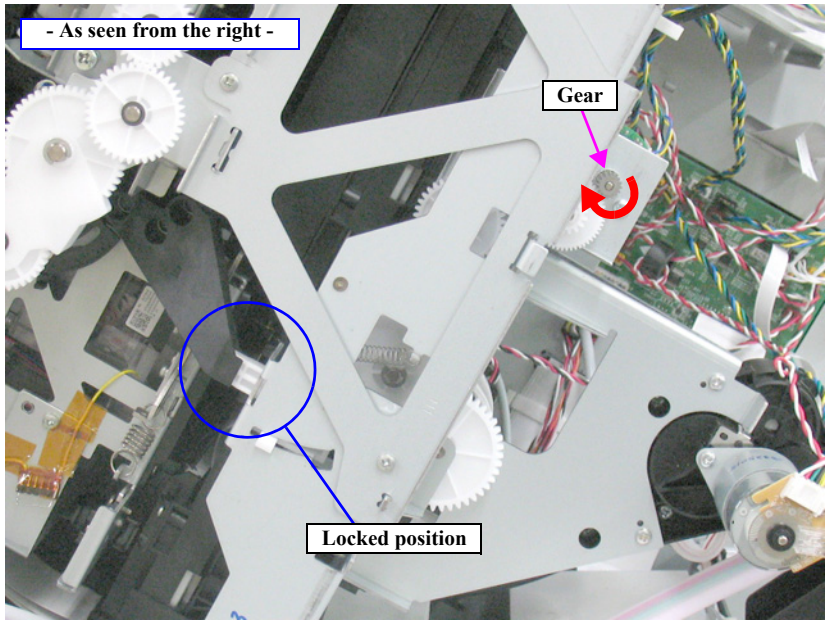


Figure 4-9. Unlocking the Carriage Unit

4.4.1.2 Unlocking the IC Cover manually

CHECK POINT

In the case that the IC Cover cannot be opened by the Control Panel operation for some reasons, you can open the cover by the following procedure.

1. Insert a piece of wire or the like into the hole shown in the figure.
2. Unlock the cover with it to open the IC Cover.

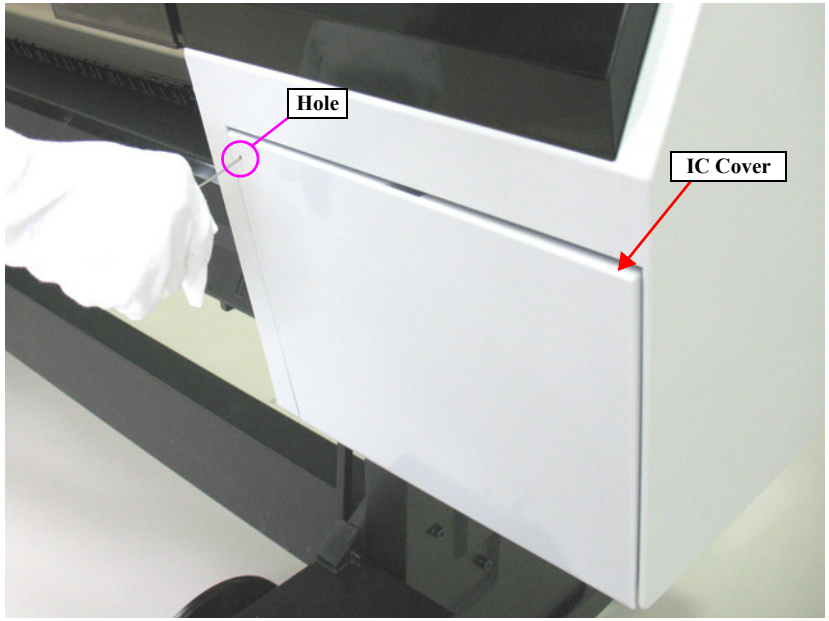


Figure 4-10. Unlocking the IC Cover manually

4.4.2 Housing

4.4.2.1 Control Panel

1. Insert a flathead screwdriver or a similar tool into the holes on both sides of the Control Panel to unlock the two hooks, and detach the Control Panel.
2. Disconnect the FFC from the connector on the Control Panel.

ADJUSTMENT REQUIRED

Be sure to refer to Chapter 5 "Adjustment" *(see p262)* and perform specified adjustments after replacing or removing the Control Panel.

<Adjustment item>

1. **Installing Firmware**
2. **Color LCD Display Check**
3. **Button Operation Check**

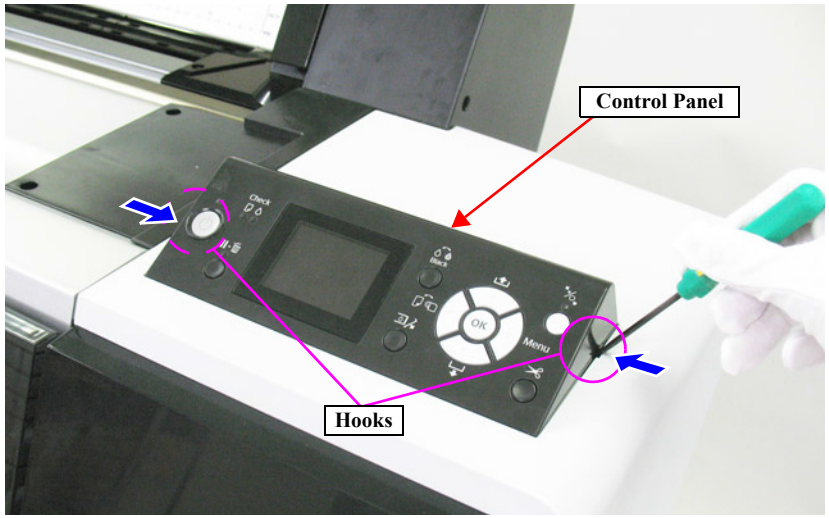


Figure 4-11. Removing the Control Panel

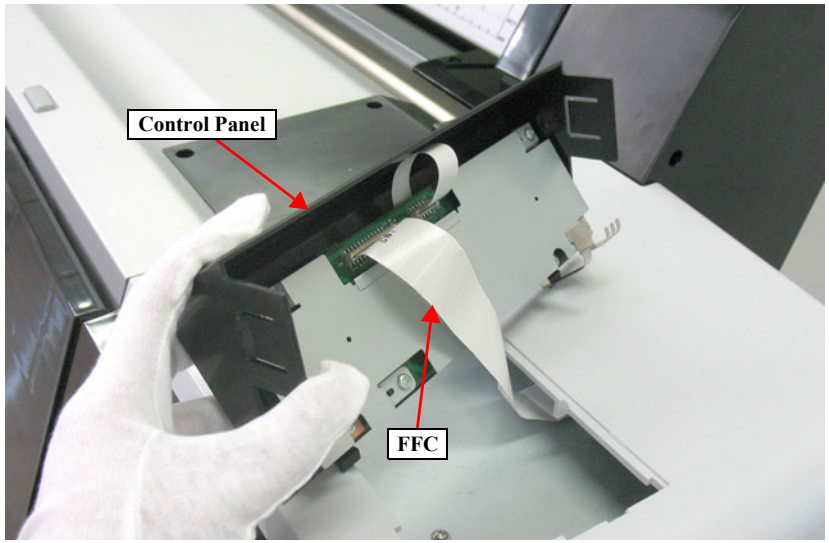


Figure 4-12. Disconnecting the FFC

4.4.2.2 IC Cover (L/R)

CHECK POINT

Basically you can remove this part on the left and the one on the right in the same way. Therefore this section describes the way to remove the one on the right only.

1. Turn the printer ON.
2. Press the [Ink Cover Open] button on the Control Panel to open the IC Cover R.
3. Turn the printer OFF.

CHECK POINT

In the case that the IC Cover cannot be opened by the Control Panel operation for some reasons, follow the procedure of 4.4.1.2 Unlocking the IC Cover manually *(p111)* to open the IC Cover.

4. Pull the IC Cover downwards to disconnect the joints to remove the IC Cover R.

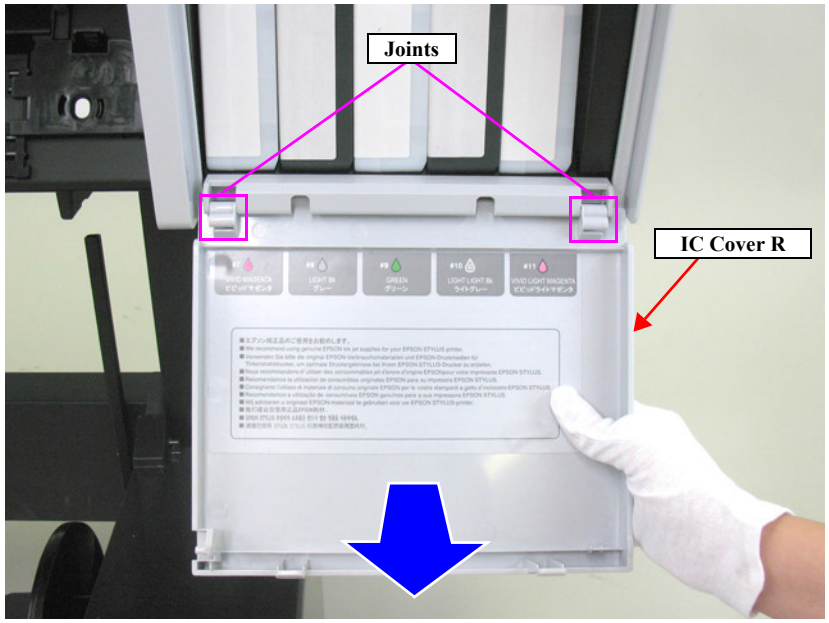


Figure 4-13. Removing the IC Cover (L/R)

4.4.2.3 IC Shaft Cover (L/R)

CHECK POINT

Basically you can remove this part on the left and the one on the right in the same way. Therefore this section describes the way to remove the one on the right only.

1. Remove the IC Cover R. *(p113)*
2. Remove the two screws that secure the IC Shaft Cover R.
   A) Silver, Phillips, Bind machine screw M3x8: two pieces
3. Remove the IC Shaft Cover R.

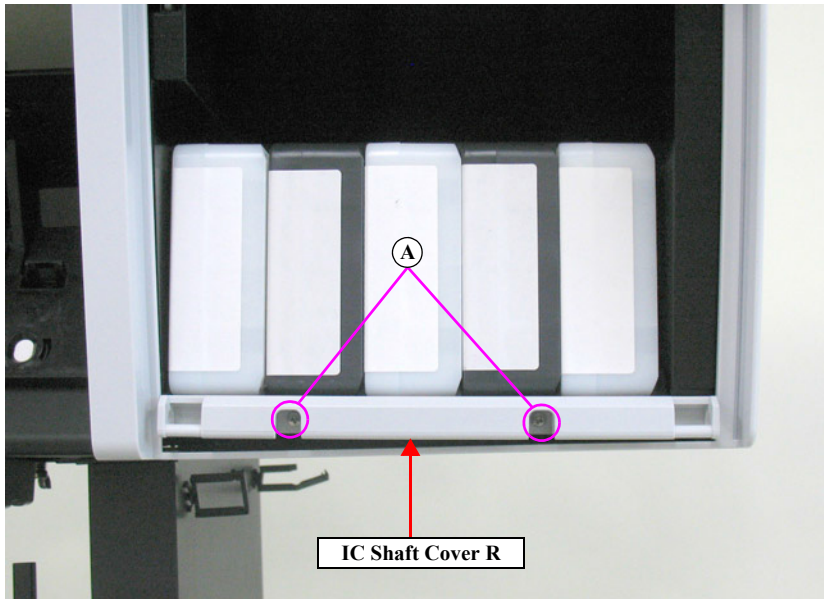


Figure 4-14. Removing the IC Shaft Cover (L/R)

4.4.2.4 IC Cover (L/R) & IC Shaft Cover (L/R)

CHECK POINT

Basically you can remove this part on the left and the one on the right in the same way. Therefore this section describes the way to remove the one on the right only.

1. Turn the printer ON.
2. Press the [Ink Cover Open] button on the Control Panel to open the IC Cover R.
3. Turn the printer OFF.

CHECK POINT

In the case that the IC Cover cannot be opened by the Control Panel operation for some reasons, follow the procedure of 4.4.1.2 Unlocking the IC Cover manually *(p111)* to open the IC Cover.

4. Remove the two screws that secure the IC Shaft Cover R.
   A) Silver, Phillips, Bind machine screw M3x8: two pieces

CHECK POINT

When removing the screws, hold up the IC Cover to insert a driver.

5. Remove the IC Cover R and the IC Shaft Cover R.

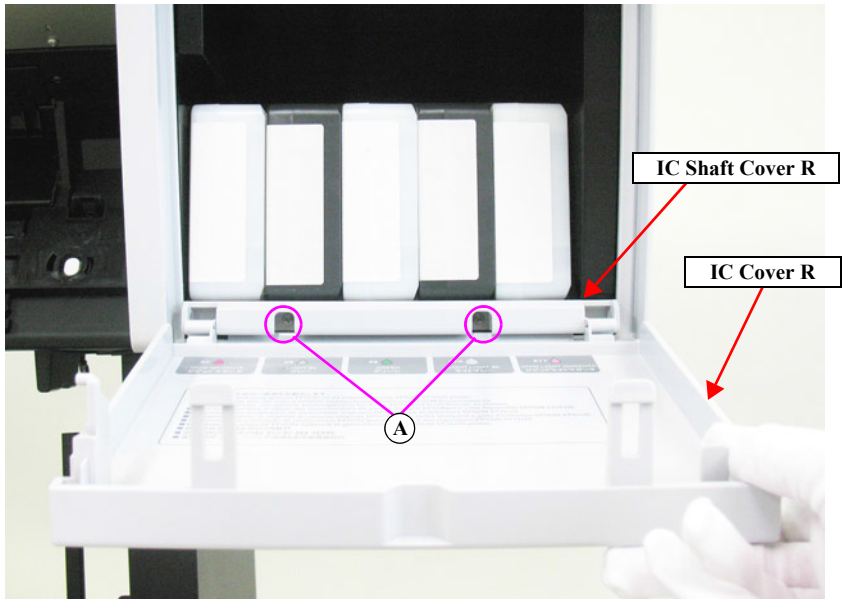


Figure 4-15. Removing the IC Cover (L/R) & IC Shaft Cover (L/R)

4.4.2.5 Front Cover (L/R)

CHECK POINT

Basically you can remove this part on the left and the one on the right in the same way. Therefore this section describes the way to remove the one on the right only.

1. Push up the lower part of the Front Cover R to release the three hooks at the bottom.
2. Release the two hooks on the top, and remove the Front Cover R.

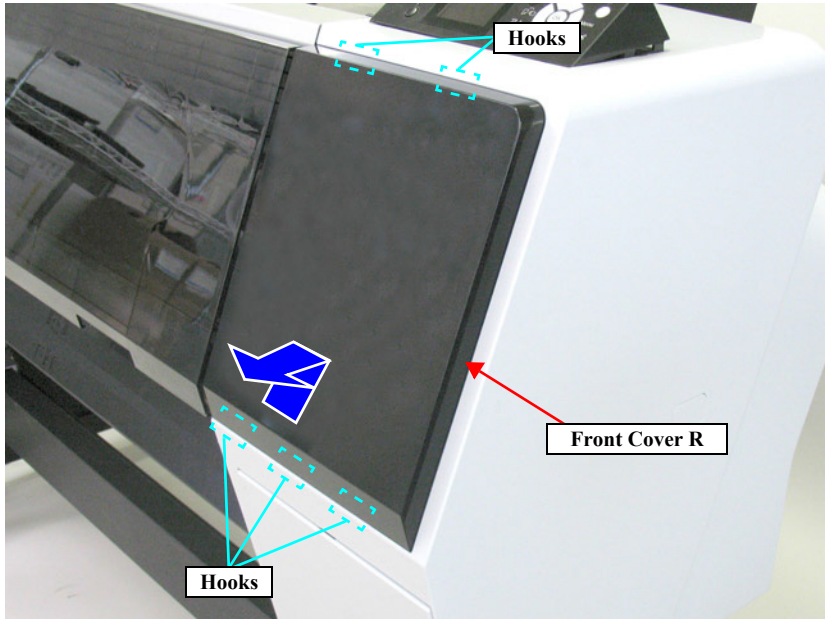


Figure 4-16. Removing the Front Cover (L/R)

4.4.2.6 Maintenance Tank (L/R)

CHECK POINT

Basically you can remove this part on the left and the one on the right in the same way. Therefore this section describes the way to remove the one on the right only.

1. Pull the handle of the Maintenance Tank R and remove the Maintenance Tank R.

NOTE: SC-P7000 Series/SC-P6000 Series does not have the Maintenance Tank L.

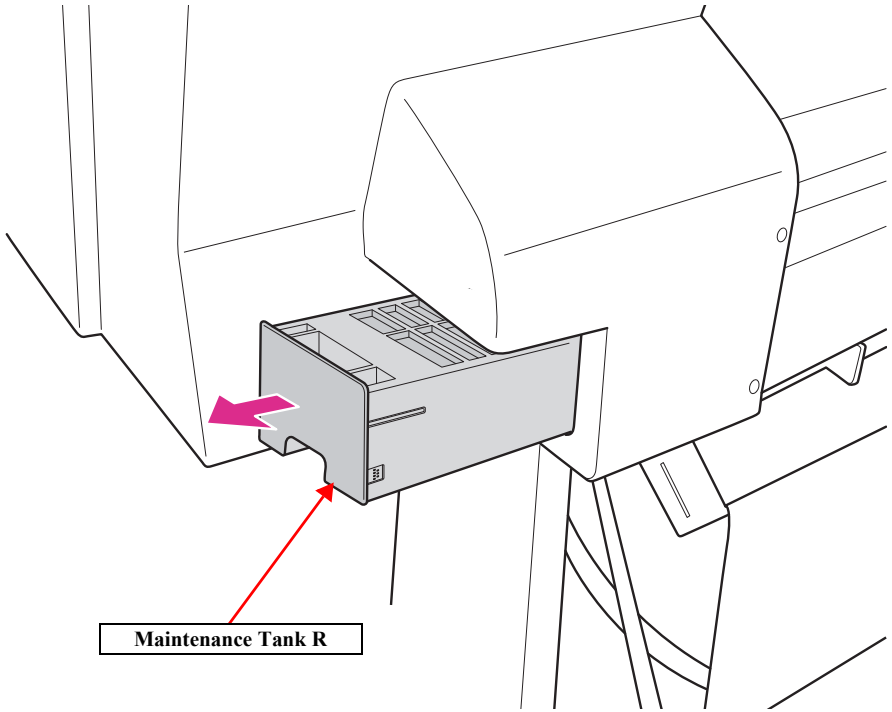


Figure 4-17. Removing the Maintenance Tank (L/R)

4.4.2.7 Right Cover

1. Remove the Control Panel. *(p112)*

CHECK POINT

When you do not replace the Right Cover, skip the step 2.

2. Remove the Front Cover R. *(p116)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the three screws that secure the Top Cover Support Base R, and remove the Top Cover Support Base R.
   A) Black, Phillips, Bind machine screw M4x8: two pieces
   B) Black, Phillips, Bind P-tite with S.W & P.W. M4x12: one piece

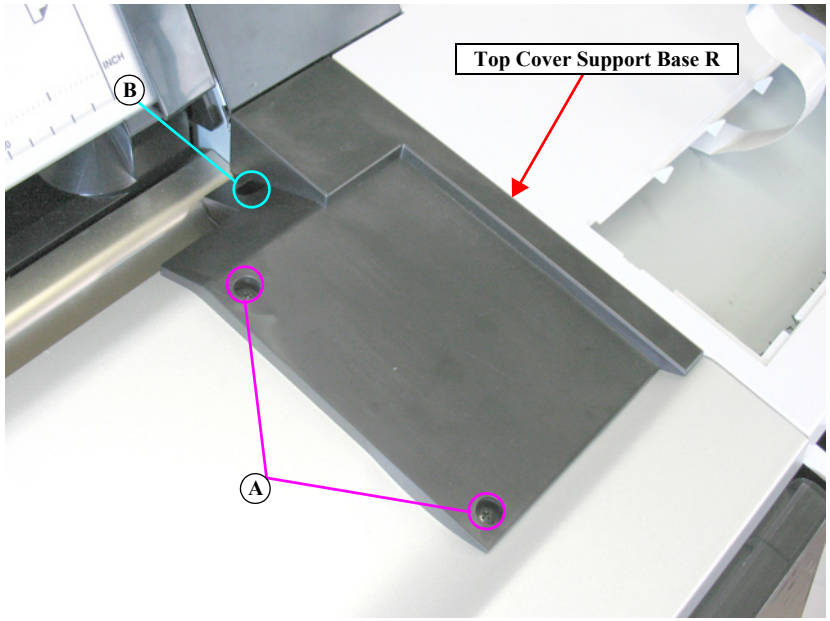


Figure 4-18. Removing the Top Cover Support Base R

5. Remove the nine screws that secure the Right Cover.
   C) Silver, Phillips, Bind S-tite with S.W & P.W. M4x8: five pieces
   D) Silver, Phillips, Bind machine screw M4x8: two pieces
   E) Silver, Phillips, Bind P-tite M4x12: two pieces

CAUTION

When removing the Right Cover, make sure to hold the upper part so as not to catch (damage) the FFC shown in the figure.

6. Remove the Right Cover.

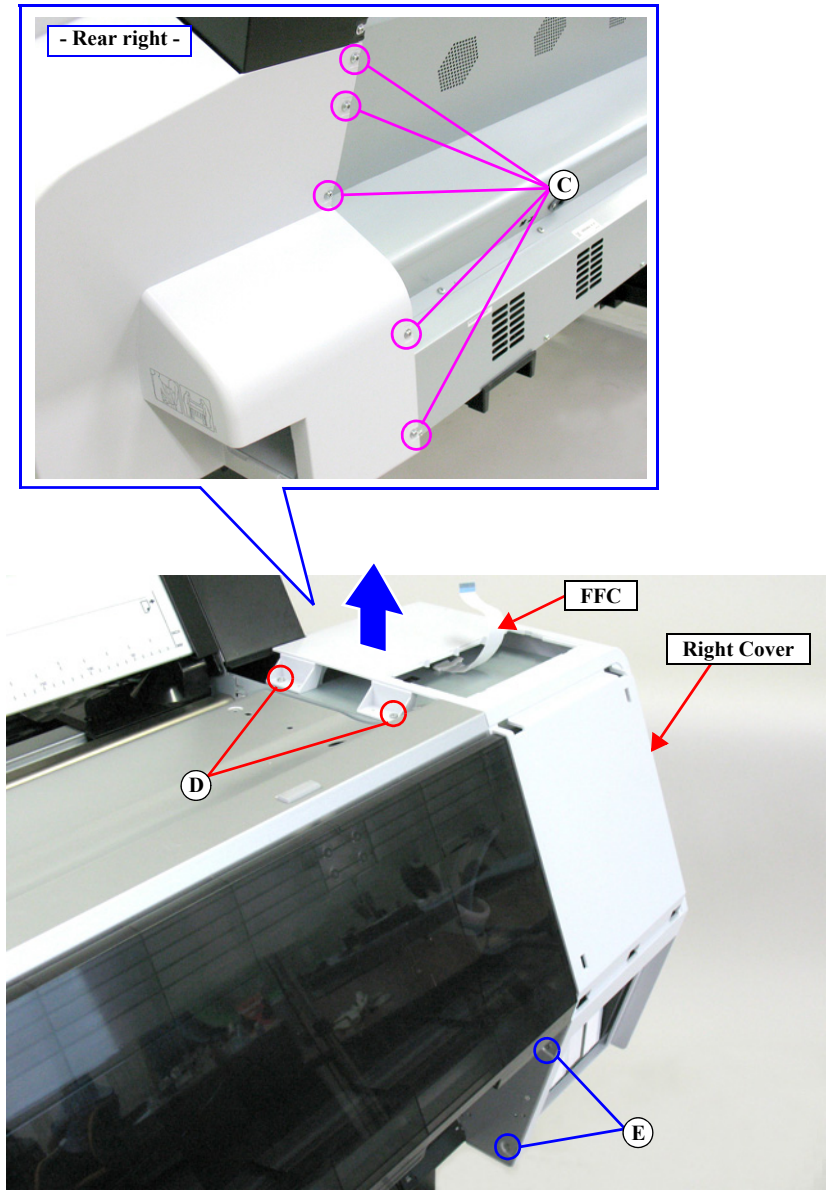


Figure 4-19. Removing the Right Cover

4.4.2.8 Left Cover

CHECK POINT

When you do not replace the Left Cover, skip the step 1.

1. Remove the Front Cover L *(p116)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the two screws that secure the Top Cover Support Base L, and remove the Top Cover Support Base L.
   A) Black, Phillips, Bind P-tite with S.W & P.W. M4x12: one piece
   B) Black, Phillips, Bind machine screw M4x8: one piece

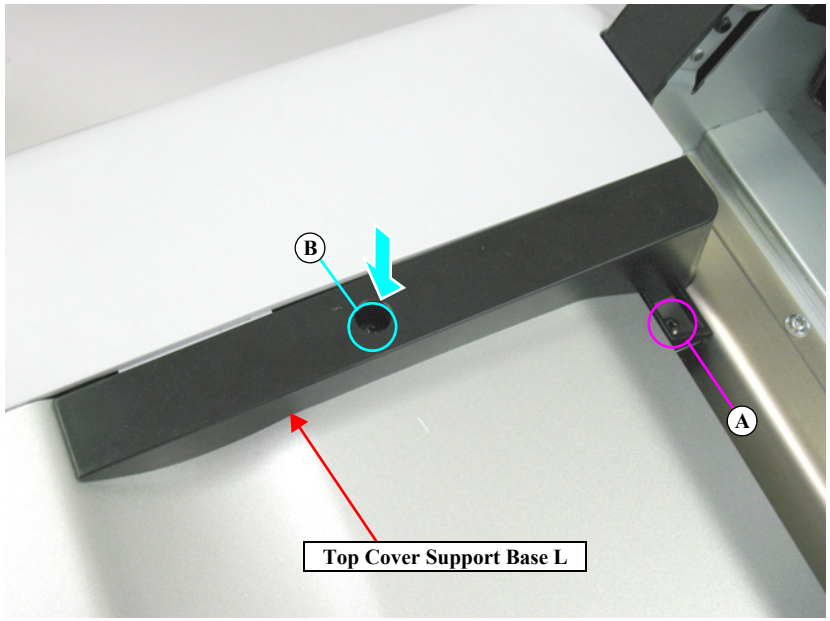


Figure 4-20. Removing the Top Cover Support Base L

4. Remove the ten screws that secure the Left Cover.
   C) Silver, Phillips, Bind S-tite with S.W & P.W. M4x8: four pieces
   D) Silver, Phillips, Bind P-tite with S.W & P.W. M4x12: two pieces
   E) Silver, Phillips, Bind machine screw M4x8: two pieces
   F) Silver, Phillips, Bind P-tite M4x12: two pieces
5. Remove the Left Cover.

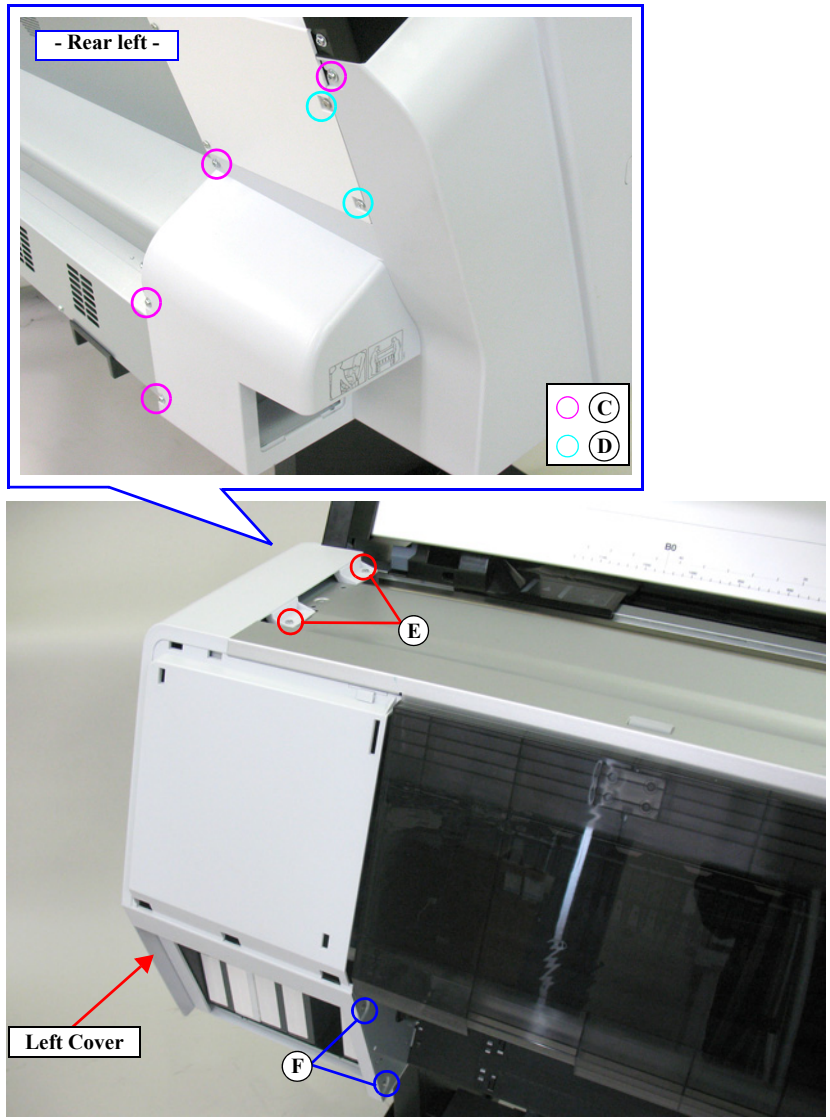


Figure 4-21. Removing the Left Cover

4.4.2.9 Front Cover (Middle)

1. Open the Front Cover (Middle).

CAUTION

In the next step, the cover will drop immediately after removing the last screw. Therefore, make sure to hold the cover when removing the last few screws.

2. Remove the 12 screws that secure the Front Cover (Middle), and remove the Front Cover (Middle).

   A) Black, Phillips, Bind P-tite M4x10: 12 pieces

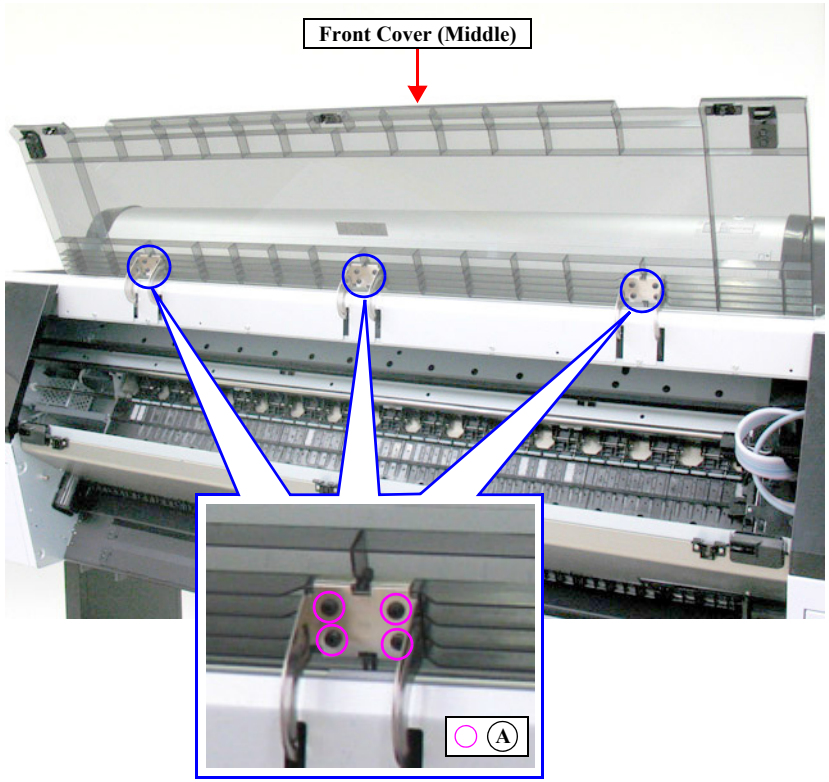


Figure 4-22. Removing the Front Cover (Middle)

4.4.2.10 Top Cover

1. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
2. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Control Panel. *(p112)*
4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p120)*
6. Open the Front Cover (Middle).
7. Remove the eight screws that secure the Top Cover.
   A) Silver, Phillips, Bind machine screw M4x10: eight pieces
8. Close the Front Cover (Middle), and remove the Top Cover.

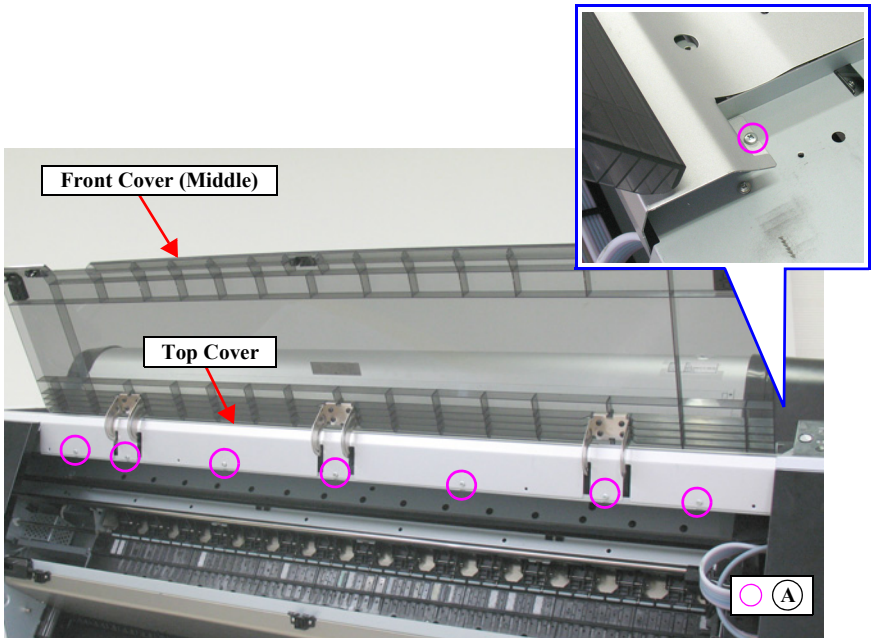


Figure 4-23. Removing the Top Cover (1)

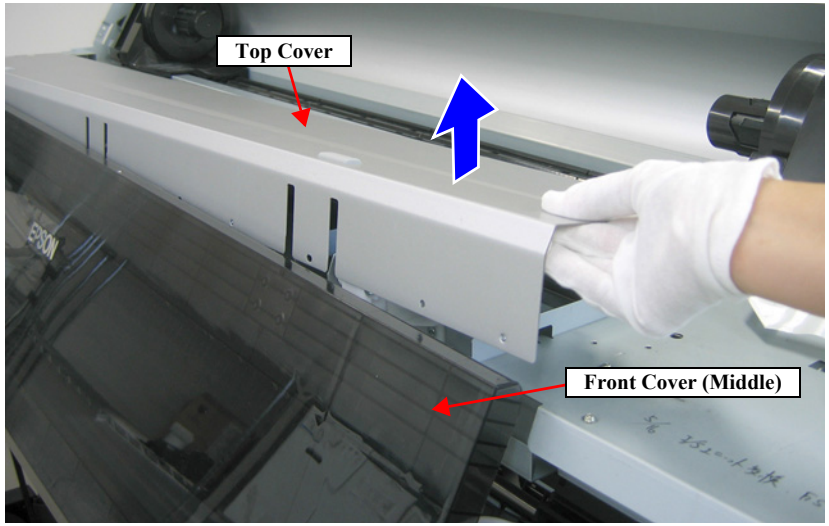


Figure 4-24. Removing the Top Cover (2)

4.4.2.11 Spindle Cover R

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Open the Roll Cover Assy until the screw that secures the Spindle Cover R can be seen.
6. Remove the three screws that secure the Spindle Cover R.
   A) Silver, Phillips, Bind P-tite M4x12: two pieces
   B) Silver, Phillips, Bind S-tite with S.W & P.W. M4x12: one piece
7. Remove the Spindle Cover R.

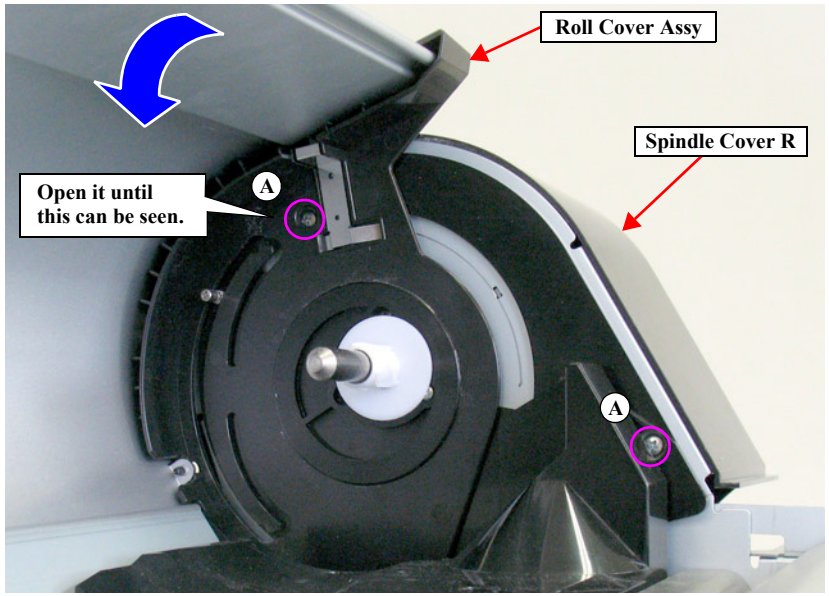


Figure 4-25. Removing the screws (inside)

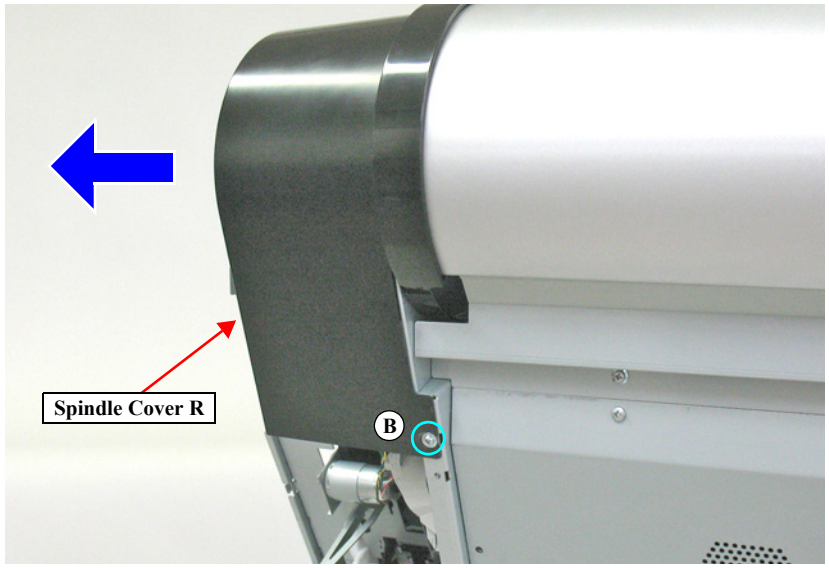


Figure 4-26. Removing the Spindle Cover R

4.4.2.12 Spindle Cover L

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Remove the three screws that secure the Spindle Cover L.
   A) Black, Phillips, Bind machine screw M4x8: two pieces
   B) Silver, Phillips, Bind S-tite with S.W & P.W. M4x8: one piece
5. Remove the Spindle Cover L.

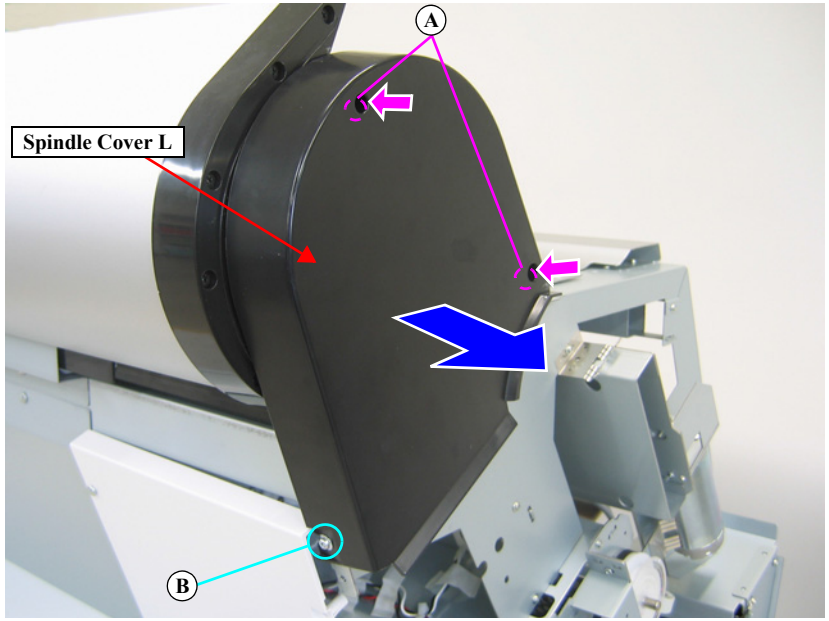


Figure 4-27. Removing the Spindle Cover L

4.4.2.13 Roll Cover Assy

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Remove the Spindle Cover L. *(p125)*
5. Remove the Spindle Cover R. *(p124)*
6. Remove the four screws that secure the Mounting Plate.
   A) Black, Phillips, Bind machine screw M3x8: three pieces
   B) Silver, Phillips, Bind P-tite M3x8: one piece
7. Pull out the guide pin, and remove the brake and the Dumper Cover Holder.
8. Remove the Mounting Plate.
9. Remove the wave washer and the spacer.

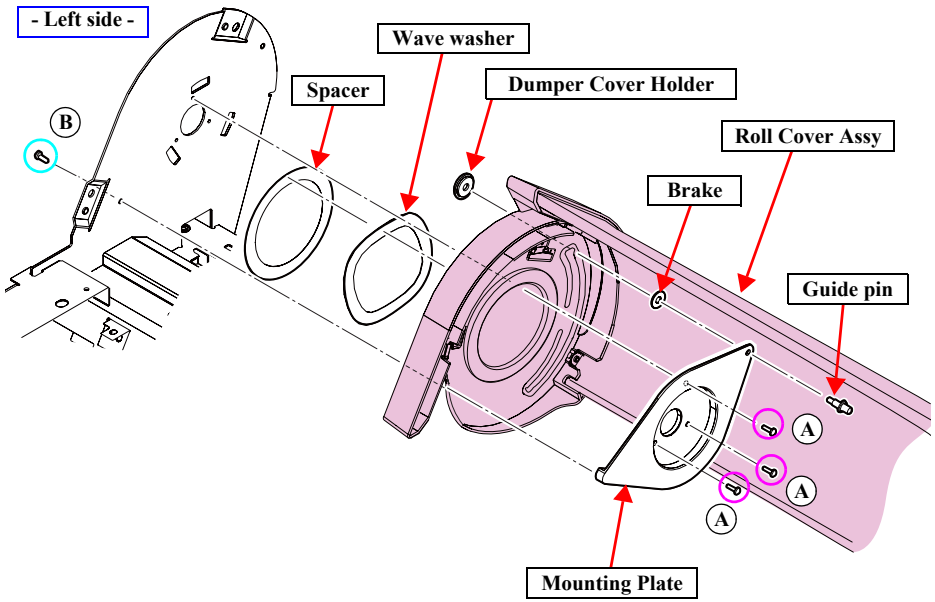


Figure 4-28. Removing the Roll Cover Assy (Left side)

10. Remove the retaining ring and remove the Roll Paper Guide.
11. Pull out the pin from the shaft.
12. Remove the three screws that secure the Mounting.
    C) Silver, Phillips, Bind machine screw M3x6: one piece
    D) Black, Phillips, Bind machine screw M3x8: two pieces
13. Remove the Mounting.
14. Pull out the guide pin.
15. Remove the Roll Cover Assy by moving it to the left.

Lubrication

When replacing or maintaining the Roll Cover Assy, carry out the specified lubrication if necessary. (See Chapter 6 " MAINTENANCE " (Page 364).)

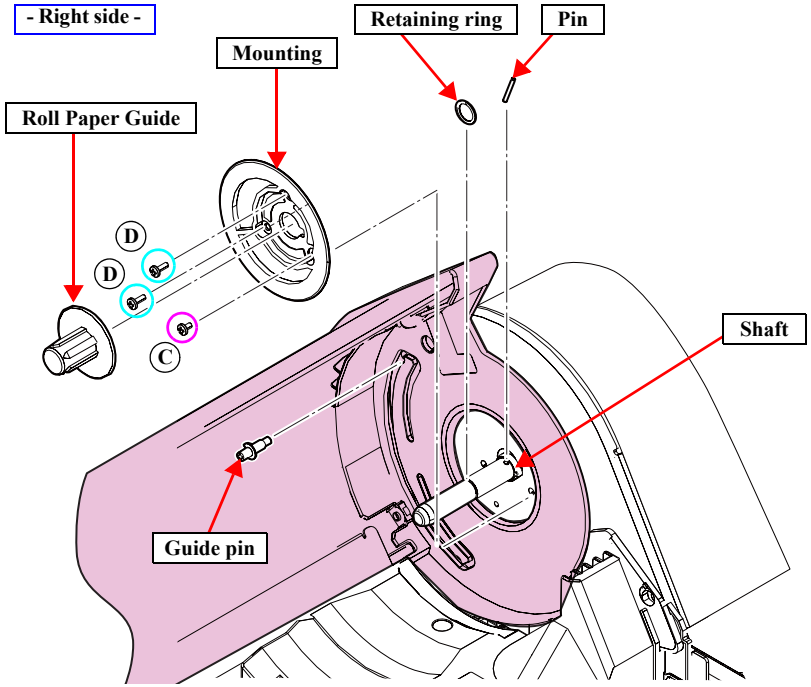


Figure 4-29. Removing the Roll Cover Assy (Right side)

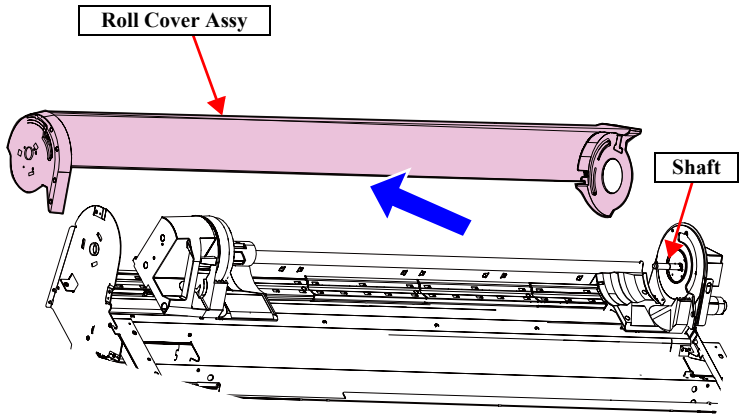


Figure 4-30. Removing the Roll Cover Assy

4.4.2.14 Rear Left Cover

1. Remove the four screws that secure the Rear Left Cover.
   A) Silver, Phillips, Bind P-tite with S.W & P.W. M4x12: two pieces
   B) Silver, Phillips, Bind S-tite with S.W & P.W. M4x8: two pieces
2. Remove the Rear Left Cover.

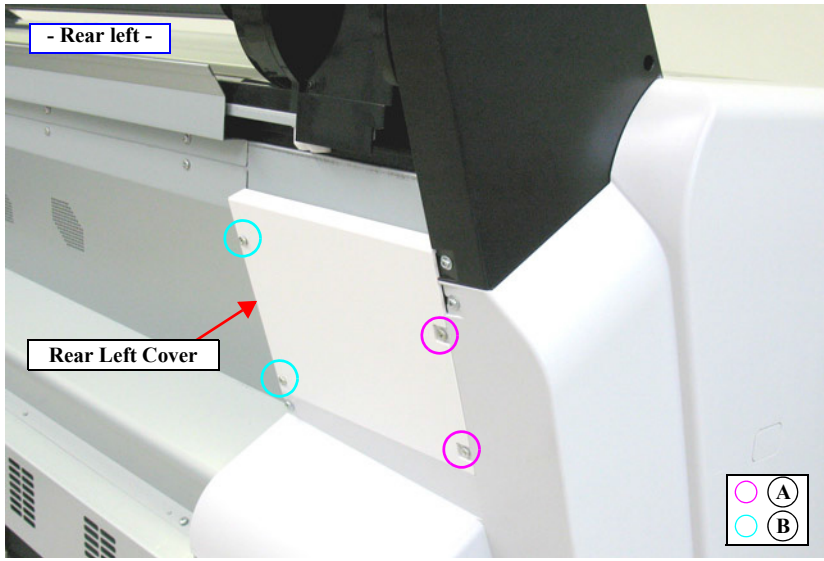


Figure 4-31. Removing the Rear Left Cover

4.4.2.15 Rear Cover

1. Remove the two screws, and remove the HDD (option).
   A) Black, Phillips, Bind machine screw M3x6: two pieces
2. Remove the 21 screws, and remove the Rear Cover and Connector Frame.
   B) Silver, Phillips, Bind machine screw M4x8: 12 pieces
   C) Silver, Phillips, Bind machine screw M3x6: nine pieces

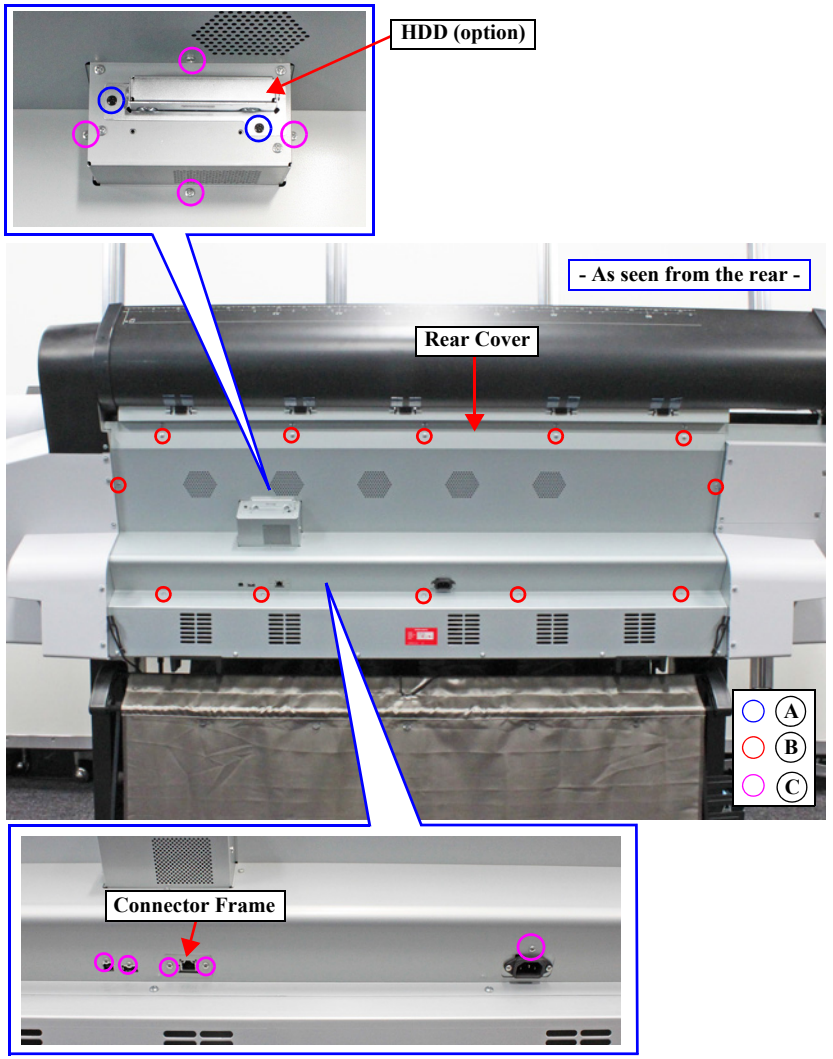


Figure 4-32. Removing the Rear Cover

4.4.2.16 Front Cover Sensor R

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the Rear Cover. *(p129)*
6. Remove the Mid-Front Cover. *(p170)*
7. Remove the Front Cover (Lower). *(p174)*
8. Disconnect the connector (CN21) on the Main Board Assy.
9. Release the cable from the cable tie, clamp and the saddle. *See Figure 4-33.*
10. Pull out the harness from the hole on the Main Frame. *See Figure 4-34.*
11. Release the cable from the two clamps. *See Figure 4-34.*

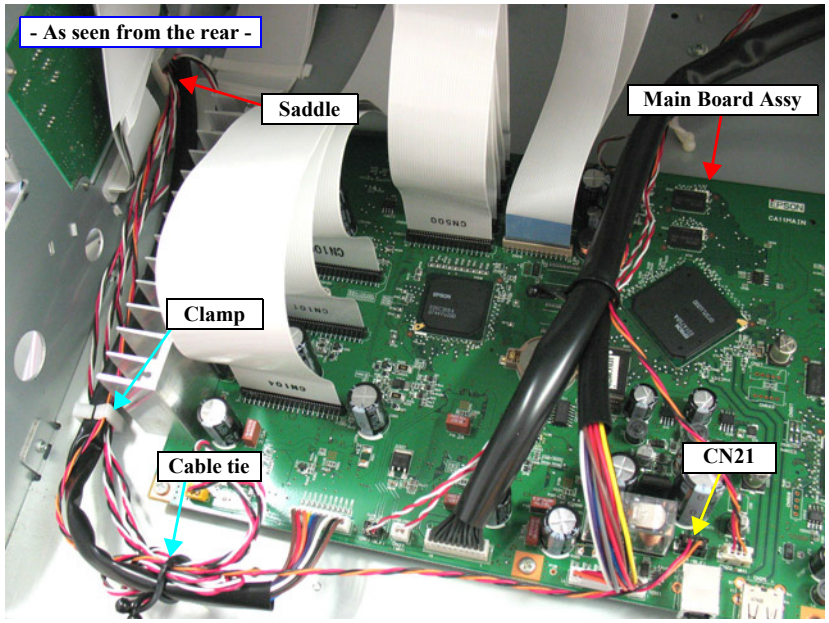


Figure 4-33. Releasing the harnesses (rear)

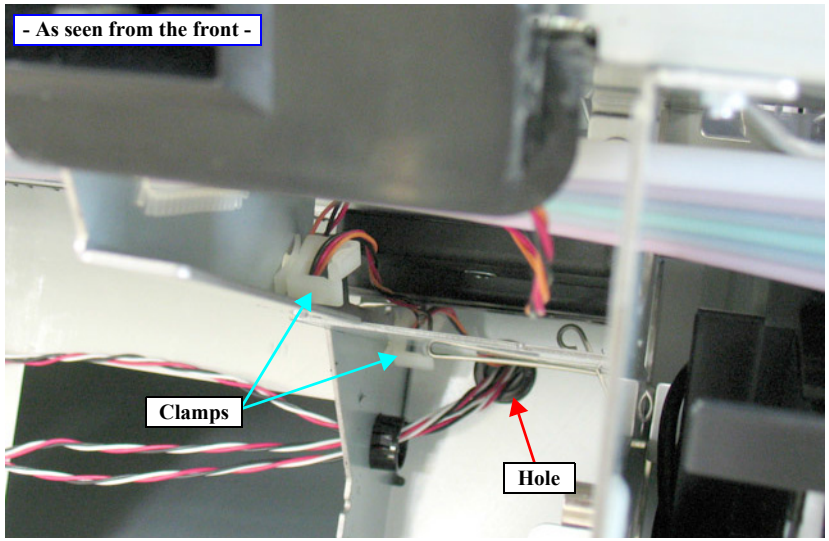


Figure 4-34. Releasing the harnesses (front)

12. Remove the two screws that secure the Front Cover Sensor R.
    A) Silver, Phillips, Bind machine screw M3x6: two pieces
13. Remove the Front Cover Sensor R.

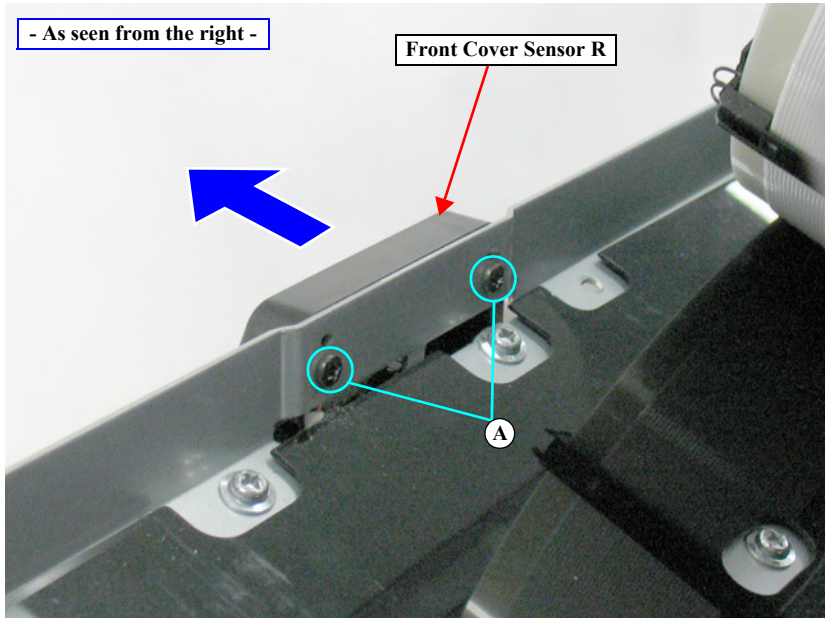


Figure 4-35. Removing the Front Cover Sensor R

4.4.2.17 Front Cover Sensor L

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Remove the Rear Cover. *(p129)*
5. Disconnect the two connectors (CN1, CN51) on the Power Supply Board Assy.
6. Remove the two screws that secure the PS Board Mounting Plate, and remove the PS Board Mounting Plate.

   A) Silver, Phillips, Bind machine screw M3x6: two pieces
7. Disconnect the connector (CN22) on the Main Board.
8. Release the cables from the seven clamps and the saddle. *See Figure 4-37.*

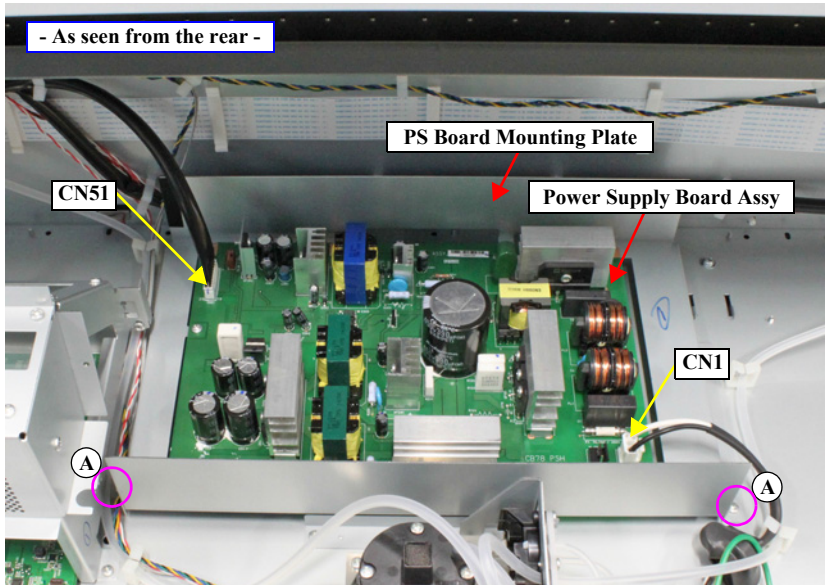


Figure 4-36. Removing the PS Board Mounting Plate

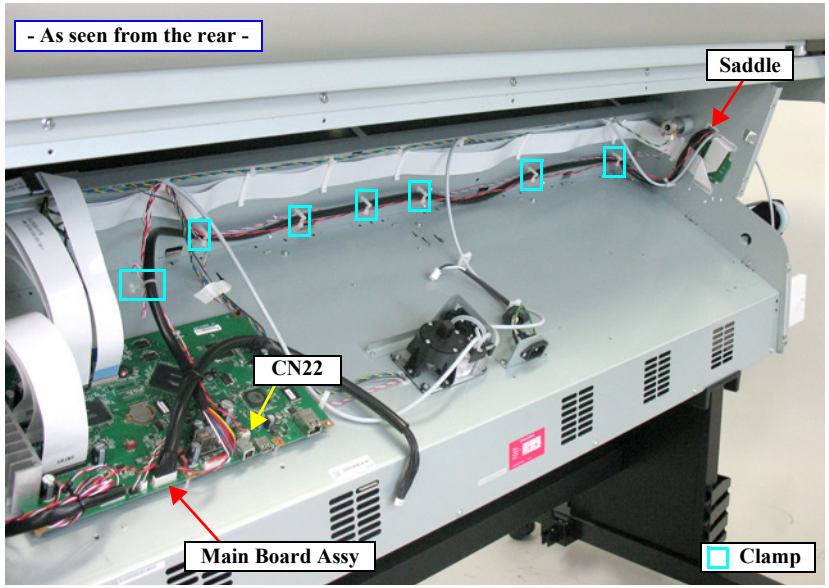


Figure 4-37. Releasing the harnesses

9. Release the cables from the clamp. *See Figure 4-38.*
10. Remove the two screws that secure the Front Cover Sensor L.
    A) Black, Phillips, Bind P-tite M3x10: two pieces
11. Remove the Front Cover Sensor L while drawing out the harness from the hole on the Main Frame.

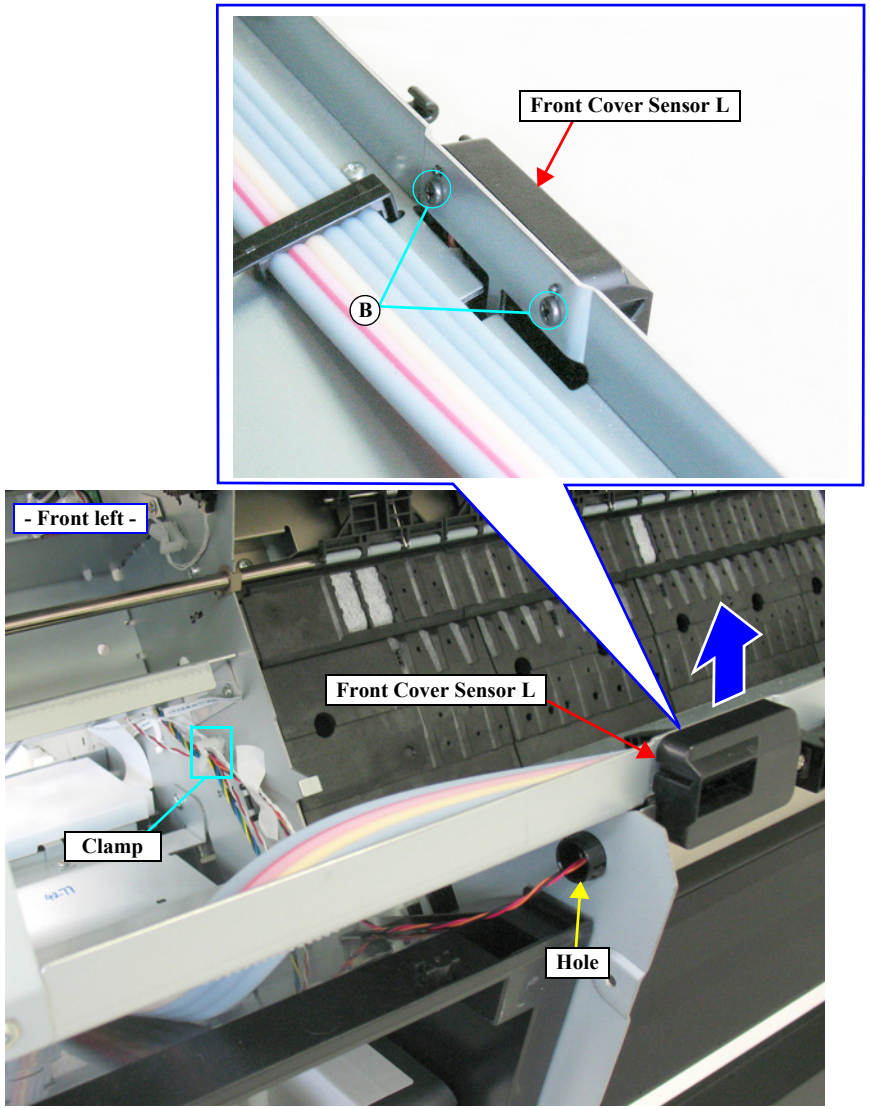


Figure 4-38. Removing the Front Cover Sensor L

4.4.2.18 Cartridge Cover Sensor R

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the Rear Cover. *(p129)*
6. Remove the Ink Cartridge Holder R. *(p190)*
7. Disengage the two hooks that secure the cover of the Ink Holder Board Assy R, and remove the cover.
8. Disconnect the two connectors (CN408, CN409) on the Ink Holder Board Assy R.
9. Release the harness from the two hooks. *See Figure 4-40.*
10. Remove the two screws that secure the Cartridge Cover Sensor R, and remove the Cartridge Cover Sensor R.

    A) Black, Phillips, Bind P-tite M3x10: two pieces

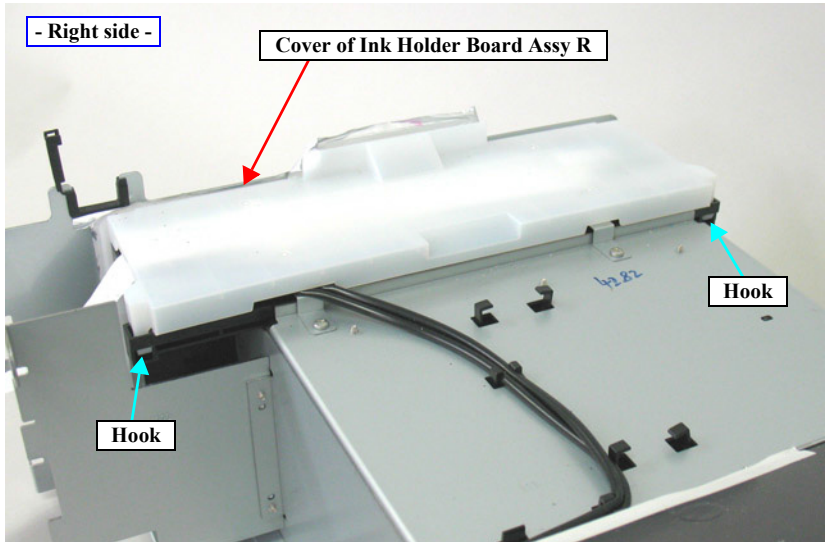


Figure 4-39. Removing the cover of the Ink Holder Board Assy R

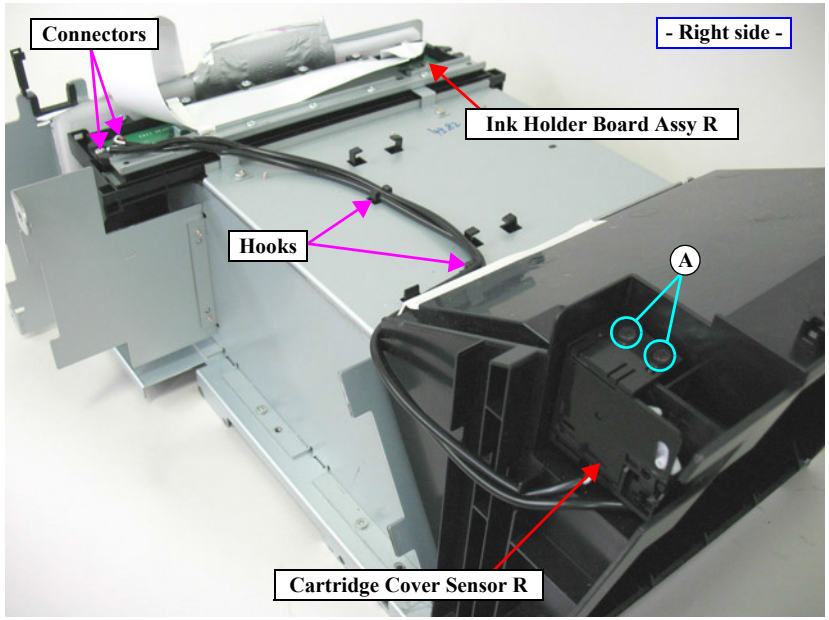


Figure 4-40. Removing the Cartridge Cover Sensor R

4.4.2.19 Cartridge Cover Sensor L

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Pull off the Pressure Tube.
5. Release the Pressure Tube from the guide on the cover of the Ink Holder Board Assy L.
6. Disengage the two hooks that secure the cover of the Ink Holder Board Assy L, and remove the cover.
7. Remove the six screws that secure the plate, and remove the plate.
   A) Silver, Phillips, Round Washer Head S-tite M4x6: four pieces
   B) Silver, Phillips, Round Washer Head S-tite M3x6: two pieces

REASSEMBLY

Secure the terminal of the grounding wire and the plate with the same screw shown in the figure.

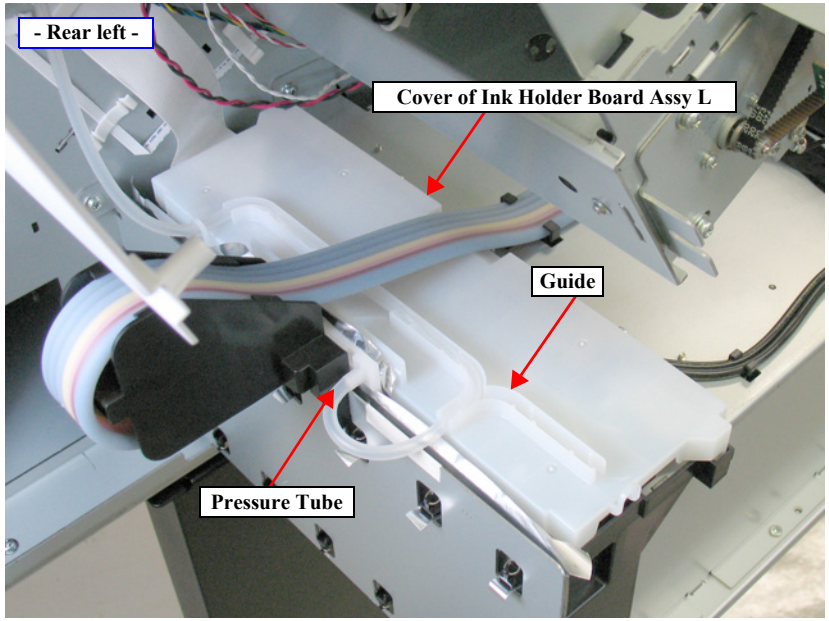


Figure 4-41. Releasing the Pressure Tube

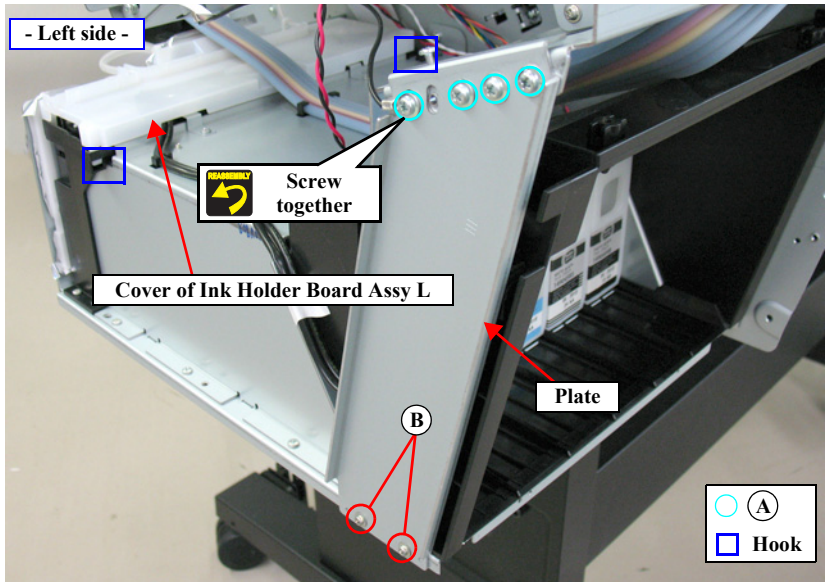


Figure 4-42. Removing the Cartridge Cover Sensor L

8. Disconnect the two connectors (CN408, CN409) on the Ink Holder Board Assy L.
9. Release the harness from the two hooks and the tape. *See Figure 4-43.*

CHECK POINT

When removing the screws in the next step, use a stubby driver or a ratchet screw driver.

10. Remove the two screws, and remove the Cartridge Cover Sensor L.
    C) Black, Phillips, Bind P-tite M3x10: two pieces

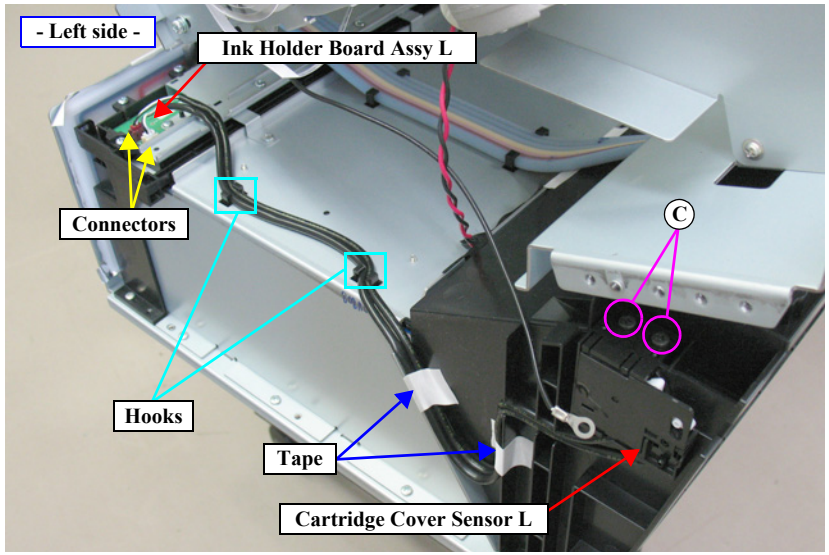


Figure 4-43. Removing the Cartridge Cover Sensor L

4.4.3 Electric Circuit Components

4.4.3.1 Main Board Assy

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CHECK POINT

Before starting operation, refer to "4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy" (Page 96).

1. Remove the Rear Cover. *(p129)*
2. Release the cables from the HDD Mounting Plate.
3. Disconnect the cable from the connector (CN2).
4. Release the cable from the Omega Clamp.
5. Remove the four screws, and remove the HDD Mounting Plate.
   A) Silver, Phillips, Bind S-tite M3x6: four pieces

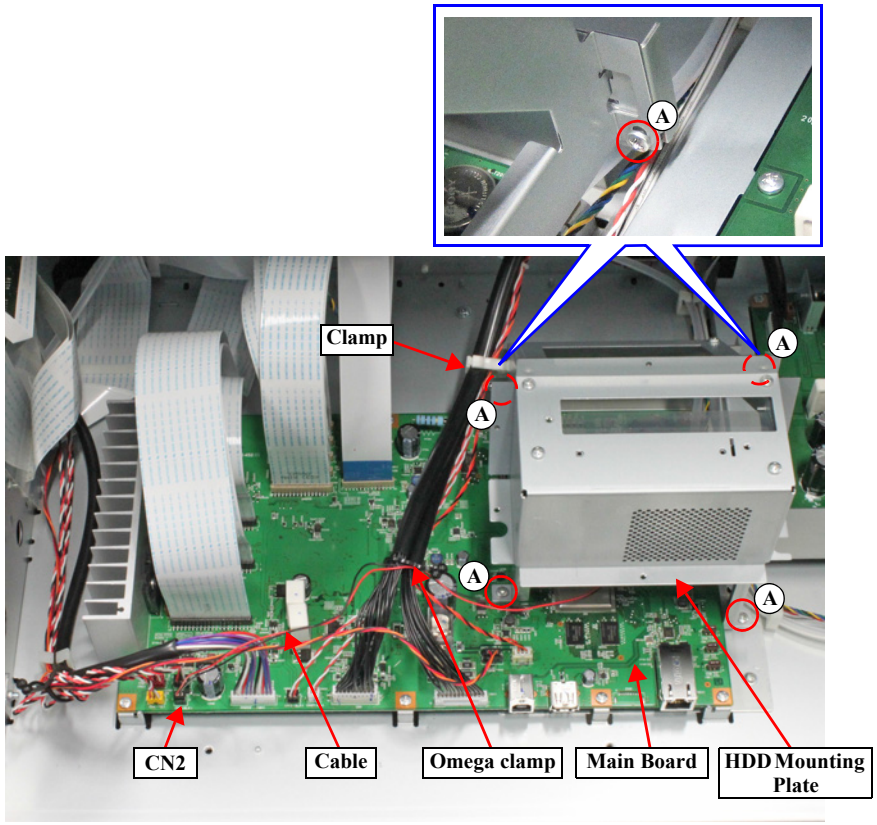


Figure 4-44. Removing the HDD Mounting Plate

6. Disconnect the all cables and FFCs from the Main Board Assy. *See Figure 4-45.*

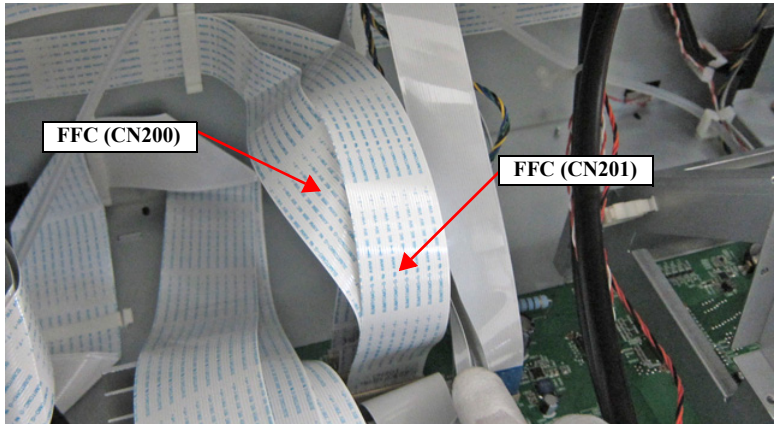
CAUTION

Be extremely careful not to insert FFCs at an angle in connectors. Doing so may cause serious damage to the terminals inside the connectors, and it can lead to big trouble of the circuit components.

REASSEMBLY

- **The connector number that corresponds to the FFC is written on its surface as shown. Make sure to connect the FFCs to their correct connectors.**

- **Make sure to intersect the FFC (CN201) and FFC (CN200).**



7. Remove the eight screws that secure the Main Board Assy. *See Figure 4-46.*
   A) Silver, Phillips, Bind machine screw M3x6: eight pieces
8. Release the fasteners, and remove the Main Board Assy.

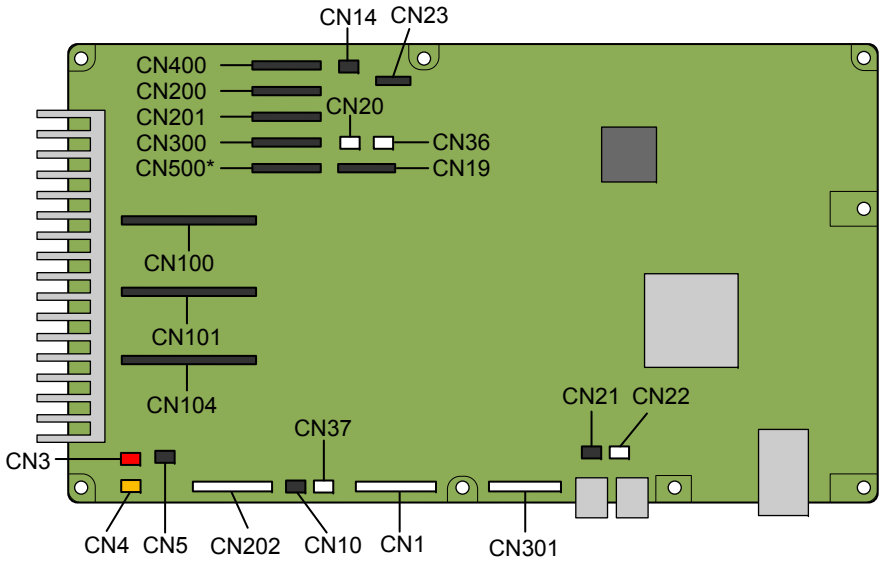


Figure 4-45. Connector locations

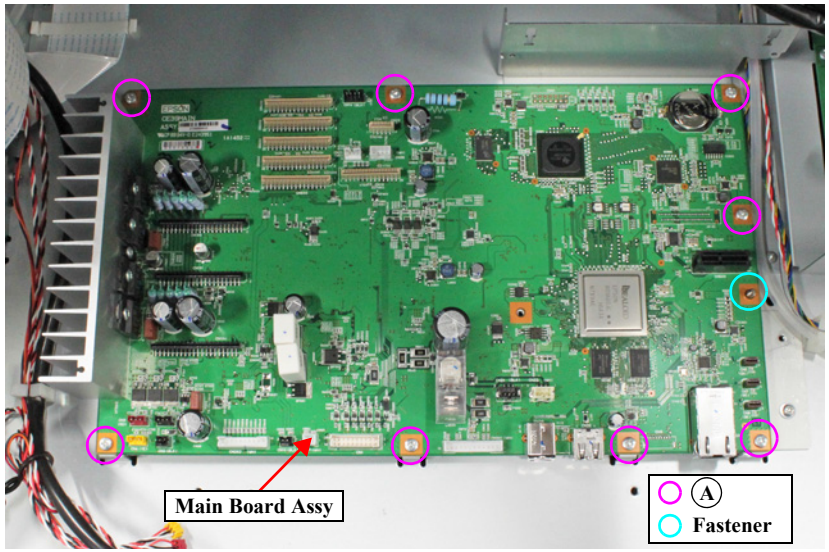


Figure 4-46. Removing the Main Board Assy

Connector assignment:

Connector No.	Color	Destination
CN1	White	Power Supply Board Assy (CN301)
CN2	Black	HDD Fan
CN3	Red	Suction Fan
CN4	Yellow	Suction Fan
CN5	Black	Suction Fan
CN10	Black	Pressurizing Unit
CN14	Black	Pressurizing Unit
CN19	(FFC)	Control Pane
CN20	White	Pressure Sensor
CN21	Black	Front Cover Sensor R
CN22	White	Front Cover Sensor L
CN23	(FFC)	AID Board (CN1)
CN28	-	USB
CN36	White	Driven Roller Release Motor Assy
CN37	White	Driven Roller Release Motor Assy
CN100	White	Sub Board Assy (CN100)
CN101	White	Sub Board Assy (CN101)
CN104	White	Sub Board Assy (CN104)
CN200	(FFC)	Sub Board Assy; B (CN200)
CN201	(FFC)	Sub Board Assy; B (CN201)
CN202	White	Sub Board Assy; B (CN202)
CN300	(FFC)	Sub Board Assy; C (CN300)
CN301	White	Sub Board Assy; C (CN301)
CN400	(FFC)	Ink Holder Board Assy (CN400)
CN500	(FFC)	Ink Holder Board Assy (CN500)
CN501	-	LAN

4.4.3.2 Power Supply Board Assy

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

WARNING

- **When removing the Power Supply Board Assy, do not start the work immediately after disconnecting the AC cable. Wait for at least five minutes for the electrolytic capacitor to finish discharging residual charges.**
- **When powering this product, high-voltage current may be applied on the Power Supply Board Assy. To prevent ELECTRIC SHOCK, do not touch the Power Supply Board Assy when the power is ON. If the shock should happen, the flowing current is very tiny, about a few hundreds μA, therefore it will not do any harm on the human body.**

CHECK POINT

Before starting operation, refer to "4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy" (Page 96).

1. Remove the Rear Cover. *(p129)*
2. Disconnect the two connectors (CN001, CN301) on the Power Supply Board Assy.
3. Remove the two screws that secure the PS Board Mounting Plate, and remove the PS Board Mounting Plate.

   A) Silver, Phillips, Bind machine screw M3x6: two pieces
4. Remove the nine screws that secure the Power Supply Board Assy, and remove the Power Supply Board Assy.

   A) Silver, Phillips, Bind machine screw M3x6: nine pieces

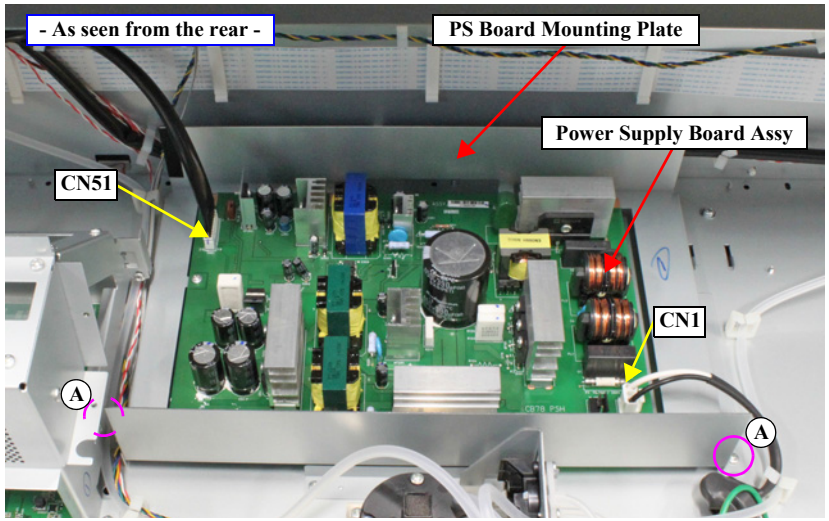


Figure 4-47. Removing the PS Board Mounting Plate

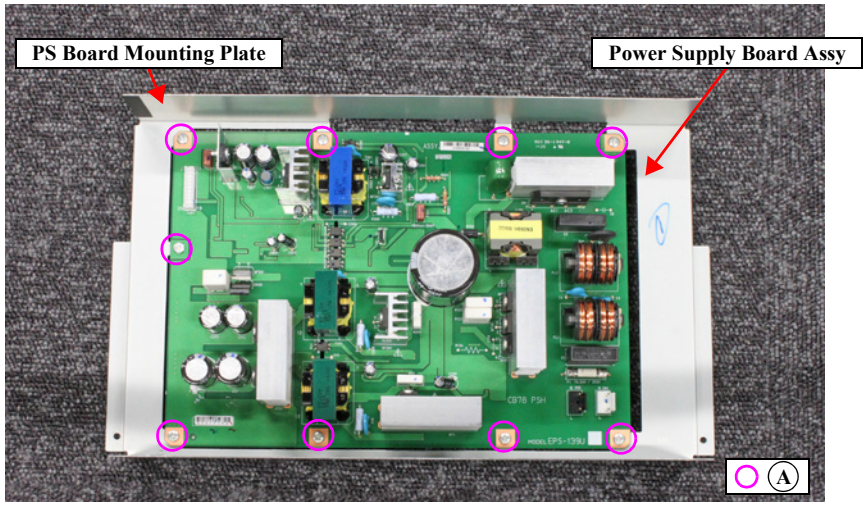


Figure 4-48. Removing the Power Supply Board Assy

Connector assignment:

Connector No.	Color	Destination
CN1	White	AC Inlet
CN51	White	Main Board Assy (CN1)

4.4.3.3 Sub Board Assy

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
6. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

7. Remove the Left Cover. *(p118)*
8. Remove the Top Cover. *(p123)*
9. Unlock the Carriage Unit. *(p110)*
10. Disengage the four hooks on the bottom, and remove the CR Belt Cover.
11. Disconnect all the cables and FFC on the Sub Board Assy.

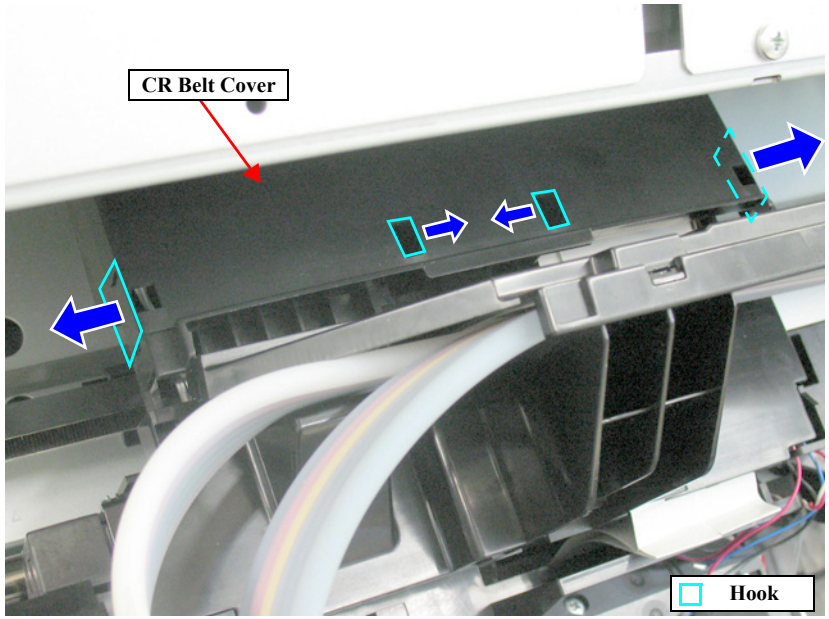


Figure 4-49. Removing the CR Belt Cover

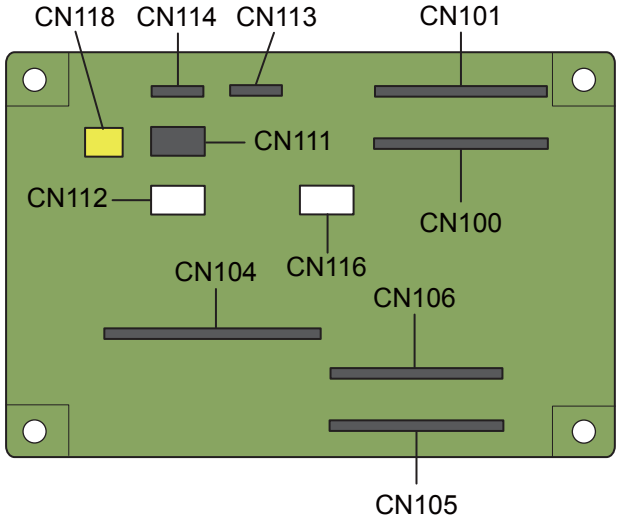


Figure 4-50. Connector locations

12. Unlock the Carriage Unit and move it to the left end.
13. Remove the four screws that secure the Sub Board Assy.
    A) Silver, Phillips, Bind P-tite M3x10: four pieces

REASSEMBLY

Secure the terminal of the groundings wire and the plate with the same screw shown in the figure.

14. Remove the Sub Board Assy.

Connector assignment:

Connector No.	Color	Destination
CN100	(FFC)	Main Board Assy (CN100)
CN101	(FFC)	Main Board Assy (CN101)
CN104	(FFC)	Main Board Assy (CN104)
CN105	(FFC)	Printhead
CN106	(FFC)	Printhead
CN111	Black	PG HP Sensor
CN112	White	PW Sensor
CN113	(FFC)	Ink Mark Sensor
CN114	(FFC)	CR Encoder
CN116	White	Ink Selector
CN118	Yellow	Ink Selector

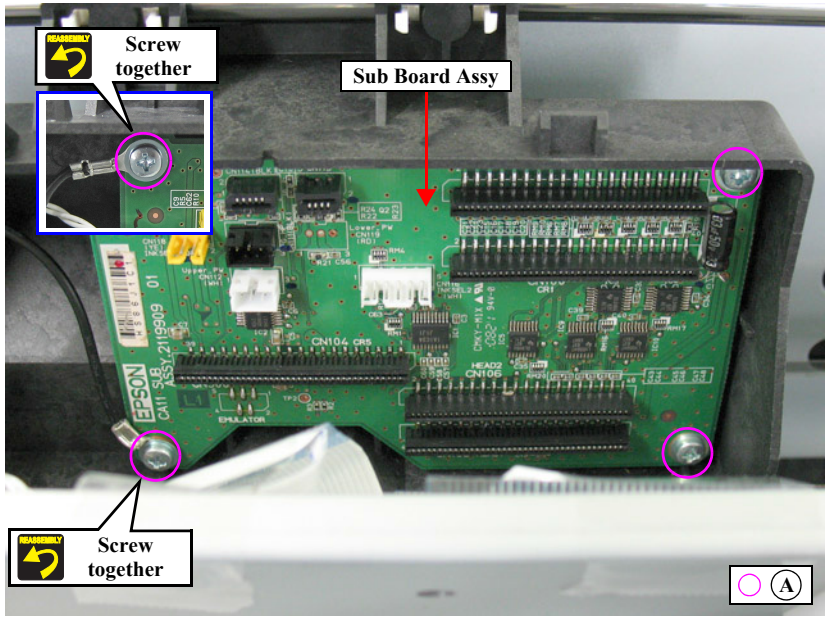


Figure 4-51. Removing the Sub Board Assy

4.4.3.4 Sub Board Assy; B

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Disconnect all the cables and FFCs on the Sub Board Assy; B.
6. Remove the four screws, and remove the Sub Board Assy; B.
   A) Silver, Phillips, Bind machine screw M3x6: four pieces

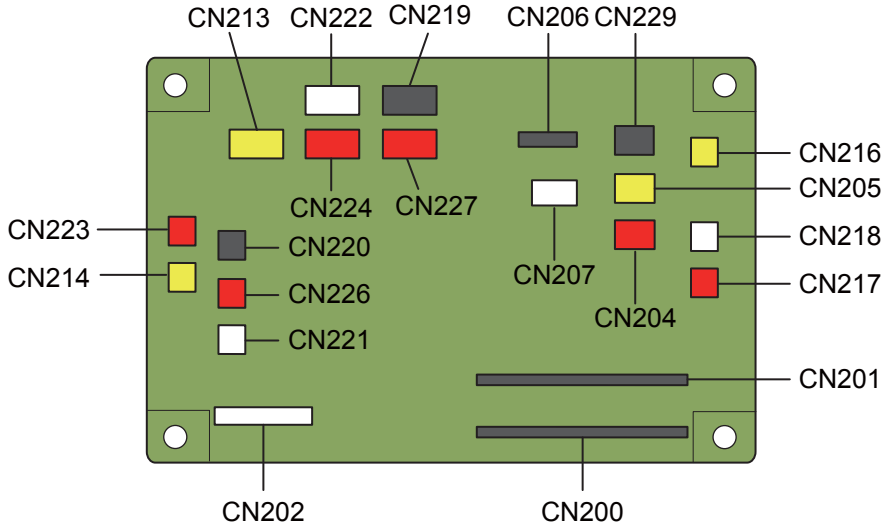


Figure 4-52. Connector locations

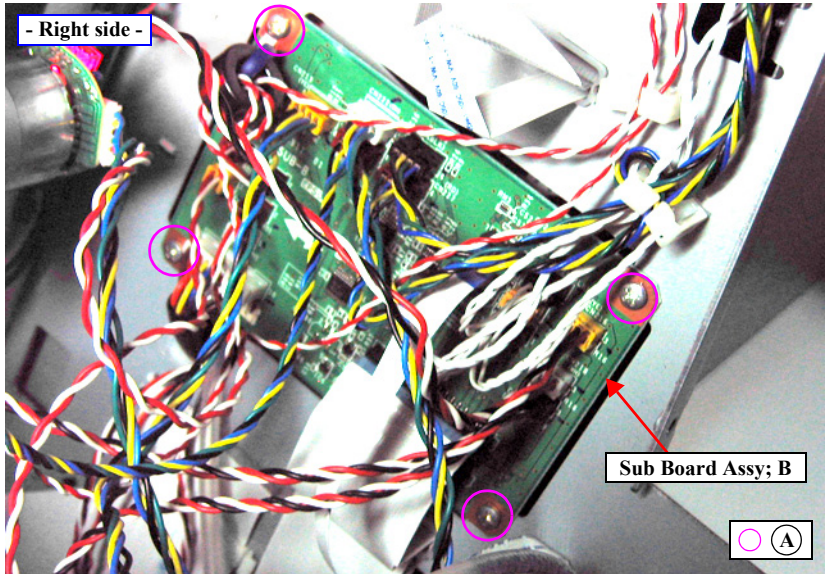


Figure 4-53. Removing the Sub Board Assy; B

Connector assignment:

Connector No.	Color	Destination
CN200	(FFC)	Main Board Assy (CN200)
CN201	(FFC)	Main Board Assy (CN201)
CN202	White	Main Board Assy (CN202)
CN204	Red	Paper Thickness Sensor 2
CN205	Yellow	Paper Thickness Sensor 2
CN206	(FFC)	Maintenance Tank
CN207	White	PE Sensor
CN213	Yellow	Pump Motor Encoder
CN214	Yellow	Pump Motor Encoder
CN216	Yellow	Valve HP Selector
CN217	Red	Cap HP Sensor
CN218	White	Wiper HP Sensor
CN219	Black	Rewind Unit
CN220	Black	Rewind Unit
CN221	White	Wiper Unit
CN222	White	Wiper Unit
CN223	Red	Cap Unit
CN224	Red	Cap Unit
CN226	Red	APG Unit
CN227	Red	APG Unit
CN229	Black	CR HP Sensor

4.4.3.5 Sub Board Assy; C

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Disconnect all the cables and FFC on the Sub Board Assy; C.
5. Remove the three screws that secure the Sub Board Assy; C, and remove the Sub Board Assy; C.
   A) Silver, Phillips, Bind machine screw M3x6: four pieces

Connector assignment:

Connector No.	Color	Destination
CN300	(FFC)	Main Board Assy (CN300)
CN301	White	Main Board Assy (CN301)
CN302	(FFC)	PF Encoder Sensor
CN303	White	PF Motor
CN304	White	CR Motor
CN305	(FFC)	Maintenance Tank (L) (SC-P9000 Series/SC-P8000 Series only)
CN307	White	Cutter Sensor
CN309	Red	Cutter Unit
CN310	White	Roller Release HP Sensor
CN311	Red	Cutter Unit

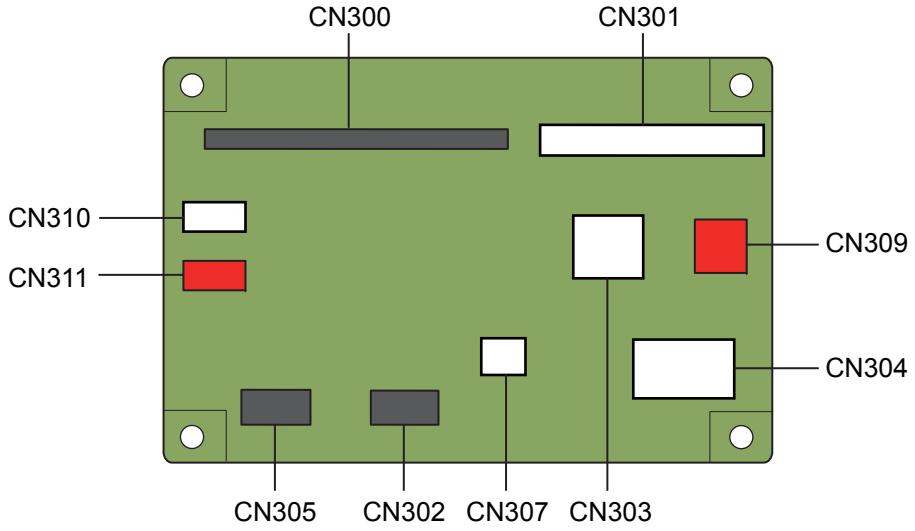


Figure 4-54. Connector locations

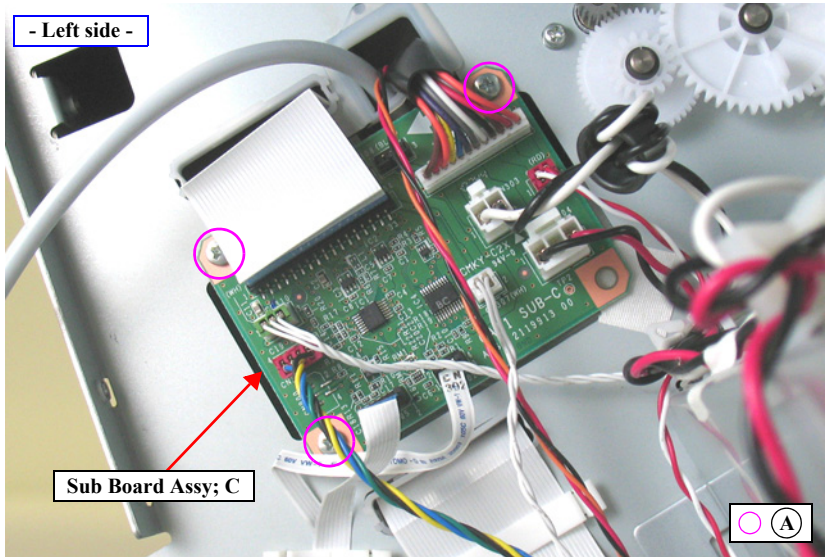


Figure 4-55. Removing the Sub Board Assy; C

4.4.4 Carriage Mechanism

4.4.4.1 CR Scale

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

Take extreme care to avoid soiling the CR Scale surfaces with ink or by touching them with bare hands. In addition, be careful not to scratch the surface on which patterns for detection is printed by bumping the scale against frames of the main unit. The above precautions should always be followed, or a malfunction of the Carriage Unit may occur.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*
6. Remove the CR Scale Spring from the Main Frame and the hole on the CR Scale.
7. Detach the CR Scale from the two each hooks on the Guide Fences.
8. Remove the CR Scale from the hook on the right of the Main Frame.

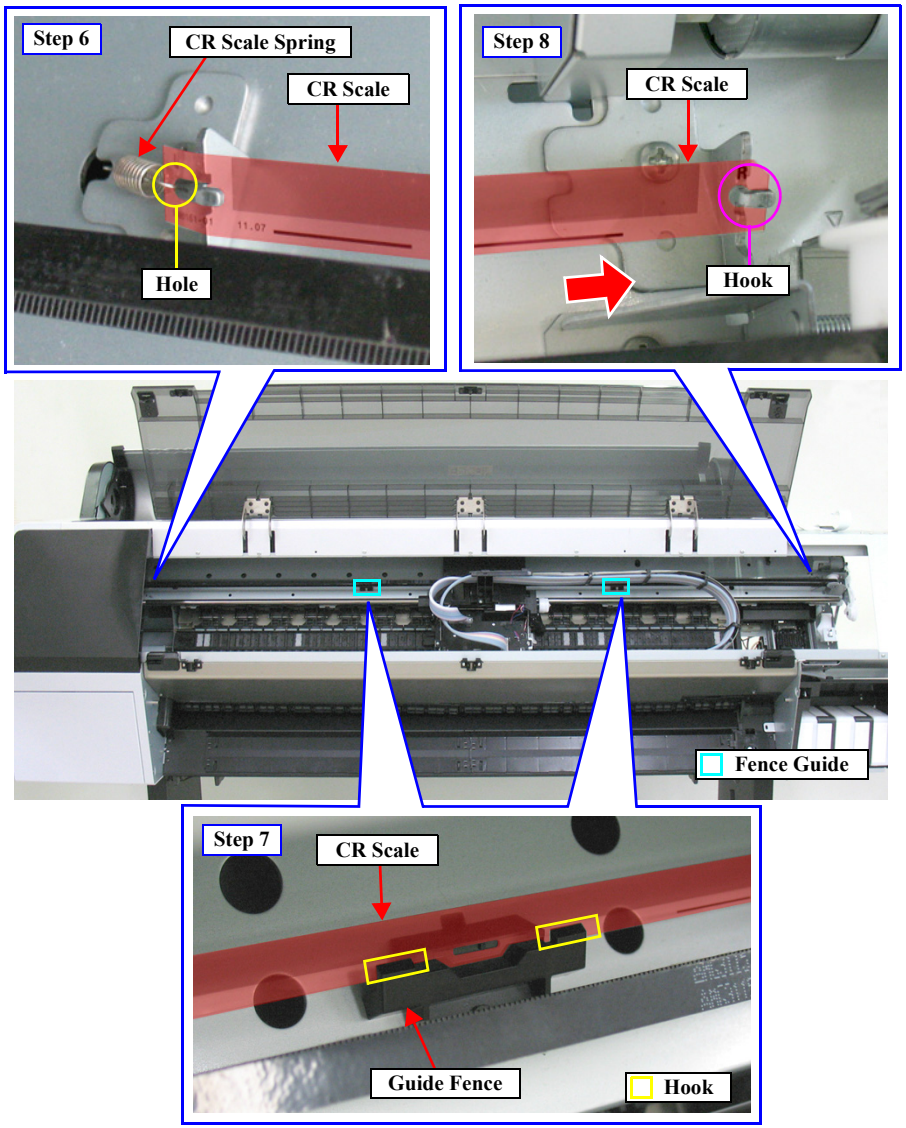
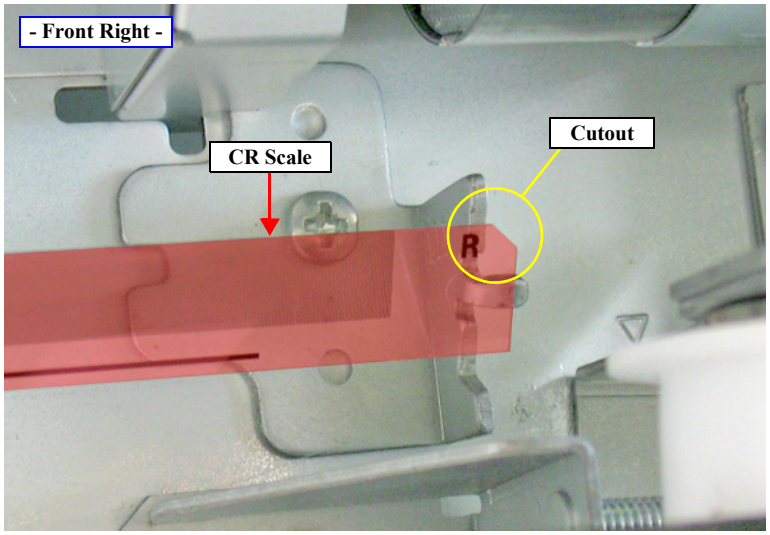


Figure 4-56. Removing the CR Scale

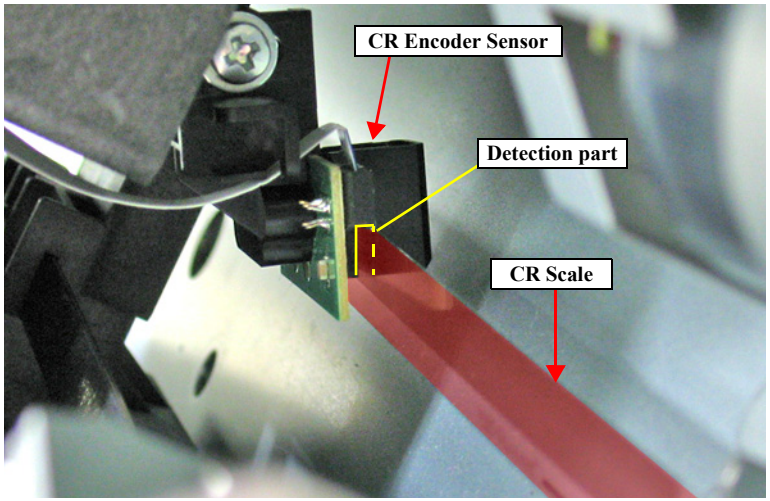
REASSEMBLY

■ Attach the CR Scale with the cutout on the top right corner.



*Some 44-inch CR Scales do not have the notation of L/R.

■ Make sure to route the CR Scale between the detection part of the CR Encoder Sensor on the rear of the carriage.



4.4.4.2 CR Encoder Sensor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When removing the CR Encoder Sensor, take extreme care to avoid soiling the CR Scale surfaces with ink or by touching them with bare hands. In addition, be careful not to scratch the surface on which patterns for detection is printed by bumping the scale against frames of the main unit. The above precautions should always be followed, or a malfunction of the Carriage Unit may occur.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*
6. Remove the screw that secures the CR Encoder Sensor, and remove the CR Encoder Sensor.

   A) Silver, Phillips, Bind P-tite with S.W & P.W. M4x12: one piece
7. Disconnect the FFC from the CR Encoder Sensor.

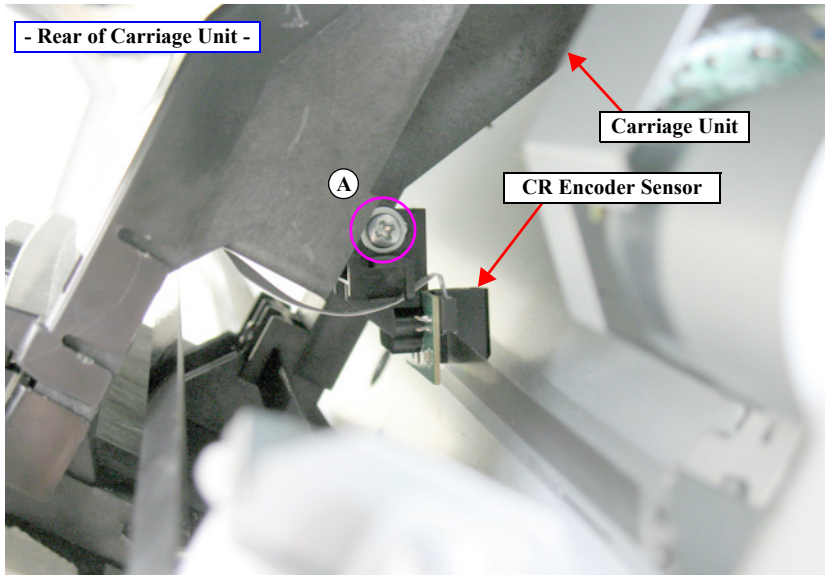


Figure 4-57. Removing the CR Encoder Sensor

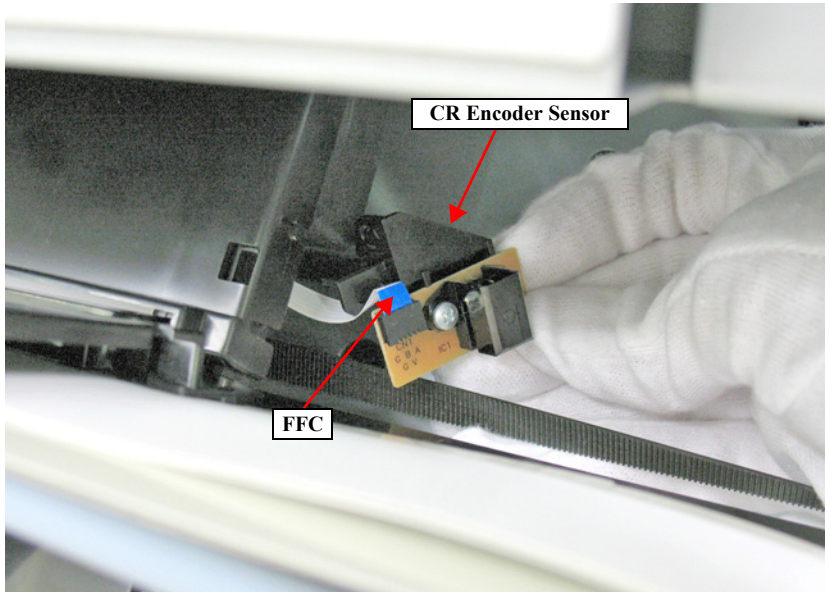


Figure 4-58. Disconnecting the FFC

4.4.4.3 CR HP Sensor

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit. *(p110)*
6. Move the Carriage Unit to the location where the CR HP Sensor can be removed.
7. Disengage the four hooks that secure the CR HP Sensor, and remove the CR HP Sensor.

CAUTION

When disconnecting the connector in the next step, take care not to push it inside the printer.

8. Disconnect the connector from the CR HP Sensor.

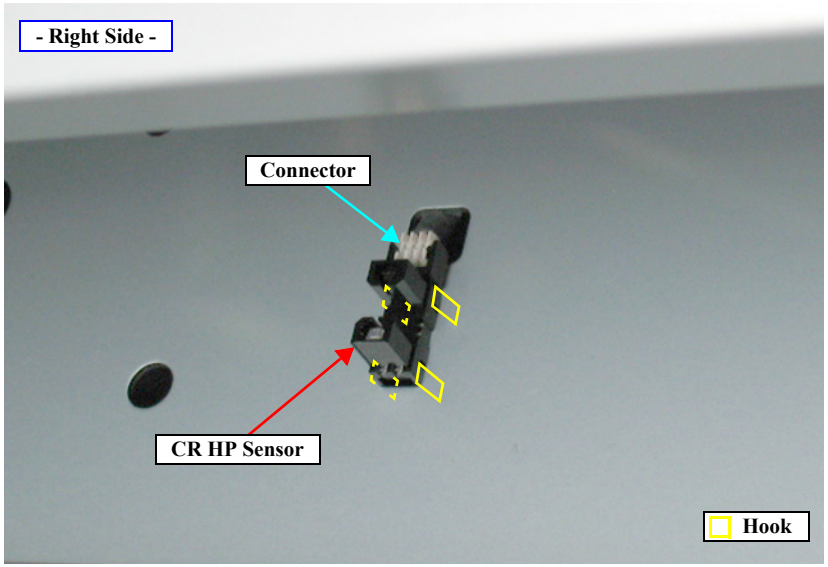


Figure 4-59. Removing the CR HP Sensor

4.4.4.4 Driven Pulley Unit

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
6. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

7. Remove the Left Cover. *(p118)*
8. Unlock the Carriage Unit and move it to the center. *(p110)*
9. Disengage the four hooks on the bottom, and remove the CR Belt Cover.
10. Remove the screw that secures the CR Belt to the Carriage Unit.
    A) Silver, Phillips, Bind P-tite with S.W & P.W. M4x12: one piece

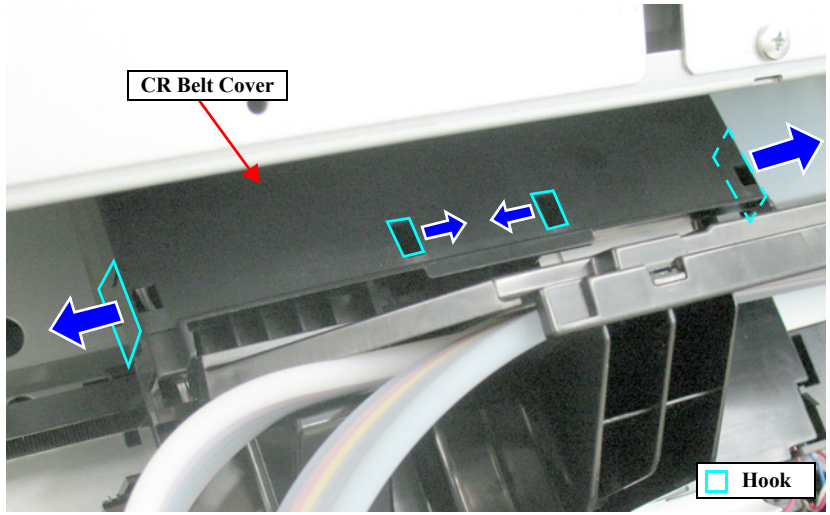


Figure 4-60. Removing the CR Belt Cover

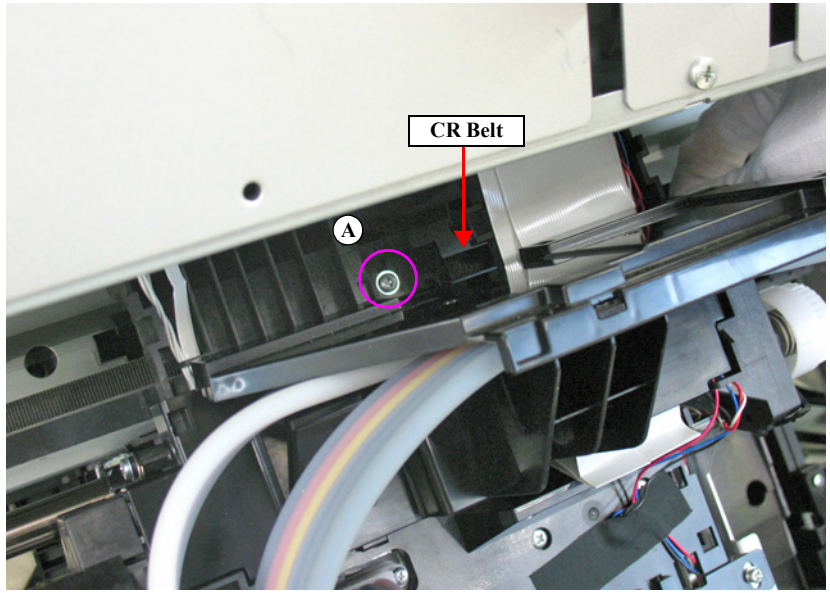


Figure 4-61. Removing the CR Belt

11. Remove the two screws that secure the Driven Pulley Holder, and remove the Driven Pulley Holder.

    B) Silver, Phillips, Bind S-tite with S.W & P.W. M3x8: two pieces

12. Loosen the CR Belt tension adjustment screw.
13. Detach the CR Belt from the drive pulley of the CR Motor.
14. Pull out the CR Belt as shown in the figure, and remove the Driven Pulley Unit.

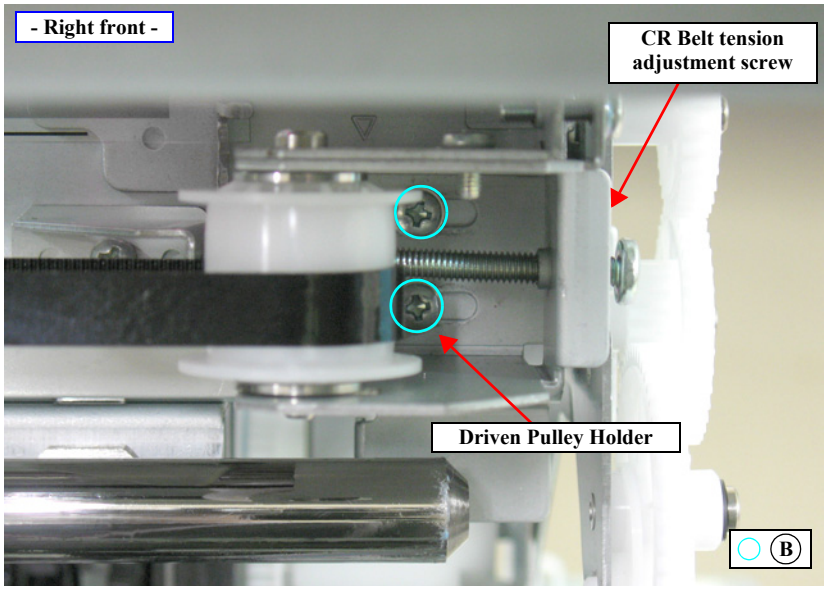


Figure 4-62. Removing the Driven Pulley Holder

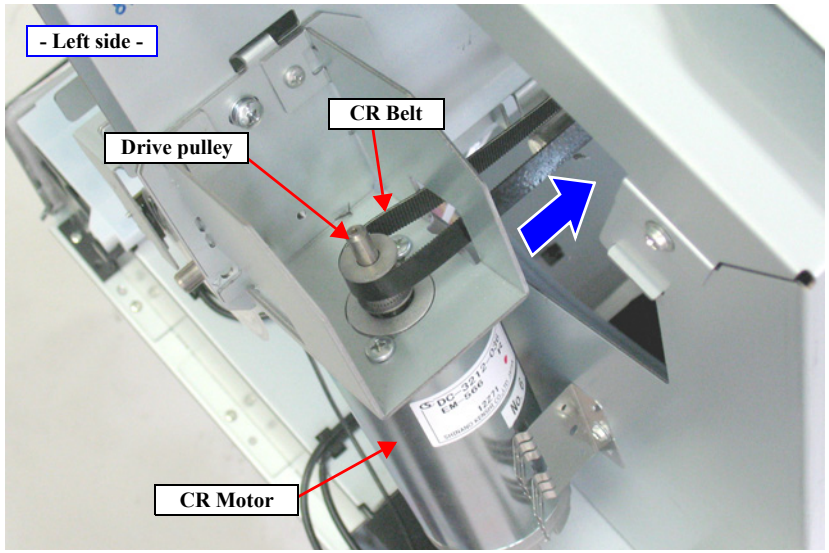


Figure 4-63. Removing the CR Belt

Figure 4-64. Configuration Figure of the Driven Pulley Unit

4.4.4.5 CR Motor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
6. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

7. Remove the Left Cover. *(p118)*
8. Loosen the two screws that secure the Driven Pulley Holder.
   A) Silver, Phillips, Bind S-tite with S.W & P.W. M3x8: two pieces

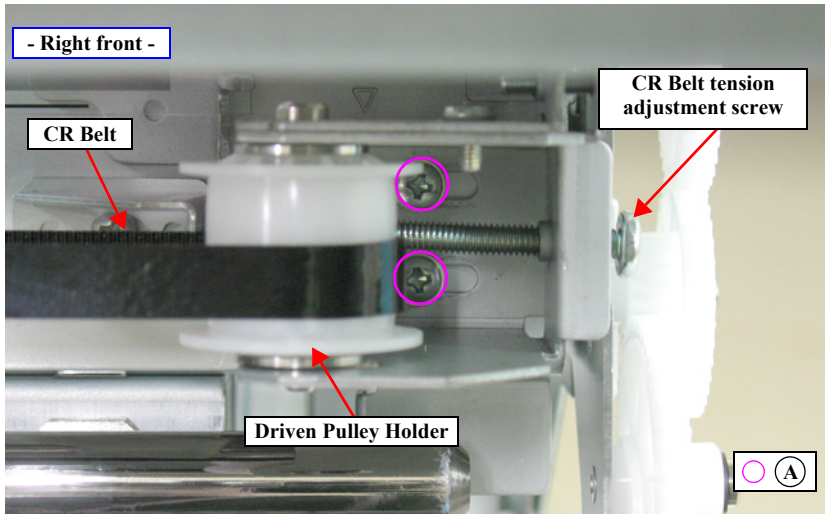


Figure 4-65. Relieving the tension of the CR Belt

9. Loosen the CR Belt tension adjustment screw to relieve the tension of the CR Belt.
10. Detach the CR Belt from the drive pulley of the CR Motor.
11. Remove the two screws that secure the CR Motor, and remove the CR Motor. *See Figure 4-66.*

    B) Silver, Phillips, Bind machine screw M4x8: two pieces

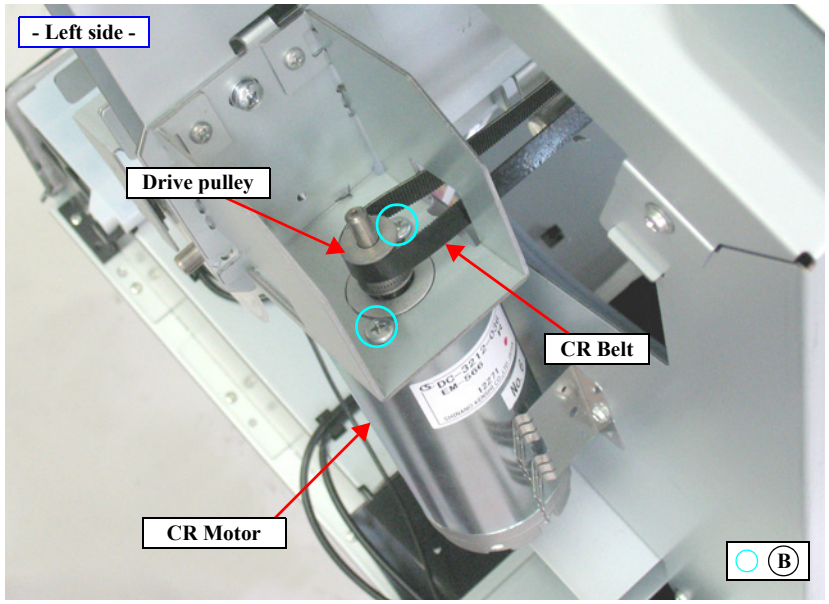


Figure 4-66. Removing the CR Motor

4.4.4.6 APG Motor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*

CHECK POINT

When having difficulty in removing the screw in the next step, first remove the plate B shown in Figure 4-70**. *(p155)***

6. Remove the screw that secures the APG Motor Cover, and remove the APG Motor Cover.
   A) Silver, Phillips, Bind S-tite with S.W & P.W. M3x8: one piece
7. Remove the two screws that secure the APG Motor, and remove the APG Motor.
   B) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: two pieces
8. Disconnect the connector from the APG Motor.

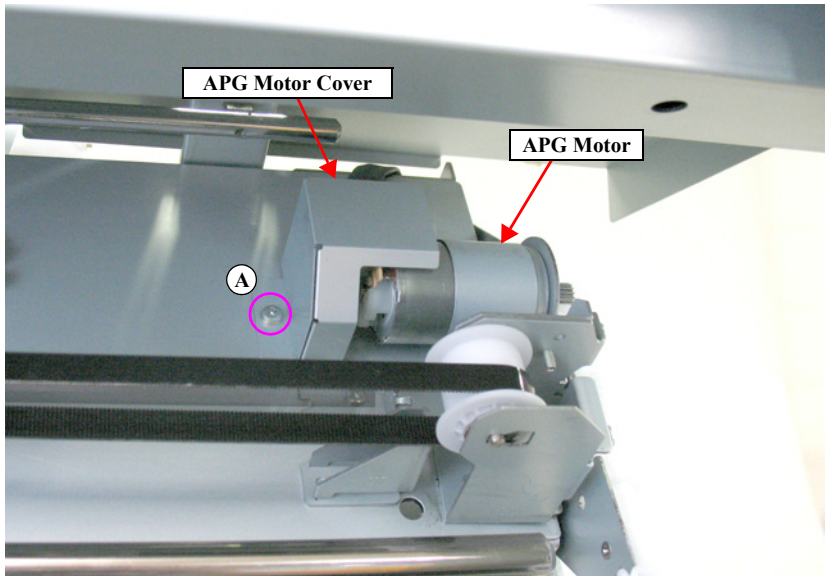


Figure 4-67. Removing the APG Motor (1)

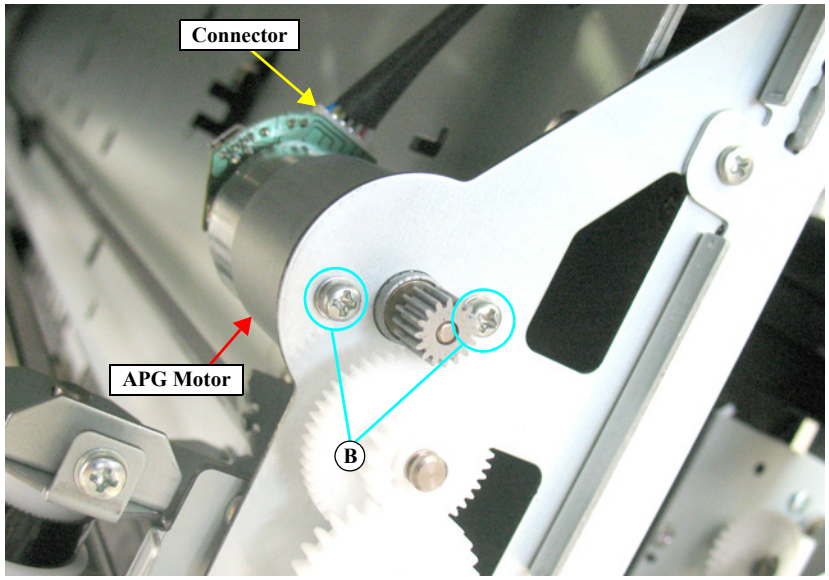


Figure 4-68. Removing the APG Motor (2)

4.4.4.7 APG Unit

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
6. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

7. Remove the Left Cover. *(p118)*
8. Remove the Top Cover. *(p123)*
9. Unlock the Carriage Unit and move it to the center. *(p110)*
10. Remove the three screws that secure the Plate A, and remove the Plate A.
    A) Silver, Phillips, Bind machine screw M3x6: three pieces

CAUTION

In the next step, after removing the Plate B the Main Frame will drop and its weight may apply an extra load to the Carriage Unit. Therefore, make sure to hold the cover or remove the Front Cover (Middle) in advance. *(p122)* Removing the Front Cover (Middle) will make the frame lighter and avoid extra loading to the Carriage Unit.

11. Remove the nine screws that secure the Plate B, and remove the Plate B.
    B) Silver, Phillips, Round Washer Head S-tite M3x6: two pieces

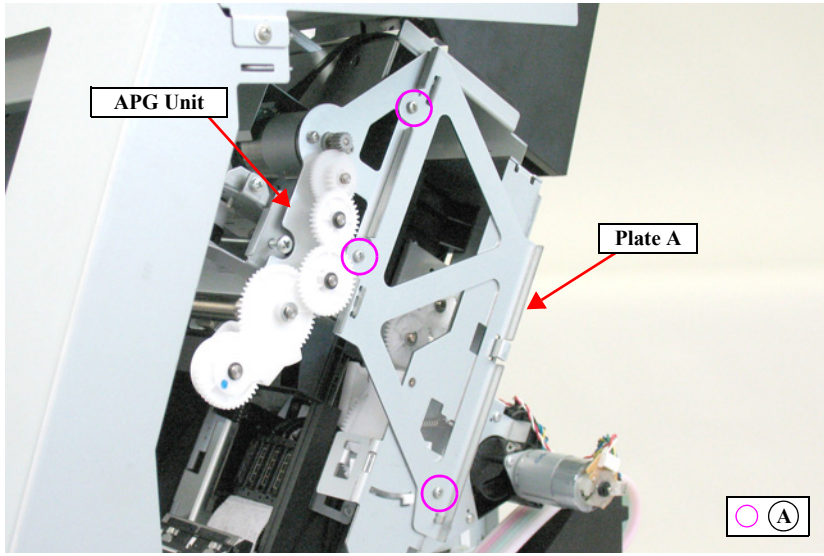


Figure 4-69. Removing the Plate A

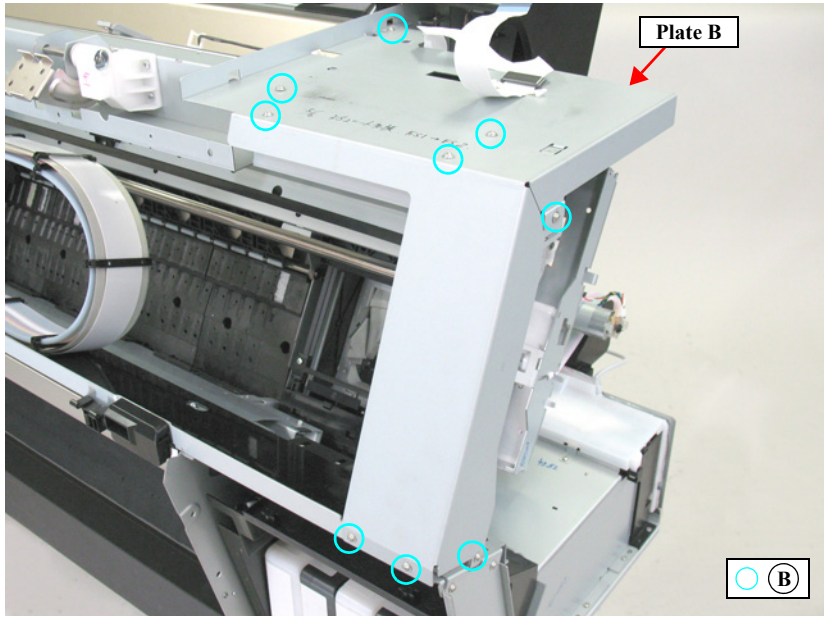


Figure 4-70. Removing the Plate B

12. Remove the two screws that secure the APG Unit, and remove the APG Unit.

    C) Silver, Phillips, Bind S-tite with S.W & P.W. M3x6: two pieces

13. Remove the two screws that secure the APG Motor, and remove the APG Motor from the APG Unit.

    D) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: two pieces

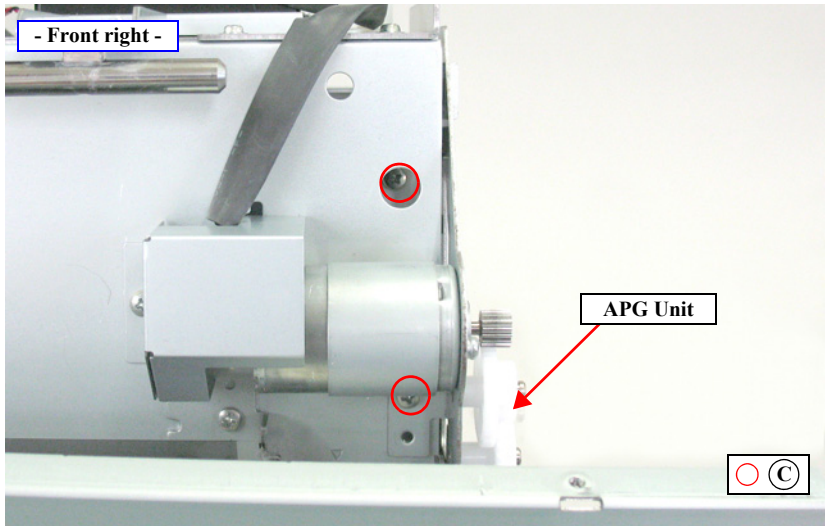


Figure 4-71. Removing the APG Unit

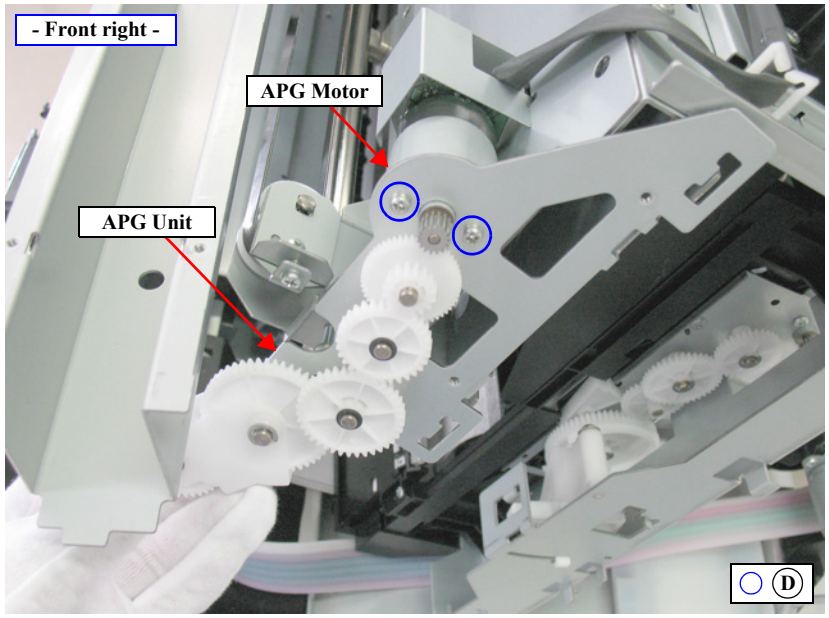


Figure 4-72. Removing the APG Motor

4.4.4.8 PG HP Sensor

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the right end. *(p110)*
6. Remove the three screws that secure the Ink Mark Sensor, and remove the Ink Mark Sensor.

   A) Silver, Phillips, Bind P-tite with S.W & P.W. M3x10: three pieces
7. Rotate the gear shown in Figure 4-74 until the cutout of the shading plate comes in between the sensor's detector as shown in Figure 4-74.

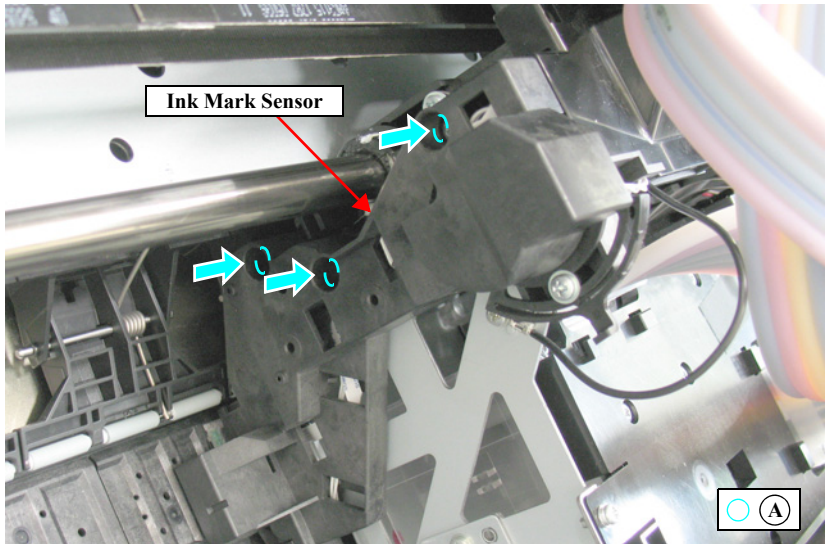


Figure 4-73. Removing the Ink Mark Sensor

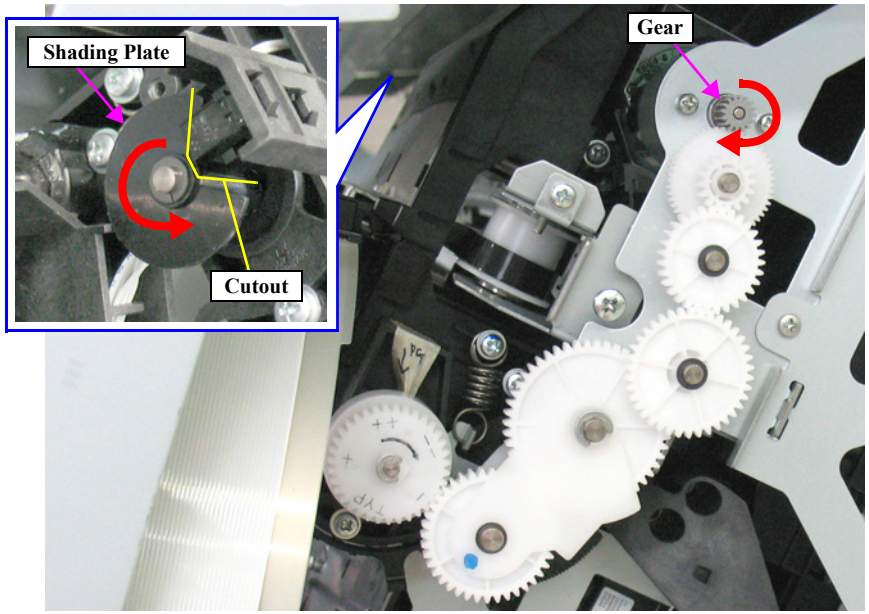


Figure 4-74. Rotating the Shading Plate

8. Disengage the hooks that secure the PG HP Sensor, and remove the PG HP Sensor.
9. Disconnect the connector from the PG HP Sensor.

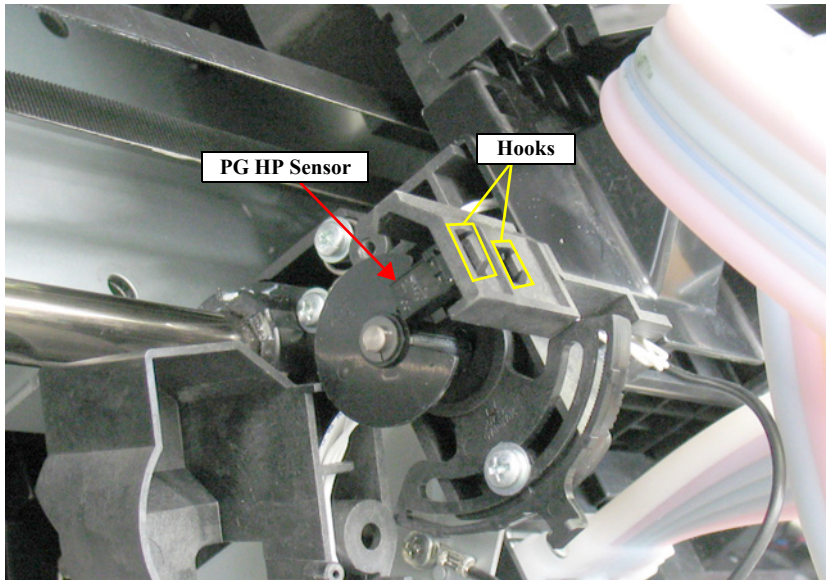


Figure 4-75. Removing the PG HP Sensor (1)

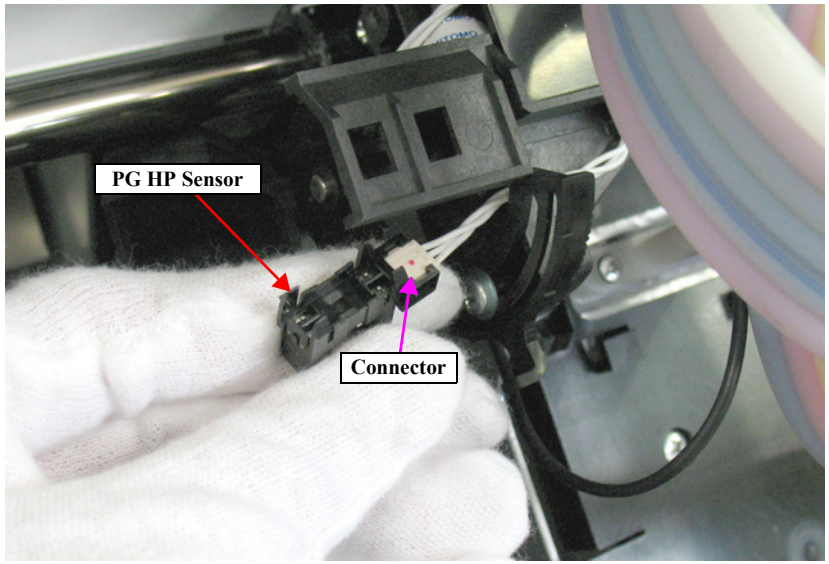


Figure 4-76. Removing the PG HP Sensor (2)

4.4.4.9 Carriage Unit

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel.*(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R).*(p115)*
3. Remove the Maintenance Tank (L/R).*(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover.*(p118)*
5. Remove the Left Cover.*(p120)*
6. Remove the Top Cover.*(p123)*
7. Remove the Ink Selector.*(p211)*
8. Remove the Print Head.*(p183)*
9. Remove the Driven Pulley Unit.*(p150)*
10. Remove the APG Motor.*(p154)*
11. Remove the APG Unit.*(p155)*
12. Remove the CR Scale.*(p146)*

CAUTION

In the next step, after removing the Plate B the Main Frame will drop and its weight may apply an extra load to the Carriage Unit. Therefore, make sure to hold the cover or remove the Front Cover (Middle) in advance. *(p122)* Removing the Front Cover (Middle) will make the frame lighter and avoid extra loading to the Carriage Unit.

13. Remove the nine screws that secure the Plate B, and remove the Plate B.
    A) Silver, Phillips, Round Washer Head S-tite M3x6: nine pieces

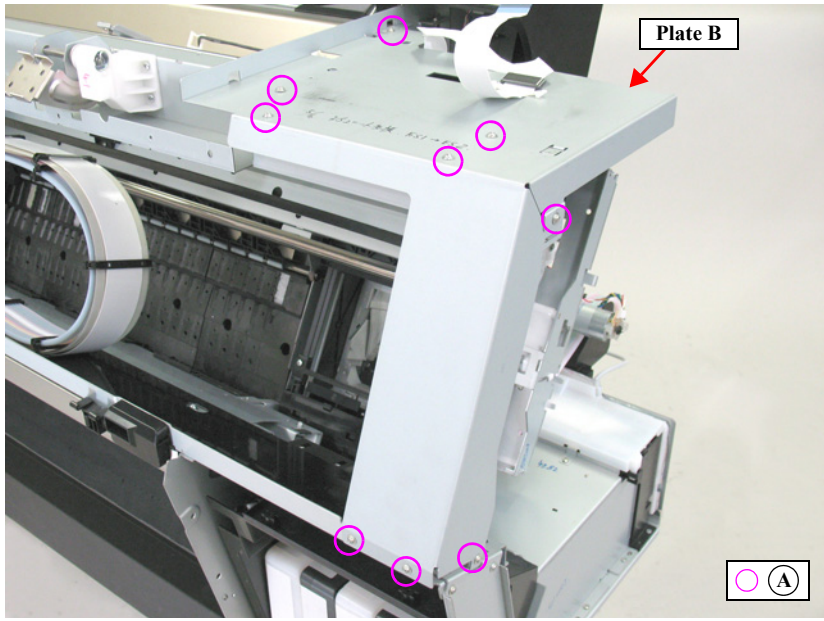


Figure 4-77. Removing the Plate B

14. Remove the each screw that secure the CR Stopper, and remove the three CR Stoppers.

    B) Silver, Phillips, Bind S-tite with S.W & P.W. M3x8: each one piece

15. Remove the Carriage Unit by sliding it rightward.

Lubrication

When replacing or maintaining the Carriage Unit, carry out the specified lubrication if necessary. (See Chapter 6 " MAINTENANCE " (Page 364).)

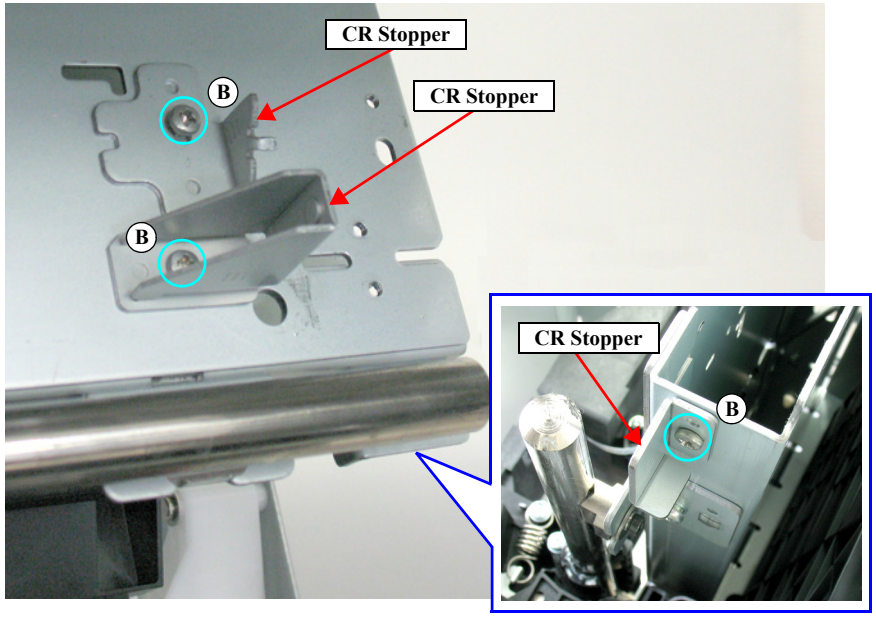


Figure 4-78. Remove the CR Stopper

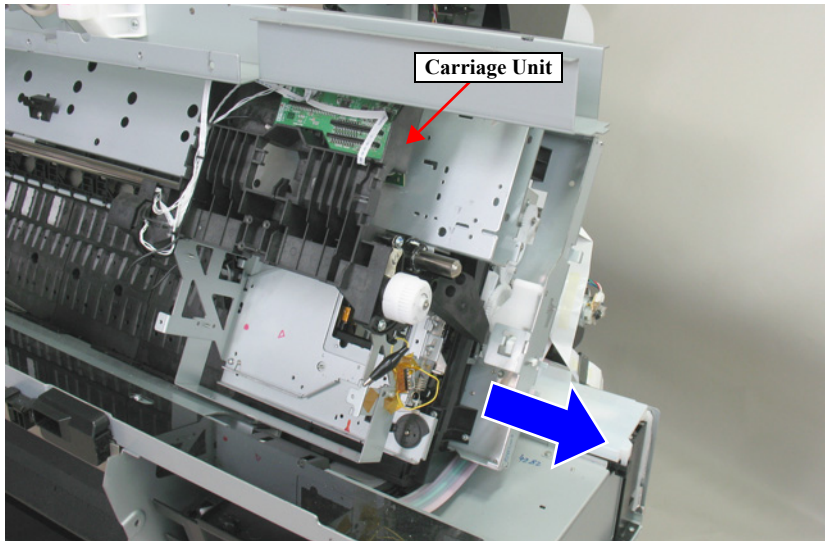


Figure 4-79. Remove the Carriage Unit

4.4.4.10 Oil Pad Holder

1. Remove the Control Panel.*(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R).*(p115)*
3. Remove the Maintenance Tank (L/R).*(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover.*(p118)*
5. Remove the Left Cover.*(p120)*
6. Remove the Top Cover.*(p123)*
7. Remove the Ink Selector.*(p211)*
8. Remove the Print Head.*(p183)*
9. Remove the Driven Pulley Unit.*(p150)*
10. Remove the APG Motor.*(p154)*
11. Remove the APG Unit.*(p155)*
12. Remove the CR Scale.*(p146)*
13. Remove the Carriage Unit.*(p159)*
14. Remove the two screws, and remove the two Oil Pad Holder.
    A) Silver M3x10 P-tite screw with built-in washer: two pieces

Lubrication

When replacing or maintaining the Oil Pad Holder, carry out the specified lubrication if necessary. (See Chapter 6 " MAINTENANCE " (Page 364).)

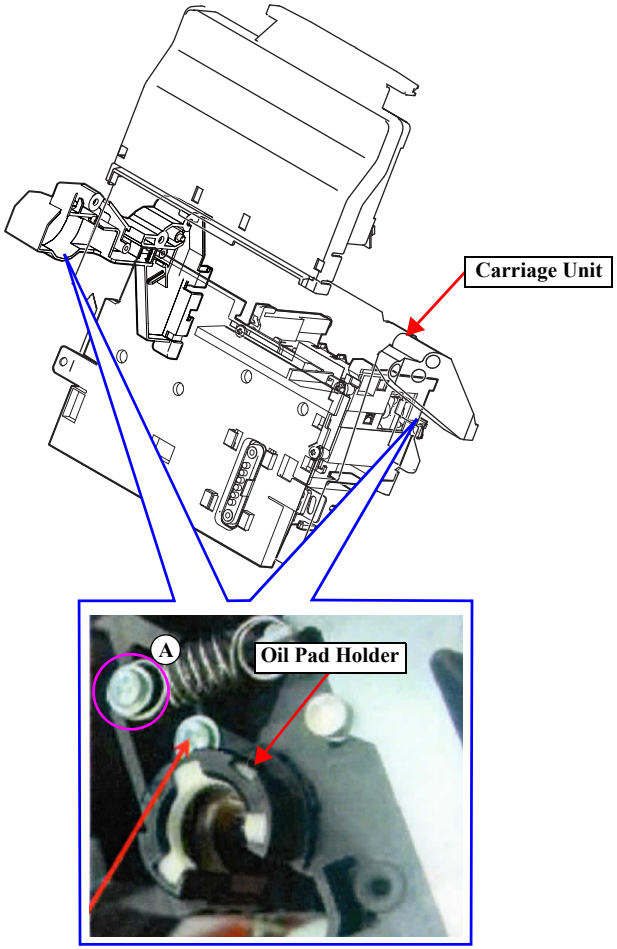


Figure 4-80. Removing the Oil Pad Holder

4.4.5 Paper Feed Mechanism

4.4.5.1 Paper Thickness Sensor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
6. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

7. Remove the Left Cover. *(p118)*
8. Remove the Top Cover. *(p123)*
9. Remove the screw that secures the Paper Thickness Sensor Mounting Plate, and remove the Paper Thickness Sensor Mounting Plate. *See Figure 4-81.*

   A) Silver, Phillips, Bind S-tite with S.W & P.W. M3x6: one piece

CAUTION

In the next step, make sure to confirm the destination of each connector. When connecting them again, be sure to restore the original routing.

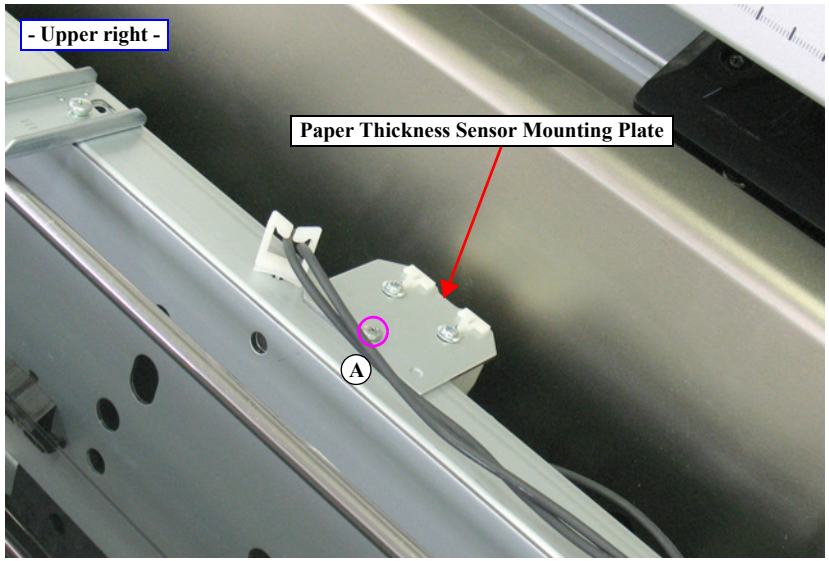


Figure 4-81. Removing the Paper Thickness Sensor Mounting Plate

10. Disconnect the connectors from the Paper Thickness Sensors. *See Figure 4-82.*
11. Disengage the hooks that secure the Paper Thickness Sensors, and remove the Paper Thickness Sensors.

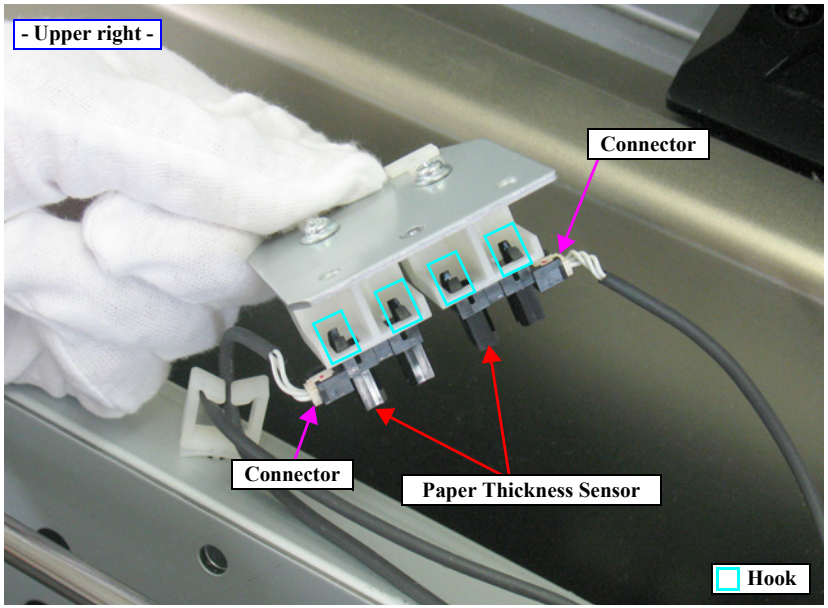


Figure 4-82. Removing the Paper Thickness Sensor

4.4.5.2 PW Sensor

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*
6. Remove the three screws that secure the Arm Unit, and remove the Arm Unit.

   A) Silver, Phillips, Bind P-tite with S.W & P.W. M3x10: three pieces

When installing the Arm Unit, be sure to secure the Arm Unit with the screws while pressing it toward the platen.

7. Remove the screw that secure the PW Sensor Cover, and remove the PW Sensor Cover.

   B) Silver, Phillips, Bind machine screw M2x6 (bit: No.1): one piece

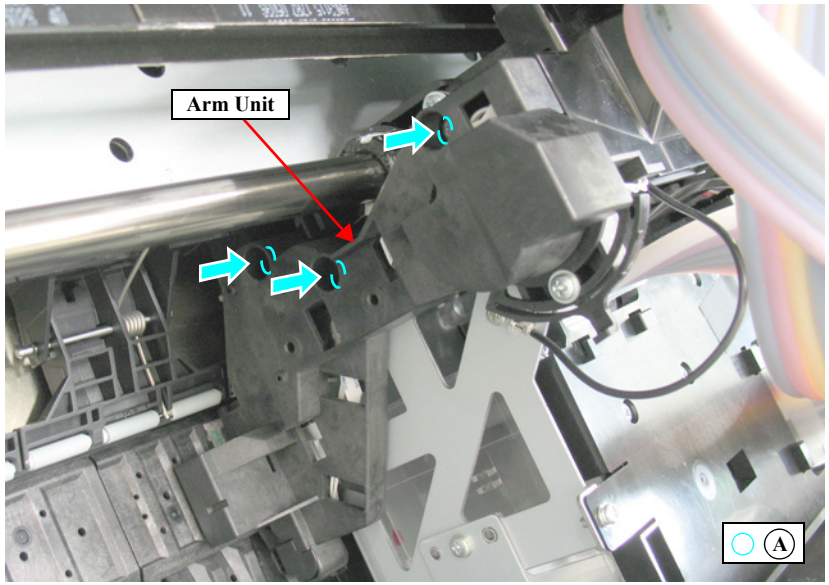


Figure 4-83. Removing the Arm Unit

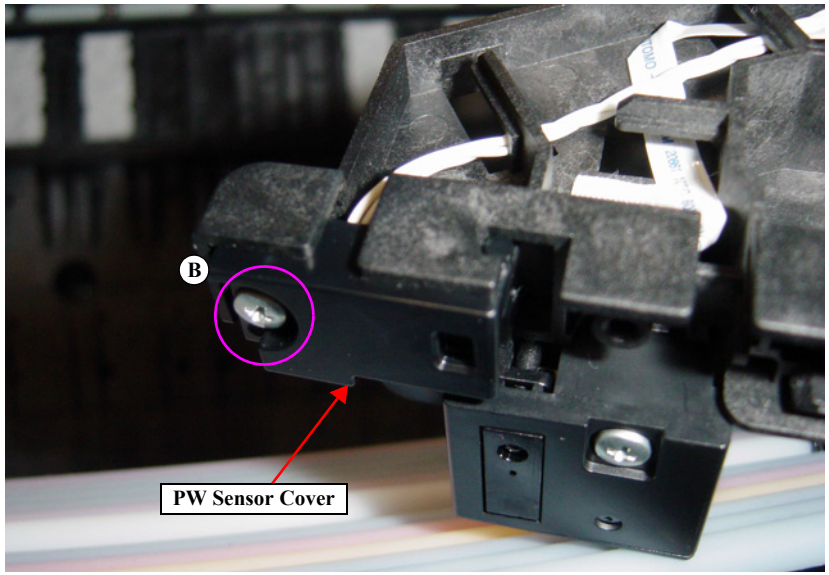


Figure 4-84. Removing the PW Sensor Cover

8. Remove the PW Sensor from the Arm, and disconnect the connector of the PW Sensor.

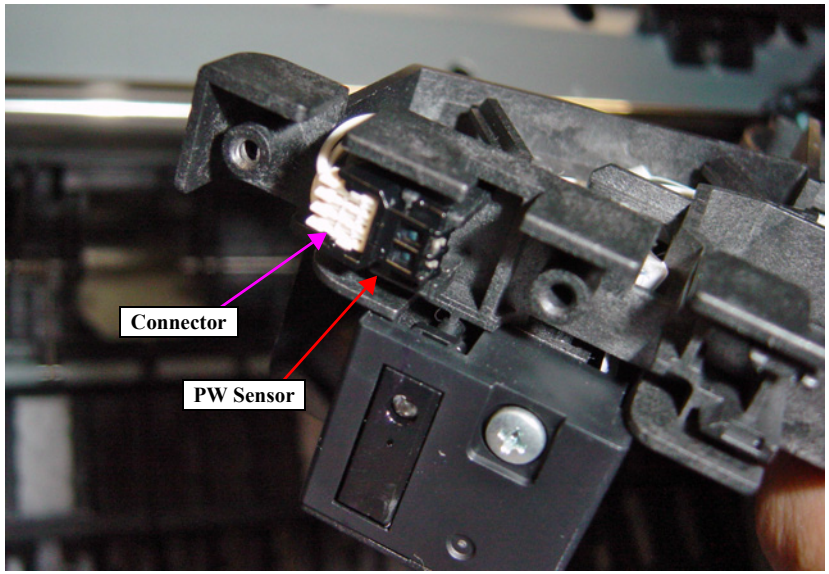


Figure 4-85. Removing the PW Sensor

4.4.5.3 Driven Roller Release Motor

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Remove the Rear Cover. *(p129)*
5. Disconnect the connector from the Driven Roller Release Motor.
6. Remove the two screws that secure the Driven Roller Release Motor, and remove the Driven Roller Release Motor. *See Figure 4-81.*

   A) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: two pieces

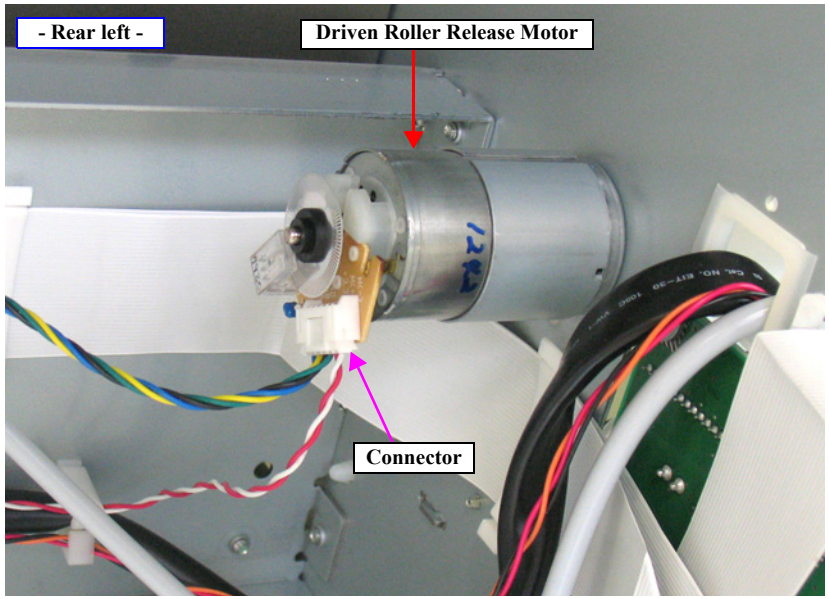


Figure 4-86. Disconnecting the connector

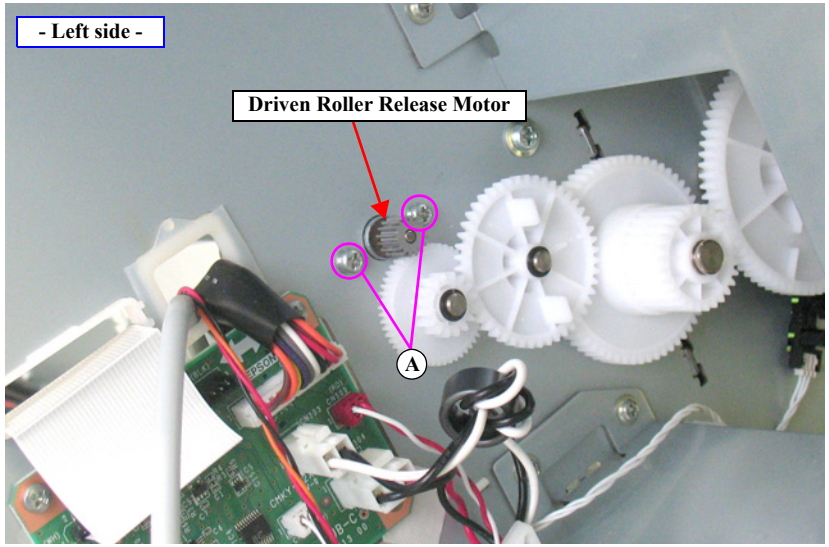


Figure 4-87. Removing the Driven Roller Release Motor

4.4.5.4 Roller Release HP Sensor

1. Open the Front Cover (Middle).
2. Disengage the hooks the secure the Roller Release HP Sensor, and remove the Roller Release HP Sensor.
3. Disconnect the connector from the Roller Release HP Sensor.

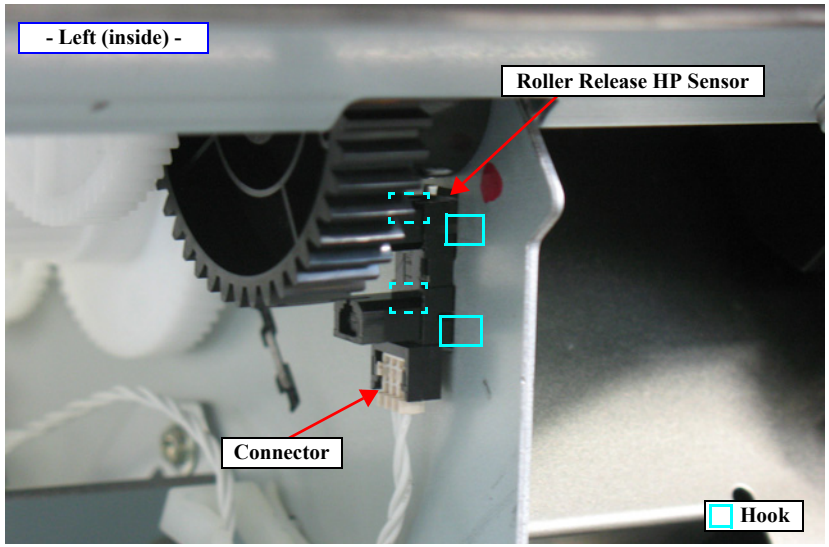


Figure 4-88. Removing the Roller Release HP Sensor

4.4.5.5 Rewind Unit

CAUTION

The Rewind Unit is established as an ASP including the mounting plate. When replacing this part, transfer the necessary items or replace the whole unit.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the Spindle Cover R. *(p124)*
6. Release the harness from the clamp, and disconnect the connector from the Rewind Unit.
7. Remove the three screws that secure the Rewind Unit Mounting Plate, and remove the Rewind Unit Mounting Plate.

   A) Silver, Phillips, Bind machine screw M3x6: three pieces
8. Remove the two gears from the Rewind Unit Mounting Plate.

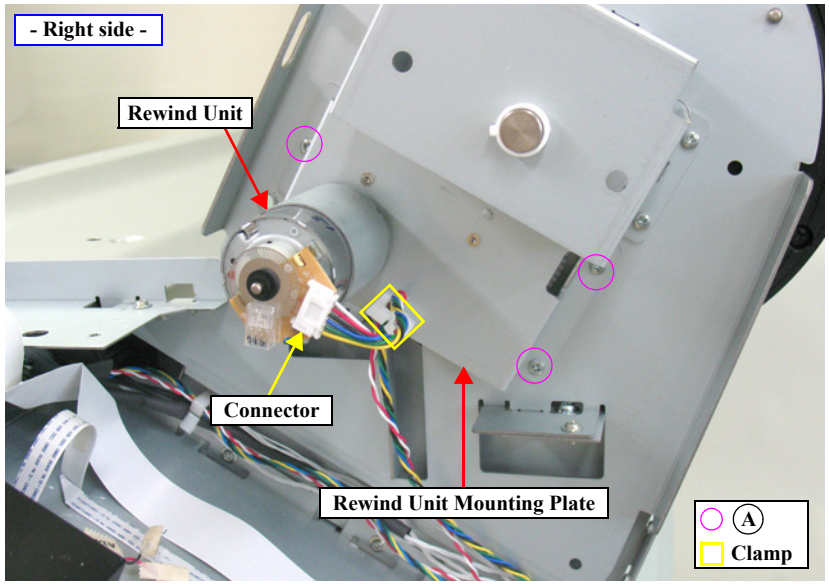


Figure 4-89. Removing the Rewind Unit Mounting Plate

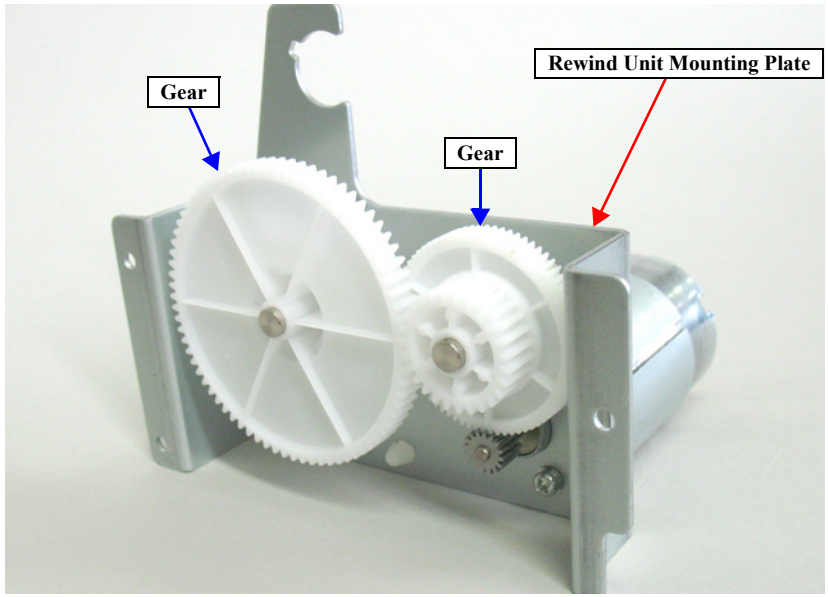


Figure 4-90. Removing the gears

9. Remove the two screws that secure the Rewind Unit, and remove the Rewind Unit.

   B) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: two pieces

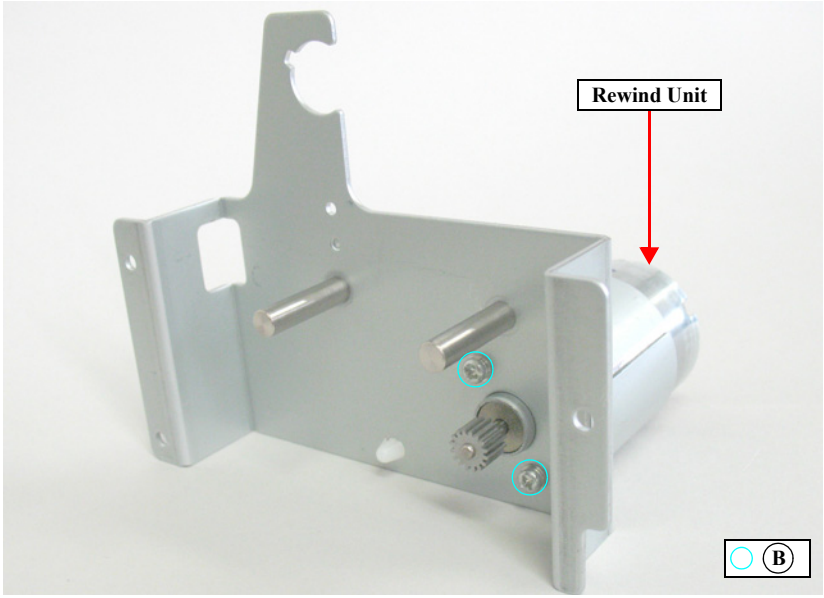


Figure 4-91. Removing the Rewind Unit

4.4.5.6 Cutter Unit

1. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
2. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Control Panel. *(p112)*
4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p120)*
6. Unlock the Carriage Unit. *(p110)*
7. Open the Front Cover (Middle).
8. Remove the screw that secures the Ink Tube Guide, and remove the Ink Tube Guide.

   A) Silver, Phillips, Bind machine screw M3x8: one piece
9. Remove the seven EJ Roller Units from the Cutter Unit.
10. Push down the handle, and remove the Cutter Cover.

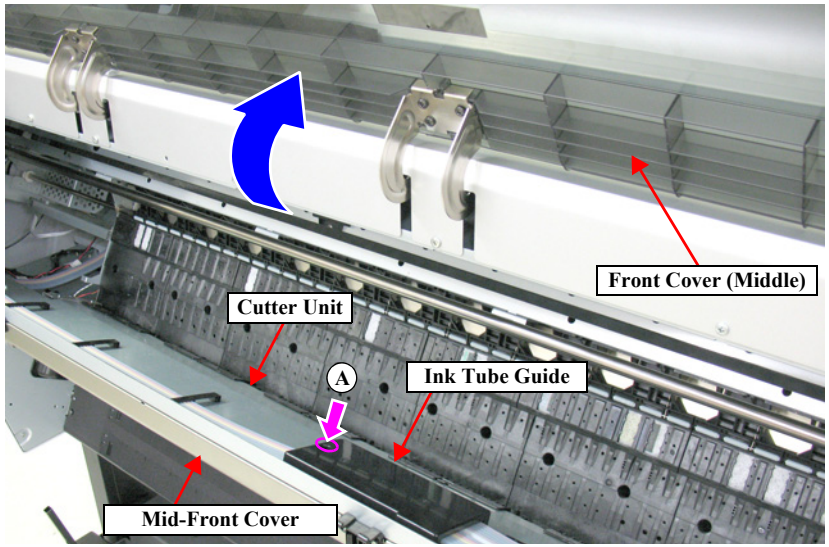


Figure 4-92. Removing the Ink Tube Guide

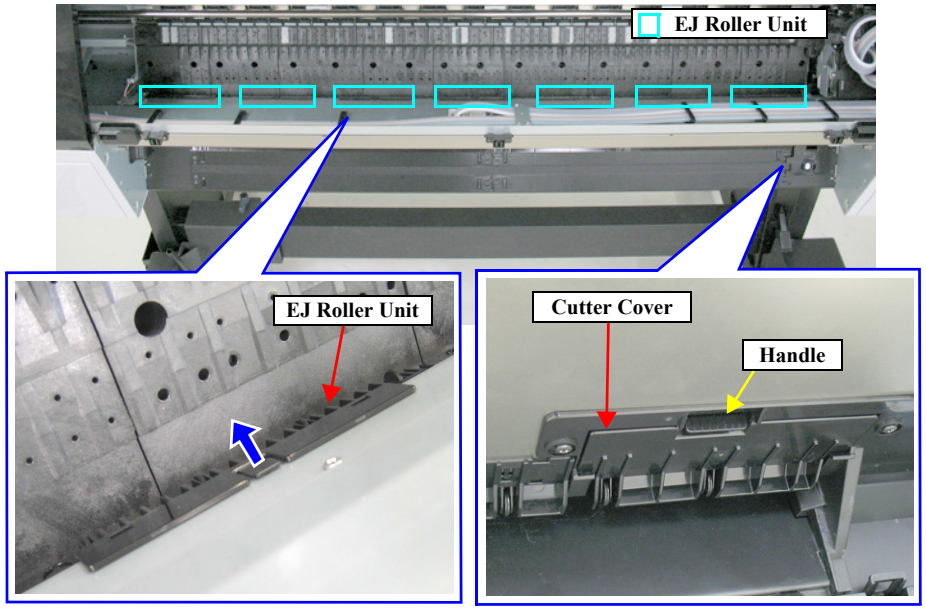


Figure 4-93. Removing the EJ Roller Unit

11. Remove the two screws that secure the Cutter Cover Support, and remove the Cutter Cover Support.

    B) Silver, Phillips, Bind machine screw M3x6: two pieces

12. Remove the seven screws that secure the Mid-Front Cover, and remove the Mid-Front Cover.

    C) Black, Phillips, Bind machine screw M3x6: seven pieces

13. Hold up the lower part of the Cutter Motor Cover and slide it upwards to remove the Cutter Motor Cover.

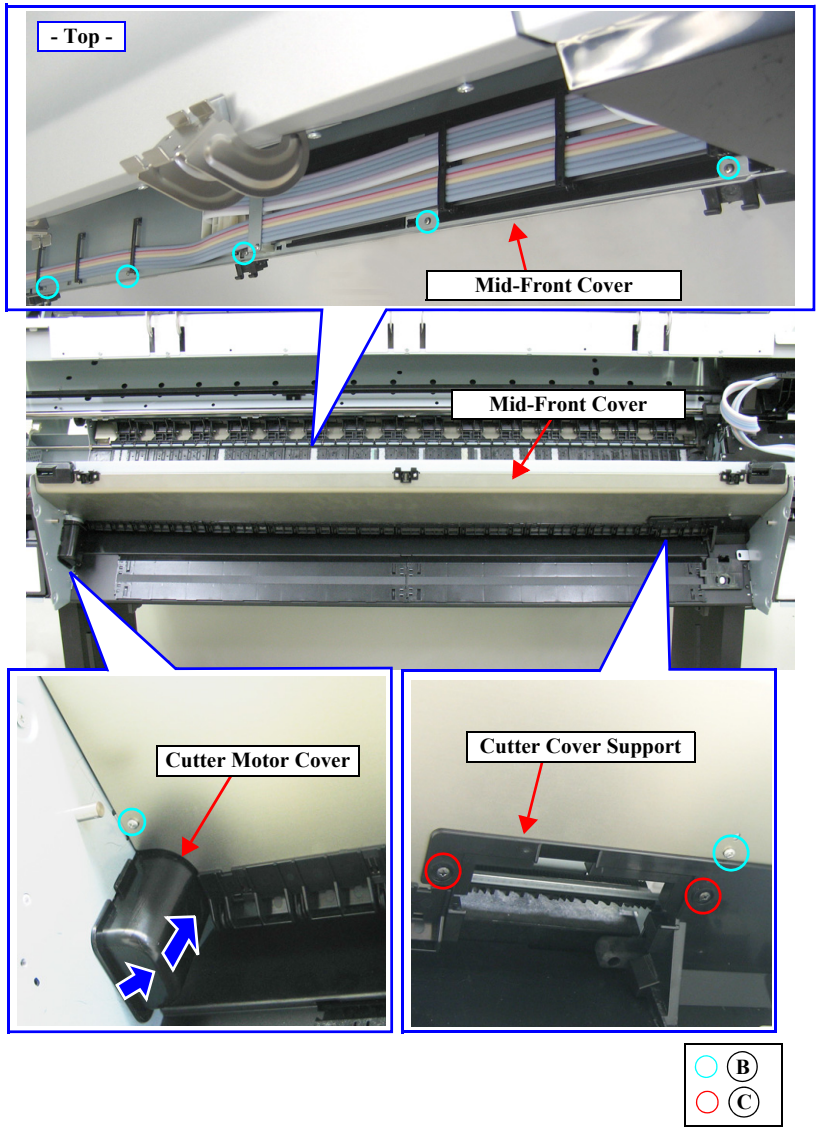


Figure 4-94. Removing the Mid-Front Cover

14. Disconnect the connector (CN307) on the Sub Board Assy; C.
15. Release the harness from the clamp 1.
16. Release all the harnesses from the clamp 2.

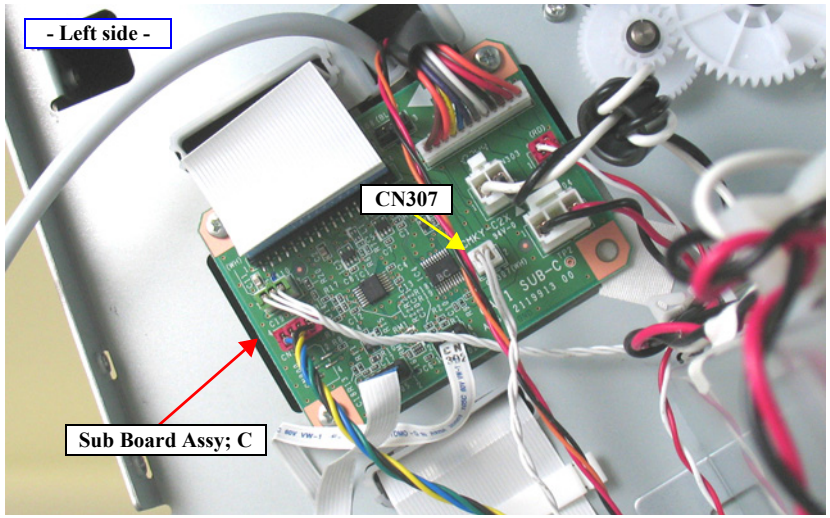


Figure 4-95. Disconnecting the connector

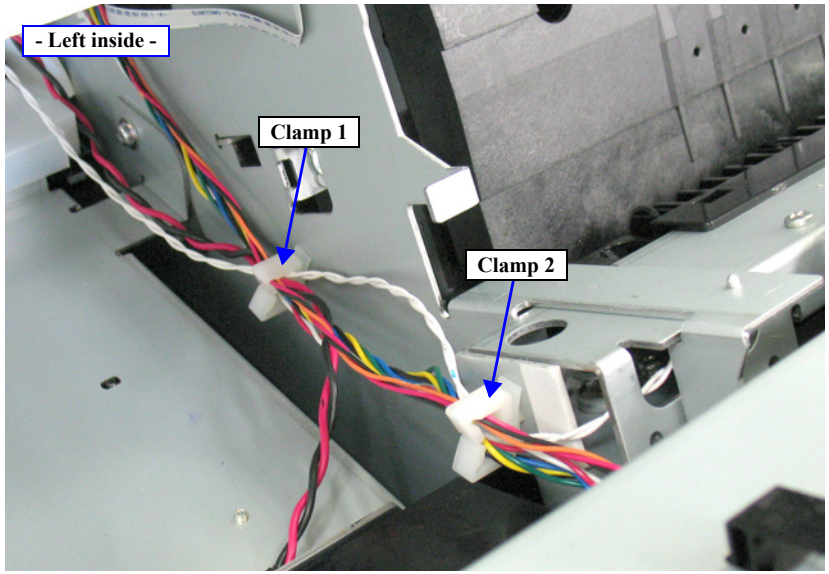


Figure 4-96. Releasing the Harness

17. Move the carriage over the platen.
18. Remove the five screws that secure the Cutter Unit.

    D) Silver, Phillips, Round Washer Head S-tite M3x6: five pieces

19. Slide the Cutter Unit to the right to detach the left side of it from the main body, then disconnect the connector of the Cutter Motor.
20. Remove the Cutter Unit while pulling out the harness.

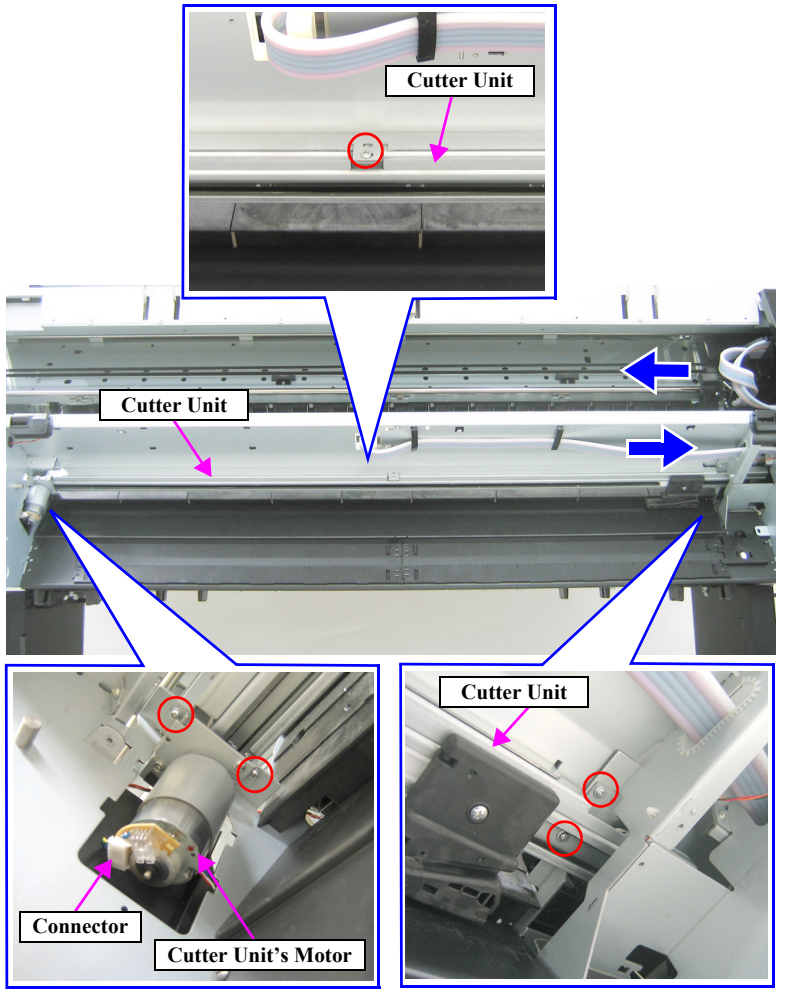


Figure 4-97. Removing the Cutter Unit

4.4.5.7 Suction Fan

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Push down the handle of the cover and remove the cover.
2. Remove the five screws that secure the Front Cover (Lower), and remove the Front Cover (Lower).
   A) Silver, Phillips, Truss machine screw M4x6: five pieces

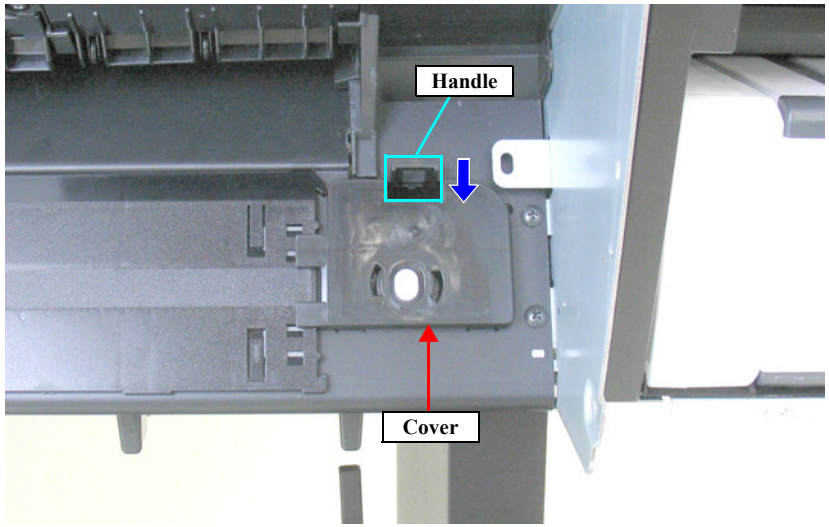


Figure 4-98. Removing the cover

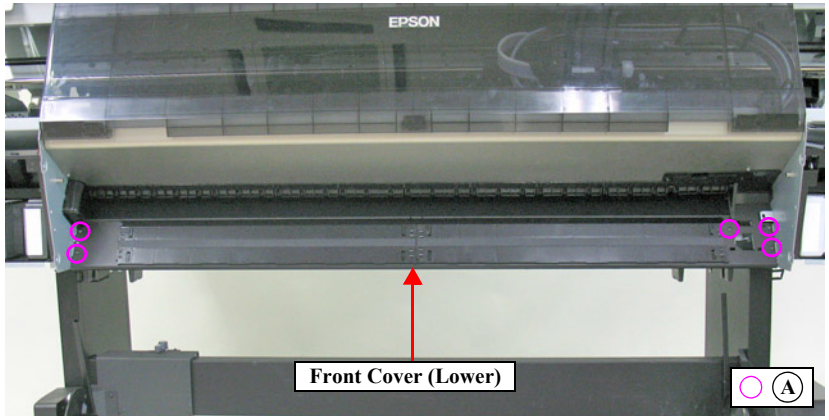


Figure 4-99. Removing the Front Cover (Lower)

CAUTION

Since the hooks of the EJ Roller are fragile, do not apply excessive force to them in the next step.

3. Release the two each hooks that secure the EJ Rollers, and remove the EJ Rollers.
4. Disconnect the relay connector.
5. Release the harness from the clamp.
6. Remove the three screws that secure the Suction Fan.

   B) Silver, Phillips, Round Washer Head P-tite M3x12: three pieces
7. Remove the Suction Fan.

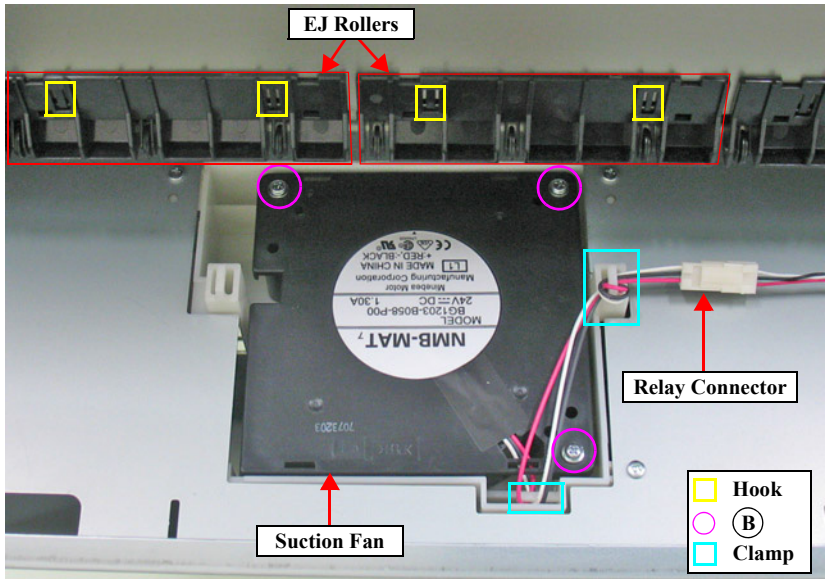


Figure 4-100. Removing the Suction Fan

4.4.5.8 PF Encoder Sensor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Remove the two screw that secures the PF Encoder Sensor Holder, and remove the PF Encoder Sensor Holder.

   A) Silver, Phillips, Bind machine screw M3x6: two pieces

5. Disconnect the FFC from the PF Encoder.
6. Remove the screw that secures the PF Encoder Sensor, and remove the PF Encoder Sensor.

   B) Silver, Phillips, Pan machine screw M2x5: one piece

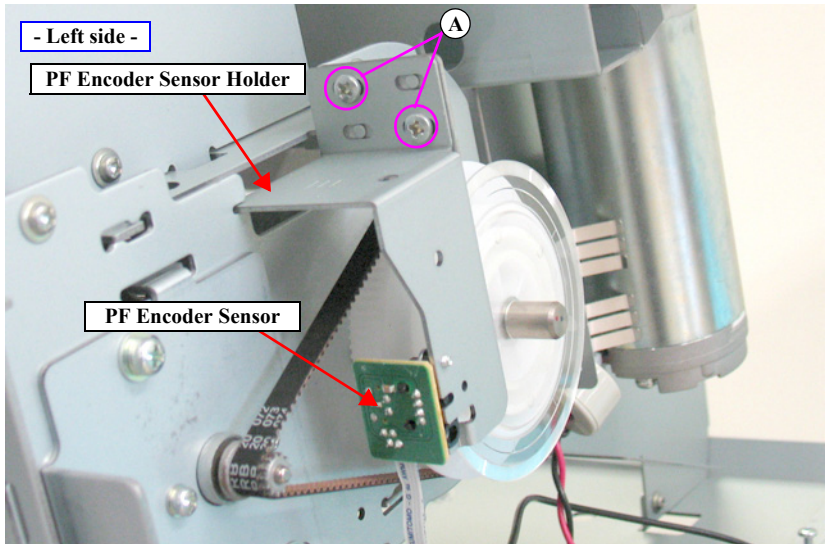


Figure 4-101. Removing the PF Encoder Sensor Holder

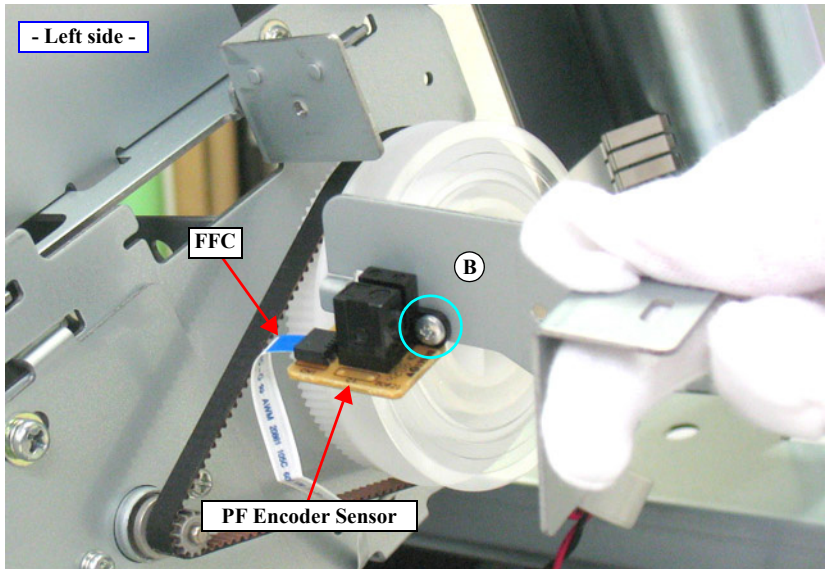


Figure 4-102. Removing the PF Encoder Sensor

4.4.5.9 PF Motor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Disconnect the connector (CN303) on the Sub Board Assy; C.
5. Release the harness from the tape, the clamps, and the cable retainer.
6. Remove the three screws that secure the PF Motor Mounting Plate.
   A) Silver, Phillips, Bind machine screw M4x8: three pieces
7. Detach the PF Timing Belt from the drive pulley of the PF Motor, and remove the PF Motor Mounting Plate.

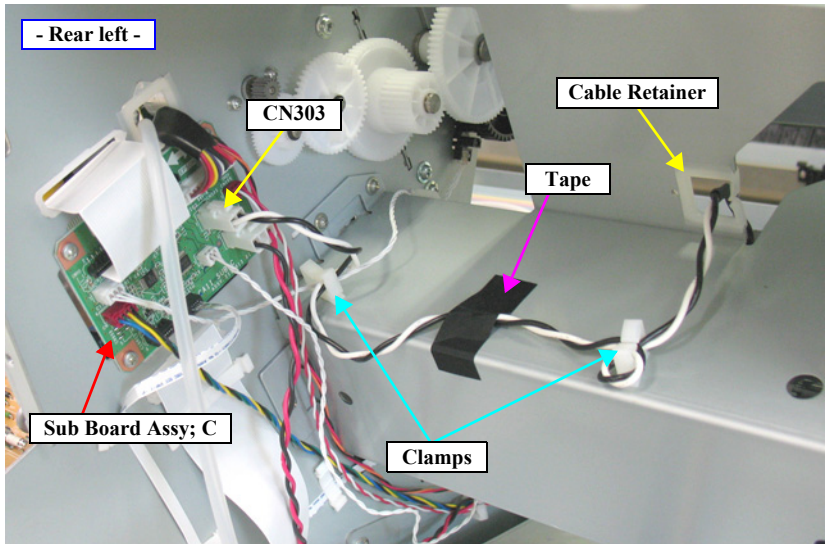


Figure 4-103. Releasing the harness

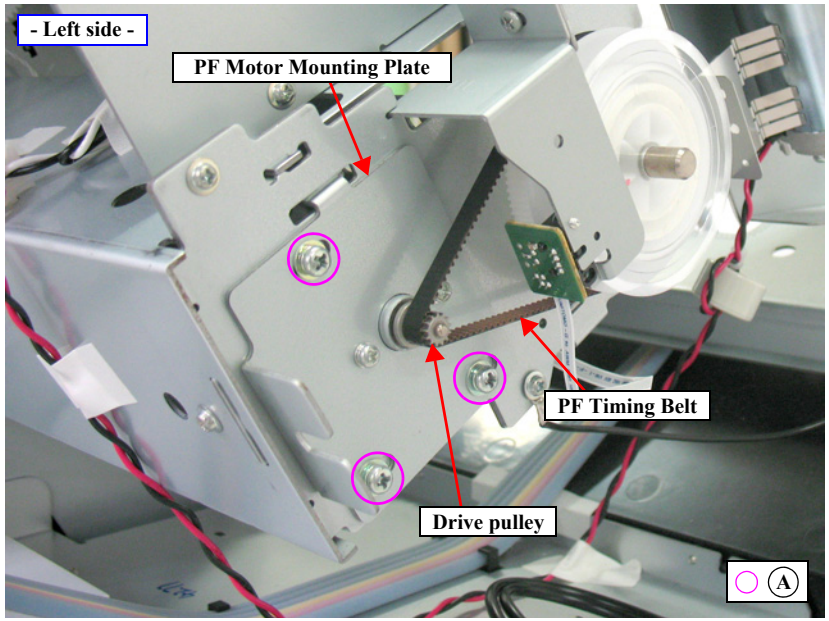


Figure 4-104. Removing the PF Motor Mounting Plate

8. Remove the two screws that secure the PF Motor, and remove the PF Motor from the PF Motor Mounting Plate.

   B) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: two pieces

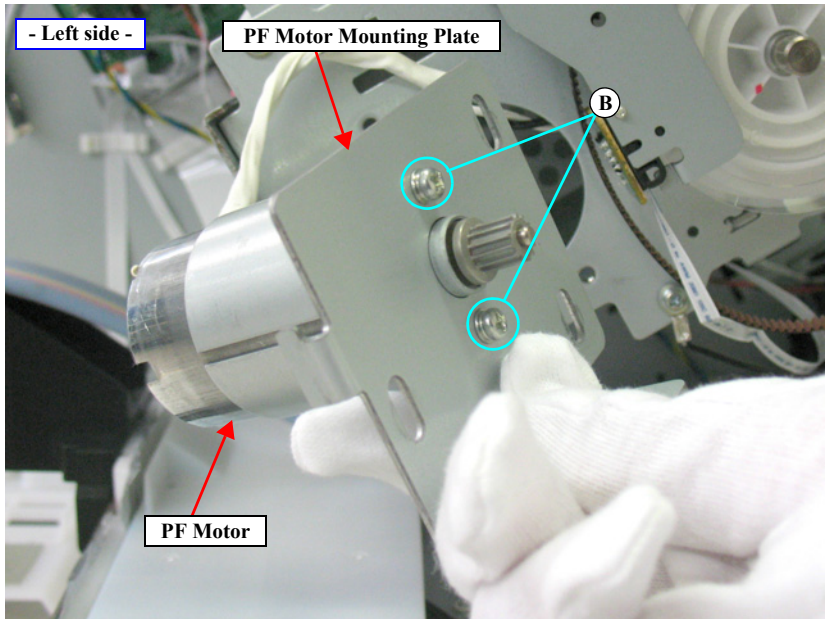


Figure 4-105. Removing the PF Motor

4.4.6 Ink System Mechanism

4.4.6.1 Ink System Unit

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

WARNING

When powering this product, high-voltage current may be applied on the Ink System Unit (Flushing Box). To prevent ELECTRIC SHOCK, do not touch the Ink System Unit (Flushing Box) when the power is ON. If the shock should happen, the flowing current is very tiny, about a few hundreds µA, therefore it will not do any harm on the human body.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*
6. Release the two hooks to remove the Tube Stopper, and pull off the Waste Ink Tube from the drain outlet of the Maintenance Tank.
7. Release the Waste Ink Tube from the tube retainer.

CAUTION

Prepare a waste cloth or the like in advance, be careful not to contaminate the surroundings because ink may leak from the Waste Ink Tube.

8. Disconnect the connectors (CN213, CN214, CN216, CN217, CN218, CN221, CN222, CN223, CN224) on the Sub Board Assy; B shown in Figure 4-107. (See Figure 4-52 for the connector locations.)

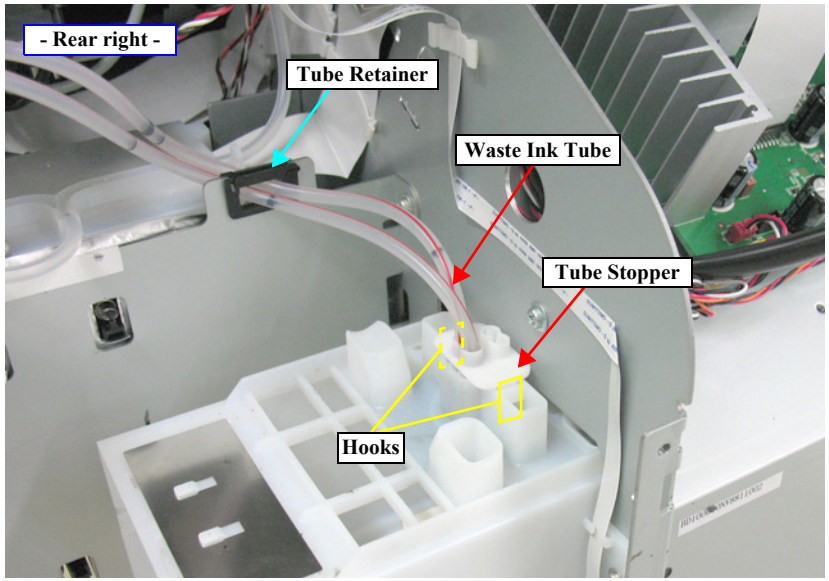


Figure 4-106. Disconnecting the Waste Ink Tube

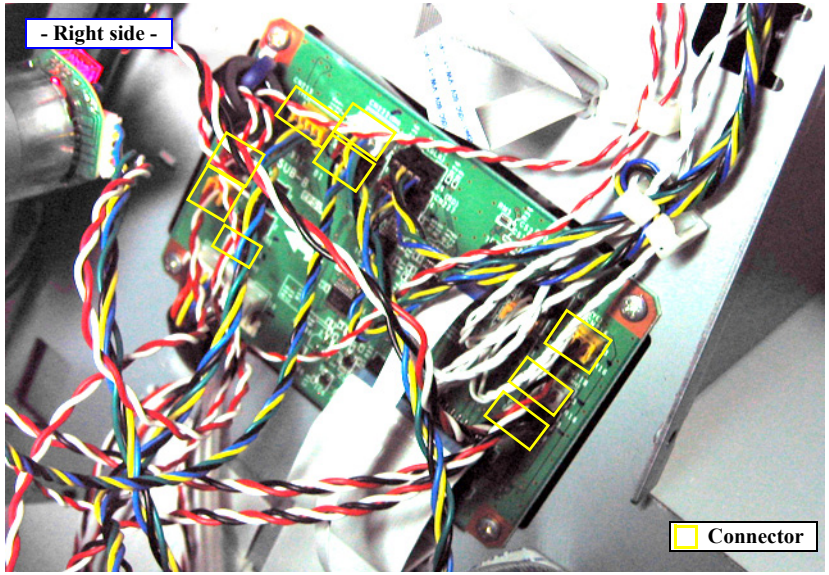


Figure 4-107. Disconnecting the connectors

9. Remove the three screws that secure the AID Board Cover, and remove the AID Board Cover.

   A) Silver, Phillips, Bind machine screw M3x8: three pieces

10. Disconnect the connector (CN2) on the AID Board.

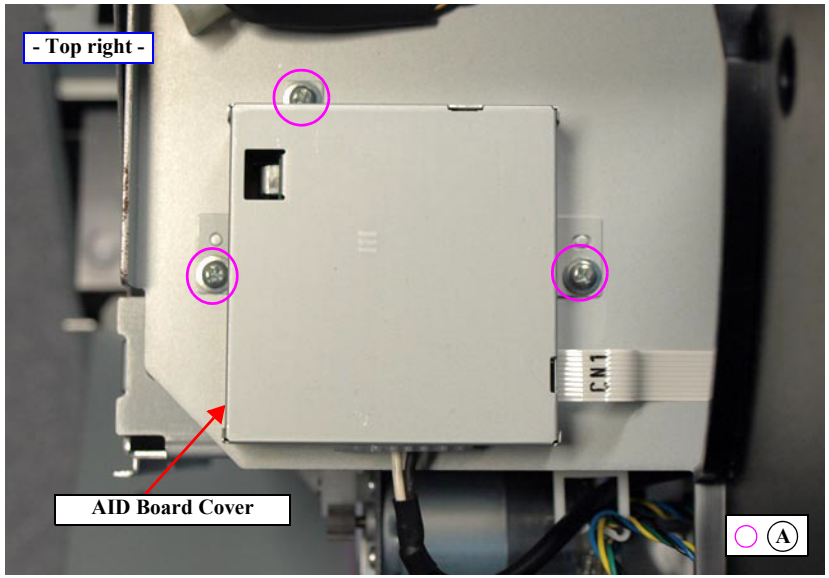


Figure 4-108. Removing the AID Board Cover

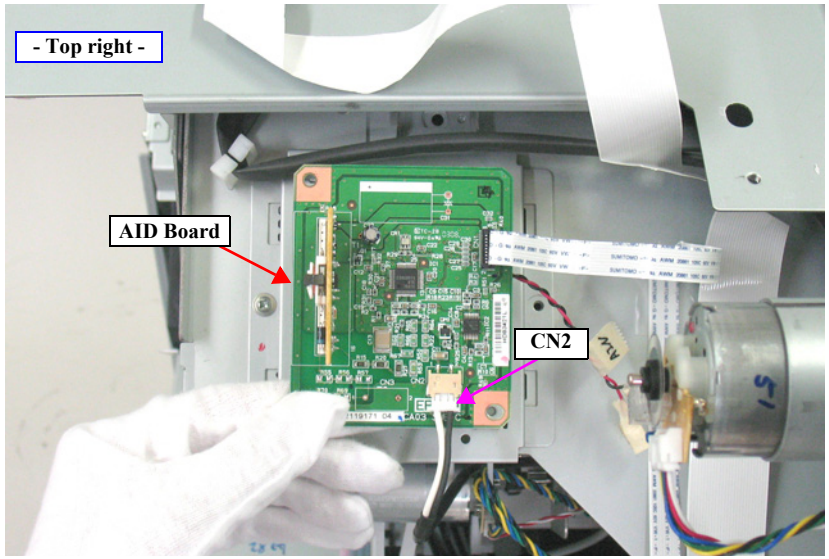


Figure 4-109. Disconnecting the connector on the AID Board.

11. Remove the three screws that secure the plate, and remove the plate.

    B) Silver, Phillips, Bind machine screw M3x6: three pieces

12. Remove the screw that secures the Ink System Unit.

    C) Silver, Phillips, Round Washer Head S-tite M4x6: one piece

13. Hold up the Ink System Unit to disengage the hook from the main body, and remove the Ink System Unit.

CAUTION

The Ink System Unit as an ASP does not include the Wiper Cleaner Assy *(see p182)*. Therefore, if you replace the Ink System Unit, set a new Wiper Cleaner Assy or move the part from the old Ink System Unit to set it on the new one.

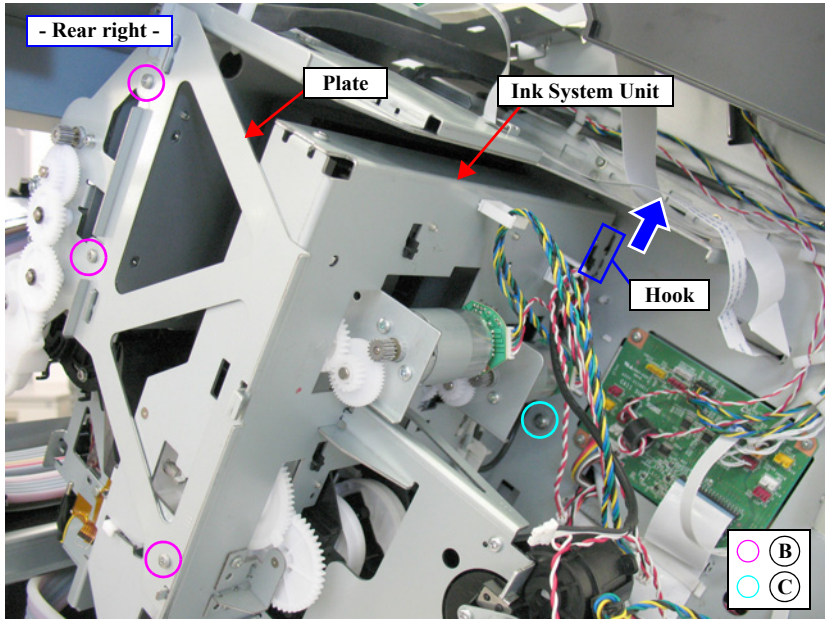


Figure 4-110. Removing the Ink System Unit

4.4.6.2 Wiper Cleaner Assy

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Open the Front Cover.
6. Unlock the Carriage Unit. *(p110)*
7. Move the Carriage Unit to the center.
8. Push up the tab of the Wiper Cleaner Assy, and remove the Wiper Cleaner Assy.

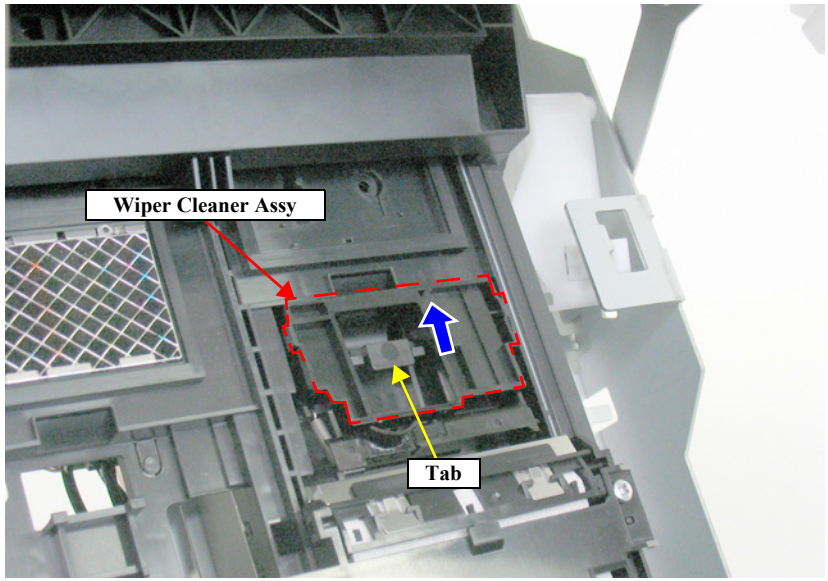


Figure 4-111. Removing the Wiper Cleaner Assy

4.4.6.3 Printhead

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
3. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p118)*
6. Remove the Top Cover. *(p123)*
7. Unlock the Carriage Unit and move it to the left end. *(p110)*
8. Disengage the four hooks on the bottom, and remove the CR Belt Cover.
9. Disconnect the connectors (CN116, CN118) and FFCs (CN100, CN101, CN104, CN105, CN106) on the Sub Board Assy.

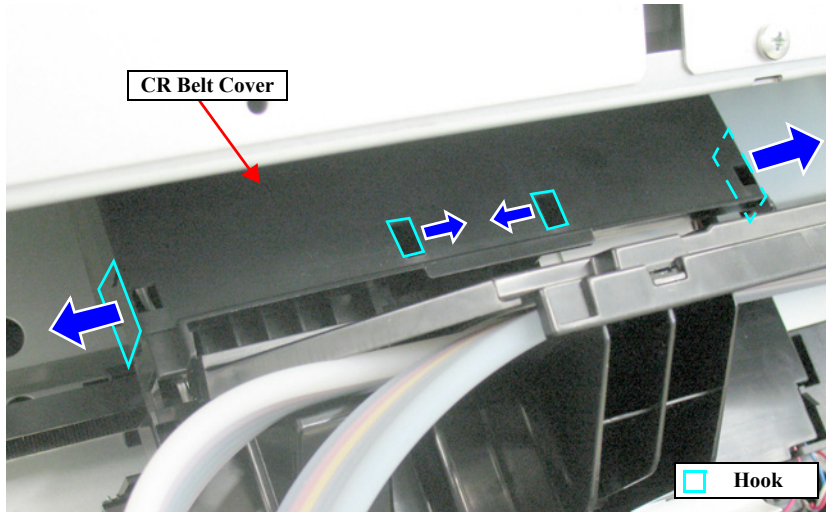


Figure 4-112. Removing the CR Belt Cover

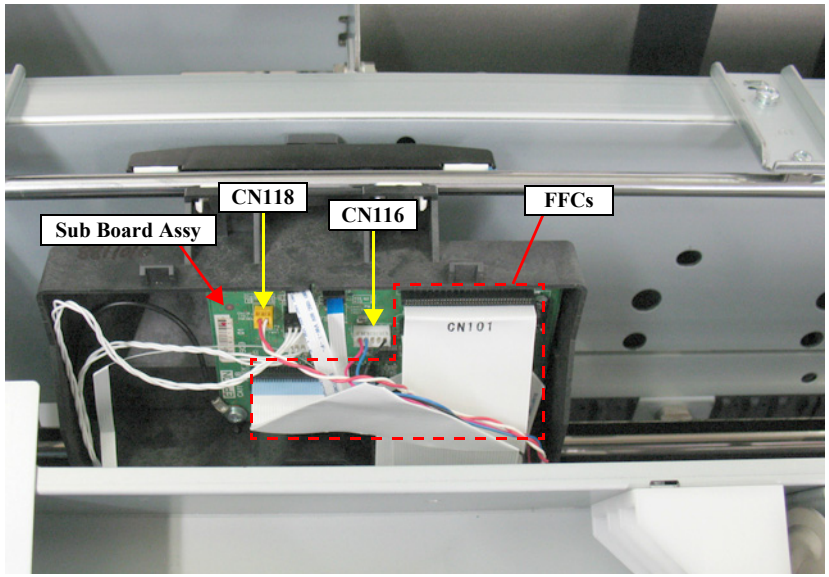


Figure 4-113. Disconnecting the connectors

10. Remove the three screws that secure the Ink Tube Holder.

    A) Silver, Phillips, Bind P-tite with S.W & P.W. M3x8: three pieces

11. Disengage the two hooks that secure the Ink Tube Holder, and remove the Ink Tube Holder.

12. Release the harness from the cable guides.

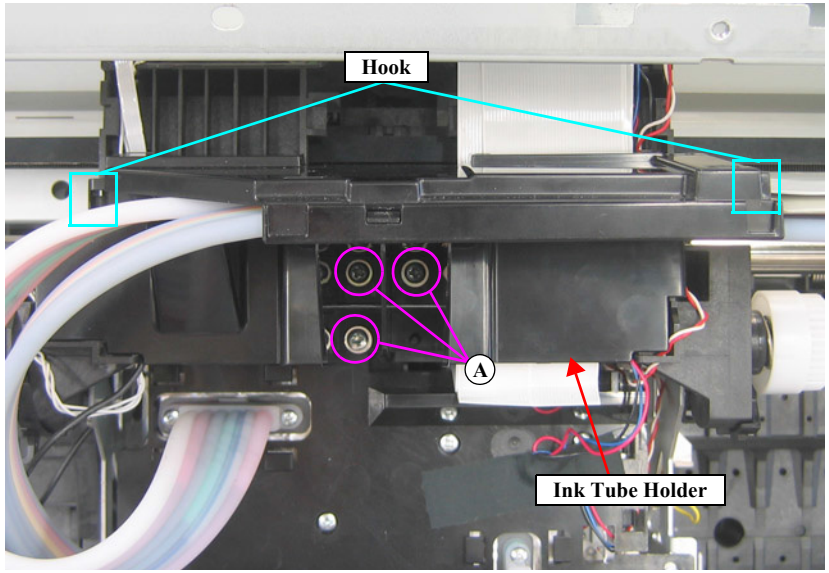


Figure 4-114. Removing the Ink Tube Holder

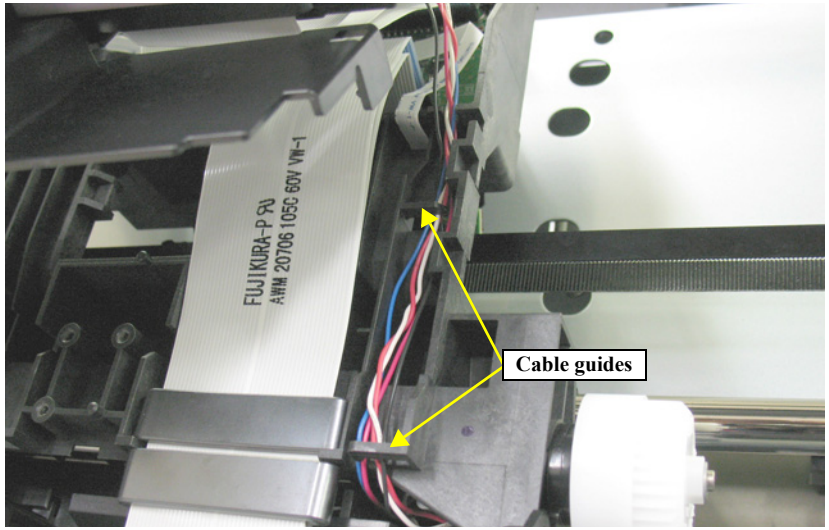


Figure 4-115. Releasing the Harness

CHECK POINT

In *Figure 4-116* and *Figure 4-117*, the Ink Tubes are disconnected to indicate the screw locations easily. In actual operation; however, there is no need to disconnect them.

13. Remove the screws that secure the Ink Selector.
    B) Silver, Phillips, Bind S-tite M3x8: two pieces
    C) Silver, Phillips, Pan screw with S.W & P.W. M3x8: five pieces
    D) Black, Phillips, Bind S-tite M3x12: one piece
14. Remove the Ink Selector.

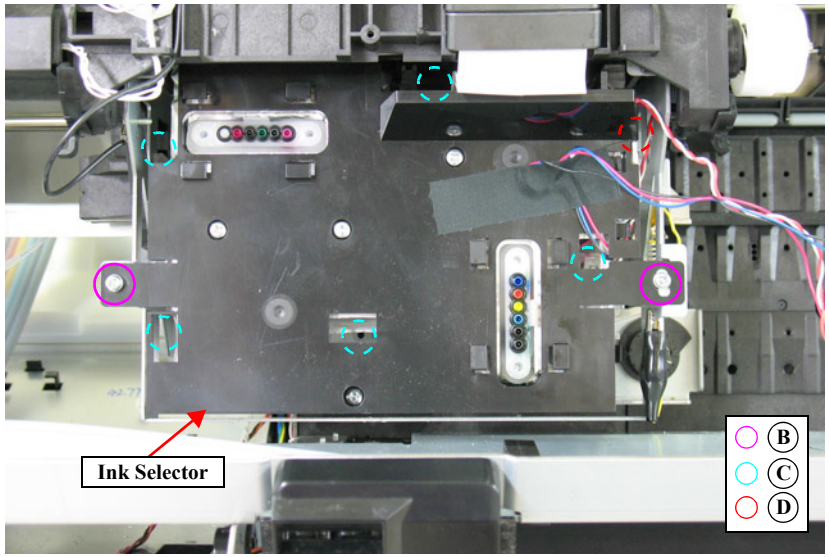


Figure 4-116. Ink Selector fixing screws

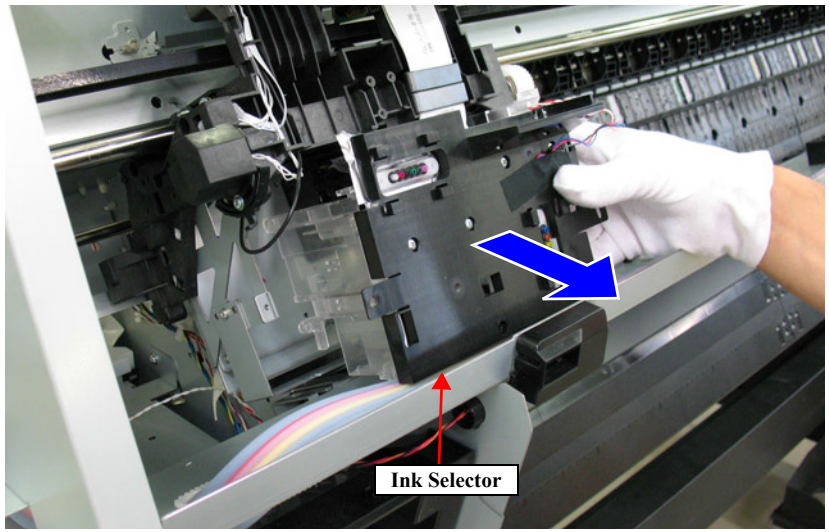


Figure 4-117. Removing the Ink Selector

15. Attach the hook on the rear of the Ink Selector onto the Main Frame to secure the Ink Selector. *See Figure 4-118.*

CAUTION

After secure the Ink Selector, make sure to place a sheet of paper below it to catch the spilling remaining ink.

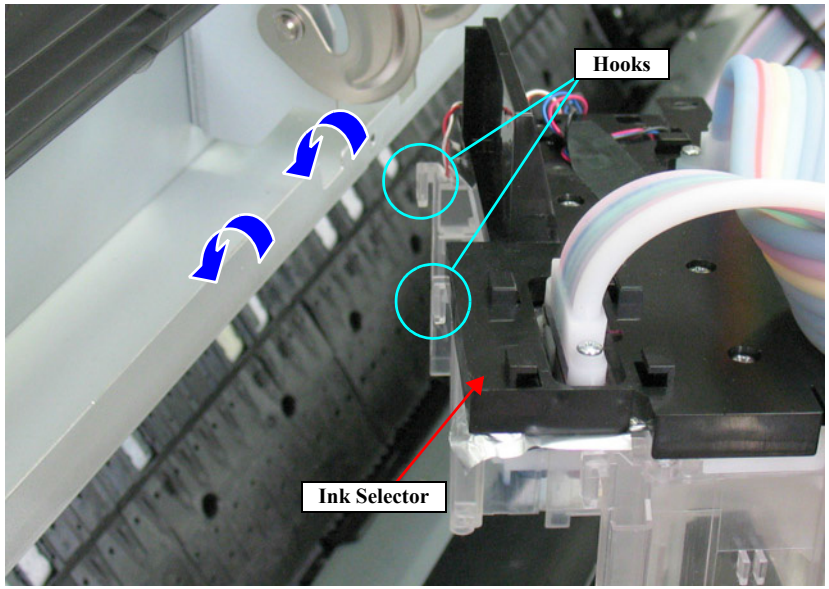


Figure 4-118. Securing the Ink Selector to the main body (1)

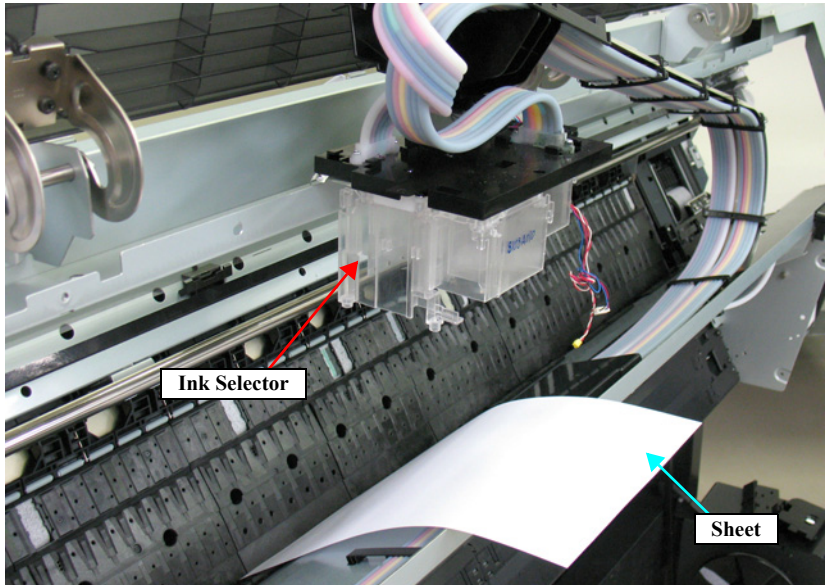


Figure 4-119. Securing the Ink Selector to the main body (2)

16. Disconnect four FFCs from the Printhead. *See Figure 4-120.*

CHECK POINT

In the next step, to make it easier to remove the screw of the Printhead it is recommended to use the long shaft screwdriver.

17. Remove the three screws that secure the Printhead, and remove the Printhead. *See Figure 4-120.*

    E) Silver, Phillips, Bind machine screw M2x6 (bit: No.1): three pieces

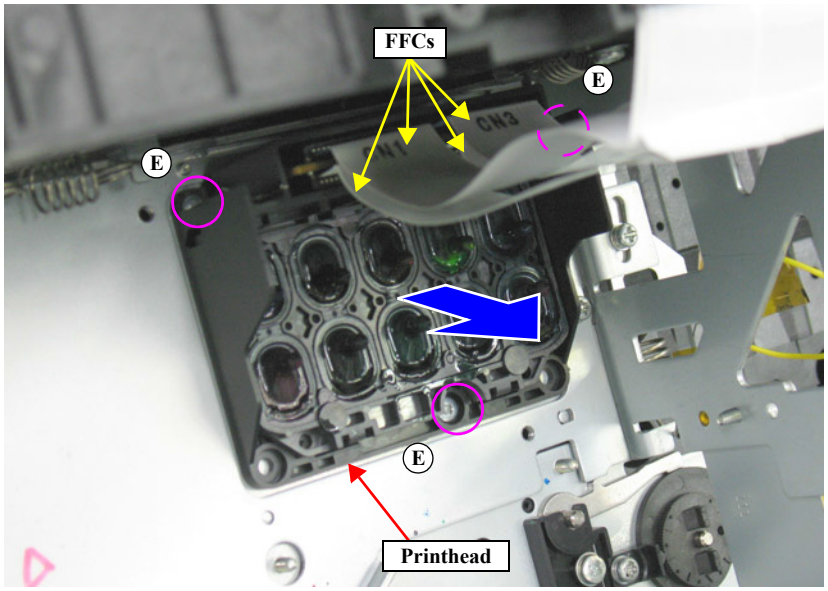


Figure 4-120. Removing the Printhead

4.4.6.4 Pressurizing Unit

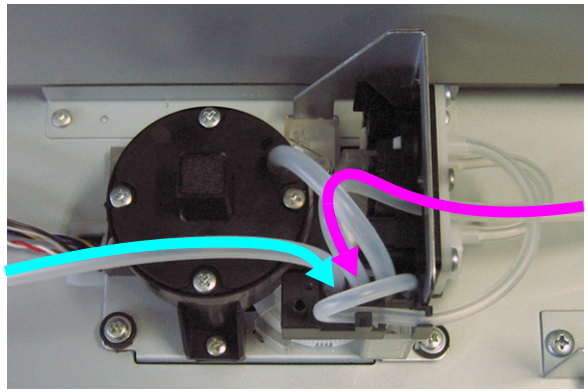
ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Rear Cover. *(p129)*

REASSEMBLY

In the next step, confirm the destination of the Pressure Tubes so as to restore the original routing when reassembling.



2. Disconnect the two Pressure Tubes from the Pressurizing Unit.
3. Remove the three screws that secure the Pressurizing Unit.
   A) Silver, Phillips, Bind S-tite with S.W & P.W. M3x10: three pieces

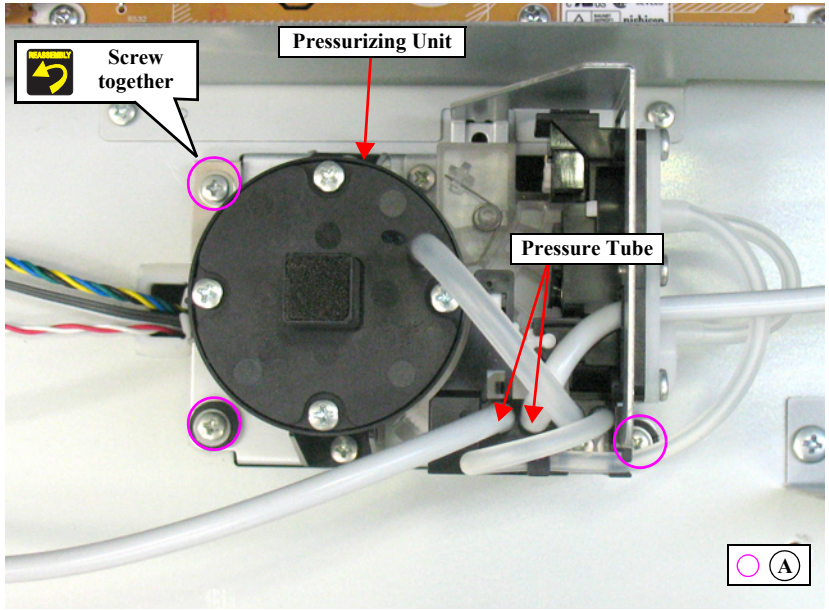


Figure 4-121. Removing the screws securing the Pressurizing Unit

REASSEMBLY

Secure the Pressurizing Unit together with the grounding plate using the same screw shown in the figure.

4. Hold up the Pressurizing Unit, and release the harness from the clamp and the cable retainer.
5. Disconnect the two connectors, and remove the Pressurizing Unit.

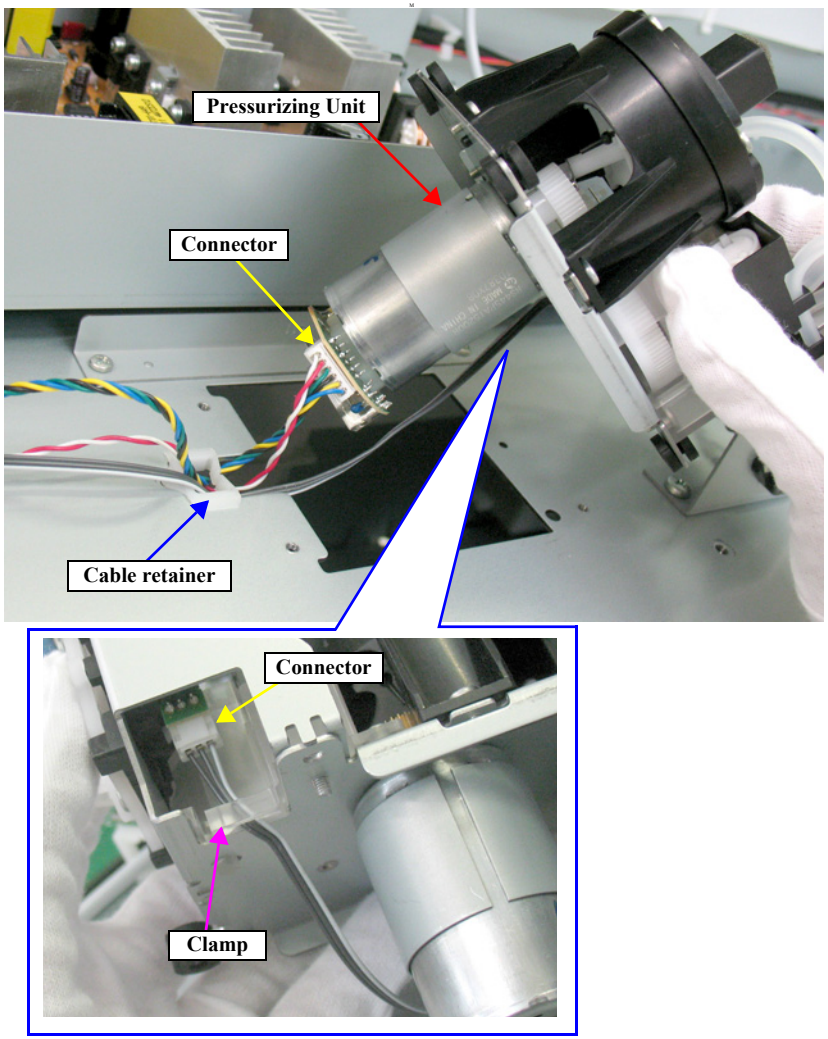


Figure 4-122. Removing the Pressurizing Unit

4.4.6.5 Ink Cartridge Holder R

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When disassembling this part, be sure to discharge ink in advance following the procedure below.

INK DISCHARGE

1. Remove the user's Maintenance Tank, and install the Maintenance Tank for service.
2. Turn the printer ON.
3. Start the Service Program, and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the **[RUN]** button.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the Maintenance Tank for service, and install the user's Maintenance Tank.

CHECK POINT

After discharging ink, the initial charge flag is automatically set. The next time turning the power on, the initial ink charge sequence starts.

DISASSEMBLING PROCEDURE

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Release the two hooks to remove the Tube Stopper, and pull off the Waste Ink Tube from the drain outlet of the Maintenance Tank.
6. Release the Waste Ink Tubes from the tube retainer.
7. Pull off the Pressure Tube from the main body, and release the Pressure Tube from the guide.

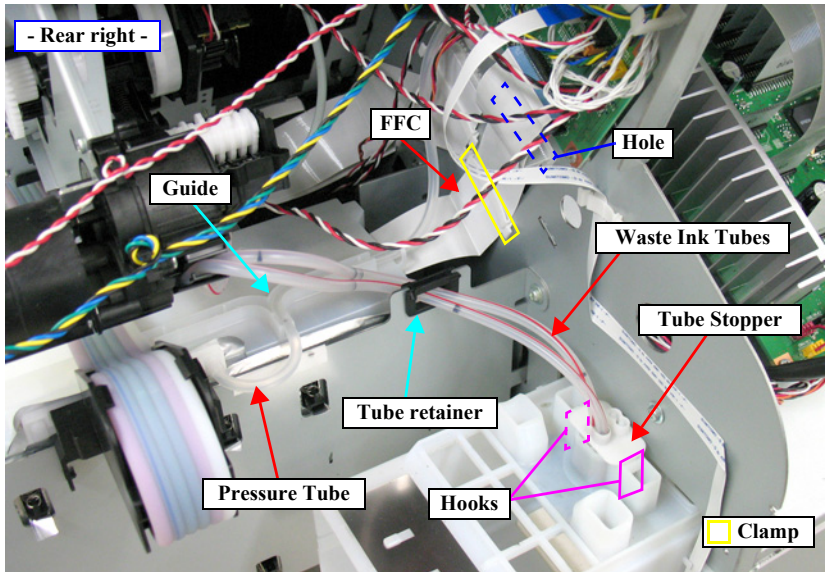


Figure 4-123. Releasing the FFC, Waste Ink Tube and Pressure Tube

8. Release the Ink Tubes from the two hooks on the Ink Cartridge Holder R.
9. Pull the Ink Tube backward to give it some slack.

REASSEMBLY

Pull the Ink Tube forward to remove the slack. Route the Ink Tube so as not to apply load to the bend of the tube at the front of the printer.

10. Release the Ink Tubes from the six hooks on the Ink Tube Guide.

CAUTION

Be careful not to apply load to the joint of the Ink Cartridge Holder R and the Ink Tube.

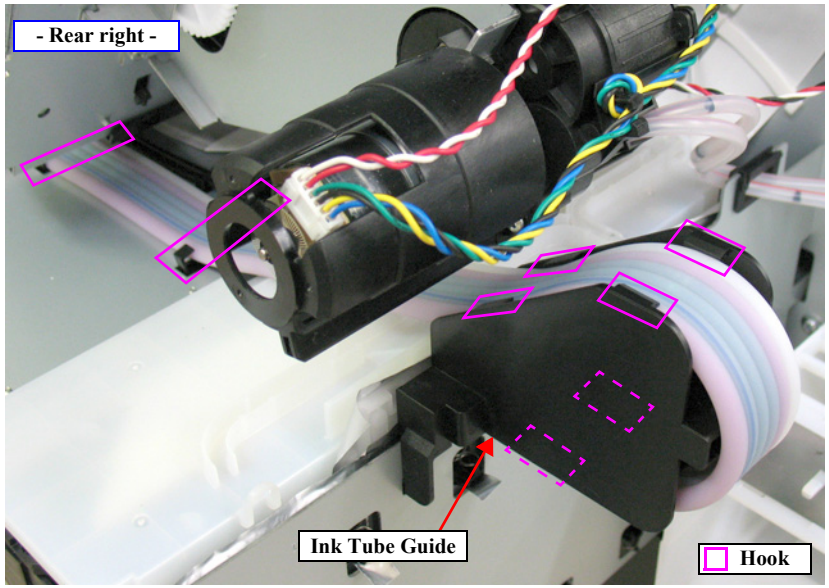


Figure 4-124. Releasing the Ink Tube Guide (before released)

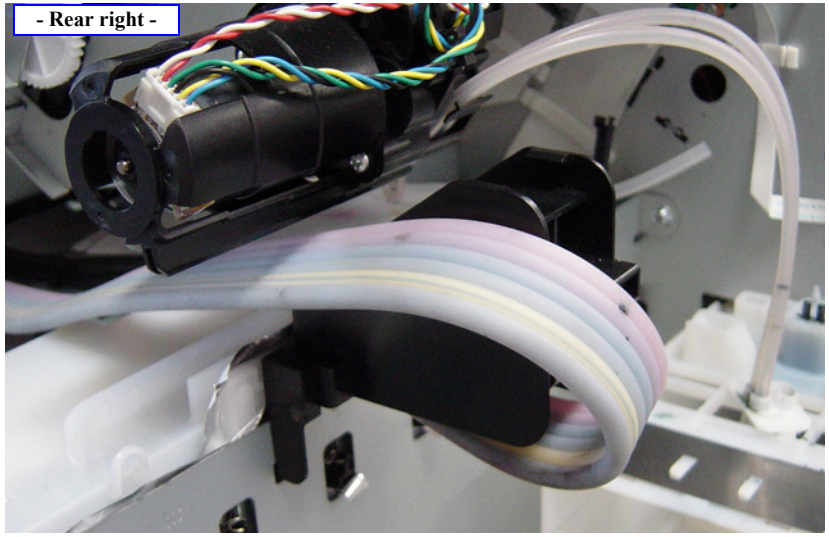


Figure 4-125. Releasing the Ink Tube Guide (after released)

11. Disengage the two hooks that secure the Ink Tube Guide, and remove the Ink Tube Guide from the main body.

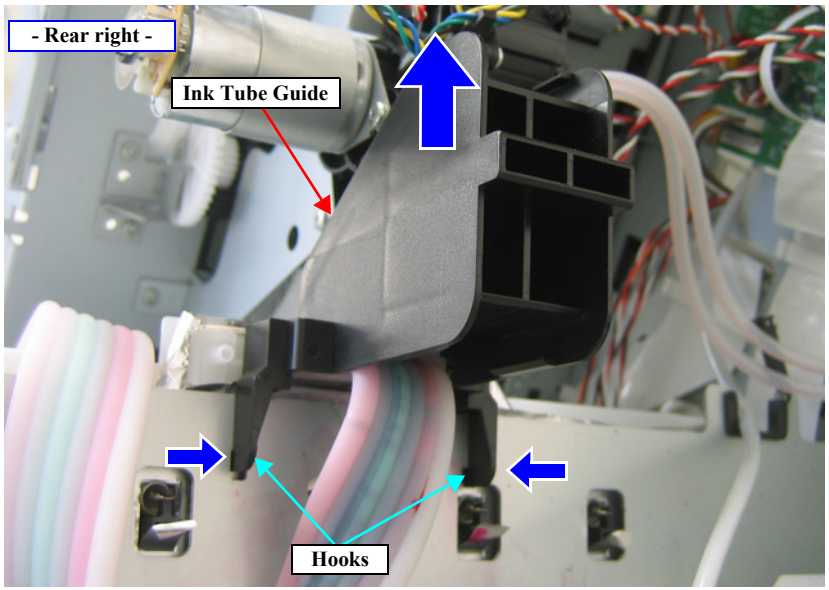


Figure 4-126. Removing the Ink Tube Guide

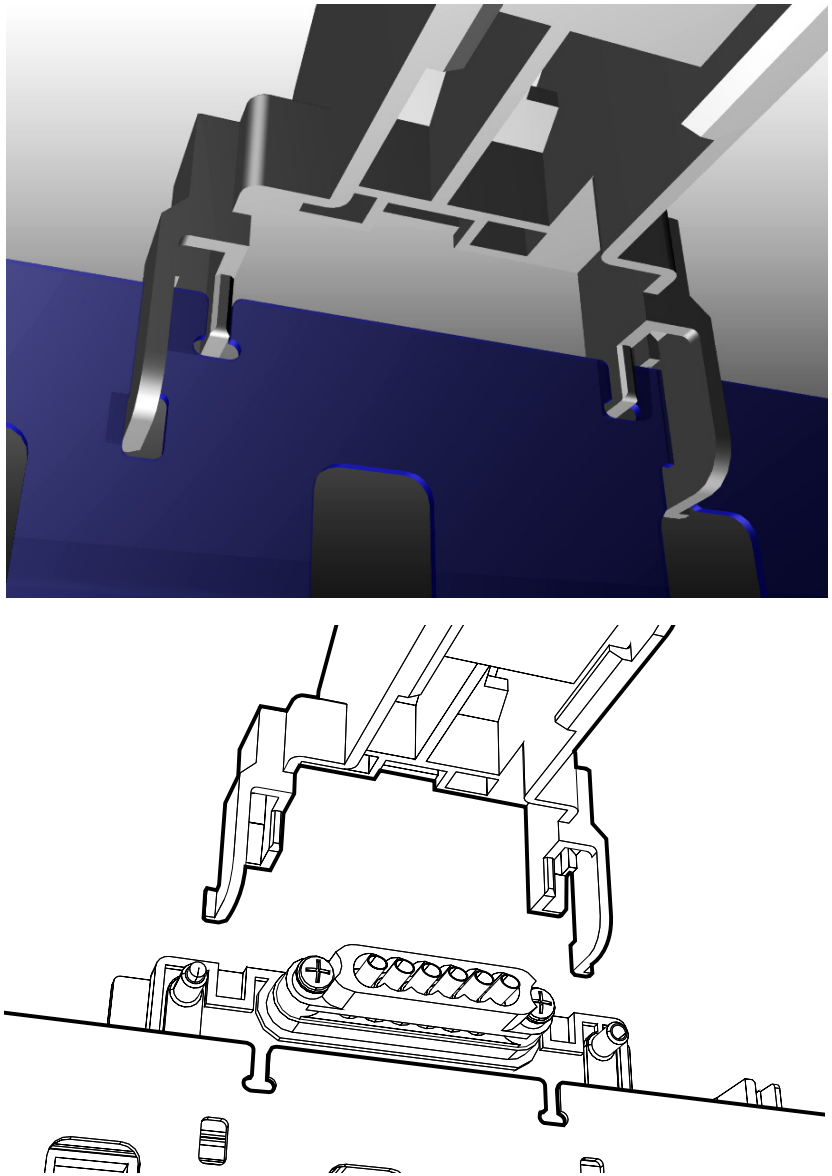


Figure 4-127. Removing the Ink Tube Guide

12. Release the two hooks securing the cover of the Ink Holder Board Assy R, and remove the cover.
13. Release the FFC from the clamp.
14. Disconnect the FFC from the Ink Holder Board Assy R.

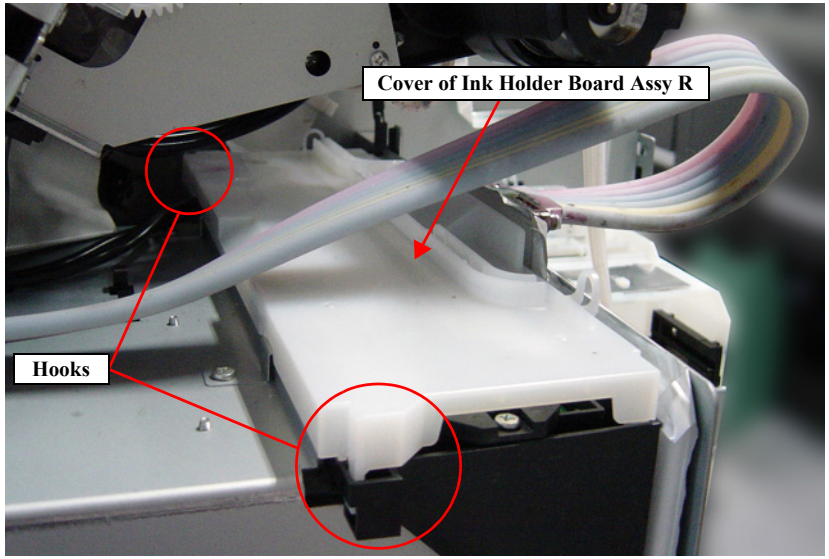


Figure 4-128. Removing the Cover of Ink Holder Board Assy R

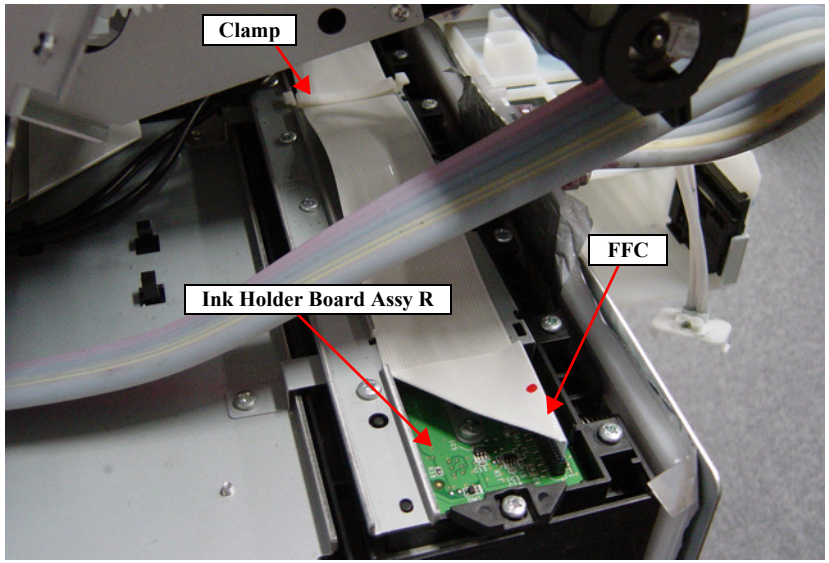


Figure 4-129. Disconnecting the FFC

15. Remove the two screws, and detach the Ink Tubes.

    A) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): two pieces

- **Use a torque driver with the torque given below when tightening the screws securing the Ink Tube. 3±0.5kgf·cm**
- **Make sure to install the SEAL RUBBER, JOINT, ASP. The SEAL RUBBER, JOINT, ASP (1518317) is not included in the Ink Cartridge Holder and the Ink Tube; therefore, re-use the originally installed one. Make sure to confirm there is no damage or no foreign material attached on the sealing rubber or the joint section visually then. Installing a damaged part such as mentioned above may cause ink leakage.**

16. Remove the six screws that secure the Ink Cartridge Holder Mounting Plate, and remove the Ink Cartridge Holder Mounting Plate.

    B) Silver, Phillips, Round Washer Head S-tite M4x8: four pieces

    C) Silver, Phillips, Round Washer Head S-tite M3x6: two pieces

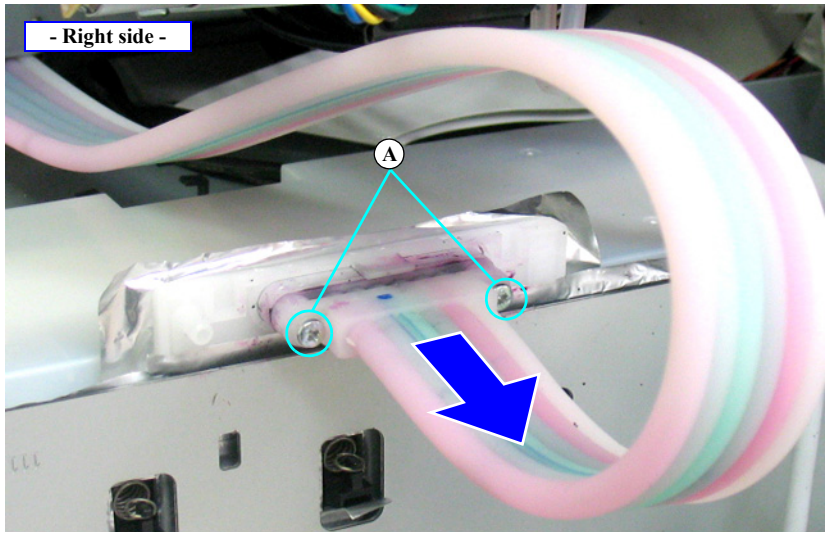


Figure 4-130. Detaching the Ink Tube

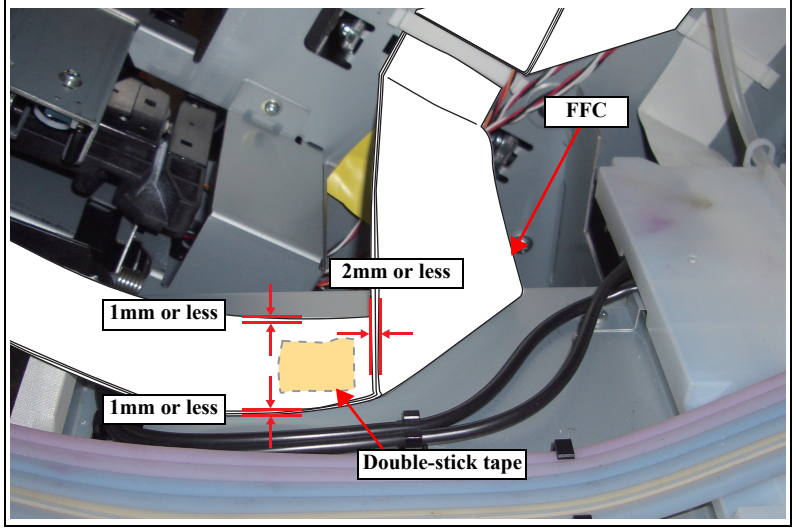
17. Remove the four screws that secure the Ink Cartridge Holder R.

    D) Silver, Phillips, Round Washer Head S-tite M4x6: four pieces

18. Remove the Ink Cartridge Holder R.

REASSEMBLY

When installing the Ink Cartridge Holder R, first align the three FFCs referring to the figure below, then attach them. If they are not correctly aligned, electric noise may occur and cause interferences on electric equipments placed near by.



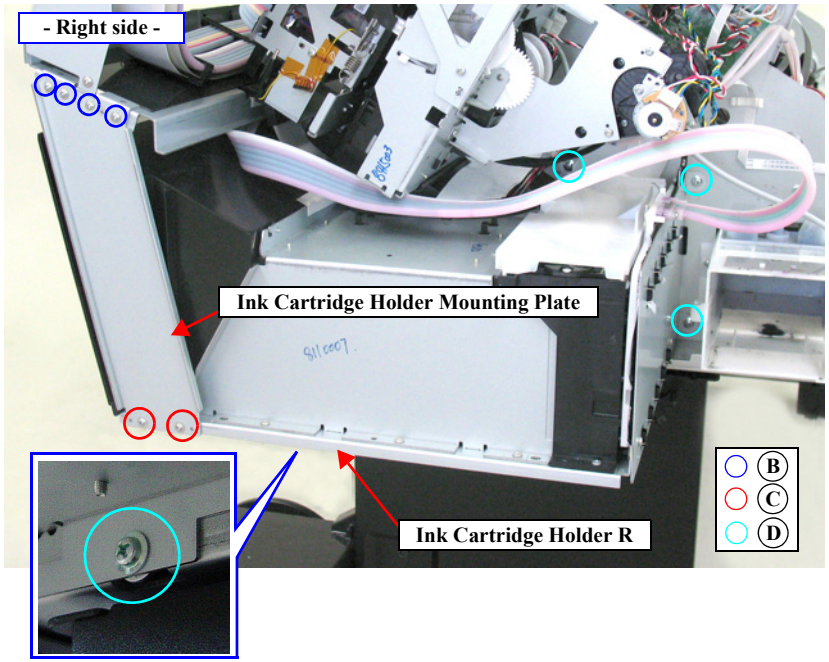


Figure 4-131. Removing the Ink Cartridge Holder R

4.4.6.6 Ink Cartridge Holder L

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When disassembling this part, be sure to discharge ink in advance following the procedure below.

INK DISCHARGE

1. Remove the user's Maintenance Tank, and install the Maintenance Tank for service.
2. Turn the printer ON.
3. Start the Service Program, and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the **[RUN]** button.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the Maintenance Tank for service, and install the user's Maintenance Tank.

CHECK POINT

After discharging ink, the initial charge flag is automatically set. The next time turning the power on, the initial ink charge sequence starts.

DISASSEMBLING PROCEDURE

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p118)*
4. Peel off the tape shown in the figure, and release the harness.
5. Pull off the Pressure Tube from the main body and release the Pressure Tube from the guide.
6. Release the Ink Tubes from the two hooks on the Ink Cartridge Holder L.
7. Pull the Ink Tube backward to give it some slack.

REASSEMBLY

Pull the Ink Tube forward to remove the slack. Route the Ink Tube so as not to apply load to the bend of the tube at the front of the printer.

8. Release the Ink Tubes from the six hooks on the Ink Tube Guide.

CAUTION

Be careful not to apply load to the joint of the Ink Cartridge Holder L and the Ink Tube.

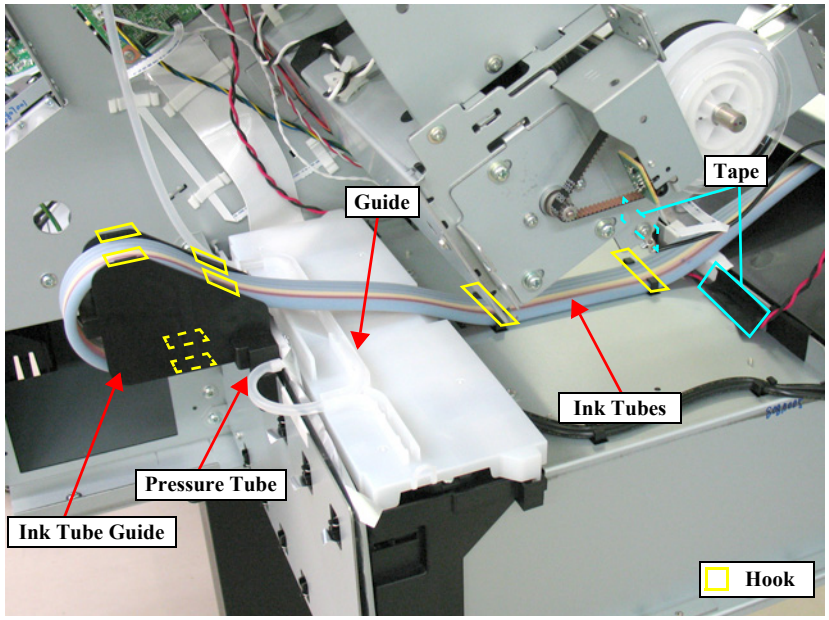


Figure 4-132. Releasing the Waste Ink Tube and Pressure Tube (before released)

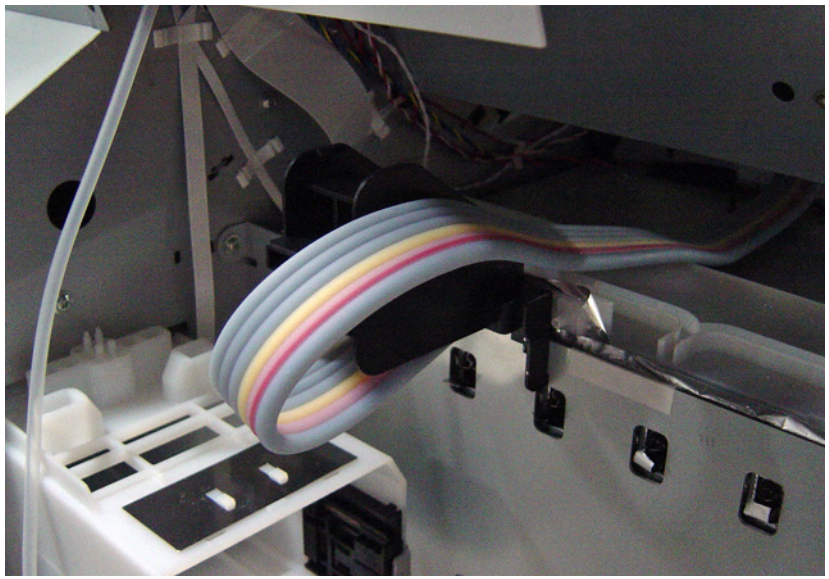


Figure 4-133. Releasing the Waste Ink Tube and Pressure Tube (after released)

9. Disengage the two hooks that secure the Ink Tube Guide, and remove the Ink Tube Guide from the main body.

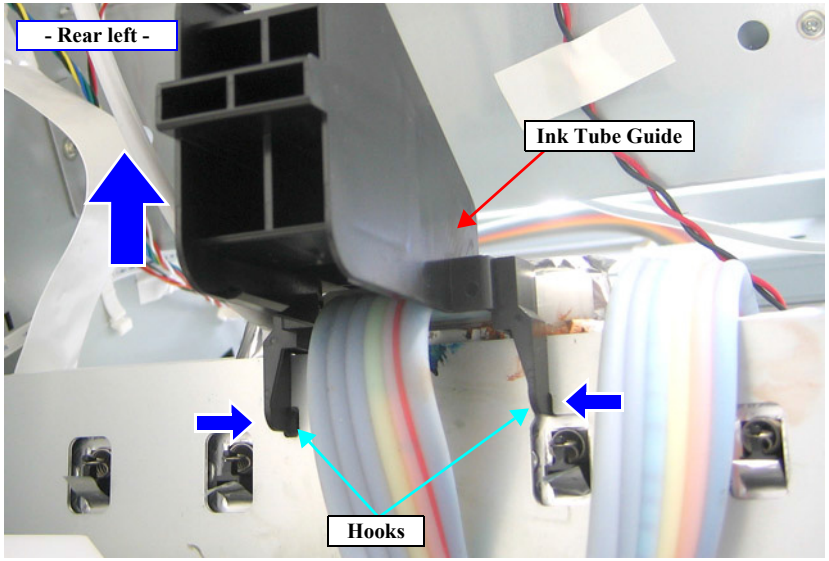
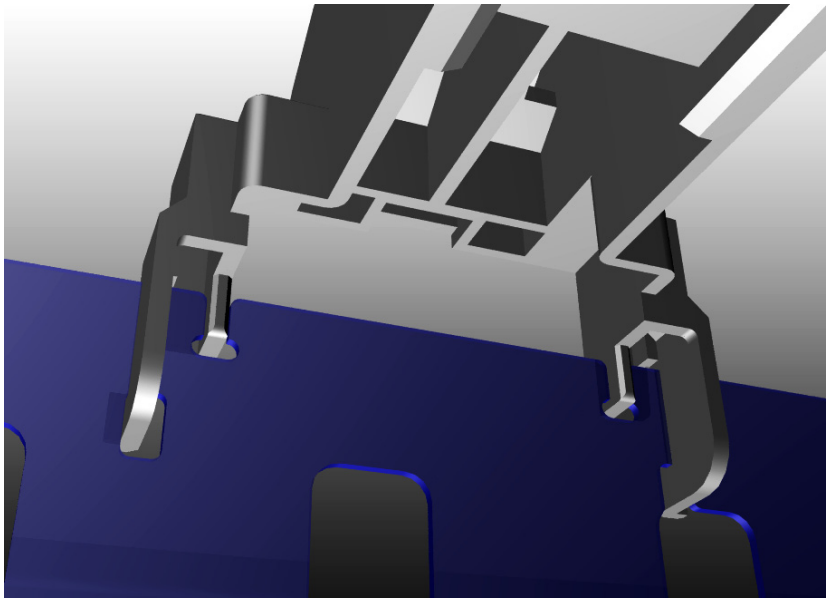


Figure 4-134. Removing the Ink Tube Guide



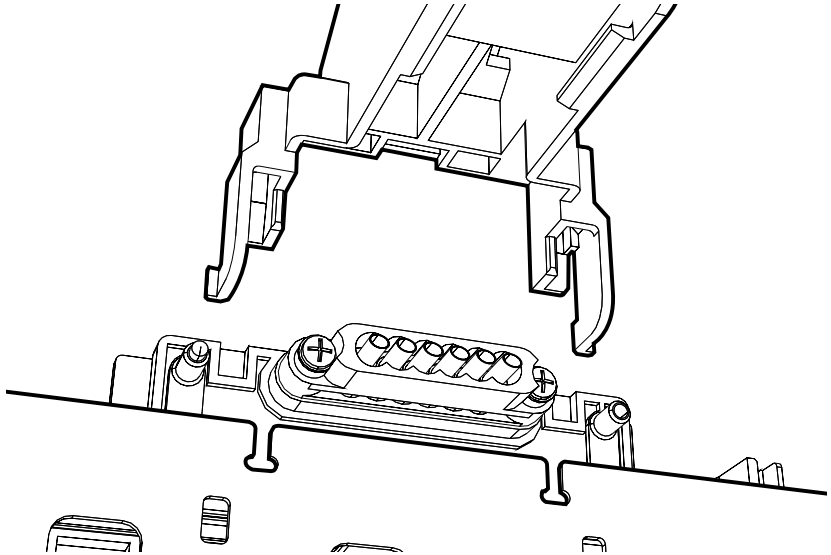


Figure 4-135. Removing the Ink Tube Guide

10. Release the two hooks securing the cover of the Ink Holder Board Assy L, and remove the cover.
11. Disconnect the FFC from the Ink Holder Board Assy L.

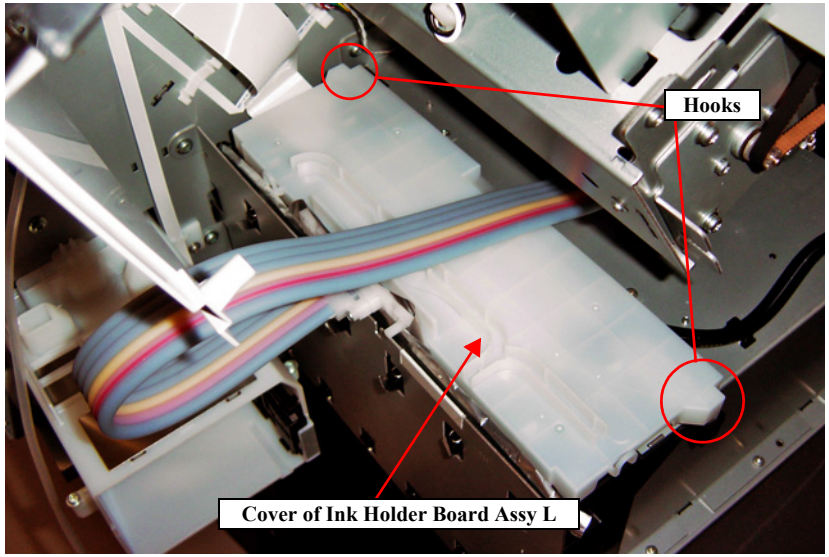


Figure 4-136. Removing the Cover of Ink Holder Board Assy L

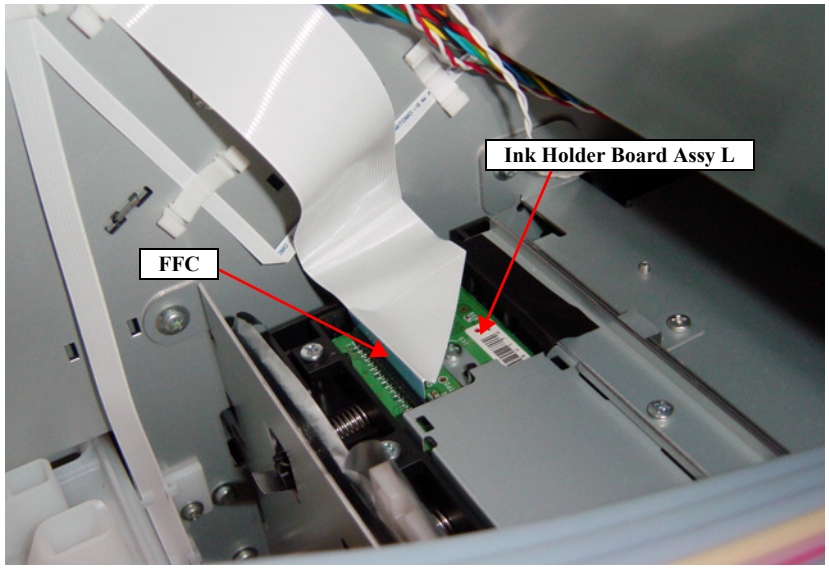


Figure 4-137. Disconnecting the FFC

12. Remove the two screws, and detach the Ink Tubes.

    A) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): two pieces

REASSEMBLY

- **Use a torque driver with the torque given below when tightening the screws securing the Ink Tube.**
  3±0.5kgf·cm
- **Make sure to install the SEAL RUBBER, JOINT, ASP. The SEAL RUBBER, JOINT, ASP (1518317) is not included in the Ink Cartridge Holder and the Ink Tube; therefore, re-use the originally installed one. Make sure to confirm there is no damage or no foreign material attached on the sealing rubber or the joint section visually then. Installing a damaged part such as mentioned above may cause ink leakage.**

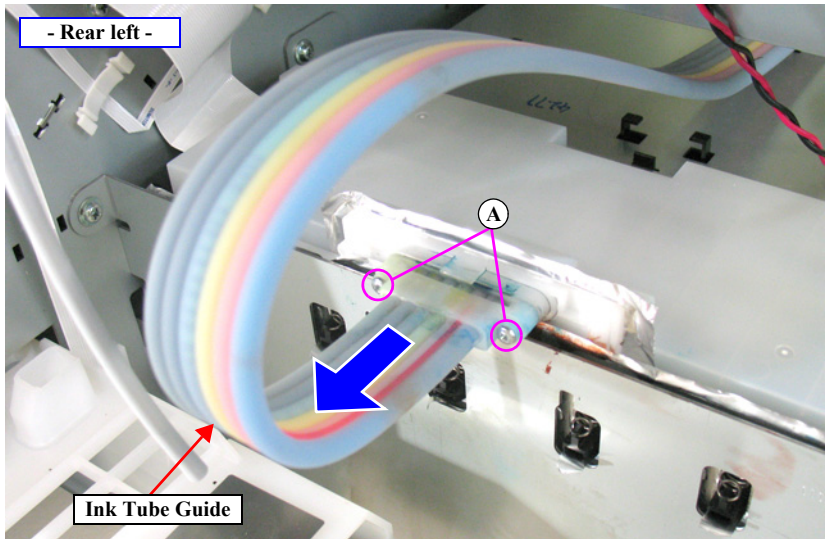


Figure 4-138. Detaching the Ink Tube

13. Remove the six screws that secure the Ink Cartridge Holder Mounting Plate, and remove the Ink Cartridge Holder Mounting Plate.
    B) Silver, Phillips, Round Washer Head S-tite M4x8: four pieces
    C) Silver, Phillips, Round Washer Head S-tite M3x6: two pieces

REASSEMBLY

Secure the Ink Cartridge Holder L together with the grounding wire using the same screw shown in the figure.

14. Remove the four screws that secure the Ink Cartridge Holder L.
    D) Silver, Phillips, Round Washer Head S-tite M4x6: four pieces
15. Remove the Ink Cartridge Holder L.

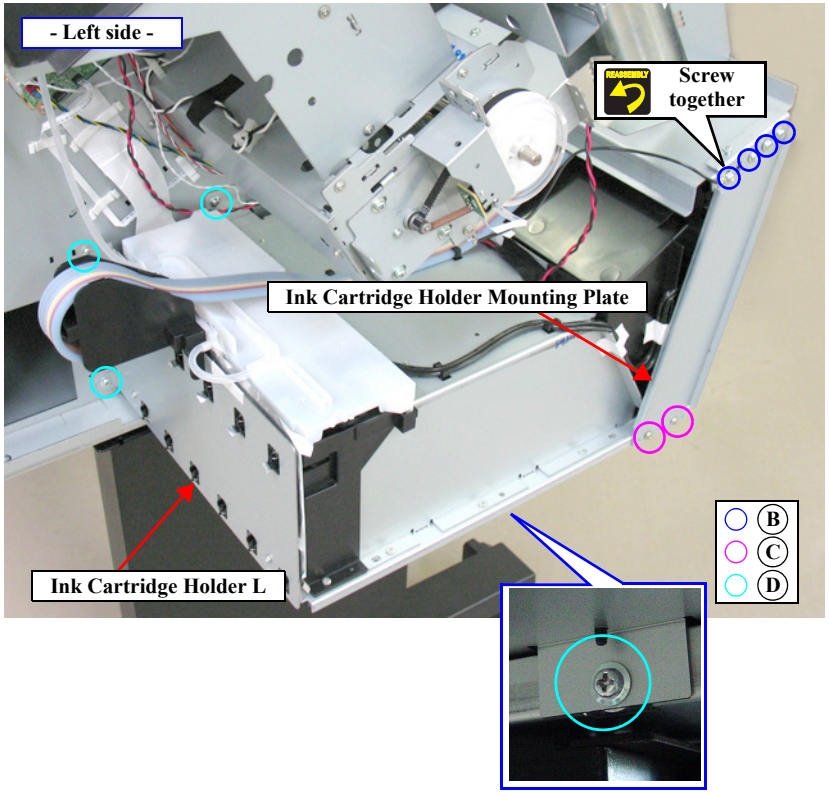


Figure 4-139. Removing the Ink Cartridge Holder L

4.4.6.7 Ink Holder Board Assy L

1. Remove the IC Cover L and the IC Shaft Cover L. *(p115)*
2. Remove the Maintenance Tank L. *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

3. Remove the Left Cover. *(p120)*
4. Pull off the Pressure Tube from the main body.

Make sure to connect the Pressure Tube.

5. Release the Pressure Tube from the guide of the Board Cover.
6. Pull out the Pressure Tube from the hole of the Board Cover.
7. Disengage the two hooks, and remove the Board Cover.

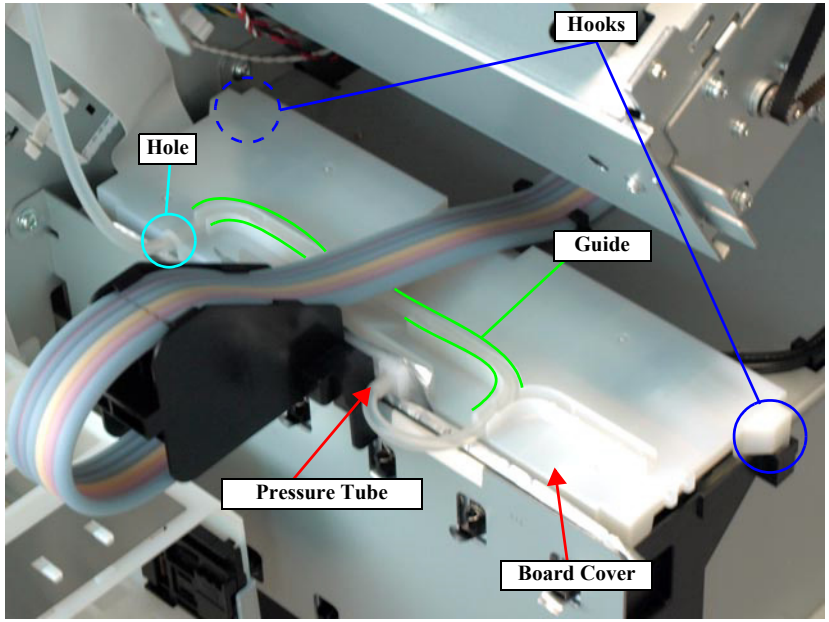


Figure 4-140. Removing the Board Cover

8. Disconnect the connectors (CN408, CN409) and FFC (CN400) from the Ink Holder Board Assy L.

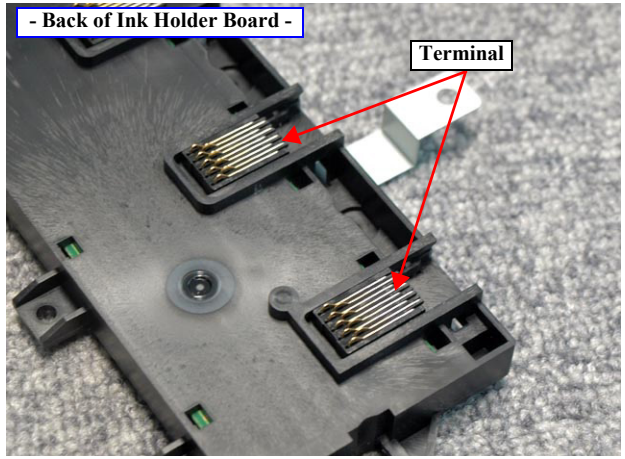
CHECK POINT

Use a stubby driver or a ratchet driver for the following procedure. If you do not have such a driver, remove the Ink Cartridge Holder L before disassembly. *(see p197)*

9. Remove the five screws that secure the plate.
   A) Silver, Phillips, Bind P-tite M3x10: five pieces
10. Remove the plate.
11. Remove the ten screws that secure the Ink Holder Board Assy L.
   B) Silver, Phillips, Bind S-tite M3x6: two pieces
   C) Silver, Phillips, Bind P-tite M3x10: eight pieces
12. Remove the Ink Holder Board Assy L.

REASSEMBLY

Be careful not to damage the CSIC terminal when removing/ installing the Ink Holder Board Assy L.



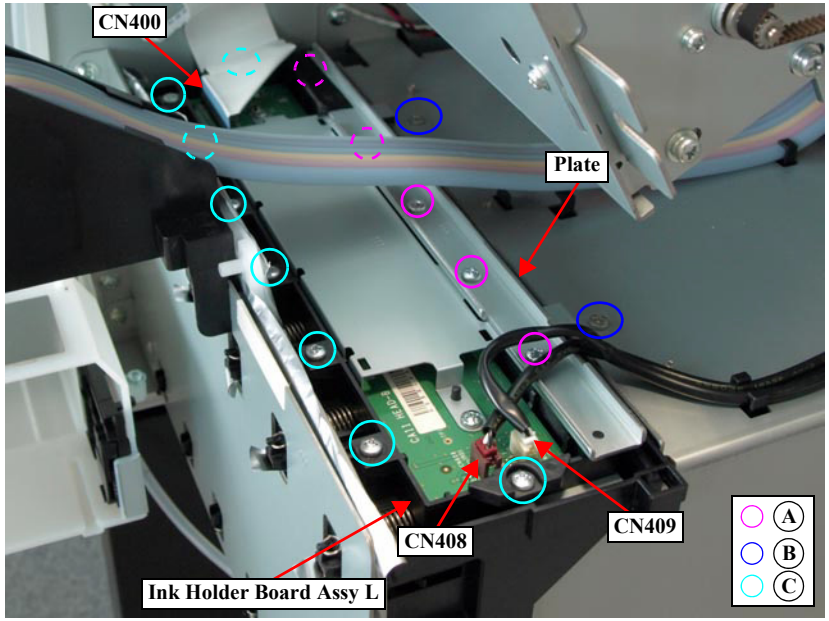


Figure 4-141. Removing the Ink Holder Board Assy L

4.4.6.8 Ink Holder Board Assy R

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*

CHECK POINT

The next step is not necessary when the Ink Cartridge Holder R is already removed.

6. Remove the Ink System Unit. *(p179)*
7. Pull off the Pressure Tube from the main body.

REASSEMBLY

Make sure to connect the Pressure Tube.

8. Release the Pressure Tube from the guide of the Board Cover.
9. Pull out the Pressure Tube from the hole of the Board Cover.
10. Disengage the two hooks, and remove the Board Cover.

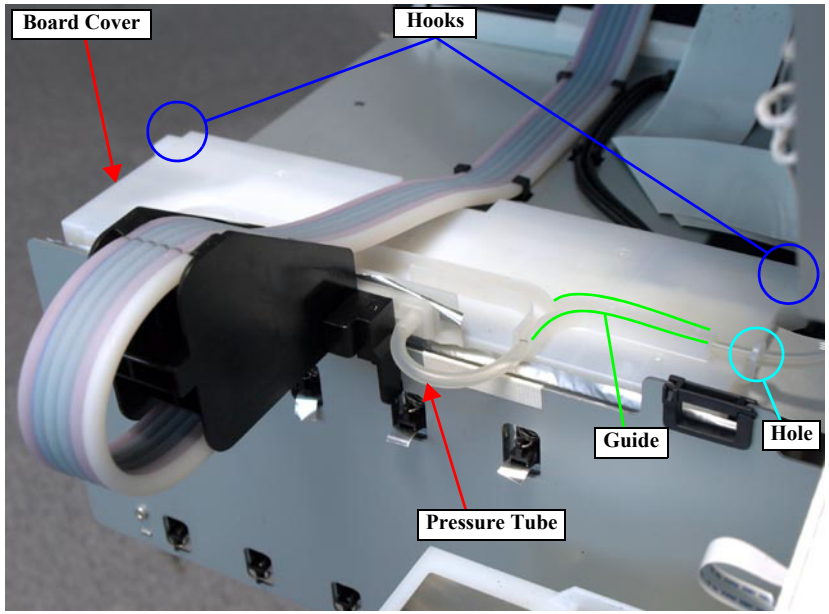
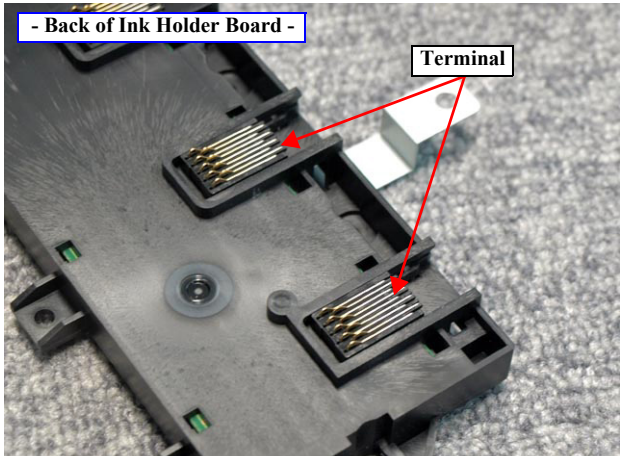


Figure 4-142. Removing the Board Cover

11. Disconnect the FFC (CN400) from the Ink Holder Board Assy and release the FFC from the clamp.
12. Disconnect the connectors (CN408, CN409) from the Ink Holder Board Assy R.
13. Remove the five screws that secure the plate.
    A) Silver, Phillips, Bind P-tite M3x10: five pieces
14. Remove the plate.
15. Remove the ten screws that secure the Ink Holder Board Assy R.
    B) Silver, Phillips, Bind S-tite M3x6: two pieces
    C) Silver, Phillips, Bind P-tite M3x10: eight pieces
16. Remove the Ink Holder Board Assy R.

REASSEMBLY

Be careful not to damage the CSIC terminal when removing/ installing the Ink Holder Board Assy R.



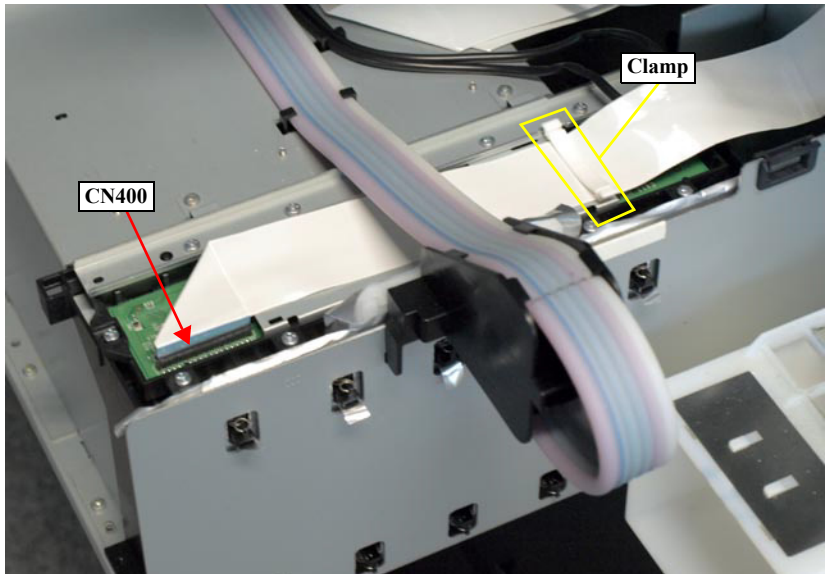


Figure 4-143. Releasing the FFC

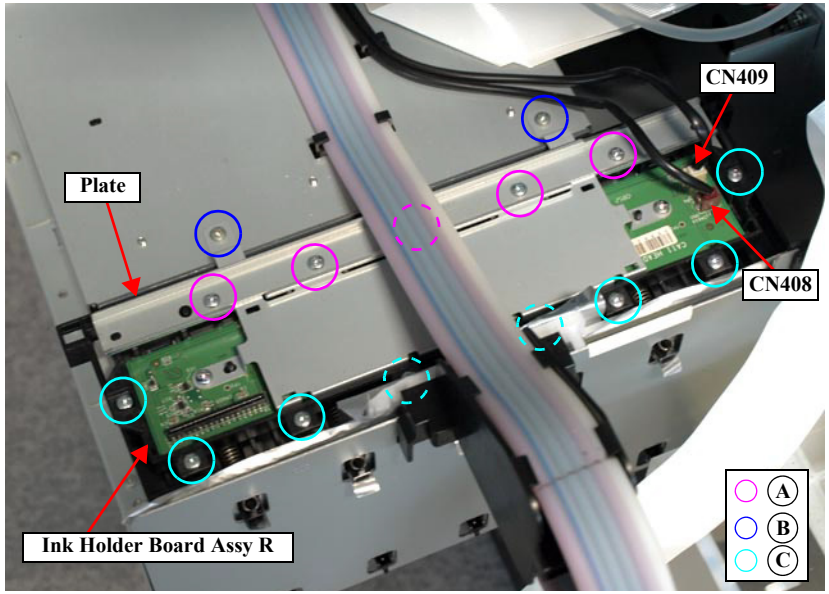


Figure 4-144. Removing the Ink Holder Board Assy R

4.4.6.9 AID Board

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

WARNING

When powering this product, high-voltage current may be applied on the AID Board. To prevent ELECTRIC SHOCK, do not touch the AID Board when the power is ON. If the shock should happen, the flowing current is very tiny, about a few hundreds µA, therefore it will not do any harm on the human body.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Remove the three screws that secure the AID Board Cover.
   A) Silver, Phillips, Round Washer Head S-tite M3x6: three pieces
6. Remove the AID Board Cover.

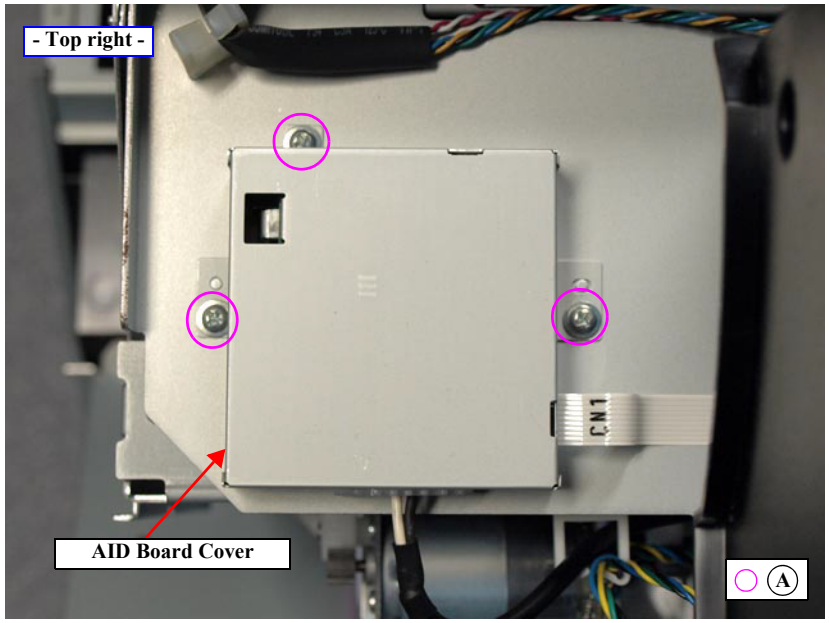


Figure 4-145. Removing the AID Board Cover

7. Remove the three screws that secure the AID Board.
   B) Silver, Phillips, Bind S-tite M3x6: three pieces
8. Remove the AID Board.
9. Disconnect the connector (CN2) and the FFC (CN1) on the AID Board.

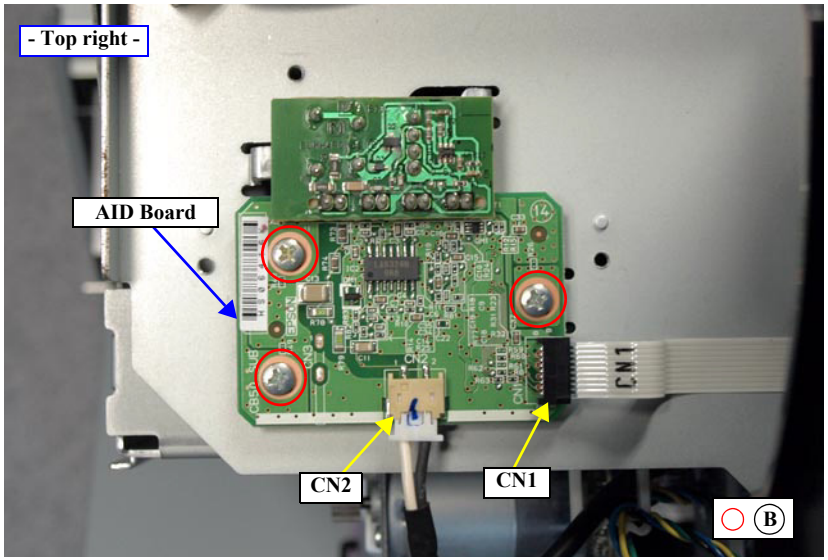


Figure 4-146. Removing the AID Board

4.4.6.10 Ink Mark Sensor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover R and the IC Shaft Cover R. *(p115)*
3. Remove the Maintenance Tank R. *(p117)*
4. Remove the Right Cover. *(p118)*
5. Unlock the Carriage Unit and move it to the center. *(p110)*
6. Remove the three screws that secure the Arm Unit, and remove the Arm Unit.
   A) Silver, Phillips, Bind P-tite with S.W & P.W. M3x10: three pieces

REASSEMBLY

When installing the Arm Unit, be sure to secure the Arm Unit with the screws while pressing it toward the platen.

7. Remove the screw that secure the Ink Mark Sensor Cover, and remove the Ink Mark Sensor Cover.
   B) Silver, Phillips, Bind machine screw M2x6 (bit: No.1): one piece

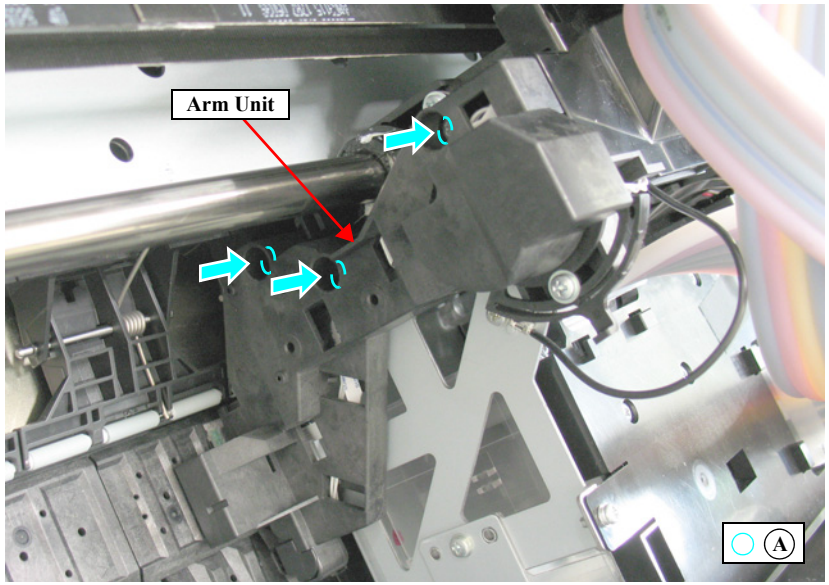


Figure 4-147. Removing the Arm Unit

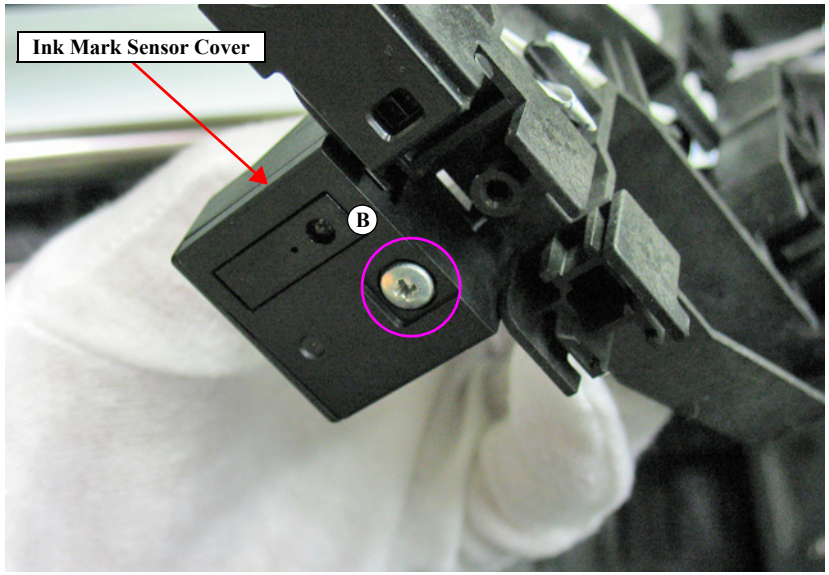


Figure 4-148. Removing the Ink Mark sensor Cover

8. Disconnect the FFC, and remove the Ink Mark Sensor.

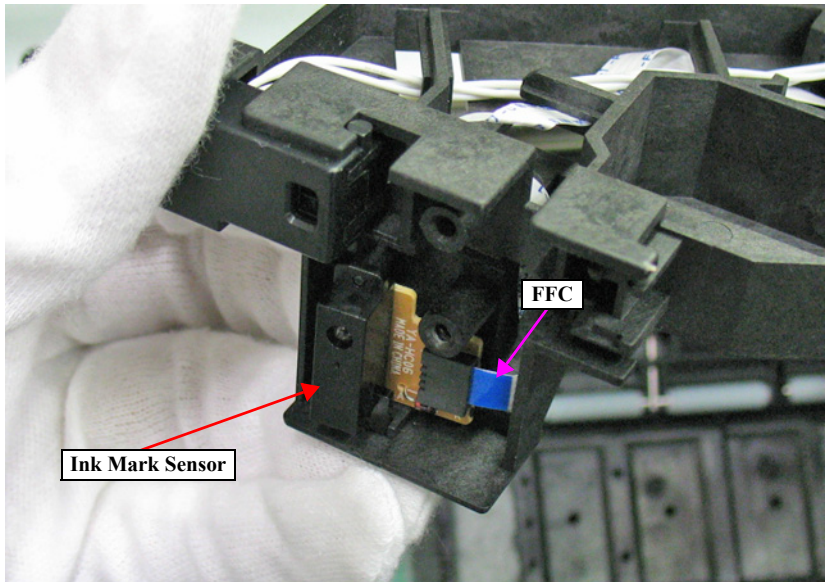


Figure 4-149. Removing the Ink Mark Sensor

4.4.6.11 Ink Selector

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When disassembling this part, be sure to discharge ink in advance following the procedure below.

INK DISCHARGE

1. Remove the user's Maintenance Tank, and install the Maintenance Tank for service.
2. Turn the printer ON.
3. Start the Service Program, and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the **[RUN]** button.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the Maintenance Tank for service, and install the user's Maintenance Tank.

CHECK POINT

After discharging ink, the initial charge flag is automatically set. The next time turning the power on, the initial ink charge sequence starts.

DISASSEMBLING PROCEDURE

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
3. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p118)*
6. Remove the Top Cover. *(p123)*
7. Unlock the Carriage Unit and move it to the center. *(p110)*
8. Disengage the four hooks on the bottom, and remove the CR Belt Cover.
9. Disconnect the connector (CN116, CN118) and FFC (CN105, CN106) on the Sub Board Assy.

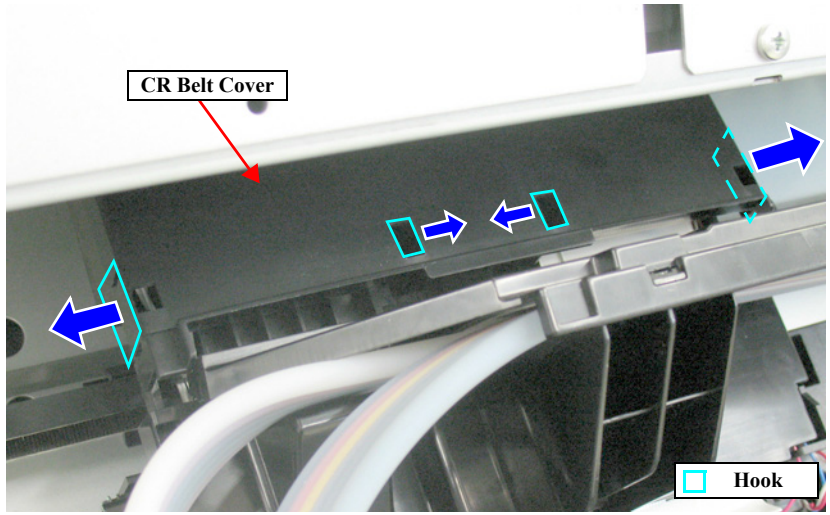


Figure 4-150. Removing the CR Belt Cover

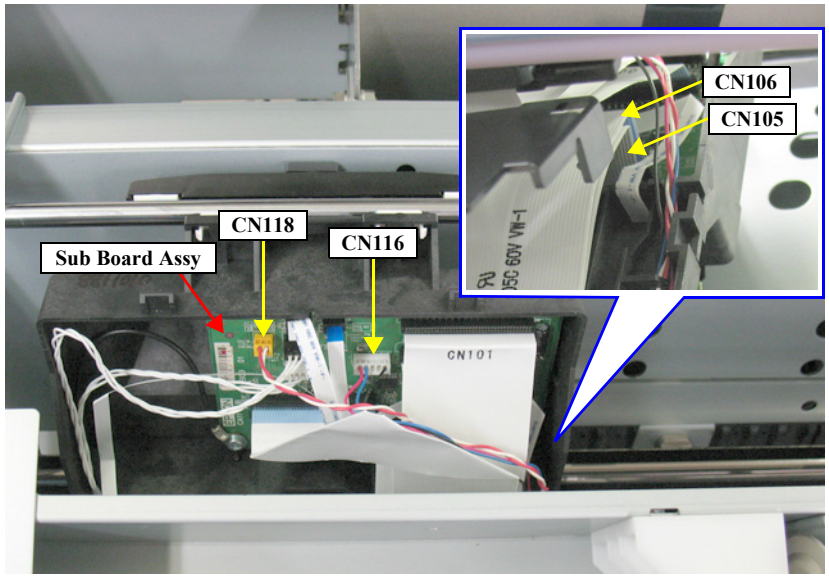


Figure 4-151. Disconnecting the connectors

10. Remove the three screws that secure the Ink Tube Holder.

    A) Silver, Phillips, Bind P-tite with S.W & P.W. M3x8: three pieces

11. Disengage the two hooks that secure the Ink Tube Holder, and remove the Ink Tube Holder.

12. Release the harness from the cable guides.

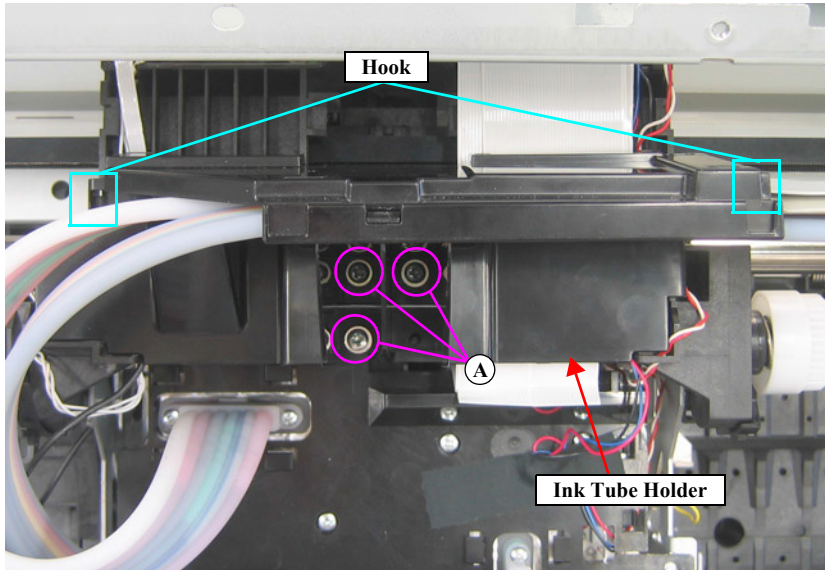


Figure 4-152. Removing the Ink Tube Holder

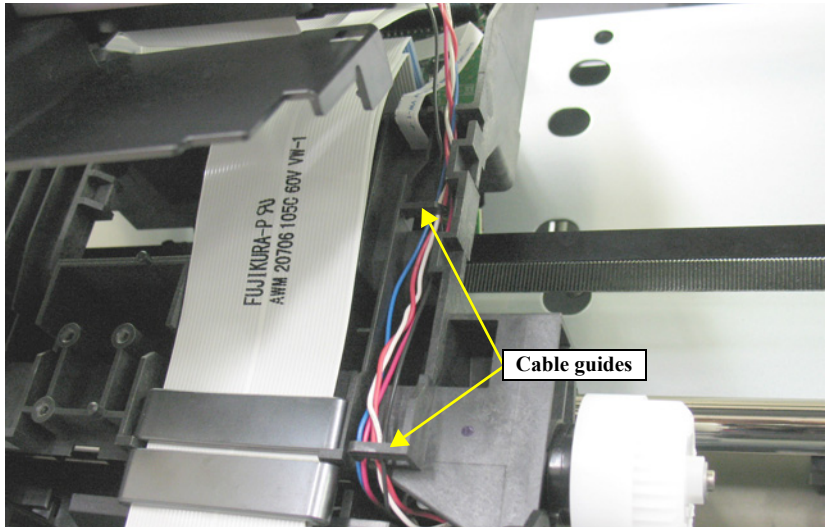


Figure 4-153. Releasing the Harness

13. Slide the two Ink Tube Stoppers in the directions of the arrow to remove them.
14. Remove the two screws that secure the Ink Tube L, and remove the Ink Tube L from the Ink Selector.

    B) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): 2 pieces
15. Remove the two screws that secure the Ink Tube R, and remove the Ink Tube R from the Ink Selector.

    B) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): 2 pieces

REASSEMBLY

- **Use a torque driver with the torque given below when tightening the screws securing the Ink Tube.**
  3±0.5kgf·cm
- **Make sure to install the SEAL RUBBER, JOINT, ASP. The SEAL RUBBER, JOINT, ASP (1518317) is not included in the Ink Cartridge Holder and the Ink Tube; therefore, re-use the originally installed one. Make sure to confirm there is no damage or no foreign material attached on the sealing rubber or the joint section visually then. Installing a damaged part such as mentioned above may cause ink leakage.**

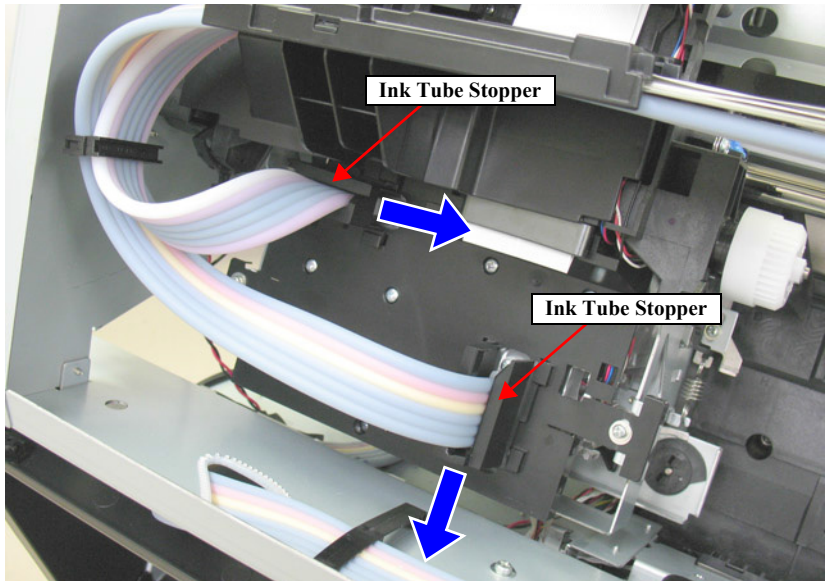


Figure 4-154. Removing the Ink Tube Stopper

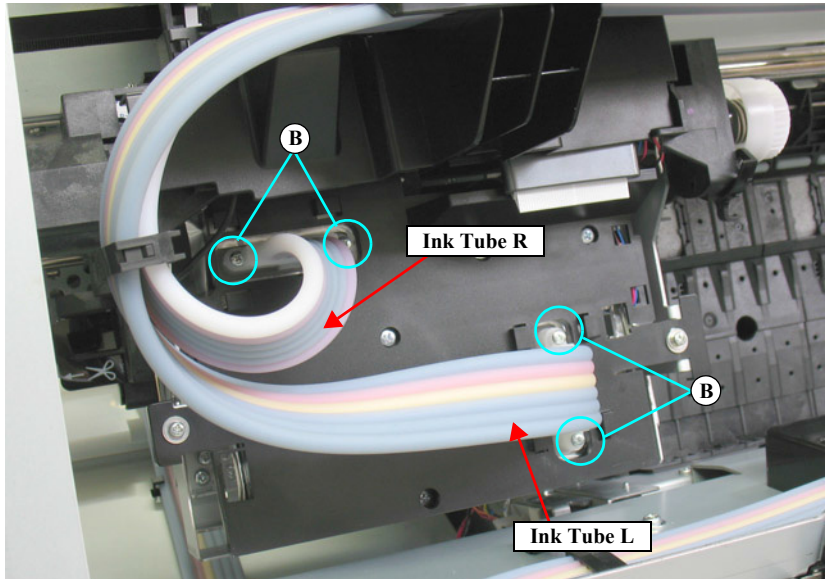


Figure 4-155. Removing the Ink Tube L and R

16. Remove the screws that secure the Ink Selector.
    C) Silver, Phillips, Bind S-tite M3x8: two pieces
    D) Silver, Phillips, Pan screw with S.W & P.W. M3x8: five pieces
    E) Black, Phillips, Bind S-tite M3x12: one piece
17. Remove the Ink Selector.

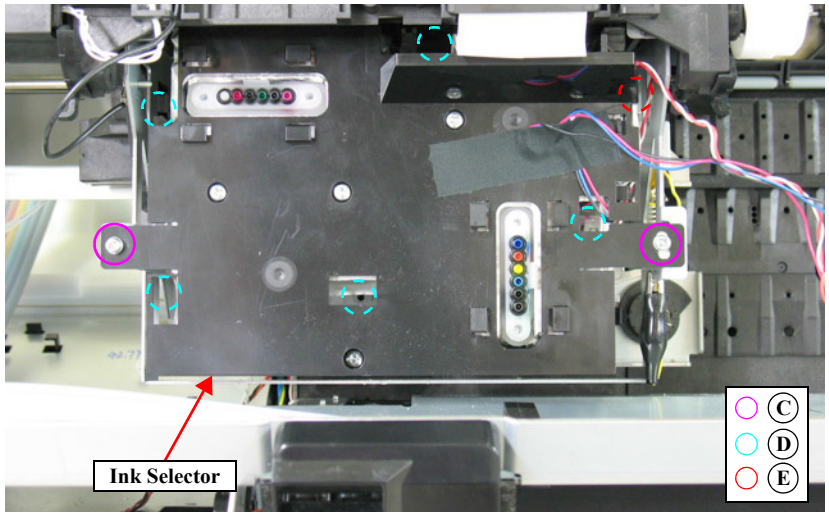


Figure 4-156. Ink Selector fixing screws

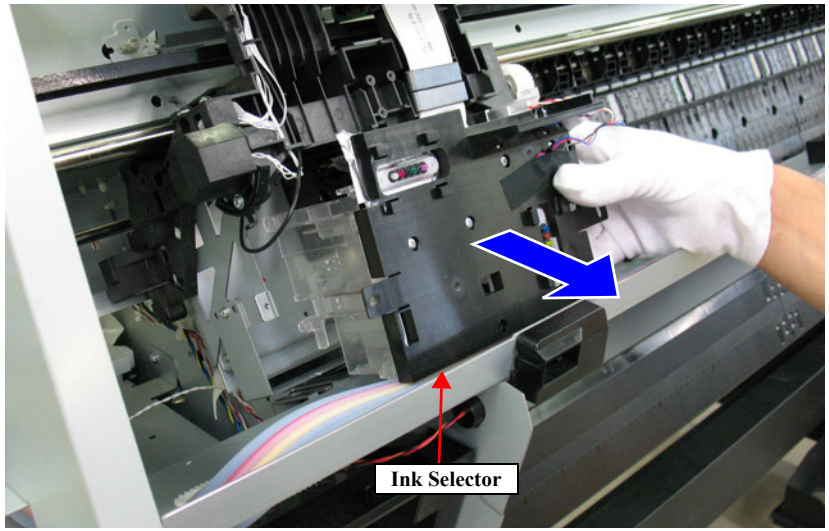


Figure 4-157. Removing the Ink Selector

4.4.6.12 Ink Tube R

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When disassembling this part, be sure to discharge ink in advance following the procedure below.

INK DISCHARGE

1. Remove the user's Maintenance Tank, and install the Maintenance Tank for service.
2. Turn the printer ON.
3. Start the Service Program, and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the **[RUN]** button.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the Maintenance Tank for service, and install the user's Maintenance Tank.

CHECK POINT

After discharging ink, the initial charge flag is automatically set. The next time turning the power on, the initial ink charge sequence starts.

DISASSEMBLING PROCEDURE

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
3. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p118)*
6. Remove the Top Cover. *(p123)*
7. Unlock the Carriage Unit and move it to the center. *(p110)*
8. Remove the Ink Tube Guide.
   (Step 8 in "4.4.5.6 Cutter Unit" *(P. 170)*)
9. Remove the Cutter Cover.
   (Step 10 in "4.4.5.6 Cutter Unit" *(P. 170)*)
10. Remove the Mid-Front Cover.
    (Step 12 in "4.4.5.6 Cutter Unit" *(P. 170)*)
11. Remove the Ink Tube from the Ink Cartridge Cover R.
    (Step 8 to Step 15 in "4.4.6.5 Ink Cartridge Holder R" *(P. 190)*)
12. Remove the two screws that secure the plate, and remove the plate.
    A) Silver, Phillips, Bind P-tite M3x10: two pieces
13. Disengage the eight tube holders, and release the Ink Tube R.
14. Pull out the Ink Tube R from the two holes on the Main Frame.

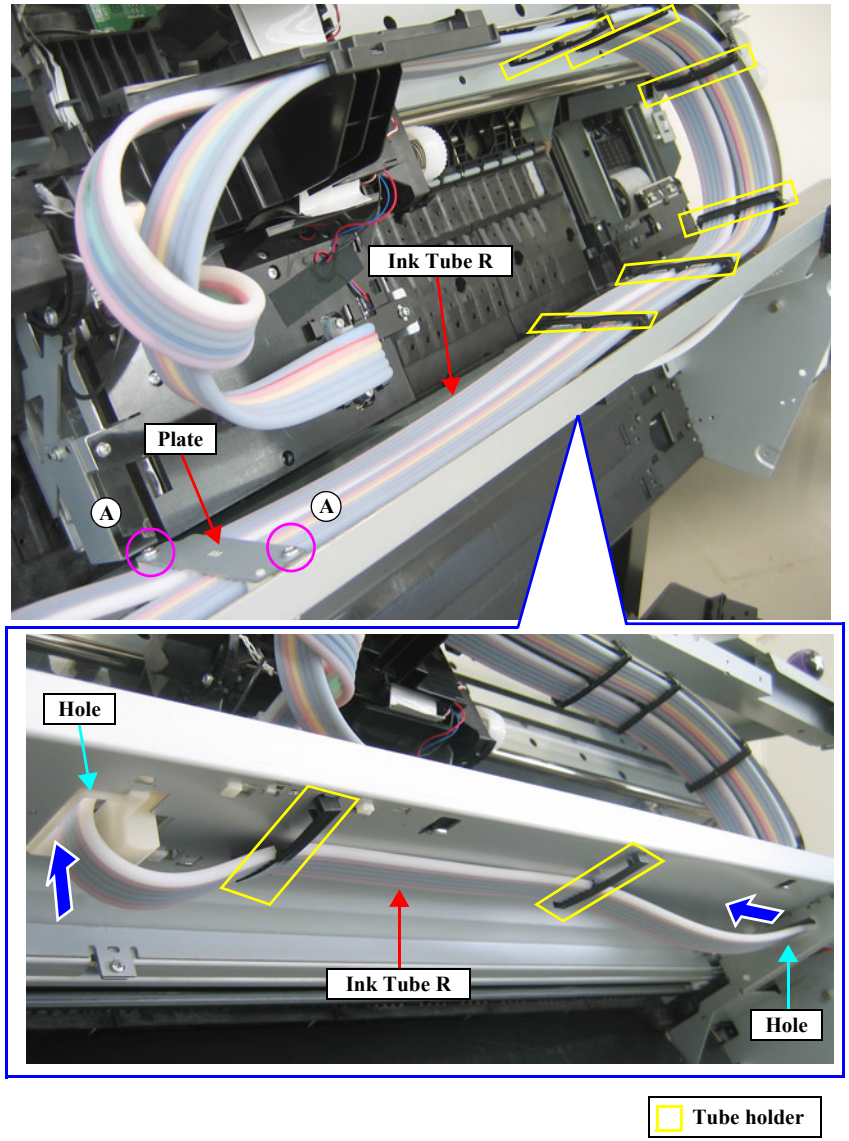


Figure 4-158. Releasing the Ink Tube R

15. Remove the three screws that secure the Ink Tube Holder. *See Figure 4-159.*

    B) Silver, Phillips, Bind P-tite with S.W & P.W. M3x8: three pieces

16. Disengage the two hooks that secure the Ink Tube Holder, and remove the Ink Tube Holder.

17. Remove the two screws that secure the Ink Tube Cover, and remove the Ink Tube Cover. *See Figure 4-160.*

    B) Silver, Phillips, Bind P-tite with S.W & P.W. M3x8: two pieces

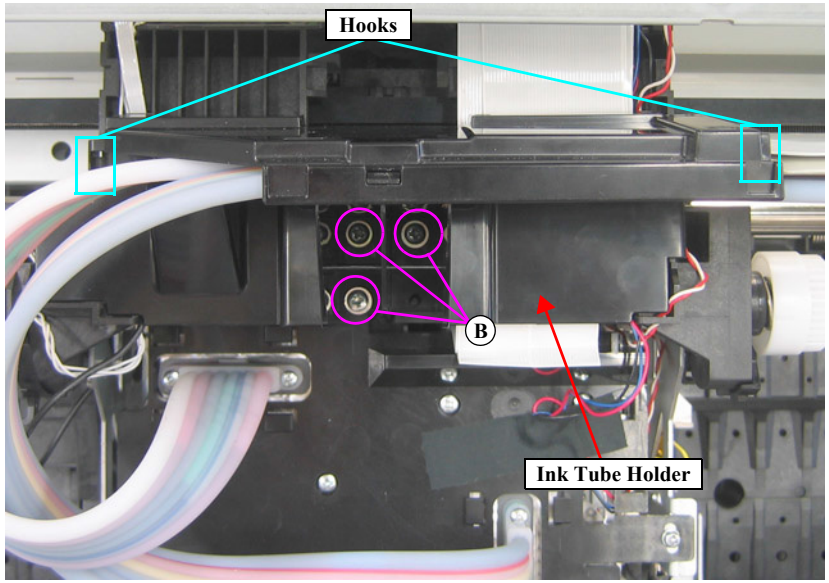


Figure 4-159. Removing the Ink Tube Holder

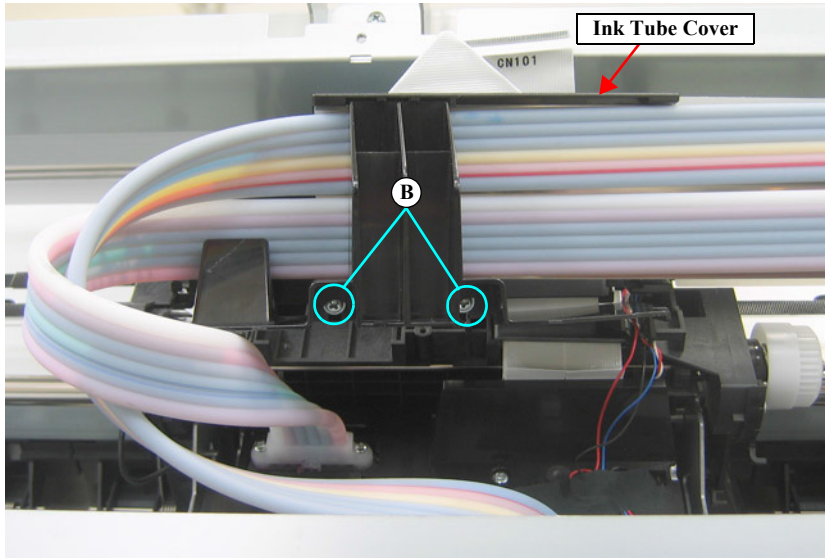


Figure 4-160. Removing the Ink Tube Cover

18. Remove the two screws that secure the Ink Tube R, and remove the Ink Tube R. *See Figure 4-161.*

    C) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): two pieces

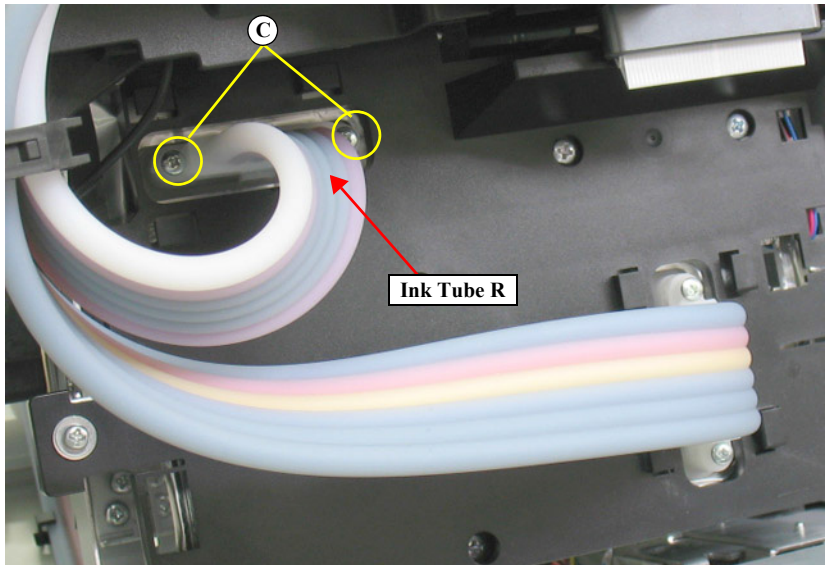
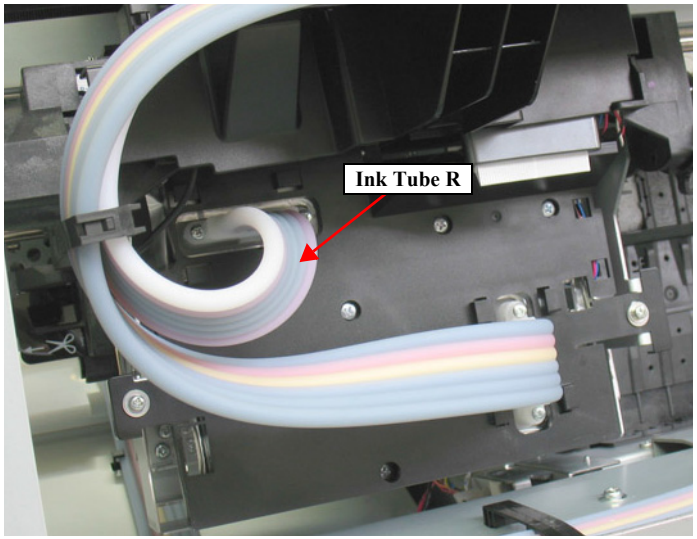


Figure 4-161. Removing the Ink Tube R

REASSEMBLY

- **When connecting the Ink Tube R, make sure to connect it correctly as shown in the figure below.**



- **Use a torque driver with the torque given below when tightening the screws securing the Ink Tube.**
  3±0.5kgf·cm
- **Make sure to install the SEAL RUBBER, JOINT, ASP. The SEAL RUBBER, JOINT, ASP (1518317) is not included in the Ink Cartridge Holder and the Ink Tube; therefore, re-use the originally installed one. Make sure to confirm there is no damage or no foreign material attached on the sealing rubber or the joint section visually then. Installing a damaged part such as mentioned above may cause ink leakage.**

CAUTION

When replacing the Ink Tube R with a new one, make sure to replace the Ink Tube L together.

4.4.6.13 Ink Tube L

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

CAUTION

When disassembling this part, be sure to discharge ink in advance following the procedure below.

INK DISCHARGE

1. Remove the user's Maintenance Tank, and install the Maintenance Tank for service.
2. Turn the printer ON.
3. Start the Service Program, and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the **[RUN]** button.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the Maintenance Tank for service, and install the user's Maintenance Tank.

CHECK POINT

After discharging ink, the initial charge flag is automatically set. The next time turning the power on, the initial ink charge sequence starts.

DISASSEMBLING PROCEDURE

1. Remove the Control Panel. *(p112)*
2. Remove the IC Cover (L/R) and the IC Shaft Cover (L/R). *(p115)*
3. Remove the Maintenance Tank (L/R). *(p117)*

NOTE: There is no Maintenance Tank (L) mounted for the SC-P7000 Series/SC-P6000 Series.

4. Remove the Right Cover. *(p118)*
5. Remove the Left Cover. *(p118)*
6. Remove the Top Cover. *(p123)*
7. Unlock the Carriage Unit and move it to the center. *(p110)*
8. Remove the Ink Tube Guide.
   (Step 5 in "4.4.5.6 Cutter Unit" *(P. 170)*)
9. Remove the Ink Tube from the Ink Cartridge Cover L.
   (Step 10 to Step 13 in "4.4.6.6 Ink Cartridge Holder L" *(P. 197)*)
10. Remove the two screws that secure the plate, and remove the plate.
    (Step 12 in "4.4.6.12 Ink Tube R" *(P. 216)*)
11. Disengage the nine tube holders, and release the Ink Tube L. *See Figure 4-162, 4-163.*
12. Pull out the Ink Tube L from the hole on the Main Frame. *See Figure 4-163.*

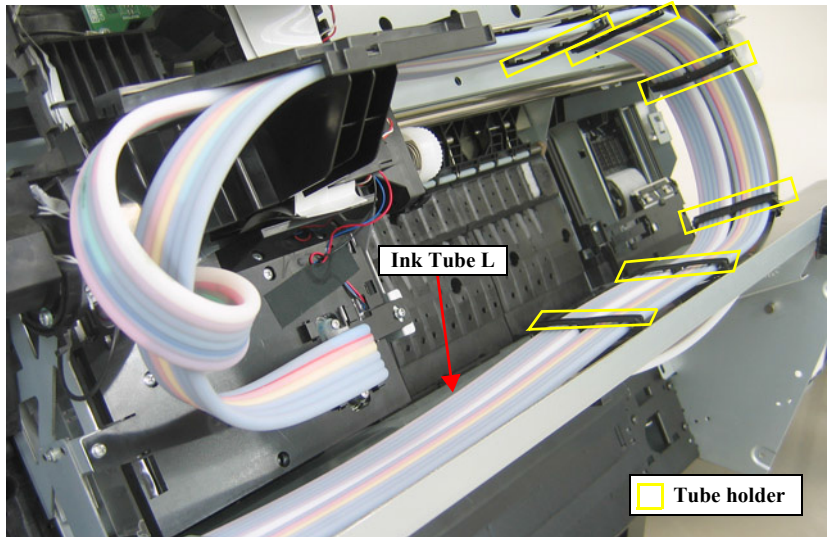


Figure 4-162. Releasing the Ink Tube L (1)

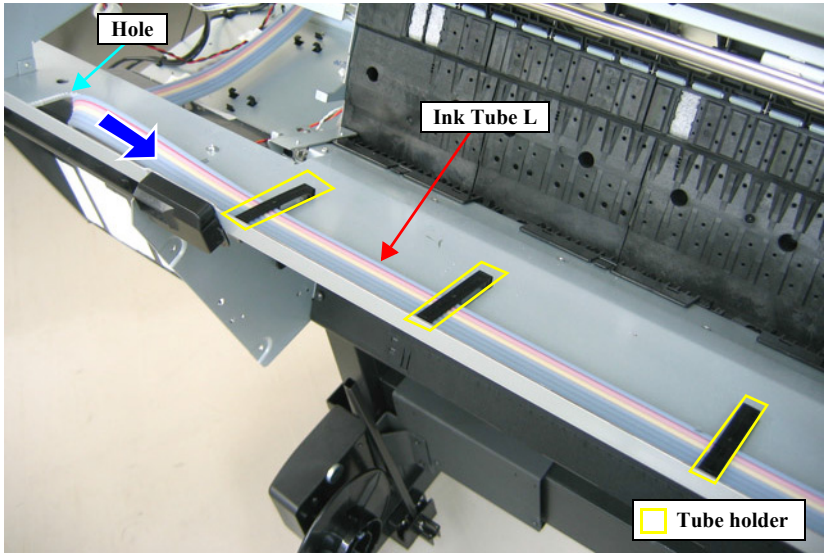
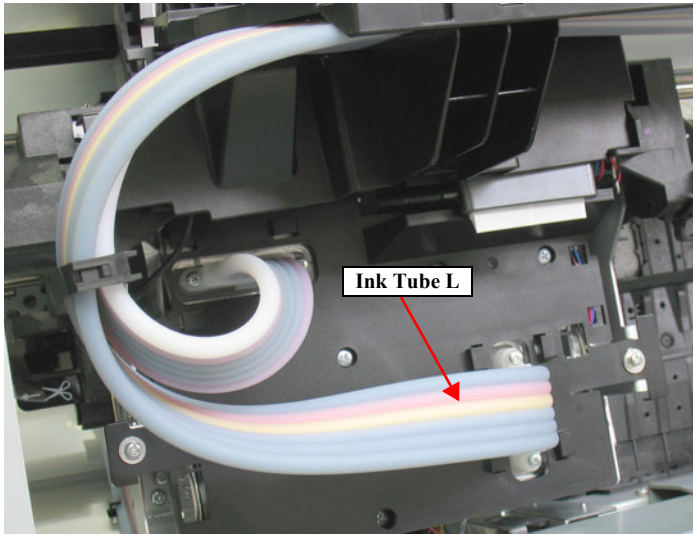


Figure 4-163. Releasing the Ink Tube L (2)

13. Remove the Ink Tube Holder.
    (Step 15 in "4.4.6.12 Ink Tube R" *(P. 216)*)
14. Remove the Ink Tube Cover.
    (Step 17 in "4.4.6.12 Ink Tube R" *(P. 216)*)
15. Remove the two screws that secure the Ink Tube L, and remove the Ink Tube L.
    A) Silver, Phillips, Bind machine screw M2x16 (bit: No.1): two pieces

REASSEMBLY

- **When connecting the Ink Tube L, make sure to connect it correctly as shown in the figure below.**



- **Use a torque driver with the torque given below when tightening the screws securing the Ink Tube.**
  3±0.5kgf·cm
- **Make sure to install the SEAL RUBBER, JOINT, ASP. The SEAL RUBBER, JOINT, ASP (1518317) is not included in the Ink Cartridge Holder and the Ink Tube; therefore, re-use the originally installed one. Make sure to confirm there is no damage or no foreign material attached on the sealing rubber or the joint section visually then. Installing a damaged part such as mentioned above may cause ink leakage.**

CAUTION

When replacing the Ink Tube L with a new one, make sure to replace the Ink Tube R together.

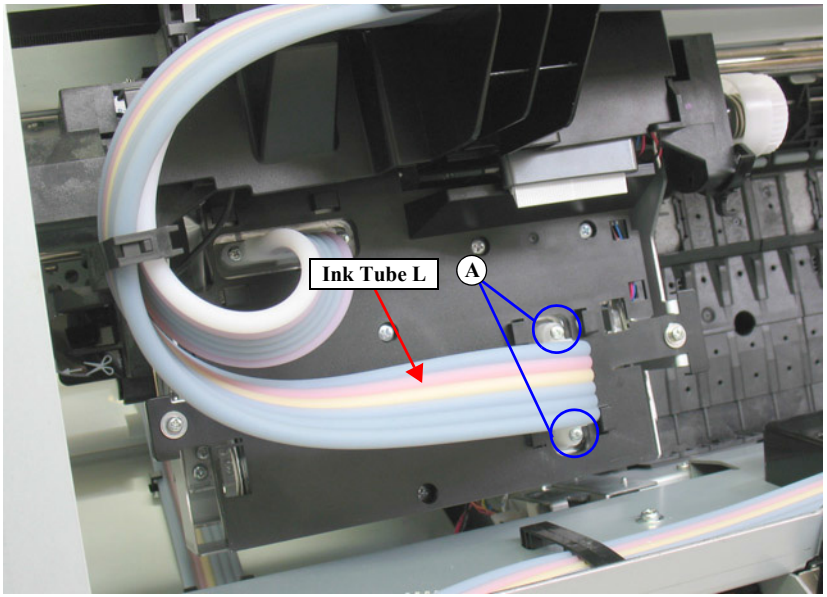


Figure 4-164. Removing the Ink Tube L

4.4.7 Auto Take-up Reel

4.4.7.1 Take-up Reel Cover

1. Remove the two screws that secure the Auto Take-up Reel.

   A) Silver, Phillips, Pan S-tite with S.W & P.W. M4x10: two pieces

2. Hold up the Auto Take-up Reel to disengage the hook, and remove the Auto Take-up Reel.
3. Remove the four screws that secure the Take-up Reel Cover, and remove the Take-up Reel Cover from the Auto Take-up Reel.

   B) Black, Phillips, Pan P-tite M3x10: four pieces

4. Disengage the six hooks that secure the Panel Cover from inside, and remove the Panel Cover from the Take-up Reel Cover.

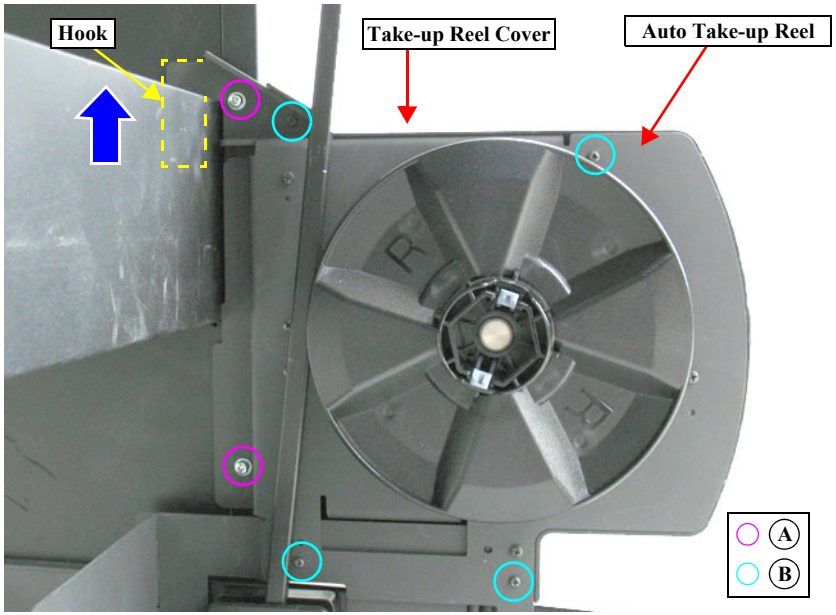


Figure 4-165. Removing the Auto Take-up Reel

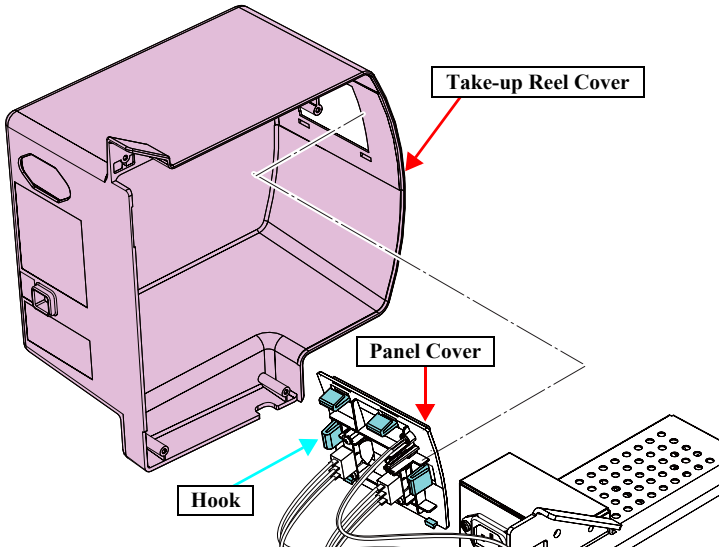


Figure 4-166. Removing the Take-up Reel Cover

4.4.7.2 Take-up Reel Sensor

1. Remove the screw that secures the Take-up Reel Sensor.
   A) Black, Phillips, Bind P-tite M3x10: one piece
2. Remove the Take-up Reel Sensor from the Auto Take-up Reel.
3. Disconnect the connector from the Take-up Reel Sensor.

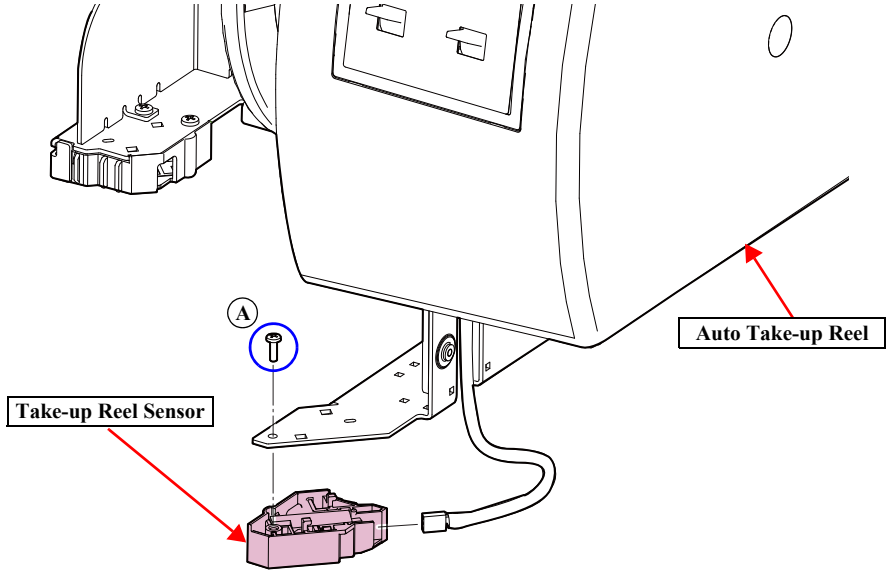


Figure 4-167. Removing the Take-up Reel Sensor

4.4.7.3 Take-up Reel LED

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the Take-up Reel Cover. *(p223)*
3. Disconnect the connector (CN1) on the Main Board.
4. Remove the four screws that secure the Power Supply Unit, and remove the Power Supply Unit.

   A) Black, Phillips, Bind S-tite M3x6: four pieces
5. Disconnect the connector (CN23) on the Main Board.
6. Release the harness from the cable guide, and remove the Take-up Reel LED.

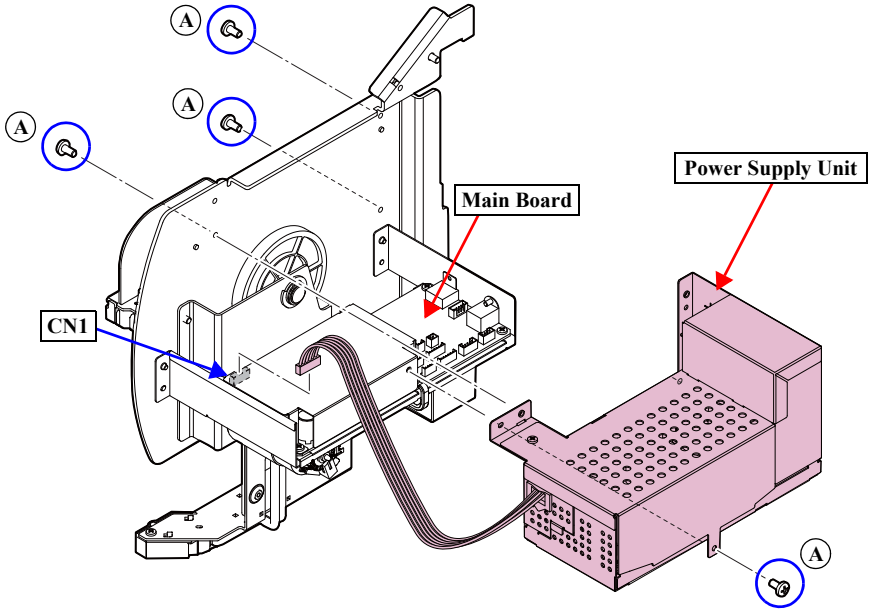


Figure 4-169. Removing the Power Supply Unit

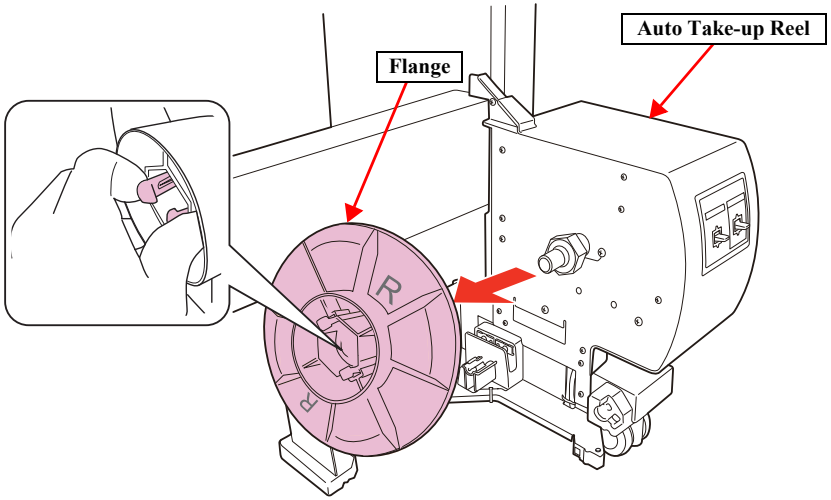


Figure 4-168. Removing the Flange

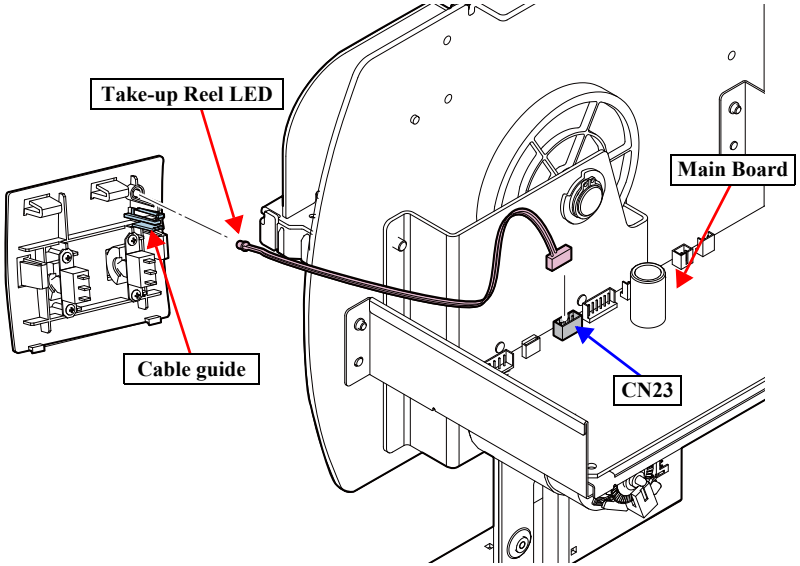


Figure 4-170. Removing the Take-up Reel LED

4.4.7.4 Take-up Reel Switch

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the Take-up Reel Cover. *(p223)*
3. Disconnect the connector (CN1) on the Main Board.
4. Remove the four screws that secure the Power Supply Unit, and remove the Power Supply Unit.

   A) Black, Phillips, Bind S-tite M3x6: four pieces

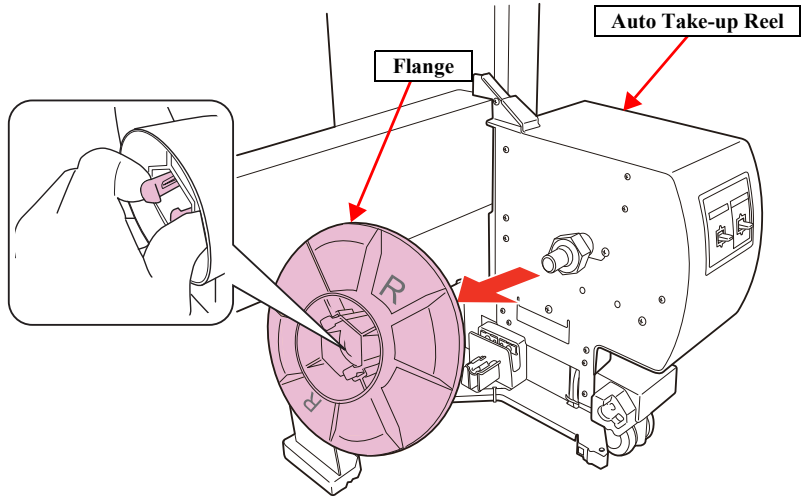


Figure 4-171. Removing the Flange

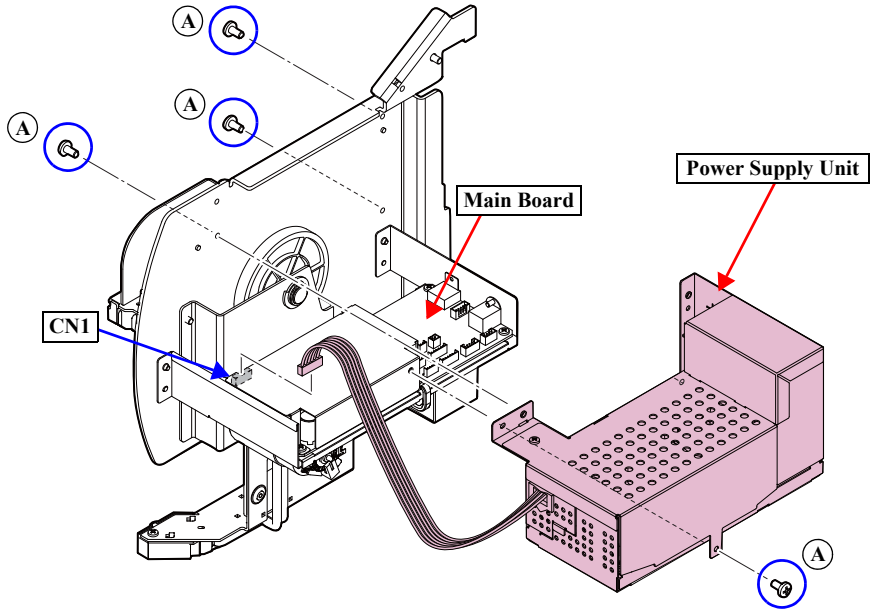
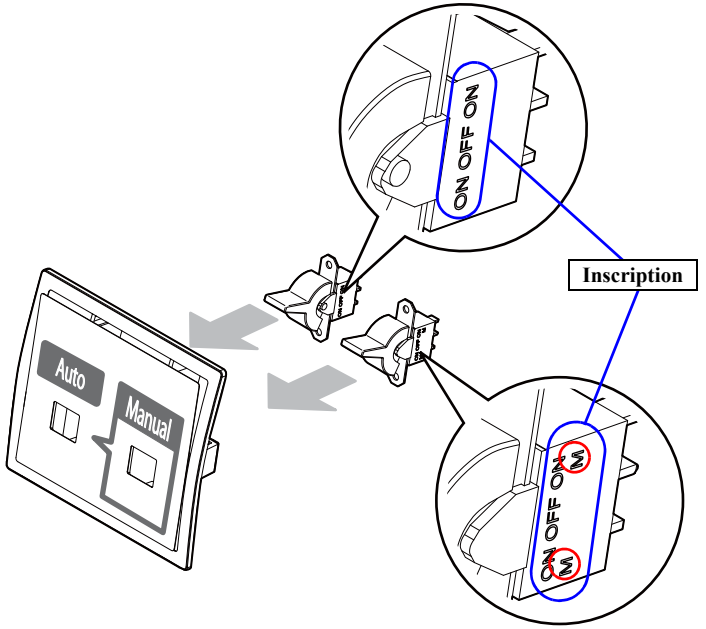


Figure 4-172. Removing the Power Supply Unit

5. Disconnect the connector (CN17) on the Main Board.
6. Remove the four screws that secure the Take-up Reel Switch, and remove the Take-up Reel Switch from the Panel Cover.

   B) Black, Phillips, Bind P-tite screw M2x7 (bit: No.1): four pieces

Install the Take-up Reel Switch with the "ON/OFF/ON" inscription to the right. And install the Take-up Reel Switch with "M" inscription to the Manual side.



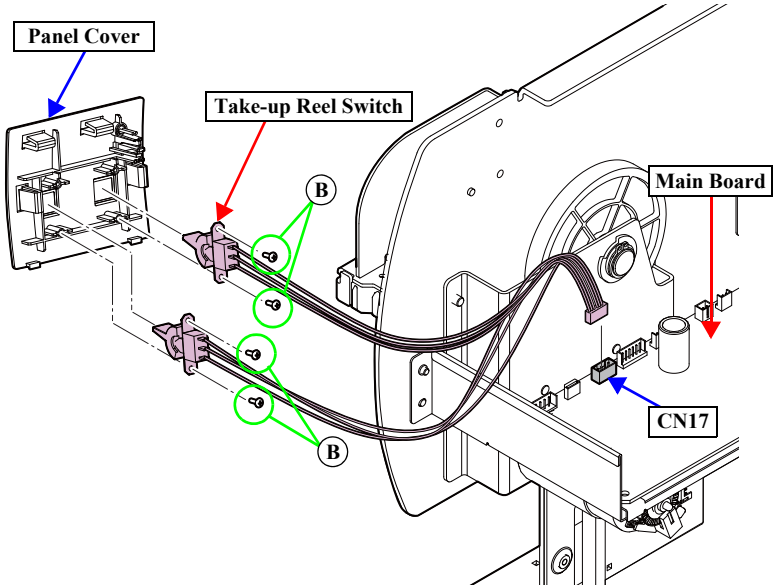


Figure 4-173. Removing the Take-up Reel Switch

4.4.7.5 Power Supply Board

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the Take-up Reel Cover. *(p223)*
3. Remove the two screws that secure the Plate A, and remove the Plate A.
   A) Black, Phillips, Bind S-tite M3x6: two pieces
4. Remove the two screws that secure the Plate B, and remove the Plate B.
   B) Black, Phillips, Bind S-tite M3x6: one piece
   C) Black, Phillips, Bind S-tite M4x8: one piece

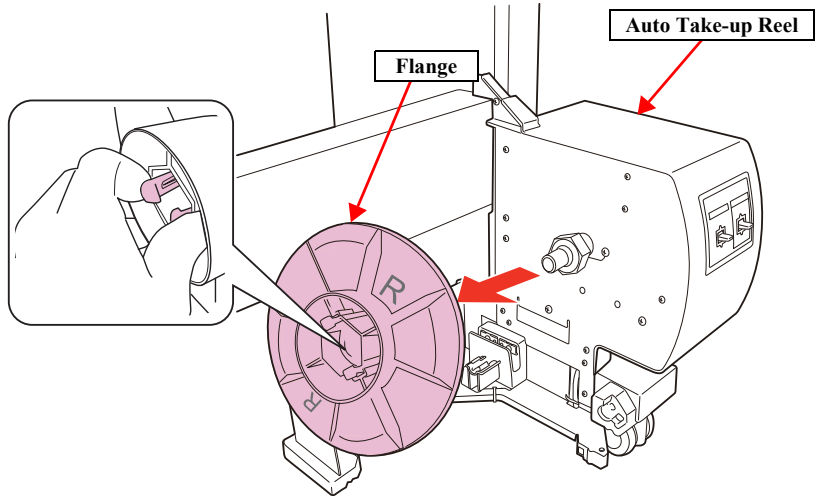


Figure 4-174. Removing the Flange

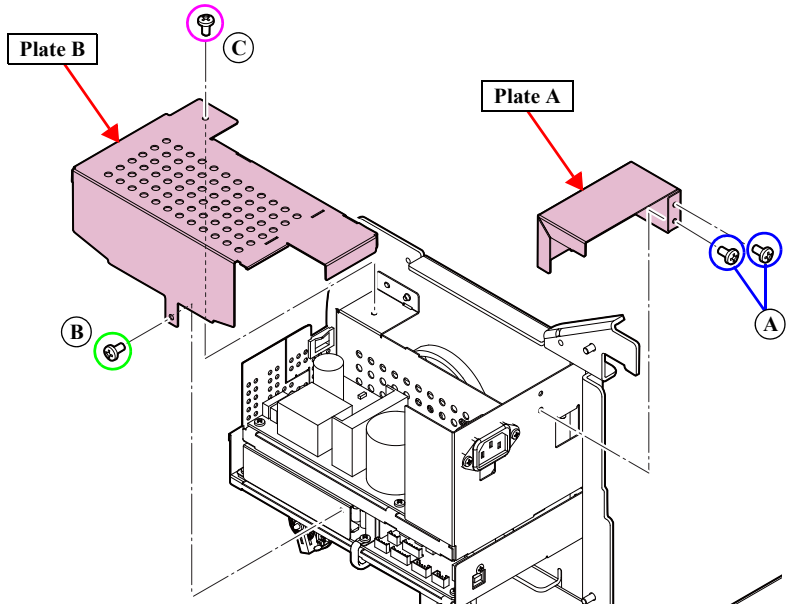
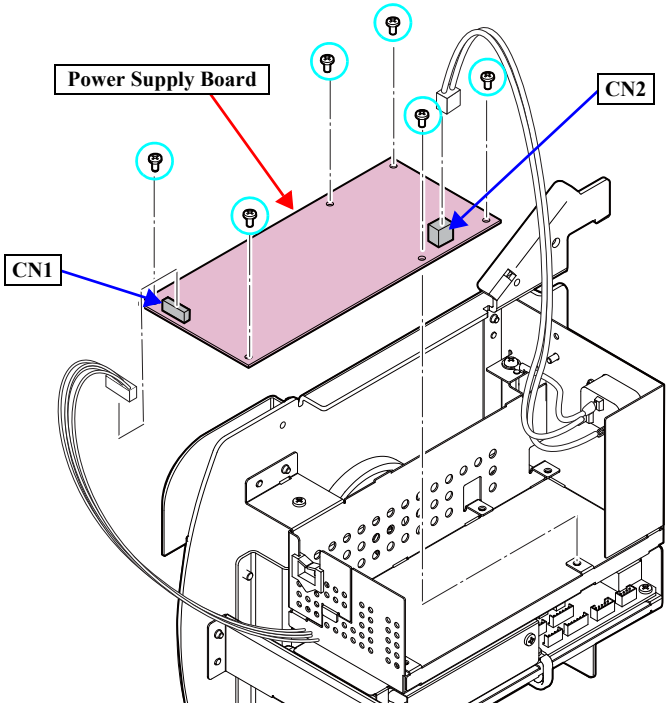


Figure 4-175. Removing the Plate A/B

5. Remove the six screws that secure the Power Supply Board, and remove the Power Supply Board.

   D) Black, Phillips, Bind S-tite M3x6: six pieces

6. Disconnect the connectors (CN1, CN2) on the Power Supply Board.



D

Figure 4-176. Removing the Power Supply Board

4.4.7.6 Take-up Reel Motor

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the Take-up Reel Cover. *(p223)*
3. Disconnect the connector (CN1) on the Main Board.
4. Remove the four screws that secure the Power Supply Unit, and remove the Power Supply Unit.

   A) Black, Phillips, Bind S-tite M3x6: four pieces

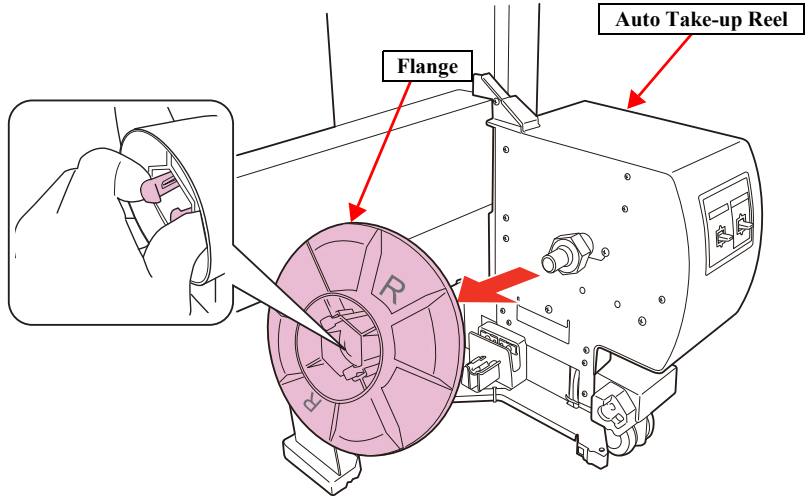


Figure 4-177. Removing the Flange

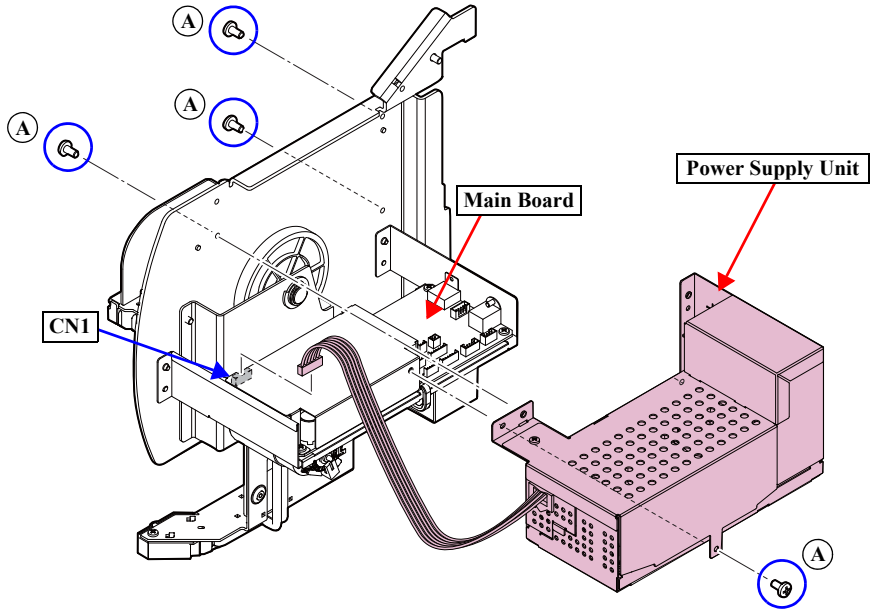


Figure 4-178. Removing the Power Supply Unit

5. Remove the two screws that secure the Main Board Unit.

   B) Black, Phillips, Bind S-tite M3x6: two pieces

6. Disconnect the connector from the Take-up Reel Motor, and remove the Main Board Unit.
7. Remove the C-Ring.
8. Remove the four screws that secure the Motor Mounting Plate, and remove the Motor Mounting Plate.

   C) Black, Phillips, Bind S-tite M4x8: four pieces

9. Remove the two gears from the Motor Mounting Plate.
10. Remove the two screws that secure the Take-up Reel Motor, and remove the Take-up Reel Motor.

    D) Black, Phillips, Bind S-tite with S.W & P.W. M3x6: two pieces

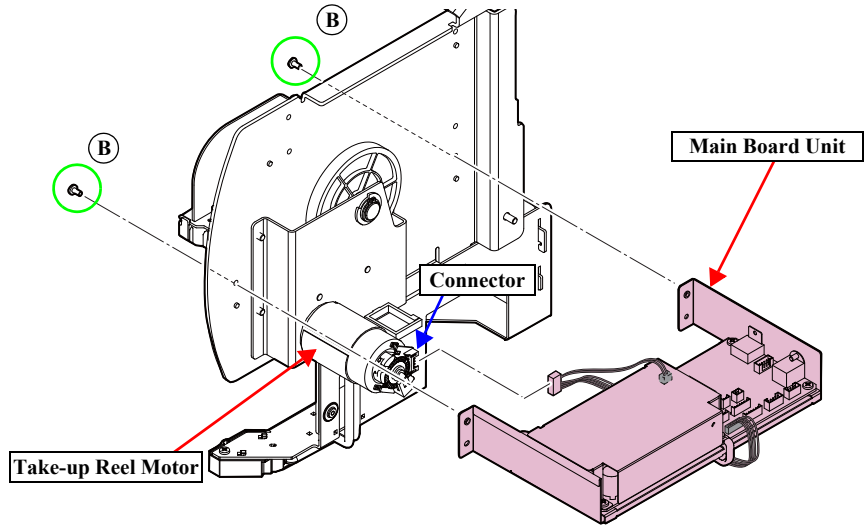


Figure 4-179. Removing the Main Board Unit

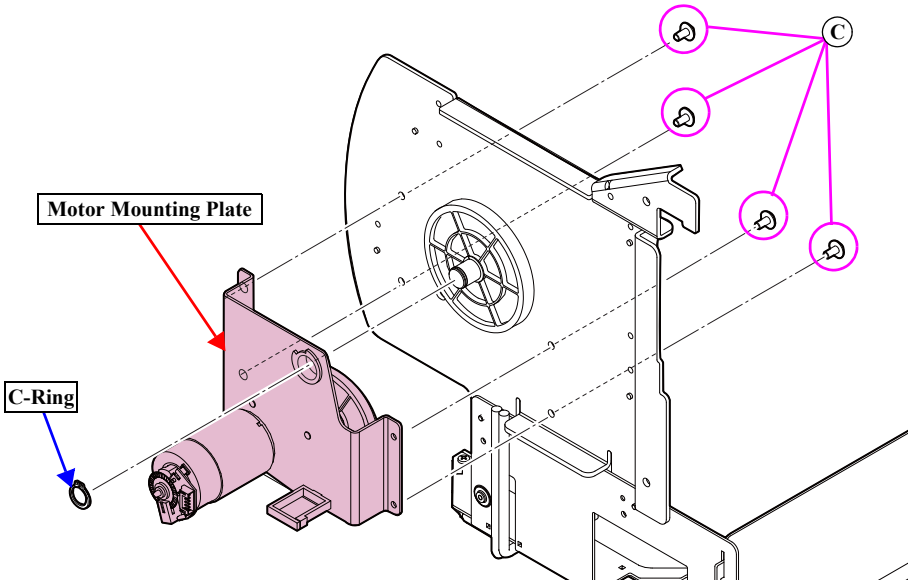


Figure 4-180. Removing the Motor Mounting Plate

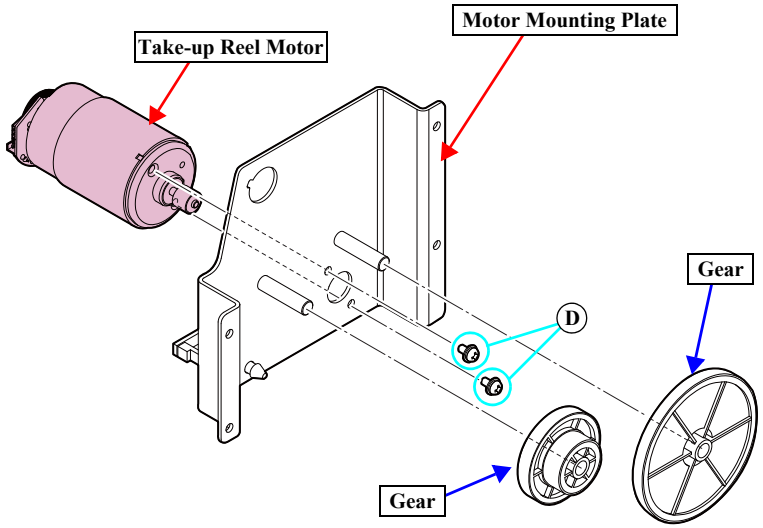


Figure 4-181. Removing the Take-up Reel Motor

4.4.7.7 Main Board Assy

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the Take-up Reel Cover. *(p223)*
3. Disconnect the connector (CN1) on the Main Board.
4. Remove the four screws that secure the Power Supply Unit, and remove the Power Supply Unit.
   A) Black, Phillips, Bind S-tite M3x6: four pieces

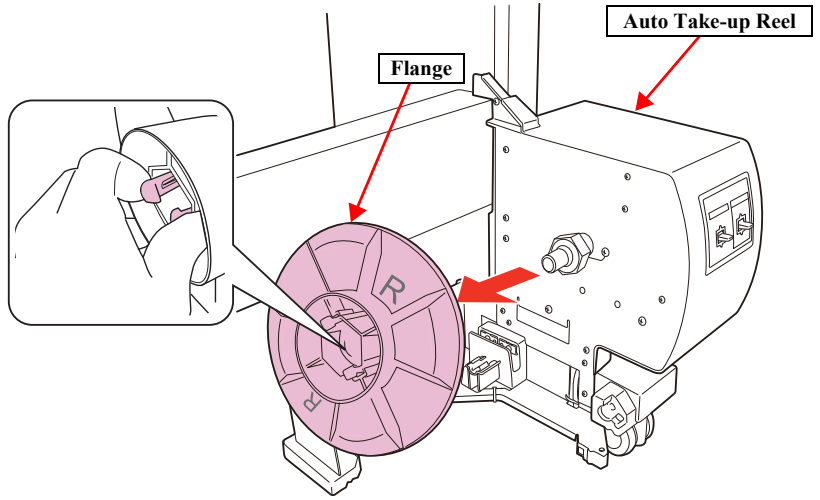


Figure 4-182. Removing the Flange

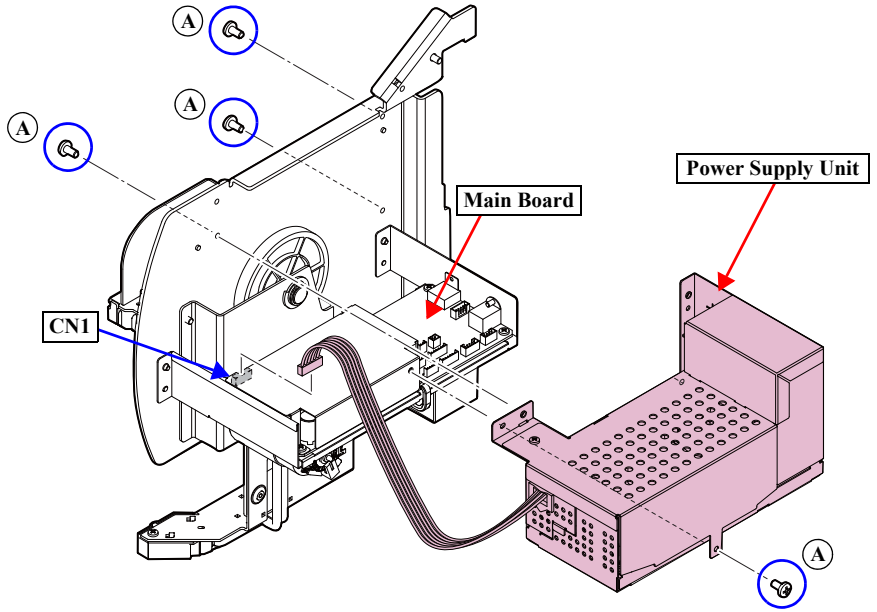


Figure 4-183. Removing the Power Supply Unit

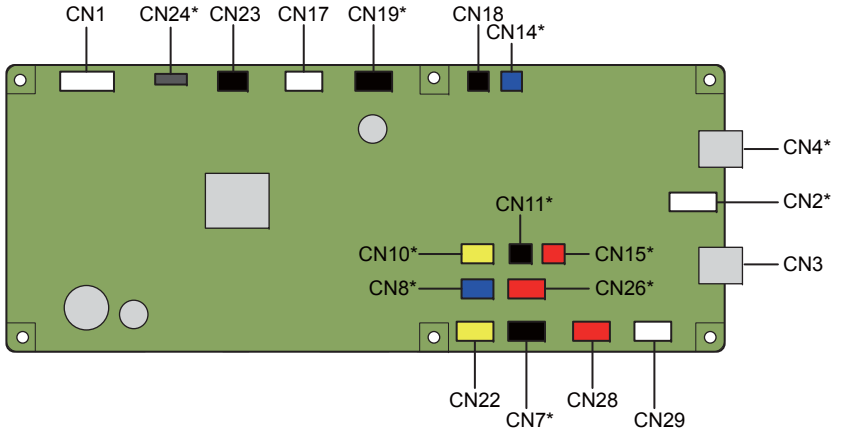
5. Remove the four screws that secure the Shield Plate, and remove the three clamps and the Shield Plate.

   B) Black, Phillips, Bind S-tite M3x6: four pieces

6. Disconnect all the connectors on the Main Board.

7. Remove the three screws that secure the Main Board Assy, and remove the Main Board Assy.

   C) Black, Phillips, Bind S-tite M3x6: three pieces



*: Unused connectors

Figure 4-185. Connector location

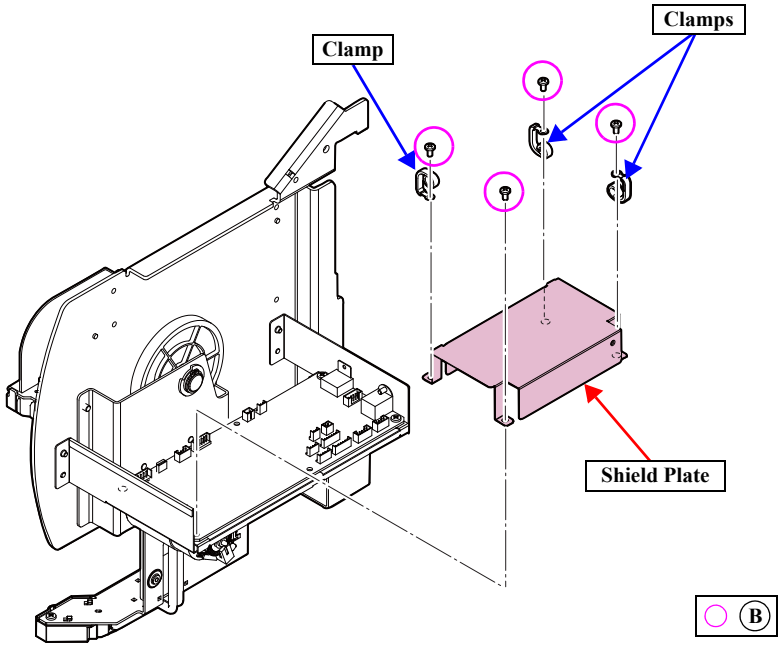


Figure 4-184. Removing the Shield Plate

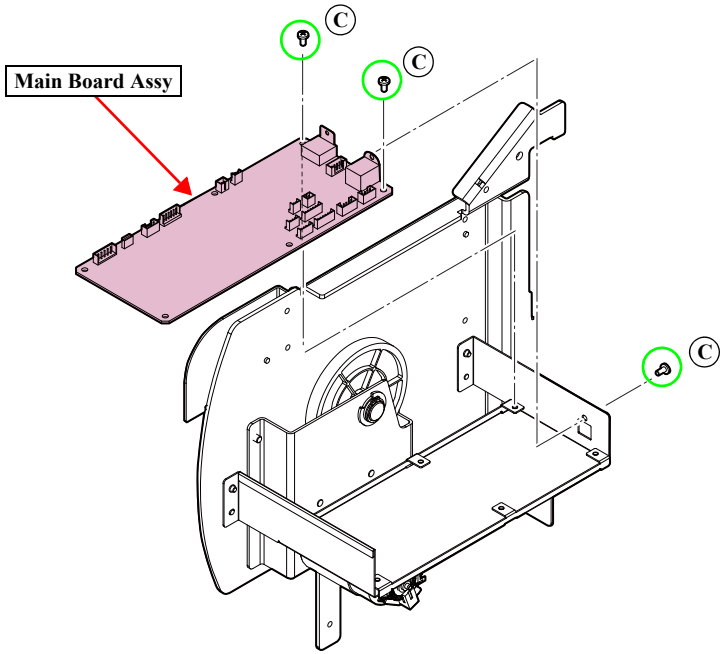


Figure 4-186. Removing the Main Board Assy

Connector assignment:

Connector No.	Color	Destination
CN1	White	Power Supply Board (CN2)
CN2	White	Unused
CN3	-	USB-A
CN4	-	Unused
CN7	Black	Unused
CN8	Blue	Unused
CN10	Yellow	Unused
CN11	Black	Unused
CN14	Blue	Unused
CN15	Red	Unused
CN17	White	Take-up Reel Switch
CN18	Black	Take-up Reel Motor
CN19	Black	Unused
CN22	Yellow	Take-up Reel Motor
CN23	Black	LED
CN24	(FFC)	Unused
CN26	Red	Unused
CN28	Red	Take-up Reel Sensor
CN29	White	Take-up Reel Sensor

4.4.8 SpectroProofer

4.4.8.1 Color Measurement Device

CAUTION

- **Do not touch the lens of the Color Measurement Device.**
- **When removing the Color Measurement Device, be careful not to drop it.**

1. Detach the power cord from the Mounter.
2. Open the cover, and disconnect the connection cables for printer and the Auto Take-up Reel.

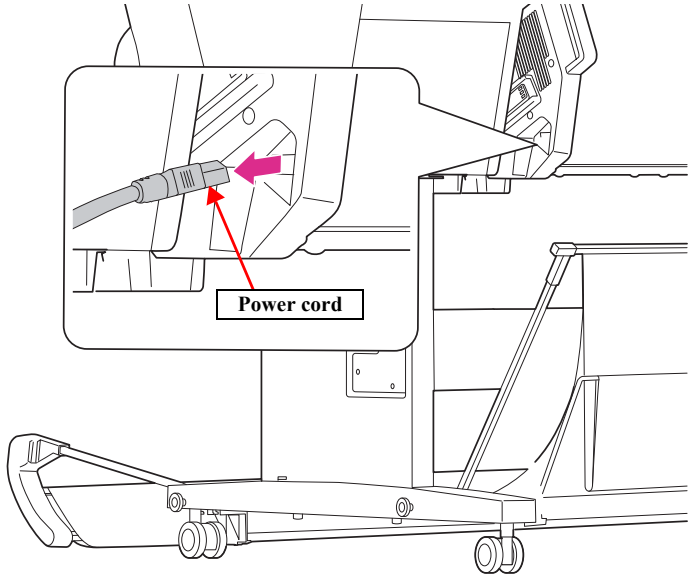


Figure 4-187. Detaching the power cord

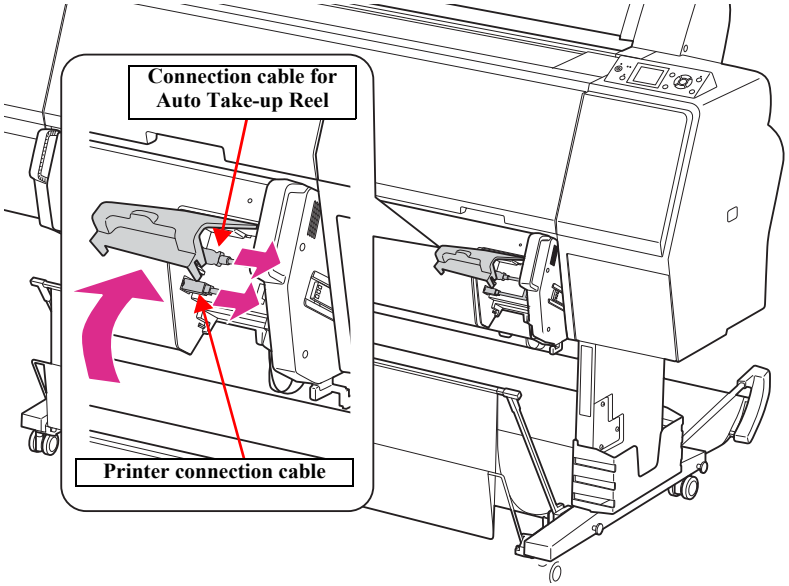


Figure 4-188. Disconnecting the cables

3. Disconnect the mini USB interface cable and the DC cable connected to the Color Measurement Device.
4. Hold the rear of the Color Measurement Device, and lift it forward slightly, then remove it.

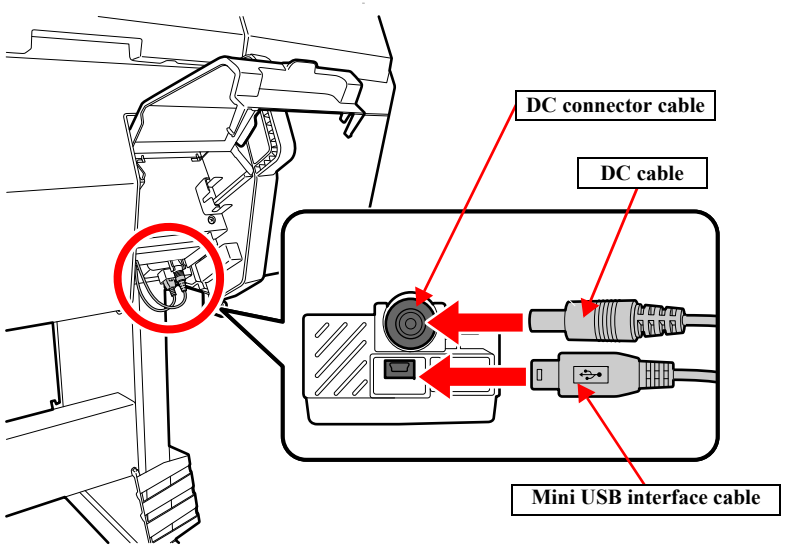


Figure 4-189. Disconnecting the cables

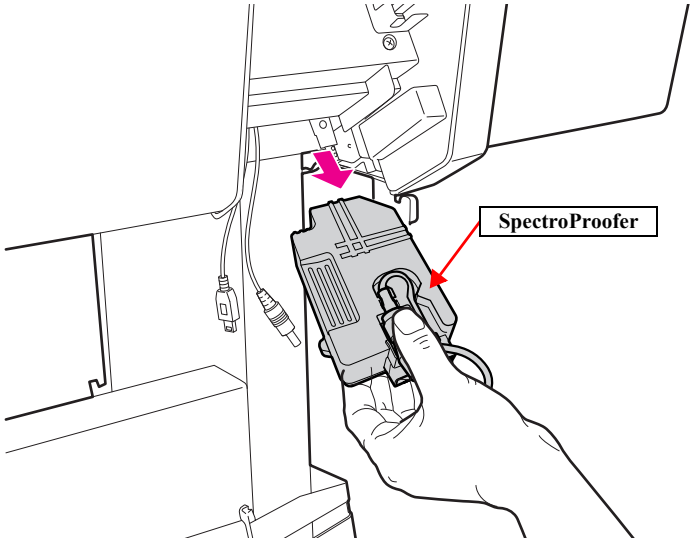


Figure 4-190. Removing the Color Measurement Device

4.4.8.2 Mounter

CAUTION

When removing the Mounter, make sure to hold it up supporting the locations shown in the figure by two or more people.

1. Remove the Color Measurement Device. *(p236)*
2. Hold the handles and lift it by two people to remove the Mounter from the main body.

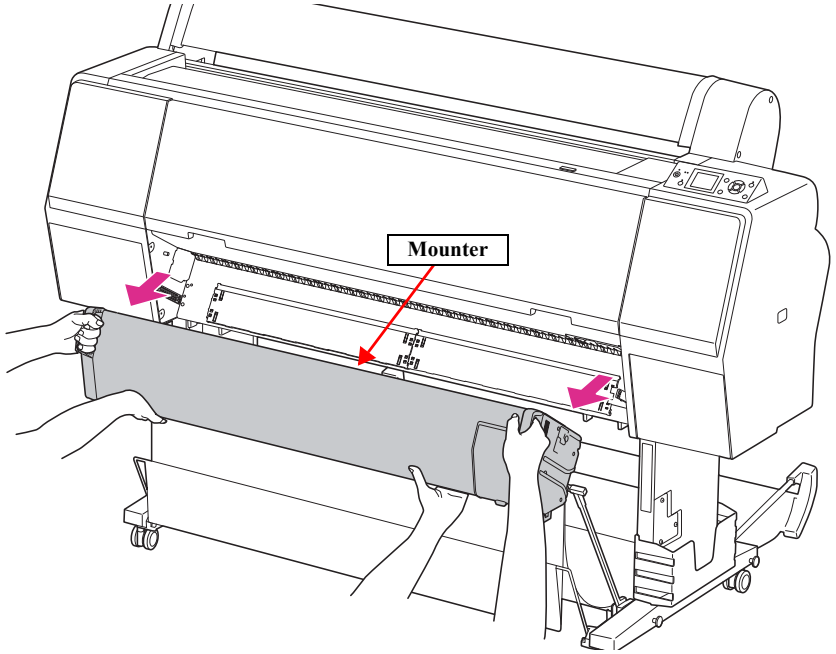


Figure 4-191. Removing the Mounter

4.4.8.3 Right Cover

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*

CHECK POINT

In the next procedure, one of the screws is different from the others; therefore, make sure to confirm which is attached to which location.

3. Remove the five screws that secure the Right Cover.
   A) Black, Phillips, Bind P-tite M3x10: four pieces
   B) Black, Phillips, Bind machine screw M3x6: one piece
4. Remove the Right Cover.

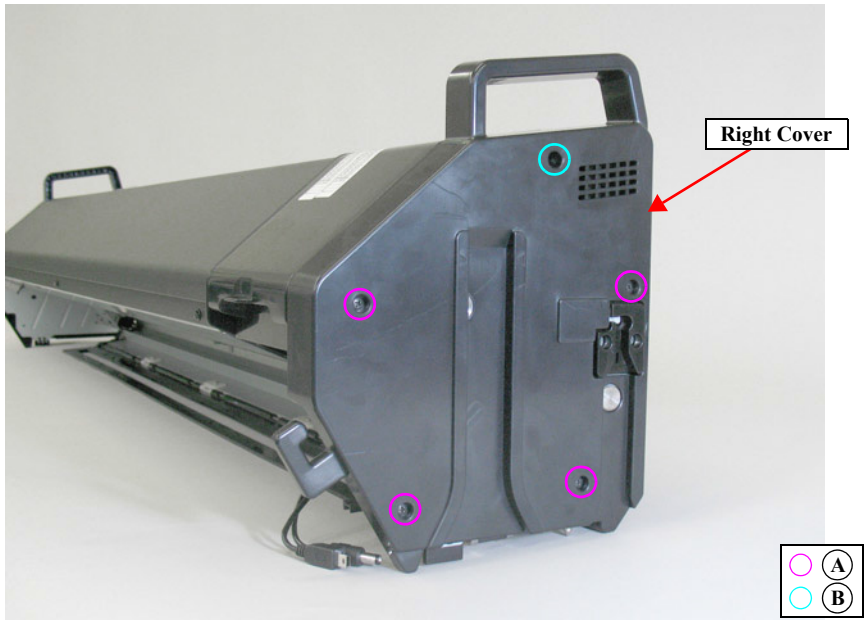


Figure 4-192. Removing the Right Cover

4.4.8.4 Left Cover

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the five screws that secure the Left Cover.
   A) Black, Phillips, Bind machine screw M3x6: five pieces
4. Remove the Left Cover.

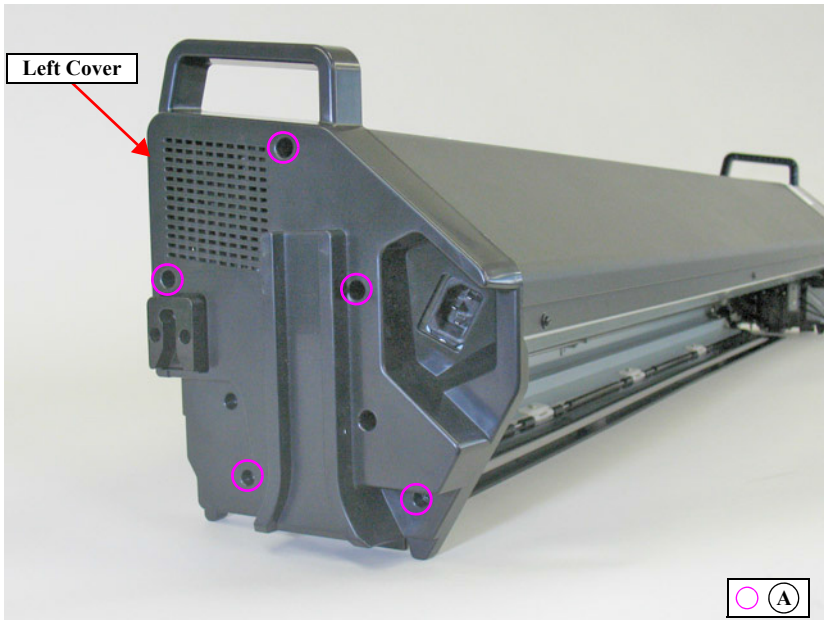


Figure 4-193. Removing the Left Cover

4.4.8.5 I/F Cover

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Open the I/F Cover.
4. Disengage the two dowels, and remove the I/F Cover.

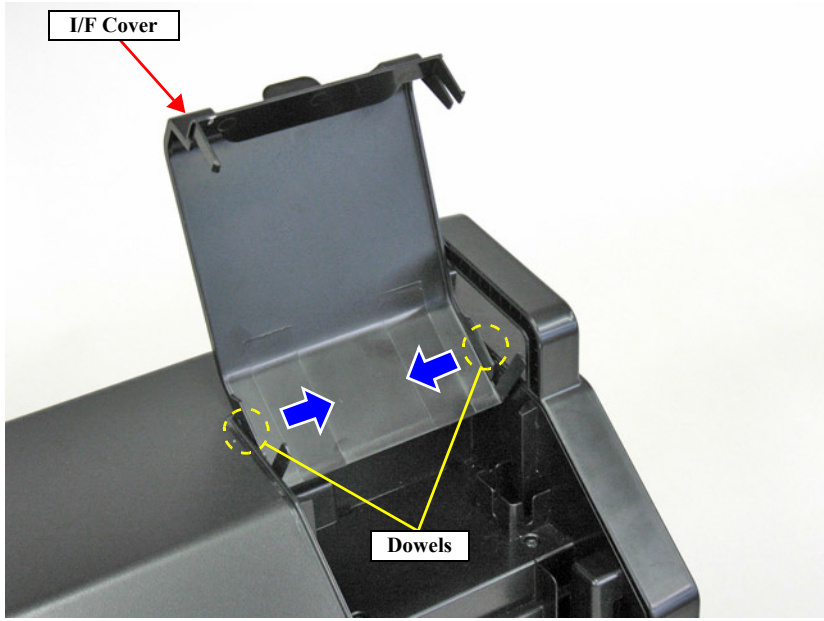


Figure 4-194. Removing the I/F Cover

4.4.8.6 Front Cover

This part is not an ASP.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*

CHECK POINT

In the next step, make sure to confirm which screw is attached to which location because various screws are used here.

3. Remove the six screws that secure the Front Cover.
   A) Silver, Phillips, Round Washer Head S-tite M3x6: three pieces
   B) Silver, Phillips, Pan P-tite with S.W & P.W. M3x10: two pieces
   C) Silver, Phillips, Pan S-tite with S.W & P.W. M3x6: one piece
4. Hold up the Front Cover to remove it.

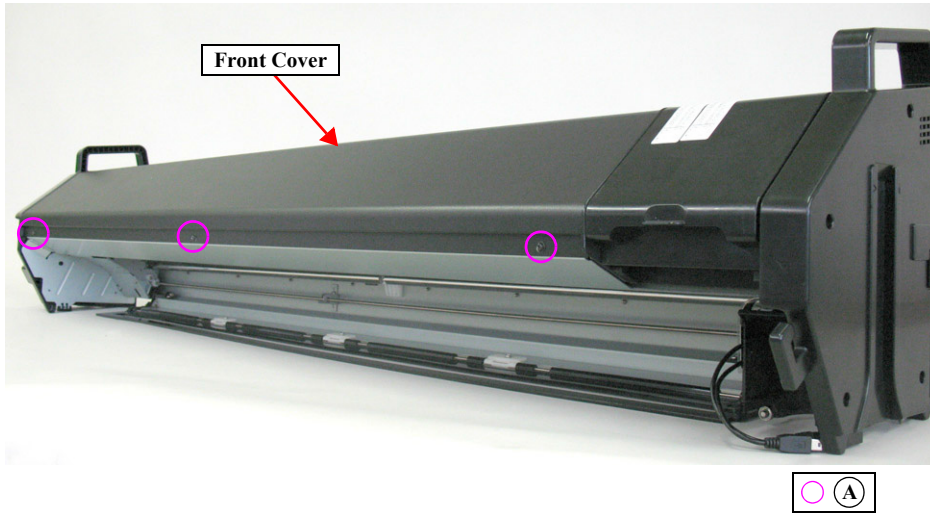


Figure 4-195. Removing the Front Cover (1)

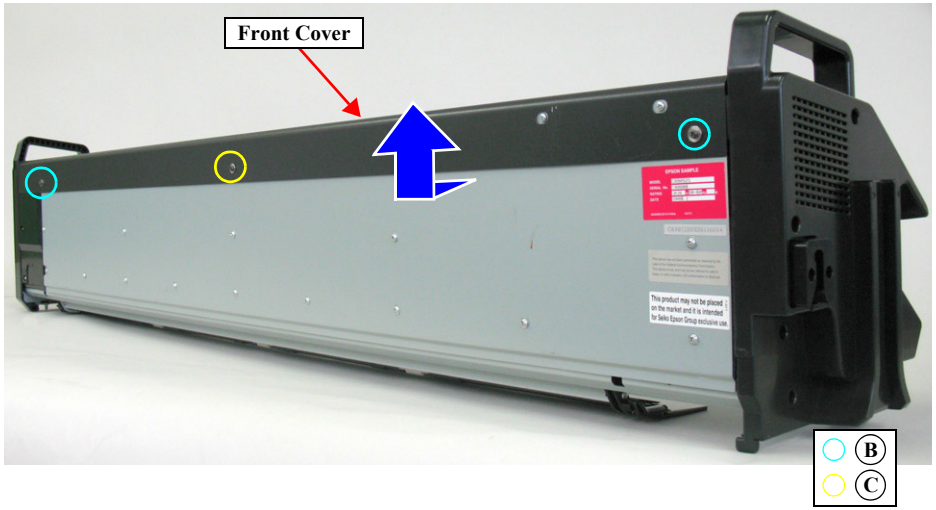


Figure 4-196. Removing the Front Cover (2)

4.4.8.7 Main Board

ADJUSTMENT REQUIRED

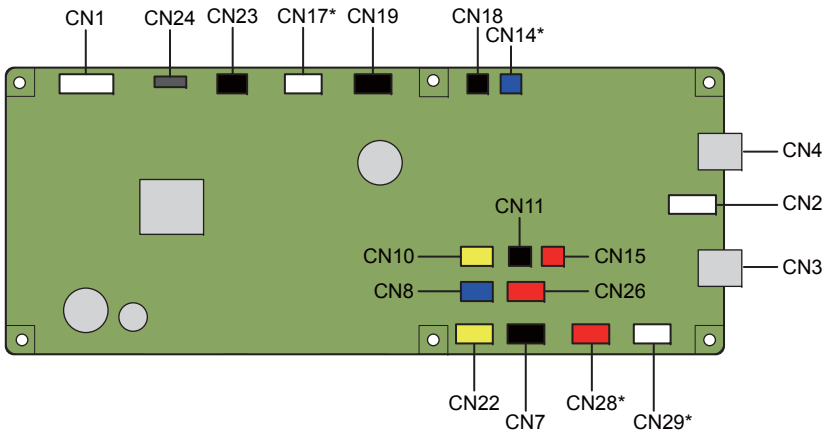
When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Disconnect all the connectors and FFC on the Main Board.

REASSEMBLY

Those connectors which are shown in the figure are not used.

5. Remove the eight screws that secure the Main Board, and remove the Main Board.
   A) Silver, Phillips, Bind machine screw M3x6: six pieces
   B) Silver, Phillips, Bind machine screw M2x6 (bit: No.1): one piece
   C) Silver, Phillips, Bind machine screw M3x6: one piece



*: Unused connectors

Figure 4-197. Connector Locations

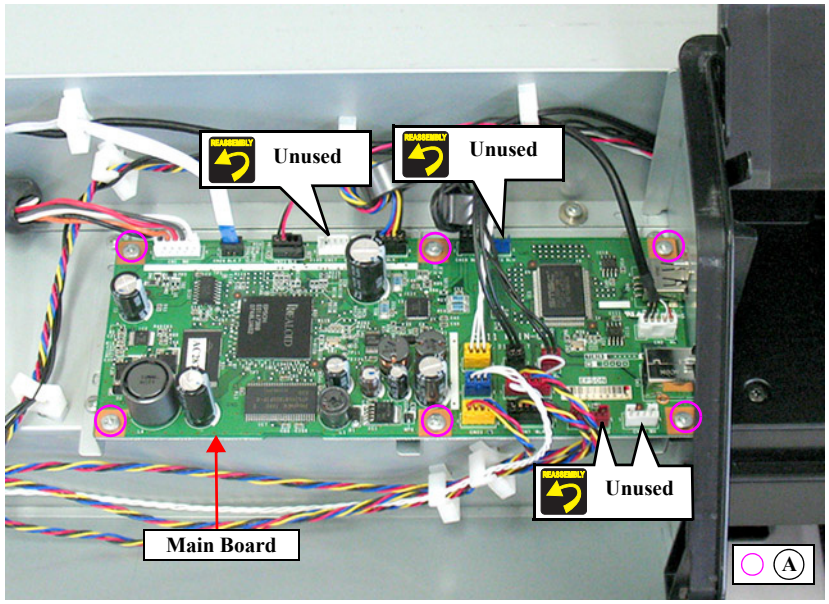


Figure 4-198. Removing the Main Board (1)

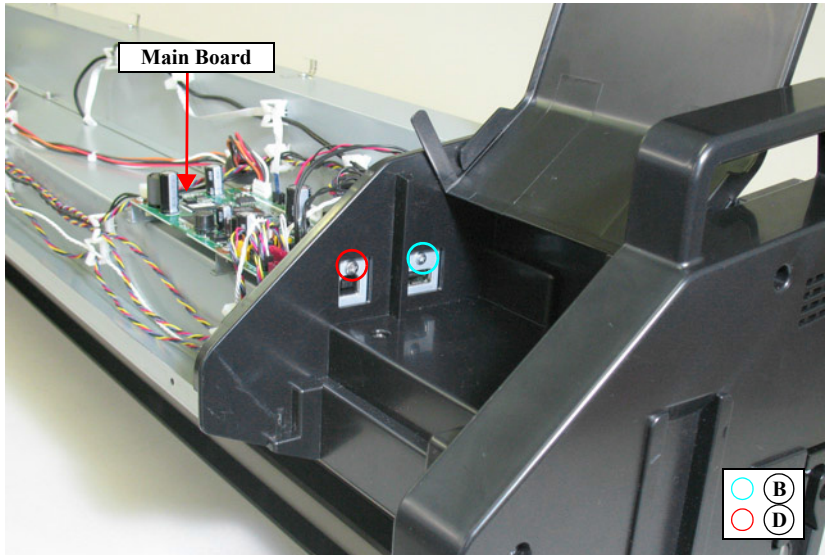


Figure 4-199. Removing the Main Board (2)

Connector assignment:

Connector No.	Color	Destination
CN1	White	Power Supply Board (CN2)
CN2	White	Color Measurement Device
CN3	-	USB-A
CN4	-	USB-B
CN7	Black	Cooling Fan 1
CN8	Blue	Paper Pressing HP Sensor
CN10	Yellow	CR HP Sensor
CN11	Black	Thermistor
CN14	Blue	Unused
CN15	Red	ACCEL Mount Sensor
CN17	-	Unused
CN18	Black	Paper Pressing Motor
CN19	Black	Carriage Motor
CN22	Yellow	Paper Pressing Motor
CN23	Black	LED
CN24	(FFC)	DC Board (CN1)
CN26	Red	Cooling Fan 2
CN28	-	Unused
CN29	-	Unused

4.4.8.8 Power Supply Board

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Disconnect all the connectors (CN1, CN2) on the Power Supply Board.
5. Remove the six screws that secure the Power Supply Board, and remove the Power Supply Board.
   A) Silver, Phillips, Bind machine screw M3x6: six pieces

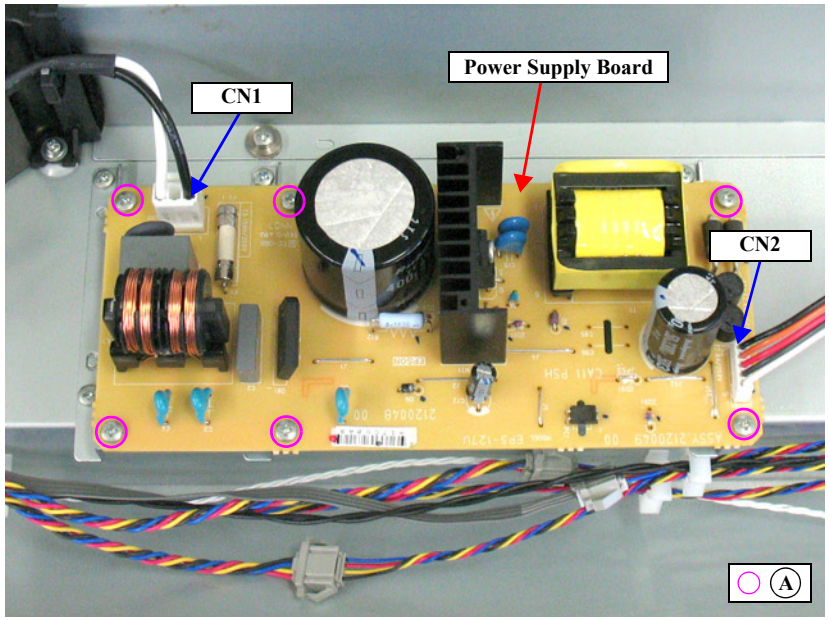


Figure 4-200. Removing the Power Supply Board

4.4.8.9 Paper Pressing Plate Sensor

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the three screws that secure the shield plate, and remove the shield plate.
   A) Silver, Phillips, Bind machine screw M3x6: three pieces
4. Disengage the hook that secures the Paper Pressing Plate Sensor, and remove the Paper Pressing Plate Sensor.
5. Disconnect the connector from the Paper Pressing Plate Sensor.

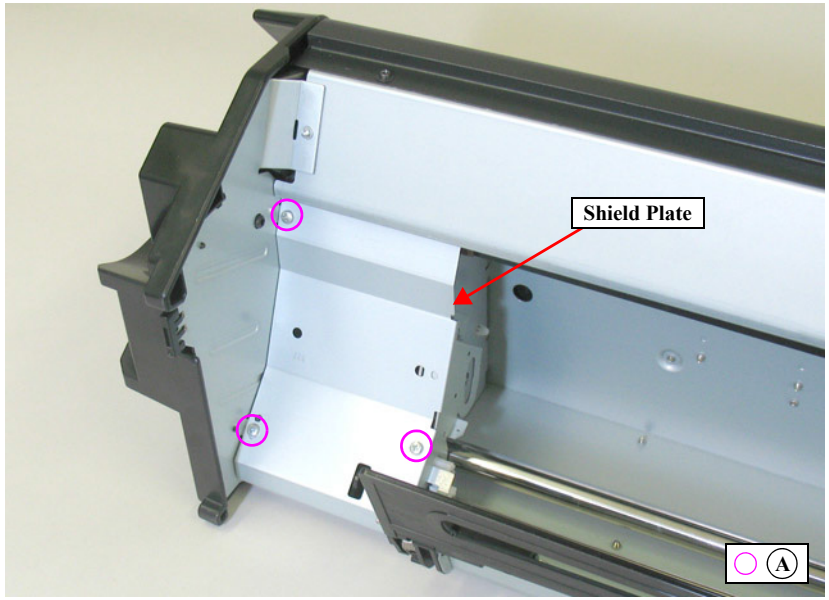


Figure 4-201. Removing the shield Plate

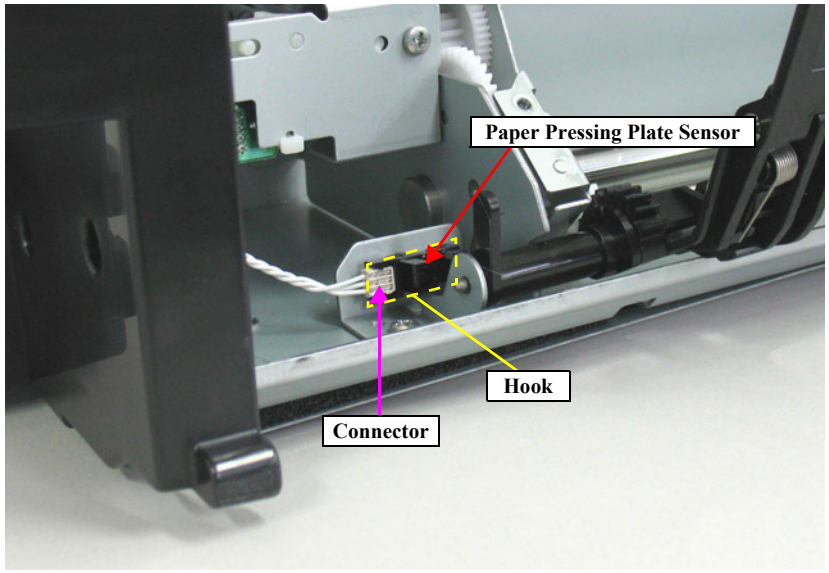


Figure 4-202. Removing the Paper Pressing Plate Sensor

4.4.8.10 CR HP Sensor

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Move the carriage to the center.
4. Disengage the hooks that secure the CR HP Sensor, and detach the CR HP Sensor.
5. Disconnect the connector from the CR HP Sensor.

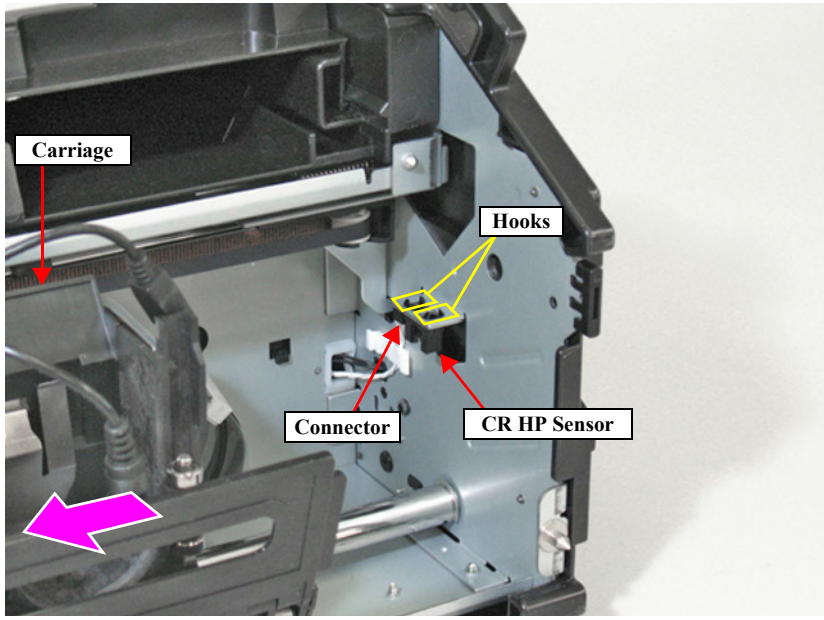


Figure 4-203. Removing the CR HP Sensor

4.4.8.11 Thermistor

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the Right Cover. *(p239)*
5. Disconnect the connector (CN11) on the Main Board.
6. Remove the two screws that secure the USB Housing, and remove the USB Housing.

   A) Black, Phillips, Bind machine screw M3x6: two pieces
7. Release the harness of the Thermistor from the cable guide, and remove the Thermistor.

Make sure to route the harness as shown in the figure.

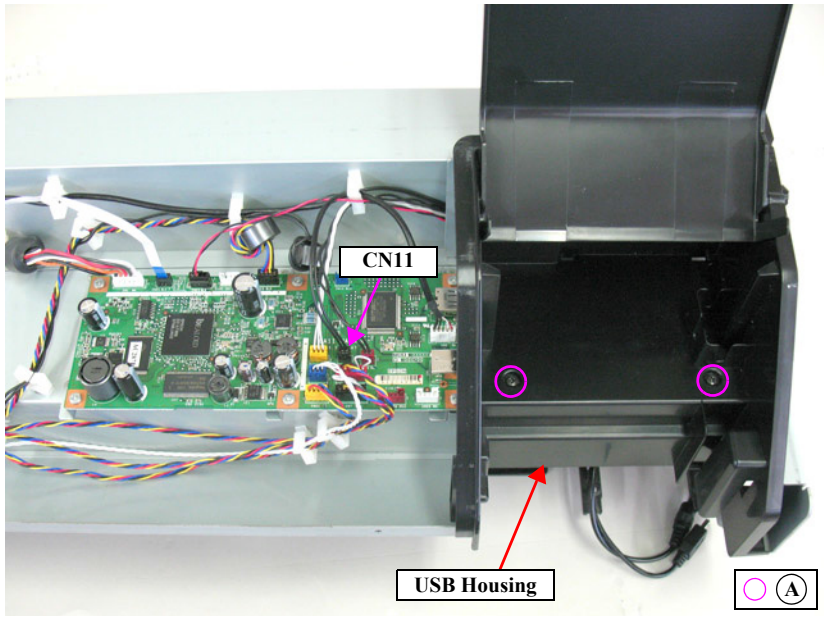


Figure 4-204. Removing the USB Housing

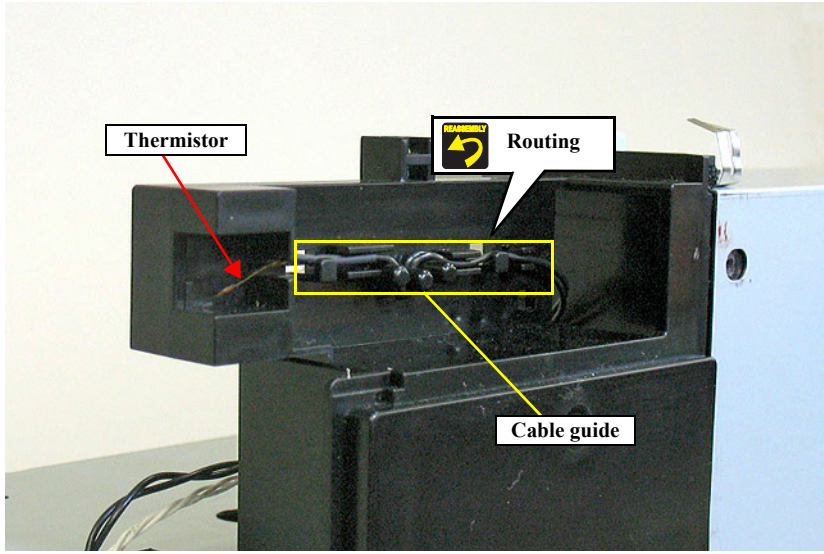


Figure 4-205. Removing the Thermistor

4.4.8.12 Mount Sensor

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the Right Cover. *(p239)*
5. Remove the two screws that secure the Mount Sensor Holder, and remove the Mount Sensor Holder.

   A) Silver, Phillips, Bind machine screw M3x6: two pieces
6. Disengage the four hooks that secure the Mount Sensor, and detach the Mount Sensor from the Mount Sensor Holder.
7. Disconnect the connector from the Mount Sensor.

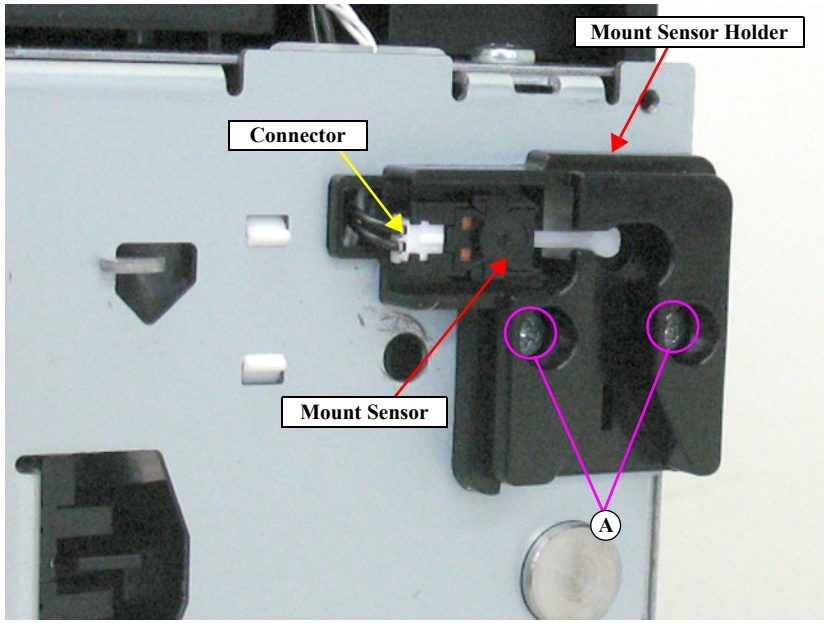


Figure 4-206. Removing the Mount Sensor

4.4.8.13 LED

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the Right Cover. *(p239)*
5. Disconnect the connector (CN23) on the Main Board.
6. Remove the two screws that secure the USB Housing, and remove the USB Housing.

   A) Black, Phillips, Bind machine screw M3x6: two pieces
7. Release the harness of the LED from the cable guide, and remove the LED.

Make sure to route the harness as shown in the figure.

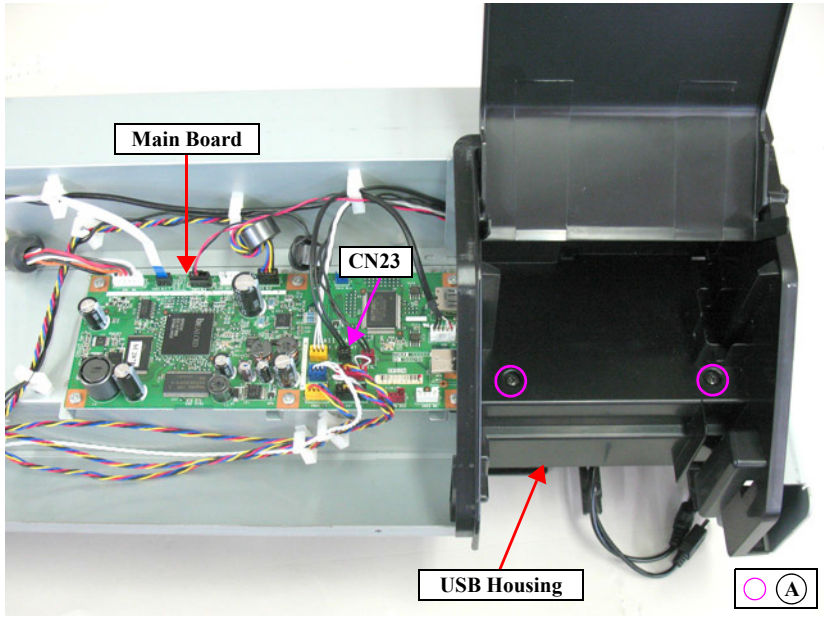


Figure 4-207. Removing the USB Housing

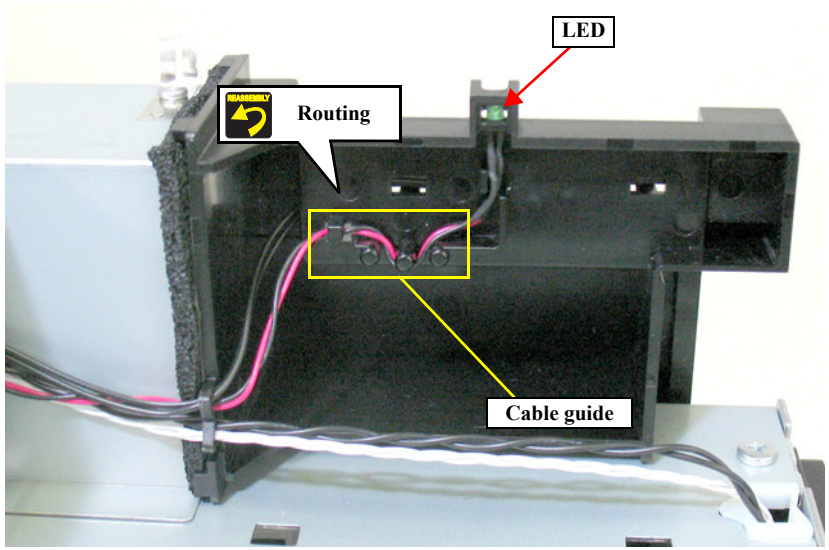


Figure 4-208. Removing the LED

4.4.8.14 Paper Pressing Encoder

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*

CAUTION

In the next steps, take care not to damage the scale of the Paper Pressing Encoder.

3. Remove the three screws that secure the shield plate, and remove the shield plate.
   A) Silver, Phillips, Bind machine screw M3x6: three pieces
4. Remove the screw that secures the encoder mounting plate, and remove the encoder mounting plate.
   A) Silver, Phillips, Bind machine screw M3x6: one piece
5. Remove the screw that secures the Paper Pressing Encoder.
   B) Silver, Phillips, Bind P-tite M3x8: one piece

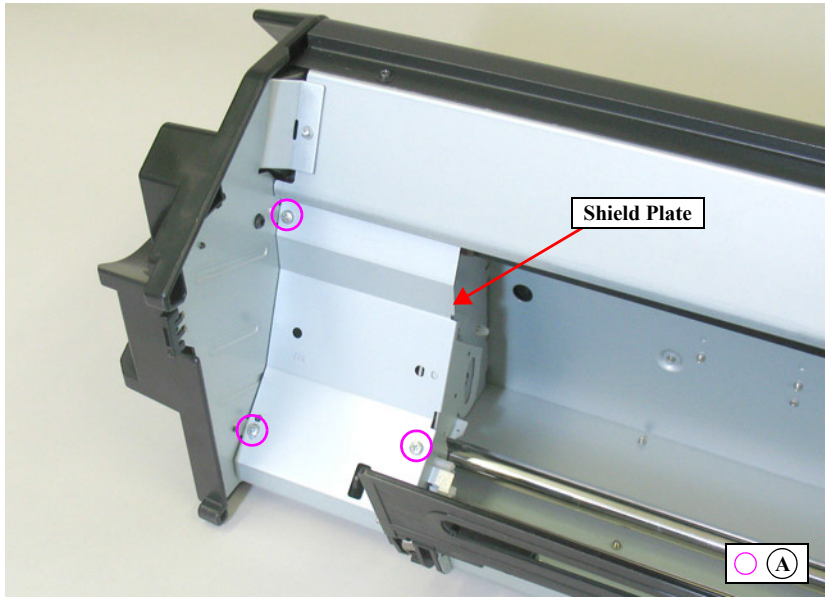


Figure 4-209. Removing the shield Plate

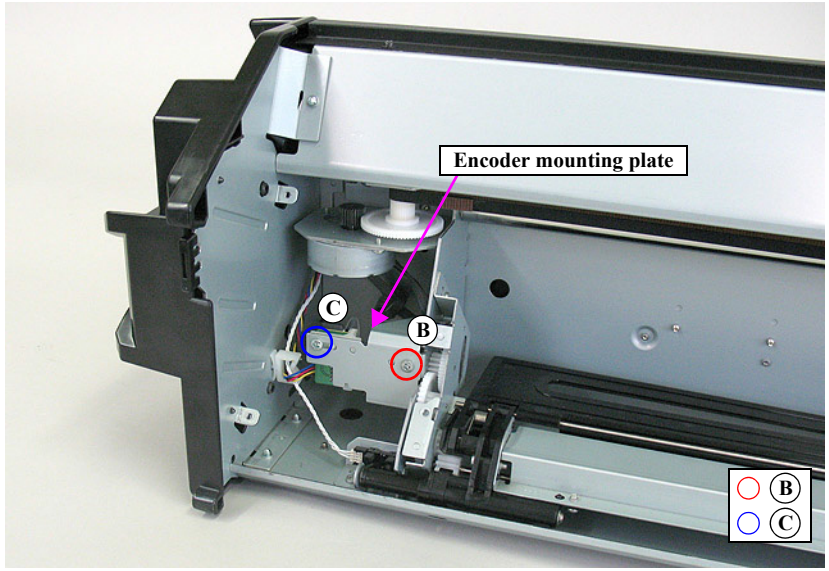


Figure 4-210. Removing the encoder mounting plate

6. Disconnect the connector from the Paper Pressing Encoder and remove the Paper Pressing Encoder.

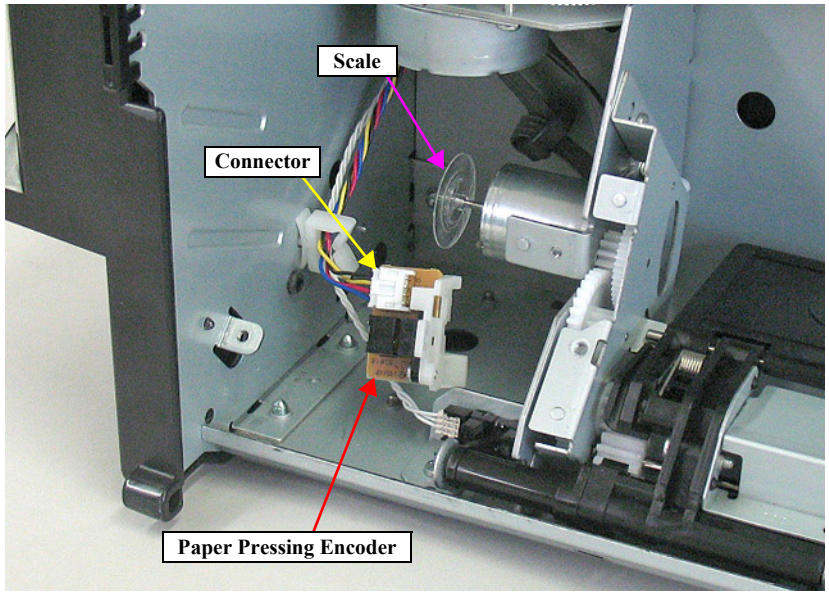


Figure 4-211. Removing the Paper Pressing Encoder

4.4.8.15 Cooling Fan 1

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the Left Cover. *(p240)*
5. Remove the four screws that secure the Cooling Fan 1 mounting plate, and remove the Cooling Fan 1 mounting plate.

   A) Silver, Phillips, Bind P-tite M3x8: four pieces
6. Disconnect the relay connector, and release the harness from the clamp.
7. Remove the four screws that secure the Cooling Fan 1, and remove the Cooling Fan 1.

   B) Silver, Phillips, Bind S-tite with S.W & P.W. M3x12 & nut: four pairs

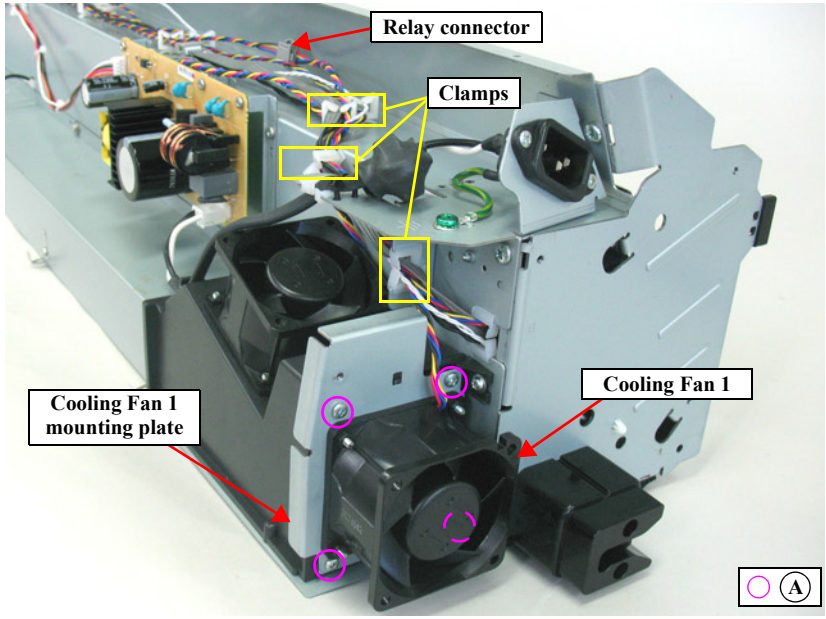


Figure 4-212. Removing the Cooling Fan 1 mounting plate

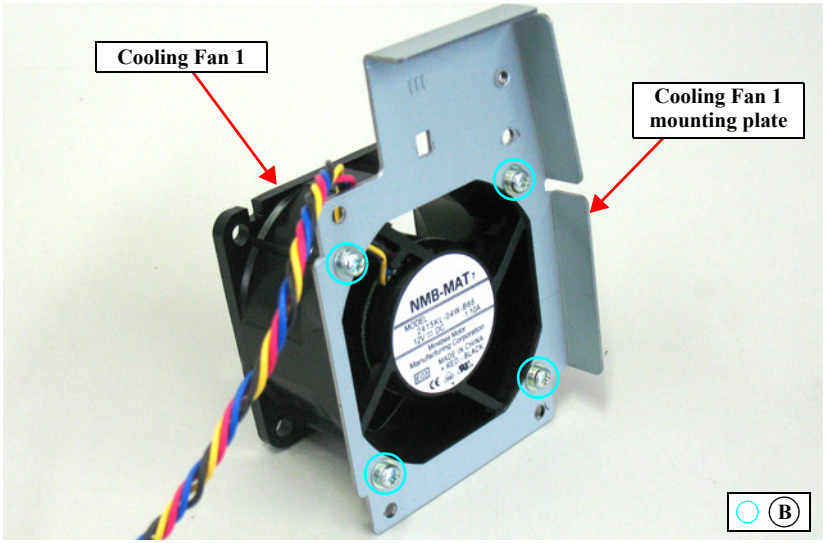


Figure 4-213. Removing the Cooling Fan 1

4.4.8.16 Cooling Fan 2

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the Right Cover. *(p239)*
5. Remove the Left Cover. *(p240)*
6. Remove the two screws that secure the USB Housing, and remove the USB Housing.

   A) Black, Phillips, Bind machine screw M3x6: two pieces
7. Release all the harness from the clamps.
8. Remove the four screws that secure the plate.

   B) Silver, Phillips, Bind S-tite with S.W & P.W. M3x6: four pieces

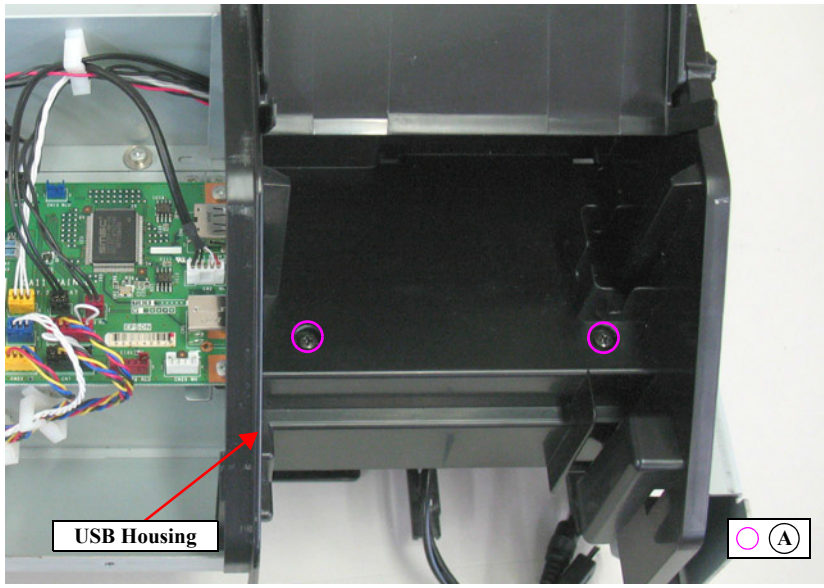


Figure 4-214. Removing the USB Housing

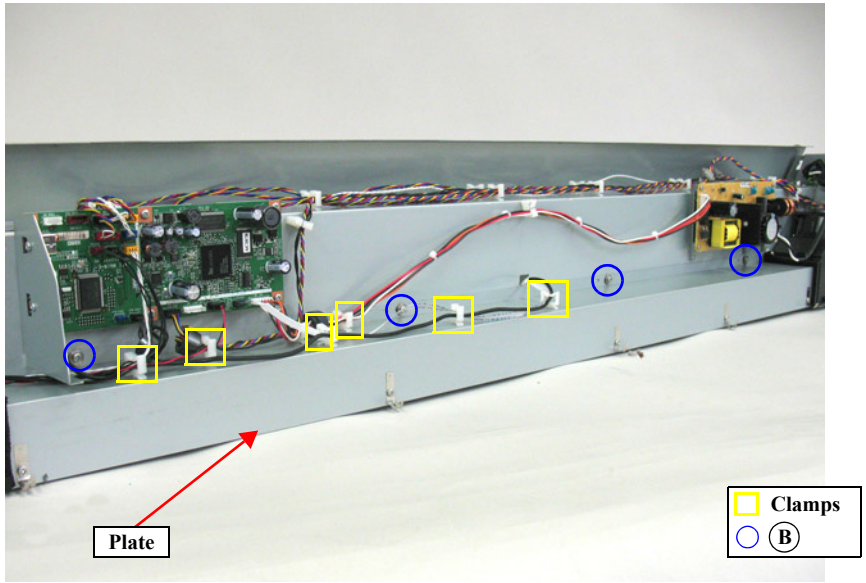


Figure 4-215. Releasing the harnesses

9. Remove the four screws that secure the USB Housing Duct, and remove the USB Housing Duct.

   C) Silver, Phillips, Round Washer Head S-tite M3x10: four pieces

10. Remove the four screws that secure the plate.

    D) Silver, Phillips, Bind P-tite M3x8: two pieces

    E) Silver, Phillips, Round Washer Head S-tite M3x4: two pieces

11. Loosen the ten screws that secure the plate, and remove the plate.

    F) Silver, Phillips, Round Washer Head S-tite M3x8 & spring: ten pairs

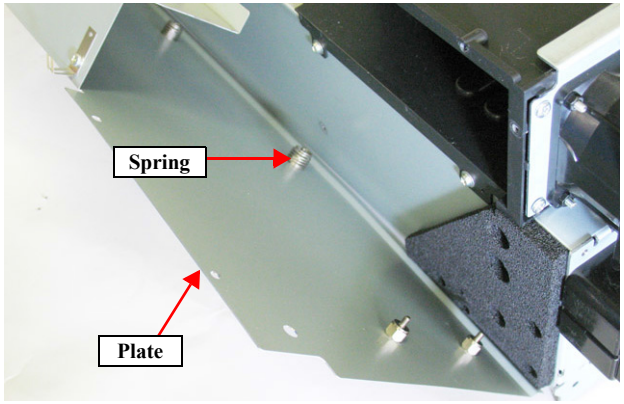
CAUTION

When removing the plate, take care in the following.

- **The screws (F) that secure the plate do not come off, just become loosened.**
- **Some of the screws have a spring attached at the tip; therefore, make sure not to drop the springs when removing those screws.**

REASSEMBLY

When attaching the plate, align the screws and the screw holes while checking them from the opening space so as not to drop the springs.



12. Disconnect the relay connector, and release the harness from the clamps.

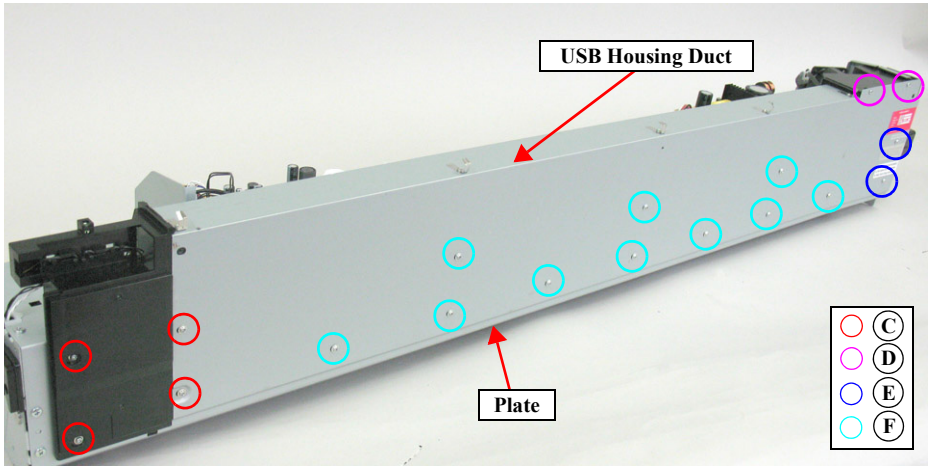


Figure 4-216. Removing the plate

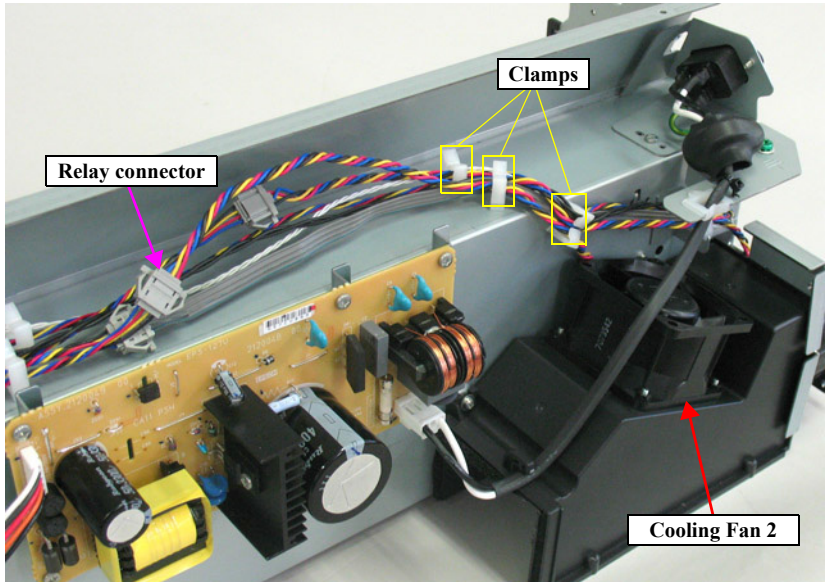


Figure 4-217. Removing the Cooling Fan 2 (1)

13. Remove the four screws that secure the Cooling Fan2, and remove the Cooling Fan2.

    G) Silver, Phillips, Bind S-tite with S.W & P.W. M3x12 & nut: four pairs

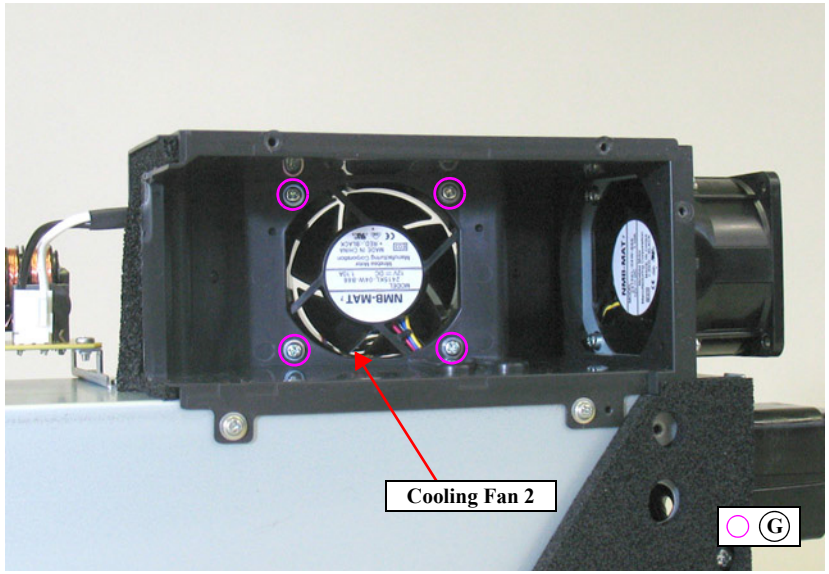


Figure 4-218. Removing the Cooling Fan 2 (2)

4.4.8.17 Paper Pressing Motor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Paper Pressing Encoder. *(p251)*

CAUTION

In the next steps, take care not to damage the scale of the Paper Pressing Encoder.

4. Remove the screw that secures the Carriage Motor mounting plate, and remove the Carriage Motor Mounting Plate.

   A) Silver, Phillips, Bind machine screw M4x8: one piece

5. Disconnect the relay connector of the Paper Pressing Motor.
6. Release the harness from the clamp.
7. Remove the two screws that secure the Paper Pressing Motor, and remove the Paper Pressing Motor.

   B) Silver, Phillips, Bind machine screw M3x4: two pieces

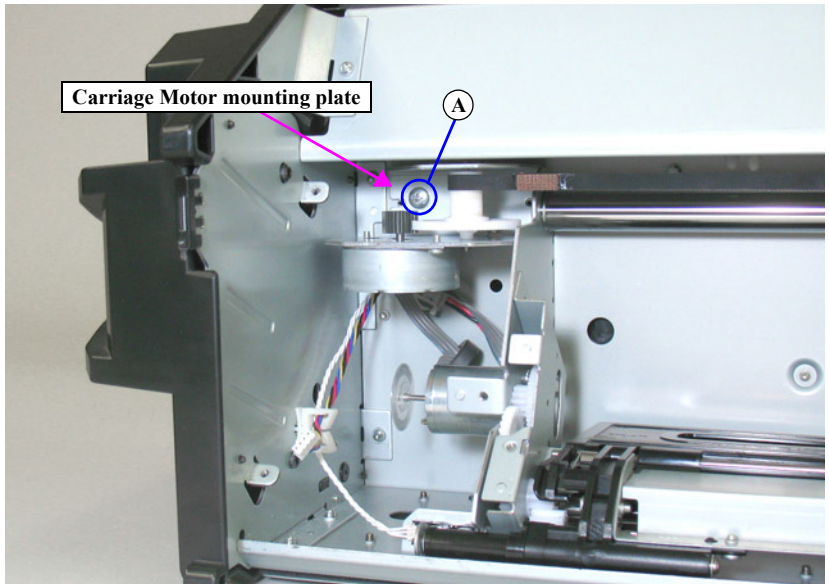


Figure 4-219. Removing the Carriage Motor mounting plate

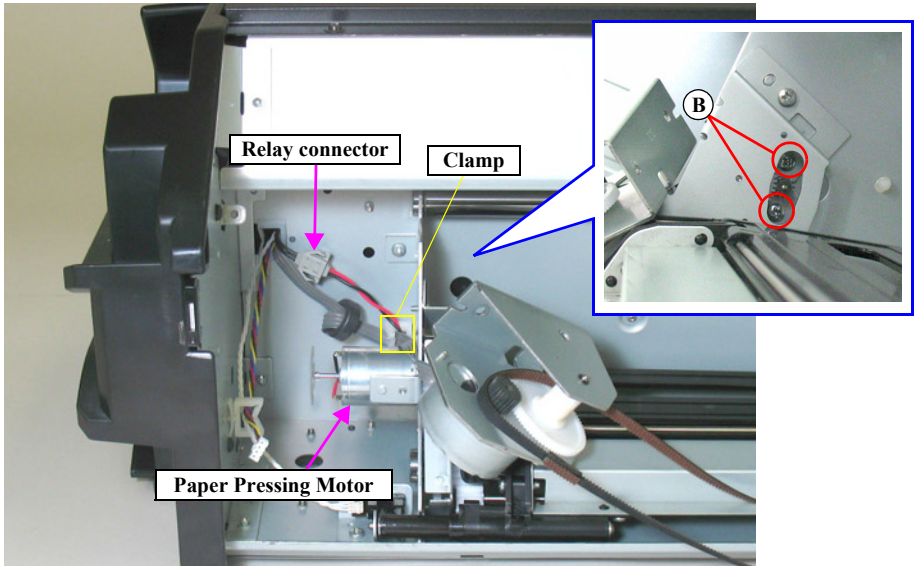


Figure 4-220. Removing the Paper Pressing motor

4.4.8.18 Carriage Motor

ADJUSTMENT REQUIRED

When replacing/removing this part, refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p264)* and make sure to perform the specified operations including required adjustment.

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the Front Cover. *(p242)*
4. Remove the three screws that secure the shield plate, and remove the shield plate.
   A) Silver, Phillips, Bind machine screw M3x6: three pieces
5. Disconnect the relay connector, and release the cable from the clamp and the cable retainer.

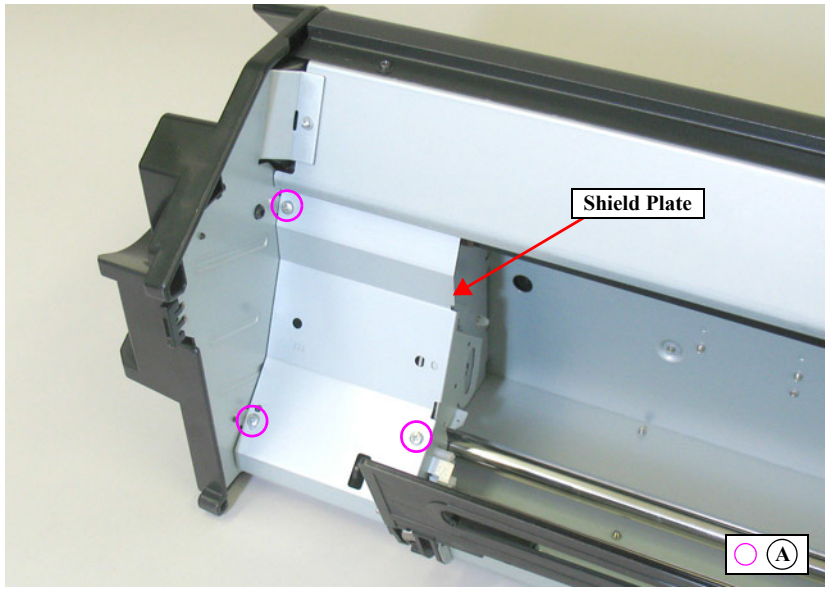


Figure 4-221. Removing the shield Plate

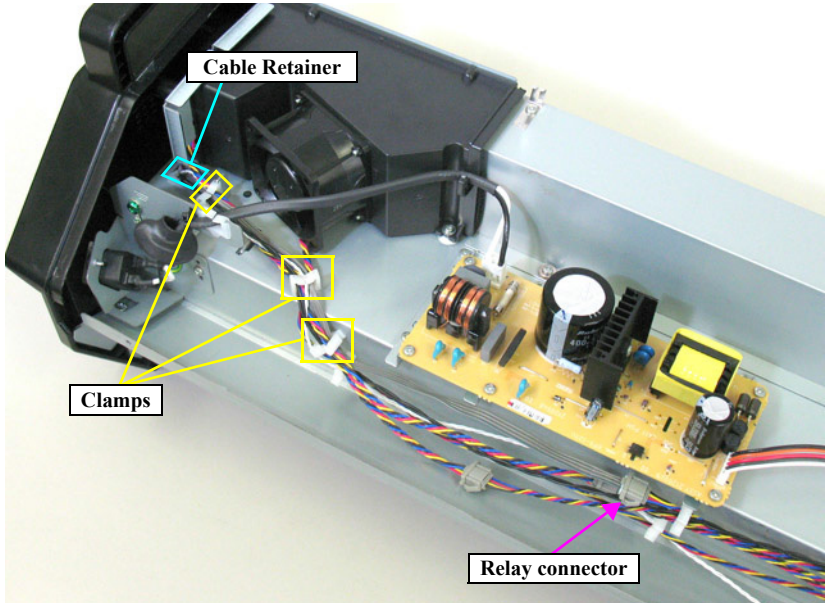


Figure 4-222. Disconnecting the relay connector

6. Remove the screw that secures the Carriage Motor mounting plate, and remove the Carriage Motor mounting plate.

   B) Silver, Phillips, Bind machine screw M4x8: one piece

7. Remove the two screws that secure the Carriage Motor, and remove the Carriage Motor.

   C) Silver, Phillips, Bind machine screw M3x6: two pieces

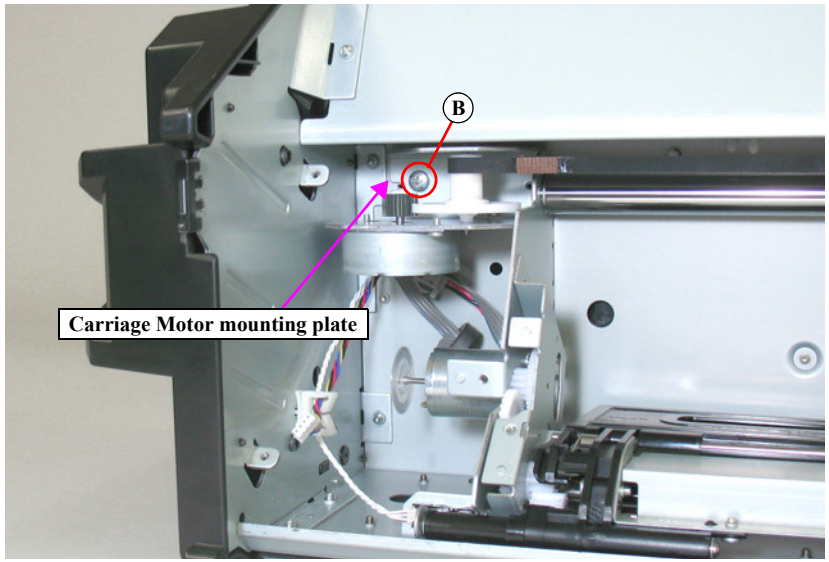


Figure 4-223. Removing the Carriage Motor mounting plate

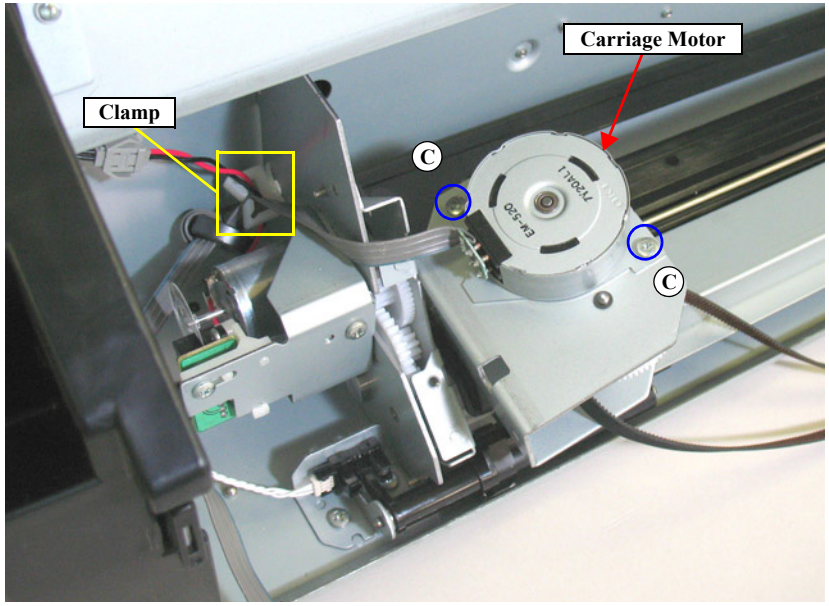


Figure 4-224. Removing the Carriage Motor

4.4.8.19 Paper Pressing Unit

1. Remove the Color Measurement Device. *(p236)*
2. Remove the Mounter. *(p238)*
3. Remove the three screws that secure the shield plate, and remove the shield plate.
   A) Silver, Phillips, Bind machine screw M3x6: three pieces

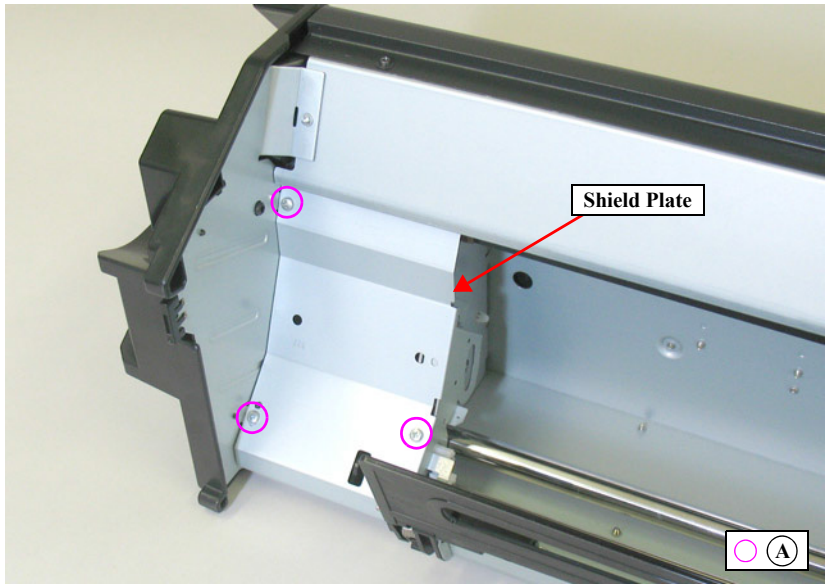
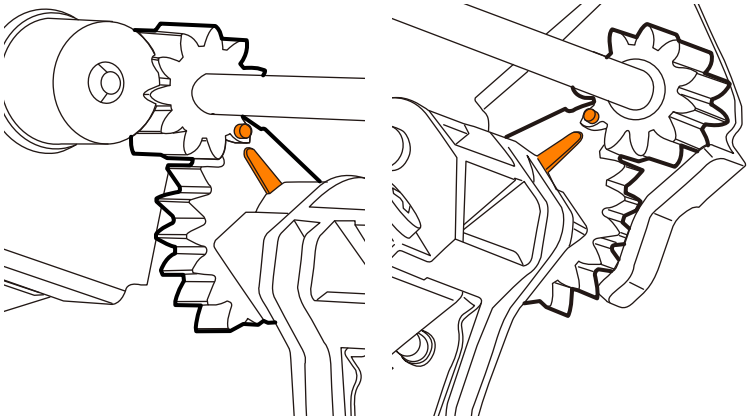


Figure 4-225. Removing the shield Plate

4. Remove the E-ring.
5. Pull out the shaft.
6. Remove the O-ring, and remove the Paper Pressing Unit.

REASSEMBLY

First align the markings on the gears on the left and the right side of the Paper Pressing Unit with the markings on the gears on the main body, then install the Paper Pressing Unit.



Left side **Right side**

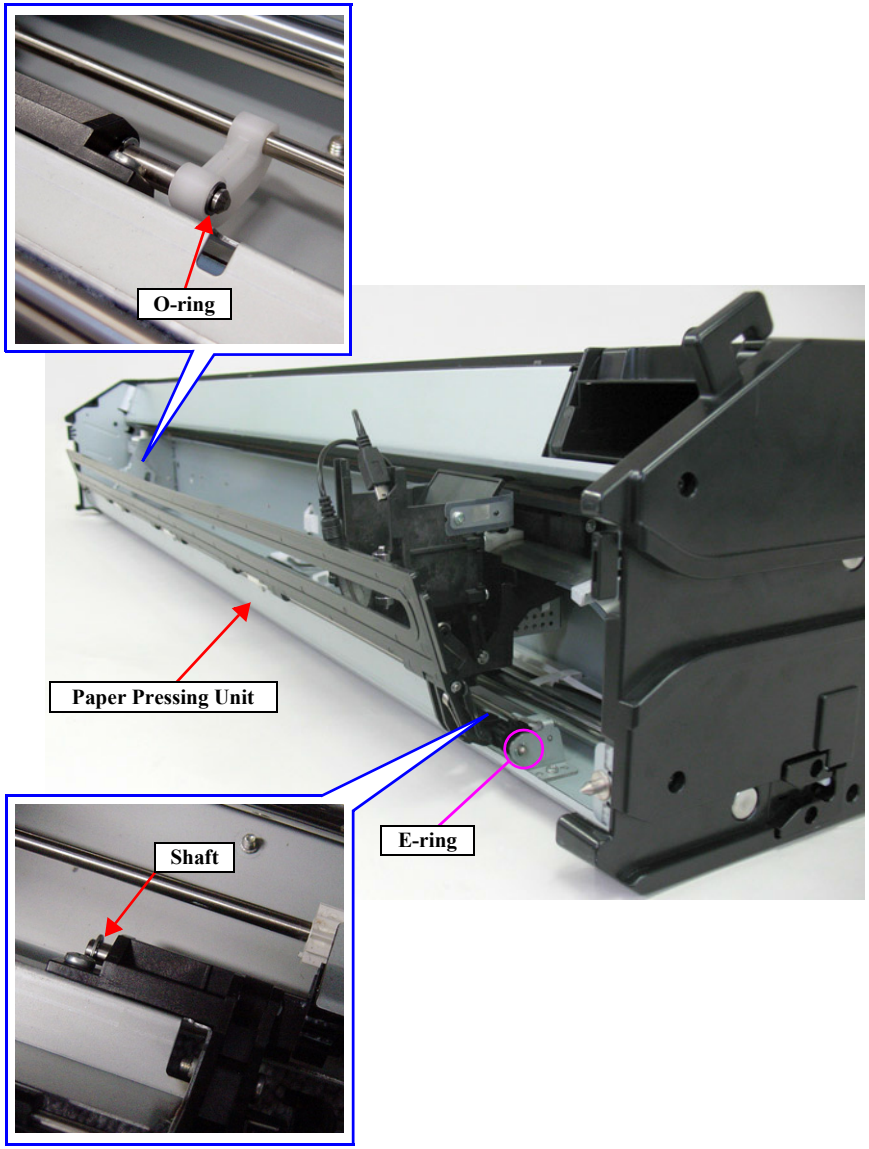


Figure 4-226. Removing the Paper Pressing Unit

CHAPTER

5

ADJUSTMENT

5.1 Overview

This chapter describes the Service Program software utility and the adjustment procedures required after repairing or replacing certain parts.

5.1.1 Precautions

Always observe the following cautions whenever making an adjustment on the printer.

CAUTION

- **Always refer to "5.1.2 Adjustment Items and the Order by Repaired Part" *(p.264)* and make sure to perform all the adjustments listed in the table in the given order.**
- **Always read and follow the precautions given in each section that explains each adjustment. Ignoring the precautions can result in malfunction of the printer.**

5.1.2 Adjustment Items and the Order by Repaired Part

The following table shows the required adjustments by repaired or replaced part and the order in which the adjustments must be performed. Find the part(s) you repaired or replaced in the table, and carry out the adjustments in the indicated order.

NOTE 1: Blue cell: indicates that the adjustment is required when the part is once removed or replaced.
Red cell: indicates that the adjustment is required when the part is replaced. (not required when the parts is removed.)
2: The adjustments required for the Main Board differs depending on whether the NVRAM on the old board can be backed up or not.
3: When the firmware update is required, first check the version of firmware currently installed on the printer, then update the firmware if necessary.

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
CR related parts/units	CR Motor	Replacement	1	Replacement	---			✓	✓	p. 152
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	CR Motor Counter Reset	✓			✓	---	p. 289
			4	Turn the power off.	---			✓	---	
			5	Turn the power on in normal mode.	---			✓	---	
			6	CR Timing Belt Tension Adjustment	✓	Tensimeter U-507		✓	✓	p. 292
			7	CR Motor Measurement	✓			✓	✓	p. 303
			8	Ink Mark Sensor check & Adjustment	✓			✓	✓	p. 316
			9	Uni-D Adjustment_Auto	✓		Photo paper	✓	✓	p. 313
			10	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	✓	p. 314
			11	Skew Check	✓		Photo paper	✓	✓	p. 324
			12	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	CR Scale	Replacement	1	Replacement	---			✓	✓	p. 146
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	CR Encoder Sensor Adjustment	✓			✓	✓	p. 296

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
CR related parts/units	CR belt / Driven Pulley Unit	Replacement	1	Replacement	---			✓	✓	p. 150
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	CR Timing Belt Tension Adjustment	✓	Tensimeter U-507		✓	✓	p. 292
			4	CR Encoder Sensor Adjustment	✓			✓	✓	p. 296
			5	Ink Mark Sensor check & Adjustment	✓		Photo paper	✓	✓	p. 316
			6	Uni-D Adjustment_Auto	✓		Photo paper	✓	✓	p. 313
			7	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	✓	p. 314
			8	Skew Check	✓		Photo paper	✓	✓	p. 324
			9	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	Carriage Unit	Replacement	1	Replacement	---			✓	✓	p. 159
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	CR Timing Belt Tension Adjustment	✓	Tensimeter U-507		✓	✓	p. 292
			4	CR Encoder Sensor Adjustment	✓			✓	✓	p. 296
			5	Head Inclination Check & Adjustment (CR direction)	✓		Photo paper	✓	✓	p. 308
			6	Head Slant Check & Adjustment (PF direction)	✓		Photo paper	✓	✓	p. 311
			7	Turn the power off.	---			✓	✓	
			8	Head PG Adjustment	---			✓	✓	p. 297
			9	Turn the power on in normal mode.	---			✓	✓	
			10	Ink Mark Sensor check & Adjustment	✓		Photo paper	✓	✓	p. 316
			11	Uni-D Adjustment_Auto	✓		Photo paper	✓	✓	p. 313
			12	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	✓	p. 314
			13	Skew Check	✓		Photo paper	✓	✓	p. 324
			14	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	APG Motor	Replacement	1	Replacement	---			✓	✓	p. 154
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	APG Motor Counter Reset	✓			✓	---	p. 289
			4	Turn the power off.	---			✓	---	
			5	Turn the power on in normal mode.	---			✓	---	

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
CR related parts/units	CR Encoder Sensor	Replacement	1	Replacement	---			✓	✓	p. 148
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	CR Encoder Sensor Adjustment	✓			✓	✓	p. 296
Head related parts/units	Printhead	Before replacement	1	Turn the power on in normal mode.	---			✓	✓	
			2	Tube inner pressure reduction	---			✓	✓	p. 321
			3	Unlock the CR Unit, then Move it to replacement position.	---			✓	✓	
			4	Turn the power off.	---			✓	✓	
		Replacement	5	Replacement	---			✓	✓	p. 183
		After replacement	6	Turn the power on in normal mode.	---			✓	✓	
			7	Printhead Counter Reset	✓			✓	---	p. 289
			8	Head Rank ID	✓			✓	✓	p. 304
			9	Turn the power off.	---			✓	✓	
			10	Turn the power on in normal mode.	---			✓	✓	
			11	Cleaning	✓			✓	✓	p. 306
			12	Nozzle Check	✓		Photo paper	✓	✓	p. 307
			13	AID Function Check	✓			✓	✓	p. 340
			14	AID Adjustment	✓			✓	---	p. 345
			15	Cleaning PG Adjustment	---			✓	✓	p. 300
			16	Head Inclination Check & Adjustment (CR direction)	✓		Photo paper	✓	✓	p. 308
			17	Head Slant Check & Adjustment (PF direction)	✓		Photo paper	✓	✓	p. 311
			18	Turn the power off.	---			✓	✓	
			19	Head PG Adjustment	---			✓	✓	p. 297
			20	Turn the power on in normal mode.	---			✓	✓	
			21	Ink Mark Sensor check & Adjustment	✓		Photo paper	✓	✓	p. 316
			22	Uni-D Adjustment_Auto	✓		Photo paper	✓	✓	p. 313
			23	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	✓	p. 314
			24	Colorimetric Calibration (Color ID)	✓		EPSON Enhanced (Archival) Matte Paper (A4size)	✓	✓	p. 354

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
Ink supply related parts/units	Ink Selector	Replacement	1	Replacement	---			✓	✓	p. 211
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Ink Selector Counter Reset	✓			✓	---	p. 289
			4	Turn the power off.	---			✓	---	
			5	Turn the power on in normal mode.	---			✓	✓	
	Ink Tube (L/R)	Replacement	1	Replacement	---			✓	✓	p. 216, p. 220
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Ink Tube Counter Reset	✓			✓	---	p. 289
			4	Air Leak Check for Ink Supply System	---			✓	✓	p. 317
			5	Turn the power off.	---			✓	✓	
			6	Turn the power on in normal mode.	---			✓	✓	
	Ink System Unit	Replacement	1	Replacement	---			✓	✓	p. 179
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	Ink System Unit Counter Reset	✓			✓	---	p. 289
			4	Cleaning PG Adjustment	---			✓	✓	p. 300
			5	AID Function Check	✓			✓	✓	p. 340
			6	Turn the power off.	---			✓	✓	
			7	Turn the power on in normal mode.	---			✓	✓	
	Wiper Cleaner Assy	Replacement	1	Replacement	---			✓	✓	p. 182
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Wiper Cleaner Assy Counter Reset	✓			✓	---	p. 289
			4	Turn the power off.	---			✓	---	
			5	Turn the power on in normal mode.	---			✓	✓	

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
Ink supply related parts/units	Ink Cartridge Holder (R/L)	Replacement	1	Replacement	---			✓	✓	p. 203, p. 205
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Ink Cartridge Holder Counter Reset	✓			✓	---	p. 289
			4	Air Leak Check for Ink Supply System	---			✓	✓	p. 317
			5	Turn the power off.	---			✓	---	
			6	Turn the power on in normal mode.	---			✓	✓	
	Ink Mark Sensor	Replacement	1	Replacement	---			✓	✓	p. 209
		After replacement	2	Ink Mark Sensor Height Adjustment	✓			✓	✓	p. 315
			3	Ink Mark Sensor check & Adjustment	✓		Photo paper	✓	✓	p. 316
			4	Skew Check	✓		Photo paper	✓	✓	p. 324
			5	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
			6	Uni-D Adjustment_Auto	✓		Photo paper	✓	✓	p. 313
			7	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	✓	p. 314
	Pressurizing Unit	Replacement	1	Replacement	---			✓	✓	p. 188
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Pressurizing Unit Counter Reset	✓			✓	---	p. 289
			4	Turn the power off.	---			✓	---	
			5	Turn the power on in normal mode.	---			✓	✓	

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
Paper feed related parts/ units	PF Motor	Replacement	1	Replacement	---			✓	✓	p. 177
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	PF Motor Counter Reset	✓			✓	---	p. 289
			4	PF Motor Measurement	✓			✓	✓	p. 334
			5	PF Timing Belt Tension Adjustment	✓	Tensimeter U-507		✓	✓	p. 322
			6	Band Feed	✓		Photo paper	✓	✓	p. 325
			7	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	PF Encoder Sensor	Replacement	1	Replacement	---			✓	✓	p. 176
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	PF Encoder Sensor Adjustment	✓			✓	✓	p. 332
			4	Skew Check	✓		Photo paper	✓	✓	p. 324
			5	Band Feed	✓		Photo paper	✓	✓	p. 325
			6	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	PF Belt	Replacement	1	Replacement	---			✓	✓	p. 177
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	PF Timing Belt Tension Adjustment	✓	Tensimeter U-507		✓	✓	p. 322
			4	Band Feed	✓		Photo paper	✓	✓	p. 325
			5	T&B&S Adjustment	✓		Plain paper A3	✓	✓	p. 326
	Suction Fan	Replacement	1	Replacement	---			✓	✓	p. 174
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	Suction Fan Operation Check	✓			✓	✓	p. 339
	Paper Thickness Sensor	Replacement	1	Replacement	---			✓	✓	p. 162
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	Paper Thickness Sensor Position Adjustment	✓			✓	✓	p. 328

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
SpectroProofer	Main Board	Before replacement	1	NVRAM Back Up	✓			✓	✓	
		Replacement	2	Replacement	---			✓	✓	p. 243
		After replacement	3	Turn the power on in normal mode.	---			✓	✓	
			4	NVRAM Restore	✓			✓	✓	p. 277
	Carriage Motor	Replacement	1	Replacement	---			✓	✓	p. 258
		After replacement	2	Turn the power on in serviceman mode.	---			✓	---	
			3	Carriage Motor Counter Reset	✓			✓	---	p. 289
	Paper Pressing Unit / Paper Pressing Motor	Replacement	1	Replacement	---			✓	✓	p. 257, p. 260
		After replacement	2	Turn the power on in serviceman mode.	---			✓	---	
			3	Paper Pressing Unit /Paper Pressing Motor Counter Reset	✓			✓	---	p. 289
	Cooling Fan 1/ Cooling Fan 2	Replacement	1	Replacement	---			✓	✓	p. 253, p. 254
		After replacement	2	Turn the power on in normal mode.	---			✓	---	
			3	Cooling Fan Counter Reset	✓			✓	---	p. 289
Board related parts/units	Main Board (NVRAM backup OK)	Before replacement	1	Remove the ink cartridges.	---			✓	---	
			2	Turn the power on in serviceman mode.	---			✓	---	
			3	NVRAM Read	✓			✓	---	p. 335
		Replacement	4	Replacement	---			✓	✓	p. 137
		After replacement	5	Turn the power on in FW update mode.	---			✓	---	
			6	FW Update	✓			✓	---	p. 287
			7	Turn the power off.	---			✓	---	
			8	Turn the power on in serviceman mode.	---			✓	---	
			9	NVRAM Clear & Check	✓			✓	---	
			10	NVRAM Write	✓			✓	---	p. 335
			11	Turn the power off.	---			✓	---	
			12	Attach the ink cartridges.	---			✓	---	
			13	Turn the power on in normal mode.	---			✓	---	
			14	RTC Check & Input	✓			✓	---	p. 336

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
Board related parts/units	Main Board (NVRAM backup NG)	Before replacement	1	Remove the ink cartridges.	---			✓	---	
		Replacement	2	Replacement	---			✓	✓	p. 137
		After replacement	3	Write down the MAC address.	---			✓	---	
			4	Turn the power on in FW update mode.	---			✓	---	
			5	FW Update	✓			✓	---	p. 287
			6	Turn the power off.	---			✓	---	
			7	Turn the power on in serviceman mode.	---			✓	---	
			8	NVRAM Clear	✓			✓	---	p. 277
			9	Initialize Main board	✓			✓	---	
			10	RTC Check & Input	✓			✓	---	p. 336
			11	Head Rank ID	✓			✓	---	p. 304
			12	Turn the power off.	---			✓	---	
			13	Turn the power on in serviceman mode.	---			✓	---	
			14	MAC Address Input	✓			✓	---	p. 338
			15	Input Serial Number	✓			✓	---	p. 337
			16	Attach the ink cartridges.	---			✓	---	
			17	Turn the power off.	---			✓	---	
			18	Turn the power on in normal mode.	---			✓	---	
			19	Initial Ink Charge Flag OFF	✓			✓	---	p. 319
			20	Cleaning PG Adjustment	---			✓	---	p. 300
			21	AID Function Check	✓			✓	---	p. 340
			22	AID Adjustment	✓			✓	---	p. 345
			23	CR Motor Measurement	✓			✓	---	p. 303
			24	PF Motor Measurement	✓			✓	---	p. 334
			25	Ink Mark Sensor check & Adjustment	✓		Photo paper	✓	---	p. 316
			26	Rear Sensor AD Adjustment	---		Standard Sheet (JETRAS JP-D300S)	✓	---	p. 333
			27	Skew Check	✓		Photo paper	✓	---	p. 324

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations			Service Program	Jig	Media*3	Replaced	Reattached	Page
Board related parts/units	Main Board (NVRAM backup NG)	After replacement	28	Band Feed	✓		Photo paper	✓	---	p. 325
			29	T&B&S Adjustment	✓		Plain paper A3	✓	---	p. 326
			30	Uni-D Adjustment_Auto	✓		Photo paper	✓	---	p. 313
			31	Bi-D Adjustment_Auto (Half)(IMS)	✓		Photo paper	✓	---	p. 314
			32	Cut Position Adjustment	✓		☐ PGPP250 44 (SC-P9000 Series/SC-P8000 Series) ☐ PGPP250 24 (SC-P7000 Series/SC-P6000 Series)	✓	---	p. 331
			33	Colorimetric Calibration (Color ID)	✓		EPSON Enhanced (Archival) Matte Paper (A4size)	✓	---	p. 354
	Power Supply Board	Replacement	1	Replacement	---			✓	✓	p. 140
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	AID Adjustment	✓			✓	---	p. 345
			4	CR Motor Measurement	✓			✓	✓	p. 303
			5	PF Motor Measurement	✓			✓	✓	p. 334
			6	Colorimetric Calibration (Color ID)	✓		EPSON Enhanced (Archival) Matte Paper (A4size)	✓	✓	p. 354
	AID Board	Replacement	1	Replacement	---			✓	✓	p. 207
		After replacement	2	Turn the power on in normal mode.	---			✓	✓	
			3	AID Board Replacement Counter Reset	✓			✓	---	p. 289
			4	AID Function Check	✓			✓	✓	p. 340
			5	AID Adjustment	✓			✓	---	p. 345

Note *1: CR/PF Motor Measurement. For necessity of this input, see "4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy (p96)".

*2: The language setting of ASP's MAIN BOARD is English by default. Correct the LANGUAGE in Maintenance mode after Initialize Main board.

*3: Photo paper: Premium Glossy Photo Paper (250)

5.1.3 Description of Adjustments

The following table describes the general outline of the adjustments.

Note : The meanings of abbreviations in the "tool" column are as follows.
SP = Service Program
SM = Serviceman Mode
MECH = Mechanical Adjustment can be performed. (In some cases, a dedicated tool for the adjustment or a commercially available tool such as a tension gauge is necessary.)

Class		Adjustment	General Overview	Tool			Page
				SP	SM	MECH	
Tests		Network Test	Checks if the printer is available over a network.	√	–	–	p.339
		Suction Fan Operation Check	Checks if Suction Fan is operated correctly.	–	–	–	p.339
		AID Function Check	Checks that the AID Function works correctly.	√	–	√	p.340
		AID Adjustment	Write the AID initial voltage value onto the NVRAM.	√	–	–	p.345
		Operation Panel Check	Checks if there is no dot missing occurring on the Color LCD of the control panel.	–	–	–	p.345
		Button Operation Check	Checks if buttons on the control panel are operated correctly.	–	–	–	p.346
		SpectroProofer Check	This inspection checks each part and function of the SpectroProofer operates normally.	√	–	–	p.347
		Colorimetric Calibration (Color ID)	Adjusts the amount of ink droplets.	√	–	√	p.354
Adjustments	CR Related Adjustments	CR Timing Belt Tension Adjustment	Adjusts the tension of the CR Timing Belt to a specified level.	√	–	√	p.292
		CR Encoder Sensor Adjustment	This allows you to adjust the position of the CR Encoder Sensor to the CR Scale.	–	–	–	p.296
		Head PG Adjustment	Adjusts the gap between the Printhead and the platen.	–	–	√	p.297
		Cleaning PG Adjustment	Adjusts the gap between the Printhead and the wiper.	–	–	√	p.300
		CR Motor Measurement	Writes characteristics of the CR motor to the Main Board.	√	–	–	p.303
	Head Related Adjustments	Head Rank ID	Allows inputting the Head Rank ID.	√	–	–	p.304
		Head Cleaning	Cleans the Printhead.	–	–	–	p.306
		Nozzle Check	Checks the nozzles for clogging.	√	–	–	p.307
		Printhead Slant Adjustment (CR)	Prints an adjustment pattern to check if the Printhead is slanted in the CR direction and corrects the head angle.	–	–	√	p.308
		Printhead Slant Adjustment (PF)	Prints an adjustment pattern to check if the Printhead is slanted in the PF direction and corrects the head angle.	–	–	√	p.311
		Uni-D Adjustment_Auto	Performs an automatic Uni-D adjustment using the Ink Mark Sensor.	–	–	–	p.313
		Bi-D Adjustment_Auto (Half)(IMS)	Performs an automatic Bi-D adjustment using the Ink Mark Sensor.	–	–	–	p.314
		Ink Mark Sensor Height Adjustment	Adjusts the position of the Ink Mark Sensor to keep the proper distance from the platen.	–	–	√	p.315
		Ink Mark Sensor Adjustment	Adjusts the sensitivity and the detecting position of the Ink Mark Sensor.	–	–	–	p.316

Class		Adjustment	General Overview	Tool			Page
				SP	SM	MECH	
Adjustments	Head Related Adjustments	Air Leak Check for Ink Supply Sys.	Checks air leak status in the ink path when replacing ink tube, ink cartridge holder, damper or when adjusting ink cartridge holder and damper joint section.	–	–	√	p.317
		Initial Ink Charge Flag ON/OFF	A flag for initial ink charge can be set or cleared as necessary after replacing the Main Board.	√	–	–	p.319
		Tube washing and Discharge	Drains ink in all the nozzles to clean them.	–	–	–	p.319
		Ink Charge	Charge ink in the ink flow paths.	–	–	–	p.320
		Tube Inner Pressure Reduction	Reduce the pressure in the ink flow paths.	–	–	–	p.321
		LLk/Vi Ink Change	Carries out ink change in Row G (between Light Light Black and Violet).	–	–	–	p.321
	PF Related Adjustment	PF Timing Belt Tension Adjustment	Adjusts the tension of the PF Timing Belt to a specified level.	√	–	√	p.322
		Skew Check	Feeds paper to check skew level of the paper.	–	–	–	p.324
		Band Feed	Corrects a paper feeding amount.	–	–	–	p.325
		T&B&S Adjustment	Adjusts the top, bottom and side margins.	–	–	–	p.326
		Paper Thickness Sensor Position Adjustment	Adjusts the positions of Paper Thickness Sensor so as to detect the thickness of paper correctly.	–	–	√	p.328
		PF Encoder Sensor Adjustment	Adjusts the position of the PF Encoder Sensor to the PF Scale.	–	–	√	p.332
		Rear Sensor AD Adjustment	Acquires AD values of the newly attached Rear Sensor to store them onto the Main Board as a standard for reading operation of the sensor.	–	–	√	p.333
		PF Motor Amusement	Writes characteristics of the PF motor to the Main Board.	√	–	–	p.334
	Other Adjustments	Initialize Main board	Sets the destination of the Main Board.	√	√	–	p.335
		NVRAM Backup & Restore	Execute NVRAM Backup & Restore.	√	–	–	p.335
		RTC Check & Input	Initializes the RTC.	√	–	–	p.336
		Input Serial Number	Writes and reads the serial number.	√	–	–	p.337
		MAC Address Input	Input the MAC address.	√	–	–	p.338
		Counter Clear	Clears the life counter of the periodic replacement parts.	√	–	–	p.289
		Cut Position Adjustment	Adjusts the cutting position by the Auto Cutter.	–	–	–	p.331

5.1.4 Tools for Adjustments

The table below shows the tools required for adjusting this printer.

Table 5-1. Tools for Adjustments

Type	Name	Part Number	Remarks
Hard Tool	P-Thick Sensor Position Jig	1424364	Use the tool for Epson Stylus Pro7880/9880.
	Paper Thickness Position Tool	1282355	Use the tool for Epson Stylus Pro4880.
	Standard Sheet (JETRAS JP-D300S)	1476228	---
	Sonic Tension Meter U-507	1294120	---
	Thickness Gauge (Thickness: 2.6 mm/2.7 mm)	---	Commercially available
	PG Height Adjustment Jig 1.55	1543007	---
	PG Height Adjustment Jig 1.65	1507506	---
	PG Height Adjustment Jig 1.75	1507277	---
	Cleaning PG Adjustment Jig	1507278	---
	INK LEAK CHECK CARTRIDGE	1493143	---
	High-precision ID adjustment tool	---	See p.354
	Metal Ruler	---	Commercially available
	Ruler	---	Commercially available Can measure 1,000 mm
	Specified Paper*	---	Refer to each adjustment's description
	Drain Cartridge	1662470	---
	Cleaning Cartridge	1662469	---
Software	Service Program	---	Supplies

Note *: Use when make test prints for adjustment.

CAUTION

Bring back the following brought and used items, then dispose of them based on the local regulations in your country, please.

- **Ink cartridges**
- **Cleaning cartridges**
- **Draining cartridges**

Especially in case of ink cartridges in Europe, please refer to the following web site to confirm the regulation in detail.
ECO Info: http://www.epson.eu/weee (available from July 2015)

5.1.5 Service Program Basic Operations

This section describes the basic operations of the Service Program.

CAUTION

- **Save the Service Program on the desktop or directly under the C drive. If the storage location is deep in the hierarchy, some program tools may not work correctly.**
- **If adjust the print adjustment, select the Media Setup menu and change the Select Media setting to RIP Setting "0" on the control panel.**

☐ System Requirements

- OS: Windows Vista, 7, 8/8.1
- Interface: USB, Network

CHECK POINT

The network can be used only for the following two adjustments.

- **MAC Address Input**
- **USB Port and Network Communication Check**

☐ Startup

1. Install the Communication Driver.
2. Double-click the "EpsonServiceProgram".

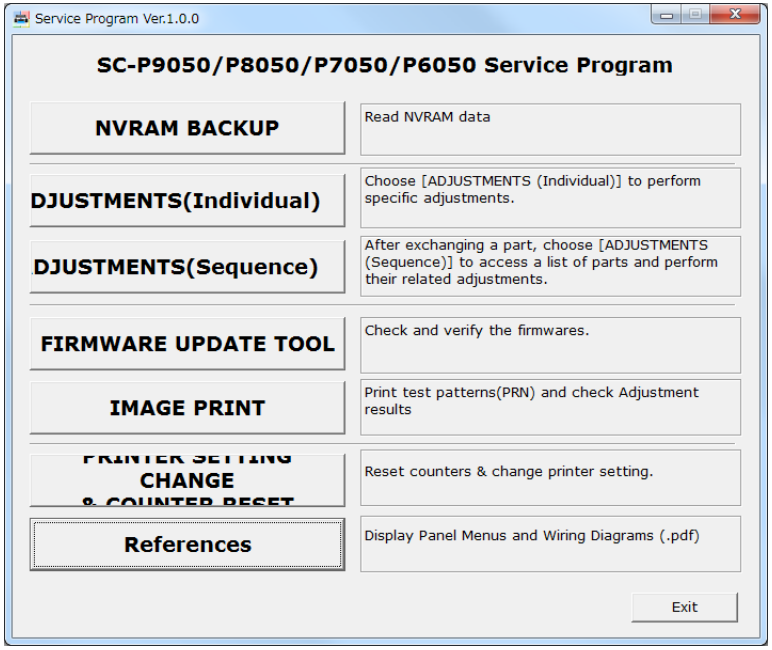


Figure 5-1. Service Program

5.2 NV-RAM BACKUP / NVRAM Viewer

Parameters stored in the NVRAM on the Main Board are read/stored and written onto the other NVRAM on the Main Board using this menu.
Also, the read parameter information is displayed on the computer screen.

5.2.1 NVRAM Read Procedure

1. Turn the printer ON in the Normal Mode.
2. Click **[NVRAM Data Read]** on the NVRAM Read field to start reading the parameters.
   The save dialog box appears when the reading is completed, then specify a file name and location to save the file.

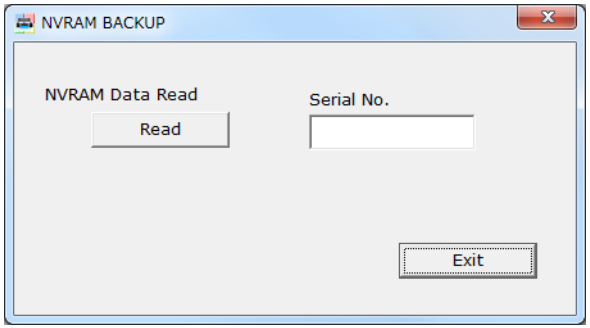


Figure 5-2. [NVRAM BACKUP] Screen

5.2.2 NVRAM Viewer Basic Operation

The following functions are provided.

1. Life Parts Operation History
2. Utilization History
3. Error History
4. Basic information

PROCEDURE

1. Follow the on-screen instructions to install the Nviewer.
2. Start the Nviewer.
3. Click **[Open File]**, and select NVRAM data.
4. Select the tab you want to check.
5. Click **[Export Excel]** on File tab to save the data on the selected tab as a CSV file.

DESCRIPTION

☐ Life Parts

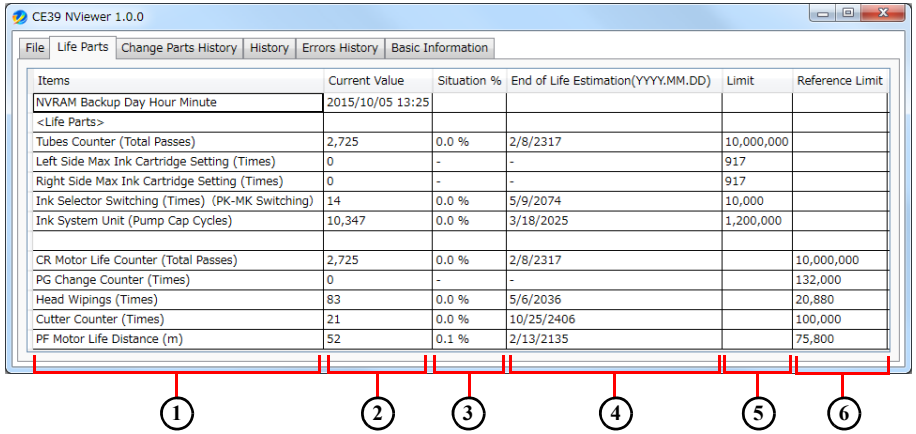


Figure 5-3. [Life Parts] Screen

1	Items	---
2	Current Value	Life count for each part or unit.
3	Situation	Displays the percentage of Current Value (2) considering the Limit (5) as 100%.
4	End of Life Estimation (YY/MM/DD)	The estimated date when the part or unit reaches the end of its service life.
5	Limit	Displays the life limit of the part if it has.
6	Reference Limit	---

☐ Change Parts History

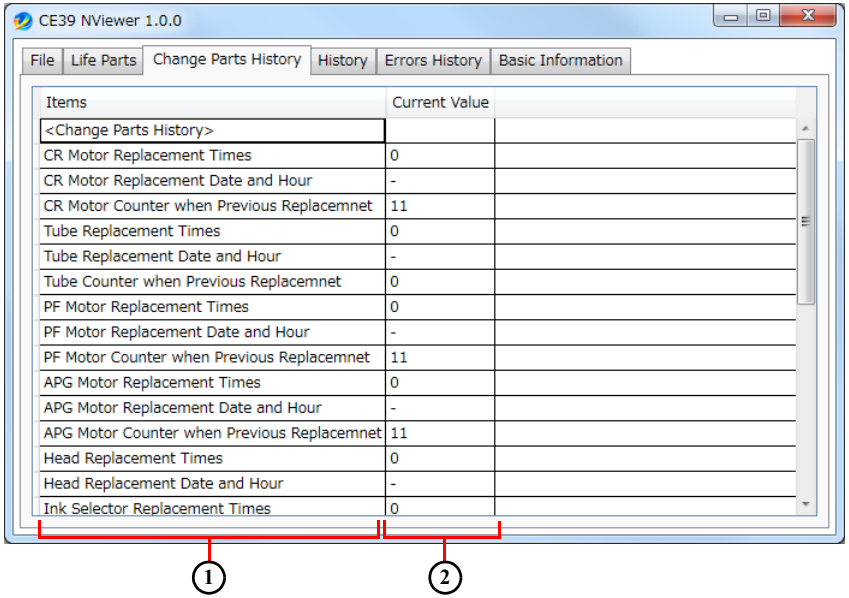


Figure 5-4. [Change Parts History] Screen

1	Item	---
2	Current Value	Displays the current value per item.

☐ History

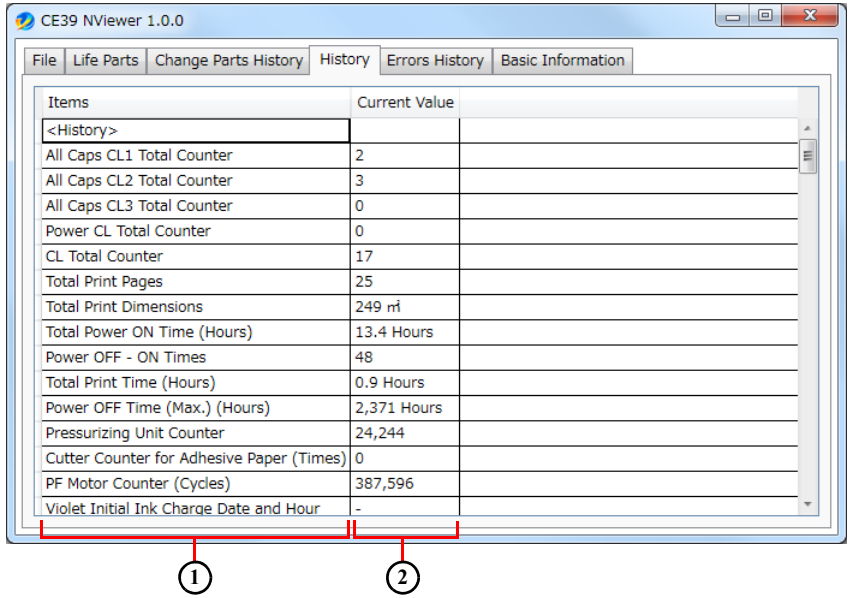


Figure 5-5. [History] Screen

1	Item	---
2	Current Value	Displays the current value per item.

☐ Errors History

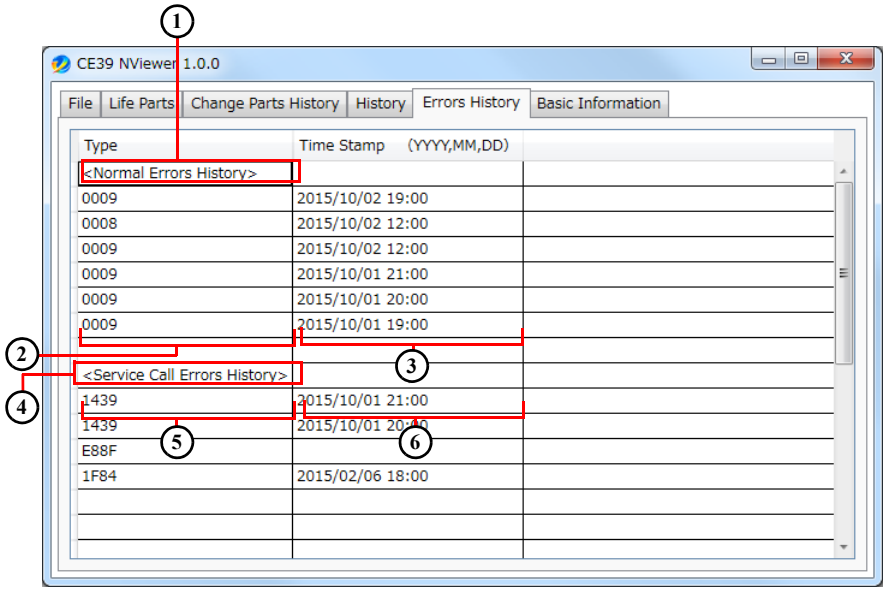


Figure 5-6. [Errors History] Screen

1	Normal Errors History	The history of normal errors.
2	Type	Displays the types of the most recent six normal errors saved in the NVRAM.
3	Time Stamp	Displays the time stamps of the most recent six normal errors.
4	Service Calls Errors History	The history of service call errors.
5	Type	Displays the types of the most recent six service call errors saved in the NVRAM.
6	Time Stamp	Displays the time stamps of the most recent six service call errors.

☐ Basic Information

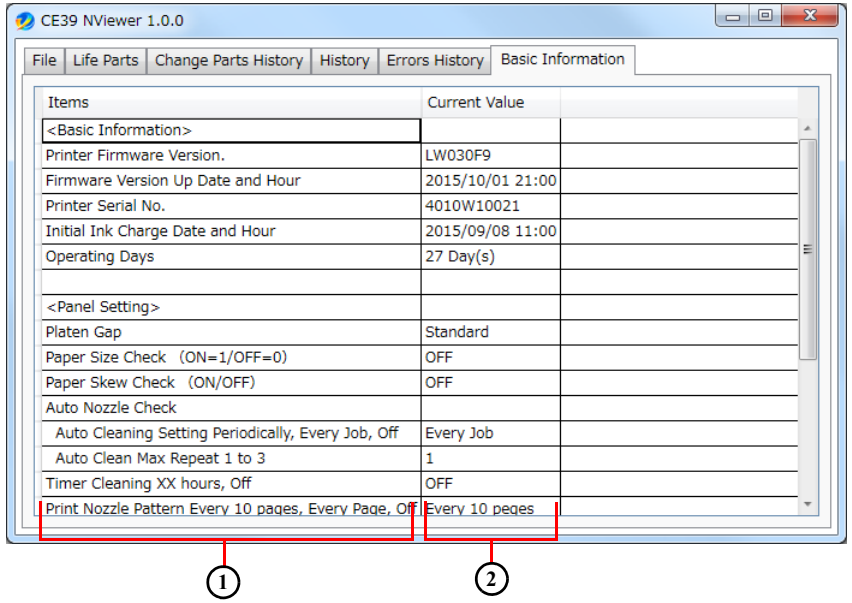


Figure 5-7. [Basic Information] Screen

1	Item	---
2	Current Value	The current value of the item.

INFORMATION SAVED TO CSV FILES

☐ Life Parts

Table 5-2. List Parts Operation History

Item		Description
Tubes Counter	Total Passes	Operation history (the following information is displayed for each of the items.) ☐ Current Value ☐ Limit ☐ Situation ☐ End of Life Estimation (YY/MM/DD)
Left Side Max Ink Cartridge Setting	Ink holder	
Right Side Max Ink Cartridge Setting	Ink holder	
Ink Selector Switching	PK-MK Switching Time	
Ink System Unit (Pump Cap) Counter 1 (Suction)	Cycles	
CR Motor Life Counter	Total Passes	
PG Change Counter	Times	
Head Wipings	Times	
Cutter Counter	Times	
PF Motor Life Distance (m)	m	

☐ Change Parts History

Table 5-3. Replacement History

Item	Description
CR Motor Replacement Times	---
CR Motor Replacement Date and Hour	---
CR Motor Counter when Previous Replacement	---
Tube Replacement Times	---
Tube Replacement Date and Hour	---
Tube Counter when Previous Replacement	---
PF Motor Replacement Times	---
PF Motor Replacement Date and Hour	---
PF Motor Counter when Previous Replacement	---
APG Motor Replacement Times	---

Table 5-3. Replacement History

Item	Description
APG Motor Replacement Date and Hour	---
APG Motor Counter when Previous Replacement	---
Head1 Replacement Times	---
Head1 Replacement Date and Hour	---
Ink Selector Replacement Times	---
Ink Selector Replacement Date and Hour	---
Pressurizing Motor Replacement Times	---
Pressurizing Motor Replacement Date and Hour	---
Cutter Motor Replacement Times	---
Cutter Motor Replacement Date and Hour	---
Ink System Unit Replacement Times	---
Ink System Unit Replacement Date and Hour	---
Ink Holder Replacement Times	---
Ink Holder Unit Replacement Date and Hour	---
Main Board Replacement Times	---
Main Board Unit Replacement Date and Hour	---
Power Supply Board Replacement Times	---
Power Supply Board Unit Replacement Date and Hour	---
AID Board Replacement Times	---
AID Board Unit Replacement Date and Hour	---
Cutter Replacement Times	---

☐ Usage History

Table 5-4. Usage History

Item
All Caps CL1 Total Counter
All Caps CL2 Total Counter
All Caps CL3 Total Counter
Power CL Total Counter
CL Total Counter

Table 5-4. Usage History

Item
Total Print Pages
Total Print Dimensions
Total Power ON Time (Hours)
Power OFF - ON Times
Total Print Time (Hours)
Power OFF Time (Max.) (Hours)
Pressurizing Unit Counter
Cutter Counter for Adhesive Paper (Times)
PF Motor Counter (Cycles)
Violet Initial Ink Charge Date and Hour
Violet → LLk Ink Change Times
LLk Initial Ink Charge Date and Hour
LLk → Violet Ink Change Times
IMS Calibration Reference Creating Date and Hour
IMS Calibration Data Rewriting Date and Hour
Color Checking (Verify) Date and Hour
Min. Head Temperature Recorded (C.)
Max. Head Temperature Recorded (C.)
Date of Printing Start in Max. Temperature
Date of Printing Start in Min. Temperature
Out of Operating Temperature (Times)
PrintHead temperature - 5 Deg. C (Times)
PrintHead temperature 6- 13 Deg. C (Times)
PrintHead temperature 14- 20 Deg. C (Times)
PrintHead temperature 21- 27 Deg. C (Times)
PrintHead temperature 28- 34 Deg. C (Times)
PrintHead temperature 35- Deg. C (Times)
Ink Cartridge Setting Times (Slot 1 Cyan)
Ink Cartridge Setting Times (Slot 2 Orange)
Ink Cartridge Setting Times (Slot 3 Yellow)

Table 5-4. Usage History

Item
Ink Cartridge Setting Times (Slot 4 Light Cyan)
Ink Cartridge Setting Times (Slot 5 Mat Black)
Ink Cartridge Setting Times (Slot 6 Photo Black)
Ink Cartridge Setting Times (Slot 7 Vivid Magenta)
Ink Cartridge Setting Times (Slot 8 Light Black)
Ink Cartridge Setting Times (Slot 9 Green)
Ink Cartridge Setting Times (Slot 10 Light Light Black/Violet)
Ink Cartridge Setting Times (Slot 11 Vivid Light Magenta)
Ink System Unit (Pump Cap) Counter 1 (Suction) (Cycles)
Ink consumption
Genuine Ink consumption (350ml /Cartridge Conversion Number)
Slot #1 (C) Cyan
Slot #2 (Or) Orange
Slot #3 (Y) Yellow
Slot #4 (Lc) Light Cyan
Slot #5 (Mk) Mat Black
Slot #6 (Pk) Photo Black
Slot #7 (Vm) Vivid Magenta
Slot #8 (Lk) Light Black
Slot #9 (Gr) Green
Slot #10 (LLk/Vi) Light Light Black/Violet
Slot #11 (VLm) Vivid Light Magenta
Non-Genuine Ink Consumption (350ml /Cartridge Conversion Number)
Slot #1
Slot #2
Slot #3
Slot #4
Slot #5
Slot #6
Slot #7

Table 5-4. Usage History

Item
Slot #8
Slot #9
Slot #10
Slot #11
Maintenance Box Replace Times (Right)
Maintenance Box Replace Times (Left)
Ink Cartridge(Slot1 Cyan) Replacement Date and Hour History1
Ink Cartridge(Slot1 Cyan) Replacement Date and Hour History2
Ink Cartridge(Slot1 Cyan) Replacement Date and Hour History3
Ink Cartridge(Slot2 Orange) Replacement Date and Hour History1
Ink Cartridge(Slot2 Orange) Replacement Date and Hour History2
Ink Cartridge(Slot2 Orange) Replacement Date and Hour History3
Ink Cartridge(Slot3 Yellow) Replacement Date and Hour History1
Ink Cartridge(Slot3 Yellow) Replacement Date and Hour History2
Ink Cartridge(Slot3 Yellow) Replacement Date and Hour History3
Ink Cartridge(Slot4 Light Cyan) Replacement Date and Hour History1
Ink Cartridge(Slot4 Light Cyan) Replacement Date and Hour History2
Ink Cartridge(Slot4 Light Cyan) Replacement Date and Hour History3
Ink Cartridge(Slot5 Mat Black) Replacement Date and Hour History1
Ink Cartridge(Slot5 Mat Black) Replacement Date and Hour History2
Ink Cartridge(Slot5 Mat Black) Replacement Date and Hour History3
Ink Cartridge(Slot6 Photo Black) Replacement Date and Hour History1
Ink Cartridge(Slot6 Photo Black) Replacement Date and Hour History2
Ink Cartridge(Slot6 Photo Black) Replacement Date and Hour History3
Ink Cartridge(Slot7 Vivid Magenta) Replacement Date and Hour History1
Ink Cartridge(Slot7 Vivid Magenta) Replacement Date and Hour History2
Ink Cartridge(Slot7 Vivid Magenta) Replacement Date and Hour History3
Ink Cartridge(Slot8 Light Black) Replacement Date and Hour History1
Ink Cartridge(Slot8 Light Black) Replacement Date and Hour History2
Ink Cartridge(Slot8 Light Black) Replacement Date and Hour History3

Table 5-4. Usage History

Item
Ink Cartridge(Slot9 Green) Replacement Date and Hour History1
Ink Cartridge(Slot9 Green) Replacement Date and Hour History2
Ink Cartridge(Slot9 Green) Replacement Date and Hour History3
Ink Cartridge(Slot10 Light Light Black/Violet) Replacement Date and Hour History1
Ink Cartridge(Slot10 Light Light Black/Violet) Replacement Date and Hour History2
Ink Cartridge(Slot10 Light Light Black/Violet) Replacement Date and Hour History3
Ink Cartridge(Slot11Vivid Light Magenta) Replacement Date and Hour History1
Ink Cartridge(Slot11Vivid Light Magenta) Replacement Date and Hour History2
Ink Cartridge(Slot11Vivid Light Magenta) Replacement Date and Hour History3
Maintenance Box (Right) Replacement Date and Hour History1
Maintenance Box (Right) Replacement Date and Hour History2
Maintenance Box (Right) Replacement Date and Hour History3
Maintenance Box (Left) Replacement Date and Hour History1
Maintenance Box (Left) Replacement Date and Hour History2
Maintenance Box (Left) Replacement Date and Hour History3
Ink Cartridge(Slot1 Cyan) Production Date History1
Ink Cartridge(Slot1 Cyan) Production Date History2
Ink Cartridge(Slot1 Cyan) Production Date History3
Ink Cartridge(Slot2 Orange) Production Date History1
Ink Cartridge(Slot2 Orange) Production Date History2
Ink Cartridge(Slot2 Orange) Production Date History3
Ink Cartridge(Slot3 Yellow) Production Date History1
Ink Cartridge(Slot3 Yellow) Production Date History2
Ink Cartridge(Slot3 Yellow) Production Date History3
Ink Cartridge(Slot4 Light Cyan) Production Date History1
Ink Cartridge(Slot4 Light Cyan) Production Date History2
Ink Cartridge(Slot4 Light Cyan) Production Date History3
Ink Cartridge(Slot5 Mat Black) Production Date History1
Ink Cartridge(Slot5 Mat Black) Production Date History2
Ink Cartridge(Slot5 Mat Black) Production Date History3

Table 5-4. Usage History

Item
Ink Cartridge(Slot6 Photo Black) Production Date History1
Ink Cartridge(Slot6 Photo Black) Production Date History2
Ink Cartridge(Slot6 Photo Black) Production Date History3
Ink Cartridge(Slot7 Vivid Magenta) Production Date History1
Ink Cartridge(Slot7 Vivid Magenta) Production Date History2
Ink Cartridge(Slot7 Vivid Magenta) Production Date History3
Ink Cartridge(Slot8 Light Black) Production Date History1
Ink Cartridge(Slot8 Light Black) Production Date History2
Ink Cartridge(Slot8 Light Black) Production Date History3
Ink Cartridge(Slot9 Green) Production Date History1
Ink Cartridge(Slot9 Green) Production Date History2
Ink Cartridge(Slot9 Green) Production Date History3
Ink Cartridge(Slot10 Light Light Black/Violet) Production Date History1
Ink Cartridge(Slot10 Light Light Black/Violet) Production Date History2
Ink Cartridge(Slot10 Light Light Black/Violet) Production Date History3
Ink Cartridge(Slot11 Vivid Light Magenta) Production Date History1
Ink Cartridge(Slot11 Vivid Light Magenta) Production Date History2
Ink Cartridge(Slot11 Vivid Light Magenta) Production Date History3

☐ Errors History

Table 5-5. Errors History

Item	Description
Normal Errors History	Displays the most recent six errors and their time stamps.
Service Calls Errors History	Displays the most recent six service call errors and their time stamps.

☐ Basic Information

Table 5-6. Basic Information

Item	Description
Printer Firmware Version	The version of the firmware installed on the printer.
Firmware Version Up Date and Hour	---
Printer Serial No.	Serial number of the printer.
Initial Ink Charge Date and Hour	Date and time when the initial ink charge was done.
Operating Days	---
Panel Setting	Displays the settings made by the control panel menus.

5.3 ADJUSTMENTS (Individual)

This mode executes the adjustment required for the repair individually.

PROCEDURE

1. Click **[ADJUSTMENTS (Individual)]** from the main menu.
2. Select the adjustment item that you want to execute and click **[OK]**.
3. Follow the instructions on the screen to execute the adjustment.
4. Click **[Back]** to return to the main menu.

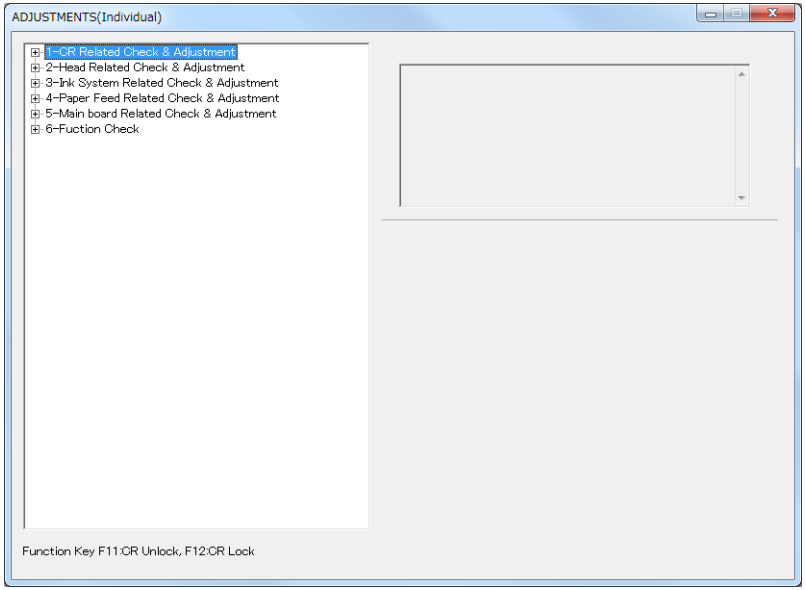


Figure 5-8. ADJUSTMENTS (Individual)

5.4 ADJUSTMENTS (Sequence)

This mode displays the required adjustments per replaced part and executes the adjustments in order.

PROCEDURE

1. Click **[ADJUSTMENTS (Sequence)]** from the main menu.
2. Select the name of the replaced part.
3. Select the adjustment item that you want to execute and click **[OK]**.
4. Follow the instructions on the screen to execute the adjustment.
5. Click **[Finish]** to return to the adjustment item list per part after the adjustment.
6. Click **[Back]** to return to the main menu.

CHECK POINT

The text of the executed adjustment is colored to be distinguished. The colored text gets back to normal by returning to the main menu once.

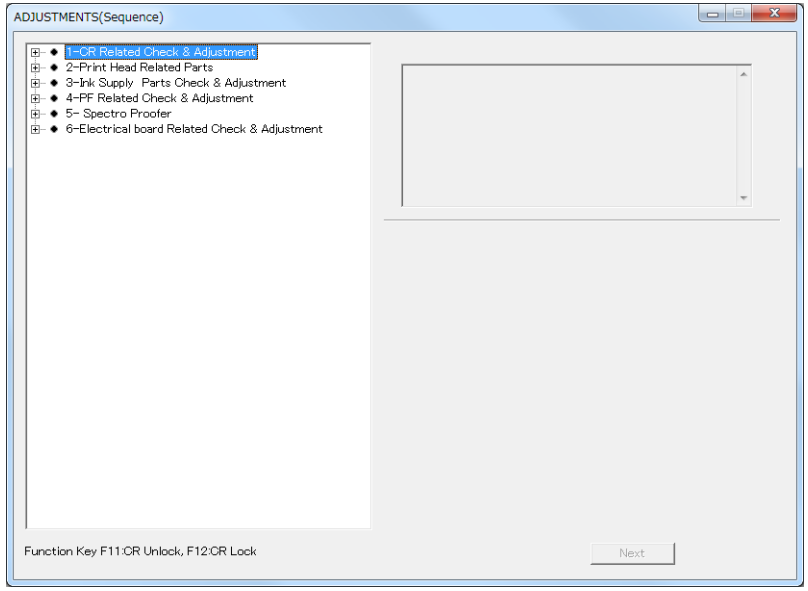


Figure 5-9. ADJUSTMENTS (Sequence)

5.5 Installing Firmware

This section explains how to update the firmware. The firmware of this printer is written in the Flash ROM on the Main Board. If the Main Board is replaced or the firmware needs to be updated, follow the procedure below to write the firmware to the Flash ROM.

PROCEDURE

1. Turn both the printer and computer OFF and connect them with a USB cable.

CHECK POINT

All firmwares can be installed to the printer via USB cable connection.

2. Open the Front Cover.
3. Turn the printer ON in the F/W update mode or Serviceman Mode.
   - F/W update mode
     Turn the printer on by pressing the **[Paper feed/Up]**, **[Paper Feed/Down]**, **[Menu]** and **[Paper source]** buttons.
   - Serviceman Mode
     Turn the printer on by pressing the **[OK]**, **[Paper Feed/Down]**, and **[Menu/Right]** buttons.
4. Start the Service Program and click **[FIRMWARE UPDATE TOOL]** from the main menu.

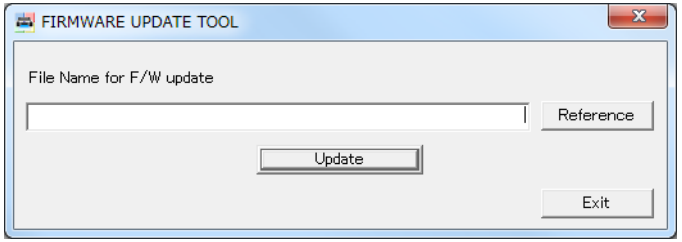


Figure 5-10. FIRMWARE UPDATE TOOL

5. Click **[Browse]** of the **F/W Update** list to select the firmware data to be installed.
6. Click **[Update]** to transfer the firmware data.

CAUTION

When updating starts, a progress bar is displayed on the Control Panel of the printer. Make sure not to turn off the printer until updating is complete. Otherwise, the printer may not operate normally.

7. When writing the firmware is completed, the printer will be rebooted automatically.
8. Click **[Exit]**.

5.6 Image & Test Print

The following functions are provided.

1. Prints an image file (.PRN file)
2. Transfers the.PRN file

PROCEDURE

1. Click **[IMAGE PRINT]** from the main menu.
2. Click **[Reference]** to specify a file to print.
3. Click **[Print]**.

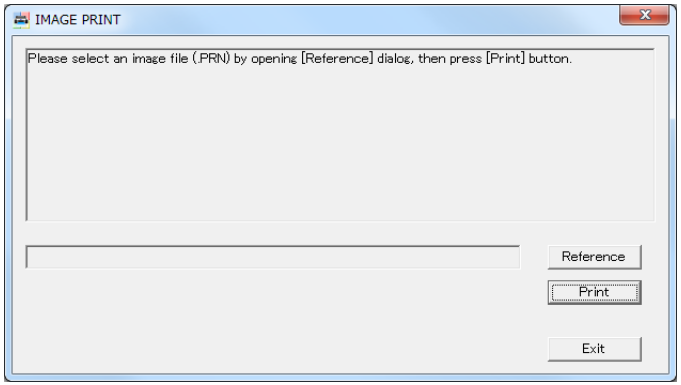


Figure 5-11. [IMAGE PRINT] Screen

CAUTION

- **Be sure to write the file name of image file within 80 characters.**
- **Make sure to use lower case letters for extensions of the file names.**

5.7 Counter Clear

Whenever the parts/units which have life counter are replaced, the corresponding life counter must be reset. This is important to replace those parts/units at the correct timing.

EXECUTION MODE

Serviceman Mode

PROCEDURE

1. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu]** + **[Back]** + **[OK]**.
2. Start the Service Program and click **[FLAG CHANGE & COUNTER RESET]** from the main menu.
3. Choose one of the counter reset menus to be reset.
4. Click **[Run]** to reset the counter.
5. Click **[Finish]**.
6. Restart the printer.
7. With NVRAM Viewer, verify that the counter has been reset to “0”.
8. Turn the printer OFF.

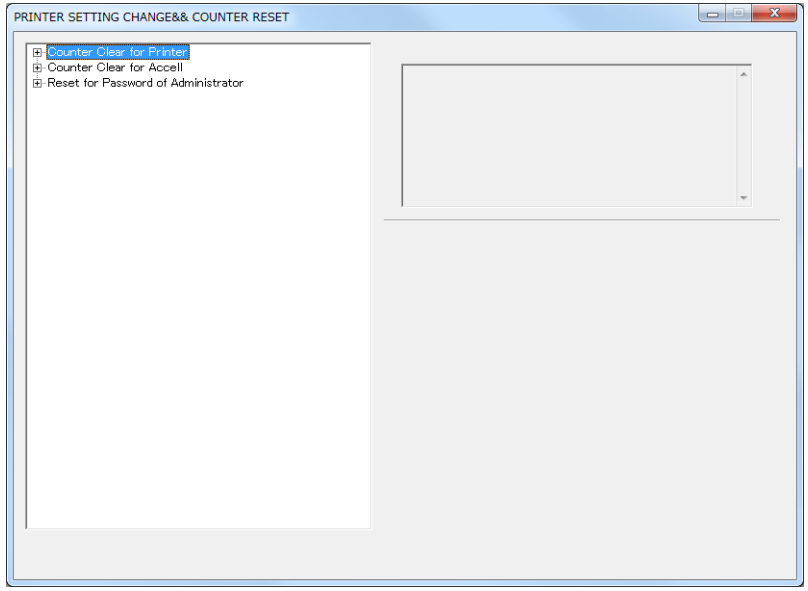


Figure 5-12. [FLAG CHANGE & COUNTER RESET] Screen

Table 5-7. Clear Counter Menu List

	Replaced Part/Unit	Menu Name	SC-P9000 Series/SC-P7000 Series	SC-P9000 Series/SC-P7000 Series
Printer	INK TUBE L/R	When replacing Ink tube	√	√
	Wiper Cleaner Assy	When replacing Wiper	√	√
	INK SYSTEM UNIT (PUMP MOTOR)	When replacing Wiper	√	√
		When replacing Pump motor	√	√
	PRESSURIZING UNIT	When replacing Pressurizing motor	√	√
	INK SELECT MOTOR	When replacing Ink select motor	√	——
	INK HOLDER L/R	When replacing Cartridge holder (Ink Pad)	√	√
	PF MOTOR	When replacing PF motor	√	√
	CR MOTOR	When replacing CR motor	√	√
	PRINTHEAD	When replacing Printhead	√	√
	AID BOARD	When replacing AID board	√	√
SpectroProofer	Carriage Motor	When replacing CR Motor	√	——
	Paper Pressing Motor	When replacing Paper Pressing Motor	√	——
	Cooling Fan 1/2	When replacing Fans	√	——

CAUTION

- **Make sure to perform a Clear Counter for the SpectroProofer after confirming that the SpectroProofer is in the ready state (when the LED is on). If it is performed in the OFF or sleep state, the counter is not reset correctly.**
- **Clear Counters can be done in Serviceman Mode though, make sure to perform this function using the Service Program.**

CHECK POINT

The history of the Counter Clear can be checked per counter on the NVRAM Viewer (P. 277).

☐ Reset the administrator's password

Select "Reset for Password of Administrator", and click **[Run]**.

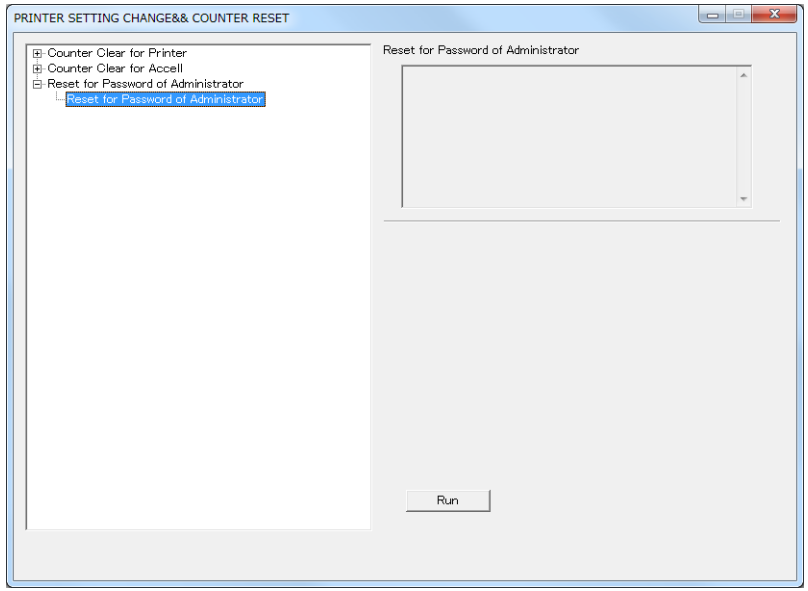


Figure 5-13. [Reset for Password of Administrator] Screen

5.8 References

This function allows you to view the following information (PDF files).

- ☐ Control panel menus in the Normal Mode
- ☐ Control panel menus in the Serviceman Mode
- ☐ Wiring diagrams

PROCEDURE

1. Click **[References]** from the main menu.
2. Select **Panel Menu Map** or **Wiring Diagrams** and click **[Open]**.

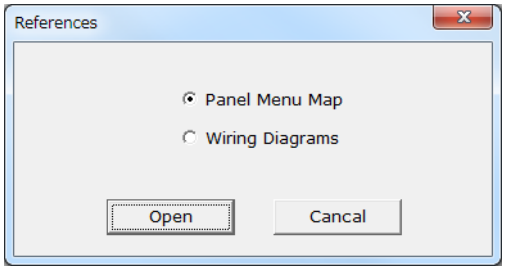


Figure 5-14. References

5.9 CR Related Adjustment

5.9.1 CR Timing Belt Tension Adjustment

This allows you to adjust the tension of the CR Timing Belt to a specified level.
This is to execute after the CR Timing Belt has been loosened such as when removing the CR Motor.

REQUIRED TOOLS

- ☐ Sonic Tension Meter U-507
- ☐ Any tools to flip the timing belt

STANDARD VALUE

- ☐ 45 ± 3N

PROCEDURE

1. Remove the following parts in advance.
   - ■ Control Panel
   - ■ IC Cover R and IC Shaft Cover R
   - ■ Maintenance Tank R
   - ■ Right Cover
2. Install the following part after removing the Right Cover.
   - ■ Control Panel
   - ■ Maintenance Tank R
3. Switch the open/close detection switch on the Left Cover to make cover closed.

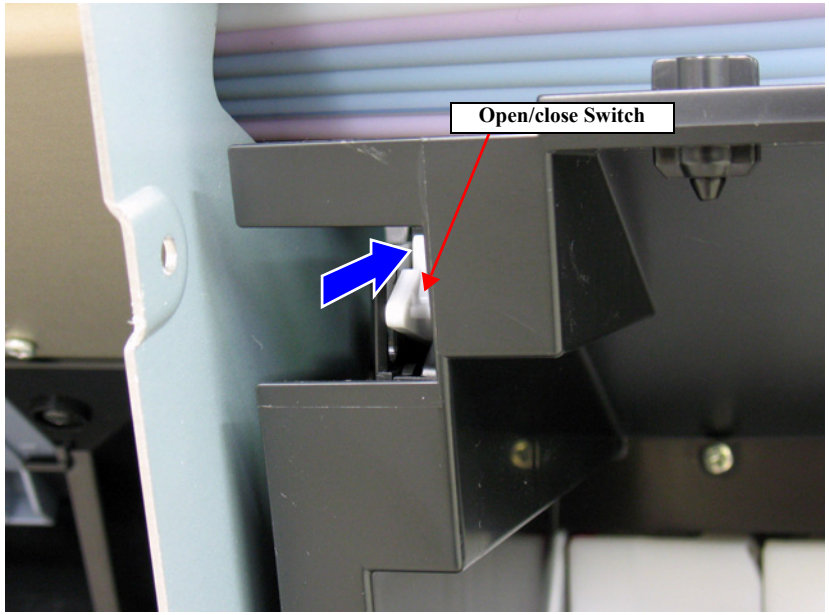


Figure 5-15. Switching the IC cover mode

4. Turn the printer on.
5. Start the Service Program and select **CR Timing Belt Tension Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
6. Press **[RUN]**. The Carriage Unit goes and returns three times.
7. Check the CR Timing Belt behavior for the Driven pulley while the Carriage Unit is running.
   - The belt runs in the middle of the driven pulley: Go to Step 10
   - The belt does not run stably in the middle of the pulley or keeps running on one end of the pulley: Go to Step 8

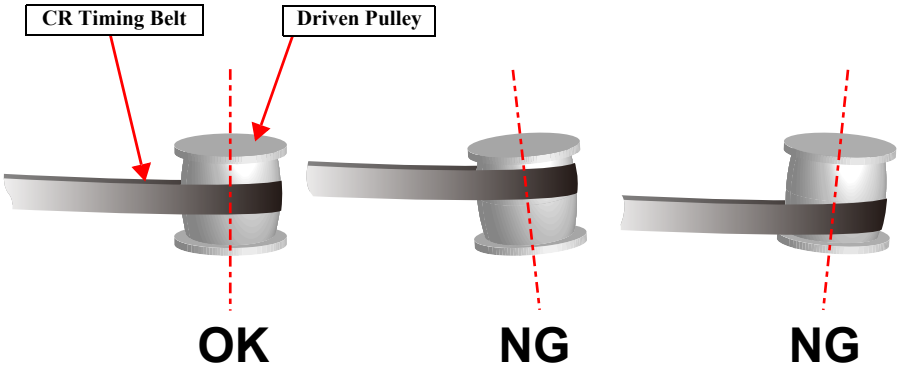


Figure 5-16. Slant Adjustment of Driven Pulley

8. Remove the screw A.
9. Adjust the Driven Pulley slant with the slant adjusting screw. After adjusting the slant, attach the screw A and return to Step 5.
   - The belt leans to the upper side of the Driven Pulley: Rotate the screw in a clockwise.
   - The belt leans to the lower side of the Driven Pulley: Rotate the screw in a counterclockwise.

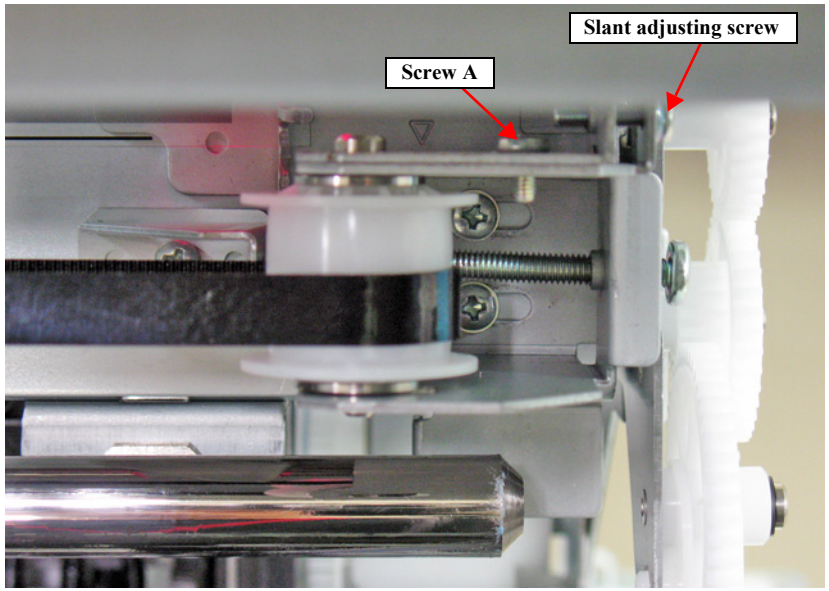


Figure 5-17. Slant Adjusting Screw

10. Open the Front Cover.
11. Move the Carriage Unit to the belt tension measuring position automatically.
    - SC-P9000 Series/SC-P8000 Series:
      Position as shown in the Figure 5-18 below.
    - SC-P7000 Series/SC-P6000 Series:
      Home position (Carriage is locked)

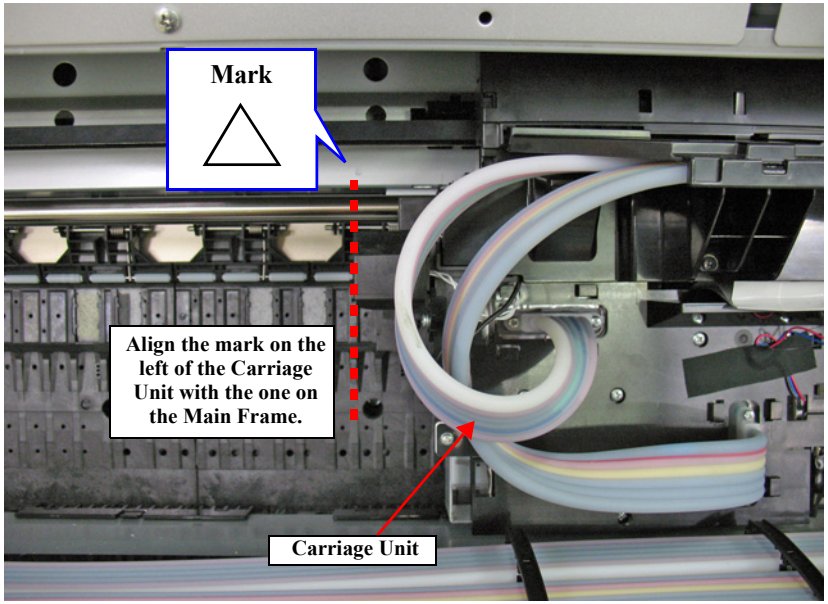


Figure 5-18. Belt Tension Measuring Position

12. Input the following values to the tension meter.
    - MASS: 001.2 g/m
    - WIDTH: 008.0 mm/R
    - SPAN: 1170 mm
13. Bring the microphone of the Sonic Tension Meter U-507 closer to the center of the Timing Belt on the rear side.

CAUTION

Be sure to measure the tension of the belt on the rear side. If you measure the tension of the belt on the front side, the measuring value may be inaccurate.

CHECK POINT

Bring the microphone within 5mm from the Timing Belt but do not let it touch the belt.

14. Press **[MEASURE]** on the Sonic Tension Meter U-507 and flip the Timing Belt with tweezers or a similar tool.

CAUTION

- **Flip the Timing Belt as weak as the Sonic Tension Meter U-507 can measure it.**
- **Be careful not to let the microphone touch the Timing Belt when flipping the belt.**

- Within the standard value: Close the Front Cover (Middle) and press **[OK]** while **[Enter] Cap** is displayed to cap the printhead. After the printhead is secured, turn the printer OFF and finish the adjustment.
- Out of the range: Go to Step 15.

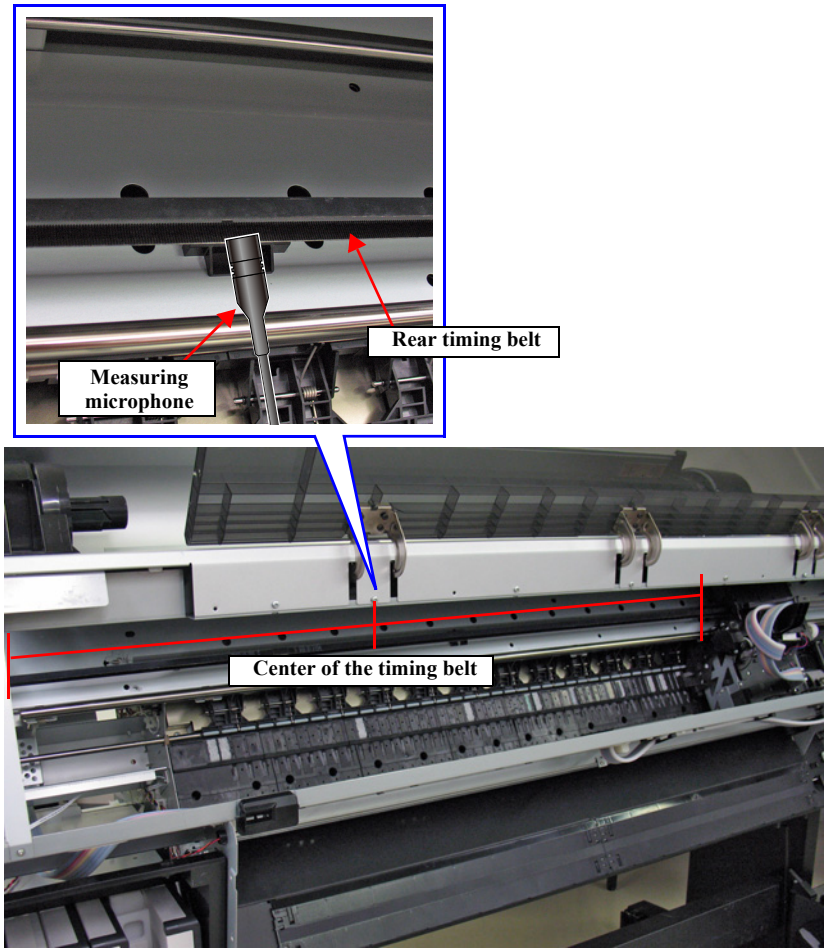


Figure 5-19. Measuring the Timing Belt Tension

15. Loosen the screws (x2) that secure the Driven Pulley Holder.
16. Adjust the belt tension with the tension adjusting screw.
    After adjusting the tension, tighten the screws loosened in Step 15, and then back to Step 13.
    - If larger than standard value: Turn the screw in a clockwise.
    - If smaller than standard value: Turn the screw in a counterclockwise.

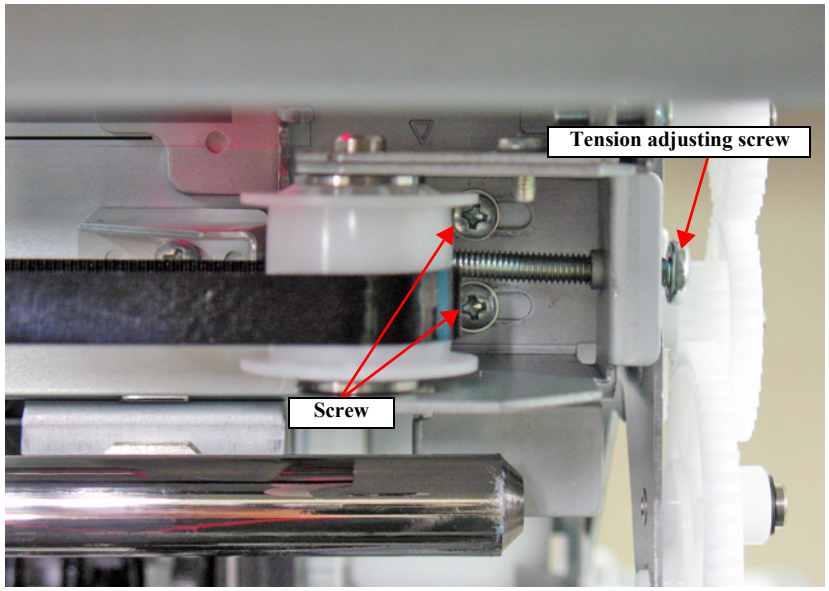


Figure 5-20. Tension Adjusting Screw

5.9.2 CR Encoder Sensor Adjustment

This allows you to adjust the position of the CR Encoder Sensor to the CR Scale.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program, and select **CR ENCODER SENSOR ADJUSTMENT** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Press the F11 key of the keyboard to unlock the CR unit.
4. Open the Front Cover.
5. Check the gap between the CR Encoder Sensor detecting part and the CR Scale.
   - If the CR Scale is in the center of the detector of the Sensor: Go to Step 10
   - If the CR Scale is not in the center of the detector of the Sensor: Go to Step 6
6. Loosen the screw that secures CR Encoder Sensor.
7. Move the CR Encoder Sensor to adjust the position of the sensor.
   After adjusting, tighten the screw and return to Step 5.
8. Close the Front Cover (Middle).
9. Press the F12 key of the keyboard to lock the CR unit.
10. Turn the printer off.

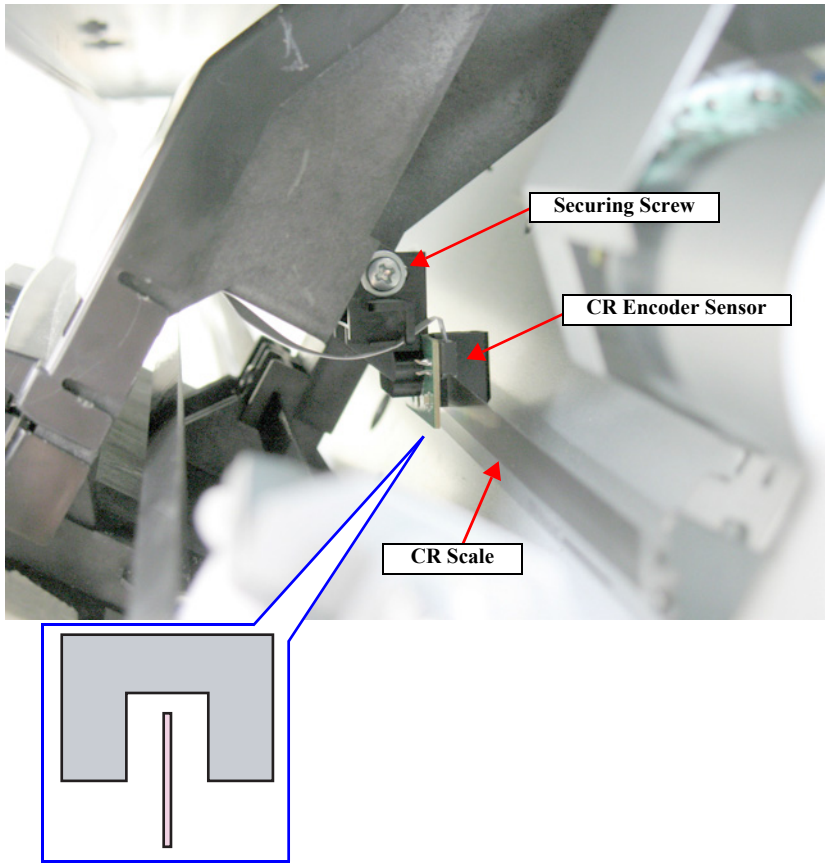


Figure 5-21. CR Encoder Sensor Adjustment

5.9.3 Head PG Adjustment

This is to adjust the gap between the Printhead and the platen.

REQUIRED TOOLS

- ☐ PG Height Adjustment Jig (1.55/1.65/1.75)
- ☐ Metal Ruler

STANDARD VALUE

- ☐ 1.55 pass
- ☐ 1.65 stop

PROCEDURE

1. Turn the printer on.
2. When any paper is loaded, remove it.

NOTE: A paper out error occurs at this time, but the adjustment can be continued.

3. Press the F11 key of the keyboard to unlock the CR unit.

CHECK POINT

This adjustment should be done as follows.

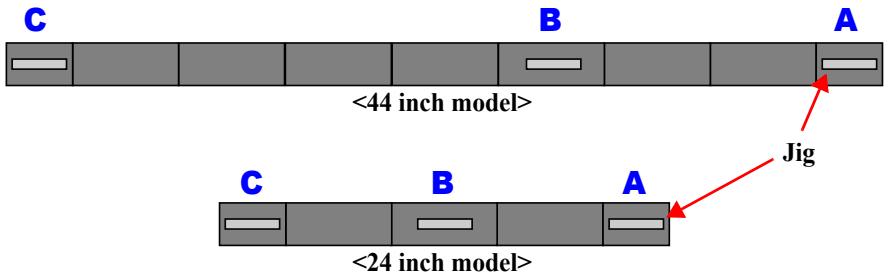
1. **Right end (Home side):**
   Align the head height on the right and left sides, and also adjust PG.
2. **Middle:**
   Adjust PG.
3. **Left end (Full side):**
   Adjust PG.

Because the head height on the right and left sides is aligned at the Home side first, for the adjustment in the middle and on the left side it is OK to confirm and adjust PG either on the right or left side of the Printhead.

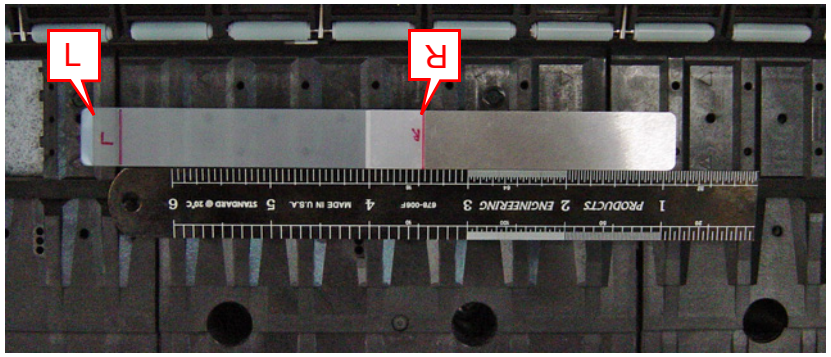
<Checks and adjustments on the right side of the Platen>

4. Open the Front Cover.
5. See Figure 5-22 and secure the ruler on the Platen with the double-sided tape.
6. Place the jig on the ruler.

NOTE: Make sure to set the Ruler and the jig on the position A as shown in Figure 5-22.



<To check the left side of the Carriage>



<To check the right side of the Carriage>

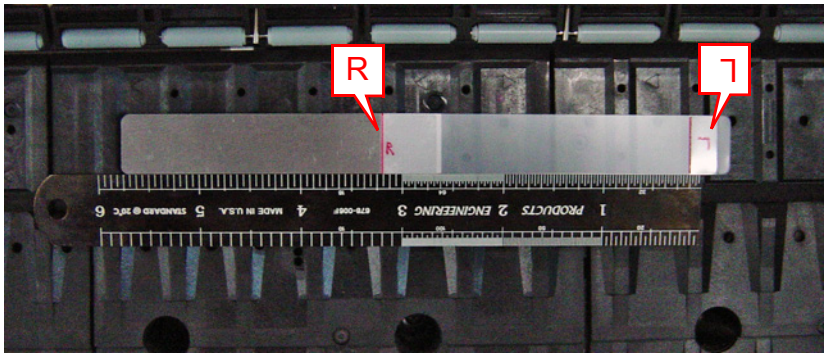


Figure 5-22. Position of the Adjustment jig

CHECK POINT

At the right end of the Platen, confirm and adjust the height of the Printhead on the right and left sides by changing the position of the Carriage and the thickness gauges.

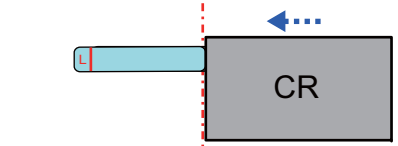
7. Move the Carriage Unit slowly over the jig.
8. Check if the height of the Carriage Unit on both right and left sides of the Printhead falls within the standard.
   - Values on both sides are within the standard: Go to Step 10
   - Out of the range: Go to Step 9

CHECK POINT

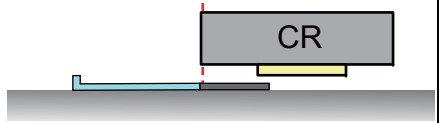
The conditions of the Printhead touching the thickness gauge can not be seen visually; therefore, refer to the following to verify it.

<If it does not touch the gauge>
The thickness gauge does not move even when the edge of the CR Unit comes to the border between the metallic part and the plastic part of the jig.

<As seen from the top>

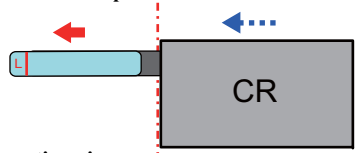


<Cross section view>

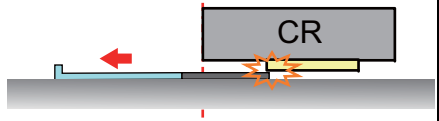


<If it touches the gauge>
The thickness gauge moves before the edge of the CR Unit comes to the border between the metallic part and the plastic part of the jig.

<As seen from the top>



<Cross section view>



9. Loosen the adjustment screw and carry out the PG adjustment with the adjustment lever.
   After adjustment, secure the screw and return to Step 7.

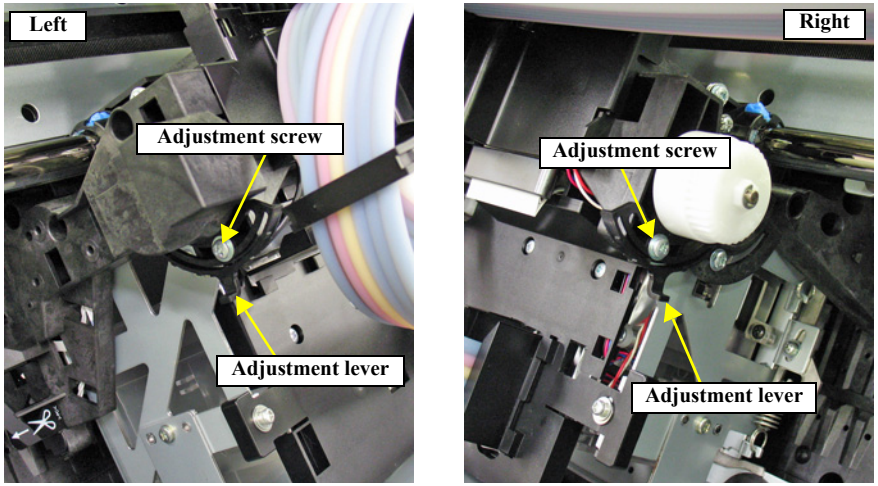


Figure 5-23. Adjustment Screw and Lever

<Check and adjustment in the middle and on the left side>

10. In the middle and at the left end of the Platen, check and adjust the PG either on the right or left side of the Printhead.
    If the 1.65 mm gauge does not stop the Carriage Unit in the middle and/or at the left end, it is OK if the 1.75 gauge stops the Carriage Unit.
    If the result is NG in the middle and/or at the left end, go back to Step 7, and perform the same check and adjustment for the right end.

NOTE: For the center, set the Ruler and Thickness Gauge on the position B shown in Figure 5-22, and for the left side, set them on the position C shown in Figure 5-22.

11. When the check and adjustment for the right, middle and left sides, remove the jig and the ruler.
12. Close the Front Cover.
13. After the adjustment, press the F12 key of the keyboard to lock the CR unit.

5.9.4 Cleaning PG Adjustment

This allows you to adjust the gap between the Printhead and the wiper for cleaning with the wiper properly. This adjustment is a check only.

REQUIRED TOOL

☐ Cleaning PG Adjustment Jig

PROCEDURE

1. Remove the following parts in advance.
   - Control Panel
   - IC Cover R and IC Shaft Cover R
   - Maintenance Tank R
   - Right Cover
2. Install the following parts after removing the Right Cover.
   - Control Panel
   - Ink Cartridges
   - Maintenance Tank R
3. Switch the open/close detection switch on the IC Cover R to make the cover closed.

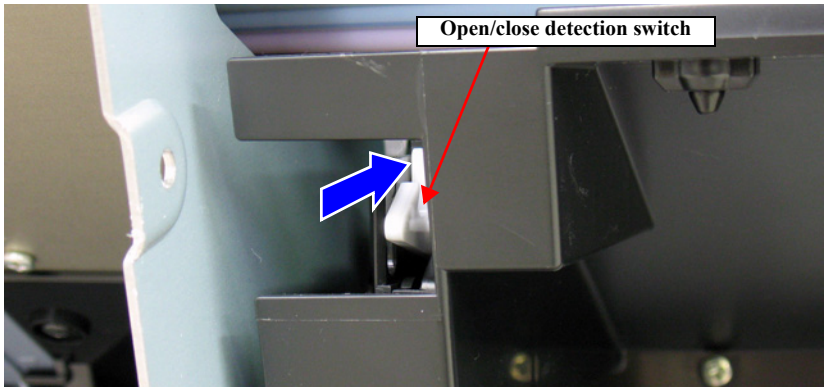


Figure 5-24. Switching the IC Cover Switch

4. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu ▶]** + **[Paper Feed ▼]** + **[OK]** simultaneously.
5. When any paper is loaded, remove it.

NOTE: A paper out error occurs at this time, but the adjustment can be continued.

6. Select **SELF TESTING** → **Mecha Adjustment** → **Cleaning PG** → **Adjustment**.
   The carriage unit will be unlocked.
7. Open the Front Cover.
8. Move the Carriage Unit over the Platen.
9. Set the Cleaning PG Adjustment Jig to the position shown in Figure 5-25.

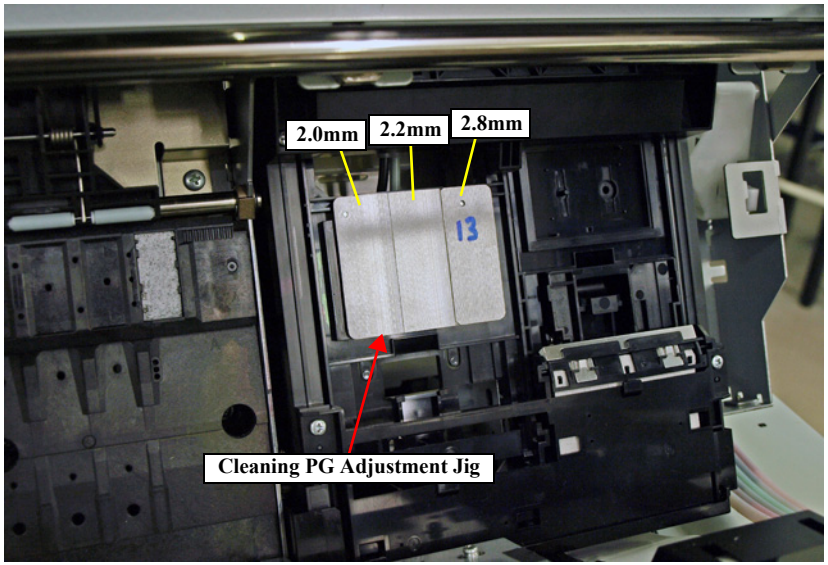


Figure 5-25. Position for the Jig

10. Move the Carriage Unit over the jig manually, and whether if the Printhead can touches or pass over the 2.2mm jig.

CHECK POINT

When checking the contact point of the Printhead and the jig, move the Carriage Unit slowly and check it visually.

11. Remove the adjustment jig.
12. Close the Front Cover (Middle).
13. Select checked result and press **[OK]**.
    - If it touches the jig: 2.2 stop
    - If it not touches the jig: 2.2 pass
14. Select **Cleaning PG** → **Check**.
15. Press **[OK].**
16. Open the Front Cover (Middle).
17. Move the Carriage Unit over the Platen.
18. Set the Cleaning PG Adjustment Jig to the position shown in Figure 5-25.
19. Move the Carriage Unit over the jig manually, and whether if the Printhead can be passed or touched anywhere.
20. Remove the adjustment jig.
21. Close the Front Cover (Middle).
22. Select checked result and press **[OK]**.
    - If it touches 2.0: 2.0 stop
    - If it touches 2.2: 2.2 stop
    - If it touches 2.8: 2.8 stop
    - If it passes 2.8 (not touches to the jig): 2.8 pass

23. Press **[Pause/Reset]** while **OK** is displayed.

CAUTION

Perform the following remedy if NG is displayed.

- **Confirm the assembling status of the Printhead and the Ink System Unit.**
- **Replace the Printhead and/or the Ink System Unit.**

24. Turn the printer OFF.

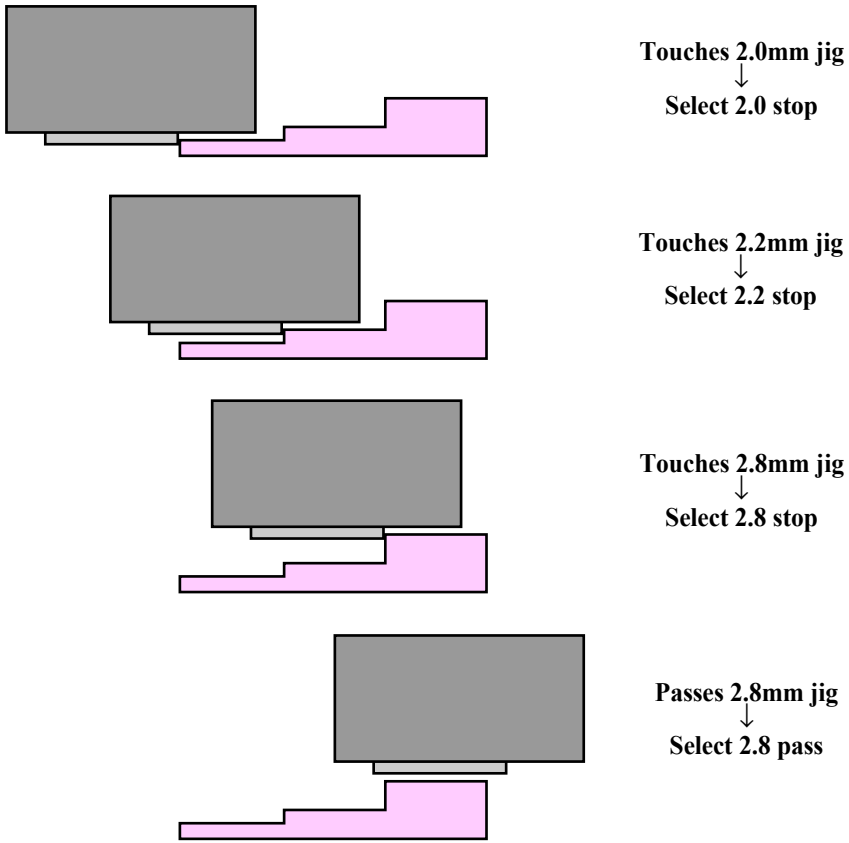


Figure 5-26. Contact point and the set values

5.9.5 CR Motor Measurement

Use this to write characteristics of the CR motor to the Main Board. The appropriate current value is set to the motor for the constantly generated mechanical load.

CAUTION

When performing this adjustment because of the replacement of the Main Board or the Power Supply Board, refer to "4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy" *(p.96)* and take extreme care in the combination of the replacing parts.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program, and select **CR Motor Measurement** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[RUN]**.
4. Turn the printer off.

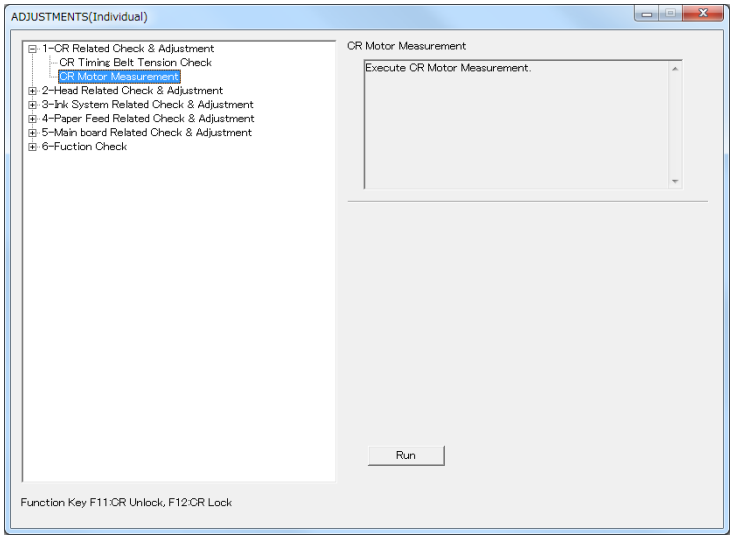


Figure 5-27. [CR Motor Measurement] Screen

5.10 Head Related Adjustments

5.10.1 Head Rank ID

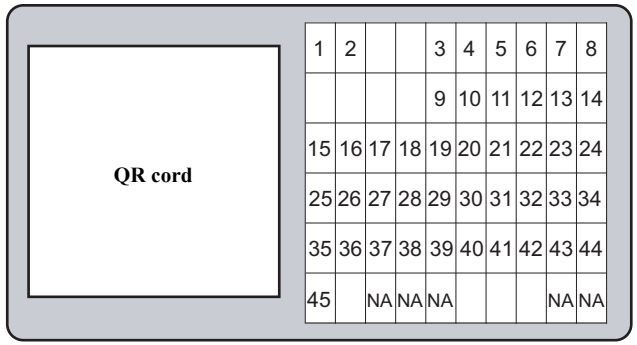
This adjustment is to input/set the unique information of the Printhead as the head rank so as to set the optimum drive voltage when replacing the Printhead. (Reading from/ writing to files are available)

PROCEDURE FOR WRITING

1. Write down the Head Rank ID (QR code) from the ID label attached on the Printhead.

CAUTION

■ **A 50-digit alphanumeric character is written on the ID Label. Use the first 45 digits for the Head Rank ID. (the last five digits are not used.)**



2. Assemble the printer.
3. Turn the printer on.
4. Start the Service Program and select **Head Rank ID** from **ADJUSTMENTS (INDIVIDUAL)**.
5. Enter the 45-digit ID into the edit boxes in the same way as indicated on the label.

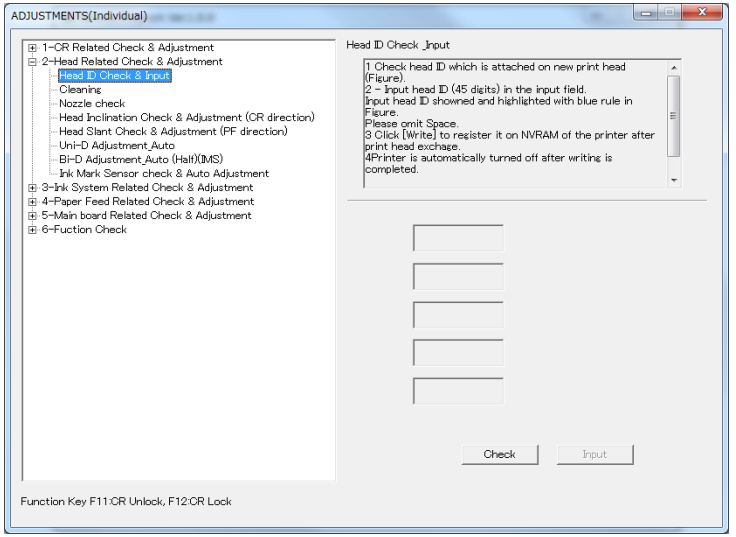


Figure 5-28. Head Rank ID screen

6. Click **[Write]**.
7. Turn off the printer.

CAUTION

Make sure to turn off the printer after clicking the [Finish] button. The setting of Head Rank ID becomes valid after the printer is restarted.

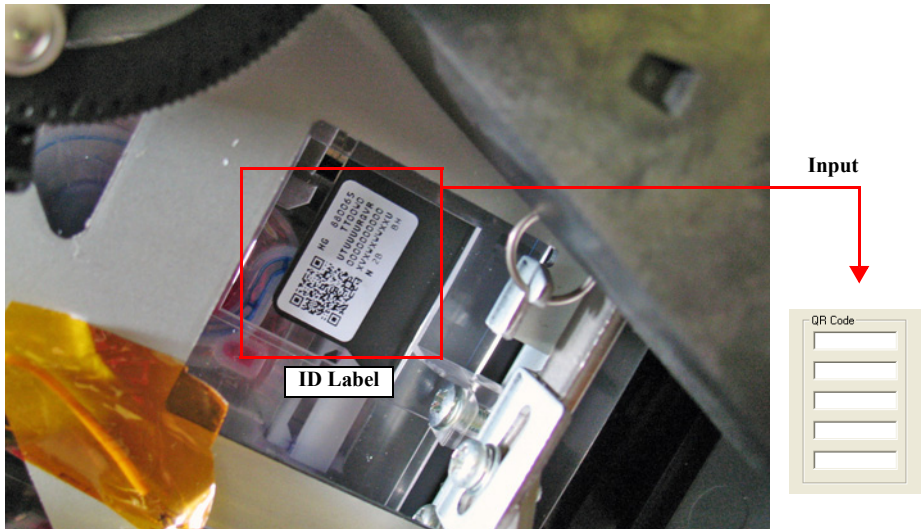


Figure 5-29. Head Rank ID

5.10.2 Head Cleaning

This is to clean the Printhead.

PROCEDURE FOR CLEANING

1. Turn the printer on.
2. Start the Service Program and select **Head Cleaning** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Select the item you want to execute, and click **[OK]**.
   Cleaning will be executed.
4. When the cleaning is completed, turn the printer OFF.

5.10.3 Nozzle Check

This allows you to check each nozzle is properly shooting ink. If an error occurs for ink discharging of the nozzles, clean the head and check again.

PAPER USED

- ☐ Size: A4 or larger sized cut sheet or roll paper
- ☐ Type: Any types can be used

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Nozzle Check** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Select dot size (large dot, middle dot, small dot), and click **[PRINT]**. The nozzle check pattern will be printed.
4. Check if there is any dot missing occurring or not from the check pattern.
5. If there is dot missing, execute the cleaning and print the check pattern for dot missing.

CHECK POINT

The nozzle check pattern can be printed from the utilities on the printer driver. For Mac OS X, use EPSON Printer Utility3.

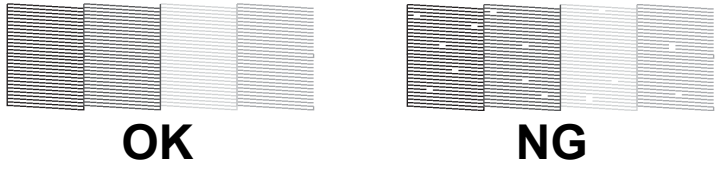


Figure 5-30. Judgment of Nozzle Check Pattern

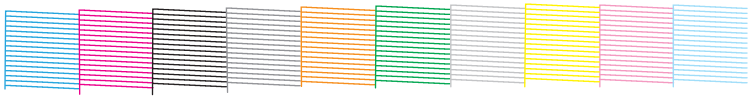


Figure 5-31. Nozzle Check Pattern

5.10.4 Printhead Slant Adjustment (CR)

This allows you to adjust the Printhead angle in the CR direction.

PAPER USED

- ☐ Size: 16 inches or more
- ☐ Type: Premium Glossy Photo Paper (250)

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Printhead Slant Adjustment (CR)** from A**DJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. Check the visual check blocks in the adjustment pattern.
   Check if lines of magenta and cyan are in line. If they are in line, finish the adjustment. If not, follow steps below to carry out the adjustment.

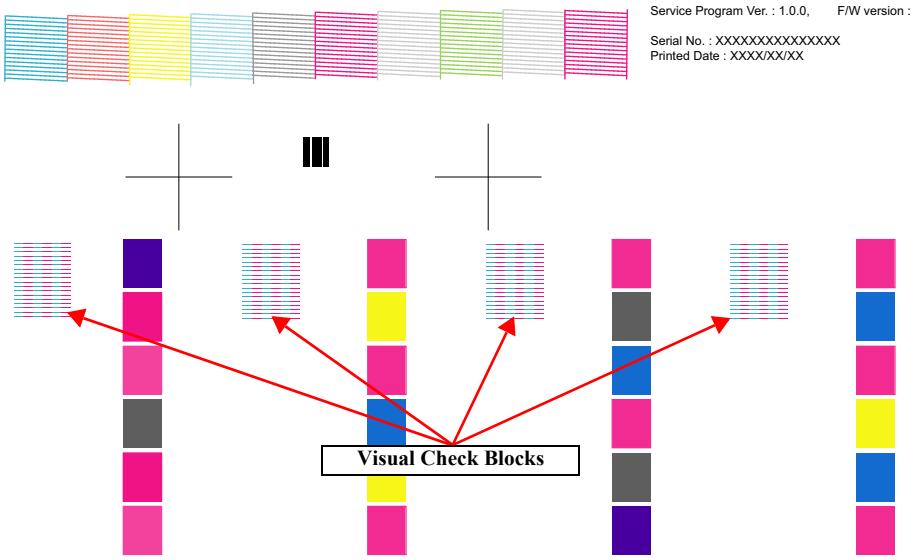


Figure 5-32. Adjustment Pattern

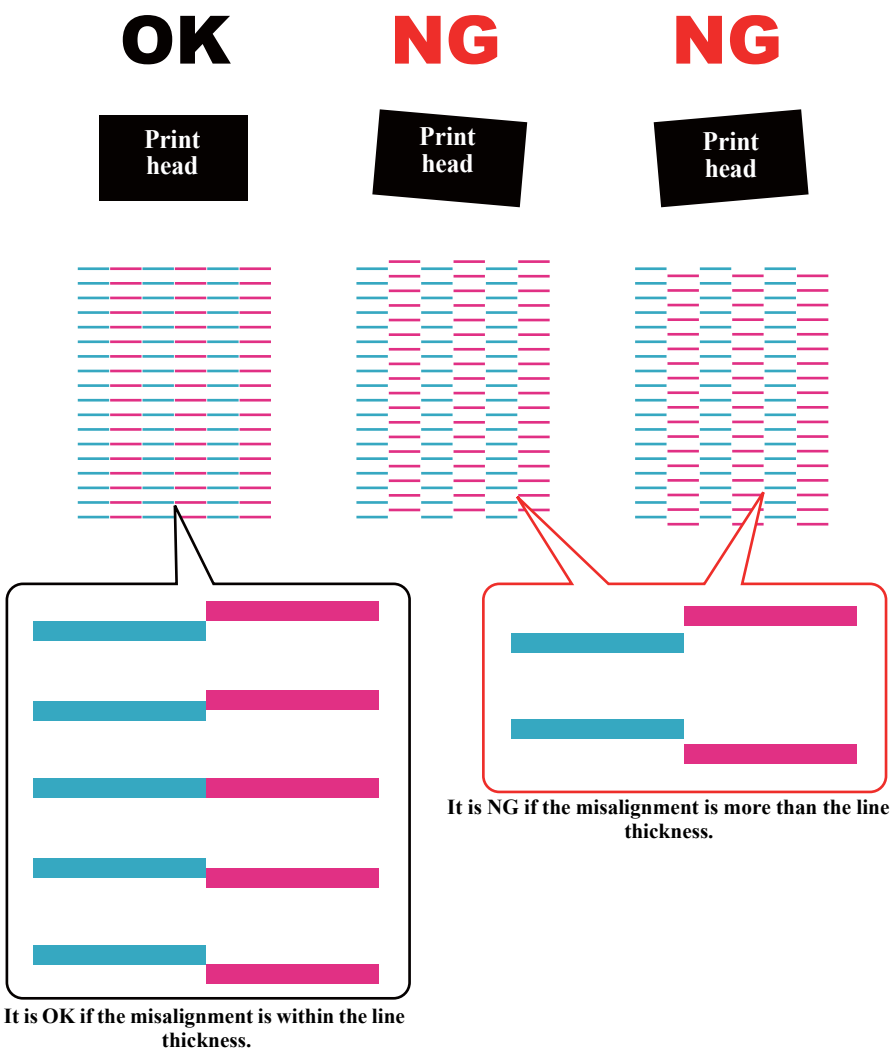


Figure 5-33. Determination of Visual Check Pattern

5. Press the F11 key of the keyboard to unlock the CR unit.
6. Open the Front Cover.
7. Loosen the screws (x6) shown in Figure 5-34.

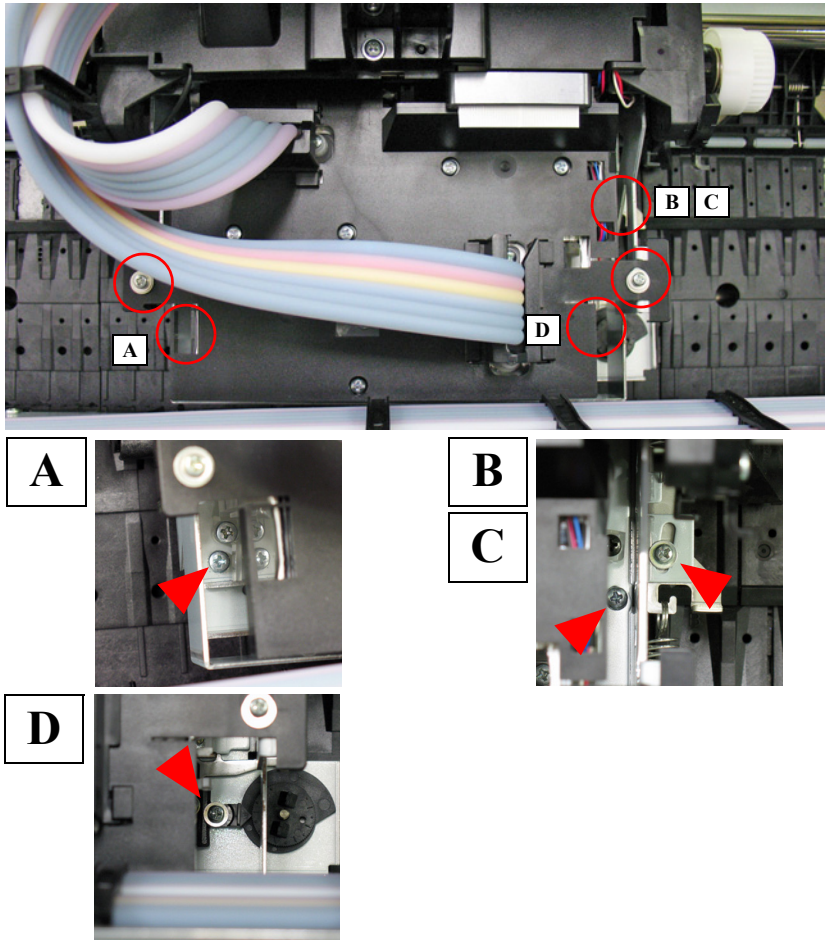


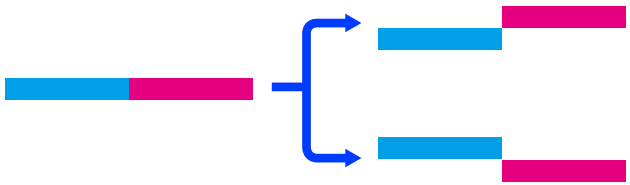
Figure 5-34. Adjustment Screws

8. Turn the adjustment dial to adjust the slant of the Printhead.

CHECK POINT

■ **See the following for the direction of rotation.**

■ **When turning the dial by 15 to 20 notches, the pattern slides up or down by the line-height.**



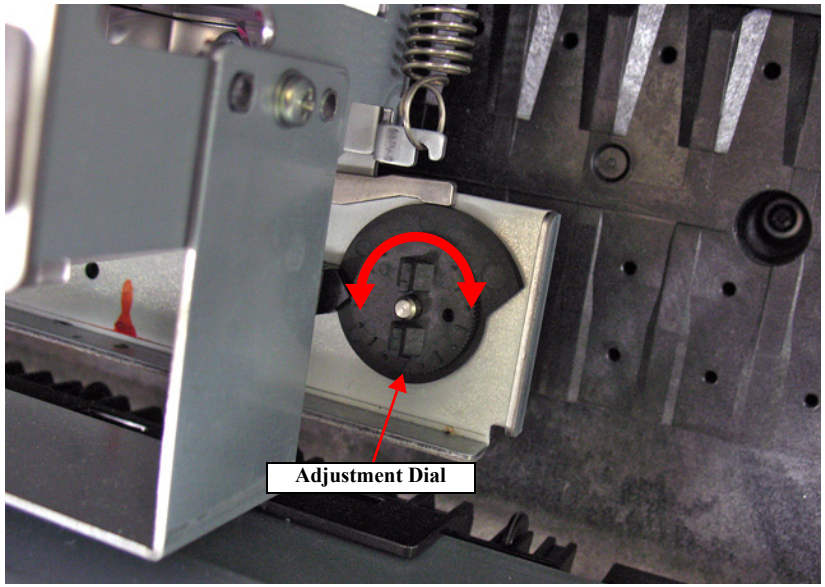


Figure 5-35. Adjustment Dial

9. Tighten the screws (x6) loosened in Step 7.
10. Close the Front Cover.
11. Print the adjustment pattern again and check the adjustment result.
12. Repeat Step 4 to Step 11 till the adjustment is finished.
13. After finishing the adjustment, press the F12 key of the keyboard to lock the CR unit.
14. Turn the printer off and finish the adjustment.

5.10.5 Printhead Slant Adjustment (PF)

This allows you to adjust the Printhead angle in the PF direction.

PAPER USED

- ☐ Size: 16 inches or more
- ☐ Type: Premium Glossy Photo Paper (250)

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Printhead Slant Adjustment (PF)** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. Check the visual check blocks in the adjustment pattern.
   Check the pattern if the margin between the blocks become parallel. If they are in parallel, finish the adjustment. If not, follow steps below to carry out the adjustment.

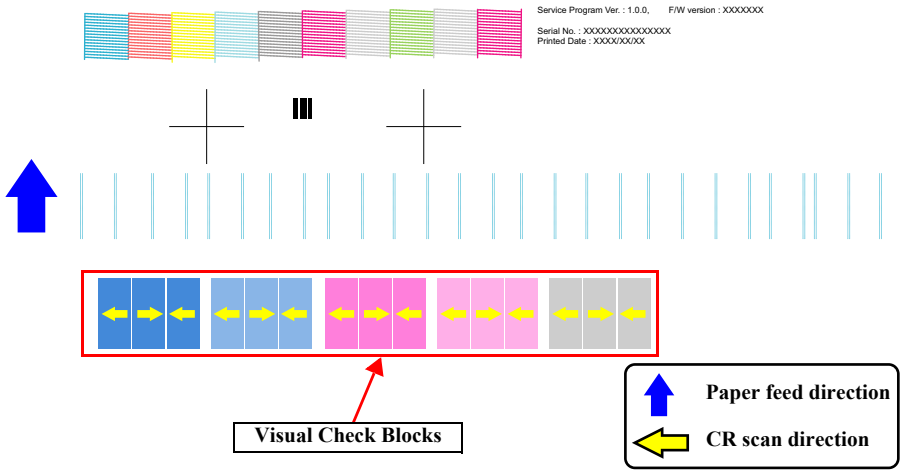
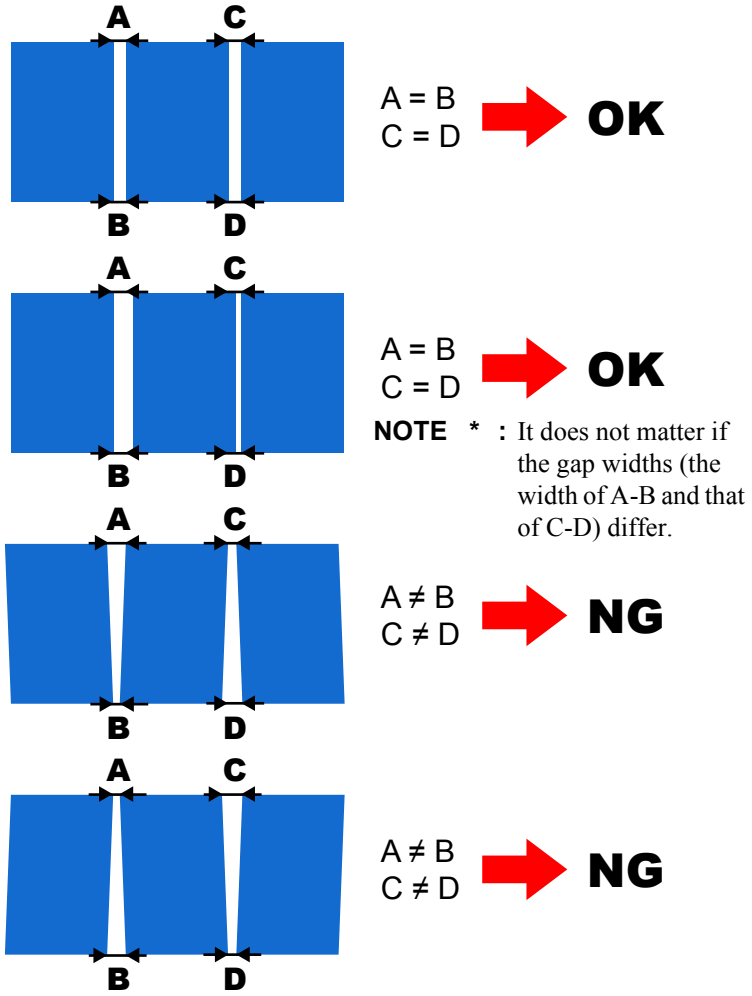


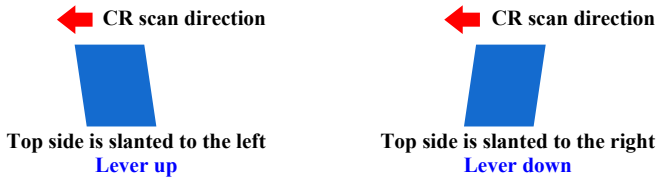
Figure 5-36. Adjustment Pattern



NOTE * : It does not matter if the gap widths (the width of A-B and that of C-D) differ.

Figure 5-37. Judgment

5. Press **F11** on keyboard to lock the CR unit.
6. Open the Front Cover (Middle).
7. Loosen the head tilt lever securing screw shown in Figure 5-38.
8. Move the head tilt lever to up and down and adjust the slant of the Printhead.



9. Tighten the screws that loosened in Step 7.
10. Close the Front Cover (Middle).
11. Print the adjustment pattern again and check the adjustment result.
12. Repeat Step 5 to Step 11 till the adjustment is finished.
13. Press **F12** on keyboard to unlock the CR unit.
14. After finishing the adjustment, press **[OK]** while **[Enter] Cap** is displayed to cap the Printhead. Then, turn the printer OFF and finish the adjustment.

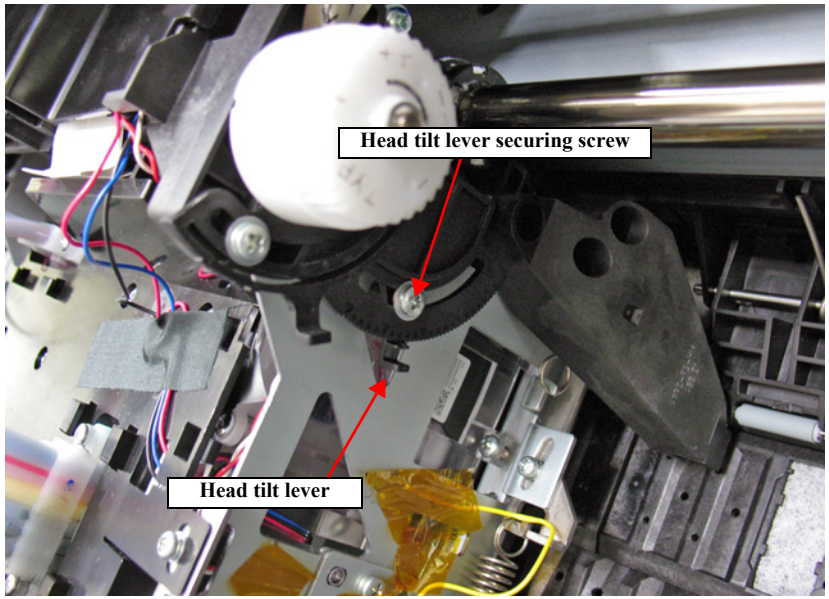


Figure 5-38. Head tilt lever

5.10.6 Uni-D Adjustment_Auto

Use this to perform an automatic Uni-D adjustment using the Ink Mark Sensor. After adjustment pattern was printed, the printer will automatically scan the pattern and correct it.

PAPER USED

- Size:
  - SC-P9000 Series/SC-P8000 Series: 44 inches
  - SC-P7000 Series/SC-P6000 Series: 24 inches
- Type:
  - Doubleweight Matte Paper

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Uni-D Adjustment_Auto** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. After the pattern was printed, printer will automatically scan the pattern and correct it (no need to adjust manually).
5. Turn the printer off.

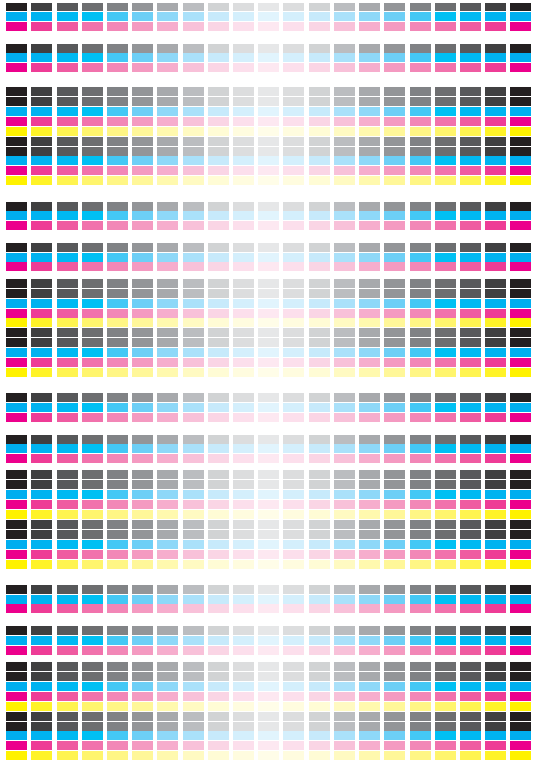


Figure 5-39. Adjustment Pattern

5.10.7 Bi-D Adjustment_Auto (Half)(IMS)

Use this to perform an automatic Bi-D adjustment using the Ink Mark Sensor. After adjustment pattern is printed, the printer will automatically scan the pattern and correct misalignment.

PAPER USED

- SC-P9000 Series/SC-P8000 Series: 44 inches
- SC-P7000 Series/SC-P6000 Series: 24 inches

☐ Type:

- Doubleweight Matte Paper

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Bi-D Adjustment_Auto (Half)(IMS)** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. After the pattern was printed, the printer will automatically scan the pattern and correct misalignment (no need to adjust it manually).
5. Turn the printer OFF.

Figure 5-40. Adjustment Pattern

5.10.8 Ink Mark Sensor Height Adjustment

This allows you to adjust the position of the Ink Mark Sensor to make proper position to the platen.

REQUIRED TOOLS

- ☐ Thickness Gauge (2.6/2.7)
- ☐ Metal Ruler

STANDARD VALUE

- ☐ 2.6 pass
- ☐ 2.7 stop

PROCEDURE

1. Turn the printer on.
2. When any paper is loaded, remove it.

NOTE: A paper out error occurs at this time, but the adjustment can be continued.

3. Start the Service Program and select **Ink Mark Sensor Height Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Press the F11 key of the keyboard to unlock the CR unit.
5. Open the Front Cover.
6. Secure the ruler with the double-sided tape on the position shown in Figure 5-41.
7. Place the thickness gauge on the ruler. See Figure 5-41 for the position.
8. Move the Carriage Unit slowly over the gauge.
9. Use the thickness gauge of 2.6 and 2.7 and check if the height of the Ink Mark Sensor is within the standard value.
   - ■ Within the standard value: Go to Step 12
   - ■ Out of the range: Go to Step 10

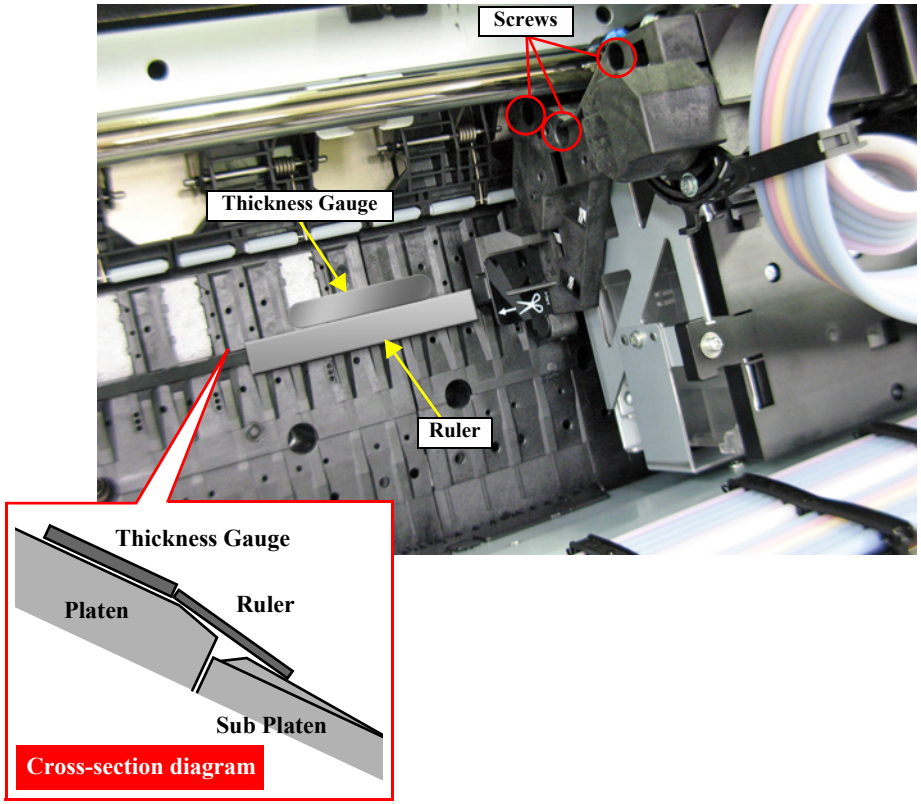


Figure 5-41. Position for the ruler and gauge

10. Loosen the screws (x3) that secure the Ink Mark Sensor Assy.
11. Slide the Ink Mark Sensor to up or down to adjust the height. After the adjustment, secure the screws and return to Step 8.
12. Press the F12 key of the keyboard to lock the CR unit.
13. Turn the printer off.

5.10.9 Ink Mark Sensor Adjustment

This allows you to adjust the sensitivity and the detecting position of the Ink Mark Sensor by printing the specified patterns and scanning it with the Ink Mark Sensor. Scanning the pattern and adjusting is executed automatically.

PAPER USED

- ☐ Size:A4 or more
- ☐ Type: Archival Matte Paper

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Ink Mark Sensor Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[RUN]**. The adjustment pattern will be printed.
4. See the printed pattern and check the pattern in the position shown in the Figure 5-42.
   - ■ If OK is printed: Go to Step 5.
   - ■ If NG is printed: Print the pattern again. If NG is still printed, replace the Ink Mark Sensor Assy.
5. Turn the printer OFF.

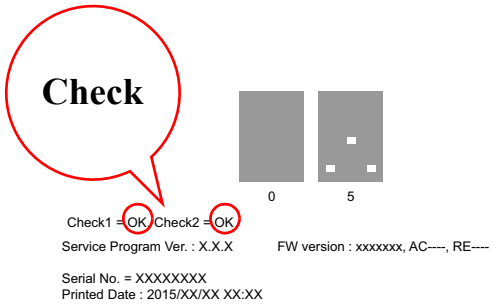


Figure 5-42. Adjustment Pattern

5.10.10 Air Leak Check for Ink Supply System

The ink supply path should be checked for air leaks whenever the Ink Tube, Ink Cartridge Holder or Dampers are replaced, or the joint of the Ink Cartridge Holder and the Damper is once loosened and retightened.

CAUTION

Do not touch or press the regulator located under the regulator protection plate.

REQUIRED TOOLS

- Ink Leak Measurement Jig (with digital pressure gauge GC66)
  (Battery type: 1 x CR2016 (3V))
- INK LEAK CHECK CARTRIDGE (1493143)

PROCEDURE

1. Turn the printer on.
2. Open the Ink Cartridge Cover.
3. Turn off the printer.
4. Remove the cap from the Ink Leak Measurement Jig.
5. Insert the tube of INK LEAK CHECK CARTRIDGE to the Ink Leak Measurement Jig.
6. Install the INK LEAK CHECK CARTRIDGE into the Ink Cartridge slot of the printer to check.

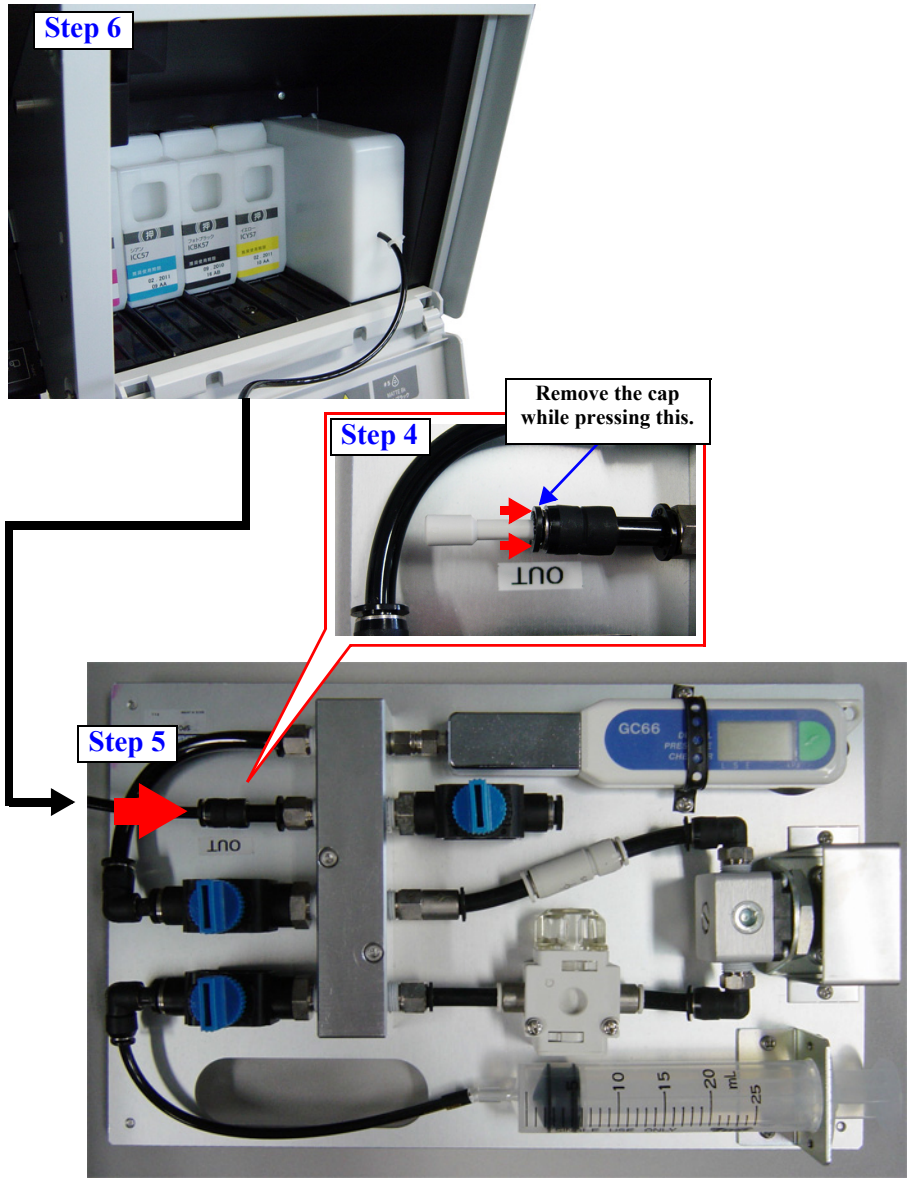
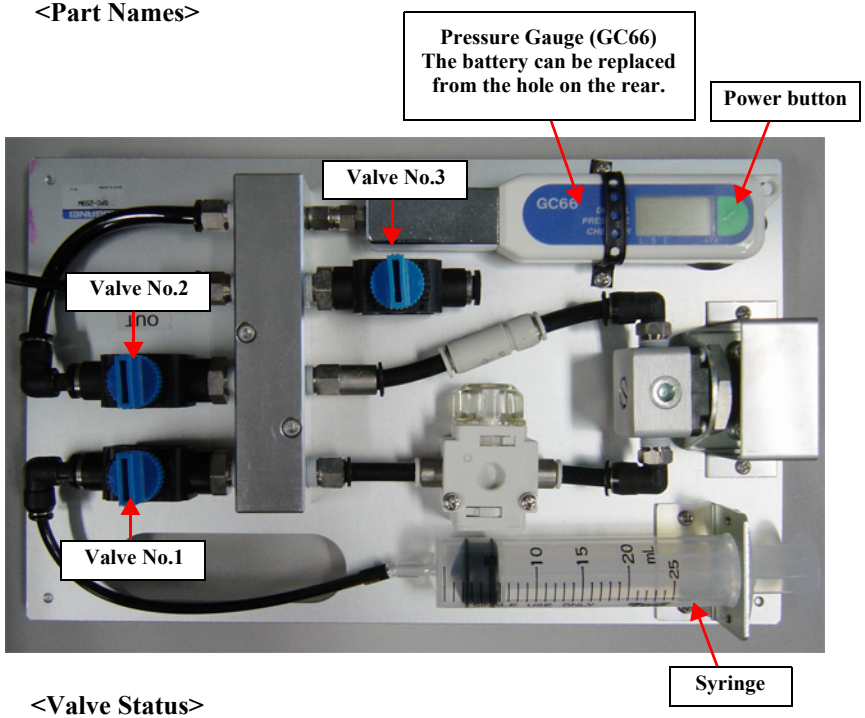


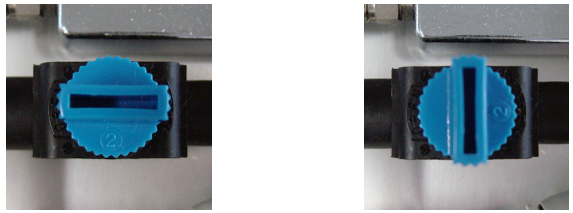
Figure 5-43. Preparation for Air Leak Check

7. Turn each valve of the Ink Leak Measurement Jig as follows:
   - Valve No.1: Closed
   - Valve No.2: Open
   - Valve No.3: Open
8. Press the power button of the Pressure Gauge.
9. Confirm the value on the Pressure Gauge is 0.0 kPa. Otherwise, restart the Pressure Gauge.
10. Close the Valve No.3, and pull the Syringe.
11. Open the Valve No.1, and push the Syringe.
12. Confirm the value on the Pressure Gauge is within 30 kPa to 48 kPa. Otherwise, repeat pulling/pushing the Syringe.
13. Close the Valve No.2.
14. Record the value displayed on the Pressure Gauge and wait for approx. three minutes.
15. After three minutes passes, check the value on the Pressure Gauge, and compare it with the recorded value.
    - Difference is within 0.4 kPa: No problem. Go to Step 16.
    - Difference is more than 0.5 kPa: Air may leak. Check the joints of dampers for the connection status, and start the check again from Step 7.
16. After the difference of the values falls within 0.4 kPa, open the valve No.3 to depressurize the jig.
17. After confirming the value on the Pressure Gauge is 0.0 kPa, remove the INK LEAK CHECK CARTRIDGE from the Ink Cartridge slot of the printer.
18. Repeat the procedure above for all the Ink Cartridge slots to check.
19. After checking all the Ink Cartridge slots to check, press the power button of the Pressure Gauge for about 4 to 5 seconds to turn off the printer.
20. Close the valves No.1, No.2, and No.3 to complete the operation.

<Part Names>



<Valve Status>



Open Closed

Figure 5-44. Operation of the Ink Leak Measurement Jig

5.10.11 Initial Ink Charge Flag ON/OFF

This allows you to set whether initial ink charging is executed or not when turning the power ON.

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Initial Ink Charge Flag ON/OFF** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Press **[Check]** to check the current flag setting.
4. Press **[Run]** to change the flag setting.
5. Turn the printer OFF.
6. If Initial Ink Charge Flag is on, initial ink charge will be performed next time you start the printer.

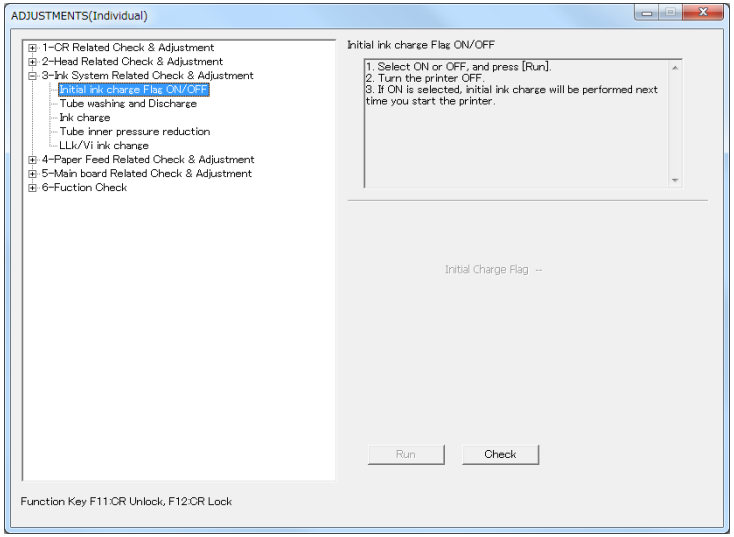


Figure 5-45. [Initial Ink Charge Flag ON/OFF] Screen

5.10.12 Tube washing and Discharge

Drains ink in all the nozzles to clean them.

PROCEDURE

1. Remove the user's maintenance box, and install the maintenance box for service.
2. Turn the printer on.
3. Start the Service Program and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Click **[RUN]**.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the maintenance box for service, and install the user's maintenance box.

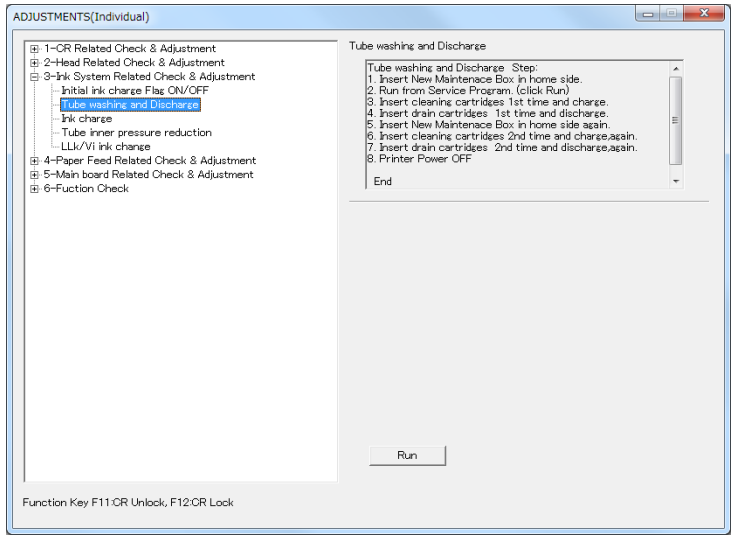


Figure 5-46. [Tube washing and Discharge] Screen

5.10.13 Ink Charge

This is to execute the initial ink charge.

CAUTION

Make sure to check the ink remaining level and if the remaining amount is less than 50%, replace the ink cartridge with a new one before starting this adjustment.

PROCEDURE

1. Remove the user's maintenance box, and install the maintenance box for service.
2. Turn the printer on.
3. Start the Service Program and select **Initial Ink Charge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Select **All** or **Vi/LLk and Y two lines**, and click **[RUN]**.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the maintenance box for service, and install the user's maintenance box.

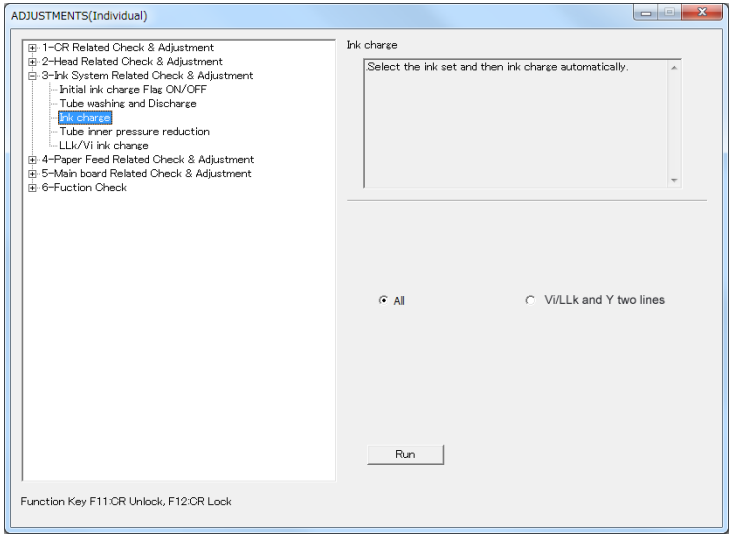


Figure 5-47. [Initial Ink Charge] Screen

5.10.14 Tube Inner Pressure Reduction

Reduce the pressure in the ink flow paths.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select Tube Inner Pressure Reduction from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click [**RUN**] to start Tube Inner Pressure Reduction.

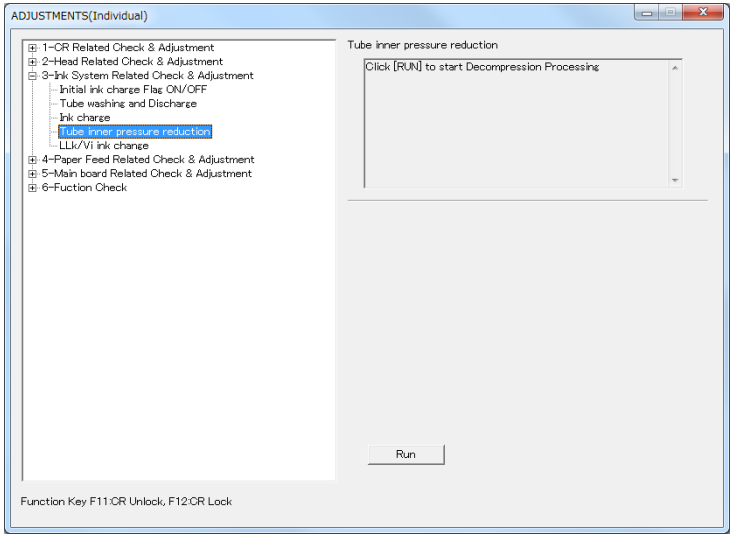


Figure 5-48. [Tube Inner Pressure Reduction] Screen

5.10.15 LLk/Vi Ink Change

Carries out ink change in Row G (between Light Light Black and Violet).

PROCEDURE

1. Remove the user's maintenance box, and install the maintenance box for service.
2. Turn the printer on.
3. Start the Service Program and select **LLk/Vi Ink Change** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Click [**RUN**] to start LLk/Vi Ink Change.
5. Remove the maintenance box for service, and install the user's maintenance box.

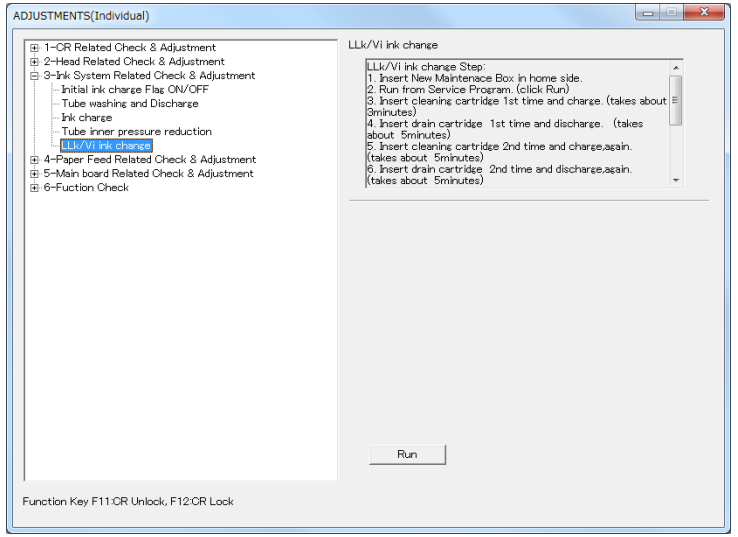


Figure 5-49. [LLk/Vi Ink Change] Screen

5.11 PF Related Adjustment

5.11.1 PF Timing Belt Tension Adjustment

This allows you to adjust the tension of the PF Timing Belt to a specified level.
This is to execute after the PF Timing Belt has been loosened.

REQUIRED TOOLS

- ☐ Sonic Tension Meter U-507
- ☐ Any tools to flip the timing belt

STANDARD VALUE

- ☐ 10 ± 2N

PROCEDURE

1. Remove the following parts in advance.
   - IC Cover L and Shaft Cover L
   - Maintenance Tank L (SC-P9000 Series/SC-P8000 Series only)
   - Left Cover
2. Install the following part after removing the Left Cover.
   - Maintenance Tank L (SC-P9000 Series/SC-P8000 Series only)
3. Switch the open/close detection switch on the Left Cover to make cover closed.
4. Turn the printer on.
5. Start the Service Program and select **PF Timing Belt Tension Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
6. Click **[RUN]**. The PF Motor will be rolling.
7. Enter the following parameters to the Sonic Tension Meter U-507.
   - MASS: 001.2 g/m
   - WIDTH: 006.0 mm/R
   - SPAN: 0065 mm
8. Bring the microphone of the meter closer to the position shown in Figure 5-50 of the Timing Belt.

CHECK POINT

Bring the microphone within 5mm from the Timing Belt but do not let it touch the belt.

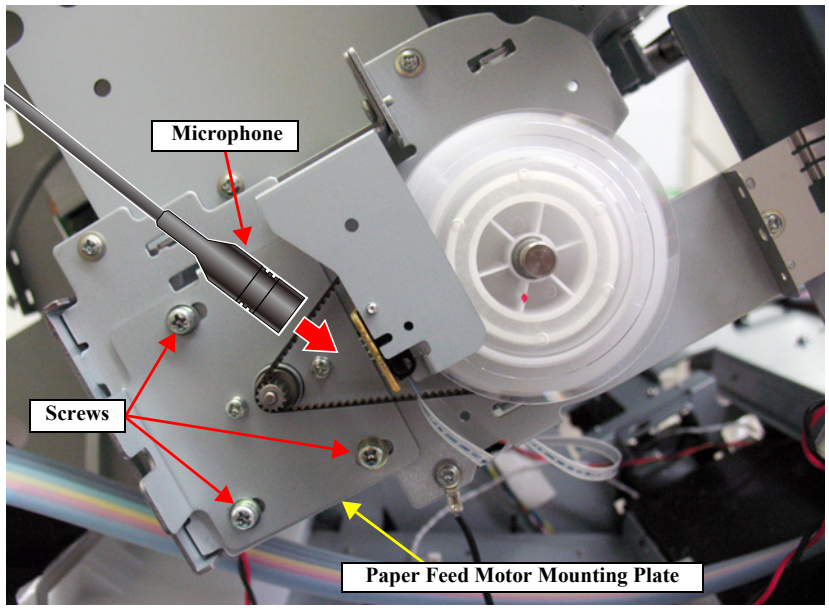


Figure 5-50. PF Timing Belt Tension Adjustment

9. Press **[MEASURE]** on the Sonic Tension Meter U-507 and flip the Timing Belt with tweezers in the direction of the arrow in Figure 5-50.

CAUTION

- **Flip the Timing Belt as weak as the Sonic Tension Meter U-507 can measure it.**
- **Be careful not to let the microphone touch the Timing Belt when flipping the belt.**

- Within the standard value: Turn the printer OFF and finish the adjustment.
- Out of the range: Go to Step 10.

10. Loosen the screws (x3) that secure the Paper Feed Motor Mounting Plate.
11. Slide the plate and adjust the tension.
    After adjusting the tension, tighten the screw that loosened in Step 10 and return to Step 8.

5.11.2 Skew Check

This allows you to check the skew level of the paper and confirm if the paper feed is executed within the standard value.

PAPER USED

- ☐ Size: 24 inches or more
- ☐ Type: Premium Glossy Photo Paper (250)

STANDARD VALUE

- ☐ A - B = ± 0.8 mm

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Skew Check & Band Feed** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. Measure the distances of A and B as shown in Figure 5-51.
5. Calculate differences of A and B, and check if the value is within the standard value.

CAUTION

If the value is out of the specified range, load the paper again or adjust the roll paper tension.

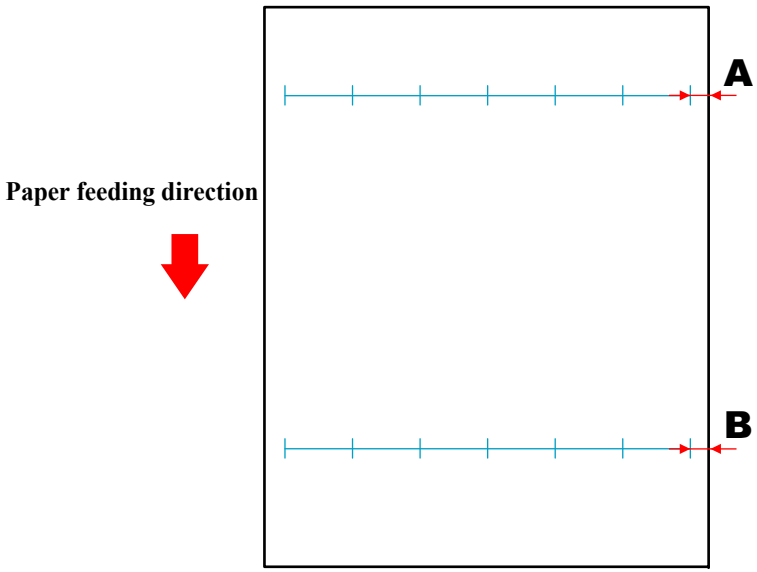


Figure 5-51. Adjustment Pattern

5.11.3 Band Feed

This allows you to correct the paper feeding amount. If this adjustment is not executed properly, it may cause banding.

CAUTION

- **Before performing this adjustment, install the latest firmware (p.287).**
- **Make sure to check skew (p.324) before executing this adjustment to make paper to be fed correctly.**
- **When performing this adjustment, make sure to use specified paper.**

REQUIRED TOOL

☐ Ruler (can be measured up to 1,000mm)

PAPER USED

- Size: 24 inches or more
- Type: Premium Glossy Photo Paper (250)

STANDARD VALUE

508.0mm ± 0.15mm

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Skew Check & Band Feed** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Press **[PRINT]**. The adjustment pattern will be printed.
4. Measure the distance as shown in Figure 5-52.
   - Within the standard value: Turn the printer OFF and finish the adjustment.
   - Out of the range: Go to Step 5.

CAUTION

When measuring the value, make sure to put the adjustment pattern on the horizontal surface.

5. Click **[Input]**.

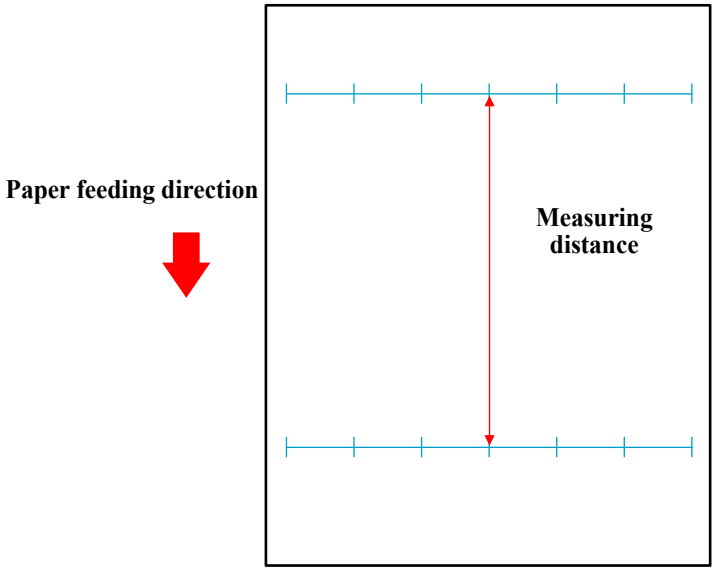


Figure 5-52. Adjustment Pattern

5.11.4 T&B&S Adjustment

This allows you to adjust the top, bottom and side margins for the paper.

CAUTION

Make sure to check skew p.324 before executing this adjustment to make paper to be fed correctly.

REQUIRED TOOL

- ☐ Ruler

PAPER USED

- ☐ Size:A3
- ☐ Type:Plain Paper

STANDARD VALUE

- ☐ Top margin: 15 ± 0.4 mm
- ☐ Bottom margin: 14 ± 0.5 mm
- ☐ Side margin: 15 ± 0.4 mm

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **T&B&S Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. Measure the distance as shown in Figure 5-53.
   - ■ Within the standard value: Turn the printer OFF and finish the adjustment.
   - ■ Out of the range: Go to Step 5.

CAUTION

When measuring the value, make sure to put the adjustment pattern on the horizontal surface.

CHECK POINT

For the top margin, measure both the left and the right to confirm the difference between them falls within 0.4mm. If not; since the paper is skewed, correct the skew and execute printing again. When the values are different, enter the smaller.

5. Enter the following parameters that measured in Step 4 and press **[Input]**.

   <Display>

   - ■ Top margin: Top
   - ■ Bottom margin: Bottom
   - ■ Side margin: Left, Right

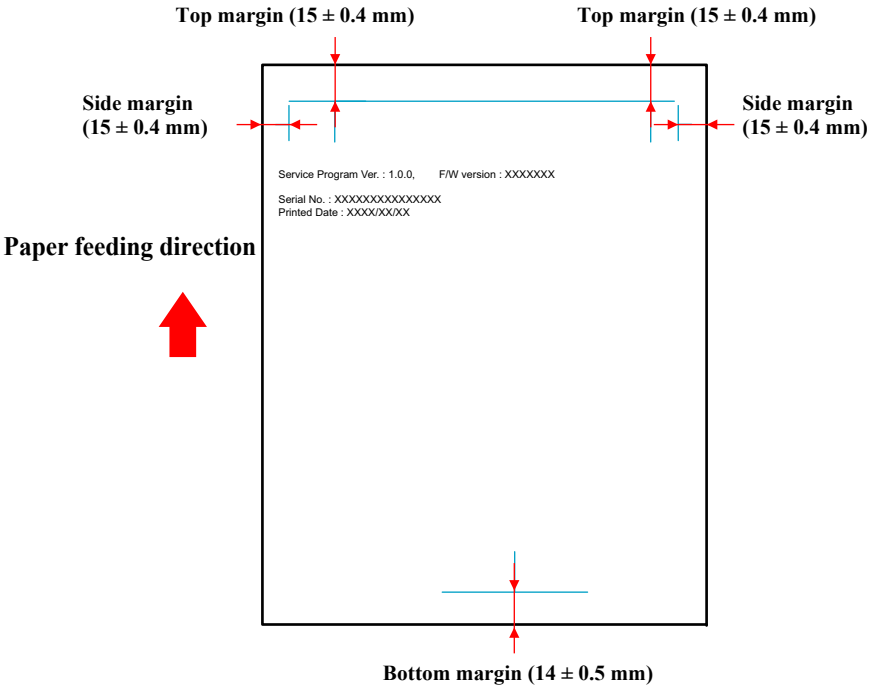


Figure 5-53. Adjustment Pattern

5.11.5 Paper Thickness Sensor Position Adjustment

This allows you to adjust the positions of Paper Thickness Sensor so as to detect the thickness of paper correctly.

REQUIRED TOOL

- ☐ P-Thick Sensor Position Jig (use the one 0.5 in thickness only.)
- ☐ Paper Thickness Position Tool (use the ones 0.4/0.8/0.9 in thickness only.)

STANDARD VALUE

Lever's status	Jig	Panel Display
Down	N/A	00
Down	0.4	00
Down	0.5	10
Down	0.8	10
Down	0.9	11
Up	N/A	01

CHECKING PROCEDURE

1. Remove the following parts in advance.
   - ■ IC Cover (L/R) and IC Shaft Cover (L/R)
   - ■ Maintenance Tank (L/R) (Maintenance Tank L is for SC-P9000 Series/SC-P8000 Series only)
   - ■ Control Panel
   - ■ Left Cover
   - ■ Right Cover
   - ■ Top Cover
2. Install the following parts after removing the Top Cover.
   - ■ Maintenance Tank (L/R) (Maintenance Tank L is for SC-P9000 Series/SC-P8000 Series only)
   - ■ Control Panel
3. Switch the open/close detection switch of the IC Cover (L/R) to make the cover closed. (See Figure 5-15.)
4. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu ▶]** + **[Paper Feed ▼]** + **[OK]** simultaneously.
5. Select **SELF TESTING** → **Mecha Adjustment** → **Paper** → **Paper Thick**.
6. Click **[Paper Set]** to lock the paper presser.
7. Check that "00" is displayed on the Control Panel.
   Carry out the adjustment if the displayed value is other than "00".
   → Go to adjustment procedure
8. Press **[Paper Set]** to release the paper presser.
9. Insert the adjustment jig (0.4) from the paper insertion opening, and set it to the position shown in Figure 5-54, then press the **[Paper Set]** button.
10. Check that "00" is displayed on the Control Panel.
    Carry out the adjustment if the displayed value is other than "00".
    → Go to adjustment procedure

11. Press **[Paper Set]** to release the paper presser.
12. Insert the adjustment jig (0.5) from the paper insertion opening, and set it to the position shown in Figure 5-55, then press the **[Paper Set]** button.
13. Check that "10" is displayed on the Control Panel.
    Carry out the adjustment if the displayed value is other than "10".
    → Go to adjustment procedure
14. Press **[Paper Set]** to release the paper presser.
15. Insert the adjustment jig (0.8) from the paper insertion opening, and set it to the position shown in Figure 5-54, then press the **[Paper Set]** button.
16. Check that "10" is displayed on the Control Panel.
    Carry out the adjustment if the displayed value is other than "10".
    → Go to adjustment procedure
17. Press **[Paper Set]** to release the paper presser.
18. Insert the adjustment jig (0.9) from the paper insertion opening, and set it to the position shown in Figure 5-54, then press the **[Paper Set]** button.
19. Check that "11" is displayed on the Control Panel.
    Carry out the adjustment if the displayed value is other than "11".
    → Go to adjustment procedure
20. Press **[Paper Set]** to release the paper presser.
21. Check that "01" is displayed on the Control Panel while releasing the paper set.
    Carry out the adjustment if the displayed value is other than "01".
    → Go to adjustment procedure
22. After all the checking and adjustment, confirm all the values again.

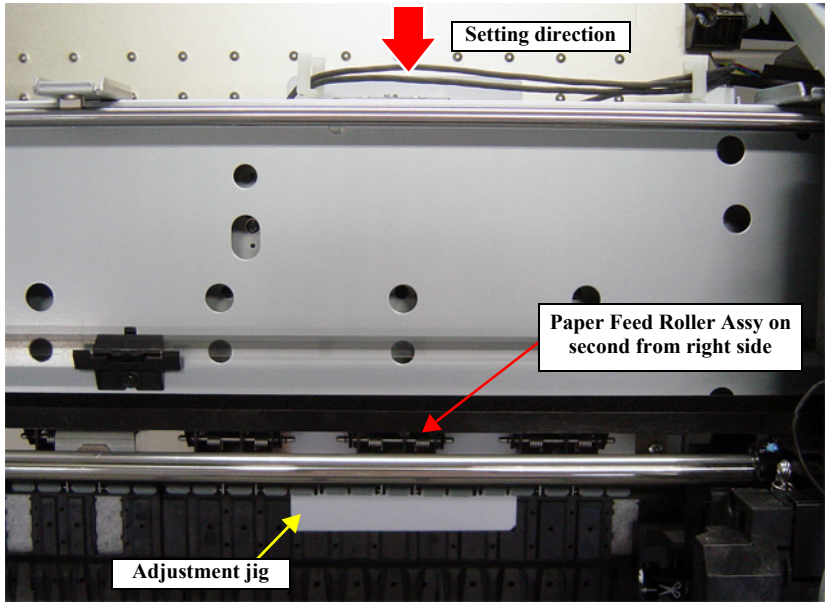


Figure 5-54. Position for the thickness tool (0.4/0.8/0.9 in thickness)

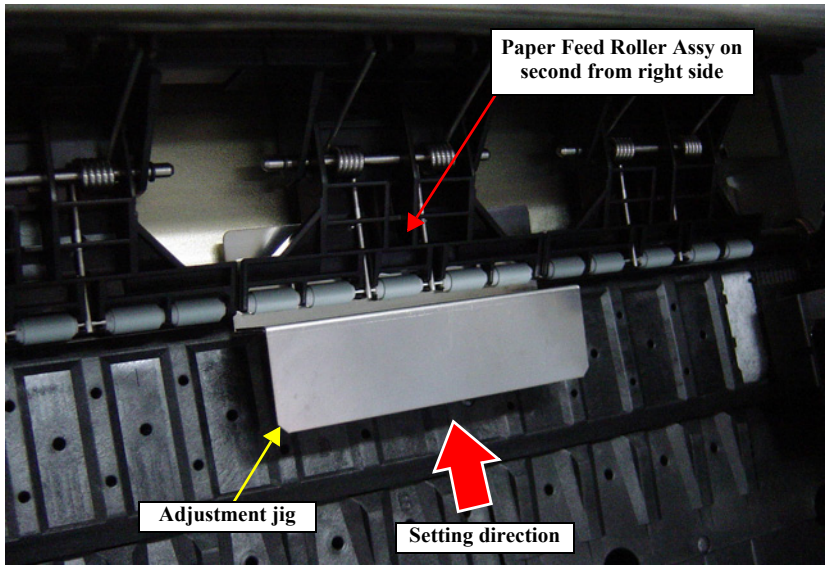


Figure 5-55. Position for the thickness tool (0.5 in thickness)

ADJUSTMENT PROCEDURE

Adjust sensor (1) when using the paper thickness position tool 0.4/0.5, or when the paper pressure rollers are locked and no adjustment jigs are available. Adjust sensor (2) when using the paper thickness position tool 0.8/0.9, or when the paper pressure rollers are unlocked and no adjustment jigs are available.

1. Loosen the screws (1 each) that secure the Paper Thickness Sensor Holder.
2. Slide the Paper Thickness Sensor Holder back and forth while watching the value displayed on the panel. Stop the holder immediately after the target value is displayed.

CHECK POINT

Slide the Paper Thickness Sensor Holder toward you to increase the value and slide it backward to decrease the value.

3. Secure the holder by tightening the screw(s).

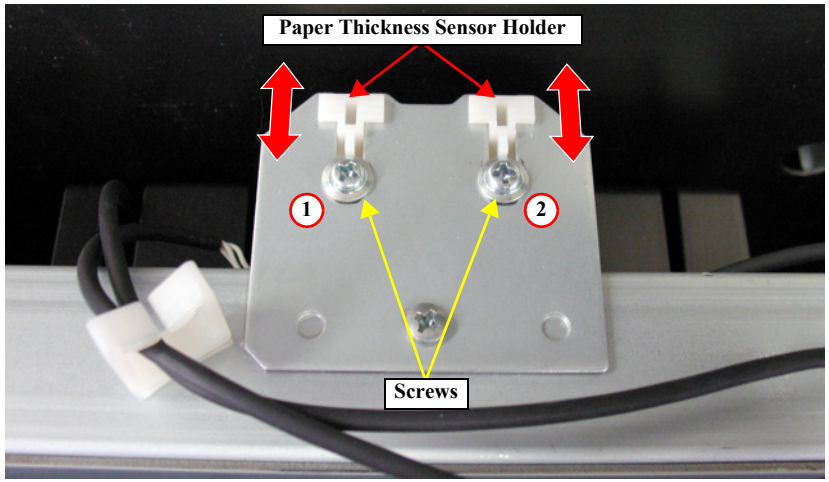


Figure 5-56. Position Adjustment

5.11.6 Cut Position Adjustment

Adjusts the paper position cut by the Auto Cutter.

PAPER USED

- ☐ Size:
  - ■ SC-P9000 Series/SC-P8000 Series: 44 inches
  - ■ SC-P7000 Series/SC-P6000 Series:24 inches
- ☐ Type: Premium Glossy Photo Paper (250)

STANDARD VALUE

- ☐ 15 ± 0.3 mm

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Cut Position Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[PRINT]**. The adjustment pattern will be printed.
4. Measure the distances of Home, Center and Full as shown in Figure 5-57.
   - ■ Within the standard value: Turn the printer OFF and finish the adjustment.
   - ■ Out of the range: Go to Step 5.
5. Select **Input**, and enter the maximum value and the minimum value in order among the values measured in Step 4.
   - ■ Maximum value: Select Cut Position Home and enter the value.
   - ■ Minimum value: Select Cut Position Full and enter the value.
6. Click **[Input]**.
7. Return to Step 2.

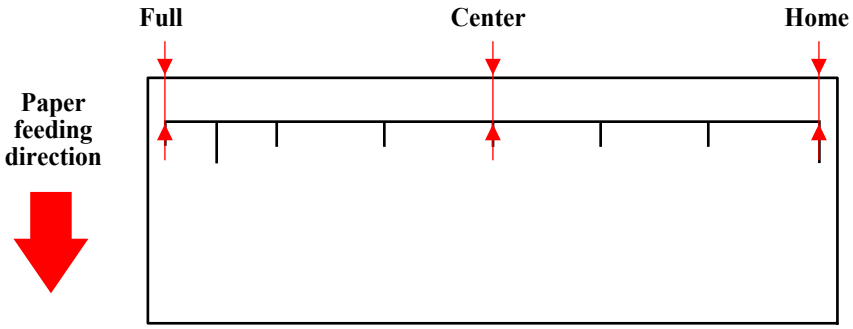


Figure 5-57. Adjustment Pattern

5.11.7 PF Encoder Sensor Adjustment

This allows you to adjust the position of the PF Encoder Sensor to the PF Scale.

PROCEDURE

1. Remove the following parts in advance.
   - IC Cover L and IC Shaft Cover L
   - Maintenance Tank L (SC-P9000 Series/SC-P8000 Series only)
   - Left Cover
2. Check the positional relation of the detector for the PF Encoder Sensor and PF Scale.
   - If the PF Scale is in the center of the detector of the PF Encoder Sensor: Go to Step 5
   - If the PF Scale is not in the center of the detector of the PF Encoder Sensor: Go to Step 3
3. Loosen the two screws that secure the PF Encoder Sensor Mounting Plate.
4. Move the plate and adjust the position of the sensor. Secure the screws after this adjustment, and return to Step 2.
5. Install the removed parts.

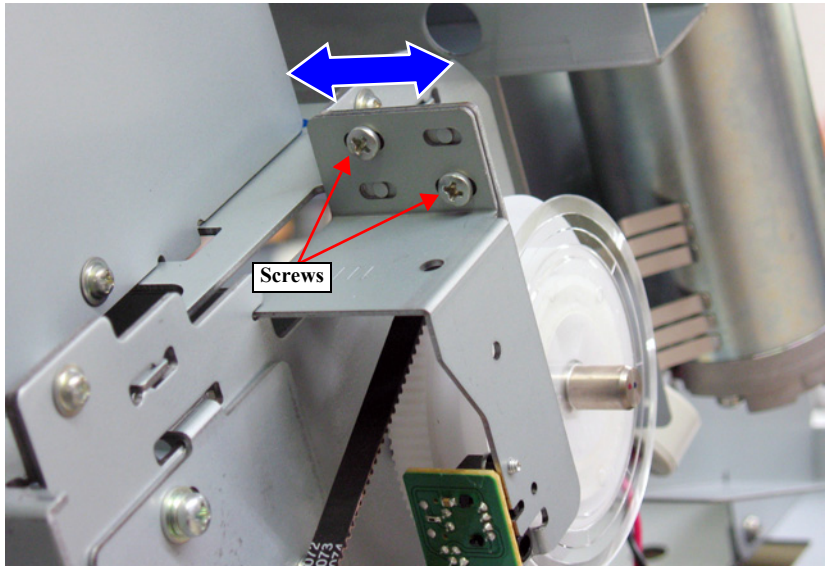


Figure 5-58. PF Encoder Sensor Adjustment

5.11.8 Rear Sensor AD Adjustment

This allows you to acquire AD values of the newly attached Rear Sensor to store them onto the Main Board as a standard for reading operation of the sensor.

REQUIRED TOOL

☐ Standard Sheet (JETRAS JP-D300S)

PROCEDURE

1. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu ▶]** + **[Paper Feed ▼]** + **[OK]** simultaneously.
2. Press **[Paper Source ◀]** for several times and return to Top Menu.
3. Press **[Paper Set]** to release the paper presser.
4. Open the Front Cover (Middle).
5. Insert the Standard Sheet to the position shown in Figure 5-59 and press **[Paper Set]** to lock the paper presser.
6. Close the Front Cover (Middle).
7. Select **SELF TESTING** → **Mecha Adjustment** → **RearAD**.
8. Press **[OK]** while **[Enter] Start** is displayed.
   Check if **Retry AD Adjust** is displayed on the Control Panel.

NOTE: A paper out error occurs at this time, but the adjustment can be continued.

9. Press **[Paper Source ◀]** for several times and return to top menu.
10. Press **[Paper Set]** to release the paper presser.
11. Remove the Standard Sheet.

CAUTION

When executing procedure below, do not remove the external parts to acquire proper AD value.

12. Select **SELF TESTING** → **Mecha Adjustment** → **RearAD** and press **[OK]** while **[Enter] Start** is displayed.
    Check if the 3 digits number is displayed on the Control Panel. If **Retry AD Adjust** is displayed, check if there is a defect (tears/rips, contamination, wrinkles) on the Standard Sheet, and execute obtaining AD value again.

CAUTION

If Retry AD Adjust is displayed again, the sensor is defective. Replace the sensor with a new one and carry out the adjustment again.

13. Turn the printer OFF.

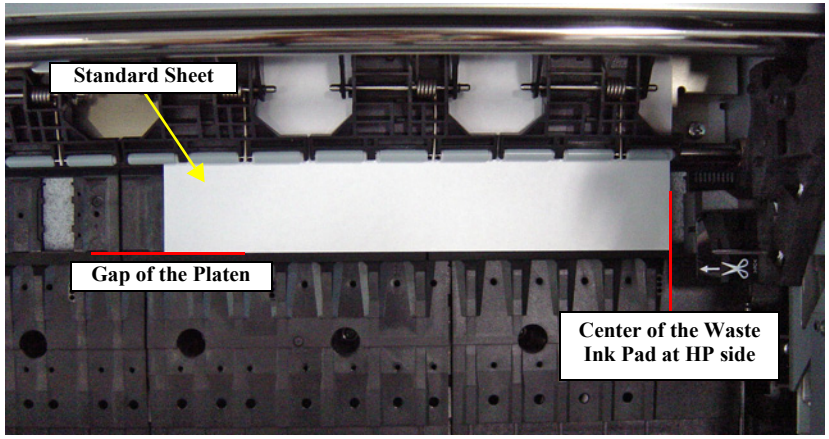


Figure 5-59. Position of the Standard Sheet

5.11.9 PF Motor Measurement

Use this to write characteristics of the PF motor to the Main Board. The appropriate current value is set to the motor for the constantly generated mechanical load.

CAUTION

When performing this adjustment because of the replacement of the Main Board or the Power Supply Board, refer to "4.1.4 Cautions when replacing the Main Board Assy/Power Supply Board Assy" *(p.96)* and take extreme care in the combination of the replacing parts.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program, and select **PF Motor Measurement** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[RUN]**.
4. Turn the printer off.

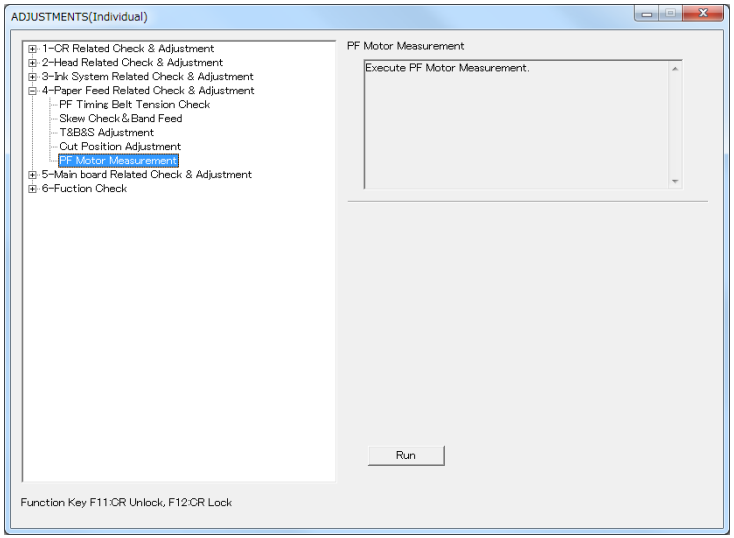


Figure 5-60. [PF Motor Measurement] Screen

5.12 Board Adjustment

5.12.1 Initialize Main board

Save the destination to the Main Board.

PROCEDURE

1. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu ▶]** + **[Paper Feed ▼]** + **[OK]** simultaneously.
2. Start the Service Program and select **Initialize Main board** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[RUN]**.

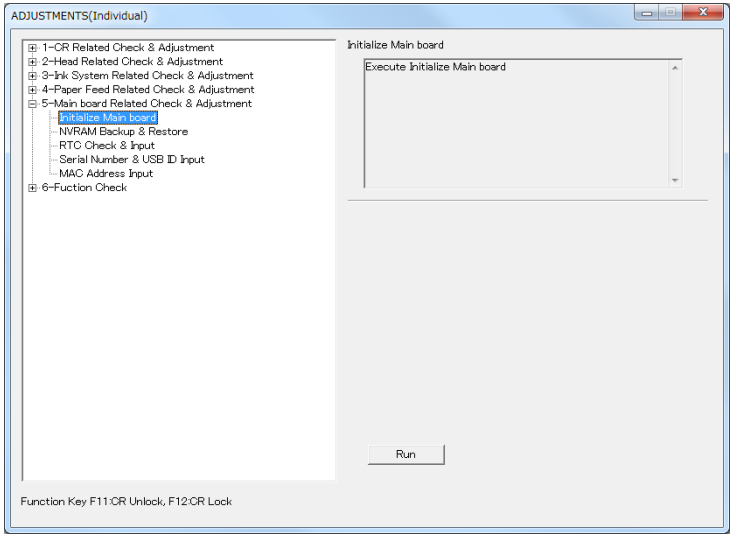


Figure 5-61. [Initialize Main board] Screen

5.12.2 NVRAM Backup & Restore

Execute the NVRAM backup and restore.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program, and select **NVRAM Backup & Restore** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[Read]** to back up the NVRAM data.
4. Click **[Write]** to restore the NVRAM data.

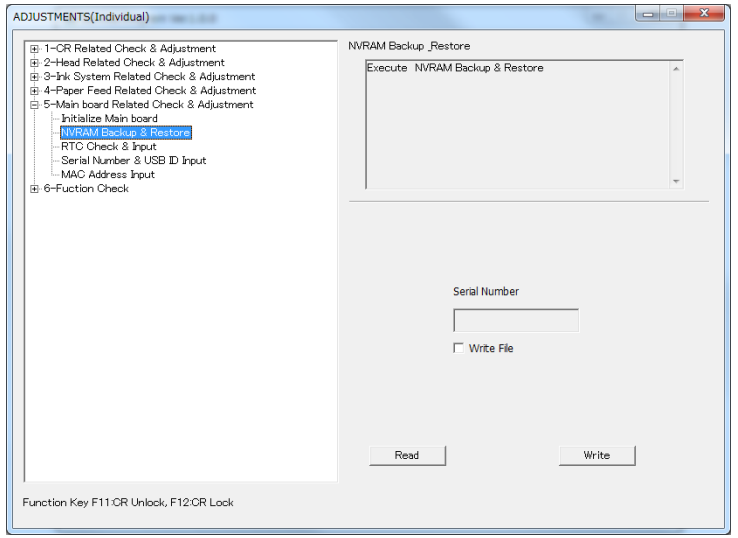


Figure 5-62. [NVRAM Backup & Restore] Screen

5.12.3 RTC Check & Input

This allows you to reset the date and time of the RTC backup battery.

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **RTC Check & Input** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Verify or input the **DATE** and **TIME**.
4. Click **[Input]** to input the RTC onto the NVRAM on the new Main Board.

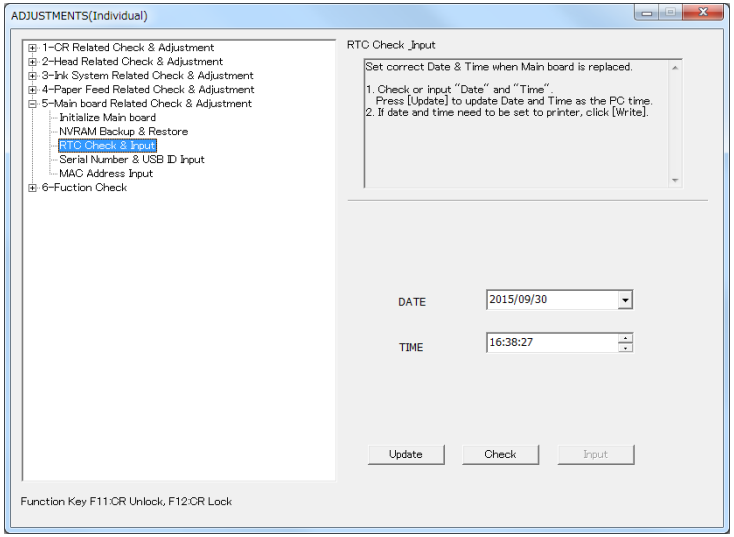


Figure 5-63. [RTC Check & Input] Screen

5.12.4 Input Serial Number

Use this to write the printer serial number to the NVRAM, or to check the serial number written in the NVRAM.

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program, and select **Input serial number** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Enter a 10-digit serial number of the printer, and click **[Input]**.
   The serial number is written to the NVRAM on the Main Board.
4. When you click **[Check]**, the serial number written on the NVRAM is automatically read and displayed on the screen.

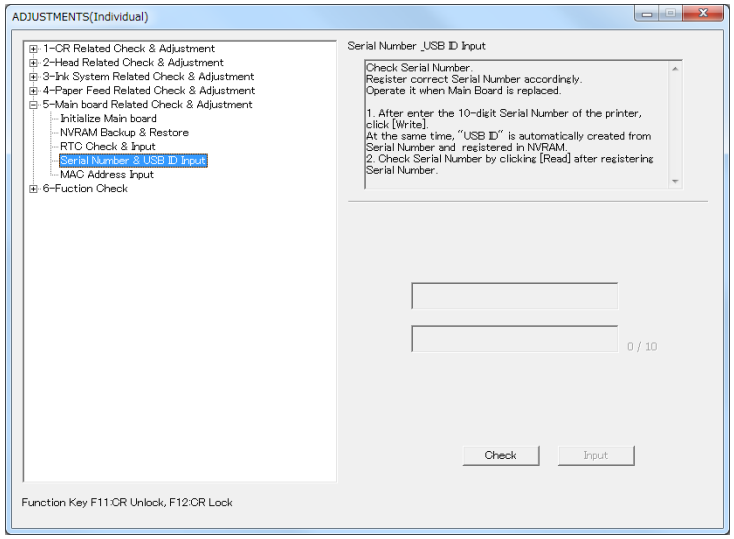


Figure 5-64. [Input Serial Number] Screen

5.12.5 MAC Address Input

The MAC address of this printer is recorded on the NVRAM of the Main Board. When replacing the board, make sure to write the MAC address to the new board as follows.

PROCEDURE

1. Connect the printer and the computer with the USB cable and the network cable.
2. Turn the printer ON.
3. Start the Service Program, and select **MAC Address Input** from **ADJUSTMENTS (INDIVIDUAL)**.

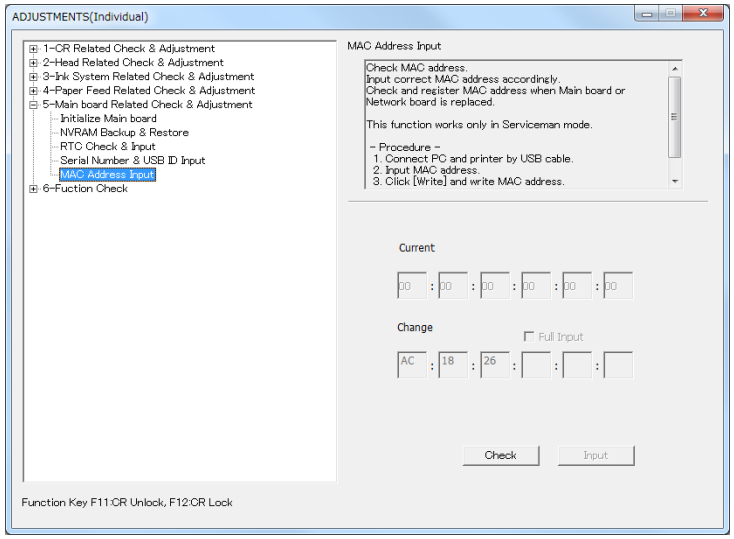


Figure 5-65. [MAC Address Input] Screen

4. Open the front cover and enter the MAC address written on the MAC address label attached inside the printer, then click the **[Input]** button.

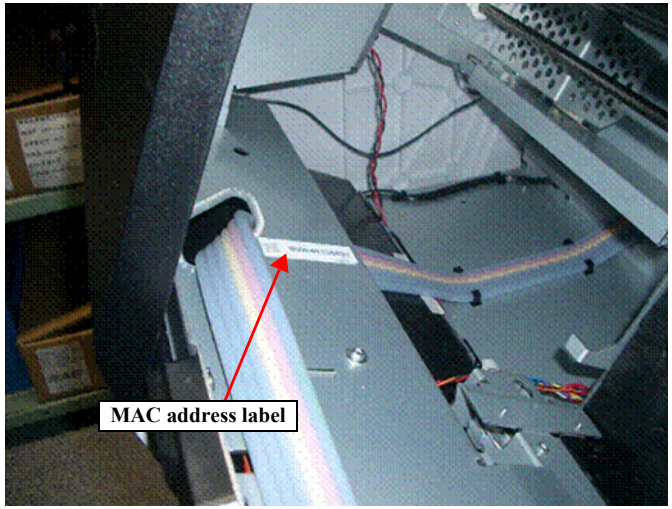


Figure 5-66. MAC address label

5.13 Tests

5.13.1 Network Communication Check

Use this to check if the printer can communicate with the computer via a network.

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Check Network Communication** menu.
3. Enter the IP address of the printer, and press **[Run]**.
   When the network communication is available, a nozzle check pattern is printed automatically.
4. Click **[Finish]**.

5.13.2 Suction Fan Operation Check

This allows you to check if Suction Fan is operated correctly.

PROCEDURE

1. Turn the printer on.
2. Start the Service Program and select **Suction Fan Operation Check** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Select the fan you want to operate and press **[RUN]**, the Suction Fan starts operating.

5.13.3 AID Function Check

Use this to check that the AID function operates properly.

CHECK POINT

Before this check, make sure to enter the Head Rank ID (P. 304).

CHECK PROCEDURE

1. Start the Service Program and select **Nozzle Check Pattern** from **ADJUSTMENTS (INDIVIDUAL)**.
2. Print the nozzle check pattern.
   - If the number of clogged nozzles per row is less than 11:
     → Go to Step 3.
   - If the number of clogged nozzles per row is 11 or more:
     → Repeat cleaning (P. 306) until the number of clogged nozzles per row becomes less than 11, and then go to Step 3.
3. Start the Service Program and select **AID Function Check** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Click **[RUN]**.
5. Check the result of the check.
   - If the number of clogged nozzles is equal to the nozzle check pattern:
     → Turn off the printer to finish the check.
   - An error code is displayed:
     → Troubleshoot according to the Table 5-8.
   - The number of clogged nozzles differs from the state of the nozzle check pattern:
     - First time:
       After the cleaning, and wait at least three minutes. Then, go back to Step 2.
     - After the 2nd time:
       → Carry out the AID Function Check, and if the number of clogged nozzles is still different from the check pattern, carry out the remedy #3 on Table 5-8.

Table 5-8. AID Function Check List

Error Code	Description	Remedy
NG4 (13h)	Connection of the FFC between AID Board and Main Board has a problem.	No.1 (p. 341)
NG4 (00h,20h)	An error such as the cover open error has occurred during AID Function Check.	No.2 (p. 341)
NG3 Noise Error	Specified voltage is not applied between the Head Cover Plate and Flushing Box because there is foreign material attached on or around Flushing Box.	No.3 (p. 341)
NG4 (10h,14h)		

☐ Check procedure

■ No.1

1. Turn the printer on.
2. Disconnect the AC cable.
3. Remove the Rear Cover. (p.129)
4. Remove the Right Cover. (p.118)
5. Disconnect the FFC from the AID Board and check if there is any peel, scratch or damage on the terminal.
6. Connect the FFC of the AID Board to the connector on the Main Board.

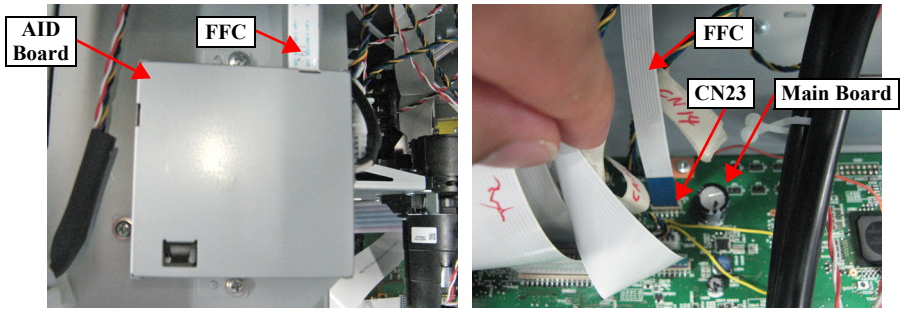


Figure 5-67. Checking the AID FFC

7. Connect the AC cable.
8. Turn the printer on.
9. Start the Service Program and select **AID Function Check** from **ADJUSTMENTS (INDIVIDUAL)**.
10. If not improved, replace the AID Board with a new one. (p.207)
11. If not improved, replace the Main Board Assy with a new one. (p.137)

■ No.2

1. Troubleshoot the error displayed on the panel.

■ No.3

1. Turn the printer off.
2. Disconnect the AC cable.
3. Remove the Rear Cover. (p.129)
4. Remove the Right Cover. (p.118)
5. Unlock the Carriage Unit. (p.110)
6. Move the Carriage Unit to the Flushing Box.
7. Clean the Print Head if there is any dirt or fluff attached on the surface.

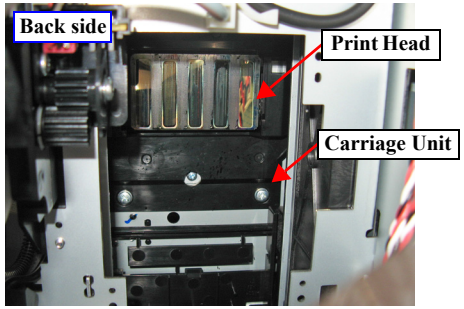


Figure 5-68. Checking the surface of the print head

8. Move the Carriage Unit to the full side.
9. Move down the Flushing Box by turning the pinion gear on the motor.
10. Remove the fluff or dirt attached on the Flushing Box if any.

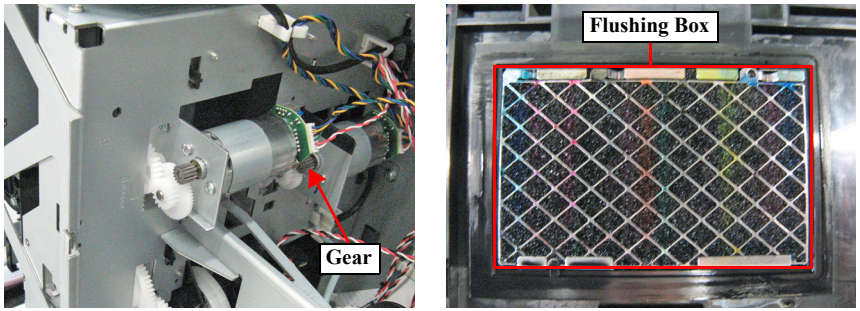


Figure 5-69. Checking the surface of the Flushing Box

11. Place the red probe of the tester on the metal part on the surface of the Flushing Box.
12. Place the black probe of the tester on pin #1 on CN2 of the AID Board CN2 and measure the resistance.
13. If the resistance value is 100 ohm or more, disconnect and reconnect the AID cable and measure the resistance again.
14. If not improved after carrying out Step 13, replace the Ink System Unit with a new one. (p.179)

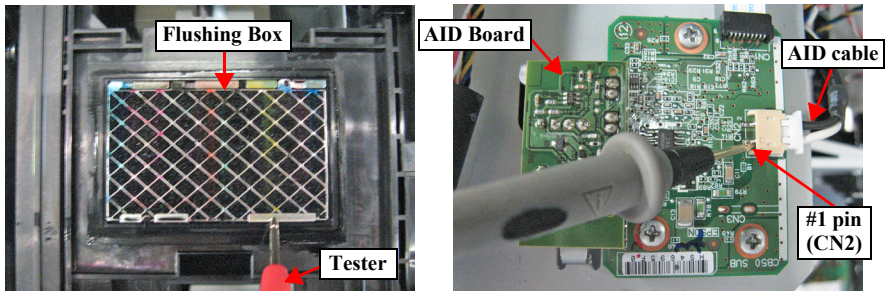


Figure 5-70. Measurement of resistance (1)

15. Place the red probe of the tester on the metal part on the surface of the Flushing Box.
16. Place the black probe of the tester on the frame ground and measure the resistance.
17. If the resistance value is less than 1 Mega ohm, replace the Ink System Unit with a new one. (p.179)

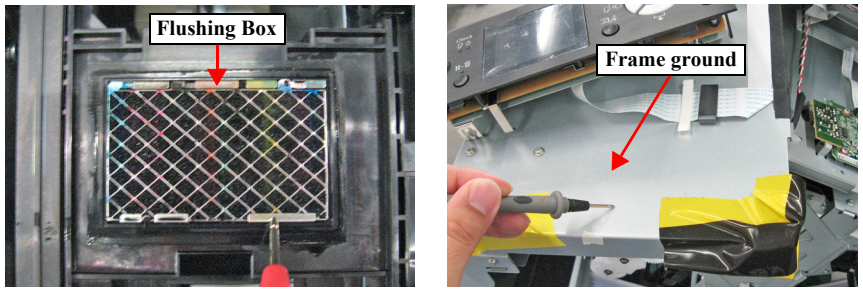


Figure 5-71. Measurement of resistance (2)

18. Move the Carriage Unit to the home side. (Do not lock the Carriage Unit.)
19. Place the red probe of the tester on the Head Cover Plate.
20. Place the black probe of the tester on the frame ground and measure the resistance.

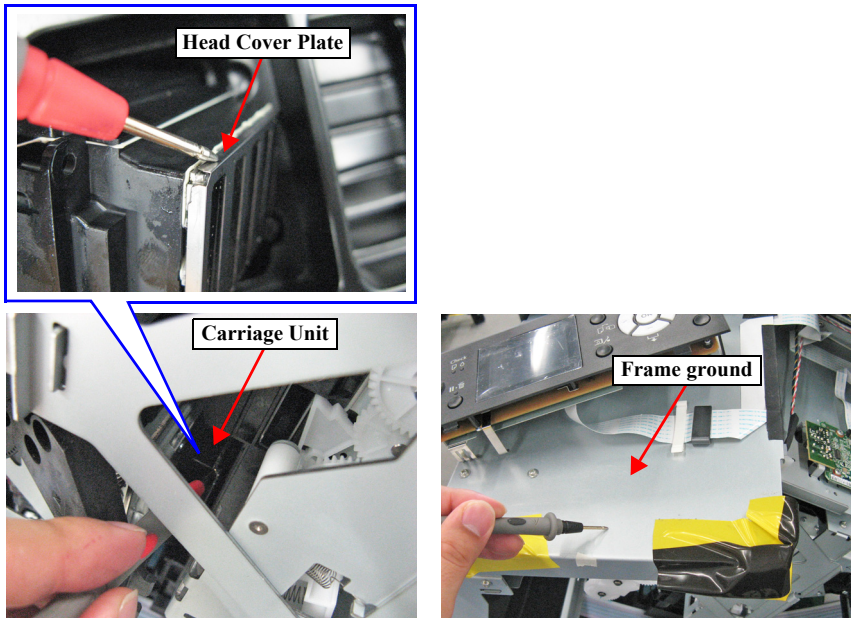


Figure 5-72. Measurement of resistance (3)

21. If the resistance value is 100 ohm or more, measure the resistance between the Head Cover Plate and the Carriage Frame.

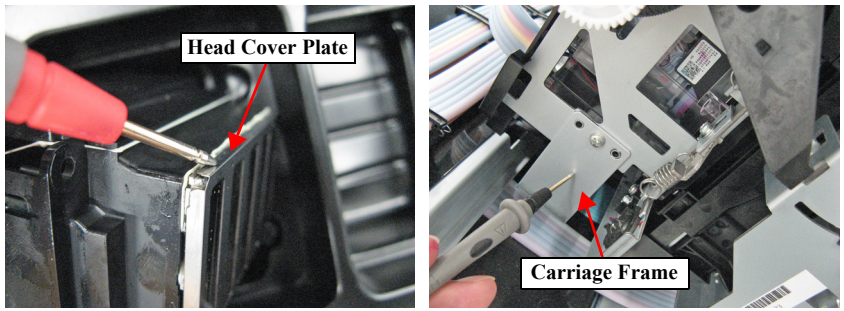


Figure 5-73. Measurement of resistance (4)

22. If the resistance value is 100 ohm or more, remove the Print Head (p.183) and confirm the Head Cover Plate is surely grounded to the grounding plate.

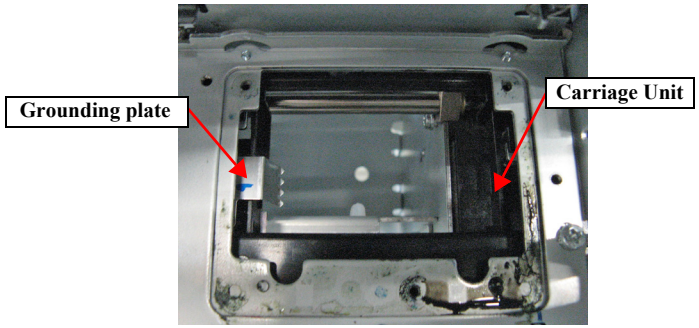


Figure 5-74. Head Cover Plate and grounding plate

23. Measure the resistance between the Carriage Frame and the frame ground.

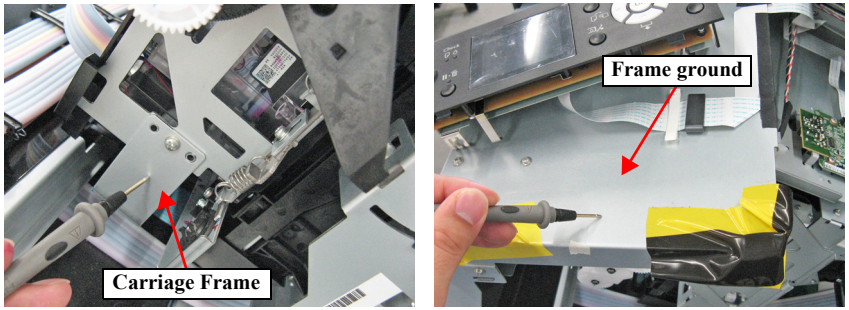


Figure 5-75. Measurement of resistance (4)

24. If the resistance value is 100 ohm or more, check if the screw of the grounding cable is loosened.
25. Measure the resistance between the Carriage Frame and the frame ground. (Figure 5-75)
26. If the resistance value is 100 ohm or more, check if the screw of the SUB Board's grounding cable is loosened.

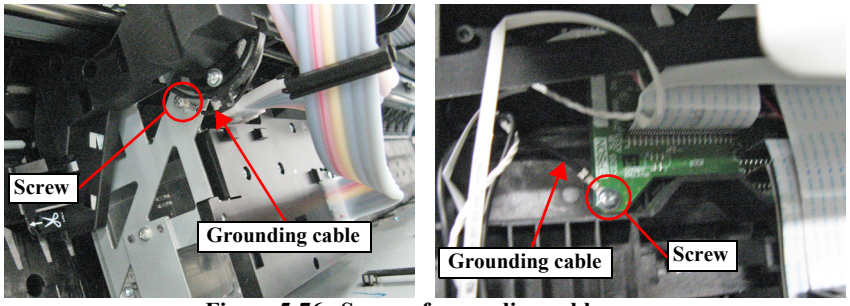


Figure 5-76. Screw of grounding cable

27. Disconnect the FFC from the AID Board and check if there is any peel, scratch or damage on the terminal. (Figure 5-67)
28. Check if the PG is within the standard. (p.297)
29. Start the Service Program and select **AID Function Check** from **ADJUSTMENTS (INDIVIDUAL)**.
    - If the number of clogged nozzles is equal to the nozzle check pattern:
      → Turn off the printer to finish the check.
    - The number of clogged nozzles differs from the state of the nozzle check pattern:
      → Go to Step 30.
30. Replace the Ink System Unit with a new one. (p.179)
31. Replace the AID Board with a new one. (p.207)
32. Replace the Main Board Assy with a new one. (p.137)
33. Replace the Print Head with anew one. (p.183)

5.13.4 AID Adjustment

Write the AID initial voltage value onto the NVRAM.

PROCEDURE

CHECK POINT

Before executing out the AID Adjustment, perform the AID Function Check (P. 340).

1. Turn the printer OM.
2. Start the Service Program, and select **AID Adjustment** from **ADJUSTMENTS (INDIVIDUAL)**.
3. Click **[Run]**.

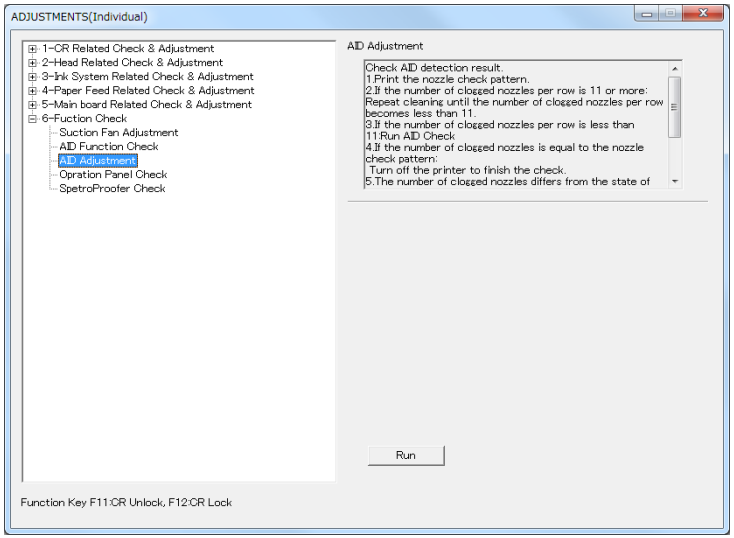


Figure 5-77. [AID Adjustment] screen

5.13.5 Operation Panel Check

This allows you to check if there is any dot missing occurring or not on the Color LCD.

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program, and select **Operation Panel Check** from **ADJUSTMENTS (INDIVIDUAL)**.
3. The selected color will be displayed on the LCD. Check if there is no dot missing.
4. Click **[RUN]**.

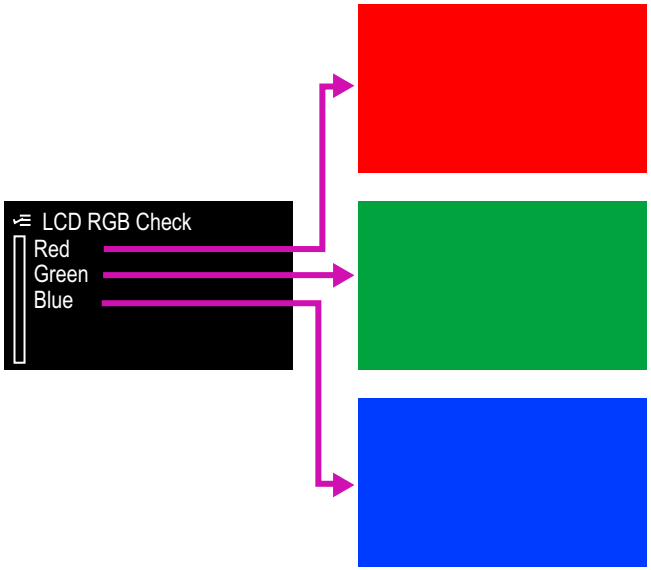


Figure 5-78. Operation Panel Check

5.13.6 Button Operation Check

This allows you to check if buttons on the control panel function correctly.

PROCEDURE

1. Turn the printer ON in the Serviceman Mode.
   Turn the power ON while pressing **[Menu ▶]** + **[Paper Feed ▼]** + **[OK]** simultaneously.
2. Select **SELF TESTING** → **Mecha Adjustment** → **Panel Check**.
3. Press the button you want to check the function, and check if the button name you pressed matches the name on the Panel displayed.

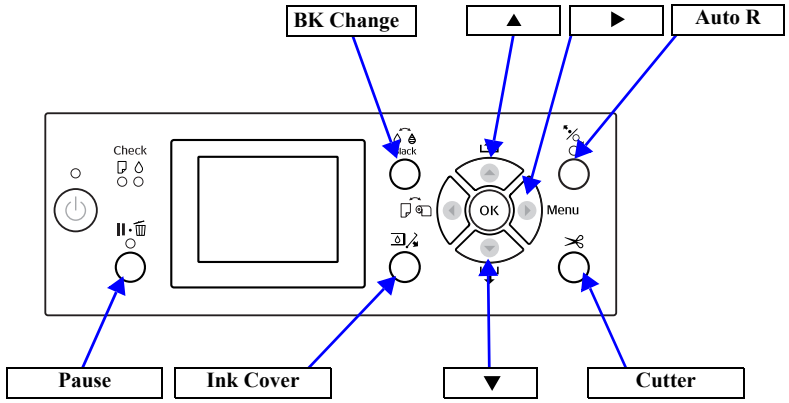


Figure 5-79. Button and Panel Display

5.13.7 SpectroProofer Check

This inspection checks each part and function of the SpectroProofer operates normally.

INSPECTION CONTEXT

CHECK POINT

Each inspection item can be executed separately; however, it is recommended to execute them all in the order given in the table below.

Table 5-9. Check Items

Category	Order	Item	Content	Ref.
MOUNTER ONLY TESTS	1	Sensors check	Check if Mount Sensor and Thermistor are operating normally.	p. 348
	2	Fan check	Check if Cooling Fan is operating normally.	p. 348
	3	CR move	Check if Carriage is operating normally.	p. 349
MOUNTER + ILS TESTS	4	Calibration check	Check if calibration was successful at the start-up.	p. 350
	5	Paper holder check	Check if Paper Pressing Plate is operating normally.	p. 351
	6	Tile position check	Check if the white calibration tile is installed in the correct attachment location, or is contaminated.	p. 352
	7	Take-up Reel USB host check	Check if Auto Take-up Reel Unit and Mounter are correctly connected.	p. 353

Note : The program for this inspection is the English version only. The above table uses the names displayed on the program.

MOUNTER ONLY TEST'S PROCEDURE

☐ Preparation

1. Start the Service Program.
2. Connect the mounter to the computer with a USB cable.
3. Turn on the mounter.

   NOTE: *When the computer recognizes the mounter a wizard screen is displayed, click on the* ***[Cancel]*** *button.*

4. Select **SpetroProofer Check** from the Service Program.

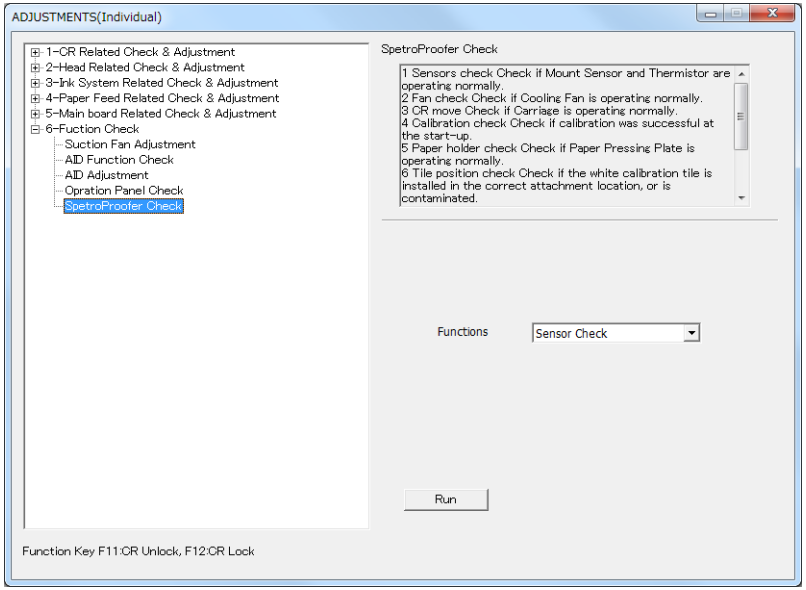


Figure 5-80. [SpetroProofer Check] Menu Screen

☐ Sensors check

1. Select **Sensors check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Enter the temperature around the printer and click on the **[OK]** button.

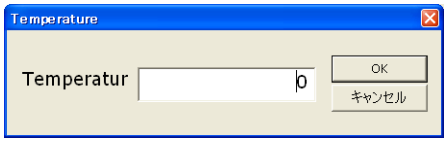


Figure 5-81. Temperature Input Screen

4. Take a measure according to the code of displayed screen.

Code	Description	Remedy
OK	No abnormality Thermistor is operating normally.	Click on the **[OK]** button
NG1	Detected temperature differs slightly from entered temperature. Or the correct value cannot be obtained from the Thermistor.	Re-enter the temperature. If not improved, replace the Thermistor. (p. 248)
NG2	Detected temperature differs considerably from entered temperature. The thermistor might be broken.	Replace the Thermistor. (p. 248)

☐ Fan Check

1. Select **Fan check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Confirm that the air blows normally by inserting your hand from the bottom of the mounter. The fans will operate for 30 seconds.
   If the air does not blow, follow the instruction below.

Symptom	Remedy
No air blows.	Check the connection of Cooling Fans.
	Replace the Cooling Fan(s). (p. 253, p. 253)
Abnormal noise	Check the Cooling Fan(s) for attachment of foreign material.

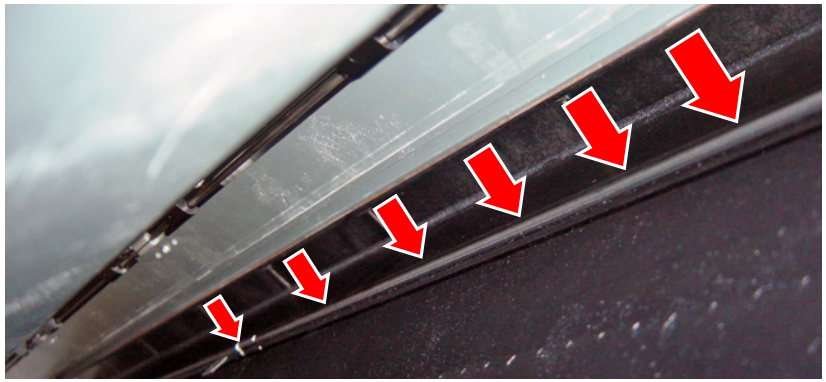


Figure 5-82. Check point for Cooling

☐ CR move

CAUTION

Perform this check while the mounter is installed on the printer, or placed on a flat location.

1. Select **CR move**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Confirm that the carriage operates normally.
   If not, follow the instruction below.

Symptom	Remedy
Paper Pressing Plate does not operate.	Check the installation status of Paper Pressing Plate. (p. 260)
Carriage does not operate normally.	Check the drive transmission path of the Carriage Motor, and if any abnormality is found, correct it.
	Check the status of the Carriage Motor, and if any abnormality is found, correct it. (p. 258)
	Check the status of the timing belt, and if any abnormality is found, correct it.
	Check the status of the CR HP Sensor, and if any abnormality is found, correct it. (p. 247)

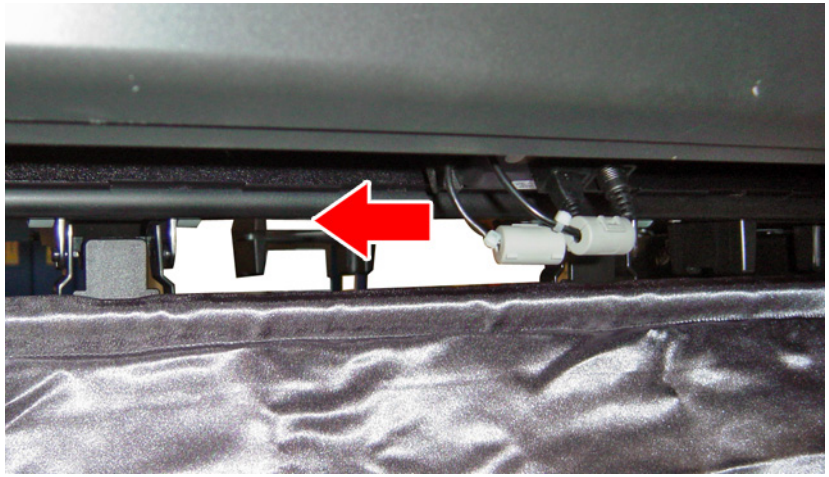


Figure 5-83. Carriage Operation Check

MOUNTER + ILS TEST PROCEDURE

☐ Preparation

1. Start the Service Program.
2. Install the Color Measurement Device, the white calibration tile holder, and the black backing.
3. Connect the Color Measurement Device to the printer with a USB cable.
4. Connect the printer to the computer with a USB cable.
5. Turn on the mounter.
6. Turn on the printer.
7. Wait until the printer becomes ready to print.

   NOTE: *If an error related to the Color Measurement Device is occurring, the message for it appears on the LCD of the control panel.*

8. Select **SpetroProofer Check** from the Service Program.

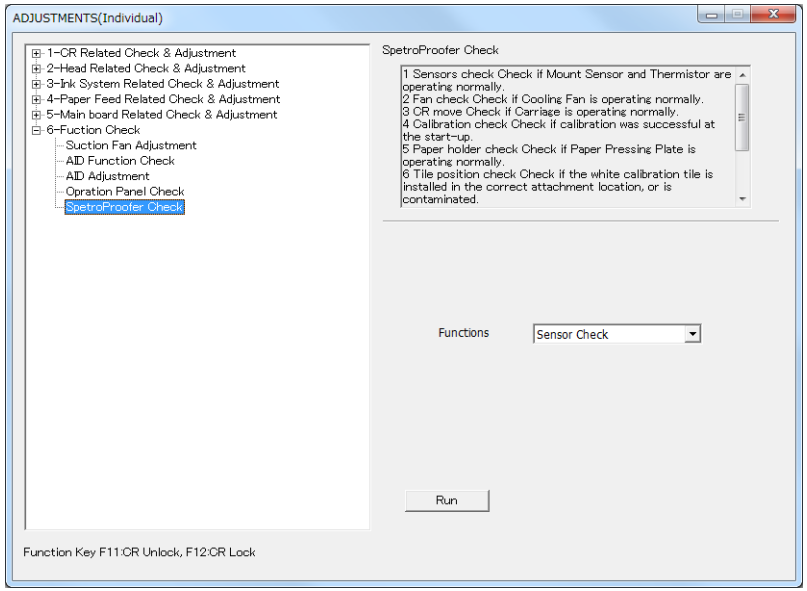


Figure 5-84. [SpetroProofer Check] Menu Screen

☐ Calibration check

1. Select **Calibration check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Take a measure according to the code of displayed screen.

Code	Description	Remedy
OK	No abnormality Operating normally.	Click on the **[OK]** button.
NG	White calibration tile failure	Install the white calibration tile holder to the correct attachment location.
		If the tile is contaminated, clean it. If the cleaning does not improve it, replace the white calibration tile holder.
	Color Measurement Device connection error	Check the connection, and if any abnormality found, correct it.
	Lamp failure of Color Measurement Device	If the lamp does not light, replace the Color Measurement Device
	Color Measurement Device failure	Replace the Color Measurement Device.
	Carriage failure	See the inspection item for CR move check. (p. 349)
	Backing failure	Install the backing.

CAUTION

After taking the above measure, make sure to restart the printer before re-checking.

☐ Paper holder check

1. Select **Paper holder check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Confirm the whole Paper Pressing Plate is touching the backing without any gap.
   If any abnormality is found, check the following.

Symptom	Remedy
Paper Pressing Plate does not operate.	Check the installation status of Paper Pressing Plate. (p. 260)
	Check the status of Paper Pressing Motor, and if any abnormality found, correct it.
	Check the status of Paper Pressing Encoder, and if any abnormality found, correct it.
	Check the Paper Pressing Plate Sensor, and if any abnormality found, correct it.
	Install the backing if not installed.

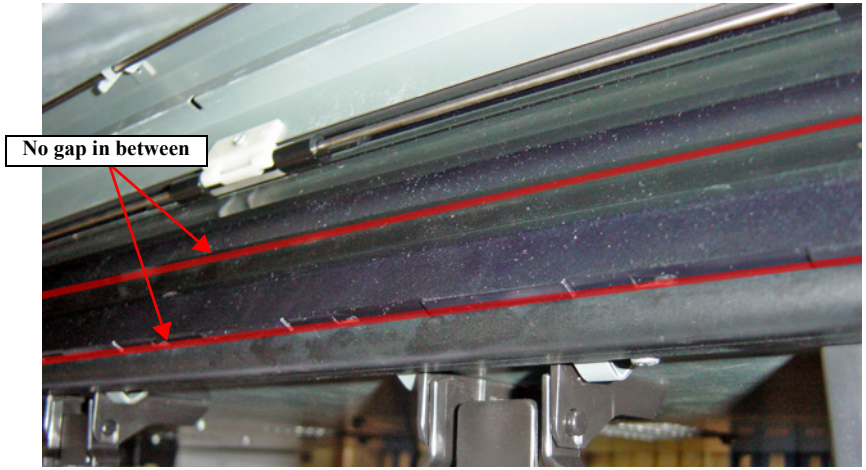


Figure 5-85. Check Point

☐ Tile position check

1. Select **Tile position check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Confirm the lamp of the Color Measurement Device lights.
   If not, replace the Color Measurement Device.

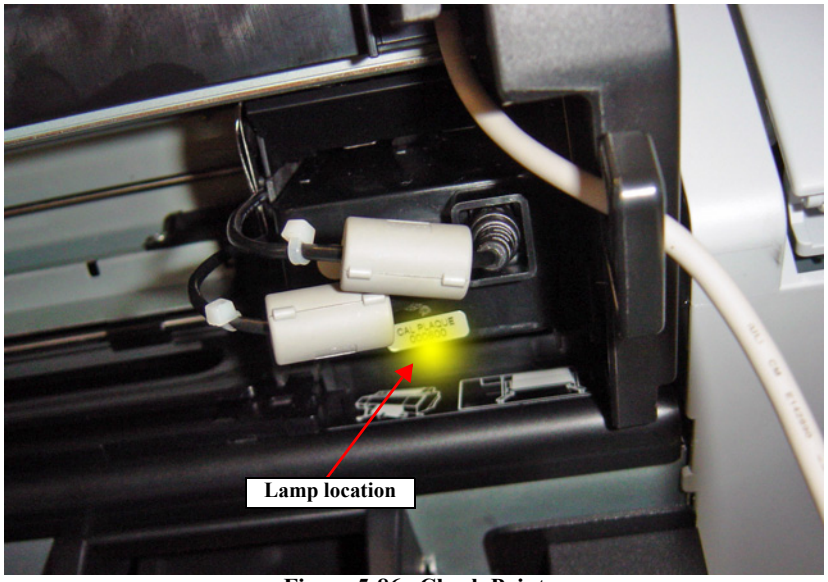


Figure 5-86. Check Point

4. Take a measure according to the code of displayed screen.

Code	Description	Remedy
OK	No abnormality Operating normally.	Click on the **[OK]** button.
NG	White calibration tile failure	Install the white calibration tile holder to the correct attachment location.
		If the tile is contaminated, clean it. If the cleaning does not improve it, replace the white calibration tile holder.
	Color Measurement Device connection error	Check the connection, and if any abnormality is found, correct it.
	Lamp failure of Color Measurement Device	If the lamp does not light, replace the Color Measurement Device.
	Color Measurement Device failure	Replace the Color Measurement Device.
	Carriage failure	See the inspection item for CR move check. (p. 349)

Note : Five points on the tile are sensed in this inspection. Even one point of them cannot be sensed correctly, an error occurs.

☐ Take-up Reel USB host check

1. Select **Take-up Reel USB host check**, and click on the **[Run]** button.
2. Follow the instructions on the screen to execute the inspection.
3. Take a measure according to the code of displayed screen.

Code	Description	Remedy
Blue	No abnormality Operating normally.	Click on the **[OK]** button.
Red	Connection failure	Check the destination. An error also occurs if a device other than Take-up Reel Unit is connected.
	Broken USB cable	Replace the USB cable.

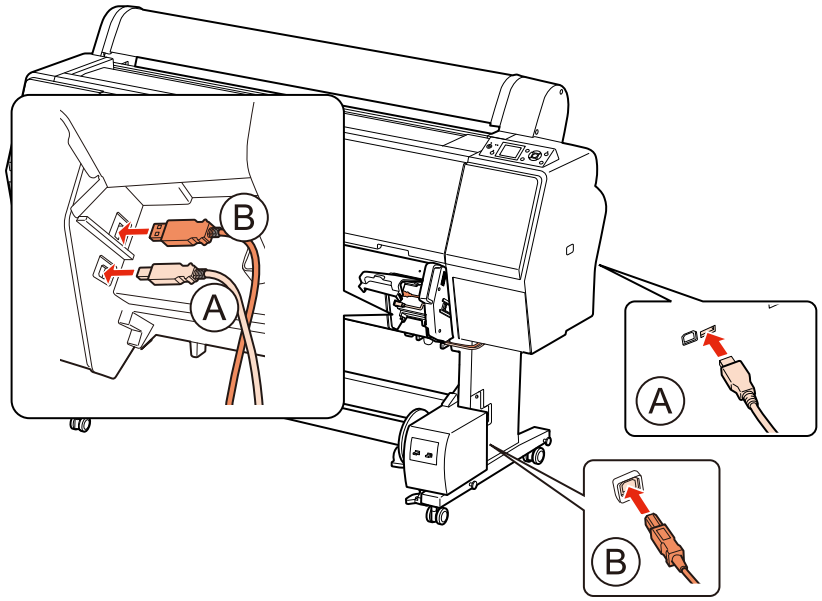


Figure 5-87. Connection between Auto Take-up Reel and Mounter

5.13.8 Colorimetric Calibration (Color ID) with SpectroProofer

CAUTION

This adjustment is described in the same manner as other models. Therefore, the procedure is basically the same, but some actual steps or patterns may differ.

5.13.8.1 Adjustment Overview

This adjustment is required when the user asks to reduce the color gap between the printers after replacing any of the following parts.

- Printhead
- Main Board Assy
- Power Supply Board Assy

PURPOSE

By registering/controlling information concerning the ink droplets, this product improves calibration accuracy and ensures stable color quality. (Difference in color among individual products or each mode is reduced.)

PRINCIPLE

The calibration is performed by measuring a printed correction pattern with a calibrator. ID information that is calculated based on the acquired color values (L*, a*, b*) is transmitted to the printer driver, and the printer driver corrects the dot generation amount for each dot size x each color in the print data.

5.13.8.2 Adjusting Method

REQUIRED TOOLS

Table 5-10. Tools Required

Tool	Application/Specification
Plain Paper (A4)	For nozzle check
EPSON Enhanced (Archival) Matte Paper (A4)	For printing charts
Computer	Following drivers should be installed beforehand. Printer driver for this product USB driver for the calibrator Supported OS: Windows XP (32bit), Windows 7 (64bit/32bit)
Application	Colorimetric Calibration Tool Ver.2
Calibrator	i1pro2 or i1pro
Calibration plate (White plate)	Accessory provided with the calibrator
Scanning ruler (Scale)	Accessory provided with the calibrator
USB cable	To connect the computer and the calibrator
Black sheet	Should be larger than A4

ADJUSTMENT WORKFLOW

The workflow of the adjustment is explained in this section.

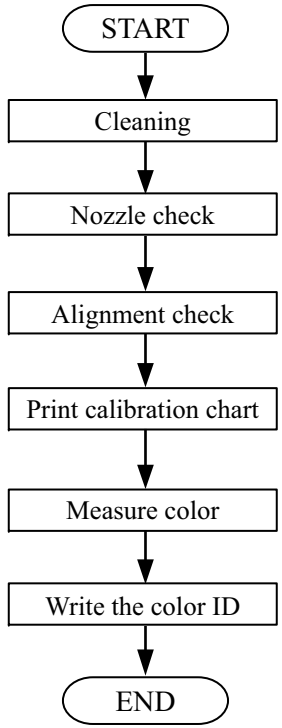


Figure 5-88. Adjustment Workflow

ADJUSTMENT PROCEDURE

1. Turn the printer power on.
2. Double-click the “LFPCCAS.exe”.
3. Select the printer model.

CAUTION

When several drivers are installed for one printer, check that the backlight of the LCD panel on the printer flashes by selecting the printer model and click [Next].

4. Make sure that the “READY” message is displayed on the printer LCD, and click **[Next]**.

CHECK POINT

If the printer has not been used for more than two weeks, it is recommended to agitate the ink inside the cartridges to get an accurate result. Remove all the ink cartridges from the printer, and shake them gently for four or five times.

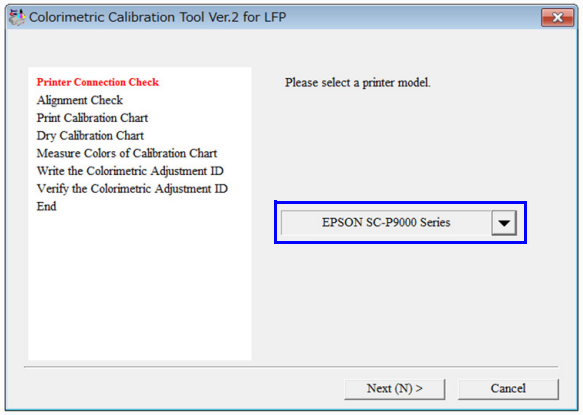


Figure 5-89. Colorimetric Calibration ID Startup Screen

5. Load an A4-sized paper vertically on the paper tray, click **[Next]** to start the nozzle check.
6. Check the nozzle pattern. If there is any defect, execute the cleaning using the Service Program.
   If the check pattern is appropriate, click **[Next]**.

CAUTION

Make sure to confirm that there is no dot missing for all nozzles before executing Colorimetric Calibration Adjustment.

7. Load an A4-sized Enhanced (Archival) Matte Paper vertically on the paper tray, and click **[Next]** to print the calibration chart.

CAUTION

Make sure to leave the adjustment chart for 5 minutes to dry it out. Wait for the countdown to end.

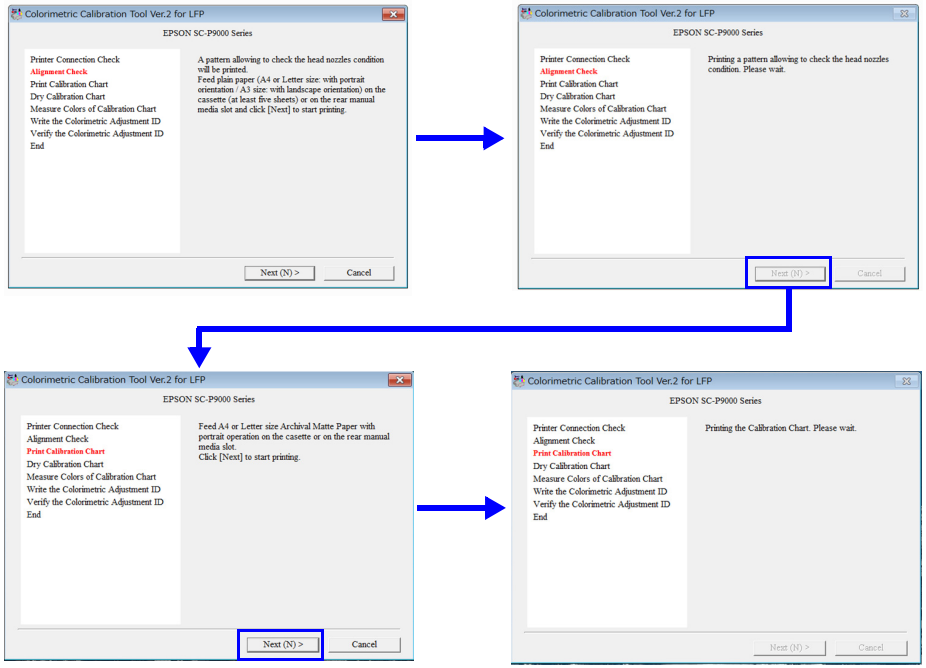


Figure 5-90. Entire Process Screen

8. Make sure there is no missing dots in the nozzle check pattern at the bottom of the calibration chart.
   If there are missing dots, click **[Print Calibration Chart Again]**. The calibration chart will be printed again after performing cleaning.
   If there are no missing dots, let the chart stand for five minutes until it dries out paying attention not to touch the chart.
9. When the calibration chart dries out (after five minutes), click **[Next]**.
10. Connect a calibrator to the computer.
11. Place the calibrator on the calibration base plate, and click **[OK]**
12. Keep the calibrator remain set on the base plate, hold down the button on the side of the calibrator until it beeps.
    Once the calibration completed normally, following screen appears.

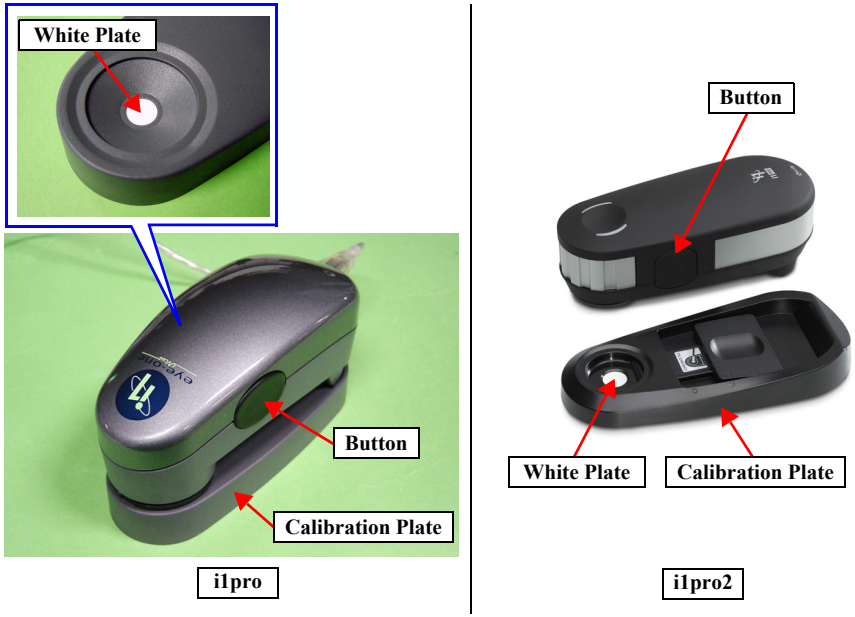


Figure 5-91. i1Calibrator

CAUTION

Do not contaminate the white plate of the calibration base plate. If tainted, use alcohol to clean the plate.

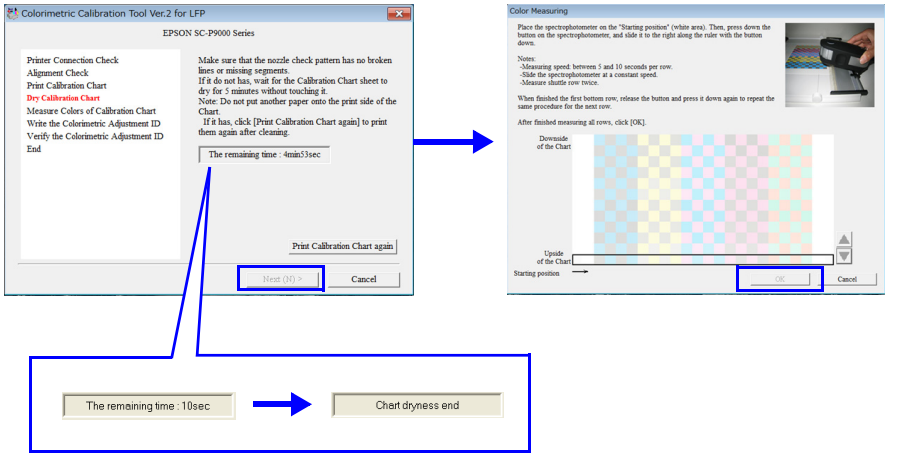


Figure 5-92. Entire Process Screen

13. Make sure that the date and time printed in the second line on the upper left of the chart (measurable time and date) is within the range displayed under the heading "GMT" on the lower screen. (If the date and time is not within the range, it is necessary to print the chart again.)
14. Refer to Figure 5-94, lay the chart on the black paper (or sheet) with the upper part of the chart facing left side, and set the scanning ruler onto the bottom most patch line.

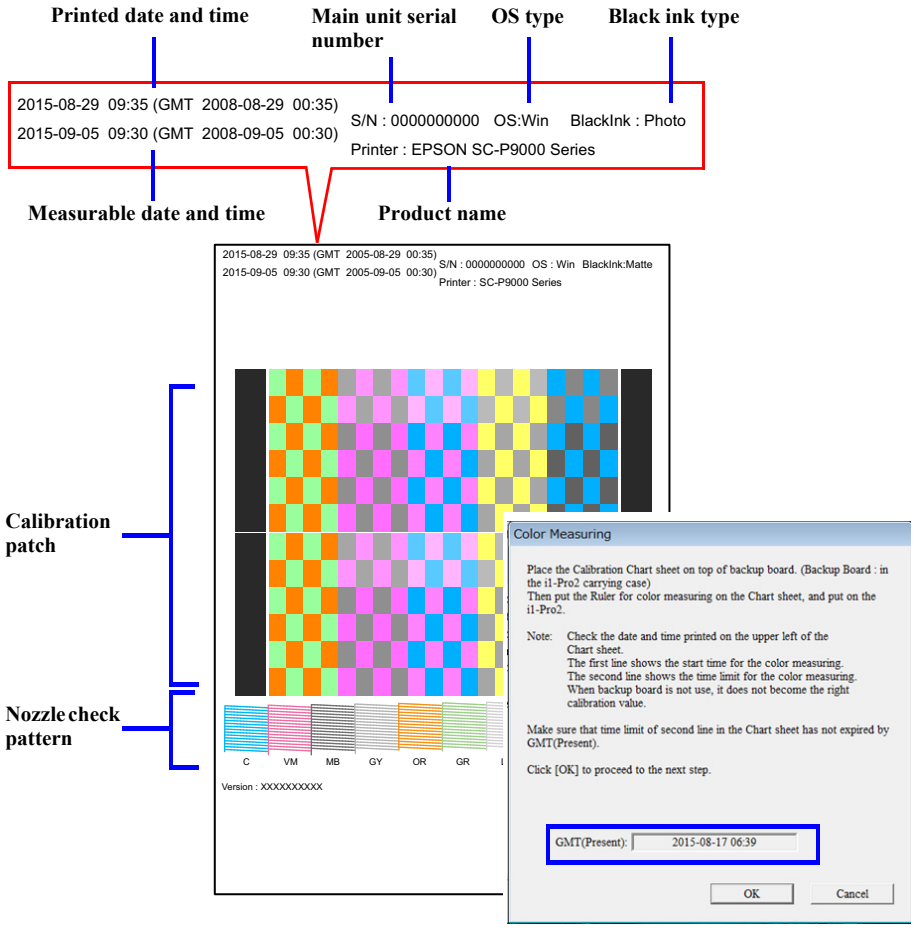


Figure 5-93. Measurable Time and Date Check

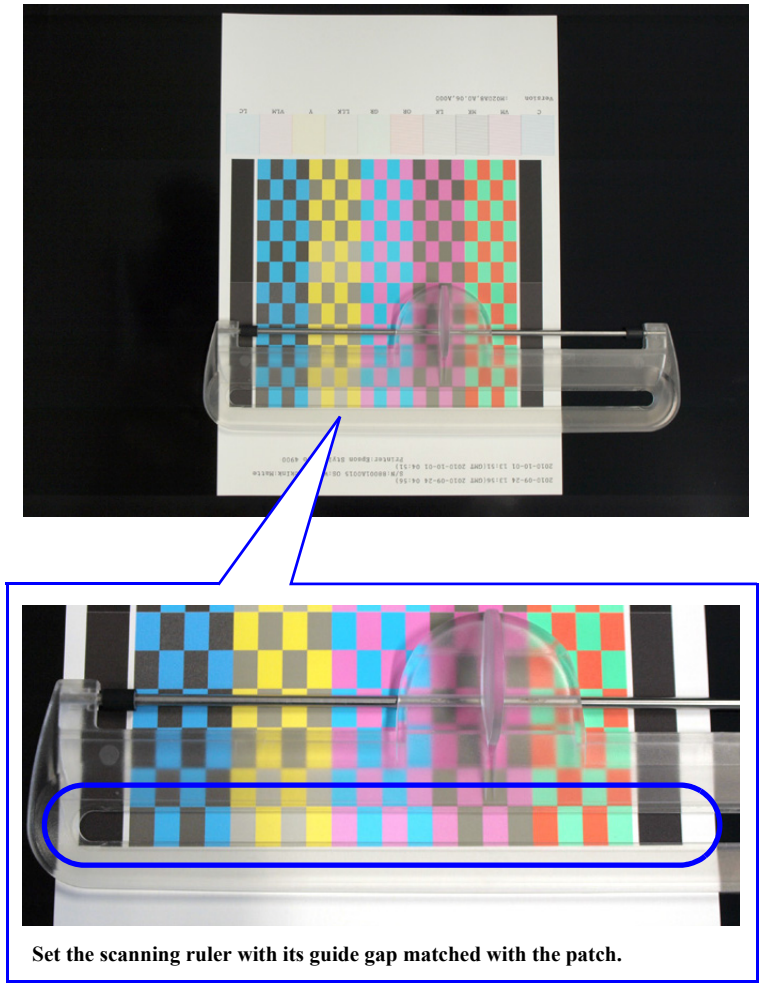


Figure 5-94. Setting the Chart and the Scanning Ruler

15. Click **[OK]** and follow the instructions (following procedure) displayed on the screen to perform color measuring.
    1. Set the calibrator with its measuring part matched with measuring start position (margin) as shown in Figure 5-96.
    2. Press down the button on the side of the calibrator.
    3. When it beeps, keep holding down the button and scan the patch along the calibration guide to measuring end position (margin).
    4. Once the measuring is completed, release the button.
    5. For i1pro: Repeat Step 1 to 4 twice for the same row.
       For i1pro2: Repeat Step 1 to 4 for the same row back and forth twice.

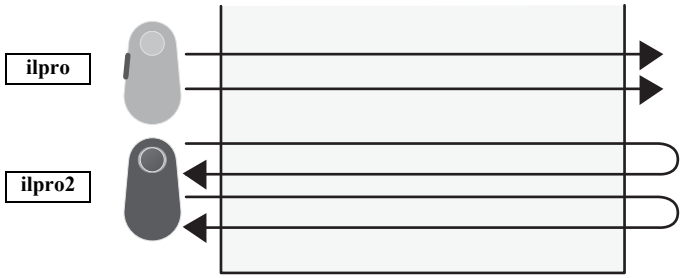


Figure 5-95. i1pro/i1pro2

    6. Repeat Step 1 through 5 to measure the bottommost line to the top line. (The line that needs to be measured is displayed on the screen.)
16. Once all the lines (8 lines) are measured, click **[OK]**.

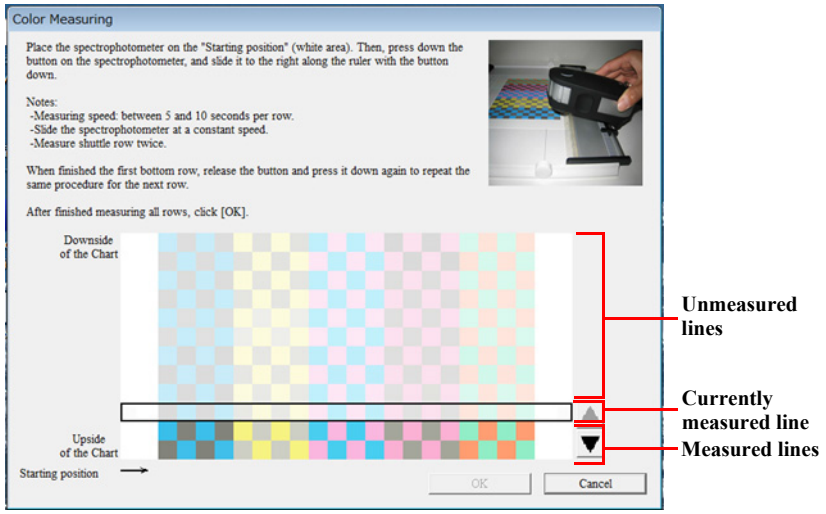


Figure 5-96. Color Measuring Screen

CAUTION

When measuring colors, pay attention to the instructions below.

- **Scan one line between five to ten seconds.**
- **Keep the scan speed constant as possible.**
- **Measure each of the lines twice. (Measure the line as instructed on the program screen.)**
- **Place the chart on a flat surface. The calibrator and the ruler must be attached firmly to the chart in order to measure the colors accurately.**
- **Do not scan any places other than the one shown in Figure 5-97.**
- **If the measured values are completely out of the standards, a warning mark (⚠) appears. In this instance, check the instructions mentioned above and retry the color measuring again.**
- **If an error mark (⊗) appears, check the instructions mentioned above and retry the color measuring again.**

Figure 5-97. Setting the Calibrator/Measuring Position

CHECK POINT

If measuring color fails, you should turn the chart 90 degrees (so that the nozzle check pattern comes on the right) and move the calibrator from front to rear.

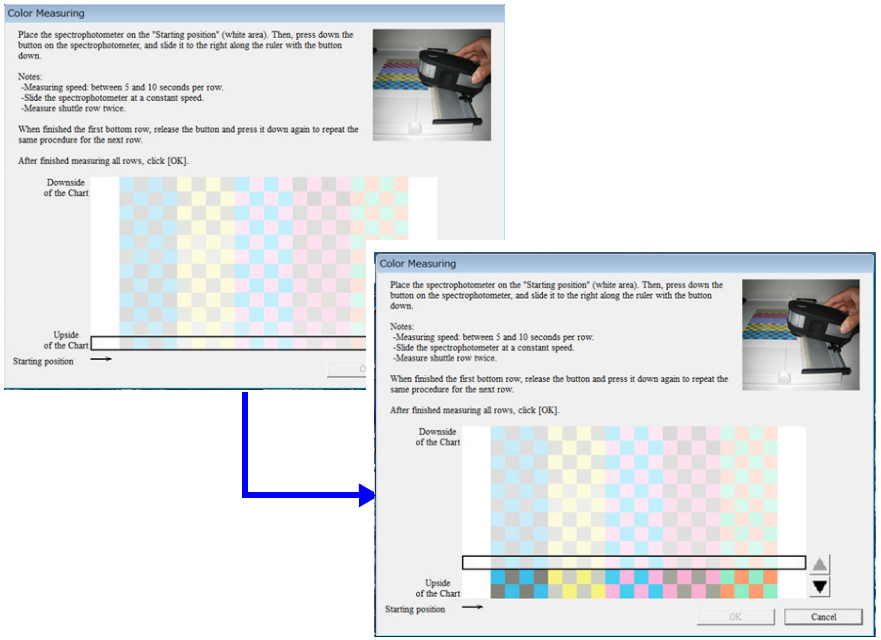


Figure 5-98. Color Measuring Screen

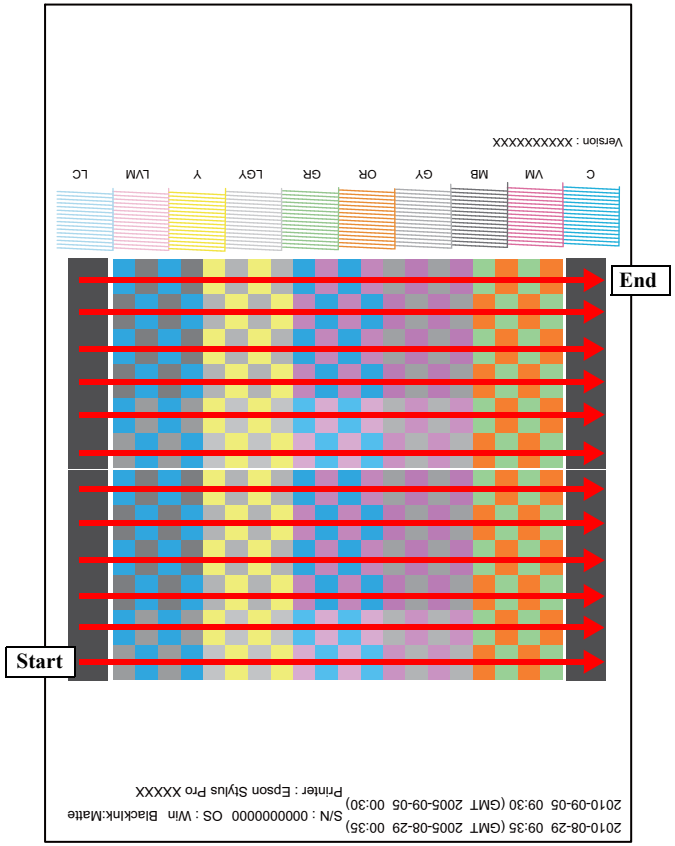


Figure 5-99. Color Measuring Order

17. Make sure that the “READY” message is displayed on the printer LCD panel, and click **[Next]** to turn OFF the printer automatically. And then, turn on the printer, write the “Color ID” to the printer main unit.
18. When the writing is completed, click **[End]**.

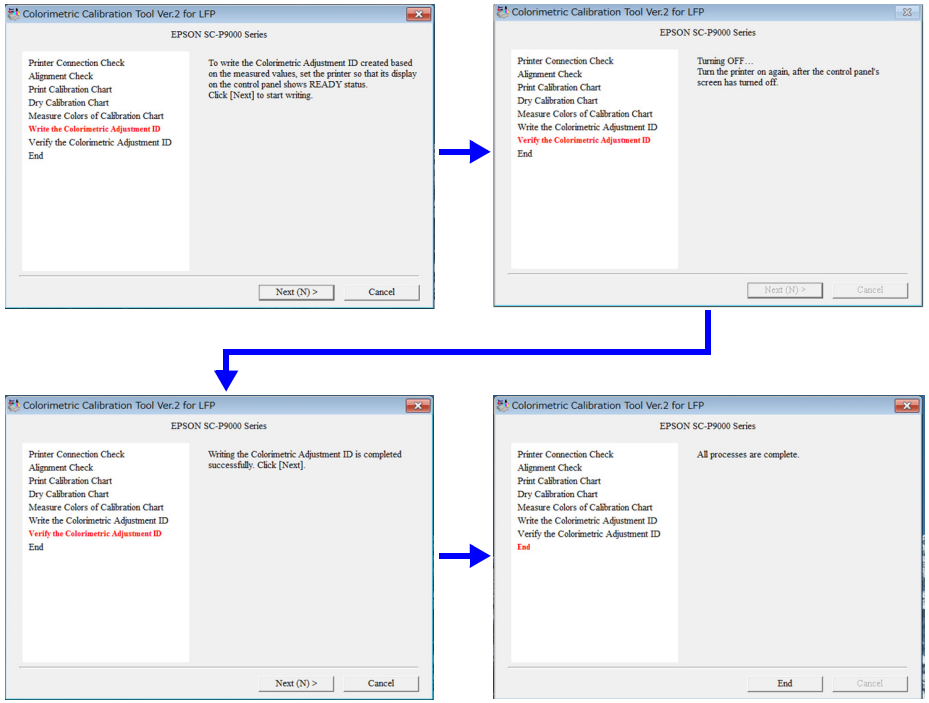


Figure 5-100. Entire Process Screen

CHAPTER

6

MAINTENANCE

6.1 Overview

This chapter provides information on how to maintain the printer in its optimum operating condition.

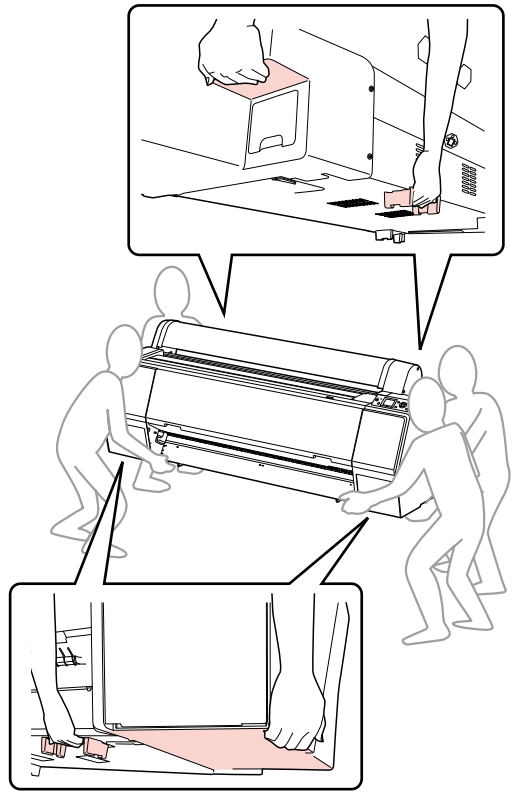
Basically, servicing on the printer should be performed on-site. Be sure to strictly observe the following precautions when servicing to avoid an accident or injury causing the user trouble.

WARNING

- **The power switch is installed on the secondary side of the power circuit, so power is always supplied to the power supply circuit even when the switch is OFF unless the power cord is unplugged from the wall power outlet. Unless otherwise stated (for printing or operation checks), be sure to unplug the power code from the wall outlet before disassembling or assembling the printer to prevent electric shock and damage to the circuit.**
- **The Front Sensor provided for detecting open/close status of the Printer Cover also acts as a safety interlock switch. Never disable the switch function to prevent possible injury.**
- **A lithium battery is mounted on the Main Board (control circuit) for memory backup. Be sure to observe the following precautions when handling the lithium battery.**
  - **Be careful not to short the electrode of the battery.**
  - **When replacing the battery, make sure to insert it in correct orientation.**
  - **Never heat the battery or plunge it into the flames.**
  - **Do not put the Main Board directly on conductive materials.**
- **Be extremely careful not to get the ink into your eye or let it come into contact with your skin. If it happens, wash out your eye or skin with water immediately. If any abnormality is found, contact a physician.**

CAUTION

- **Ensure sufficient work space for servicing.**
- **Locate the printer on a stable and flat surface.**
- **SC-P9000 Series/SC-P8000 Series 135kg, SC-P7000 Series/SC-P6000 Series 101kg. When the printer needs to be moved, make sure to lift or carry the printer with four people, holding the printer by its holding positions as shown below.**



- **When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.**

CAUTION

- **Be sure to spread a sheet of paper or cloth on the work space before removing any ink-path-related parts or components to keep the space from being soiled with leaked ink.**
- **Do not touch electrical circuit boards with bare hands as the elements on the board are so sensitive that they can be easily damaged by static electricity. If you have to handle the boards with bare hands, use static electricity discharge equipment such as anti-static wrist straps.**
- **When the printer has to be operated with the covers removed, take extra care not to get your fingers or clothes caught in moving parts such as the drive gear unit or carriage unit.**
- **The cutter blade is razor-sharp. Be especially careful when handling the cutter.**
- **Carbide blade employed as the cutter blade is hard but brittle. Be careful not to hit it against metal parts of the printer since it can be easily damaged.**
- **When the printer needs to be repacked for transportation after being used, make sure to follow the steps below after turning the power OFF.**
  1. **Check that the Printhead is capped properly.**
  2. **Remove all the ink cartridges.**
  3. **Repack the printer using the packaging box, cushioning materials and protective equipment indicated in the unpacking guide.**

6.2 Setting Up/Storing the Printer

6.2.1 Setting Up

Make sure to open up the following installation room for the printer so as to maintain appropriate operation and usability.

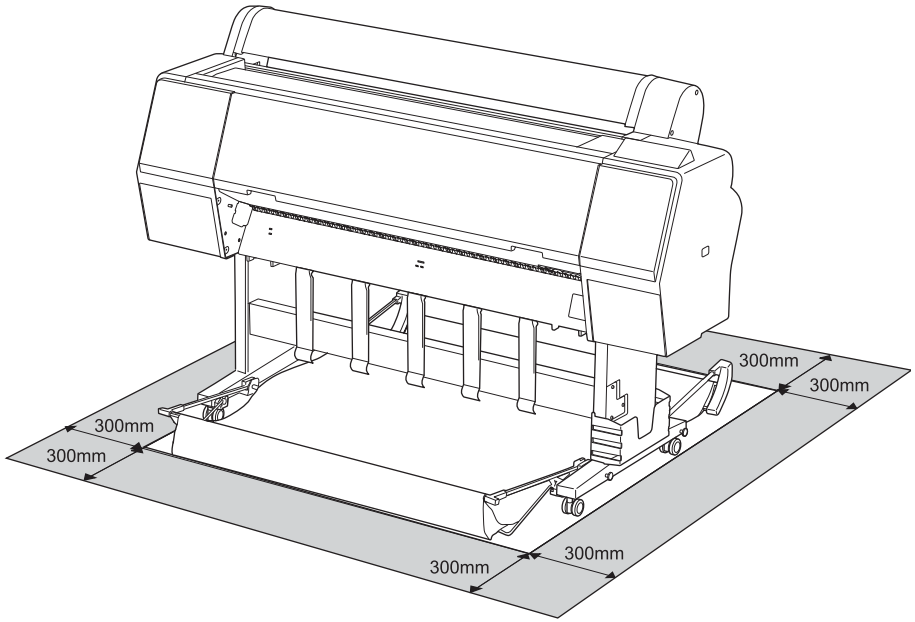


Figure 6-1. Installation Room Requirement

6.2.2 Storing the Printer and Cleaning the Ink Path

When storing the printer, make sure to leave the ink cartridges installed and place it on a horizontal surface, and also inform the user on the following cautions.

- ☐ When storing the printer for a long time
  - ■ Print regularly to prevent clogging of the nozzles.
  - ■ Turn on the printer at least once a month, and leave it on for a few minutes.
  - ■ Leave all the ink cartridges installed in the slots.
  - ■ Remove the paper.
- ☐ If it is not used for more than six months
  Make sure to print a nozzle check pattern and check for clogging of the printhead. If any clogging can be seen, carry out head cleaning.

  If it is not improved after performing head cleaning three times, carry out Power cleaning.

CHECK POINT

- ■ **When activating "Auto Nozzle Check" in the panel settings, the printer will carry out head cleaning automatically.**
- ■ **After performing the head cleaning a few times, try turning off the printer and leaving it overnight or longer, so that the ink may dissolve and the clogging might be improved.**

When storing the product for a long time, perform the cleaning of the ink path following the procedure below.

1. Remove the user's maintenance box, and install the maintenance box for service.
2. Turn the printer on.
3. Start the Service Program and select **Tube washing and Discharge** from **ADJUSTMENTS (INDIVIDUAL)**.
4. Click **[RUN]**.
5. Operate according to the instructions displayed on the Service Program screen.
6. Remove the maintenance box for service, and install the user's maintenance box.

6.3 Transportation

CAUTION

- **Make sure to keep the ink cartridge installed so as to prevent ink from leaking or the printhead from drying.**
- **Do not touch any parts other than those must be repaired to avoid any damage to the printer.**

PREPARATION FOR TRANSPORTATION

1. Turn off the printer, and remove all the cables such as the power cord after confirming the printer is off.
2. Remove the roll paper, roll media adapter and the paper basket if attached to the printer.
3. Remove the optional Auto Take-up Reel Unit or SpectroProofer Mounter if they are installed.
4. Open the front cover and install the protective material for fixing the printhead, and then close the cover.

MOVING/TRANSPORTING THE PRINTER

When you transport the printer, be sure to repack the printer using the original box and packing materials.

CAUTION

- **When moving or transporting the printer, keep it flat. Do not tilt it or turn it upside down to prevent ink from leaking.**
- **When moving or transporting the printer on a bumpy surface, make sure to lift the printer and carry it.**
- **After moving the printer with the stand attached, tighten all the screws securing the stand once again.**

SETTING UP THE PRINTER AFTER TRANSPORTATION

1. Make sure that the installation site is proper.
2. Connect the power cord, and turn the printer on.
3. Perform a nozzle check.
4. Perform the gap adjustment as explained on the user's guide.

6.4 Cleaning

CLEANING BY FEEDING PAPER

When dirt on some roller is attached on the printed paper, make sure to clean the soiled roller by feeding/ejecting plain paper as follows.

1. Turn on the printer, and set the roll paper. (Set the roll paper of 44-inch width for SC-P9000 Series/SC-P8000 Series, and 24-inch width for SC-P7000 Series/SC-P6000 Series.)
2. Press the [Paper Feed (Forward)] button to feed the paper.
3. Repeat feeding until the paper is not soiled with ink.

CLEANING THE PLATEN

If the back of the printed paper is smeared, make sure to clean the platen as follows.

1. Turn off the printer.
2. Open the front cover and use a soft clean cloth to clean away any dust or dirt in the direction of the arrow.
   If there is a serious problem of dirt, clean it using a soft, clean cloth dampened with a mild detergent. Then, wipe the platen with a dry, soft cloth.

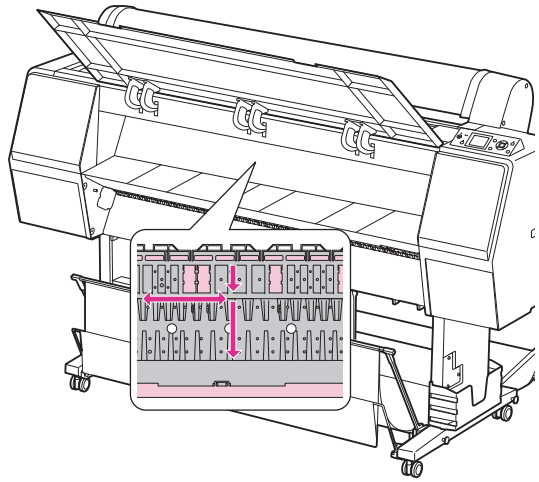


Figure 6-2. Cleaning the platen

CAUTION

Do not touch the feed rollers or waste ink pads (the parts marked with pink in Figure 6-2).

CLEANING THE PLATEN'S SUCKING HOLES

If the paper feeding is unstable (if some floating or skewing of the paper can be seen), check the sucking holes on the platen for paper dust clogging there. If there are some clogging, clean the holes as follows.

1. Turn off the printer.
2. Push in the accumulated foreign material such as paper dust into the holes using something like a toothpick.

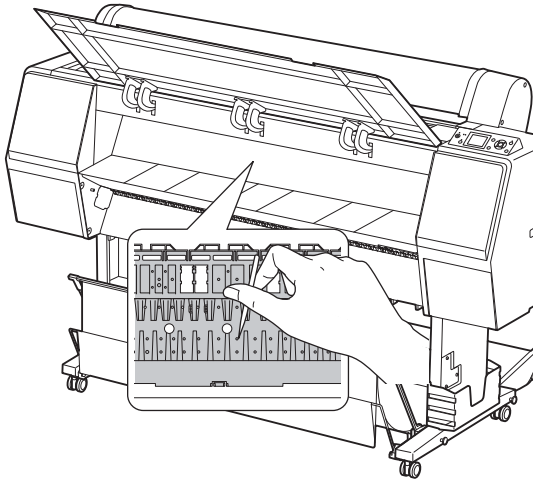


Figure 6-3. Cleaning the sucking holes

6.5 Lubrication

LUBRICATION

This section describes necessary lubrication to maintain the functions and performance of this printer. Make sure to properly lubricate the parts/units specified in this section as necessary when replacing or maintaining them.

CAUTION

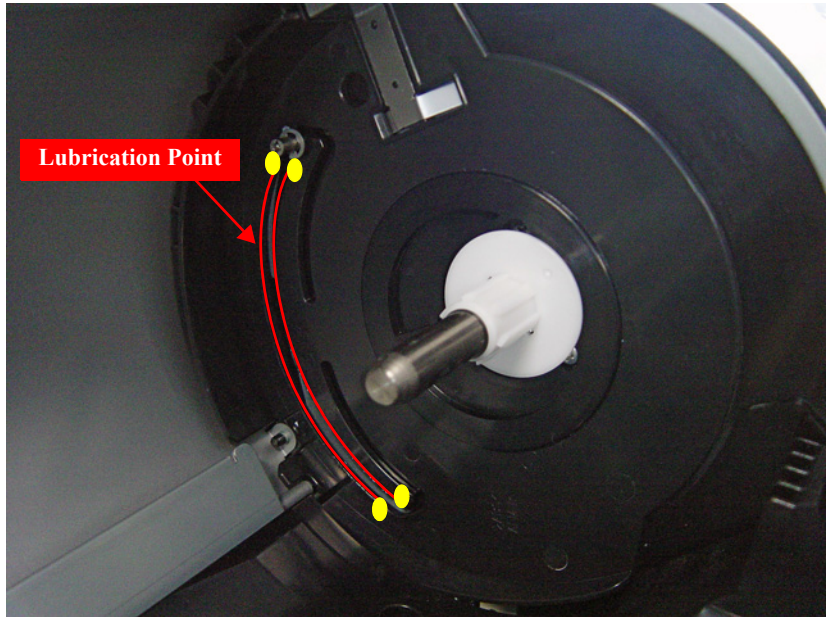
- **Make sure to perform the lubrication following the specified lubrication points, lubricants, and amount. Otherwise, the printer may not operate normally.**
- **When lubricating the originally installed parts, first wipe off the old lubricant completely.**

LUBRICATION POINTS LIST

Lubrication No.	Corresponding Part	Name of Lubricant	Reference
1	Roll Cover Assy (home side)	Part name: G-45 Part code: 1033657	*p.373*
2	Roll Cover Assy (full side)	Part name: G-45 Part code: 1033657	*p.373*
3	Mounting Plate and Roll Cover Assy (home side)	Part name: G-45 Part code: 1033657	*p.374*
4	Sub Frame L	Part name: G-45 Part code: 1033657	*p.374*
5	Roll Cover Assy (full side)	Part name: G-45 Part code: 1033657	*p.375*
6	Carriage Unit (PG Cam)	Part name: G-71 (BLUE) Part code: 1480655	*p.375*
7	Carriage Unit (CR Slider)	Part name: G-84 Part code: 1516265	*p.376*
8	Carriage Unit	Part name: G-84 Part code: 1516265	*p.376*
9	CR Guide Shaft (Home)	Part name: G-84 Part code: 1516265	*p.377*
10	CR Guide Shaft (Full)	Part name: G-84 Part code: 1516265	*p.377*
11	Roll Paper Guide Rail	Part name: G-74 Part code: 1409257	*p.378*

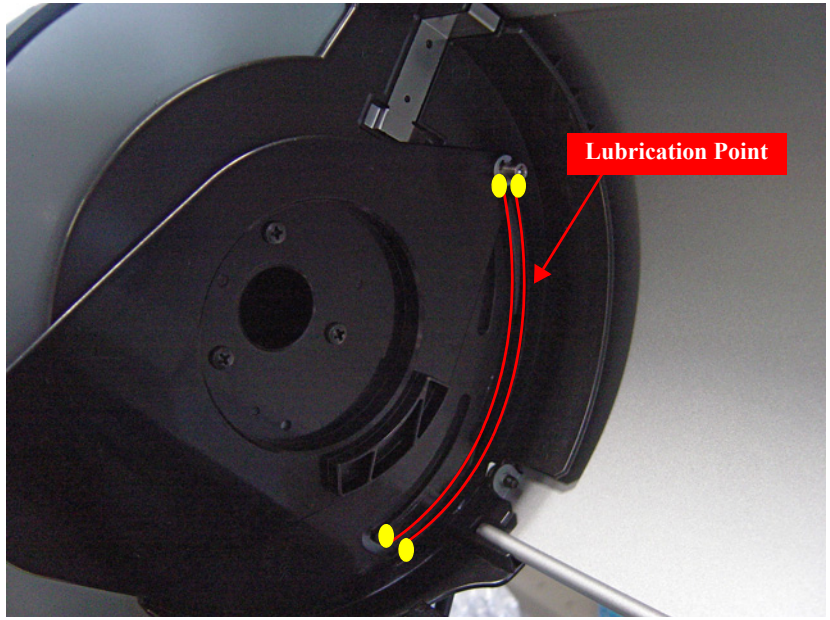
[Lubrication 1]

Part Name	Roll Cover Assy (home side)
Lubrication Point	On the sliding parts of the guide pin of the Roll Cover Assy
Lubricants	G-45
Amount	ϕ 2 x 3 mm x 4 points
Note	Apply the grease to the four points, and spread it evenly on the sliding parts of the guide pin (red part).



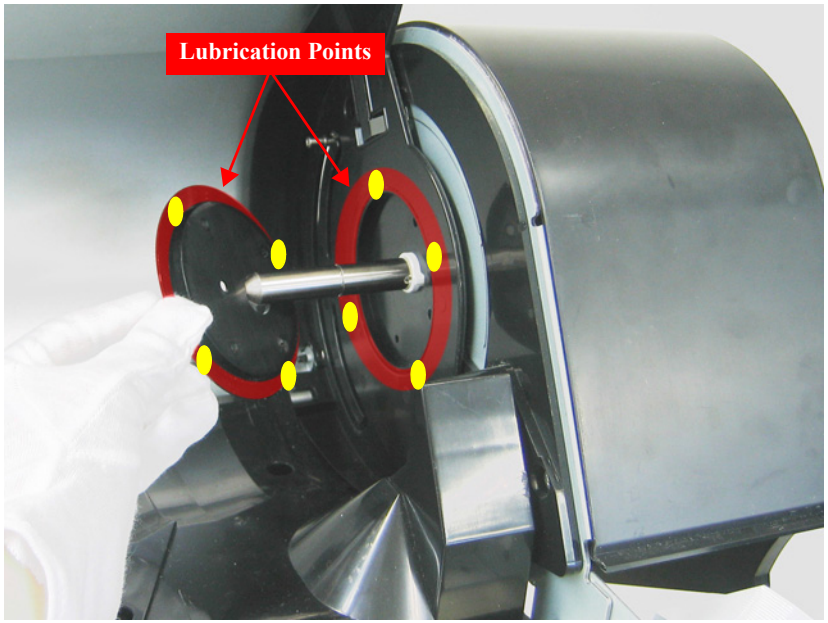
[Lubrication 2]

Part Name	Roll Cover Assy (full side)
Lubrication Point	On the sliding parts of the guide pin of the Roll Cover Assy
Lubricants	G-45
Amount	ϕ 2 x 3 mm x 4 points
Note	Apply the grease to the four points, and spread it evenly on the sliding part of the guide pin (red part).



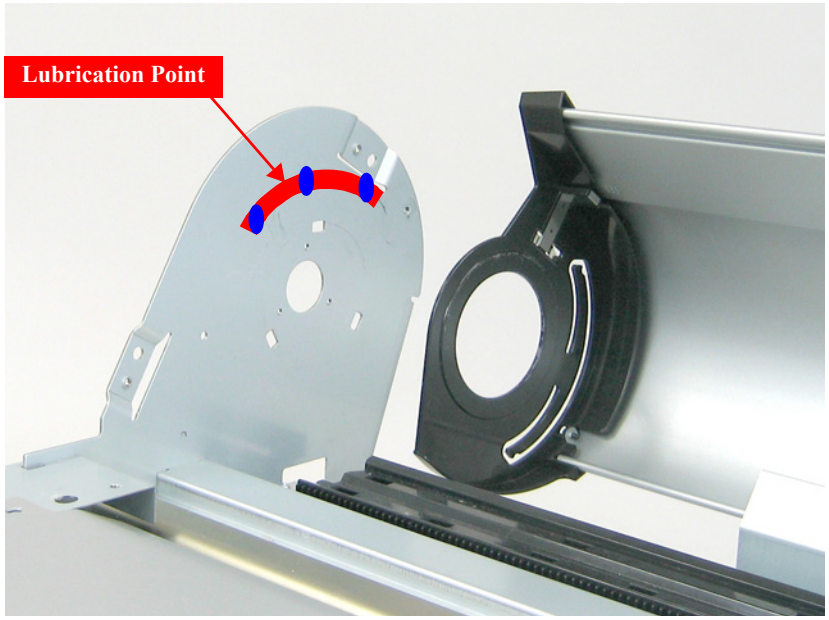
[Lubrication 3]

Part Name	Roll Cover Assy (home side)
Lubrication Point	On the contact points of the mounting plate with the Roll Cover Assy
Lubricants	G-45
Amount	ϕ 2 x 3 mm x 8 points
Note	Apply the grease to the eight points, and spread it evenly over the area (in red) shown below.



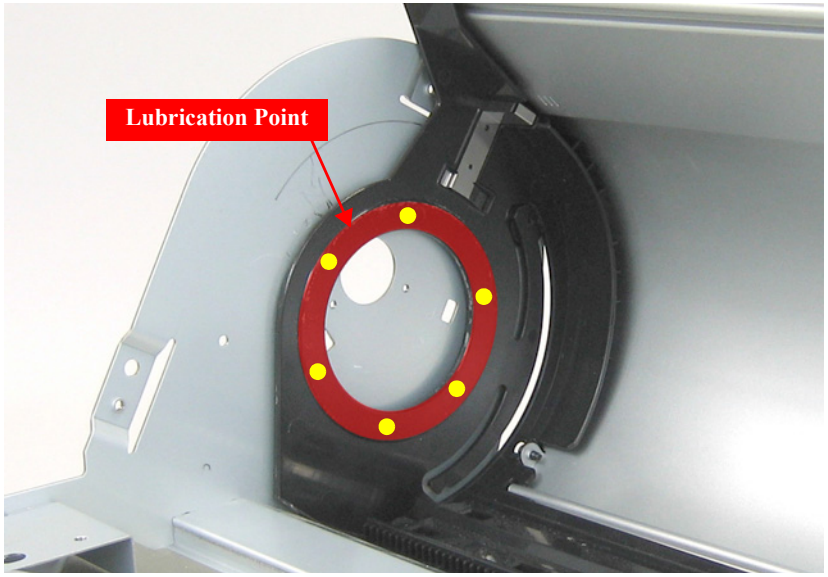
[Lubrication 4]

Part Name	Sub Frame L
Lubrication Point	On the contact point of the Sub Frame L with the Roll Cover Assy
Lubricants	G-45
Amount	ϕ 2 x 3 mm x 3 points
Note	Apply the grease to the three points, and spread it evenly over the area (in red) shown below.



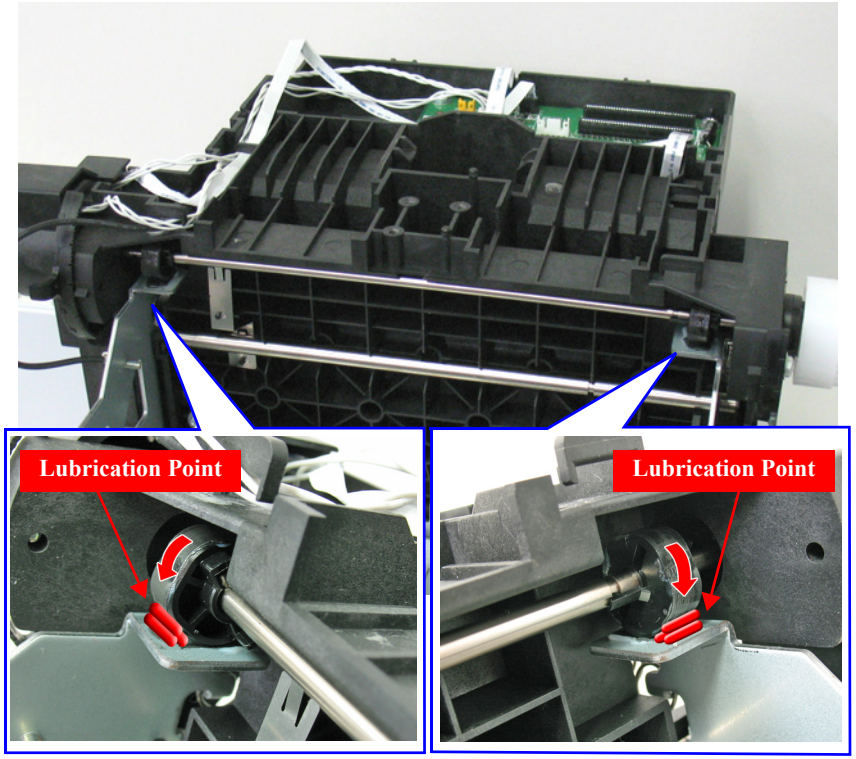
[Lubrication 5]

Part Name	Roll Cover Assy (full side)
Lubrication Point	On the contact point of the Roll Cover Assy with the mounting plate
Lubricants	G-45
Amount	ϕ 2 x 3 mm x 6 points
Note	Apply the grease to the six points, and spread it evenly over the area (in red) shown below.



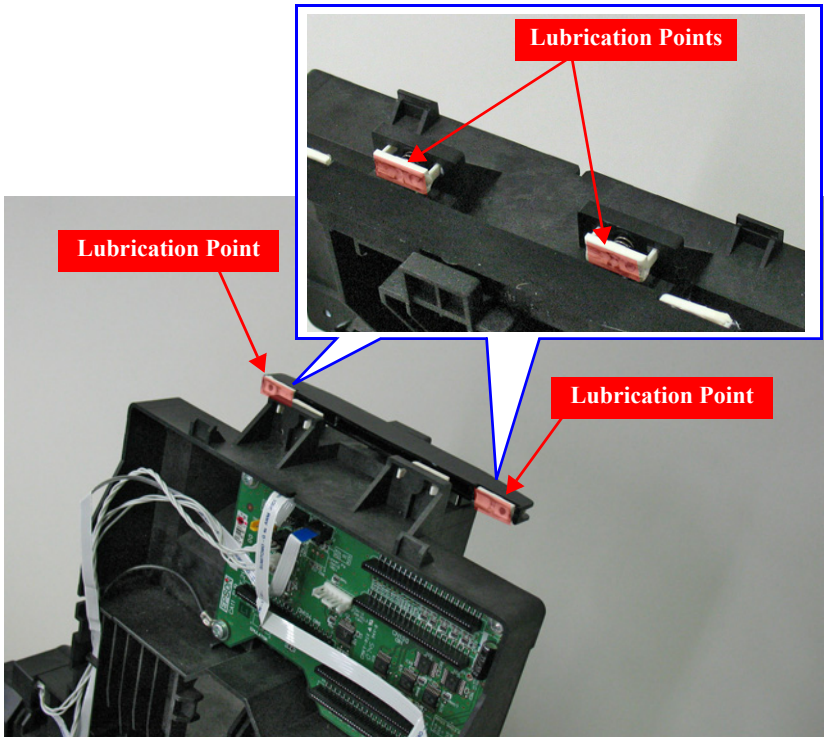
[Lubrication 6]

Part Name	Carriage Unit
Lubrication Point	On the contact point of the PG Cam with the Shield plate
Lubricants	G-71
Amount	ϕ 2 x 3 mm (3 times each)
Note	Apply the grease of the amount above three times each on the left and the right sides at the points. Be careful not to apply it out of the width of the cam.



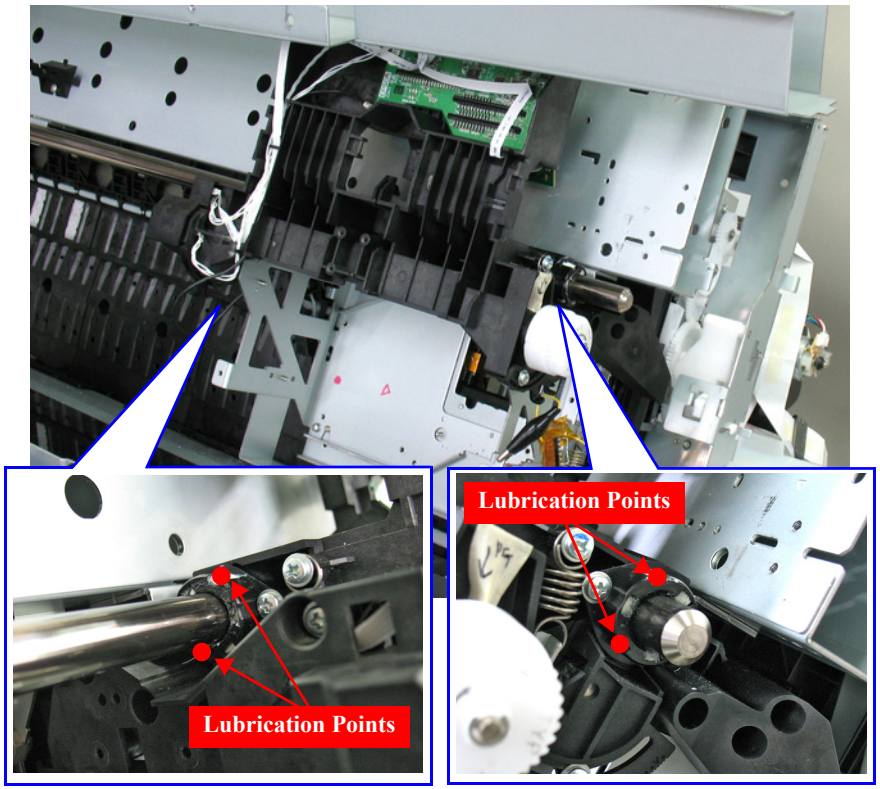
[Lubrication 7]

Part Name	Carriage Unit
Lubrication Point	On the contact point of the CR Slider with the CR Guide Shaft
Lubricants	G-84
Amount	ϕ 2 x 3 mm x 4 points
Note	Apply the grease to the points (in red) shown below.



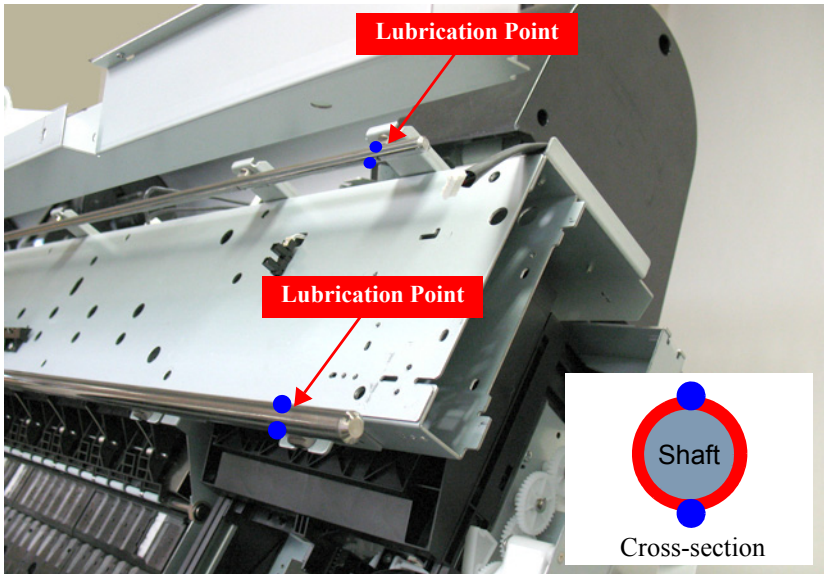
[Lubrication 8]

Part Name	Carriage Unit
Lubrication Point	The holes (4 places) at both ends of the CR Unit rear side
Lubricants	G-84
Amount	1.5 ± 0.1cc x 4 points (Right: x 2, Left: x 2)
Note	Apply the grease to the points (in red) shown below. Wipe off the grease after the lubrication so as not to let it flow.



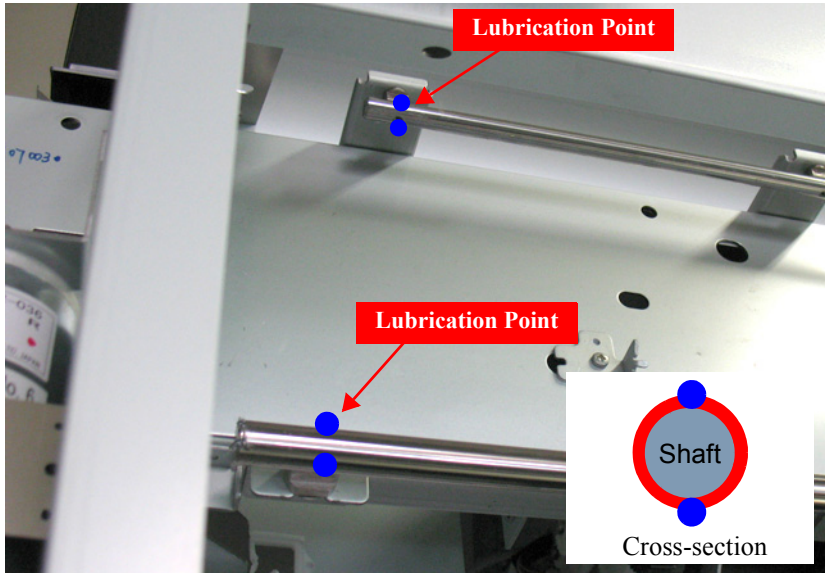
[Lubrication 9]

Part Name	CR Guide Shaft
Lubrication Point	On the contact point of the CR Guide Shaft (home side) with the CR Unit
Lubricants	G-84
Amount	ϕ 2 x 3 mm x 4 points (Main shaft: x 2, Secondary shaft: x 2)
Note	Apply the grease to the points (two points on each shaft), and spread it evenly around the shaft (in red).



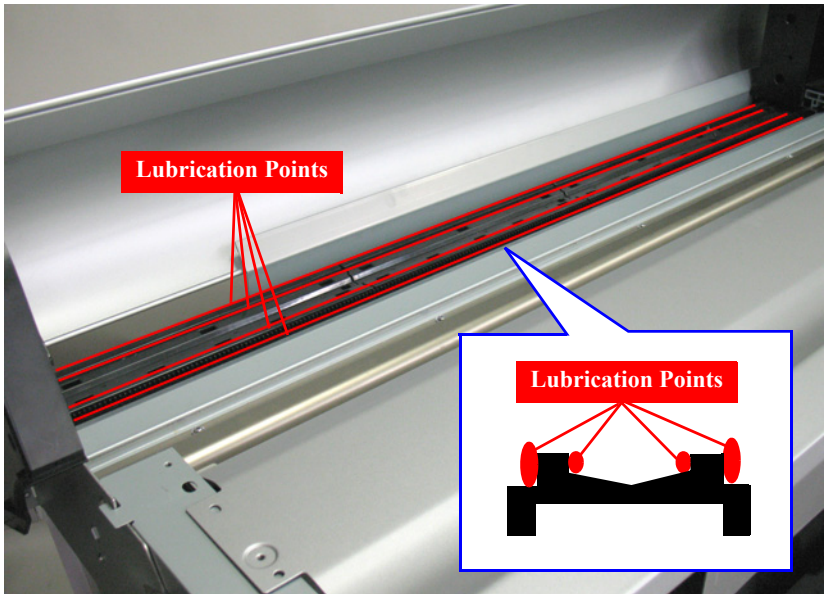
[Lubrication 10]

Part Name	CR Guide Shaft
Lubrication Point	On the contact point of the CR Guide Shaft (full side) with the CR Unit
Lubricants	G-84
Amount	ϕ 2 x 3 mm x 4 points (Main shaft: x 2, Secondary shaft: x 2)
Note	Apply the grease to the points (two points on each shaft), and spread it evenly around the shaft (in red).



[Lubrication 11]

Part Name	Roll Paper Guide Rail
Lubrication Point	On the contact point of the Roll Paper Guide Rail with the Roll Paper Guide
Lubricants	G-74
Amount	Apply the grease all over the rail.
Note	Apply the grease to the four points, and spread it evenly over the areas (in red) shown below.



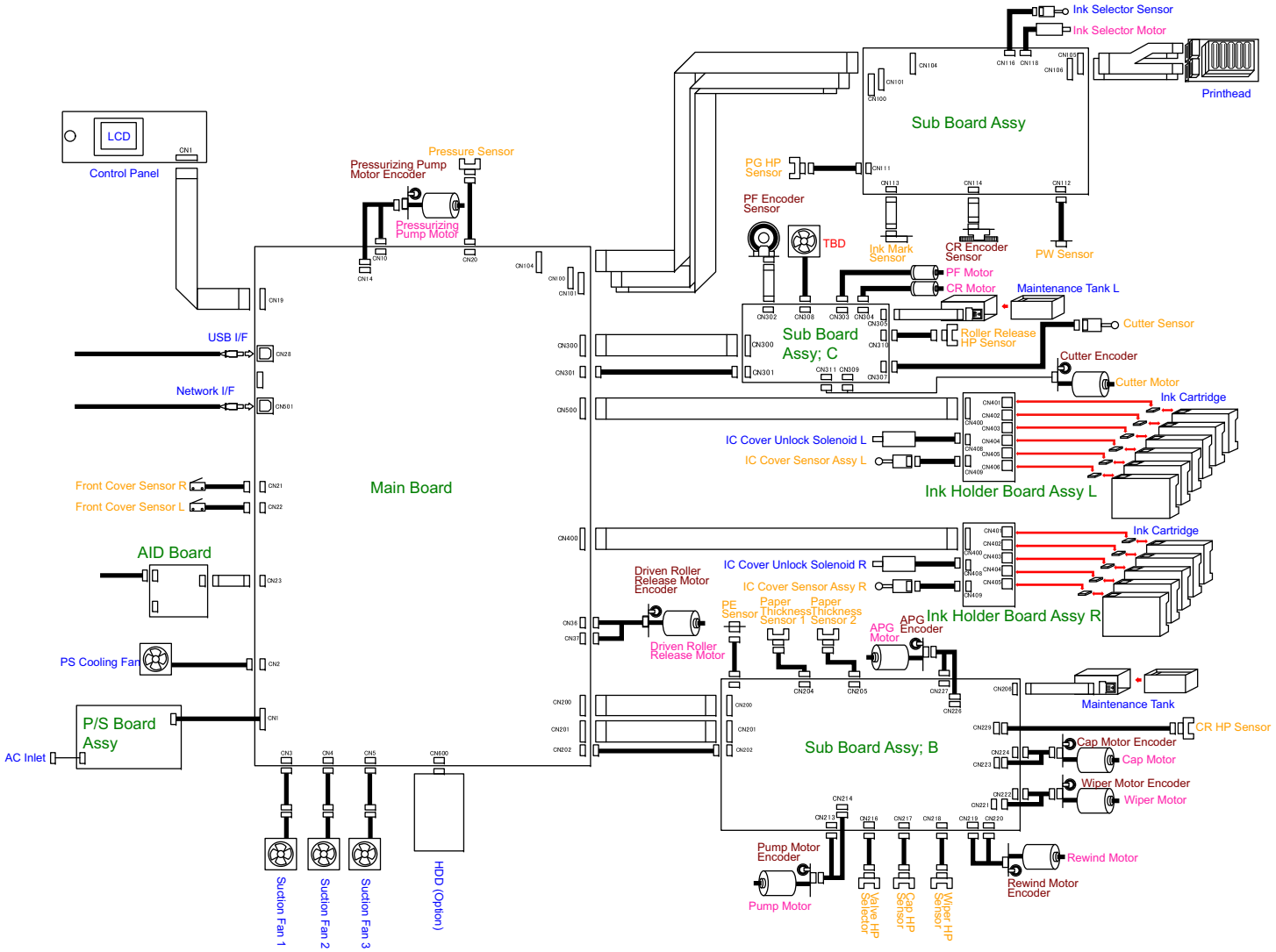
CHAPTER

7

APPENDIX

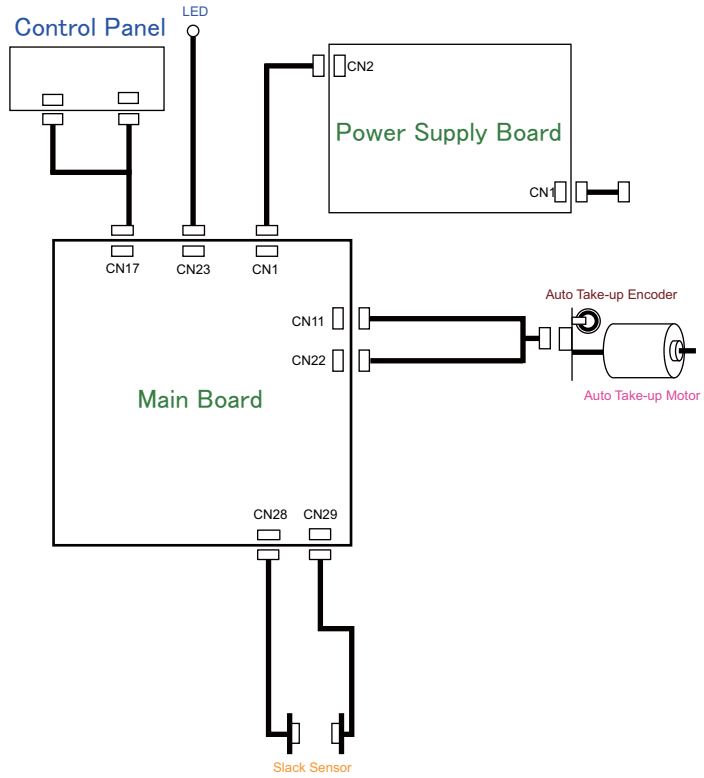
7.1 Block Wiring Diagram

7.1.1 Main Body

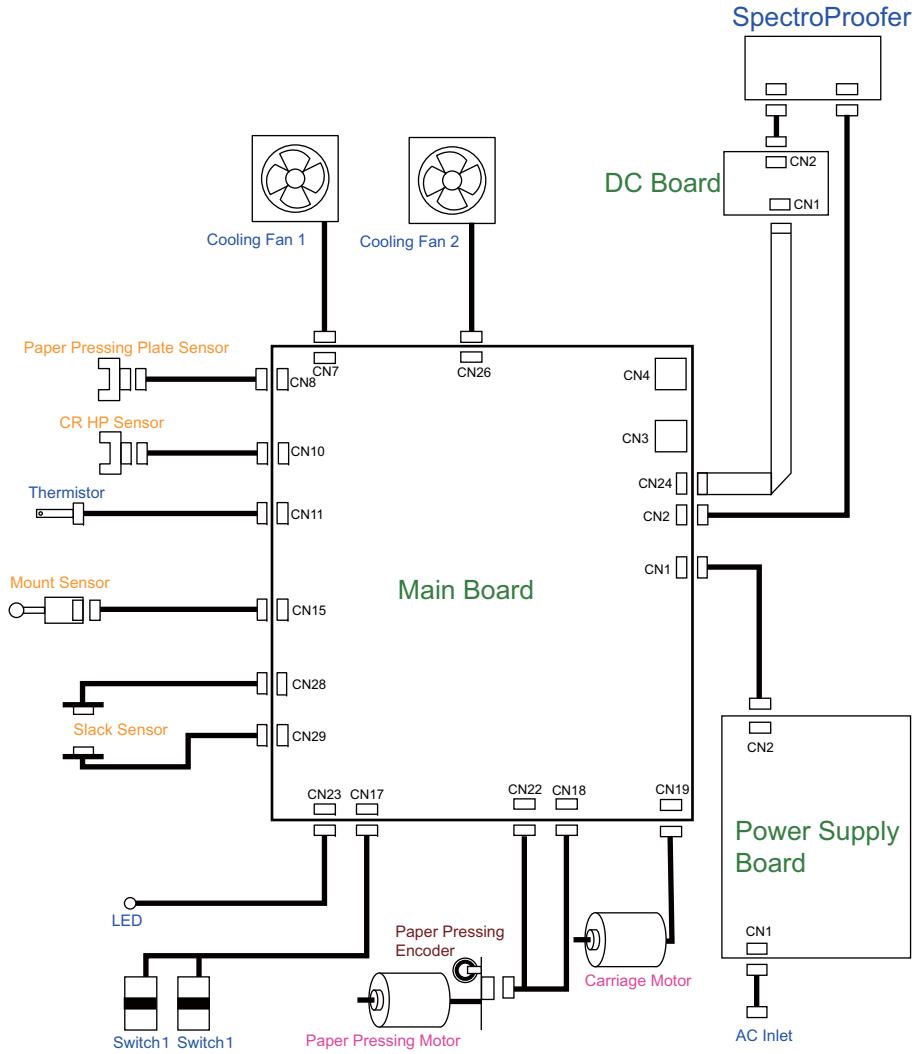


7.1.2 Auto Take-up Reel

NOTE : Not for SC-P7000 Series/SC-P6000 Series.



7.1.3 SpectroProofer

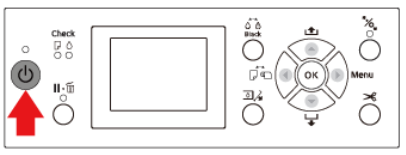


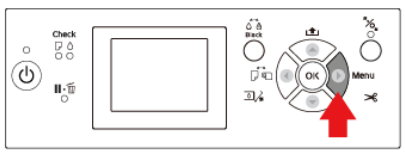
7.2 Panel Menu Map

This section provides the map of executable menus on the Control Panel.

■User Menu Map

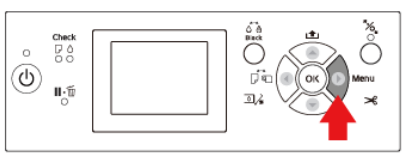
★:Default seting





- Top Menu
  - Maintenance
    - Nozzle Check
    - Head Cleaning
      - All Nozzles
        - Normal
        - Heavy
      - XX/XX (where XX indicates the ink color code)
        - XX/XX
          - Normal
          - Heavy
    - Head Alignment
      - Auto
        - Uni-D
        - Bi-D 2-color
        - Bi-D All Color
        - Bi-D #1 to #4
      - Manual
        - Uni-D
        - Bi-D 2-color
        - Bi-D All Color
    - Cutter Maintenance
      - Adjust Cut Position
        - -3 to 3mm
      - Replace Cutter
  - Print Queues
    - Print Queue
      - XXXXXXXXXX (name of print queue)
        - XXXXXXXXXX (name of print queue)
          - Waiting Job Name
          - User
          - Estimated Start Time
          - Estimated Print Time
    - Hold Queue
      - View Hold Queue
        - XXXXXXXXXX (name of hold queue)
          - XXXXXXXXXX (name of hold queue)
            - Paused Job Name
            - User
            - Paper Type
            - Source
            - Size
            - Reason For Hold
      - Resume All Jobs
    - Saved Job Queue
      - XXXXXXXXXX (name of saved job queue)
        - XXXXXXXXXX (name of saved job queue)
          - Stored Job Name
          - User
          - Paper Length
          - Pages
          - Paper Type
          - Copies
          - Source
          - Size
          - Estimated Print Time
  - Paper
    - Select Paper Type
      - Photo Paper
      - Proofing Paper
      - Fine Art Paper
      - Matte Paper
      - Plain Paper
      - Others
      - Custom Paper
    - Custom Paper Setting
      - XXXXXXXXXXXXXXXXXX
        - XXXXXXXXXXXXXXXXXX
          - Select Reference Paper
          - Platen Gap
          - Detect Paper Thickness
          - Paper Feed Adjust
          - Paper Suction
          - Drying Time Per Pass
          - Roll Paper Tension
          - Remove Skew
          - Setting Name
          - Restore Settings
            - Select Reference Paper
              - Photo Paper
              - Proofing Paper
              - Fine Art Paper
              - Matte Paper
              - Plain Paper
              - Others
              - No Paper Selected
            - Platen Gap
              - Narrow
              - Standard ★
              - Wide
              - Wider
              - Widest
            - Paper Feed Adjust
              - Pattern
              - Value
            - Paper Suction
              - -4 to 0
            - Drying Time Per Pass
              - 0 to 10 seconds
            - Roll Paper Tension
              - Standard ★
              - High
              - Extra High
            - Remove Skew
              - On ★
              - Off
            - Restore Settings
              - Yes
              - No
    - Print Paper List
    - Roll Paper Remaining
      - Roll Paper Remaining
        - Roll Paper Remaining
          - On
          - Off ★
        - Roll Paper Remaining
          - 5.0 to 99.5
        - Remaining Alert
          - 1 to 15 m
      - Roll Paper Remaining
      - Remaining Alert
    - Roll Paper Setup
      - Auto Cut
        - On ★
        - Off
      - Page Line
        - On ★
        - Off
      - Roll Paper Margin
        - Normal ★
        - Top15mm/Bottom15mm
        - Top35mm/Bottom15mm
        - Top150mm/Bottom15mm
        - 3mm
        - 15mm
      - Roll End Option
      - Roll Paper Tension
      - Refresh Margin
        - On ★
        - Off
    - Roll End Option
      - Continue
      - Stop Printing ★
      - Reprint
    - Roll Paper Tension
      - 1 to 5
  - Printer Setup
  - Printer Status
  - Option Setup
  - Network Setup
  - Preferences
  - Administrator

SC-P9000 series/SC-P7000 series/SC-P8000 series/
SC-P6000 series



- Top Menu
  - Maintenance
  - Print Queues
  - Paper
  - Printer Setup
  - Printer Status
  - Option Setup
  - Network Setup
  - Preferences
  - Administrator

- Printer Setup
  - Platen Gap
    - Narrow
    - Standard ★
    - Wide
    - Wider
    - Widest
  - Paper Size Check
    - On ★
    - Off
  - Paper Skew Check
    - On ★
    - Off
  - Auto Nozzle Check
    - Auto Cleaning Setting
      - Periodically ★
      - Every Job
      - Off
    - Auto Clean Max Repeat
      - 1 to 3
  - Timer Cleaning
    - XX hours
    - Off ★
  - Print Nozzle Pattern
    - Every 10 pages ★
    - Every Page
    - Off
  - Auto Black Ink Change
    - On
    - Off ★
  - Calibration Setting
    - On ★
    - Off
  - Store Held Job
    - On
    - Off ★
  - Restore Settings
    - Yes
    - No
- Platen Gap
- Paper Size Check
- Paper Skew Check
- Auto Nozzle Check
- Timer Cleaning
- Print Nozzle Pattern
- Auto Black Ink Change
- Calibration Setting
- Store Held Job
- Restore Settings

- Printer Status
  - Firmware Version
  - Option Status
  - Print Status Sheet
  - Calibration Date

- Option Setup
  - SpectroProofer
  - Auto Take-up Reel Unit
- SpectroProofer
  - SProofer Status
  - SProofer Setting
- SProofer Status
  - Device Version:ILS30
  - Calibration Tile S/N
  - Device Temperature
  - Firmware Version
  - Air Temperature
  - Backing Color

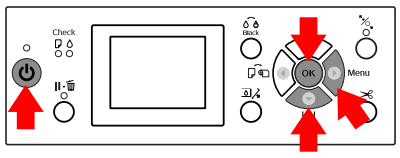
- Network Setup
  - IP Address Setting
  - IPv6 Setting
  - IEEE802.1x Setting
  - HTTPS Redirect Setting
  - Print Status Sheet
  - Restore Settings
- IP Address Setting
  - Auto ★
  - Panel
- IPv6 Setting
  - On
  - Off ★
- IEEE802.1x Setting
  - On
  - Off ★
- HTTPS Redirect Setting
  - On ★
  - Off
- Restore Settings
  - Yes
  - No

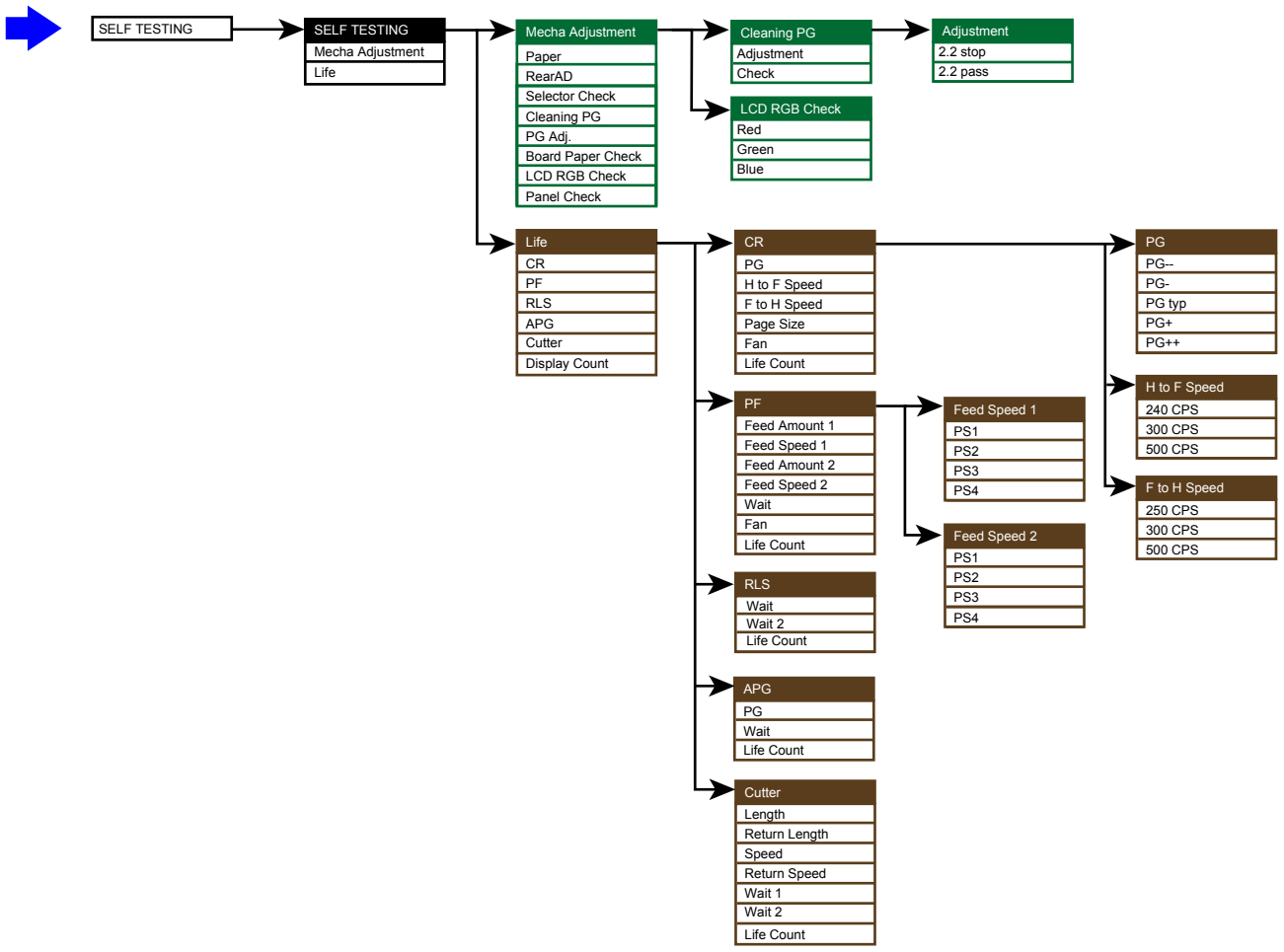
- Preferences
  - Language
  - Unit: Length
  - Unit: Temperature
  - Sleep Mode
  - Power Off Timer
- Language
  - Japanese
  - English
  - French
  - Italian
  - German
  - Portuguese
  - Spanish
  - Dutch
  - Russian
  - Korean
  - Chinese
- Unit: Length
  - m ★
  - ft/in
- Unit: Temperature
  - °C ★
  - °F
- Sleep Mode
  - 5 to 210 minutes
- Power Off Timer
  - Off
  - 1 to 24 hours ★

- Administrator
  - Change Password
  - Operational Control
  - Powerful Cleaning
  - Date And Time
  - Time Zone
  - Manage HDD
  - Reset All Settings
- Operational Control
  - Network Setup
- Network Setup
  - Password Required ★
  - No Password Required
- Powerful Cleaning
  - All Nozzles
  - XX/XX (where XX indicates the ink color code)
- Date And Time
  - MM/DD/YY HH:MM
- Manage HDD
  - Format Hard Disk
- Format Hard Disk
  - Yes
  - No
- Reset All Settings
  - Yes
  - No

SC-P9000 series/SC-P7000 series/SC-P8000 series/
SC-P6000 series

Serviceman Mode Map





7.3 Part names used in this manual

To make it easier to locate the target part from its part name, this manual uses the part names different from the ASP part names. The table below shows the conversion of the part names used in this manual and the corresponding ASP part names.

Table 7-1. Conversion Table

Part name used in this manual		ASP part name	Ref. (Ch4 sec.No.)
Main Body	Control Panel	PANEL,UNIT,ESL,ASP	4.4.2.1
	IC Cover R	COVER,FRONT,RIGHT,ASP	4.4.2.2
	IC Cover L	COVER,FRONT,LEFT,ASP	4.4.2.2
	IC Shaft Cover R	SHAFT,COVER,IC,RIGHT,UNIT,ESL,ASP	4.4.2.3
	IC Shaft Cover L	SHAFT,COVER,IC,LEFT,UNIT,ESL,ASP	4.4.2.3
	Front Cover R	COVER,FRONT,RIGHT,ASP	4.4.2.5
	Front Cover L	COVER,FRONT,LEFT,ASP	4.4.2.5
	Maintenance Tank	N/A	4.4.2.6
	Right Cover	COVER,FRONT,RIGHT,UNIT,ESL,ASP	4.4.2.7
	Left Cover	COVER,SIDE,LEFT,SUPPORT,UNIT,ESL,ASP	4.4.2.8
	Front Cover (Middle)	COVER FRONT,ASP	4.4.2.9
	Top Cover	N/A	4.4.2.9
	Spindle Cover R	COVER,SIDE,ROLL,RIGHT	4.4.2.11
	Spindle Cover L	COVER,SIDE,ROLL,LEFT	4.4.2.12
	Roll Cover Assy	COVER ROLL ASSY. ASP	4.4.2.13
	Rear Left Cover	COVER,REAR,LEFT,ASP	4.4.2.14
	Rear Cover	N/A	4.4.2.15
	Front Cover Sensor R	SENSOR,COVER,FRONT,RIGHT,UNIT,ESL,ASP	4.4.2.16
	Front Cover Sensor L	SENSOR,COVER,FRONT,LEFT,UNIT,ESL,ASP	4.4.2.17
	Cartridge Cover Sensor R	PLUNGER,ASSY,ASP	4.4.2.18
	Cartridge Cover Sensor L	PLUNGER,ASSY,ASP	4.4.2.19
	Main Board Assy	BOARD ASSY.,MAIN	4.4.3.1
	Power Supply Board Assy	POWER SUPPLY UNIT	4.4.3.2
	Sub Board Assy	BOARD ASSY.,SUB	4.4.3.3
	Sub Board Assy; B	BOARD ASSY.,SUB	4.4.3.4
	Sub Board Assy; C	BOARD ASSY.,SUB	4.4.3.5
	CR Scale	SCALE,CR,ASP	4.4.4.1
	CR Encoder Sensor	BOARD ASSY., ENCODER	4.4.4.2
	CR HP Sensor	PHOTO INTERUPTER,TLP1243(C8)	4.4.4.3
	Driven Pulley Unit	PULLEY,DRIVEN,UNIT,44,ESL,ASP (PULLEY,DRIVEN,UNIT,24,ESL,ASP)	4.4.4.4
	CR Motor	MOTOR ASSY.,CR	4.4.4.5
	APG Motor	MOTOR ASSY., RELEASE, ASP	4.4.4.6
	APG Unit	APG,UNIT,ESL,ASP	4.4.4.7
	PG HP Sensor	PHOTO INTERUPTER,TLP1243(C8)	4.4.4.8
	Carriage Unit	CR,UNIT,ESL,ASP	4.4.4.9
	Paper Thickness Sensor	DETECTOR,PAPER THICKNESS,UNIT,ESL,ASP	4.4.5.1
	PW Sensor	DETECTOR, PW	4.4.5.2
	Driven Roller Release Motor	MOTOR ASSY., RELEASE, ASP	4.4.5.3
	Roller Release HP Sensor	PHOTO INTERUPTER,TLP1243(C8)	4.4.5.4
	Rewind Unit	REWIND,UNIT,ESL,ASP	4.4.5.5
	Cutter Unit	FRAME,RAIL,CUTTER,UNIT,44,ESL,ASP	4.4.5.6
	Suction Fan	FAN ASSY.,ASP	4.4.5.7
	PF Encoder Sensor	BOARD ASSY.,ENCODER,PF	4.4.5.8
	PF Motor	MOTOR ASSY.,PF,ASP	4.4.5.9
	Ink System Unit	PUMP,CAP,ASSY,ESL,ASP	4.4.6.1
	Wiper Cleaner Assy	WIPER,ASSY,ASP	4.4.6.2

Table 7-1. Conversion Table

Part name used in this manual		ASP part name	Ref. (Ch4 sec.No.)
Main Body	Printhead	PRINTHEAD	4.4.6.3
	Pressurizing Unit	PUMP ASSY.,PRESSURIZING,UNIT ,ESL,ASP	4.4.6.4
	Ink Cartridge Holder R	HOLDER,ASSY.,IC,RIGHT,E SL,ASP	4.4.6.5
	Ink Cartridge Holder L	HOLDER,ASSY.,IC,LEFT,ES L,ASP	4.4.6.6
	AID Board	BOARD ASSY.,SUB	4.4.6.9
	Ink Mark Sensor	BOARD ASSY.,INK MARK	4.4.6.10
	Ink Selector	SELECTOR,UNIT,ESL,ASP	4.4.6.11
	Ink Tube R	TUBE ASSY.,SUPPLY,INK;B,ASP	4.4.6.12
	Ink Tube L	TUBE ASSY.,SPPLY,INK,A,ASP	4.4.6.13
Auto Take-up Reel	Take-up Reel Cover	COVER,WINDER,DRIVE	4.4.7.1
	Take-up Reel Sensor	DETECTOR,WINDER	4.4.7.2
	Take-up Reel LED	INDICATOR,WINDER	4.4.7.3
	Take-up Reel Switch	SW,WINDER	4.4.7.4
	Power Supply Board	BOARD ASSY.,POWER SUPPLY	4.4.7.5
	Take-up Reel Motor	MOTOR ASSY.,REWIND	4.4.7.6
	Main Board Assy	BOARD ASSY.,MAIN	4.4.7.7
SpectroProofer	Color Measurement Device	N/A	4.4.8.1
	Mounter	N/A	4.4.8.2
	Right Cover	HOUSING,RIGHT,ASP	4.4.8.3
	Left Cover	HOUSING,LEFT,ASP	4.4.8.4
	I/F Cover	COVER,USB,ASP	4.4.8.5
	Front Cover	N/A	4.4.8.6
	Main Board	BOARD ASSY.,MAIN	4.4.8.7
	Power Supply Board	BOARD ASSY.,POWER SUPPLY	4.4.8.8
	Paper Pressing Plate Sensor	PHOTO INTERUPTER,TLP1243(C8)	4.4.8.9

Table 7-1. Conversion Table

Part name used in this manual		ASP part name	Ref. (Ch4 sec.No.)
SpectroProofer	CR HP Sensor	PHOTO INTERUPTER,TLP1243(C8)	4.4.8.10
	Thermistor	THERMISTOR,SPM,ASP	4.4.8.11
	Mount Sensor	DETECTOR,LEAF,B2	4.4.8.12
	LED	CABLE,LED,ASP	4.4.8.13
	Paper Pressing Encoder	BOARD ASSY.,ENCORDER,SC;B	4.4.8.14
	Cooling Fan 1	FAN,HEATER,ASP	4.4.8.15
	Cooling Fan 2	FAN,HEATER,ASP	4.4.8.16
	Paper Pressing Motor	MOTOR ASSY,DRIVE,PAPER PRESSING,UNIT,ASP	4.4.8.17
	Carriage Motor	MOTOR ASSY.,CR,SPM,ASP	4.4.8.18
	Paper Pressing Unit	PAPER PRESSING,UNIT,44,ASP	4.4.8.19