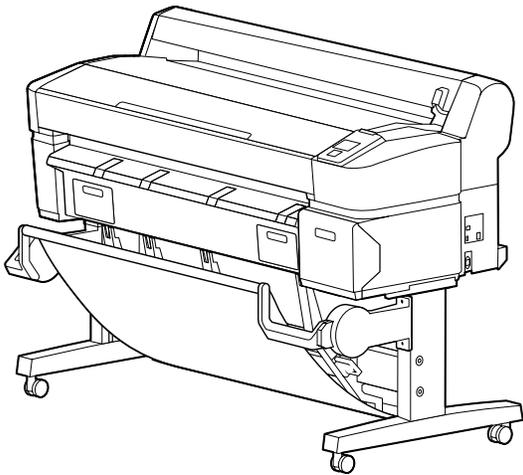


SERVICE MANUAL



Large Format Color Inkjet Printer

SC-T7000 series
SC-T5000 series
SC-T3000 series

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SEIJ12008

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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.
7. MAKE SURE AN ANTIVIRUS SOFTWARE IS INSTALLED ON THE COMPUTER USED FOR SERVICE SUPPORT. BE SURE TO HAVE THE LATEST VIRUS DEFINITION FILE FOR THE SOFTWARE.

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About This Manual

This manual describes basic functions, theory of electrical and mechanical operations, maintenance and repair procedures of the printer. 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.TROUBLESHOOTING

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

CHAPTER 3.DISASSEMBLY / ASSEMBLY

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

CHAPTER 4.ADJUSTMENT

Provides Epson-approved methods for adjustment.

CHAPTER 5.MAINTENANCE

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

CHAPTER 6.APPENDIX

Provides the following additional information for reference:

- Connectors
- Panel Menu Maps
- ASP List
- Exploded Diagrams

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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.

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Revision Status

Revision	Date of Issue	Description
A	October 1, 2012	First release
B	March 6, 2013	Chapter 2 • 2.3 Remedies for Service Call Error(p.43) :partially deleted Chapter4 • 4.1.2 Adjustment Items and the Order by Repaired Part(p.199) :partially revised • 4.14.1 Main Board initial setting(p.270) :was added

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CHAPTER

1

PRODUCT DESCRIPTION

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1.1 Product Description

□ Models

- SC-T7000 series: 1118 mm (44 inch); supports Super B0
- SC-T5000 series: 914 mm (36 inch); supports Super A0
- SC-T3000 series: 620 mm (24 inch); supports Super A1

□ Supported paper thickness

Up to 1.5 mm

□ Ink configuration

Brand-new water color pigment ink configuration with excellent black tone important in quality CAD line drawing and highly vivid red essential for commercial posters

Ink configuration: Cyan, Yellow, Magenta, Matte black, Photo black

□ High-speed throughput

Prints A1 plain paper in 28sec.

□ High print quality

■ For posters:

Excellent print quality in 4 colors, with resolution of up to 2800x1440 dpi, and in variable dot sizes (minimal 3.5 picoliter)

■ For CAD:

High quality CAD line drawing achieved by optimizing the combination of new inks and print modes

□ Media handling

- Easier paper loading available thanks to the design for front-access and spindle-less with optimal height based on ergonomics
- Supports continuous printing of drawings or posters (in a standard size such as A0, A1 or US-ANSI D/E)
- Translucent printer cover allows you to check which roll paper is loaded easily

□ Space saving design

Front access design allows you to set the printer near a wall because you can exchange the media, ink cartridges, maintenance box, and cutter from the front.

□ New driver and applications

- Brand-new driver with simple UI
- With the web UI OS-independent configuration and control of HDD through the Web are available.
- Provides the job monitoring and management functions using a job monitoring tool.
- Easy printing from Microsoft Office using dedicated plug-in software

□ Improved shorter occupancy time of the host PC

- Occupancy time of the host PC has been significantly shortened with ESC/Page and HP-GL2/RTL.
- By adding the optional HDD unit, PC-less re-printing and more shortened occupancy time become available.

□ Lower running cost

- Independent ink cartridges for each color
- high-capacity (700ml/350ml/150ml) ink cartridges

□ PC-less enlarged photocopy

Simply connecting a scanner enables PC-less enlarged photocopy.

□ Large sized LEDs

Equipped with large-sized LEDs for easier recognition of the printer's error status

1.2 Basic Specifications

1.2.1 Basic Specifications

Item		Specification
Print method		On-demand inkjet
Configuration of nozzles	Black	360 nozzles x 2 lines x 2 colors (Photo Black, Matte Black)
	Color	360 nozzles x 2 lines x 3 colors (Yellow, Magenta, Cyan)
Maximum resolution		2,880 x 1,440dpi
Control code		<input type="checkbox"/> ESC/P Raster (commands are nondisclosure) <input type="checkbox"/> HP-GL/2, HP-RTL
Paper feed method		Friction
RAM	For Main	512 MB
	For Network	128 MB
Interface		<input type="checkbox"/> High-Speed USB <input type="checkbox"/> Ethernet (10Base-T/100Base-TX/1000Base-T)
Temperature	Main body operation environment	10°C to 35 °C
	When storing (packed)	-20 °C to 60 °C (within 120 hours under 60 °C, and within 1 month under 40 °C)
	When storing (unpacked)	-20 °C to 40 °C (within 1 month under 40 °C)
Humidity	Main body operation environment	20% to 80% (Non condensing)
	When storing (packed)	5% to 85% (Non condensing)
	When storing (unpacked)	5% to 85% (Non condensing)

*Nozzle set configuration is;

Row A	Row B	Row C	Row D	Row E	Row F	Row G	Row H	Row I	Row J
C	M	Y	PK	MK	MK	PK	Y	M	C

1.2.2 Electric Specifications

Item	Specification			
	SC-T7000 series	SC-T5000 series	SC-T3000 series	
Rated voltage	100 to 240 VAC			
Input voltage range	90 to 264 VAC			
Rated current	1.0 A to 0.5 A	0.9 A to 0.5 A	0.8 A to 0.4 A	
Rated frequency	50 to 60 Hz			
Input frequency range	49.5 to 60.5 Hz			
Power consumption	Operating	Approx. 72 W	Approx. 65 W	Approx. 54 W
	Sleep mode	3.0 W or less		
	Power OFF	0.4 W or less		
Insulation resistance	10 MΩ or more (between AC line and chassis at 500 VDC)			
Dielectric strength	1.0 kV rms AC for 1 min. or 1.2 kV rms AC for 1 sec. (between AC line and chassis)			
Leak current	0.25 mA or less			
Compliance with regulations	Conforms to International Energy Star Program (Category: the harmonic restraint measure guideline) Conforms to VCCI Class B (with full options installed)			

1.2.3 Ink Specifications

Item	Specification
Form	Exclusive ink cartridge
Pigment ink colors	<input type="checkbox"/> Black system: Photo Black, Matte Black <input type="checkbox"/> Color system: Yellow, Magenta, Cyan
Cartridge life	See the date printed on the package (at normal temperature)
Guaranteed life after installation	1 year (after mounted in the printer)
Storage	<input type="checkbox"/> Uninstalled (packed): -20 to 40 °C (within 4 days under -20 °C, and within 1 month under 40 °C) <input type="checkbox"/> Installed: -20 to 40 °C (within 4 days under -20 °C, and within 1 month under 40 °C) <input type="checkbox"/> Transporting (packed): -20 to 60 °C (within 4 days under -20 °C, within 1 month under 40 °C, and within 72 hours under 60 °C)
Capacity	700 ml/350 ml/110ml
Dimensions	<input type="checkbox"/> 700ml: W40 x L305 x H110 mm <input type="checkbox"/> 350ml: W40 x L200 x H110 mm <input type="checkbox"/> 110ml: W25 x L200 x H110 mm

1.3 Printing Specifications

1.3.1 Paper Feed Specifications

Item	Specification
Paper feed method	Friction feed
Return pitch	2.2049 μm (1/11,520 inch)
Paper feeder	<input type="checkbox"/> Roll paper manual feed <input type="checkbox"/> Cut sheet manual feed
Feed speed	<input type="checkbox"/> 300ms/ (1/6 inch)

1.3.2 Supported Media

1.3.2.1 Epson Special Media Table

ROLL PAPER

Note *1*: SC-T3000 Series not supported
 2: SC-T3000 Series/SC-T5000 Series not supported
 3: When the optional auto take-up reel unit is used (SC-T7000 series)
 4: Use the tensioner supplied with the auto take-up reel unit.

5: When a scanner is connected
 6: △: Borderless printing available, but borders may appear or print quality decline due to paper expanding or contracting.

Name	Size		Thickness (mm)	Core Diameter (inch)	Borderless Print ^{*6}	Take-up ^{*3}		Enlarged ^{*5}	Head Alignment	ICC Profile	
	mm	inch				Forward	Backward				
Premium Glossy Photo Paper (250)	406	16	0.27	3	√	√	√	√	√	EPSON SC-T3000_5000_7000_Series Premium Glossy Photo Paper 250.icc	
	610	24									
	914 ^{*1}	36 ^{*1}									
	1118 ^{*2}	44 ^{*2}									
Premium Semigloss Photo Paper (250)	406	16	0.27	3	√	√	√	√	√	EPSON SC-T3000_5000_7000_Series Premium Semigloss Photo Paper 250.icc	
	610	24									
	914 ^{*1}	36 ^{*1}									
	1118 ^{*2}	44 ^{*2}									
Premium Luster Photo Paper (260)	254	10	0.27	3	√	-	-	√	√	EPSON SC-T3000_5000_7000_Series Premium Luster Photo Paper 260.icc	
	300	11.8			-	√	√				√
	406	16									
	508	20			√	√	√				√
	610	24			√	√	√				√
	914 ^{*1}	36 ^{*1}			√	√	√				√
	1118 ^{*2}	44 ^{*2}			√	√	√				√
Premium Semimatte Photo Paper (260)	406	16	0.27	3	√	√	√	√	√	EPSON SC-T3000_5000_7000_Series Premium Semimatte Photo Paper 260.icc	
	610	24									
	914 ^{*1}	36 ^{*1}									
	1118 ^{*2}	44 ^{*2}									
Photo Paper Gloss 250	432	17	0.25	3	√	√	√	√	√	EPSON SC-T3000_5000_7000_Series Photo Paper Gloss 250.icc	
	610	24									
	914 ^{*1}	36 ^{*1}									
	1118 ^{*2}	44 ^{*2}									

Name	Size		Thickness (mm)	Core Diameter (inch)	Borderless Print ^{*6}	Take-up ^{*3}		Enlarged ^{*5}	Head Alignment	ICC Profile
	mm	inch				Forward	Backward			
Premium Glossy Photo Paper (170)	420 (A2)	---	0.18	2	-	√	√	√	√	EPSON SC-T3000_5000_7000_Series Premium Glossy Photo Paper 170.icc
	610	24			√					
	914 ^{*1}	36 ^{*1}								
	1118 ^{*2}	44 ^{*2}								
Premium Semigloss Photo Paper (170)	420 (A2)	---	0.18	2	-	√	√	√	√	EPSON SC-T3000_5000_7000_Series Premium Semigloss Photo Paper 170.icc
	610	24			√					
	914 ^{*1}	36 ^{*1}								
	1118 ^{*2}	44 ^{*2}								
Enhanced Synthetic Paper	610	24	0.13	2	△	√	√	-	-	EPSON SC-T3000_5000_7000_Series Enhanced Synthetic Paper.icc
	1118 ^{*2}	44 ^{*2}								
Enhanced Adhesive Synthetic Paper	610	24	0.18	2	△	√	√	-	-	EPSON SC-T3000_5000_7000_Series Enhanced Adhesive Synthetic Paper.icc
	1118 ^{*2}	44 ^{*2}								
Doubleweight Matte Paper	610	24	0.21	2	√	√ ^{*4}	-	√	√	EPSON SC-T3000_5000_7000_Series Doubleweight Matte Paper.icc
	914 ^{*1}	36 ^{*1}								
	1118 ^{*2}	44 ^{*2}								
Enhanced Matte Paper	432	17	0.25	3	△	√	-	-	√	EPSON SC-T3000_5000_7000_Series Enhanced and Archival Matte Paper.icc
	610	24								
	914	36								
	1118	44								
Singleweight Matte Paper	432	17	0.15	2	√	√ ^{*4}	-	√	√	EPSON SC-T3000_5000_7000_Series Singleweight Matte Paper.icc
	610	24								
	914 ^{*1}	36 ^{*1}								
	1118 ^{*2}	44 ^{*2}								

CUT SHEET

Note **1*: SC-T3000 Series not supported

**2*: When a scanner is connected

**3*: Δ : Borderless printing available, but borders may appear or print quality decline due to paper expanding or contracting.

Name	Size	Thickness (mm)	Borderless ^{**3}	Enlarged ^{**2}	Head Alignment	ICC Profile
Premium Glossy Photo Paper	Super A3/B	0.27	Δ	\sqrt	\sqrt	EPSON SC-T3000_5000_7000_Series Premium Glossy Photo Paper.icc
	A2		-			
	US-C		Δ			
Premium Semigloss Photo Paper	Super A3/B	0.27	Δ	\sqrt	\sqrt	EPSON SC-T3000_5000_7000_Series Premium Semigloss Photo Paper.icc
	A2		-			
	US-C		Δ			
Premium Luster Photo Paper	Super B	0.27	Δ	\sqrt	\sqrt	EPSON SC-T3000_5000_7000_Series Premium Luster Photo Paper.icc
	A2		-			
	US-C		Δ			
Archival Matte Paper/Enhanced Matte Paper	Super A3/B	0.26	Δ	-	\sqrt	EPSON SC-T3000_5000_7000_Series Enhanced and Archival Matte Paper.icc
	A2		-			
	US-C		Δ			
Photo Quality Inkjet Paper	Super A3/B	0.12	Δ	-	\sqrt	EPSON SC-T3000_5000_7000_Series Photo Quality Ink Jet Paper.icc
	A2		-			
	US-C		Δ			
Enhanced Matte Posterboard	610 x 762 mm (24" x 30")	1.30	-	-	-	EPSON SC-T3000_5000_7000_Series Enhanced Matte Poster Board.icc
	762 x 1016 mm (30" x 40") ^{*1}					

1.3.2.2 Usable Commercially Available Paper Size

This printer supports the following paper specifications for non-Epson media.



- Do not use paper that is wrinkled, scuffed, torn, or dirty.
- Although plain paper and recycled paper manufactured by other companies can be loaded and fed in the printer as long as they meet the following specifications, Epson cannot guarantee the print quality.
- Although other paper types manufactured by other companies can be loaded in the printer as long as they meet the following specifications, Epson cannot guarantee the paper feeding and print quality.

ROLL PAPER

Item	Specification
Media types	Plain paper and recycled paper
Paper core size	2 inch and 3 inch
Roll paper outer diameter	150 mm or less
Width	<input type="checkbox"/> SC-T7000 Series: 254 mm (10 inches) to 1,118 mm (44 inches) <input type="checkbox"/> SC-T5000 Series: 254 mm (10 inches) to 914 mm (36 inches) <input type="checkbox"/> SC-T3000 Series: 254 mm (10 inches) to 610 mm (24 inches)
Paper thickness	0.08 to 0.5 mm
Basis weight	64 to 90g/m ²
Available width for borderless printing	254 mm/10 inch 300 mm/11.8 inch Super A3/B/329 mm 406 mm/16 inch 17 inch B2/515mm A1/594mm 610 mm/24 inch 728 mm A0/841 mm 914 mm/36 inch 1030 mm 1118 mm/44 inch

CUT SHEET

Item	Specification
Media types	Plain paper and recycled paper
Width	<input type="checkbox"/> SC-T7000 Series: 210 mm (A4) to 1,118 mm (44 inches) <input type="checkbox"/> SC-T5000 Series: 210 mm (A4) to 914 mm (36 inches) <input type="checkbox"/> SC-T3000 Series: 210 mm (A4) to 610 mm (24 inches)
Length	279.4 to 1,580 mm
Paper thickness	0.08 to 0.8 mm
Available width for borderless printing	254 mm/10 inch 300 mm/11.8 inch Super A3/B/329 mm 406 mm/16 inch 17 inch B2/515 mm A1/594 mm 610 mm/24 inch 728 mm A0/841 mm 914 mm/36 inch 1030 mm 1118 mm/44 inch

1.3.3 Printable area

ROLL PAPER

- Note **1*: SC-T7000 Series
 **2*: SC-T5000 Series
 **3*: SC-T3000 Series
 **4*: If "Banner" is selected for "Roll Paper Option" in the printer driver "Advanced" tab, the top and bottom margins are 0 mm.

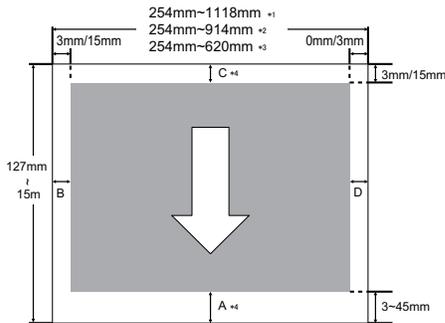


Table 1-1. Roll Paper Margin

Roll Paper Margin Parameter	Margin Values
Normal	A, C = 15mm*
	B, D = 3mm
Top15mm/Bottom15mm	A, C = 15mm
	B, D = 3mm
Top35mm/Bottom15mm	A = 35mm
	C = 15mm
	B, D = 3mm

Table 1-1. Roll Paper Margin

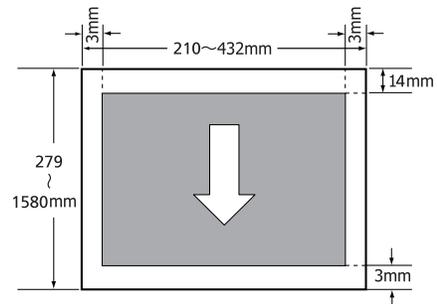
Roll Paper Margin Parameter	Margin Values
Top45mm/Bottom15mm	A = 45mm
	C = 15mm
	B, D = 3mm
3mm	A, B, C, D = 3mm
15mm	A, B, C, D = 15mm

When "Normal" is selected, the value for A 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)

When the following media are used in the "CAD / Line Drawing" mode, the value for A and C is 3 mm.

Singleweight Matte Paper

CUT SHEET



1.3.4 Borderless Printing Specification

AVAILABLE PAPER TYPE

For the paper types and sizes that support the borderless printing, see "1.3.2.1 Epson Special Media Table" (p15).

ROLL PAPER CUTTING OPERATION

Printer driver settings	Cutting Operation	Explanation
Borderless		The default printer driver setting is "Borderless".
Single Cut		<ul style="list-style-type: none"> <input type="checkbox"/> The top area may become slightly uneven depending on the image since the print operation stops while cutting the top edge of the roll paper. <input type="checkbox"/> If the cut position is misaligned slightly, small parts of the image may be shown on the top or bottom of the adjacent pages. If this occurs, perform "Adjust Cut Position". <input type="checkbox"/> When printing only one page the operation performed 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.

Printer driver settings	Cutting Operation	Explanation
Double Cut		<ul style="list-style-type: none"> <input type="checkbox"/> The top area may become slightly uneven depending on the image since the print operation stops while cutting the top edge of the roll paper. <input type="checkbox"/> The printed paper is approximately 2 mm shorter than the specified size since the printer cuts the paper inside the image to avoid showing top and bottom margins. <input type="checkbox"/> 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.

1.3.5 Stacker

Table 1-2. Continuous Stacker

Paper size	Paper Type	Stackable Pages		
		SC-T3000 Series	SC-T5000 Series	SC-T7000 Series
A1 594 x 841mm	Plain paper	20 pages	20 pages	20 pages
A0 841 x 1,189mm		---	20 pages	20 pages

Table 1-3. Single Sheet Stacker

Maximum Length		
SC-T3000 Series	SC-T5000 Series	SC-T7000 Series
Approx. 1,292 mm	Approx. 1,292 mm	Approx. 1,575 mm

1.4 Hardware Specifications

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

1.4.1 Dimensions and Weight

Model	Width	Depth ¹	Height	Weight ²
SC-T7000 Series	1,608 mm	813 mm	1,128 mm	Approx. 82 kg
SC-T5000 Series	1,405 mm	813 mm	1,128 mm	Approx. 75 kg
SC-T3000 Series (w/o dedicated stand)	1,050 mm	691 mm	613 mm	Approx. 51 kg
SC-T3000 Series (w/ dedicated stand)	1,050 mm	813 mm	1,128 mm	Approx. 61 kg

Note 1: When the paper basket is retracted

2: Excluding ink cartridges

1.4.2 Installation Room Requirement

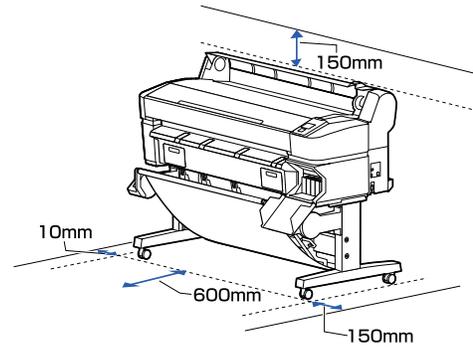


Figure 1-1. SC-T7000 Series/SC-T5000 Series

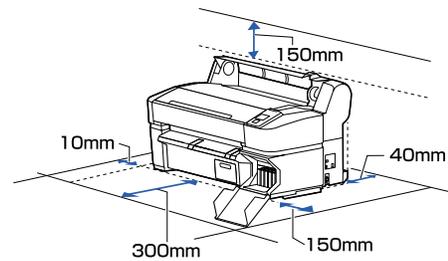


Figure 1-2. SC-T3000 Series

1.4.3 Part Names

FRONT SIDE

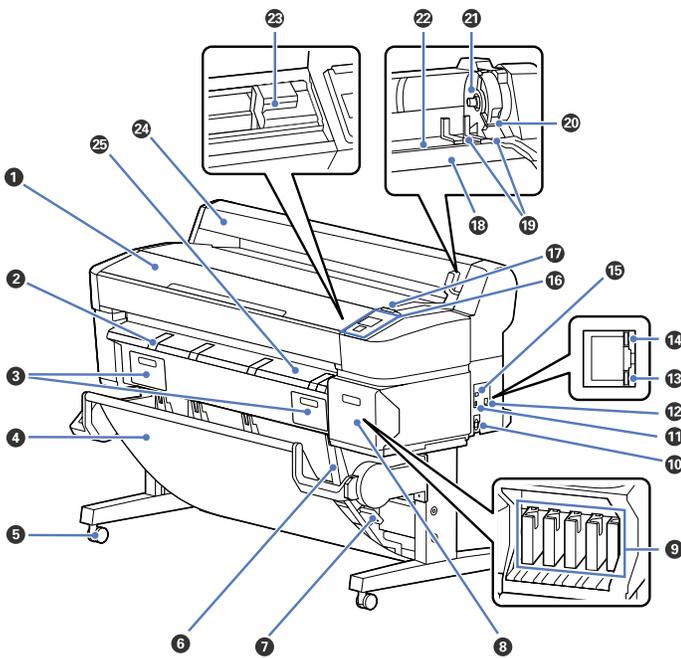


Figure 1-3. Front Side

Table 1-4. Front Side

No.	Name
1	Printer cover
2	Poster board support
3	Maintenance box covers
4	Paper basket
5	Casters
6	Stack guides
7	Stack guide switch lever
8	Cartridge cover
9	Ink cartridges
10	AC inlet
11	Option port
12	LAN port
13	Data light
14	Status light
15	USB port
16	Control panel
17	Alert lamp
18	Roll rest
19	Adapter guides
20	Roll lock lever
21	Adapter holder
22	Paper slot
23	Print head
24	Roll paper cover
25	Paper eject guide

ROLL PAPER ADAPTER

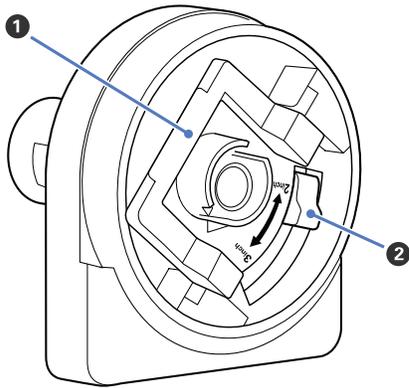


Figure 1-4. Roll paper adapter

Table 1-5. Roll paper adapter

No.	Name
1	Adapter lock lever
2	Size lever

1.5 Control Panel Specifications

1.5.1 Control panel and LCD

CONTROL PANEL

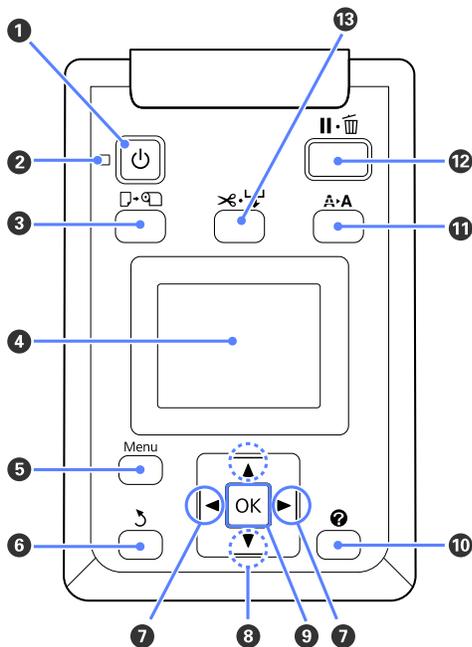


Figure 1-5. Control panel

Table 1-6. Control panel

Name	Function
1 Power button	Turns the power on and off.
2 Power light	<input type="checkbox"/> On: The power is on. <input type="checkbox"/> Flashing: The printer is receiving data or cleaning the print head or performing other operations in the course of being shut down. <input type="checkbox"/> Off: The power is off.
3 Load/Remove Paper button	Displays the Load/Remove Paper menu.
4 Screen	Displays the printer's status, menus, error messages, and so on.
5 [Menu] button	Displays the menu for the tab currently selected in the display.
6 Back button	If menus are displayed, pressing this button takes you up one level in the menu hierarchy.
7 Left/Right buttons	Use these buttons to select tabs.
8 Up/Down buttons	When menus are displayed, these buttons can be used to highlight items or options.
9 OK button	<input type="checkbox"/> Displays the menu for the tab currently selected in the display. <input type="checkbox"/> When menus are displayed and an item is highlighted, pressing this button displays the sub-menu for the highlighted item. <input type="checkbox"/> If pressed while a parameter is selected from the Menu, the parameter is set or executed.
10 Help button	Displays the Help menu.
11 Maintenance button	Displays the Maintenance menu, which is used for nozzle checks and head cleaning.
12 Pause/Cancel button	<input type="checkbox"/> The printer enters pause status if this is pressed while printing. <input type="checkbox"/> Pressing this button while a menu or help is displayed closes the menu or help and returns the printer to ready status.
13 Feed/Cut Media button	<input type="checkbox"/> It is used to manually cut roll paper using the built-in cutter. <input type="checkbox"/> If printing is not currently in progress and the printer is loaded with roll paper, you can feed paper ahead by pressing first this button and then the [▼] button.

LCD

□ Screen View



Figure 1-6. LCD

Table 1-7. LCD

Name	Function
1 Message	Displays the printer's status, operation, and error messages.

Table 1-7. LCD

Name	Function
Print Queues Tab	Displays print job status and can be used to access the Print Queues menu.
Paper Tab	Shows the type of paper in the printer and can be used to access the Paper menu.
Ink Tab	Displays ink status. The ink cartridge status is indicated as follows. <ul style="list-style-type: none"> : No error. : Ink is low. : Ink cartridge is expended. : An error occurred. : Non-genuine cartridge is installed.
Maintenance Tab	Shows the status of the Maintenance Box and is used to display the Maintenance menu. Maintenance Box status is shown as follows. <ul style="list-style-type: none"> : No error. : The Maintenance Box is nearing the end of its service life. : Maintenance Box is at the end of its service life.
Setup Tab	Displays the IP address and menus for various settings.
Enlarged Copy Tab	Displayed only when a scanner is connected.

1.5.2 Menu Descriptions

Note: "*"1": Displayed only when optional hard disk unit is installed.

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation	
Print Queues menu	Print Queue* ¹	XXXXXXXXXXXX (name of queued print job)	Waiting Job Name User Estimated Start Time Estimated Print Time Printing Availability Lists the estimated start time and time needed to print the selected job. It also predicts whether the job can be completed without replacing paper, ink or the Maintenance Box. Printing can proceed even if "Can Not Complete" is displayed. However, the printer may run out of ink or paper during printing. Remote Manager and the LFP HDD Utility display the reason for the "Can Not Complete" message and allow you to hold or cancel the job. The printer will only predict availability on the basis of the amount of paper remaining if "On" is selected for "Roll Paper Remaining". The printer will not predict availability on the basis of the amount of ink remaining when documents are printed using LFP Print Plug-In for Office or EPSON CopyFactory5.	
	Hold Queue* ¹	View Hold Queue	XXXXXXXXXXXX (name of held print job)	Paused Job Name User Paper Type Source Size Reason For Hold This option is available only if "On" is selected for "Store Held Job" in the Setup menu. 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. <ol style="list-style-type: none"> 1. Replace the paper and take whatever other steps may be necessary to ready the device for printing. 2. Select "Resume All Jobs".
		Resume All Jobs		Press the [OK] button to resume all held jobs currently in the queue.
	Saved Job Queue* ¹	XXXXXXXXXXXX (name of stored print job)	Stored Job Name User Length Pages Paper Type Copies Source Size Estimated Print Time Shows the status of the selected stored job when it was last printed. After viewing the job, press the [OK] button to enter the number of copies. Press the [▲]/[▼] buttons to choose the number of copies and press the [OK] button to display the estimated print time and print availability. Press the [OK] button to start printing.	
Print Job Log Sheet			Press the [OK] button to print the print job log.	

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation		
Paper menu	Load/Remove Paper	Remove Paper	Press the [OK] button to view instructions for removing the paper. Follow the on-screen instructions to remove the paper. Instructions are not displayed if no paper is loaded.		
		Roll Paper	Highlight the paper to be loaded and press the [OK] button. Follow the on-screen instructions to load the paper. If paper is already loaded in the printer, the instructions for removing the loaded paper type will be displayed before loading instructions are shown.		
		Cut Sheet (up to 0.8 mm thick)			
		Poster Board			
	Select Paper Type	Photo Paper	Select the type of paper loaded.		
		Matte Paper			
		Plain Paper			
		Others			
		Custom Paper	Select the name of the custom paper loaded in the printer.		
	Custom Paper Setting	XXXXXXXXXXXXX (name of custom paper type)	Select Reference Paper	Photo Paper	You can select the media type that is the closest to the paper you are using.
				Matte Paper	
				Plain Paper	
Others					
No Paper Selected			Select this option if you do not wish to specify the paper type.		
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 printed images are smeared. If, upon performing head alignment you feel that it is still not completely aligned, select "Narrow".		
		Standard			
		Wide			
Wider					
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.			

Table 1-8. Menu List

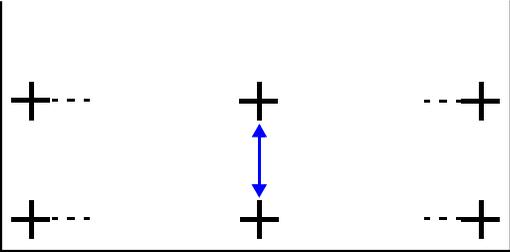
Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation			
Paper menu	Custom Paper Setting	XXXXXXXXXXXXX (name of custom paper type)	<table border="1"> <tr> <td>Pattern</td> <td rowspan="2"> Use this setting if you are unable to resolve banding issues (horizontal striped lines or uneven 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. When "Pattern" is selected; Press the [OK] button to print an adjustment pattern. Measure the distances between the "+" symbols in the printed adjustment pattern. Use only the distance between the center symbols or the average of the distances between the left, center, and right symbols. </td> </tr> <tr> <td>Value</td> </tr> </table> 	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. When "Pattern" is selected; Press the [OK] button to print an adjustment pattern. Measure the distances between the "+" symbols in the printed adjustment pattern. Use only the distance between the center symbols or the average of the distances between the left, center, and right symbols.	Value
			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. When "Pattern" is selected; Press the [OK] button to print an adjustment pattern. Measure the distances between the "+" symbols in the printed adjustment pattern. Use only the distance between the center symbols or the average of the distances between the left, center, and right symbols.		
			Value			
Paper Feed Adjust		After the adjustment pattern is printing, the length of the pattern will be displayed in the control panel. Press the [▲]/[▼] buttons to enter the measured value and press the [OK] button. When "Value" is selected; Choose an adjustment between -0.70 and +0.70%. Selecting too small a value causes dark bands; adjust the amount upward. Similarly, choosing too large a value causes white bands; adjust the amount downward.				
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. If this happens, lower the paper suction. The suction power is weakened when the parameter is lowered.				
	Roll Paper Tension	<table border="1"> <tr> <td>Normal</td> <td rowspan="3">Select "High" or "Extra High" if the paper wrinkles during printing.</td> </tr> <tr> <td>High</td> </tr> <tr> <td>Extra High</td> </tr> </table>	Normal	Select "High" or "Extra High" if the paper wrinkles during printing.	High	Extra High
Normal	Select "High" or "Extra High" if the paper wrinkles during printing.					
High						
Extra High						

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)			Explanation	
Paper menu	Custom Paper Setting	XXXXXXXXXXXX (name of custom paper type)	Remove Skew	On Off	Select whether to enable (“On”) or disable (“Off”) paper skew reduction.
			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 No	Restore the selected custom paper settings to default values.
	Print Paper List	Press the [OK] button to print a list of custom paper settings.			
Maintenance menu	Nozzle Check			Press the [OK] button to print a nozzle check pattern. Visually inspect the printed pattern and perform head cleaning if you notice faint or missing areas.	
	Head Cleaning			Inspect the printed pattern and select the check boxes for patterns with faint or missing areas. To select all nozzles, place a check in the box on the left.	
	Head Alignment	Auto(Uni-D)		If print results are grainy or out of focus, perform head alignment to realign the print head. If “Auto” is selected, the printer will scan the printed pattern during printing and realign the head automatically. If “Manual” is selected, a pattern will be printed; inspect the pattern visually and enter the value you think appropriate.	
		Auto(Bi-D)			
		Manual(Uni-D)			
Manual(Bi-D)					
Cutter Maintenance	Adjust Cut Position		-3 to 3 mm	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 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 replacing the cutter.	
Setup menu	Printer Setup	Roll Paper Setup	Auto Cut	On	Choose “On” to automatically cut roll paper using the built-in cutter as each page is printed, “Off” to disable auto paper cutting. The setting selected with the printer driver takes priority when the printer driver is used.
				Off	
			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	
			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	

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation		
Setup menu	Printer Setup	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 "15 mm", the left and right margins for all other settings are 3 mm.	
			Top 15 mm/ Bottom 15 mm		
			Top 35 mm/ Bottom 15 mm		
			Top 45 mm/ Bottom 15 mm		
			3 mm		
			15 mm		
		Roll Paper Setup	Roll Paper Remaining	On	Select whether to display/record ("On") or not to display/record ("Off") the amount of remaining roll paper. The following options can be made available by selecting "On" and entering the length of the roll. <input type="checkbox"/> Amount of roll paper remaining When the roll is removed, 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. The barcode is automatically read and settings adjusted the next time the paper is used, improving efficiency when multiple rolls of paper are used. <input type="checkbox"/> Printing Availability The printer will estimate printing availability based on the length of the roll.
				Off	
			Remaining Alert	1 to 15 m (4 to 50 ft)	Displayed when "On" is selected for "Roll Paper Remaining". Set within a range from 1 to 15 m (4 to 50 ft) to display a warning when the amount of remaining roll paper drops below that limit. You can set in 0.5 m (1 ft) increments.
		Advanced Settings	Roll Paper Tension	Low	Select "High" or "Extra High" if the paper wrinkles during printing. "Roll Paper Tension" can be specified separately for each paper type using the "Custom Paper Setting" option in the Paper menu. When "Custom Paper" is chosen for "Select Paper Type", the printer will use the value selected for "Roll Paper Tension" in the "Custom Paper Setting". This setting takes effect if no custom roll paper tension is specified.
				Normal	
				High	
				Extra High	
			Less Head Scuffing	On	If the paper is thick, the print head may scuff the print surface. Choose "On" to prevent scuffing. This option can be used to temporarily change the value selected for "Custom Paper Setting" > "Platen Gap" in the Paper menu. Note, however, that "On" has no effect when "Wider" is selected for "Platen Gap".
Off					

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation	
Setup menu	Printer Setup	Drying Time Per Page	0 to 60 minutes Specify how long the printer pauses to allow the ink to dry after printing each page; choose from values between 0 and 60 minutes. Depending on the ink density or 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. The longer the drying time, the more time required for printing.	
		Paper Size Check	On	Choose whether the printer automatically detects ("On") or does not detect ("Off") the paper width. 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. We generally recommend to operate with this setting set to "On".
			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	
	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 Queues menu after the printer has been readied by, for example, loading the correct type of paper.	
		Off		
	Printer Setup	Restore Settings	Yes No	Select "Yes" to restore all printer settings to default values.
		Printer Status	Firmware Version	xxxxxxx.x.xx,xxxx
	Printer Status	Option Status		Lists the optional accessories currently connected to the printer and available for use.
Show Total Prints		XXXXXXXX m ² (XXXXXXXX ft ²)	View the total area printed (six-figure maximum).	
Print Status Sheet			Press the [OK] button to print a list of current printer settings. Choose this option to view settings at a glance.	

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation	
Setup menu	Network Setup	IP Address Setting	Auto Panel	
		Print Status Sheet	Press the [OK] button to print a list of network settings. Choose this option to view network settings at a glance.	
		Restore Settings	Yes No	
	Power Settings	Sleep Mode	5 to 180 minutes	Use this option to choose the period before 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.
			1 to 24 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.
	Restore Settings	Yes No	Select "Yes" to restore all "Power Settings" to default values.	
	Preference	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	ft/in	Select the unit of length which is displayed on the control panel's screen or printed on the patterns.	
	ft/in			
Alert Lamp Setting	On	Off	Choose whether the large alert lamp lights ("On") or does not light ("Off") when an error occurs.	
	Off			

Table 1-8. Menu List

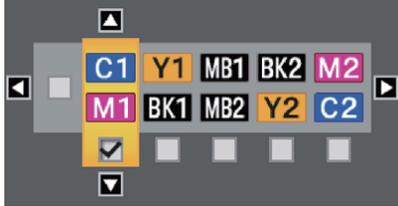
Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation		
Setup menu	Administrator Menu	Change Password	Enter an administrator password of up to 20 characters. Selecting Administrator Menu displays a password prompt. The Administrator Menu will only be displayed if the correct password is entered, preventing non-administrators from accidentally changing settings.		
		Operational Control	Network Setup	Password Required	Choose whether the administrator password is required to access "Network Setup" from the control panel or Remote Manager.
				No Password Required	
			Power Cleaning	 <p>Inspect the printed pattern and select the check boxes for patterns with faint or missing areas. To select all nozzles, place a check in the box on the left.</p>	
		Manage HDD	Format Hard Disk	Yes	Select "Yes" to format the optional hard disk unit currently attached to the printer. Formatting the hard disk unit deletes all stored print jobs.
				No	Hard disk units that have been used with other printers must be formatted before they can be used this printer.
		Date And Time	MM/DD/YY HH:MM	Set the printer's built-in clock. The printer clock provides the times that appear in print outs of job information and printer status.	
		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.		
Reset All Settings	Yes	Select "Yes" to restore defaults for all settings except the "Date And Time", "Language", and "Unit: Length" options in the Setup menu.			
	No				

Table 1-8. Menu List

Menu	Menu Item / Setting Value (Shaded one is the default)		Explanation
Enlarged Copy menu	Color/B&W		Color
			B&W
			With Border
			Borderless
	Auto	Other Size	Document Size
			Output Size
			Border
	Quality		Draft
			Fine
	Density		Five options from Light to Dark

1.5.3 Serviceman Mode

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

HOW TO START & QUIT

1. Turn the printer on by pressing the [Menu], [Back], and [OK] buttons together.
2. Turn the printer off to quit the Serviceman Mode.

SERVICEMAN MODE MENU LIST

Class	Menu			Explanation
	1	2	3	
Mecha Adjustment	Paper			Adjusts the detection accuracy of the PAPER THICKNESS SENSOR.
	Rear AD			Adjusts the AD value of the PE Sensor.
	CR Un Cap			Unlocks or re-locks the carriage and uncaps/re-caps the Print Head.
	LCD RGB Check	Red		Checks the operation of the LCD.
		Green		
		Blue		
	Panel Check			Checks the operation of the buttons and the LEDs.
Sensor Check	ILS		Checks the operation of sensors.	

Menu			Explanation	
Class	1	2		
Life	CR	PG	PG--	Used only in manufacturing processes. Not used in service operations.
			PG-	
			PGtyp	
			PG+	
			PG++	
		H to F Speed	400 CPS	
			500 CPS	
			240 CPS	
		F to H Speed	400 CPS	
			500 CPS	
			240 CPS	
		Page Size		
		Fan		
		Life Count		

Menu				Explanation
Class	1	2	3	
Life	PF	Feed Amount 1		Used only in manufacturing processes. Not used in service operations.
		Feed Speed 1	PS1	
			PS2	
			PS3	
			PS4	
		Feed Amount 2		
		Feed Speed 2	PS1	
			PS2	
			PS3	
			PS4	
		Wait		
		Fan		
		Life Count		
		RLS	Wait1	
	Wait2			
	Life Count			
	APG	PG	PG--	
			PG-	
			PGtyp	
			PG+	
			PG++	
		Wait		
	Life Count			
	Cutter	Length		
		Return Length		
		Wait		
		Life Count		
Display Count				

CHAPTER

2

TROUBLESHOOTING

Confidential

2.1 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.

2.1.1 Preliminary Check

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

2.1.1.1 Before performing troubleshooting

Before troubleshooting, perform basic checks such as connection check of the power cable and installation check of the ink cartridges.

2.1.1.2 Check for the usage environment

Check the user's usage environment.

- Temperature/humidity of the installation site
(For the guaranteed environment, [see P.12.](#))
- Drivers/RIP that the user uses
- Genuine media or 3rd party's media?
- Genuine ink or 3rd party's ink?
- F/W version (the latest?)
- 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?

2.1.1.3 Recurrence check of the trouble

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

- If RIP was used, check if the trouble recurs when the driver is used.
- If 3rd party's media were used, check if the trouble recurs when a genuine medium is used.
- If 3rd party's ink was used, perform the repair according to the policy of each local sales subsidiary.
- If the F/W was not the latest, gain agreement with the user on the update of F/W, and check if the trouble recurs when the latest F/W is used.

2.1.1.4 Check for the counter values/history

Download NVRAM and check the following with NVRAM Viewer. (For the check method, [see P.222.](#))

- 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)

2.1.1.5 Test print check

For the trouble related with print quality, carry out "Test Print" and check the current adjustment status. (For the procedure of test print, [see P.230.](#))

2.1.2 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.42, P. 43)
2. Trouble on print quality (See P.58)
3. Trouble on paper feeding (See P.62)
4. Other troubles (See P.63)
5. Trouble on Service Program (See P.64)
6. Trouble on NVRAM Viewer (See P.65)

2.1.3 Procedure after troubleshooting

2.1.3.1 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 on the repair. (follow your company/local office's policy.)

2.1.3.2 If necessary to escalate the trouble case

Make a report with the following data.

- Backed-up NVRAM data
- 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 which the user/service person)
 - 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

2.2 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 2-1. List of the Maintenance Requests

Bit assignment (Binary)													NNNN (Hexa- decimal)	Parts corresponding to the request	Status
12	11	10	9	8	7	6	5	4	3	2	1	0			
0	0	0	0	0	0	0	0	0	0	0	0	1	00000000	INK TUBE	End of the life
0	0	0	0	0	0	0	0	0	0	0	1	0	00000002	PUMP CAP UNIT	End of the life
0	0	0	0	0	0	0	0	0	0	1	0	0	00000004	PUMP CAP UNIT	Near the end of life
0	0	0	0	0	0	0	0	0	1	0	0	0	00000008	RTC battery	Out of battery
0	0	0	0	0	0	0	0	1	0	0	0	0	00000010	Reserved	
0	0	0	0	0	0	0	1	0	0	0	0	0	00000020	Reserved	
0	0	0	0	0	0	1	0	0	0	0	0	0	00000040	IC HOLDER	End of the life
0	0	0	0	0	1	0	0	0	0	0	0	0	00000080	IC HOLDER	Near the end of life
0	0	0	0	1	0	0	0	0	0	0	0	0	00000100	RTC	Date/time not set
0	0	0	1	0	0	0	0	0	0	0	0	0	00000200	DAMPER KIT	End of the life
0	0	1	0	0	0	0	0	0	0	0	0	0	00000400	DAMPER KIT	Near the end of life
0	1	0	0	0	0	0	0	0	0	0	0	0	00000800	IC HOLDER (Life of waste ink pad)	End of the life
1	0	0	0	0	0	0	0	0	0	0	0	0	00001000	IC HOLDER (Life of waste ink pad)	Near the end of life

Note : Ex) When "Maintenance Request 00000108" is displayed.

As "00000108" in hexadecimal means "000000000000000100001000" in binary, you can find out the code is assigned to Bit-3 and Bit-8 referring to the above table. In this case, two errors are occurring simultaneously. (Bit-3: Out of battery/ Bit-8: the date/time not set.)

2.3 Remedies for Service Call Error

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

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
0001	EMG	NMI error	CPU detects NMI.	---	Replace the MAIN BOARD. (See P.111)
0002	EMG	System error	---	---	Replace the MAIN BOARD. (See P.111)
1101	INK TUBE	CR life error	CR scan pass counter has reached the specified value. (which means the INK TUBES have reached the end of their service life.)	---	Replace the INK TUBES (See P.152) and reset the counter of the INK TUBE (See P.231).
1125	CR	CR HP detection error	The CR HP SENSOR cannot detect the CR UNIT. Or the CR UNIT cannot detect the touching surface for the home position setting, so the home position cannot be set. <input type="checkbox"/> CR HP SENSOR failure <input type="checkbox"/> False detection of the home due to paper jam or any other obstacle <input type="checkbox"/> Misreading of CR SCALE <input type="checkbox"/> CR Lock is damaged.	1. Is the CR HP SENSOR out of order? Does the light shielding plate react to the sensor? 2. Is there any paper jammed inside the printer? 3. Does the CR SCALE have any scratches or dirt? 4. Does the CR ENCODER work properly? Check it using the Service Program. 5. Does the CR Lock function normally?	1. Replace the CR HP SENSOR. (See P.143) 2. Re-install the CR ENCODER. If it is faulty, replace it. (See P.138) 3. Clean the CR SCALE using ethanol. 4. Replace the CR SCALE. (See P.135) 5. Replace the CR Lock (PUMP CAP UNIT). (See P.147)
1138	CR	Over current error	<input type="checkbox"/> Connection failure of the CR MOTOR or the CR ENCODER. <input type="checkbox"/> The number of occurrences of overcurrent to the CR MOTOR has reached a predetermined limit. <input type="checkbox"/> Irregular load <input type="checkbox"/> CR ENCODER failure <input type="checkbox"/> CR MOTOR failure	1. Is there any problems such as damaged cable in the connections below? <input type="checkbox"/> CR ENCODER to SUB BOARD (CN102) <input type="checkbox"/> CR MOTOR to MAIN BOARD (CN19) 2. Does the CR ENCODER work properly? Check it using the Service Program.	1. Replace the CR ENCODER. (See P.138) 2. Replace the CR MOTOR. (See P.141)
1139	CR	Oscillation error	The control terminal (Vre terminal) of the CR MOTOR driver has shorted out.	1. Is the CR MOTOR driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the CR MOTOR driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
113A	CR	Overload error	Overcurrent to the CR MOTOR was detected. <input type="checkbox"/> CR ENCODER cable is damaged. <input type="checkbox"/> CR MOTOR cable is damaged. <input type="checkbox"/> Irregular load <input type="checkbox"/> CR ENCODER failure <input type="checkbox"/> CR MOTOR failure	1. Check if the CR UNIT is attached correctly. 2. Is there any foreign materials on the CR UNIT drive path? 3. Is there any problems such as damaged cable in the connections below? ■ CR ENCODER to SUB BOARD (CN102) ■ CR MOTOR to MAIN BOARD (CN19) 4. Does the CR ENCODER work properly? Check it using the Service Program.	1. Re-install the CR UNIT. (See P.156) 2. Replace the CR ENCODER. (See P.138) 3. Replace the CR MOTOR. (See P.141)
113B	CR	Over speed error	The CR MOTOR was driven at a speed faster than a predetermined one during deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> CR ENCODER failure <input type="checkbox"/> SUB BOARD is damaged. <input type="checkbox"/> CR MOTOR driver failure	Does the CR ENCODER work properly? Check it using the Service Program.	1. Replace the CR ENCODER. (See P.138) 2. Replace the SUB BOARD. (See P.115) 3. Replace the MAIN BOARD. (See P.111)
113C	CR	Reversing error	The number of occurrences of reversing the CR MOTOR has reached a predetermined limit. <input type="checkbox"/> The polarity of CR ENCODER cable is opposite. <input type="checkbox"/> The polarity of CR MOTOR cable is opposite. <input type="checkbox"/> Slipping of the teeth of CR TIMING BELT <input type="checkbox"/> CR ENCODER failure	1. Check the following connection and installation direction. ■ CR ENCODER to SUB BOARD (CN102) ■ CR MOTOR to MAIN BOARD (CN19) 2. Check if the tension of the CR TIMING BELT is proper. 3. Does the CR ENCODER work properly? Check it using the Service Program.	1. Adjust the tension of the CR TIMING BELT. (See P.139) 2. Replace the CR ENCODER. (See P.138)
113D	CR	Driving time-out error	Abnormally-long driving duration of the CR MOTOR was detected. <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control.	---	Replace the MAIN BOARD. (See P.111)
113E	CR	Velocity deviation error	The CR MOTOR was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> CR ENCODER failure <input type="checkbox"/> CR MOTOR failure <input type="checkbox"/> SUB BOARD is damaged. <input type="checkbox"/> CR MOTOR driver failure	Does the CR ENCODER work properly? Check it using the Service Program.	1. Replace the CR ENCODER. (See P.138) 2. Replace the CR MOTOR. (See P.141) 3. Replace the SUB BOARD. (See P.115) 4. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
113F	CR	Lock error	The CR MOTOR was driven at a speed abnormally slower than a predetermined one during operation. <input type="checkbox"/> CR ENCODER cable is damaged. <input type="checkbox"/> CR MOTOR cable is damaged. <input type="checkbox"/> Irregular load <input type="checkbox"/> CR ENCODER failure <input type="checkbox"/> CR MOTOR failure	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ CR ENCODER to SUB BOARD (CN102) ■ CR MOTOR to MAIN BOARD (CN19) 2. Check if the tension of the CR TIMING BELT is proper. 3. Does the CR ENCODER work properly? Check it using the Service Program.	1. Replace the CR ENCODER. (See P.138) 2. Replace the CR MOTOR. (See P.141)
1219	PF	Oscillation error	The control terminal (Vre terminal) of the PF MOTOR driver has shorted out.	1. Is the PF MOTOR driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the PF MOTOR driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
122A	PF	Overload error	Overcurrent to the PF MOTOR was detected. <input type="checkbox"/> PF ENCODER cable is damaged. <input type="checkbox"/> PF MOTOR cable is damaged. <input type="checkbox"/> Irregular load <input type="checkbox"/> PF ENCODER failure <input type="checkbox"/> PF MOTOR failure	Does the PF ENCODER work properly? Check it using the Service Program.	1. Replace the PF ENCODER. (See P.166) 2. Replace the MAIN BOARD. (See P.111)
122B	PF	Over speed error	The PF MOTOR was driven at a speed faster than a predetermined one during deceleration. <input type="checkbox"/> PF irregular load <input type="checkbox"/> PF ENCODER failure <input type="checkbox"/> SUB-B BOARD is damaged. <input type="checkbox"/> PF MOTOR driver failure	Does the PF ENCODER work properly? Check it using the Service Program.	1. Replace the PF ENCODER. (See P.166) 2. Replace the SUB-B BOARD. (See P.117) 3. Replace the MAIN BOARD. (See P.111)
122C	PF	Reversing error	The number of occurrences of reversing the PF MOTOR has reached a predetermined limit. <input type="checkbox"/> The polarity of PF ENCODER cable is opposite. <input type="checkbox"/> The polarity of PF MOTOR cable is opposite. <input type="checkbox"/> Slipping of the teeth of PF TIMING BELT <input type="checkbox"/> PF ENCODER failure	1. Check the following connection and installation direction. <ul style="list-style-type: none"> ■ PF ENCODER to SUB-B BOARD (CN2) ■ PF MOTOR to SUB-B BOARD (CN1) 2. Check if the tension of the PF TIMING BELT is proper. 3. Does the PF ENCODER work properly? Check it using the Service Program.	1. Adjust the tension of the PF TIMING BELT. (See P.168) 2. Replace the PF ENCODER. (See P.166)
122D	PF	Driving time-out error	Abnormally-long driving duration of the PF MOTOR was detected. <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control.	---	Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
122E	PF	Velocity deviation error	The PF MOTOR was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> PF ENCODER failure <input type="checkbox"/> PF MOTOR failure <input type="checkbox"/> SUB BOARD is damaged. <input type="checkbox"/> PF MOTOR driver failure	Does the PF ENCODER work properly? Check it using the Service Program.	1. Replace the PF ENCODER. (See P.166) 2. Replace the PF MOTOR. (See P.163) 3. Replace the MAIN BOARD. (See P.111)
122F	PF	Lock error	The PF MOTOR was driven at a speed abnormally slower than a predetermined one during operation. <input type="checkbox"/> PF ENCODER cable disconnection <input type="checkbox"/> PF MOTOR cable disconnection <input type="checkbox"/> Irregular load <input type="checkbox"/> PF ENCODER failure <input type="checkbox"/> PF MOTOR failure	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ PF ENCODER to SUB-B BOARD (CN2) ■ PF MOTOR to SUB-B BOARD (CN1) 2. Does the PF ENCODER work properly? Check it using the Service Program.	1. Replace the PF ENCODER. (See P.166) 2. Replace the PF MOTOR. (See P.163)
131B	---	Head driver (transmission gate) overheat error	The temperature of the Head driver rises, and has reached a predetermined limit.	1. Turn the power off and then back on. Does the printer recover from the error? 2. Is the FFC connected to the connector properly without being tilted?	1. Replace the HEAD FFC. (See P.127) 2. Replace the PRINT HEAD. (See P.126)
1412	PUMP	Pump life error	The number of PUMP CAP UNIT operation has reached the specified limit. (The rotation of the pump motor has reached the specified limit.)	---	Replace the PUMP CAP UNIT (See P.147), and reset its counter (See P.231).
1416	PUMP	Undetermined position error	PUMP CAP UNIT failure	Is the sensor cable connected properly?	Replace the PUMP CAP UNIT (See P.147).
1418	PUMP	Overcurrent error	<input type="checkbox"/> Connection failure of the pump motor or the pump motor encoder. <input type="checkbox"/> The number of occurrences of overcurrent to the pump motor has reached a predetermined limit. <ul style="list-style-type: none"> ■ Irregular load ■ pump motor encoder failure ■ pump motor failure 	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ Pump motor (pump motor encoder) to MAIN BOARD (CN14) 2. Does the pump motor encoder work properly? Check it using the Service Program.	Replace the pump motor encoder and pump motor (PUMP CAP UNIT). (See P.147)
1419	PUMP	Oscillation error	The control terminal (Vre terminal) of the pump motor driver has shorted out.	1. Is the pump motor driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the pump motor driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
141A	PUMP	Overload error	<p>Overcurrent to the pump motor was detected.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Pump motor encoder cable disconnection <input type="checkbox"/> Pump motor cable disconnection <input type="checkbox"/> Irregular load <input type="checkbox"/> Pump motor encoder failure <input type="checkbox"/> Pump motor failure 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Pump motor (pump motor encoder) to MAIN BOARD (CN14) <p>2. Does the pump motor encoder work properly? Check it using the Service Program.</p>	Replace the pump motor encoder and pump motor (PUMP CAP UNIT). (See P.147)
141B	PUMP	Over speed error	<p>The pump motor was driven at a speed faster than a predetermined one during deceleration.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Pump motor encoder failure <input type="checkbox"/> Pump motor driver failure 	Does the pump motor encoder work properly? Check it using the Service Program.	<p>1. Replace the pump motor encoder (PUMP CAP UNIT). (See P.147)</p> <p>2. Replace the MAIN BOARD. (See P.111)</p>
141C	PUMP	Reversing error	<p>The number of occurrences of reversing the pump motor has reached a predetermined limit.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The polarity of pump motor encoder cable is opposite. <input type="checkbox"/> The polarity of pump motor cable is opposite. 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Pump motor (pump motor encoder) to MAIN BOARD (CN14) <p>2. Does the pump motor encoder work properly? Check it using the Service Program.</p>	Replace the pump motor encoder (PUMP CAP UNIT). (See P.147)
141D	PUMP	Driving time-out error	<p>Abnormally-long driving duration of the pump motor was detected.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control. 	---	Replace the MAIN BOARD. (See P.111)
141E	PUMP	Velocity deviation error	<p>The pump motor was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Pump motor encoder failure <input type="checkbox"/> Pump motor failure <input type="checkbox"/> Pump motor driver failure 	Does the pump motor encoder work properly? Check it using the Service Program.	<p>1. Replace the pump motor encoder and pump motor (PUMP CAP UNIT). (See P.147)</p> <p>2. Replace the MAIN BOARD. (See P.111)</p>
141F	PUMP	Lock error	<p>The pump motor was driven at a speed abnormally slower than a predetermined one during operation.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Pump motor encoder failure <input type="checkbox"/> Pump motor failure 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Pump motor (pump motor encoder) to MAIN BOARD (CN14) <p>2. Does the pump motor encoder work properly? Check it using the Service Program.</p>	Replace the pump motor encoder and pump motor (PUMP CAP UNIT). (See P.147)
14B0	Pump in the ink path	Life of the pump in the ink path (IC HOLDER life error)	The IC HOLDER has reached its end of specified life. (The number of detaching ink cartridges has reached a predetermined limit.)	---	Replace the IC HOLDER. (See P.148) and reset its counter (See P.231).

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
14C0	DAMPER KIT	DAMPER KIT error	The DAMPER KIT has reached its end of specified life.	---	Replace the DAMPER KIT (See P.123) and reset its counter (See P.231).
150C	PG	PG position undetectable error	When changing the PG, the PG SENSOR could not detect the PG position.	<ol style="list-style-type: none"> 1. Is the PG SENSOR out of order? Does the light shielding plate react to the sensor? 2. Do the planetary gearing work normally? (Do the planet gears and outer gears properly engage with each other?) 3. Is the CR UNIT out of its home position? (Do the planet gears and outer gears properly engage with each other?) 	<ol style="list-style-type: none"> 1. Replace the PG SENSOR. (See P.146) 2. Replace the APG UNIT. (See P.144) 3. Remove any obstacles around the CR UNIT home position. The printer changes the PG with the CR UNIT being at its home position.
1519	APG	Oscillation error	The control terminal (Vre terminal) of the APG motor driver has shorted out.	<ol style="list-style-type: none"> 1. Is the APG motor driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the APG motor driver? 	<ol style="list-style-type: none"> 1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
151A	APG	Overload error	<input type="checkbox"/> Connection failure of the APG motor. <input type="checkbox"/> Overcurrent to the APG motor was detected. <ul style="list-style-type: none"> ■ APG motor cable is damaged. ■ Irregular load ■ APG encoder failure ■ APG motor failure 	Is there any problems such as damaged cable in the connections below? <input type="checkbox"/> APG motor (APG encoder) to MAIN BOARD (CN15)	Replace the APG UNIT. (See P.144)
151B	APG	Over speed error	The APG motor was driven at a speed faster than a predetermined one during deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> APG encoder failure <input type="checkbox"/> APG motor driver failure	---	<ol style="list-style-type: none"> 1. Replace APG UNIT. (See P.144) 2. Replace the MAIN BOARD. (See P.111)
151C	APG	Reversing error	The number of occurrences of reversing the APG motor has reached a predetermined limit. <input type="checkbox"/> The polarity of APG motor cable is opposite. <input type="checkbox"/> APG motor failure	Is there any problems such as damaged cable in the connections below? <input type="checkbox"/> APG motor (APG encoder) to MAIN BOARD (CN15)	Replace APG UNIT. (See P.144)
151D	APG	Driving time-out error	Detects that the driving period is irregularly long. <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control.	---	Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
151E	APG	Velocity deviation error	The APG motor was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> APG encoder failure <input type="checkbox"/> APG motor failure <input type="checkbox"/> APG motor driver failure	---	1. Replace APG UNIT. (See P.144) 2. Replace the MAIN BOARD. (See P.111)
151F	APG	Lock error	<input type="checkbox"/> Connection failure of the APG motor. <input type="checkbox"/> The APG motor was driven at a speed abnormally slower than a predetermined one during operation. <input checked="" type="checkbox"/> Irregular load <input checked="" type="checkbox"/> APG encoder failure <input checked="" type="checkbox"/> APG motor failure	Is there any problems such as damaged cable in the connections below? <input type="checkbox"/> APG motor (APG encoder) to MAIN BOARD (CN15)	Replace APG UNIT. (See P.144)
1523	ROLL	Roll sensor error	TBD	TBD	TBD
1530	Driven roller	Driven roller HP detection error	TBD	TBD	TBD
1539	Driven roller	Oscillation error	The control terminal (Vre terminal) of the PRESSURE ROLLER MOTOR driver has shorted out.	1. Is the PRESSURE ROLLER MOTOR driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the PRESSURE ROLLER MOTOR driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
153A	Driven roller	Overload error	Overcurrent to the PRESSURE ROLLER MOTOR was detected. <input type="checkbox"/> PRESSURE ROLLER SENSOR cable is damaged. <input type="checkbox"/> PRESSURE ROLLER MOTOR cable is damaged. <input type="checkbox"/> Irregular load <input type="checkbox"/> PRESSURE ROLLER MOTOR encoder failure <input type="checkbox"/> PRESSURE ROLLER MOTOR failure	1. Is there any problems such as damaged cable in the connections below? <input checked="" type="checkbox"/> PRESSURE ROLLER MOTOR (PRESSURE ROLLER SENSOR) to MAIN BOARD (CN14) 2. Does the PRESSURE ROLLER SENSOR work properly? Check it using the Service Program.	Replace the PRESSURE ROLLER MOTOR. (See P.171)
153B	Driven roller	Over speed error	The PRESSURE ROLLER MOTOR was driven at a speed faster than a predetermined one during deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> PRESSURE ROLLER SENSOR failure <input type="checkbox"/> PRESSURE ROLLER MOTOR driver failure	Does the PRESSURE ROLLER SENSOR work properly? Check it using the Service Program.	1. Replace the PRESSURE ROLLER SENSOR. (See P.173) 2. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
153C	Driven roller	Reversing error	The number of occurrences of reversing the PRESSURE ROLLER MOTOR has reached a predetermined limit. <input type="checkbox"/> The polarity of PRESSURE ROLLER MOTOR encoder cable is opposite. <input type="checkbox"/> The polarity of PRESSURE ROLLER MOTOR cable is opposite.	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ PRESSURE ROLLER MOTOR (PRESSURE ROLLER MOTOR encoder cable) to SUB-B BOARD (CN5) 2. Does the PRESSURE ROLLER SENSOR work properly? Check it using the Service Program.	Replace the PRESSURE ROLLER MOTOR encoder cable/PRESSURE ROLLER MOTOR. (See P.171)
153D	Driven roller	Driving time-out error	Abnormally-long driving duration of the PRESSURE ROLLER MOTOR was detected. <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control.	---	Replace the MAIN BOARD. (See P.111)
153E	Driven roller	Velocity deviation error	The PRESSURE ROLLER MOTOR was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> PRESSURE ROLLER MOTOR encoder failure <input type="checkbox"/> PRESSURE ROLLER MOTOR failure <input type="checkbox"/> PRESSURE ROLLER MOTOR driver failure	Does the PRESSURE ROLLER MOTOR encoder work properly? Check it using the Service Program.	1. Replace the PRESSURE ROLLER MOTOR encoder cable/PRESSURE ROLLER MOTOR. (See P.171) 2. Replace the MAIN BOARD. (See P.111)
153F	Driven roller	Lock error	The PRESSURE ROLLER MOTOR was driven at a speed abnormally slower than a predetermined one during operation. <input type="checkbox"/> Irregular load <input type="checkbox"/> PRESSURE ROLLER MOTOR encoder failure <input type="checkbox"/> PRESSURE ROLLER MOTOR failure	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ PRESSURE ROLLER MOTOR (PRESSURE ROLLER MOTOR encoder cable) to SUB-B BOARD (CN5) 2. Does the PRESSURE ROLLER SENSOR work properly? Check it using the Service Program.	Replace the PRESSURE ROLLER MOTOR encoder cable/PRESSURE ROLLER MOTOR. (See P.171)
1540	Cutter	Cutter HP detection error	TBD	TBD	TBD
1541	Cutter	Cutter return error	TBD	TBD	TBD
1548	Cutter	Oscillation error	The control terminal (Vre terminal) of the cutter motor driver has shorted out.	1. Is the cutter motor driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the cutter motor driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
1549	Cutter	Motor disconnection error	TBD	TBD	TBD

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
154A	Cutter	Overload error	<p>Overcurrent to the cutter motor was detected.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cutter motor encoder cable is damaged. <input type="checkbox"/> Cutter motor cable is damaged. <input type="checkbox"/> Irregular load <input type="checkbox"/> Cutter motor encoder failure <input type="checkbox"/> Cutter motor failure 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Cutter motor (cutter motor encoder) to SUB-B BOARD (CN4) <p>2. Does the cutter motor encoder work properly? Check it using the Service Program.</p>	<p>Replace the cutter motor/cutter motor encoder (CUTTER UNIT). (See P.181)</p>
154B	Cutter	Over speed error	<p>The cutter motor was driven at a speed faster than a predetermined one during deceleration.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Cutter motor encoder failure <input type="checkbox"/> Cutter motor driver failure 	<p>Does the cutter motor encoder work properly? Check it using the Service Program.</p>	<p>1. Replace the cutter motor encoder (CUTTER UNIT). (See P.181)</p> <p>2. Replace the SUB-B BOARD. (See P.117)</p> <p>3. Replace the MAIN BOARD. (See P.111)</p>
154C	Cutter	Reversing error	<p>The number of occurrences of reversing the cutter motor has reached a predetermined limit.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The polarity of cutter motor encoder cable is opposite. <input type="checkbox"/> The polarity of cutter motor cable is opposite. 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Cutter motor (cutter motor encoder) to SUB-B BOARD (CN4) <p>2. Does the cutter motor encoder work properly? Check it using the Service Program.</p>	<p>Replace the cutter motor/cutter motor encoder (CUTTER UNIT). (See P.181)</p>
154D	Cutter	Driving time-out error	<p>Abnormally-long driving duration of the cutter motor was detected.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control. 	---	<p>Replace the MAIN BOARD. (See P.111)</p>
154E	Cutter	Velocity deviation error	<p>The cutter motor was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Cutter motor encoder failure <input type="checkbox"/> Cutter motor failure <input type="checkbox"/> Cutter motor driver failure 	<p>Does the cutter motor encoder work properly? Check it using the Service Program.</p>	<p>1. Replace the cutter motor encoder (CUTTER UNIT). (See P.181)</p> <p>2. Replace the SUB-B BOARD. (See P.117)</p> <p>3. Replace the MAIN BOARD. (See P.111)</p>
154F	Cutter	Lock error	<p>The cutter motor was driven at a speed abnormally slower than a predetermined one during operation.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Irregular load <input type="checkbox"/> Cutter motor encoder failure <input type="checkbox"/> Cutter motor failure 	<p>1. Is there any problems such as damaged cable in the connections below?</p> <ul style="list-style-type: none"> ■ Cutter motor (cutter motor encoder) to SUB-B BOARD (CN4) <p>2. Does the cutter motor encoder work properly? Check it using the Service Program.</p>	<p>Replace the cutter motor/cutter motor encoder (CUTTER UNIT). (See P.181)</p>

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
1551	Sensor	Paper Thickness Sensor error	TBD	TBD	TBD
1561	---	Paper thickness at power-on error	TBD	TBD	TBD
1599	ATC	Oscillation error	The control terminal (Vre terminal) of the ATC MOTOR driver has shorted out.	1. Is the ATC MOTOR driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the ATC MOTOR driver?	1. Remove the foreign material. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
159A	ATC	Overload error	Overcurrent to the ATC MOTOR was detected. <input type="checkbox"/> ATC MOTOR cable disconnection. <input type="checkbox"/> Irregular load <input type="checkbox"/> ATC MOTOR encoder failure <input type="checkbox"/> ATC MOTOR failure	1. Is there any problems such as damaged cable in the connections below? ■ ATC MOTOR to MAIN BOARD (CN15) 2. Does the ATC MOTOR encoder work properly? Check it using the Service Program.	Replace the ATC MOTOR. (See P.175)
159B	ATC	Over speed error	The ATC Motor was driven at a speed faster than a predetermined one during deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> ATC MOTOR encoder failure <input type="checkbox"/> APG MOTOR driver failure	Does the ATC MOTOR encoder work properly? Check it using the Service Program.	1. Replace the ATC MOTOR. (See P.175) 2. Replace the MAIN BOARD. (See P.111)
159C	ATC	Reversing error	The number of occurrences of reversing the ATC Motor has reached a predetermined limit. <input type="checkbox"/> The polarity of ATC MOTOR cable is opposite. <input type="checkbox"/> ATC MOTOR failure	1. Is there any problems such as damaged cable in the connections below? ■ ATC MOTOR to MAIN BOARD (CN15) 2. Does the ATC MOTOR encoder work properly? Check it using the Service Program.	Replace the ATC MOTOR. (See P.175)
159D	ATC	Driving time-out error	Abnormally-long driving duration of the ATC MOTOR was detected. <input type="checkbox"/> Irregular load <input type="checkbox"/> Firmware becomes out of control.	---	Replace the MAIN BOARD. (See P.111)
159E	ATC	Velocity deviation error	The ATC MOTOR was driven at a speed abnormally faster than a predetermined one during acceleration or deceleration. <input type="checkbox"/> Irregular load <input type="checkbox"/> ATC MOTOR encoder failure <input type="checkbox"/> ATC MOTOR failure <input type="checkbox"/> ATC MOTOR driver failure	Does the ATC MOTOR encoder work properly? Check it using the Service Program.	1. Replace the ATC MOTOR. (See P.175) 2. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
159F	ATC	Lock error	<input type="checkbox"/> Connection failure of the ATC MOTOR. <input type="checkbox"/> The ATC MOTOR was driven at a speed abnormally slower than a predetermined one during operation. <ul style="list-style-type: none"> ■ Irregular load ■ ATC MOTOR encoder failure ■ ATC MOTOR failure 	1. Is there any problems such as damaged cable in the connections below? <ul style="list-style-type: none"> ■ ATC MOTOR to MAIN BOARD (CN15) 2. Does the ATC MOTOR encoder work properly? Check it using the Service Program.	Replace the ATC MOTOR. (See P.175)
1900	---	In-process life error	TBD	TBD	TBD
1A23	RTC	Incorrect RTC data error	The various absolute time settings stored on the NVRAM are abnormal.	Reset the date and time settings of the RTC using the Service Program.	If the error still occurs after resetting the date and time, perform the followings. <ol style="list-style-type: none"> 1. Replace the RTC backup battery. 2. Replace the MAIN BOARD. (See P.111)
1A26	RTC	RTC Access T/O error	The RTC circuit on the MAIN BOARD malfunctions.	---	<ol style="list-style-type: none"> 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. Reset the date and time settings of the RTC using the Service Program.
1A37	---	Thermistor error	<input type="checkbox"/> The HEAD FFC is not connected correctly. <input type="checkbox"/> A temperature out of a predetermined range was detected by the Head thermistor. <input type="checkbox"/> Head thermistor failure	Is the HEAD FFC connected properly without being connected at an angle and any abnormalities such as peeled terminals?	<ol style="list-style-type: none"> 1. Replace the HEAD FFC. (See P.127) 2. Replace the PRINT HEAD. (See P.126)
1A38	Hardware	Transistor environmental temperature error	<input type="checkbox"/> Transistor failure <input type="checkbox"/> A temperature out of a predetermined range was detected by the Head thermistor.	---	Replace the PRINT HEAD. (See P.126)
1A39	Hardware	Head error	<input type="checkbox"/> Connection failure of the HEAD FFC. <input type="checkbox"/> Electric parts or components are damaged due to improper HEAD FFC connection such as connecting it at an angle. <ul style="list-style-type: none"> ■ The drive circuit in the PRINT HEAD is damaged. ■ The fuse of the MAIN BOARD has blown. 	Is the HEAD FFC connected properly without being connected at an angle and any abnormalities such as peeled terminals?	<ol style="list-style-type: none"> 1. Replace the HEAD FFC. (See P.127) 2. Replace the PRINT HEAD. (See P.126) 3. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
1A41	---	Head rank ID input error	An invalid Head rank ID was written to the NVRAM.	Check the Head rank ID using the Service Program.	Rewrite the Head rank ID with a correct one. (Page 249)
1A50	Hardware	I2C communication error (Between elements on ASIC and MAIN)	An I2C communication error has occurred in the MAIN BOARD.	---	Replace the MAIN BOARD. (See P.111)
1A51	Hardware	I2C communication error (Between elements on ASIC and SUB)	An I2C communication error between the MAIN BOARD and SUB BOARD has occurred.	Are the MAIN BOARD and SUB BOARD properly connected to each other without any cable disconnection, FFCs being connected at an angle, and any abnormalities such as peeled terminals?	1. Replace the FFC between the MAIN BOARD and SUB BOARD. (See P.131) 2. Replace the SUB BOARD. (See P.115) 3. Replace the MAIN BOARD. (See P.111)
1A70	Hardware	MAIN-to-MAIN-B BOARD communication error	TBD	TBD	TBD
1A71	Hardware	MAIN-B BOARD system error (Core0)	TBD	TBD	TBD
1A72	Hardware	MAIN-B BOARD system error (Core1)	TBD	TBD	TBD
1F10	Maintenance	Maintenance 1 (for safety standard)	TBD	TBD	TBD
1F11	Maintenance	Maintenance 2 (for safety standard)	TBD	TBD	TBD
1F80	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1F81	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1F82	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
1F83	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1F84	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1F85	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FB8	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FB9	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FBE	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FBF	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FC0	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FC1	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
1FC2	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FC3	CSIC control	CSIC error	CSIC control error	---	1. Replace the IC HOLDER. (See P.148) 2. Replace the MAIN BOARD. (See P.111)
1FE0	Storage control	Controlled domain full error	TBD	TBD	TBD
1FE1	Storage control	Invalid lock	TBD	TBD	TBD
1FE2	Storage control	Device access error	TBD	TBD	TBD
1FE3	Storage control	Missing device	TBD	TBD	TBD
2000	Memory	NVRAM error	NVRAM erase or write error has occurred.	---	Replace the MAIN BOARD. (See P.111)
2002	Memory	SDRAM error	Writing to the SDRAM was attempted, but nothing could be written to it.	---	Replace the MAIN BOARD. (See P.111)
2003	Memory	FLASH BOOT SUM CHECK error	<input type="checkbox"/> Installing the firmware has failed. <input type="checkbox"/> The Flash ROM is out of order.	---	1. Re-install the firmware. (Page 229) 2. Replace the MAIN BOARD. (See P.111)
2008	Memory	Wrong FLASH device error	TBD	TBD	TBD
200A	Memory	F/W load error	Reading/decompressing the firmware has failed.	---	1. Re-install the firmware. (Page 229) 2. Replace the MAIN BOARD. (See P.111)
200D	System	System interrupt watchdog time-out error	A system failure such as CPU failure, or defective cash has occurred.	---	Replace the MAIN BOARD. (See P.111)
3000	AC shut-off	AC shut-off	The AC power has been shut off due to a power failure, unplugged, PSH BOARD failure, or MAIN BOARD failure or the like.	Check if the Power cable is correctly connected.	1. Replace the PSH BOARD. (See P.118) 2. Replace the MAIN BOARD. (See P.111)

Table 2-2. Service Call Error

Code	Category	Error Name	Cause	Check Item	Remedy
Dxyy	Debugging	Service call for FW debugging	This error is intended to be used in the product development stage. It is supposed to not occur to marketed products, but may occur due to an unexpected cause such as external noises.	Turn the power off and then turn it back on. Does the printer recover from the error? (No repair work is needed unless the error occurs again.)	1. Re-install the firmware. (Page 229) 2. Replace the MAIN BOARD. (See P.111)
Fxxx	CPU	CPU related service call	There is something wrong with the firmware.	Is the firmware installed correct one for the printer?	1. Re-install the firmware. (Page 229) 2. Replace the MAIN BOARD. (See P.111)
1620	Pressure motor	Pressurizing initialization error	The initialization process did not complete within a predetermined time period.	1. Is there any abnormal load applied to the pressure unit? 2. Is there any disconnected connectors or damaged cables?	1. Replace the pressure unit (IC HOLDER). (See P.148) 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
1621	Pressure motor	Pressurizing/Suction switching error	The pressurizing and suction processes did not complete within a predetermined time period.	1. Is there any abnormal load applied to the pressure unit? 2. Is there any disconnected connectors or damaged cables?	1. Replace the pressure unit (IC HOLDER). (See P.148) 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
1622	Pressure motor	Operating time-out error	The switching operation did not complete within a predetermined time period.	1. Is there any abnormal load applied to the pressure unit? 2. Is there any disconnected connectors or damaged cables?	1. Replace the pressure unit (IC HOLDER). (See P.148) 2. If the error still occurs, replace the MAIN BOARD. (See P.111)
1623	Pressure motor	Continuous revolution error	The control terminal (Vre terminal) of the pressure motor driver has shorted out.	1. Is the pressure motor driver on the MAIN BOARD damaged? 2. Is there any foreign materials around the pressure motor driver?	1. Remove the foreign materials. 2. If the error still occurs, replace the MAIN BOARD. (See P.111)

2.4 Remedies for Print Quality Troubles

This section provides troubleshooting of print quality troubles classifying them by observed symptom. Before performing troubleshooting, refer to “Nozzle Check” (p251) and print nozzle check pattern. Examine the printed pattern, and if any missing segment is found, perform the PRINT HEAD cleaning.

Table 2-3. Print Quality Troubles

Symptom	Cause	Check Item	Remedy
The nozzles are still clogging after cleaning.	The Wiper is contaminated and wiping the PRINT HEAD cannot be performed properly.	1. Is the Wiper or Wiper Cleaner contaminated? 2. Is the Wiper or Wiper Cleaner damaged?	1. Clean the Wiper. 2. Replace the Wiper and Wiper Cleaner.
	The Head Cap is contaminated.	Is the Cap contaminated?	1. Clean the Cap. 2. Replace the Cap (PUMP CAP UNIT). (See P.147)
	There is some foreign material on the PRINT HEAD.	Is there any foreign materials on the PRINT HEAD?	Clean the PRINT HEAD.
	There is something wrong in the pump tube and the cleaning (suctioning of ink) cannot be performed properly.	Is the pump tube being bent or getting caught between surrounding parts or components?	Route the pump tube correctly.
	The ink is leaking.	Is there any ink leakage observed on the ink flow paths?	If any leakage is found, correct it.
	There is air inside the ink path.	Is there any air bubbles observed in the ink flow paths?	Run a head cleaning. (Page 252)
	The HEAD FFC is not connected correctly.	Is the HEAD FFC connected properly without being connected at an angle and any abnormalities such as peeled terminals?	1. Reconnect the HEAD FFC. 2. If the trouble still occurs, the cause may be breaking of the HEAD FFC. Replace the HEAD FFC. (See P.127)
If any of the remedies above does not help, replace the following parts one by one. <input type="checkbox"/> PRINT HEAD (See P.126) <input type="checkbox"/> MAIN BOARD (The fuse may have blown) (See P.111)			

Table 2-3. Print Quality Troubles

Symptom	Cause	Check Item	Remedy
Horizontal or vertical lines look misaligned.	Adjustment failure of the IM SENSOR	---	Carry out the following adjustments. <input type="checkbox"/> Auto Bi-D adjustment (Page 242) <input type="checkbox"/> Ink Mark Sensor check & Auto Adjustment (Page 238)
	IM SENSOR is out of order.	Does the IM SENSOR function normally? Check it using the Service Program.	Replace the IM SENSOR. (See P.159)
	The PRINT HEAD has not been adjusted properly.	Have the following adjustments been made properly? <input type="checkbox"/> Head inclination auto adjustment (CR direction) <input type="checkbox"/> Head slant auto adjustment (PF direction)	Carry out the adjustments correctly. <input type="checkbox"/> Head inclination adjustment (CR direction) (Page 253) <input type="checkbox"/> Head slant adjustment (PF direction) (Page 256)
	Improper PG adjustment	1. Is the paper thickness setting correct? 2. Has the PG adjustment been made properly?	1. Correct the paper thickness setting. 2. Perform the PG adjustment. (Page 245)
Bandings in the paper feeding direction.	The PRINT HEAD has not been adjusted properly.	---	Carry out the following adjustments. <input type="checkbox"/> Head inclination adjustment (CR direction) (Page 253) <input type="checkbox"/> Head slant adjustment (PF direction) (Page 256)
	The paper was not fed properly.	---	Carry out the following adjustment. <input type="checkbox"/> Media Feed Auto Adjustment Check the following settings. <input type="checkbox"/> Feed Adjustment <input type="checkbox"/> Media Tension
	PF SCALE or PF ENCODER failure	1. Is the PF SCALE damaged or contaminated? 2. Is the PF SCALE attached properly? 3. Is the PF ENCODER installed correctly?	1. Clean the PF SCALE. 2. Reinstall the PF SCALE and PF ENCODER. 3. Replace the PF SCALE (See P.165) and PF ENCODER (See P.166).
	The tension of the PF TIMING BELT is not proper.	---	Correct the tension of the PF TIMING BELT. (Page 262)
	PF MOTOR failure	---	Replace the PF MOTOR. (See P.163)

Table 2-3. Print Quality Troubles

Symptom	Cause	Check Item	Remedy
Bandings in the carriage movement direction.	Adjustment failure of the IM SENSOR	---	Carry out the following adjustments. <input type="checkbox"/> Auto Bi-D adjustment (Page 242) <input type="checkbox"/> Ink Mark Sensor check & Auto Adjustment (Page 238)
	Improper PG adjustment	1. Is the paper thickness setting correct? 2. Has the PG adjustment been made properly?	1. Correct the paper thickness setting. 2. Perform the PG adjustment. (Page 245)
	CR SCALE or CR ENCODER failure	1. Is the CR SCALE damaged or contaminated? 2. Is the CR SCALE attached properly? 3. Is the CR ENCODER installed correctly?	1. Clean the CR SCALE. 2. Reinstall the CR SCALE and CR ENCODER. 3. Replace the CR SCALE (See P.135) and CR ENCODER (See P.138).
	The tension of the CR TIMING BELT is not proper.	---	Correct the tension of the CR TIMING BELT. (Page 234)
	<input type="checkbox"/> Suction setting failure <input type="checkbox"/> SUCTION FAN failure	1. Is there any slack in the loaded paper? 2. Does the SUCTION FAN work normally? Check it using the Service Program.	1. Make the suction setting properly. 2. Replace the SUCTION FAN. (See P.184)
	Lubrication on the CR moving parts is insufficient.	Has the oil pad of the CR UNIT dried out?	If the pad is dry, lubricate it. (See P.287)
Printed side is smudged or smeared with ink.	There is a problem with the paper used.	1. Is the paper wrinkled, bent, rippled, or warped? 2. Is the paper too thick and contacting with the head? 3. Is the paper too thin and loosening when being fed?	1. Replace the paper with a new proper one. 2. Adjust the PG setting according to the paper thickness.
	Improper PG adjustment	Has the PG adjustment been made properly?	Perform the PG adjustment. (Page 245)
	The PF (Paper Feed) Roller is contaminated	Is the PF roller smudged or smeared with ink or anything?	Clean the roller. Print some blank pages to clean it.
The backside of paper is smudged or smeared with ink.	The platen is contaminated.	1. Is the platen contaminated with ink? 2. Is the Paper Size Check function enabled?	1. Clean the platen. 2. Enable (select "ON") the Paper Size Check function.
	Suction Fan is making the ink mists drift to the back of the printing paper.	Is the suction level of the fan proper?	Change the suction level appropriately.
Color or print density unevenness within a page or across pages.	The ink in the ink cartridge is not agitated enough.	---	Shake the ink cartridges so that ink droplets spread evenly inside the cartridges.
	Deterioration of ink quality	Have the installed ink cartridges expired?	Replace the expired ink cartridges with new ones.
	Improper PG adjustment	Has the PG adjustment been made properly?	Perform the PG adjustment. (Page 245)

Table 2-3. Print Quality Troubles

Symptom	Cause	Check Item	Remedy
Blurred print	Too much ink discharge.	Has the Head rank ID been written correctly?	Rewrite the Head rank ID with a correct one. (Page 249)
Paper dust is attached or the traces of the rollers appear.	Traces of Pressure Roller are caused because the paper had been kept set in the printer for a long time.	---	Remove the paper if the printer is left for a long time.
	The paper dust attached on the PF rollers transferred to the paper.	Is there any paper dust attached to the PF rollers?	Clean the rollers. Print some blank pages to clean them.

2.5 Trouble on Paper Feeding

This section describes the possible troubles on paper feeding and their causes and remedies.

Table 2-4. Trouble on Paper Feeding

Symptom	Cause	Check Item	Remedy
Paper is not fed into the printer properly.	Improper PE SENSOR adjustment	---	Perform the Rear AD Adjustment. (Page 269)
	PE SENSOR failure	Does the PE SENSOR work normally? Check it using the Service Program.	Replace the PE SENSOR. (See P.177)
Paper feeding or paper ejecting is abnormal.	PF SCALE or PF ENCODER failure	1. Is the PF SCALE damaged or contaminated? 2. Is the PF SCALE attached properly? 3. Is the PF ENCODER installed correctly?	1. Clean the PF SCALE. 2. Reinstall the PF SCALE and PF ENCODER. 3. Replace the PF SCALE (See P.165) and PF ENCODER (See P.166).
	The tension of the PF TIMING BELT is not proper.	---	Correct the tension of the PF TIMING BELT. (Page 262)
	<input type="checkbox"/> Suction setting failure <input type="checkbox"/> SUCTION FAN failure	1. Is the suction setting proper? 2. Does the SUCTION FAN work normally? Check it using the Service Program.	1. Make the suction setting properly. 2. Replace the SUCTION FAN.
	PF rollers failure	Are the PF rollers contaminated or damaged?	Clean the rollers or replace them.
Paper is skewing.	The Paper Skew Check function has been disabled.	---	Enable (select "ON") the Paper Skew Check function.
	The Paper Size Check function has been disabled.	---	Enable (select "ON") the Paper Size Check function.
	The PW SENSOR is not working.	Does the PW SENSOR work normally? Check it using the Service Program.	Replace the PW SENSOR. (See P.161)
	Roll paper edge is attached to the take-up reel at an angle.	---	Attach the paper to the take-up reel correctly.
	The paper hold-down plate is pressing paper too strong.	---	Align the holes on the plate with the edges of paper.
Actual margins differ from the specified margins.	Paper feed amount is not configured correctly.	---	Perform the Media Feed Auto Adjustment. (Page 265)
	The Paper Size Check function has been disabled.	---	Enable (select "ON") the Paper Size Check function. (The printer is not capable of precisely correcting less than 2 mm differences.)

2.6 Other Troubles

Table 2-5. Other Troubles

Symptom	Cause	Check Item	Remedy	
The printer is not powered.	The power cable is unplugged	Is the power plug connected properly?	Connect it properly.	
	The power voltage is unstable.	Is the electrical outlet overloaded sharing with any other electric equipment?	Use one electrical outlet for the printer only if possible.	
	Connection failure of the PSH BOARD	Is there any problems in the connection between the PSH BOARD and the MAIN BOARD?	Correct the problem.	
	Connection failure of the PANEL BOARD	Is there any problems in the connection between the PANEL BOARD and the MAIN BOARD?	Correct the problem.	
	If any of the remedies above does not help, replace the following parts one by one. <input type="checkbox"/> AC inlet <input type="checkbox"/> PSH BOARD (See P.118)			
Cannot access to the network.	A wrong type of network cable is used.	Is a crossing cable used as the network cable?	Replace the cable with a straight cable.	
	Network cable failure	Is there any abnormalities observed on the cable? <input type="checkbox"/> Are the connectors firmly inserted? <input type="checkbox"/> Is the cable breaking? <input type="checkbox"/> Is the cable being bent or is there anything placed on the cable?	Correct the problem.	
		LAN connector failure	Is the connector deformed or damaged?	Replace the MAIN-C BOARD.
		The MAC address is invalid.	---	Rewrite the address with a correct one. (Page 272)
	Connection failure of the MAIN-C BOARD	Is there any problems in the connection between the MAIN-C BOARD and the MAIN BOARD?	Correct the problem.	
	If any of the remedies above does not help, replace the MAIN-C BOARD. (See P.114)			
The printer makes a strange noise when the CR is moving.	The tension of the CR TIMING BELT is not proper.	---	Correct the tension of the CR TIMING BELT. (Page 234)	
	Lubrication of the CR UNIT and CR shaft is insufficient.	Does the CR UNIT move smoothly? Check it by pulling the CR TIMING BELT.	If the unit does not move smoothly, lubricate it.	
	CR SCALE or CR ENCODER failure	1. Is the CR SCALE damaged or contaminated? 2. Is the CR SCALE attached properly? 3. Is the CR ENCODER installed correctly?	1. Clean the CR SCALE. 2. Reinstall the CR SCALE and CR ENCODER. 3. Replace the CR SCALE (See P.135) and CR ENCODER (See P.138).	
	Unexpected tension was applied to the tubes.	Is the resin film on the CR FFC attached properly?	Attach the resin film properly.	
	If any of the remedies above does not help, replace the CR MOTOR. (See P.141)			

2.7 Trouble on Service Program

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

Table 2-6. 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? <input type="checkbox"/> Supported OS: Windows XP SP3, Windows 7	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.	<input type="checkbox"/> The printer is turned off. <input type="checkbox"/> 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.
"Remove paper" error	The selected adjustment does not require printing, but paper is loaded on the printer.	---	Remove the paper from the printer.

2.8 Trouble on NVRAM Viewer

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

Table 2-7. Trouble on NVRAM Viewer

Symptom	Cause	Check Item	Remedy
The button to open the NVRAM Viewer is not displayed.	NVRAM Viewer function is set to Hide.	With a text editor, open the ini file (ServPrg.ini) in the "Common" folder of the Service Program, and check the setting status of the NVRAM Viewer. (0 = Hide, 1 = Show)	Adjust the setting according to the policy of each local sales subsidiary.
The contents and the items displayed in the NVRAM Viewer do not match with each other.	The Service Program you are running is different one.	Are you running the Service Program for this product?	Use the proper Service Program for this product.
History of the error and the counter reset are not displayed on the NVRAM Viewer.	History of the error and the counter reset are shown only as a CSV file. It will not be shown in the Viewer, because they have too many items.	---	Click the "Send as CSV" button on the lower right NVRAM Viewer screen to output the CSV file. These histories are recorded in this file.

CHAPTER

3

DISASSEMBLY & ASSEMBLY

Confidential

3.1 Overview

This chapter describes procedures for disassembling the main components of SC-T7000 series/SC-T5000 series/SC-T3000 series.

Be sure to follow the steps when disassembling the unit.

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”. Be sure to perform the specified adjustments with reference to Chapter 4 “ADJUSTMENT”.
- **LUBRICATION**
“LUBRICATION” signals that the part needs to be lubricated when replacing or maintaining it after disassembling.



The disassembly/assembly procedures are provided based on SC-T7000 series. The procedures for SC-T5000 series/SC-T3000 series are basically the same unless otherwise specified.

3.1.1 Precautions

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



- When the PRINTR COVER is opened, a safety-interlock mechanism causes the CR MOTOR and the PF MOTOR to stop. When the interlock function is disabled, be sure to take safety precautions and turn the function back to enabled after the operation.
- This printer is equipped with a lithium battery. When handling the lithium battery, the following precautions should be followed.
 - When replacing the battery, replace it only with a specified type of battery. Using a different type of battery may cause excess heat or explosion.
Recommended battery: CR2032 (Sony)
 - 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.

- 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 replacing the MAIN BOARD, PSH BOARD, or Power harnesses and such, make sure to check visually if any harness is caught in between or any wrong connection exists.



- Locate the printer on a stable and flat surface.
- Use only recommended tools for disassembly, assembly or adjustment of the printer.
- 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 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.
- Disassembling the frame and some components (platen, PF shaft) of the printer is prohibited because they are assembled with precise measurements in 1/100 mm unit at the factory.

3.1.2 Cautions after assembling

CAUTION


- The ink-path-related components or parts should be firmly and securely reinstalled on the printer to prevent the ink from leakage.
- 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 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.

3.1.3 Orientation Definition

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

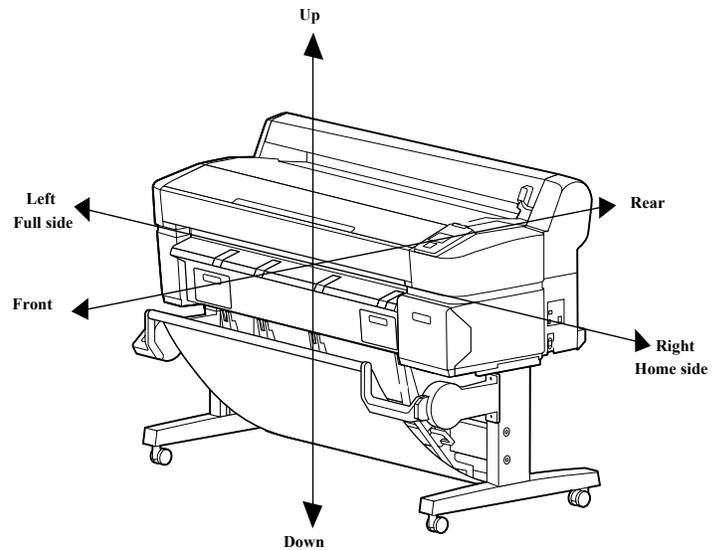


Figure 3-1. Orientation Definition

3.1.4 Recommended Tools

To protect this product from damage, use the tools indicated in the following table. For the tools required to perform the adjustment, refer to “Tools/Consumables for Adjustments” in Chapter 4.

Table 3-1. Tools

Name	Description	Target Part
Phillips screwdriver, No. 1	4 cm or longer shaft length (The one with a magnet is recommended)	<input type="checkbox"/> PRINT HEAD <input type="checkbox"/> Some encoders/sensors
Phillips screwdriver, No. 2	25 cm or longer shaft length (The one with a magnet is recommended)	Parts in general
Tweezers	Nothing in particular	Parts in general
Acetate tape	To secure the cable/harness, or for the protection against the sharp edge	Parts in general (Use this tape when it is removed or when replacing the part)
Waste cloth	To prevent staining the printer with ink during operation	<input type="checkbox"/> INKTUBE <input type="checkbox"/> IC HOLDER <input type="checkbox"/> DUMPER KIT <input type="checkbox"/> PRINT HEAD <input type="checkbox"/> PUMP CAP UNIT

3.2 Parts Diagram

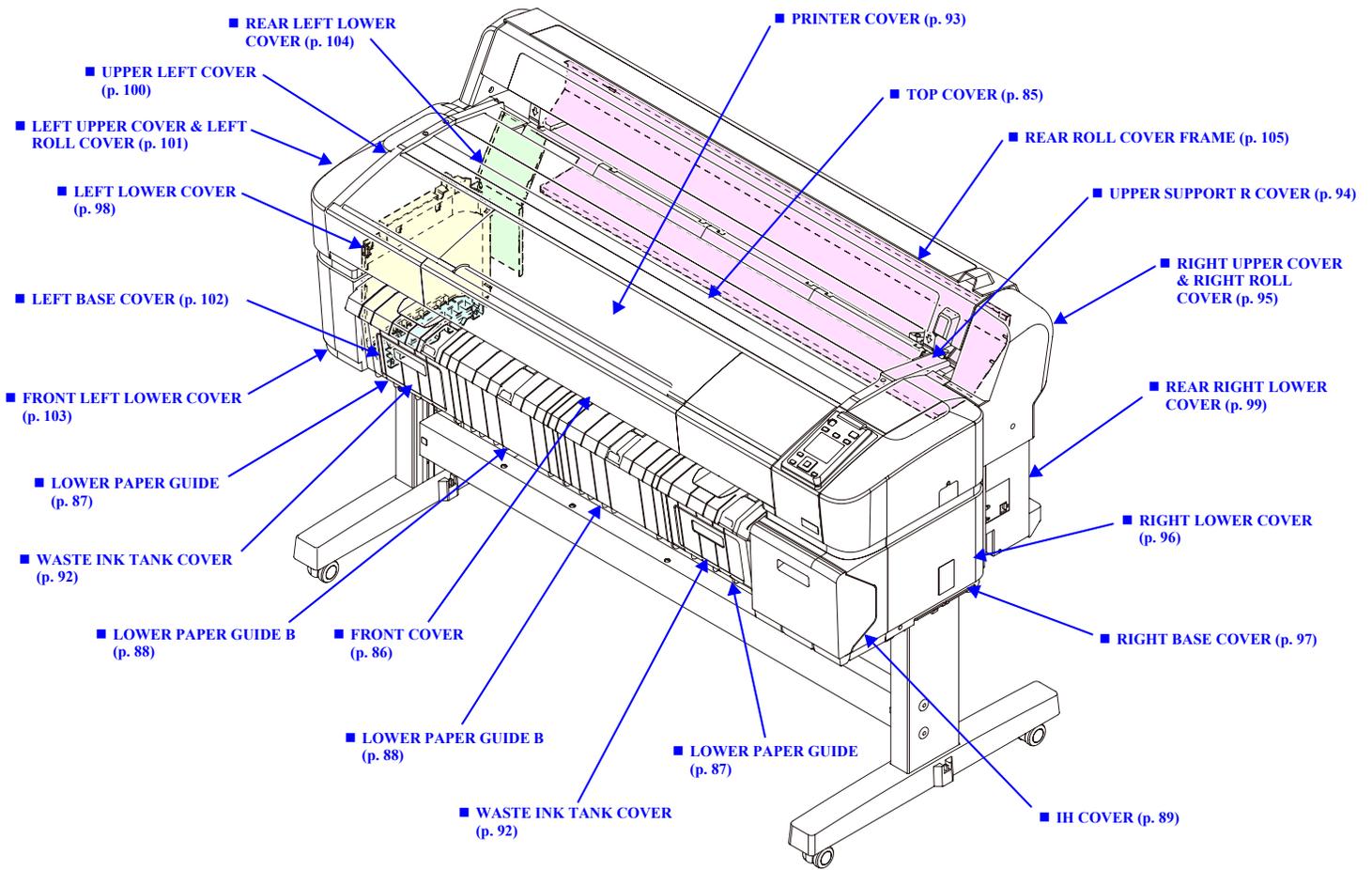


Figure 3-2. Housing

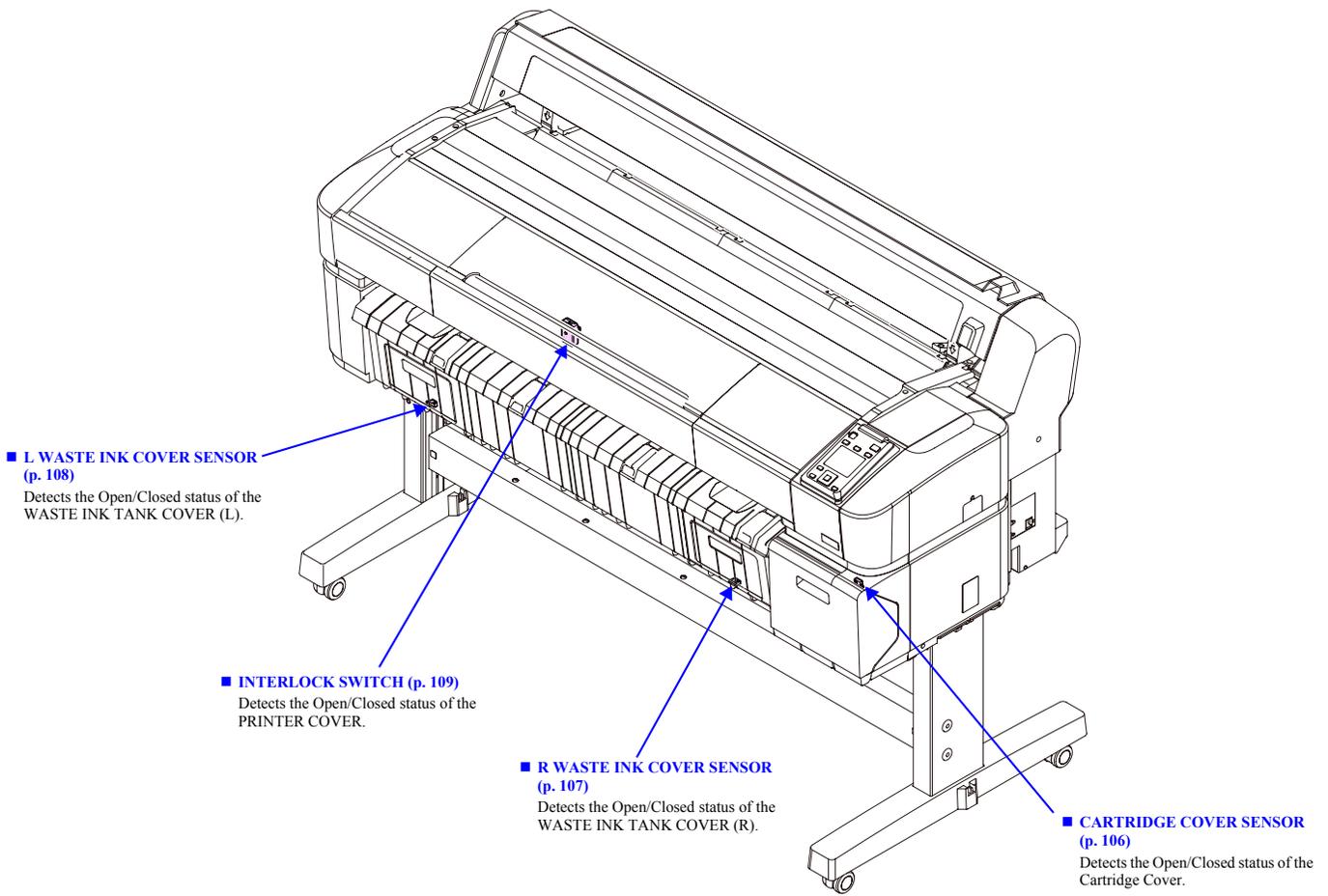


Figure 3-3. Cover sensors

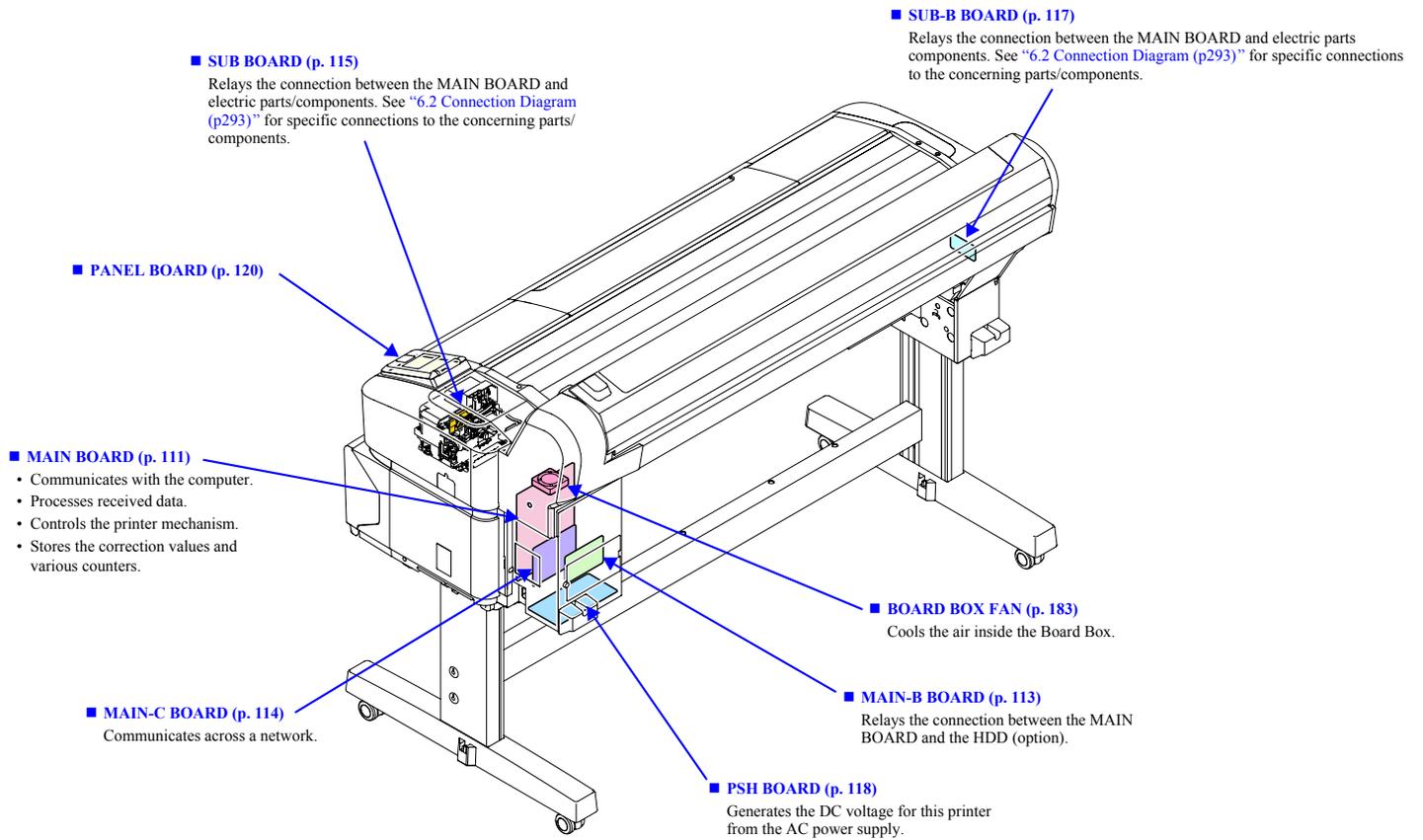


Figure 3-4. Electric Circuit Components

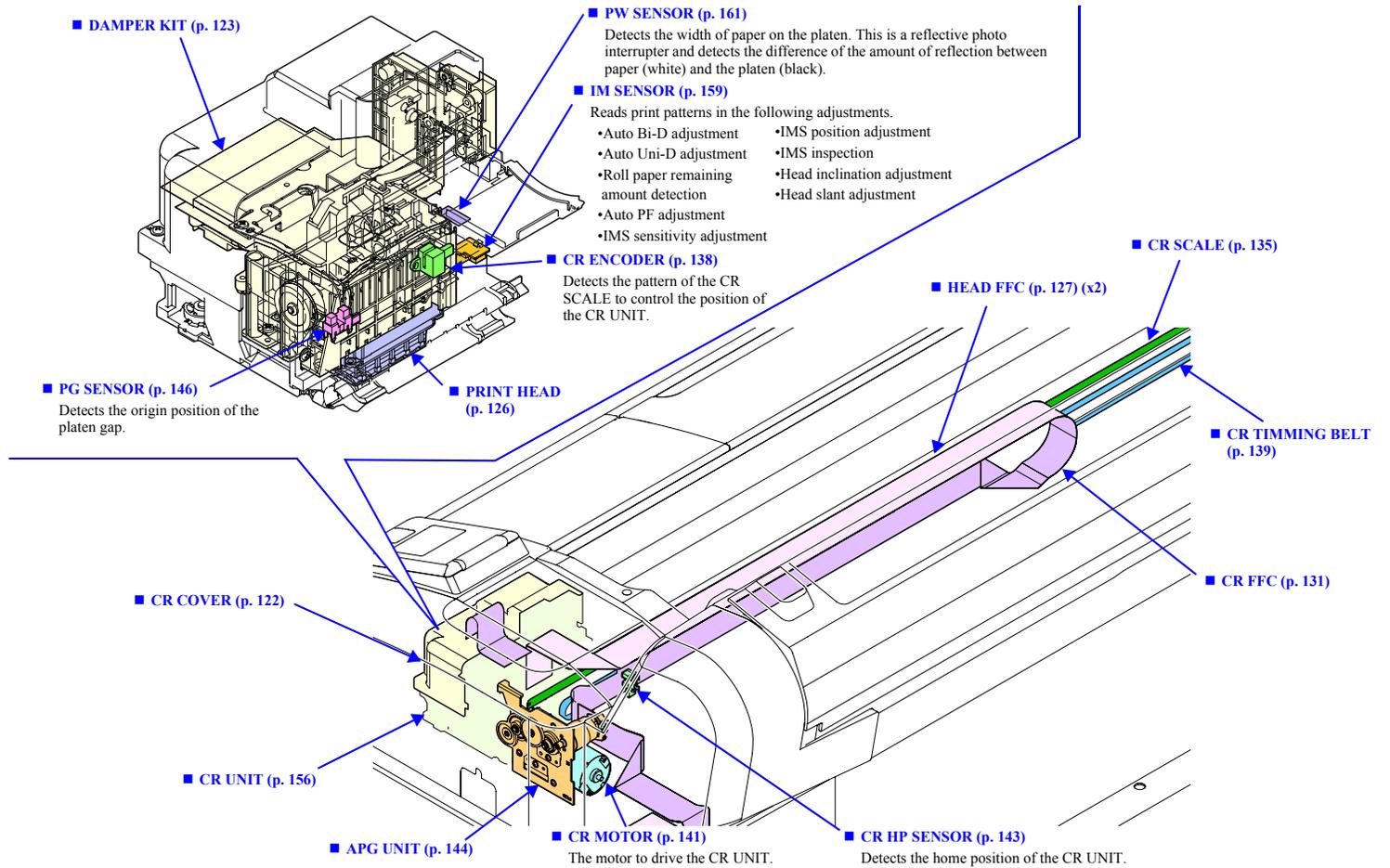


Figure 3-5. Carriage Mechanism

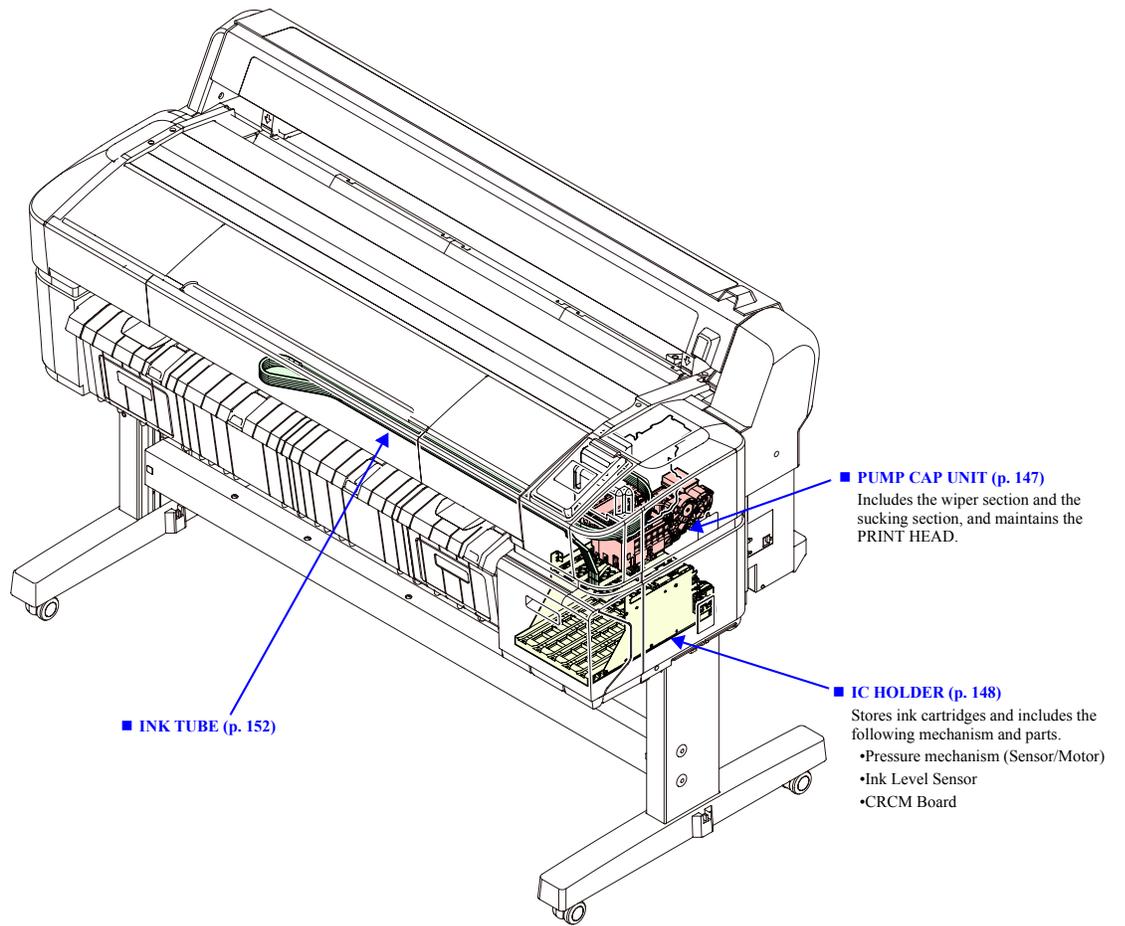


Figure 3-6. Ink System Mechanism

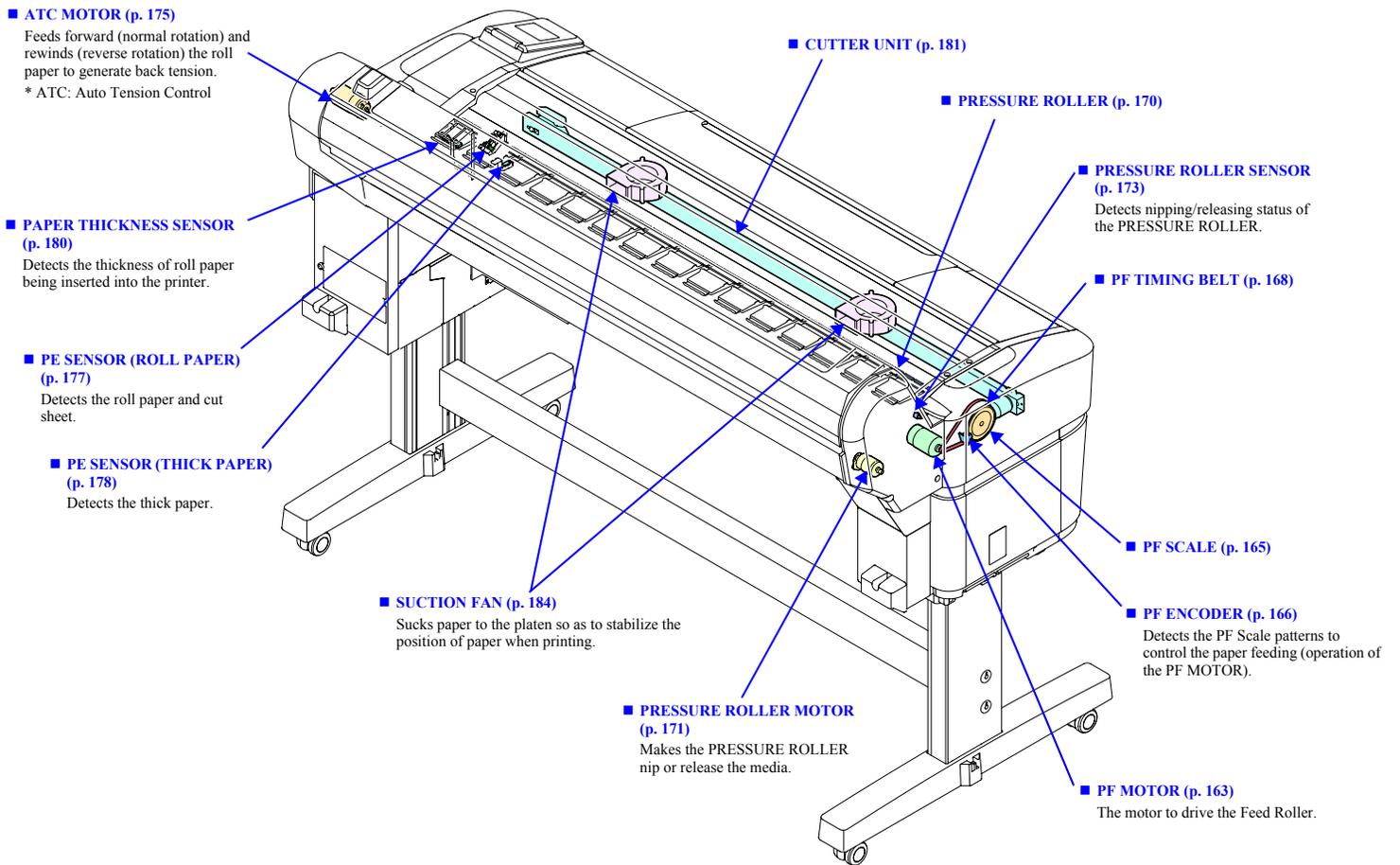


Figure 3-7. Paper Feed Mechanism / Cutter

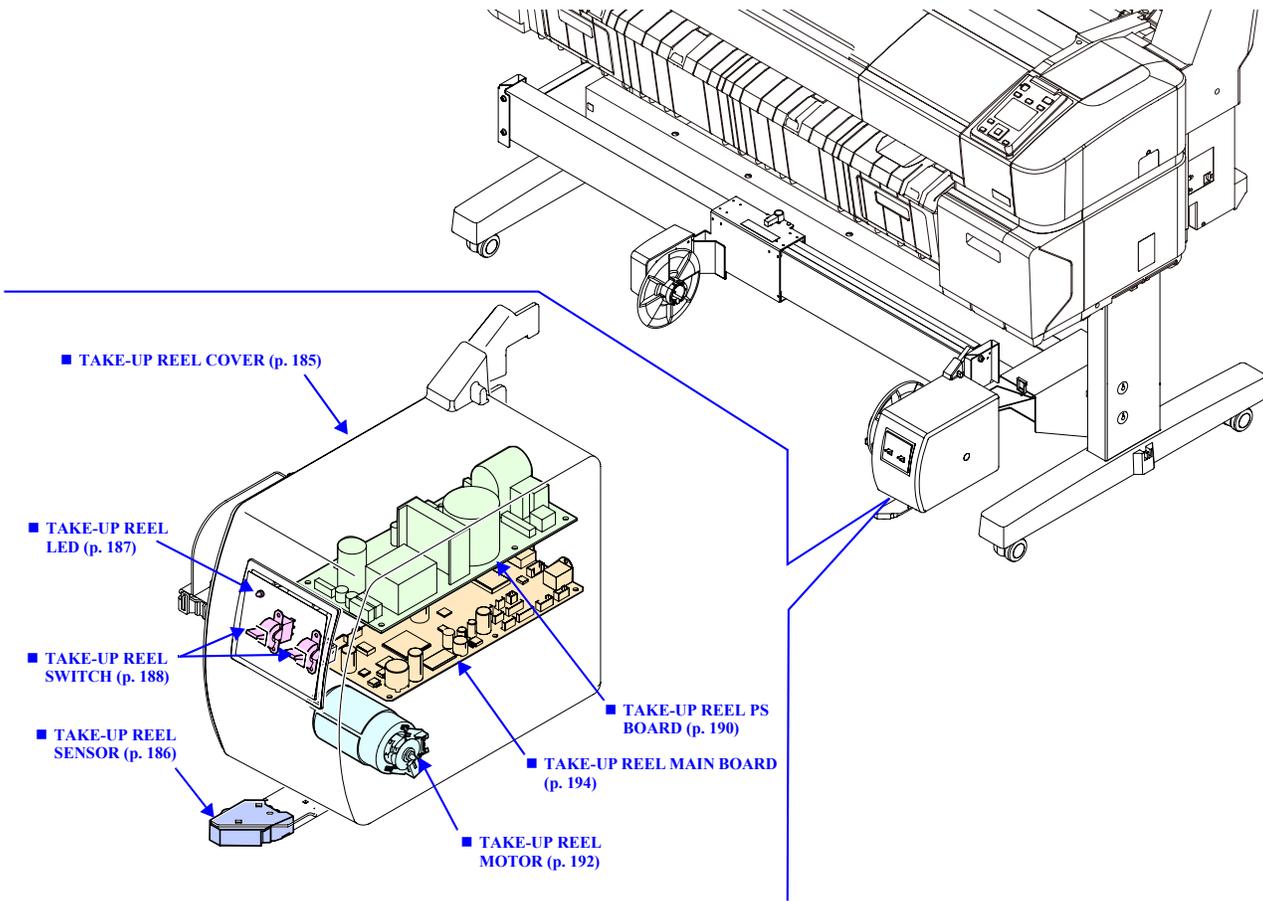
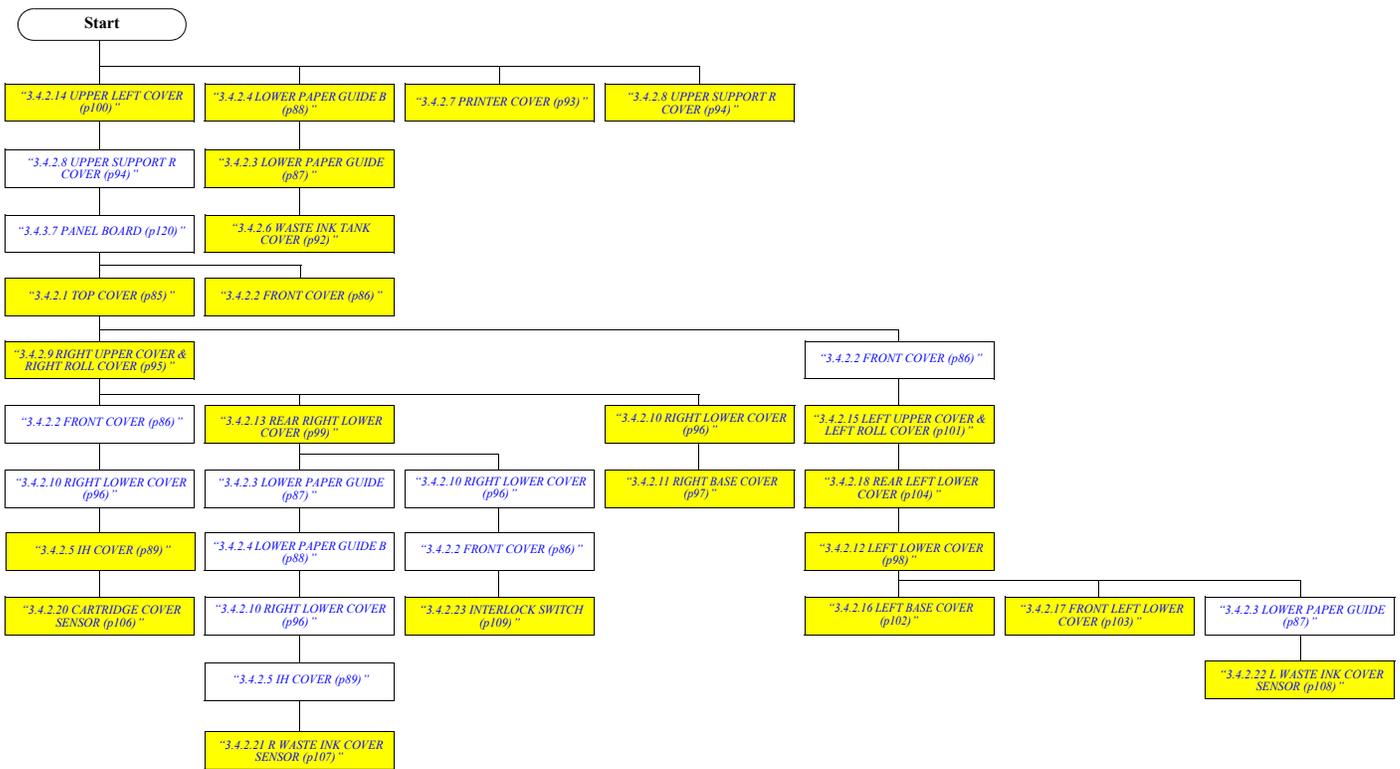


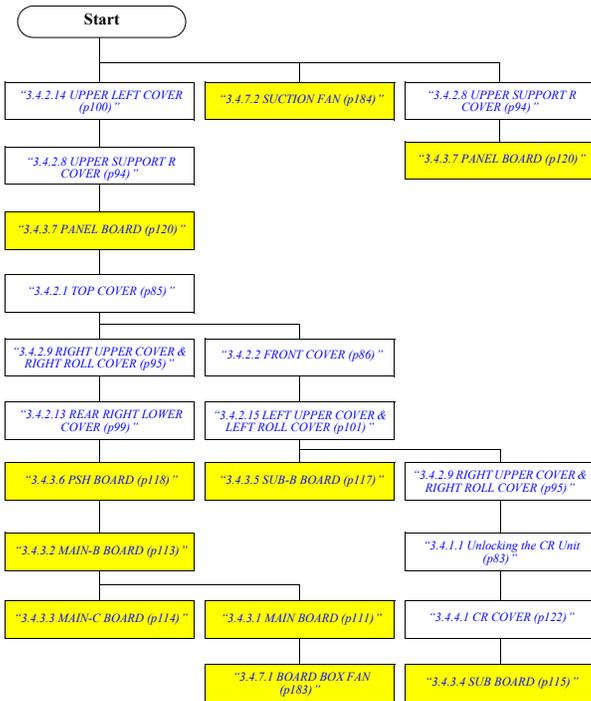
Figure 3-8. Auto Take-up Reel

3.3 Disassembly Flowchart

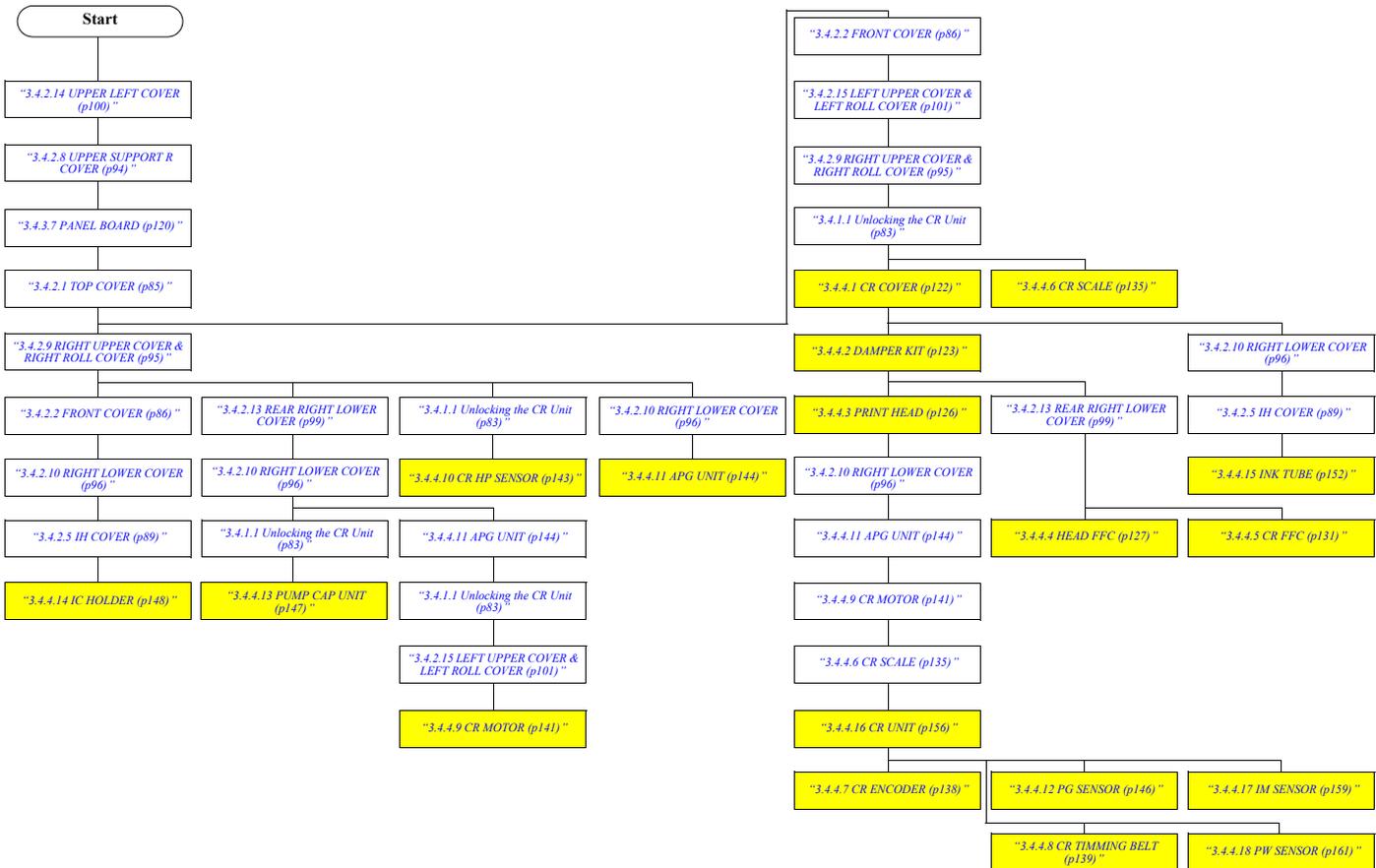
HOUSING



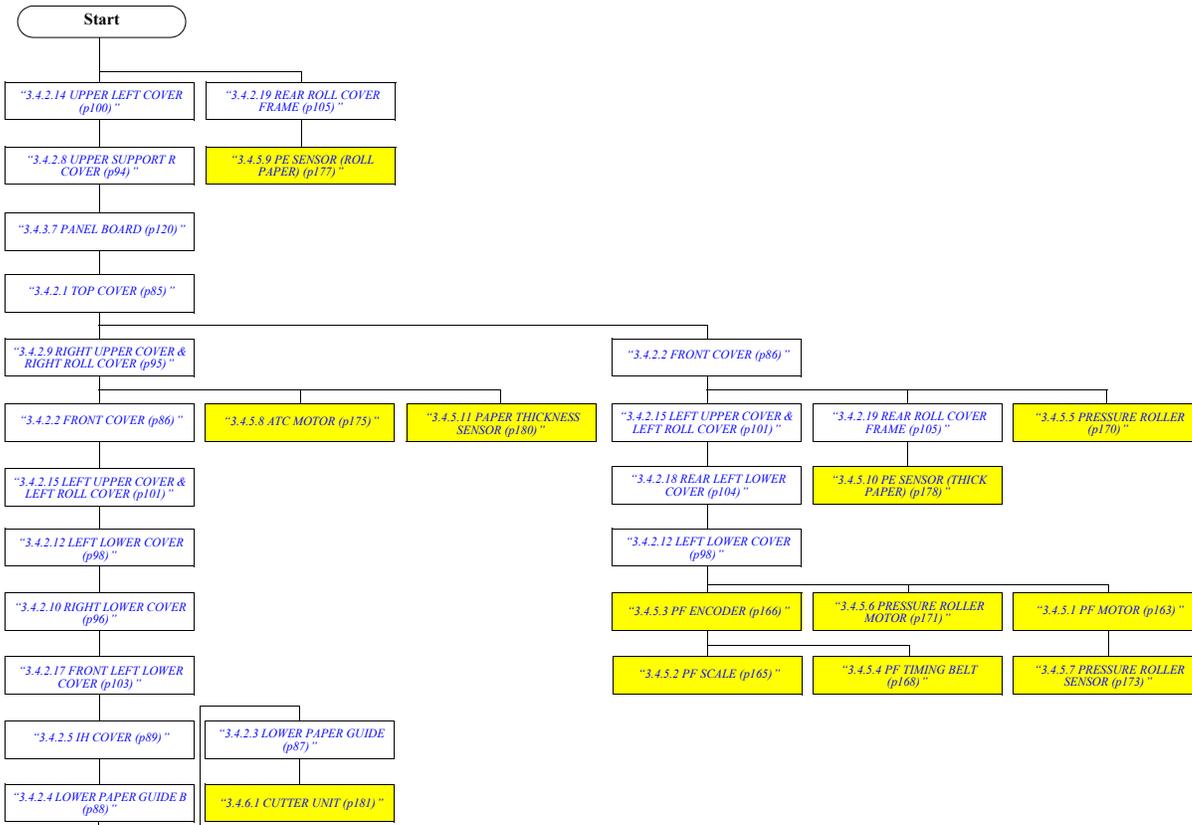
ELECTRIC CIRCUIT COMPONENTS / FANS



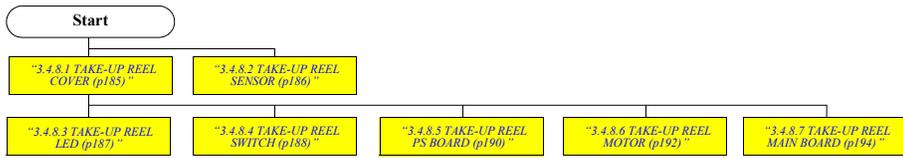
CARRIAGE MECHANISM / INK SYSTEM MECHANISM



PAPER FEED MECHANISM / CUTTER



AUTO TAKE-UP REEL (SC-T7050 SERIES ONLY)



3.4 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.

3.4.1 Preparation for servicing

3.4.1.1 Unlocking the CR Unit

- Automatic
- 1. Turn the printer ON in the Serviceman Mode.
Turn the power ON while pressing [Menu], [Back] and [OK] buttons together.
- 2. Select **Mecha Adjustment - CR Un Cap**.
- 3. Press the [OK] button while **[Enter] Un Cap** is displayed.
The carriage unit is unlocked.

□ Manual

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Insert a screwdriver into the cover through the hole as shown in the figure.
7. While viewing the CR Lock Lever status from the front of the printer, turn the white shaft of the Pump Cap Unit counterclockwise with the driver.
8. The CR Lock Lever is lowered. Check that the lever reaches the CR unlock position, and stop turning the white shaft.

CAUTION !	Do not turn the white shaft clockwise with the driver.
---------------------	---

CHECK POINT ✓	<ul style="list-style-type: none"> ■ When the CR is unlocked, it clicks. ■ Use a screwdriver with a 170 mm or longer shaft.
-------------------------	---

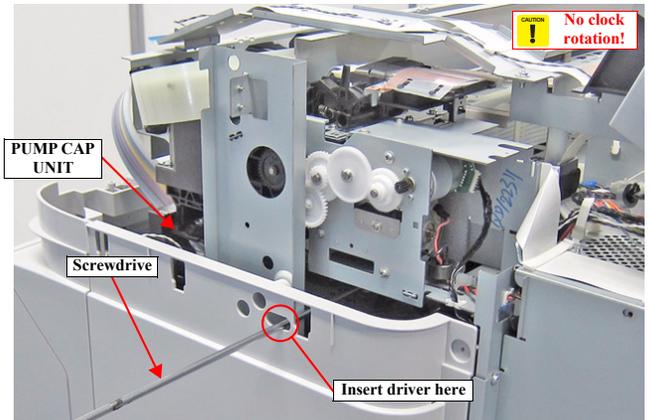


Figure 3-9. Unlocking the CR Unit

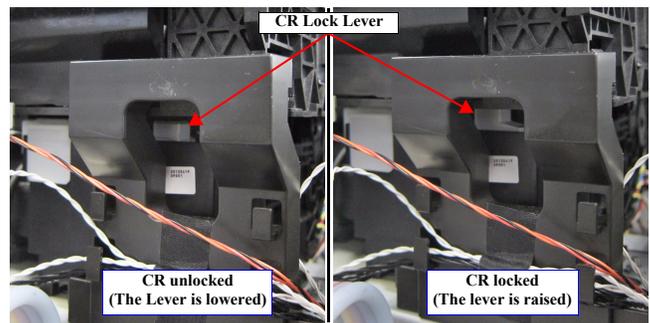


Figure 3-10. Status of the CR Lock Lever

3.4.2 Housing

3.4.2.1 TOP COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the screw, and remove the TOP COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
5. Remove the PRINTER COVER. (p93)



Pay attention to the positioning points (See [Figure 3-11](#)).

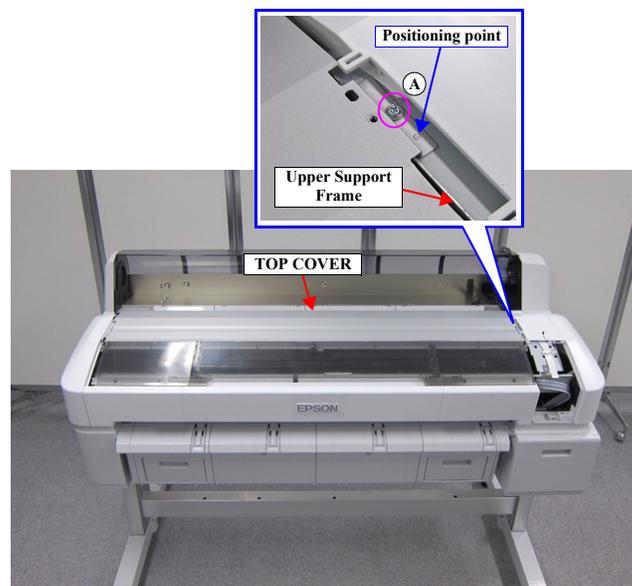


Figure 3-11. Removing the TOP COVER

3.4.2.2 FRONT COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Open the PRINTER COVER.
5. Remove the seven screws, and remove the FRONT COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 7 pcs



To ensure the INTERLOCK SWITCH can detect the flag of PRINTER COVER, tighten the screws which secure the FRONT COVER while pulling the Front Frame toward you.

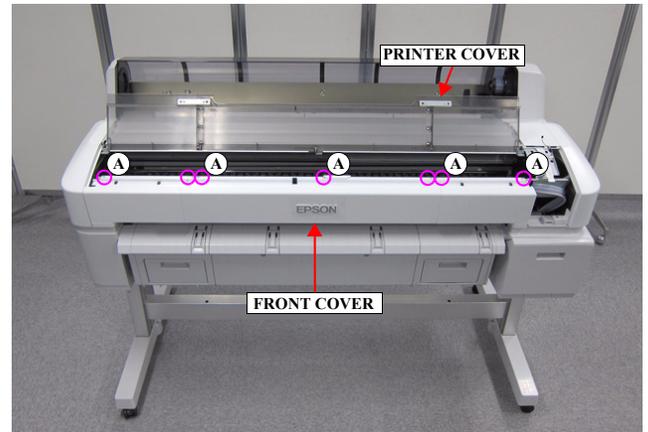
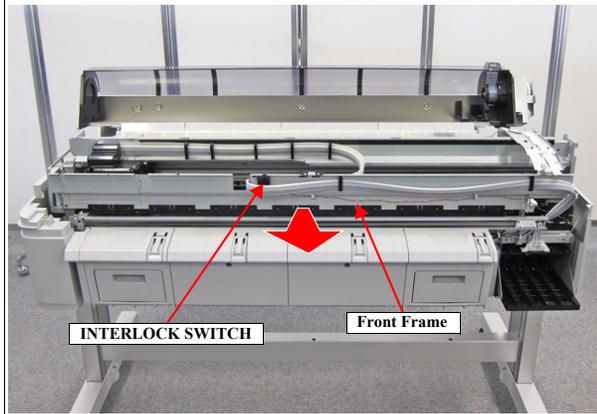


Figure 3-12. Removing the FRONT COVER

3.4.2.3 LOWER PAPER GUIDE

1. Remove the LOWER PAPER GUIDE B. (p88)
2. Open the WASTE INK TANK COVER.
3. Remove the three screws, and remove the LOWER PAPER GUIDE.
 - A) Silver M3x8 S-tite screw with built-in washer: 3 pcs



- To ensure the tab of WASTE INK TANK COVER is inserted in the groove of the Sensor Frame, install the LOWER PAPER GUIDE with the WASTE INK TANK COVER opened.
- When installing the LOWER PAPER GUIDE, take care not to damage the L WASTE INK COVER SENSOR or R WASTE INK COVER SENSOR.

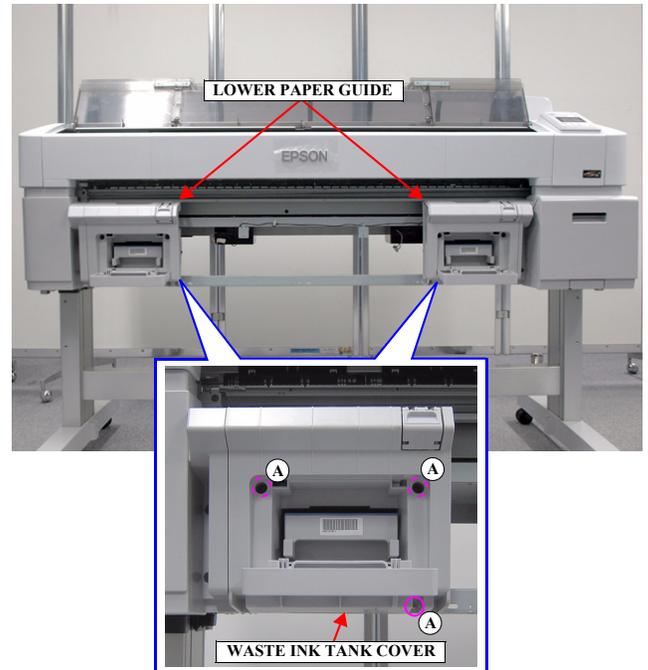
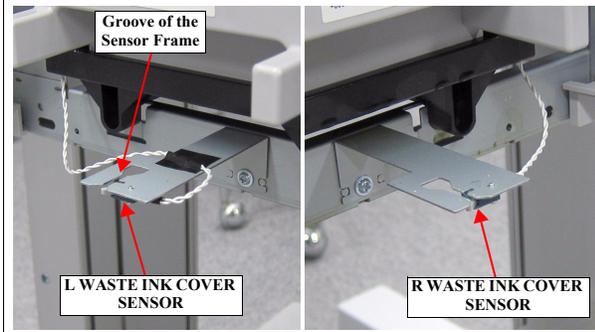


Figure 3-13. Removing the LOWER PAPER GUIDE

3.4.2.4 LOWER PAPER GUIDE B

1. Remove the two screws, and remove the LOWER PAPER GUIDE B.

A) Silver M3x8 S-tite screw with built-in washer: 2 pcs

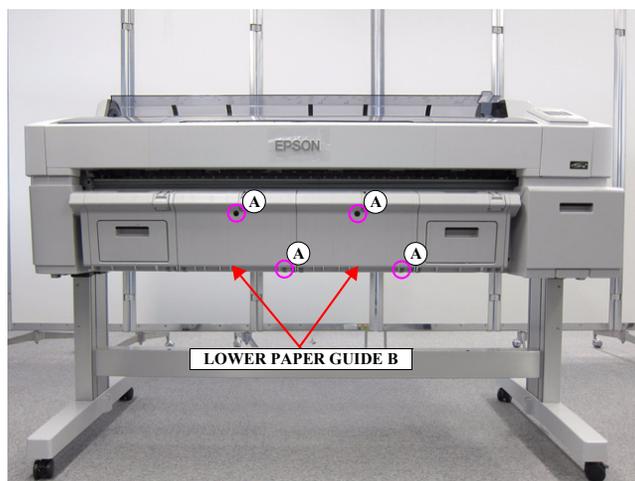


Figure 3-14. Removing the LOWER PAPER GUIDE B

3.4.2.5 IH COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the FRONT COVER. (p86)
7. Remove the RIGHT LOWER COVER. (p96)
8. Release the cable from the four clamps.
9. Disconnect the cable from the relay connector (No.1), and release the cable of the CARTRIDGE COVER SENSOR.

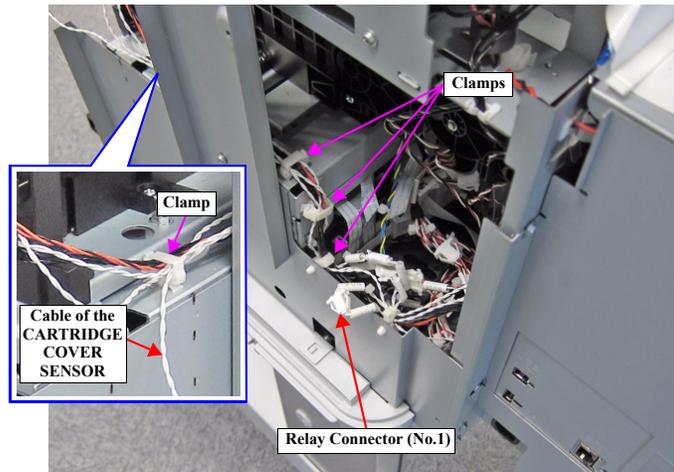


Figure 3-15. Releasing the Cable

10. Open the Cartridge Cover.
11. Remove the four screws that secure the IH COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 4 pcs

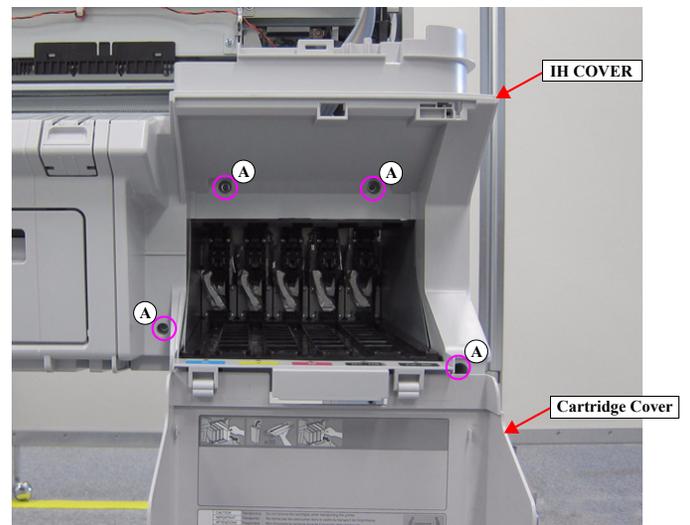


Figure 3-16. Removing the IH COVER



Do not take off the IH COVER strongly too far in the following steps because the CARTRIDGE COVER SENSOR is attached to the IH COVER.

12. Pull out the IH COVER.



When installing the IH COVER, insert the rib under the LOWER PAPER GUIDE.

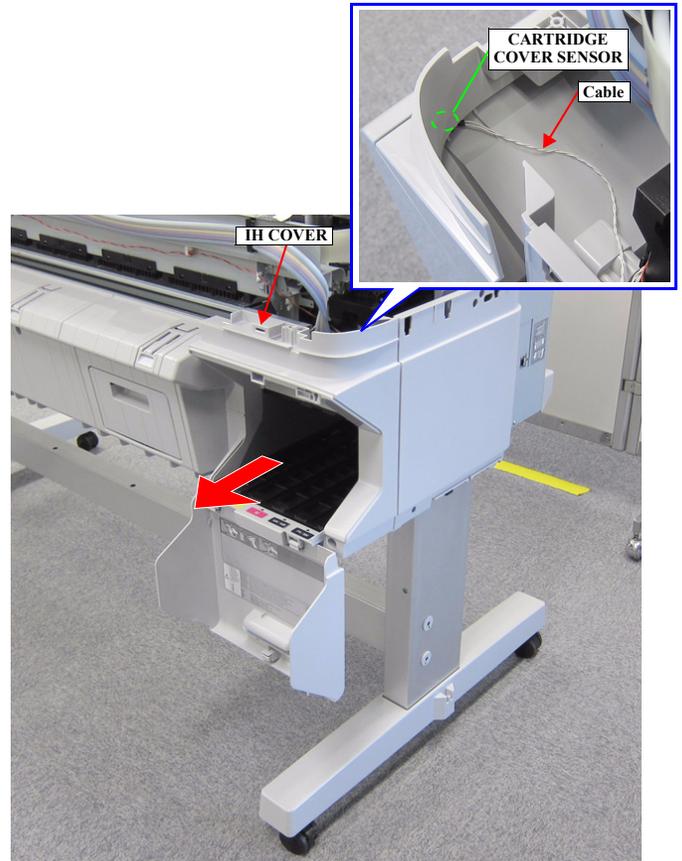
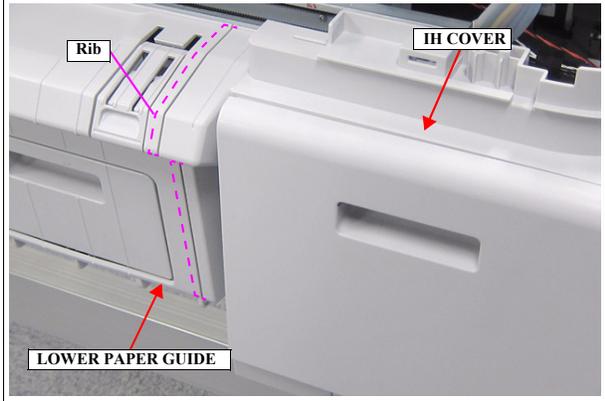


Figure 3-17. Removing the IH COVER

- Disengage the two hooks that secure the CARTRIDGE COVER SENSOR, and remove the CARTRIDGE COVER SENSOR from the IH COVER.



Pay attention to the positioning points (See [Figure 3-18](#)).

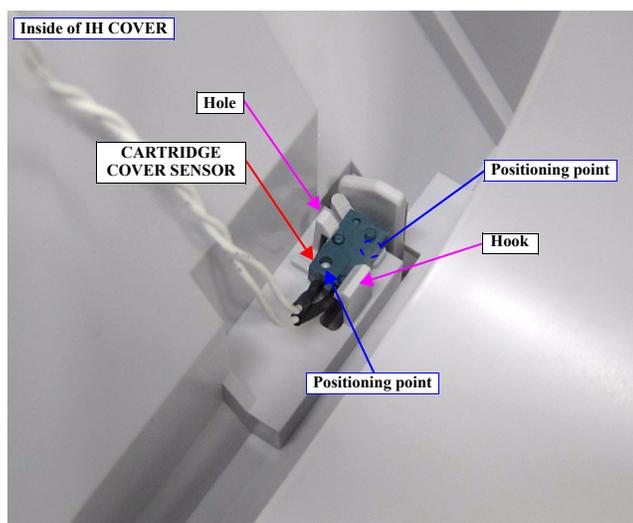


Figure 3-18. Removing the CARTRIDGE COVER SENSOR

3.4.2.6 WASTE INK TANK COVER

1. Remove the LOWER PAPER GUIDE B. (p88)
2. Remove the LOWER PAPER GUIDE. (p87)
3. Disengage the two hooks on the WASTE INK TANK COVER from the two shafts of the LOWER PAPER GUIDE using a tool such as a slotted-head screwdriver, then remove the WASTE INK TANK COVER.

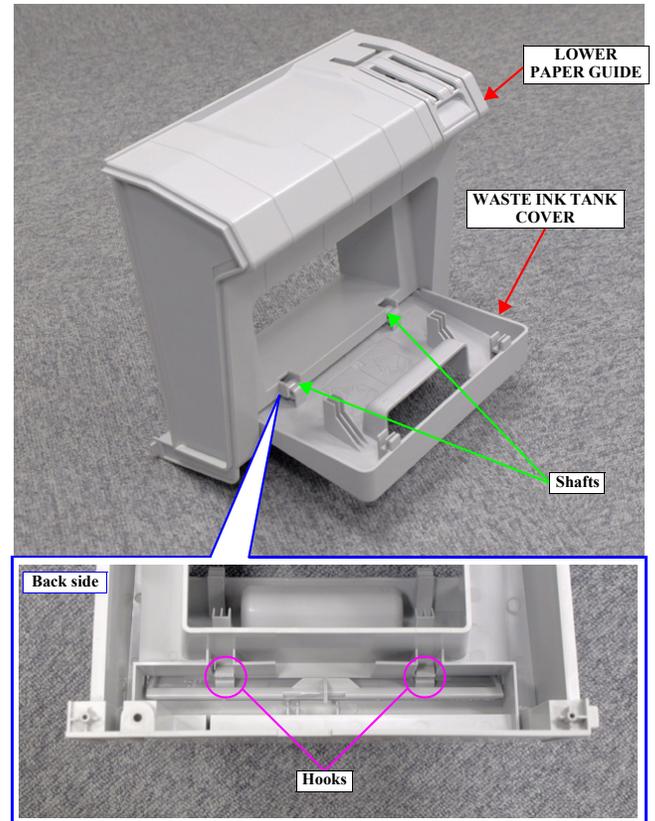


Figure 3-19. Removing the WASTE INK TANK COVER

3.4.2.7 PRINTER COVER

1. Disengage the three hinges of the PRINTER COVER from the bearings, and remove the PRINTER COVER.

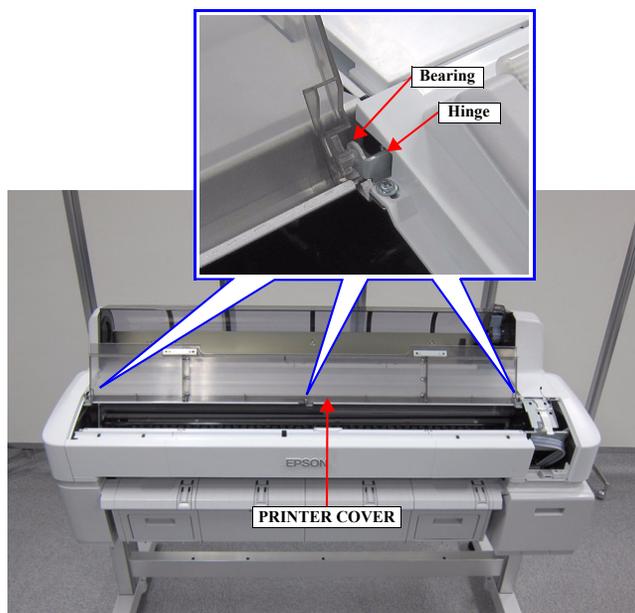


Figure 3-20. Removing the PRINTER COVER

3.4.2.8 UPPER SUPPORT R COVER

1. Remove the two screws, and remove the UPPER SUPPORT R COVER.

A) Silver M3x8 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning points. (See below figure)

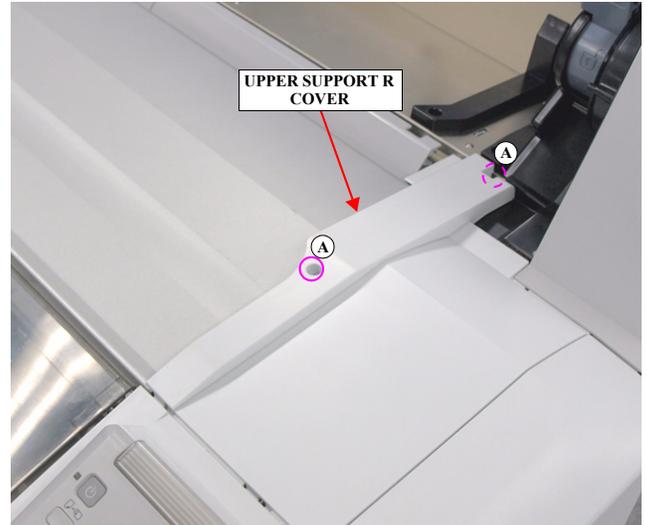
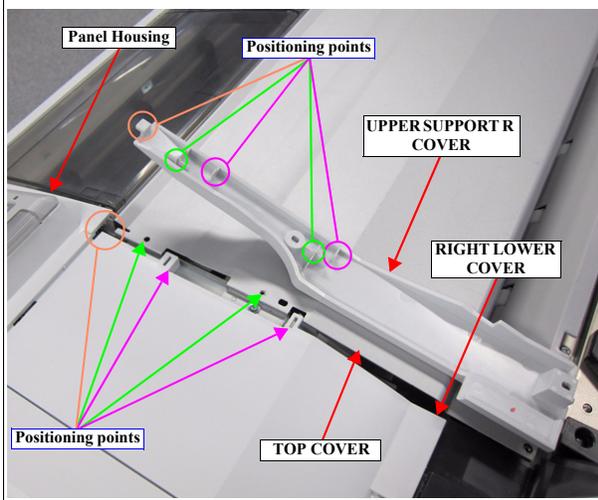


Figure 3-21. Removing the UPPER SUPPORT R COVER

3.4.2.9 RIGHT UPPER COVER & RIGHT ROLL COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the six screws, and remove the RIGHT UPPER COVER & RIGHT ROLL COVER.
 - A) Silver M4x12 P-tite screw with washer: 1 pcs
 - B) Silver M3x10 P-tite screw with washer: 2 pcs
 - C) Silver M3x8 S-tite screw with built-in washer: 3 pcs



Pay attention to the positioning points (See below figure, Figure 3-22).

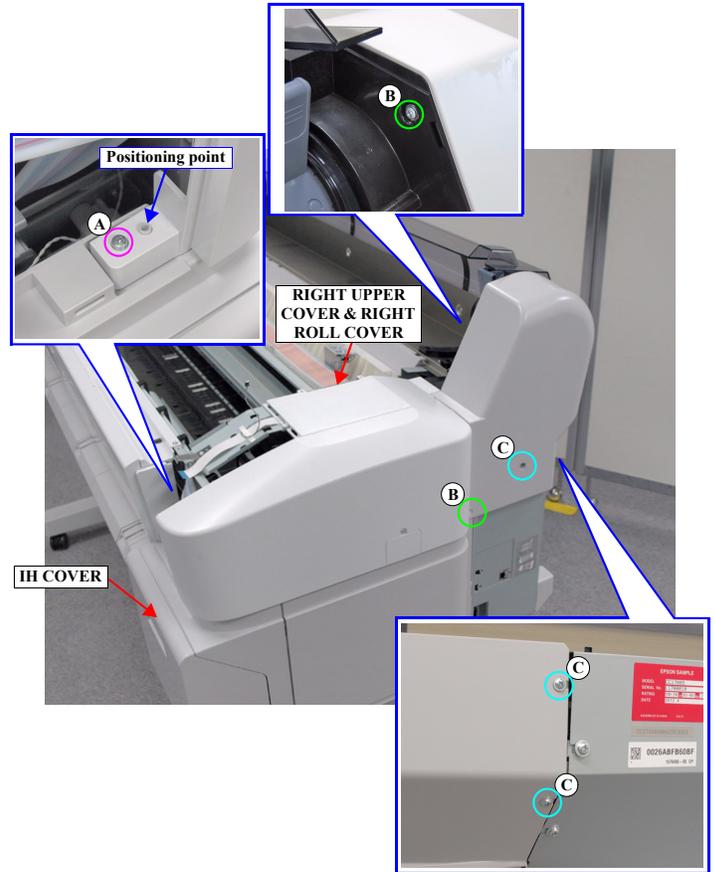
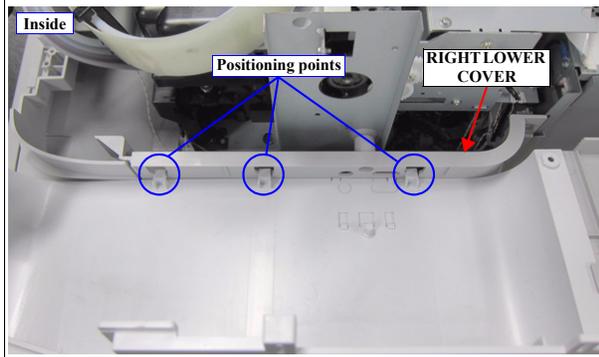


Figure 3-22. Removing the RIGHT UPPER COVER & RIGHT ROLL COVER

3.4.2.10 RIGHT LOWER COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the three screws, and remove the RIGHT LOWER COVER.
 - A) Silver M3x10 P-tite screw with washer: 1 pcs
 - B) Silver M3x8 S-tite screw with built-in washer: 2 pcs



- Insert the two tabs of the IH COVER to the two holes on the RIGHT LOWER COVER.
- Pay attention to the positioning points (See below figure).

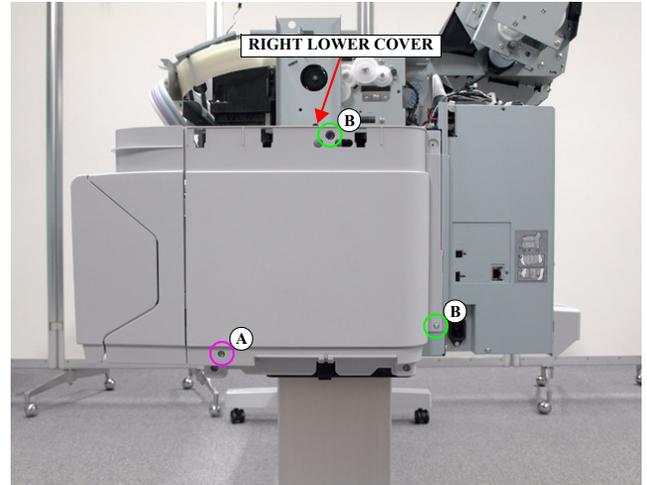
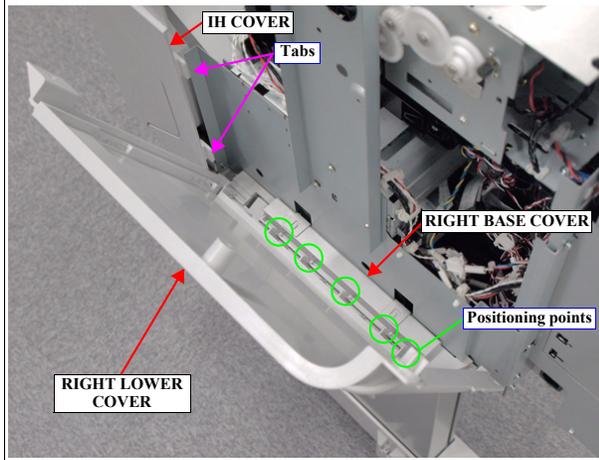


Figure 3-23. Removing the RIGHT LOWER COVER

3.4.2.11 RIGHT BASE COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the RIGHT LOWER COVER. (p96)
7. Remove the two screws, and remove the RIGHT BASE COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 2 pcs

REASSEMBLY



Pay attention to the positioning points (See below figure).

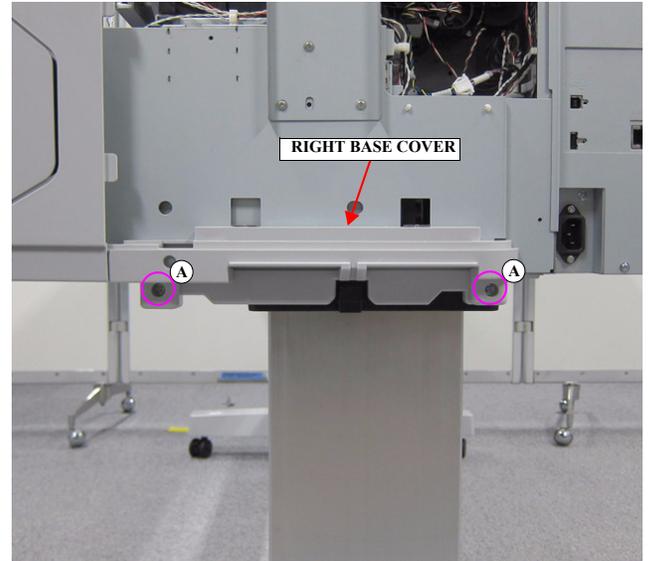
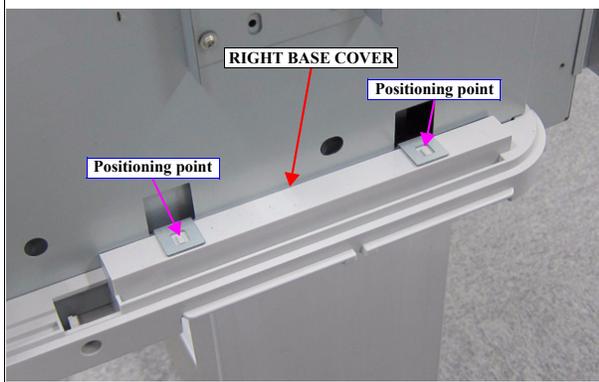


Figure 3-24. Removing the RIGHT BASE COVER

3.4.2.12 LEFT LOWER COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the two screws, and LEFT LOWER COVER.
 - A) Silver M3x10 P-tite screw with washer: 1 pcs
 - B) Silver M4x12 P-tite screw with washer: 1 pcs

REASSEMBLY



- Insert the two tabs of the FRONT LEFT LOWER COVER to the two holes on the LEFT LOWER COVER.
- Pay attention to the positioning points (See below figure).

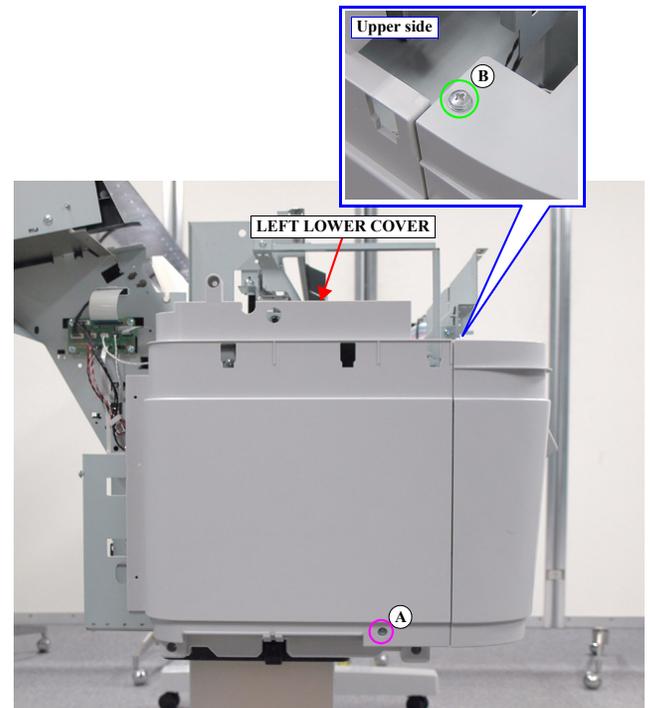
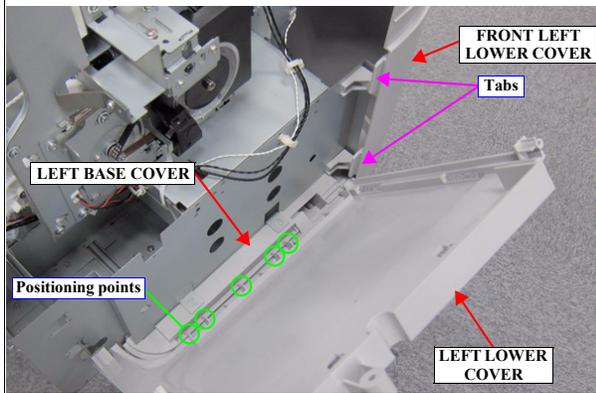


Figure 3-25. Removing the LEFT LOWER COVER

3.4.2.13 REAR RIGHT LOWER COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the ten screws, and remove the REAR RIGHT LOWER COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 10 pcs

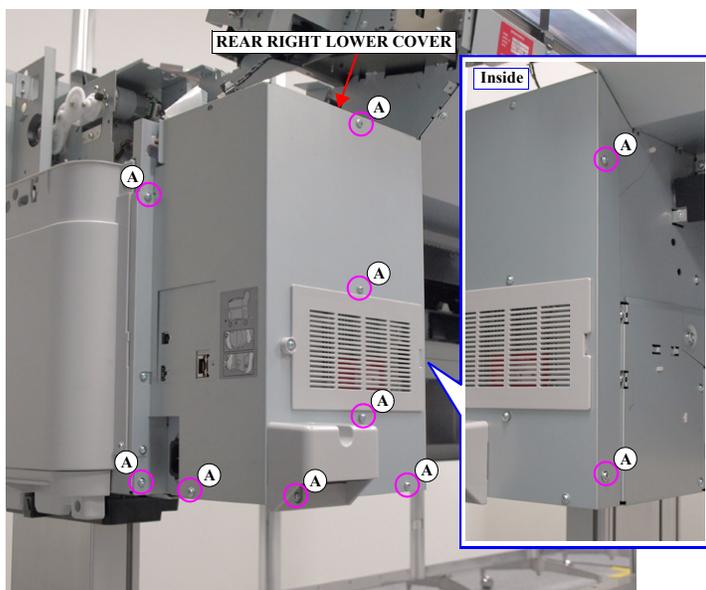


Figure 3-26. Removing the REAR RIGHT LOWER COVER

3.4.2.14 UPPER LEFT COVER

1. Open the PRINTER COVER.
2. Remove the five screws, and remove the UPPER LEFT COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 5 pcs

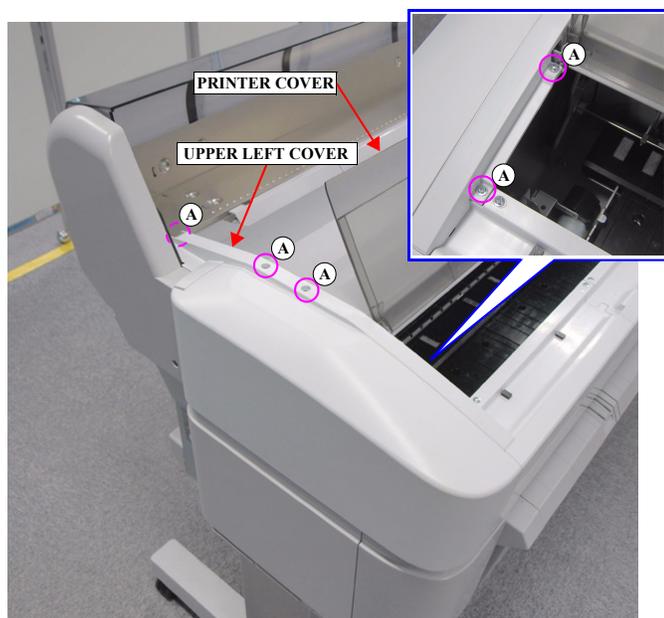


Figure 3-27. Removing the UPPER LEFT COVER

3.4.2.15 LEFT UPPER COVER & LEFT ROLL COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the four screws, and remove the LEFT UPPER COVER & LEFT ROLL COVER.

A) Silver M4x12 P-tite screw with washer: 4 pcs



Pay attention to the positioning points (See below figure, Figure 3-28).

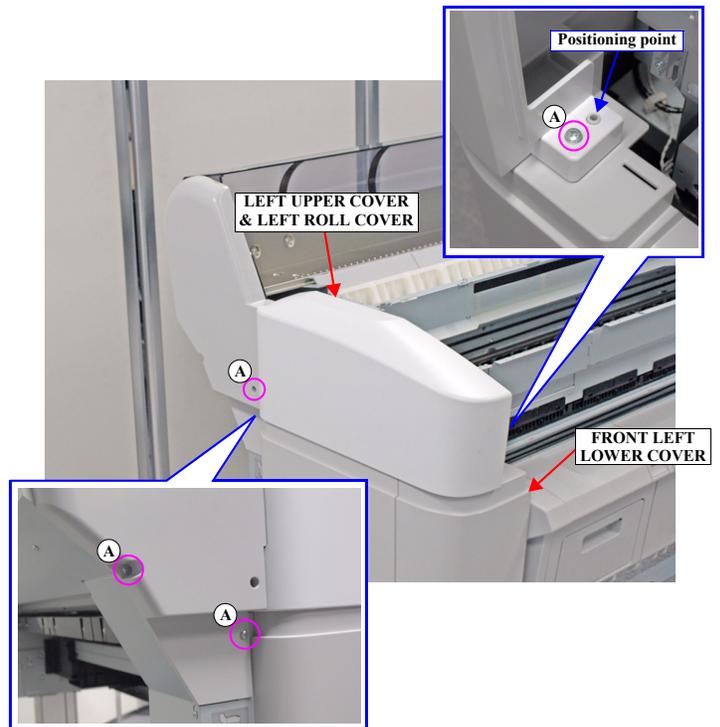
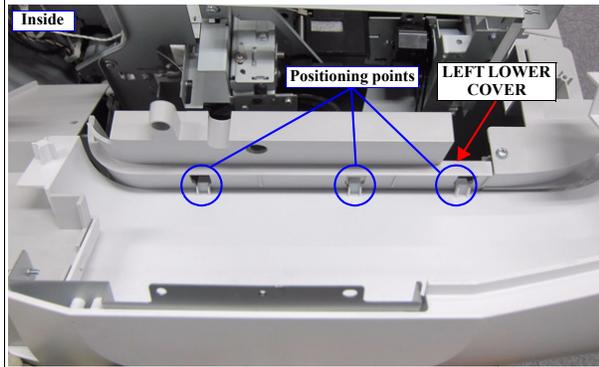


Figure 3-28. Removing the LEFT UPPER COVER & LEFT ROLL COVER

3.4.2.16 LEFT BASE COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the two screws, and remove the LEFT BASE COVER.

A) Silver M3x8 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning points (See below figure).

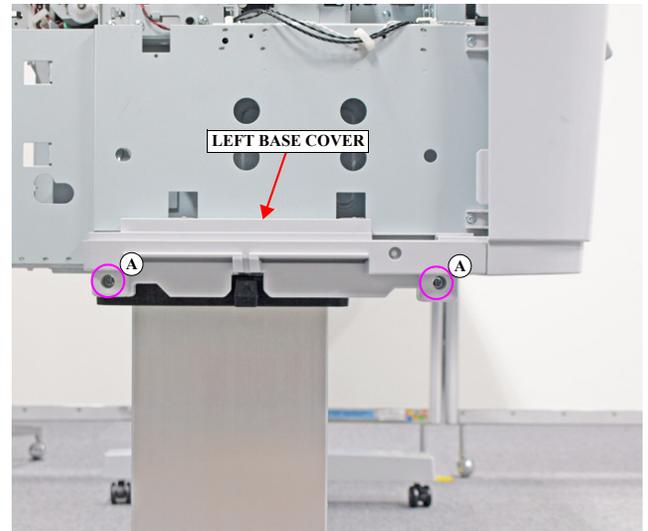
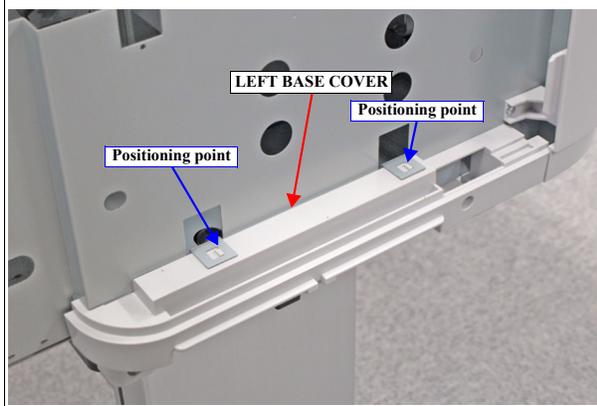


Figure 3-29. Removing the LEFT BASE COVER

3.4.2.17 FRONT LEFT LOWER COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the four screws, and remove the FRONT LEFT LOWER COVER.

A) Silver M3x8 S-tite screw with built-in washer: 4 pcs



Pay attention to the positioning points (See below figure).

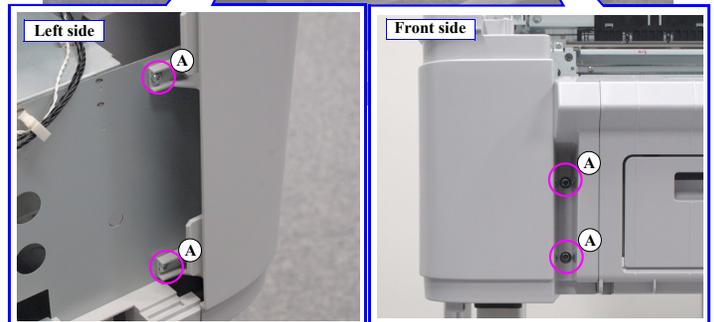
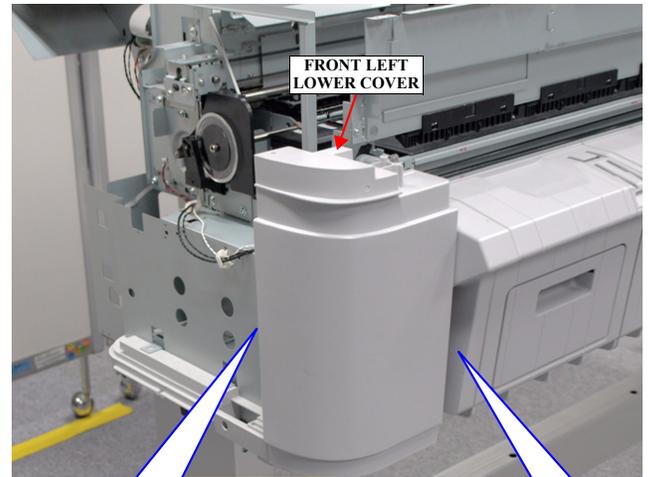
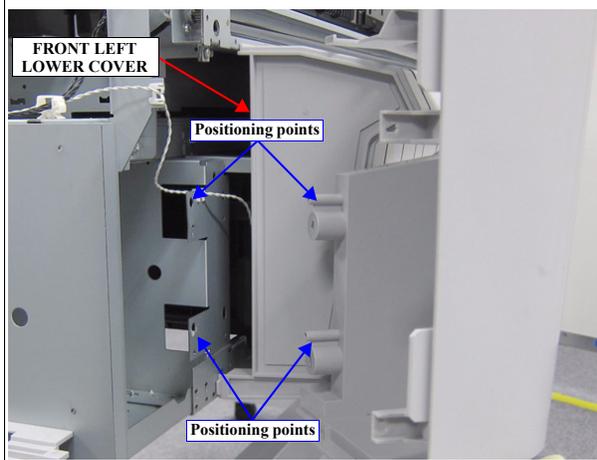


Figure 3-30. Removing the FRONT LEFT LOWER COVER

3.4.2.18 REAR LEFT LOWER COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Loosen the screw that secures the REAR LEFT LOWER COVER.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
8. Remove the three screws, and remove the REAR LEFT LOWER COVER.
 - B) Silver M4x12 P-tite screw with washer: 1 pcs
 - C) Silver M3x8 S-tite screw with built-in washer: 2 pcs

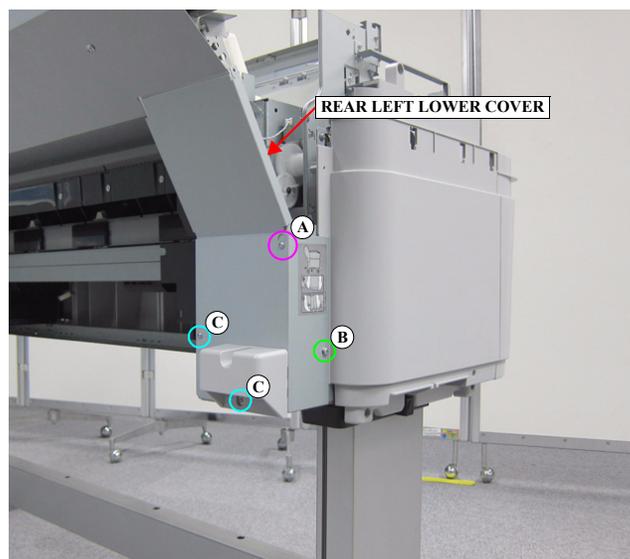


Figure 3-31. Removing the REAR LEFT LOWER COVER

3.4.2.19 REAR ROLL COVER FRAME

1. Remove the nine screws, and remove the REAR ROLL COVER FRAME.
 - A) Silver M4x8 S-tite screw with built-in washer: 6 pcs
 - B) Silver M3x8 P-tite screw with built-in washer: 3 pcs



Place the REAR ROLL COVER FRAME so that it will come on all the four tabs of the R Side Roll Frame and L Side Roll Frame.

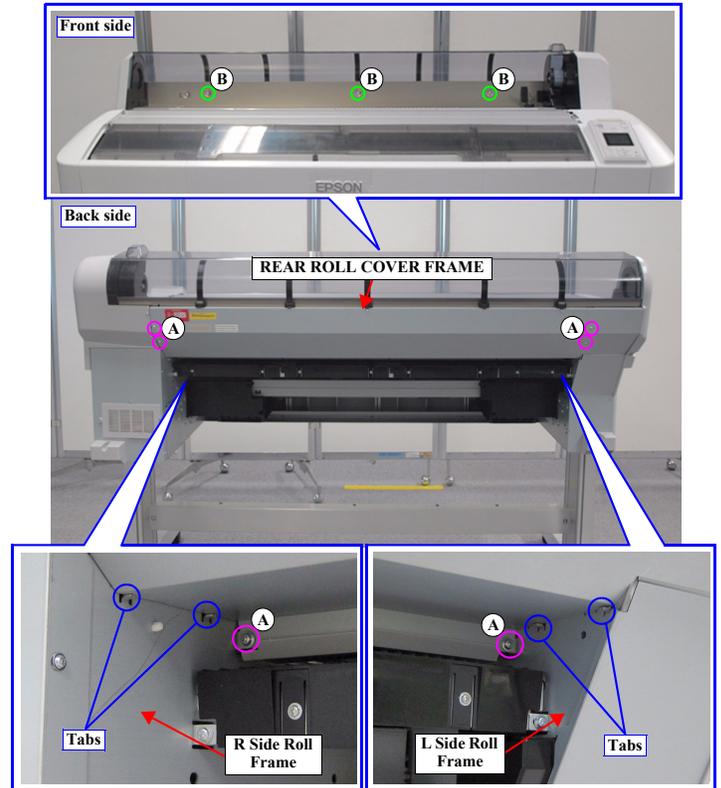


Figure 3-32. Removing the REAR ROLL COVER FRAME

3.4.2.20 CARTRIDGE COVER SENSOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the FRONT COVER. (p86)
7. Remove the RIGHT LOWER COVER. (p96)
8. Remove the IH COVER. (p89)
9. Release the cable from the four clamps.
10. Disconnect the cable from the Relay Connector (No.1), and remove the CARTRIDGE COVER SENSOR.

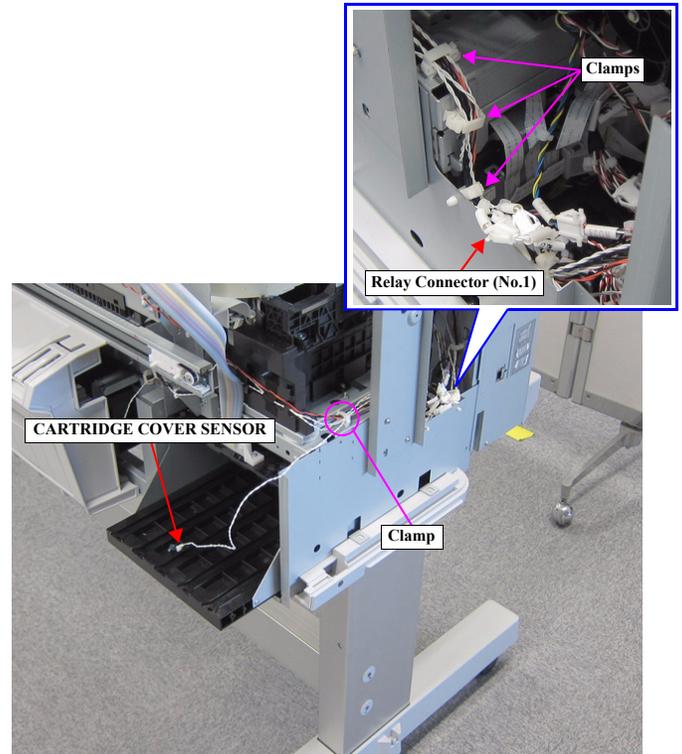


Figure 3-33. Removing the CARTRIDGE COVER SENSOR

3.4.2.21 R WASTE INK COVER SENSOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the LOWER PAPER GUIDE. (p87)
8. Remove the LOWER PAPER GUIDE B. (p88)
9. Remove the RIGHT LOWER COVER. (p96)
10. Remove the IH COVER. (p89)
11. Remove the RIGHT LOWER COVER. (p96)
12. Remove the screw that secures the R WASTE INK COVER SENSOR.
 - A) Silver M1.7x6 Pan machine screw with S.W: 1 pcs
13. Pull out the cable from the groove of the Maintenance Box Holder.
14. Release the cable from the four clamps at front side.
15. Remove the pieces of acetate tape, and release the cable.
16. Release the cable from the two hooks of the CR Spacer.
17. Release the cable from the three clamps at right side.
18. Disconnect the Cable from the Relay Connector (No.9), and remove the R WASTE INK COVER SENSOR.

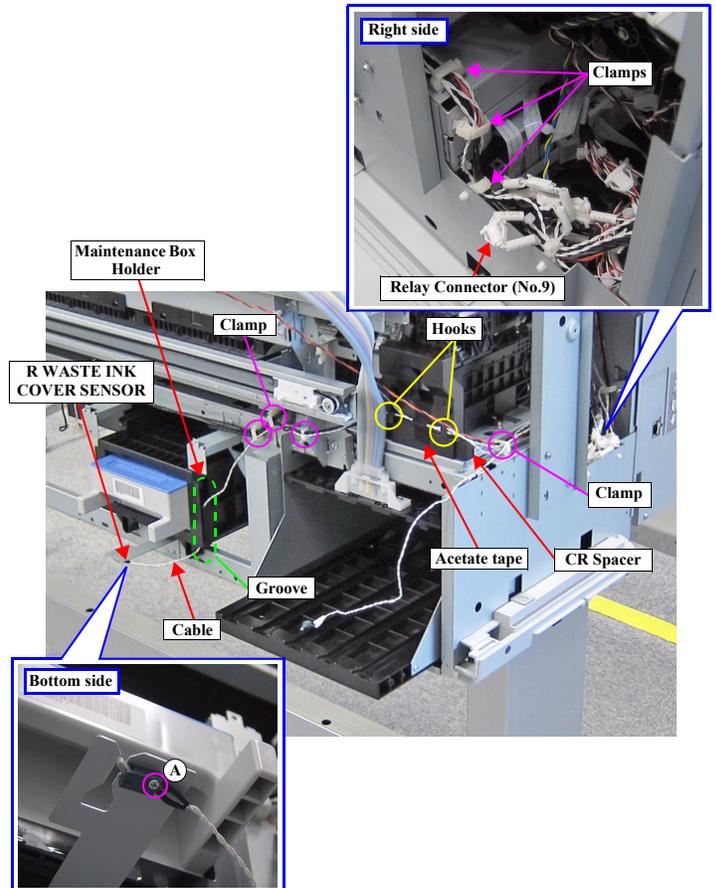


Figure 3-34. Removing the R WASTE INK COVER SENSOR

3.4.2.22 L WASTE INK COVER SENSOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the Lower Paper Guide (Left) (p87)
10. Remove the screw that secures the L WASTE INK COVER SENSOR.
 - A) Silver M1.7x6 Pan machine screw with S.W: 1 pcs
11. Pull out the cable from the groove of the Maintenance Box Holder.
12. Release the cable from the nine clamps.
13. Disconnect the cable from the connector (CN8) of the SUB-B BOARD.

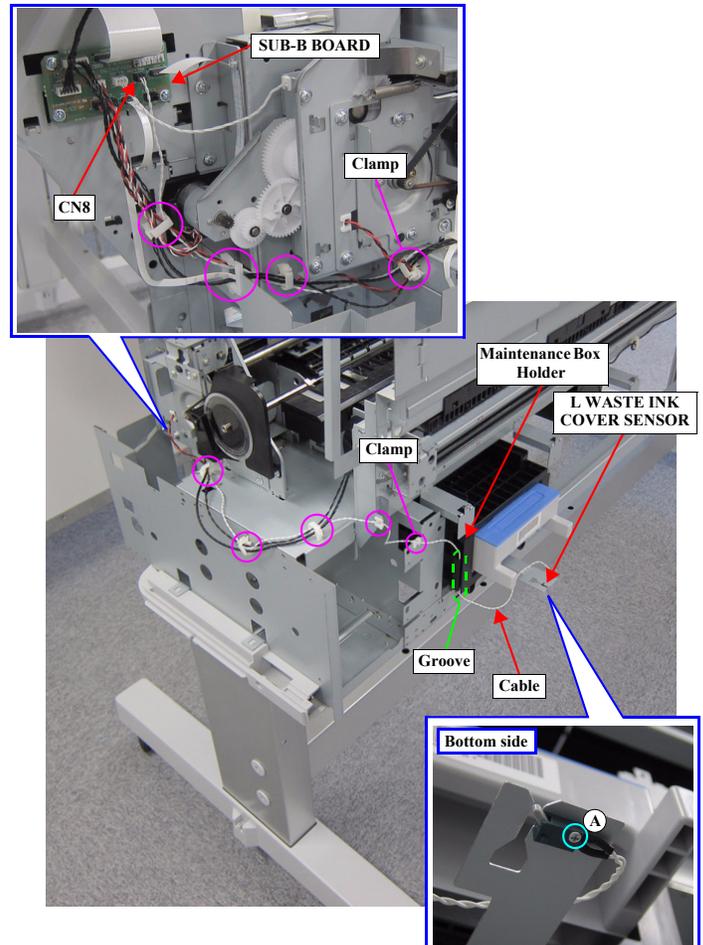


Figure 3-35. Removing the L WASTE INK COVER SENSOR

3.4.2.23 INTERLOCK SWITCH

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the RIGHT LOWER COVER. (p96)
8. Remove the FRONT COVER. (p86)
9. Remove the screw, and remove the INTERLOCK SWITCH.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
10. Release the cable from the four clamps at front side.



Insert the hook of the INTERLOCK SWITCH to the hole on the Front Support Frame.

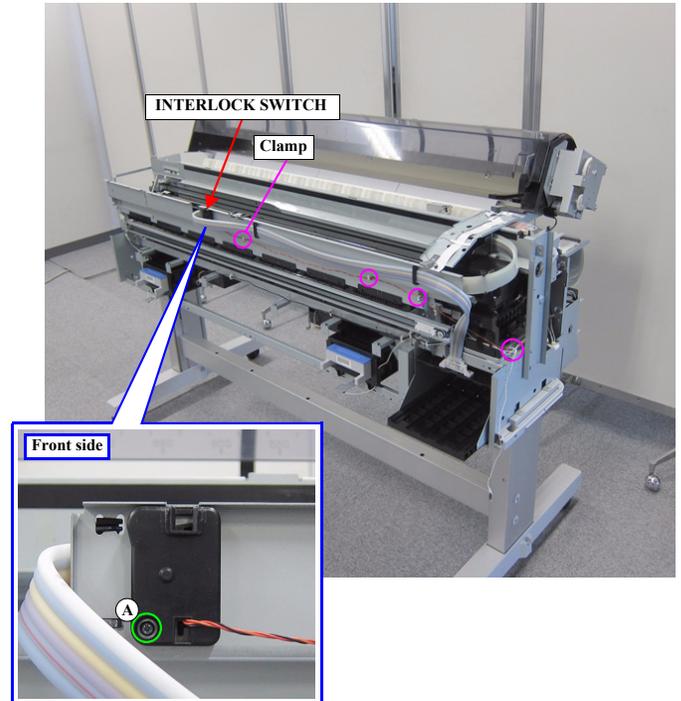
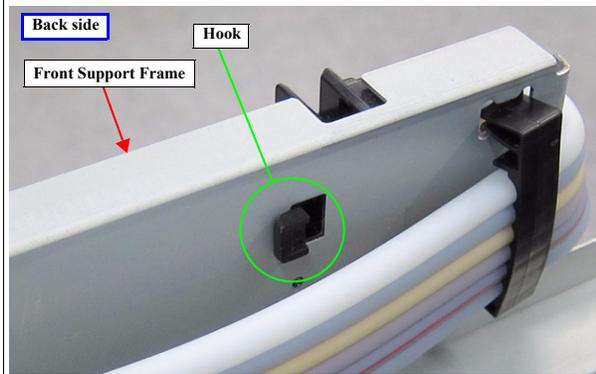


Figure 3-36. Removing the INTERLOCK SWITCH

- 11. Disconnect the cable from the connector (CN20) of the MAIN BOARD.
- 12. Release the cable of the INTERLOCK SWITCH from 12 clamps.

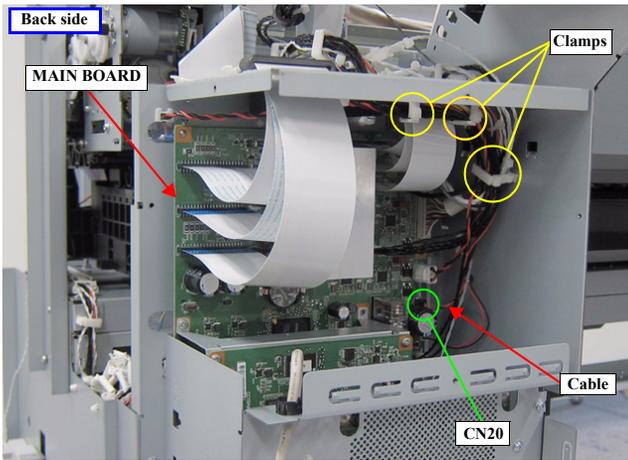


Figure 3-37. Releasing the Cable (MAIN BOARD)

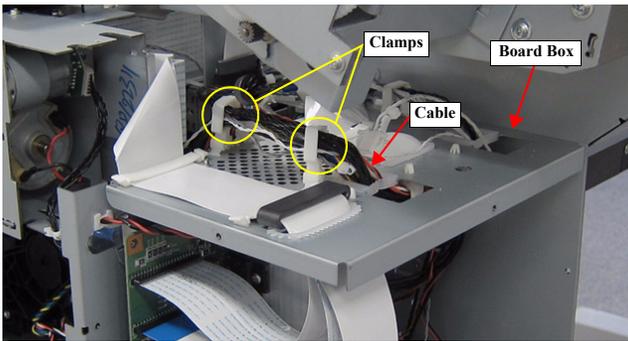


Figure 3-38. Releasing the Cable (Top of the Board Box)

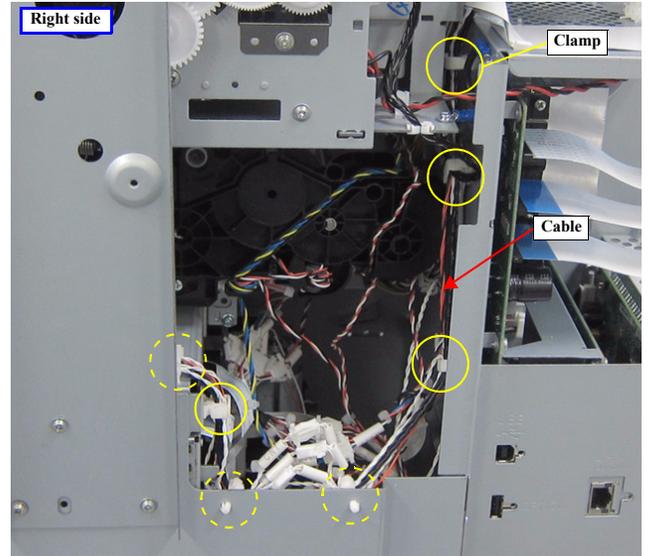


Figure 3-39. Releasing the Cable (Right side)

3.4.3 Electric Circuit Components

3.4.3.1 MAIN BOARD



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the PSH BOARD. (p118)
8. Remove the MAIN-B BOARD. (p113)
9. Disconnect the cables from the connectors (CN1, CN2, CN4) of the MAIN-C BOARD.
10. Remove the five screws and remove the MAIN-C BOARD together with the mounting plate.
 - A) Silver M3x6 screw: 4 pcs
 - B) Silver M2.5x6 Bind machine screw: 1 pcs

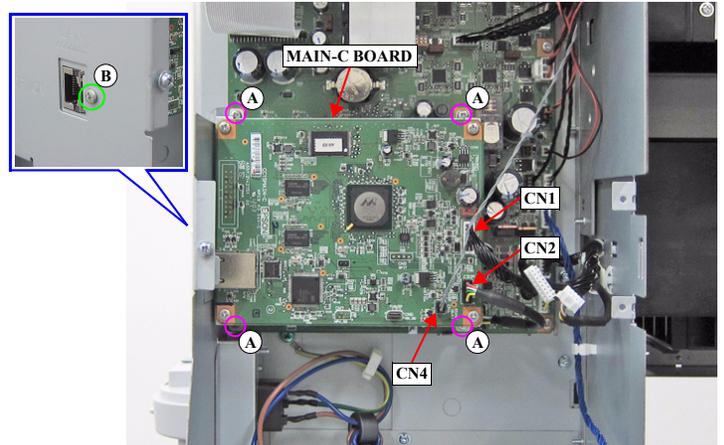


Figure 3-40. Removing the MAIN-C BOARD

11. Disconnect all cables and FFCs from the MAIN BOARD.
12. Remove the seven screws, and remove the MAIN BOARD.
 - C) Silver M3x6 screw: 6 pcs
 - D) Silver M2.5x6 Bind machine screw: 1 pcs

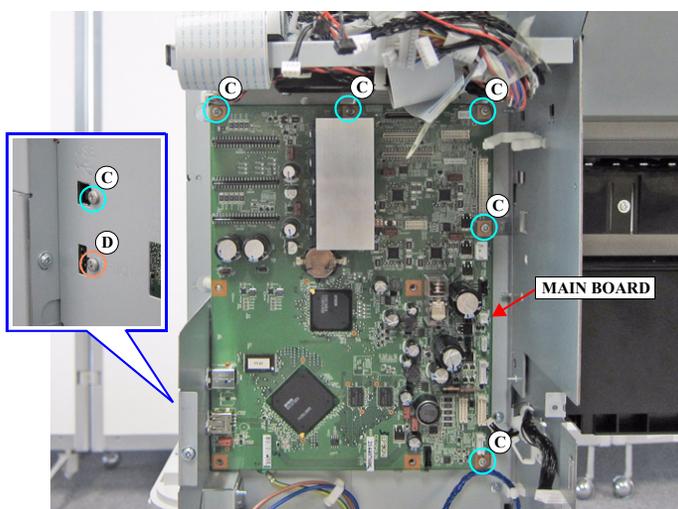


Figure 3-41. Removing the MAIN BOARD

3.4.3.2 MAIN-B BOARD

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the PSH BOARD. (p118)
8. Disconnect the USB Cable from the connector (CN6) of the MAIN-B BOARD.
9. Remove the four screws, and remove the MAIN-B BOARD.
 - A) Silver M3x6 screw: 4 pcs

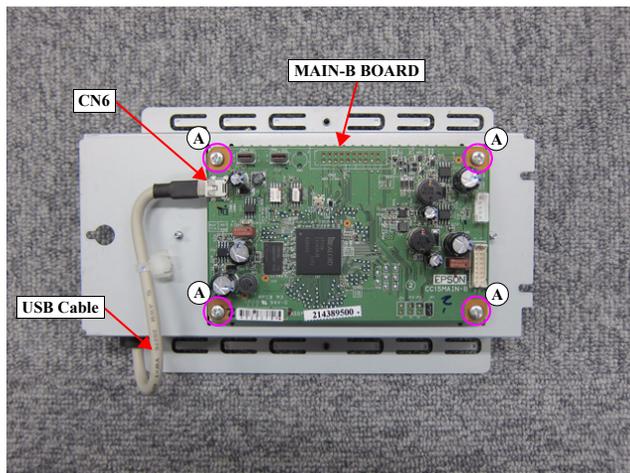


Figure 3-42. Removing the MAIN-B BOARD

3.4.3.3 MAIN-C BOARD



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the PSH BOARD. (p118)
8. Remove the MAIN-B BOARD. (p113)
9. Disconnect the cables from the connectors (CN1, CN2, CN4) of the MAIN-C BOARD.
10. Remove the four screws, and remove the MAIN-C BOARD.
 - A) Silver M3x6 screw: 4 pcs

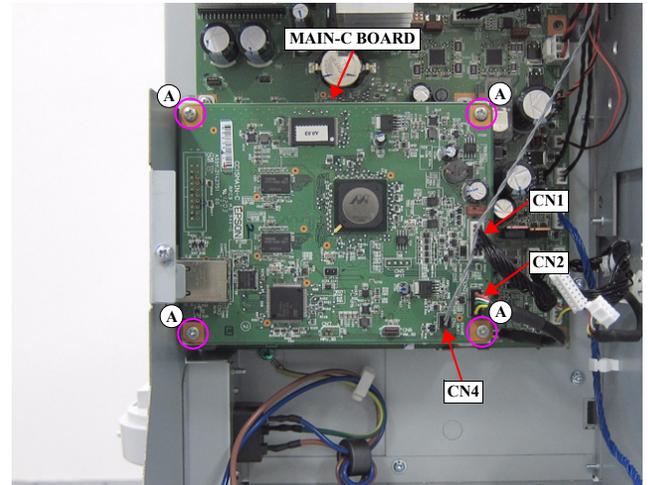


Figure 3-43. Removing the MAIN-C BOARD

3.4.3.4 SUB BOARD

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Unlock the CR UNIT. (p83)
9. Remove the CR COVER. (p122)
10. Move the CR UNIT to the left end.
11. Remove the two screws, and remove the CR Front Frame.
 - A) Silver M3x8 S-tite screw with built-in washer: 2 pcs

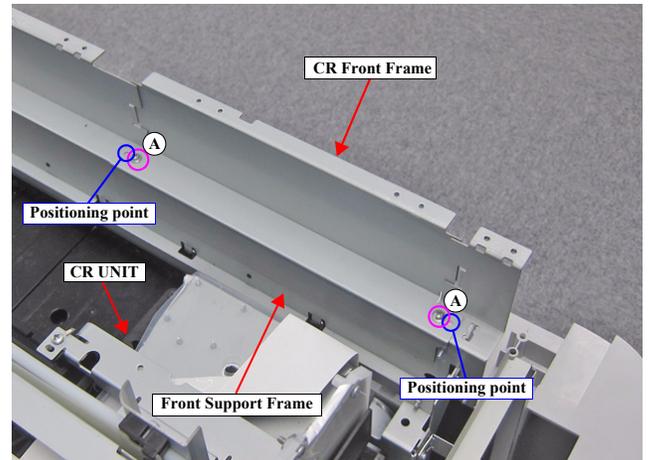
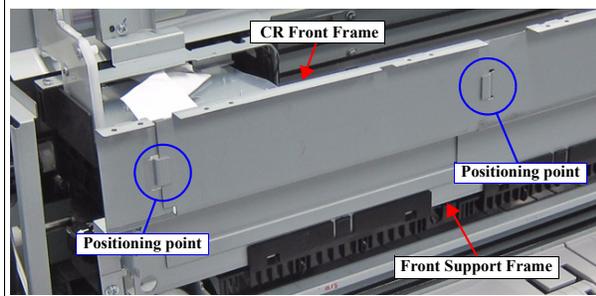


Figure 3-44. Removing the CR Front Frame

REASSEMBLY



Pay attention to the positioning points (See below figure, [Figure 3-44](#)).



12. Disengage the two hooks of the Upper EJ Holder, and remove the Upper EJ Holder.

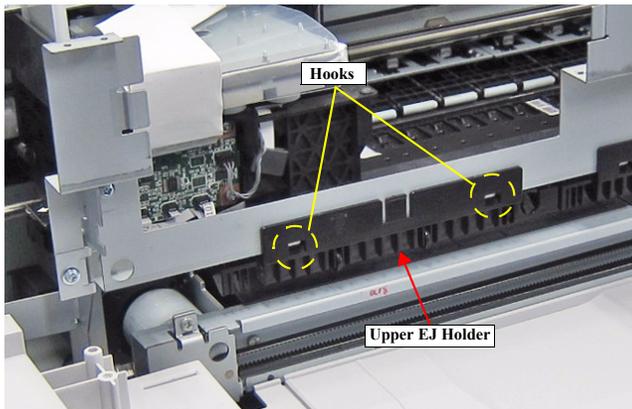


Figure 3-45. Removing the Upper EJ Holder

13. Disconnect all cables and FFCs connected to the SUB BOARD.
14. Remove the four screws, and remove the SUB BOARD.
 - B) Silver M3x8 P-tite screw: 4 pcs

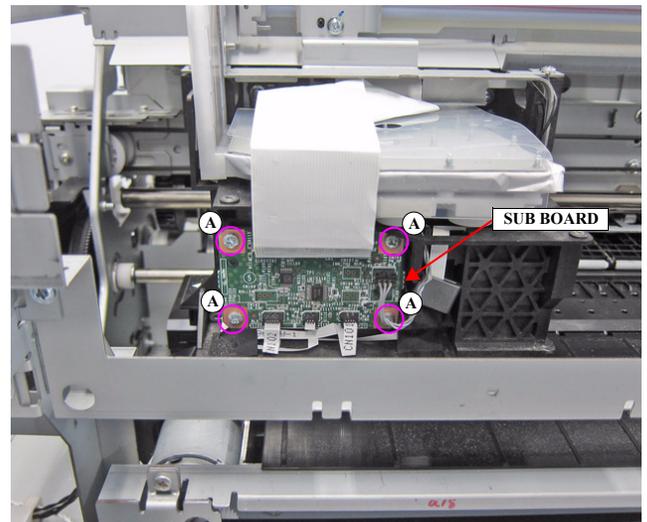
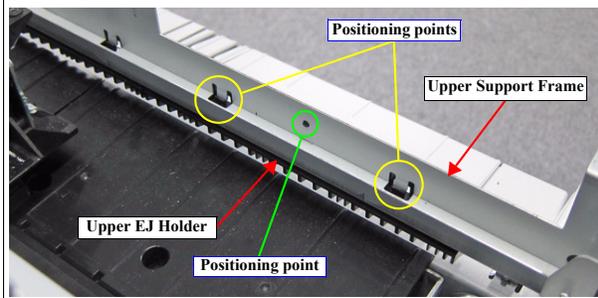


Figure 3-46. Removing the SUB BOARD



Pay attention to the positioning points (See below figure).



3.4.3.5 SUB-B BOARD

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Disconnect all cables and FFCs connected to the SUB-B BOARD.
8. Remove the four screws, and remove the SUB-B BOARD.
 - A) Silver M3x8 S-tite screw with built-in washer: 4 pcs

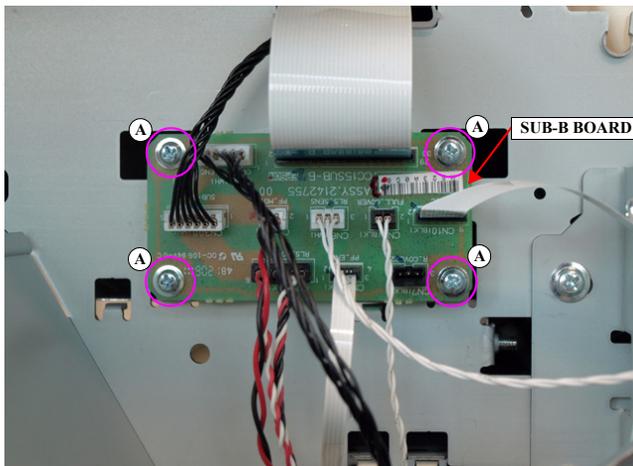


Figure 3-47. Removing the SUB-B BOARD

3.4.3.6 PSH BOARD



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Loosen the screw that secures the HDD Fixing Plate.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
8. Remove the two screws that secure the HDD Fixing Plate.
 - B) Silver M3x8 S-tite screw with built-in washer: 2 pcs
9. Disconnect the cables from the connector (CN1, CN5) of the MAIN-B BOARD, and remove the HDD Fixing Plate.

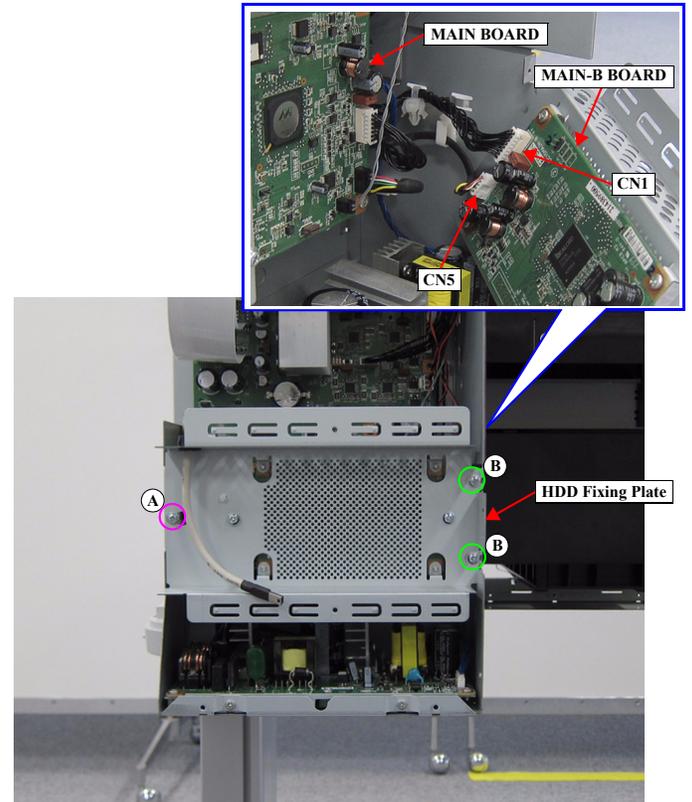


Figure 3-48. Removing the HDD Fixing Plate

10. Remove the two screws that secure the PS Plate, and pull the PS Plate slightly toward you.

C) Silver M3x6 screw: 2 pcs

11. Disconnect the cables from the connectors (CN1, CN51) of the PSH BOARD, and remove the PS Plate.

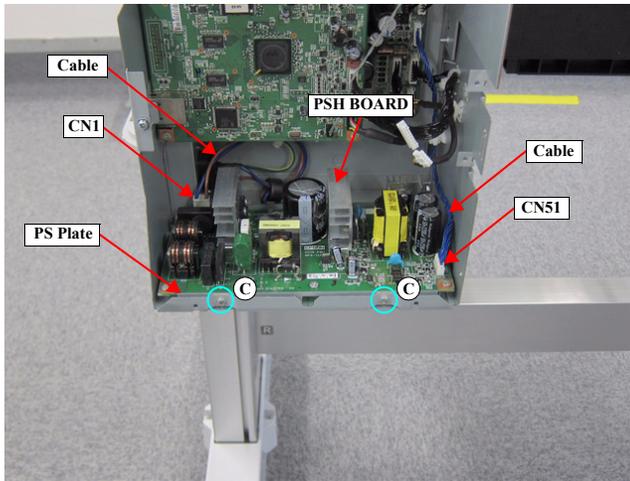


Figure 3-49. Removing the PS Plate

12. Remove the six screws, and remove the PSH BOARD from the PS Plate.

D) Silver M3x6 screw: 6 pcs

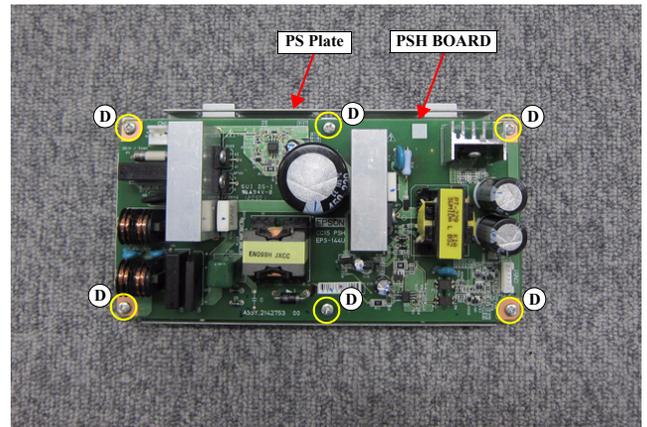


Figure 3-50. Removing the PSH BOARD

3.4.3.7 PANEL BOARD

1. Remove the UPPER SUPPORT R COVER. (p94)
2. Remove the two screws that secure the Panel Housing.
 - A) Silver M3x8 S-tite screw with built-in washer: 2 pcs
3. Disconnect the cable and FFC from the connectors (CN1, CN5) of the PANEL BOARD.



Pay attention to the positioning points (See below figure).

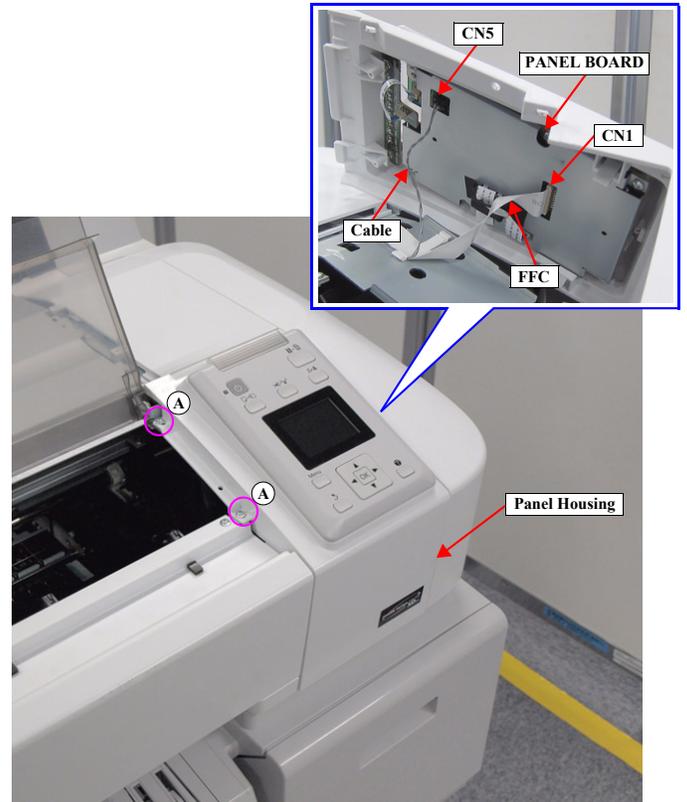
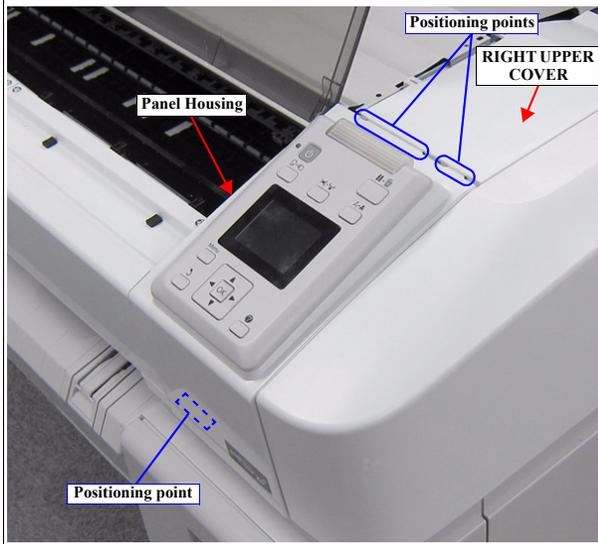


Figure 3-51. Removing the Panel Housing

4. Disconnect the FFC from the connector (CN3) of the PANEL BOARD.
5. Remove the six screws that secure the PANEL BOARD.
 - B) Silver M3x8 P-tite screw: 6 pcs
6. Disengage the two hooks of the Panel Housing, and remove the PANEL BOARD.

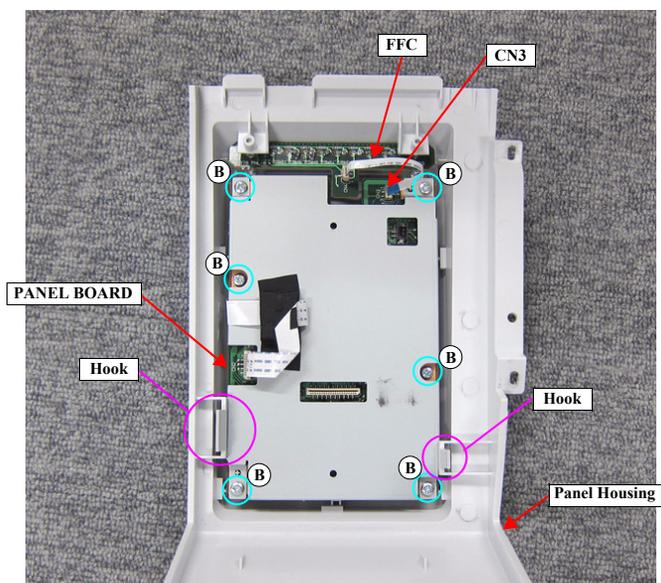


Figure 3-52. Removing the PANEL BOARD

3.4.4 Carriage Mechanism / Ink System Mechanism

3.4.4.1 CR COVER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Unlock the CR UNIT. (p83)
9. Move the CR UNIT on the Platen.
10. Remove the two screws, and remove the CR COVER.
 - A) Silver M3x8 P-tite screw with built-in washer: 2 pcs

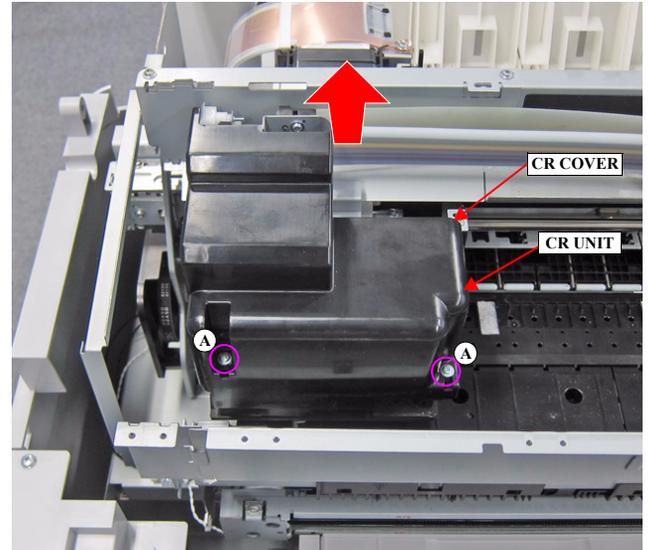


Figure 3-53. Removing the CR COVER

3.4.4.2 DAMPER KIT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the two screws, and remove the CR Rear Frame.
 - A) Silver M3x6 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning points (See below figure, Figure 3-54).

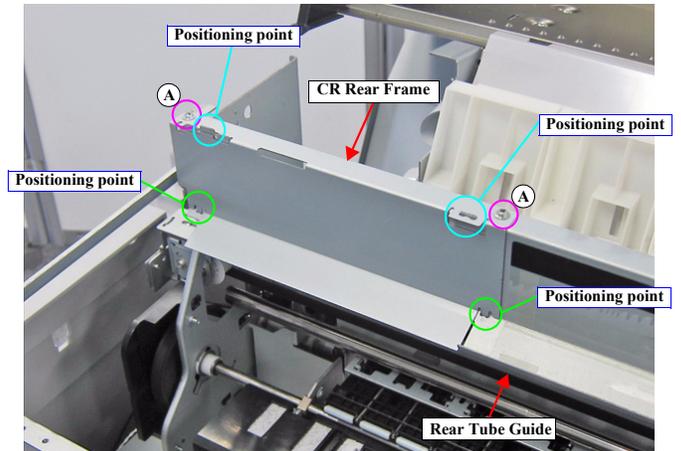


Figure 3-54. Removing the CR Rear Frame

12. Move the CR UNIT on the Platen.
13. Remove the six screws, and remove the CR Sub Fixing Plate.
 - B) Silver M3x10 Machine screw: 4 pcs
 - C) Silver M3x8 S-tite screw with built-in washer: 2 pcs



- Secure the Grounding wire and the plate with the same screw shown in the below figure.
- Pay attention to the positioning points (See Figure 3-55).

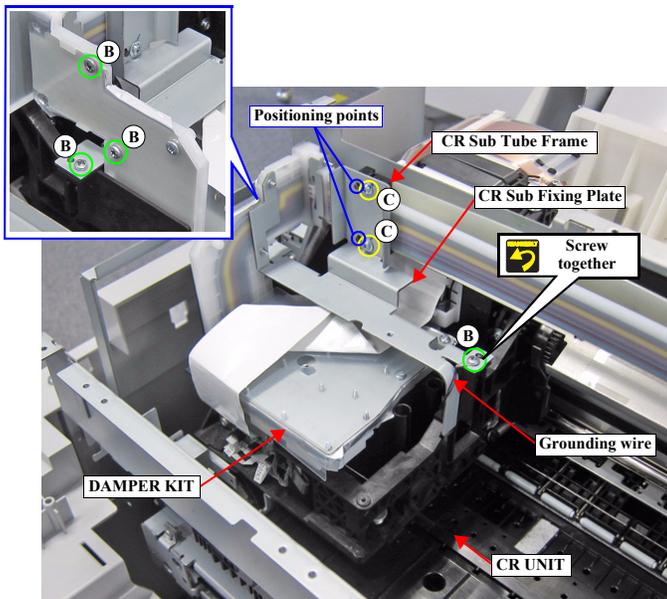


Figure 3-55. Removing the CR Sub Fixing Plate

14. Disconnect the CR FFC from the connector (CN100) of the SUB BOARD.
15. Release the CR FFC from the two hooks of the Ferrite Core Holder, and place the CR FFC over the rear of the printer temporarily.

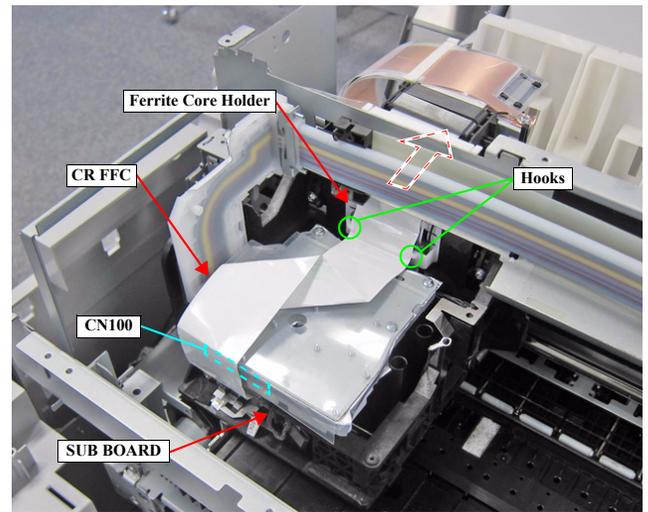


Figure 3-56. Releasing the CR FFC



When the INK TUBE is removed at the following step, ink may drip off from the tube. Prepare a waste cloth or the like in advance and be careful not to contaminate the surroundings.

16. Remove the two screws, and remove the INK TUBE from the DAMPER KIT.

D) Silver M2.5x16 screw: 2 pcs

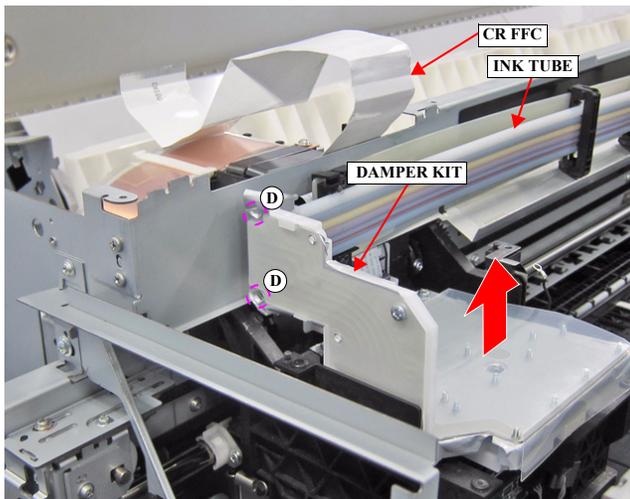


Figure 3-57. Removing the INK TUBE

17. Remove the three screws, and remove the DAMPER KIT.

E) Silver M3x10 Machine screw: 3 pcs



- Before installing the joint, make sure the Joint Rubbers are attached to it.
- Before attaching the Joint Rubber, let it get wet with cleaning liquid.

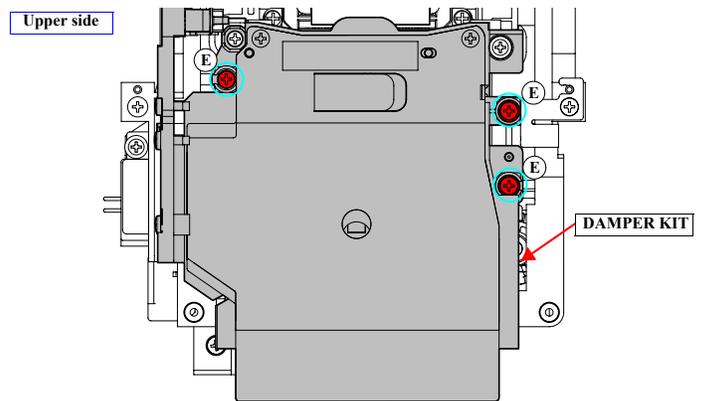
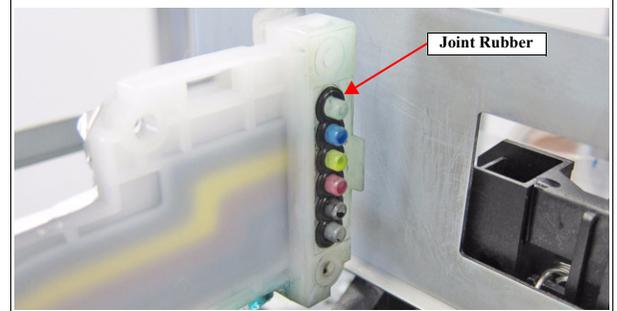


Figure 3-58. Removing the DAMPER KIT

3.4.4.3 PRINT HEAD



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.



Be careful not to touch the nozzle surface of the PRINT HEAD.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Disconnect the HEAD FFCs from the four connectors of the PRINT HEAD.

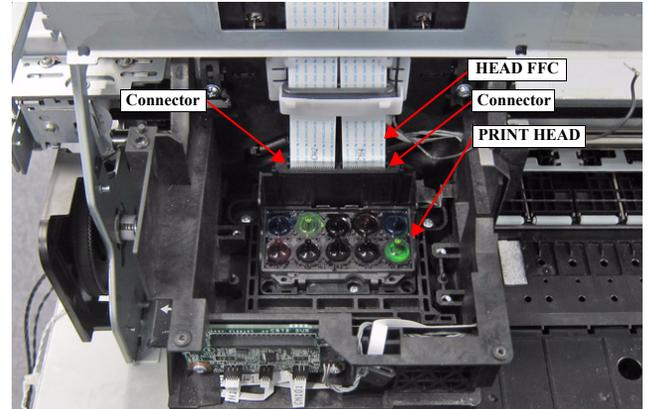


Figure 3-59. Removing the HEAD FFC

13. Remove the three screws, and remove the PRINT HEAD.

A) Silver M2.6x8 Machine screw: 3 pcs

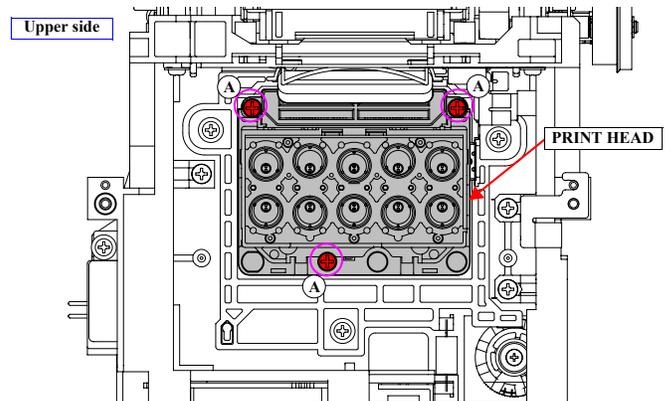


Figure 3-60. Removing the PRINT HEAD

3.4.4.4 HEAD FFC

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Unlock the CR UNIT. (p83)
9. Remove the CR COVER. (p122)
10. Remove the DAMPER KIT. (p123)
11. Remove the REAR RIGHT LOWER COVER. (p99)
12. Disconnect the HEAD FFCs from the four connectors of the PRINT HEAD.
13. Pull out the HEAD FFC from the Ferrite Core.
14. Release the HEAD FFC from the two hooks of the Ferrite Core Holder.

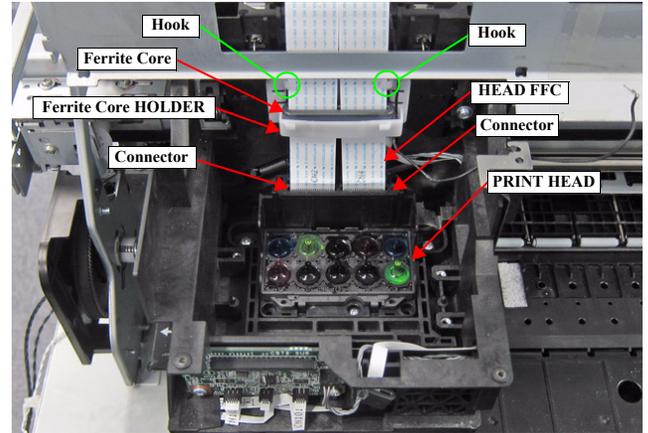


Figure 3-61. Removing the HEAD FFC

15. Remove the two FFC clamps.

16. Remove the screw that secures the FFC Shield Plate.

A) Silver M3x6 S-tite screw with built-in washer: 1 pcs



- Secure the Grounding wire and the plate with the same screw shown in the below figure.
- Pay attention to the positioning points (See Figure 3-62).

17. Pull out the CR FFC and HAED FFC from the two Ferrite Cores.

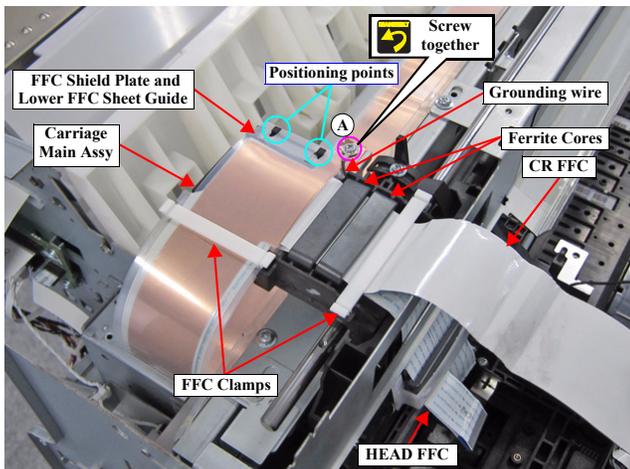


Figure 3-62. Removing the HEAD FFC (Top of the CR UNIT)

18. Disengage the three joints from the two each holes on the FFC Sheet Guide.

19. Remove the two FFC clamps.

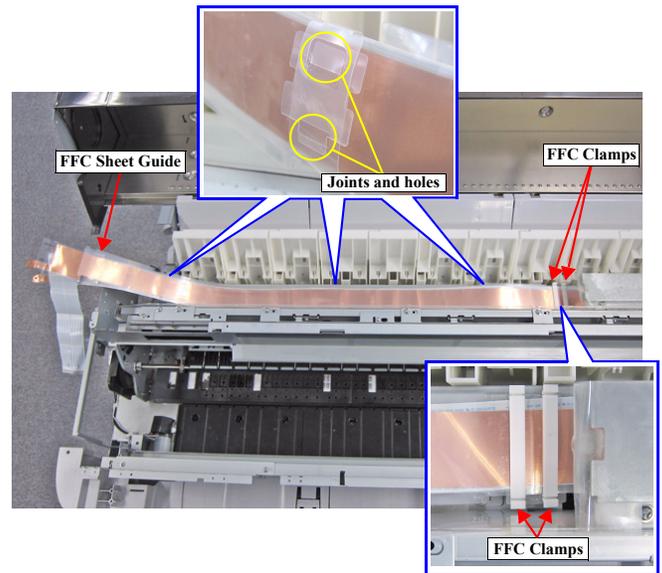


Figure 3-63. Releasing the FFC (1)

20. Remove the FFC Sheet Guide.

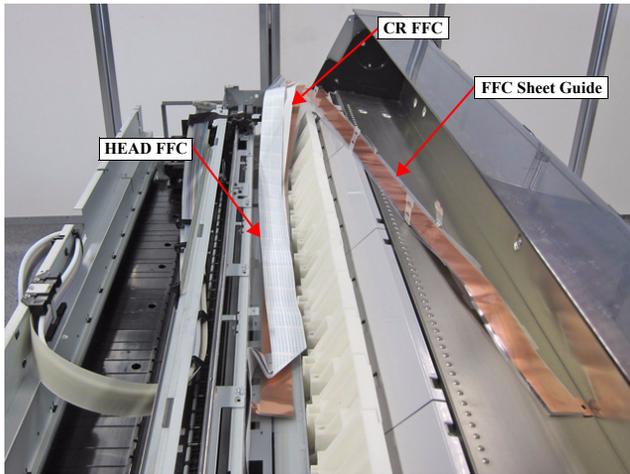


Figure 3-64. Removing the FFC Sheet Guide

21. Remove the three screws, and remove the FFC Guide Assy.

B) Silver M3x6 S-tite screw with built-in washer: 3 pcs

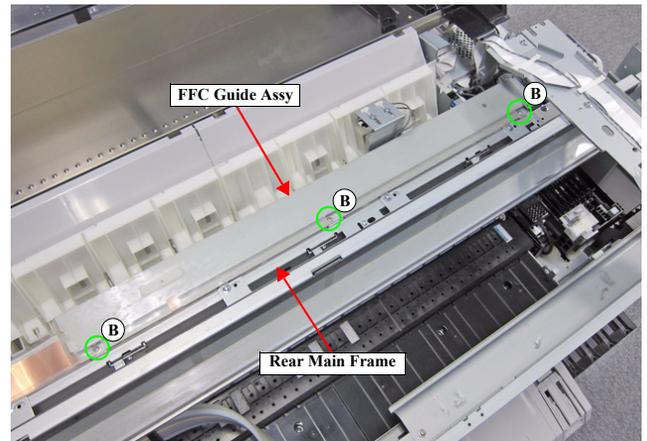


Figure 3-65. Removing the FFC (Top of the Rear Main Frame)

22. Remove the four FFC clamps on the side of the Rear Main Frame.

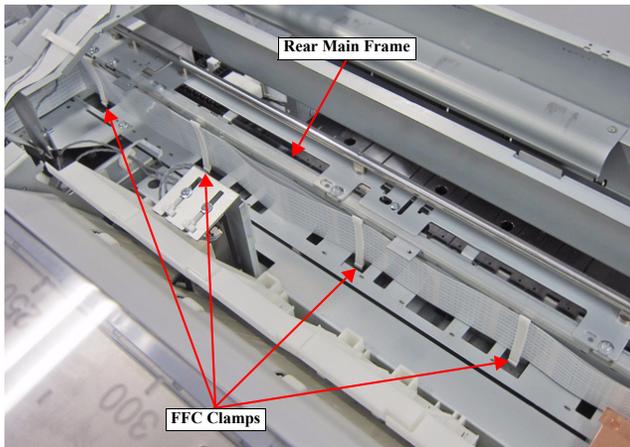


Figure 3-66. Releasing the FFC (2)

23. Remove the two FFC clamps from the top of the Board Box.
24. Disconnect the HAED FFC from the connectors (CN101, CN102) of the MAIN BOARD, and pull them from the hole of the Board Box.
25. Pull out the HEAD FFC from the Ferrite Core on the Board Box.

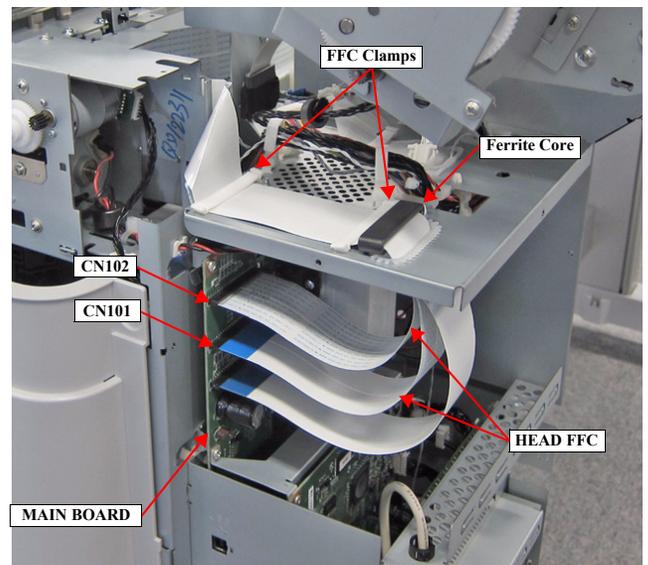


Figure 3-67. Removing the HEAD FFC (Around the Board Box)

3.4.4.5 CR FFC

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Unlock the CR UNIT. (p83)
9. Remove the CR COVER. (p122)
10. Remove the DAMPER KIT. (p123)
11. Remove the REAR RIGHT LOWER COVER. (p99)
12. Disconnect the HEAD FFCs from the four connectors of the PRINT HEAD.
13. Pull out the HEAD FFC from the Ferrite Core.
14. Release the HEAD FFC from the two hooks of the Ferrite Core Holder.

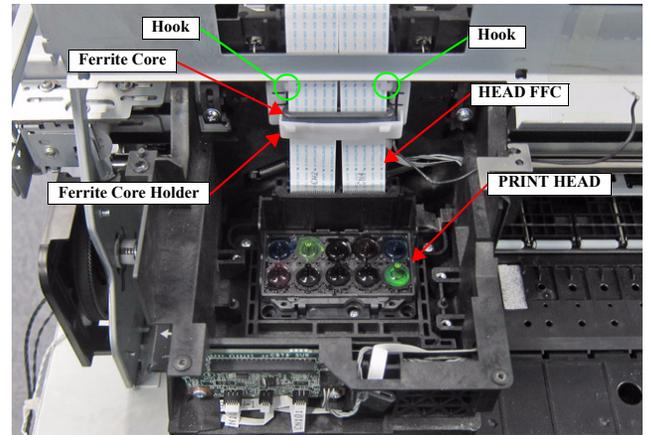


Figure 3-68. Removing the HEAD FFC

15. Remove the FFC clamps.

16. Remove the screw that secures the FFC Shield Plate.

A) Silver M3x6 S-tite screw with built-in washer: 1 pcs



- Secure the Grounding wire and the plate with the same screw shown in the below figure.
- Pay attention to the positioning points (See Figure 3-69).

17. Pull out the CR FFC and HEAD FFC from the two Ferrite Cores.

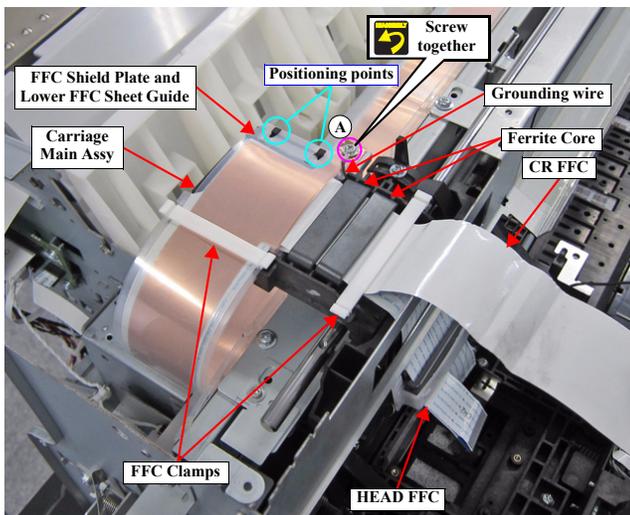


Figure 3-69. Removing the CR FFC (Top of the CR UNIT)

18. Disengage the three joints from the two each holes on the FFC Sheet Guide.

19. Remove the two FFC clamps.

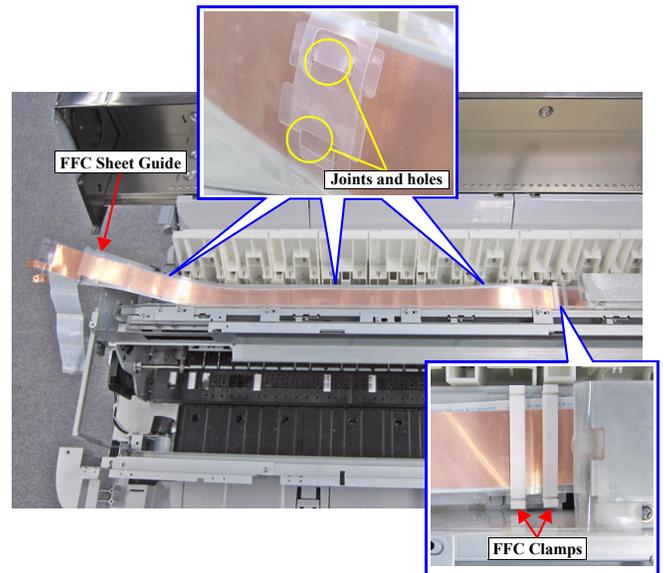


Figure 3-70. Releasing the FFC (1)

20. Remove the FFC Sheet Guide.

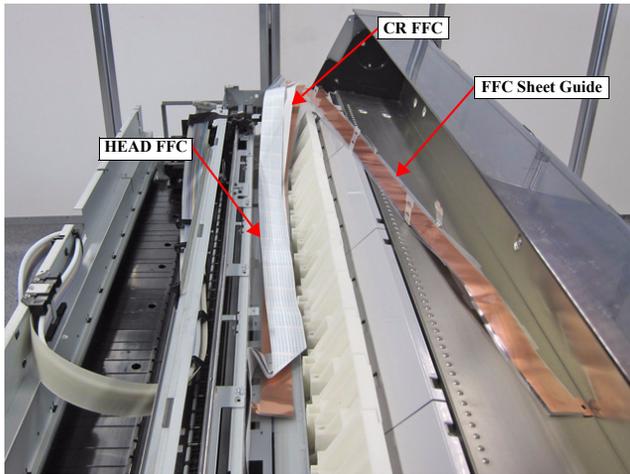


Figure 3-71. Removing the FFC Sheet Guide

21. Remove the three screws, and remove the FFC Guide Assy.

B) Silver M3x6 S-tite screw with built-in washer: 3 pcs

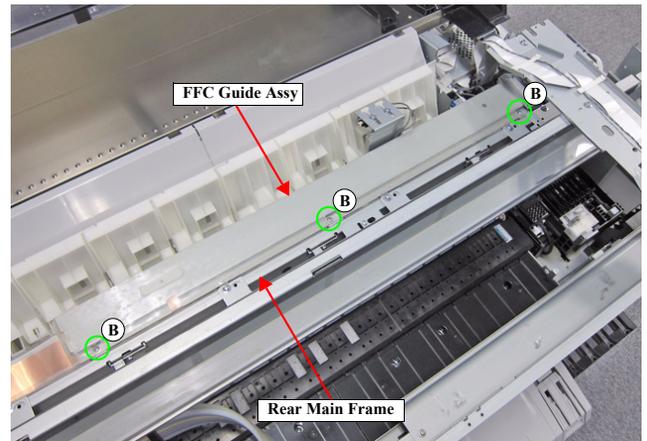


Figure 3-72. Removing the CR FFC (Top of the Rear Main Frame)

22. Remove the four FFC clamps on the side of the Rear Main Frame.

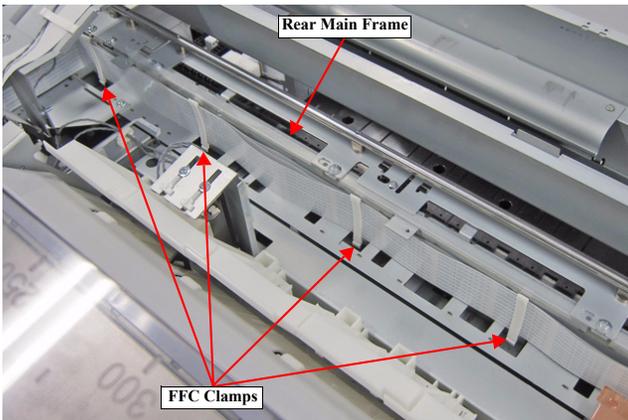


Figure 3-73. Releasing the FFC (2)

23. Peel off the CR FFC.

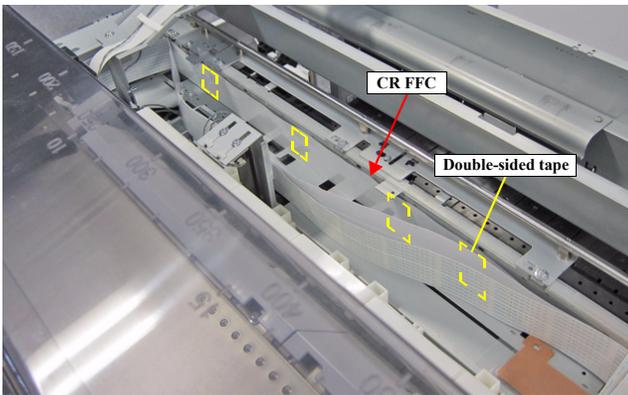


Figure 3-74. Releasing the FFC (3)

24. Remove the two FFC clamps from the top of the Board Box.

25. Disconnect the CR FFC from the connector (CN100) of the MAIN BOARD, and pull it from the hole of the Board Box.

26. Pull out the CR FFC from the Ferrite Core on the Board Box.

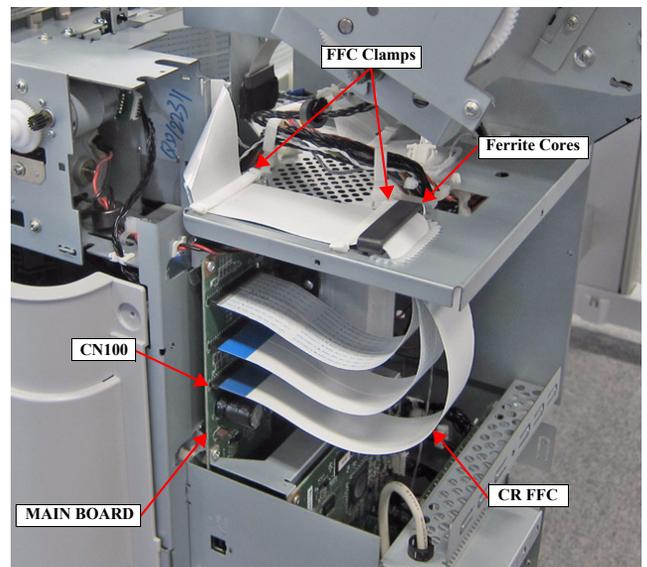


Figure 3-75. Removing the CR FFC (Around the Board Box)

3.4.4.6 CR SCALE



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Unlock the CR UNIT. (p83)
9. Remove the two screws, and remove the CR Rear Frame.
 - A) Silver M3x6 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning points (See Figure 3-76).

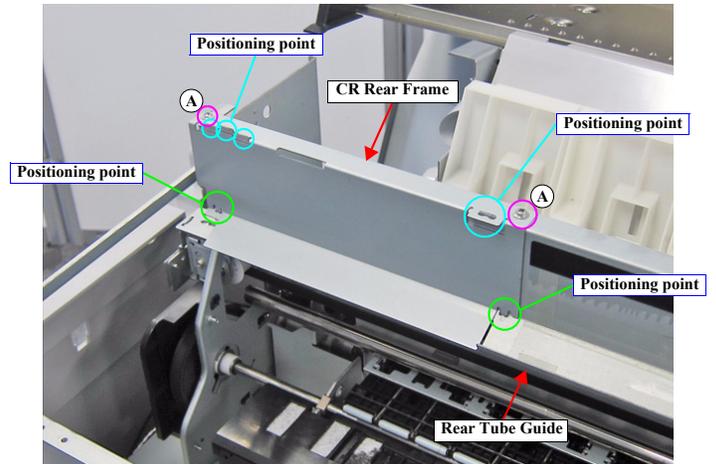


Figure 3-76. Removing the CR Rear Frame

10. Remove the five screws, and remove the Rear Tube Guide.

- A) Silver M3x8 S-tite screw with built-in washer: 4 pcs
- B) Silver M4x8 S-tite screw with built-in washer: 1 pcs



Pay attention to the positioning points (See Figure 3-77).

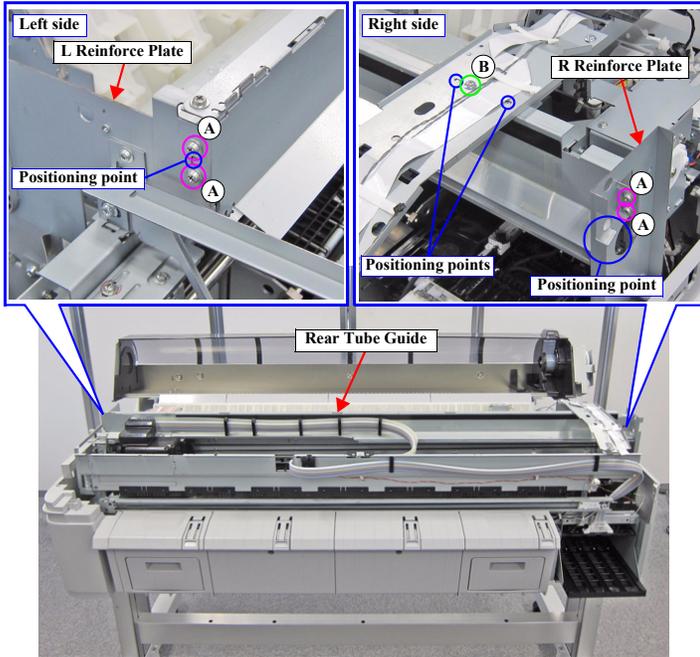


Figure 3-77. Removing the Rear Tube Guide

11. Remove the Tension spring.

12. Remove the CR SCALE from the hook of the CR Scale Holder B.

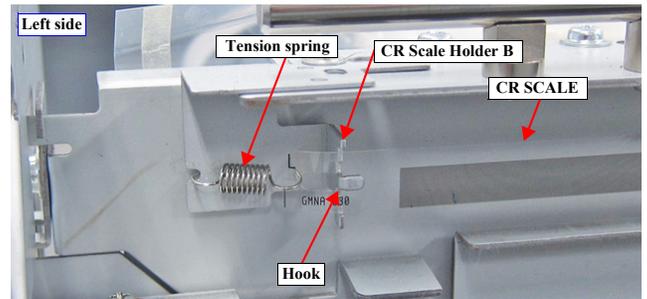


Figure 3-78. Removing the CR SCALE (Left side)

13. Remove the CR SCALE from the two each hooks on the two CR Scale Holder.

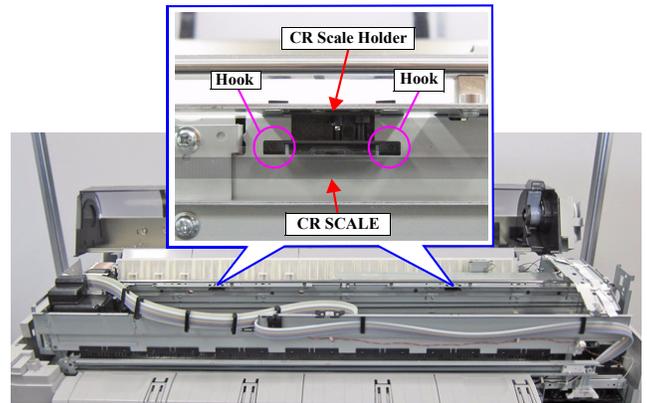


Figure 3-79. Removing the CR SCALE (Center)

14. Remove the CR SCALE from the hook of the CR Scale Holder.

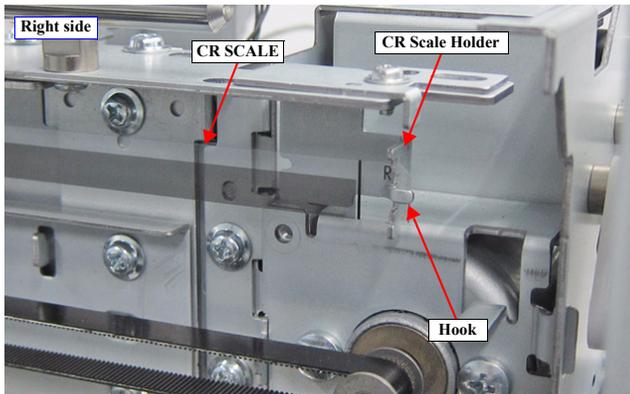


Figure 3-80. Removing the CR SCALE (Right)

15. Remove the CR SCALE from the CR UNIT.

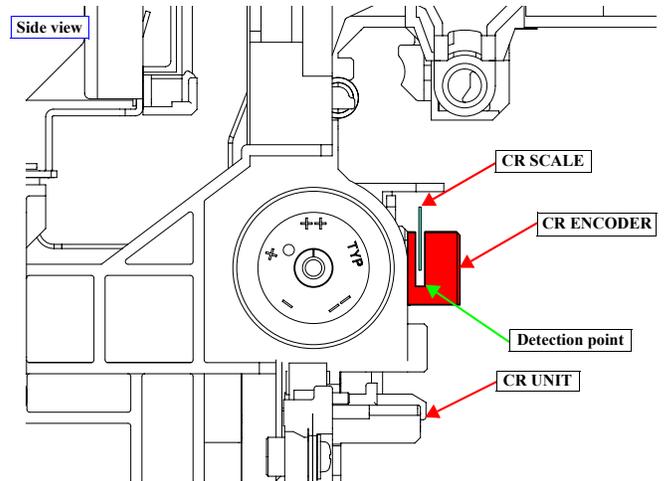


Figure 3-81. Removing the CR SCALE



- Since the CR SCALE has a specific orientation, install it in the direction so that you can read the letters L/R correctly from the front.
- Route the CR SCALE through the detection point on the CR ENCODER on the rear of the CR UNIT when installing it.

3.4.4.7 CR ENCODER



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the CR UNIT. (p156)
18. Remove the two screws, and remove the CR ENCODER.
 - A) Silver M2.6x8 Machine screw: 2 pcs
19. Disconnect the FFC from the connector of the CR ENCODER.

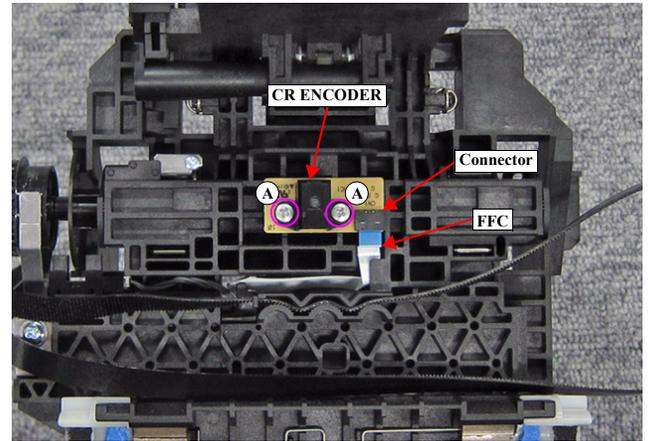


Figure 3-82. Removing the CR ENCODER

3.4.4.8 CR TIMMING BELT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the CR UNIT. (p156)
18. Remove the two screws, and remove the Pulley Cover.
 - A) Silver M3x6 S-tite screw with built-in washer: 1 pcs
 - B) Silver M3x12 Machine screw: 1 pcs



In the next step, the two plastic washers at the both ends of the pulley shaft will come off. Be careful not to lose them.

19. Remove the Pulley, Shaft, and Belt together from the Pulley Holder.

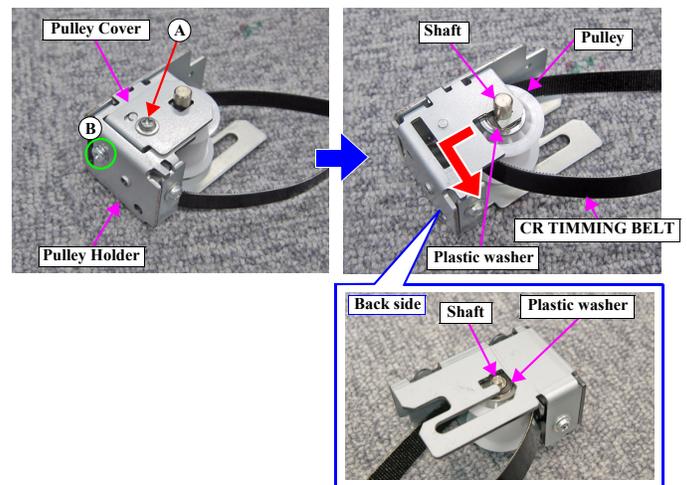


Figure 3-83. Disassembling the Pulley Holder

20. Remove the CR TIMING BELT from the Belt Holder on the back side of the CR UNIT.

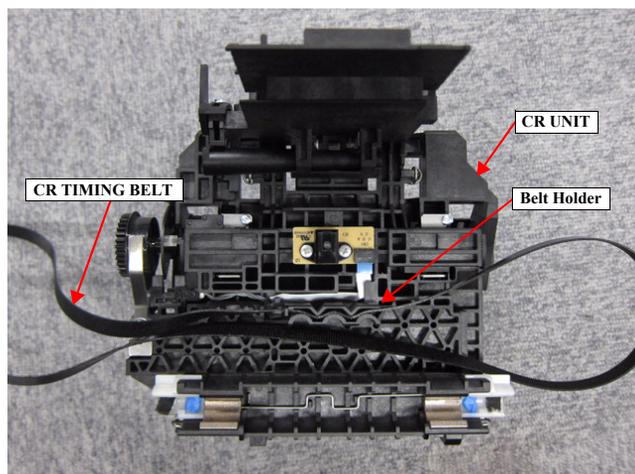


Figure 3-84. Removing the CR TIMING BELT

3.4.4.9 CR MOTOR



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the RIGHT LOWER COVER. (p96)
8. Remove the APG UNIT. (p144)
9. Unlock the CR UNIT. (p83)
10. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
11. Loosen the two screws that secure the Pulley Holder.



Before loosening the tension at the next step, mark the position of the Pulley Holder to make the required adjustment easier.

12. Rotate the Belt tension screw counterclockwise to loosen the tension of the CR TIMING BELT.

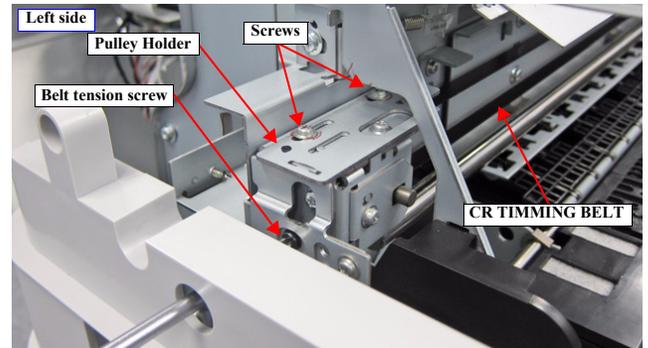


Figure 3-85. Loosening the CR TIMMING BELT tension

13. Remove the CR TIMING BELT from the pinion gear of the CR MOTOR.
14. Remove the two screws that secure the CR MOTOR.
 - A) Silver M4x10 Machine screw: 2 pcs

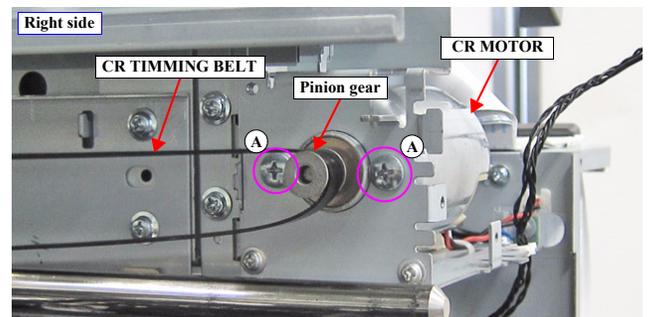


Figure 3-86. Removing the CR TIMMING BELT

15. Disconnect the cable of the CR MOTOR from the connector (CN19) of the MAIN BOARD.

16. Release the cable from five clamps.

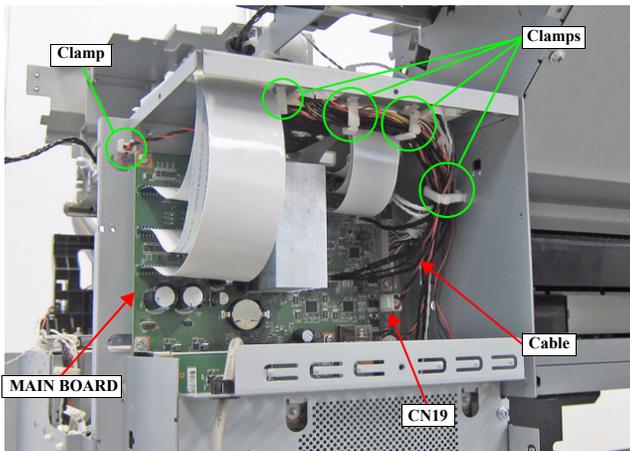


Figure 3-87. Releasing the Cable

17. Cut the cable tie that secures the cable, and remove the CR MOTOR.

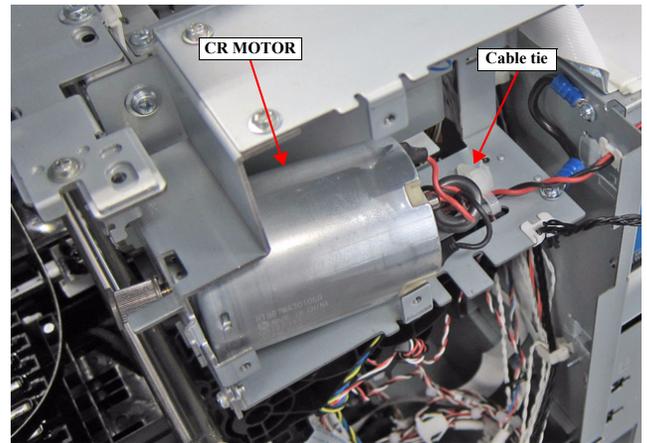


Figure 3-88. Removing the CR MOTOR

3.4.4.10 CR HP SENSOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Unlock the CR UNIT. (p83)
7. Move the CR UNIT on the Platen.
8. Disengage the hooks, and remove the CR HP SENSOR.
9. Disconnect the cable from the CR HP SENSOR.

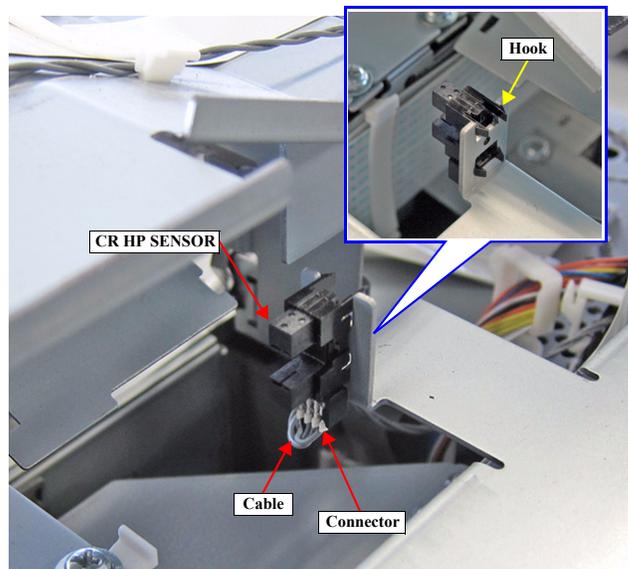


Figure 3-89. Removing the CR HP SENSOR

3.4.4.11 APG UNIT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the RIGHT LOWER COVER. (p96)



When removing the R Reinforce Plate in the next step, take care not to remove the Upper Reinforce Plate together.

7. Remove the five screws, and remove the R Reinforce Plate.
 - A) Silver M3x6 S-tite screw with built-in washer: 3 pcs
 - B) Silver M3x8 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning point (See Figure 3-90).

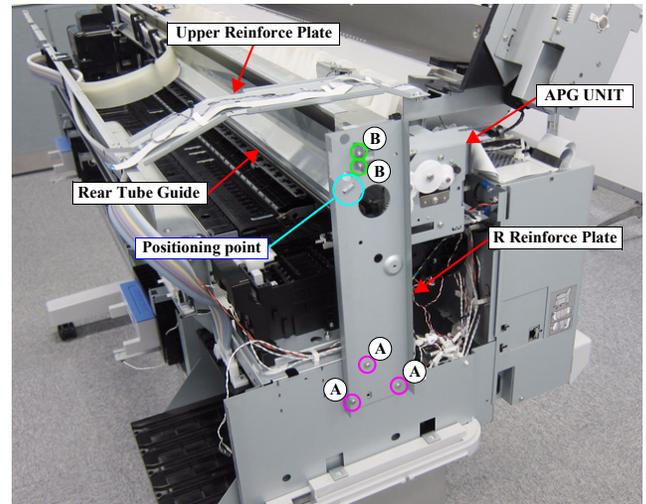


Figure 3-90. Removing the R Reinforce Plate

- 8. Remove the three screws that secure the APG UNIT.
 - C) Silver M3x6 S-tite screw with built-in washer: 3 pcs



Pay attention to the positioning points (See Figure 3-91).

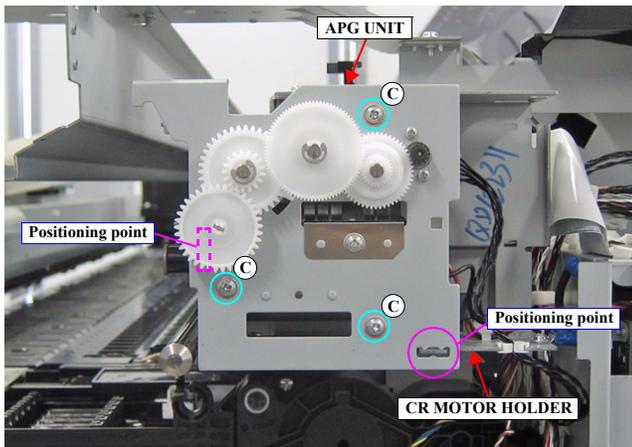


Figure 3-91. Removing the APG UNIT

- 9. Disconnect the cable from the connector of the APG Motor, and remove the APG UNIT.

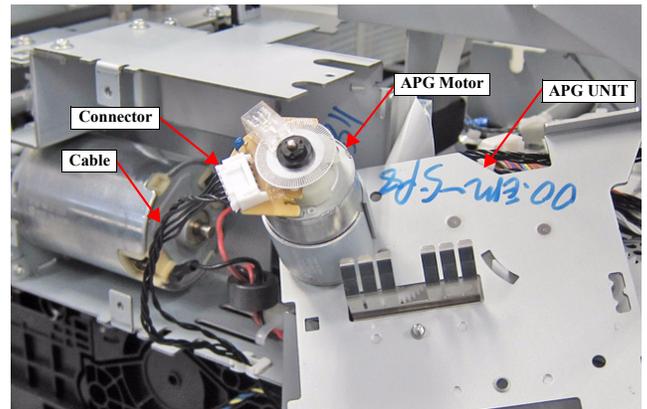


Figure 3-92. Removing the Cable

3.4.4.12 PG SENSOR

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the CR UNIT. (p156)
18. Disengage the hooks, and remove the PG SENSOR.

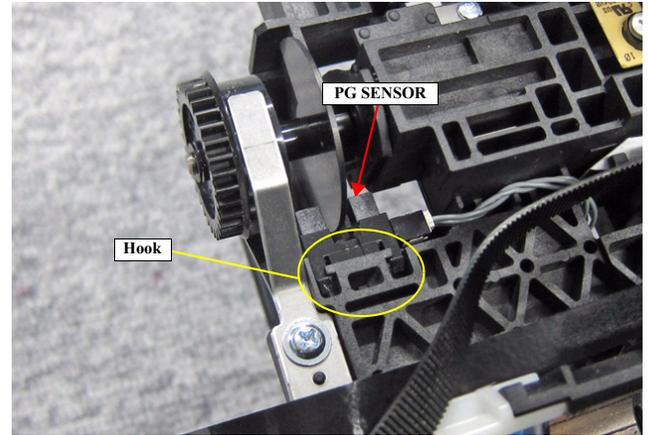


Figure 3-93. Removing the PG SENSOR

19. Disconnect the Cable from the PG SENSOR.

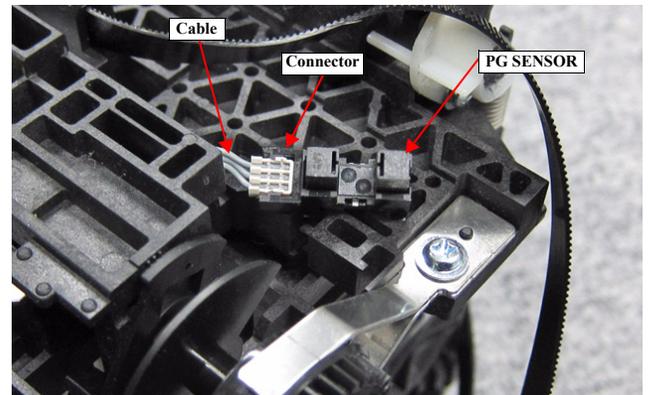


Figure 3-94. Removing the Cable

3.4.4.13 PUMP CAP UNIT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the RIGHT LOWER COVER. (p96)
8. Unlock the CR UNIT. (p83)
9. Move the CR UNIT on the Platen.
10. Remove the R Reinforce Plate. (p144)
11. Disconnect the cables from the Relay Connector (No.7, No.11, No.34).
12. Remove the three screws that secure the PUMP CAP UNIT.
 - A) Silver M3x8 S-tite screw with built-in washer: 3 pcs



In the next step, waste ink may spill from the Waste Ink Tube if the tube is disconnected from the PUMP CAP UNIT. Prepare a waste cloth or the like in advance and be careful not to contaminate the surroundings.

13. Remove the Waste Ink Tube from the PUMP CAP UNIT.
14. Remove the PUMP CAP UNIT in the direction of the arrow.

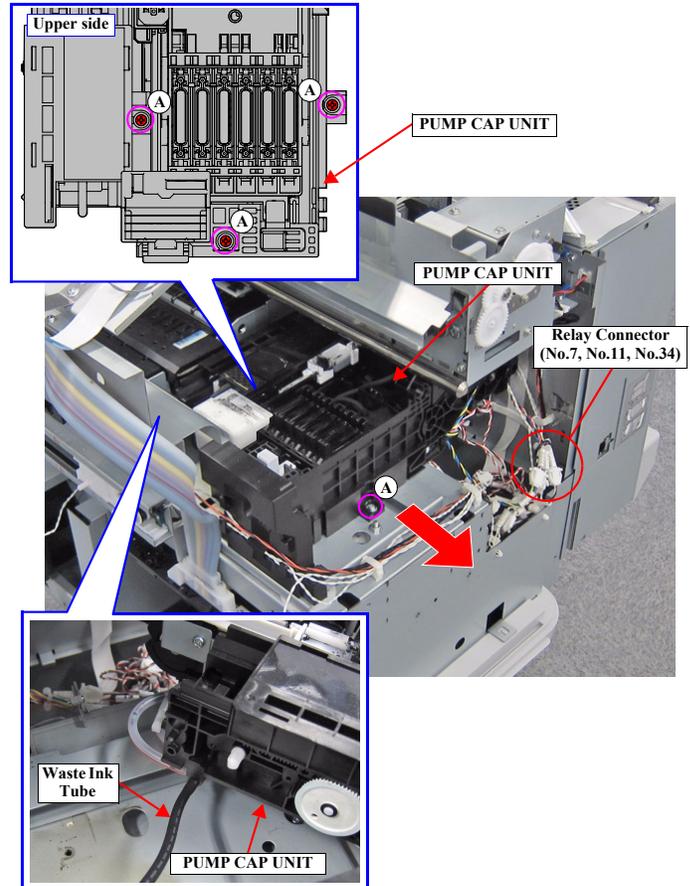


Figure 3-95. Removing the PUMP CAP UNIT

3.4.4.14 IC HOLDER



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Ink eject. (p259)
2. Perform the Tube inner pressure reduction. (p248)
3. Remove the UPPER LEFT COVER. (p100)
4. Remove the UPPER SUPPORT R COVER. (p94)
5. Remove the PANEL BOARD. (p120)
6. Remove the TOP COVER. (p85)
7. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
8. Remove the FRONT COVER. (p86)
9. Remove the RIGHT LOWER COVER. (p96)
10. Remove the IH COVER. (p89)
11. Disconnect the cable from the Relay Connector (No.2, No.8, No.10).
12. Remove the FFC from the back side of the IC HOLDER.

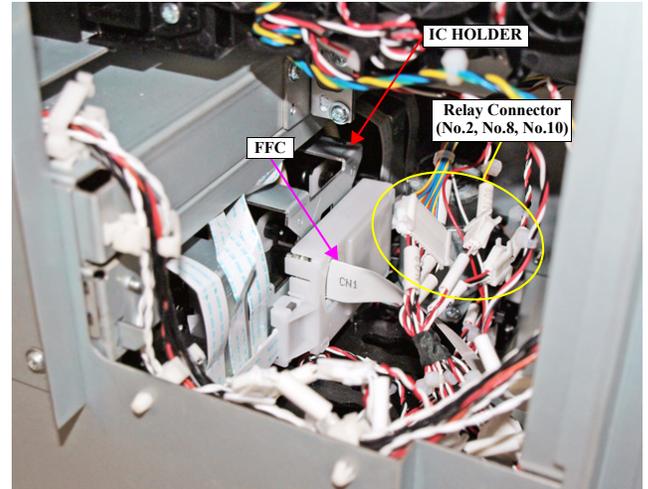


Figure 3-96. Disconnecting the Relay connectors and FFC

13. Remove the screw that secures the Rear Cover.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
14. Disengage the boss of the Rear Cover, and remove the Rear Cover.

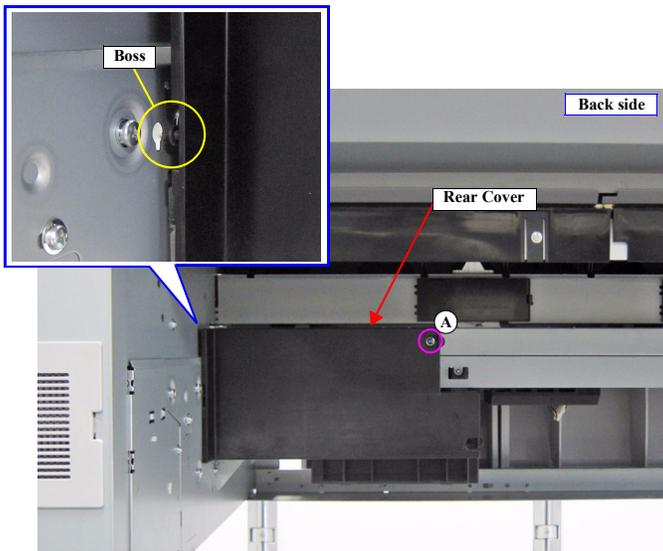


Figure 3-97. Removing the Rear Cover

15. Disconnect the FFC from the connector of the Maintenance Box Holder.
16. Peel of the FFC from the frame and insert it into the edging saddle.

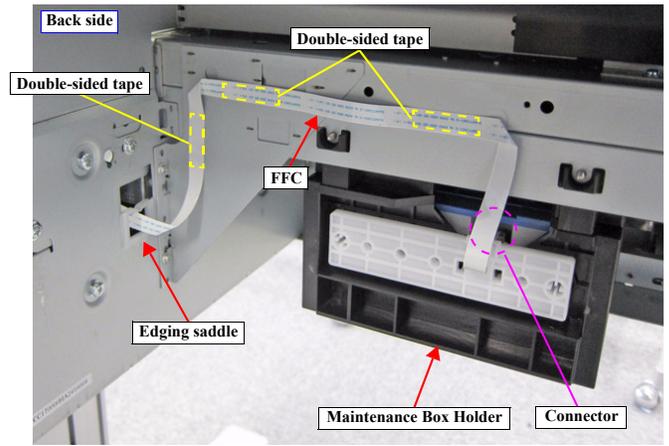


Figure 3-98. Releasing the FFC

17. Remove the four screws that secure the IC HOLDER.
 - B) Silver M3x6 S-tite screw with built-in washer: 4 pcs
18. Pull the IC holder slightly toward you.

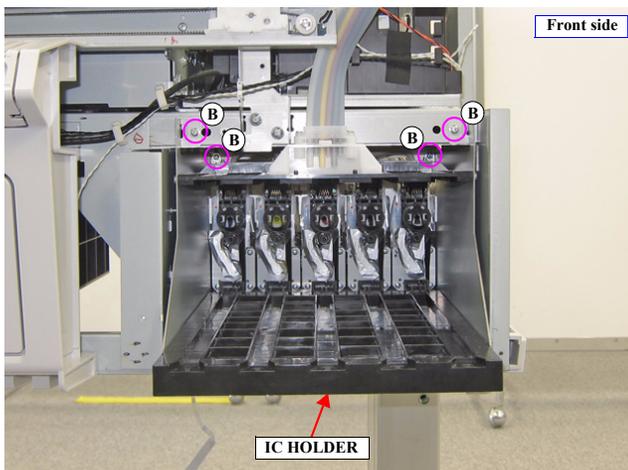


Figure 3-99. Removing the IC HOLDER (1)



When the INK TUBE is removed at the following step, ink may drip off from the tube. Prepare a waste cloth or the like in advance and be careful not to contaminate the surroundings.

19. Remove the two screws, and remove the INK TUBE from the IC HOLDER.
 - C) Silver M2.5x16 Machine screw: 2 pcs
20. Remove the IC HOLDER while pulling out the FFC.

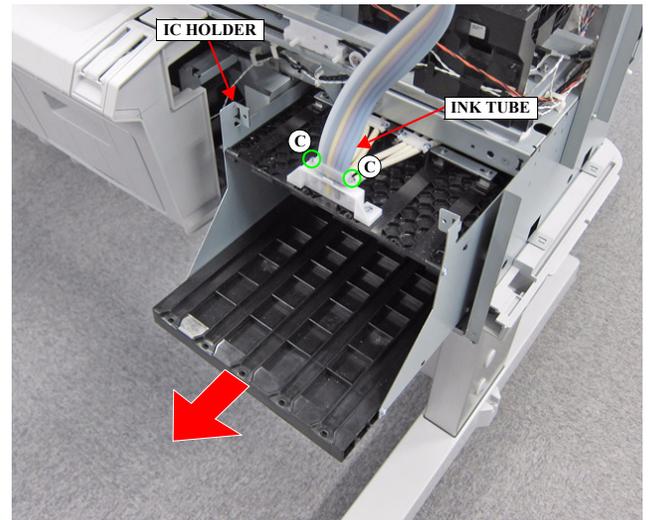
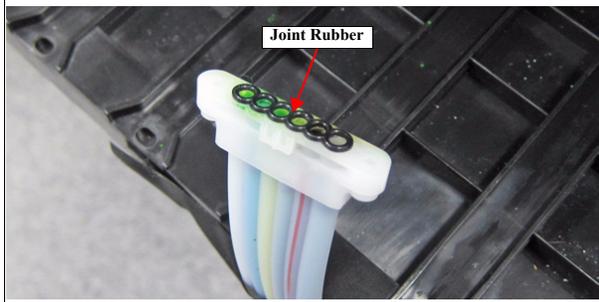


Figure 3-100. Removing the IC HOLDER (2)



- Before installing the joint, make sure the Joint Rubber are attached to it.
- Before attaching the Joint Rubber, let it get wet with cleaning liquid.



3.4.4.15 INK TUBE



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Ink eject. (p259)
2. Perform the Tube inner pressure reduction. (p248)
3. Remove the UPPER LEFT COVER. (p100)
4. Remove the UPPER SUPPORT R COVER. (p94)
5. Remove the PANEL BOARD. (p120)
6. Remove the TOP COVER. (p85)
7. Remove the FRONT COVER. (p86)
8. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
9. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
10. Unlock the CR UNIT. (p83)
11. Remove the CR COVER. (p122)
12. Remove the RIGHT LOWER COVER. (p96)
13. Remove the IH COVER. (p89)
14. Remove the CR Sub Fixing Plate. (p124)



When the INK TUBE is removed at the following step, ink may drip off from the tube. Prepare a waste cloth or the like in advance and be careful not to contaminate the surroundings.

15. Remove the two screws, and remove the INK TUBE from the DAMPER KIT.
 - A) Silver M2.5x16 Machine screw: 2 pcs

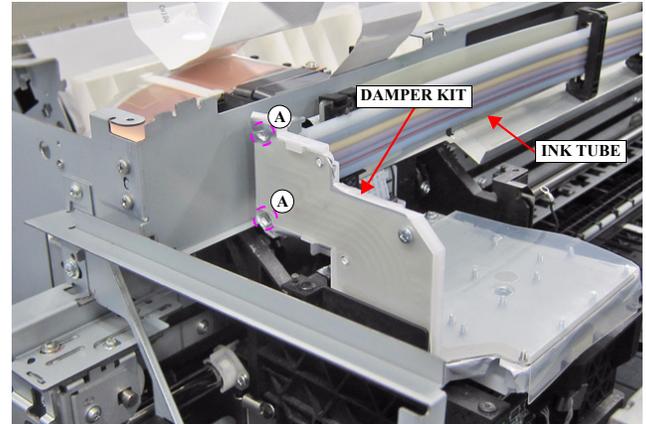
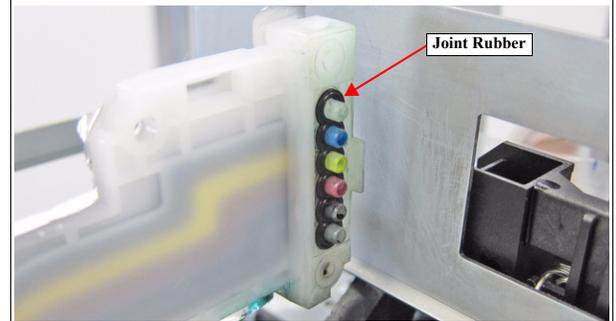


Figure 3-101. Removing the INK TUBE (1)



- Before installing the joint, make sure the Joint Rubber are attached to it.
- Before attaching the Joint Rubber, let it get wet with cleaning liquid.



16. Disengage the two each hooks on the five Tube Holders, and release the INK TUBE.

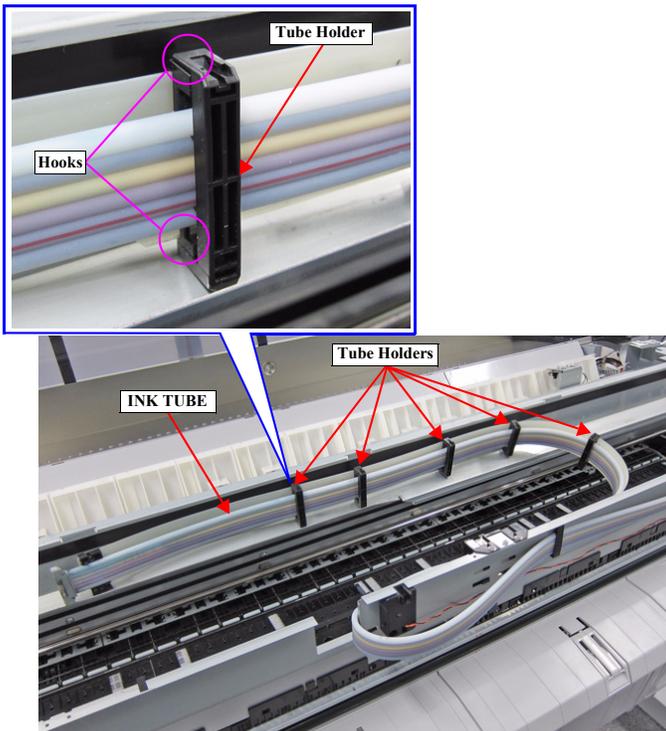


Figure 3-102. Removing the INK TUBE (Left side)

17. Remove the screw and release the INK TUBE by lifting the Front Tube fixing Plate.

B) Silver M3x6 S-tite screw with built-in washer: 1 pcs



Take care not to press the INK TUBE flat with the Front Tube fixing Plate.

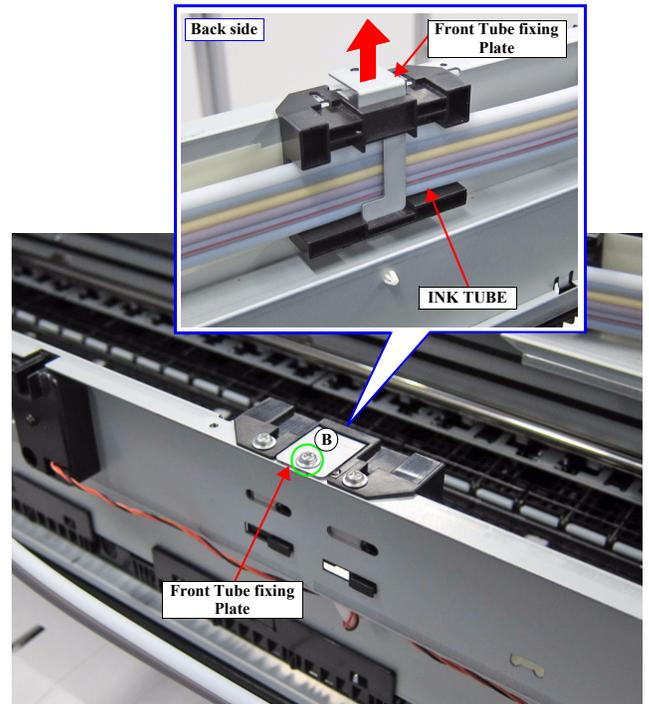


Figure 3-103. Releasing the INK TUBE (Front side)

18. Disengage the hooks, and remove the three Tube Holders.

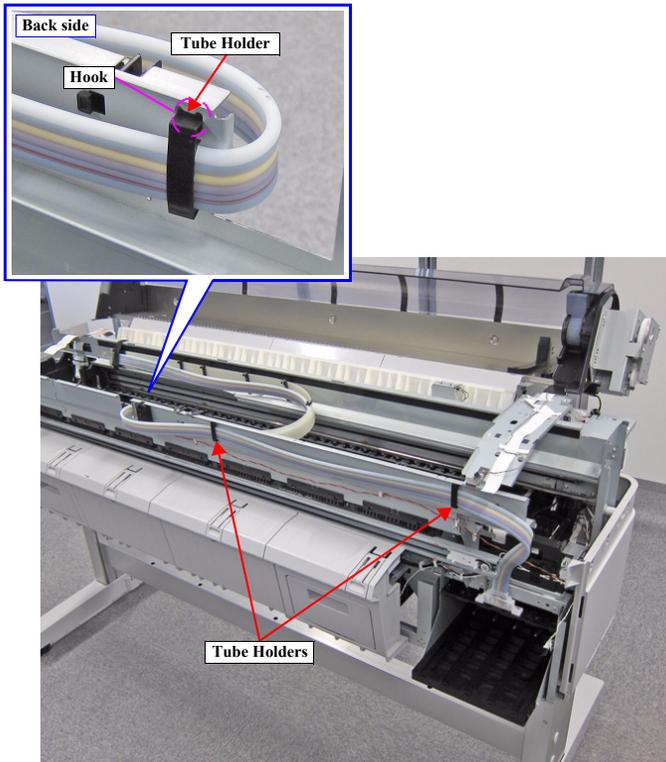


Figure 3-104. Removing the Tube Holder

19. Remove the two screws, and remove the INK TUBE from the IC HOLDER.

C) Silver M2.5x16 screw: 2 pcs



If you find it difficult to remove the INK TUBE, remove the four screws that secure the IC HOLDER and pull the holder slightly toward you when working on it. (p.148)

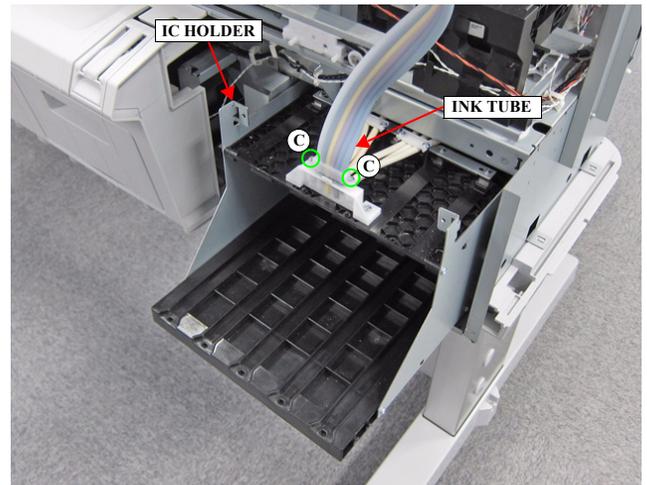


Figure 3-105. Removing the INK TUBE (2)



- When installing the INK TUBE, attach it with the red line facing down.
- Before installing the joint, make sure the Joint Rubber are attached to it.
- Before attaching the Joint Rubber, let it get wet with cleaning liquid.



3.4.4.16 CR UNIT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the Belt tension screw and the two screws on the upper part of the Pulley Holder Assy, then remove the Pulley Holder Assy.
 - A) Silver M3x6 S-tite screw with built-in washer: 2 pcs

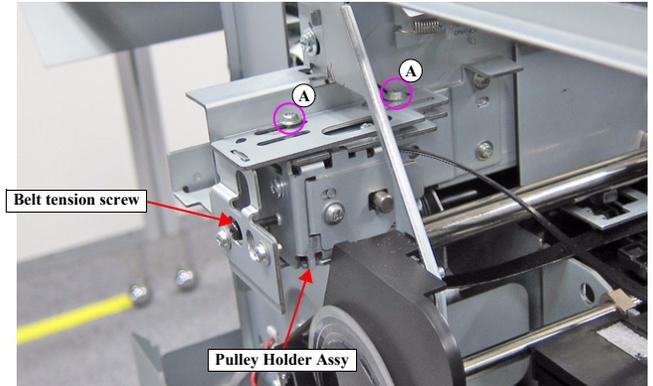


Figure 3-106. Removing the Pulley Holder Assy

18. Pull out the HEAD FFC from the Ferrite Core.
19. Release the HEAD FFC from the two hooks of the Ferrite Core Holder.

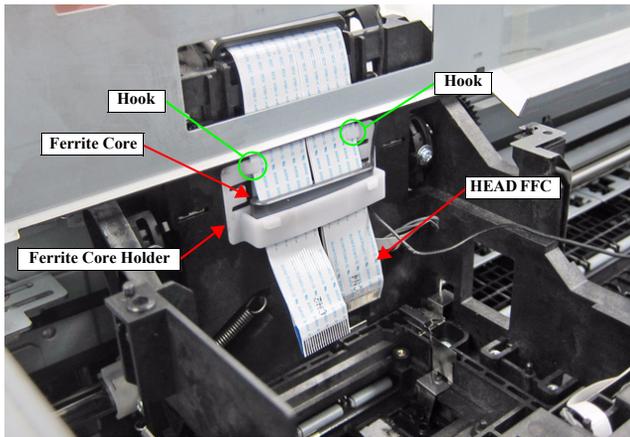


Figure 3-107. Removing the HEAD FFC

20. Remove the two FFC clamps from the top of the CR UNIT.

21. Remove the screw that secures the FFC Shield Plate.

B) Silver M3x6 S-tite screw with built-in washer: 1 pcs



- Secure the Grounding wire and the plate with the same screw shown in the below figure.
- Pay attention to the positioning points (See Figure 3-108).

22. Pull out the HEAD FFC and CR FFC from the two Ferrite Cores.

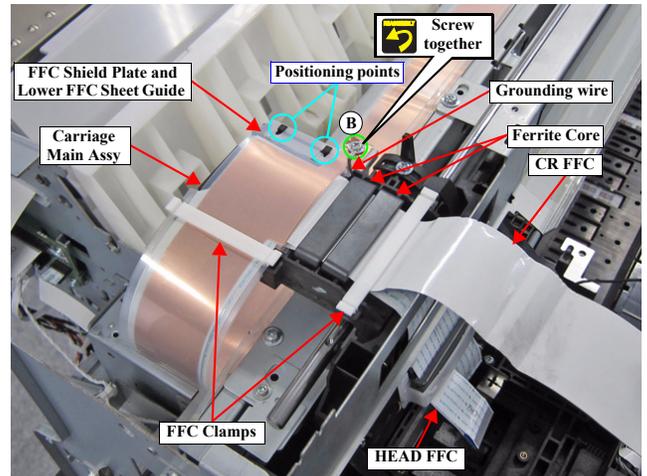


Figure 3-108. Removing the HAED FFC and CR FFC (Top of the CR UNIT)

23. Remove the Wiper Cleaner.
24. Remove the five screws, and remove the CR Motor Holder.
 - C) Silver M3x6 S-tite screw with built-in washer: 5 pcs
25. Remove the screw, and remove the CR Scale Holder.
 - D) Silver M3x6 S-tite screw with built-in washer: 1 pcs

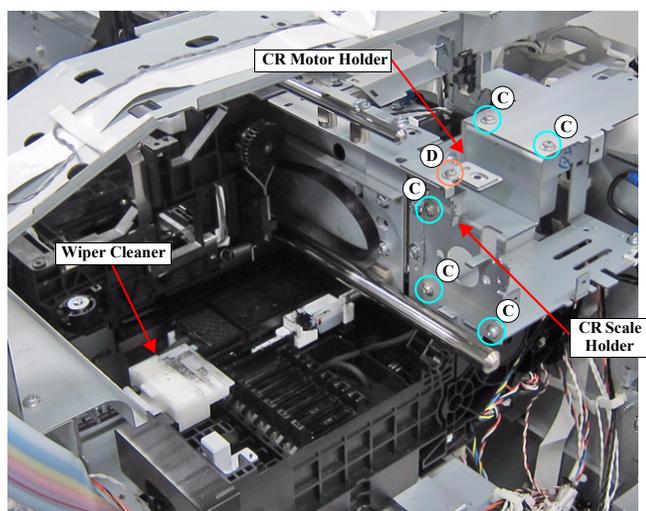


Figure 3-109. Removing the CR Scale Holder

26. Remove the CR UNIT while sliding in the direction of the arrow.

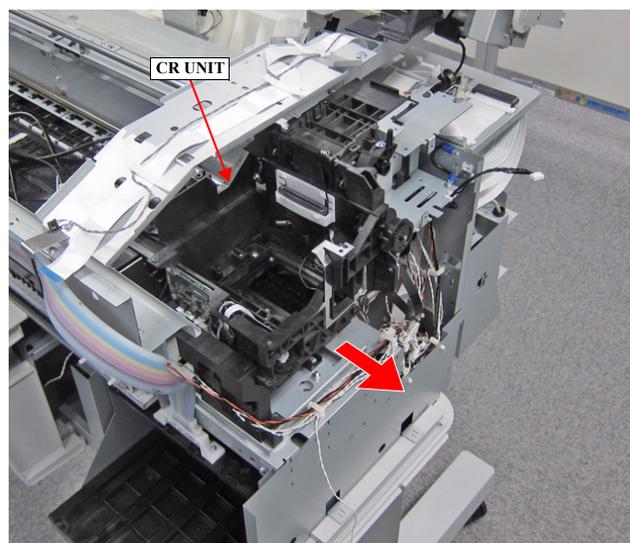


Figure 3-110. Removing the CR UNIT

3.4.4.17 IM SENSOR



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the CR UNIT. (p156)
18. Remove the screw that secures the Sensor Cover.
 - A) Silver M3x8 P-tite screw with built-in washer: 1 pcs
19. Disengage the two hooks, and remove the Sensor Cover.

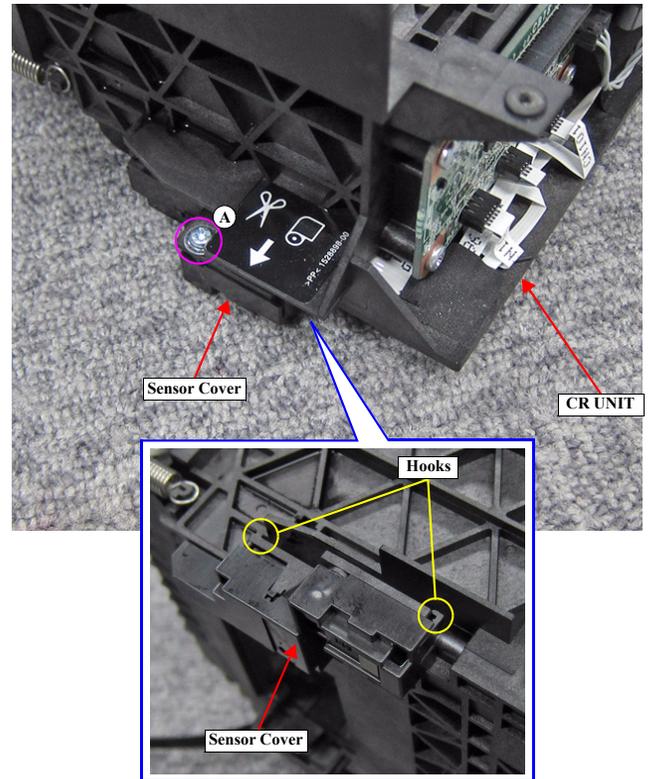


Figure 3-111. Removing the Sensor Cover

20. Disconnect the FFC from the IM SENSOR, and remove the IM SENSOR.



Make sure that you can see the light emitter/receiver of the IM SENSOR through the hole on the Sensor Cover.

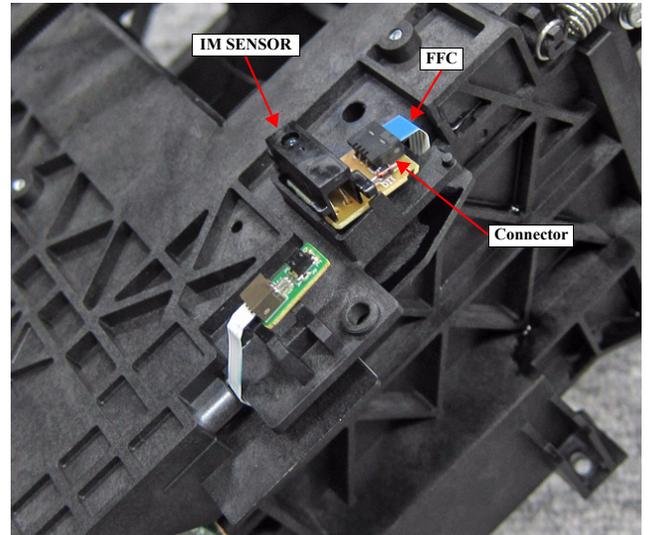
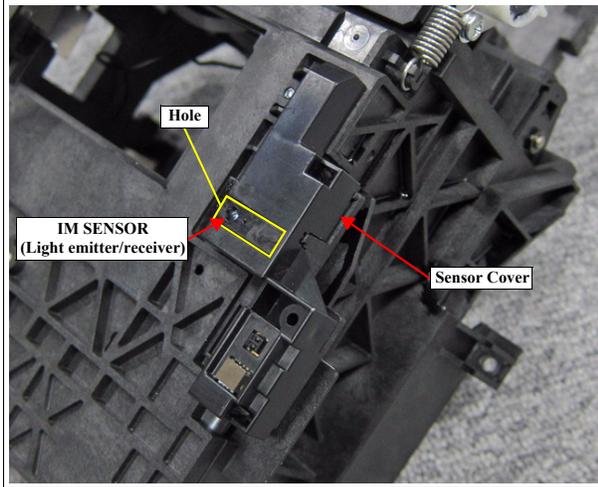


Figure 3-112. Removing the IM SENSOR

3.4.4.18 PW SENSOR



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Perform the Tube inner pressure reduction. (p248)
2. Remove the UPPER LEFT COVER. (p100)
3. Remove the UPPER SUPPORT R COVER. (p94)
4. Remove the PANEL BOARD. (p120)
5. Remove the TOP COVER. (p85)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
9. Unlock the CR UNIT. (p83)
10. Remove the CR COVER. (p122)
11. Remove the DAMPER KIT. (p123)
12. Remove the PRINT HEAD. (p126)
13. Remove the RIGHT LOWER COVER. (p96)
14. Remove the APG UNIT. (p144)
15. Remove the CR MOTOR. (p141)
16. Remove the CR SCALE. (p135)
17. Remove the CR UNIT. (p156)
18. Remove the screw that secures the Sensor Cover.
 - A) Silver M3x8 P-tite screw with built-in washer: 1 pcs
19. Disengage the two hooks, and remove the Sensor Cover.

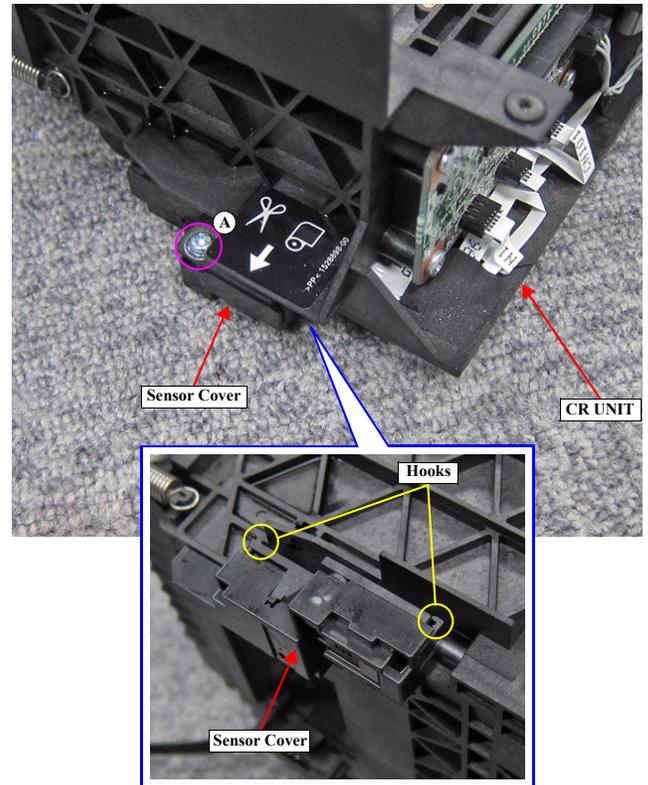


Figure 3-113. Removing the Sensor Cover

20. Disconnect the FFC from the PW SENSOR, and remove the PW SENSOR.



Make sure that you can see the light emitter/receiver of the PW SENSOR through the hole on the Sensor Cover.

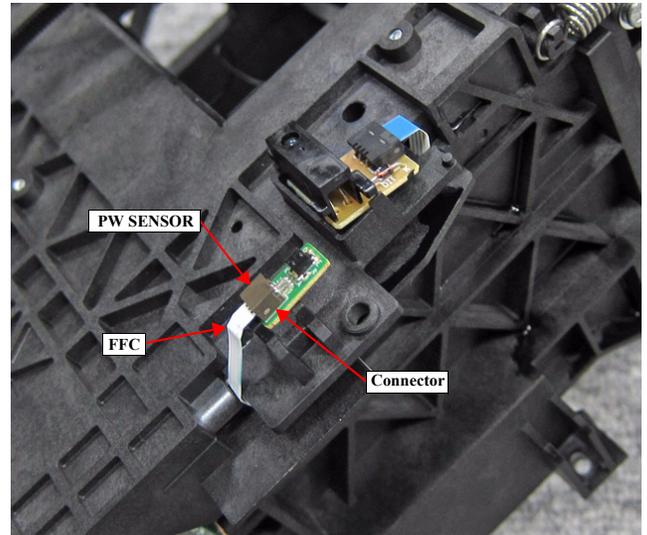
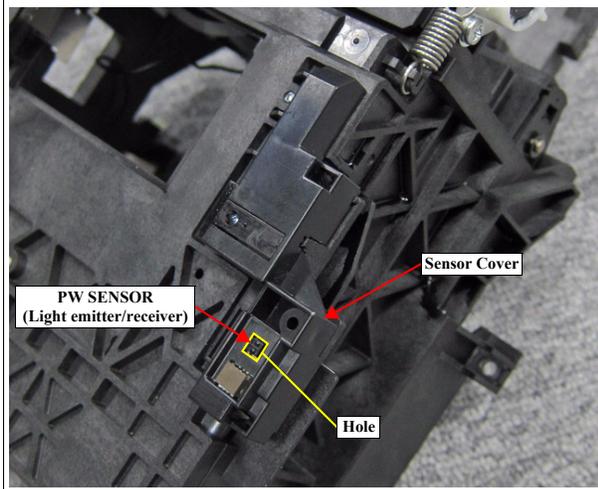


Figure 3-114. Removing the PW SENSOR

3.4.5 Paper Feed Mechanism

3.4.5.1 PF MOTOR



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the Tension Spring.
10. Remove the two screws, and remove the PF Motor Mounting Plate.
 - A) Silver M4x8 S-tite screw with built-in washer: 2 pcs



Pay attention to the positioning point (See Figure 3-115).

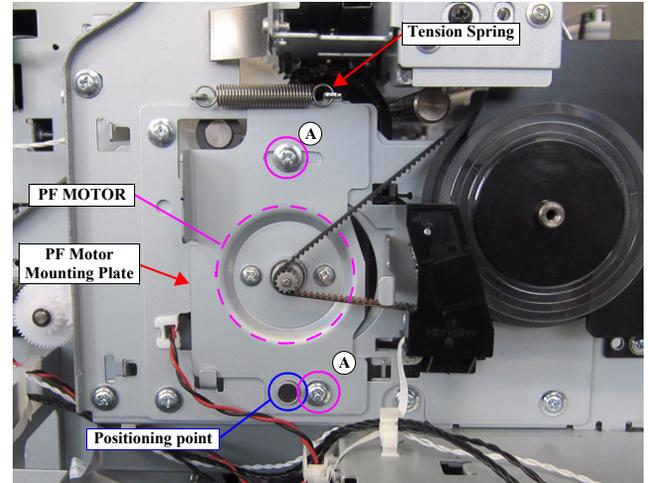


Figure 3-115. Removing the PF Motor Mounting Plate

11. Remove the two screws, and remove the PF MOTOR from the PF Motor Mounting Plate.

A) Silver M3x5 Machine screw: 2 pcs

12. Release the cable from the Edging Saddle.

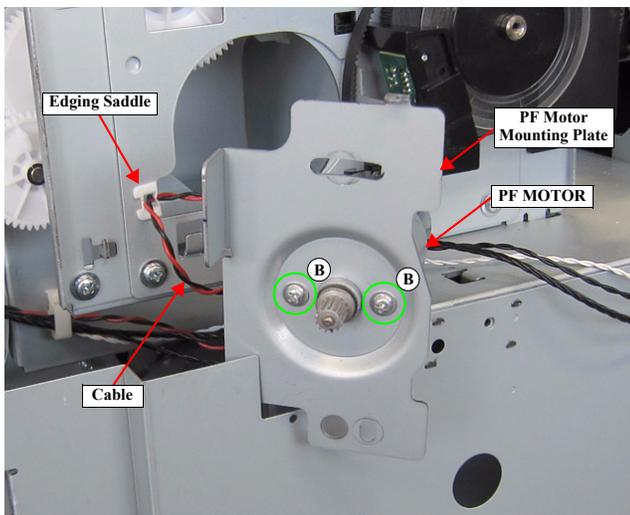


Figure 3-116. Removing the PF MOTOR

13. Disconnect the cable from the connector (CN1) of the SUB-B BOARD.

14. Release the cable from the four clamps, and remove the PF MOTOR.

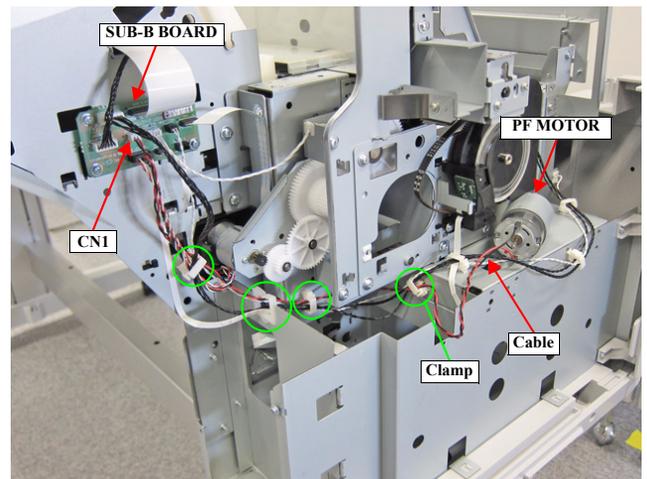


Figure 3-117. Releasing the Cable

3.4.5.2 PF SCALE

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the PF ENCODER. (p166)
10. Remove the PF SCALE.

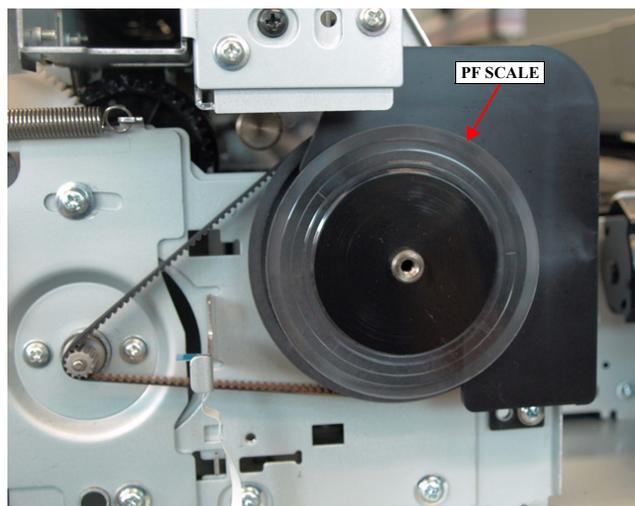


Figure 3-118. Removing the PF SCALE

3.4.5.3 PF ENCODER



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the screw that secures the PF Encoder Assy.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
10. Disengage the two hooks of the PF Encoder Assy, and remove the PF Encoder Assy.



Engage the two hooks on the PF Encoder Assy under the PF Roller Frame by sliding the assy.

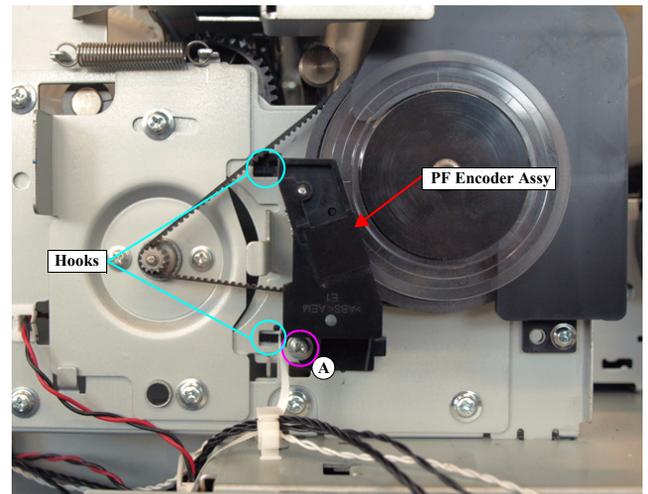
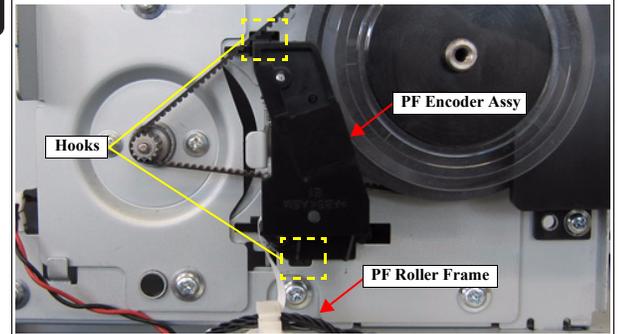


Figure 3-119. Removing the PF Encoder Assy

11. Remove the screw, and remove the PF ENCODER.
 - B) Silver M2.5x6 P-tite screw: 1 pcs
12. Disconnect the FFC from the connector of the PF ENCODER.

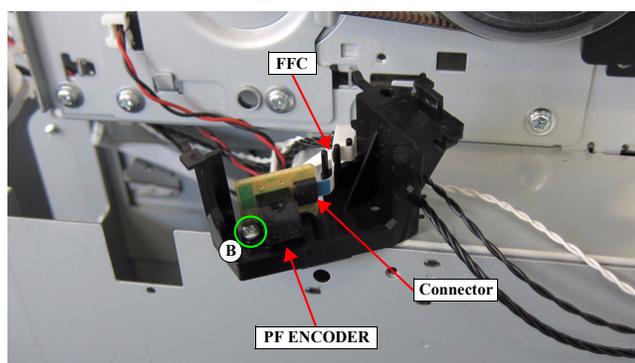


Figure 3-120. Removing the PF ENCODER

3.4.5.4 PF TIMING BELT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the PF ENCODER. (p166)
10. Remove the Tension Spring. (p163)
11. Remove the PF TIMING BELT from the pinion gear of the PF MOTOR.
12. Remove the screw, and remove the PF Shade Cover.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs



- Pay attention to the positioning point (See Figure 3-121).
- Engage the hook on the PF Shade Cover into the hole on the Left Frame.

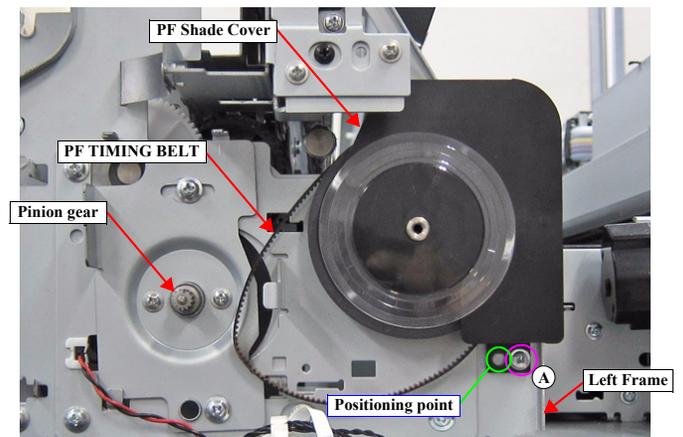
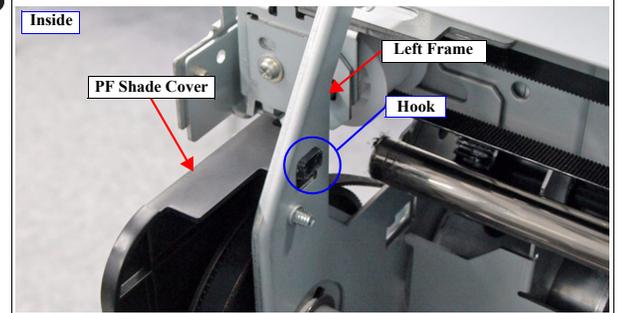


Figure 3-121. Removing the PF Shade Cover

13. Remove the PF TIMING BELT.

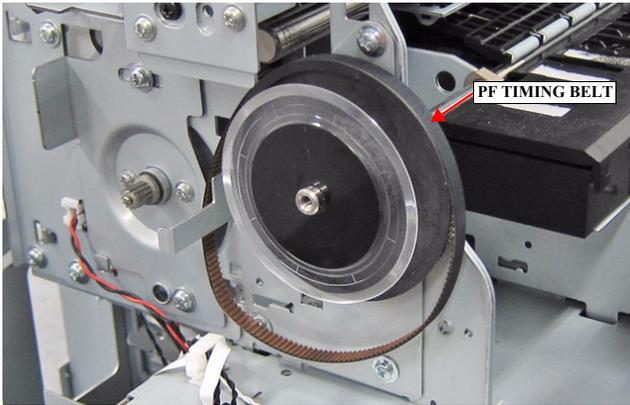


Figure 3-122. Removing the PF TIMING BELT

3.4.5.5 PRESSURE ROLLER

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Rotate the Combination Gear 18.4, 37.6 counterclockwise to set the PRESSURE ROLLER in the release position.

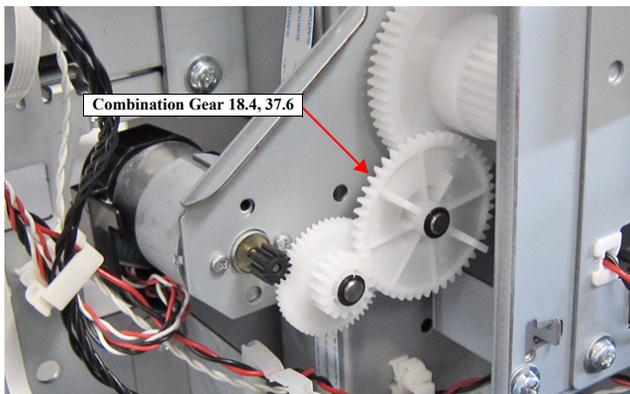


Figure 3-123. Rotate the Combination Gear 18.4, 37.6

7. Remove the Pressure Roller Shaft from the four grooves of the Release Roller Assy.

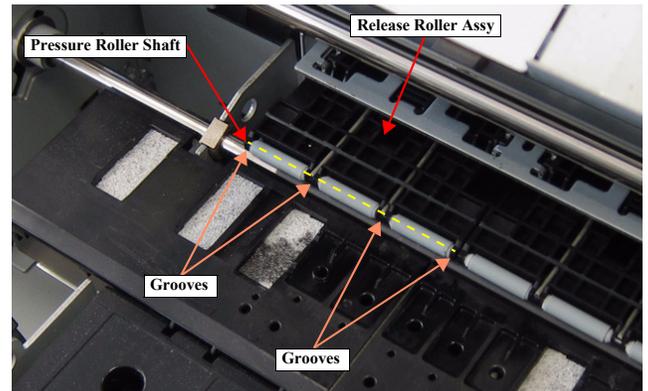


Figure 3-124. Removing the PRESSURE ROLLER (1)

8. Pull out the Pressure Roller Shaft from the three PRESSURE ROLLERS.

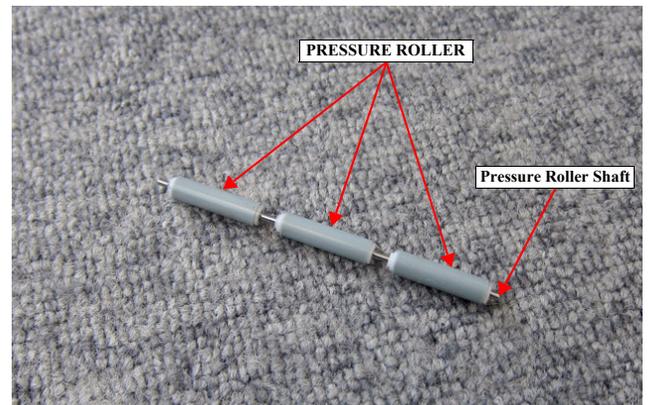


Figure 3-125. Removing the PRESSURE ROLLER (2)

3.4.5.6 PRESSURE ROLLER MOTOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the Rear Cover Cap while sliding in the direction of the arrow.

REASSEMBLY



Pay attention to the positioning point (See Figure 3-126).

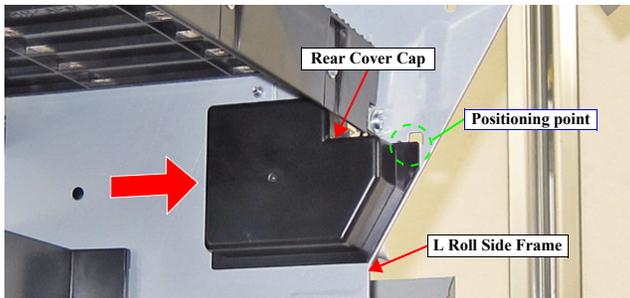


Figure 3-126. Removing the Rear Cover Cup

10. Remove the two Plastic washers, and remove the Combination gear 26, 12.8 and Combination gear 18.4, 37.6.
11. Remove the two screws, and remove the PRESSURE ROLLER MOTOR.
 - A) Silver M2.6x4 machine screw: 2 pcs

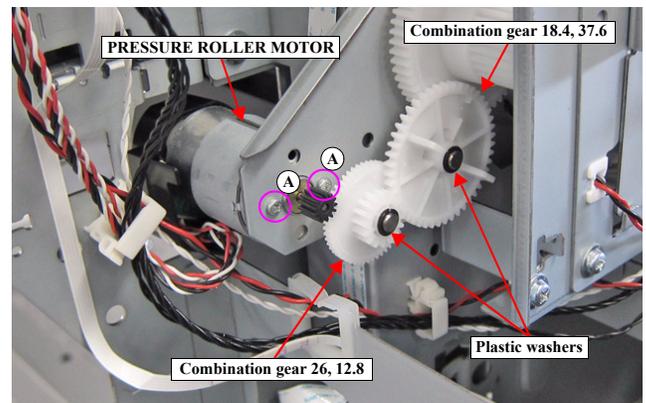


Figure 3-127. Removing the Combination gear 26, 12.8 and Combination gear 18.4, 37.6

12. Remove the Motor Cover.
13. Disconnect the cable from the connector of the PRESSURE ROLLER MOTOR, and remove the PRESSURE ROLLER MOTOR.

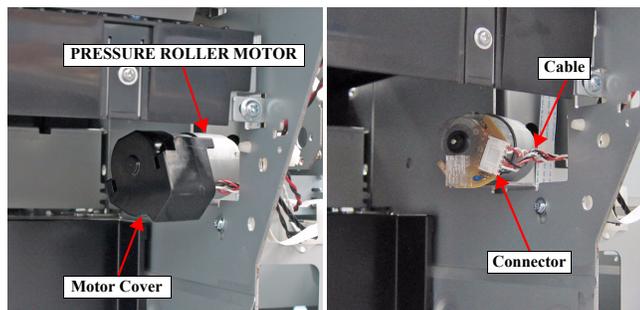


Figure 3-128. Removing the PRESSURE ROLLER MOTOR

3.4.5.7 PRESSURE ROLLER SENSOR

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
7. Remove the REAR LEFT LOWER COVER. (p104)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the PF MOTOR. (p163)
10. Rotate the Combination gear 18.4, 37.6 counterclockwise to set the PRESSURE ROLLER in the release position (The sensor is in the transmissive state.).

CHECK
POINT



Confirm the status of the PRESSURE ROLLER with the relative positions of the PRESSURE ROLLER SENSOR and Spur Gear 43 as shown below.

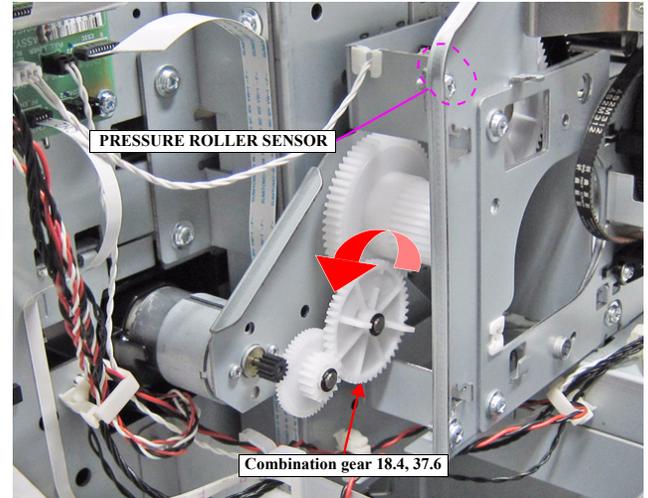
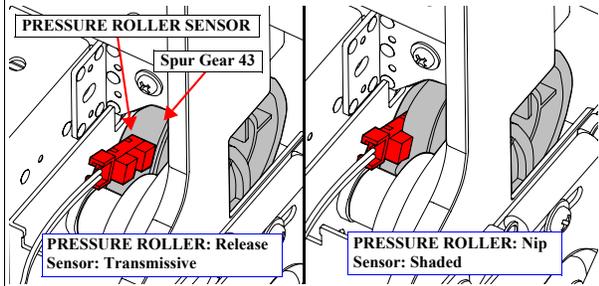


Figure 3-129. Rotate the Combination gear 18.4, 37.6

11. Remove the Plastic washer of the Combination gear 29, 59.2, and pull the Combination gear 29, 59.2 slightly toward you.
12. Loosen the screw that secures the Spur gear 43, and pull the Spur gear 43 slightly toward you.

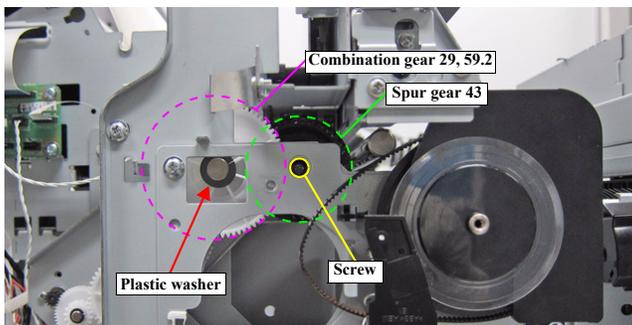


Figure 3-130. Removing the PRESSURE ROLLER SENSOR (1)

13. Disengage the hooks, and remove the PRESSURE ROLLER SENSOR.

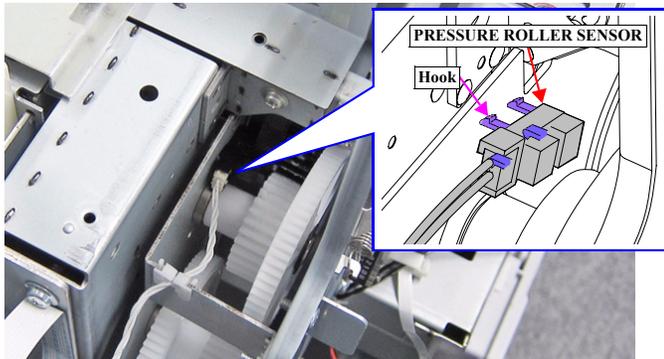


Figure 3-131. Removing the PRESSURE ROLLER SENSOR (2)

14. Disconnect the cable from the PRESSURE ROLLER SENSOR.

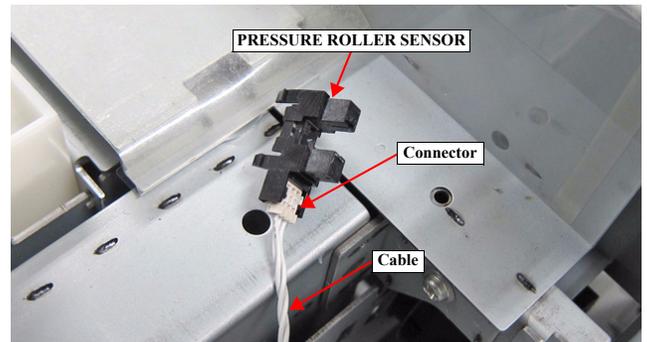


Figure 3-132. Removing the PRESSURE ROLLER SENSOR (3)

3.4.5.8 ATC MOTOR

ADJUSTMENT
REQUIRED

When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the two screws, and remove the ATC MOTOR
 - A) Silver M3x6 S-tite screw with washer: 2 pcs

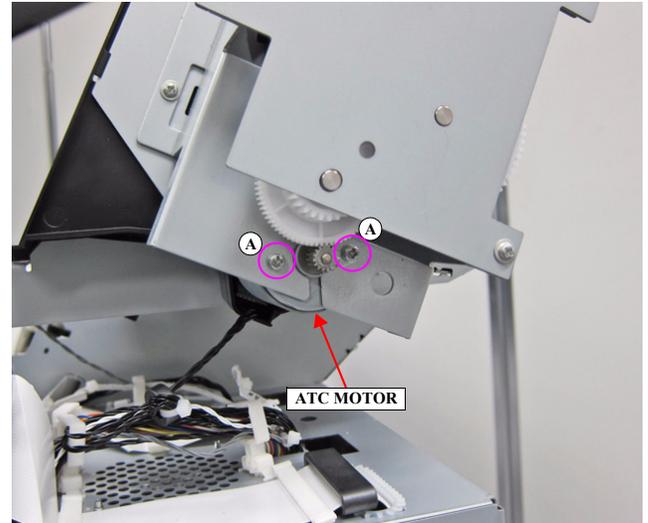


Figure 3-133. Removing the ATC MOTOR

7. Remove the Motor Cover from the ATC MOTOR.

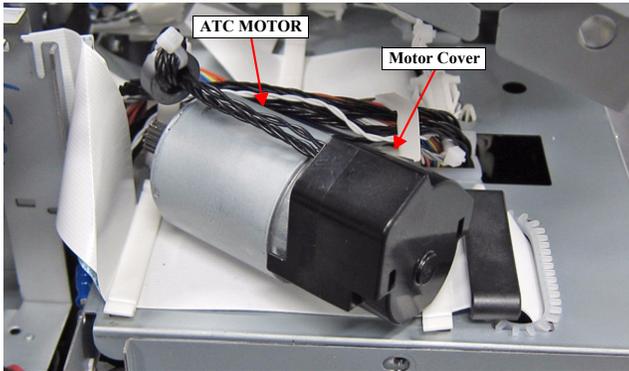


Figure 3-134. Removing the Motor Cover

8. Disconnect the cable from the connector of the ATC MOTOR.

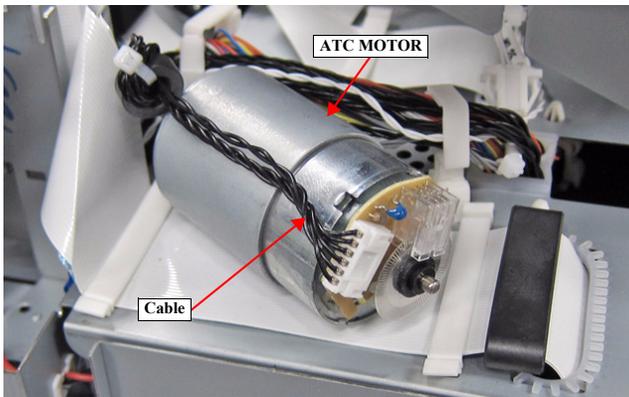


Figure 3-135. Removing the Cable

3.4.5.9 PE SENSOR (ROLL PAPER)

1. Remove the REAR ROLL COVER FRAME. (p105)
2. Remove the two screws, and remove the PE Sensor Assy.
 - A) Silver M3x8 S-tite screw with built-in washer: 2 pcs

3. Disengage the hook, and remove the PE SENSOR.
4. Release the cable from the hook of the Holder.
5. Disconnect the cable from the PE SENSOR.

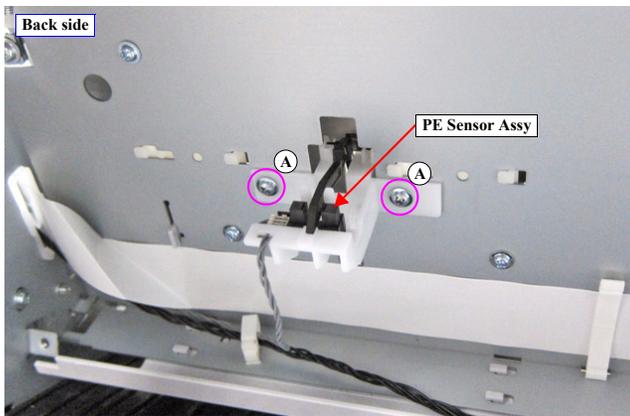


Figure 3-136. Removing the PE Sensor Assy

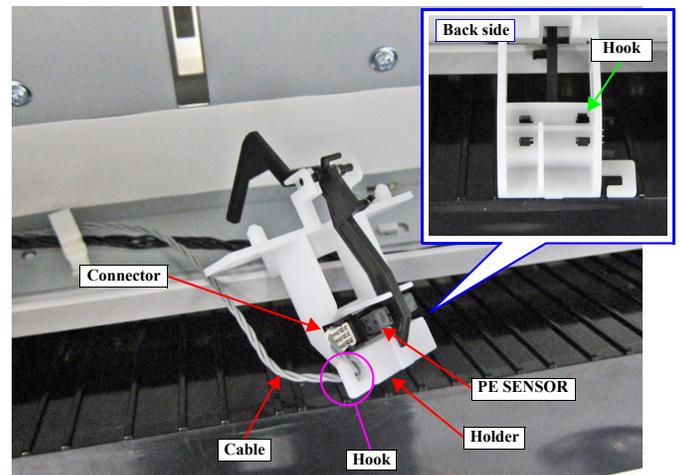


Figure 3-137. Removing the PE SENSOR (ROLL PAPER)

3.4.5.10 PE SENSOR (THICK PAPER)

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the FRONT COVER. (p86)
6. Remove the REAR ROLL COVER FRAME. (p105)
7. Remove the two screws, and remove the Rear Paper Guide in the direction of the arrow.
A) Silver M3x6 S-tite screw with built-in washer: 2 pcs

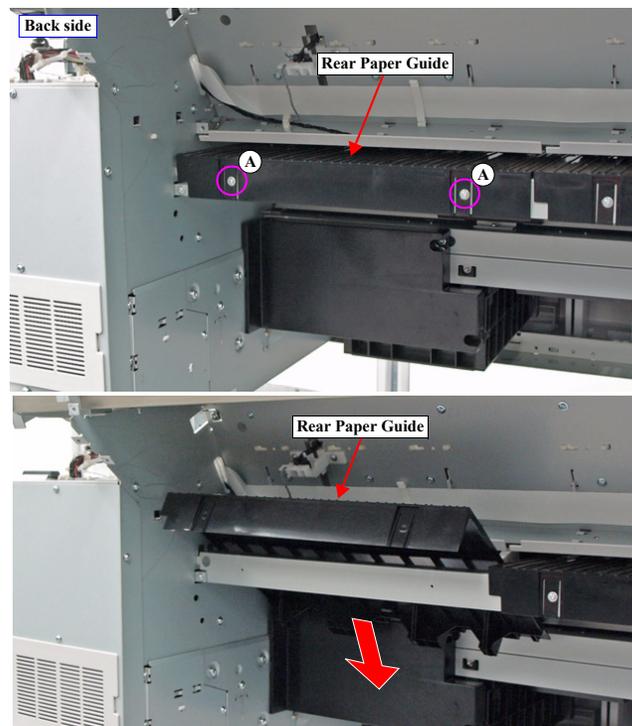


Figure 3-138. Removing the Rear Paper Guide

8. Release the two hooks on the PE Sensor Assy, and remove the PE Sensor Assy to the back side.

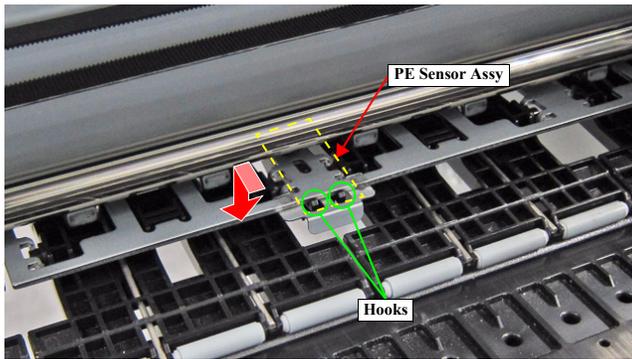


Figure 3-139. Removing the PE Sensor Assy

9. Disengage the two hooks, and remove the Sensor Cap.
10. Disconnect the FFC from the PE SENSOR.

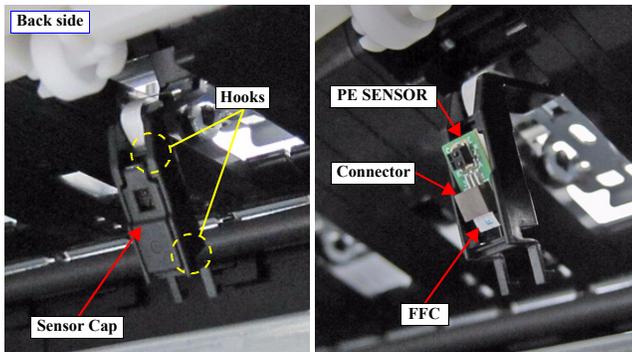


Figure 3-140. Removing the PE SENSOR (THICK PAPER)

3.4.5.11 PAPER THICKNESS SENSOR



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the two screws, and remove the Paper Thickness Sensor Assy while sliding in the direction of the arrow.
 - A) Silver M3x8 P-tite screw with built-in washer: 2 pcs

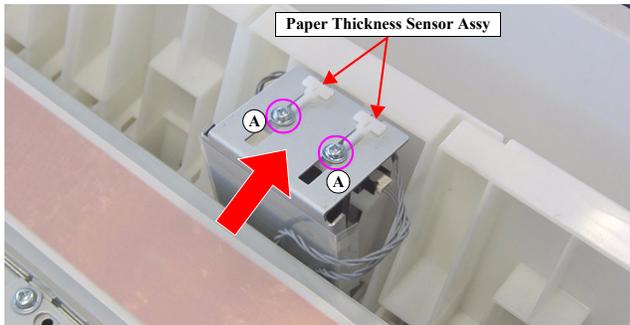


Figure 3-141. Removing the Paper Thickness Sensor Assy

7. Disengage the hook, and remove the PAPER THICKNESS SENSOR.
8. Disconnect the cable from the PAPER THICKNESS SENSOR.
9. Release the cable from the hook of the Sensor Holder.

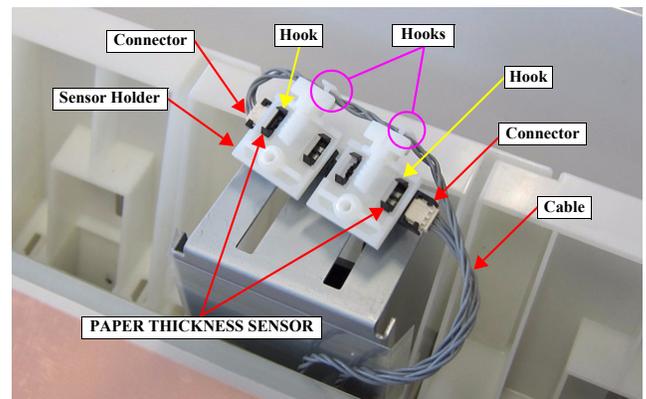


Figure 3-142. Removing the PAPER THICKNESS SENSOR

3.4.6 Cutter Mechanism

3.4.6.1 CUTTER UNIT



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the FRONT COVER. (p86)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the FRONT COVER. (p86)
7. Remove the LEFT UPPER COVER & LEFT ROLL COVER. (p101)
8. Remove the LEFT LOWER COVER. (p98)
9. Remove the RIGHT LOWER COVER. (p96)
10. Remove the FRONT LEFT LOWER COVER. (p103)
11. Remove the IH COVER. (p89)
12. Remove the LOWER PAPER GUIDE B. (p88)
13. Remove the LOWER PAPER GUIDE. (p87)
14. Disconnect the sensor cable from the Relay Connector (No.27).
15. Release the sensor cable from the four clamps.
16. Remove the pieces of acetate tape, and release the sensor cable.
17. Release the sensor cable from the hook of the CR Spacer.

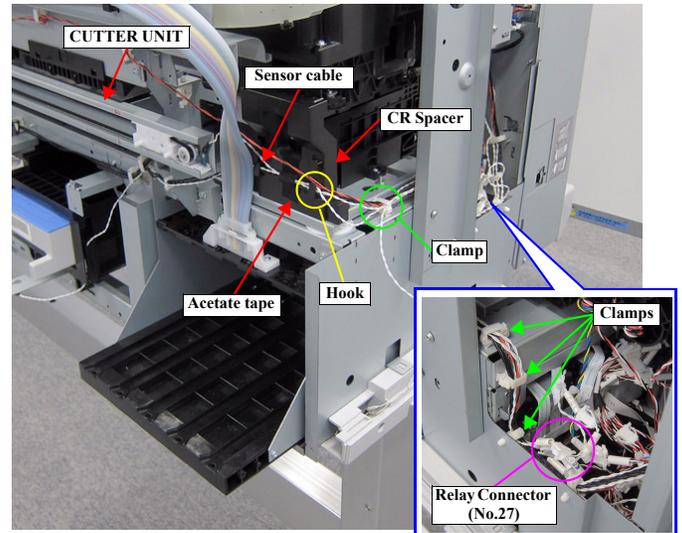


Figure 3-143. Releasing the Sensor Cable

- 18. Remove the Motor Cover.
- 19. Disconnect the motor cable from the connector of the Cutter Motor.

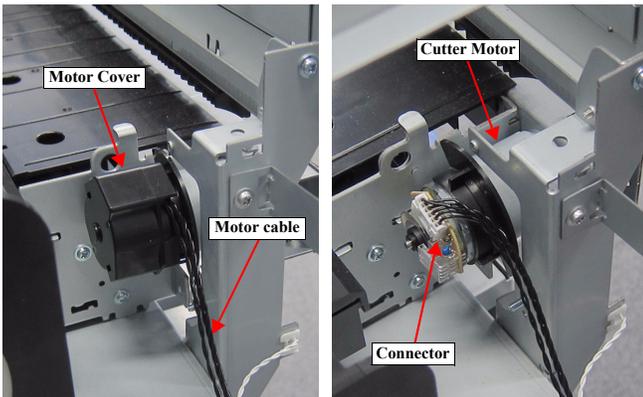


Figure 3-144. Releasing the Motor Cable

- 20. Remove the two screws, and remove the CUTTER UNIT.
 - A) Silver M3x6 screw: 2 pcs



Pay attention to the positioning points (See Figure 3-145).

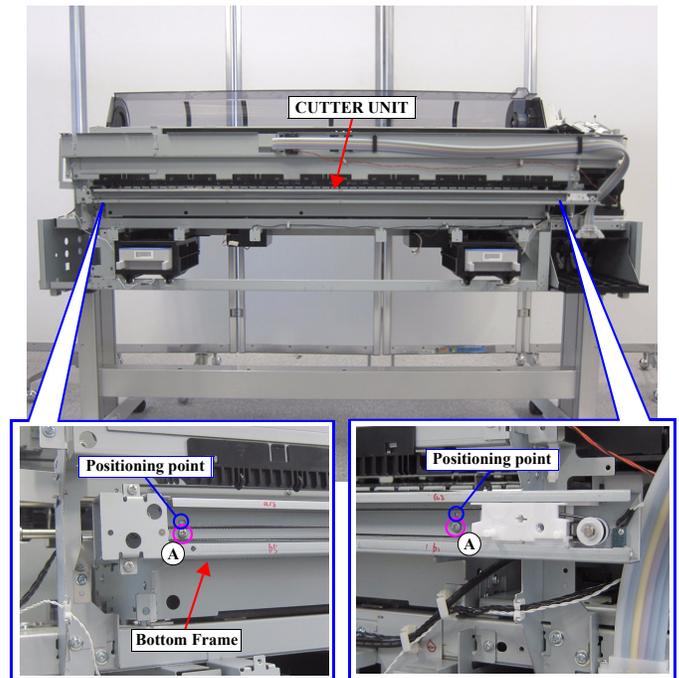


Figure 3-145. Removing the CUTTER UNIT

3.4.7 Fans

3.4.7.1 BOARD BOX FAN

1. Remove the UPPER LEFT COVER. (p100)
2. Remove the UPPER SUPPORT R COVER. (p94)
3. Remove the PANEL BOARD. (p120)
4. Remove the TOP COVER. (p85)
5. Remove the RIGHT UPPER COVER & RIGHT ROLL COVER. (p95)
6. Remove the REAR RIGHT LOWER COVER. (p99)
7. Remove the PSH BOARD. (p118)
8. Remove the MAIN-B BOARD. (p113)
9. Remove the MAIN BOARD. (p111)
10. Release the cable from the three clamps.
11. Remove the two screws, and remove the Board Box Fan.
 - A) Silver M3x20 screw: 2 pcs

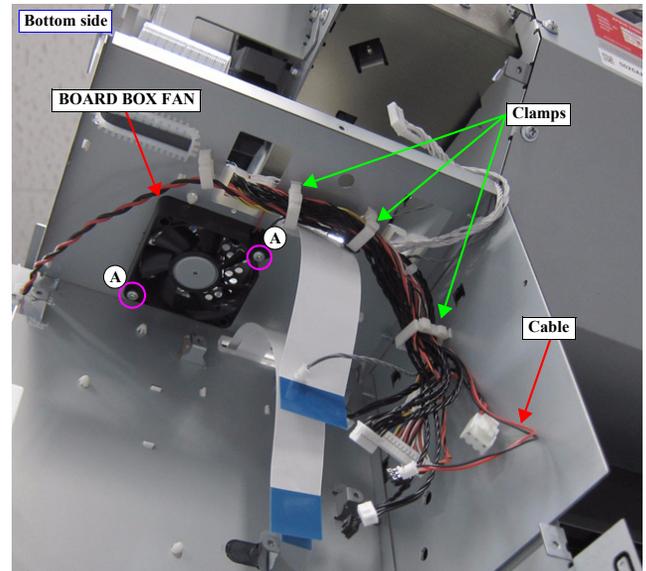


Figure 3-146. Removing the BOARD BOX FAN

3.4.7.2 SUCTION FAN



When replacing/removing this part, refer to “4.1.2 Adjustment Items and the Order by Repaired Part” (p199) and make sure to perform the specified operations including required adjustment.

1. Remove the screw that secures the Fan Cover.
 - A) Silver M3x8 S-tite screw with built-in washer: 1 pcs
2. Slide the Fan Covers in the direction of the arrows to engage the two each hooks, and remove the two Fan Covers.

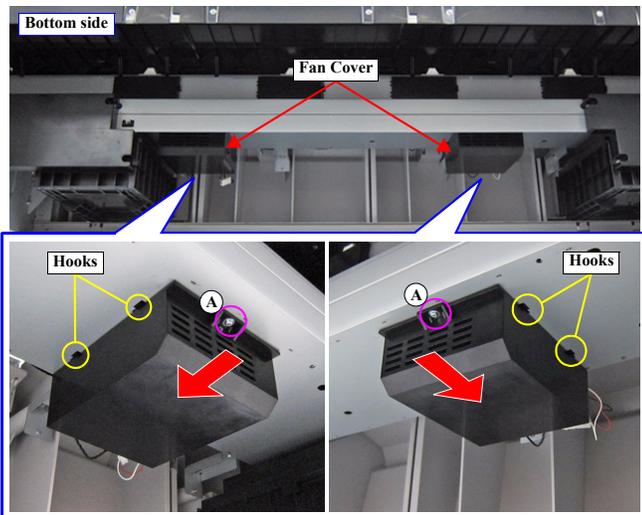


Figure 3-147. Removing the Fan Cover

3. Disconnect the cable from the Relay Connector.
4. Remove the two screws, and remove the SUCTION FAN.
 - B) Silver M3x40 screw: 2 pcs

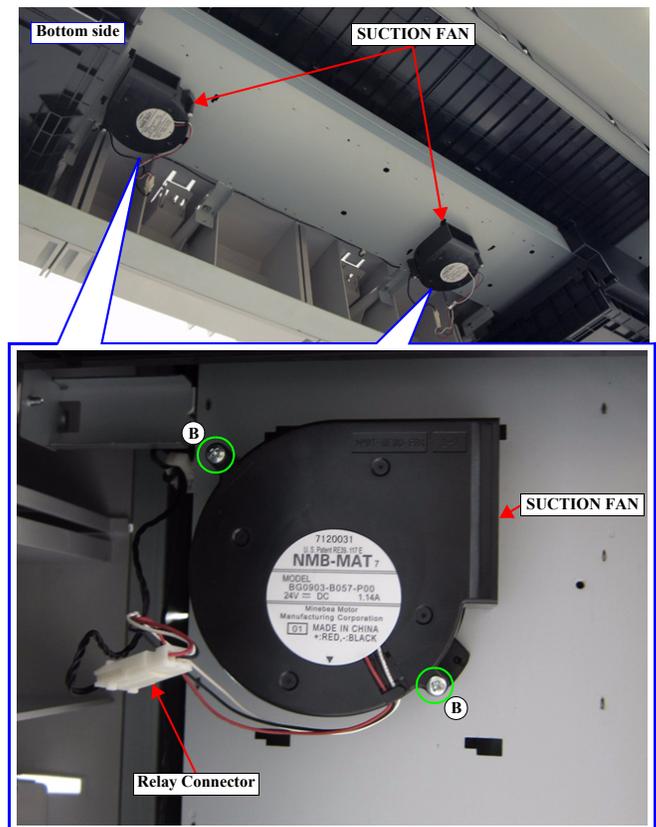


Figure 3-148. Removing the SUCTION FAN

3.4.8 Auto Take-up Reel

3.4.8.1 TAKE-UP REEL COVER

- Remove the two screws that secure the Auto Take-up Reel.
 - Silver, Phillips, Pan S-tite with S.W & P.W. M4x10: 2 pcs
- Hold up the Auto Take-up Reel to disengage the hook, and remove the Auto Take-up Reel.
- Remove the four screws that secure the TAKE-UP REEL COVER, and remove the TAKE-UP REEL COVER from the Auto Take-up Reel.
 - Black, Phillips, Pan P-tite M3x10: 4 pcs
- Disengage the six hooks that secure the Panel Cover from inside, and remove the Panel Cover from the TAKE-UP REEL COVER.

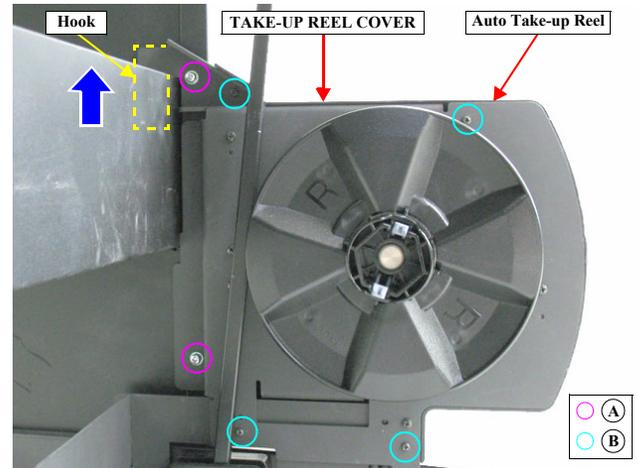


Figure 3-149. Removing the Auto Take-up Reel

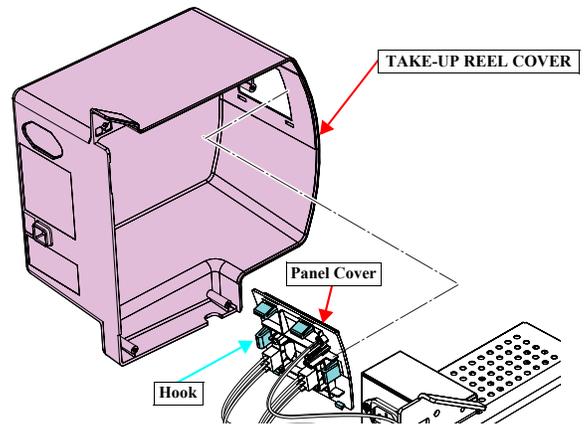


Figure 3-150. Removing the TAKE-UP REEL COVER

3.4.8.2 TAKE-UP REEL SENSOR

1. Remove the screw that secures the TAKE-UP REEL SENSOR.
A) Black, Phillips, Bind P-tite M3x10: 1 pcs
2. Remove the TAKE-UP REEL SENSOR from the Auto Take-up Reel.
3. Disconnect the connector from the TAKE-UP REEL SENSOR.

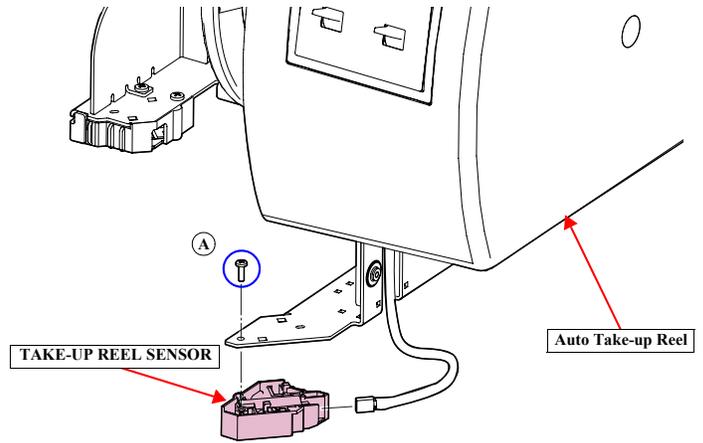


Figure 3-151. Removing the TAKE-UP REEL SENSOR

3.4.8.3 TAKE-UP REEL LED

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the TAKE-UP REEL COVER. (p185)
3. Disconnect the connector (CN1) on the TAKE-UP REEL 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: 4 pcs
5. Disconnect the connector (CN23) on the TAKE-UP REEL MAIN BOARD.
6. Release the harness from the cable guide, and remove the TAKE-UP REEL LED.

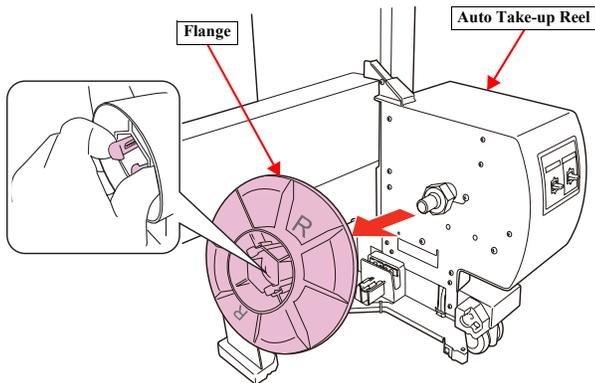


Figure 3-152. Removing the Flange

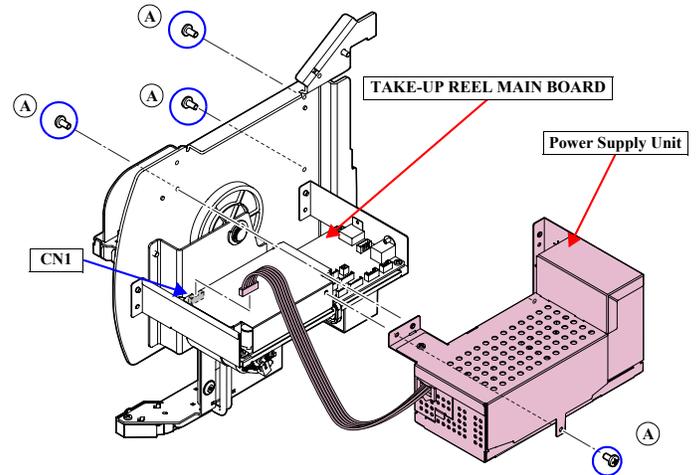


Figure 3-153. Removing the Power Supply Unit

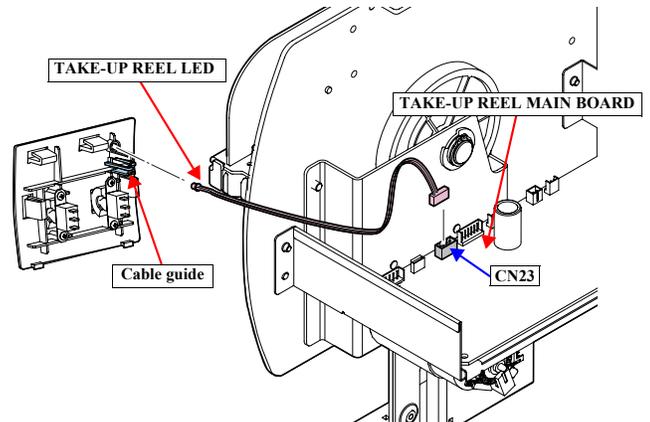


Figure 3-154. Removing the TAKE-UP REEL LED

3.4.8.4 TAKE-UP REEL SWITCH

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the TAKE-UP REEL COVER. (p185)
3. Disconnect the connector (CN1) on the TAKE-UP REEL 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:

4 pcs

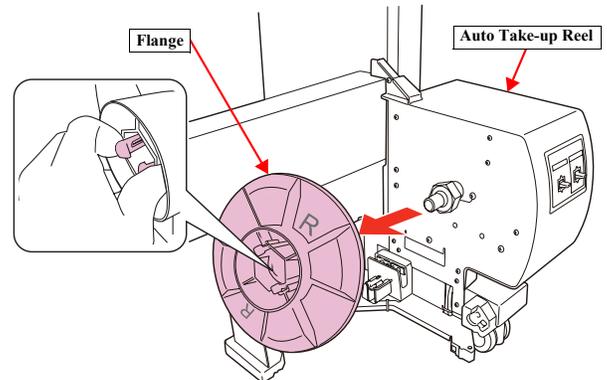


Figure 3-155. Removing the Flange

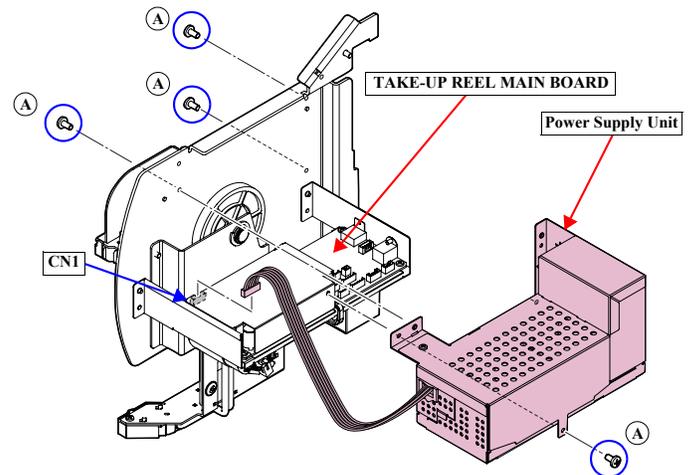


Figure 3-156. Removing the Power Supply Unit

5. Disconnect the connector (CN17) on the TAKE-UP REEL 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): 4 pcs



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.

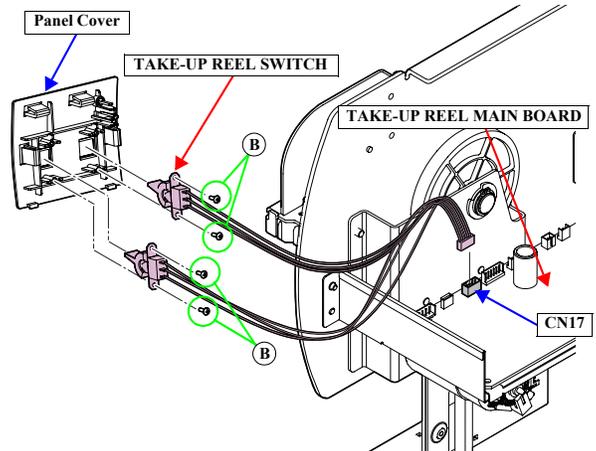
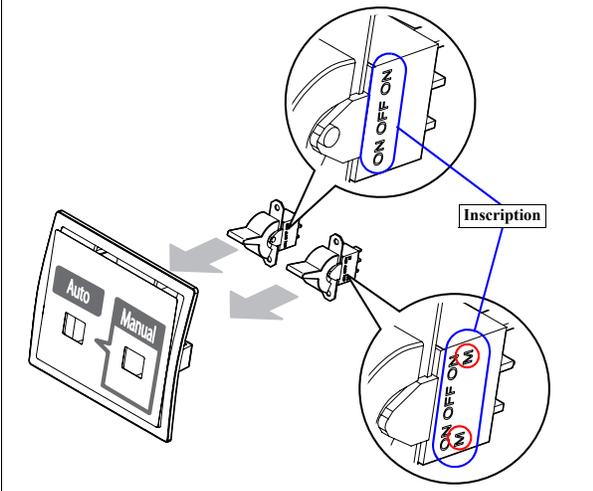


Figure 3-157. Removing the TAKE-UP REEL SWITCH

3.4.8.5 TAKE-UP REEL PS BOARD

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the TAKE-UP REEL COVER. (p185)
3. Remove the two screws that secure the Plate A, and remove the Plate A.

A) Black, Phillips, Bind S-tite M3x6:	2 pcs
---------------------------------------	-------
4. Remove the two screws that secure the Plate B, and remove the Plate B.

B) Black, Phillips, Bind S-tite M3x6:	1 pcs
C) Black, Phillips, Bind S-tite M4x8:	1 pcs

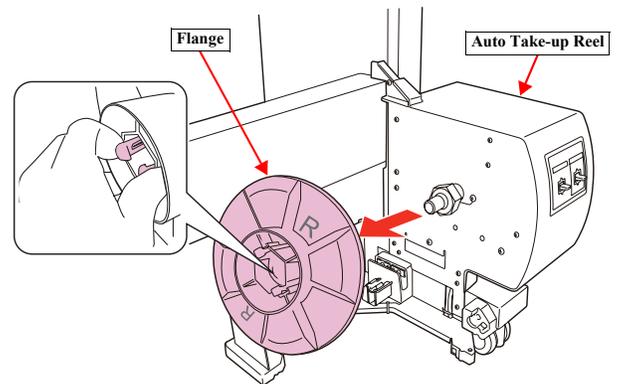


Figure 3-158. Removing the Flange

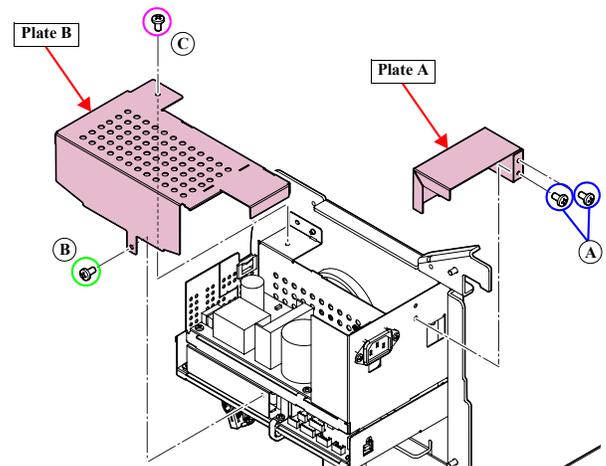


Figure 3-159. Removing the Plate A/B

5. Remove the six screws that secure the TAKE-UP REEL PS BOARD, and remove the TAKE-UP REEL PS BOARD.
 - D) Black, Phillips, Bind S-tite M3x6: 6 pcs
6. Disconnect the connectors (CN1, CN2) on the TAKE-UP REEL PS BOARD.

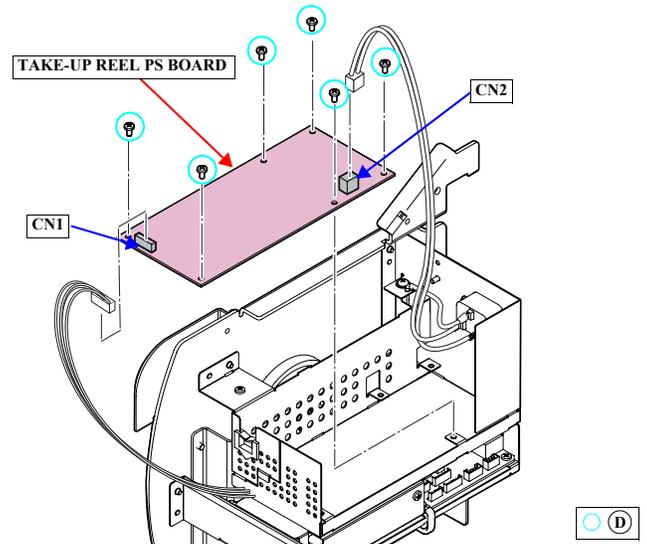


Figure 3-160. Removing the TAKE-UP REEL PS BOARD

3.4.8.6 TAKE-UP REEL MOTOR

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the TAKE-UP REEL COVER. (p185)
3. Disconnect the connector (CN1) on the TAKE-UP REEL 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: 4 pcs

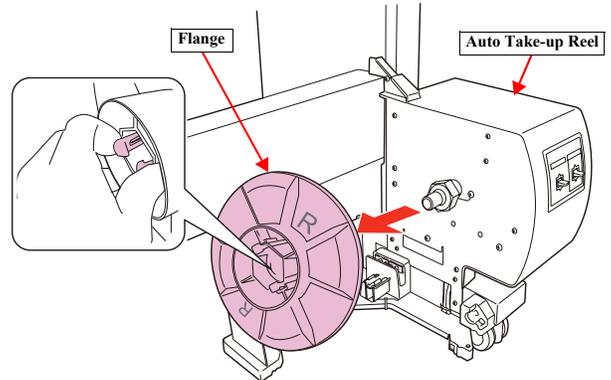


Figure 3-161. Removing the Flange

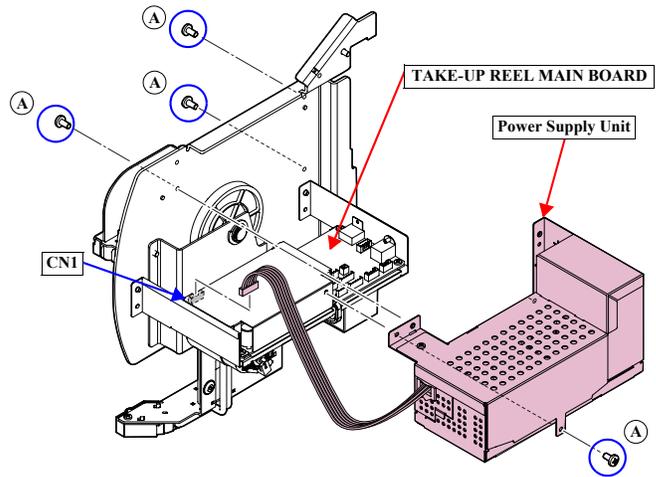


Figure 3-162. Removing the Power Supply Unit

5. Remove the two screws that secure the TAKE-UP REEL MAIN BOARD Unit.
 - B) Black, Phillips, Bind S-tite M3x6: 2 pcs
6. Disconnect the connector from the TAKE-UP REEL MOTOR, and remove the TAKE-UP REEL 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: 4 pcs
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: 2 pcs

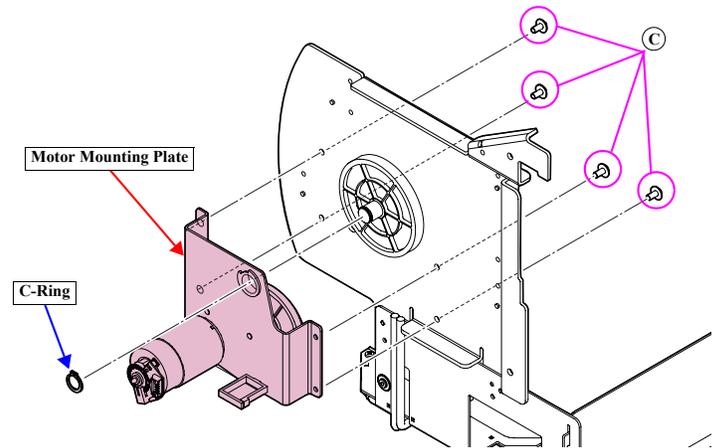


Figure 3-164. Removing the Motor Mounting Plate

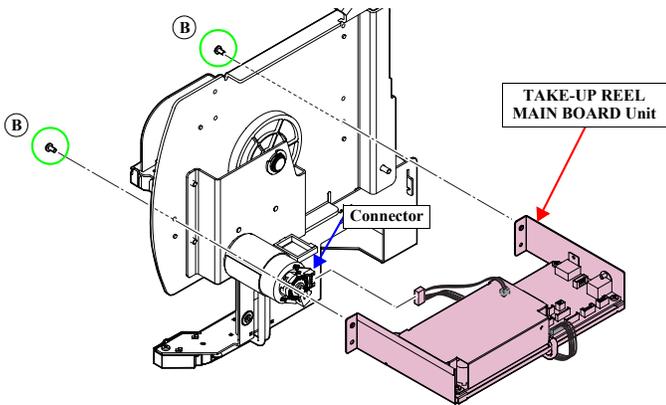


Figure 3-163. Removing the TAKE-UP REEL MAIN BOARD Unit

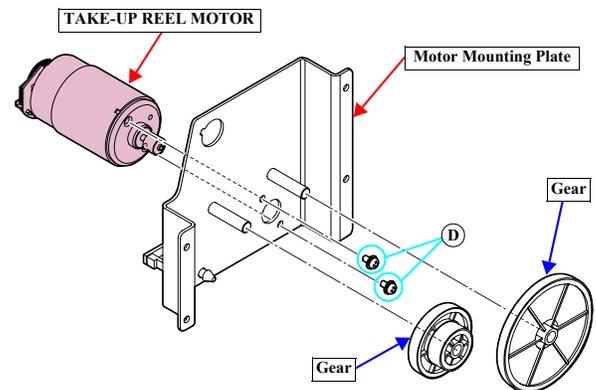


Figure 3-165. Removing the TAKE-UP REEL MOTOR

3.4.8.7 TAKE-UP REEL MAIN BOARD

1. Remove the Flange from the Auto Take-up Reel.
2. Remove the TAKE-UP REEL COVER. (p185)
3. Disconnect the connector (CN1) on the TAKE-UP REEL 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:

4 pcs

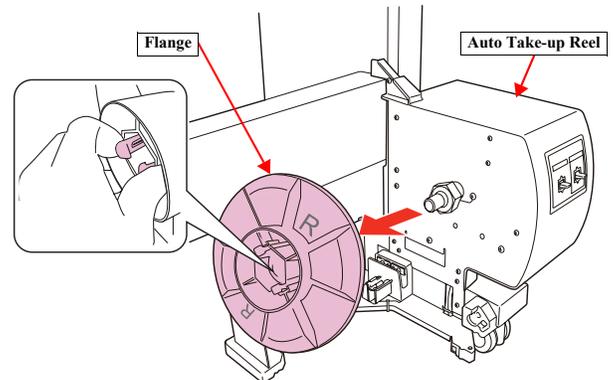


Figure 3-166. Removing the Flange

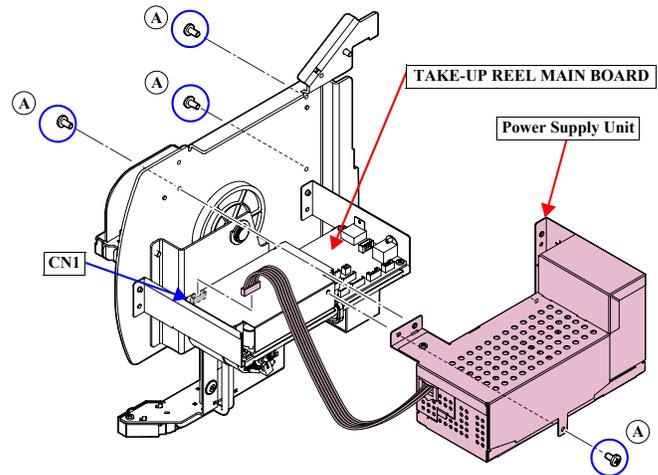


Figure 3-167. Removing the Power Supply Unit

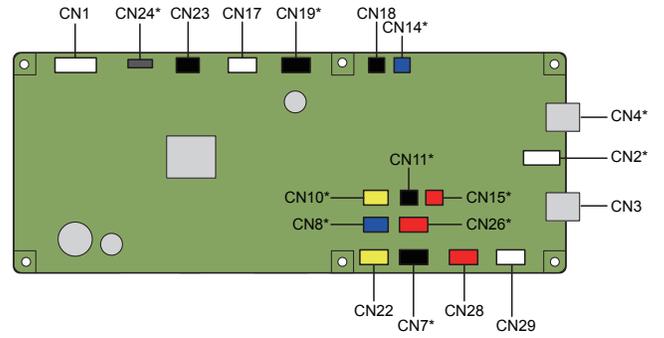
5. Remove the four screws that secure the Shield Plate, and remove the three clamps and the Shield Plate.

B) Black, Phillips, Bind S-tite M3x6: 4 pcs

6. Disconnect all the connectors on the TAKE-UP REEL MAIN BOARD.

7. Remove the three screws that secure the TAKE-UP REEL MAIN BOARD, and remove the TAKE-UP REEL MAIN BOARD.

C) Black, Phillips, Bind S-tite M3x6: 3 pcs



*: Unused connectors

Figure 3-169. Connector location

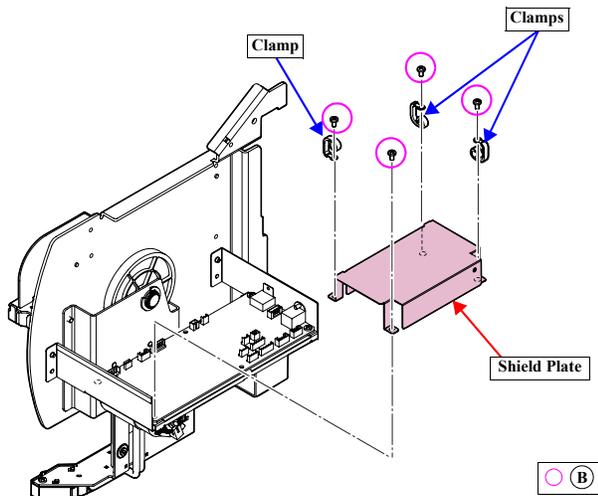


Figure 3-168. Removing the Removing the Shield Plate

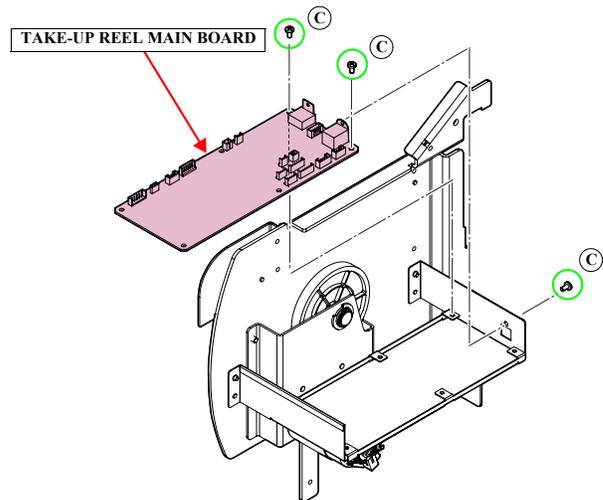


Figure 3-170. Removing the TAKE-UP REEL MAIN BOARD

Connector assignment:

Connector assignment:	Color	Destination
CN1	White	TAKE-UP REEL PS 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	TAKE-UP REEL LED
CN24*	(FC)	Unused
CN26*	Red	Unused
CN28	Red	TAKE-UP REEL SENSOR
CN29	White	TAKE-UP REEL SENSOR

CHAPTER

4

ADJUSTMENT

Confidential

4.1 Overview

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

4.1.1 Precautions

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



- Always refer to "4.1.2 Adjustment Items and the Order by Repaired Part" (p.199) 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.

4.1.2 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.

Note "*1*": The adjustments required for the MAIN BOARD differs depending on whether the NVRAM on the old board can be backed up or not.

"*2*": When the firmware update is required, first check the version of firmware currently installed on the printer, then update the firmware if necessary.

"*3*": PGPP: Premium Glossy Photo Paper (250)

Matte Paper: Archival Matte Paper/Enhanced Matte Paper

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page	
CR related parts/units	CR MOTOR	Replacement	1		---				p. 141	
		After replacement	2	Turn the power on in normal mode.	---			√	√	
			3	CR Belt Tension Check	√	Tensimeter U-507		√	√	p. 234
			4	CR Motor Measurement & Automatic Adjustment	√			√	---	p. 279
			5	CR Active Damper Adjustment (Automatic)	√			√	---	p. 240
			6	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			7	Auto Uni-d adjustment	√		PGPP	√	---	p. 241
			8	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP	√	---	p. 242
			9	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			10	Reset the motor counter.	√			√	---	p. 231
			11	Housing Assembly	---			√	√	
	CR SCALE	Replacement	1		---					p. 135
		After replacement	2	Turn the power on in normal mode.	---			√	√	
			3	CR Scale Check	√			√	√	p. 239
		4	Housing Assembly	---			√	√		

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page	
CR related parts/units	CR TIMING BELT	Replacement	1		---				p. 139	
		After replacement	2	Turn the power on in normal mode.	---			√	√	
			3	CR Belt Tension Check	√	Tensimeter U-507		√	√	p. 234
			4	APG function check	√			√	---	p. 237
			5	CR Scale Check	√			√	---	p. 239
			6	CR Active Damper Adjustment (Automatic)	√			√	---	p. 240
			7	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			8	Auto Uni-d adjustment	√		PGPP	√	---	p. 241
			9	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP	√	---	p. 242
			10	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			11	Housing Assembly	---			√	√	
	CR UNIT (CR Assy)	Replacement	1		---					p. 156
		After replacement	2	CR Belt Tension Check	√	Tensimeter U-507		√	√	p. 234
			3	APG function check	√			√	√	p. 237
			4	CR Scale Check	√			√	√	p. 239
			5	CR Active Damper Adjustment (Automatic)	√			√	---	p. 240
			6	Head inclination auto adjustment (CR direction)	√			√	---	p. 253
			7	Head slant auto adjustment (PF direction)	√			√	---	p. 256
			8	Head inclination manual adjustment (CR direction)	√			√	---	p. 254
			9	Head slant manual adjustment (PF direction)	√			√	---	p. 257
			10	PG Adjustment	√	Thickness gauge		√	---	p. 245
			11	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			12	Auto Uni-d adjustment	√		PGPP	√	---	p. 241
13	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP	√	---	p. 242			

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page	
CR related parts/units	CR UNIT (CR Assy)	After replacement	14	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			15	Cut Position check & adjustment	√			√	---	p. 266
			16	Reset the motor counter.	√			√	---	p. 231
			17	Housing Assembly	---			√	√	
	APG UNIT (APG Motor)	Replacement	1		---					p. 144
		After replacement	2	APG function check	√			√	---	p. 237
			3	Reset the motor counter.	√			√	---	p. 231
	IM SENSOR	Replacement	1		---					p. 159
		After replacement	2	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			3	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			4	Cut Position Check & Adjustment	√			√	---	p. 266
	PW SENSOR	Replacement	1		---					p. 161
		After replacement	2	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			3	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			4	Cut Position Check & Adjustment	√			√	---	p. 266
	CR ENCODER	Replacement	1		---					p. 138
		After replacement	2	CR Belt Tension Adjustment	√	Tensimeter U-507		√	√	p. 234
			3	APG function check	√			√	---	p. 237
			4	CR Scale Check	√			√	---	p. 239
			5	CR Motor Measurement & Automatic Adjustment	√			√	---	p. 279
6			CR Active Damper Adjustment (Automatic)	√			√	---	p. 240	
7			Head inclination auto adjustment (CR direction)	√			√	---	p. 253	
8			Head slant auto adjustment (PF direction)	√			√	---	p. 256	
9			Head inclination manual adjustment (CR direction)	√			√	---	p. 254	

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page		
CR related parts/units	CR ENCODER	After replacement	10	Head slant manual adjustment (PF direction)	√			√	---	p. 257	
			11	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238	
			12	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243	
			13	Housing Assembly	---			√	√		
Head related	PRINT HEAD	Before replacement	1	Turn the power on in normal mode.	---			√	√		
			2	Tube inner pressure reduction	√			√	√	p. 248	
			3	Auto CR unlock & move CR to full column side	√				√	√	
		After replacement	Replacement	4		---					p. 126
			5	Turn the power on in normal mode.	---				√	√	
			6	Head ID Input	√				√	---	p. 249
			7	Set paper.	---				√	√	
			8	Cleaning	√				√	√	p. 252
			9	Nozzle Check	√		PGPP		√	√	p. 251
			10	Cleaning	√				√	√	p. 252
			11	Head inclination auto adjustment (CR direction)	√				√	√	p. 253
			12	Head slant auto adjustment (PF direction)	√				√	√	p. 256
			13	Head inclination manual adjustment (CR direction)	√				√	√	p. 254
			14	Head slant manual adjustment (PF direction)	√				√	√	p. 257
			15	PG Adjustment	---	Thickness gauge			√	---	p. 245
			16	Auto Uni-d adjustment	√		PGPP		√	---	p. 241
			17	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP		√	---	p. 242
			18	Reset the Print Head Counter.	√				√	---	p. 231
			19	CR cover assembly	---				√	---	
			20	Housing Assembly	---				√	√	

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page		
Ink supply related parts/units	PUMP CAP UNIT	Replacement	1		---				p. 147		
		After replacement	2	Turn the power on in normal mode.	---			√	---		
			3	Pump Cap Unit Measurement & Automatic Adjustment	√			√	---	p. 279	
			4	Reset the unit counter.	√			√	---	p. 231	
	IC HOLDER	Before replacement	1	Turn the power on in normal mode.	---			√	√		
			2	Ink eject	√			√	√	p. 259	
			3	Tube inner pressure reduction	√			√	√	p. 248	
		Replacement	4		---					p. 148	
		After replacement	5	Turn the power on in normal mode.	---				√	√	
			6	Initial ink charge	√				√	√	p. 261
			7	Nozzle Check	√		PGPP		√	√	p. 251
			8	Cleaning	√				√	√	p. 252
			9	Reset the IC Holder counter.	√				√	---	p. 231
	INK TUBE	Before replacement	1	Turn the power on in normal mode.	---			√	√		
			2	Reset the tube counter.	√			√	---	p. 231	
			3	Ink eject	√			√	√	p. 259	
			4	Tube inner pressure reduction	√			√	√	p. 248	
			5	Auto CR unlock & move CR to full column side	√			√	√		
		Replacement	6		---					p. 152	
		After replacement	7	Turn the power on in normal mode.	---				√	√	
8			Initial ink charge	√				√	√	p. 261	
9			Nozzle Check	√		PGPP		√	√	p. 251	
10			Cleaning	√				√	√	p. 252	

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page		
Ink supply related parts/units	DAMPER KIT	Before replacement	1	Turn the power on in normal mode.	---			√	√		
			2	Tube inner pressure reduction	√			√	√	p. 248	
			3	Auto CR unlock & move CR to full column side	√				√	√	
		After replacement	Replacement	4		---					p. 123
			5	Turn the power on in normal mode.	---				√	√	
			6	Set paper.	---				√	√	
			7	Cleaning	√				√	√	p. 252
			8	Nozzle Check	√		PGPP		√	√	p. 251
			9	Cleaning	√				√	√	p. 252
			10	Reset the damper kit counter.	√				√	---	p. 231
			11	CR cover assembly	---				√	√	
			12	Housing Assembly	---				√	√	
Paper feed related parts/units	PF TIMING BELT	Replacement	1		---					p. 168	
		After replacement	2	Turn the power on in normal mode.	---			√	√		
			3	PF Belt Tension check	√	Tensimeter U-507		√	√	p. 262	
			4	PF Motor Measurement & Automatic Adjustment	√				√	---	p. 279
			5	Media Feed Auto Adjustment	√				√	---	p. 265
			6	PW + T&B&S check and adjustment	√		Matte paper		√	---	p. 243
			7	Cut Position Check & Adjustment	√				√	---	p. 266
	PF MOTOR	Replacement	1		---						p. 163
		After replacement	2	Turn the power on in normal mode.	---			√	---		
			3	PF Belt Tension check	√	Tensimeter U-507		√	√	p. 262	
			4	PF Motor Measurement & Automatic Adjustment	√				√	---	p. 279

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit	Required Operations		Service Program	Jig	Media	Replaced	Reattached	Page		
Paper feed related parts/units	PF MOTOR	After replacement	5	Media Feed Auto Adjustment	√			√	---	p. 265	
			6	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243	
			7	Cut Position Check & Adjustment	√			√	---	p. 266	
			8	Reset the motor counter.	√			√	---	p. 231	
	PF ENCODER	Replacement	1		---					p. 166	
			After replacement	2	Turn the power on in normal mode.	---			√	√	
				3	PC Scale Check	√			√	√	p. 264
	CUTTER UNIT (cutter motor)	After replacement	1		---					p. 181	
			2	Turn the power on in normal mode.	√			√	---		
			3	Cutter motor measurement	√			√	---	p. 279	
			4	Cut Position Check & Adjustment	√			√	---	p. 266	
			5	Reset the motor counter.	√			√	---	p. 231	
	ATC MOTOR	Replacement	1		---					p. 175	
			After replacement	2	Turn the power on in normal mode.	---			√	---	
				3	ATC Motor Measurement	√			√	---	p. 279
				4	Reset the motor counter.	√			√	---	p. 231
	PAPER THICKNESS SENSOR	Replacement	1		---					p. 180	
After replacement			2	Paper thickness sensor adjustment	---	Adjustment jig for paper thickness sensor		√	√	p. 267	
Board related parts/units	Main Board (NVRAM backup OK & HDD none)* ¹	Before replacement	1	Print Cover Open	√			√	---		
			2	Remove ink cartridges	---			√	---		
			3	Turn the power on in Serviceman mode.	√			√	---		
			4	NVRAM Backup tool (Read)	√			√	---	p. 221	
		After replacement	5		---						p. 111
			6	Turn the power on in Firmware update mode.	---				√	---	
			7	Model Selection (at service program)	√				√	---	
			8	Update the firmware.* ² (automatically power off)	√				√	---	p. 229
			9	Turn the power on in Serviceman mode.	---				√	---	
			10	NVRAM Clear OK	---				√	---	

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page	
Board related parts/units	Main Board (NVRAM backup OK & HDD none)* ¹	After replacement	11	Main Board initial setting (automatically power off)	√			√	---	p. 270
			12	Firmware update mode ON	---			√	---	
			13	NVRAM Backup tool (Write)	√			√	---	p. 221
			14	Turn the power off.	---			√	---	
			15	Print Cover Close	√			√	---	
			16	Turn the power on in normal mode.	---			√	---	
			17	Install ink cartridges	---			√	---	
			18	Model Selection (at service program)	√			√	---	
			19	RTC & USB ID Input	√			√	---	p. 271
			20	Reset the Main Board exchange counter.	√			√	---	p. 275
			21	Housing Assembly	---			√	√	
	Main Board (NVRAM backup NG & HDD none)* ¹	Before replacement	1	Print Cover Open	---			√	---	
			2	Remove ink cartridges	---			√	---	
		Replacement	3		---					p. 111
		After replacement	4	Turn the power on in Firmware update mode.	---			√	---	
			5	Model Selection (at service program)	√			√	---	
			6	Update the firmware.* ² (automatically power off)	√			√	---	p. 229
			7	Turn the power on in Serviceman mode.	---			√	---	
			8	NVRAM Clear OK	---			√	---	
			9	Main Board initial setting (automatically power off)	√			√	---	p. 270
			10	Serviceman Mode ON	---			√	---	
11	Initial Ink Charge Flag		√			√	---	p. 233		
12	Rear AD Adjustment	√			√	---	p. 269			
13	Head ID Input(automatically power off)	√			√	---	p. 249			
14	Turn the power on in Serviceman mode.	√			√	---				
15	RTC & USB ID Input	√			√	---	p. 271			
16	Model Selection (at service program)	√			√	---				
17	MAC Address Input	√			√	---	p. 272			

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page	
Board related parts/units	Main Board (NVRAM backup NG & HDD none) ^{*1}	After replacement	18	Serial Number Input	√			√	---	p. 273
			19	I/C Installation	---			√	---	
			20	FW Version Check	√			√	---	
			21	Suction Fan Adjustment	√			√	---	p. 276
			22	APG function check	√			√	---	p. 237
			23	PF Motor Measurement & Automatic Adjustment	√			√	---	p. 279
			24	CR Motor Measurement & Automatic Adjustment	√			√	---	p. 279
			25	CR Active Damper Adjustment (Automatic)	√			√	---	
			26	Pump Cap Unit Measurement & Automatic Adjustment	√			√	---	p. 279
			27	ATC Motor Measurement	√			√	---	p. 279
			28	Paper thickness sensor adjustment	√			√	---	p. 267
			29	Nozzle Check	√		PGPP	√	---	p. 251
			30	Cleaning	√			√	---	p. 252
			31	Media Feed Auto Adjustment	√			√	---	p. 265
			32	Ink Mark Sensor check & auto adjustment	√		PGPP	√	---	p. 238
			33	Auto Uni-d adjustment	√		PGPP	√	---	p. 241
			34	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP	√	---	p. 242
			35	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
	36	CUT Motor Measurement	√			√	---	p. 279		
	37	Cut Position Check & Adjustment	√			√	---	p. 266		
	38	Reset the Main Board exchange counter.	√			√	---	p. 275		
	Main Board (NVRAM backup OK & HDD exist) ^{*1}	Before replacement	1	Print Cover Open	---			√	---	
			2	Remove ink cartridges	---			√	---	
			3	Turn the power on in Serviceman mode.	---			√	---	
			4	NVRAM Backup tool (Read)	√			√	---	p. 221
		Replacement	5		---					p. 111

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page				
Board related parts/units	Main Board (NVRAM backup OK & HDD exist) ^{*1}	After replacement	6	Turn the power on in Firmware update mode.	---			√	---				
			7	Model Selection (at service program)	√			√	---				
			8	Update the firmware.* ² (automatically power off)	√				√	---	p. 229		
			9	Turn the power on in Serviceman mode.	---				√	---			
			10	NVRAM Clear OK	---				√	---			
			11	Main Board initial setting (automatically power off)	√				√	---	p. 270		
			12	Firmware update mode ON	---				√	---			
			13	NVRAM Backup tool (Write)	√				√	---	p. 221		
			14	Turn the power off.	---				√	---			
			15	HDD connection	---				√	---			
			16	Print Cover Close	---				√	---			
			17	Turn the power on in normal mode.	---				√	---			
			18	Install ink cartridges	---				√	---			
			19	Model Selection (at service program)	---				√	---			
			20	RTC & USB ID Input	√				√	---	p. 271		
			21	Reset the Main Board exchange counter.	√				√	---	p. 275		
			22	Housing Assembly	---				√	√			
			Main Board (NVRAM backup NG & HDD exist) ^{*1}	Before replacement	1	Print Cover Open	---			√	---		
					2	Remove ink cartridges	---			√	---		
				Replacement	2		---					p. 111	
				After replacement	3	HDD connection	---				√	---	
					4	Turn the power on in Firmware update mode.	---				√	---	
5	Model Selection (at service program)	√						√	---				
6	Update the firmware.* ² (automatically power off)	√						√	---	p. 229			
7	Turn the power on in Serviceman mode.	---						√	---				
8	NVRAM Clear OK	---						√	---				
9	Main Board initial setting (automatically power off)	√					√	---	p. 270				

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page		
Board related parts/units	Main Board (NVRAM backup NG & HDD exist)* ¹	After replacement	10	Serviceman Mode ON	---			√	---		
			11	HDD S/N information writing	√			√	---		
			12	Power OFF	---				√	---	
			13	Turn the power on in Serviceman mode.	---				√	---	
			14	Initial Ink Charge Flag	√				√	---	p. 233
			15	Rear AD Adjustment	√				√	---	p. 269
			16	Head ID Input (automatically power off)	√				√	---	p. 249
			17	Turn the power on in Serviceman mode.	---				√	---	
			18	RTC & USB ID Input	√				√	---	p. 271
			19	Model Selection (at service program)	√				√	---	
			20	MAC Address Input	√				√	---	p. 272
			21	Serial Number Input	√				√	---	p. 273
			22	I/C Installation	---				√	---	
			23	FW Version Check	√				√	---	
			24	Suction Fan Adjustment	√				√	---	p. 276
			25	APG function check	√				√	---	p. 237
			26	PF Motor Measurement & Automatic Adjustment	√				√	---	p. 279
			27	CR Motor Measurement & Automatic Adjustment	√				√	---	p. 279
			28	CR Active Damper Adjustment (Automatic)	√				√	---	p. 240
			29	Pump Cap Unit Measurement & Automatic Adjustment	√				√	---	p. 279
			30	ATC Motor Measurement	√				√	---	p. 279
			31	Paper thickness sensor adjustment	√				√	---	p. 267
			32	Nozzle Check	√			PGPP	√	---	p. 251
			33	Cleaning	√				√	---	p. 252
			34	Media Feed Auto Adjustment	√				√	---	p. 265
			35	Ink Mark Sensor check & auto adjustment	√			PGPP	√	---	p. 238
			36	Auto Uni-d adjustment	√			PGPP	√	---	p. 241

Table 4-1. Adjustment items and the order by repaired part

Class	Replaced or Repaired (Reattached) Part/Unit		Required Operations	Service Program	Jig	Media	Replaced	Reattached	Page	
Board related parts/units	Main Board (NVRAM backup NG & HDD exist)* ¹	After replacement	37	Auto Bi-D adjustment, acceleration and deceleration correction	√		PGPP	√	---	p. 242
			38	PW + T&B&S check and adjustment	√		Matte paper	√	---	p. 243
			39	CUT Motor Measurement	√			√	---	p. 279
			40	Cut Position check & adjustment	√			√	---	p. 266
			41	Reset the Main Board exchange counter.	√			√	---	p. 275
	MAIN-C BOARD (Network Board)	Replacement	1		---					p. 111
		After replacement	2	Turn the power on in Firmware update mode.	---			√	---	
			3	Update the firmware.* ²	√			√	---	p. 229
			4	Turn the power on in Serviceman mode.	---			√	---	
			5	MAC Address Input	√			√	---	p. 272
			6	Housing Assembly	---			√	√	
	PSH BOARD (Power Supply Board)	Replacement	1		---					p. 118
		After replacement	2	Turn the power on in normal mode.	---			√	---	
			3	CR Motor Measurement & Automatic Adjustment	√			√	---	p. 279
			4	PF Motor Measurement & Automatic Adjustment	√			√	---	p. 279
			5	Pump Cap Unit Measurement & Automatic Adjustment	√			√	---	p. 279
			6	CUT Motor Measurement	√			√	---	p. 279
			7	Make the replacement date & time setting.	√			√	---	p. 275
			8	ATC Motor Measurement	√			√	---	p. 279
9			Housing Assembly	---			√	√		
Others	SUCTION FAN	Replacement	1		---				p. 184	
		After replacement	2	Suction Fan Adjustment	√			√	---	p. 276

4.1.3 Adjustment Items

The following table describes the general outline of the adjustments.

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
CR related	CR Belt Tension Check	Apply a specified tension to the CR TIMING BELT. Measure the tension of the belt using the sonic tensimeter to check if it is within standards. If not, adjust the tension.	When the belt tension is out of standards, the following symptoms may occur. <input type="checkbox"/> Belt tension is high: The life of the belt will be shortened. High load applied to the carriage causes frequent wait control over the carriage movements to prevent overheating. If the tension is too high, the shaft of the motor leans and the brush in the motor becomes worn, and will result in CR overload error. <input type="checkbox"/> Belt tension is low: The belt teeth slip and the carriage swings. The correction by the active damper does not work and the bands (vertical bands) occur near the side edges of paper.	Normal mode	√	Tensimeter U-507		p. 234
	APG function check	Rotates the APG motor to change the PG, and see if the PG is correctly set to its home position (TYP).	When the PG is not switched properly responding to the print setting, low image quality or CL operation abnormality may occur.	Normal mode	√			p. 237
	Ink Mark Sensor check & Auto Adjustment	<input type="checkbox"/> Checks if the IM SENSOR has any trouble/ connection failure. <input type="checkbox"/> Executes IMS Position Auto Correction (pattern detecting position correction). Corrects the detecting position of the print pattern in the sub scan direction and the main scan direction. <input type="checkbox"/> Runs the nozzle check to check if the IM SENSOR detects the nozzle clogging properly.	If the IMS does not work properly, automatic adjustments such as Auto Bi-D Adjustment cannot be executed normally.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 238
	CR Scale Check	Checks the CR SCALE for any abnormality such as damage or dirt and checks if the scale can be properly read by the encoder.	When the CR SCALE is not read properly, the carriage will not operate normally.	Normal mode	√			p. 239
	CR Active Damper Adjustment (Automatic)	Calibrates the active damper. * Active damper is a function to reduce the carriage vibration which causes vertical bands on prints by outputting waveforms which have phases opposite to the motor vibration.	Because the motor vibration/carriage vibration cannot be reduced, vertical bands may appear on prints.	Normal mode	√			p. 240

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
CR related	CR Motor Measurement & Automatic Adjustment	The CR MOTOR is designed to stop when the amount of heat generation (motor temperature) during motor operation reaches a predetermined limit. The amount of heat generation is estimated based on the electrical characteristics of the motor, which vary by motor and power supply of the printer. Therefore, to get the motor control to work properly, the electrical characteristics values of the motor need to be measured and stored in the memory on the MAIN BOARD.	<p>If this adjustment is not made, the estimation of the motor temperature cannot be made properly and may cause the following symptoms.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Even though there is no problem with the motor temperature, the printer pauses during printing because it judges that the motor is in high-temperature state. <input type="checkbox"/> Despite the motor is in a high-temperature state, a lower motor temperature is estimated and the printer does not stop. This may cause the printer to malfunction. 	Normal mode	√			p. 279
	Auto Uni-d adjustment	Reduces misalignment of ink droplets fired to paper during unidirectional printing.	If this adjustment is not made, print quality problems such as misaligned lines, grainy image, banding may occur.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 241
	Auto Bi-D adjustment, acceleration and deceleration correction	<ul style="list-style-type: none"> <input type="checkbox"/> Auto Bi-d adjustment: Reduces misalignment of ink droplets fired to paper during bidirectional printing. <input type="checkbox"/> Acceleration and deceleration correction: To improve print quality for bidirectional printing, corrects the movement speed of the CR UNIT. 	<ul style="list-style-type: none"> <input type="checkbox"/> Auto Bi-d adjustment: If this adjustment is not made, print quality problems such as misaligned lines, grainy image, banding may occur. <input type="checkbox"/> If this adjustment is not made, print quality problems may occur. 	Normal mode	√		Premium Glossy Photo Paper (250)	p. 242
	PW + T&B&S check and adjustment	<ul style="list-style-type: none"> <input type="checkbox"/> PW: Checks that the PW sensor detects the edges of paper correctly. Feed A4 matte paper from the paper cassette and perform the detection operation using the Service Program. <input type="checkbox"/> T&B&S: Adjusts the print start position of the top, bottom, right and left edges of paper. Feed A4 matte paper from the paper cassette and print the adjustment patterns using the Service Program. Measure the adjustment patterns then input the measurement result. The print start position is automatically adjusted. 	If this adjustment is not made, the width or length of paper cannot be detected correctly. As the result, misaligned print position or insufficient blank space may occur, or printed images may be broken.	Normal mode	√		Archival Matte Paper/ Enhanced Matte Paper	p. 243

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
CR related	PG adjustment	Adjust the platen gap of the CR UNIT using the thickness gauge.	When the PG is out of standards, the following symptoms may occur. <input type="checkbox"/> Gap is too wide: Unstable ink droplet paths or misaligned dots occur, and it causes low printing quality such as banding, printing misalignment, or grainy image. <input type="checkbox"/> Gap is too narrow: The head rubs paper.	Normal mode	---	Thickness gauge		p. 245
Head related	Tube inner pressure reduction	Reduce the pressure in the ink flow paths. Doing this prevents ink leakage that can occur when removing the PRINT HEAD or other ink related parts/units.	Removing a part or a unit which is needed to reduce the pressure without reducing causes ink leakage.	Normal mode	√			p. 248
	Head ID Input	Register the head rank ID to the printer using the Service Program or check the currently registered head rank ID. Head rank ID is information needed to drive the PRINT HEAD with proper voltages so that proper amount of ink droplets are fired. The ID is assigned to each head and listed on the label on the head.	If the new ID is not registered after replacing the head, the head ID of the older head is used and the proper drive voltage cannot be set. The following symptoms may occur. <input type="checkbox"/> Since the amount of ink droplets is not proper, the color and density abnormalities are found on prints. <input type="checkbox"/> Since the amount of ink droplets turns to be unstable, dot missing or misaligned dots occur while printing or flushing.	Normal mode	√			p. 249
	Nozzle Check	Print the pattern on which the nozzle discharging condition can be checked from the Service Program.	When the Nozzle Check is not executed and the nozzle is clogging, the following symptoms may occur. <input type="checkbox"/> The adjustment pattern is not printed properly and it causes a trouble for the automatic and visual check/adjustment. <input type="checkbox"/> The automatic adjustments may fail or end with an error.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 251
	Cleaning	Specify the power and the color from the Service Program and execute the head cleaning.	When the cleaning is not executed, the following symptoms may occur. <input type="checkbox"/> Nozzle clogging is not solved and the printing cannot be executed properly. <input type="checkbox"/> Ink droplets are not fired and nothing is printed after the PRINT HEAD is replaced to a new one. (Executing Initial ink charge may solve this problem but it takes time and consumes lots of ink.)	Normal mode	√			p. 252

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
Head related	APG function check	Refer to CR related.						
	Head inclination auto adjustment (CR direction)	Corrects inclination of the PRINT HEAD in the CR direction. An adjustment pattern is printed and the IM SENSOR scans the pattern. Based on the scanned result, a number of steps to move the cam for the adjustment is displayed. Turn the cam the number of steps to correct the head inclination.	If this adjustment is not made, print quality problems such as misaligned lines, grainy image, banding, or color unevenness may occur in the scale of PRINT HEAD surface area.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 253
	Head slant auto adjustment (PF direction)	Corrects slant of the PRINT HEAD in the PF direction. An adjustment pattern is printed and the IM SENSOR scans the pattern. Based on the scanned result, a number of steps to move the lever for the adjustment is displayed. Move the lever the number of steps to correct the head slant.	If this adjustment is not made, the gap between the PRINT HEAD surface and paper is kept uneven (e.g.: the gap at the front side is wider than that at the rear side), and causes irregularity in size and position of printed dots. This may be observed as print quality problems such as grainy image, banding, or color unevenness.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 256
	Head inclination manual adjustment (CR direction)	Correct inclination of the PRINT HEAD in the CR direction. Print an adjustment pattern, and visually check the pattern to see if the adjustment is needed. To correct the head inclination, turn the cam.	If this adjustment is not made, print quality problems such as misaligned lines, grainy image, banding, or color unevenness may occur in the scale of PRINT HEAD surface area.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 254
	Head slant manual adjustment (PF direction)	Correct slant of the PRINT HEAD in the PF direction. Print an adjustment pattern, and visually check the pattern to see if the adjustment is needed. To correct the head slant, move the lever.	If this adjustment is not made, the gap between the PRINT HEAD surface and paper is kept uneven (e.g.: the gap at the front side is wider than that at the rear side), and causes irregularity in size and position of printed dots. This may be observed as print quality problems such as grainy image, banding, or color unevenness.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 257
	Auto Uni-d adjustment	Refer to CR related.						
	Auto Bi-D adjustment, acceleration and deceleration correction	Refer to CR related.						

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
Ink supply related	Ink eject	Discharge ink from the printer.	If ink is not discharged when instructed to do so before removing parts or units, ink may leak from the printer and contaminate surroundings.	Serviceman Mode	√			p. 259
	Tube inner cleaning	Clean the ink flow paths to resolve the solidified ink in the paths and clogging of nozzles of the PRINT HEAD. Or, when leaving the printer unused for a long period, doing this in advance can prevent ink from getting solidified. Use the Cleaning Cartridge for service and the Service Program.	If the printer is left unused for a long period without doing this after discharging ink, the ink left in the ink flow paths may get solidified. Once the ink becomes solidified, charging new ink may become impossible or dot missing may occur.	Normal mode	√	<input type="checkbox"/> Cleaning cartridge <input type="checkbox"/> Maintenance Box		p. 260
	Initial ink charge	Charge ink in the ink flow paths. Execute from the Service Program.	If this is not executed after discharging ink, air bubbles will remain in the ink tubes and may cause dot missing.	Serviceman Mode	√			p. 261
	Main Unit Measurement & Automatic Adjustment	The pump cap motor is designed to stop when the amount of heat generation (motor temperature) during motor operation reaches a predetermined limit. The amount of heat generation is estimated based on the electrical characteristics of the motor, which vary by motor and power supply of the printer. Therefore, to get the motor control to work properly, the electrical characteristics values of the motor need to be measured and stored in the memory on the MAIN BOARD.	<p>If this adjustment is not made, the estimation of the motor temperature cannot be made properly and may cause the following symptoms.</p> <input type="checkbox"/> Even though there is no problem with the motor temperature, the printer pauses during printing because it judges that the motor is in high-temperature state. <input type="checkbox"/> Despite the motor is in a high-temperature state, a lower motor temperature is estimated and the printer does not stop. This may cause the printer to malfunction.	Normal mode	√			p. 279
Media Feed related	PF Belt Tension check	Apply a specified tension to the PF TIMING BELT. Measure the tension of the belt using the sonic tensimeter to check if it is within standards. If not, adjust the tension.	<p>When the belt tension is out of standards, the following symptoms may occur.</p> <input type="checkbox"/> Belt tension is high: The life of the belt will be shortened. High load applied to the PF MOTOR causes frequent wait controls during paper feeding to prevent overheating. If the tension is too high, the shaft of the motor leans and the brush in the motor becomes worn, and will result in PF motor overload error. <input type="checkbox"/> Belt tension is low: The belt teeth slip and paper cannot be fed properly.	Normal mode	√	Tensimeter U-507		p. 262

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
Media Feed related	PC Scale Check	Check the PF SCALE for any abnormality such as damage or dirt and check if the scale can be properly read by the encoder using the Service Program.	When the PF SCALE is not read properly, paper feeding may become impossible and an error may occur.	Normal mode	√			p. 264
	Media Feed Auto Adjustment	Adjust the paper feeding amount which varies by printer. The adjustment is made automatically.	If paper feeding accuracy lowers, print quality problems such as banding may occur.	Normal mode	√		Premium Glossy Photo Paper (250)	p. 265
	PF Motor Measurement & Automatic Adjustment	The PF MOTOR is designed to stop when the amount of heat generation (motor temperature) during motor operation reaches a predetermined limit. The amount of heat generation is estimated based on the electrical characteristics of the motor, which vary by motor and power supply of the printer. Therefore, to get the motor control to work properly, the electrical characteristics values of the motor need to be measured and stored in the memory on the MAIN BOARD.	If this adjustment is not made, the estimation of the motor temperature cannot be made properly and may cause the following symptoms. <input type="checkbox"/> Even though there is no problem with the motor temperature, the printer pauses during printing because it judges that the motor is in high-temperature state. <input type="checkbox"/> Despite the motor is in a high-temperature state, a lower motor temperature is estimated and the printer does not stop. This may cause the printer to malfunction.	Normal mode	√			p. 279
	ATC motor measurement	The ATC MOTOR is designed to stop when the amount of heat generation (motor temperature) during motor operation reaches a predetermined limit. The amount of heat generation is estimated based on the electrical characteristics of the motor, which vary by motor and power supply of the printer. Therefore, to get the motor control to work properly, the electrical characteristics values of the motor need to be measured and stored in the memory on the MAIN BOARD.	If this adjustment is not made, the estimation of the motor temperature cannot be made properly and may cause the following symptoms. <input type="checkbox"/> Even though there is no problem with the motor temperature, the printer pauses during printing because it judges that the motor is in high-temperature state. <input type="checkbox"/> Despite the motor is in a high-temperature state, a lower motor temperature is estimated and the printer does not stop. This may cause the printer to malfunction.	Normal mode	√			p. 279
	Cut Position Check & Adjustment	Adjust the auto cut with the auto cutter to cut paper at the proper position. Feed the roll paper and execute printing and cutting of the adjustment pattern using the Service Program. Measuring the gap between the bottom edge of the printed paper and the pattern and inputting the measurement result adjusts the cut position.	The cut position may be misaligned.	Normal mode	√			p. 266

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
Media Feed related	PW + T&B&S check and adjustment	Refer to CR related.						
	CUT Motor Measurement	The cutter motor is designed to stop when the amount of heat generation (motor temperature) during motor operation reaches a predetermined limit. The amount of heat generation is estimated based on the electrical characteristics of the motor, which vary by motor and power supply of the printer. Therefore, to get the motor control to work properly, the electrical characteristics values of the motor need to be measured and stored in the memory on the MAIN BOARD.	If this adjustment is not made, the estimation of the motor temperature cannot be made properly and may cause the following symptoms. <input type="checkbox"/> Even though there is no problem with the motor temperature, the printer pauses during printing because it judges that the motor is in high-temperature state. <input type="checkbox"/> Despite the motor is in a high-temperature state, a lower motor temperature is estimated and the printer does not stop. This may cause the printer to malfunction.	Normal mode	√			p. 279
	Paper thickness sensor adjustment	Adjust the installation position of the sensor so that the Paper thickness sensor detects the paper thickness correctly. Adjust the paper thickness sensor using the jig for paper thickness adjustment.	If this adjustment is not made, the thickness of the paper cannot be detected correctly. As the result, the PG is not set correctly against the paper thickness which is actually inserted. <input type="checkbox"/> When the PG becomes wider: Low print quality such as unstable ink droplet paths or misaligned dots <input type="checkbox"/> When the PG becomes narrower: Head rubbing	Serviceman Mode	---	Adjustment jig for paper thickness sensor		p. 267
	Rear AD Adjustment	Adjust the detection sensitivity of the PE SENSOR so that it can recognize the paper inserted in the printer correctly. Let the sensor detect the Standard Sheet (translucent media) which is hard to recognize to check the result on the Control Panel. (By using the media which is hard to recognize, paper can be recognized regardless of the environmental condition or the media)	If the adjustment is not executed, paper recognition failures may occur (e.g. paper empty error occurs even with paper inserted, some media are not recognized).	Serviceman Mode	---	Standard Sheet		p. 269

Table 4-2. Adjustment Items

Class	Adjustment Items	Overview	Symptoms that the Adjustment is Needed	Printer Mode	Service Program	Jig	Media	Page
Boards Related	NVRAM Backup/Restore	Make a backup of data stored in the NVRAM or restore the data from a backup.	---	Serviceman Mode	√			p. 221
	RTC & USB ID Input	Check the current setting of the RTC and the USB ID. Write the correct information as needed.	If the adjustment is not executed, a maintenance error (RTC setting error) or USB recognition error occurs.	Serviceman Mode	√			p. 271
	MAC Address Input	Read and check the MAC address of the printer. Write a new MAC address as needed.	If the address is not input or a wrong address is set, a network connection trouble occurs.	Serviceman Mode	√			p. 272
	Serial Number Input	Check the serial number currently set to the printer. Write the correct information as needed.	If the serial number is not input or a wrong number is set, it makes service management (such as the print/NVRAM) harder.	Serviceman Mode	√			p. 273
	HDD S/N information Write							
	Main Board Exchange Counter	Write the date and time when the MAIN BOARD is replaced to the NVRAM.	If this is not made, correct service history is not recorded.	Normal mode	√			p. 275
	Power Supply Unit Replacement Date & Time setting	Write the date and time when the Power Supply Board is replaced to the NVRAM.	If this is not made, correct service history is not recorded.	Normal mode	√			p. 275
Others	Suction Fan Adjustment	Run an operation check of the SUCTION FAN.	---	Normal mode	√			p. 276
	Panel Setting Reset & Job History Reset	Reset the panel settings to their defaults using the Control Panel, and reset the user job history using the Service Program.	---	Normal mode	√			p. 277
	LCD operation check	Check if the LCD on the Control Panel functions normally.	---	Serviceman Mode	---			p. 278
	Buttons operation check	Check if the buttons on the Control Panel function normally.	---	Serviceman Mode	---			p. 278

4.1.4 List of Tools/Software/Consumables for Adjustments

The tables below show the tools required for adjusting this printer.

Hardware Tools

Table 4-3. Hardware Tools

Jig Name	Part Number	Target Adjustment	Remarks
Sonic tensimeter U-507	1294120	<input type="checkbox"/> CR Belt Tension Adjustment <input type="checkbox"/> PF Belt Tension Adjustment	---
Adjustment jig for paper thickness sensor	---	<input type="checkbox"/> Paper thickness sensor adjustment	0.5/0.6/0.8/1.0
Thickness Gauge	---	<input type="checkbox"/> PG Adjustment	2.5/2.8
Standard Sheet (JETRAS JP-D300S)	1476228	<input type="checkbox"/> Rear AD Adjustment	---
Cleaning Cartridge	---	<input type="checkbox"/> Tube Cleaning	---
Calibrated Loupe	---	<input type="checkbox"/> CR & PF Direction Head Slant Adjustment <input type="checkbox"/> Cut Position Check & Adjustment	---
Ruler	---	<input type="checkbox"/> PW + T&B&S Check & Adjustment <input type="checkbox"/> Cut Position Check & Adjustment	---

Software Tools

Table 4-4. Software Tools

Software Name	Part Number	Explanation	Remarks
Service Program	Supplied separately	Used for almost all of the required adjustments.	Use the latest program.
Printer Driver	---	---	Unless the Printer Driver is installed, the Service Program does not operate.
Firmware	---	---	---

Consumables

Table 4-5. Consumables

Consumable Name	Part Number	Explanation	Remarks
Premium Glossy Photo Paper (250)	---	Used for adjustments that require paper. (For more details, see 4.1.2 Adjustment Items and the Order by Repaired Part).	---
Archival Matte Paper/Enhanced Matte Paper	---	Used for adjustments that require paper. (For more details, see 4.1.2 Adjustment Items and the Order by Repaired Part).	---
Ink Cartridge	---	---	---
Maintenance Box	---	---	---

4.1.5 Service Program Basic Operations

This section describes the basic operations of the Service Program.



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.

- System Requirements
 - OS: Windows XP, Vista, 7
 - Interface: USB, Network
- Startup
 1. Install the Printer Driver.
 2. Double-click the "servprog.exe". A screen that asks if you want to carry out the NVRAM Backup appears.
 3. Select **Yes** to start the NVRAM Backup tool, or select **No** to display the Service Program Menu screen.
 4. Select the printer you want to adjust from **Model Selection**, and start the adjustment.

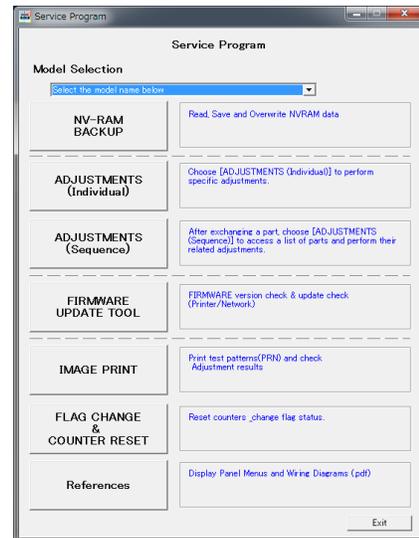


Figure 4-1. Service Program

4.2 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 exported parameter information is displayed on the computer screen.

4.2.1 NVRAM Read Procedure

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing **[Menu] + [Back] + [OK]**.
2. Select the printer you want to adjust from the **Model selection** box.
3. Click **[Get Information]** on the NVRAM Read field to start reading the parameters.
4. To view the NVRAM information: Click **[Display Information]** to display another screen of the NVRAM Viewer.
To store the NVRAM information: Click **[Save]**. The file is named as "serial number + acquisition date" automatically.

4.2.2 NVRAM Write Procedure

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing **[Menu] + [Back] + [OK]**.
2. Remove all the ink cartridges.
3. Start the Service Program and select **NV-RAM BACKUP** from the main menu.
4. Select the printer you want to adjust from the **Model selection** box.
5. Click **[Open File]** on the NVRAM Write field.
6. Select the NVRAM file to write on the printer.
7. Click **[Write File]** to start writing the parameters.
8. When the writing is completed, exit the NV-RAM BACKUP tool.
9. Turn the printer OFF.

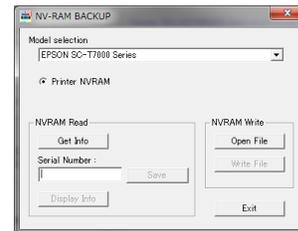


Figure 4-2. [NV-RAM BACKUP] Screen

4.2.3 NVRAM Viewer Basic Operation

The following functions are provided.

1. Displays the Life Parts Operation History
2. Displays the history how the printer has been used (Utilization History)
3. Displays the Error History saved in the NVRAM
4. Displays the Basic Information of the printer (such as the serial No. or the setting values)

PROCEDURE

1. Click **[Display Information]** on the NVRAM Read field of the NV-RAM BACKUP screen. Another screen of the NVRAM Viewer will be displayed.
2. Select the tab you want to check.
3. Click **[Save as CSV]** to save the information shown in the selected tab as CSV file.
4. Click **[Print]** to print the information shown in the selected tab.
5. Click **[Close]** to close the screen.

DESCRIPTION

- Life Parts Operation History

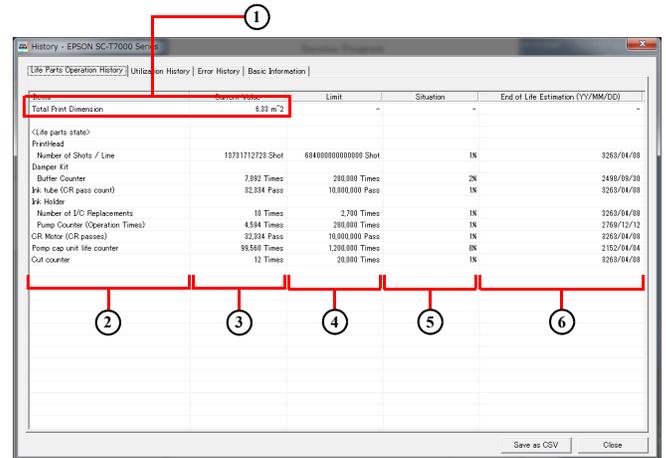


Figure 4-3. [Life Parts Operation History] Screen

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

Utilization History

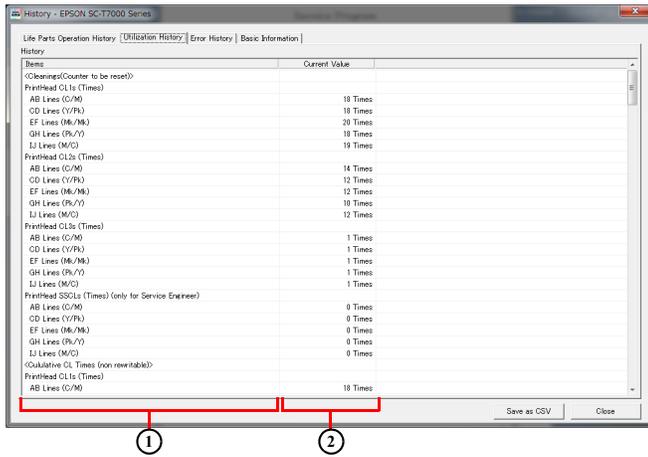


Figure 4-4. [Utilization History] Screen

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

Error History

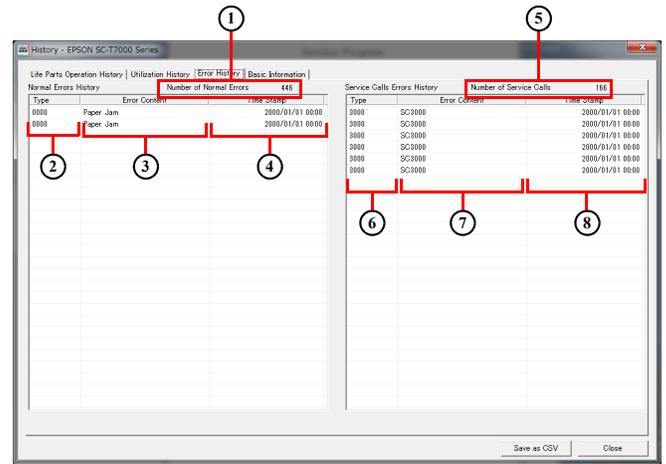


Figure 4-5. [Error History] Screen

1	Number of Normal Errors	The number of occurrences of normal errors.
2	Type	Displays the types of the most recent six normal errors saved in the NVRAM.
3	Error Content	Information of the error.
4	Time Stamp	Displays the time stamps of the currently displayed errors.
5	Number of Service Calls	The number of occurrences of service call errors.
6	Type	Displays the types of the most recent six service call errors saved in the NVRAM.
7	Error Content	Information of the error.
8	Time Stamp	Displays the time stamps of the currently displayed errors.

□ Basic Information

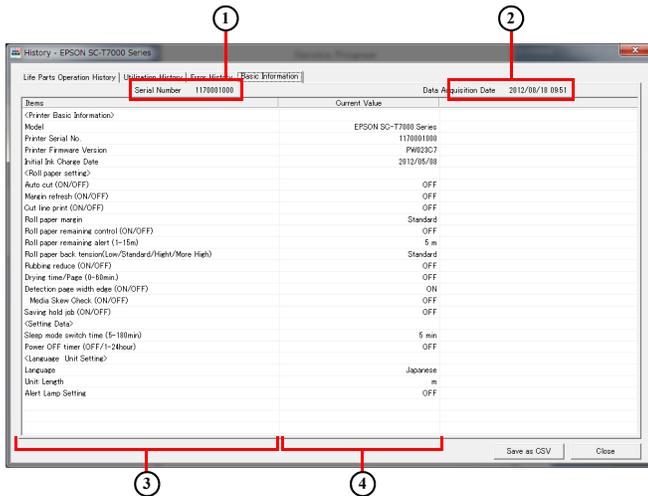


Figure 4-6. [Basic Information] Screen

1	Serial Number	Product serial number.
2	Data Acquisition Date	The date and time when NVRAM data is acquired.
3	Items	---
4	Current Value	The current value of the item.

INFORMATION SAVED TO CSV FILES

□ Life Parts Operation History

Table 4-6. Life Parts Operation History

Item	Description
Total Print Dimension	Total printed area. The unit is m ² .
PRINT HEAD	Number of Shots/Line
DAMPER KIT	Buffer Counter
INK TUBE (CR pass count)	
IC HOLDER	Number of I/C Replacements
	Pump Counter (Operation Times)
Pump cap unit life counter	
Cut counter	

Operation history (the following information is displayed for each of the items.)

- Current Value
- Limit
- Situation
- End of Life Estimation (YY/MM/DD)

□ Utilization History

Table 4-7. Utilization History

Item	Description
Cleanings (Counter to be reset)	Print Head CL1s (Times)
	Print Head CL2s (Times)
	Print Head CL3s (Times)
	Print Head SSCLs (Times)
Cumulative CL Times (non rewritable)	Print Head CL1s (Times)
	Print Head CL2s (Times)
	Print Head CL3s (Times)
	Print Head SSCLs (Times)

Table 4-7. Utilization History

Item	Description		
Cartridges	Consumed Ink Amount <Epson Genuine> (per 110ml)	---	
	Consumed Ink Amount <Non Genuine> (per 110ml)	---	
	Ink Cartridge Replacement History	---	
	Maintenance tank (Home) exchange count (New)	---	
	Maintenance tank (Home) exchange count (Accumulation)	---	
	Maintenance tank (Home) exchange history	---	
	Maintenance tank (Full) exchange count (New)	---	
	Maintenance tank (Full) exchange count (Accumulation)	---	
	Maintenance tank (Full) exchange history	---	
	Cutter blade exchange history	---	
	Cut count (non rewritable)	---	
	Power ON Time Print Print Ratio	Total Power ON Time (min)	---
		Total Print Time	---
Continuous Power ON Time (Max.)		---	
Print Time (Max.)		---	
Power ON - OFF Times		---	
Ratio of Print in Power ON - OFF hours (Power ON hours)		---	
Power On - OFF Interval (broken down by Power OFF Time)		---	
Power OFF Time (Max.)		---	

Table 4-7. Utilization History

Item	Description	
Power ON Time Print Print Ratio	Power Saving Mode (Number of Times)	---
	Time of Power Saving Mode	---
	Distance of CR Movements (non rewritable)	---
PW Detection (Graph)	Paper Size (Paper Width)	---
	Print Pages in PW Detector OFF	---
Parts Replacement Date	APG Motor Replacement Times	---
	APG Motor Replacement Date & Time	---
	ATC (Roll) Motor Replacement Times (Normal)	---
	ATC (Roll) Motor Replacement Date & Time	---
	CR Motor Replacement Times	---
	CR Motor Replacement Date & Time	---
	CR Motor Counter when Previous Replacement	---
	Tube Replacement Times	---
	Tube Replacement Date & Time	---
	Tube Counter when Replacement	---
	PF Motor Replacement Times	---
	PF Motor Replacement Date & Times	---
	PF Motor Counter when Previous Replacement	---
	PrintHead 1 (Full) Replacement Times	---

Table 4-7. Utilization History

	Item	Description
Parts Replacement Date	Cutter Unit Replacement Times	---
	Cutter Unit Replacement Date & Times	---
	Damper Kit Replacement Times	---
	Damper Kit Replacement Date & Time	---
	Damper Kit Previous Counter when Replacement	---
	Ink Holder Ink Flow Pump (Pressure pump motor) Drive Counter Reset	---
	Ink Holder Ink Flow Pump (Pressure pump motor) Drive Counter Replacement Date & Times	---
	Pump Cap Unit Replacement Times	---
	Pump Cap Unit Replacement Date & Times	---
	Suction Pump Counter when Replacement	---
	Main Board Replacement Times	---
	Power Supply Unit Replacement Times	---

Error History

Table 4-8. Error History

Item	Description
Number of Normal Errors	Displays the most recent six errors and their time stamps.
Number of Service Calls	Displays the most recent six service call errors and their time stamps.
Error History	Displays the number of occurrences of each service call error.
Number of Errors	Displays the number of occurrences of normal errors and service call errors.

Basic Information

Table 4-9. Basic Information

Item	Description
Model	Product name
Printer Serial No.	Serial number of the printer.
Printer Firmware Version	The version of the firmware installed on the printer.
Initial Ink Charge Date & Time	Date and time when the initial ink charge was done.
Setting Data	Displays the settings made by the control panel menus.

4.3 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.

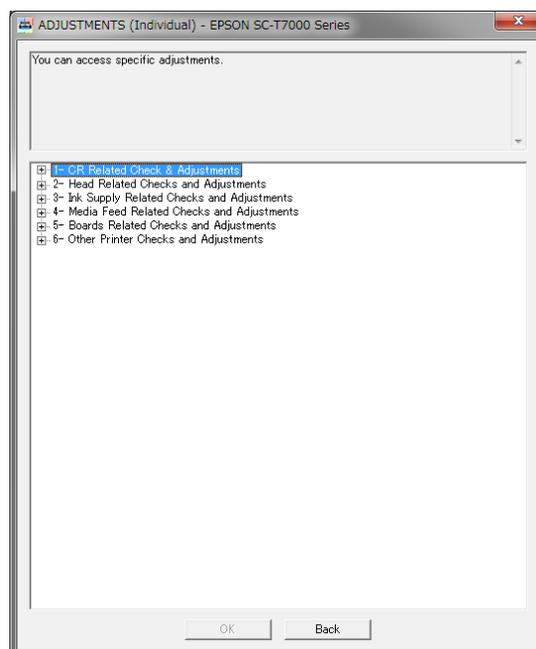


Figure 4-7. ADJUSTMENTS (Individual)

4.4 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 and click **[OK]**.
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 **[Back]** to return to the adjustment item list per part after the adjustment.
6. Click **[Back]** to return to the main menu.



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.

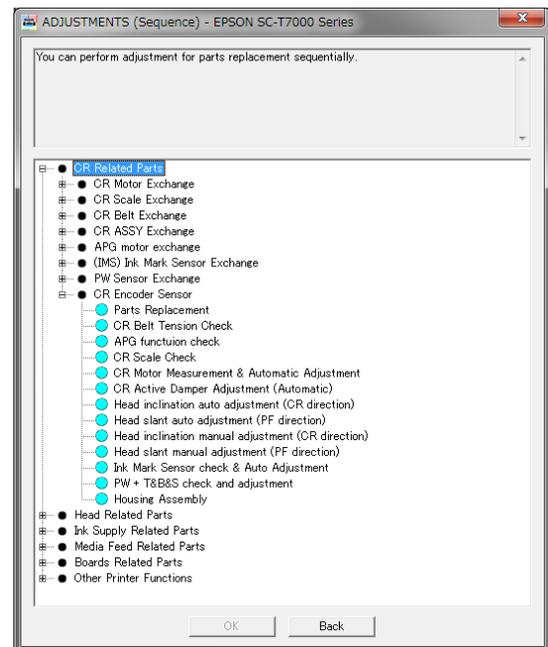


Figure 4-8. ADJUSTMENTS (Sequence)

4.5 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.

Following two kinds of firmware are provided.

- Main firmware
- Network firmware



When Initial ink charge is not needed when replacing the MAIN BOARD with a new one, make sure to turn “Initial Ink Charge Flag” to off (P. 233) before updating the firmware. (The printer is rebooted automatically right after uploading the firmware. Since the parameter does not exist on the new MAIN BOARD, the initial ink charge starts automatically.)

PROCEDURE

1. Turn both the printer and computer OFF and connect them with a USB cable.
2. Open the Front Cover.
3. Pull out all the ink cartridges.
4. Turn the printer ON in the F/W update mode. Turn the power ON while pressing **[Load]** + **[Feed]** + **[Maintenance]** buttons together.
5. Start the Service Program and select **[FIRMWARE UPDATE TOOL]** from the main menu.
6. Click **[Get Information]** to check the current F/W version.

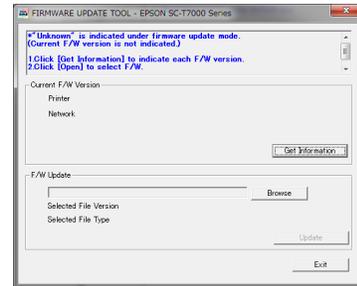


Figure 4-9. FIRMWARE UPDATE TOOL

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



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

9. When writing the firmware is completed, the printer will be turned OFF.
10. Click **[Exit]**.
11. Turn the printer on in the normal mode.
12. "NVRAM CHECK OK" is displayed on the panel.
13. Click **[OK]**.
14. A cover open error will occur.
15. Turn the printer OFF.

4.6 Image Print

The following functions are provided.

- Prints an image file
- Transfers the PRN. file

PROCEDURE

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

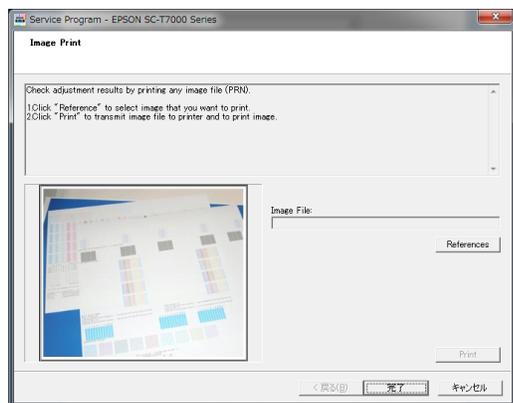


Figure 4-10. [IMAGE PRINT] Screen

4.7 Counter Reset

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

Normal mode

PROCEDURE

1. Turn the printer ON.
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.



The history of the Counter Clear can be checked per counter on the NVRAM Viewer (P. 222).

Table 4-10. Clear Counter Menu List

Class	Item	Clear Menu Name
Main unit counter (Motor)	CR MOTOR	CR Motor Counter

Table 4-10. Clear Counter Menu List

Class	Item	Clear Menu Name
Main unit counter (Motor)	PF MOTOR	PF Motor Counter
	APG Motor	APG motor counter reset
	ATC MOTOR	ATC Motor Counter Reset
	Cutter motor	Cutter motor counter reset
Main unit counter (Ink system)	PRINT HEAD	Print Head Counter
	DAMPER KIT	Damper Kit Counter
	PUMP CAP UNIT	Pump Cap Unit Counter
	IC HOLDER	Ink Holder Counter
	INK TUBE	Ink tube counter

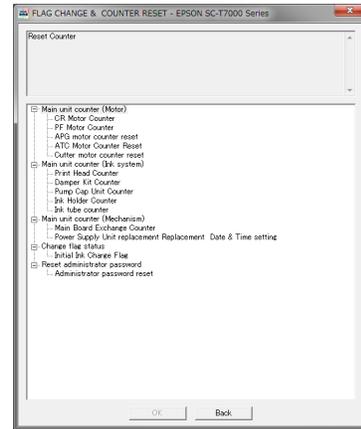


Figure 4-11. [FLAG CHANGE & COUNTER RESET] Screen

4.8 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]**.

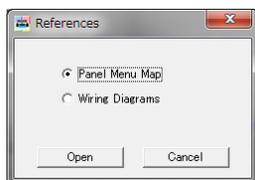


Figure 4-12. References

4.9 Initial Ink Charge Flag

This function allows you to set whether or not to execute the Initial Charge when the printer is turned ON. To execute the Initial Charge, set the flag to ON.

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 select **Initial Ink Charge Flag**.
3. Select **ON** or **OFF** and click **[Run]**.
4. Turn the printer OFF.

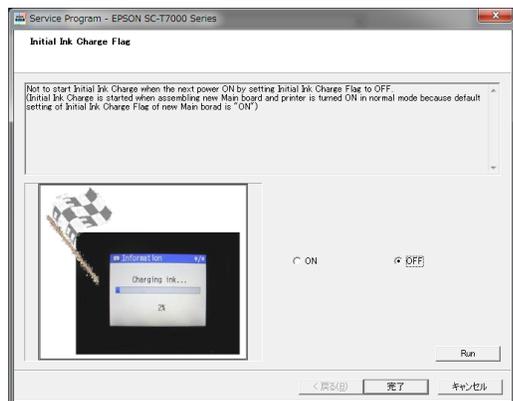


Figure 4-13. [Initial Ink Charge Flag] Screen

4.10 CR Related Adjustments

4.10.1 CR Belt Tension Check

REQUIRED TOOLS

- Sonic tensimeter U-507
- Something to flip the belt

STANDARD VALUE

- SC-T7000 Series/SC-T5000 Series
23 ± 2 N
- SC-T3000 Series
13 ± 2 N

EXECUTION MODE

Normal mode

PROCEDURE

1. Remove the following part in advance.
 - RIGHT UPPER COVER (P. 95)
 - LEFT UPPER COVER (P. 101)
2. Turn the printer ON.
3. When any paper is loaded, remove it.
4. Start the Service Program and select **CR Belt Tension Check**.
5. Click **[Run]**. The CR UNIT moves left and right three times, and then moves to the adjustment position.

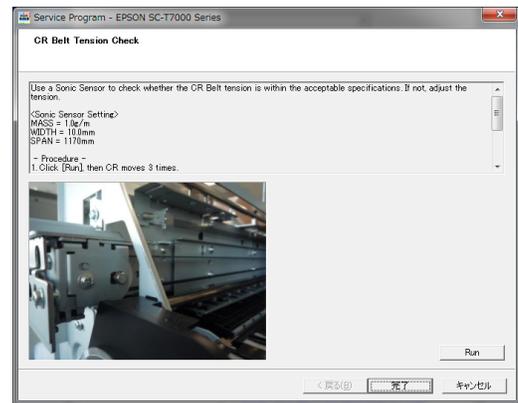


Figure 4-14. [CR Belt Tension Check] Screen

6. Input the following values to the tensimeter.
 - SC-T7000 Series/SC-T5000 Series
 - MASS: 1.0 g/m
 - WIDTH: 8.0 mm/R
 - SPAN: 300 mm
 - SC-T3000 Series
 - MASS: 1.0 g/m
 - WIDTH: 5.5 mm/R
 - SPAN: 300 mm
7. Bring the microphone of the tensimeter closer to the position shown in [Figure 4-15](#).



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

8. Press [MEASURE] on the tensimeter and flip the belt with tweezers or a similar tool.



- Be sure to measure the tension of the belt on the upper side. If you measure the tension of the belt on the lower side, the measuring value may be inaccurate.
- Flip the belt as weak as the tensimeter can measure it.
- Be careful not to let the microphone touch the belt when flipping the belt.

9. Measure the belt tension for three times, and check if the average is within the standards.
- Within the standards: Go to [Step 10](#)
 - Out of the standards: Go to [Step 12](#)
10. Click [Finish].
11. Turn the printer OFF to finish the adjustment.

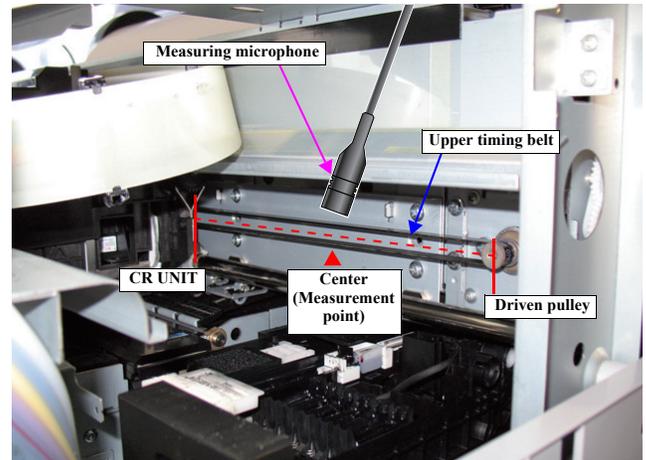


Figure 4-15. Measuring the belt tension

12. Click [No] on the program screen.

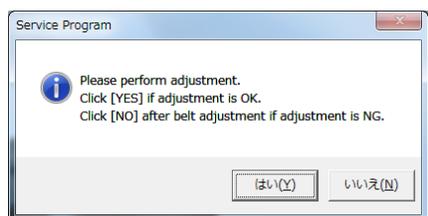


Figure 4-16. Adjustment message

13. Loosen the two screws that secure the driven pulley holder.
14. Turn the adjustment screw to adjust the belt tension.
- If larger than standard value: Turn the screw counterclockwise.
 - If smaller than standard value: Turn the screw clockwise.

After adjusting the tension, tighten the screws loosened in [Step 12](#), and then back to [Step 7](#).

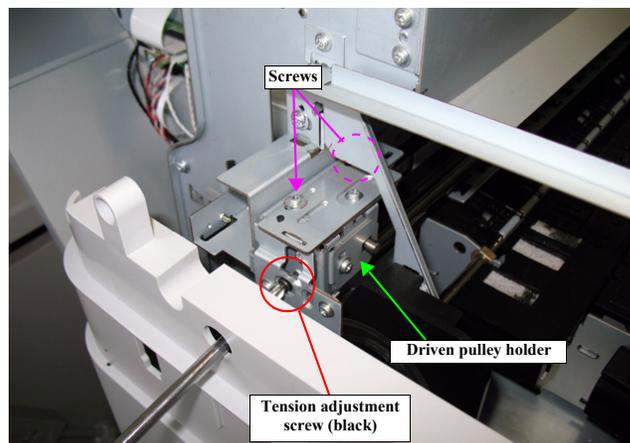


Figure 4-17. Tension adjustment screw



The tension is changed about 1.5N by turning the adjusting screw for a quarter turn.

4.10.2 APG Function Check

EXECUTION MODE

Normal mode

PROCEDURE

1. Remove the following part in advance.
 - RIGHT UPPER COVER (P. 95)
2. Turn the printer ON.
3. Start the Service Program and select **APG function check**.
4. Click **[Run]**.
The APG mechanism will move.

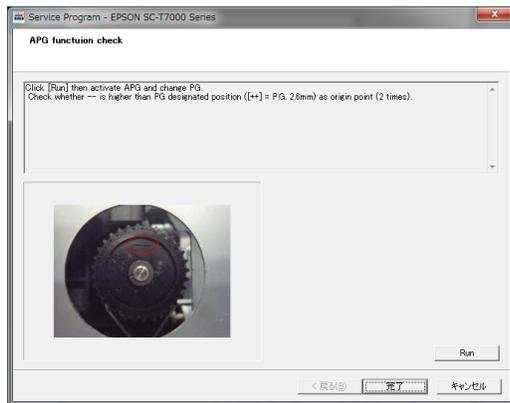


Figure 4-18. [APG function check] Screen

5. Check that the mark on the top of the APG cam is "--". Run the check two times and check the mark.
 - "--" is on the top: Go to [Step 7](#)

- "--" is not on the top: Go to [Step 6](#)

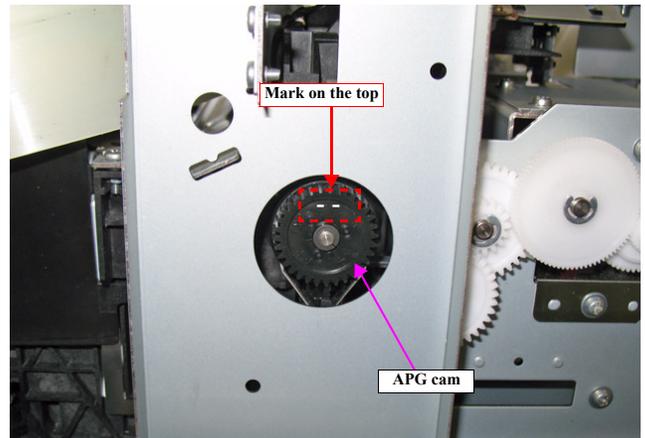


Figure 4-19. Checking the APG cam

6. Since the APG is not switched correctly, execute the following remedy responding to the symptom.

Symptom	Remedy
The CR UNIT does not move to the APG switch position (home position).	Since the CR UNIT may not move smoothly, lubricate the CR UNIT. (P. 287)
The CR UNIT moves to the APG switch position but the APG mechanism does not operate.	Since the APG Motor may not operate, check the wiring of the APG Motor. If there is no trouble for the wiring, replace the APG Motor (APG unit). (P. 144)
The APG mechanism operates but the APG is not switched correctly.	Since the APG mechanism on the CR UNIT may not have been installed correctly, replace the CR UNIT. (P. 156)

After taking the above measure, return to [Step 4](#) to check again.

7. Click **[Finish]**.
8. Turn the printer OFF to finish the adjustment.

4.10.3 Ink Mark Sensor Check & Auto Adjustment

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: 16 inches or longer

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Ink Mark Sensor check & Auto Adjustment**.
4. Click **[Run]**.
The adjustment pattern will be printed.
5. The printed pattern is scanned by the IM SENSOR and the adjustment is made automatically. If the adjustment failed, clean the IM SENSOR or replace it.
6. Click **[Finish]**.
7. Turn the printer OFF to finish the adjustment.

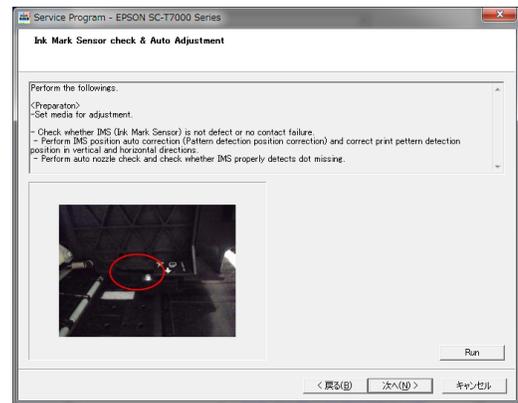
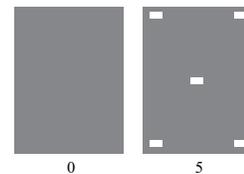


Figure 4-20. [Ink Mark Sensor check & Auto Adjustment] Screen



DS:<-1> Dm:<2> Dm' :<-8> A/D:<203> D/A:<71>



Check1 = OK, Check2 = OK

Figure 4-21. Adjustment Pattern

4.10.4 CR Scale Check

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **CR Scale Check**.
3. Click **[Run]**.
The CR UNIT moves left and right five times, and then the CR ENCODER starts to read the scale.
 - The result is OK: Go to [Step 5](#)
 - The result is NG: Go to [Step 4](#)

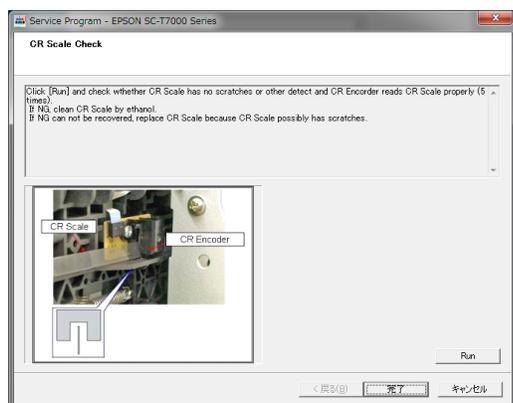


Figure 4-22. [CR Scale Check] Screen

4. Since the CR SCALE is not scanned correctly, clean the scale using ethanol. If the scale still cannot be read properly, replace the CR ENCODER (P. 138) or the CR SCALE (P. 135). After replacing the part, return to [Step 3](#) and check again.
5. Click **[Finish]**.
6. Turn the printer OFF to finish the adjustment.

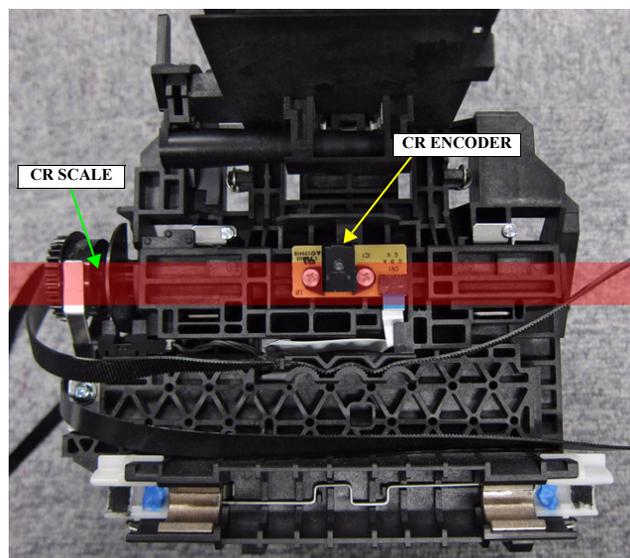


Figure 4-23. CR Encoder and Scale Check

4.10.5 CR Active Damper Auto Adjustment

EXECUTION MODE

Normal mode

PROCEDURE

1. When any paper is loaded, remove it.
2. Turn the printer ON.
3. Start the Service Program and select **CR Active Damper Adjustment (Automatic)**.
4. Click **[Run]** to execute the calibration of the CR active damper.
5. If a completion message appears, press **[OK]**.
6. Click **[Finish]**.
7. Turn the printer OFF to finish the adjustment.

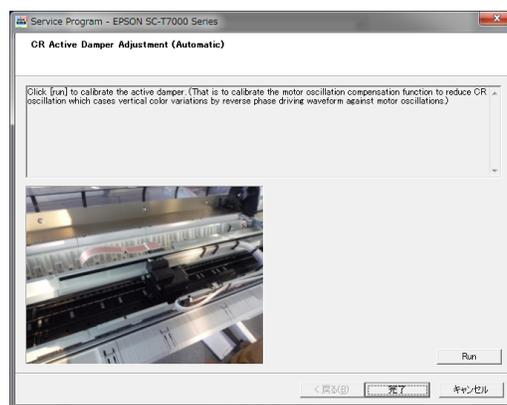


Figure 4-24. [CR Active Damper Adjustment] Screen

4.10.6 Auto Uni-D Adjustment

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size:
 - SC-T7000 Series: 44 inches
 - SC-T5000 Series: 36 inches
 - SC-T3000 Series: 24 inches

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Auto Uni-d adjustment**.
4. Click **[Run]**.
The adjustment pattern will be printed.
5. After the pattern is printed, the printer will automatically scan the pattern and carry out the adjustment (no manual adjustment is needed).
6. Click **[Finish]**.
7. Turn the printer OFF to finish the adjustment.

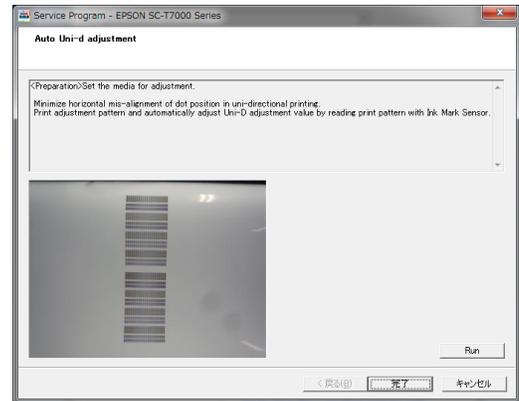


Figure 4-25. [Auto Uni-d adjustment] Screen

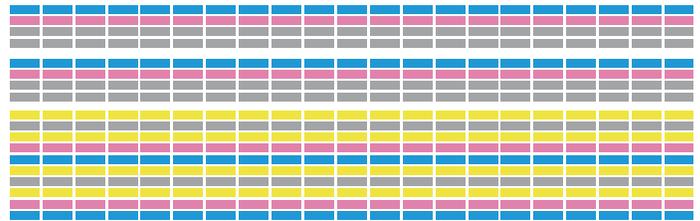


Figure 4-26. Adjustment Pattern

4.10.7 Auto Bi-D Adjustment, acceleration/deceleration print correction

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: The maximum paper width which can be set

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Auto Bi-D adjustment, acceleration and deceleration correction**.
4. Select All rows adjust or 5 rows adjust and click [Run].
The adjustment pattern will be printed.



- **All rows adjust**
"All rows adjustment" results high accuracy adjustment, but it takes a long time.
- **5 rows adjust**
Adjustment accuracy becomes slightly lower with "5 rows adjustment" since colors used for this adjustment are limited; however, the adjustment time can be shorten.

5. After the pattern is printed, the printer will automatically scan the pattern and carry out the adjustment (no manual adjustment is needed).
6. Click [Finish].
7. Turn the printer OFF to finish the adjustment.

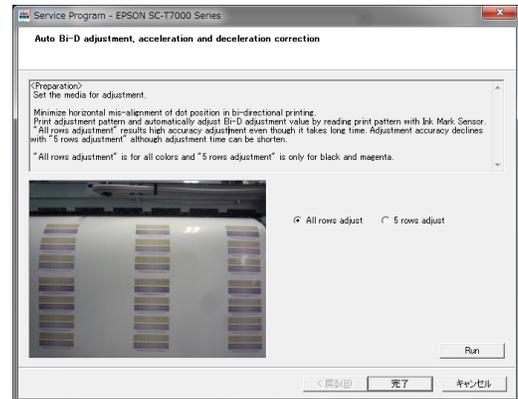


Figure 4-27. [Auto Bi-D Adjustment] Screen

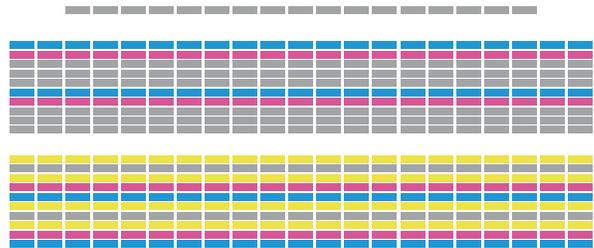


Figure 4-28. Adjustment Pattern (all rows)



Figure 4-29. Adjustment Pattern (5 rows)

4.10.8 PW + T&B&S check and adjustment

4.10.8.1 PW Adjustment

PAPER USED

- Type: Archival Matte Paper/Enhanced Matte Paper
- Size: A4

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **PW + T&B&S check and adjustment**.
4. Click **[PW Adjustment]**. Check the displayed message.
 - When the adjustment is complete normally: Go to [Step 6](#)
 - Data written in NVRAM and acquired data have mismatch. Please try again.: Go to [Step 4](#)
 - Failed adjustment. Check printer condition.: Go to [Step 5](#)
5. Since the PW sensor may not be attached properly, attach it again properly. ([P. 161](#)) After attachment, check it again performing [Step 4](#). If the same error still occurs after the recheck, check if the sensor operates properly or not carrying out Sensor check ([P. 279](#)). If any error was found by carrying out Sensor check, replace the PW sensor.
6. Click **[Finish]**.
7. Turn the printer OFF to finish the adjustment.

4.10.8.2 T&B&S Adjustment

PAPER USED

- Type: Archival Matte Paper/Enhanced Matte Paper
- Size: A4

STANDARD VALUE

- Top margin: 10 ± 0.4 mm
- Bottom margin: 14 ± 0.6 mm
- Side margin: 10 ± 0.4 mm

PROCEDURE

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **PW + T&B&S check and adjustment**.
4. Click **[Print]**. The adjustment pattern will be printed.
5. Measure the distance for the positions shown in [Figure 4-30](#).
 - Within the standards: Go to [Step 9](#)
 - Out of the standards: Go to [Step 4](#)



Make sure to place the adjustment pattern on a flat place to measure the distances.

6. Remove paper from the paper cassette, and carry out Step 5 feeding paper from the rear by hand.
 - Within the standards: Go to Step 9
 - Out of the standards: Go to Step 7
7. Input the value which was measured in Step 5 and is out of the standards.
8. Click [Write] and return to Step 4.
9. Click [Finish].
10. Turn the printer OFF to finish the adjustment.

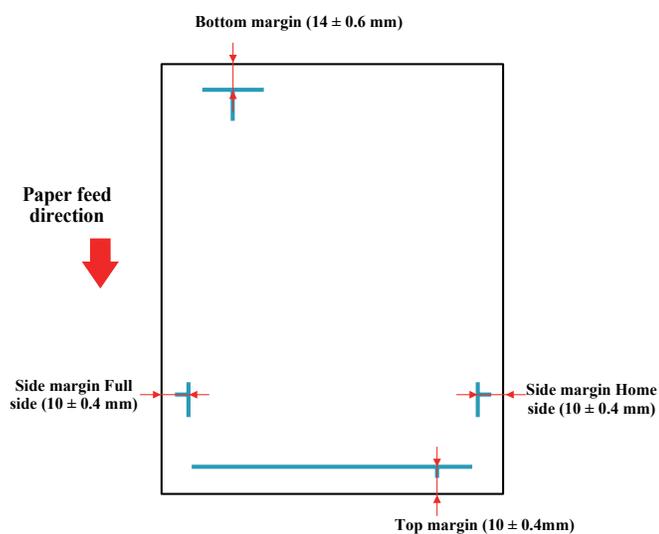


Figure 4-30. Adjustment Pattern

4.10.9 PG Adjustment

REQUIRED TOOLS

Thickness Gauge

STANDARD VALUE

- 2.5 go
- 2.8 no-go

EXECUTION MODE

Normal mode

PROCEDURE

1. Remove the following parts in advance.
 - RIGHT UPPER COVER (P. 95)
2. Turn the printer ON.
3. When any paper is loaded, remove it.
4. Check that the mark on the top of the APG cam is "--".
5. Unlock the CR UNIT. (P. 83)
6. Open the PRINTER COVER.



Figure 4-31. APG cam position checking point

<PG check>

- Place the thickness gauge on the specified position as follows, and check PG at the both left and right of the PRINT HEAD. If the result is NG, adjust PG carrying out Step 8 and the following steps.



When moving the CR UNIT, make sure to do it by pulling the CR TIMING BELT.

□ SC-T7000 Series

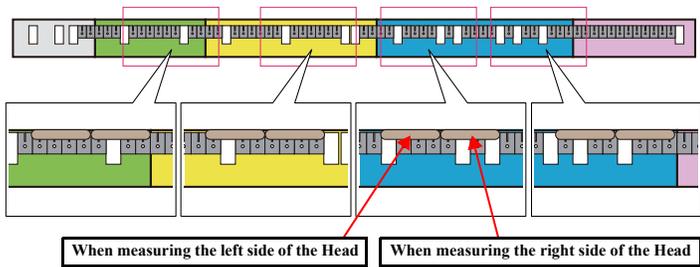


Figure 4-32. The measurement position for SC-T7000 Series

□ SC-T5000 Series

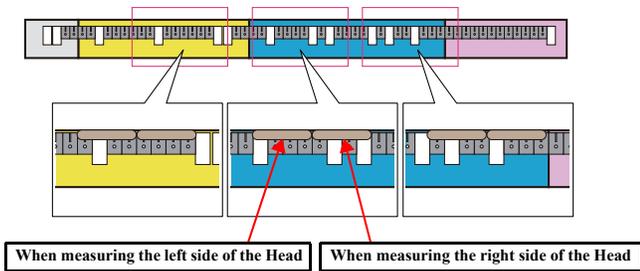


Figure 4-33. The measurement position for SC-T5000 Series

□ SC-T3000 Series

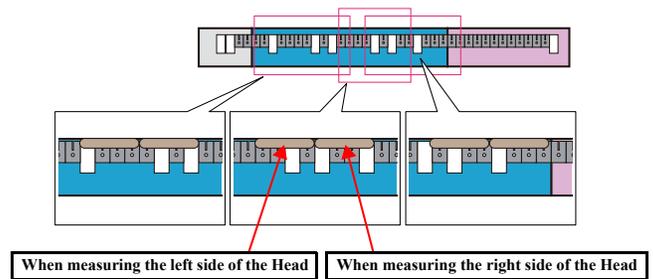


Figure 4-34. The measurement position for SC-T3000 Series

<Adjustment>

8. Move the CR UNIT to the left end.
9. Remove the CR COVER. (P. 122)
10. Remove the following two plate.

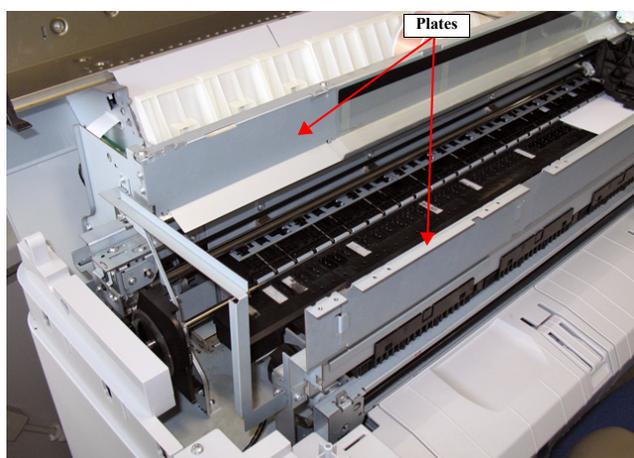


Figure 4-35. Removing the plate

11. Loosen the PG adjustment screws that secure the PG adjustment levers.
12. Move the PG adjustment levers up and down to change the gap (PG).
 - If “2.8 no-go” is NG: Lower the lever
 - If “2.5 go” is NG: Raise the lever
13. Adjust all the measurement points to become within the standard.
14. Measure all the points again after adjustment to confirm all of them are within the standard.
15. Attach the removed parts.
16. Turn the printer OFF to finish the adjustment.

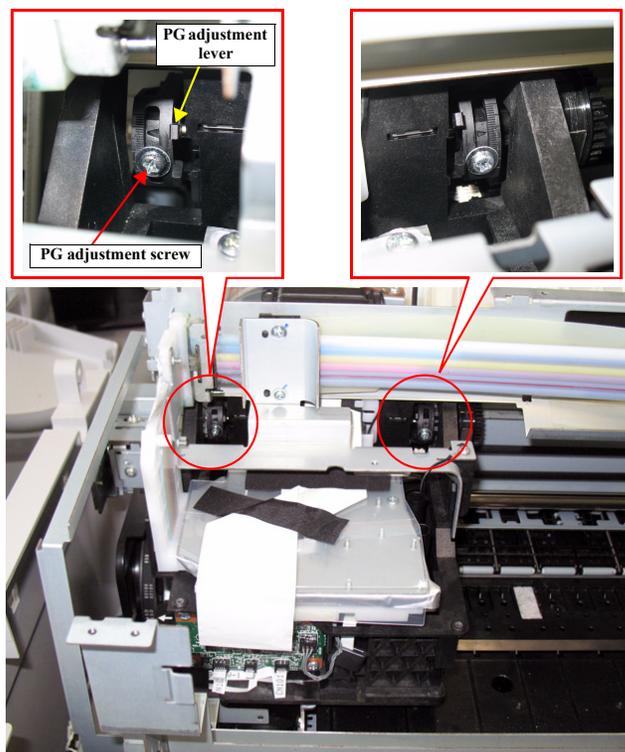


Figure 4-36. PG Adjustment Levers and PG Adjustment Screws

4.11 Head Related Checks and Adjustments

4.11.1 Tube Inner Pressure Reduction

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Tube inner pressure reduction**.
3. Click **[Run]**. The pressure inside the ink flow paths will be reduced.

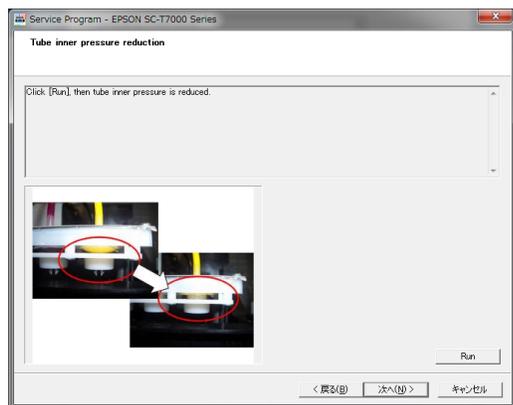


Figure 4-37. [Tube inner pressure reduction] Screen

4. Click **[Finish]**.
5. Turn the printer OFF to finish the adjustment.

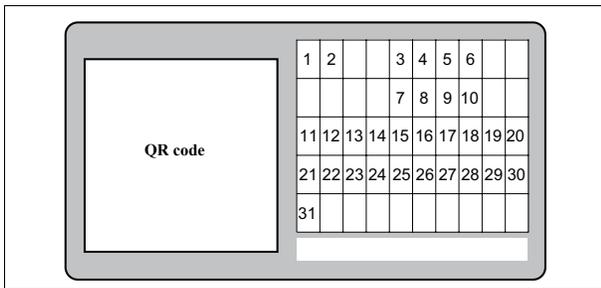
4.11.2 Head ID Input

EXECUTION MODE

Normal mode

PROCEDURE

1. Write down the Head Rank ID (31 digits) that is printed on the ID label on the PRINT HEAD (on a new PRINT HEAD when replaced with a new one.).



2. Assemble the printer.
3. Turn the printer ON.
4. Start the Service Program and select **Head ID Input**.
5. Enter the 31-digit ID into the edit boxes in the same way as indicated on the label. (Enter the digits continuously without pressing the Space, Enter, or Tab key.)

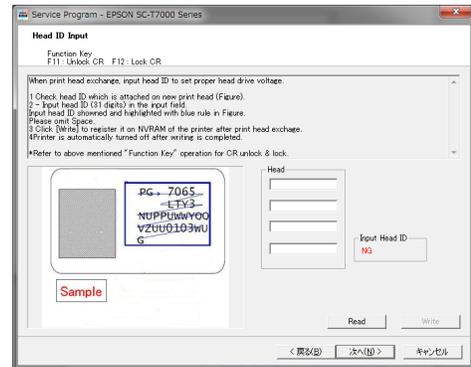


Figure 4-38. [Head ID Input] Screen

6. Click **[Write]**.
7. Click **[Finish]**.
8. Turn the printer OFF.



After clicking **[Finish]**, make sure to turn the printer off. Turning the printer on again enables the head rank ID setting.

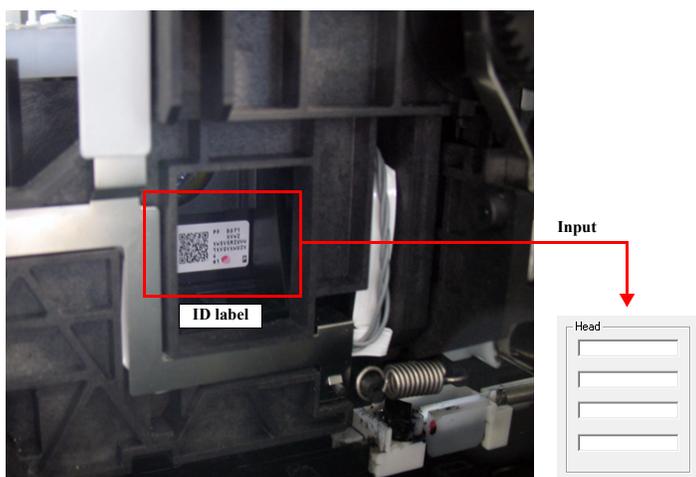


Figure 4-39. Head rank ID

4.11.3 Nozzle Check

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: 16 inches

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Nozzle Check**.
3. Select **Nozzle Check Pattern Print** or **Alignment Check Pattern Print**.
4. Click [**R**un].
The nozzle check pattern or alignment check pattern is printed.
5. Examine the patterns for any missing segments, broken lines, or misaligned lines.
6. If any of the above symptoms is observed, run the cleaning and print the pattern again to see if the problem is solved.

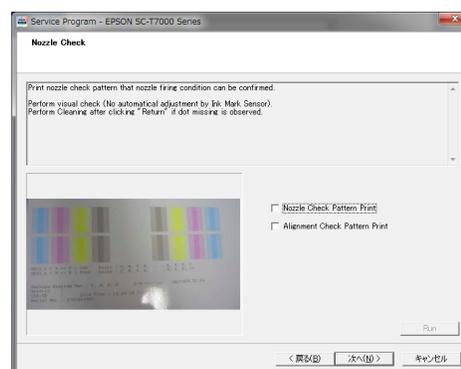


Figure 4-40. [Nozzle Check] Screen

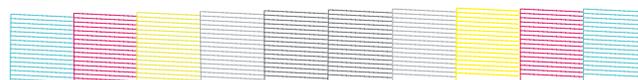


Figure 4-41. Nozzle check pattern

4.11.5 Head Inclination Adjustment (CR direction)

The following two methods are provided.

- Automatic adjustment: An adjustment pattern is printed and scanned by the IM SENSOR, and required adjustment level is displayed.
- Manual adjustment: Visually check the printed adjustment pattern, and determine the required adjustment level.

The way to actually correct the head inclination according to the result obtained by any of the above methods is the same.

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: 24 inches or longer

EXECUTION MODE

Normal mode

4.11.5.1 Head Inclination Auto Adjustment (CR direction)

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Head inclination auto adjustment (CR direction)**.
4. Click **[Run]**.
The adjustment pattern will be printed.
5. The printed pattern is scanned by the IM SENSOR and the required adjustment level (how much the adjustment knob should be turned) is displayed when the adjustment is required.
6. Make the adjustment referring to [4.11.5.3 Correcting Head Inclination \(CR direction\)](#) (Page 254).

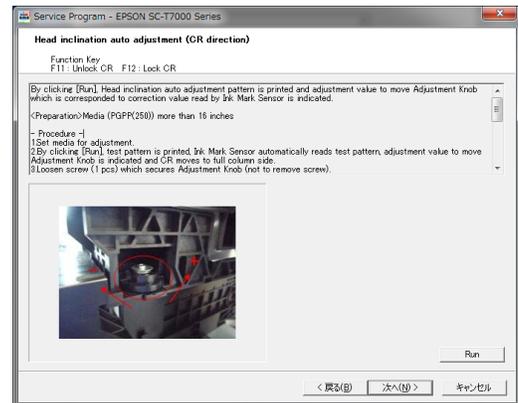


Figure 4-43. [Head inclination auto adjustment (CR direction)] Screen



Figure 4-44. Auto adjustment pattern

4.11.5.2 Head Inclination Manual Adjustment (CR direction)

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Head inclination manual adjustment (CR direction)**.
4. Click **[Run]**.
The adjustment pattern will be printed.

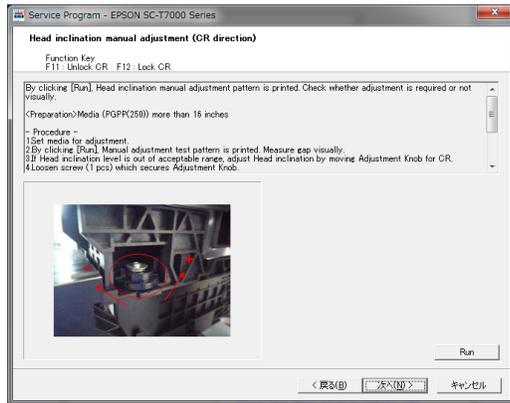


Figure 4-45. [Head inclination manual adjustment (CR direction)] Screen

5. Examine the printed pattern visually.
6. Make the adjustment referring to **4.11.5.3 Correcting Head Inclination (CR direction)** (Page 254).

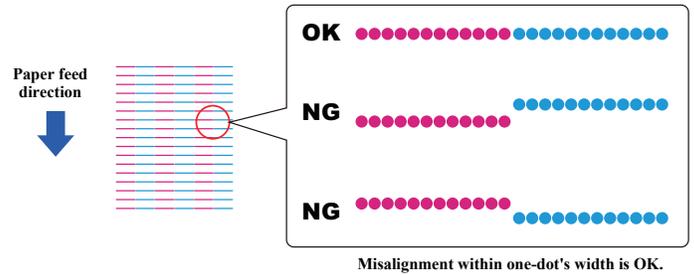


Figure 4-46. Judgement

4.11.5.3 Correcting Head Inclination (CR direction)

1. Press the F11 key of the keyboard to unlock the CR UNIT.
2. Move the CR UNIT to the left end of the printer.
3. Remove the CR COVER. (P. 122)
4. Loosen the three screws (A, B, C) that secure the DAMPER KIT.
5. Loosen the three screws (D, E, F) that secure the head holder.
6. Loosen the screw (G) (Bit No. 1) that secures the adjustment knob.



Be careful not to completely remove the screw that secures the adjustment knob.

7. Turn the adjustment knob to correct the head inclination. See **Figure 4-47** for which direction to move the knob.

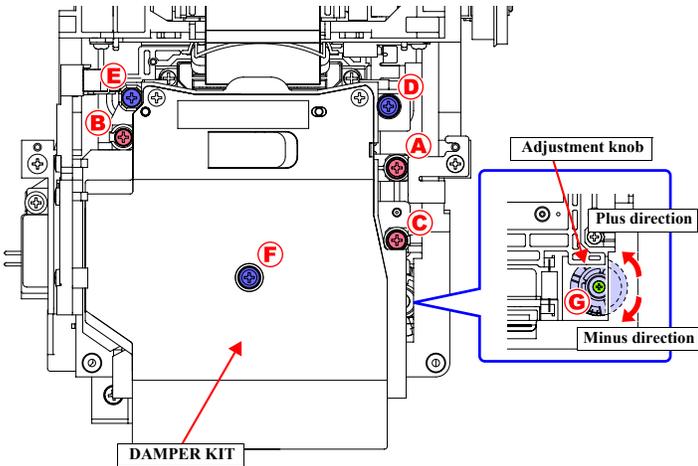


Figure 4-47. Correcting the Head Inclination

8. Tighten the three screws to secure the head holder. Tighten them in the order shown below. D - E - F
9. Tighten the screw to secure the adjustment knob.
10. Tighten the three screws to secure the DAMPER KIT. (there is no particular order to tighten them.)
11. Attach the CR COVER.
12. Print the pattern and see if the inclination is corrected. If not, repeat the procedure until the pattern becomes normal.
13. When finished, click **[Finish]** and turn the printer OFF.



■ For which direction to turn the knob, see below.

Paper feed direction

When Cyan lines lie below Magenta lines, **turn clockwise**

When Cyan lines lie above Magenta lines, **turn counterclockwise**

■ The lines move about one-dot's width when the knob is moved by five or six notches.

4.11.6 Head Slant Adjustment (PF direction)

The following two methods are provided.

- Automatic adjustment: An adjustment pattern is printed and scanned by the IM SENSOR, and required adjustment level is displayed.
- Manual adjustment: Visually check the printed adjustment pattern, and determine the required adjustment level.

The way to actually correct the head inclination according to the result obtained by any of the above methods is the same.

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: The maximum paper width which can be set

EXECUTION MODE

Normal mode

4.11.6.1 Head Slant Auto Adjustment (PF direction)

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Head slant auto adjustment (PF direction)**.
4. Click **[Run]**.
The adjustment pattern will be printed.
5. The printed pattern is scanned by the IM SENSOR and the required adjustment level (how much the adjustment knob should be moved) is displayed.
6. Make the adjustment referring to [4.11.6.3 Correcting Head Slant \(PF direction\)](#) (Page 258).

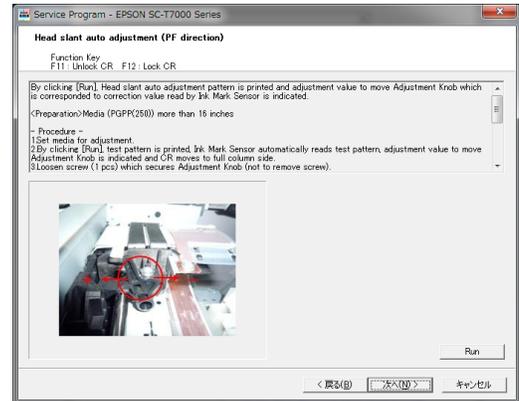


Figure 4-48. [Head slant auto adjustment (PF direction)] Screen

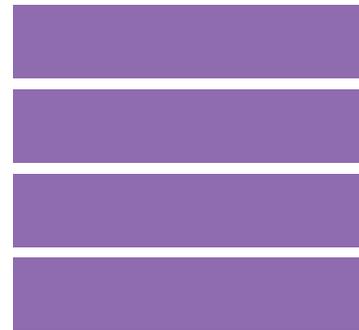


Figure 4-49. Auto adjustment pattern

4.11.6.2 Head Slant Manual Adjustment (PF direction)

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Head slant manual adjustment (PF direction)**.
4. Click **[Run]**.
The adjustment pattern will be printed.

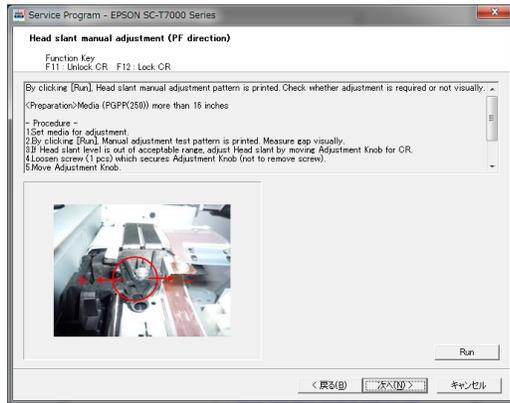


Figure 4-50. [Head slant manual adjustment (PF direction)] Screen

5. Examine the printed pattern visually.
See if the gaps between the squares are parallel. If so, no adjustment is required. If not, make the adjustment referring to [4.11.6.3 Correcting Head Slant \(PF direction\)](#) (Page 258).

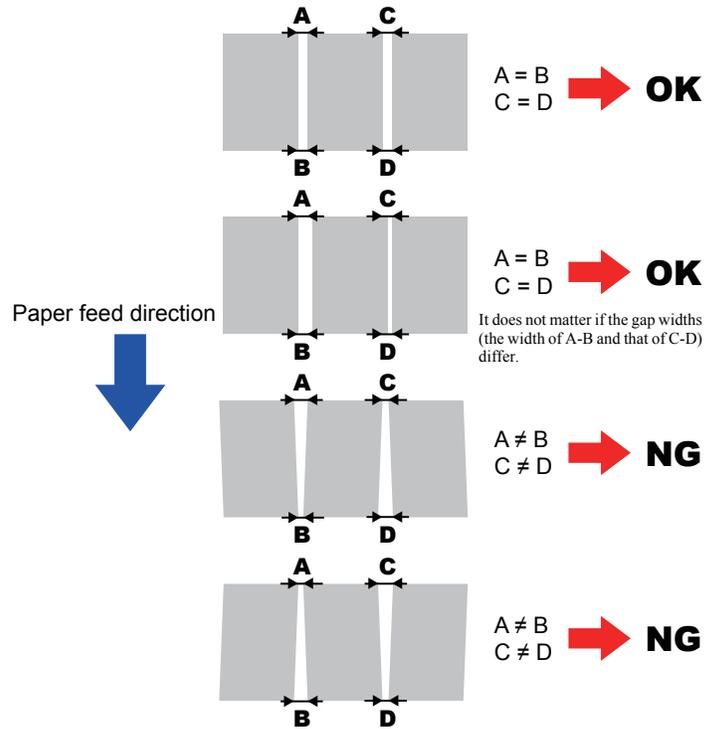


Figure 4-51. Judgement

4.11.6.3 Correcting Head Slant (PF direction)

1. Press the F11 key of the keyboard to unlock the CR UNIT.
2. Move the CR UNIT to the left end of the printer.
3. Remove the CR COVER. (P. 122)
4. Loosen the screw (Bit No. 1) that secures the adjustment knob.



Be careful not to completely remove the screw that secures the adjustment knob.

5. Move the adjustment knob to correct the head slant. See Figure 4-52 for which direction to move the knob.

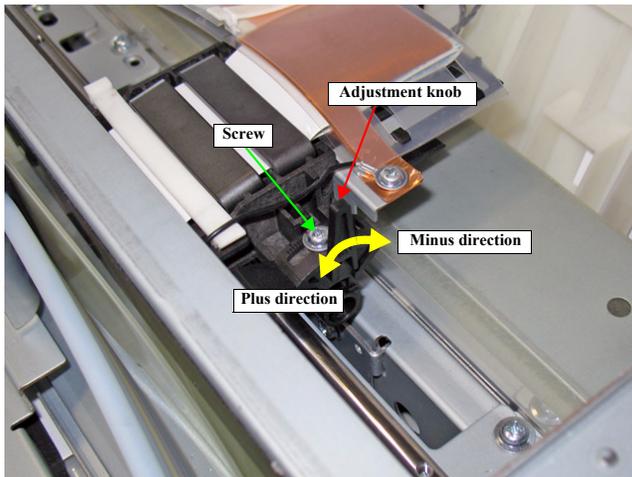


Figure 4-52. Correcting the Head Slant

6. Tighten the screw to secure the adjustment knob.
7. Print the pattern and see if the slant is corrected. If not, repeat the procedure until normal pattern is printed.
8. When finished, click [Finish] and turn the printer OFF.

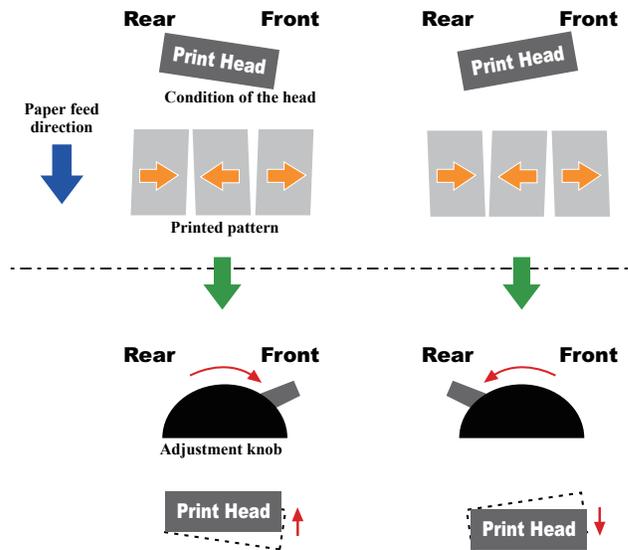


Figure 4-53. Adjustment

4.12 Ink Supply Related Checks and Adjustments

4.12.1 Ink eject

EXECUTION MODE

Serviceman Mode

PROCEDURE

CHECK
POINT



Time required for ejecting ink (all rows): about 15 minutes

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing [Menu] + [Back] + [OK].
2. Remove all the ink cartridges.
3. Start the Service Program and select **Ink eject**.
4. Click [Run].
5. When finished, turn the printer OFF.

CAUTION



Running the Ink eject function one time may not be enough to prevent ink from leaking when removing the ink tubes. Prepare paper or cloth to wipe off spilled ink in advance or run the Ink eject function twice in a row.

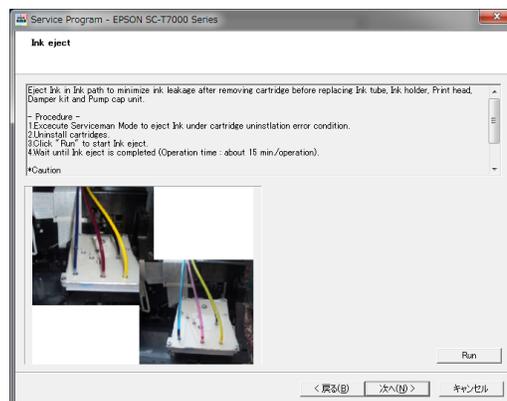


Figure 4-54. [Ink eject] Screen

4.12.2 Cleaning (Tube Inner Cleaning)

THINGS TO PREPARE

- When cleaning all rows:
 - 4 maintenance boxes
 - 5 cleaning cartridges
- When cleaning single row (C/M or Y/Pk)
 - 2 maintenance boxes
 - 2 cleaning cartridges
- When cleaning single row (Mk)
 - 1 maintenance box
 - 1 cleaning cartridge

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Single channel cleaning**.
3. Select **All rows** or **Single row** and click **[Run]**.
4. Clean the tubes following the on-screen instructions.
5. Click **[Finish]**.
6. Turn the printer OFF.



Figure 4-55. [Single channel cleaning] Screen

4.12.3 Initial Ink Charge

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 select **Initial ink charge**.
3. Insert the ink cartridges into all the ink holders.
4. Select **All rows** or **Single row** and click [Run].
5. Click [Finish].
6. Turn the printer OFF to finish the adjustment.

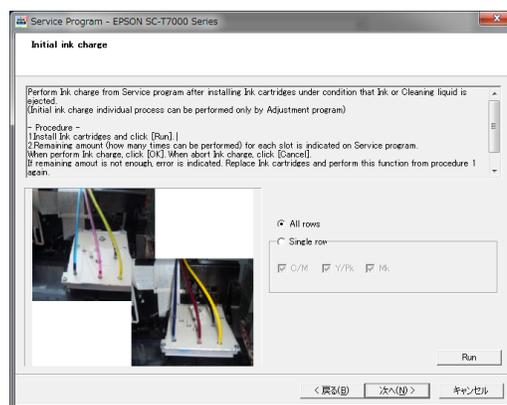


Figure 4-56. [Initial ink charge] Screen

4.13 Media Feed Related Checks and Adjustments

4.13.1 PF Belt Tension Check

REQUIRED TOOLS

- Sonic tensimeter U-507
- Any tools to flip the timing belt

STANDARD VALUE

- $10 \pm 3.5 \text{ N}$

EXECUTION MODE

Normal mode

PROCEDURE

1. Remove the following parts in advance.
 - LEFT UPPER COVER (P. 101)
 - LEFT LOWER COVER (P. 98)
2. Loosen the two screws that secure the PF motor mounting plate.
3. Move the mounting plate back and forth three times to soften the PF TIMING BELT.
4. Tighten the two screws to secure the mounting plate.

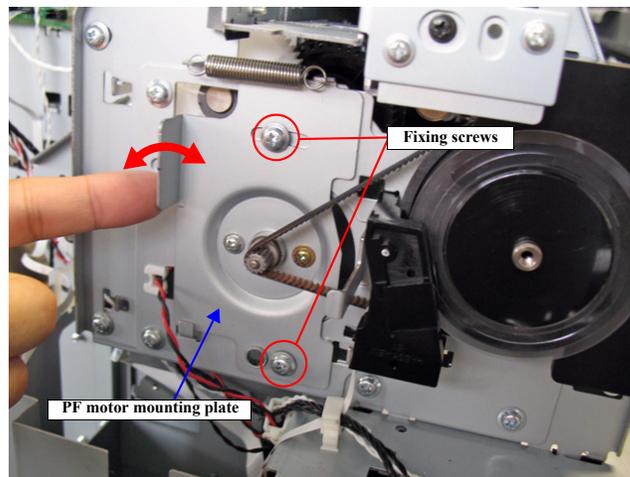


Figure 4-57. Softening the PF TIMING BELT

5. Turn the printer ON.
6. Start the Service Program and select **PF Belt Tension check**.
7. Click **[Run]**.
The PF roller rotates 30 revolutions.

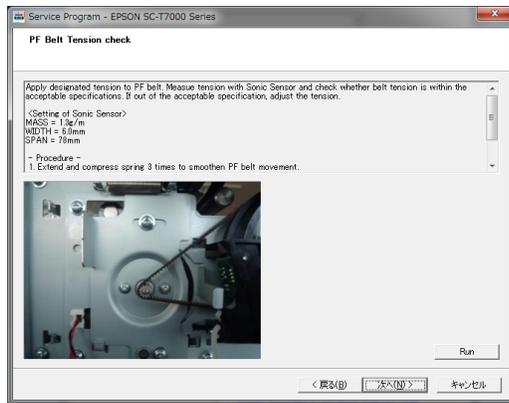


Figure 4-58. [PF Belt Tension check] Screen

8. Input the following information on the belt into the tensimeter.
 - MASS: 1.3 g/m
 - WIDTH: 6.0 mm/R
 - SPAN: 78 mm
9. Bring the microphone of the tensimeter close to the belt as shown in [Figure 4-57](#).



The distance between the microphone and the belt surface should be 5 mm or less, but do not let it touch the belt.

10. Click **[MEASURE]** on the tensimeter, and flip the timing belt with tweezers or a similar tool.



- Flip the timing belt as weak as the tensimeter can measure it.
- Be careful not to let the microphone touch the timing belt when flipping the belt.

11. Measure the belt tension three times, and check if the average is within the standards.
 - Within the standards: Go to [Step 12](#)
 - Out of the standards: Go to [Step 2](#)

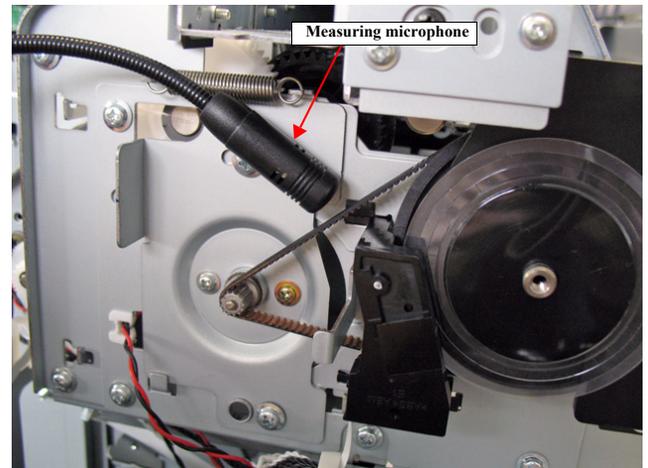


Figure 4-59. PF Belt Tension Check

12. Click **[Finish]**.
13. Turn the printer OFF to finish the adjustment.

4.13.2 PC Scale Check

EXECUTION MODE

Normal mode

PROCEDURE

- Remove the following part in advance.
 - LEFT UPPER COVER (P. 101)
 - LEFT LOWER COVER (P. 98)
- Turn the printer ON.
- Start the Service Program and select **PF Scale Check**.
- Click **[Run]** to rotate the PF SCALE.
Look at the PF ENCODER and the PF SCALE from straight above, and visually check that the scale is not in contact with the encoder.

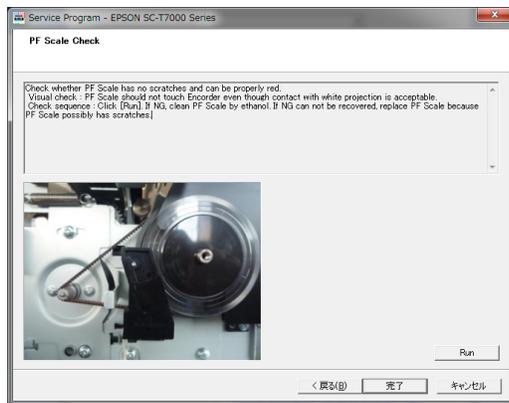


Figure 4-60. [PF Scale Check] Screen

- After the PF SCALE has rotated 30 revolutions, the check result is displayed.
 - The result is OK: Go to [Step 7](#)
 - The result is NG: Go to [Step 6](#)
- Since the PF SCALE may be dirty, clean it with ethanol. After cleaning the PF SCALE, perform [Step 4](#) to run the check again. If the result is still NG, replace the PF ENCODER (P. 166) or the PF SCALE (P. 165) and check again.
- Click **[Finish]**.
- Turn the printer OFF to finish the adjustment.

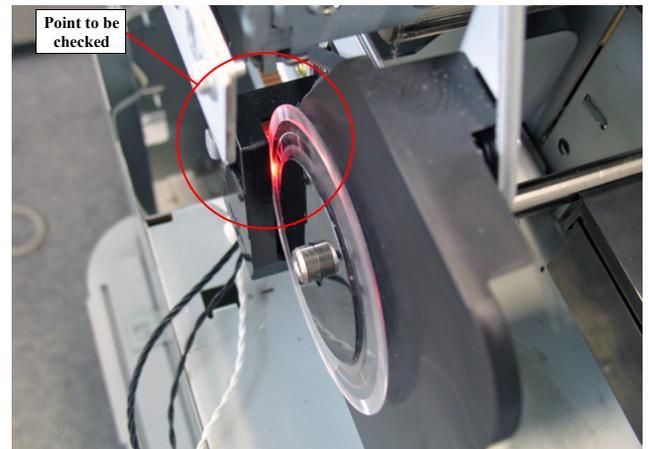


Figure 4-61. PC Scale Check

4.13.3 Media Feed Auto Adjustment

PAPER USED

- Type: Premium Glossy Photo Paper (250)
- Size: 16 inches or longer

EXECUTION MODE

Normal mode

PROCEDURE



Required time: about 4 minutes

1. Turn the printer ON.
2. Load the paper into the printer.
3. Start the Service Program and select **Media Feed Auto Adjustment**.
4. Click **[Run]**.
The adjustment pattern will be printed.
5. After the pattern is printed, the printer will automatically scan the pattern and carry out the adjustment (no manual adjustment is needed).
6. Click **[Finish]**.
7. Turn the printer OFF to finish the adjustment.

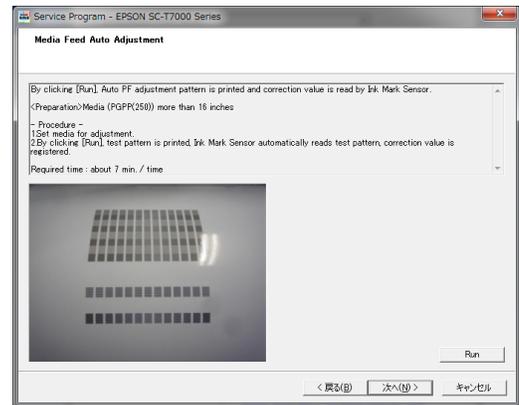


Figure 4-62. [Media Feed Auto Adjustment] Screen

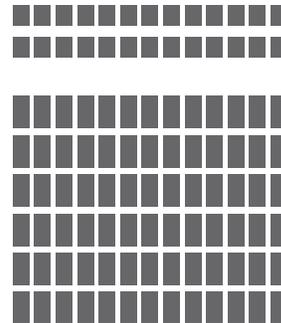


Figure 4-63. Adjustment Pattern

4.13.4 Cut Position Check & Adjustment

REQUIRED TOOLS

- Calibrated Loupe

PAPER USED

- Type: Roll paper (any type is OK)
- Size:
 - SC-T7000 Series: 44 inches
 - SC-T5000 Series: 36 inches
 - SC-T3000 Series: 24 inches

STANDARD VALUE

- 15 ± 0.3 mm

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Cut position check and adjustment**.
3. Click **[Print]**.
The adjustment pattern will be printed.
4. Measure the distances of three points, Home, Center, and Full shown in [Figure 4-65](#).
5. Check if the average of the maximum value and the minimum value is within the standards.
 - Within the standards: Go to [Step 8](#)
 - Out of the standards: Go to [Step 6](#)

6. Input the maximum value and the minimum value from the values measured in [Step 4](#).
7. Click **[Write]** and return to [Step 3](#).
8. Click **[Finish]**.
9. Turn the printer OFF to finish the adjustment.

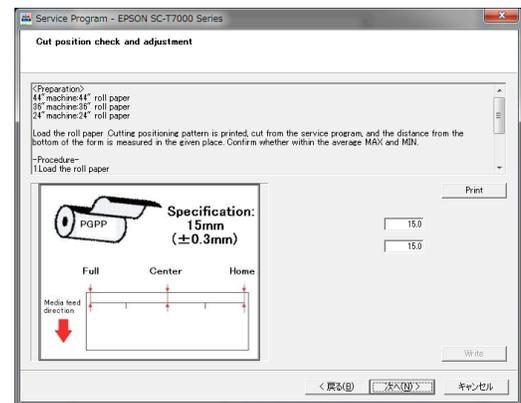


Figure 4-64. [Cut position check and adjustment] Screen

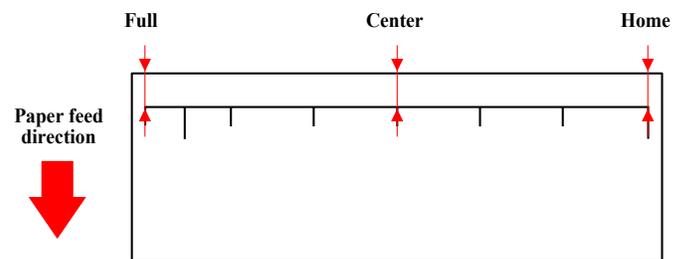


Figure 4-65. Adjustment Pattern

4.13.5 Paper Thickness Sensor Adjustment

REQUIRED TOOLS

Adjustment jig for paper thickness sensor (0.5/0.6/0.8/1.0)

EXECUTION MODE

Serviceman Mode

STANDARD VALUE

Table 4-11. Standard Value

Paper presser status	Jig type	Panel display
Locked	N/A	00
Locked	0.5	00
Locked	0.6	10
Locked	0.8	10
Locked	1.0	11
Released	N/A	01

CHECKING PROCEDURE

- Remove the following part in advance.
 - TOP COVER (P. 85)
- Attach the control panel (P. 120) with the upper rear cover removed.
- Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing [Menu] + [Back] + [OK].
- Select **Mecha Adjustment** → **Paper**.
- Press [Paper Set], and lock the paper presser.
- Check that the control panel displays “00”. When the displayed value is other than “00”, carry out the adjustment. → Go to [ADJUSTMENT PROCEDURE](#).
- Press [Paper Set], and release the paper presser.

- Insert the adjustment jig of **0.5** from the paper insertion opening and set the jig at the position shown in [Figure 4-66](#), then press [Paper Set].
- Check that the control panel displays “00”. When the displayed value is other than “00”, carry out the adjustment. → Go to [ADJUSTMENT PROCEDURE](#).
- Press [Paper Set], and release the paper presser.
- Set the adjustment jig of **0.6** at the position shown in [Figure 4-66](#), then press [Paper Set].
- Check that the control panel displays “10”. When the displayed value is other than “10”, carry out the adjustment. → Go to [ADJUSTMENT PROCEDURE](#).
- Press [Paper Set], and release the paper presser.
- Set the adjustment jig of **0.8** at the position shown in [Figure 4-66](#), then press [Paper Set].
- Check that the control panel displays “10”. When the displayed value is other than “10”, carry out the adjustment. → Go to [ADJUSTMENT PROCEDURE](#).
- Press [Paper Set], and release the paper presser.
- Insert the adjustment jig of **1.0** from the paper insertion opening and set the jig at the position shown in [Figure 4-66](#), then press [Paper Set].
- Check that the control panel displays “11”. When the displayed value is other than “11”, carry out the adjustment. → [ADJUSTMENT PROCEDURE](#).
- Press [Paper Set], and release the paper presser.

20. With the paper presser being released, check that the control panel displays "01". When the displayed value is other than "01", carry out the adjustment. → Go to [ADJUSTMENT PROCEDURE](#).
21. After checking and adjusting, check again all the condition is correct.



Slide the paper thickness sensor holder forward to raise the value and backward it to decrease the value.

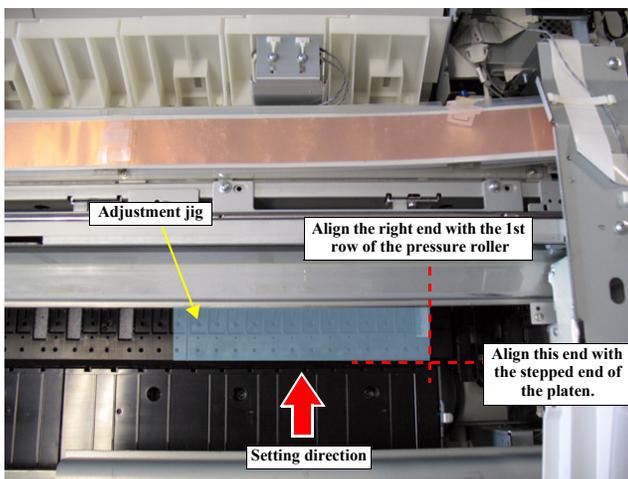


Figure 4-66. Setting position of the adjustment jig

ADJUSTMENT PROCEDURE

When the least significant digit of the value differ from the standard value, adjust the paper thickness sensor holder 2 (left side) position, and when the second digit from the least significant digit of the value differ from the standard value, adjust the paper thickness sensor holder (right side) position.

1. Loosen the screws (one each) that secure the paper thickness sensor holder.
2. Slide the paper thickness sensor holder forward and backward checking the panel display, and hold the position of the paper thickness sensor holder at the immediate after the position that the panel display is switched.

3. Secure the screws to fix the paper thickness sensor holder.

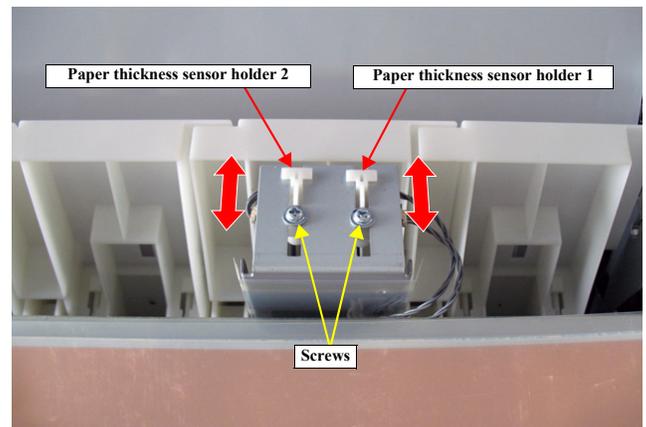


Figure 4-67. Adjusting the Positions

4.13.6 Rear AD Adjustment

REQUIRED TOOLS

Standard Sheet (JETRAS JP-D300S)

EXECUTION MODE

Serviceman Mode

STANDARD VALUE

83 to 129

PROCEDURE

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing [Menu] + [Back] + [OK].
2. Select **Mecha Adjustment** → **Rear AD**.

CHECK
POINT



The following procedure must be done without the standard sheet.

3. Press [OK] while [Enter] Start is displayed. Confirm that the control panel displays **Retry AD Adjust**.
4. Press [Back] several times to return to the top menu.
5. Select **Rear AD** again, and press [Paper Set] to release the paper presser when [Enter] Start is displayed.
6. Set the standard sheet and press [Paper Set].

CAUTION



Set the standard sheet with its matte surface up.

CAUTION



When the following procedure is conducted, make sure not to remove the exterior parts to acquire correct AD values.

7. Select **Mecha Adjustment** → **Rear AD** and press [OK] when [Enter] Start is displayed. Check that the triple-digit displayed on the control panel is within the standard. When **Retry AD Adjust** is displayed, check that the standard sheet has no abnormality (such as, breaks dirt, and wrinkles), and acquire the AD values again.

CAUTION



When the **Retry AD Adjust** is displayed again, the PE SENSOR is broken. Replace the PE SENSOR with a new one and carry out the adjustment again.

8. Press [Back] several times to return to the top menu.
9. Press [Paper Set], and release the paper presser.
10. Remove the standard sheet and turn the printer OFF.

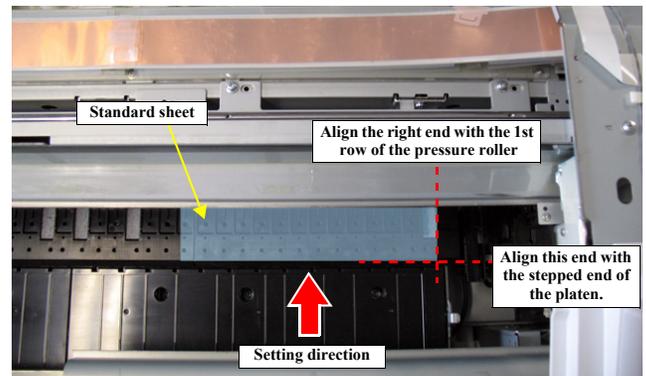


Figure 4-68. Setting Position of the Standard Sheet

4.14 Boards Related Checks and Adjustments

4.14.1 Main Board initial setting

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 select [Main Board initial setting](#).
3. Click **[Run]**.
4. The main board will be initialized.
5. Click **[OK]**.
6. Printer will automatically shut down.



**If the initialization fails, run this function again.
If still fails, replace main board to a brand-new main board.**

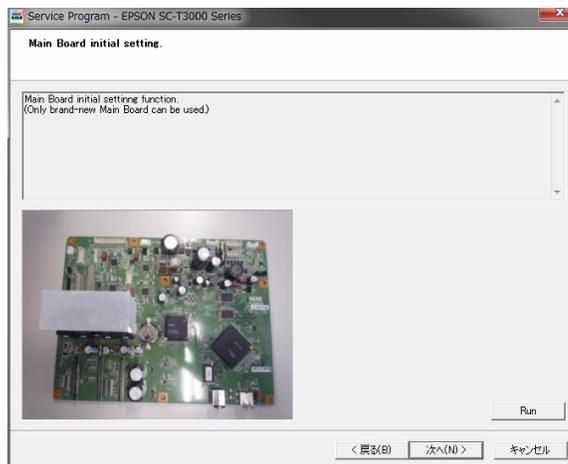


Figure 4-69. [Main Board initial setting] Screen

4.14.2 RTC & USB ID Input

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 select **RTC&USB ID Input**.
3. Check the **Date** and **Time** displayed, and correct them if necessary.
4. Enter the 10-digit serial number of the printer to generate a USB ID.
5. Click [Write USB ID] to write RTC to the NVRAM on the MAIN BOARD.
6. Click [Finish].
7. Turn the printer OFF.



If the printer is turned OFF and back ON after changing the USB ID, the computer (Windows) detects the USB port as a new port and automatically copies the printer driver as xxxx (copy x). If you need to perform another adjustment using this tool, select the "copy x" driver.

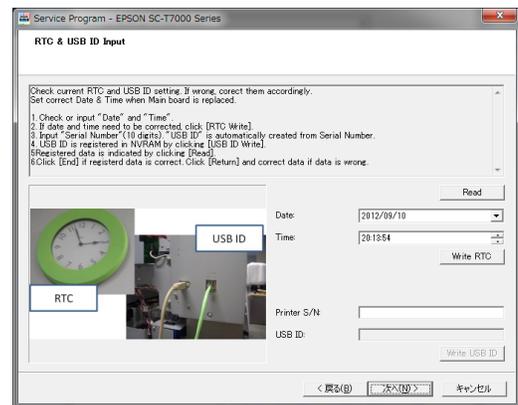


Figure 4-70. [RTC&USB ID Input] Screen

4.14.3 MAC Address Input

EXECUTION MODE

Serviceman Mode

PROCEDURE

1. Connect the printer to the computer both with a USB cable and a network cable.
2. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing **[Menu] + [Back] + [OK]**.
3. Start the Service Program and select **MAC Address Input**.

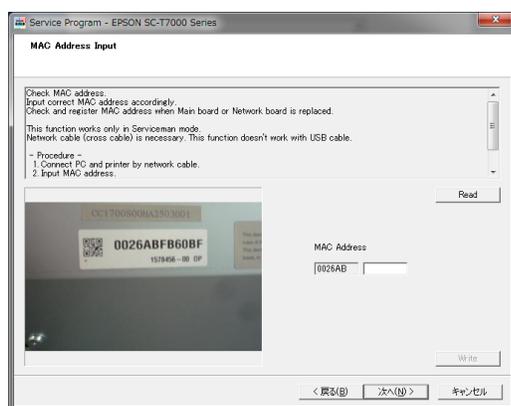


Figure 4-71. [MAC Address Input] Screen

4. Enter the MAC address indicated on the MAC address label attached on the rear of the printer, and click **[Write]**.



Click **[Read]** once. After waiting two and half minutes until the network firmware is restarted, follow the procedure below.

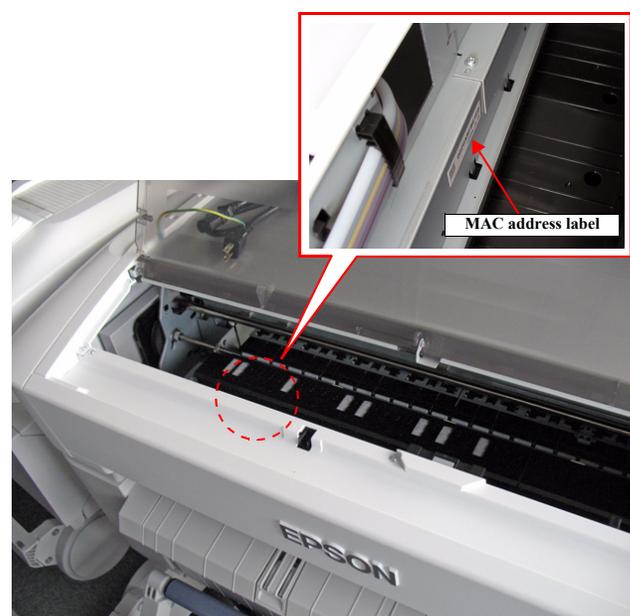


Figure 4-72. MAC Address Label

5. Click **[Read]** once.
The written MAC address is displayed in about two minutes.
6. Check that the address you entered and that displayed on the screen are the same.
7. Click **[Finish]**.
8. Turn the printer OFF to finish the adjustment.

4.14.4 Serial Number Input

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 select **Serial Number Input**.
3. Enter a 10-digit serial number of the printer, and click [Write].
The serial number is written to the NVRAM on the MAIN BOARD.
4. When you click [Read], the serial number written on the NVRAM is automatically read and displayed on the screen.
5. Click [Finish].
6. Turn the printer OFF to finish the adjustment.

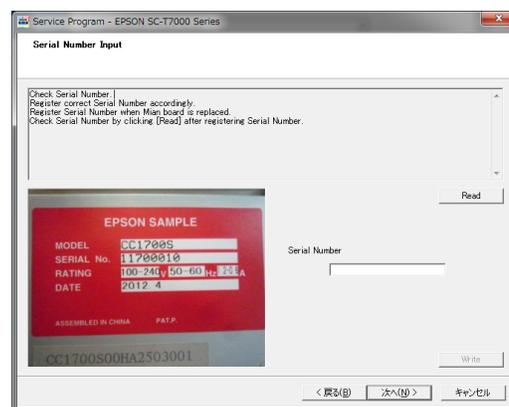


Figure 4-73. [Serial Number Input] Screen

4.14.5 HDD S/N Information Writing

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **HDD S/N information writing**.
3. Click **[Run]**.
The HDD serial number is written to the NVRAM on the MAIN BOARD.
4. Click **[Finish]**.
5. Turn the printer OFF to finish the adjustment.

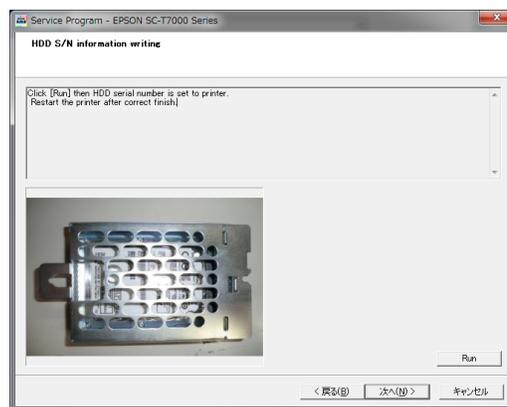


Figure 4-74. [HDD S/N Information Writing] Screen

4.14.6 Board Replacement Date & Time Setting

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Main Board Exchange Counter** (or **Power Supply Unit Replacement Date & Time setting**).
3. Click **[Run]**. When a confirmation message is displayed, press **[OK]**.
4. Click **[Finish]**.
5. Turn the printer OFF to finish the adjustment.



Figure 4-75. [Main Board Exchange Counter] Screen

4.15 Other Printer Checks and Adjustments

4.15.1 Suction Fan Adjustment

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Suction Fan Adjustment**.
3. Click **[Run]**. When the suction fan operates, check its operation sound and also check if the fan sucks paper placed on the platen.
4. Click **[Finish]**.
5. Turn the printer OFF to finish the adjustment.

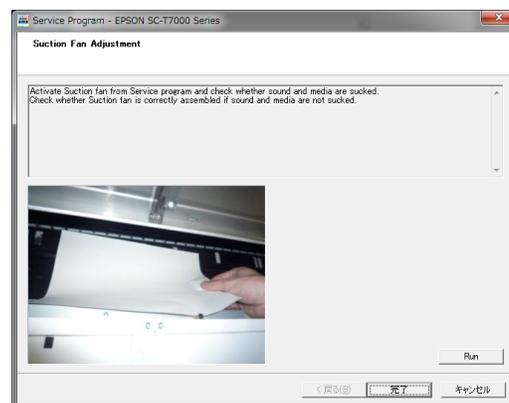


Figure 4-76. [Suction Fan Adjustment] Screen

4.15.2 Panel Setting Reset & Job History Reset

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Panel Setting Reset & Job History Reset**.
3. When initializing the panel setting, run [Initialize all setting] from the control panel menu.
4. When resetting the user job history, click **[Run]**.
5. Click **[Finish]**.
6. Turn the printer OFF to finish the adjustment.

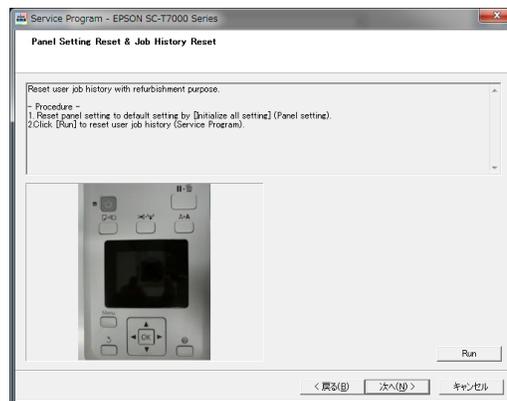


Figure 4-77. [Panel Setting Reset & Job History Reset] Screen

4.15.3 Operation Panel Check (LCD & Buttons)

4.15.3.1 Panel LCD Operation Check

EXECUTION MODE

Serviceman Mode

PROCEDURE

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing [Menu] + [Back] + [OK].
2. Select **Mecha Adjustment** → **LCD RGB Check**.
3. Select one of the three colors at a time and press [Menu]. The LCD is filled with solid red, green or blue color. Check if there is no missing dots. Check the colors in the order of red, green, and then blue.
4. To select the next color, press [Pause/Reset] or [Back].

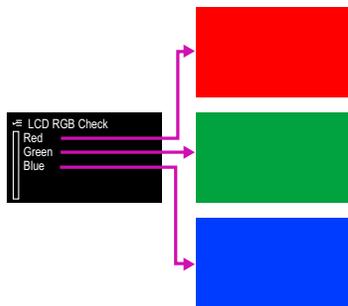


Figure 4-78. Color LCD Display Check

4.15.3.2 Panel Buttons Operation Check

EXECUTION MODE

Serviceman Mode

PROCEDURE

1. Turn the printer ON in the Serviceman Mode. Turn the power ON while pressing [Menu] + [Back] + [OK].
2. Select **Mecha Adjustment** → **Panel Check**.
3. Press buttons you want to check the functions, and check if the button names you pressed match the names displayed on the panel.

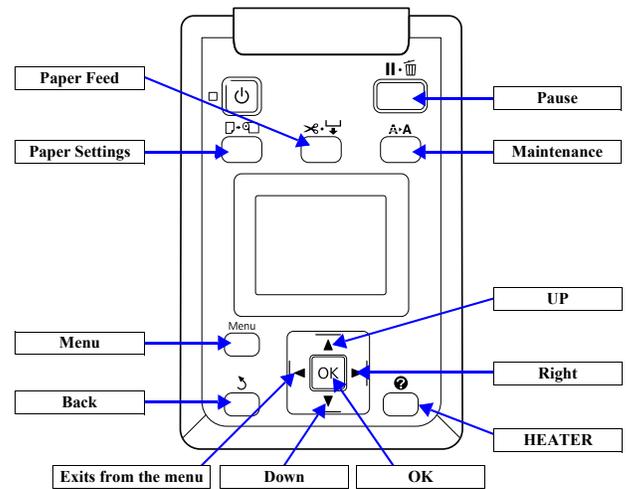


Figure 4-79. Buttons and Their Names Displayed on the Panel

4.15.4 Motor Measurement & Automatic Adjustment

The measurement adjustment can be made for the following motors individually.

- CR MOTOR
- Pump motor (PUMP CAP UNIT)
- PF MOTOR
- ATC MOTOR
- Cutter motor

EXECUTION MODE

Normal mode

PROCEDURE

1. Turn the printer ON.
2. Start the Service Program and select **Motor Measurement & Automatic Adjustment** of the target motor.
3. Click **[Run]**.
Measurement and adjustment are performed automatically.
4. When finished, click **[Finish]**.



If the adjustment is not finished, replace the motor.

5. Turn the printer OFF to finish the adjustment.

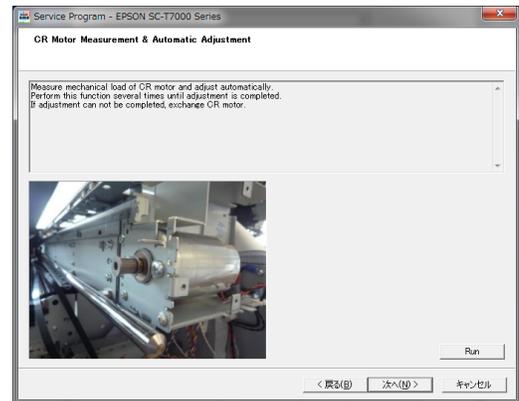


Figure 4-80. [Motor Measurement & Automatic Adjustment] Screen

CHAPTER

5

MAINTENANCE

Confidential

5.1 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.



- 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 cord 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 Main Board.
 - 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.



- Ensure sufficient work space for servicing.
- Locate the printer on a stable and flat surface.
- 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.
- 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 fan unit.
- When the printer needs to be repacked for transportation after being used, make sure to follow the steps below after turning the power OFF.
 - Check that the Printhead is capped properly.
 - Leave the ink cartridges installed in the printer.
 - Repack the printer using the packaging box, cushioning materials and protective equipment indicated in the unpacking guide.

5.2 Storing the Printer

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 not using the printer for a long time
 - Turn on the printer at least once a week to let it clean the nozzles and prevent clogging of the nozzles.
 - Remove the media. If the media is left set for a long time, nip impression of the Press Roller may remain on the media, or the media may ripple.
 - Check that the Printhead is capped properly.
 - Close all the covers.
 - When storing the printer for a long time, evacuate the ink and flush the ink passage. (See “4.12.2 Cleaning (Tube Inner Cleaning)” (p260).)
- Before using the printer again

Make sure to print a nozzle check pattern and check for clogging of the printhead. If any clogging can be seen, carry out a head cleaning.



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.

5.3 Transportation



- Do not lift or carry the printer with one person because it is very heavy. When the printer needs to be moved, make sure to lift or carry the SC-T3000 Series with two people or more, and the SC-T7000/5000 Series with four people or more.
- When lifting the printer, work in a posture that does not damage your body.
- To prevent the printhead from drying or ink leakage, keep the ink cartridges installed.
- To keep the printer intact, do not touch any parts other than those you have to touch.

Lift the printer by holding the positions shown below.

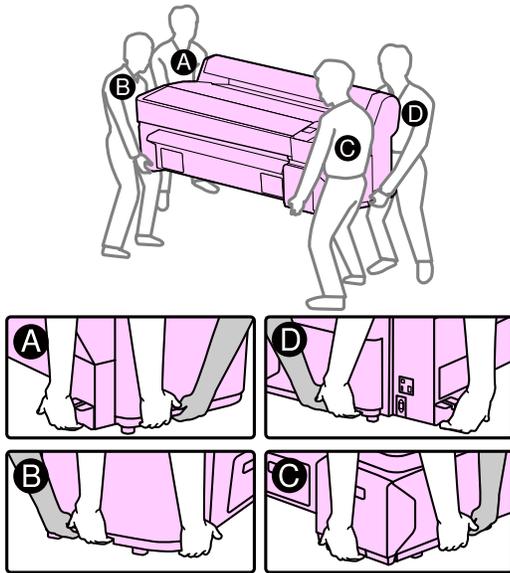


Figure 5-1. Transportation (SC-T7000 Series/T5000 Series)

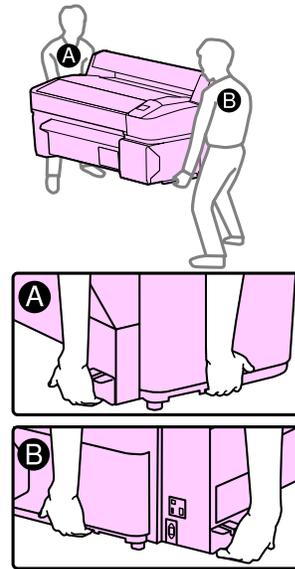


Figure 5-2. Transportation (SC-T3000 Series)

5.4 Exchange Parts

Exchange parts of this printer are as follows.

Note *1: M/C = Maintenance call
S/C = Service call

*2: See Chapter 2 “Troubleshooting” for details of maintenance call and service call.

Table 5-1. Exchange Parts

Parts	Life	Exchange Timing (call) *1*2
Print Head	The number of fired ink droplets: 684,000,000,000,000	<input type="checkbox"/> M/C: None <input type="checkbox"/> S/C: None
Damper Kit	Buffer counter: 280,000 times	<input type="checkbox"/> M/C (Near end of life): 00000400 <input type="checkbox"/> M/C (End of life): 00000200 <input type="checkbox"/> S/C: 14C0
Ink Tube	The number of paths: 10,000,000	<input type="checkbox"/> M/C (Near end of life): 00000000 <input type="checkbox"/> S/C: 1101
IC Holder	<input type="checkbox"/> The number of ink cartridge replacements: 2,700 times <input type="checkbox"/> Pump counter: 280,000 times	<input type="checkbox"/> M/C (Near end of life): 00000080, 00001000 <input type="checkbox"/> M/C (End of life): 00000040, 00000800 <input type="checkbox"/> S/C: 14B0
CR Motor	The number of paths: 10,000,000	<input type="checkbox"/> M/C: None <input type="checkbox"/> S/C: None
Pump Cap Unit	Life counter: 12,000,000	<input type="checkbox"/> M/C (Near end of life): 00000004 <input type="checkbox"/> M/C (End of life): 00000002 <input type="checkbox"/> S/C: 1412
Cutter Unit	The number of cuts: 20,000	<input type="checkbox"/> M/C: None <input type="checkbox"/> S/C: None
RTC Battery	---	<input type="checkbox"/> M/C: 00000008 <input type="checkbox"/> S/C: None

5.5 Cleaning

CLEANING THE ROLLER

1. Turn the printer on and load a roll paper with the specified maximum width.
2. Press the [Feed/Cut Media] button, then press the [Down] button.

CHECK
POINT



The roll paper will be fed while the [Down] button is pressed. If no smear is attached on the roll paper, it is the end of cleaning, so stop cleaning the roller.

CLEANING THE PLATEN

1. Open the Printer Cover.
2. Wipe of the dust or dirt in the direction of the arrow using a soft cloth such as a waste cloth. If the dirt persists, damp a soft cloth in water with a little neutral detergent and wring it out tightly, then wipe the dirt off with it, then dry the platen with a dry soft cloth.

CAUTION



Do not touch the ink pads.

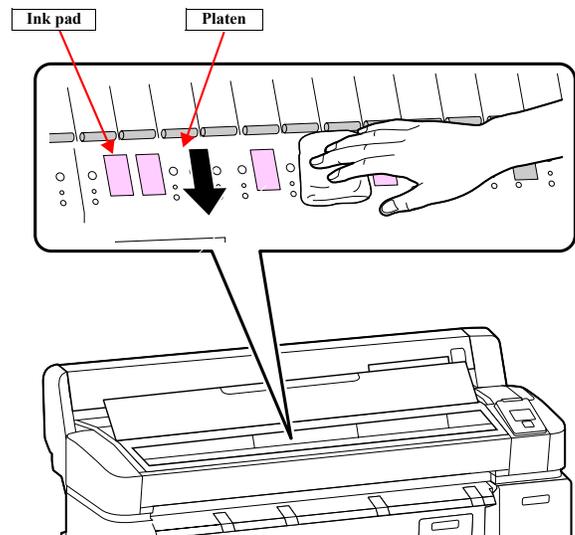


Figure 5-3. Cleaning the Platen

- Using a pointed tool such as a tooth pick, push in the foreign things such as paper dust stuck in the holes on the Platen.

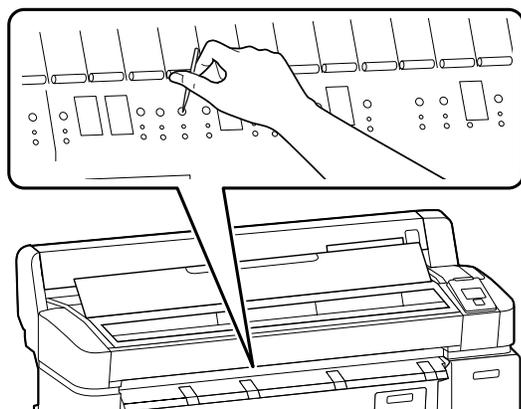


Figure 5-4. Cleaning the Suction Holes on the Platen

5.6 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.



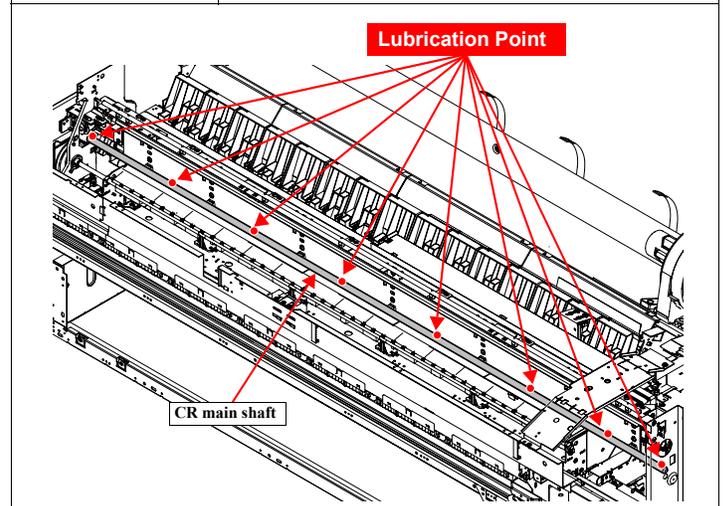
- Make sure to perform the lubrication following the specified lubrication points, lubricants, and amount. Otherwise, the printer may not operate normally.
- When lubricating the originally installed parts, first wipe off the old lubricant completely.

LUBRICATION POINTS LIST

Lubrication No.	Corresponding Part	Name of Lubricant	Lubrication Tool	Reference
1	CR main shaft	Part name: G-84 Part code: 1516265	φ 2 mm injector	p.287
2	CR sub shaft	Part name: G-84 Part code: 1516265		p.288
3	OIL PAD HOLDER (RIGHT/LEFT)	Part name: G-84 Part code: 1516265		p.288
		Part name: O-17 Part code: 1521154		
4	CR slider	Part name: G-84 Part code: 1516265		p.289

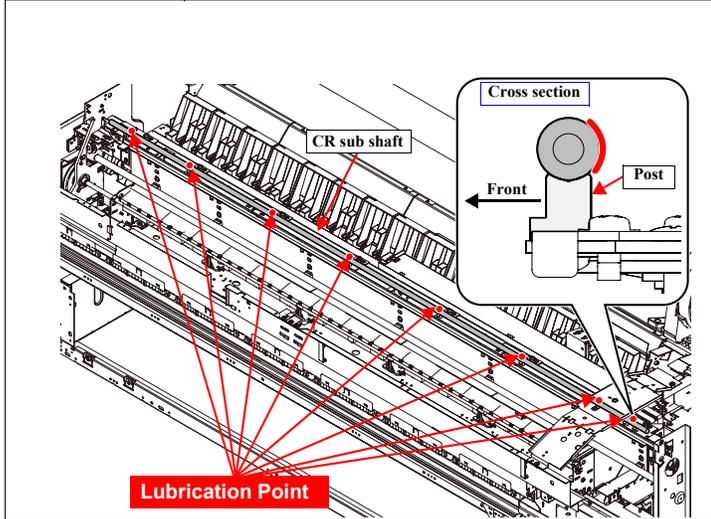
[Lubrication 1]

Part Name	CR main shaft
Lubricants (Part Code)	G-84 (1516265)
Amount	φ 2 mm x 8 mm x 8 points
Lubrication Tool	φ 2 mm injector
Lubrication Manner	Lubricate on both ends of the CR main shaft and between the posts, then spread the lubricant entirely with a waste cloth or the like.
Note	Be careful not to apply the lubricant beyond the specified point.



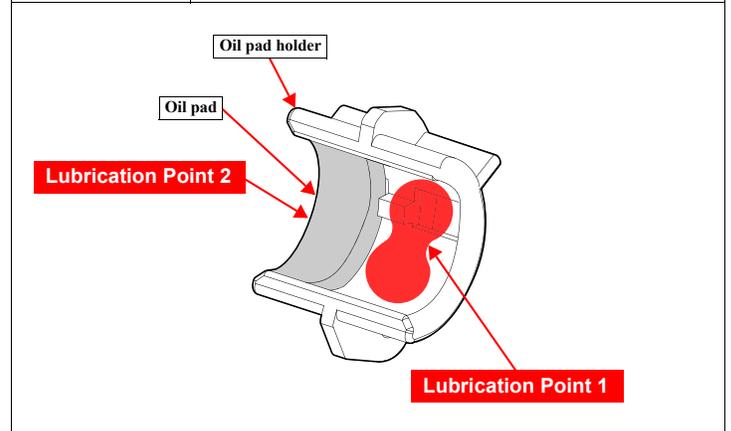
[Lubrication 2]

Part Name	CR sub shaft
Lubricants (Part Code)	G-84 (1516265)
Amount	φ 2 mm x 4 mm x 8 points
Lubrication Tool	φ 2 mm injector
Lubrication Manner	Lubricate on the back of the CR sub shaft at the posts and spread the lubricant entirely with a waste cloth or the like.
Note	Be careful not to apply the lubricant beyond the specified point.



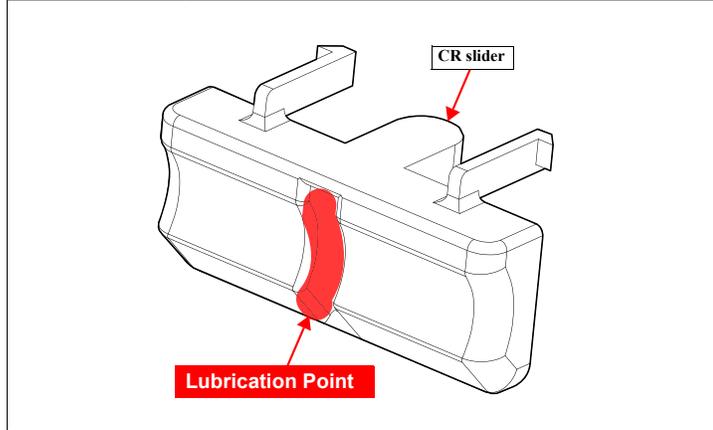
[Lubrication 3]

Part Name	Oil pad holder (Left/Right)
Lubricants (Part Code)	1. G-81 (1574337) 2. O-17 (1521154)
Amount	1. 0.2 g to 0.25 g 2. 0.2 cc
Lubrication Tool	φ 2 mm injector
Lubrication Manner	Remove the oil pad holder. 1. Apply the lubricant with a syringe. 2. Let the oil soak into the oil pad.
Note	Be careful not to apply the lubricant beyond the specified point.



[Lubrication 4]

Part Name	CR slider
Lubricants (Part Code)	G-84 (1516265)
Amount	φ 2 mm x 7 mm
Lubrication Tool	φ 2 mm injector
Lubrication Manner	On the contact point of the CR slider with the sub shaft, lubricate by filling the lubricant into the groove.
Note	Be careful not to apply lubricant beyond the specified point.



CHAPTER

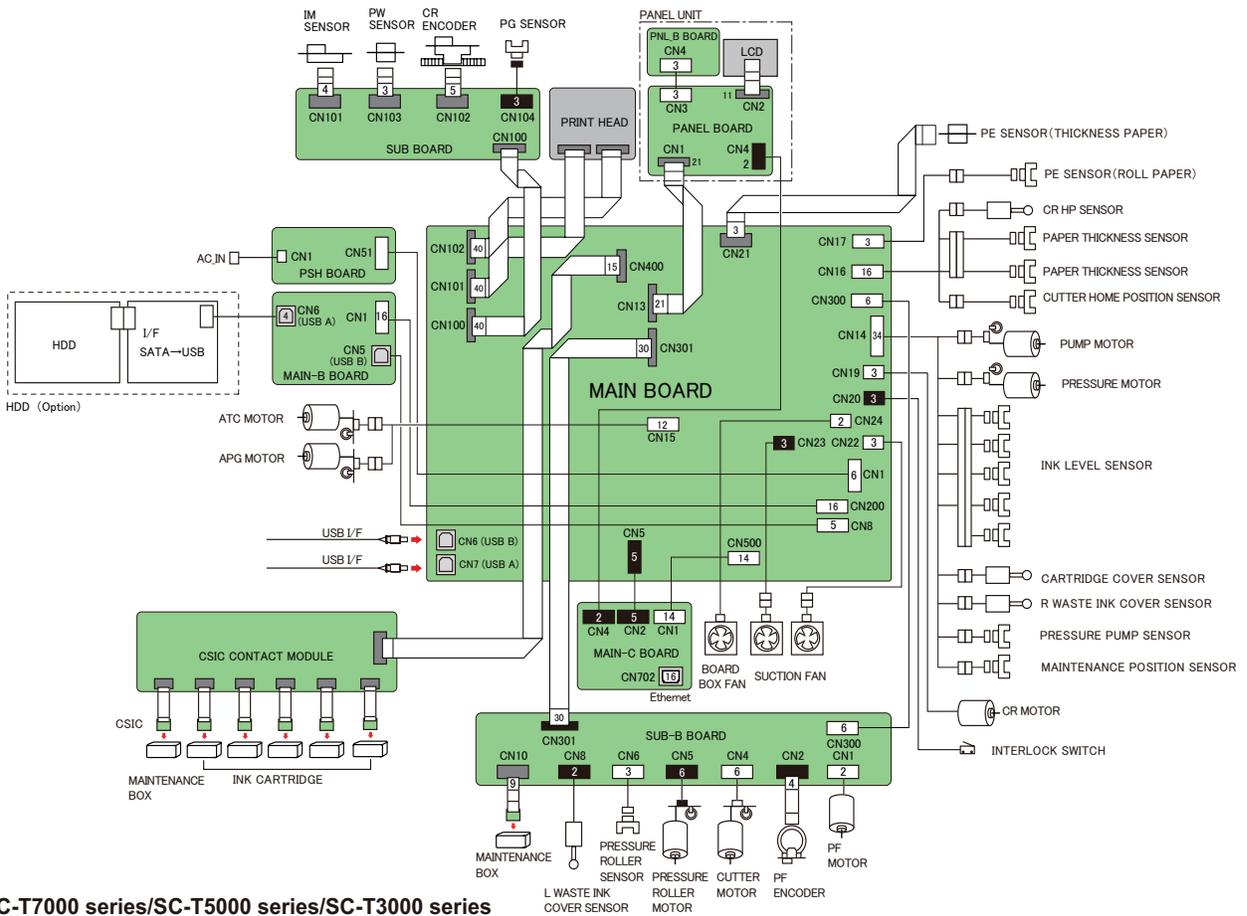
6

APPENDIX

Confidential

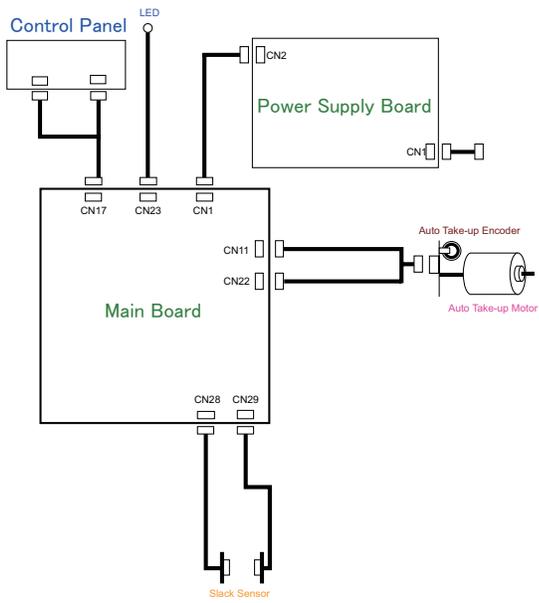
6.1 Block Wiring Diagram

6.1.1 Main Body



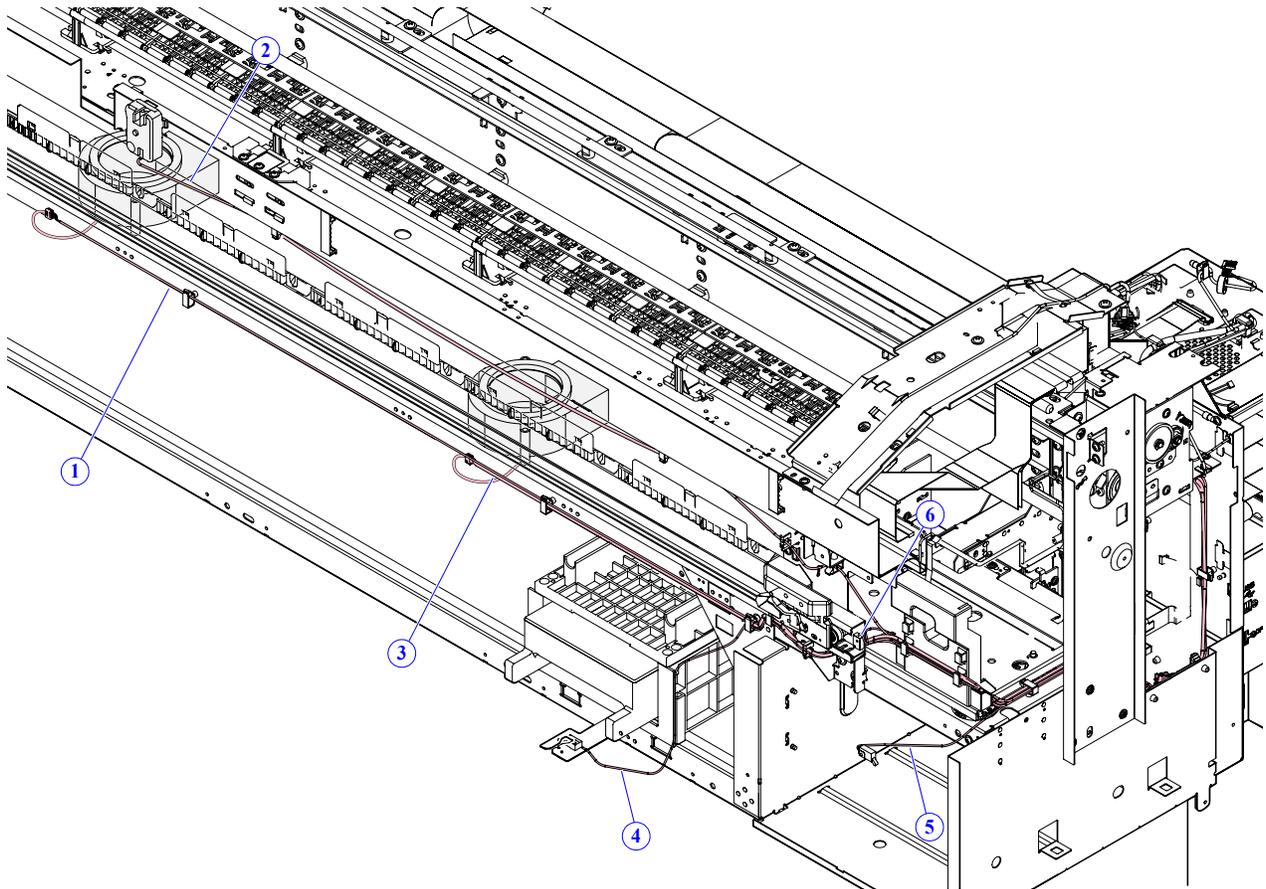
SC-T7000 series/SC-T5000 series/SC-T3000 series

6.1.2 Auto Take-up Reel



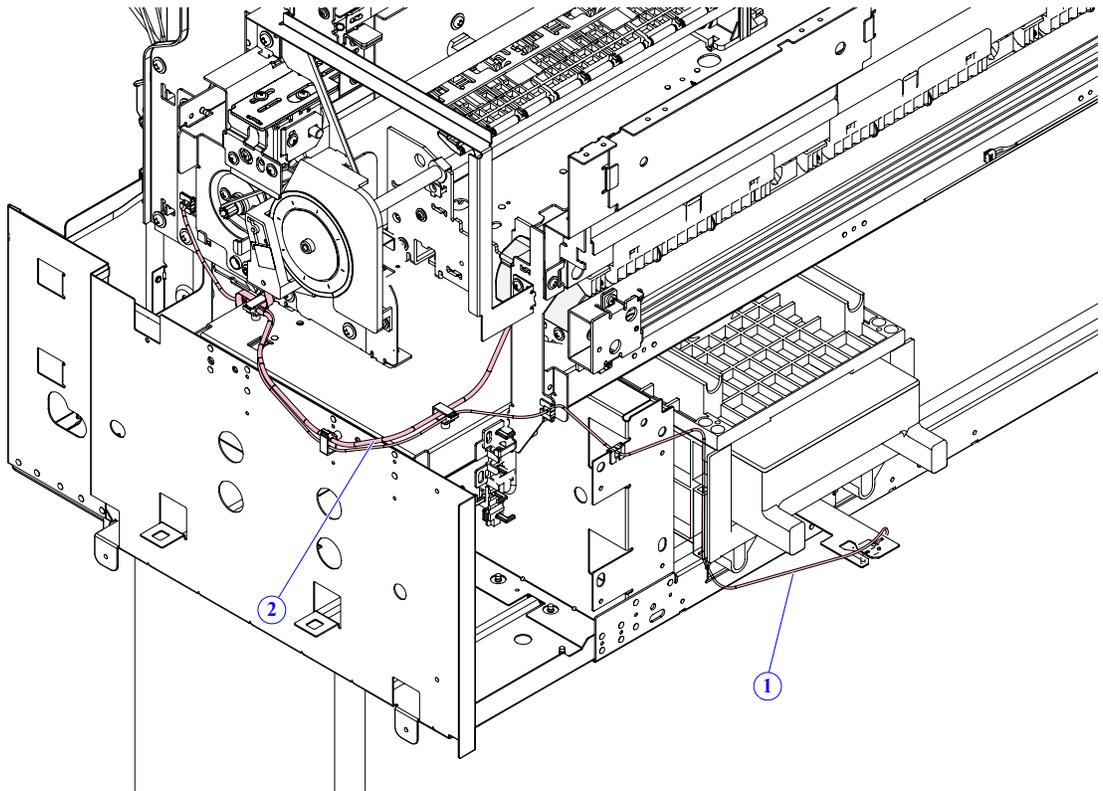
6.2 Connection Diagram

□ Front view (Right front)



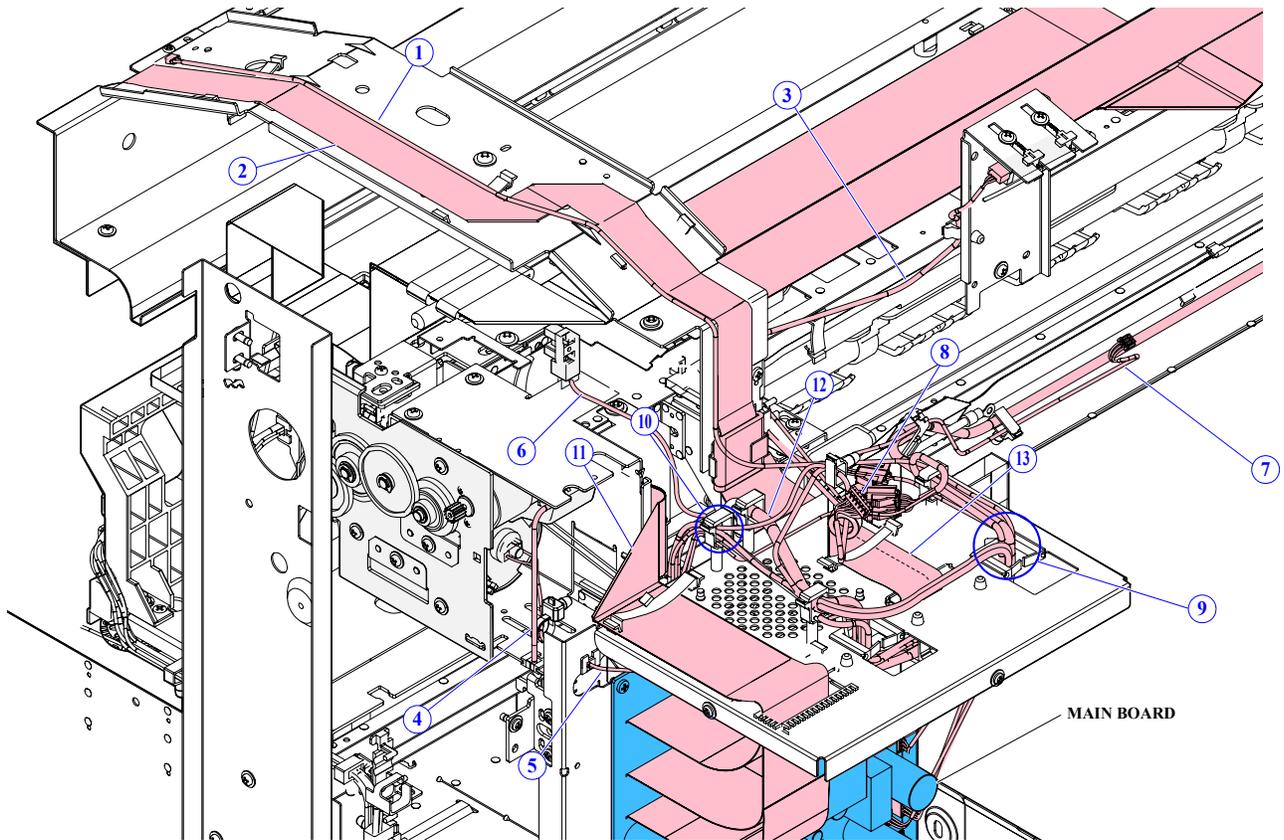
Cable No.	Connection	
1	SUCTION FAN (Left)	MAIN BOARD (CN23)
2	INTERLOCK SWITCH	MAIN BOARD(CN20)
3	SUCTION FAN (Right)	MAIN BOARD(CN22)
4	R WASTE INK COVER SENSOR	Relay Cable (MAIN BOARD (CN14))
5	CARTRIDGE COVER SENSOR	Relay Cable (MAIN BOARD (CN14))
6	CUTTER SENSOR	Relay Cable (MAIN BOARD (CN16))

□ Front view (Left front)



Cable No.	Connection	
1	L WASTE INK COVER SENSOR	SUB-B BOARD (CN8)
2	CUTTER MOTOR	SUB-B BOARD (CN4)

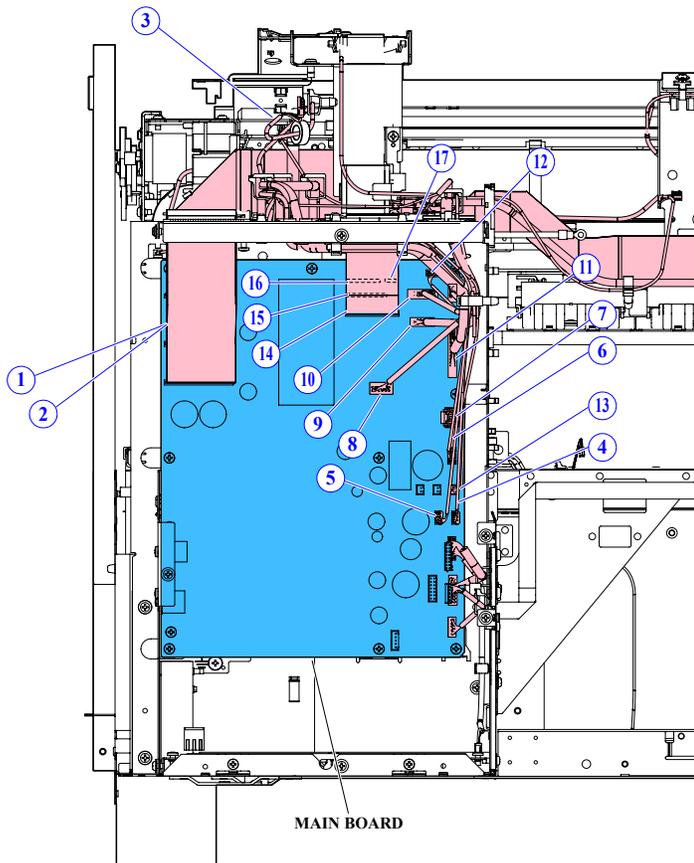
□ Back view (Right rear) (1)



Cable No.	Connection	
1	PANEL BOARD	MAIN-C BOARD (CN4)
2	PANEL BOARD	MAIN BOARD(CN13)
3	PAPER THICKNESS SENSOR	Relay Cable (MAIN BOARD (CN16))
4	APG MOTOR	MAIN BOARD (CN15)
5	CR MOTOR	MAIN BOARD (CN19)
6	CR HP SENSOR	Relay Cable (MAIN BOARD (CN16))
7	PE SENSOR (ROLL PAPER)	Relay Cable (MAIN BOARD (CN17))
8	ATC MOTOR	MAIN BOARD (CN15)
9	SUB-B BOARD	MAIN BOARD (CN300)
	PANEL BOARD	MAIN-C BOARD (CN4)
	Relay Cable (CUTTER SENSOR)	MAIN BOARD (CN16)
	Relay Cable (PE SENSOR (ROLL PAPER))	MAIN BOARD (CN17)
	Relay Cable (CR HP SENSOR)	MAIN BOARD (CN16)
	Relay Cable (PAPER THICKNESS SENSOR)	MAIN BOARD (CN16)
10	APG MOTOR	MAIN BOARD (CN15)
	ATC MOTOR	MAIN BOARD (CN15)
	Relay Cable (SUCTION FAN (Left))	MAIN BOARD (CN23)
	Relay Cable (SUCTION FAN (Right))	MAIN BOARD (CN22)
	INTERLOCK SWITCH	MAIN BOARD (CN20)
	Relay Cable (CR HP SENSOR)	MAIN BOARD (CN16)
	Relay Cable (CUTTER SENSOR)	MAIN BOARD (CN16)
11	HEAD FFC	MAIN BOARD (CN101/CN102)
	CR FFC	MAIN BOARD (CN100)

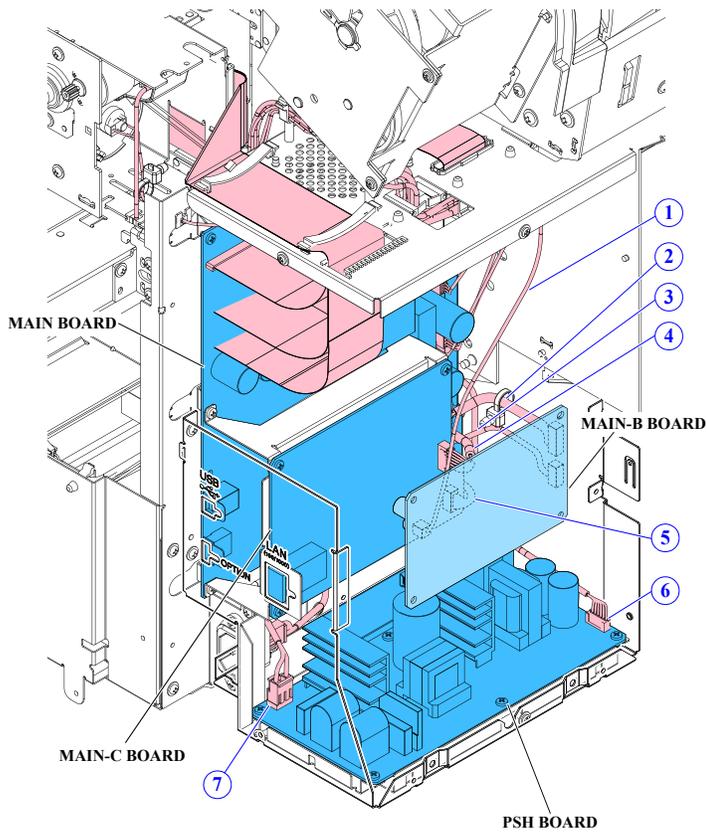
Cable No.	Connection	
12	Relay Cable (PUMP CAP UNIT / IC HOLDER)	MAIN BOARD (CN14)
13	SUB-B BOARD	MAIN BOARD (CN301)
	PE SENSOR (THICK PAPER)	MAIN BOARD (CN21)

□ Back view (Right rear) (2)



Cable No.	Connection	
1	HEAD FFC	MAIN BOARD (CN101/CN102)
2	CR FFC	MAIN BOARD (CN100)
3	ATC MOTOR	MAIN BOARD (CN15)
4	SUCTION FAN (Right)	MAIN BOARD (CN22)
5	SUCTION FAN (Left)	MAIN BOARD (CN23)
6	INTERLOCK SWITCH	MAIN BOARD (CN20)
7	CR MOTOR	MAIN BOARD (CN19)
8	APG MOTOR / ATC MOTOR	MAIN BOARD (CN15)
9	SUB-B BOARD	MAIN BOARD (CN300)
10	Relay Cable (PAPER THICKNESS SENSOR, CR HP SENSOR, CUTTER SENSOR)	MAIN BOARD (CN16)
11	Relay Cable (PUMP CAP UNIT, IC HOLDER)	MAIN BOARD (CN14)
12	Relay Cable (PE SENSOR (ROLL PAPER))	MAIN BOARD (CN16)
13	BOARD BOX FAN	MAIN BOARD (CN24)
14	SUB-B BOARD	MAIN BOARD (CN301)
15	PANEL BOARD	MAIN BOARD (CN13)
16	CRCM BOARD (IC HOLDER)	MAIN BOARD (CN400)
17	PE SENSOR (THICK PAPER)	MAIN BOARD (CN21)

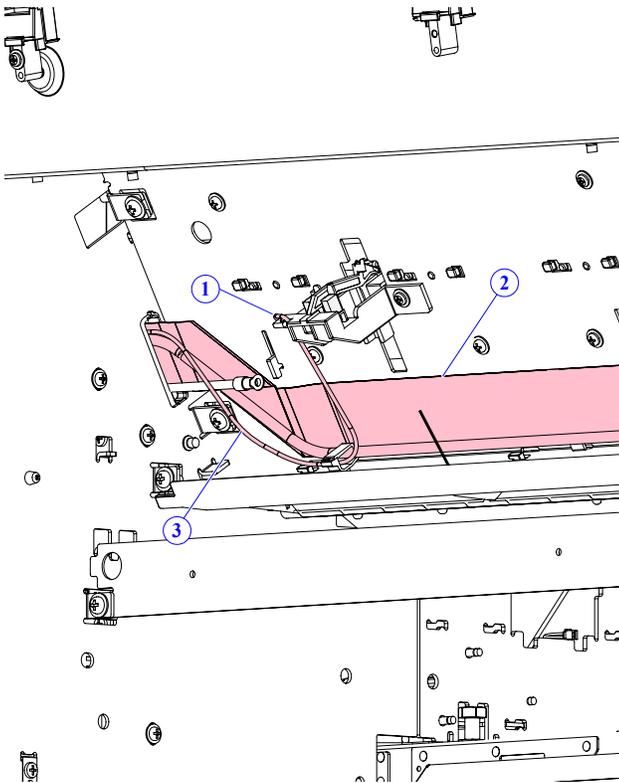
□ Back view (Right rear) (3)



Cable No.	Connection	
1	PANEL BOARD	MAIN-C BOARD (CN4)
2	MAIN-B BOARD	MAIN BOARD (CN200)
3	MAIN-B BOARD	MAIN BOARD (CN8)
4	MAIN-C BOARD	MAIN BOARD (CN500)
5	MAIN-C BOARD	MAIN BOARD (CN5)
6	PSH BOARD	MAIN BOARD (CN1)
7	PSH BOARD	AC Inlet

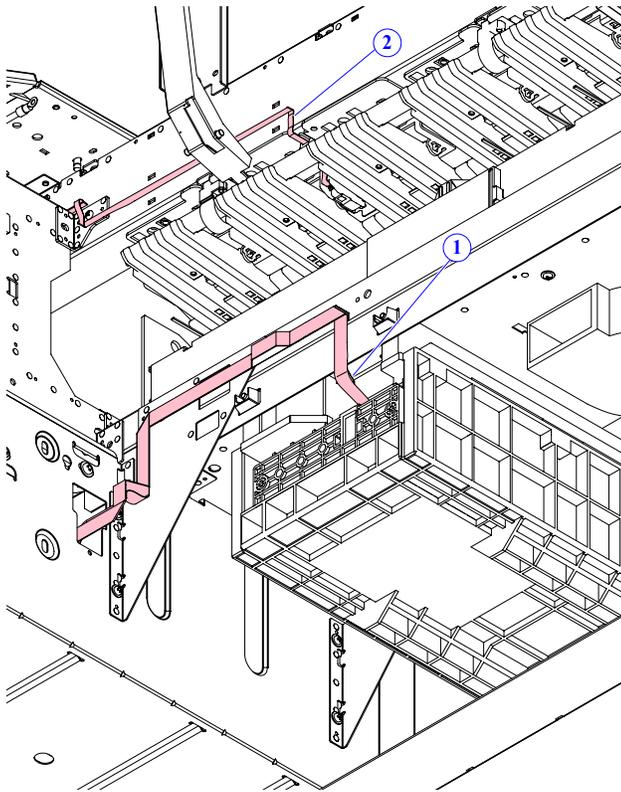
□ Back view (Right rear) (4)

Cable No.	Connection	
1	PE SENSOR (ROLL PAPER)	Relay Cable (MAIN BOARD (CN17))
2	SUB-B BOARD	MAIN BOARD (CN301)
3	SUB-B BOARD	MAIN BOARD (CN300)

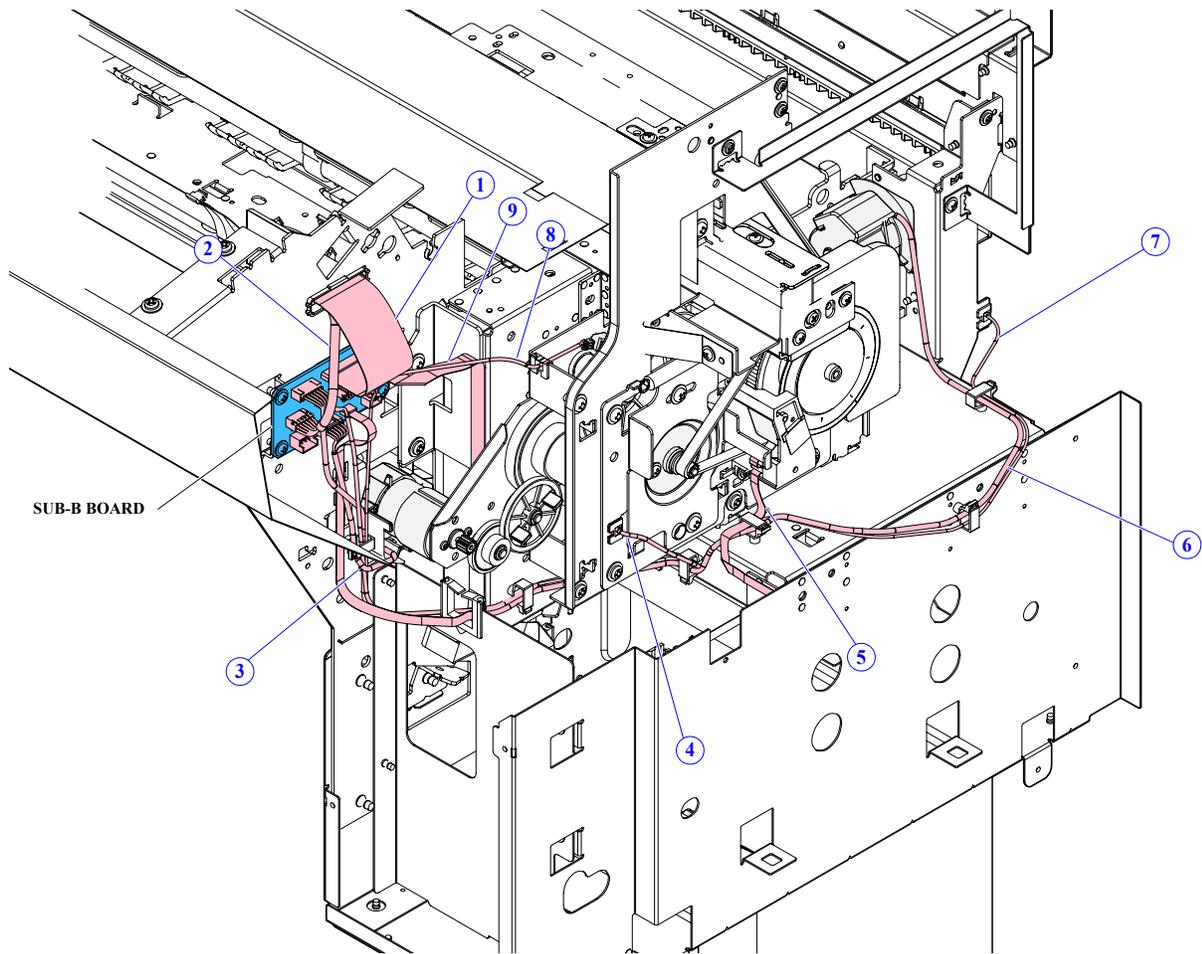


□ Back view (Right rear) (5)

Cable No.	Connection	
1	MAINTENANCE BOX HOLDER	IC HOLDER
2	PE SENSOR (THICK PAPER)	MAIN BOARD (CN21)

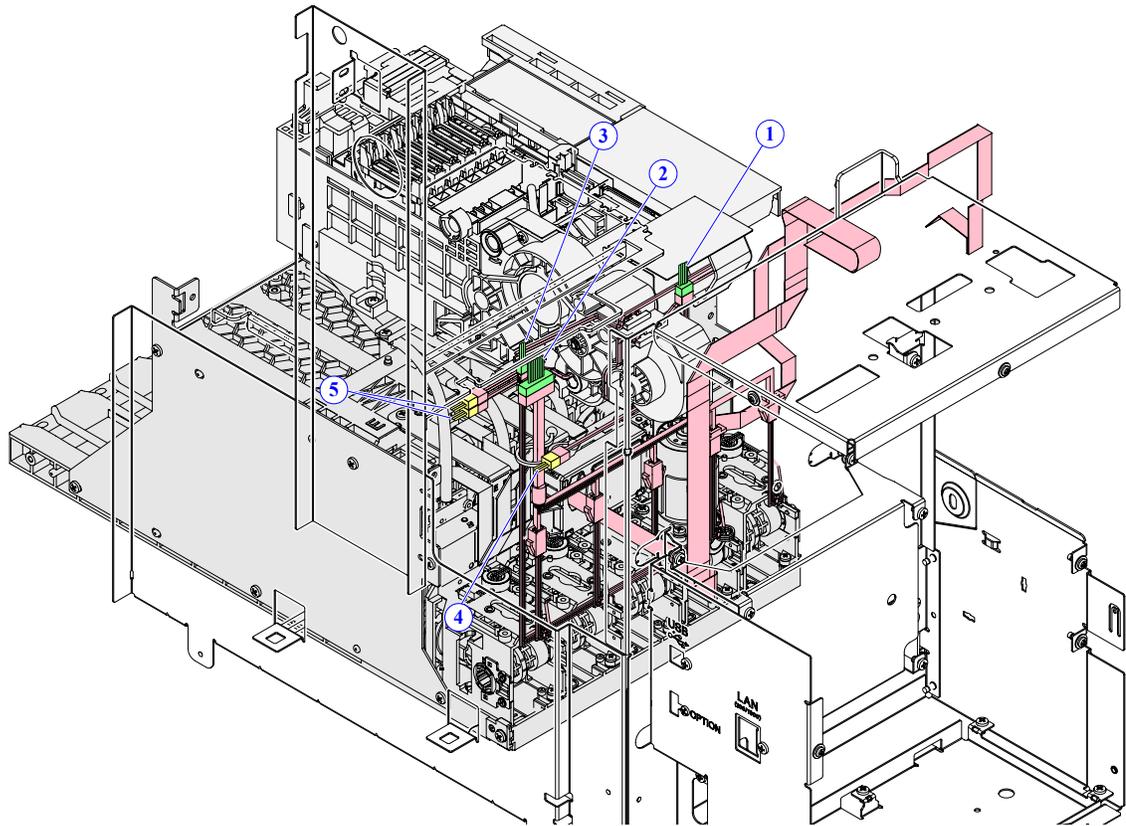


□ Back view (Left rear)



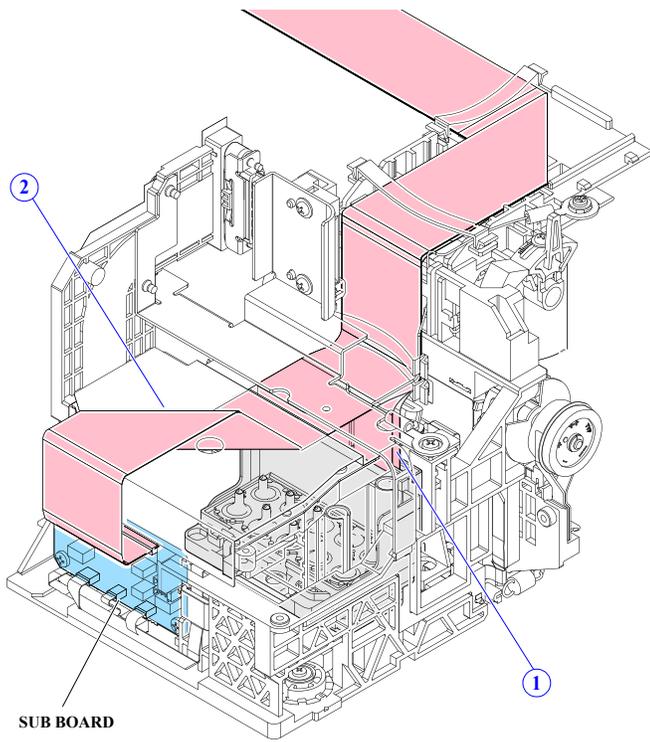
Cable No.	Connection	
1	SUB-B BOARD	MAIN BOARD (CN301)
2	SUB-B BOARD	MAIN BOARD (CN300)
3	PRESSURE ROLLER MOTOR	SUB-B BOARD (CN5)
4	PF MOTOR	SUB-B BOARD (CN1)
5	PF ENCODER	SUB-B BOARD (CN2)
6	CUTTER MOTOR	SUB-B BOARD (CN4)
7	L WASTE INK COVER SENSOR	SUB-B BOARD (CN8)
8	PRESSURE ROLLER SENSOR	SUB-B BOARD (CN6)
9	WASTE INK HOLDER ASSEMBLY	SUB-B BOARD (CN10)

□ PUMP CAP UNIT / IC HOLDER



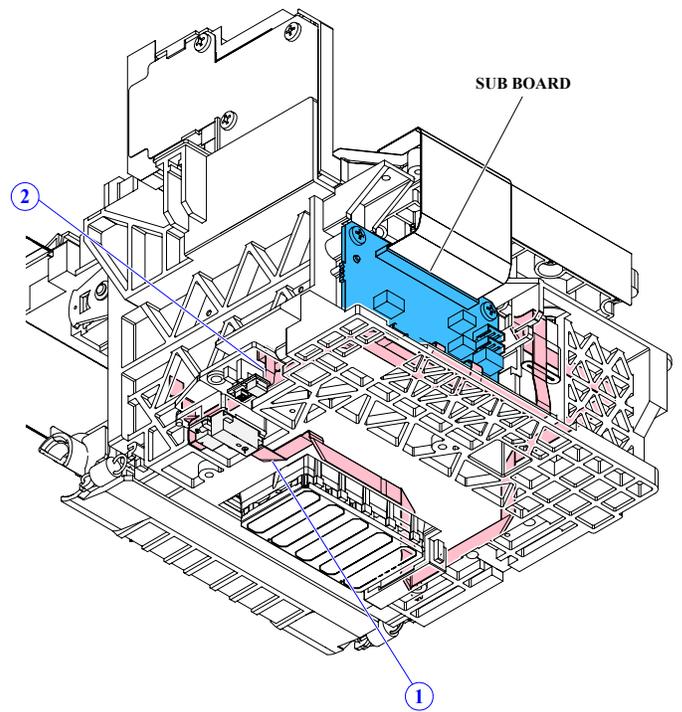
Cable No.	Connection	
1	PRESSURE MOTOR (IC HOLDER)	Relay Cable (MAIN BOARD (CN14))
2	INK LEVEL SENSOR (IC HOLDER)	Relay Cable (MAIN BOARD (CN14))
3	PRESSURE PUMP SENSOR MOTOR(IC HOLDER)	Relay Cable (MAIN BOARD (CN14))
4	MAINTENANCE POSITION SENSOR (PUMP CAP UNIT)	Relay Cable (MAIN BOARD (CN14))
5	PUMP MOTOR / PUMP MOTOR ENCODER (PUMP CAP UNIT)	Relay Cable (MAIN BOARD (CN14))

□ CR UNIT (1)



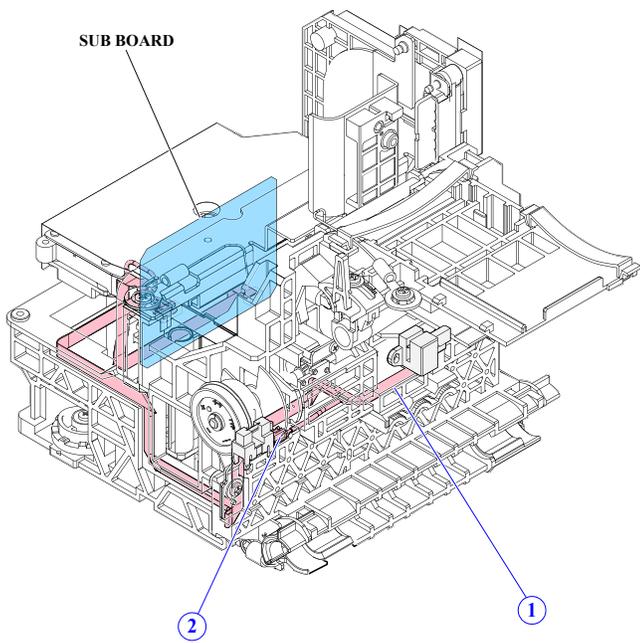
Cable No.	Connection	
1	HEAD FFC	MAIN BOARD (CN101/102)
2	CR FFC	MAIN BOARD (CN100)

□ CR UNIT (2)



Cable No.	Connection	
1	IM SENSOR	SUB BOARD (CN101)
2	PW SENSOR	SUB BOARD (CN103)

□ CR UNIT (3)

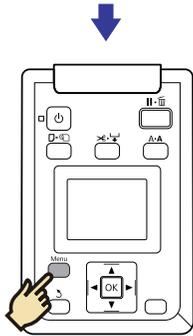
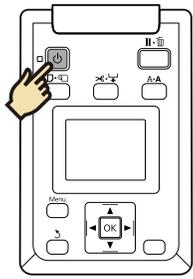


Cable No.	Connection	
1	CR ENCODER	SUB BOARD (CN102)
2	PG SENSOR	SUB BOARD (CN104)

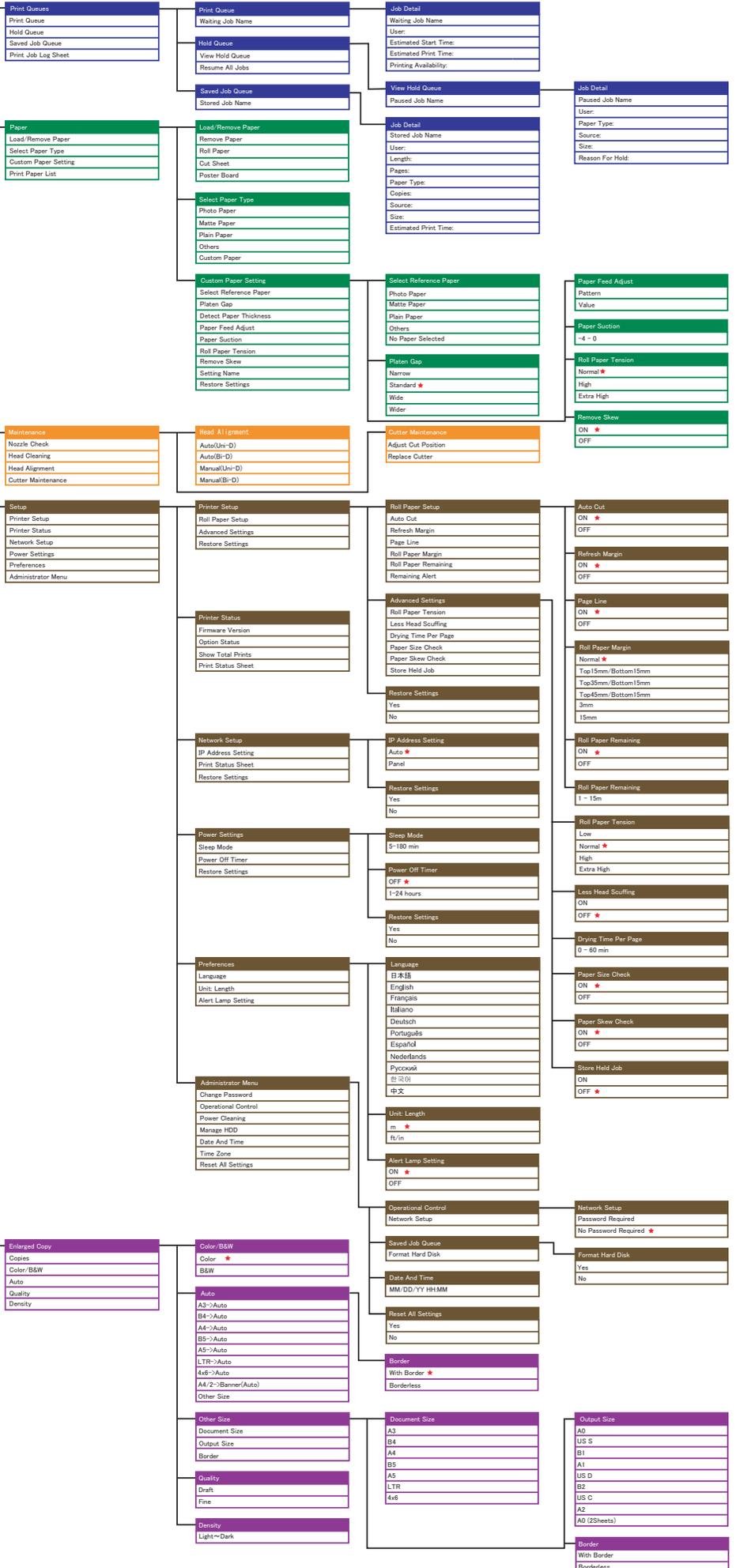
6.3 Panel Menu Map

User Menu Map

★ : Default setting

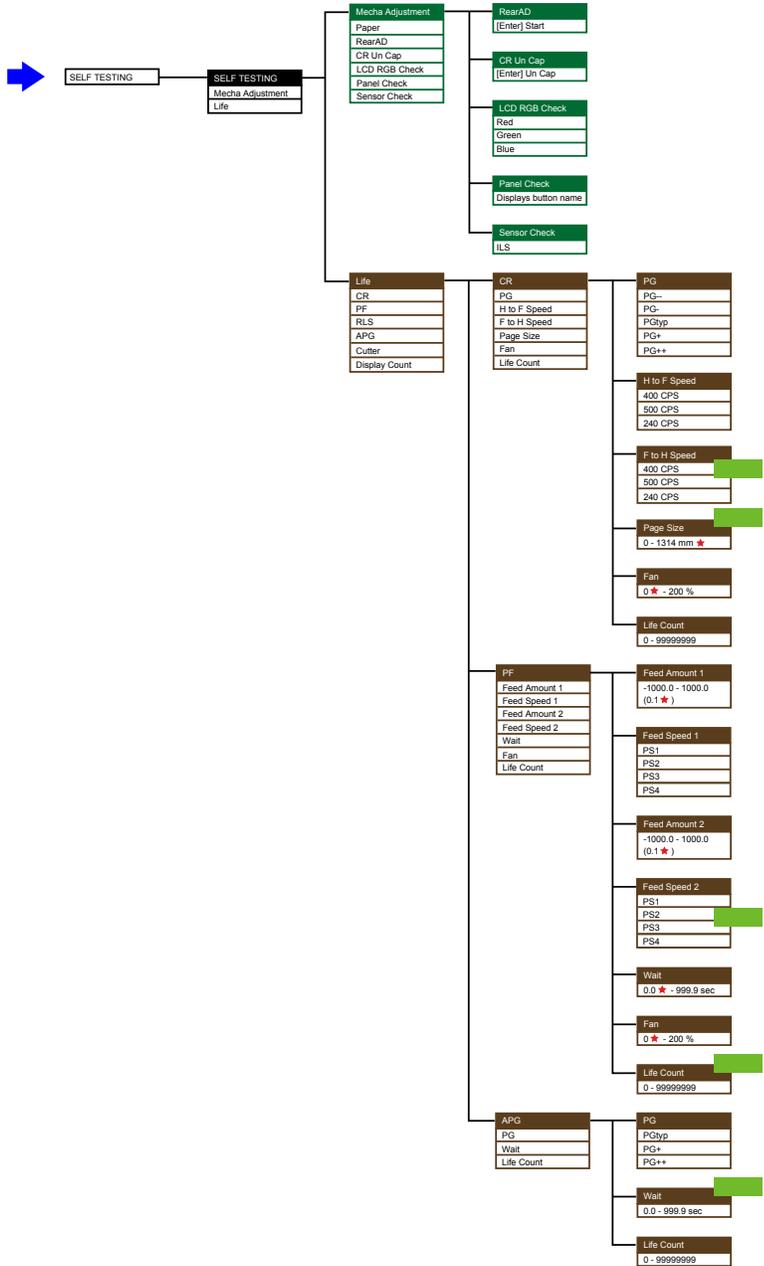
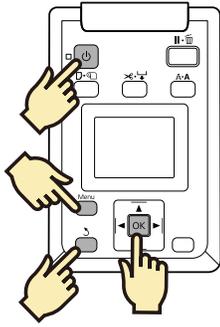


TOP MENU	
Print Queues	
Paper	
Maintenance	
Setup	
Enlarged Copy	



Serviceman Mode Menu Map

★: Default setting



6.4 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 6-1. Conversion Table

Part name used in this manual	ASP part name	Ref. (Ch3 sec.No.)
Housing	TOP COVER <input type="checkbox"/> COVER_TOP,BASE,44 <input type="checkbox"/> COVER_TOP,RIGHT	3.4.2.1
	FRONT COVER <input type="checkbox"/> COVER_FRONT,ASSY,ASP <input type="checkbox"/> COVER_FRONT,SUB,LEFT,44 <input type="checkbox"/> COVER_FRONT,SUB,RIGHT,44 <input type="checkbox"/> COVER_INNER <input type="checkbox"/> COVER_INNER,LEFT,44,ASSY,ASP <input type="checkbox"/> COVER_INNER,RIGHT,44,ASSY,ASP <input type="checkbox"/> COVER_FRONT,RIGHT <input type="checkbox"/> COVER_FRONT,LEFT	3.4.2.2
	LOWER PAPER GUIDE PAPER GUIDE LOWER ASSY.,ESL,ASP	3.4.2.3
	LOWER PAPER GUIDE B PAPER GUIDE LOWER,B,ASSY.,ESL,ASP	3.4.2.4
	IH COVER <input type="checkbox"/> HOLDER,IH,ASSY,ASP <input type="checkbox"/> COVER_IH,ASSY,ASP	3.4.2.5
	WASTE INK TANK COVER COVER,TANK,INK EJECT	3.4.2.6
	PRINTER COVER <input type="checkbox"/> COVER_PRINTER,SUB,LEFT,44 <input type="checkbox"/> COVER_PRINTER,SUB,RIGHT,44 <input type="checkbox"/> COVER_PRINTER	3.4.2.7
	UPPER SUPPORT R COVER COVER_TOP,SUPPORT,RIGHT	3.4.2.8

Table 6-1. Conversion Table

Part name used in this manual	ASP part name	Ref. (Ch3 sec.No.)
RIGHT UPPER COVER & RIGHT ROLL COVER	<input type="checkbox"/> COVER_SIDE,RIGHT,UPPER <input type="checkbox"/> CAP,CR,ADJUST <input type="checkbox"/> COVER_SIDE,ROLL,RIGHT	3.4.2.9
RIGHT LOWER COVER	COVER_SIDE,RIGHT,LOWER	3.4.2.10
RIGHT BASE COVER	COVER_BASE,RIGHT	3.4.2.11
LEFT LOWER COVER	COVER_SIDE,LEFT,LOWER	3.4.2.12
REAR RIGHT LOWER COVER	CAP_COVER,REAR	3.4.2.13
UPPER LEFT COVER	COVER_TOP,LEFT	3.4.2.14
LEFT UPPER COVER & LEFT ROLL COVER	<input type="checkbox"/> COVER_SIDE,LEFT,UPPER <input type="checkbox"/> COVER_SIDE,ROLL,LEFT	3.4.2.15
LEFT BASE COVER	COVER_BASE,LEFT	3.4.2.16
FRONT LEFT LOWER COVER	COVER_FRONT,LEFT,LOWER	3.4.2.17
REAR LEFT LOWER COVER	CAP_COVER,REAR	3.4.2.18
REAR ROLL COVER FRAME	N/A	3.4.2.19
CARTRIDGE COVER SENSOR	SENSOR_ASSY.;C	3.4.2.20
R WASTE INK COVER SENSOR	SENSOR_ASSY.	3.4.2.21
L WASTE INK COVER SENSOR	SENSOR_ASSY.;B	3.4.2.22
INTERLOCK SWITCH	INTERLOCK_ASSY.,ESL,ASP	3.4.2.23

Table 6-1. Conversion Table

Part name used in this manual	ASP part name	Ref. (Ch3 sec.No.)
Electric Circuit Components	MAIN BOARD	BOARD ASSY.,MAIN 3.4.3.1
	MAIN-B BOARD	BOARD ASSY.,MAIN 3.4.3.2
	MAIN-C BOARD	BOARD ASSY.,MAIN 3.4.3.3
	SUB BOARD	BOARD ASSY.,SUB 3.4.3.4
	SUB-B BOARD	BOARD ASSY.,SUB 3.4.3.5
	PSH BOARD	BOARD ASSY.,POWER SUPPLY 3.4.3.6
	PANEL BOARD	<input type="checkbox"/> PANEL,ASSY.,ESL,ASP <input type="checkbox"/> HOUSING,PANEL,LOWER,ASSY,ASP 3.4.3.7
Carriage Mechanism/ Ink System Mechanism	CR COVER	COVER,CR 3.4.4.1
	DAMPER KIT	DUCT ASSY.,CR,ASP 3.4.4.2
	PRINT HEAD	PRINT HEAD,IC856V 3.4.4.3
	HEAD FFC	HARNESS 3.4.4.4
	CR FFC	HARNESS 3.4.4.5
	CR SCALE	SCALE,CR,44,ASP 3.4.4.6
	CR ENCODER	BOARD ASSY.,ENCODER 3.4.4.7
	CR TIMMING BELT	TIMING BELT,CR,44 3.4.4.8
	CR MOTOR	MOTOR ASSY.,CR 3.4.4.9
	CR HP SENSOR	PHOTO INTERRUPTER 3.4.4.10
	APG UNIT	<input type="checkbox"/> MOTOR,APG,ASSY.,ESL,ASP <input type="checkbox"/> MOTOR ASSY.,ASF,SUB 3.4.4.11
	PG SENSOR	PHOTO INTERRUPTER 3.4.4.12
	PUMP CAP UNIT	PUMP CAP ASSY,ASP 3.4.4.13
	IC HOLDER	HOLDER ASSY.,IC,ASP 3.4.4.14
	INK TUBE	TUBE,CR,44,ASSY.,ESL,ASP 3.4.4.15
	CR UNIT	CR,44,ASSY.,ESL,ASP 3.4.4.16
	IM SENSOR	BOARD ASSY.,INK MARK 3.4.4.17
	PW SENSOR	BOARD ASSY.,DETECTOR,PW,B 3.4.4.18

Table 6-1. Conversion Table

Part name used in this manual	ASP part name	Ref. (Ch3 sec.No.)
Paper Feed Mechanism	PF MOTOR	MOTOR ASSY.,PF 3.4.5.1
	PF SCALE	SCALE,PF,UNIT,ESL,ASP 3.4.5.2
	PF ENCODER	BOARD ASSY.,ENCODER,PF 3.4.5.3
	PF TIMING BELT	TIMING BELT,PF 3.4.5.4
	PRESSURE ROLLER	N/A 3.4.5.5
	PRESSURE ROLLER MOTOR	MOTOR ASSY.,ASF,SUB 3.4.5.6
	PRESSURE ROLLER SENSOR	PHOTO INTERRUPTER 3.4.5.7
	ATC MOTOR	MOTOR ASSY.,REWIND 3.4.5.8
	PE SENSOR (ROLL PAPER)	PHOTO INTERRUPTER 3.4.5.9
	PE SENSOR (THICK PAPER)	BOARD ASSY.,DETECTOR,PW,B 3.4.5.10
	PAPER THICKNESS SENSOR	PHOTO INTERRUPTER 3.4.5.11
Cutter Mechanism	CUTTER UNIT CUTTER,44,ASSY.,ESL,ASP 3.4.6.1	
Fan	BOARD BOX FAN	FAN ASSY.,ABSORPTION,ASSY.,ESL,ASP 3.4.7.1
	SUCTION FAN	DC FAN SET 3.4.7.2
Auto Take-up Reel	TAKE-UP REEL COVER	COVER,WINDER,DRIVE 3.4.8.1
	TAKE-UP REEL SENSOR	DETECTOR,WINDER 3.4.8.2
	TAKE-UP REEL LED	INDICATOR,WINDER 3.4.8.3
	TAKE-UP REEL SWITCH	SW,WINDER 3.4.8.4
	TAKE-UP REEL PS BOARD	BOARD ASSY.,POWER SUPPLY 3.4.8.5
	TAKE-UP REEL MOTOR	MOTOR ASSY.,REWIND 3.4.8.6
	TAKE-UP REEL MAIN BOARD	BOARD ASSY.,MAIN 3.4.8.7

6.5 Exploded Diagram/Parts List

For the exploded diagrams and parts list, refer to Service Parts Information.