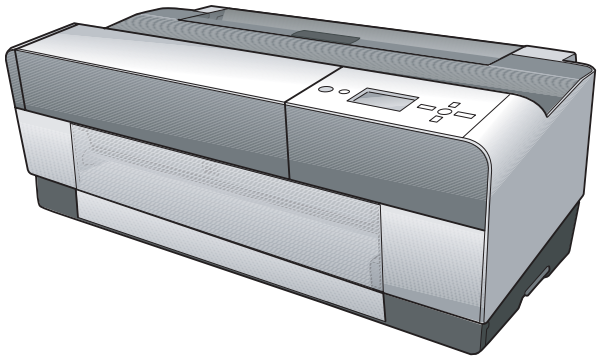
SERVICE MANUAL



Large Format Color Inkjet Printer

Epson Stylus Pro 3800/3800C/3850
Epson Stylus Pro 3880/3885/3890

EPSON
EXCEED YOUR VISION

SEIJ06007

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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 TO INSTALL ANTIVIRUS SOFTWARE IN THE COMPUTERS USED FOR THE SERVICE SUPPORT ACTIVITIES.
8. KEEP THE VIRUS PATTERN FILE OF ANTIVIRUS SOFTWARE UP-TO-DATE.

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.OPERATING PRINCIPLES
Describes the theory of electrical and mechanical operations of the product.

CHAPTER 3.TROUBLESHOOTING
Describes the step-by-step procedures for the troubleshooting.

CHAPTER 4.DISASSEMBLY / ASSEMBLY
Describes the step-by-step procedures for disassembling and assembling the product.

CHAPTER 5.ADJUSTMENT
Provides Epson-approved methods for adjustment.

CHAPTER 6.MAINTENANCE
Provides preventive maintenance procedures and the lists of Epson-approved lubricants and adhesives required for servicing the product.

CHAPTER 7.APPENDIX
Provides the following additional information for reference:

- Connectors
- Routing
- ASP List
- Exploded Diagrams
- Circuit Diagrams

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.

Revision Status

Revision	Date of Issue	Description
A	November 30, 2006	First release
B	September 7, 2009	• Full-fledged revision • Added Epson Stylus Pro 3880/3885/3890.
C	April 23, 2010	• Chapter 4 "REASSEMBLY" of 4.3.3.15 BASE, ENCLOSURE was added. "CAUTION" of 4.3.9.2 COVER, CR was added. "REASSEMBLY" of 4.3.9.5 PRINT HEAD was added. 4.3.9.8 CABLE ASSY., ASP was added. • Chapter 6 Lubrication on SHAFT in 6.4 Lubrication was added.

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Chapter 1 PRODUCT DESCRIPTION

Chapter 2 OPERATING PRINCIPLES

Chapter 3 TROUBLE SHOOTING

Chapter 4 DISASSEMBLY & ASSEMBLY

Chapter 5 ADJUSTMENT

Chapter 6 MAINTENANCE

Chapter 7 APPENDIX

CHAPTER

1

PRODUCT DESCRIPTION

1.1 Product Description

Epson Stylus Pro 3800/3800C/3850/3880/3885/3890 are large size color inkjet printers that support up to A2 (17") sized cut-sheet paper.

- F-Mach (180N x 8-column) print head
- Maximum print resolution (dpi): 2880 x 1440, Minimum dot: 3.5pl MSDT
- Superior color and monochrome reproducibility with eight colors HCD2 + K3 ink system, consisting of 4 basic colors (YMCK) with 2 complementary colors and 2 complementary blacks
- 80ml-size (injection volume) new ink cartridge
- Automatic switching between black ink modes; Photo black and Matte black. Requires no user intervention, and ink used during the conversion is remarkably reduced.
- Two manual paper feeders are provided in addition to the ASF (Auto Sheet Feeder)
  - Rear manual feeder: FA paper
  - Front manual feeder: Board paper (up to 1.5 mm thickness)
- High speed network and communication supported
  - 100BASE-TX/10BASE-T Network Interface
  - USB 2.0 High Speed Interface
- Borderless printing supported
- Clearly arranged buttons and a large LCD offer quick, easy operation

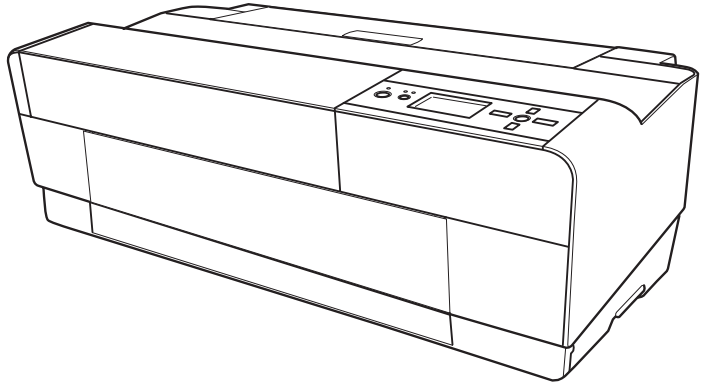


Figure 1-1. External View

1.2 Basic Specifications

1.2.1 Basic Specifications

Item		Specifications	
		Epson Stylus Pro 3800/ 3800C/3850	Epson Stylus Pro 3880/3885/ 3890
Maximum paper width		17 inch (43 cm)	
Printing method		On-demand ink jet method	
Printing direction		Two-way shortest distance printing with logical seeking	
Print Head	Type	F-Mach	
	Number of nozzles	180 Nozzles per color (180 Nozzles x 8 colors)*	
Ink	Type	HCD2 + K3 (9 independent ink cartridges)*	
	Color of inks	Matte Black*, Photo Black*, Light Black, Light Light Black, Cyan, Magenta, Yellow, Light Cyan, Light Magenta (Refer to Table 1-1 for the alignment sequence of the cartridges)	Matte Black*, Photo Black*, Light Black, Light Light Black, Cyan, Vivid Magenta, Yellow, Light Cyan, Vivid Light Magenta (Refer to Table 1-1 for the alignment sequence of the cartridges)
Maximum print resolution		2880 dpi x 1440 dpi	
Smallest dot size		3.5 picoliters	
Dot size		Refer to Table 1-2	
Printing function		Borderless printing	
		Silent paper feeding	
		Automatic bottom processing	
		L/4 x 6 Photo high-speed printing	
Automatic adjustment function		Auto nozzle check	
		Auto Bi-d adjustment	
Printing speed/area	Alphanumeric characters	Refer to Table 1-3	
	Graphic mode	Refer to Table 1-4	

Note *: The all 9 ink cartridges can be installed simultaneously. The printer automatically switches between Photo and Matte black depending on the driver selection while utilizing the same physical ink channel.

Table 1-1. Cartridge Alignment Sequence

Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7	Row 8	Row 9
Epson Stylus Pro 3800/3800C/3850								
Matte Black (MK)	Photo Black (PK)	Light Black (LK)	Light Light Black (LLK)	Cyan (C)	Magenta (M)	Light Cyan (Lc)	Light Magenta (Lm)	Yellow (Y)
Epson Stylus Pro 3880/3885/3890								
Matte Black (MK)	Photo Black (PK)	Light Black (LK)	Light Light Black (LLK)	Cyan (C)	Vivid Magenta (VM)	Light Cyan (Lc)	Vivid Light Magenta (VLM)	Yellow (Y)
Switched by an Ink Selector								

Table 1-2. Dot Size

Dot Size	L (pl)	M (pl)	S (pl)
VSD1	22.2	13.8	6.6
VSD2	13.2	5.9	3.5
VSD3	--	--	3.5
Economy	22.2	--	--

Table 1-3. Printing Speed and Area (Alphanumeric Characters)

Item	Specifications
Character quality	Fine
Character pitch	10 CPI
Printing area	167 digits
Printing speed	280 cps

Table 1-4. Printing Speed and Area (Graphic Mode)

Horizontal Resolution (dpi)	Maximum Printing Area*	Printable Dots	Printing Speed
360	441.8 mm (17.39 inch)	6,262	280 cps
720	441.8 mm (17.39 inch)	12,524	280 cps
1440	441.8 mm (17.39 inch)	25,047	280 cps
2880	441.8 mm (17.39 inch)	50,094	280 cps

Note *: Includes margins that bleed off the edges of paper. (max. 5 mm for both home and the opposite sides.)

1.2.2 Electric Specifications

Item		Specification	
		100/120V Model	220/240V Model
Rated voltage		100 to 120 VAC	220 to 240 VAC
Input voltage range		90 to 132 VAC	198 to 264 VAC
Rated frequency		50 to 60Hz	
Input frequency range		49.5 to 60.5Hz	
Rated current		0.6 A	0.3 A
Power consumption	Operating	Approx. 25 W	Approx. 25 W
	Low-power mode*	Approx. 5 W	Approx. 5.5 W
	S/W turned OFF	Approx. 0.3 W	Approx. 0.4 W
Insulation resistance		10 MΩ or more (between AC line and chassis at 500 VDC)	
Dielectric strength		1.0 kVrms AC for 1 min. or 1.2 kVrms 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: conforms to the harmonic restraint measure guideline) ☐ Conforms to VCCI Class B	

Note *: Shifting to low-power mode takes 15 min.

1.2.3 Environmental Characteristics

TEMPERATURE/HUMIDITY

Condition		Temperature*2	Humidity*2 (non condensation)
Operating		10 to 35 °C	20 to 80 %
Storage*1	before unpacking	-20 to 60 °C*3	5 to 85 %
	after unpacking	-20 to 40 °C*3	5 to 85 %

Note "*1": Includes condition during transportation.
"*2": The combined temperature and humidity conditions must be within the blue-shaded range shown in Figure 1-2.
"*3": Within 1 month under 40°C, within 120 hours under 60°C.

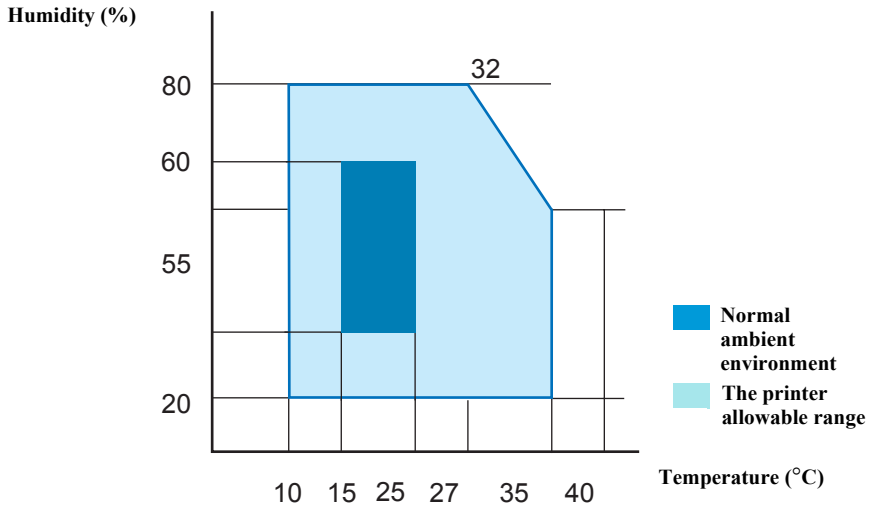


Figure 1-2. Temperature/Humidity Range

RESISTANCE TO VIBRATION/SHOCK

	Vibration	Shock
Operating	0.15G, 10 to 55Hz	1G, within 1ms
Storage	0.50G, 10 to 55Hz	2G, within 2ms

CAUTION

- **When transporting the printer, the print head must be capped, and the ink cartridges must be removed.**
- **If the print head is not capped with the power turned off, turn the printer on with the ink cartridges installed, then turn it off after confirming the print head is capped.**

1.2.4 Reliability/Durability

Item	Target
Operating life of the printer	Until any one of the following conditions is met. • 12,000 pages (A2 plain paper fine mode) • 1,600,000 paths (carriage movement) • 5 years
MPBF	Black: 300 pages or more*1 Color: 150 pages or more*2
MTBF	20,000 POH*3 (No faults with electronic parts and fans)
Battery life	5 to 10 years
Extension of normal TCL generation time	4,320 hours (6 months) printing time within 2 hours 360 hours (15 days) printing time over 2 hours
Simultaneous use of CL timer T1 and FL timer Tf	Execution
Periodical flushing	Every 1 hour

Note "*1": A4-sized paper, ECMA Pattern printing
"*2": Approx. 5% coverage
"*3": Total print time of 850 hours in normal ambient temperature, approx. 10% coverage.
(POH = Power on hours)

1.3 Printing Specifications

1.3.1 Paper Feed Specifications

Item	Specification
Paper feed method	Friction feed
Minimum pitch of paper feed	2.94 µm (1/8640 inch)
Paper feed speed	25.4 mm (1 inch) when line feed: 333 msec (3 inch/sec)

1.3.2 Paper Feeder Specifications

Epson Stylus Pro 3800/3800C/3850/3880/3885/3890 support three types of paper feeding methods; ASF, Rear Manual Feed, and Front Manual Feed. The paper size and thickness for each of the methods are shown in the table below. For paper type and feeder capacity, refer to "1.3.3 Paper Support" (p15).

Paper Feed Method	Paper Size			Thickness (mm)
	Width (mm)	Length (mm)	Standard paper (mm)	
ASF	89 to 431.8	127 to 950	L/4”x6” to A2/USC	0.08 to 0.27
Rear Manual Feed	210 to 431.8	279.4 to 950	A4/LTR to A2/USC	0.29 to 0.5
Front Manual Feed	210 to 420	279.4 to 594	A4/LTR to A2	1.2 to 1.5

1.3.3 Paper Support

Media Name	Size (mm)		Feeder (capacity*1)	Borderless print*2	Black Ink*3	EAI	EU	Asia
Premium Glossy Photo Paper	L (3R)	(89 x 127)	ASF (20)	√	P			√
	5” x 7”	(127 x 178)	ASF (20)	√	P	√	√	
	16:9 wide	(102 x 148)	ASF (20)	√	P	√	√	√
	8” x 10”	(203 x 254)	ASF (20)	√	P	√		
	4” x 6”	(102 x 152)	ASF (20)	√	P	√	√	√
	11” x 14”	(279 x 356)	ASF (10)	√	P	√		
	Letter	(216 x 279)	ASF (20)	√	P	√		
	A4	(210 x 297)	ASF (20)	√	P		√	√
	A3	(297 x 420)	ASF (10)	√	P	√	√	√
	S-B/A3+	(329 x 483)	ASF (10)	√	P	√	√	√
	A2	(420 x 594)	ASF (1)	√	P		√	√
	USC	(432 x 559)	ASF (1)	√	P	√		
Premium Semigloss Photo Paper	4” x 6”	(102 x 152)	ASF (20)	√	P	√	√	
	Letter	(216 x 279)	ASF (20)	√	P	√		
	A4	(210 x 297)	ASF (20)	√	P		√	√
	A3	(297 x 420)	ASF (10)	√	P	√	√	√
	S-B/A3+	(329 x 483)	ASF (10)	√	P	√	√	√
	A2	(420 x 594)	ASF (1)	√	P		√	√
Premium Luster Photo Paper	Letter	(216 x 279)	ASF (20)	√	P	√		
	A3	(297 x 420)	ASF (10)	√	P	√		
	S-B/A3+	(329 x 483)	ASF (10)	√	P	√		
	USC	(432 x 559)	ASF (1)	√	P	√	√	√
Singleweight Matte Paper	S-B/A3+	(329 x 483)	ASF (50)	NA	M	√	√	√
Photo Quality Ink Jet Paper (KANZAN for EU A4 only, ESF for others)	A4	(210 x 297)	ASF (100)	NA	P/M		√	√
	Letter	(216 x 279)	ASF (100)	NA	P/M	√		
	Legal	(216 x 358)	ASF (50)	NA	P/M	√	√	√
	USB	(279 x 432)	ASF (50)	NA	P/M	√		
Proofing Paper Semimatte (Commercial Semimatte)	S-B/A3+	(329x483)	ASF (1)	NA	P	√	√	√
Enhanced Matte Paper (EAI)/Archival Matte Paper (EU, Asia)	Letter	(216x279)	ASF (20)	√	M	√		
	A4	(210x297)	ASF (20)	√	M		√	√
	A3	(297x420)	ASF (10)	√	M	√	√	√
	S-B/A3+	(329x483)	ASF (10)	√	M	√	√	√
	A2	(420x594)	ASF (1)	√	M		√	√
	USC	(432x559)	ASF (1)	√	M	√		
Watercolor Paper-Radiant White	S-B/A3+	(329x483)	R.Manual (1)	√	M		√	√
UltraSmooth Fine Art Paper	A3+	(329x483)	R.Manual (1)	√	M	√	√	√
	A2	(420x594)	R.Manual (1)	√	M		√	√
	USC	(432x559)	R.Manual (1)	√	M	√		
Velvet Fine Art Paper	Letter	(216x279)	R.Manual (1)	√	M	√		
	S-B/A3+	(329x483)	R.Manual (1)	√	M	√	√	√
	A2	(420x594)	R.Manual (1)	√	M		√	√
	USC	(432x559)	R.Manual (1)	√	M	√		

Note "*1": ASF = Auto Sheet Feeder
R.Manual = Rear Manual Feed
Front Manual Feed supports thicker paper (1.2 to 1.5mm thickness).
Paper loading capacity for both Rear and Front Manual Feed is one sheet.

"*2": User-defined sized paper (89 x 127mm to 432 x 950mm) is not available for borderless printing.

"*3": Shows the supported black ink type
P: Photo Black
M: Matte Black
P/M: Both Photo and Matte Black are supported

1.3.4 Printable Area

Item	Dimension
PW (paper width)	89mm to 431.8mm
PL (paper length)	127mm to 950mm
TM (top margin)	0mm/3mm/20mm*
BM (bottom margin)	0mm/3mm/20mm*
LM (left margin)	0mm/3mm
RM (right margin)	0mm/3mm

Note *: TM and BM are fixed to 20 mm in front manual feeding.

- ☐ The printer detects the paper width when paper is set. (If the paper width detection setting is OFF, the printer does not detect the paper width.)
- ☐ The printer does not print the image exceeding the detected paper width and the printable area that is specified in the paper setting. (If the paper width detection setting is OFF, the printer may print on the platen.)
- ☐ The top/bottom/left/right margins (TM, BM, LM, RM) can be set to zero under special conditions.
- ☐ Because the printer detects tilt of loaded paper in a range of 3 mm at both left and right sides, an image bleeds off both left and right edges of paper by 3 mm each at borderless printing. However, if the distance between the paper edges and the platen (sponge width) is less than 3 mm, the bleeding margins are adjusted to less than 3 mm (within the range of 0 mm ~ 3 mm) not to directly print on the platen. (Refer to "1.4.2 Borderless Printing" (p17), for the borderless print specification.)

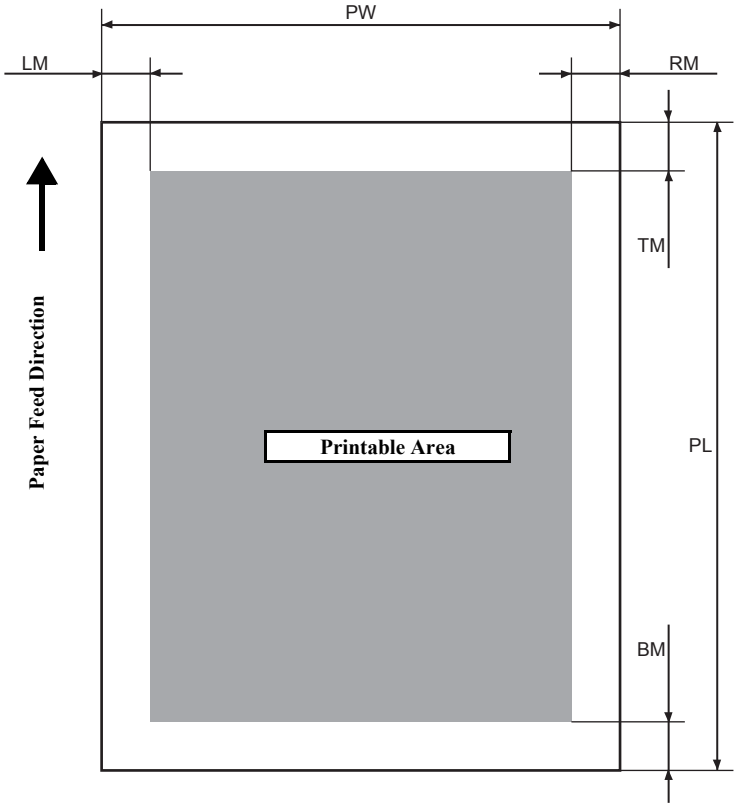


Figure 1-3. Printable Area

1.4 Print Mode

This section provides specifications of the print mode and borderless printing.

1.4.1 Print Mode

Media Type	Print Quality	Print Density (H x V)	Dot Size
Plain Paper	Draft	360 x 360 dpi	VSD1_Eco (280cps)
	Normal (360 dpi)	720 x 360 dpi	VSD1 (280cps)
Inkjet Paper	Normal (360 dpi)	720 x 360 dpi	VSD1 (280cps)
	Fine (720 dpi)	720 x 720 dpi	VSD1 (280cps)
	Super Fine (1440 dpi)	1440 x 720 dpi	VSD2 (280cps)
	Super Photo (2880 dpi)	2880 x 1440 dpi	VSD3 (280cps)
--	ISV Square Resolution Mode	1440 x 1440 dpi	VSD2 (280cps)*1
		2880 x 2880 dpi	VSD3 (280cps)*2

Note "*1": Driver not supported
"*2": Driver not supported (supports Out_bit_1 only)

1.4.2 Borderless Printing

AVAILABLE PAPER SIZE

The following table lists paper sizes in the order shown by the printer driver, and shows the borderless printing availability.

Table 1-5. Borderless Printing Available Paper Sizes

Paper Size Displayed by Driver	Borderless Print
Letter (8 2/1 x 11 in)	Available
Legal (8 2/1 x 14 in)	NA
Half Letter (5 2/1 x 8 2/1 in)	NA
US B (11 x 17 in)	Available
US C (17 x 22 in)	Available
A6 (105 x 148 mm)	NA
A5 (148 x 210 mm)	NA
A4 (210 x 297 mm)	Available
A3 (297 x 420 mm)	Available
Super A3 (329 x 483 mm)	Available
A2 (420 x 594 mm)	Available
B5 (182 x 257 mm)	NA
B4 (257 x 364 mm)	NA
B3 (364 x 514 mm)	NA
89 x 127 mm (3.5 x 5 in)	Available
102 x 152 mm (4 x 6 in)	Available
127 x 178 mm (5 x 7 in)	Available
16:9 wide (102 x 181 mm)	Available
203 x 254 mm (8 x 10 in)	Available
254 x 305 mm (10 x 12 in)	Available
279 x 356 mm (11 x 14 in)	Available
305 x 305 mm (12 x 12 in)	NA
406 x 508 mm (16 x 20 in)	Available
User Defined*	NA

Note *: The minimum user defined size is 3.5 x 5 in (89 x 127 mm), and the maximum size is 17 x 37.4 in (432 x 950 mm).

AUTOMATIC EXPANSION SPECIFICATION

The driver automatically changes margins that bleed off the edges of paper according to the paper size.

Table 1-6. Borderless Printing Margins (Bleed)

	L/4" x 6"	16:9 Wide 5" x 7" 8" x 10" A4 / Letter	11" x 14" A3/A3+	A2/USC
Top	1.34mm (19dot)	2.96mm (42dot)		3.32mm (47dot)
Left/Right	2.54mm (36dot)		3.46mm (49dot)	4.52mm (64dot)
Bottom	2.54mm (36dot)	4.02mm (57dot)	4.52mm (64dot)	5.01mm (71dot)

Note : The number of dots are based on 360 dpi.

PRINTABLE AREA

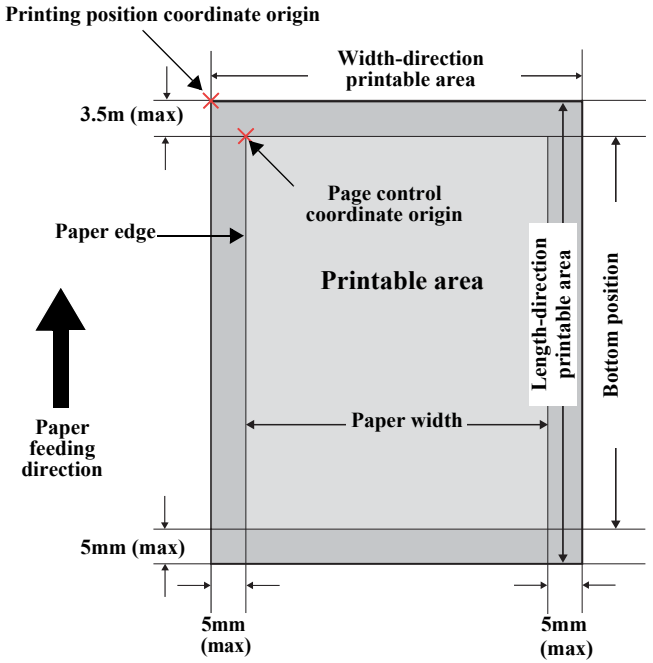


Figure 1-4. Printable Area

Note : Print start position can be shifted toward the home position by 8 m by changing the appropriate setting.

1.5 Appearance Specifications

This section describes external dimensions and parts names.

1.5.1 Dimensions/Weight

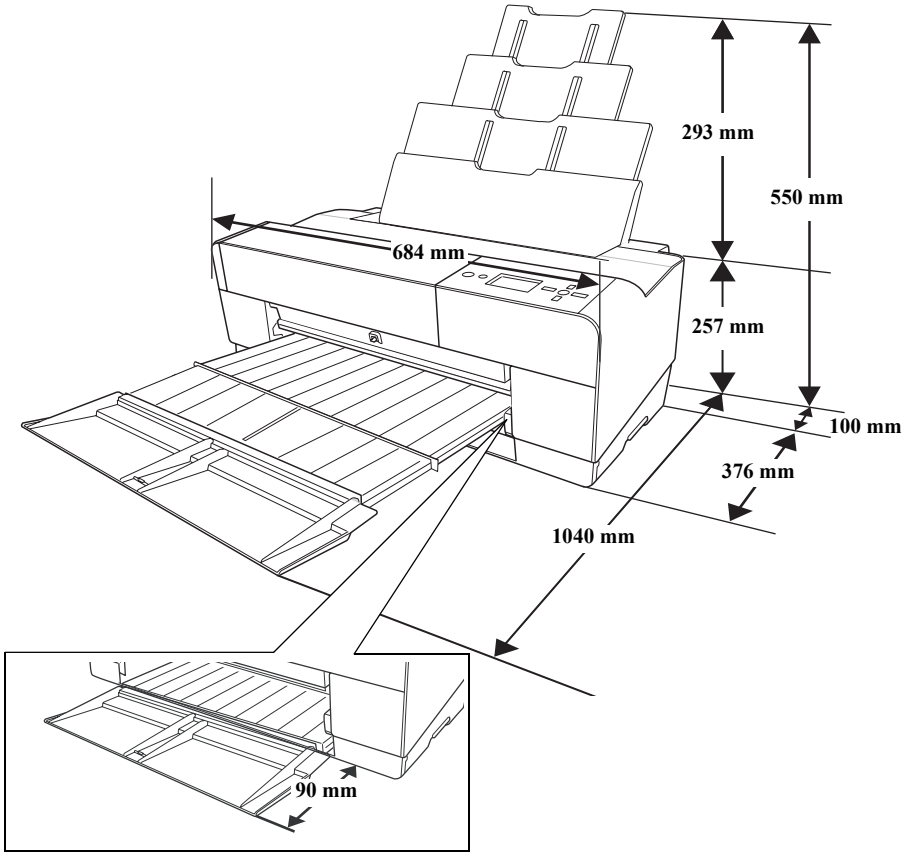


Figure 1-5. External Dimensions

- ☐ Dimensions

  Storage: 684 (W) x 376 (H) x 257 (D) mm
  Printing: 684 (W) x 1040 (H) x 550 (D) mm

- ☐ Weight

  18.5 kg (excluding ink cartridges, including Maintenance cartridge)
  19.8 kg (including ink cartridges)

1.5.2 Part Names

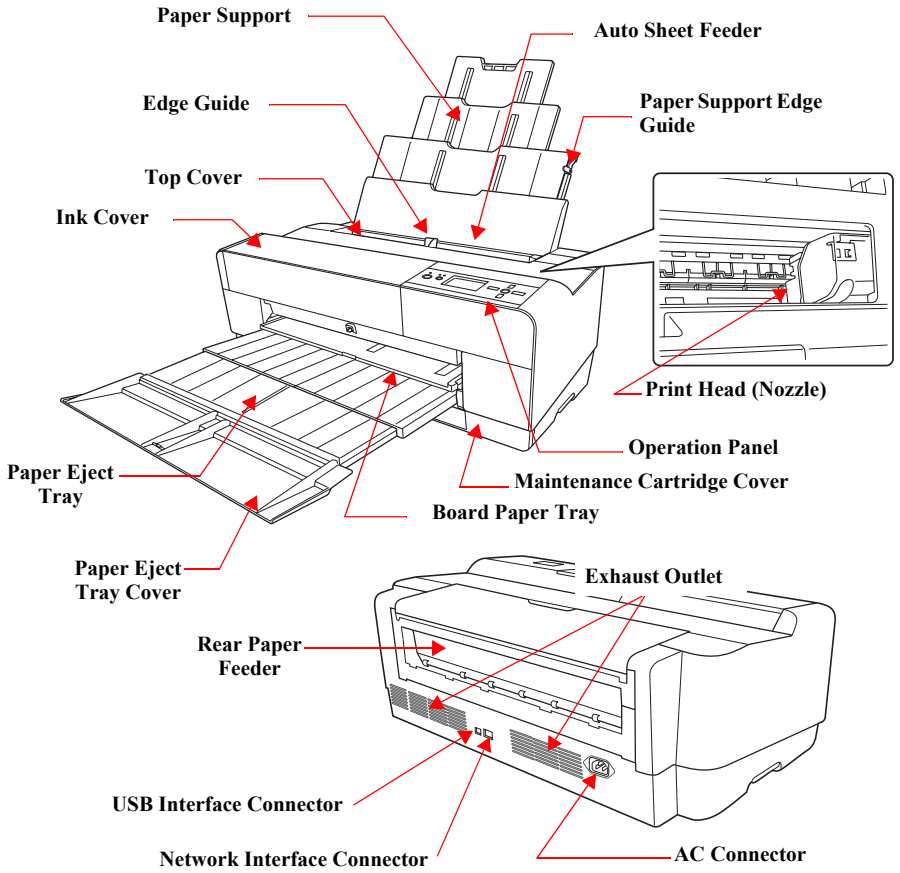


Figure 1-6. Parts Names

1.6 Operation Panel

1.6.1 Buttons and Functions

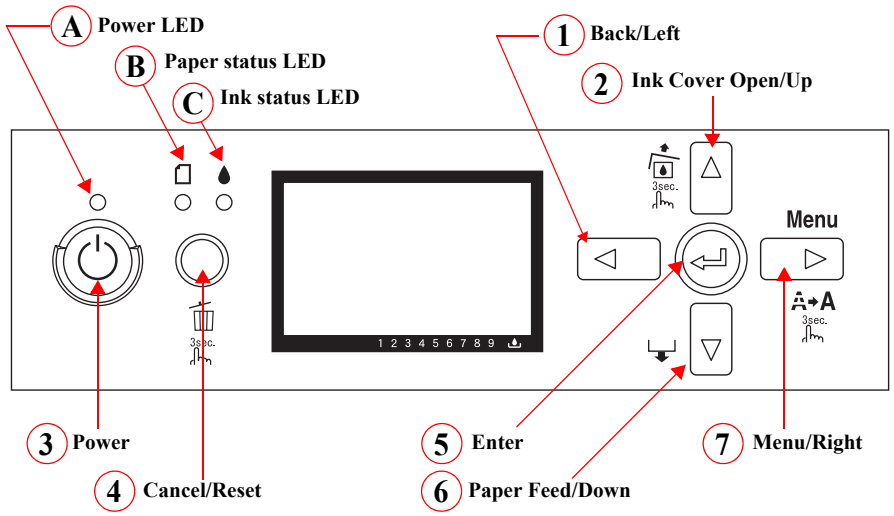


Figure 1-7. Operation Panel

1.6.2 Buttons

Button		Functions		
		Normal One Press	Hold Down for 3 Seconds	Function at the Panel Setting
1	Back/Left	--	--	Moves to the previous menu item (Ascent)
2	Ink Cover Open/ Up	--	Unlocks the Ink Cover	Set Value +
3	Power	Turns the power ON or OFF*1	--	Power OFF
4	Cancel/Reset*2	• Clears error • Opens I/H Cover (When the printer runs out of ink)	Cancels the job	Interrupts panel setting
5	Enter	--	--	• Accepts the change of setting • Executes the selected operation • Saves the setting
6	Paper Feed/ Down	• When paper is set ASF: Ejects the paper Manual-Rear: Backfeeds the paper Manual-Front: Ejects the paper • When paper is not set ASF starts paper feeding • When Manual-Front Tray Cover is opened. Manual-Front starts paper feeding	--	Set Value -
6	Menu/Right	• During printing Changes the panel display to the Printer Status Menu • When not printing Shifts the printer into the Panel Setting Mode	Runs a head cleaning*3	Moves to the next menu item (Descent)

Note "*1": The printer is always turned OFF regardless of operation status.
"*2": When turning the power ON while holding down the Cancel button, the maintenance mode becomes activated. (Refer to "1.6.7 Maintenance Mode" (p28) for details.)
"*3": Deactivated during printing.

1.6.3 LED

LED		Color	Displays	Status
Ⓐ	Power	Green	ON	The power is ON.
			Flashing*	Receiving data, during printing, or executing power off sequence.
			OFF	The power is OFF.
Ⓑ	Paper status	Red	ON	Impossible to make a print due to the paper status.
			Flashing*	• A paper feeding or ejecting error is occurring. • A maintenance call error is occurring.
			OFF	The papers are in normal condition without an error or warning.
Ⓒ	Ink status	Red	ON	An ink-related error is occurring.
			Flashing*	An ink-related warning is occurring.
			OFF	The inks are in normal condition without an error or warning.

Note *: Alternately turns On and Off every 500 ms. In the case of maintenance call error, they light for 100 ms at intervals of five seconds.

Note : When a service call error occurs, all the LEDs flash.

1.6.4 Panel Display

☐ Normal indication

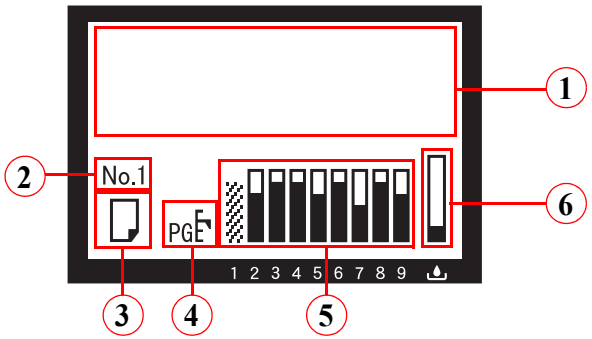


Figure 1-8. Panel Display (Normal indication)

No.	Item	Description
1	Messages	Printer status, operation status, and error messages are displayed.
2	User-defined paper No.	The user-defined paper setting number created by the CUSTOM PAPER function in the panel setting menu is displayed.
3	Paper type (For Cut-sheet only)	This icon is displayed when the number of paper, except STANDARD paper, created by the CUSTOM PAPER function in the panel setting is selected.
4	Platen Gap	The platen gap setting made by the PLATEN GAP function in the panel setting menu is indicated.
5	Ink Cartridge Status	The remaining amount of ink in each cartridge is displayed.
6	Remaining Maintenance Cartridge Status	Free space of the Maintenance Cartridge is displayed.

☐ Error indication

Figure 1-9. Panel Display (Error indication)

No.	Item	Description
1	Error name	Error name is highlighted.
2	Error icon	Error icon is displayed.
3	Remedy	Describes the cause of error and gives instructions to clear the error.

Note : When multiple errors occur simultaneously, they are displayed in the order of precedence. The next error indication appears when previous one is cleared.

☐ Error indication (Displayed with an illustration)

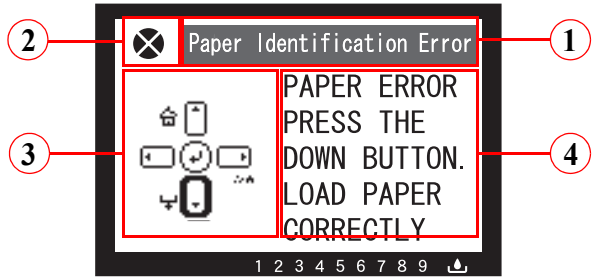


Figure 1-10. Panel Display (Error indication: Displayed with an illustration)

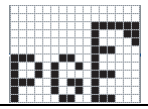
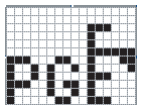
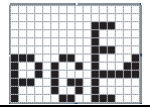
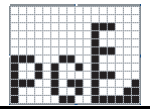
No	Item	Description
1	Error name	Error name is highlighted.
2	Error icon	Error icon is displayed
3	Illustration	Describes the cause of the error and gives instructions to clear the error using a illustration.
4	Remedy	Describes the cause of the error and gives instructions to clear the error.

Note : When multiple errors occur simultaneously, they are displayed in the order of precedence. The next error indication appears when previous one is cleared.

1.6.5 Icons on the LCD

PLATEN GAP SETTING

The platen gap specified in PRINTER SETUP and CUSTOM PAPER menus is indicated with icons as shown below.

Icons	Status
--	STANDARD is selected.
	NARROW is selected.
	WIDE is selected.
	WIDER is selected.
	WIDEST is selected.

INK CARTRIDGE STATUS

☐ Ink Counter

The remaining amount of ink in each cartridge is indicated on the panel as shown below.

Figure 1-11. Ink Counter

Table 1-7. Relation between Counters and Remaining Ink

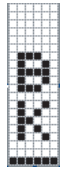
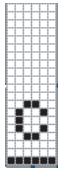
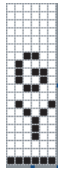
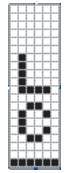
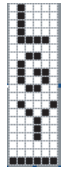
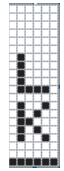
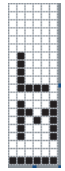
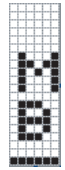
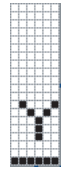
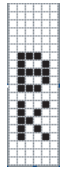
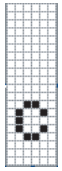
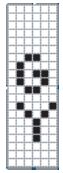
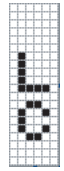
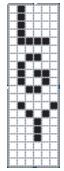
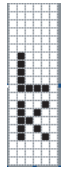
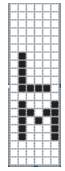
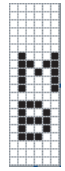
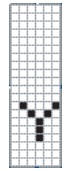
No.	Remaining Ink (%)	No.	Remaining Ink (%)	No.	Remaining Ink (%)	No.	Remaining Ink (%)
0[*1]	Not selected K	6	67-72	11	39-44	16	12-16
1	95-100	7	62-66	12	34-38	17	6-11
2	89-94	8	56-61	13	28-33	18	1-5
3	84-88	9	51-55	14	23-27	19[*2]	Ink Out
4	78-83	10	45-50	15	17-22	20	No cartridge is set or an error has occurred.
5	73-77						

Note "*1": Displays either Matte BK or Photo BK that is not in use when printing.
"*2": Counter No.19 is displayed when non-genuine ink cartridge(s) is used.

☐ Ink Low/Ink Out Indicator

The indicators below is displayed when Ink becomes Low or Out.

Note : The following table is for Epson Stylus Pro 3800/3800C/3850. In the case of Epson Stylus Pro 3880/3885/3890, M is VM and LM is VLM.

No.	1	2	3	4	5	6	7	8	9
Icon (Ink Low)									
Icon (Ink Out)									
Colors	PK	C	LK	Lc	LLK	Lm	M	MK	Y

MAINTENANCE CARTRIDGE STATUS

☐ Maintenance Cartridge Counter

The free space of the Maintenance Cartridge is indicated as shown below.

Figure 1-12. Maintenance Cartridge Status

Table 1-8. Relation between Counters and Remaining Ink

No.	Free Space (%)	No.	Free Space (%)	No.	Free Space (%)
1	96-100	9	58-61	17	20-23
2	91-95	10	53-57	18	15-19
3	86-90	11	48-52	19	10-14
4	81-85	12	43-47	20	5-9
5	77-80	13	39-42	21	1-4
6	72-76	14	34-38	22	0
7	67-71	15	29-33	23	No cartridge is set or an error has occurred.
8	62-66	16	24-28		

1.6.6 Menu Settings

Table 1-9. List of Menu Settings

Top Menu	Menu Items	Settings (Bold = default)	Explanation
PRINTER SETUP	PLATEN GAP	NARROW	Adjusts the gap between the print head and the platen. The set value is returned to the default at every power-on. When the PAPER TYPE in the CUSTOM PAPER menu is set to other than the default, the PLATEN GAP setting in the menu takes priority over this setting. (see "PG settings list" (p27))
		STANDARD	
		WIDE	
		WIDER	
		WIDEST	
	PAPER SIZE CHECK	**ON**	Setting to OFF deactivates the sensor that detects paper width when paper is loaded. This enables to print on paper whose width is out of the sensor's detectable range, however, the user should know that if he/she prints an image larger than the paper size, the image extended off the edges of the paper is printed directly on the platen.
		OFF	
	INITIALIZE SETTINGS	EXECUTE	All settings made using the control panel are returned to their default.
TEST PRINT	NOZZLE CHECK	MANUAL	Prints a nozzle check pattern, firmware version, usage count of paper and ink, and free space in the maintenance cartridge. Visually check the printed check pattern, and decide whether cleaning is required or not.
		AUTO	Prints a nozzle check pattern, firmware version, usage count of paper and ink, and free space in the maintenance cartridge. The ink mark sensor scans the printed check pattern and cleaning is automatically carried out if it is judged necessary.
	STATUS SHEET	PRINT	Prints information on the printer status.
	NETWORK STATUS SHEET	PRINT	Prints information on the network status.
	JOB INFORMATION	PRINT	Prints information on print jobs stored in the printer up to 10 jobs.
	CUSTOM PAPER	PRINT	Prints setting values set in the CUSTOM PAPER menu.
PRINTER STATUS	VERSION	o0XXXX-XX.XX.ICBS	Displays the firmware version installed on the printer. (see "Firmware version indication" (p27))
	PRINTABLE PAGES	(Ink color) nnnnnnn PAGES	Displays the number of pages that can be printed with the installed ink cartridge.
	INK LEVEL	(Ink color) nn%	Displays the percentage of ink level in each installed cartridge.
	MAINTENANCE TANK	(MAINTENANCE TANK) nn%	Displays the percentage of free space in the maintenance cartridge.
	USAGE COUNT	INK xxxxx.xml	Displays ink amount consumed in ml units.
	JOB HISTORY	No.0 to No.9 INK xxxxx.xml PAPER xxxx.x cm^2	☐ JOB NO. Displays the job number assigned by the printer. The No.0 is the latest job. ☐ INK LEVEL Displays ink amount consumed for each job. ☐ PAPER SIZE Displays the number of pages of each job.
	TOTAL PRINTS	nnnnnn PAGES	Displays the gross number of printed pages in decimal up to six digits.

Table 1-9. List of Menu Settings

Top Menu	Menu Items	Settings (Bold = default)	Explanation
CUSTOM PAPER	PAPER NUMBER (1-10)	**STANDARD**	Paper type and relating settings can be saved and easily retrieved by assigning a number to them. Up to 10 groups of settings can be stored. When EPSON genuine paper is used, STANDARD should be selected.
		PAPER NO.1-10	
	PAPER TYPE	**MATTE THICK**	Selects a paper type corresponds to the paper.
		MATTE THIN	
		PHOTO PLAIN	
		FINE ART PAPER	
		REMOTE PANEL PAPER	
	PLATEN GAP	NARROW	Adjusts the platen gap according to the selected paper type.
		STANDARD	
		WIDE	
		WIDER	
	THICKNESS PATTERN	PRINT	Prints a pattern to detect the thickness of loaded paper. (When STANDARD is selected in the PAPER NUMBER, this menu is not displayed.)
	PAPER FEED ADJUST A	**0.00%**	Sets paper feed amount for the printable area. The amount increases/decreases by the selected percentage of one meter.
		-0.7% to 0.7%	
	PAPER FEED ADJUST B	**0.00%**	Sets paper feed amount for the bottom area (out of the printable area). The amount increases/decreases by the selected percentage of one meter.
		-0.7% to 0.7%	
	DRYING TIME	**0.0 SEC**	Sets a time period to stop the print head movement for drying ink.
		0.0 SEC to 10.0 SEC	
MAINTENANCE	BLACK INK CHANGE	EXECUTE	Switches the black ink between Matte and Photo.
	POWER CLEANING	EXECUTE	Performs a power cleaning.
	CLOCK SETTING	YY/MM/DD HH:MM	Sets date and time of the internal clock.
	CONTRAST ADJUSTMENT	0	Adjusts the contrast of the control panel display.
		-20 - 0 - +20 (dec)	
HEAD ALIGNMENT	AUTO	**PREM.GLOSSY/LUSTER**	Selects a paper type to be used for the gap adjustment.
		PQ INK JET PAPER	
		ENHANCED MATTE PAPER	
	MANUAL	**0.1 mm**	Selects a gap to be adjusted manually.
		0.2 mm	
		0.3 mm	
		0.4 mm	
		0.5 mm	

Table 1-9. List of Menu Settings

Top Menu	Menu Items	Settings (Bold = default)	Explanation
NETWORK SETUP	NETWORK SETUP	**DISABLE**	Disables or enables a network connection. The other NETWORK SETUP menu items appear only when ENABLE has been selected. Under the following conditions, this setting is automatically changed to DISABLE. • Every power-on (always returns to the default: DISABLE) • When the network setup initialization is performed. • When the PANEL DEFAULT in the maintenance mode is performed.
		ENABLE	
	IP ADDRESS SETTING	**AUTO**	Select the settings for the IP address to use. When [PANEL] is selected, the settings in [IP, SN, DG SETTING] are enabled.
		PANEL	
		PING	
	IP, SN, DG SETTING	---	Set the IP address, Subnet mask, and default gateway.
	APPLE TALK	**ON**	Enables (ON)/disables (OFF) AppleTalk.
		OFF	
	MS NETWORK	**ON**	Enables (ON)/disables (OFF) MS NETWORK.
		OFF	
	BONJOUR	**ON**	Enables (ON)/disables (OFF) BONJOUR.
		OFF	
	INIT NETWORK SETTING	EXECUTE	Returns the network I/F related settings to their default.

☐ PG settings list

The table below lists the platen gap amounts settable with the printer driver, control panel, and media table.

Table 1-10. PG Setting List

Printer Driver Paper Thickness setting	Control Panel Setting	Media Table or Printer Driver PG Setting	PG amount (mm)
No setting 0.0 to 0.8mm	NARROW	Minimum	0.9
		Small	0.9
		Middle	1.2
		Large	1.5
	STANDARD	Minimum	0.9
		Small	1.2
		Middle	1.5
		Large	2.1
	WIDE	Minimum	1.2
		Small	1.5
		Middle	2.1
		Large	2.1
	WIDER	Minimum	1.5
		Small	2.1
		Middle	2.1
		Large	2.1
	WIDEST	Minimum	2.1
		Small	2.1
		Middle	2.1
		Large	2.1
0.9mm to 1.5mm	--	--	3.5

☐ Firmware version indication

The table below explains the meaning of the “o0XXXX-xx.xx.IBC” (firmware version).

Table 1-11. Firmware Version Indication

Item	Explanation
o0	A code assigned to each printer. Special version is assigned to “0” (zero).
XXXX	The version of the firmware installed on the printer.
xx.xx	The version of the network firmware.
I	A code assigned by product. The code of the printer is “8”.
B	When the business system functions are enabled, the printer settings are indicated in hexadecimal (1 to F). bit0: Graphic printing control function. 0: Disabled 1: Enabled bit1: Credit function 0: Disabled bit2: Credit counter 0: The credit function is disabled or the counter is “0” (zero). 1:The credit function is enabled and the counter is 1 or more. bit3: Reserved
C	Shows the custom number when the custom operation has been set using the special setting menu. “0” appears when such operation is not set.

1.6.7 Maintenance Mode

HOW TO START & QUIT

- Starting Method
  Turn the printer On while holding down the Cancel/Reset button.
- Quitting Method
  Turn the printer Off.

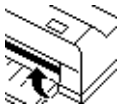
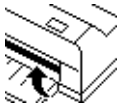
MAINTENANCE MODE MENU LIST

Menu Item	Settings (Bold = default)	Explanation
LANGUAGE	**ENGLISH**	Select the language to be displayed on the LCD panel.
	JAPANESE	
	FRENCH	
	GERMAN	
	ITALIAN	
	PORTUGUE	
	SPANISH	
	DUTCH	
UNIT	**METRIC**	Select a unit of length to be used for various length information.
	FEET/INCH	
DEFAULT PANEL	EXECUTE	All settings made in the following menus are returned to their default. ■ PRINTER SETUP menu ■ PRINTER STATUS menu ■ CUSTOM PAPER menu ■ HEAD ALIGNMENT menu ■ NETWORK SETUP menu

1.6.8 Error/Warning Statuses Displayed/Indicated on/by LCD/LED

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
1	FATAL ERROR (Service Call No. is displayed)	Error	--	SERVICE CALL ERROR NNNN PLEASE CONTACT TO THE REPAIR CENTER	Light	Blink	Blink
2	FATAL ERROR (1st time: Restart Request is displayed/ 2nd time and later: Service Call No. is displayed.)	Error	--	PRINTER ERROR RESTART THE PRINTER	Light	Blink	Blink
3	FATAL ERROR (Always Restart Request is displayed.)	Error	--	PRINTER ERROR RESTART THE PRINTER	Light	Blink	Blink
4	FATAL ERROR (CR locked)	Error	--	CARRIAGE LOCKED RELEASE THE CARRIAGE LOCK	Light	Blink	Blink
5	PAPER JAM (Fatal Error)	Error	--	PAPER JAM CLEAR JAMMED PAPER SEE PRINTER GUIDE FOR INSTRUCTIONS	Light	Blink	Blink
6	Timer IC Reset/Clearing NVRAM (Please wait)	--	--	PLEASE WAIT	Light	Light	Light
7	Updating F/W (at normal startup)	--	--	UPDATING FIRMWARE	Blink	Off	Off
8	Canceling (including Job Cancel)	--	--	RESETTING PLEASE WAIT	Light	Light	Light
9	No Maintenance Cartridge	Error		NO MAINTENANCE CART. INSTALL THE MAINTENANCE CARTRIDGE.	Light	Off	Light
10	Maintenance Cartridge Cover Open	Error		MAINTENANCE COVER OPEN CLOSE THE MAINTENANCE COVER	Light	Off	Light
11	Paper Feed Failed Reset	Error	--	PAPER FEED ERROR REMOVE PAPER AND LOAD PAPER CORRECTLY	Light	Light	Off
12	Board Paper Feed Failed Reset	Error	--	PAPER FEED ERROR LOAD PAPER CORRECTLY AND PRESS PAPER/FEED BUTTON	Light	Light	Off

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
13	Paper Jam Discharge Failed Remove Paper	Error	--	PAPER JAM REMOVE PAPER	Light	Light	Off
14	Waiting Cartridge Cover open	--	--	RELEASING THE INK COVER LOCK	Blink	Off	Off
15	Cartridge Cover Cannot Be Opened	Error	--	CANNOT OPEN COVER IS THERE ANYTHING ON THE PRINTER? PRESS THE UP BUTTON	Light	Off	Blink
16	Detecting Ink Cartridge (Cover close -> READY)	--	--	PLEASE WAIT	Light	Off	Off
17	Maintenance Cartridge Insufficient	Error		NOT ENOUGH EMPTY SPACE REPLACE THE MAINTENANCE CARTRIDGE	Light	Off	Light
18	Ink Cartridge Insufficient	Error	--	NOT ENOUGH INK REPLACE INK CARTRIDGE WITH A NEW ONE	Light	Off	Light
19	Maintenance Cartridge CSIC Read/Write Error	Error		MAINTENANCE CARTRIDGE ERROR REPLACE THE CARTRIDGE	Light	Off	Light
20	Not GENUINE maintenance cartridge error	Error	--	MAINTENANCE PLEASE USE GENUINE EPSON CARTRIDGES	Light	Off	Light
21	Not GENUINE maintenance cartridge error	Error	--	MAINTENANCE NON-GENUINE MAINTENANCE CARTRIDGE INSTALLED. MAINTENANCE CAPACITY TO ABSORB INK MAY VARY. CONTINUE? <YES NO>	Light	Off	Light
22	Maintenance Cartridge End	Error		MAINTENANCE CART. REPLACE MAINTENANCE CARTRIDGE	Light	Off	Light

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
23	Board paper removal error	Error		FRONT FEED SLOT OPEN PRESS THE DOWN BUTTON AND REMOVE PAPER	Light	Light	Off
24	Board Paper Tray Open Error The tray was opened during operation	Error		FRONT FEED SLOT OPEN CLOSE THE FRONT MANUAL FEED SLOT	Light	Light	Off
25	Board tray open error Set paper	Error		FRONT FEED SLOT OPEN LOAD MEDIA AND PRESS THE DOWN BUTTON	Light	Light	Off
26	Board Tray Close Error The tray was opened during operation	Error		FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	Light	Light	Off
27	Board Tray Close Error Paper needs to be removed	Error		FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	Light	Light	Off
28	No Ink Cartridge	Error	--	NO INK CARTRIDGE INSTALL INK CARTRIDGE	Light	Off	Light
29	Ink Cartridge CSIC Read/Write Error	Error	--	INK CARTRIDGE ERROR REPLACE CARTRIDGE	Light	Off	Light
30	Not GENUINE ink cartridge error	Error	--	INK CARTRIDGE PLEASE USE GENUINE EPSON INK CARTRIDGE	Light	Off	Light
31	Not GENUINE ink cartridge error	Error	--	INK CARTRIDGE NON-GENUINE CARTRIDGE! QUALITY OF NON-GENUINE INK MAY VARY. THIS MAY NOT PERFORM AT OPTIMUM. CONTINUE? <ACCEPT DECLINE>	Light	Off	Light

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
32	Ink End	Error	--	INK CARTRIDGE REPLACE INK CARTRIDGE	Light	Off	Light
33	Ink Cover Open	Error	--	INK COVER OPEN CLOSE THE INK COVER	Light	Off	Light
34	Ink Initial Refilling	--	--	CHARGING INK NN%	Blink	Off	Off
35	K Ink Changing	--	--	BLACK INK CHANGING MATTE -> PHOTO NN%	Blink	Off	Off
36	Cleaning	--	--	CLEANING PLEASE WAIT	Blink	Off	Off
37	Command Error	Error	--	COMMAND_ERROR CHECK_DRIVER_SETTINGS	Blink	Blink	Blink
38	Paper Skew Error	Error		PAPER SKEW PRESS THE DOWN BUTTON. LOAD PAPER CORRECTLY	Blink	Off	Light
39	Paper Identification Error (PW Inspection)	Error		PAPER ERROR PRESS THE DOWN BUTTON. LOAD PAPER CORRECTLY	Light	Blink	Off
40	Borderless Printing Error	Error	--	BORDERLESS ERROR PRESS_THE DOWN BUTTON LOAD THE CORRECT SIZE PAPER	Light	Blink	Off
41	Paper Discharge Failed Error (Cut Sheet Paper) Remove paper by paper discharge key	Error		PAPER EJECT_ERROR PRESS THE DOWN_BUTTON AND REMOVE PAPER	Light	Blink	Off
42	Blank Sheet Discharge/Multifeed Error	Error		PAPER FEED ERROR LOAD PAPER CORRECTLY PRESS THE DOWN BUTTON	Light	Light	Off
43	Paper removal	--	--	PAPER REMOVE REMOVE PAPER FROM THE REAR	Light	Light	Off

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
44	No Paper	Error	--	PAPER ERROR LOAD PAPER	Light	Light	Off
45	Paper Size Check Error	Error	--	PAPER SIZE ERROR LOAD THE CORRECT SIZE PAPER	Light	Blink	Off
46	Ink Mark Sensor Sensitivity Control Error	Error	--	PAPER SENSOR ERROR PRESS THE 🗑 BUTTON LOAD DIFFERENT PAPER	Light	Blink	Off
47	Ink Mark Sensor Adjusted Value Error Adjusted value cannot be set Adjusted range over	Error	--	PAPER_SENSOR_ERROR PRESS THE 🗑 BUTTON LOAD THE CORRECT PAPER	Light	Blink	Off
48	Nozzle Check Error Nozzle cannot be recovered	Error	--	CLEANING ERROR PRESS THE CANCEL/RESET BUTTON	Light	Blink	Blink
49	Cleaning Error W/ board paper Before printing when PW inspection is OFF	Error		CLEANING_ERROR PRESS THE DOWN BUTTON AND REMOVE THICK PAPER	Light	Light	Off
50	During Initialization	--	--	PLEASE WAIT	Blink	Off	Off
51	During Sequence	--	--	PLEASE WAIT	Blink	Off	Off
52	Paper Initial Trigger Waiting Status (No waiting time)	--	--	READY	Light	Off	Off
53	Paper Initial Trigger Waiting Status (Auto loading)	--	--	READY	Light	Off	Off
54	Paper Setting Error	Error	--	PAPER SETTING ERROR CHECK PAPER SOURCE_IN THE DRIVER SETTINGS AND LOAD PAPER CORRECTLY	Light	Light	Off
55	Internal Pattern Printing	--	--	PRINTING	Blink	Off	Off
56	Setting Panel	Error	--	SETTING...	Light	Off	Off
57	Initializing Paper	--	--	PLEASE WAIT	Light	Off	Off
58	Ink Drying	--	--	INK_DRYING NNNN_SEC	Blink	Off	Off
59	Maintenance Call Warning	Warning	--	MAINTENANCE_REQUEST NNNN	Light	Special Blink	Off
60	Ink Low Warning	Warning	--	INK LOW	Light	Off	Blink

No	Error/Warning Status	Error or Warning	Illustration on LCD	Message on LCD	LED		
					Power	Paper Status	Ink Status
61	Maintenance Cartridge Cover Open Warning	Warning		MAINTENANCE COVER OPEN CLOSE THE MAINTENANCE COVER	Light	Off	Blink
62	Maintenance Cartridge Low	Warning	--	REPLACE MAINTENANCE CARTRIDGE SOON	Light	Off	Blink
63	Printing	--	--	PRINTING	Blink	Off	Off
64	Analyzing	--	--	READY	Blink	Off	Off
65	Printable (Idling)	--	--	READY PHOTO_BLACK	Light	Light	Light

CHAPTER

2

OPERATING PRINCIPLES

2.1 Overview

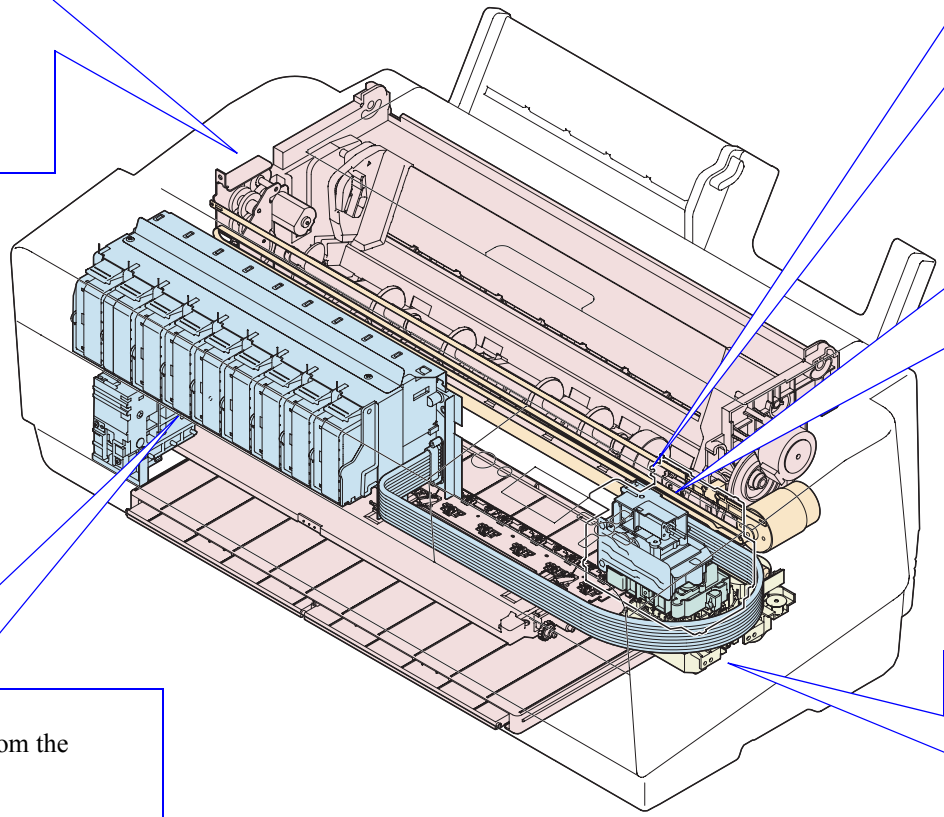
OPERATING PRINCIPLES OVERVIEW

2.6 Paper Feed Mechanism
Explains how paper is fed and transported.

<Main Components>
- PF Motor
- ASF
- PE Sensor
- Paper Eject Tray

2.5 Carriage Mechanism
Explains how to move the Carriage Unit.

<Main Components>
- CR Motor
- CR Scale
- Timing Belt
- CR Encoder



2.2 Print Mechanism
Describes basic specifications of the print mechanism (print head).

<Main Component>
- Print Head

2.3 Ink Supply Mechanism
Explains how the ink is supplied from the cartridges to the print mechanism.

<Main Components>
- Ink Cartridge
- Ink Cartridge Holder
- Damper
- Pressure Pump
- Ink change system

2.4 Cleaning Mechanism
Explains how the print head is cleaned.

<Main Component>
- Pump Cap Unit

MAIN COMPONENT

☐ Electric Circuit Boards

Table 2-1. List of Electric Circuit Boards

Fig.	Name	Function
①	Main board Epson Stylus Pro 3800/3800C/3850: C635 MAIN Epson Stylus Pro 3880/3885/3890: CA61 MAIN	☐ Communications with host computer ☐ Receive data processing ☐ Engine control ☐ Saves compensation values and various counter information. ☐ Generates power voltages used by the logic circuits from 42 V supplied from the power supply board.
②	Power supply board (C635 PSB/PSE)	☐ Generates power system power voltage 42 V from the AC power supply
③	Panel board (C635 PNL)	☐ Printer operations, various settings ☐ Shows printer status and various setting values on the LCD. ☐ Indicates printer status by the LED.
④	Sub board (C635 SUB)	Relays connections between the main board and the following parts: ☐ PG sensor ☐ Ink mark sensor ☐ PW sensor ☐ Ink change sensor ☐ CR encoder ☐ Ink change motor

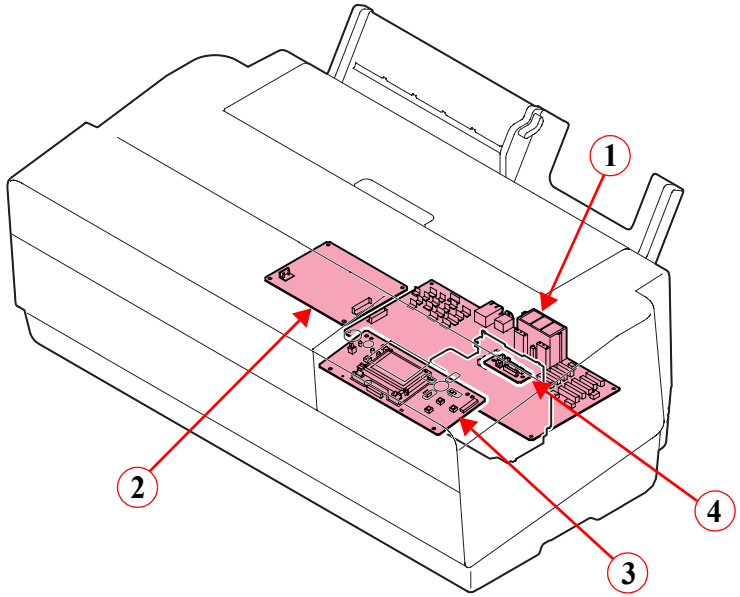


Figure 2-1. Layout of Electric Circuit Boards

☐ Motors/Solenoid

Table 2-2. List of Motors/Solenoid

Fig.	Name	Driven Parts Specifications
①	Release motor	Release roller Type: DC motor Voltage: 42 VDC ± 5 %
②	PF motor	☐ PF roller ☐ Paper eject roller A ☐ Paper eject roller B Type: DC motor Voltage: 42 VDC ± 5 %
③	Ink cover unlock solenoid	Ink cover unlock mechanism Type: DC solenoid Voltage: 42 VDC ± 5 %
④	Pressure pump motor	Pressure pump Type: DC motor Voltage: 42 VDC ± 5 %
⑤	Ink change motor	Ink change system Type: DC motor Voltage: 42 VDC ± 5 %
⑥	Pump motor	Pump cap unit Type: 4-phase 48-pole PM stepping motor Voltage: 42 VDC ± 5 %
⑦	CR motor	Carriage unit Type: DC motor Voltage: 42 VDC ± 5 %
⑧	APG motor	Platen gap mechanism Type: 4-phase 96-pole PM stepping motor Voltage: 42 VDC ± 5 %
⑨	ASF motor	ASF unit Type: 4-phase 96-pole PM stepping motor Voltage: 42 VDC ± 5 %

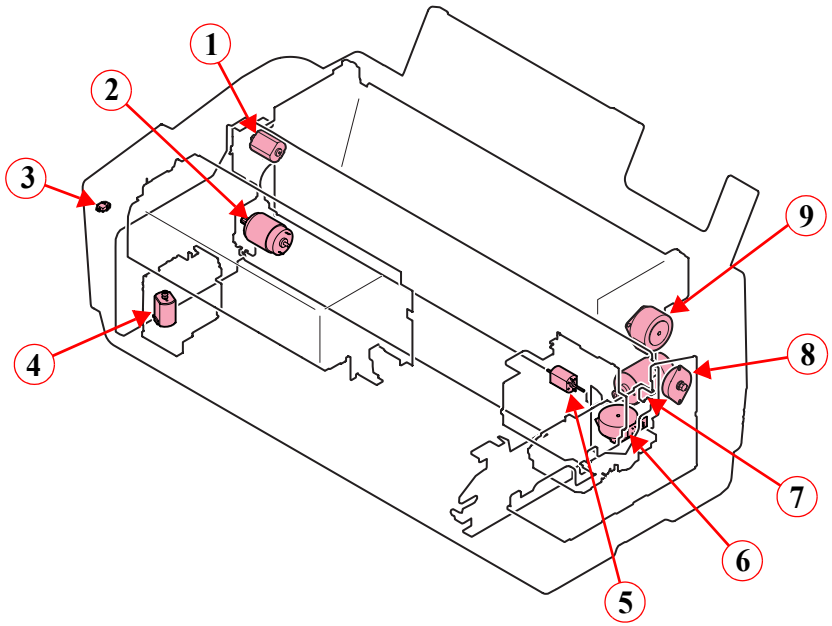


Figure 2-2. Layout of Motors/Solenoid

☐ Sensors/Encoders/CSIC

Table 2-3. List of Sensors/Encoders/CSIC

Fig.	Name	Function	Specifications
①	ASF phase sensor	Detects the ASF origin position.	Type: Transmissive photo interrupter Voltage: 3.3 VDC ± 5 %
②	Release sensor	Detects an open/closed state of the release roller.	Type: Transmissive photo interrupter Voltage: 3.3 VDC ± 5 %
③	PF encoder	Reads the PF scale.	Type: Linear encoder (180LPI) Voltage: 3.3 VDC ± 5 %
④	Ink cover sensor	Detects an open/closed state of the ink cover.	Type: Mechanical contact Voltage: 3.3 VDC ± 5 %
⑤	Pressure pump home sensor	Detects the home position of the pressure pump.	Type: Mechanical Contact Voltage: 3.3 VDC ± 5 %
⑥	Pressure sensor	Detects the state of pressurization by the pressure pump.	Type: Reflective photo interrupter Voltage: 3.3 VDC ± 5 %, Comparator input
⑦	Board paper tray open sensor	Detects the position of the board paper tray.	Type: Mechanical Contact Voltage: 3.3 VDC ± 5 %
⑧	Ink cartridge sensor	CSIC that stores ink cartridge information	Type: CSIC Voltage: 3.3 VDC ± 5 %
⑨	PG origin sensor	Detects the origin position of the platen gap.	Type: Transmissive photo interrupter Voltage: 3.3 VDC ± 5 %
⑩	Ink change sensor	Detects the state of the black ink switch lever.	Type: Mechanical contact Voltage: 3.3 VDC ± 5 %
⑪	Ink mark sensor	☐ Auto Bi-D adjustment ☐ Auto Uni-D adjustment ☐ Auto nozzle check	Type: Diffuse reflective photo interrupter Voltage: 3.3 VDC ± 5 %, LED: 5 V
⑫	Maintenance cartridge cover sensor	Detects an open/closed state of the maintenance cartridge cover.	Type: Mechanical contact Voltage: 3.3 VDC ± 5 %
⑬	PW sensor	☐ Paper leading edge detection ☐ Paper width detection	Type: Reflective photo interrupter Voltage: 3.3 VDC ± 5 %, LED: 3.3 V
⑭	Maintenance cartridge sensor	CSIC that stores maintenance cartridge information.	Type: CSIC Voltage: 3.3 VDC ± 5 %
⑮	PE sensor	Detects a rear edge of paper.	Type: Transmissive photo interrupter Voltage: 3.3 VDC ± 5 %
⑯	CR encoder	Reads the CR scale.	Type: Linear Encoder (180LPI) Voltage: 3.3 VDC ± 5 %

Table 2-3. List of Sensors/Encoders/CSIC

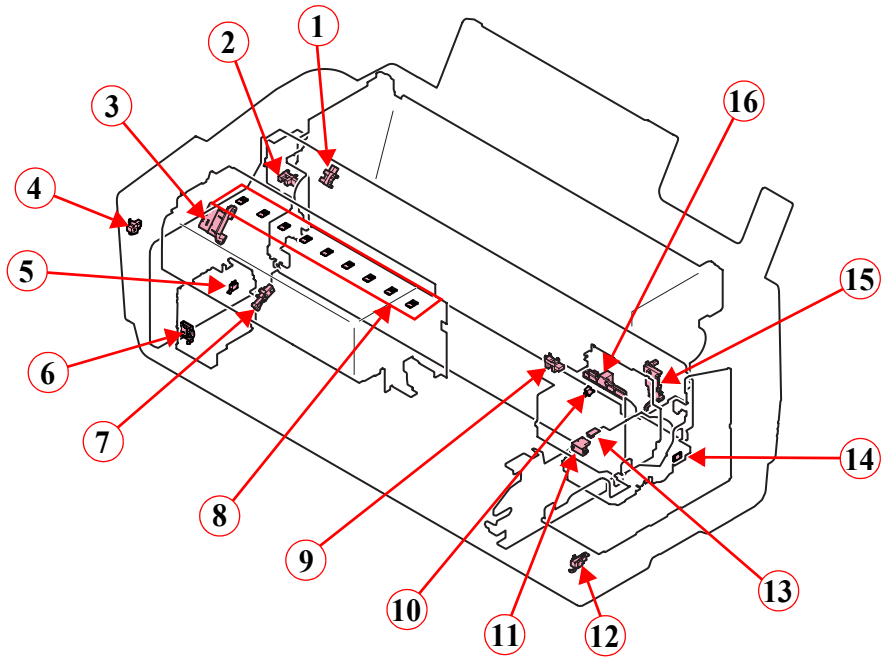


Figure 2-3. Layout of Sensors/Encoders/CSIC

2.2 Print Mechanism

This section explains the basic specifications of the print head.

NOZZLE CONFIGURATION AND COLORS

This printer is equipped with an MACH print head, which employs 180 nozzles per color. The printer ejects nine different colors of ink through the eight rows of nozzles. One of the rows is shared by Photo Black and Matte Black inks.
The nozzle configuration as seen from behind the print head is shown below.

- Printing method: On-demand ink-jet
- Nozzle configuration: 180 nozzles x 8 rows = 1440 nozzles

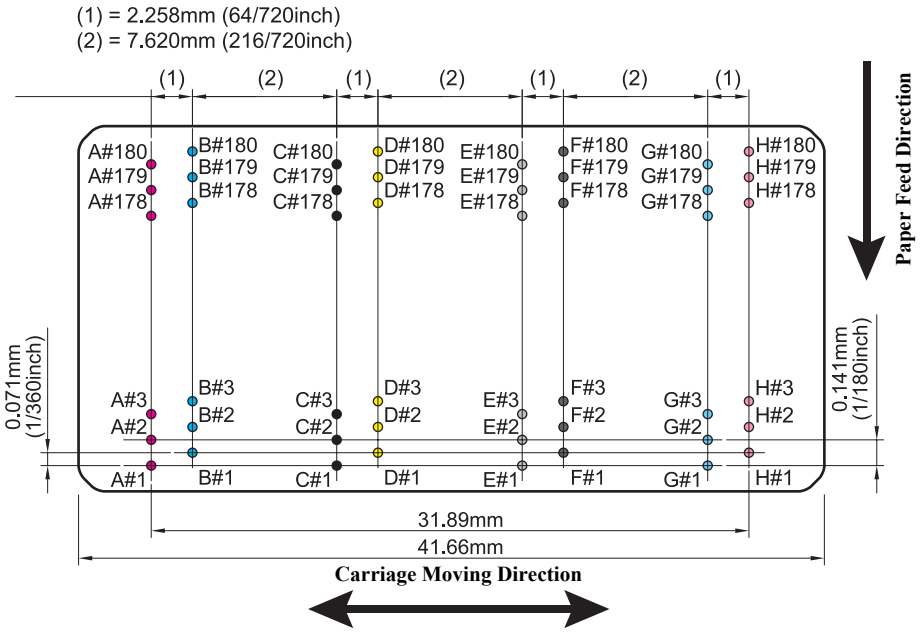


Figure 2-4. Nozzle Configuration

Table 2-4. Nozzle Rows and Colors

Nozzle Row	Color	
	Epson Stylus Pro 3800/3800C/3850	Epson Stylus Pro 3880/3885/3890
A	Magenta	Vivid Magenta
B	Cyan	
C	Photo Black/Matt Black	
D	Yellow	
E	Light Light Black	
F	Light Black	
G	Light Cyan	
H	Light Magenta	Vivid Light Magenta

DRIVE WAVEFORMS

The following four drive waveforms are used to create four print modes.

Table 2-5. Print Modes (Drive Waveforms)

Waveform Name	Drive Frequency (kHz)	Print Resolution (dpi)	CR Speed (cps)
VSD1	10.08	360 x 360	280
VSD1	10.08	720 x 360 720 x 720	280
VSD2	10.08	1440 x 720	280
VSD3	20.16	2880 x 1440	280

2.3 Ink Supply Mechanism

2.3.1 Ink Flow Path

The ink flow path is shown below.

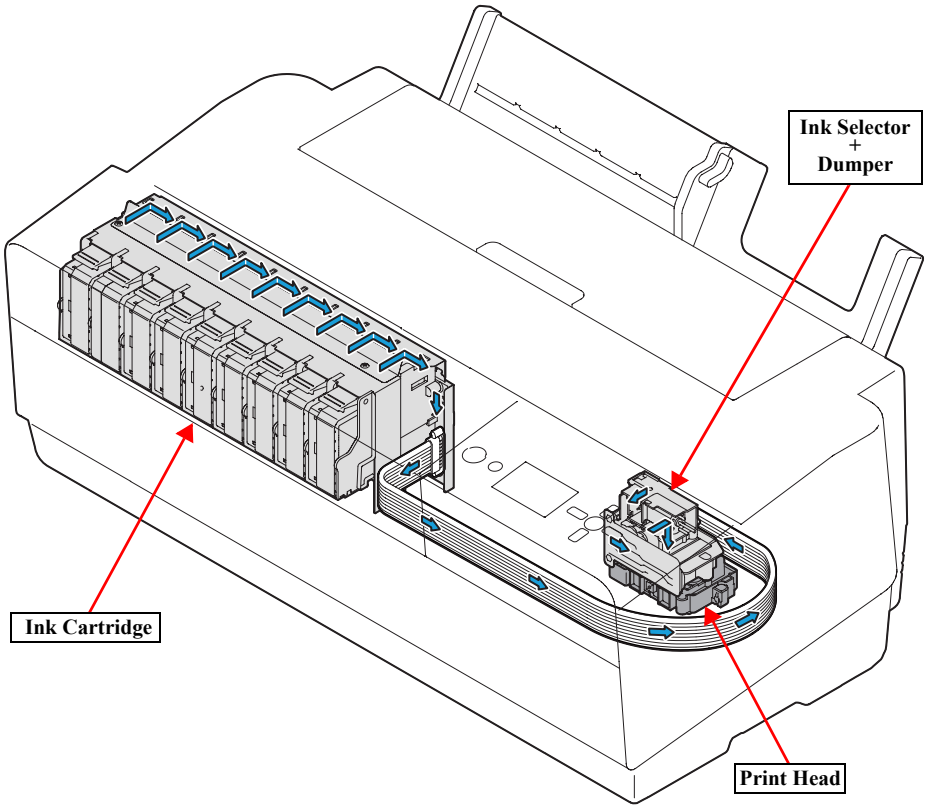


Figure 2-5. Ink Flow Path

2.3.2 Ink Pressurizing Mechanism

This printer employs an ink pressurizing mechanism to stably supply ink in the ink cartridge (ink pack) to the print head. This ink pressurizing mechanism consists of a pressure pump unit installed in an ink supply mechanism and tightly-sealed ink cartridges. Air pumped into the tightly-sealed ink cartridge from the pressure pump unit squashes the ink pack in the cartridge, causing the ink inside the pack to be transferred to the print head.

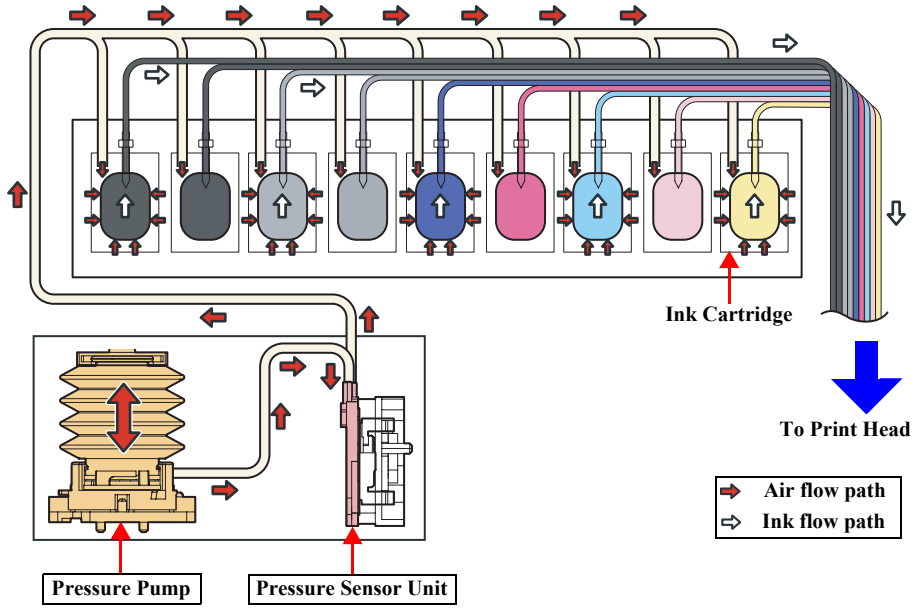


Figure 2-6. Ink Pressurizing Mechanism

2.3.2.1 Pressure Pump Unit Mechanism

☐ Accordion unit/Pressure pump motor/Pressure pump home sensor

The accordion unit intakes air and applies pressure by the rotating drive of the pressure pump motor, and pumps air into the ink cartridges. The pressure pump home sensor detects the position of the accordion unit.

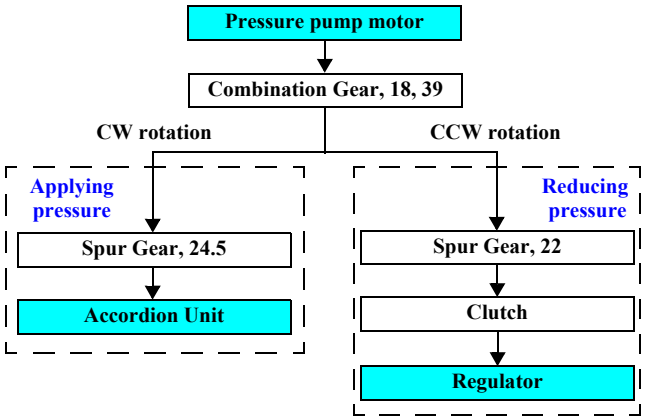


Figure 2-7. Drive Transmission Path

☐ Pressure sensor unit

A reflective photo sensor, which turns on when the air pressure reaches the predetermined level, controls the amount of pressure. When the air pressure reaches the predetermined level, film on the air damper expands and activates the reflective plate causing the sensor to receive light, and the pressurizing state is detected.

☐ Regulator

Stops applying pressure when the power is off or during stand-by. Activated by the pressure pump motor through the clutch. The regulator opens the valve to reduce pressure.

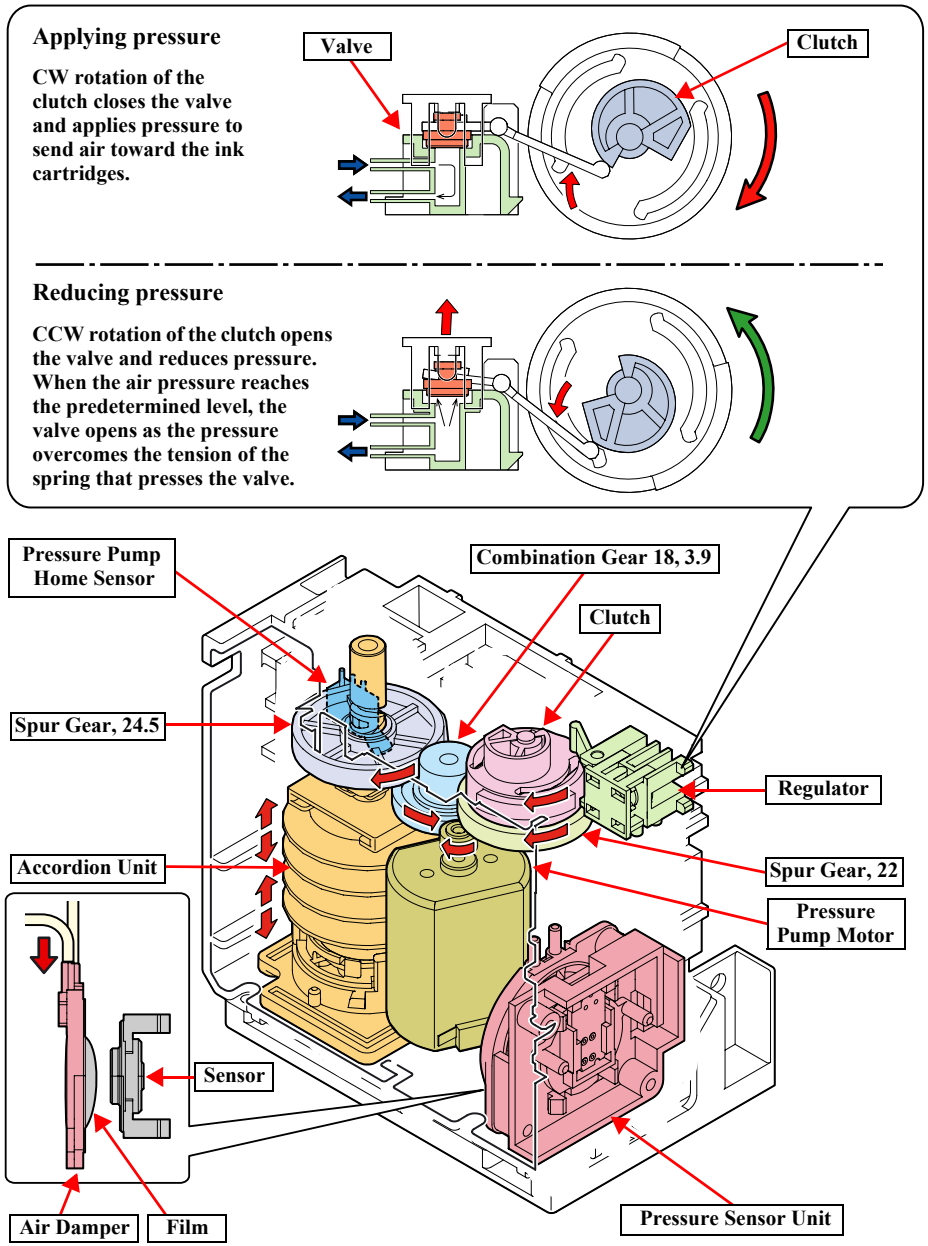


Figure 2-8. Pressure Pump Unit

2.3.3 Ink Change System

This printer has automatic ink change system that switches black ink between Photo Black and Matte Black. The cartridge holder of this printer keeps both Photo Black and Matte Black ink cartridges. Each of the black ink cartridges has its own ink supply tube connected to their respective damper. Both black inks are supplied into the damper, and one of them is supplied to the print head at one time by means of the ink selector that changes the ink flow path.
Ink change system consists of an ink change motor, selection cam, selection lever, and ink change sensor. The following describes the mechanism.

1. Drive of the ink change motor rotates the selection cam.
   Ink change sensor detects the rotation angle of the cam.
2. The selection lever moves as the selection cam rotates.
3. The protruded end of the selection lever pushes the selection pin, and the pin changes the black ink flow path inside the damper.

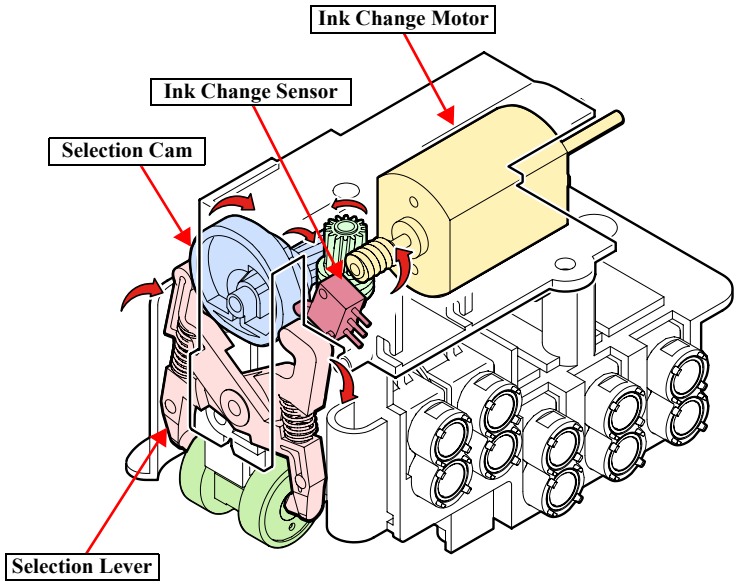


Figure 2-9. Ink Change System

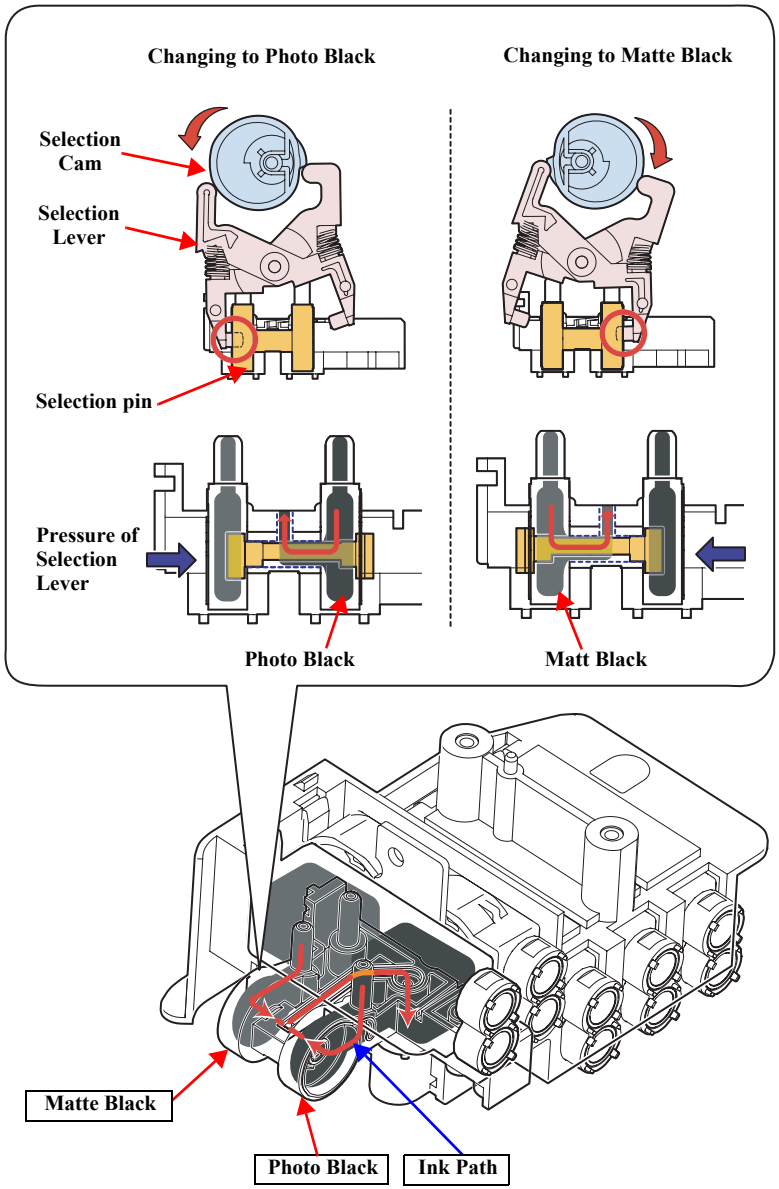


Figure 2-10. Changing Black Ink Path

2.4 Cleaning Mechanism

The cleaning mechanism consists of a pump cap unit and a waste ink pads (maintenance cartridge).

☐ Pump Motor

The pump motor drives the cap unit, pump, head cleaner, and carriage lock. The table below shows the operation of each mechanism depending on the rotational direction of the pump motor.

Table 2-6. Pump Motor Functions

Mechanism	CCW *	CW *
Cap Unit	Open (Uncapping)	Close (Capping)
Pump	Pump release	Pump suction
Head Cleaner	Wiper reset (back to the home)	Wiper set (moves to the wiping position)
Carriage Lock	Unlock	Lock

Note *: The rotation direction as seen from the top of the unit.

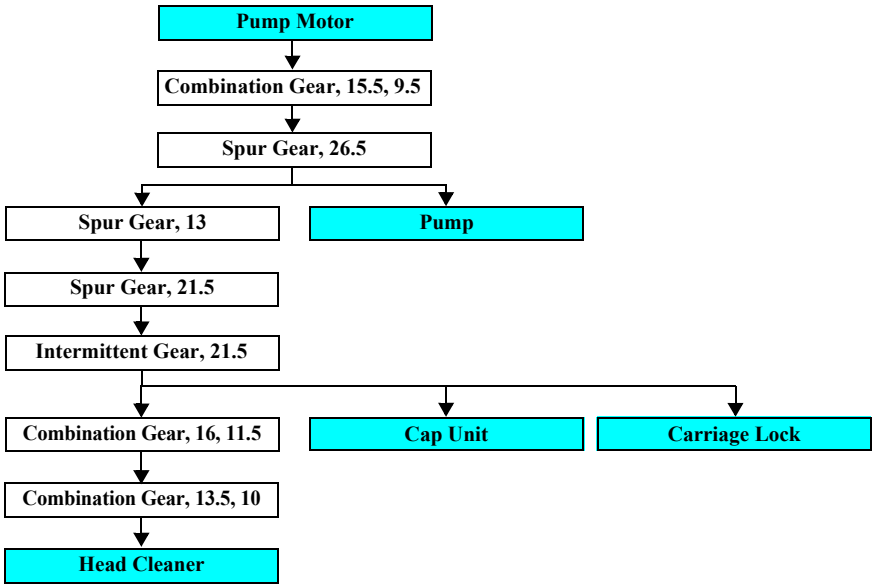


Figure 2-11. Drive Transmission Path

☐ Cap Unit/Carriage Lock

The pump motor moves the cap unit up and down. The cap unit goes up to seal the print head during cleaning and stand-by. Carriage lock operates in synchronization with the cap unit. When the carriage unit moves to the home position, carriage lock moves up together with the cap unit and lock the carriage unit.

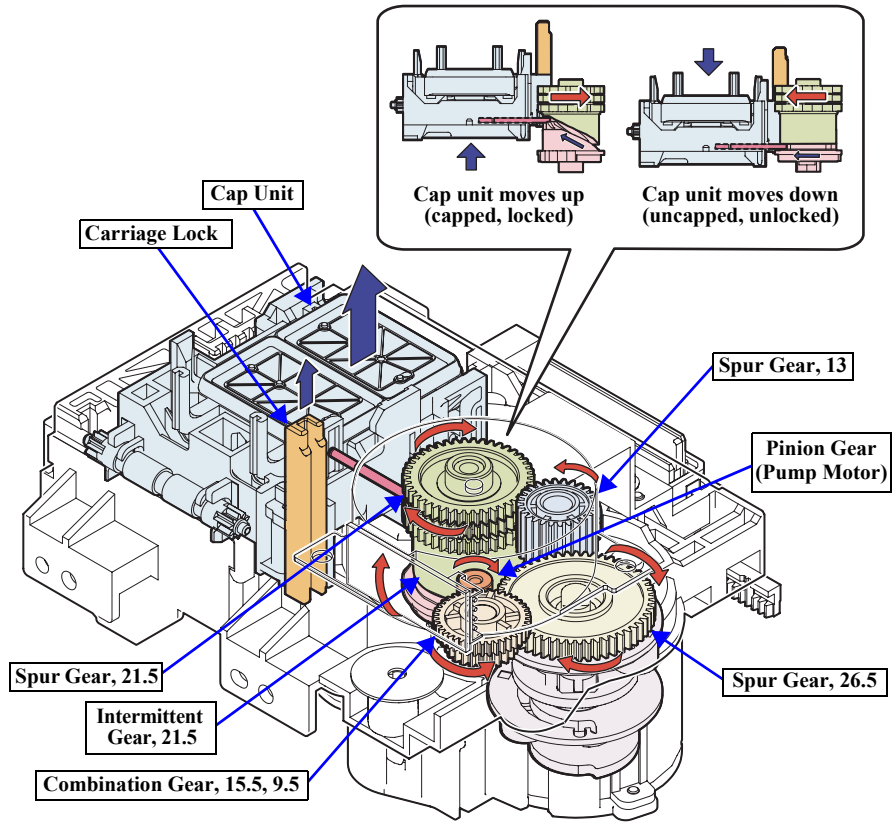


Figure 2-12. Cap Unit/Carriage Lock Mechanism

☐ Pump Unit

The ink is absorbed from the head nozzles. The sucked waste ink is conveyed to the waste ink pad through the tube.
The CW rotation of the pump motor rotates the conveyance roller. The roller rotates pressing the tube to convey the waste ink from the cap unit to the waste ink pad.
The CCW rotation of the pump motor moves the conveyance roller away from the pressing position.

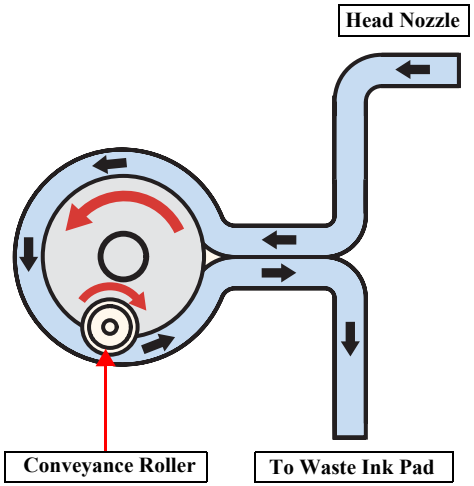


Figure 2-13. Pump Unit Mechanism

☐ Head Cleaner

The head cleaner wipes off ink, dirt or the like from the surface of the head nozzles.
The CW rotation of the pump motor moves the head cleaner to the wiping position.

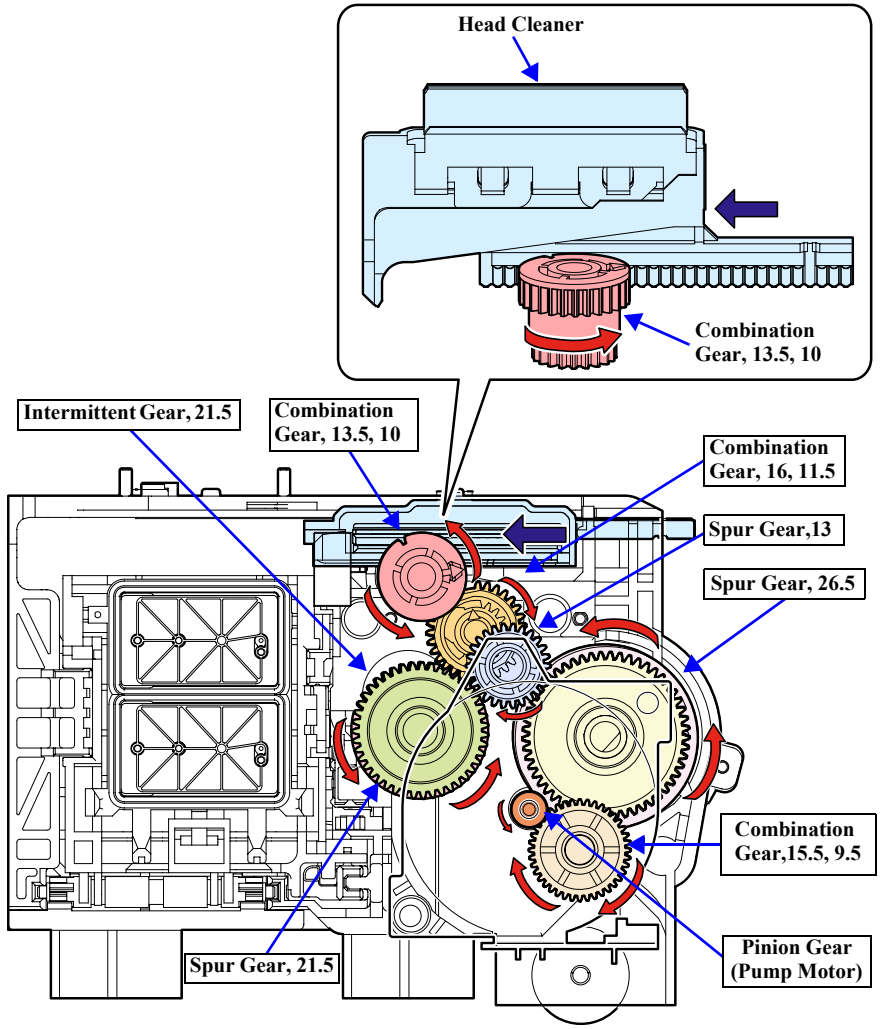


Figure 2-14. Head Cleaner Mechanism

2.5 Carriage Mechanism

The carriage mechanism consists of a carriage movement mechanism, platen gap adjustment mechanism, and carriage lock mechanism. For explanation about the carriage lock mechanism, refer to Cap Unit/Carriage Lock *(p.44)*.

2.5.1 Carriage Movement Mechanism

Carriage movement mechanism consists of a carriage unit, CR motor, timing belt, carriage guide shaft, CR scale, and CR encoder.
Rotational drive of the CR motor is transmitted to the carriage unit through the timing belt, and the carriage unit moves left and right along the carriage guide shaft. The CR encoder installed on the back of the carriage unit reads the jagged surface of the CR scale and sends the read value to the main board. Position and moving speed of the carriage unit are controlled based on the read value.

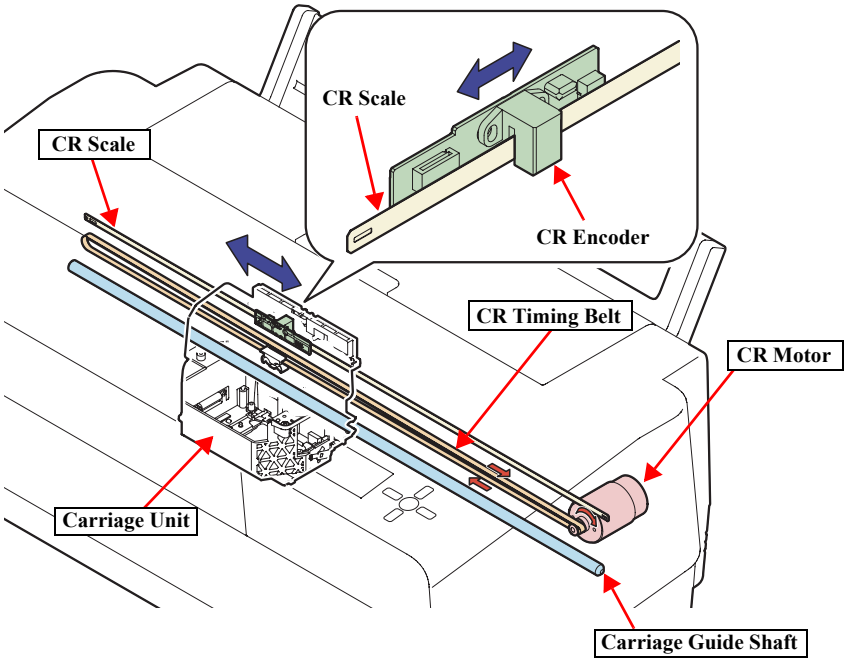


Figure 2-15. Carriage Movement Mechanism

2.5.2 Platen Gap Adjustment Mechanism

Platen gap adjustment mechanism consists of an APG motor, carriage unit, and PG sensor. The carriage unit is equipped with two carriages; main carriage that moves horizontally to the carriage guide shaft, and the sub carriage that moves vertically to the main carriage. When the carriage unit moves to the PG adjustment position and the APG motor starts to rotate, the oval cam turns to move the sub carriage vertically and change the platen gap amount. Light-shielding plate with a cutout is installed at the end of the shaft to which the cam is attached, and moves together with the cam. A transmissive photo interrupter sensor (PG sensor) detects the cutout, determines the detected position as the origin, and changes the platen gap according to the number of pulses from the origin.

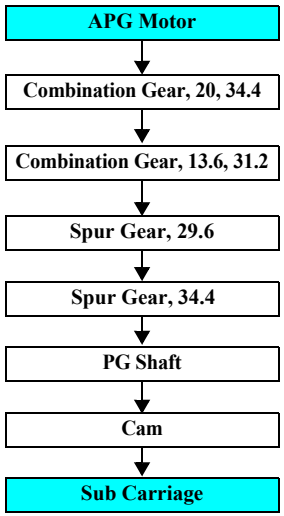


Figure 2-16. Drive Transmission Path

The relation between the printer status and the platen gap amount is described below.

Table 2-7. PG Positions in Operations

Operation	PG
At power ON	1.2
Cleaning starts	1.5
Capping	Capping is done in the current PG.
Board paper tray is open	3.5

Table 2-7. PG Positions in Operations

Operation	PG
Detecting paper width (ASF feeding, Rear/Front manual feeding)	3.5
Detecting paper width (ASF feeding after receiving data)	Switch PG according to the print setting.
Starts printing	Switch PG according to the print setting.
At power OFF	1.2

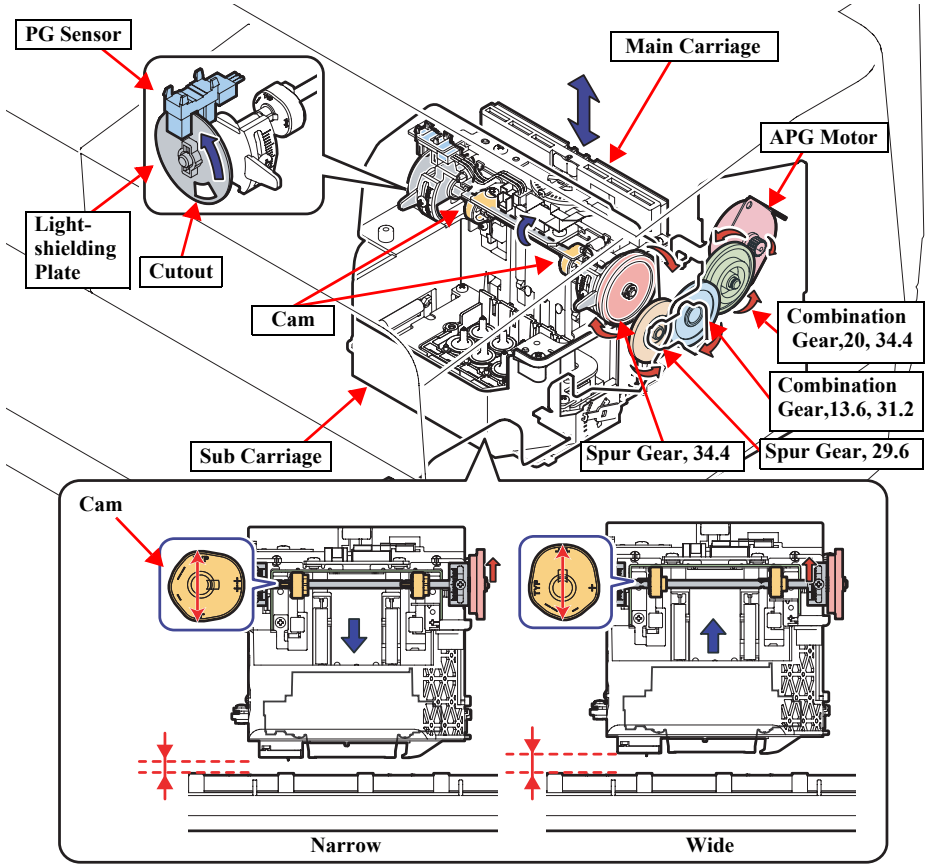


Figure 2-17. Platen Gap Adjustment Mechanism

2.6 Paper Feed Mechanism

2.6.1 Paper Feed Path

The printer provides two manual paper feed paths in addition to the ASF to support thicker paper.

	Paper Feeding	Thickness	Type
①	ASF (Auto Sheet Feeder)	0.08 to 0.27 mm	See 1.3.3 Paper Support (p.15)
②	Rear Manual Bypass	0.29 to 0.5 mm	Fine Art Paper
③	Front Manual Bypass	1.2 to 1.5 mm	Heavy paper like cardboard

The following figures show the paper feed paths.

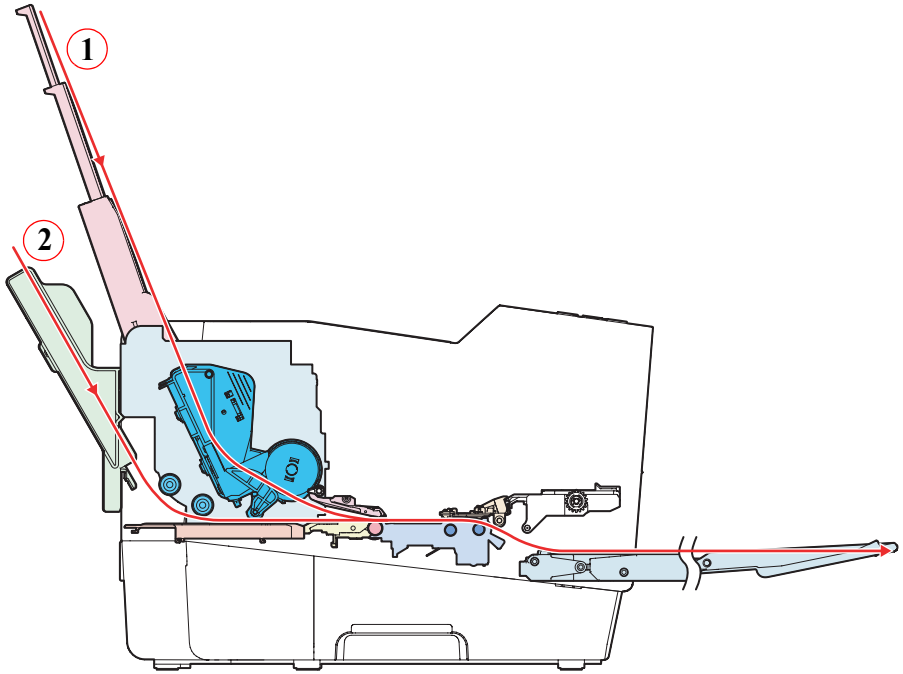


Figure 2-18. Paper Path of ASF & Rear Manual Bypass

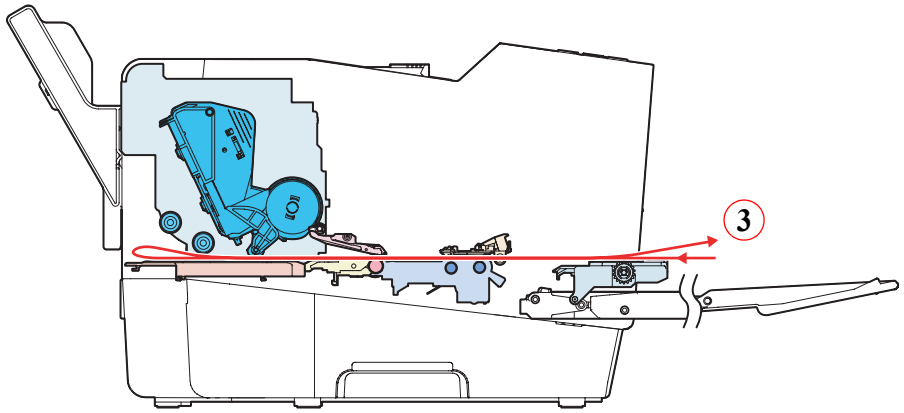


Figure 2-19. Paper Path of Front Manual Bypass

2.6.2 Paper Loading Mechanism

ASF (AUTO SHEET FEEDER)

The ASF, whose driving source is an ASF motor, consists of a LD roller, LD roller shaft, ASF sensor, hopper, and paper anti-slip tab. The cams on both ends of the LD roller shaft activate the hopper and the paper anti-slip tab. The ASF sensor (photo interrupter sensor) controls the rotational position of the LD roller shaft by detecting the light-shielding plate installed on the shaft. Paper loading operation from the ASF is described below:

1. Start of the paper loading operation
   The ASF motor moves to rotate the LD roller shaft.
2. Feeding paper to the paper loading position
   2-1. The LD roller shaft rotates to release the lever that presses the paper anti-slip tab, and the tabs go down.

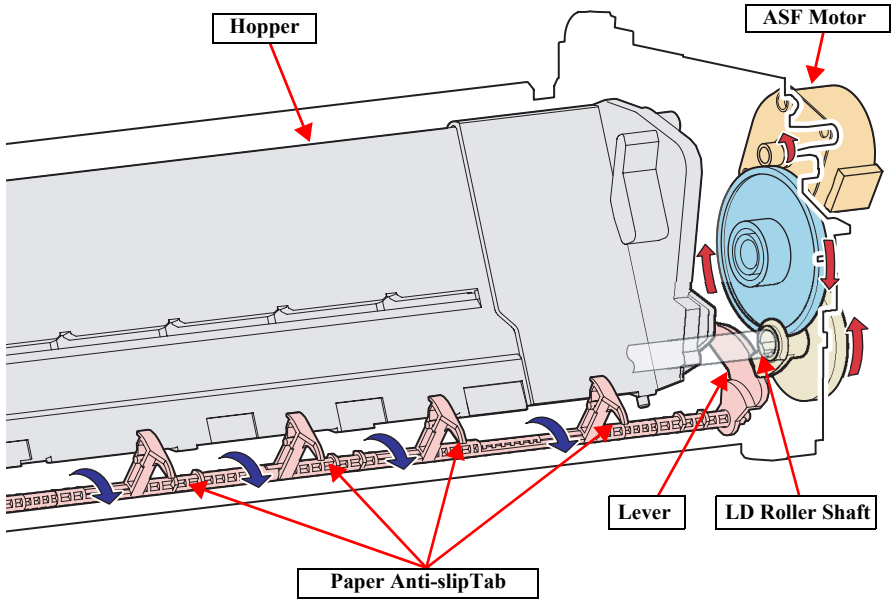


Figure 2-20. Lowering the Paper Anti-slip Tab

2-2. The LD roller shaft rotates to release the hopper actuating the cam that presses the hopper, and the hopper moves up by the tension of the spring.

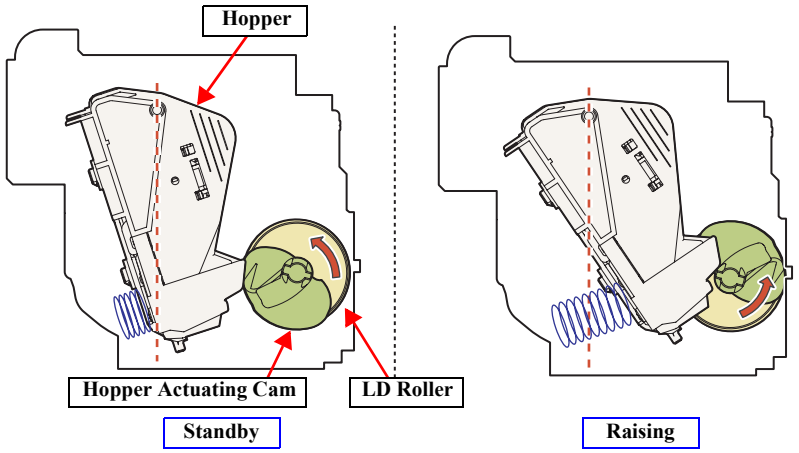


Figure 2-21. Raising the Hopper

3. Picking-up paper
   The LD roller shaft rotates to feed a single sheet of paper into the printer with a LD roller.

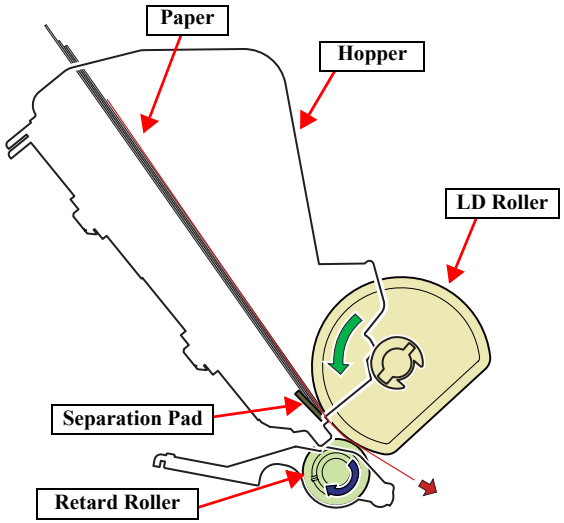


Figure 2-22. Picking-up Paper

4. Pressing the hopper
   The hopper cam on the LD roller shaft presses the hopper and remaining paper on the tray is moved away from the feeding position.
5. Moving the paper anti-slip tabs upward
   The LD roller shaft rotates to actuate the lever on the shaft and move the paper anti-slip tabs upward. The tabs prevent the paper from slipping into the paper feeding section.
6. Transporting paper in the printer
   Paper fed into the printer is transported by the PF roller.
7. Releasing the back end of paper
   When the hopper actuating cam presses the hopper further in synchronization with the rotation of the LD roller, left and right paper guides that regulate the paper width are extended releasing the back end of paper.

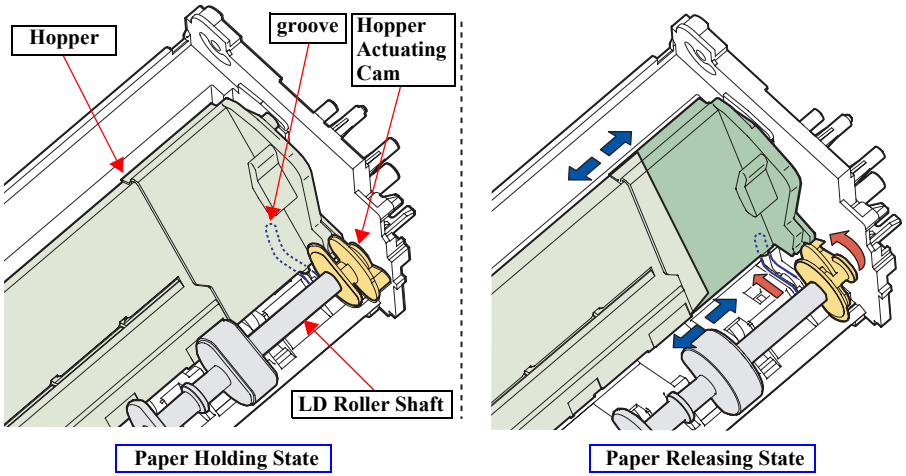


Figure 2-23. Releasing the Back End of Paper

8. Standing-by
   The hopper returns to the stand-by position and ends the paper loading operation.

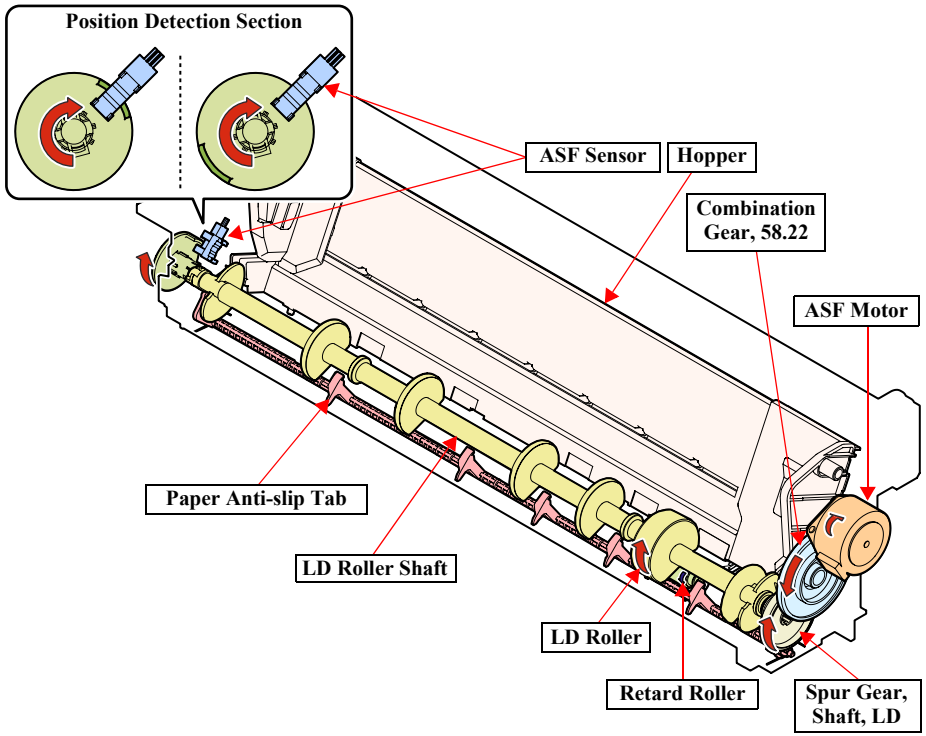


Figure 2-24. ASF Drive Mechanism

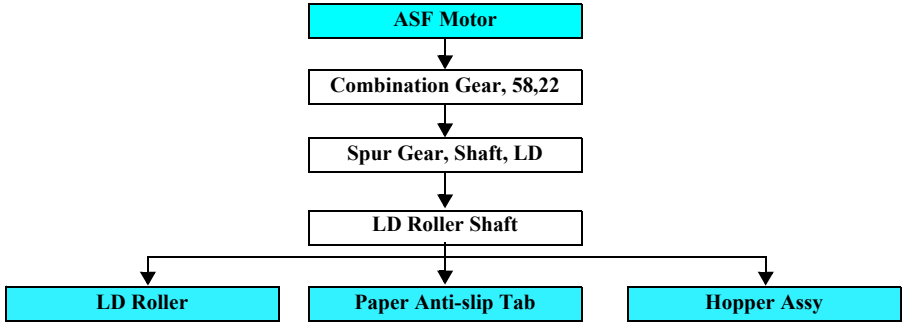


Figure 2-25. ASF Drive Transmission Path

REAR MANUAL BYPASS

When the prescribed time has passed since a paper was supplied from the feeder on the rear of the printer and the PE sensor detected the paper, the PF roller starts to transport the paper.

FRONT MANUAL BYPASS

The status of the board paper tray that is used for the front manual feeding is detected by the leaf switch. The leaf switch is moved by the Board Paper Guide Cam which moves together with the board paper tray, and according to the switch position, the board paper tray status is detected.

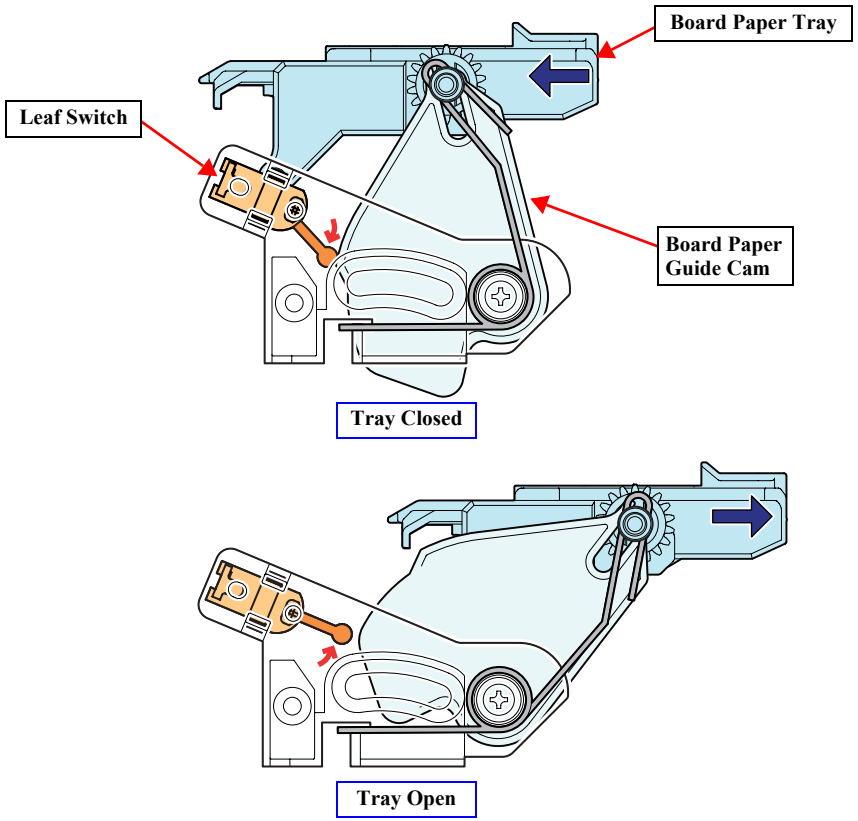


Figure 2-26. Board Paper Tray Open Sensor

2.6.3 Paper Feed Mechanism

The paper feed mechanism mainly consists of a Release mechanism, the PF Motor, and the feed rollers.

RELEASE MECHANISM

Release mechanism consists of a release unit (including a release motor, release sensor, and combination gear), paper guide upper assy that presses papers, and paper guide release shaft that activates the paper guide upper assy.
Rotational drive of the release motor activates the paper guide release shaft through the combination gear. When the release lever of the paper guide release shaft presses down the back end of the paper guide upper assy, the paper guide upper assy separates from the PF roller. When the release motor rotates reversely, the paper guide upper assy makes contact with the PF roller. The release sensor installed in the release unit and the light-shielding plate detects the contact condition between the paper guide upper assy and the PF roller.

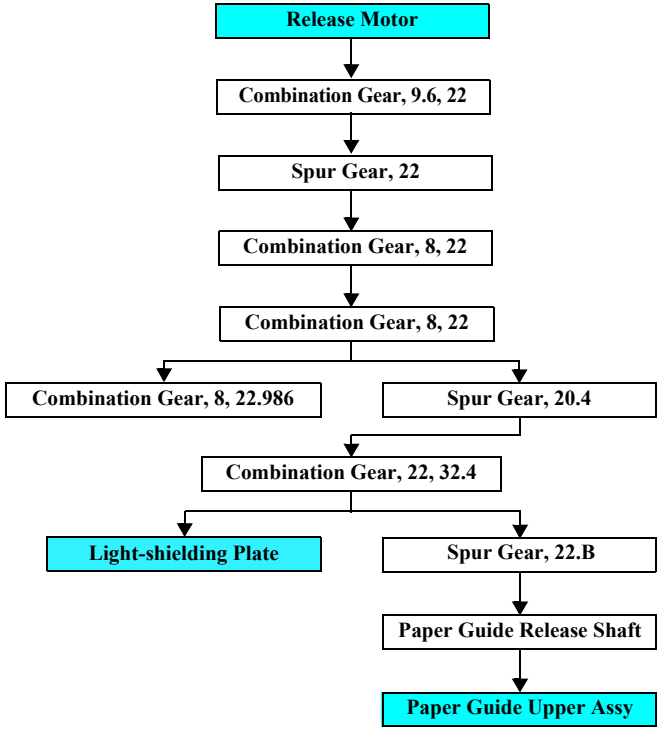


Figure 2-27. Drive Transmission Path

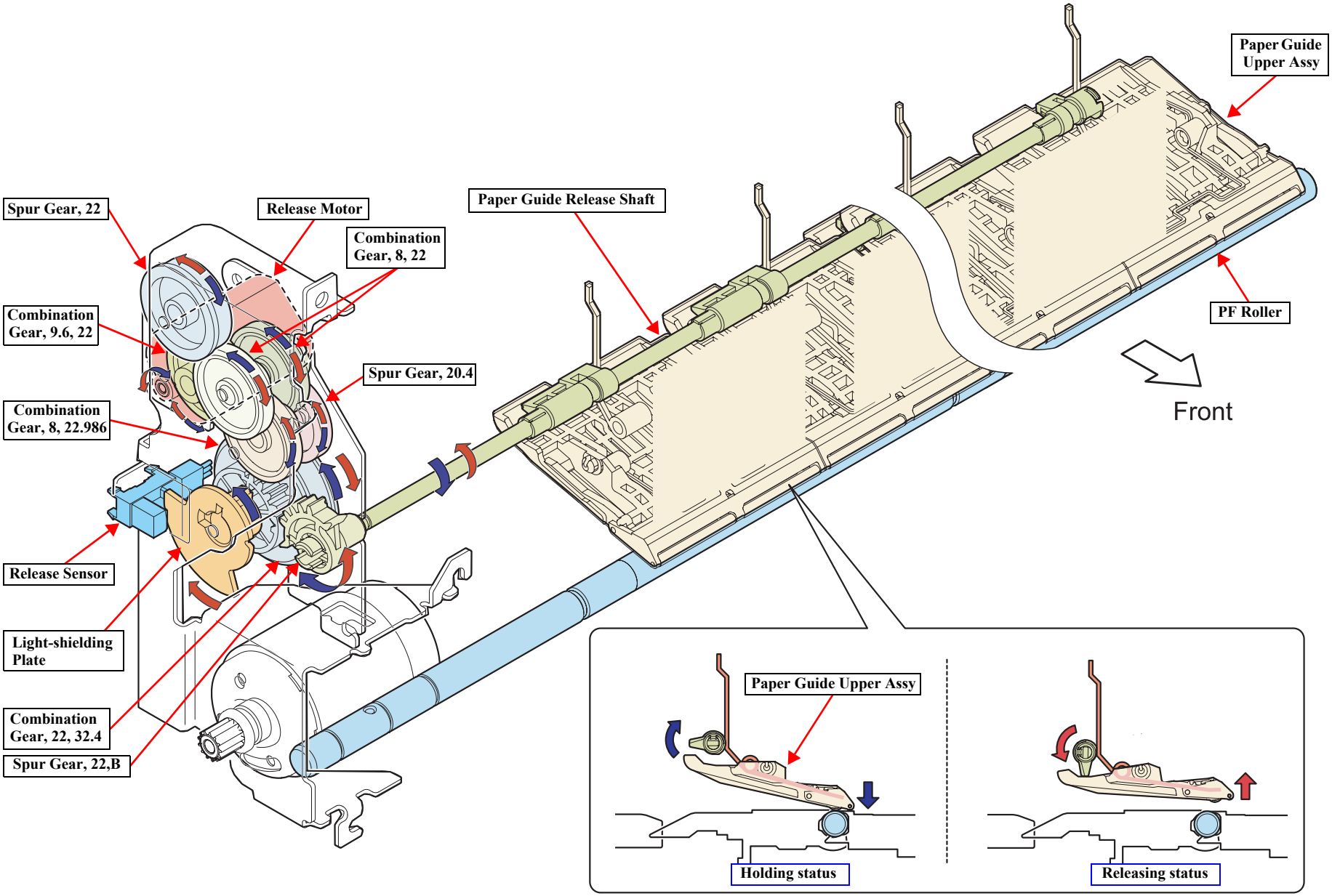


Figure 2-28. Release Mechanism

PAPER FEED MECHANISM

Paper feed mechanism consists of a PF motor, PF scale, PF encoder, PF roller, front and rear paper eject rollers, and star wheels. The mechanism transports papers fed from the feeders and ejects them from the front of the printer.

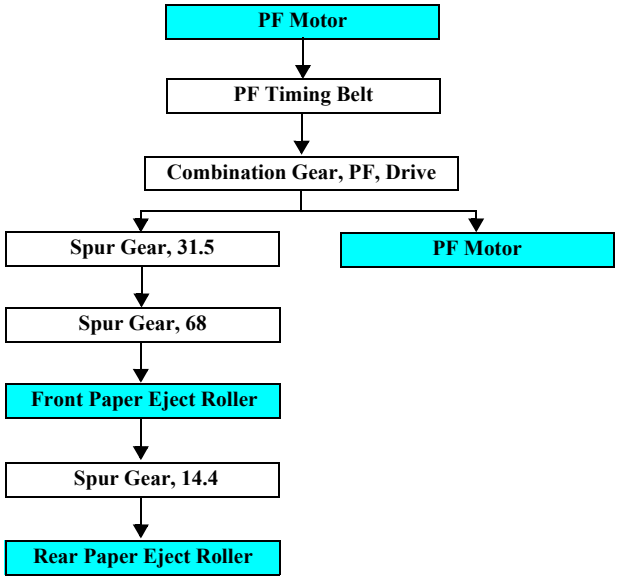


Figure 2-29. Drive Transmission Path

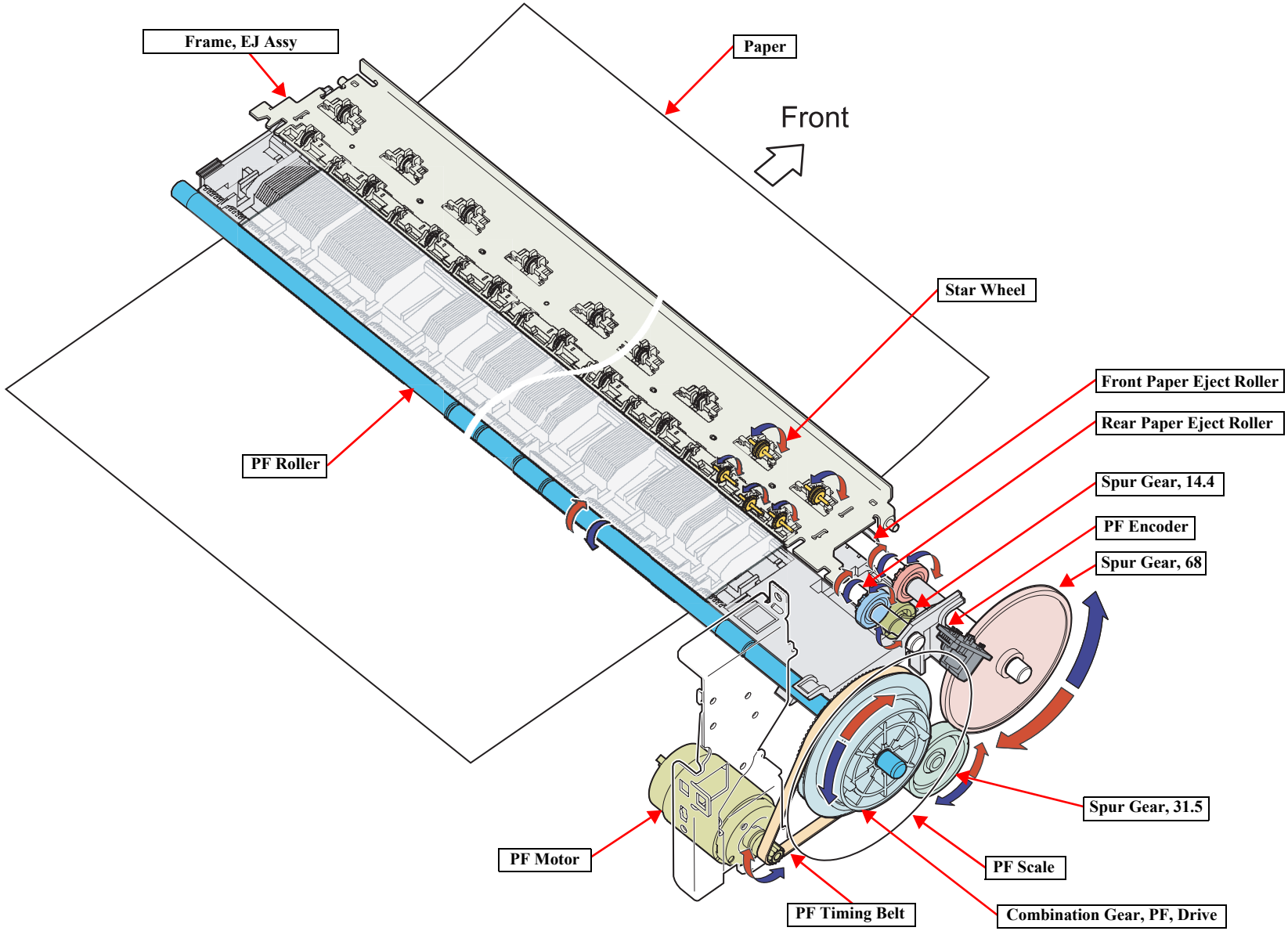


Figure 2-30. Paper Feed Mechanism

2.7 Ink Mark Sensor

This printer is equipped with the ink mark sensor functioning as multi sensors.
The sensor, located on the bottom of the carriage unit, is a diffuse reflective photointerruptor that is comprised of a light emitting part (white LED) and a light receiving part (photoreceiver). The white LED emits light against the paper or dedicated print pattern printed on paper and the photoreceiver reads the reflected light. According to the reflected light read by the receiver, the printer calculates correction values to perform proper corrective actions.
The Ink mark sensor is used for the following adjustments.

- Auto Bi-D Adjustment

  The sensor scans predetermined patterns printed for the adjustment and detects the highest density pattern among them. According to the detected result, the printer calculates Bi-D correction values automatically.

- Auto Uni-D Adjustment

  The sensor scans predetermined patterns printed for the adjustment and detects the highest density pattern among them. According to the detected result, the printer calculates Uni-D correction values automatically.

- Auto Nozzle Check

  The sensor scans a nozzle check pattern. The pattern is printed with the all nozzles and each nozzle prints one block. If there is a clogged nozzle, the corresponding block will not be printed and detected by the sensor, and a head cleaning is performed automatically.

2.8 Other Mechanisms

INK COVER OPEN-CLOSE MECHANISM

To keep the ink cartridges from being removed during printing, opening/closing of the ink cover is electrically regulated. Opening/closing of the cover is controlled by the lock mechanism that takes advantage of an electromagnetic solenoid, and the cover can only be opened by means of the operation panel. When the operation to open the cover is performed, the solenoid is energized and the lock is released. The solenoid unit is equipped with a switch sensor that detects opening/closing state of the cover.

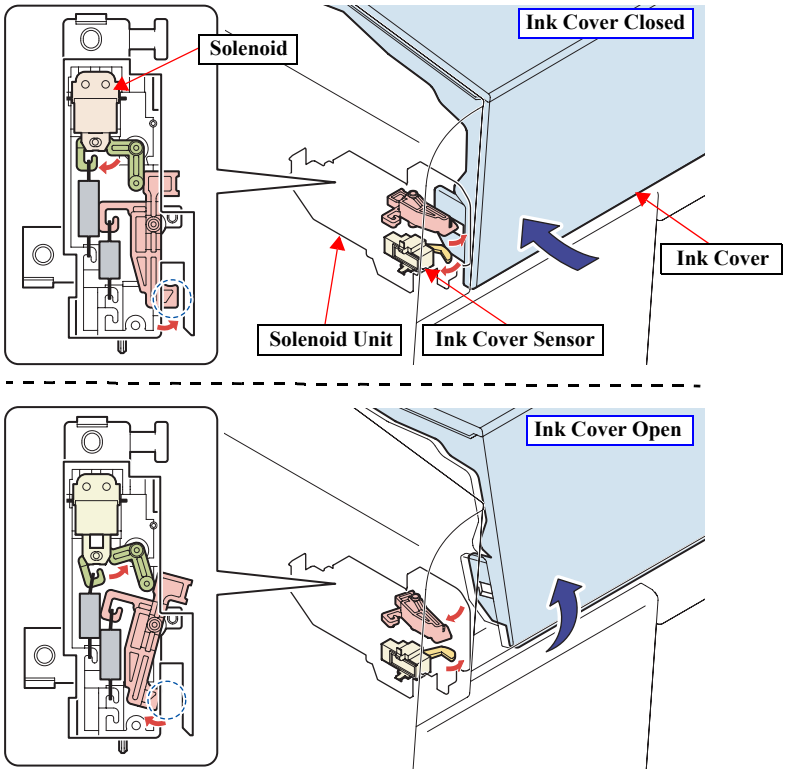


Figure 2-31. Ink Holder Cover Open/Close Mechanism

MAINTENANCE CARTRIDGE COVER OPEN DETECTION

To keep the maintenance cartridge from being removed during printing, a switch sensor detects opening/closing state of the cover that stores the maintenance cartridge.

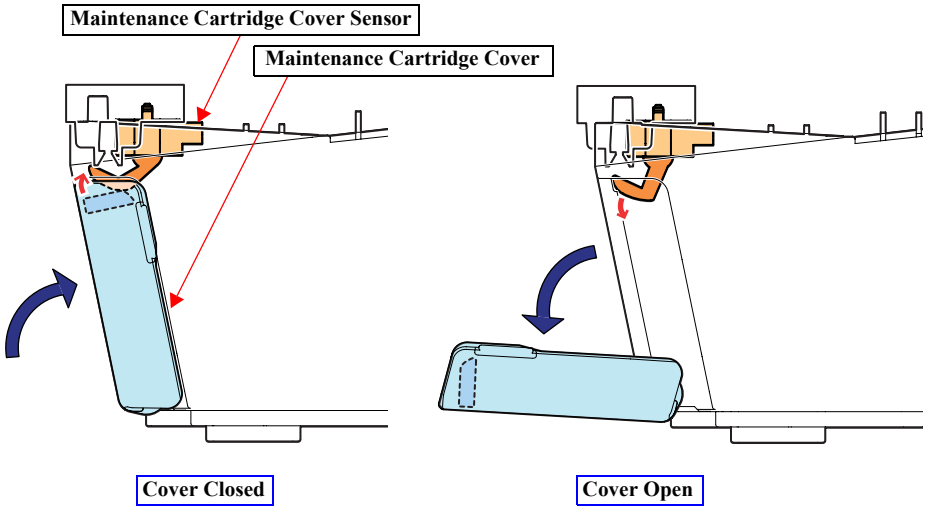


Figure 2-32. Operation of Maintenance Cartridge Cover

2.9 Outline of Circuit Boards

2.9.1 Main Board

This section provides a summary of the main board (Epson Stylus Pro 3800/3800C/3850: C653 MAIN / Epson Stylus Pro 3880/3885/3890: CA61 MAIN) that controls the whole of the printer system.

☐ Explanation of main elements on C635/CA61 MAIN Board

Table 2-8. Main Elements

Model Number	Location	Function
E01A68CB	IC15	Customized ASIC
FlashROM	IC4	Program storage • Capacity: 16Mbit
DDR-SDRAM	IC3/IC19	Various buffers, work areas • Capacity: 256Mbit • Number of pieces: two
RTC9824	IC9	RTC complex circuit (Reset, timer, EEPROM complex IC)
E09A54RA	IC11	Printer driver
A6628SEDT	IC7/IC13	Motor driver
A6627STPT	IC6	Motor driver
BCM5980A2KFBG	IC10	Ethernet 10/100BASE-TX circuit • Flash ROM (32Mbit), SDRAM (64Mbit x 2) installed

☐ Circuit block diagram

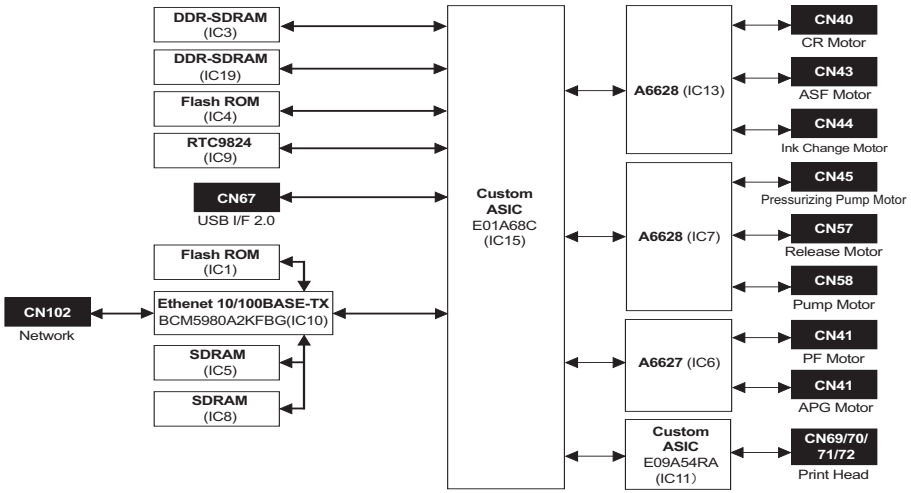


Figure 2-33. C635/CA61 MAIN Board Block Diagram

2.9.2 Power Supply Board

This section describes the power supply board that generates the power to operate this printer.

CIRCUIT BLOCK DIAGRAM

The block diagram of C635 Power Supply board is shown below.

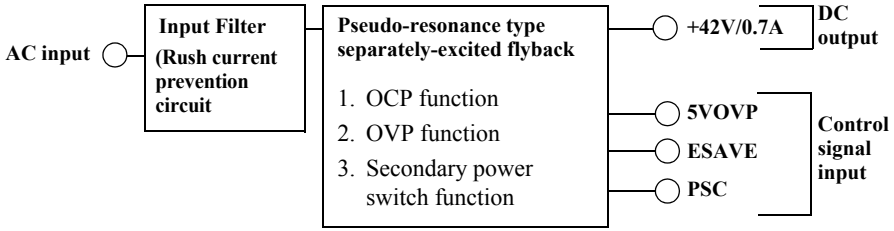


Figure 2-34. C635 Power Supply Board Block Diagram

CONTROL SIGNALS

There are three control signals between the C635/CA61 MAIN Board and the Power Supply Circuit Board as shown in the table below.

Table 2-9. Control Signals

Signal Name	Function	Output	Remarks
PS Control Signal (PSC)	Power ON	39.9 to 44.1 V	The PS unit outputs the rated voltage.
	Power OFF	3V or less	The PS unit is instantly shut off.
Energy Save Signal (ESAVE)	Normal Operation	39.9 to 44.1 V	The PS unit outputs the rated voltage.
	Power Saving Operation	15V Typ.	It takes less than 500 msec to recover from the power saving mode to the rated voltage.
Overvoltage Detection Signal (OVP)	Detection of overvoltage	0 V (Power is shutoff)	The power is shut off when the OVP terminal voltage exceeds 7 V. To recover from the status, lower the OVP terminal voltage below 7 V, and reboot the printer after reinserting the power plug into a receptacle.

2.10 Colorimetric Calibration (Color ID) Overview

This printer employs “Colorimetric Calibration (Color ID)” to correct unit-to-unit variations in color.
Colorimetric Calibration (Color ID) corrects not only the weight of ink droplets which differs depending on the individual characteristics of print head but also variable factors such as drive circuit and voltage. This enables a higher-accuracy calibration.

OVERVIEW

1. **Printing/ Measuring the color of a correction pattern**
   A correction pattern printed by a completed product is used for the calibration. A calibrator is used to perform the color measurement of the printed pattern.
2. **Writing the correction value**
   Correction values are automatically calculated based on the result of the color measurement and stored in the NVRAM on the main board.
3. **Reflecting the correction value**
   Every time the printer makes a print, the printer driver reads out the correction values from the NVRAM. Each ink droplet weight and the number of ink droplets for each dot are corrected according to the information.

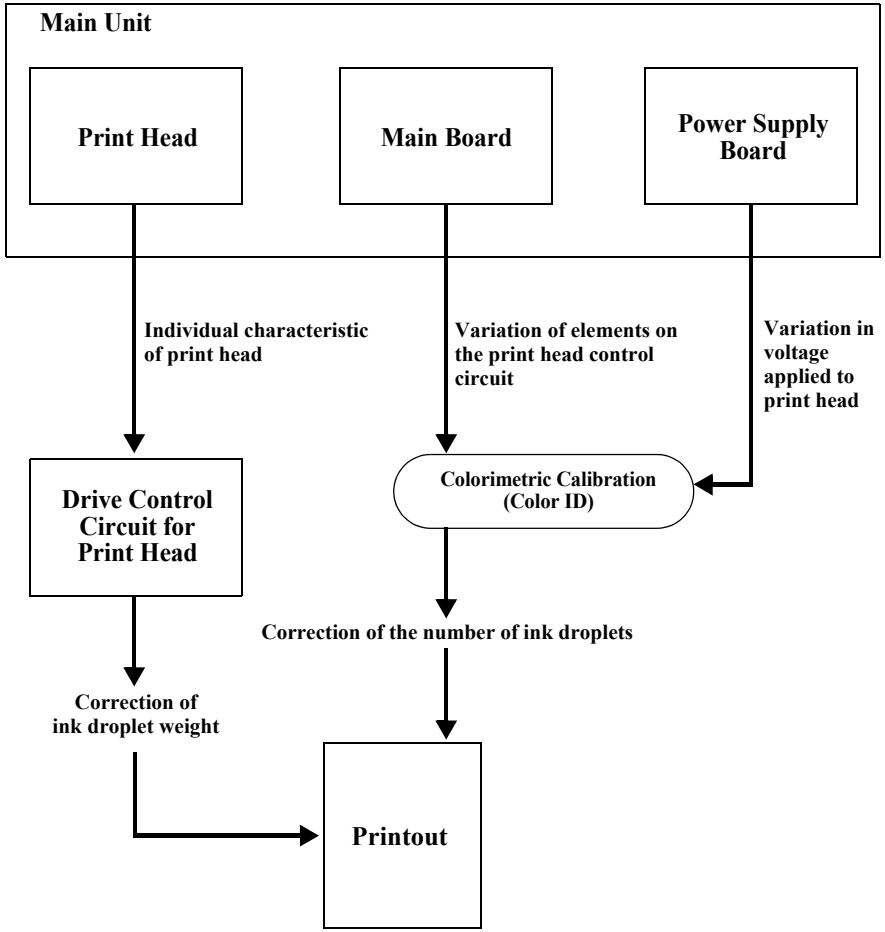


Figure 2-35. Colorimetric Calibration (Color ID)

CHAPTER

3

TROUBLE SHOOTING

3.1 Overview

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

3.1.1 Preliminary Check

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

1. There is no foreign material which interferes with the proper operation of the printer.
2. Print the status sheet, and check the information printed on the sheet to find out possible causes of the error; if the main units have reached their end of life, or if there is something wrong with the user-defined panel settings.
3. Both outside and inside of the printer are free of significant dirt. Clean it if significant dirt is observed.
4. None of the parts or components of the printer are missing, chipped or damaged.
5. All of the harnesses are free of damages and properly connected to their connectors.
6. The cams and gears in the printer mechanism are engaged correctly showing no signs of wear.
7. When smudges appear on printed pages, clean the rubber rollers in the printer mechanism if it solves the problem.
8. The rubber rollers in the printer mechanism are engaged correctly showing no signs of wear.
9. Initialize the NVRAM on the C635 main board (reset the user-defined panel settings to their factory default) if necessary.
   Execute the DEFAULT PANEL in the Maintenance mode.

WARNING

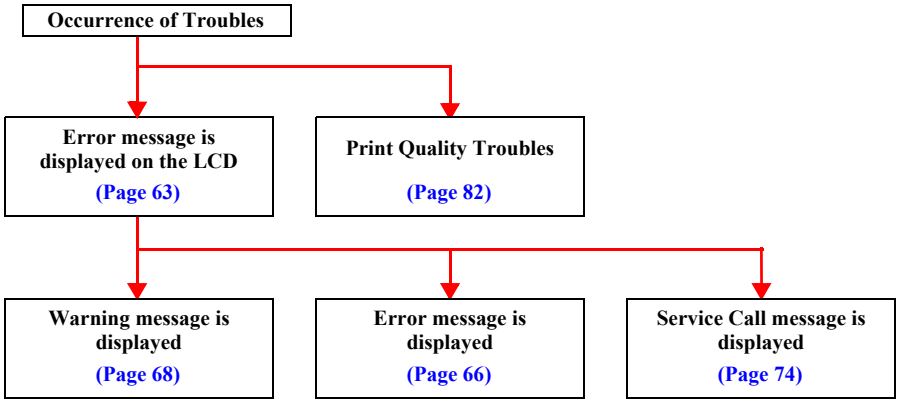
When handling the lithium battery used for backup of the RTC on the main board, strictly follow the safety instructions given in "4.1.1 Precautions" *(p86)*.

CAUTION

- **Before disassembling/reassembling the printer, be sure to turn the power OFF, confirm the panel display disappears, and unplug the power code.**
- **Be sure to use the specified tools for maintenance/repair.**
- **To maintain the product's quality, be sure to use the specified lubricant and adhesive.**
- **Be sure to perform the adjustments as required.**

3.1.2 Troubleshooting Procedure

Follow the flowchart given below to troubleshoot problems efficiently.



3.2 List of Panel Messages

The printer runs diagnostic checks on itself according to various conditions detected by the mounted sensors. If an error condition is detected as a result of the self-diagnosis, the printer displays the corresponding error message on its LCD panel.
The error messages are shown on the following list.

Table 3-1. List of Panel Messages

Category	Message on LCD	Description	Ref. Page
Warning	MAINTENANCE REQUEST XXXX	Maintenance Call Warning	p66
	INK LOW	Ink level is low.	p66
	REPLACE MAINTENANCE CARTRIDGE SOON	The maintenance cartridge is close to its full status.	p66
Error	SERVICE CALL ERROR NNNN PLEASE CONTACT TO THE REPAIR CENTER	A fatal error has occurred. (Service Call No. is displayed.)	p68
	PRINTER ERROR RESTART THE PRINTER	A fatal error has occurred. (Rebooting the printer is required))	p68
	CARRIAGE LOCKED RELEASE THE CARRIAGE LOCK	A fatal error has occurred. (The carriage is locked)	p68
	PAPER JAM CLEAR JAMMED PAPER SEE PRINTER GUIDE FOR INSTRUCTIONS	A paper jam has occurred. (Fatal error)	p68
	NO MAINTENANCE CART. INSTALL THE MAINTENANCE CARTRIDGE.	No maintenance cartridge is recognized.	p68
		A maintenance cartridge CSIC read/write error has occurred.	p68
	MAINTENANCE COVER OPEN CLOSE THE MAINTENANCE COVER	The maintenance cartridge cover is open.	p68
	PAPER FEED ERROR REMOVE PAPER AND LOAD PAPER CORRECTLY	Failed to feed paper into the printer.	p68

Table 3-1. List of Panel Messages

Category	Message on LCD	Description	Ref. Page
Error	PAPER FEED ERROR LOAD PAPER CORRECTLY AND PRESS PAPER/FEED BUTTON	Failed to feed board paper into the printer.	p69
	PAPER JAM REMOVE PAPER	A paper jam has occurred and failed to eject the paper.	p69
	CANNOT OPEN COVER IS THERE ANYTHING ON THE PRINTER? PRESS THE UP BUTTON	Failed to open the ink cartridge cover.	p69
	NOT ENOUGH EMPTY SPACE REPLACE THE MAINTENANCE CARTRIDGE	The maintenance cartridge is almost full (insufficient for the required job).	p69
	NOT ENOUGH INK REPLACE INK CARTRIDGE WITH A NEW ONE	The ink cartridge is almost empty (insufficient for the required job).	p69
	MAINTENANCE PLEASE USE GENUINE EPSON CARTRIDGES	The maintenance cartridge is not an EPSON-genuine one.	p69
	MAINTENANCE NON-GENUINE MAINTENANCE CARTRIDGE INSTALLED. MAINTENANCE CAPACITY TO ABSORB INK MAY VARY. CONTINUE? <YES NO>	The maintenance cartridge is not an EPSON-genuine one.	p69
	MAINTENANCE CARTRIDGE FULL REPLACE THE CARTRIDGE	The maintenance cartridge is full.	p69

Table 3-1. List of Panel Messages

Category	Message on LCD	Description	Ref. Page
Error	FRONT FEED SLOT OPEN PRESS THE DOWN BUTTON AND REMOVE PAPER	A board paper could not be removed.	p70
	FRONT FEED SLOT OPEN CLOSE THE FRONT MANUAL FEED SLOT	The board paper tray was opened in the middle of printing.	p70
	FRONT FEED SLOT OPEN LOAD MEDIA AND PRESS THE DOWN BUTTON	No paper has been loaded on the board paper tray.	p70
	FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	The board paper tray was closed in the middle of printing.	p70
	FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	The board paper tray was closed when a paper in the tray needs to be removed.	p70
	NO INK CARTRIDGE INSTALL INK CARTRIDGE	No ink cartridge is recognized.	p70
	INK CARTRIDGE ERROR REPLACE CARTRIDGE	An ink cartridge CSIC read/write error has occurred.	p70
	INK CARTRIDGE PLEASE USE GENUINE EPSON INK CARTRIDGE	The ink cartridge is not an EPSON-genuine one.	p70

Table 3-1. List of Panel Messages

Category	Message on LCD	Description	Ref. Page
Error	INK CARTRIDGE NON-GENUINE CARTRIDGE! QUALITY OF NON-GENUINE INK MAY VARY. THIS MAY NOT PERFORM AT OPTIMUM. CONTINUE? <YES NO>	The ink cartridge is not an EPSON-genuine one.	p71
	INK CARTRIDGE REPLACE INK CARTRIDGE	The ink cartridge is empty.	p71
	INK COVER OPEN CLOSE THE INK COVER	The ink cartridge cover was opened.	p71
	COMMAND ERROR CHECK DRIVER SETTINGS	A command error has occurred.	p71
	PAPER SKEW PRESS THE DOWN BUTTON LOAD PAPER CORRECTLY	The loaded paper is skewed.	p71
	PAPER ERROR PRESS THE DOWN BUTTON LOAD PAPER CORRECTLY	Failed to detect the paper width.	p71
	BORDERLESS ERROR PRESS THE DOWN BUTTON LOAD THE CORRECT SIZE PAPER	The paper size is not available for the borderless printing.	p72
	PAPER EJECT ERROR PRESS THE DOWN BUTTON AND REMOVE PAPER	Failed to eject a cut sheet of paper.	p72

Table 3-1. List of Panel Messages

Category	Message on LCD	Description	Ref. Page
Error	PAPER FEED ERROR LOAD PAPER CORRECTLY PRESS THE DOWN BUTTON	A multi-feed was detected and the papers were ejected automatically without printing.	p72
	PAPER REMOVE REMOVE PAPER FROM THE REAR	Failed to eject paper fed from the rear manual tray.	p72
	PAPER ERROR LOAD PAPER	No paper is detected.	p72
	PAPER SIZE ERROR LOAD THE CORRECT SIZE PAPER	The size of loaded paper does not match with the paper size setting.	p72
	PAPER SENSOR ERROR PRESS THE 🗑 BUTTON LOAD DIFFERENT PAPER	The ink mark sensor sensitivity adjustment could not be made.	p72
	PAPER SENSOR ERROR PRESS THE 🗑 BUTTON LOAD THE CORRECT PAPER	Failed to determine the adjustment value based on the result detected by the ink mark sensor. (could not determine, or the determined value fell outside the adjustable range.)	p73
	CLEANING ERROR PRESS THE CANCEL/RESET BUTTON	Clogging nozzles are detected by the nozzle check after running a head cleaning.	p73
	CLEANING ERROR PRESS THE DOWN BUTTON AND REMOVE THICK PAPER	A head cleaning was attempted with a board paper loaded, or before printing when the PW sensor was OFF.	p73
	PAPER SETTING ERROR CHECK PAPER SOURCE IN THE DRIVER SETTINGS AND LOAD PAPER CORRECTLY	The paper has been loaded in the tray that is different from the one specified in the driver setting.	p73

3.3 Remedies for Warning Messages

When a Warning error occurs, the printer displays a Warning message instead of “READY” or “PRINTING” messages, however, it does not interfere with printing operation.

REMEDIES

The following tables explains the Warning messages and remedies.

Table 3-2. Remedies for Warning Messages

Message on LCD	Description	Remedy
MAINTENANCE REQUEST XXXX	*See MAINTENANCE Request XXXX on page 67.*	
INK LOW	The remaining ink is low.	Prepare a new ink cartridge.
REPLACE MAINTENANCE CARTRIDGE SOON	The free space of the maintenance cartridge is low.	Prepare a new maintenance cartridge.

MAINTENANCE REQUEST XXXX

When a Maintenance Request error occurs, the printer displays on the LCD a hexadecimal code of "NNNN" which correspond to the bit numbers assigned to error statuses as shown in the table below.

Table 3-3. Maintenance Request Errors

	Bit assignment (Binary)														XXXX (Hexa-decimal)	Cause	Remedy
	0	1	2	3	4	5	6	7	8	9	10	11	12	13-15			
	1	0	(NA)	0	(NA)	(NA)	0	0	0	(NA)	(NA)	0	0	(RSVD)	0001	The counter of waste ink used for printing margins at borderless printing has reached the specified value.	Replace the waste ink pads for borderless printing (POROUS PAD,INK WASTE BOX, LEFT/RIGHT) with new ones, and clear the counter using the Adjustment Program.
	0	1	(NA)	0	(NA)	(NA)	0	0	0	(NA)	(NA)	0	0	(RSVD)	0002	The CR scan pass counter has reached the specified value. (ink supply tube has reached its end of life.)	Replace the tube (INK,SYSTEM,ASSY.) with a new one, and clear the counter using the Adjustment Program.
	0	0	(NA)	1	(NA)	(NA)	0	0	0	(NA)	(NA)	0	0	(RSVD)	0008	The RTC backup battery becomes exhausted.	Replace the battery with a new one, and execute RTC initialization using the Adjustment Program.
	0	0	(NA)	0	(NA)	(NA)	1	0	0	(NA)	(NA)	0	0	(RSVD)	0040	The pump counter has reached the specified value.	Replace the pump cap unit (PUMP,CAP,ASSY.) with a new one, and clear the counter using the Adjustment Program.
	0	0	(NA)	0	(NA)	(NA)	0	1	0	(NA)	(NA)	0	0	(RSVD)	0080	The date has not been set.	Execute RTC initialization using the Adjustment Program.
	0	0	(NA)	0	(NA)	(NA)	0	0	1	(NA)	(NA)	0	0	(RSVD)	0100	The RTC backup battery power has temporarily dropped.	Wait until the power recovers.
	0	0	(NA)	0	(NA)	(NA)	0	0	0	(NA)	(NA)	1	0	(RSVD)	0800	The ink cartridge installation/removal counter has reached the upper limit.	Replace the waste ink pad (POROUS PAD,TRAY,INK EJECT) in the cartridge holder with a new one, and clear the counter using the Adjustment Program.
	0	0	(NA)	0	(NA)	(NA)	0	0	0	(NA)	(NA)	0	1	(RSVD)	1000	The number of drives of the ink selector has reached the upper limit.	Replace the ink selector (INK,SYSTEM,ASSY.) with a new one, and clear the counter using the Adjustment Program.
Ex.	0	0	(NA)	1	(NA)	(NA)	0	1	0	(NA)	(NA)	0	0	(RSVD)	0088	RTC backup battery has not been set.	Install a battery, and execute RTC initialization using the Adjustment Program to set date and time.
Description	Borderless printing absorber	CR life	Unassigned	Battery exhaustion	Unassigned	Unassigned	Pump cap unit life	Date not set	Battery voltage	Unassigned	Unassigned	Holder absorber life	Ink selector life	Unassigned			

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

3.4 Remedies for Error Messages

The following tables explains the error messages and remedies.

Message on LCD	Description	Remedy
SERVICE CALL ERROR NNNN PLEASE CONTACT TO THE REPAIR CENTER	*See 3.5 Remedies for Service Call Error on page 74.*	
PRINTER ERROR RESTART THE PRINTER	A firmware bug, or some circuit component(s) on the main board is (are) damaged.	Turn the printer Off and reboot it after waiting for a while. If a Service Call error occurs, see *3.5 Remedies for Service Call Error (p74)* for further troubleshooting.
CARRIAGE LOCKED RELEASE THE CARRIAGE LOCK	The power is turned On without removing the protective material for the print head.	Remove the protective material.
PAPER JAM CLEAR JAMMED PAPER SEE PRINTER GUIDE FOR INSTRUCTIONS	A paper jam has occurred.	Remove the jammed paper and load paper correctly.
	The PE sensor detected paper is still in the paper feed path. Torn scrap of paper or some foreign matter may exist.	Check the paper feed path around the PE sensor and remove any scrap of paper or foreign matter.
	Paper feeding was physically interrupted.	Check the paper feed path and remove any scrap of paper or foreign matter.
NO MAINTENANCE CART. INSTALL THE MAINTENANCE CARTRIDGE.	No maintenance cartridge has been installed.	Install a maintenance cartridge.
	The maintenance cartridge cannot be recognized by the printer.	Remove the maintenance cartridge and reinstall it correctly. If this does not solve the problem, replace the cartridge with a new one.
	The printer cannot read/write data from/to the CSIC of the maintenance cartridge properly.	Replace the maintenance cartridge with a new one.
MAINTENANCE COVER OPEN CLOSE THE MAINTENANCE COVER	The cover of the maintenance cartridge is open.	Close the maintenance cartridge cover.
	The maintenance cartridge cover sensor cannot detect that the cover is closed.	Check the cover. If any damage is observed, replace it with a new one.
		Check that the following connectors are connected correctly. ■ Connector on the maintenance cartridge cover sensor ■ CN62 on the main board
		Replace the maintenance cartridge cover sensor. *See 4.3.6.4 MAINTENANCE CARTRIDGE SENSOR on page 130.*
PAPER FEED ERROR REMOVE PAPER AND LOAD PAPER CORRECTLY	The PW sensor cannot detect the paper when the PF motor has driven a predetermined number of steps.	Remove the paper and load paper correctly.
	Paper feeding was physically interrupted.	Check the paper feed path and remove any scrap of paper or foreign matter.

Message on LCD	Description	Remedy
PAPER FEED ERROR LOAD PAPER CORRECTLY AND PRESS PAPER/FEED BUTTON	Feeding board paper was physically interrupted.	Check if the paper is thicker than available thickness. Use paper of available thickness. Check the paper. If it is curled or creased, change it with a normal one.
PAPER JAM REMOVE PAPER	■ The PE sensor still detects the paper after the PF motor has driven a predetermined number of steps. ■ The **Paper Feed/Down** button was pressed three times to remove paper fed from the rear manual tray.	Remove jammed paper, if any. Check the connection between the PE sensor and the main board and fix any abnormality. Replace the PE sensor (PAPER, DETECTOR, ASSY). *See 4.4.1.4 PAPER, DETECTOR, ASSY. on page 203.*
CANNOT OPEN COVER IS THERE ANYTHING ON THE PRINTER? PRESS THE UP BUTTON	The cartridge cover cannot open due to an obstruction on the top of it.	If any obstruction is observed, remove it.
NOT ENOUGH EMPTY SPACE REPLACE THE MAINTENANCE CARTRIDGE	The maintenance cartridge is near capacity. The available space may not be enough to continue the job.	Replace the maintenance cartridge with a new one.
NOT ENOUGH INK REPLACE INK CARTRIDGE WITH A NEW ONE	The ink cartridge is near empty.	Replace the ink cartridge with a new one.
MAINTENANCE PLEASE USE GENUINE EPSON CARTRIDGES	The installed maintenance cartridge is not the EPSON genuine cartridge.	Replace the maintenance cartridge with an EPSON genuine one.
MAINTENANCE NON-GENUINE MAINTENANCE CARTRIDGE INSTALLED. MAINTENANCE CAPACITY TO ABSORB INK MAY VARY. CONTINUE? <YES NO>	The installed maintenance cartridge is not the EPSON genuine cartridge.	After selecting “NO”, replace the maintenance cartridge with a genuine one.
MAINTENANCE CART. REPLACE MAINTENANCE CARTRIDGE	The maintenance Cartridge is full.	Replace the Maintenance Cartridge with a new one.

Message on LCD	Description	Remedy
FRONT FEED SLOT OPEN PRESS THE DOWN BUTTON AND REMOVE PAPER	The release roller is locked because the Board Paper Tray (front feed slot) has been held open for longer than a predetermined time period.	■ Press the **Paper Feed/Down** button to unlock the release roller. ■ When no paper has been loaded on the tray, close the tray.
FRONT FEED SLOT OPEN CLOSE THE FRONT MANUAL FEED SLOT	The Board Paper Tray (front feed slot) was opened when it should not be opened. ■ The tray was opened after feeding paper from the rear manual tray using the operation panel. ■ The tray was open when paper feeding from the ASF was started. ■ The tray was opened before the power-on initialization sequence is finished.	Close the Board Paper Tray (front feed slot).
FRONT FEED SLOT OPEN LOAD MEDIA AND PRESS THE DOWN BUTTON	The Board Paper Tray (front feed slot) was opened when the printer became ready for printing.	Load paper on the Board Paper Tray (front feed slot), and press the **Paper Feed/Down** button.
FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	The Board Paper Tray (front feed slot) is closed when the tray is selected as the paper source.	Open the Board Paper Tray (front feed slot).
	The Board Paper Tray Open sensor is not connected.	Check the connection between the sensor and the main board, and fix any abnormality.
	The Board Paper Tray Open sensor is broken.	Replace the sensor.
FRONT SLOT CLOSED OPEN THE FRONT MANUAL FEED SLOT	The Board Paper Tray (front feed slot) is closed, but the PE sensor is detecting paper.	Open the Board Paper Tray (front feed slot).
	The Board Paper Tray Open sensor is not connected.	Check the connection between the sensor and the main board and fix any abnormality.
	The Board Paper Tray Open sensor is broken.	Replace the sensor with a new one.
NO INK CARTRIDGE INSTALL INK CARTRIDGE	The printer cannot recognize the ink cartridge.	Install an ink cartridge. If already installed, remove and reinstall it.
		Replace the ink cartridge.
INK CARTRIDGE ERROR REPLACE CARTRIDGE	The printer cannot read/write data from/into the CSIC correctly.	Check the connection between the CSIC and the main board, and fix any abnormality.
		Replace the ink cartridge.
INK CARTRIDGE PLEASE USE GENUINE EPSON INK CARTRIDGE	The installed ink cartridge is not the EPSON genuine cartridge.	Replace the ink cartridge with an EPSON genuine one.

Message on LCD	Description	Remedy
INK CARTRIDGE NON-GENUINE CARTRIDGE! QUALITY OF NON-GENUINE INK MAY VARY. THIS MAY NOT PERFORM AT OPTIMUM. CONTINUE? <YES NO>	The installed ink cartridge is not the EPSON genuine cartridge.	After selecting “NO”, replace the ink cartridge with a genuine one.
INK CARTRIDGE REPLACE INK CARTRIDGE	The ink cartridge is empty.	Replace the ink cartridge with a new one.
INK COVER OPEN CLOSE THE INK COVER	The Ink Cover is open.	Close the Ink Cover.
	The Ink Cover Open sensor is broken.	Replace the Ink Cover Open sensor (LOCK, COVER, ASSY.). *See 4.3.6.1 LOCK, COVER, ASSY. on page 125.*
COMMAND ERROR CHECK DRIVER SETTINGS	The printer received an invalid command.	Cancel the job and reset the printer by pressing the **Cancel/Reset** button for more than three seconds.
		Check if the correct printer driver has been installed on the PC. If not, install the correct driver.
PAPER SKEW PRESS THE DOWN BUTTON LOAD PAPER CORRECTLY	Paper skew was detected when paper was fed from the rear or front manual tray.	Press the **Paper Feed/Down** button to eject the paper.
PAPER ERROR PRESS THE DOWN BUTTON LOAD PAPER CORRECTLY	Unsupported media (such as a transparency) was fed, and the PW sensor cannot detect the media.	Press the **Paper Feed/Down** button to eject the paper, and change it with a correct one. Or, set the PAPER SIZE CHECK in the PRINTER SETUP menu to OFF.
	The PW sensor cannot detect the paper because the paper is similar in color to the platen.	Press the **Paper Feed/Down** button to eject the paper, and change it with a different colored one. Or, set the PAPER SIZE CHECK in the PRINTER SETUP menu to OFF.
	The PW sensor is broken.	Replace the PW sensor (BOARD ASSY., DETECTOR, PW; B) *See 4.3.11.4 BOARD ASSY., DETECTOR, PW; B on page 194.*

Message on LCD	Description	Remedy
BORDERLESS ERROR PRESS THE DOWN BUTTON LOAD THE CORRECT SIZE PAPER	The paper edges are not on the Porous Pad because the size of the loaded paper is not supported for borderless printing.	Press the **Paper Feed/Down** button to eject the paper. Load paper of the size available for borderless printing. *See 1.3.3 Paper Support on page 15.*
	The paper edges are not on the Porous Pad because the paper is not set in the correct position.	Press the **Paper Feed/Down** button to eject the paper, and set the paper correctly.
	The PAPER SIZE CHECK in the PRINTER SETUP menu has been set to OFF.	Set the PAPER SIZE CHECK to ON.
PAPER EJECT ERROR PRESS THE DOWN BUTTON AND REMOVE PAPER	The paper length is longer than available length shown below. The PE sensor does not turn Off even after the PF Motor has driven a predetermined number of steps. ■ Cut sheet: Less than 1,200 mm ■ Board paper: Less than 24 inches	Press the **Paper Feed/Down** button to eject the paper.
	The paper is stuck in the paper path, and cannot be ejected.	Remove the paper.
	The PE sensor is broken.	Replace the PE sensor (PAPER, DETECTOR, ASSY.). *See 4.4.1.4 PAPER, DETECTOR, ASSY. on page 203.*
PAPER FEED ERROR LOAD PAPER CORRECTLY PRESS THE DOWN BUTTON	Sheets of paper stacked on the ASF became misaligned while performing duplex-printing.	Reset the ejected blank paper and press the **Paper Feed/Down** button.
PAPER REMOVE REMOVE PAPER FROM THE REAR	The paper cannot be ejected normally for some reasons.	Remove the paper.
	The PE sensor is broken.	Replace the PE sensor (PAPER, DETECTOR, ASSY.). *See 4.4.1.4 PAPER, DETECTOR, ASSY. on page 203.*
PAPER ERROR LOAD PAPER	Feeding paper from the ASF failed twice in succession.	Load paper and press the **Paper Feed/Down** button.
		Check the PF roller and replace it if worn. *See 4.4.1.1 ASF, ASSY. on page 197.*
	A print job specifying the rear or front manual feed tray as its paper source is received, but the PE sensor does not detect the paper.	Replace the PE sensor (PAPER, DETECTOR, ASSY.). *See 4.4.1.4 PAPER, DETECTOR, ASSY. on page 203.*
PAPER SIZE ERROR LOAD THE CORRECT SIZE PAPER	The size of the loaded paper is different from that is specified in the received job.	Load paper whose size matches with the job setting.
PAPER SENSOR ERROR PRESS THE 🗑 BUTTON LOAD DIFFERENT PAPER	The low reflective paper is used.	Press the **Cancel/Reset** button and load a different type of paper.
	An error has occurred at the Ink Mark sensor sensitivity check.	Replace the Ink Mark sensor (BOARD ASSY., INK MARK). *See 4.3.11.3 BOARD ASSY., INK MARK on page 193.*

Message on LCD	Description	Remedy
PAPER SENSOR ERROR PRESS THE 🗑 BUTTON LOAD THE CORRECT PAPER	An error has occurred while the Ink Mark sensor is reading the print pattern for adjustment.	Press the **Cancel/Reset** button and load a different type of paper.
CLEANING ERROR PRESS THE CANCEL/RESET BUTTON	Clogged nozzles cannot be cleared even after running head cleaning cycle a predetermined number of times.	Press the **Cancel/Reset** button to clear the error, and retry the head cleaning.
CLEANING ERROR PRESS THE DOWN BUTTON AND REMOVE THICK PAPER	Head cleaning was attempted when board paper had been fed.	Remove the board paper and close the Board Paper Tray.
PAPER SETTING ERROR CHECK PAPER SOURCE IN THE DRIVER SETTINGS AND LOAD PAPER CORRECTLY	The ASF is specified as the paper source of the received job, but paper has been loaded on the front or rear manual feed tray. Feeding paper from the ASF is attempted using the operation panel after receiving a job specifying the front or rear manual feed tray as its paper source.	Cancel the job, or press the **Paper Feed/Down** button to eject the paper.

3.5 Remedies for Service Call Error

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

CHECK POINT

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

Error Code	Error Name	Description	Remedy
1101	CR life error	The CR scan path counter has reached a predetermined level. (The end of life of the Ink Supply Tube)	Replace the Ink Supply Tube (INK, SYSTEM, ASSY) and reset the counter using the Adjustment Program. In addition, check the statuses of the CR motor (MOTOR ASSY., CR), the driven pulley, the Carriage Unit, and the Head FFC, if any abnormal noise or wear is found, replace the corresponding part(s) along with the Ink Supply Tube. *See 4.3.9.3 INK, SYSTEM, ASSY. on page 153.*
1120	CR lock error	The CR encoder failed to read the CR scale during a predetermined time period.	Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
			Replace the CR scale (SCALE, CR). *See 4.3.7.1 SCALE, CR on page 132.*
		The carriage unit does not operate due to a CR motor failure or some reasons.	Move the carriage unit manually to check if it moves smoothly, and fix any abnormality.
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1121	CR reverse error	An abnormal operation (reveres movement) of the carriage was detected a predetermined number of times.	Check the CR scale (SCALE, CR) for incorrect attachment, scratch, dirt, and fix any abnormality.
			Replace the CR scale (SCALE, CR). *See 4.3.7.1 SCALE, CR on page 132.*
			Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
1122	CR overspeed error	The carriage moved faster than a designated level.	Check the CR scale (SCALE, CR) for incorrect attachment, scratch, dirt, and fix any abnormality.
			Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*

Error Code	Error Name	Description	Remedy
1123	Duty over error	An abnormal load is applied to the CR motor.	Check the carriage shaft surface for any foreign matters, and remove it if any.
			Check that the carriage shaft and the contact points between the carriage unit and the main frame are properly lubricated.
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1124	Drive timeover error	One cycle movement cannot be finished during a predetermined time period after power-on.	Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
			Replace the CR scale (SCALE, CR). *See 4.3.7.1 SCALE, CR on page 132.*
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1125	CR home position detection error	The carriage home position cannot be detected because the Pump Cap unit does not work to unlock the carriage at power-on.	Replace the Pump Cap unit (PUMP, CAP ASSY.) and clear the usage counter using the Adjustment Program. *See 4.3.9.1 PUMP, CAP ASSY. on page 150.*
1126	CR lock release error	The carriage unit cannot be unlocked.	
1127	CR lock set error	The printer cannot lock the carriage unit.	
1130	Overspeed error (PID-load positioning)	The carriage speed detected by the CR encorder exceeded the limit.	Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1131	Drive timeover error (PID-load positioning)	The condition to stop the CR motor is not satisfied when the CR motor has driven for a predetermined time period.	Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
			Replace the CR scale (SCALE, CR). *See 4.3.7.1 SCALE, CR on page 132.*
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1132	Out of sync. (PID-load positioning)	The carriage unit position error detected by the CR encoder fell outside the specified limits.	Check that the CR timing belt is properly attached.
			Check the CR timing belt's tension. Correct it if not proper.
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1133	Positioning time-out (PID-load positioning)	The carriage unit cannot reach the target position.	Check that the CR timing belt is properly attached.
			Check the CR timing belt's tension. Correct it if not proper.
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*

Error Code	Error Name	Description	Remedy
1134	Integral term overload (PID-load positioning)	An abnormal load is applied to the CR motor.	Check the carriage shaft surface for any foreign matters, and remove it if any.
			Check that the carriage shaft and the contact points between the carriage unit and the main frame are properly lubricated.
			Replace the CR motor (MOTOR ASSY., CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1135	Encoder test error (PID-load positioning)	Some abnormalities were found in the encoder test result.	Check the CR scale (SCALE, CR) for any dirt, and clean it if any dirt is observed.
			Check the CR encoder (BOARD ASSY., ENCODER, CR) for incorrect attachment, scratch, dirt, and fix any abnormality.
			Replace the CR encoder (BOARD ASSY., ENCODER, CR). *See 4.3.11.2 BOARD ASSY., ENCODER on page 192.*
1221	PF measurement error	An abnormal load is applied to the PF motor.	Check all the parts that are driven by the PF motor for any abnormal load, and fix any abnormality.
			Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
1222	Drive timeover error	The condition to stop the PF motor is not satisfied when the PF motor has driven for a predetermined time period.	Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1220	Overspeed error	The motor speed detected by the PF encorder exceeded the limit.	Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1223	Encoder test error	Some abnormalities were found in the encoder test result.	Check the PF scale (SCALE, PF) for any dirt, and clean it if any dirt is observed.
			Check the PF encoder (BOARD ASSY., ENCODER, PF) for incorrect attachment, scratch, dirt, and fix any abnormality.
			Replace the PF encoder (BOARD ASSY., ENCODER, PF). *See 4.3.6.2 ENCODER, PF, ASSY. on page 128.*
1224	Out of sync.	The positioning error detected by the PF encoder fell outside the specified limits.	Check that the PF timing belt is properly attached.
			Check the PF timing belt's tension. Correct it if not proper.
			Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*

Error Code	Error Name	Description	Remedy
1225	Positioning time-out	The PF roller cannot be rotated to the specified point.	Check that the PF timing belt is properly attached.
			Check the PF timing belt's tension. Correct it if not proper.
			Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
1226	Integral term overload	An abnormal load is applied to the PF motor.	Check all the parts that are driven by the PF motor for any abnormal load, and fix any abnormality.
			Replace the PF motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
131B	Head driver (transmission gate) temp. error	The temperature of the head driver has reached the upper limit.	Check the head FFC for connection status. Reconnect the FFC correctly.
			Replace the print head. *See 4.3.9.5 PRINT HEAD on page 161.*
		The main board is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1400	Pressure motor drive timeover	The target pressure cannot be achieved after the Pressure motor has driven for a predetermined time period (40 seconds).	Check junction of the ink cartridge and the ink cartridge holder, and remove any obstruction between them if any.
			Replace the ink cartridge.
			Replace the pressure pump (PURESSURE, PUMP, ASSY).
		The home position of the Pressure pump cannot be detected because the ridges of the accordion unit are adhered to each other, or the Pressure pump home sensor is broken.	Replace the pressure pump (PURESSURE, PUMP, ASSY). *See 4.3.9.7 PRESSURE, PUMP, ASSY. on page 167.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1401	Air leaks	The Pressure pump has air leaks.	Check that the pressure tube is properly connected. Reconnect the tube correctly if not.
			Replace the pressure pump (PURESSURE, PUMP, ASSY). *See 4.3.9.7 PRESSURE, PUMP, ASSY. on page 167.*
1403	Pressure reducing error	The pressure cannot be reduced.	Replace the pressure pump (PURESSURE, PUMP, ASSY). *See 4.3.9.7 PRESSURE, PUMP, ASSY. on page 167.*
1404	Pump movement cycle over error	The Pressure pump performed its movement cycle a predetermined number of times (60 cycles), but the pressure does not reach the specified level due to a malfunction of the pump, sensor or motor.	Replace the pressure pump (PURESSURE, PUMP, ASSY). *See 4.3.9.7 PRESSURE, PUMP, ASSY. on page 167.*
		Because of air leaks, the specified pressure cannot be obtained.	Replace the ink cartridge.
		Air is leaking through a gap between the ink cartridge and the ink cartridge holder due to an obstruction between them.	Check junction of the ink cartridge and the ink cartridge holder, and remove any obstruction between them if any.

Error Code	Error Name	Description	Remedy
1410	Drive time monitor time-out (PUMP)	The Pump motor run away out of control.	Turn the printer power On and Off.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
142D	Pump cap unit life error	The pump counter has reached its upper limit.	Replace the Pump Cap Unit (PUMP, CAP, ASSY), and reset the counter using the Adjustment Program. *See 4.3.9.1 PUMP, CAP ASSY. on page 150.*
1425	CSIC communication time-out	The printer cannot read/write data from/into the CSIC of the ink cartridge or the maintenance cartridge.	Check the connection between the CSIC and the main board and fix any abnormality.
			Replace the ink cartridge or the maintenance cartridge.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1430	Holder ink pad error	The ink cartridge installation/removal counter has reached the specified limit.	Replace the ink pad in the holder (POROUS PAD,TRAY,INK EJECT) and reset the counter using the Adjustment Program. *See 4.3.9.4 POROUS PAD, TRAY, INK EJECT on page 160.*
1431	Ink selector error	The number of drives of the Ink Selector has reached the specified limit.	Replace the Ink Selector (INK, SYSTEM, ASSY.) and reset the counter using the Adjustment Program. *See 4.3.9.3 INK, SYSTEM, ASSY. on page 153.*
1432	Ink selector drive timeover	Changing the ink path by the Ink Selector cannot be completed during a predetermined time period due to a malfunction of the Ink Selector (its sensor or motor).	Replace the Ink Selector (INK, SYSTEM, ASSY.) and reset the counter using the Adjustment Program. *See 4.3.9.3 INK, SYSTEM, ASSY. on page 153.*
1434	Ink cover unlock error	The cartridge cover cannot open due to an obstruction on the top of it.	Remove any obstruction on the cover.
		The ink cover open sensor is broken and cannot detect an open/close status of the cover.	Replace the ink cover Open sensor. *See 4.3.6.1 LOCK, COVER, ASSY. on page 125.*
		The ink cover solenoid is broken and cannot unlock the cover.	Replace the ink cover solenoid. *See 4.3.6.1 LOCK, COVER, ASSY. on page 125.*
1501	Release phase detection error	The release roller position sensor cannot detect the actuator after the release motor has driven a predetermined number of steps.	Replace the release motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*
			Replace the release roller position sensor (Release Sensor). *See 4.3.6.3 RELEASE SENSOR on page 129.*
1502	Drive time monitor time-out	The condition to stop the release motor are not satisfied when the release motor has driven for a predetermined time period.	Replace the release roller position sensor (Release Sensor). *See 4.3.6.3 RELEASE SENSOR on page 129.*
			Replace the release motor (MOTOR, RELEASE, ASSY). *See 4.3.10.3 MOTOR, RELEASE, ASSY. on page 187.*

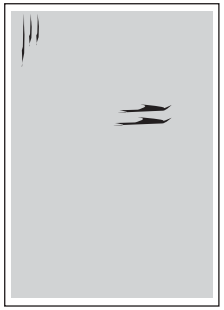
Error Code	Error Name	Description	Remedy
150C	PF phase detection error	The APG sensor cannot detect the origin point when the APG motor has driven for a predetermined time period.	Replace the APG motor (MOTOR, ASSY, APG). *See 4.3.5.1 MOTOR ASSY., APG on page 120.*
			Replace the APG sensor. *See 4.3.6.5 APG SENSOR on page 131.*
1511	Drive time monitor time-out (APG)	The APG motor run away out of control.	Turn the printer power On and Off.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1520	Drive time monitor time-out (CR)	The CR motor run away out of control.	Turn the printer power On and Off.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1531	ASF phase detection error	A status detected by the ASF sensor does not change when the ASF motor has driven for a predetermined time period.	Replace the ASF motor (MOTOR, ASSY, ASF). *See 4.3.5.2 MOTOR ASSY., ASF on page 122.*
			Replace the ASF sensor. *See 4.4.1.3 ASF SENSOR on page 202.*
1535	Pressure pump home detection error	The home position of the Pressure pump cannot be detected at power-on because the ridges of the accordion unit are adhered to each other, or the Pressure pump home sensor is broken.	Replace the Pressure Pump (PURESSURE, PUMP, ASSY). *See 4.3.9.7 PRESSURE, PUMP, ASSY. on page 167.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
1550	Borderless print ink pad error	The counter for the waste ink used at the bleed-off margins for borderless printing has reached its upper limit.	Replace the ink pad for borderless print (POROUS PAD, INK WASTE BOX, RIGHT/LEFT) and reset the counter using the Adjustment Program. *See 4.3.9.6 POROUS PAD, INK WASTE BOX, RIGHT/ POROUS PAD, INK WASTE BOX, LEFT on page 165.*
1600	Paper width sensor obstruction error	A foreign substance on the platen was detected at power-on.	Remove any dirt or foreign substances from the plate.
			Replace the PW sensor (BOARD ASSY., DETECTOR, PW;B). *See 4.3.11.4 BOARD ASSY., DETECTOR, PW; B on page 194.*
			Replace the CR motor (MOTOR, ASSY, CR). *See 4.3.5.3 MOTOR ASSY., CR on page 123.*
1601	Paper width sensor malfunction	The PW sensor is broken.	Replace the PW sensor (BOARD ASSY., DETECTOR, PW;B). *See 4.3.11.4 BOARD ASSY., DETECTOR, PW; B on page 194.*
1A23	Invalid RTC data	The various absolute time data stored in the NVRAM is abnormal.	Reset the RTC using the Adjustment Program and set the correct date and time.
1A26	RTC communication time-out	The RTC circuit on the main board is malfunctioning.	1. Turn the power Off and remove the lithium battery. 2. After a several seconds, reattach the battery and turn the power back On. 3. If the printer recovers from the error, Reset the RTC using the Adjustment Program and set the correct date and time

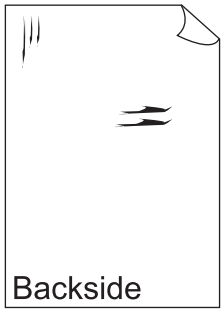
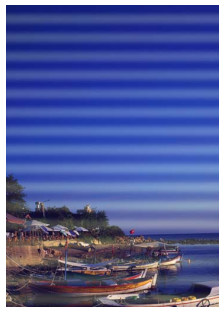
Error Code	Error Name	Description	Remedy
1A37	Thermistor sensor error	The head FFC is not correctly connected.	Check the head FFC, and reconnect it correctly.
		The head thermistor detected the head temperature fell outside the specified range.	Replace the print head. *See 4.3.9.5 PRINT HEAD on page 161.*
		The head thermistor is broken.	
1A38	Transistor ambient temp. error	The transistor is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
		The thermistor detected a temperature outside the specified range.	
1A40	IC22 error	The destination setting is wrong.	Correct the destination setting.
2000	NVRAM error	An NVRAM erase or write error has occurred.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
2002	SDRAM error	An SDRAM read/write error has occurred.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
2003	FLASH BOOT SUM CHECK error	Failed to install the firmware.	Reinstall the firmware.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
		The FlashROM is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
2009	FLASH SUM CHECK error	Failed to install the firmware.	Reinstall the firmware.
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
		The FlashROM is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
200A	Firmware loading error	The SDRAM is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
200B	Insufficient internal memory	There is something wrong with the firmware.	Install a normal firmware.
3000	AC power line shut-off	The AC power was shut off due to a power failure, unplugged, power supply board failure, or main board failure.	Check the power cable (from the power outlet to the socket on the printer) for poor connection or breaks.
			Replace the power supply board (BOARD ASSY., POWER SUPPLY). *See 4.3.4.2 BOARD ASSY., POWER SUPPLY on page 117.*
			Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*

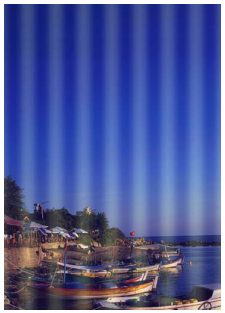
Error Code	Error Name	Description	Remedy
DXXX	Error code for debugging	The main board is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
		There is something wrong with the firmware.	Install a normal firmware.
FXXX	CPU-related error	The main board is broken.	Replace the main board (BOARD ASSY., MAIN). *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
		There is something wrong with the firmware.	Install a normal firmware.

3.6 Remedies for Print Quality Troubles

This section provides troubleshooting of print quality troubles classifying them by observed symptom.

Symptom	Description	Remedy
Dot missing	The nozzles are clogging with ink.	Clear the clogged nozzles following the procedure below. 1. Run a manual head cleaning using the operation panel or the printer driver. (If the symptom does not change after running the cleaning cycle four times, proceed to the next step.) 2. Run a power cleaning cycle using the operation panel.
		Replace the print head. *See 4.3.9.5 PRINT HEAD on page 161.*
	Ink cannot be fired normally due to a failure of the parts listed in the Remedy column.	Inspect the following parts, and fix any abnormality. ☐ Pump Cap Unit (PUMP, CAP, ASSY) *See 4.3.9.1 PUMP, CAP ASSY. on page 150.* ■ The tube of the CAP ASSY., PUMP is disconnected. ■ The tube of the CAP ASSY., PUMP has become flat. ■ The cap rubber is broken. ■ The cleaning blade is broken or some foreign substances have adhered to the blade. ☐ There is something wrong with the connection of the ink cartridge, ink holder, tube, damper, and print head. (Replace the INK SYSTEM, ASSY.) ☐ The head FFC is not connected correctly. ☐ Print head *See 4.3.9.5 PRINT HEAD on page 161.* ☐ Main board *See 4.3.4.1 BOARD ASSY., MAIN on page 113.*
Ink smear (printed area) 	The paper is contaminated by ink smear in the paper feed path.	Check the PF roller for ink smudges, and clean it if any dirt is observed.
	Paper is rubbed against the print head.	Widen the platen gap.

Symptom	Description	Remedy
Ink smear (backside) 	Paper is curled or creased.	Change the paper with a normal one.
	The paper is contaminated by ink smear in the paper feed path.	Check the platen and PF roller for ink smudges, and clean them if any dirt is observed. CAUTION If the PAPER SIZE CHECK in the PRINTER SETUP menu has been set to OFF, the printer carry out a required job even if the paper size setting does not match with the loaded paper. The printer will print on the platen if the loaded paper is smaller than the image size. If not necessary, change the setting to ON.
	The waste ink pads for borderless printing are not securely attached and contaminating paper.	Check the waste ink pads (POROUS PAD, INK WASTE BOX, RIGHT/LEFT) and reattach them correctly.
Horizontal banding 	Paper setting made in the printer driver is wrong.	Correct the paper setting.
	There is something wrong with paper feeding.	Carry out the PF adjustment. *See Chapter 5 "ADJUSTMENT"..*
		Check the PF scale (SCALE, PF) for any dirt, and clean it if any dirt is observed.
		Check the PF encoder (BOARD ASSY., ENCODER, PF) for scratch, dirt, and clean it if any dirt is observed.
		Replace the PF encoder (BOARD ASSY., ENCODER, PF). *See 4.3.6.2 ENCODER, PF, ASSY. on page 128.*
	The print head has not been adjusted properly.	Carry out the Print Head Slant Adjustment (PF) and the Print Head Slant Adjustment (CR). *See Chapter 5 "ADJUSTMENT".*
	The PF belt's tension is not proper.	Carry out the PF Timing Belt Tension Adjustment. *See Chapter 5 "ADJUSTMENT".*
Vertical banding (partly) 	There is something wrong with the carriage unit movement.	Check the CR scale (SCALE, CR) for attachment condition, scratch and dirt, and fix any abnormality.
		Check the CR timing belt for scratch and foreign substances, and fix any abnormality.
		Check the carriage shaft for foreign substances, and remove them if any.
		Check that the carriage shaft and the contact points between the carriage unit and the main frame are properly lubricated.
		Check the position of the FFC holder of the ink tube, and correct it if it is not positioned as specified. *See Chapter 4 "DISASSEMBLY & ASSEMBLY".*

Symptom	Description	Remedy
Vertical banding (overall) 	Bi-D and Uni-D adjustments have not been carried out properly.	Carry out the Auto Bi-D and the Auto Uni-D adjustments. *See Chapter 5 "ADJUSTMENT".*
	The carriage unit cannot move smoothly.	Check the CR timing belt, and replace it if worn.
		Check the CR motor is correctly installed.
Image is grainy 	The adjustments have not been carried out properly.	Carry out the Print Head Slant Adjustment (PF). *See Chapter 5 "ADJUSTMENT".*
		Carry out the Print Head Slant Adjustment (CR). *See Chapter 5 "ADJUSTMENT".*
		Carry out the PF Adjustment. *See Chapter 5 "ADJUSTMENT".*
		Carry out the Auto Bi-D and the Auto Uni-D adjustments. *See Chapter 5 "ADJUSTMENT".*
		Carry out the PG Position Adjustment. *See Chapter 5 "ADJUSTMENT".*

CHAPTER

4

DISASSEMBLY & ASSEMBLY

4.1 Overview

This section describes procedures for disassembling the main components of the product. 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 the equipment.
- ☐ CHECK POINT
  Important tips for procedures are described under the heading “CHECK POINT”.
- ☐ REASSEMBLY
  If the assembly procedure is different from the reversed disassembly procedure, the correct procedure is described under the heading “REASSEMBLY”.
- ☐ ADJUSTMENT
  Any adjustments required after reassembly of components or parts are described under the heading “ADJUSTMENT REQUIRED”. Be sure to perform the specified adjustments with reference to Chapter 5 “ADJUSTMENT”.

When you have to remove any parts or components that are not described in this chapter, refer to *“7.3 ASP List” (p287)* in the Appendix.

4.1.1 Precautions

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

- **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 with a specified type of battery. Using a different type of battery may cause excess heat or explosion.**
  - **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 the positive terminal (+) of the battery with a tape to prevent combustion or explosion.**
  - **Do not charge 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.**

WARNING

- Always wear gloves for disassembly and reassembly to avoid injury from sharp metal edges.
- If ink gets in your eye, flush the eye with fresh water and see a doctor immediately.
- 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 doctor.
- When replacing the Main Board, Power Supply Board, or Power harnesses and such, make sure to check visually if any harness is caught in between or any wrong connection exists.

CAUTION

- Ensure sufficient work space for servicing.
- Locate the printer on a stable and flat surface.
- The ink-path-related components or parts should be firmly and securely installed on the printer to prevent ink from leakage.
- Use only recommended tools for disassembly, assembly or adjustment of the printer.
- When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.
- Apply lubricants and adhesives as specified.
- Be careful not to soil the printer or the floor with the leaked ink when removing the ink-path-related components or parts. Spread a sheet of paper or cloth on the floor in advance.
- Do not touch electrical circuit boards with bare hands as the elements on the board are so sensitive that they can be easily damaged by static electricity. If you have to handle the boards with bare hands, use static electricity discharge equipment such as anti-static wrist straps.
- When reassembling the printer, make sure to connect the connectors of the electric components or parts correctly and securely. Use extreme care when connecting FFCs (flexible flat cables). Improper connection of the FFCs, such as inserting them diagonally into the connectors, could cause short-circuiting and lead to breakdown of the electric elements on the boards.

CAUTION

- When reassembling the printer, make sure to route the FFCs and other cables as specified in this chapter. (Failure to do so may cause an unexpected contact of the cables with sharp metal edges, or lead to lower the noise immunity.)
- When the printer has to be operated with the covers removed, take extra care not to get your fingers or clothes caught in moving parts.
- When you have to remove any parts or components that are provided as after-service-parts but are not described in this chapter, carefully observe how they are installed and make sure to remember it before removing them.
- When you removed any parts or components that are secured with black acetate tape or two-sided tape, be sure to reinstall and secure them with the tape as exactly the same as they were.
- Disassembling the frame and some components of the printer is prohibited because they are assembled with precise measurements in 1/100 mm unit at the factory.

4.1.2 Orientation Definition

The following figure defines the orientation of the printer, which is applicable to chapter 4.

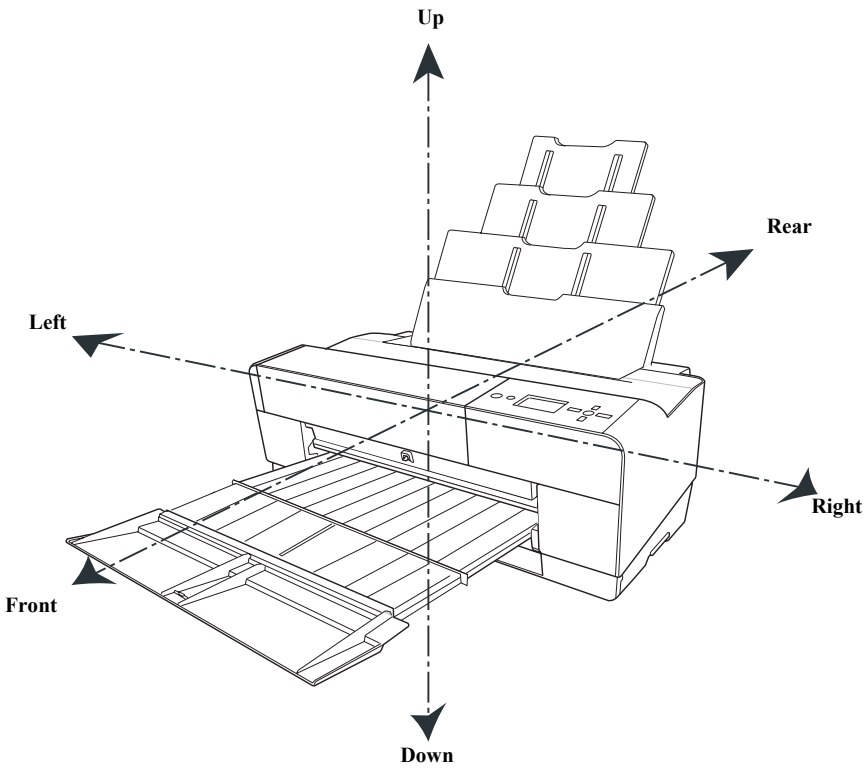


Figure 4-1. Orientation Definition1

4.1.3 Tools

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

Table 4-1. Tools

Name	Epson Part Number	Note
Precision screwdriver, No. 2	Commercially available	---
Phillips screwdriver, No. 0	Commercially available	---
Phillips screwdriver, No. 1	Commercially available	---
Phillips screwdriver, No. 2	Commercially available	140 mm or longer shaft length is recommended.
Flat-blade screwdriver	Commercially available	---
Long-nose pliers	Commercially available	---
Tweezers	Commercially available	---
Nipper	Commercially available	---

4.1.4 Screws

The following table indicates the screws used in the printer.

Table 4-2. Screws

Name	Color	Definition
Protective Screw	Silver	Special Screw
C.B.P. 3x8	Silver	Phillips Bind P-tite Screw
C.B.S. 3x8	Silver	Phillips Bind S-tite Screw
C.B.P. 3x6	Silver	Phillips Bind P-tite Screw
C.B.S. 3x6	Silver	Phillips Bind S-tite Screw
C.F.S. 3x6	Silver	Phillips Flat Head S-tite Screw
C.B.(O) 4x8	Green	Phillips Bind Head S-tite Screw with Outside Toothed Lock Washers
C.P.S. 2.6x3	Silver	Phillips Pan Head S-tite Screw
C.C.S. 3x4	Silver	Phillips Cup Head S-tite Screw
C.B.P. 2.5x8	Silver	Phillips Bind Head P-tite Screw
C.B.S. 2.5x4	Silver	Phillips Bind Head S-tite Screw
C.B.S. (P4) 3x8	Silver	Phillips Bind Head S-tite Screw with Plain Washer 1
C.P.B. 1.7x8	Silver	Phillips Pan Head P-tite Screw
Shaft, Mount, Plate	Silver	---

4.1.5 Chapter Organization

The maintenance parts of this product are classified into two groups according to the site they are repaired. Therefore, disassembling procedures are divided into two groups as described below.

- Group 1: For both on-site and off-site services
- Group 2: Applicable to off-site service only.

4.1.6 Note on the compatibility of parts

The incompatible parts of Epson Stylus Pro 3800/3800C/3850 and Epson Stylus Pro 3880/3885/3890 are indicated below.

CAUTION

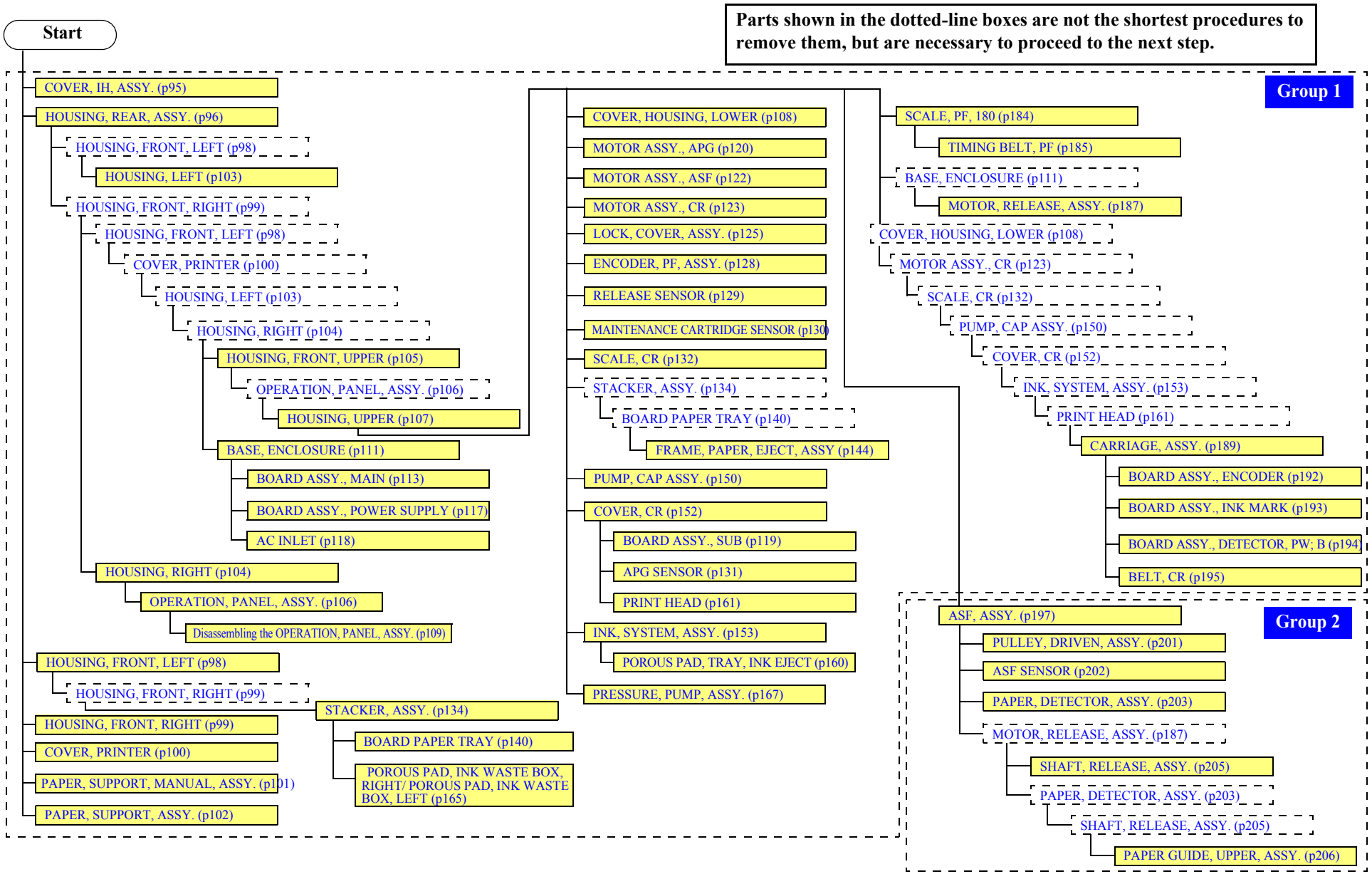
The following parts are incompatible with each model. If the following parts are installed accidentally to the other model, the printer performance might be affected. Because these parts have no difference in appearance and it is difficult to visually distinguish them. Besides, they can be attached on the other model. Therefore, make sure to confirm the parts codes carefully, then order the appropriate parts and replace them with the parts to repair.

Table 4-3. Incompatible parts

Parts Name	Parts Code						Reference
	Epson Stylus Pro Reference 3800/	Epson Stylus Pro Reference 3800C	Epson Stylus Pro Reference 3850	Epson Stylus Pro Reference 3880	Epson Stylus Pro Reference 3885	Epson Stylus Pro Reference 3890	
BOARD ASSY.,MAIN	2117028		2117029	2128952	2128953	2128954	*p113*
MOTOR ASSY.,CR,CS*	2113738			1520869			*p123*
INK,SYSTEM,ASSY.,ESL,ASP	1451573			1518586			*p153*
PRINT HEAD	F177000			F196000			*p161*

Note : MOTOR ASSY.,CR,CS is the part name for Epson Stylus Pro 3800/3800C/3850. The part name for Epson Stylus Pro 3880/3885/3890 is MOTOR ASSY.,CR,ASP.

4.2 Disassembly Flowchart



4.3 Disassembly/Assembly Procedure (Group 1)

This section describes disassembly/assembly procedures required for both on-site and off-site servicing.

4.3.1 Unlocking the CARRIAGE, ASSY. manually

1. Remove the HOUSING, RIGHT. *(p104)*
2. While pressing the carriage lock release gear in the direction of the arrow, turn it counterclockwise until it stops to unlock the CARRIAGE, ASSY.

To lock the CARRIAGE, ASSY., put it back to the home position and turn the release gear clockwise.

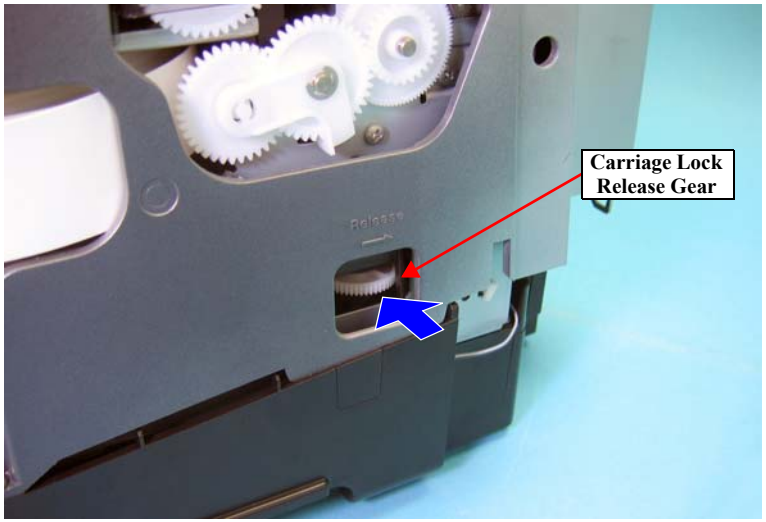


Figure 4-2. Unlocking the CARRIAGE, ASSY.

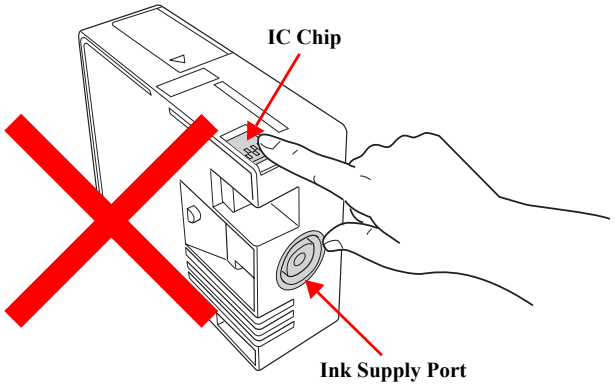
4.3.2 Consumable

4.3.2.1 Ink Cartridge

1. Turn the printer ON.
2. Hold down the Ink Cover Open/Up button on the operation panel for more than three seconds. The COVER, IH, ASSY. will be unlocked and slightly opened.
3. Open the COVER, IH, ASSY.
4. Press the Ink Lever of the each Ink Cartridge to release the lock.
5. Remove the Ink Cartridges.

CAUTION

- **Never touch the IC chips on the Ink Cartridges. Doing so may cause a detection error of the Ink Cartridges or a malfunction of the printer.**
- **Never touch the ink supply port of the Ink Cartridges as ink may leak from the port.**



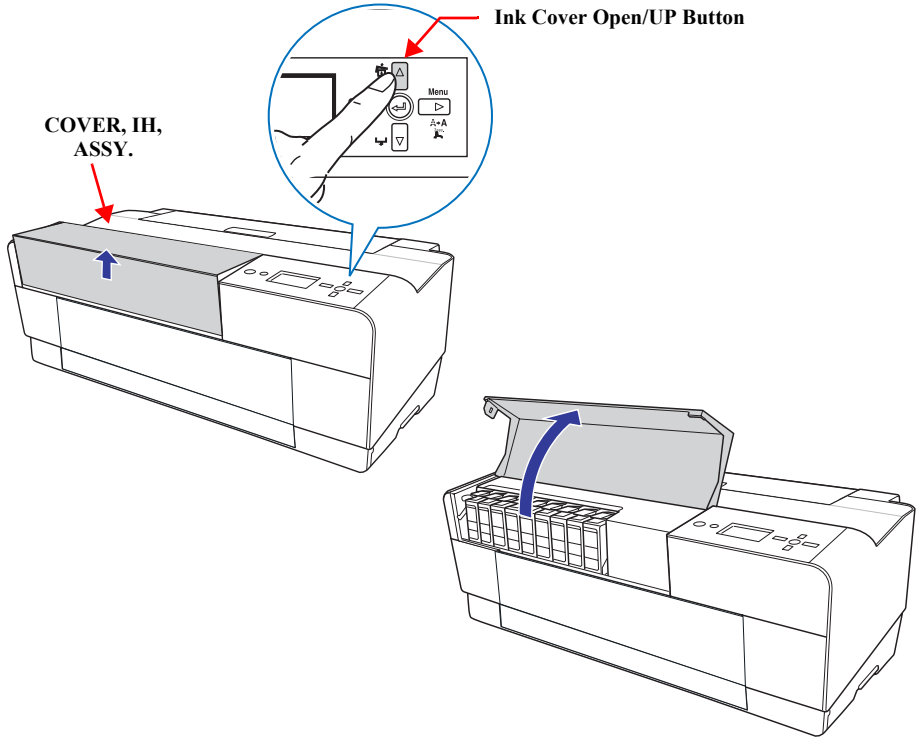


Figure 4-3. Opening the COVER, IH, ASSY.

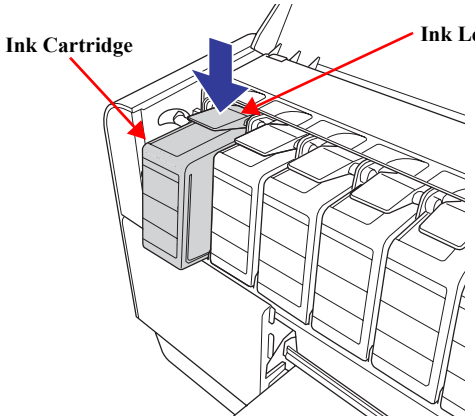


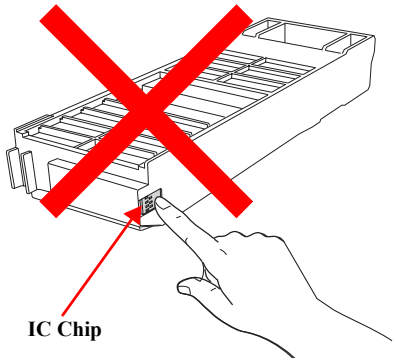
Figure 4-4. Removing the Ink Cartridges

4.3.2.2 Maintenance Cartridge

1. Open the COVER, WB.
2. Slightly lift the Maintenance Cartridge and pull it out from the main unit.

CAUTION

Never touch the IC chip on the Maintenance Cartridge. Doing so may cause a detection error of the Maintenance Cartridge or a malfunction of the printer.



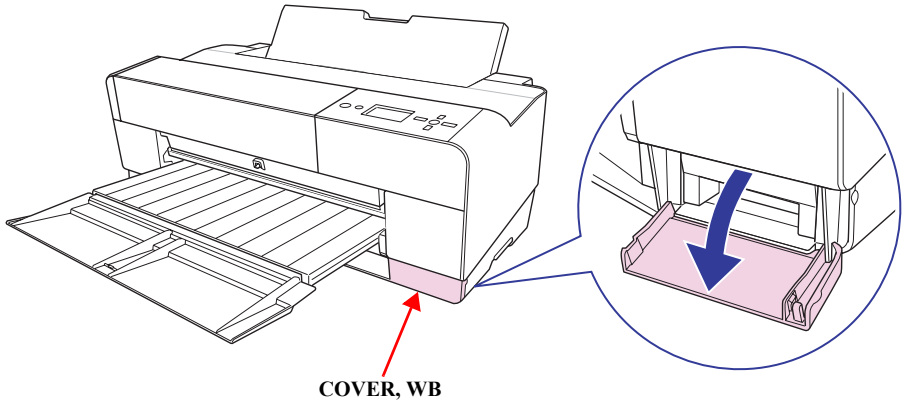


Figure 4-5. Opening the COVER, WB

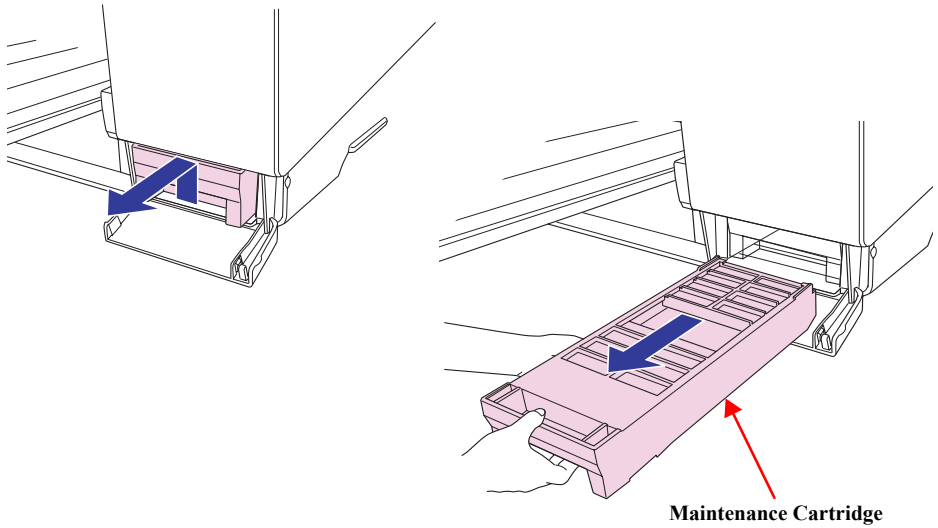


Figure 4-6. Removing the Maintenance Cartridge

4.3.3 Removing the Housing and OPERATION, PANEL, ASSY.

4.3.3.1 COVER, IH, ASSY.

CAUTION

As the COVER, IH, ASSY is locked by the electric system, be sure to open the COVER, IH, ASSY. with the power turned on. Never force the COVER, IH, ASSY. open, or the lock system (LOCK, COVER, ASSY.) may be broken. (Refer to *"4.3.2.1 Ink Cartridge" (p93)* for releasing the lock.)

1. Open the COVER, IH, ASSY.
2. Press the right side of the COVER, IH, ASSY. in the direction of the arrow to release the guide pin from the main unit. Then disengage the left guide pin, and remove the COVER, IH, ASSY.

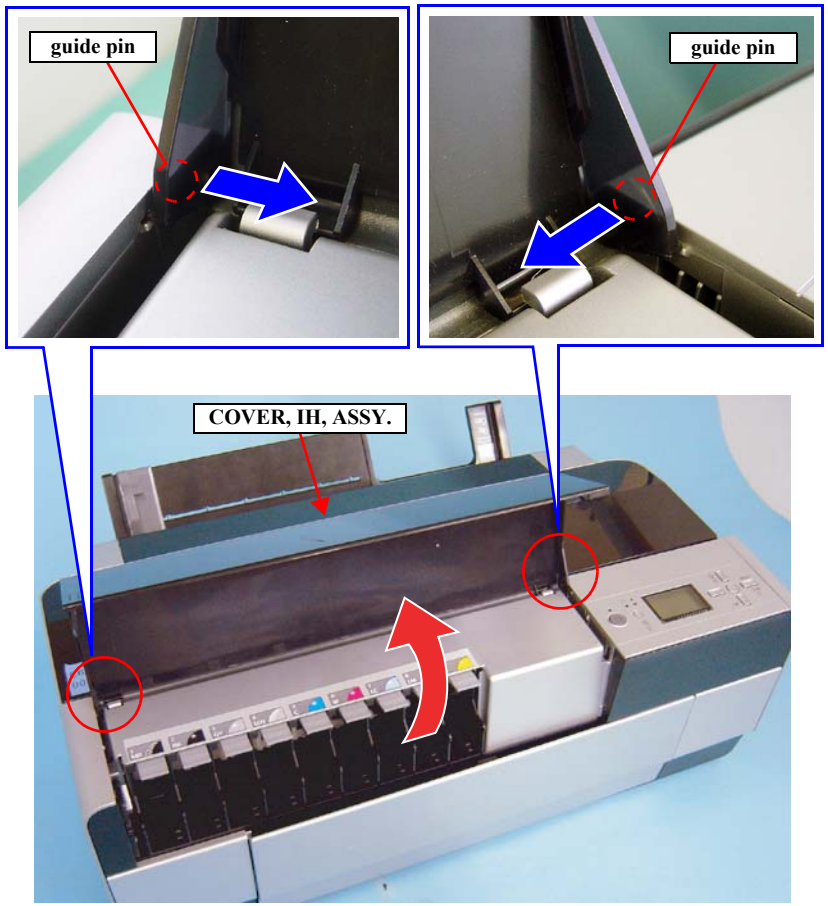


Figure 4-7. Removing the COVER, IH, ASSY.

4.3.3.2 HOUSING, REAR, ASSY.

1. Remove the five screws that secure the HOUSING, REAR, ASSY. and remove it.
   - Four C.B.P. 3 x 6 screws (6 ± 1 kgf.cm)
   - One C.B.S. 3 x 8 screw (6 ± 1 kgf.cm)

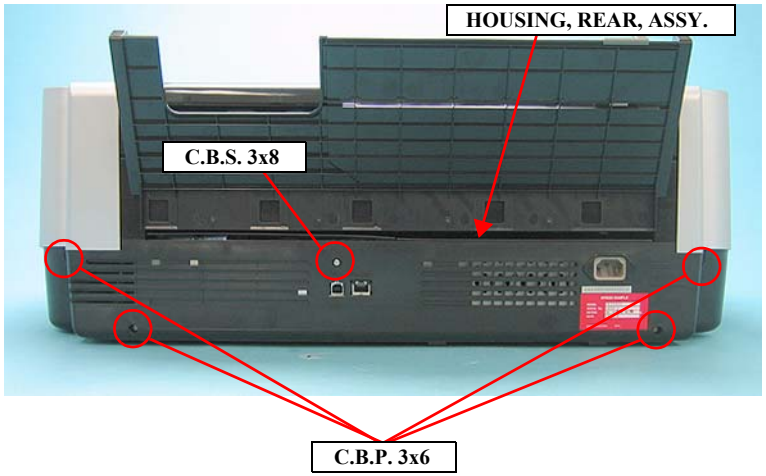
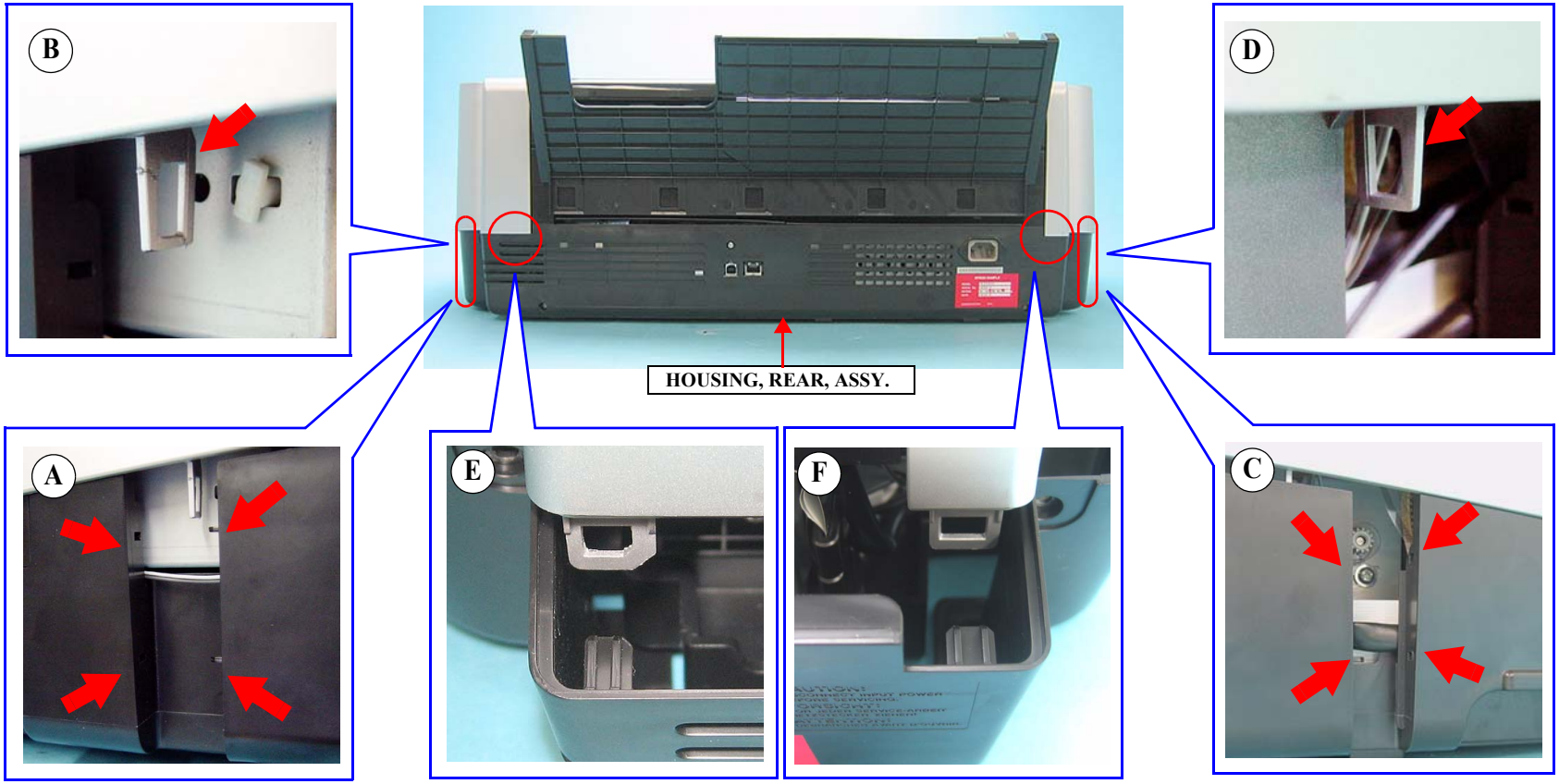


Figure 4-8. Removing the HOUSING, REAR, ASSY

REASSEMBLY

Install the HOUSING, REAR, ASSY. so that all the points mentioned below are securely engaged.

Fig.	Position of the points	Main unit	HOUSING, REAR, ASSY.
A	Right side	Two positioning holes	Two guide pins
B	Right side	One positioning hook	One positioning tab
C	Left side	Two positioning holes	Two guide pins
D	Left side	One positioning hook	One positioning tab
E	Right rear side	One positioning hook	One positioning tab
F	Left rear side	One positioning hook	One positioning tab



4.3.3.3 HOUSING, FRONT, LEFT

1. Open the STACKER, C.
2. Remove the screw that secures the HOUSING, FRONT, LEFT to the main unit.
   - One C.B.P. 3 x 8 screw (6 ± 1 kgf.cm)
3. Pull the upper part of the HOUSING, FRONT, LEFT toward you to release the upper rib and the two lower hooks, and remove the HOUSING, FRONT, LEFT.

REASSEMBLY

Be sure to engage the two lower hooks with the cutouts, and align the positioning socket with the rib on the main unit.

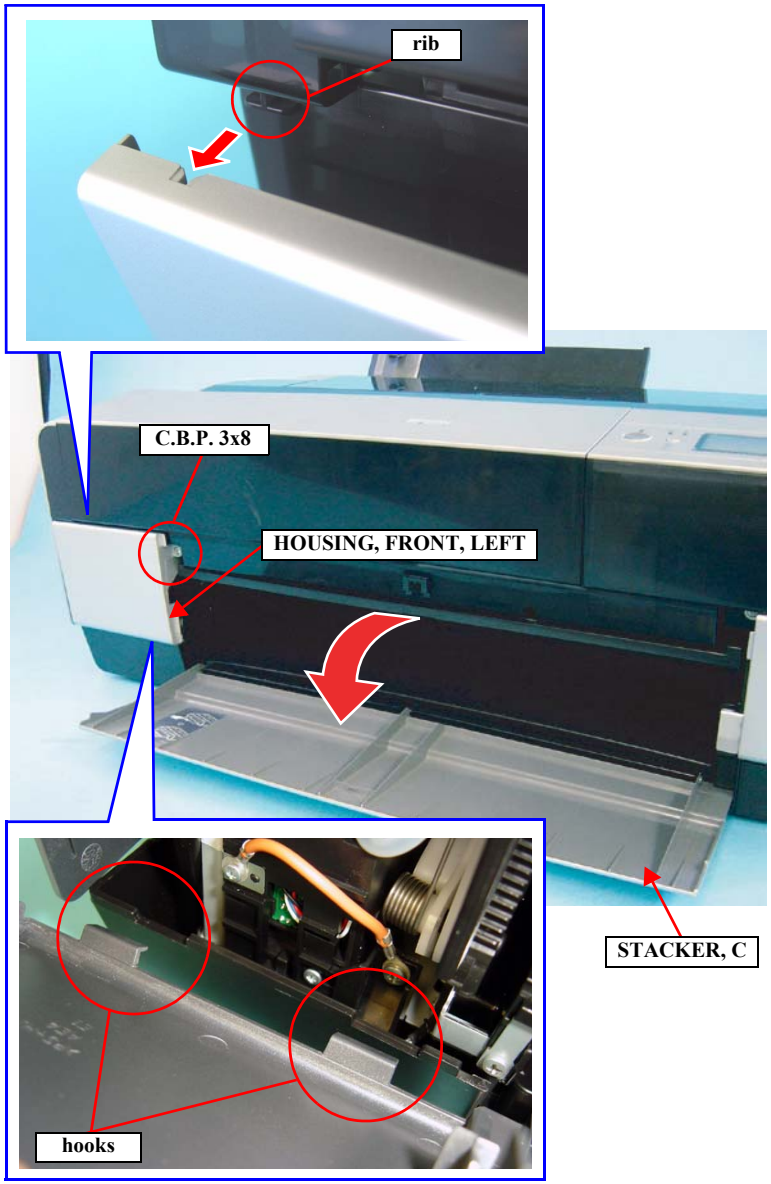


Figure 4-9. Removing the HOUSING, FRONT, LEFT

4.3.3.4 HOUSING, FRONT, RIGHT

1. Open the STACKER, C.
2. Remove the screw that secures the HOUSING, FRONT, RIGHT to the main unit.
   - One C.B.P. 3 x 8 screw (6 ± 1 kgf.cm)
3. Pull the upper part of the HOUSING, FRONT, RIGHT toward you to release the upper rib and the two lower tabs, and remove the HOUSING, FRONT, RIGHT.

REASSEMBLY

Be sure to engage the two lower tabs with the cutouts, and align the positioning socket with the rib on the main unit.

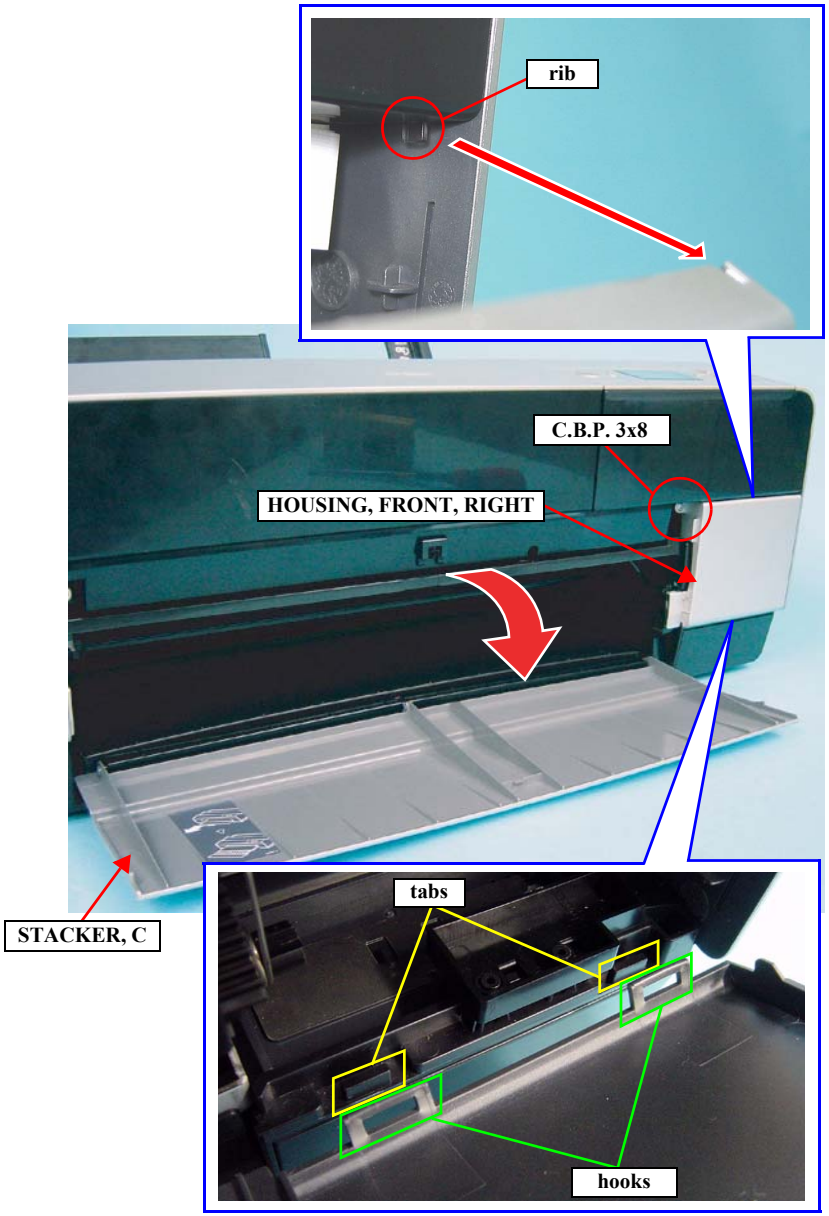


Figure 4-10. Removing the HOUSING, FRONT, RIGHT

4.3.3.5 COVER, PRINTER

1. Open the COVER, PRINTER.
2. Widen the parts shown in *Figure 4-11* to release the COVER, PRINTER from the two bosses (left and right), and remove the COVER, PRINTER.

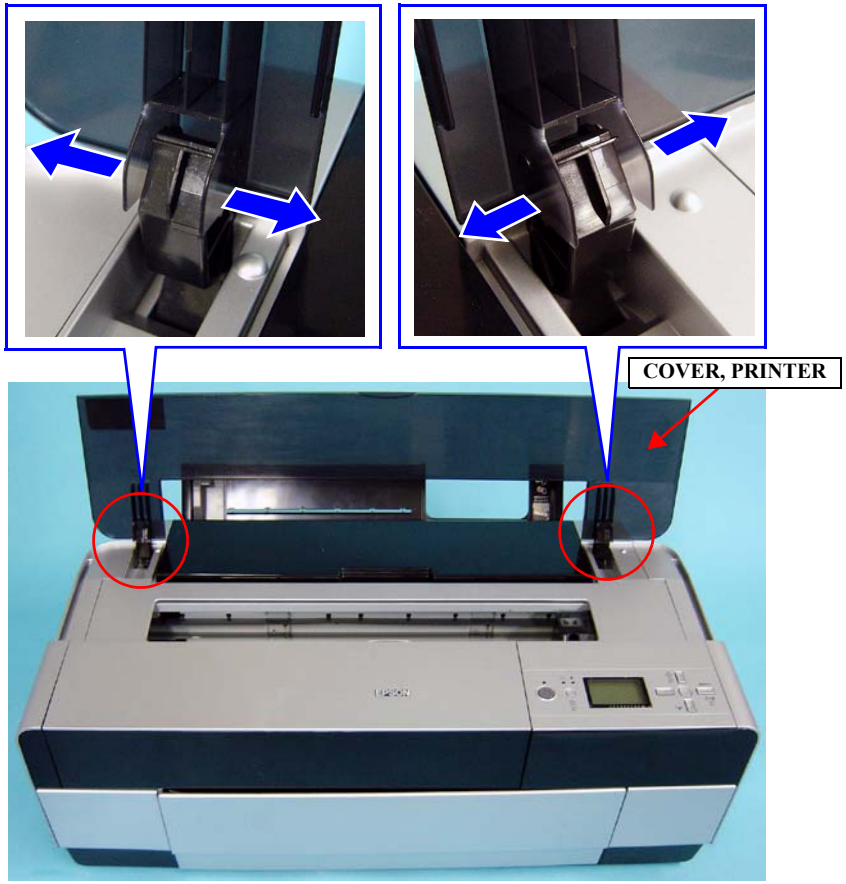


Figure 4-11. Removing the COVER, PRINTER

4.3.3.6 PAPER, SUPPORT, MANUAL, ASSY.

1. Remove the PAPER, SUPPORT, MANUAL, ASSY. upward.

Be sure to engage all the hooks (two on the upper part ◯ , five on the lower part ◯) of the PAPER, SUPPORT, MANUAL, ASSY. with the main unit.

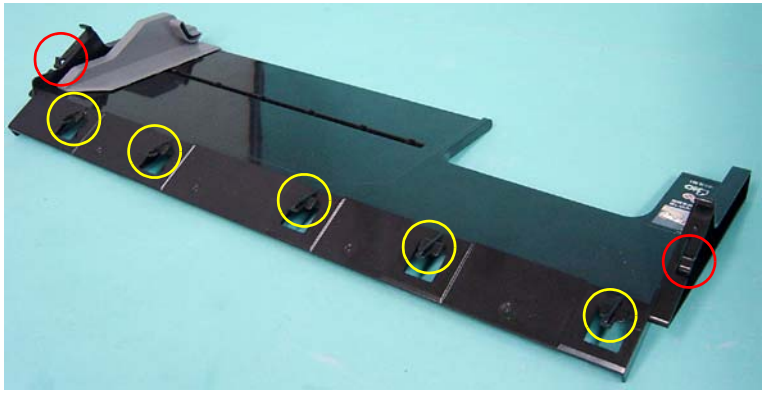


Figure 4-12. Removing the PAPER, SUPPORT, MANUAL, ASSY.

4.3.3.7 PAPER, SUPPORT, ASSY.

1. Open the PAPER, SUPPORT, ASSY.
2. Push on the circled points of the PAPER, SUPPORT, ASSY. inward to release its both pivots, and remove the PAPER, SUPPORT, ASSY.

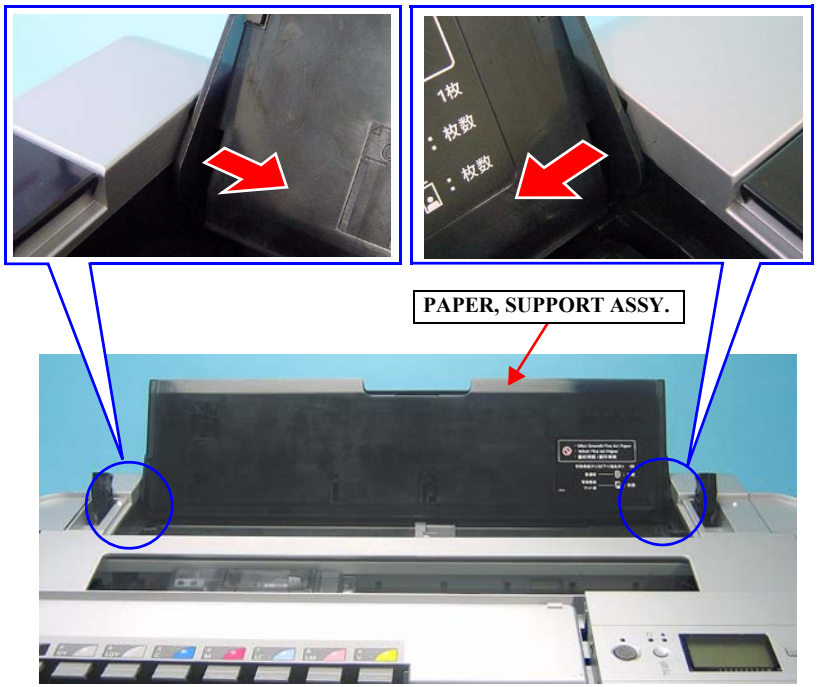


Figure 4-13. Removing the PAPER SUPPORT ASSY.

4.3.3.8 HOUSING, LEFT

CAUTION

Do not remove or install the HOUSING, LEFT roughly, or the hooks and the tabs on the HOUSING, LEFT may be damaged or broken.

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, LEFT. *(p98)*
3. Hold the front part of the HOUSING, LEFT and slightly lift it to release the tabs (A, B) on the upper part of the Housing and the hook (C) in the Housing as shown in *Figure 4-14*, and remove the HOUSING, LEFT.

REASSEMBLY

Be sure to engage the lower hook (C) with the tab on the main unit first, then engage the tabs (A, B) pulling the upper part of the HOUSING, LEFT upward.

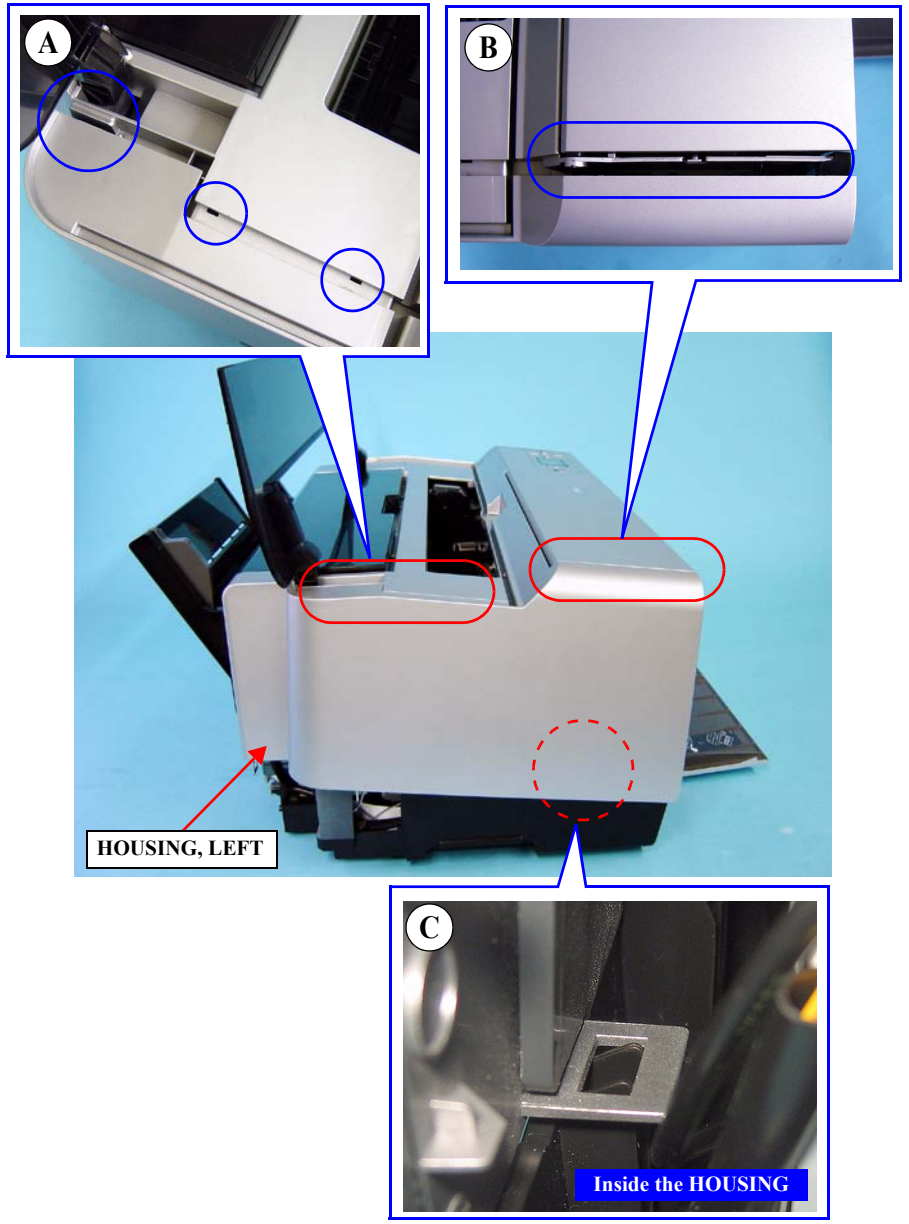


Figure 4-14. Removing the HOUSING, LEFT

4.3.3.9 HOUSING, RIGHT

CAUTION

Do not remove or install the HOUSING, RIGHT roughly, or the hooks and the tabs on the HOUSING, RIGHT may be damaged or broken.

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, RIGHT. *(p99)*
3. Hold the front part of the HOUSING, RIGHT and slightly lift it to release the tabs (A, B) on the upper part of the Housing and the hook (C) in the Housing as shown in *Figure 4-15*, and remove the HOUSING, RIGHT.

REASSEMBLY

Be sure to engage the lower hook (C) with the tab on the main unit first, then engage the tabs (A, B) pulling the upper part of the HOUSING, RIGHT upward.

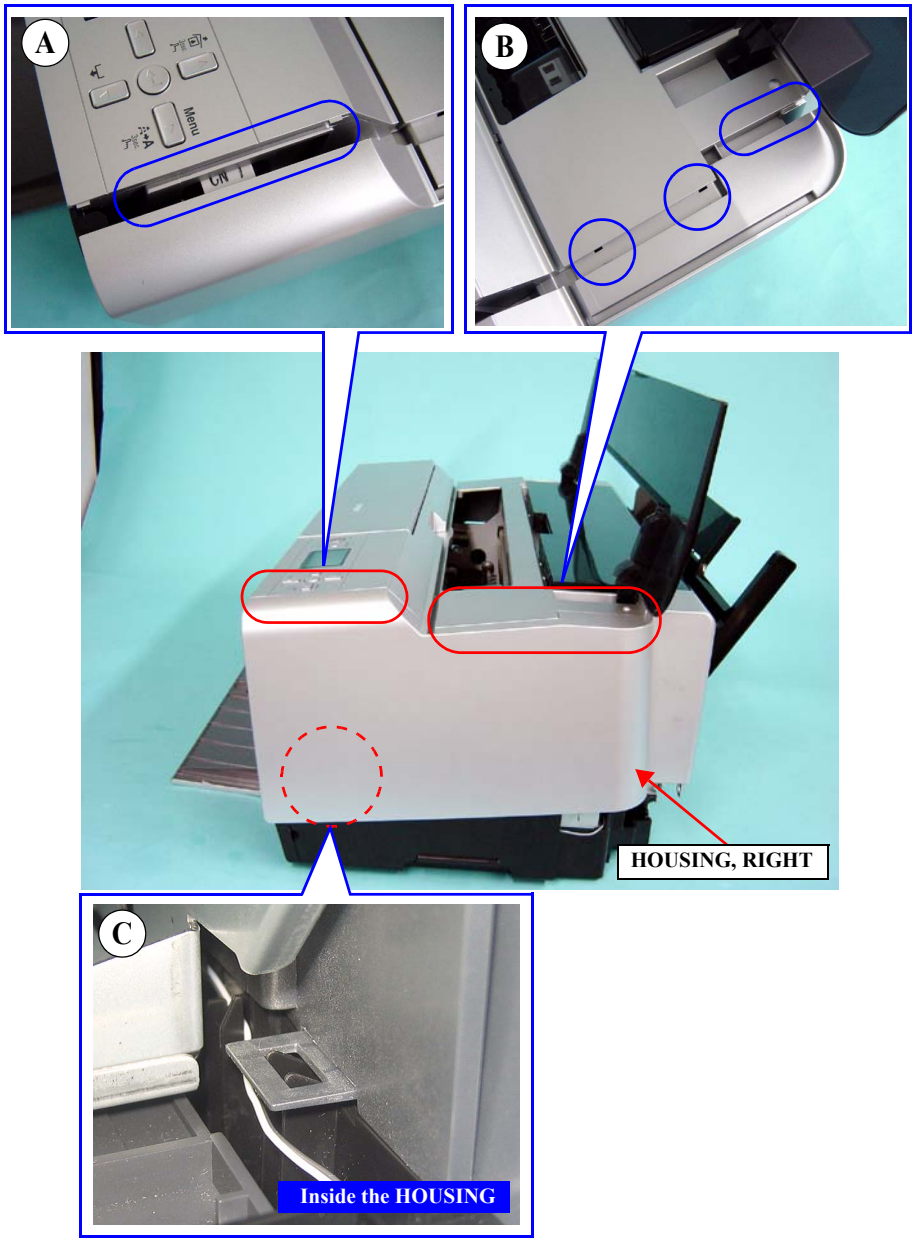


Figure 4-15. Removing the HOUSING, RIGHT

4.3.3.10 HOUSING, FRONT, UPPER

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, LEFT. *(p98)*
3. Remove the HOUSING, FRONT, RIGHT. *(p99)*
4. Remove the COVER, PRINTER. *(p100)*
5. Remove the HOUSING, LEFT. *(p103)*
6. Remove the HOUSING, RIGHT. *(p104)*
7. Remove the five screws that secure the HOUSING, FRONT, UPPER and remove it.
   - Two C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)
   - Two Shaft, Mount, Plates (9 ± 1 kgf.cm)
   - One C.B.S. 3 x 8 screw (9 ± 1 kgf.cm)

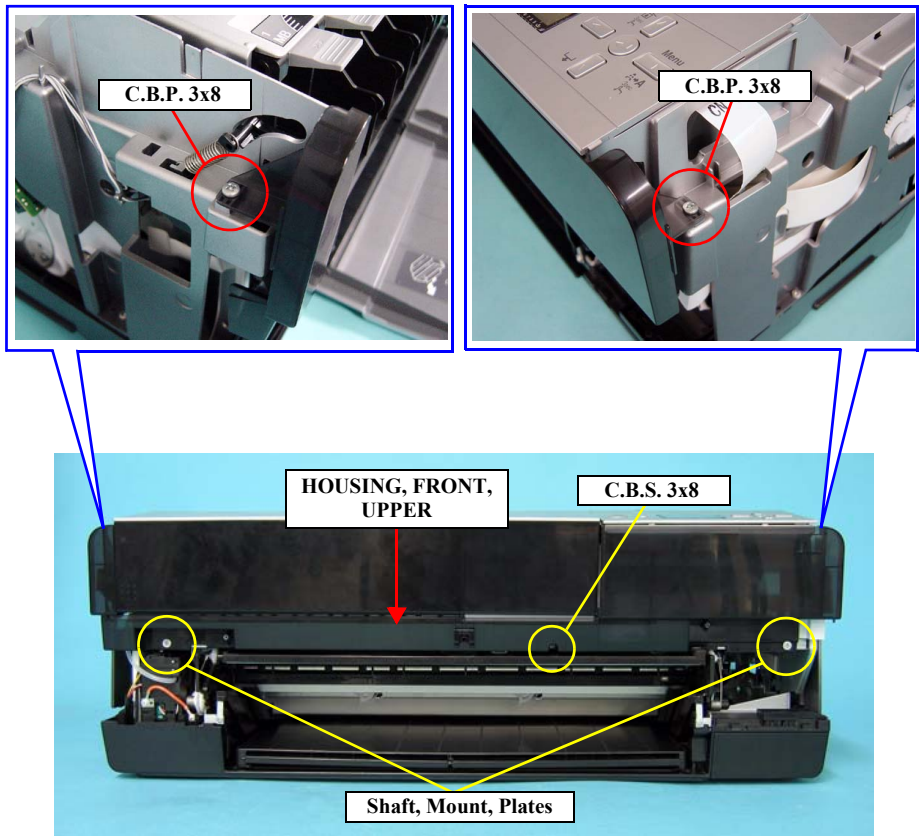


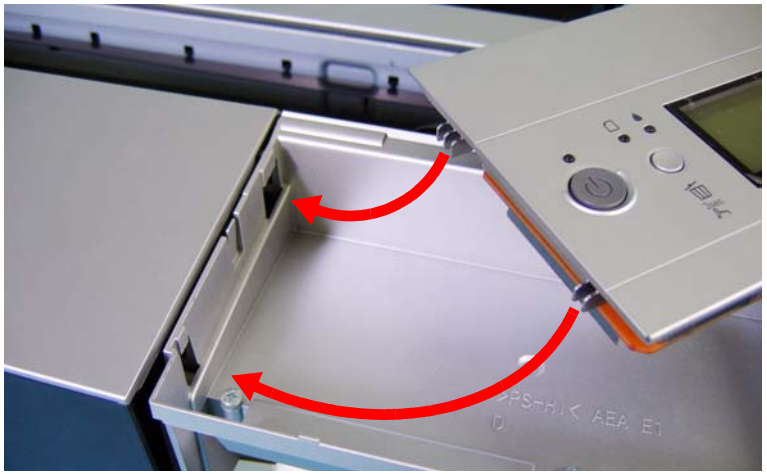
Figure 4-16. Removing the HOUSING, FRONT, UPPER

4.3.3.11 OPERATION, PANEL, ASSY.

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, RIGHT. *(p99)*
3. Remove the HOUSING, RIGHT. *(p104)*
4. Release the FFC from the OPERATION, PANEL, ASSY. *See Figure 4-17.*
5. Remove the screw that secures the OPERATION, PANEL, ASSY. to the main unit. *See Figure 4-17.*
   - ■ One C.B.S. 3 x 6 screw (9 ± 1 kgf.cm)
6. Release the hook that secures the OPERATION, PANEL, ASSY. and remove it. *See Figure 4-18.*

REASSEMBLY

Be sure to insert the two ribs on the OPERATION, PANEL, ASSY. into the positioning holes on the main unit.



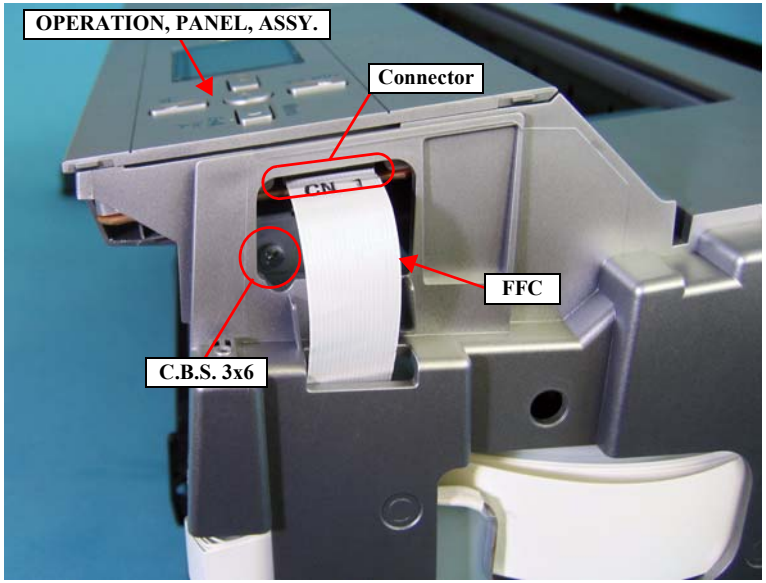


Figure 4-17. Removing the OPERATION, PANEL, ASSY. (1)

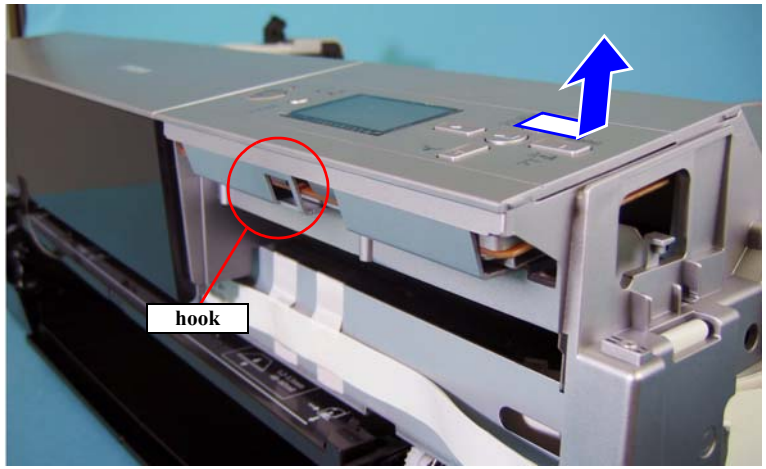


Figure 4-18. Removing the OPERATION, PANEL, ASSY. (2)

4.3.3.12 HOUSING, UPPER

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, LEFT. *(p98)*
3. Remove the HOUSING, FRONT, RIGHT. *(p99)*
4. Remove the COVER, PRINTER. *(p100)*
5. Remove the HOUSING, LEFT. *(p103)*
6. Remove the HOUSING, RIGHT. *(p104)*
7. Remove the HOUSING, FRONT, UPPER. *(p105)*
8. Remove the OPERATION, PANEL, ASSY. *(p106)*
9. Remove the four screws that secure the HOUSING, UPPER to the main unit.
   - Three C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)
   - One C.B.P. 3 x 12 screw (6 ± 1 kgf.cm)

CAUTION

Note that the LOCK, COVER, ASSY. is attached to the HOUSING, UPPER, and it is connected to the main unit with cables. When removing the HOUSING, UPPER, be careful not to separate it too much from the main unit to avoid damaging the cables.

10. Remove the HOUSING, UPPER upward.

CHECK POINT

When removing the HOUSING, UPPER, push outward on the left and right sides of the HOUSING, UPPER to widen it in order not to hit the drive gear.

11. Remove the LOCK, COVER, ASSY. from the HOUSING, UPPER. *(p125)*

REASSEMBLY

Be sure to insert the four positioning holes of the HOUSING, UPPER over the guide pins on the main unit as shown in *Figure 4-19*.

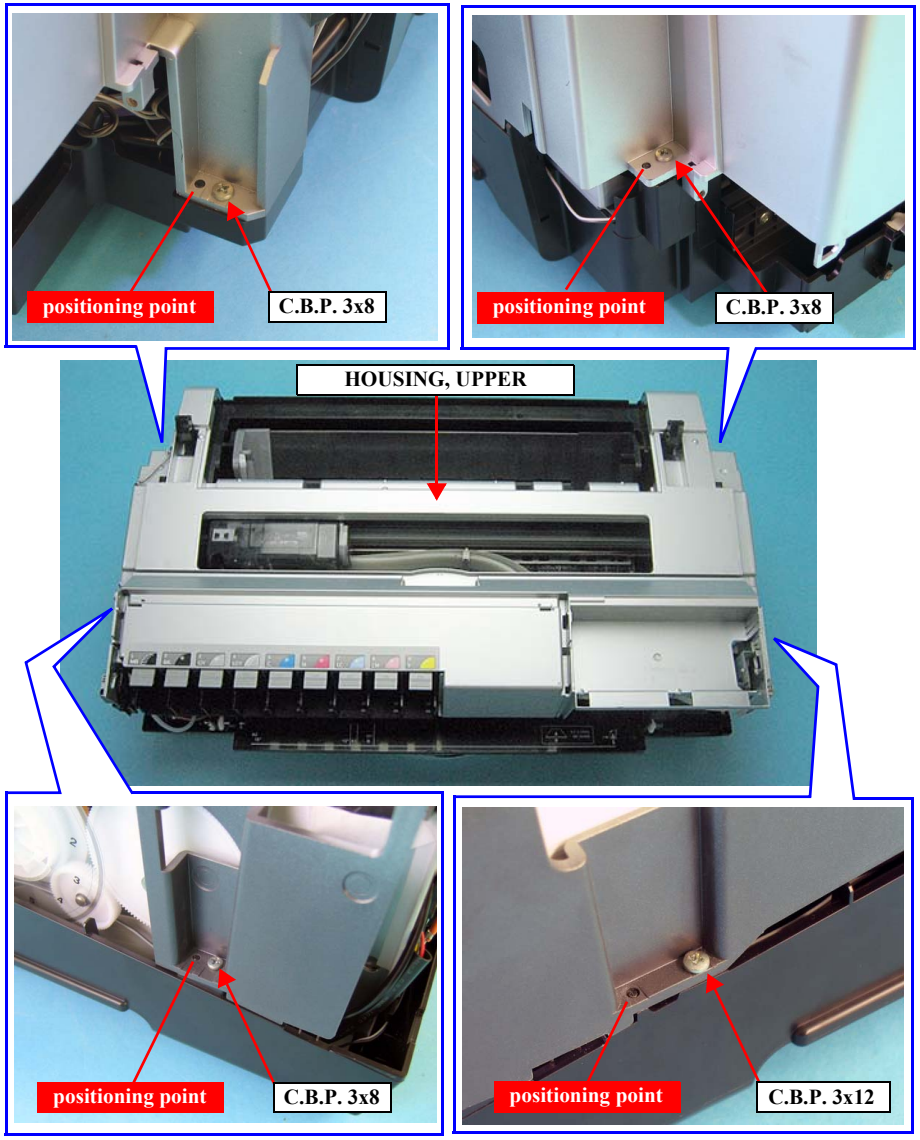


Figure 4-19. Removing the HOUSING, UPPER

4.3.3.13 COVER, HOUSING, LOWER

1. Remove the HOUSING, UPPER. *(p107)*
2. Pull the upper part of the COVER, HOUSING, LOWER rightward and remove the COVER, HOUSING, LOWER upward while avoiding the FFCs on the main unit.

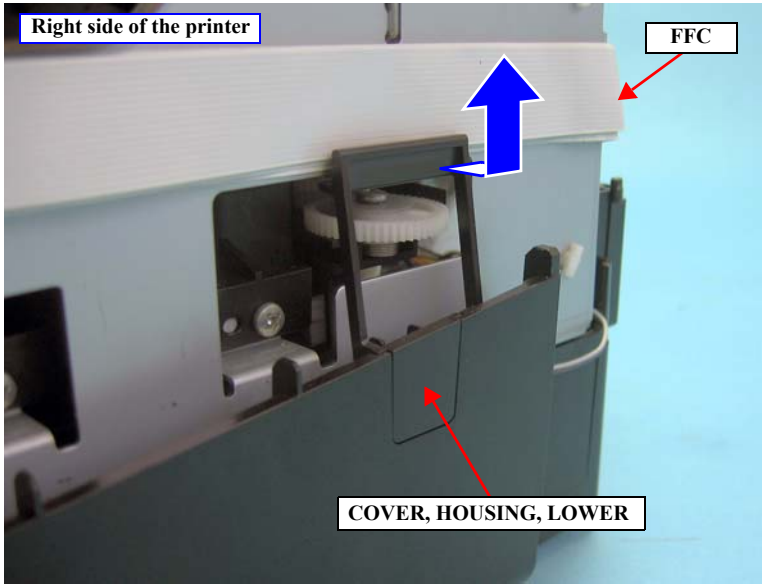


Figure 4-20. Removing the COVER, HOUSING, LOWER

4.3.3.14 Disassembling the OPERATION, PANEL, ASSY.

1. Remove the OPERATION, PANEL, ASSY. *(p106)*
2. Remove the four screws that secure the SHIELD PLATE to the backside of the OPERATION, PANEL, ASSY. *See Figure 4-21.*
   - Four C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)
3. Remove the SHIELD PLATE and the BOARD ASSY., PANEL from the OPERATION, PANEL, ASSY.

REASSEMBLY

- **When installing the SHIED PLATE, be sure to insert its two positioning holes over the guide pins on the OPERATION BUTTON. *See Figure 4-21.***
- **When installing the BOARD ASSY. PANEL, be sure to insert its four positioning holes over the guide pins two each on the OPERATION BUTTON and the OPERATION PANEL. *See Figure 4-22.***

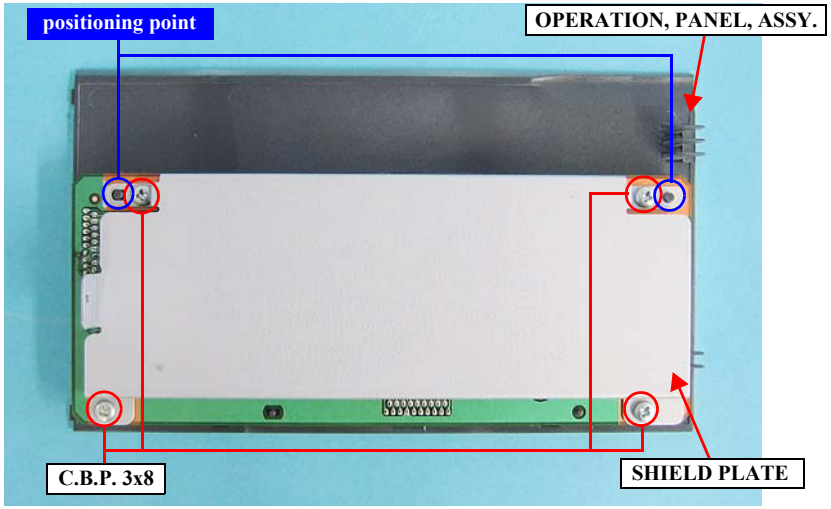


Figure 4-21. Removing the SHIELD PLATE

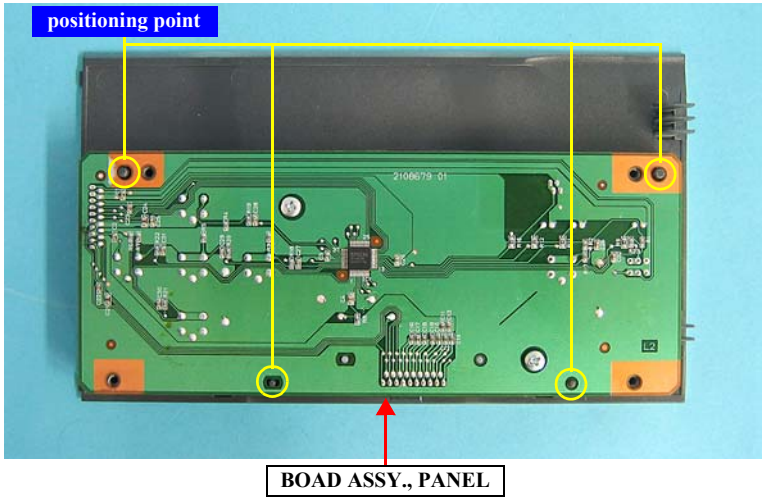
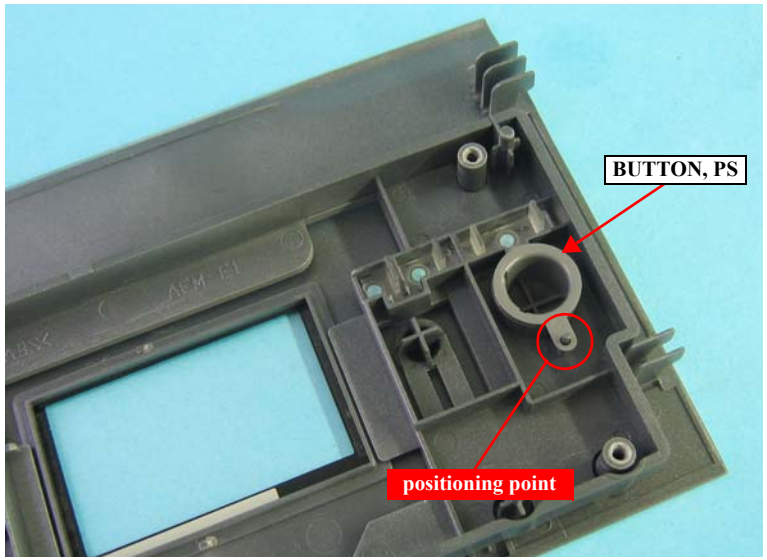


Figure 4-22. Removing the BOARD, ASSY., PANEL

4. Remove the OPTICAL TUBE, LED, LEFT/RIGHT and the BUTTON, PS from the OPERATION PANEL. *See Figure 4-23.*
5. Remove the OPERATION BUTTON from the OPERATION PANEL. *See Figure 4-23.*
6. Remove the COVER, LCD secured to the OPERATION PANEL with the two-sided tape. *See Figure 4-24.*

REASSEMBLY

When installing the BUTTON, PS, be sure to insert its positioning hole over the guide pin on the OPERATION BUTTON.



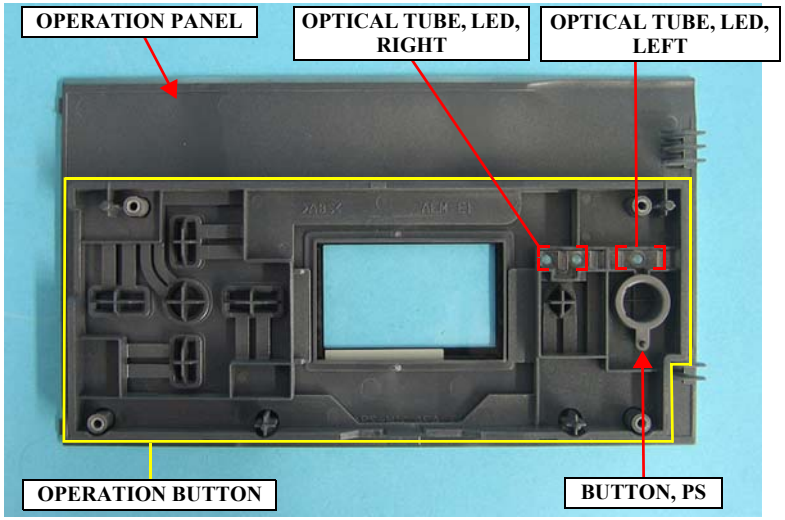


Figure 4-23. Disassembling the OPERATION, PANEL, ASSY.

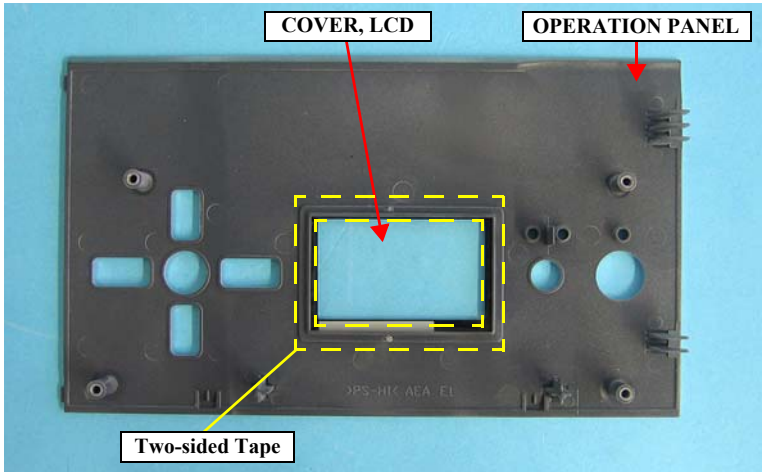


Figure 4-24. Removing the COVER, LCD

4.3.3.15 BASE, ENCLOSURE

1. Remove the HOUSING, REAR, ASSY. *(p96)*
2. Remove the HOUSING, FRONT, LEFT. *(p98)*
3. Remove the HOUSING, FRONT, RIGHT. *(p99)*
4. remove the COVER, PRINTER. *(p100)*
5. Remove the HOUSING, LEFT. *(p103)*
6. Remove the HOUSING, RIGHT. *(p104)*
7. Push outward on the circled points of the FRAME, PAPER, SUPPORT, REAR shown in *Figure 4-25* to widen it to disengage the four guide pins of the ASF, ASSY, and remove the FRAME, PAPER, SUPPORT, REAR. *See Figure 4-25.*

CAUTION

In step 8. and 9, do not remove the PAPER, GUIDE, LOWER, LEFT/RIGHT forcibly as their hooks are easily broken.

8. Pull the PAPER, GUIDE, LOWER, LEFT first rearward and then upward to release it from the eight hooks, and pull out the PAPER, GUIDE, LOWER, LEFT from the back of the printer. *See Figure 4-26.*
9. Pull the PAPER, GUIDE, LOWER, RIGHT first rearward and then upward to release it from the 10 hooks, and pull out the PAPER, GUIDE, LOWER, RIGHT from the back of the printer. *See Figure 4-26.*

CHECK POINT

The ASF, ASSY. is temporally removed in *Figure 4-26* to show the positions of the hooks on the PAPER, GUIDE, LOWER, LEFT/RIGHT. Note that the ASF, ASSY. is installed on the main unit during the actual maintenance work.

REASSEMBLY

When installing the PAPER, GUIDE, LOWER, LEFT and PAPER, GUIDE, LOWER, RIGHT, make sure not to let the harnesses caught between them, and secure them with the hooks.

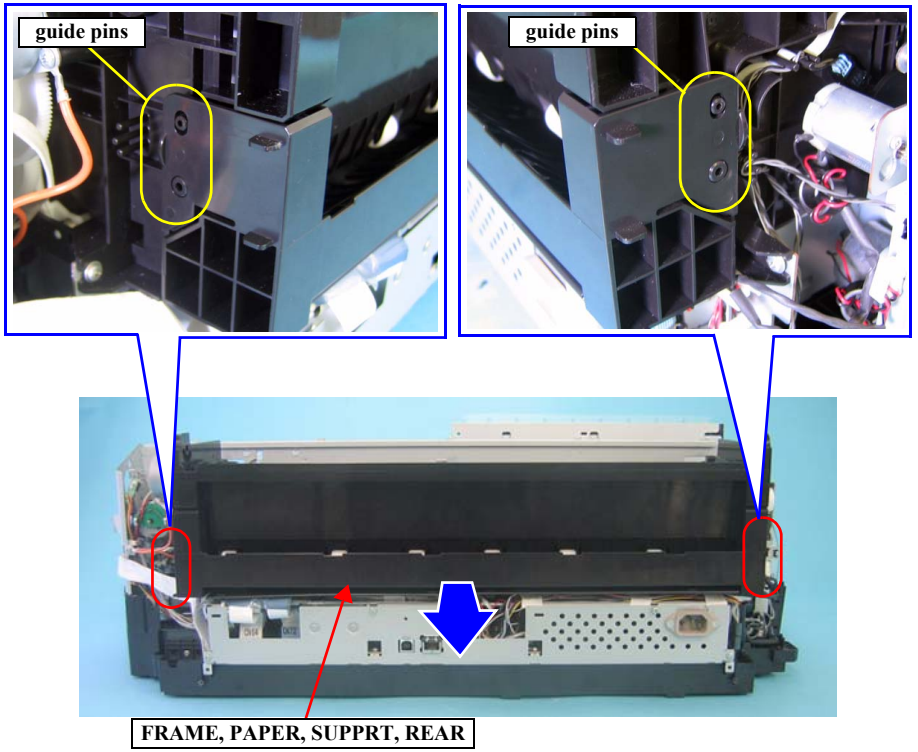


Figure 4-25. Removing the FRAME, PAPER, SUPPORT, REAR

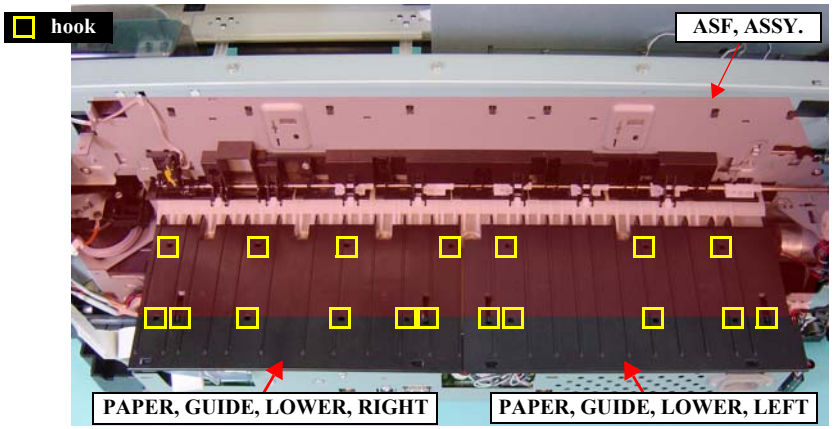


Figure 4-26. Removing the PAPER, GUIDE, LOWER, LEFT/RIGHT

10. Remove the four screws that secure the BASE, ENCLOSURE to the main unit. *See Figure 4-27.*

    - Four C.B.S. 3 x 6 screws (6 ± 1 kgf.cm)

CAUTION

Note that the Main Board and the Power Supply Board are stored in the BASE, ENCLOSURE, and they are connected to the main unit with the cables. When removing the BASE, ENCLOSURE, be careful not to separate it too much from the main unit to avoid damaging the cables.

11. Pull out the BASE, ENCLOSURE from the back of the printer. *See Figure 4-28.*

CAUTION

Do not disconnect/insert the FFCs from/into the connectors at an angle. Doing so may damage, short, or break the terminals in the connector resulting in a breakdown of the elements on the board.

12. Disconnect all the connector cables and the FFCs on the BOARD ASSY., MAIN, and remove the BASE, ENCLOSURE. (Refer to *"4.3.4.1 BOARD ASSY., MAIN" (p113)*)

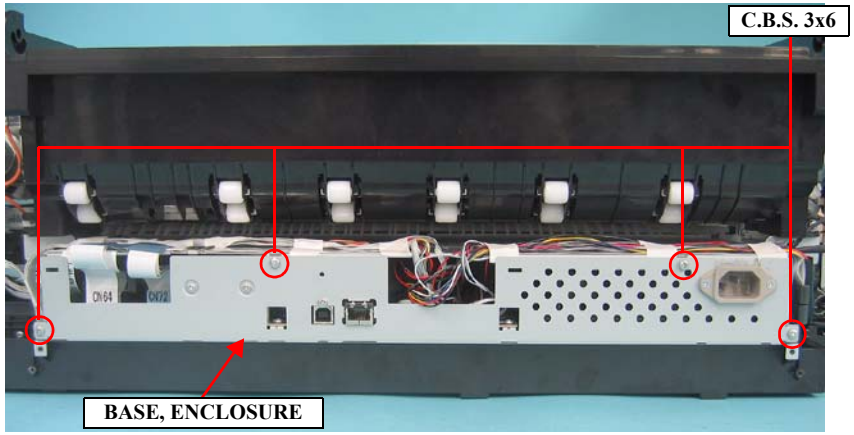


Figure 4-27. Removing the screws from the BASE, ENCLOSURE

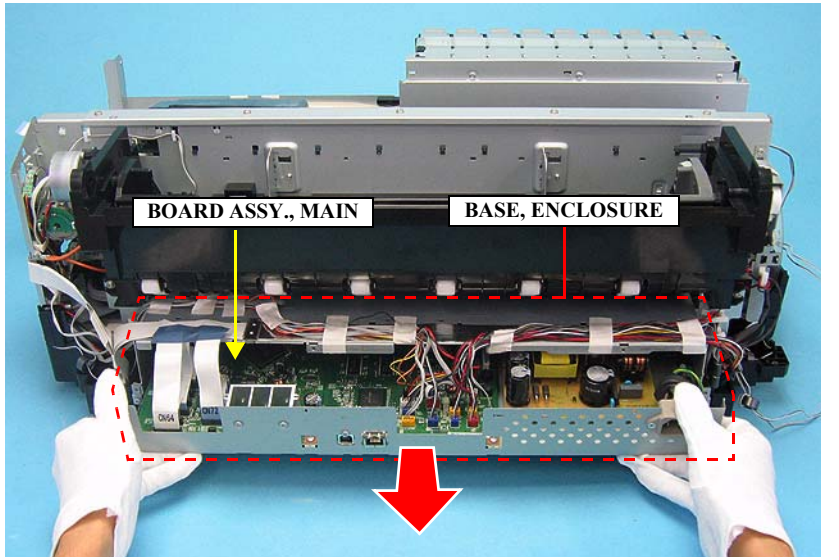


Figure 4-28. Removing the BASE, ENCLOSURE

4.3.4 Removing the Circuit Boards

4.3.4.1 BOARD ASSY., MAIN

1. Pull out the BASE, ENCLOSURE. *(p111)*

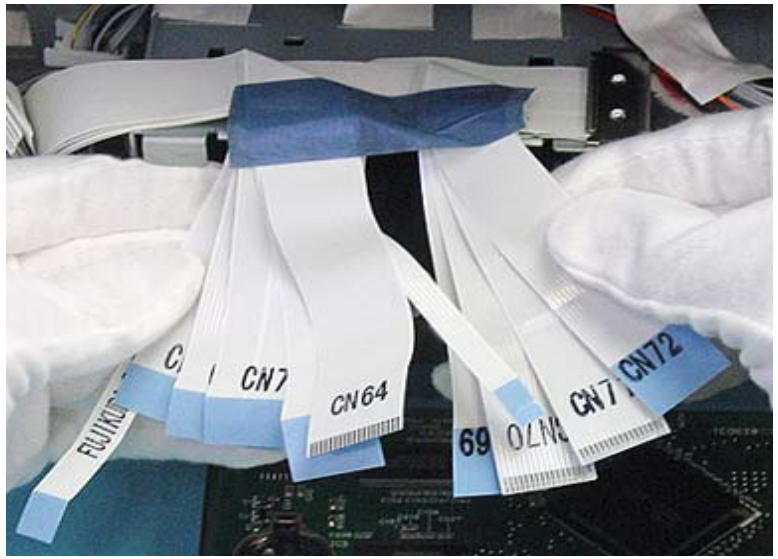
CAUTION

Do not disconnect/insert the FFCs from/into the connectors at an angle. Doing so may damage, short, or break the terminals in the connector resulting in a breakdown of the elements on the board.

2. Disconnect the all connectors and FFCs from the BOARD ASSY., MAIN. Note that CN13 connector is locking the Power Board Cable. Be sure to unlock CN13 to disconnect the cable.

REASSEMBLY

- **Connect the FFCs to their correct positions matching the numbers written on the FFCs with those printed on the board as shown in *Figure 4-29* and *Table 4-4*.**



- **CN3, CN59 are not in use.**

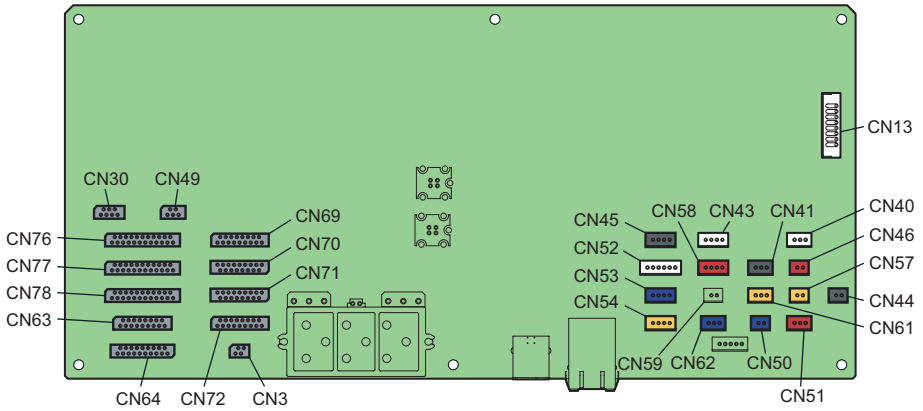


Figure 4-29. Connector Layout of the BOARD ASSY., MAIN

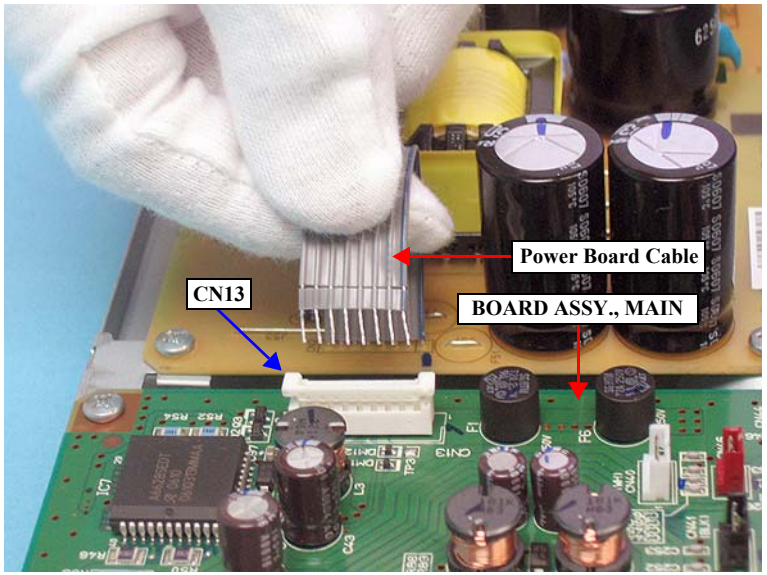


Figure 4-30. Disconnecting the Power Board Cable from CN13

Table 4-4. List of Connectors on the BOARD ASSY., MAIN

Connector No.	Color	Number of Pins	Destination
CN3	White	NA	Unassigned
CN13	White	7	BOARD ASSY., POWER SUPPLY
CN30	(FFC)	7	CSIC, MAINTENANCE CARTRIDGE
CN40	White	3	MOTOR ASSY., CR
CN41	Black	3	MOTOR ASSY., PF
CN43	White	4	MOTOR ASSY., ASF
CN44	Black	2	INK COVER, SOLENOID
CN45	Black	4	MOTOR ASSY., PG
CN46	Red	2	MOTOR ASSY., PRESSURIZING
CN49	(FFC)	5	ENCODER, PF, ASSY.
CN50	Blue	2	BOARD PAPER TRAY OPEN SENSOR
CN51	Red	3	INK COVER SENSOR
CN52	White	6	PRESSURE SENSOR PRESSURE PUMP HOME SENSOR
CN53	Blue	4	ASF PHASE SENSOR
CN54	Yellow	4	PE SENSOR
CN57	Yellow	2	MOTOR ASSY., RELEASE
CN58	Red	4	MOTOR ASSY., PUMP
CN59	White	NA	Unassigned
CN61	Yellow	3	RELEASE ROLLER POSITION SENSOR
CN62	Blue	3	COVER, WB SENSOR
CN63	(FFC)	17	BOARD ASSY., SUB
CN64	(FFC)	19	BOAD ASSY., PANEL
CN69	(FFC)	17	PRINT HEAD
CN70	(FFC)	17	PRINT HEAD
CN71	(FFC)	17	PRINT HEAD
CN72	(FFC)	17	PRINT HEAD
CN76	(FFC)	23	CSIC RELAY BOARD
CN77	(FFC)	23	CSIC RELAY BOARD
CN78	(FFC)	23	CSIC RELAY BOARD

3. Remove the nine screws that secure the BOARD ASSY., MAIN to the BASE, ENCLOSURE.
   - Nine C.B.S. 3 x 6 screws (6 ± 1 kgf.cm)
4. Remove the HEATSINK of the BOARD ASSY., MAIN to remove it from the BASE, ENCLOSURE to remove the BOARD ASSY., MAIN.
5. Peel off the SHEET, HEATSHINK from the HEATSHINK of the BOARD ASSY., MAIN.

CHECK POINT

The BOARD ASSY., MAIN and the BASE, ENCLOSURE are adhered to each other with the SHEET, HEATSHINK.

CAUTION

- **Do not put the board directly on conductive surfaces with its component side is facing down.**
- **A lithium battery is pre installed on the boards provided as service parts. Therefore, direct contact between the component side of the board and conductive materials, or putting conductive materials on the circuits must be avoided.**

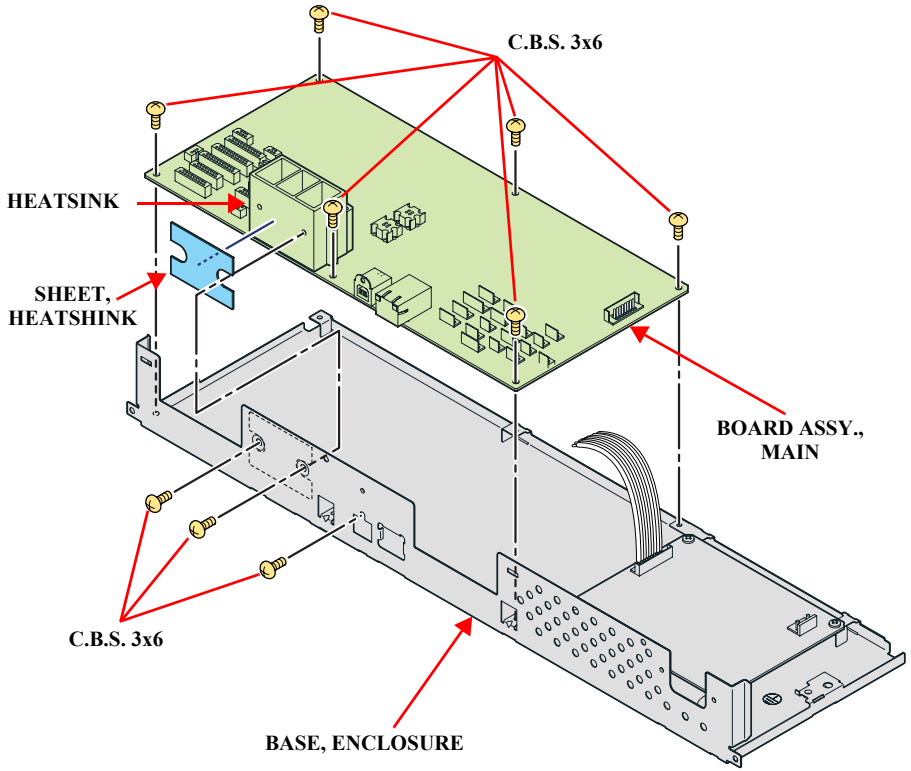


Figure 4-31. Removing the BOARD ASSY., MAIN

Whenever the BOARD ASSY., MAIN is replaced, the corresponding adjustments must be carried out.
See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>

- **NVRAM Backup OK**

1. **Install F/W**
2. **Parameter Backup**
3. **RTC&USB ID**

- **NVRAM Backup NG**

1. **Head Rank ID**
2. **RTC&USB ID**
3. **Input Serial Number**
4. **Initial Ink Charge Flag ON/OFF**
5. **Install F/W**
6. **Write Constant When CR change**
7. **Print Head Slant Adjustment (CR)**
8. **PG Position Adjustment**
9. **Print Head Slant Adjustment (PF)**
10. **Ink Mark Sensor Adjustment for Auto Nozzle Check**
11. **Auto Uni-D Adjustment**
12. **Auto Bi-D Adjustment**
13. **T&B&S Adjustment**
14. **PF Adjustment**
15. **EJ Adjustment**
16. **Colorimetric Calibration Tool**
17. **Print Image**

4.3.4.2 BOARD ASSY., POWER SUPPLY

1. Pull out the BASE, ENCLOSURE. *(p111)*

CAUTION

- **When removing the BOARD ASSY., POWER SUPPLY, do not start the work immediately after disconnecting the AC cable. Wait for at least five minutes for the electrolytic capacitor to finish discharging residual charges.**
- **When performing step 2. to step 4., be careful not to disconnect the cable forcibly from CN2 on the board as the cable is directly-mounted and it cannot be disconnected.**

2. Disconnect the Power Board Cable from CN13 on the BOARD ASSY., MAIN. Note that the connector is locking the cable. Be sure to unlock it to disconnect the cable. *See Figure 4-33.*
3. Disconnect the HARNESS, AC INLET from CN1 on the BOARD ASSY., POWER SUPPLY. *See Figure 4-34.*
4. Remove the four screws that secure the BOARD ASSY., POWER SUPPLY to the BASE, ENCLOSURE, and remove the BOARD ASSY., POWER SUPPLY.
   - Four C.B.S. 3 x 6 screws (6 ± 1 kgf.cm)

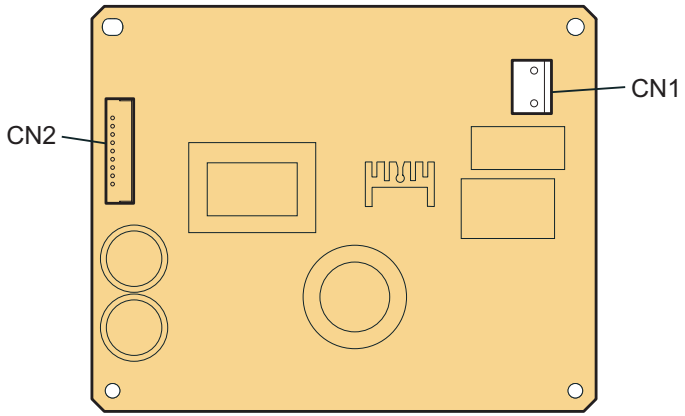


Figure 4-32. Connector Layout of the BOARD ASSY., POWER SUPPLY

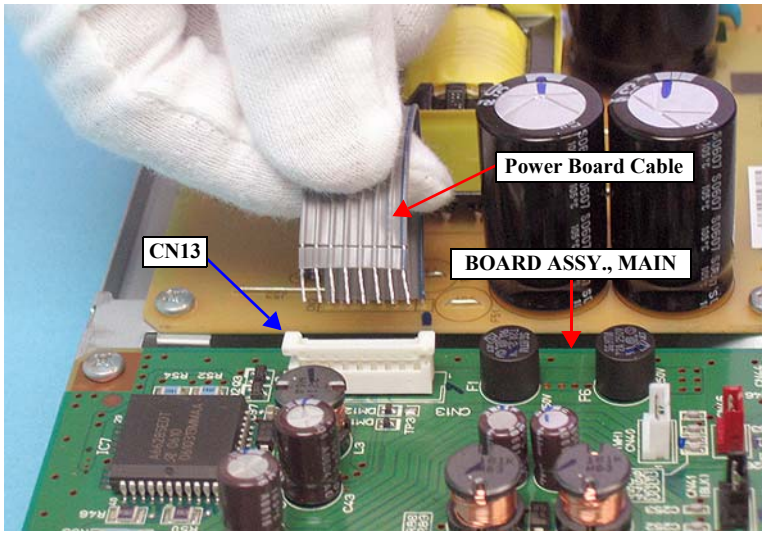


Figure 4-33. Disconnecting the Power Board Cable from CN13

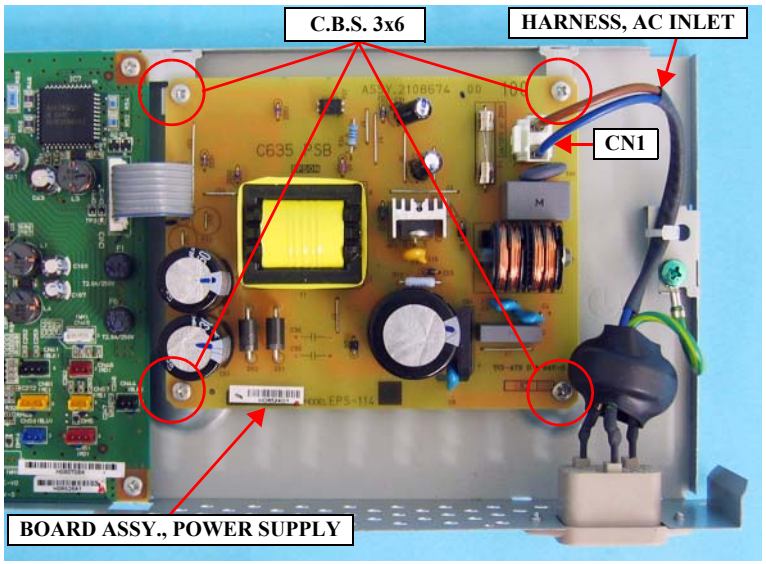


Figure 4-34. Removing the BOARD ASSY., POWER SUPPLY

4.3.4.3 AC INLET

1. Remove the BASE, ENCLOSURE. *(p111)*
2. Disconnect the HARNESS, AC INLET from CN1 on the BOARD ASSY., POWER SUPPLY.
3. Cut the cable tie that secures the HARNESS, AC INLET to the BASE, ENCLOSURE.
4. Remove the screw that secures the grounding wire to the BASE, ENCLOSURE.
   - One C.B.(O). 4 x 8 screw (6 ± 1 kgf.cm)
5. Remove the two screws that secure the AC INLET to the BASE, ENCLOSURE.
   - Two C.F.S. 3 x 6 screws (6 ± 1 kgf.cm)
6. Remove the AC INLET from the notch of the BASE, ENCLOSURE.

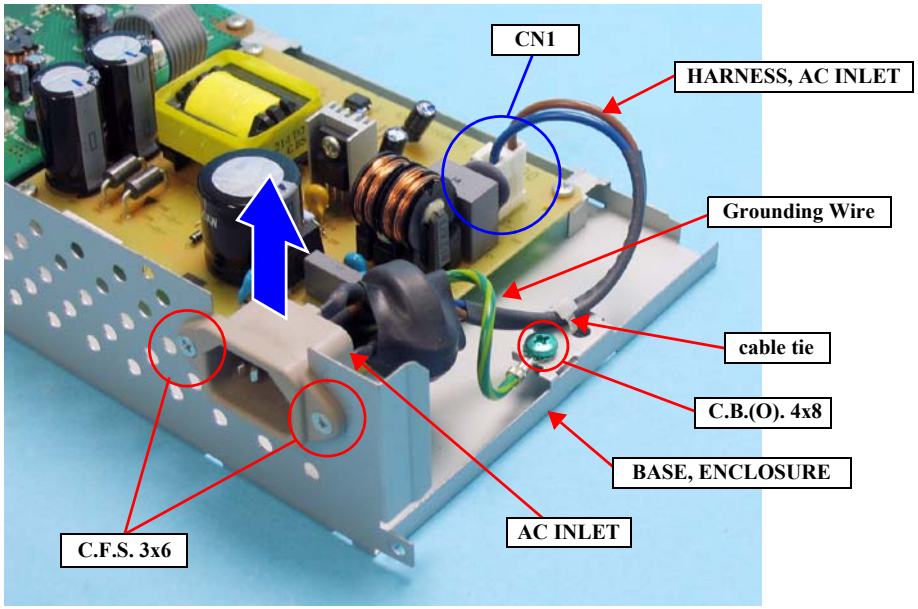


Figure 4-35. Removing the AC INLET

4.3.4.4 BOARD ASSY., SUB

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the COVER, CR. *(p152)*

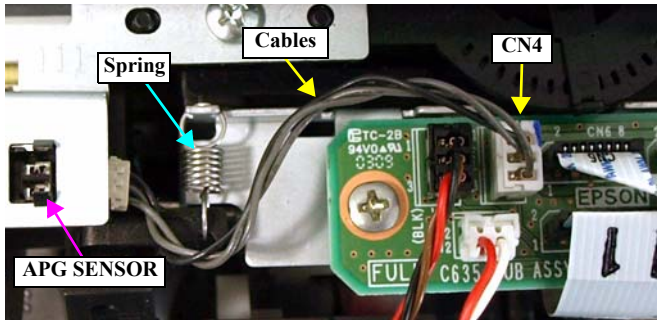
CAUTION

Do not disconnect/insert the FFCs from/into the connectors at an angle. Doing so may damage, short, or break the terminals in the connector resulting in a breakdown of the elements on the board.

3. Disconnect the all connectors and FFCs from the BOARD ASSY., SUB.

REASSEMBLY

- **Connect the FFCs to their correct positions matching the numbers written on the FFCs with those printed on the board as shown in *Figure 4-29* and *Table 4-4*.**
- **Route the cables of the APG SENSOR (CN4) keeping them from contact with the spring as shown below.**



4. Remove the two screws that secure the BOARD ASSY., SUB to the CARRIAGE, ASSY., and remove the BOARD ASSY., SUB.
   - Two C.B.S. 3 x 6 screws (6 ± 1 kgf.cm)

REASSEMBLY

Secure the grounding terminal of the MOTOR, INK SELECTOR together with the BOARD ASSY., SUB with the C.B.S. 3 x 6 screw on the right. *See Figure 4-37.*

Table 4-5. List of Connectors on the BOARD ASSY., SUB

Connector No.	Color	Number of Pins	Destination
CN1	(FFC)	17	BOARD ASSY., MAIN
CN2	White	2	MOTOR, INK SELECTOR
CN3	(FFC)	4	INK MARK SENSOR
CN4	White	3	APG SENSOR
CN5	Black	3	SWITCH, INK SELECTOR
CN6	(FFC)	8	BOARD ASSY., DETECT, PW; B

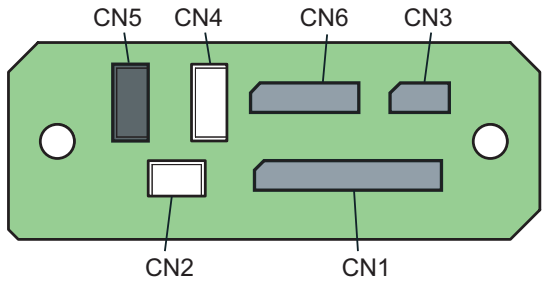


Figure 4-36. Connector Layout of the BOARD ASSY., SUB

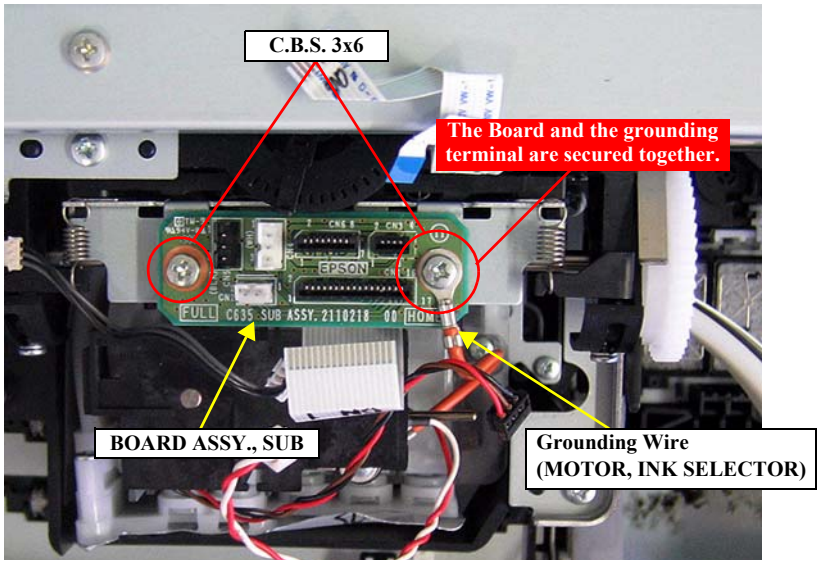


Figure 4-37. Removing the BOARD ASSY., SUB

4.3.5 Removing the MOTOR ASSEMBLIES.

4.3.5.1 MOTOR ASSY., APG

1. Remove the HOUSING, UPPER. *(p107)*
2. Pull out the BASE, ENCLOSURE. *(p111)*
3. Disconnect CN45 of the MOTOR ASSY., APG on the BOARD ASSY., MAIN. *See Figure 4-29.*
4. Release the cables of the MOTOR ASSY., APG from the three cable hooks. *See Figure 4-38.*
5. Peel off the acetate tapes on the COVER, ENCLOSURE, ASSY. to release the cables of the MOTOR ASSY., APG. *See Figure 4-39.*

Route the cables of the MOTOR ASSY., APG, with other cables and secure them with the acetate tapes as shown in *Figure 4-39*.

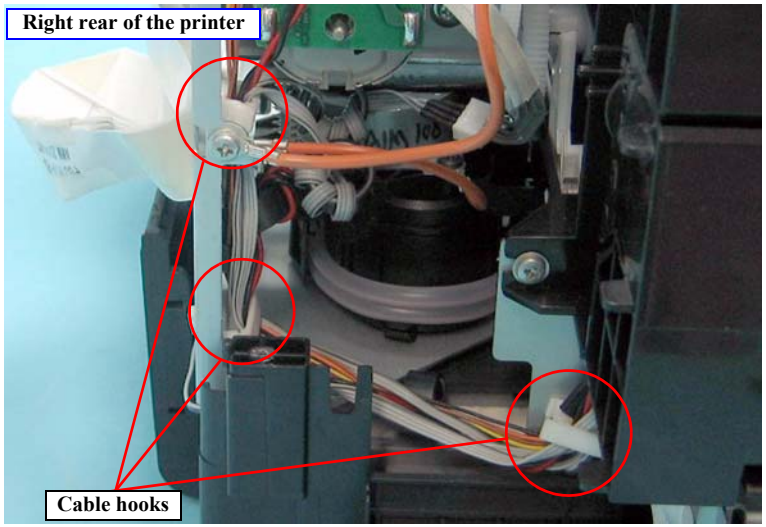


Figure 4-38. Releasing the MOTOR ASSY., APG cables (1)

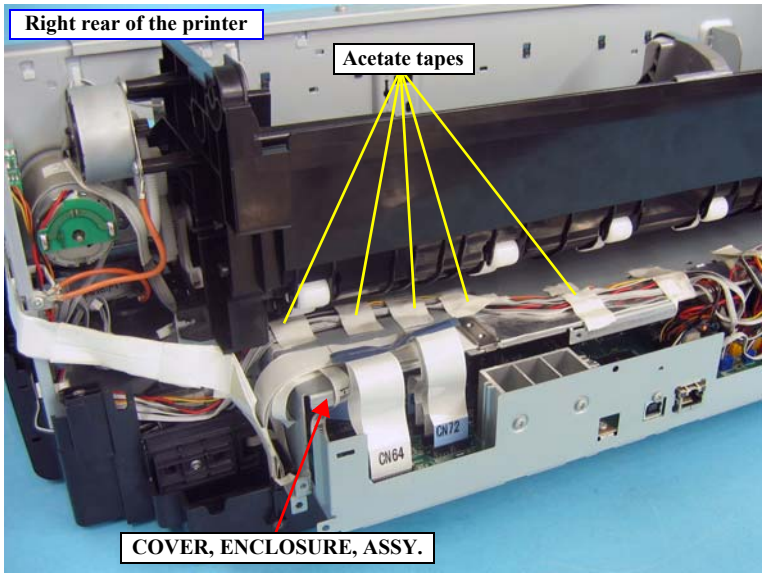


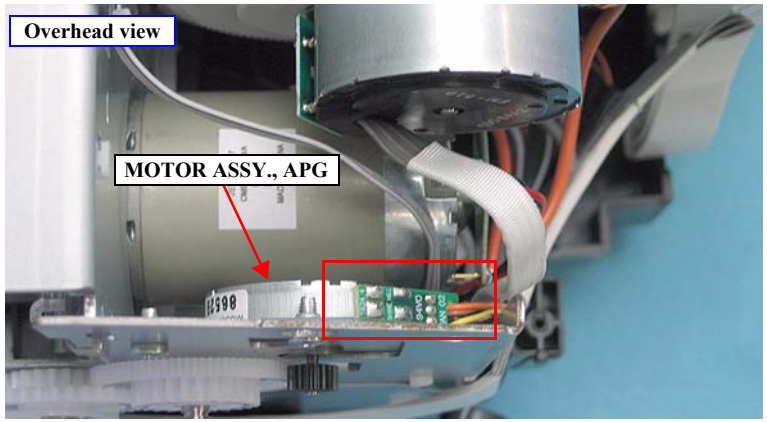
Figure 4-39. Releasing the MOTOR ASSY., APG cables (2)

6. Remove the two screws that secure the MOTOR ASSY., APG to the FRAME ASSY., SUB, RIGHT. *See Figure 4-40.*
   - Two C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)
7. Turn the MOTOR ASSY., APG in the direction of arrow in *Figure 4-40* to release the part that contacts with the FRAME ASSY., SUB RIGHT, and remove the MOTOR ASSY., APG toward inside of the main unit. *See Figure 4-40.*

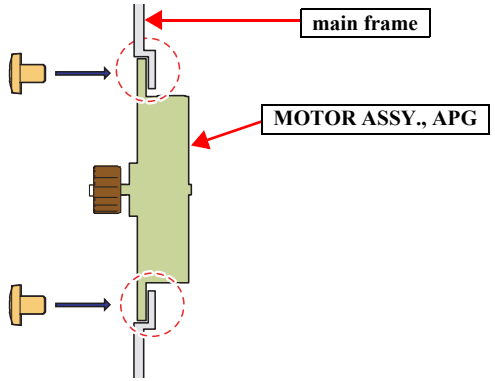
REASSEMBLY

When installing the MOTOR ASSY., APG, be careful of the following.

- **The board-attached side must face upward.**



- **The screwing portions of the MOTOR ASSY., APG must come to the outside of the main frame.**



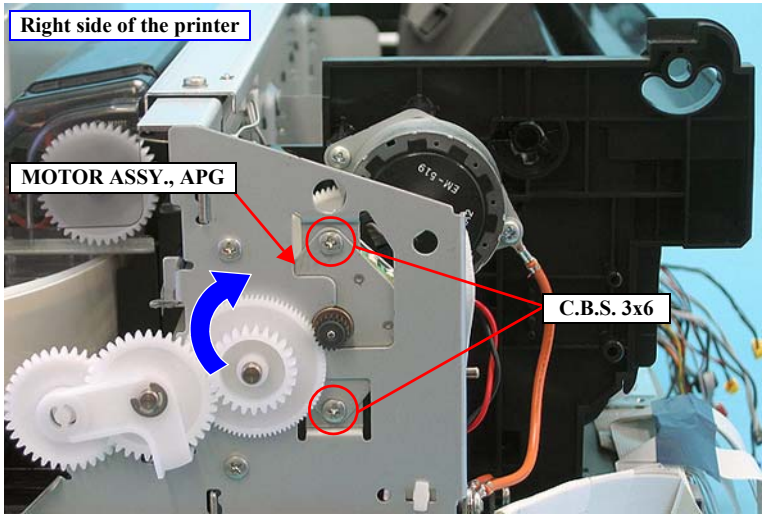


Figure 4-40. Removing the screws from the MOTOR ASSY., APG

4.3.5.2 MOTOR ASSY., ASF

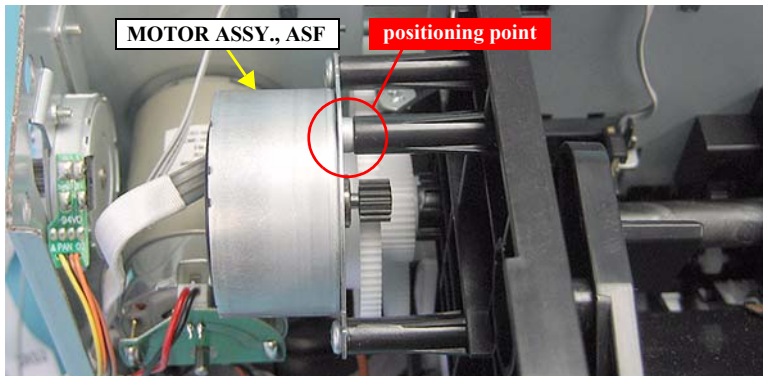
1. Remove the HOUSING, UPPER. *(p107)*
2. Release the cables of the MOTOR ASSY., ASF from the cable hook. *See Figure 4-41.*
3. Disconnect the connector of the MOTOR ASSY., ASF, shown in *Figure 4-41* from the relay connector.
4. Remove the two screws that secure the MOTOR ASSY., ASF and remove the MOTOR ASSY., ASF. *See Figure 4-42.*
   - Two C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)

CHECK POINT

Put a screwdriver (with a 60 mm or longer shaft is recommended) through the holes on the FRAME ASSY., SUB, RIGHT to remove the C.B.P 3x8 screws that secure the MOTOR ASSY., ASF as shown in *Figure 4-42*.

REASSEMBLY

- **Be sure to insert the guide pin of the ASF into the positioning hole of the MOTOR ASSY., ASF.**



- **Secure the grounding terminal and the MOTOR ASSY., ASF together with the C.B.S. 3 x 8 screw at the rear as shown in *Figure 4-42*.**

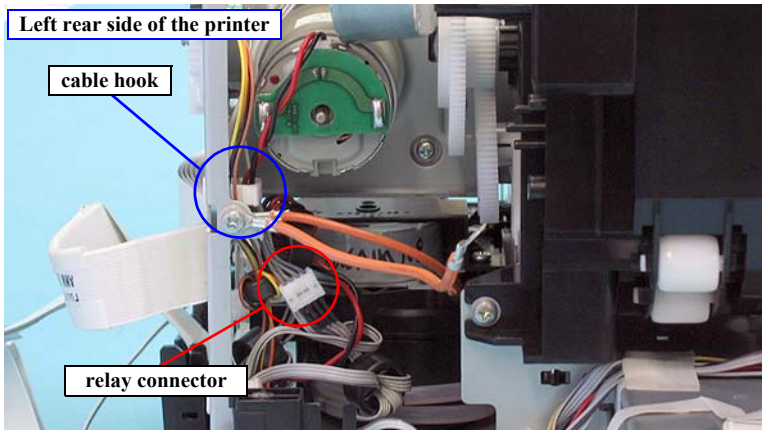


Figure 4-41. Releasing the cables of the MOTOR ASSY., ASF

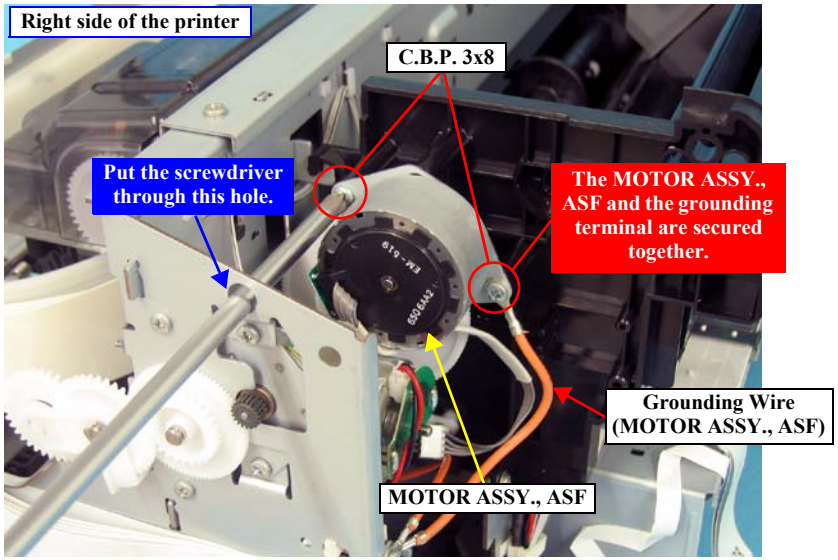


Figure 4-42. Removing the screws from the MOTOR ASSY., ASF

4.3.5.3 MOTOR ASSY., CR

1. Remove the HOUSING, UPPER. *(p107)*
2. Unlock the CARRIAGE, ASSY. and move it to the center. *(p92)*
3. Push the HOLDER, PULLEY, DRIVEN in the direction of the arrow to reduce the tension of the BELT, CR, and remove the BELT, CR from the Pinion Gear of the MOTOR ASSY., CR.

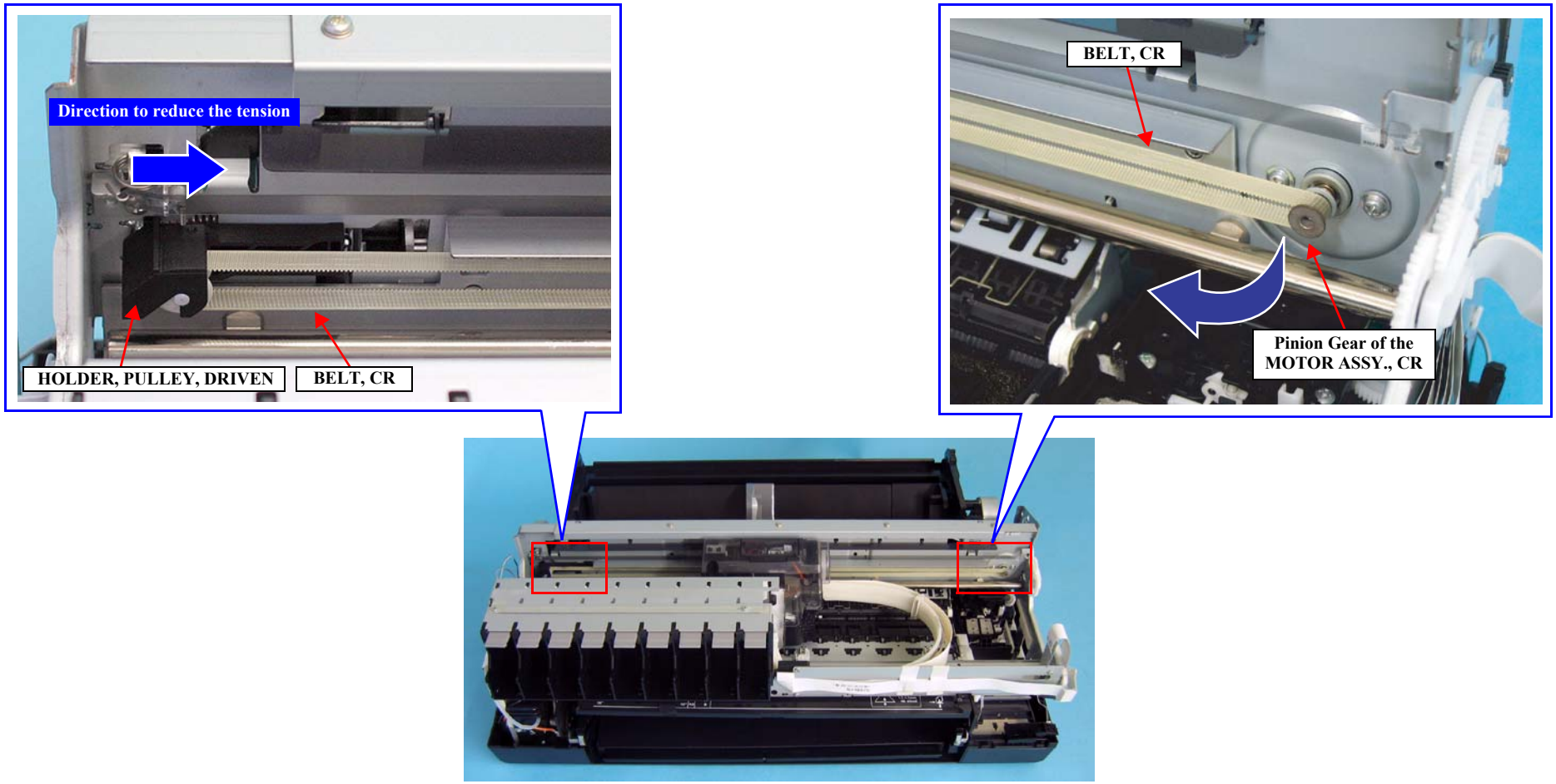


Figure 4-43. Removing the BELT, CR

4. Disconnect the connector from the MOTOR ASSY., CR.
5. Remove the two screws that secure the MOTOR ASSY., CR and remove it.
   - Two C.C.S. 3 x 4 screws (6 ± 1 kgf.cm)

CHECK POINT

When removing the C.C.S. 3x4 screws that secure the MOTOR ASSY., CR, use a stubby screw driver or put a screwdriver (with a 140mm or longer shaft is recommended) through the holes on the main frame as shown in *Figure 4-44*.

REASSEMBLY

Be sure to install the MOTOR ASSY., CR to the main frame so that the label on the MOTOR ASSY., CR faces upward. *See Figure 4-44.*

CAUTION

Since the MOTOR ASSY., CR of Epson Stylus Pro 3800/3800C/ 3850 and Epson Stylus Pro 3880/3885/3890 has no compatibility, be careful not to install the wrong one.

ADJUSTMENT REQUIRED

Whenever the MOTOR ASSY., CR is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>
1. Write When CR Change
2. Reset When CR Motor Change

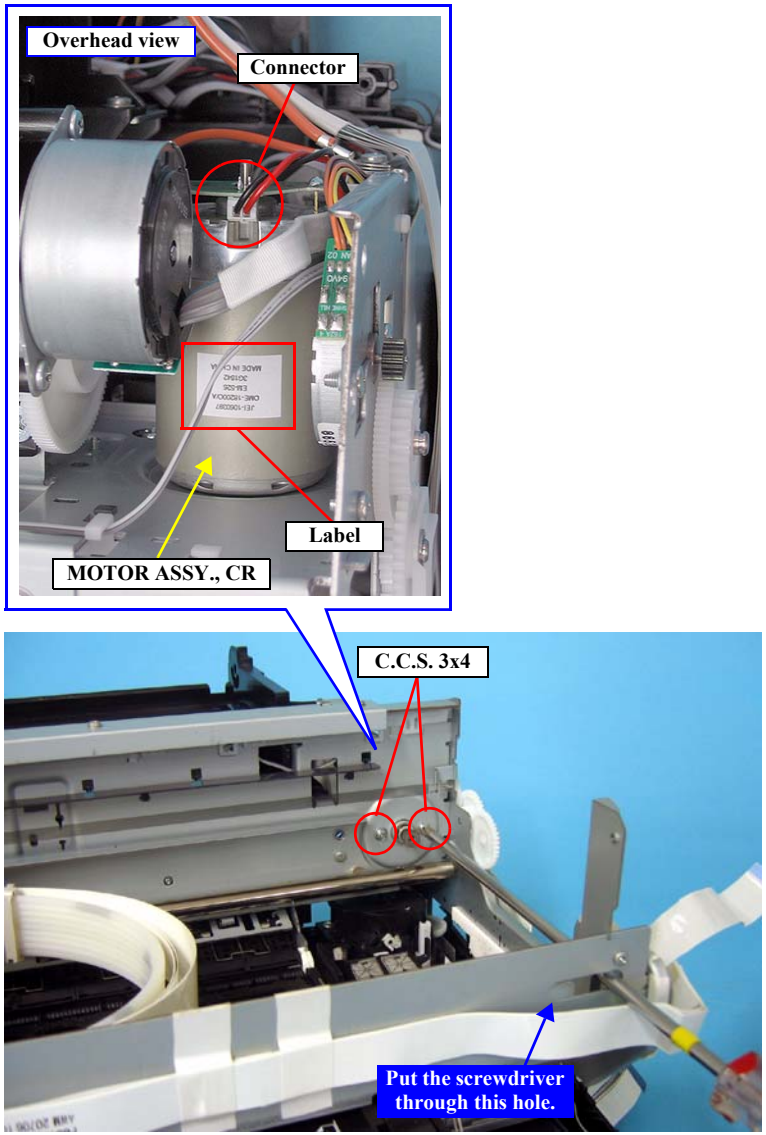


Figure 4-44. Removing the screws from the MOTOR ASSY., CR

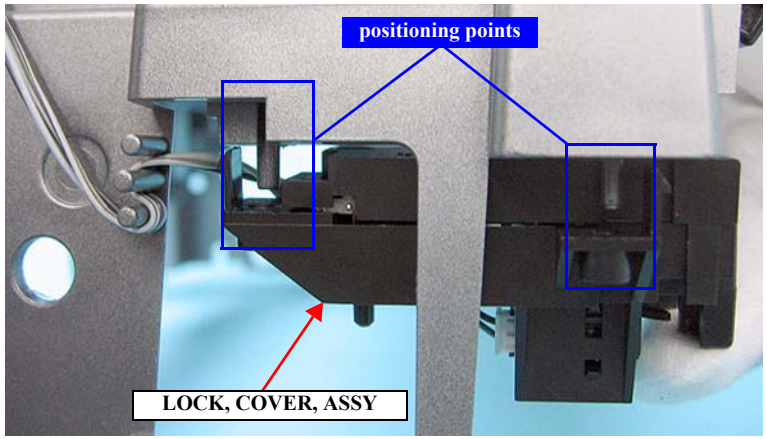
4.3.6 Removing the SENSORS and SWITCHES

4.3.6.1 LOCK, COVER, ASSY.

1. Perform step 1. to step 10. in *"4.3.3.12 HOUSING, UPPER" (p107)*, and remove the HOUSING, UPPER from the main unit.
2. Release the two hooks that secure the LOCK, COVER, ASSY. with a precision screwdriver or similar tools to remove the LOCK, COVER, ASSY.

REASSEMBLY

Be sure to insert the two positioning holes of the LOCK, COVER, ASSY. over the guide pins of the HOUSING, UPPER.



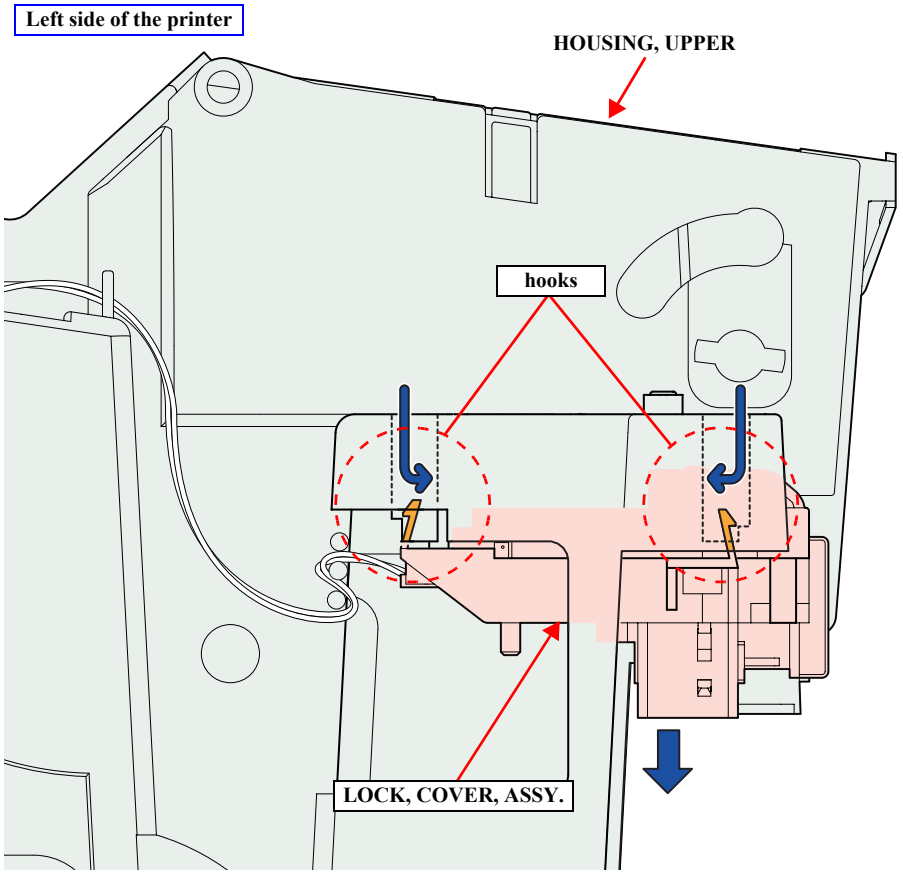


Figure 4-45. Removing the LOCK, COVER, ASSY.

3. Release the LOCK, COVER, ASSY. cables from the hooked tabs on the HOUSING, UPPER.

REASSEMBLY

Be sure to route the cables through the tabs as shown in *Figure 4-46*.

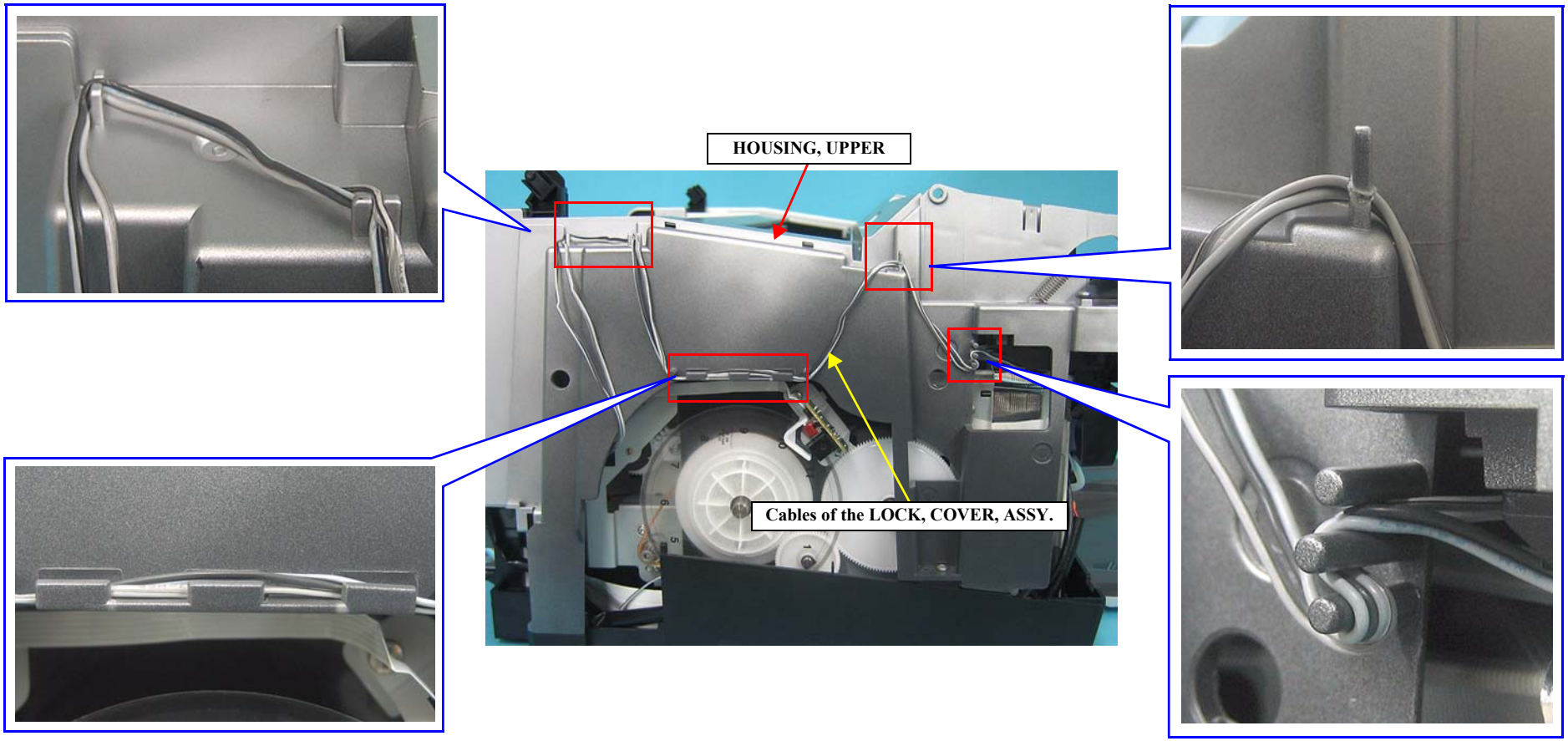


Figure 4-46. Routing the LOCK, COVER, ASSY. Cables

4. Release the cables of the LOCK, COVER, ASSY. from the two cable hooks. *See Figure 4-47.*
5. Pull out the BASE, ENCLOSURE. *(p111)*
6. Release CN44 and CN51 connectors of the LOCK, COVER, ASSY. on the BOARD ASSY., MAIN. *See Figure 4-29.*
7. Peel off the acetate tapes on the COVER, ENCLOSURE, ASSY. to release the cables of the LOCK, COVER, ASSY., and remove the LOCK, COVER, ASSY. *See Figure 4-48.*

Route the cables of the LOCK, COVER, ASSY., with other cables and secure them with the acetate tapes as shown in *Figure 4-48*.

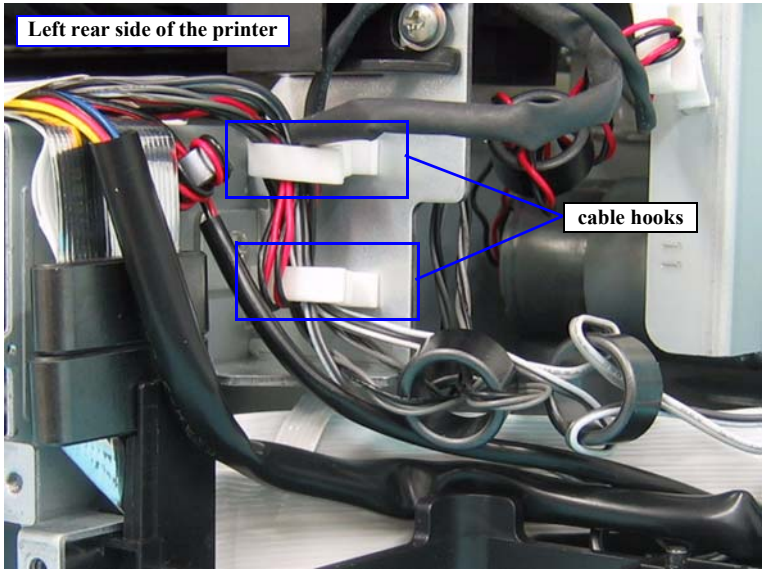


Figure 4-47. Releasing the LOCK, COVER, ASSY. Cables (1)

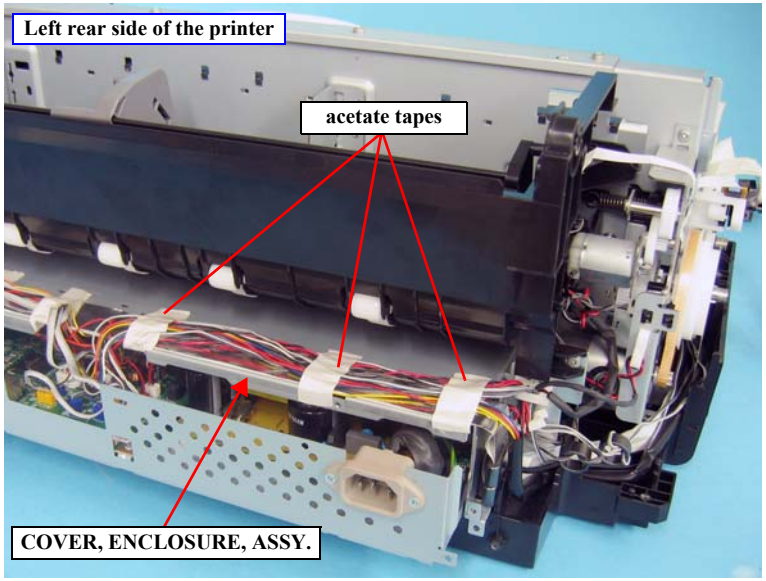


Figure 4-48. Releasing the LOCK, COVER, ASSY. Cables (2)

4.3.6.2 ENCODER, PF, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Disconnect the FFC from CN1 connector of the ENCODER, PF, ASSY. *See Figure 4-49.*
3. Remove the screw that secures the ENCODER, PF, ASSY. *See Figure 4-49.*
   - One C.B.S. 3 x 6 screw (6 ± 1 kgf.cm)

CAUTION

When performing the next step, be extremely careful not to contaminate, deform or damage the SCALE, PF, 180.

4. Lift up the ENCODER, PF, ASSY. to remove the detection part from the SCALE, PF, 180 and remove the ENCODER, PF, ASSY. *See Figure 4-49.*

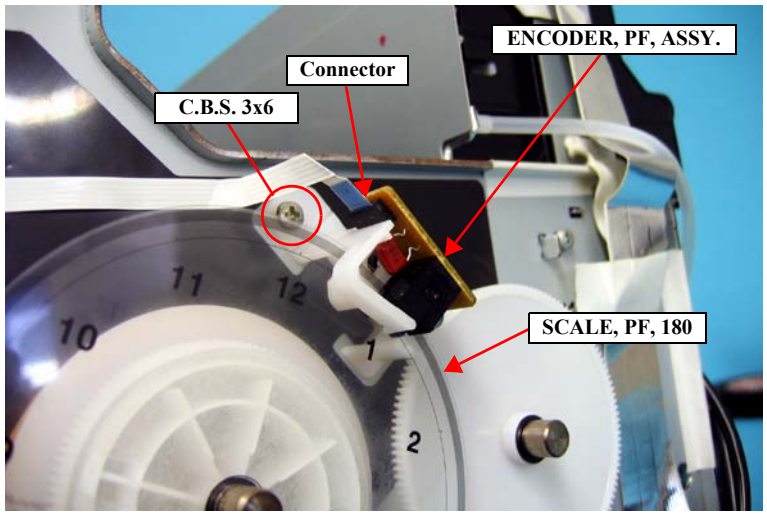
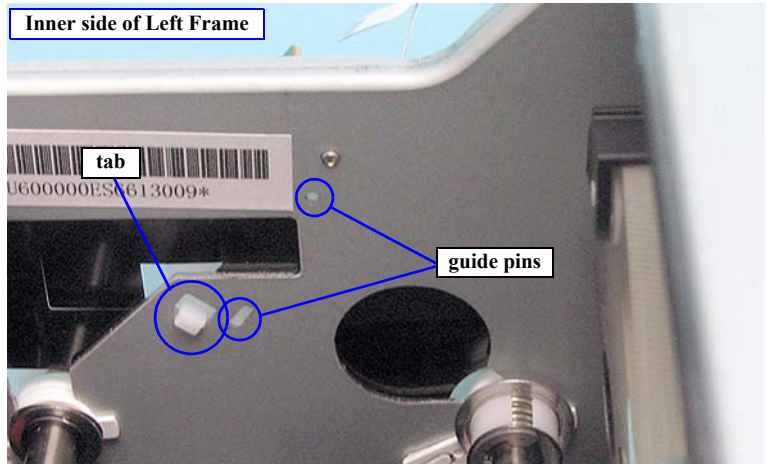


Figure 4-49. Removing the ENCODER, PF, ASSY.

REASSEMBLY

- **Insert the SCALE, PF, 180 into the detection part of the sensor, and install the ENCODER, PF, ASSY.**
- **When installing the ENCODER, PF, ASSY., be sure to engage the tab of the ENCODER, PF, ASSY. to the main frame and insert the positioning holes over the guide pins.**



ADJUSTMENT REQUIRED

Whenever the ENCODER, PF, ASSY. is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.

<Adjustment Item>

1. **Print Head Slant Adjustment (CR)**
2. **PG Position Adjustment**
3. **Print Head Slant Adjustment (PF)**
4. **Ink Mark Sensor Adjustment for Auto Nozzle Check**
5. **Auto Uni-D Adjustment**
6. **Auto Bi-D Adjustment**
7. **T&B&S Adjustment**
8. **Colorimetric Calibration Tool**
9. **Print Image**

4.3.6.3 RELEASE SENSOR

1. Remove the HOUSING, UPPER. *(p107)*
2. Manually turn the SPUR GEAR, 22 shown in *Figure 4-50* clockwise until the FLAG, DETECTOR, RELEASE goes out of the detection part of the RELEASE SENSOR (put the sensor into not-detecting state).
3. Disconnect the connector from the RELEASE SENSOR. *See Figure 4-50.*
4. Release the four hooks that secure the RELEASE SENSOR, and remove the RELEASE SENSOR. *See Figure 4-50.*

REASSEMBLY

If the cables have come off the cable guides on the main unit while removing the RELEASE SENSOR, be sure to route the cables correctly referring to *Figure 4-50*.

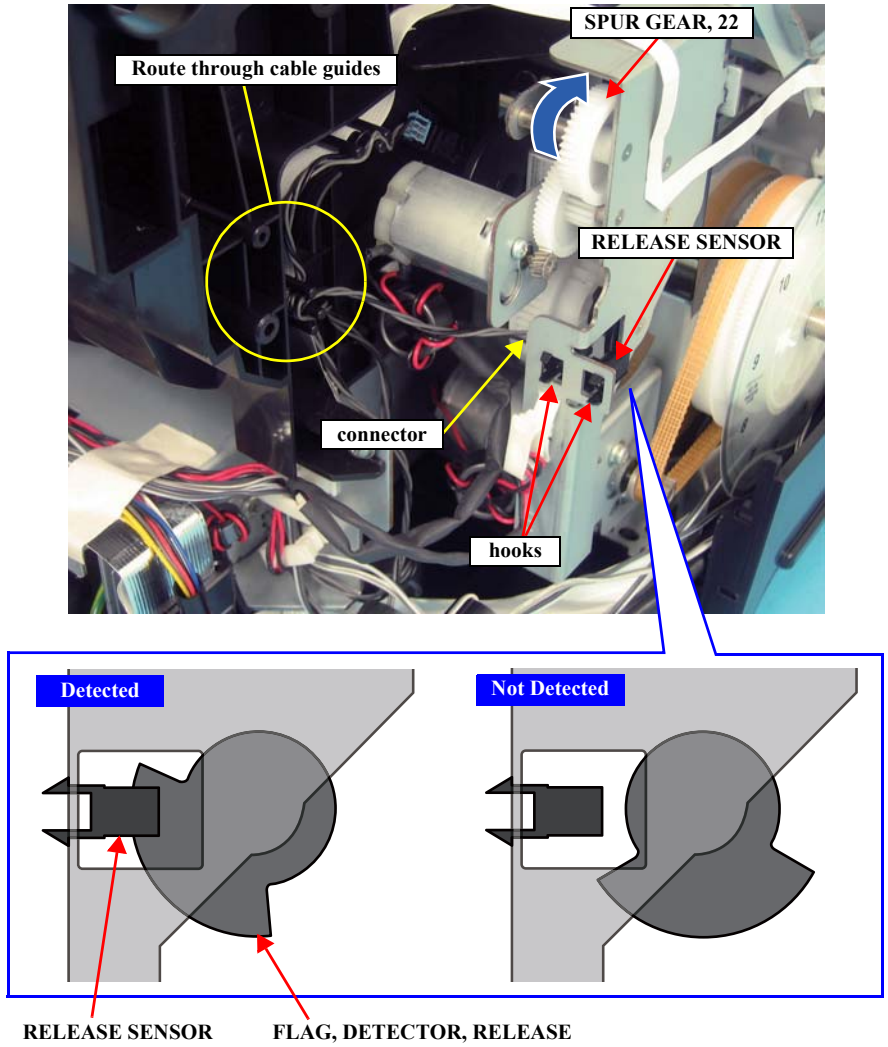


Figure 4-50. Removing the RELEASE SENSOR

4.3.6.4 MAINTENANCE CARTRIDGE SENSOR

1. Remove the HOUSING, UPPER. *(p107)*
2. Disconnect the connector from the MAINTENANCE CARTRIDGE SENSOR. *See Figure 4-51.*
3. Open the COVER, WB. *See Figure 4-5.*
4. Disengage the four tabs that secure the MOUNTING PLATE, DETECTOR, LOWER with a precision screwdriver or similar tools accessing from the bottom of the main unit, and remove the MOUNTING PLATE, DETECTOR, LOWER. *See Figure 4-51.*
5. Disengage the two hooks that secure the MAINTENANCE CARTRIDGE SENSOR to the MOUNTING PLATE, DETECTOR, LOWER, and remove the MAINTENANCE CARTRIDGE SENSOR. *See Figure 4-52.*

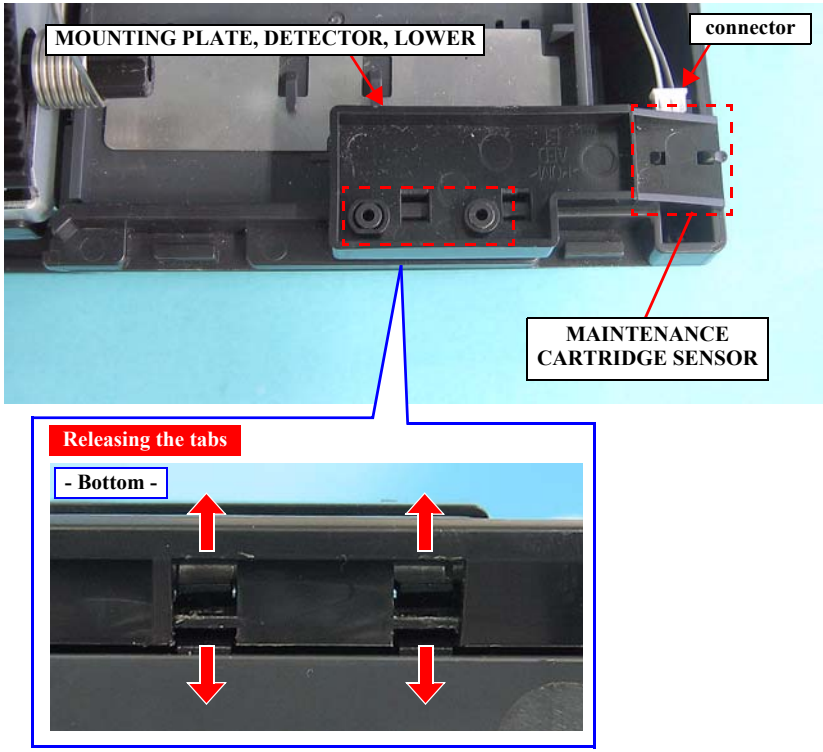


Figure 4-51. Removing the MOUNTING PLATE, DETECTOR, LOWER

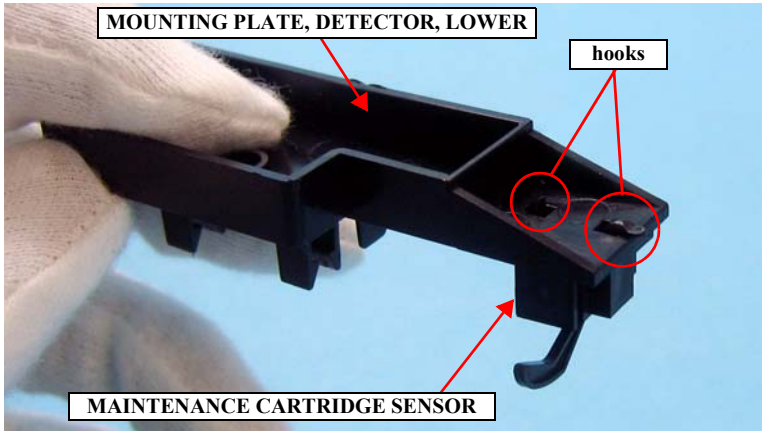


Figure 4-52. Removing the MAINTENANCE CARTRIDGE SENSOR

4.3.6.5 APG SENSOR

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the COVER, CR. *(p152)*
3. Remove the screw that secures the MOUNT PLATE, DETECTOR, PG, and remove the MOUNT PLATE, DETECTOR, PG.
   - One C.B.P. 3 x 8 screw (5 ± 1 kgf.cm)

REASSEMBLY

When installing the MOUNT PLATE, DETECTOR, PG to the CARRIAGE, ASSY., be sure to insert the positioning holes of the MOUNT PLATE, DETECTOR, PG over the guide pins of the CARRIAGE, ASSY. *See Figure 4-53.*

4. Disengage the four tabs that secure the APG SENSOR to the MOUNT PLATE, DETECTOR, PG, and remove the APG SENSOR.
5. Disconnect the connector from the APG SENSOR.

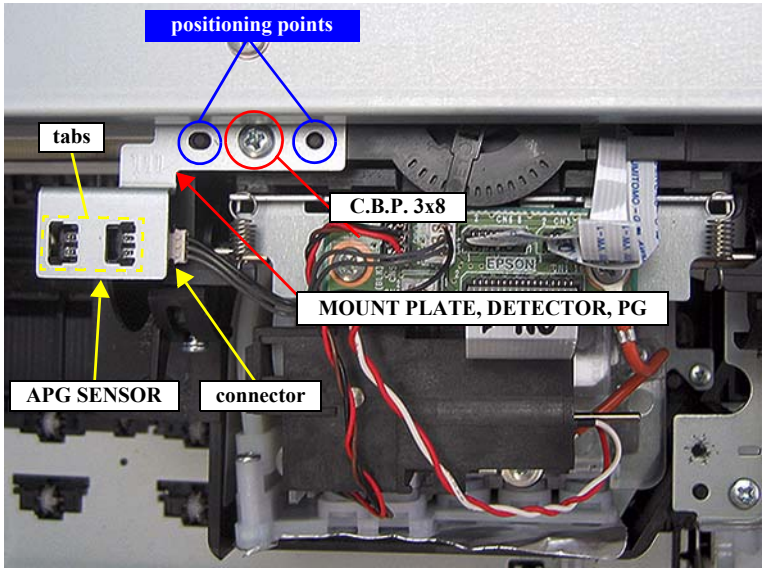


Figure 4-53. Removing the APG SENSOR

4.3.7 Removing the Carriage Mechanism

4.3.7.1 SCALE, CR

1. Remove the HOUSING, UPPER. *(p107)*
2. Unlock the CARRIAGE, ASSY., and move the CARRIAGE, ASSY. to the center of the main unit. *(p92)*

CAUTION

When performing the next steps, be extremely careful not to contaminate, deform or damage the SCALE, CR.

3. On the left side of the main unit, turn the left hooked end of the TORSION SPRING 24.7 in the direction of the arrow to loosen the tension of the SCALE, CR. Then remove the SCALE, CR from the hook on the right side of the main unit.
4. Turn the left hooked end of the TORSION SPRING 24.7 again in the direction of the arrow, to remove it from the hole of the SCALE, CR.
5. Pull out the right end of the SCALE, CR from the CARRIAGE, ASSY.

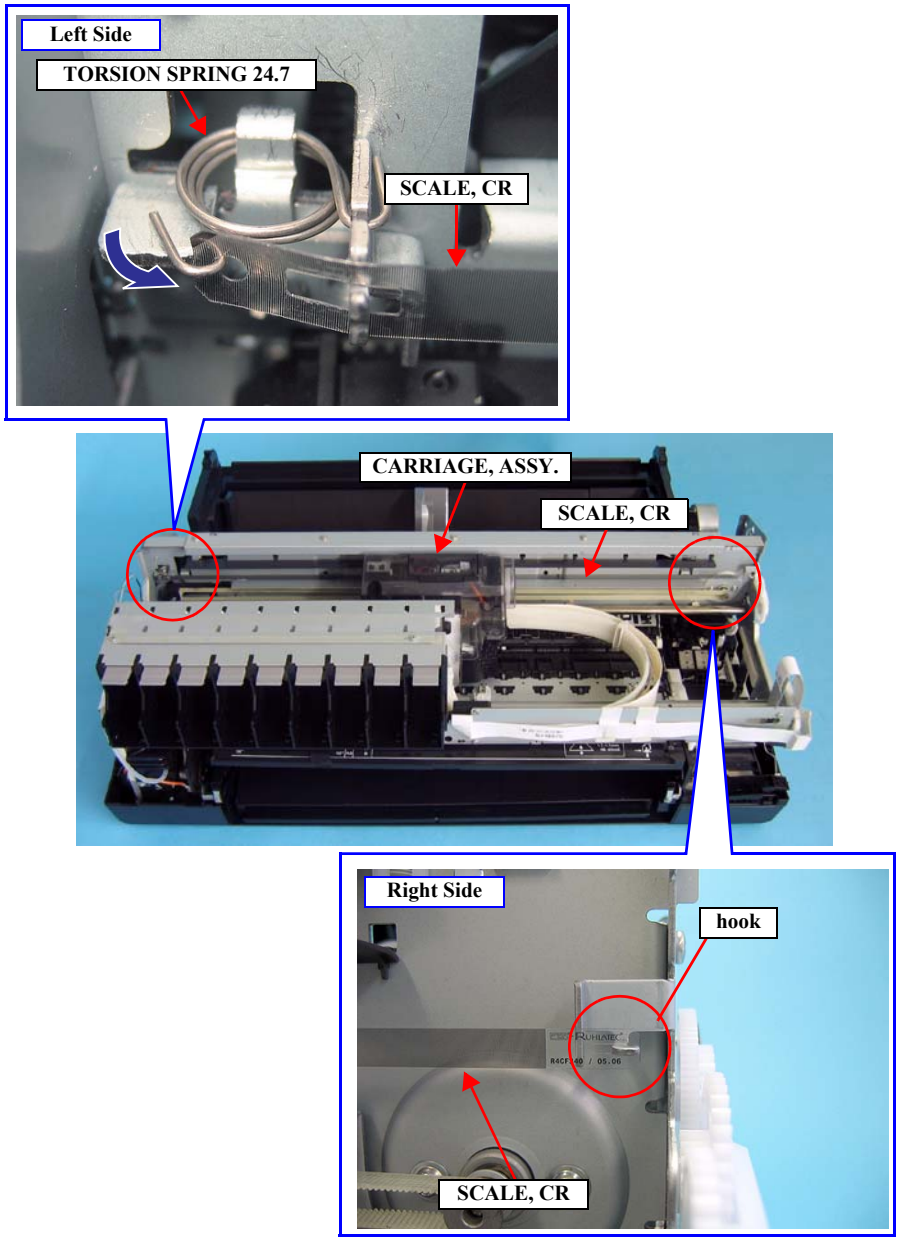


Figure 4-54. Removing the SCALE, CR (1)

6. Turn the SCALE, CR in the direction of the arrow and remove it from the tab of the MOUNT PLATE, SCALE, CR.

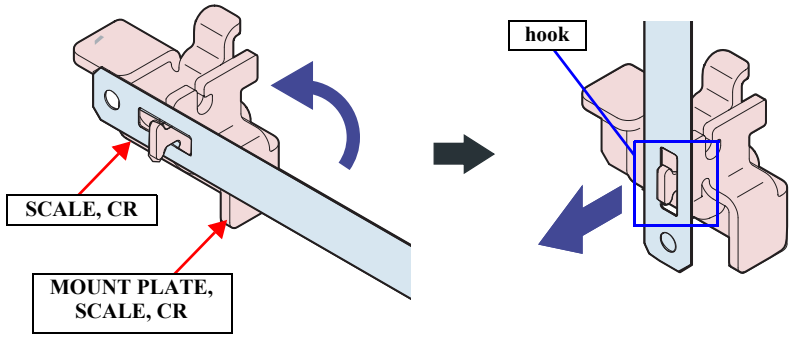
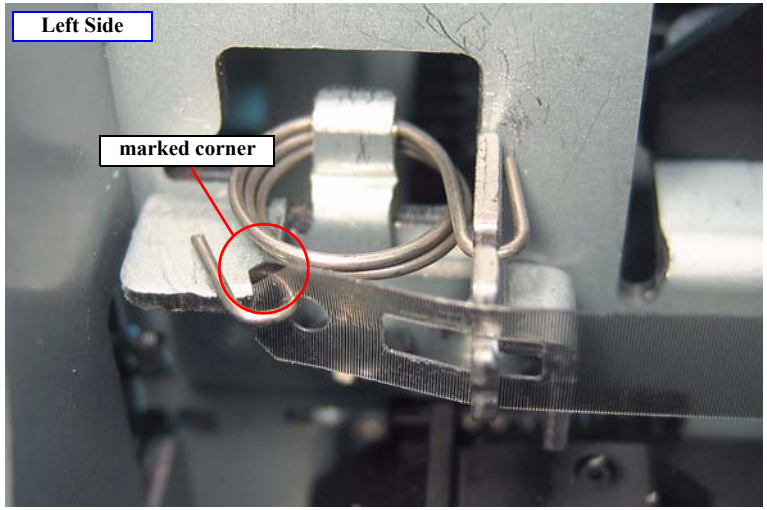


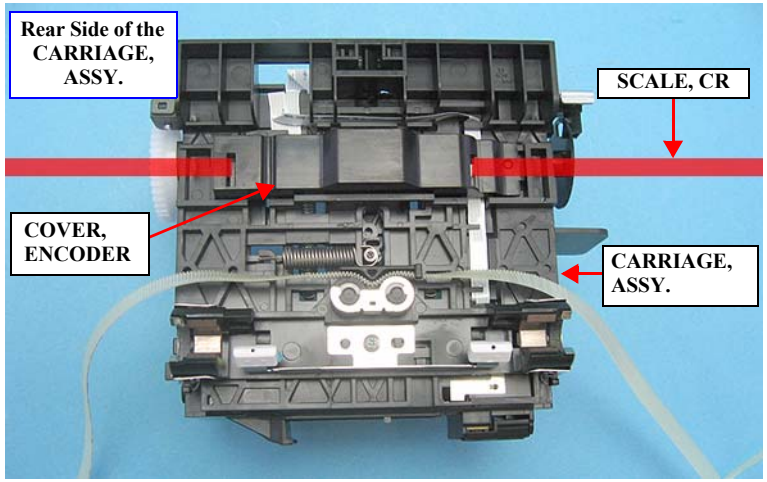
Figure 4-55. Removing the SCALE, CR (2)

REASSEMBLY

- **Install the SCALE, CR so that the marked corner comes to the top left corner.**



- **The SCALE, CR must be routed through the slit of the COVER, ENCODER, that is attached to the rear side of the CARRIAGE, ASSY.**



4.3.8 Removing the PAPER FEED MECHANISM

4.3.8.1 STACKER, ASSY.

DISASSEMBLY

1. Remove the HOUSING, FRONT, LEFT. *(p98)*
2. Remove the HOUSING, FRONT, RIGHT. *(p99)*
3. Open the STACKER, C.
4. Push outward on the left and right sides of the STACKER, C to widen it, and remove the STACKER, C while disengaging the two guide pins of the STACKER, ASSY.

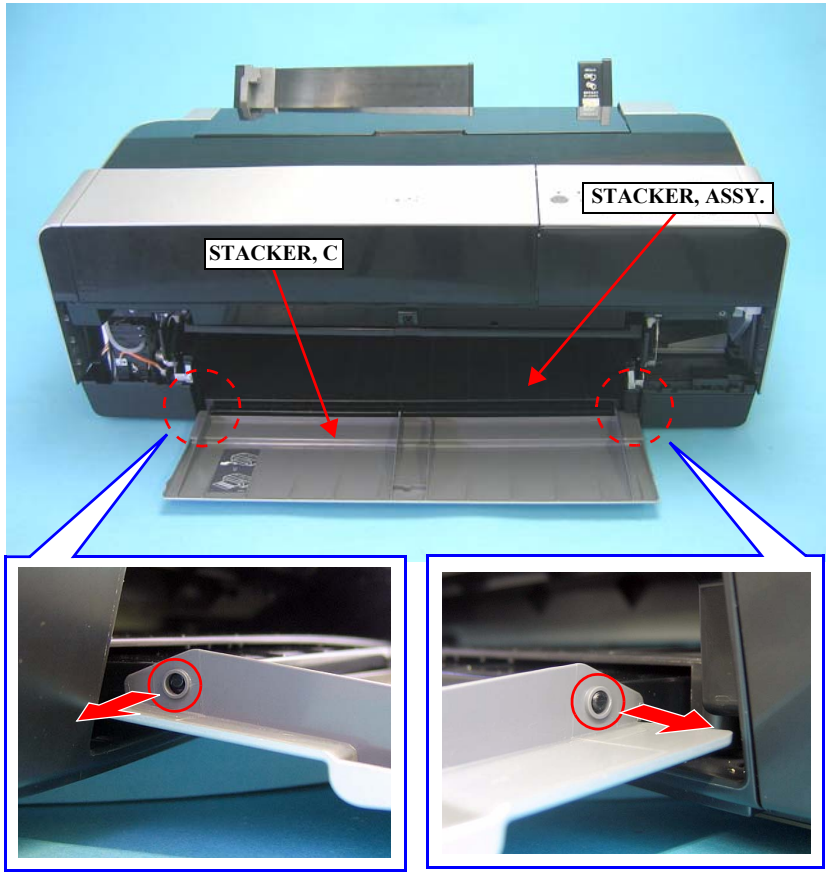
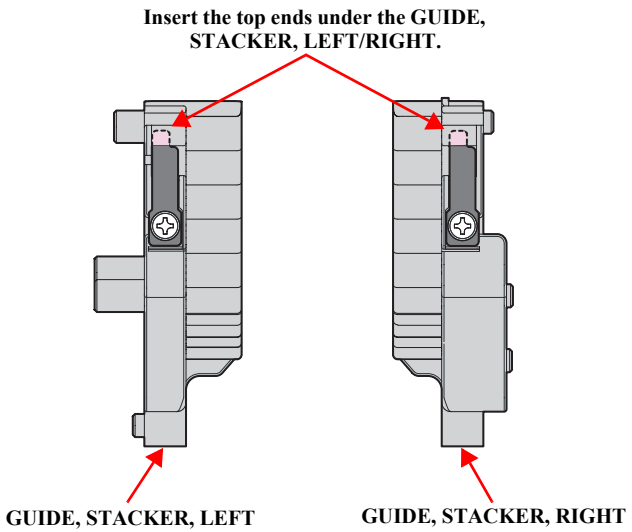


Figure 4-56. Removing the STACKER, C

5. Remove the two screws (one each on the left and right) that secure the PLATE, STOPPER, STACKERs and remove them.
   - Two C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)

REASSEMBLY

When securing the PLATE, STOPPER, STACKERs, be sure to put their top ends into the each groove of the GUIDE, STACKER, LEFT/RIGHT.



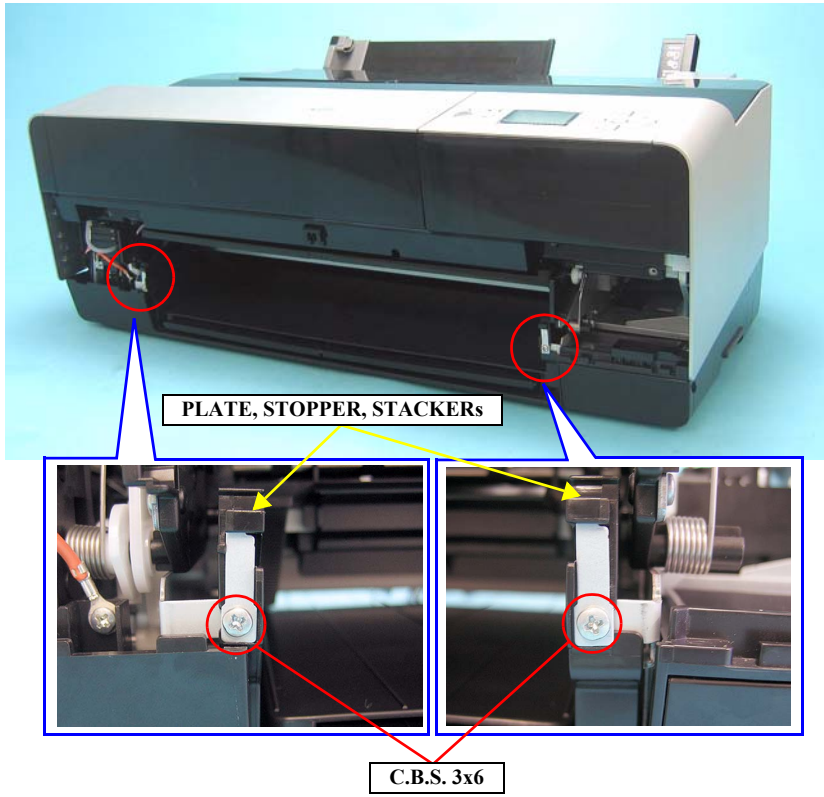


Figure 4-57. Removing the PLATE, STOPPER, STACKERs

6. Pull out the STACKER, ASSY. toward you as far as it will go.
7. Lift up the STACKER, ASSY. to disengage its right dowel from the main unit while slightly pushing the STACKER, ASSY. leftward. Then disengage the left dowel from the main unit to remove the STACKER, ASSY.

REASSEMBLY

If the GUIDE, STACKER, LEFT/RIGHT fall off unintentionally while removing the STACKER, ASSY, reinstall them referring to *"Reassembly" (p137)*.

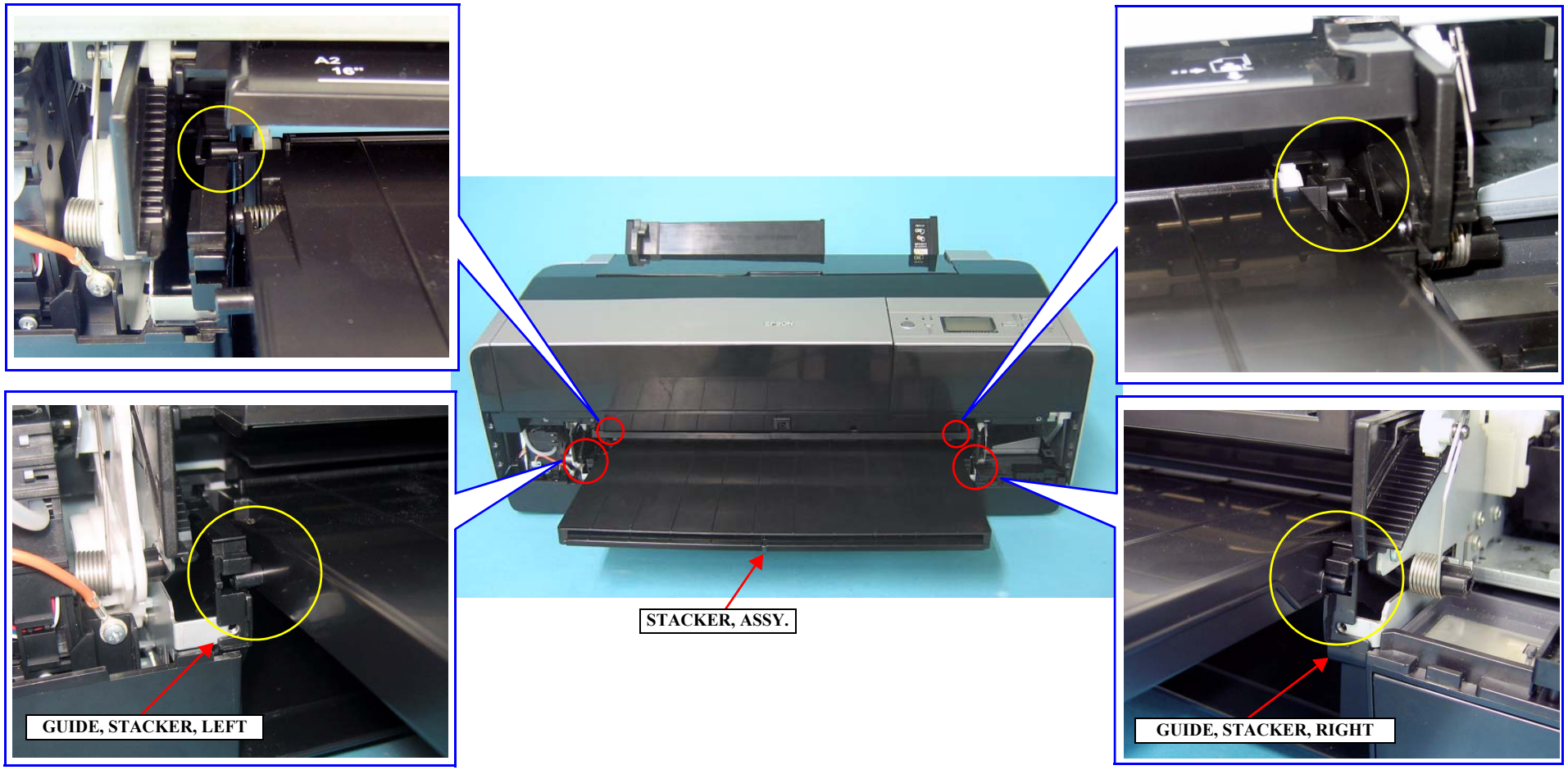


Figure 4-58. Removing the STACKER, ASSY.

REASSEMBLY

☐ GUIDE, STACKER, LEFT

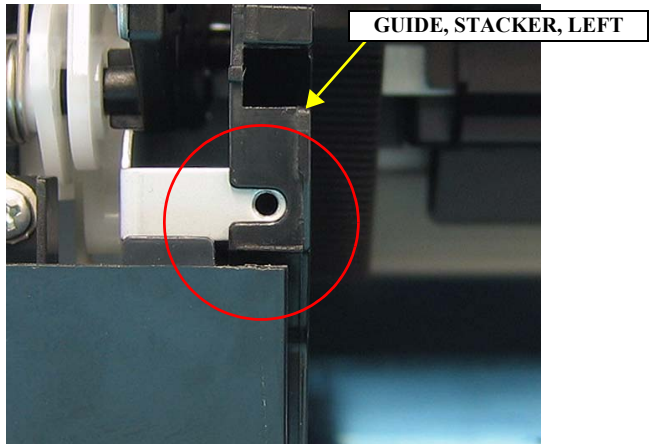
1. Install the GUIDE, STACKER, LEFT so that the two points mentioned below are securely engaged. *See Figure 4-59.*

Fig.	GUIDE, STACKER, LEFT	Main unit
A	positioning tab	positioning hole
B	positioning hole	hook

2. Slide the GUIDE, STACKER, LEFT toward the rear of the printer.

CHECK POINT

Make sure that the cutout of the GUIDE, STACKER, LEFT is aligned with the screw hole on the main frame.



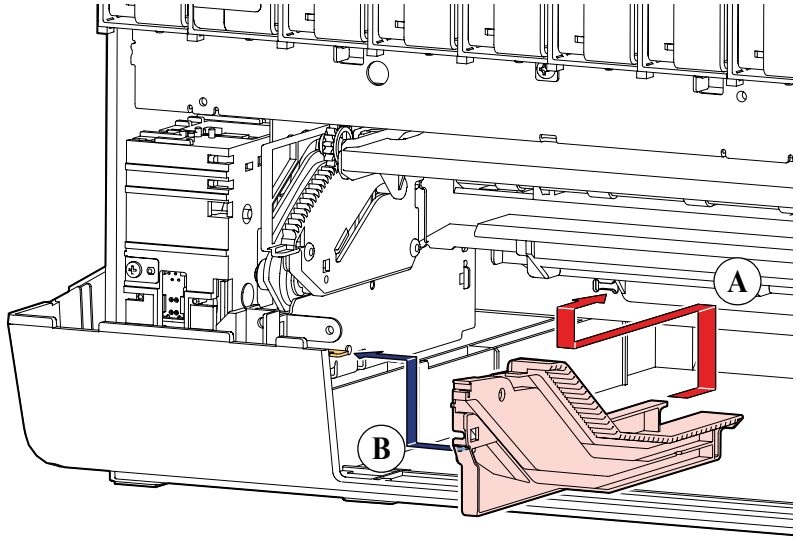


Figure 4-59. Installing the GUIDE, STACKER, LEFT

☐ GUIDE, STACKER, RIGHT

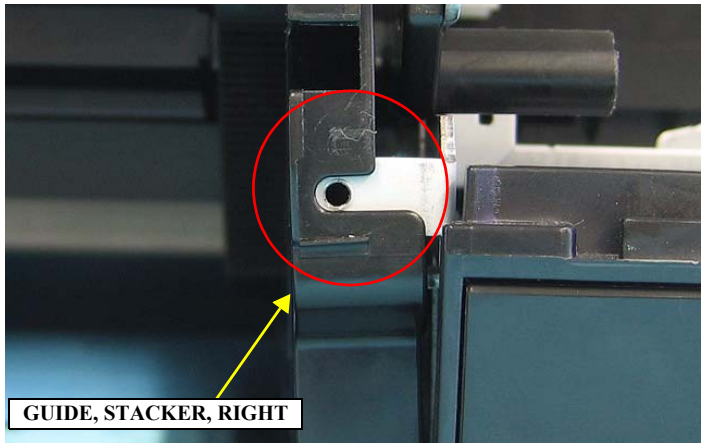
1. Install the GUIDE, STACKER, RIGHT so that the two points mentioned below are securely engaged. *See Figure 4-60.*

Fig.	GUIDE, STACKER, RIGHT	Main unit
A	positioning hole	hook
B	positioning hole	hook

2. Slide the GUIDE, STACKER, RIGHT toward the rear of the printer.

CHECK POINT

Make sure that the cutout of the GUIDE, STACKER, RIGHT is aligned with the screw hole on the main frame.



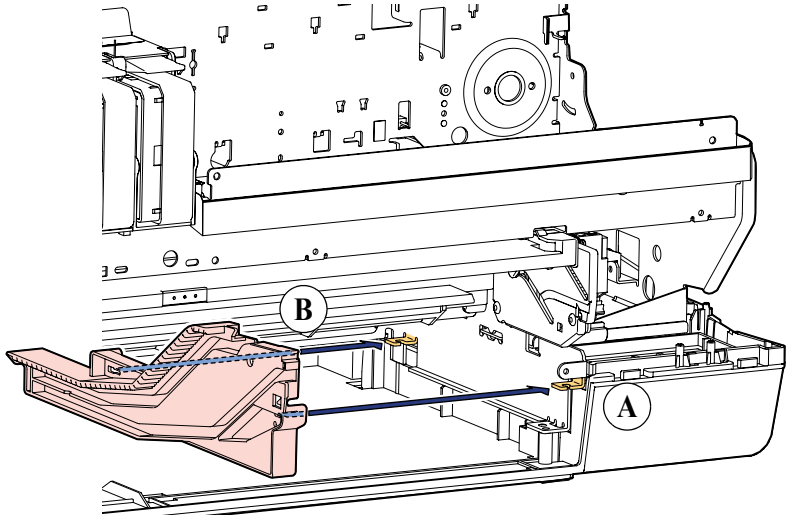


Figure 4-60. Installing the GUIDE, STACKER, RIGHT

☐ STACKER, ASSY.

1. While pressing the stopper of the STACKER, ASSY., put the dowels of the left rear and right rear of the STACKER, ASSY. into the slits of the rear of the GUIDE, STACKER, LEFT and GUIDE, STACKER, RIGHT.
2. Put the dowels of the left front and right front of the STACKER ASSY. into the slits of the front of the GUIDE, STACKER, LEFT and GUIDE, STACKER, RIGHT.
3. Push in the STACKER, ASSY. to the end.
4. Secure the left and right of the PLATE, STOPPER, STACKER with the screws.
5. Attach the STACKER, C.
6. Close the STACKER, C.

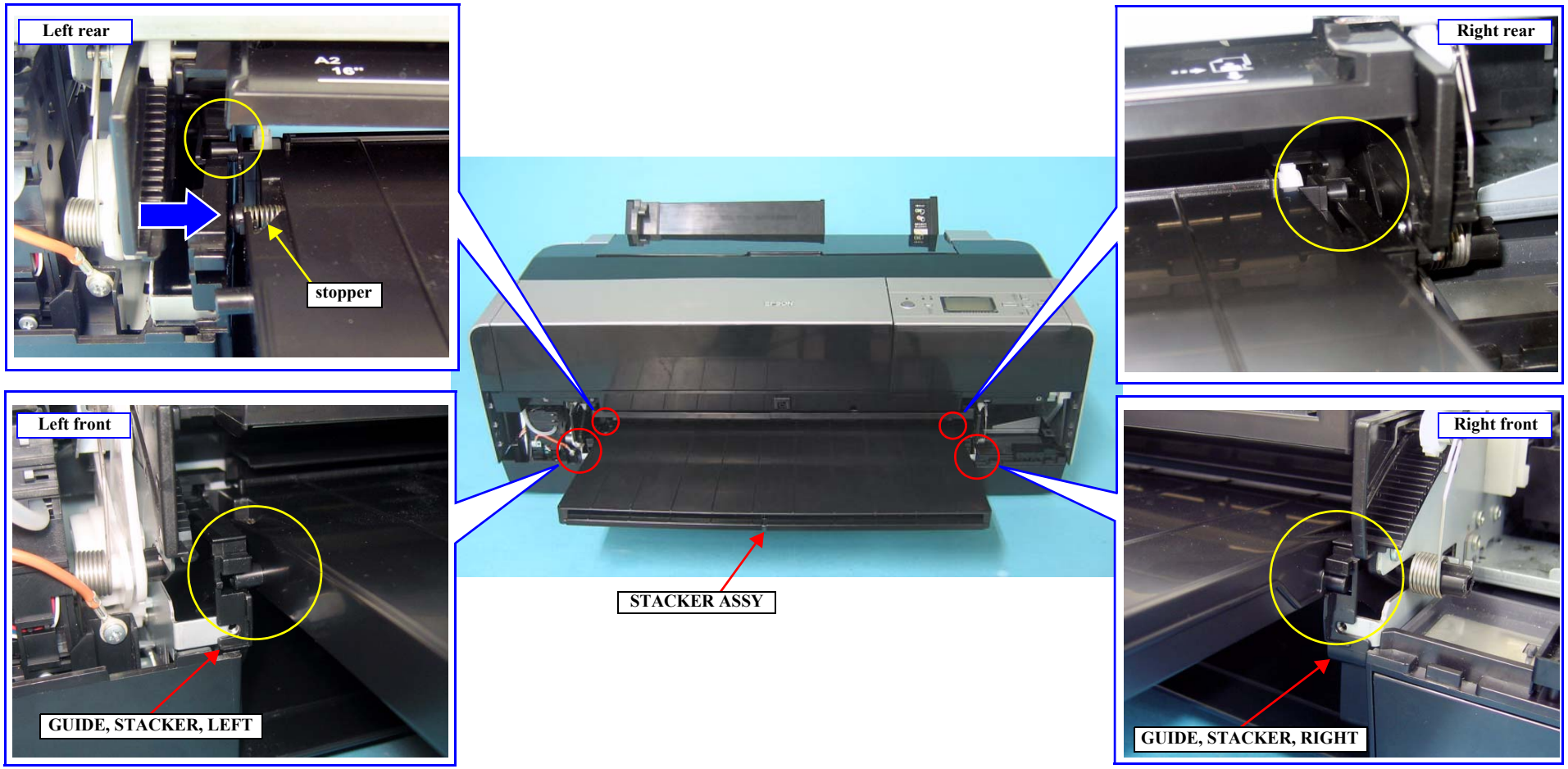


Figure 4-61. Installing the STACKER, ASSY

4.3.8.2 BOARD PAPER TRAY

DISASSEMBLY

1. Remove the HOUSING, FRONT, LEFT. *(p98)*
2. Remove the HOUSING, FRONT, RIGHT. *(p99)*
3. Remove the STACKER, ASSY. *(p134)*
4. Push out the BOARD PAPER TRAY while pressing in the middle of the BOARD PAPER TRAY.
5. Release the TORSION SPRING, 0.15 from the SHAFT, PAPER GUIDE, BOARD PAPER, and loosen the tension of TORSION SPRING, 0.15 (do this procedure at both sides).

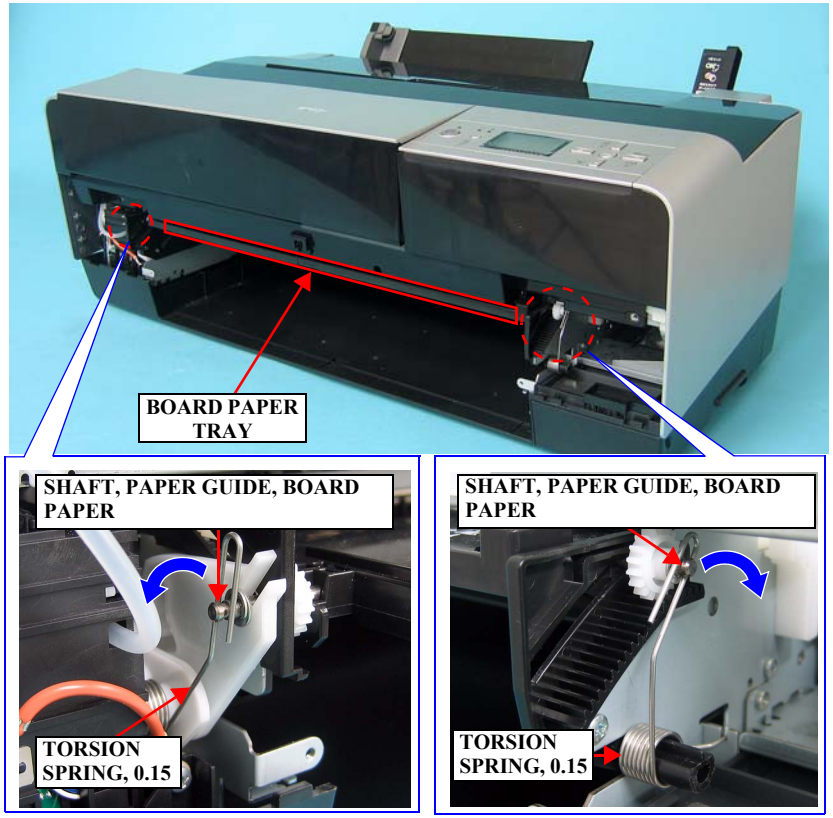


Figure 4-62. Removing the TORSION SPRING, 0.15

6. Remove the E-ring and the washer from the left side of the SHAFT, PAPER GUIDE, BOARD PAPER.
7. Pull the SHAFT, PAPER GUIDE, BOARD PAPER to the right to push out the parallel pin from the SPUR GEAR, 14.4, and pull out the parallel pin from the SHAFT, PAPER GUIDE, BOARD PAPER.
8. Remove the SPUR GEAR, 14.4 from the SHAFT, PAPER GUIDE, BOARD PAPER.
9. Remove the E-ring and the washer from the SHAFT, PAPER GUIDE, BOARD PAPER.
10. Pull the SHAFT, PAPER GUIDE, BOARD PAPER to the right.

REASSEMBLY

- **Insert the SPUR GEAR, 14.4 into the SHAFT, PAPER GUIDE, BOARD PAPER as shown in the *Figure 4-63*, and insert the parallel pin into the hole.**
- **Insert the SHAFT, PAPER GUIDE, BOARD PAPER into the connection groove of the CAM, PAPER GUIDE, BOARD PAPER on the left end of the main unit.**

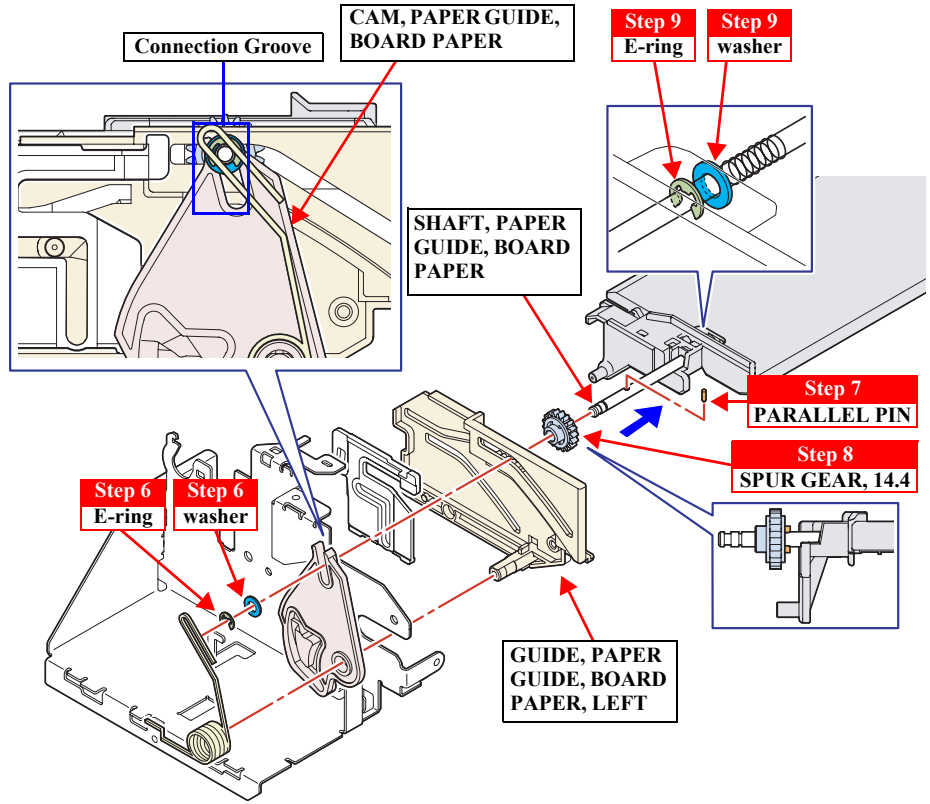


Figure 4-63. Removing the SHAFT, PAPER GUIDE, BOARD PAPER

11. Push inward on the hinges of the BOARD PAPER TRAY to disengage its pivots from the GUIDE, PAPER GUIDE, BOARD PAPER, LEFT/RIGHT, then remove the BOARD PAPER TRAY.

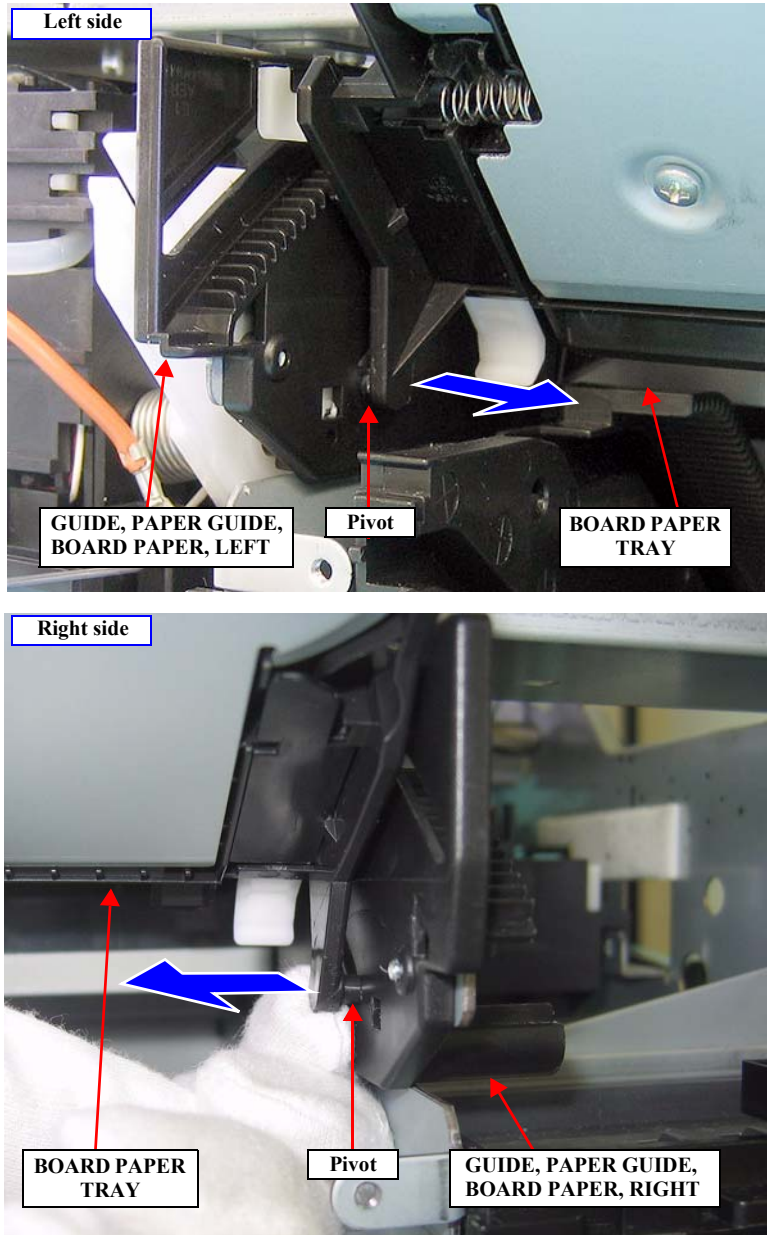


Figure 4-64. Removing the BOARD PAPER TRAY

REASSEMBLY

1. Slide the FRAME, PAPER, EJECT, ASSY back and forth until the guide holes of the LINK, EJ, LEFT/RIGHT and GUIDE, PAPER GUIDE, BOARD PAPER, LEFT/RIGHT come in the positions shown in the *Figure 4-66* and *Figure 4-67*.
2. Put the pivot of the left of the BOARD PAPER TRAY into the guide holes of the LINK, EJ, LEFT and GUIDE, PAPER GUIDE, BOARD PAPER, LEFT shown in the *Figure 4-66*.
3. Slide the right pivot of the BOARD PAPER TRAY along the guide groove of the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT shown in the *Figure 4-65*, and put the pivot into the guide holes of the LINK, EJ, RIGHT and GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT shown in the *Figure 4-67*.
4. After the above steps, follow step 1. to step 11. of the disassembly procedure in reverse order to reassemble the BOARD PAPER TRAY.

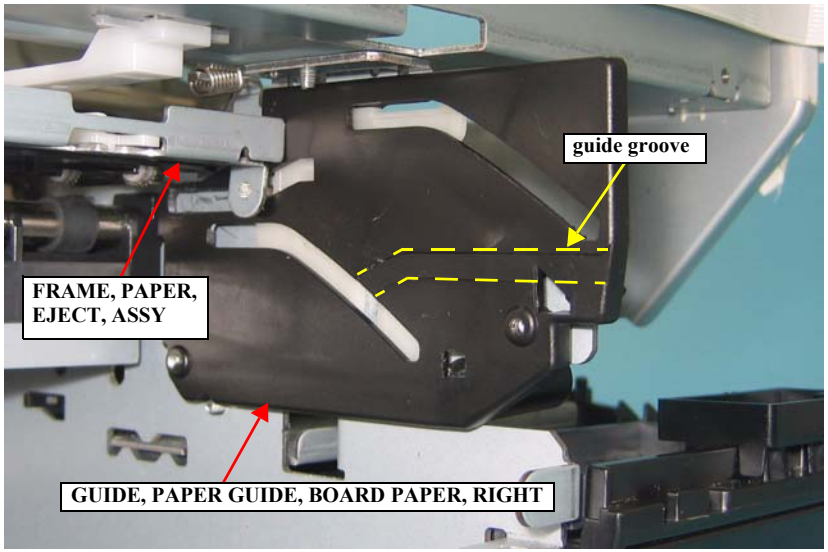


Figure 4-65. Inserting the Right Pivot

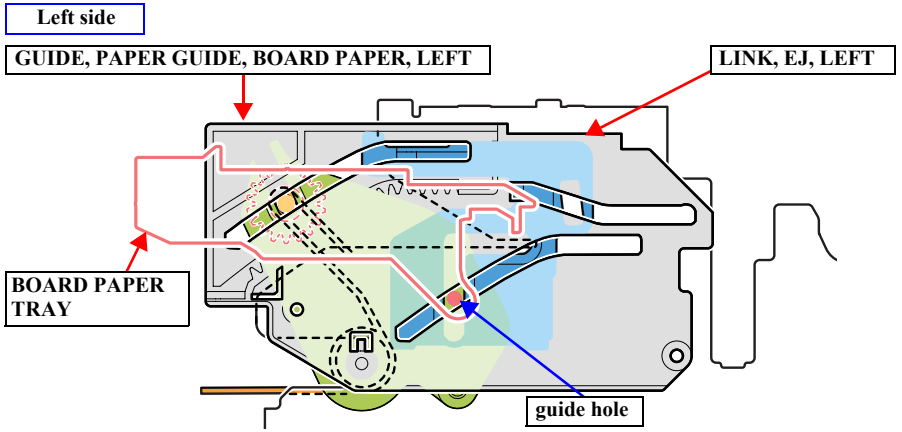


Figure 4-66. Guide holes of the LINK, EJ, LEFT and GUIDE, PAPER GUIDE, BOARD PAPER, LEFT

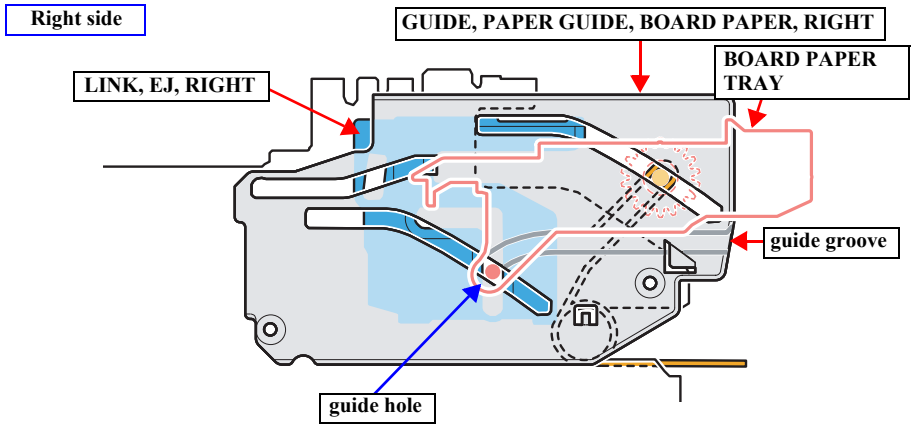


Figure 4-67. Guide holes of the LINK, EJ, RIGHT and GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT

4.3.8.3 FRAME, PAPER, EJECT, ASSY

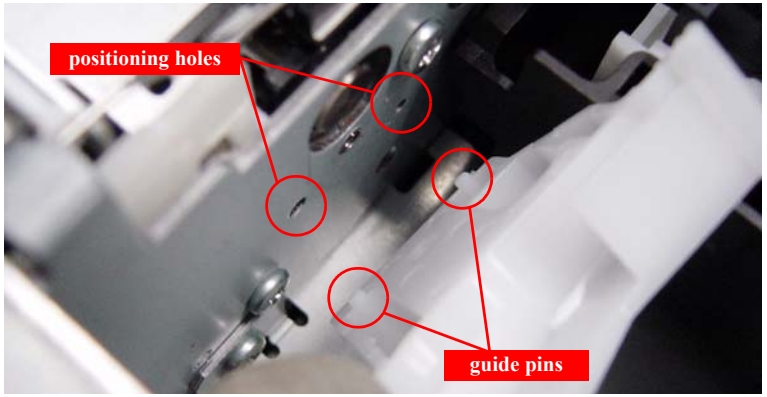
1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the STACKER, ASSY. *(p134)*
3. Remove the BOARD PAPER TRAY. *(p140)*
4. Unlock the CARRIAGE, ASSY. and move it to the center. *(p92)*
5. Remove the screw that secures the SLIDER, FRAME, EJ, RIGHT and remove it.
   - One C.B.S. 3 x 6 screw (9 ± 1 kgf.cm)

CHECK POINT

When removing the C.B.S. 3x6 screw that secures the SLIDER, FRAME, EJ, RIGHT, use a stubby screw driver or put a screwdriver (with a 110 mm or longer shaft is recommended) through the holes on the FRAME, ASSY., SUB, RIGHT as shown in *Figure 4-68*.

REASSEMBLY

Insert the two guide pins of the SLIDER, FRAME, EJ, RIGHT into the positioning holes of the main frame to secure the SLIDER, FRAME, EJ, RIGHT.



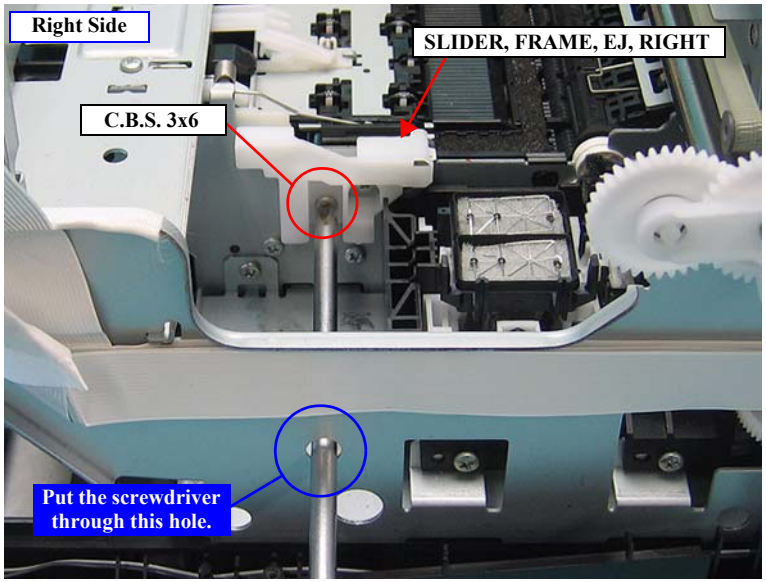


Figure 4-68. Removing the SLIDER, FRAME, EJ, RIGHT

6. Release the rear end of the TORSION SPRING, 0.15 from the cutout of the main frame in the direction of the arrow, and remove the TORSION SPRING, 0.15 from the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT.
7. Remove the two screws that secure the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT.
   - Two C.B.P. 3 x 6 screws (9 ± 1 kgf.cm)

CHECK POINT

When removing/installing the C.B.P. 3x6 screws that secure the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT, use a stubby screw driver or put a screwdriver (with a 110 mm or longer shaft is recommended) through the holes on the FRAME, ASSY., SUB, RIGHT as shown in *Figure 4-69*.

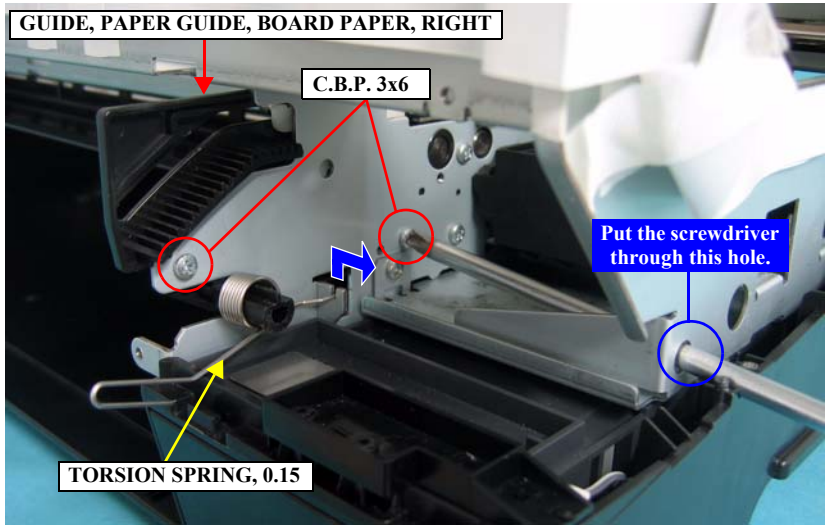


Figure 4-69. Removing the TORSION SPRING, 0.15 and the screw from the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT

8. Pull out the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT toward you as far as it will go. *See Figure 4-70.*

9. Tilt the FRAME, PAPER, EJECT, ASSY in the direction shown in the *Figure 4-71*. Lift up the right side of the FRAME, PAPER, EJECT, ASSY slightly to pass it over the bump of the FRAME, ASSY, MAIN as shown in the *Figure 4-71*.

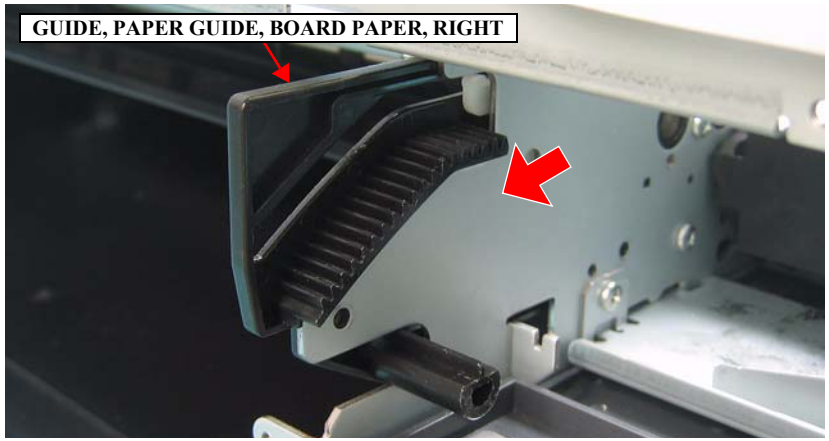


Figure 4-70. Pulling out the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT

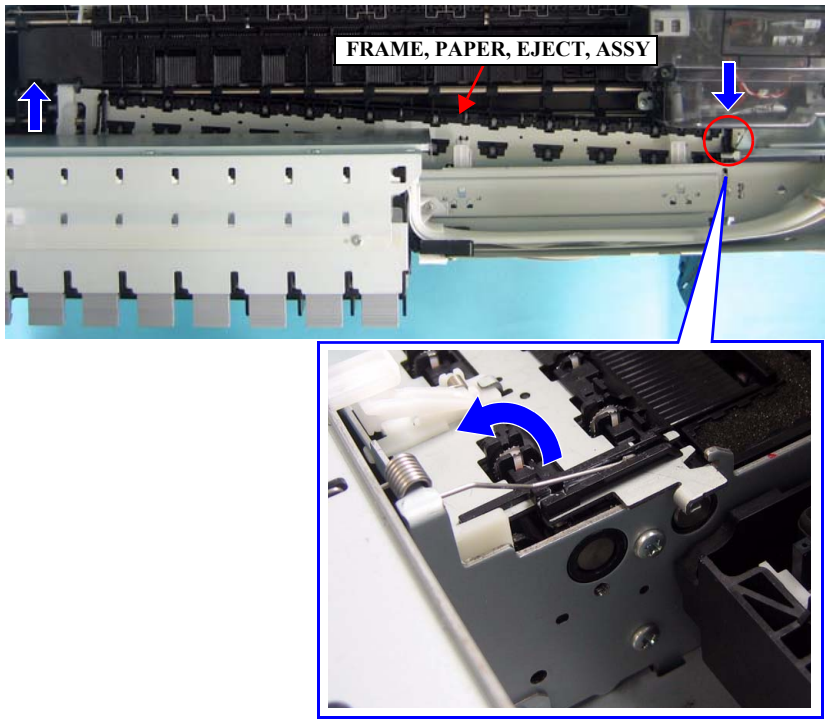


Figure 4-71. Tilting the FRAME, PAPER, EJECT, ASSY

10. Open the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT inward, and remove the LINK, EJ, RIGHT and the GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT from the pivot of the FRAME, PAPER, EJECT, ASSY. *See Figure 4-72.*
11. Push in the FRAME, PAPER, EJECT, ASSY to the end, and release the TORSION SPRING, 0.046 secured to the both ends of FRAME, PAPER, EJECT, ASSY. *See Figure 4-73.*

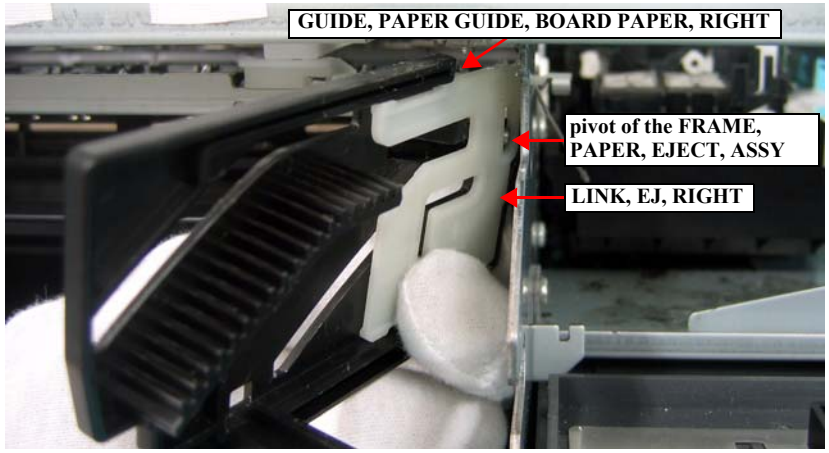


Figure 4-72. Removing the LINK, EJ, RIGHT and GUIDE, PAPER GUIDE, BOARD PAPER, RIGHT

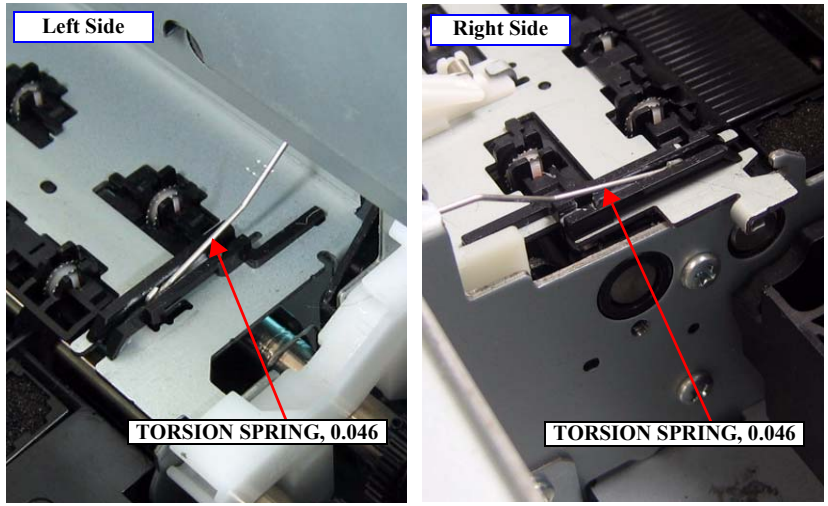


Figure 4-73. Releasing the TORSION SPRING, 0.046

12. Tilt the FRAME, PAPER, EJECT, ASSY in the direction shown in the *Figure 4-74*. Lift up the right side of the FRAME, PAPER, EJECT, ASSY slightly to pass it over the bump of the FRAME, ASSY, MAIN as shown in the *Figure 4-74*.
13. Remove the FRAME, PAPER, EJECT, ASSY following the steps shown in the *Figure 4-75*.

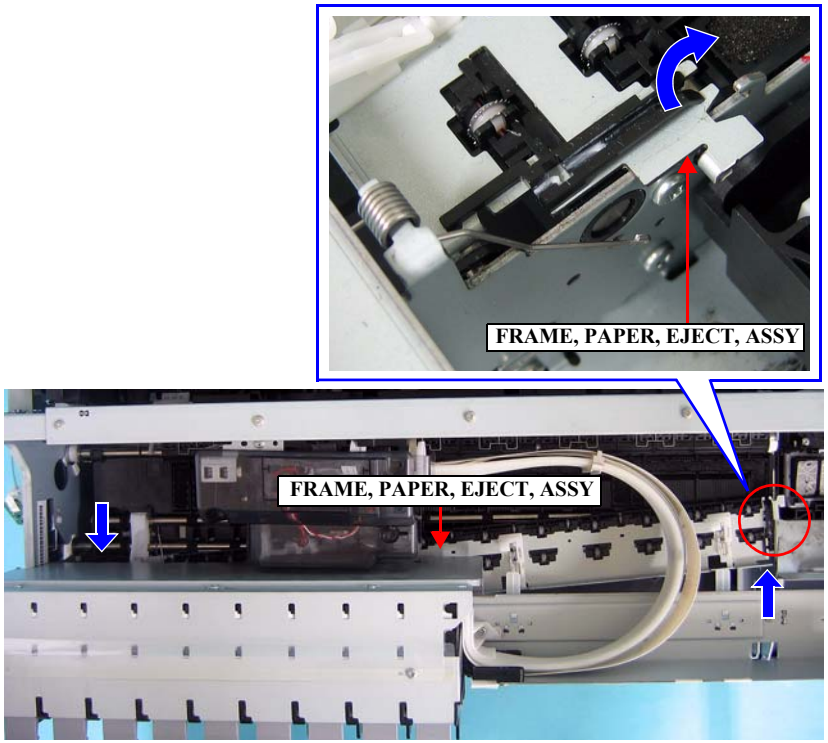


Figure 4-74. Tilting the FRAME, PAPER, EJECT, ASSY

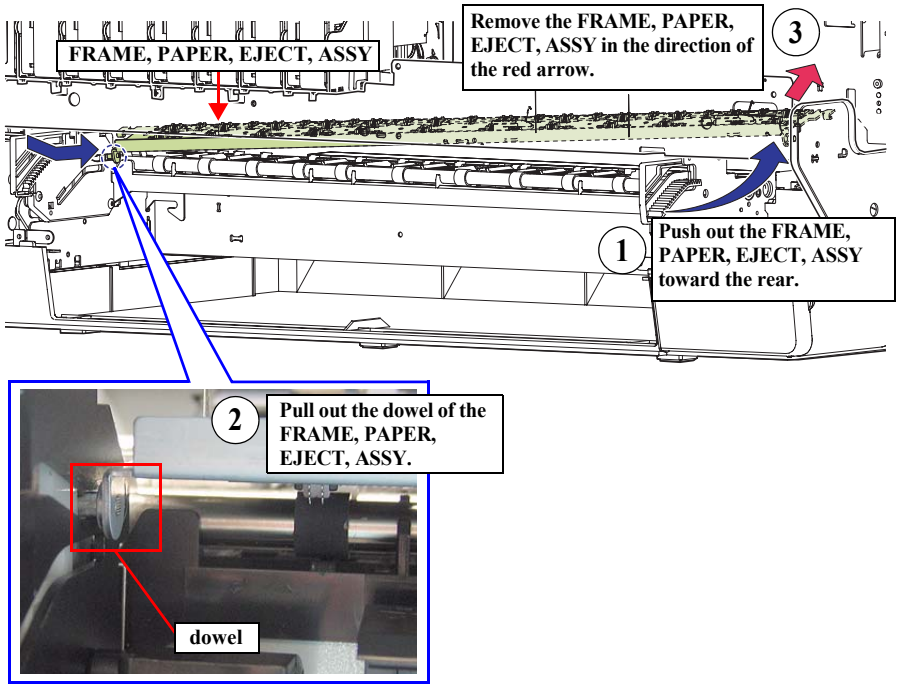
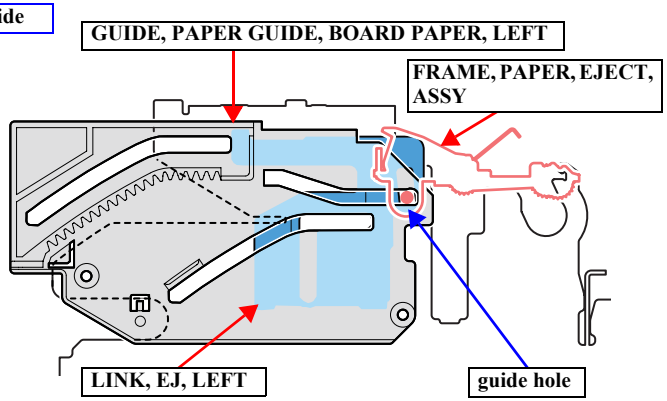


Figure 4-75. Removing the FRAME, PAPER, EJECT, ASSY

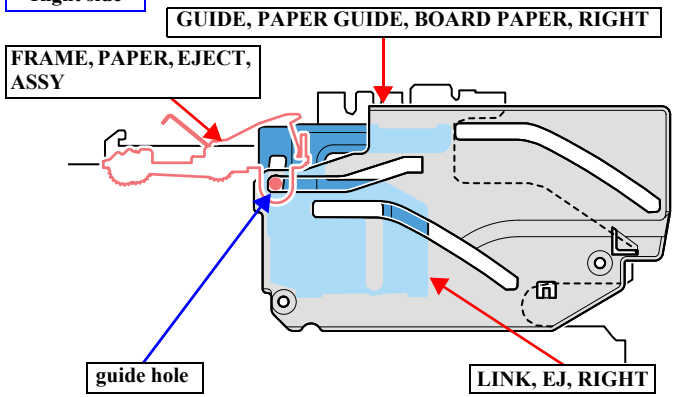
REASSEMBLY

■ Insert the both pivots of the BOARD PAPER TRAY into the guide holes of the GUIDE, PAPER GUIDE, BOARD PAPER, LEFT/RIGHT and LINK, EJ, LEFT/RIGHT shown below.

Left side

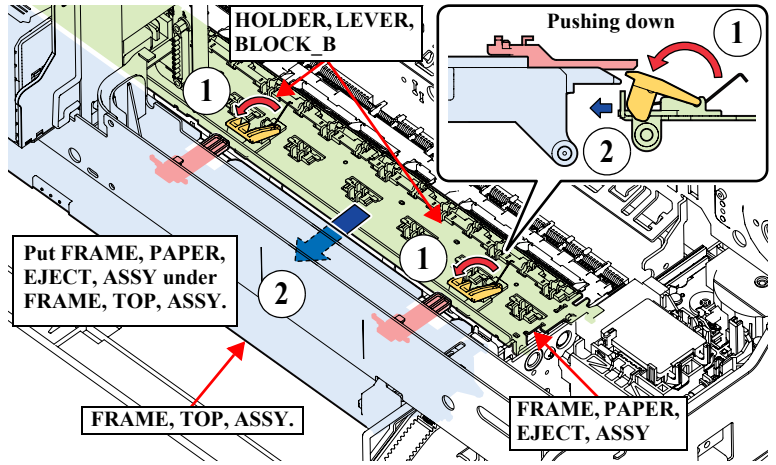


Right side



REASSEMBLY

■ Push down both the HOLDER, LEVER, BLOCK_B toward you, and put them under the levers of the FRAME, TOP, ASSY.



4.3.9 Removing the Ink System Mechanism

4.3.9.1 PUMP, CAP ASSY.

CAUTION

When removing the PUMP, CAP ASSY., ink may leak out of the ink exhaust. Have a waste cloth beforehand to wipe out the leaked ink.

1. Remove the HOUSING, UPPER. *(p107)*
2. Carry out step 4. to step 5. of *"4.3.8.3 FRAME, PAPER, EJECT, ASSY" (p144)*, and remove the SLIDER, FRAME, EJ, RIGHT.
3. Disconnect the connector from the MOTOR ASSY., PUMP.
4. Remove the screw, and release the MOTOR ASSY, PUMP.
   - One C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)

REASSEMBLY

Secure the grounding wire of the MOTOR ASSY., ASF and the MOTOR ASSY., PUMP together to the main frame.
- **Top: Grounding Wire (MOTOR ASSY., ASF)**
- **Bottom: Grounding Wire (MOTOR ASSY., PUMP)**

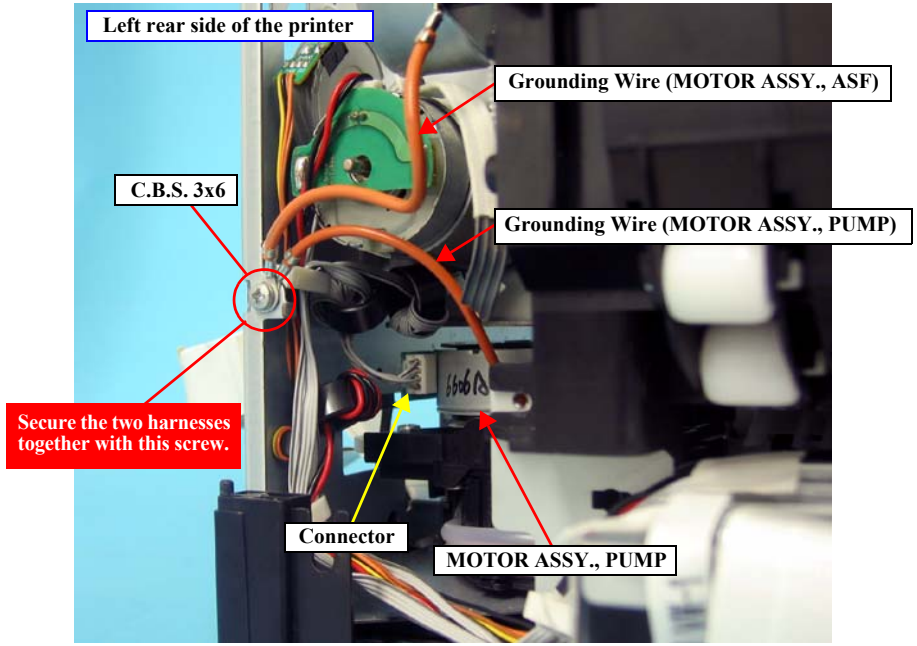


Figure 4-76. Removing the Grounding Wire

5. Remove the two screws that secure the PUMP, CAP ASSY., and remove the PUMP, CAP ASSY. upwards.
   - Two C.B.S. 3 x 6 screws (6 ± 1 kgf.cm)

REASSEMBLY

Insert the two positioning holes of the PUMP, CAP ASSY. over the guide pins on the FRAME ASSY., SUB, RIGHT to secure the PUMP, CAP ASSY. ***See Figure 4-77.***

ADJUSTMENT REQUIRED

Whenever the PUMP, CAP, ASSY., is replaced, the corresponding adjustments must be carried out. See Chapter 5 ***"ADJUSTMENT" (p208)*****.**
<Adjustment Item>
1. Reset When Pump Motor Change

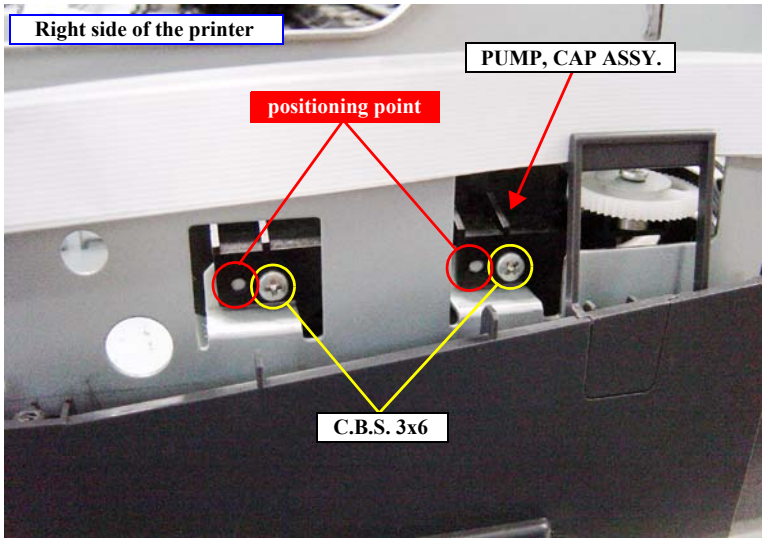


Figure 4-77. Removing the screws from the PUMP, CAP ASSY.

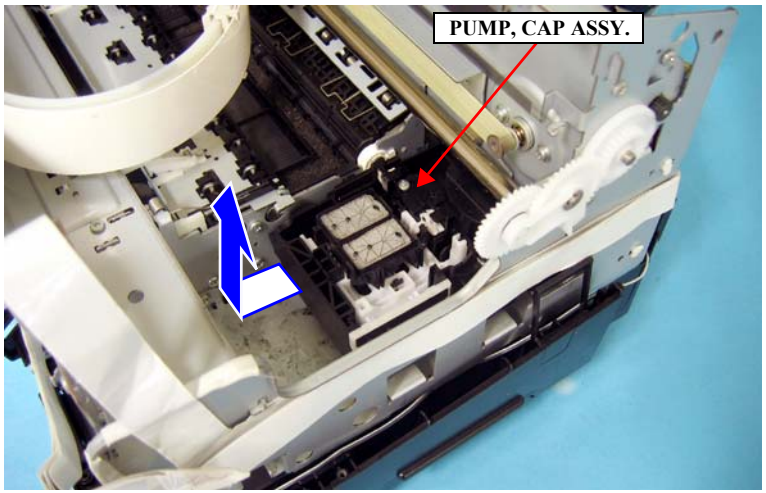


Figure 4-78. Removing the PUMP, CAP ASSY.

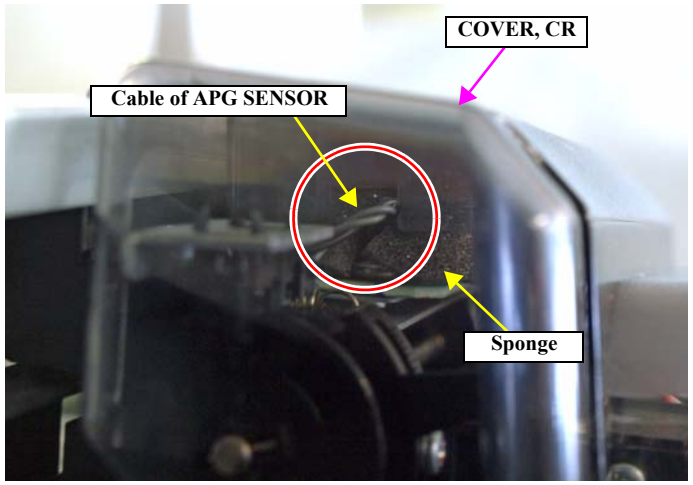
4.3.9.2 COVER, CR

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the two screws that secure the COVER, CR and remove it.
   - One C.B.P. 3 x 6 screw (9 ± 1 kgf.cm)
   - One C.B.S. 3 x 6 screw (9 ± 1 kgf.cm)

CAUTION

The following are important points when installing the COVER, CR.

- **As different types of screws are used, make sure to reinstall the correct type of screws at the correct positions.**
- **Before screwing the unit, make sure that the cables are not trapped.**
- **Make sure that the cables of the APG SENSOR are routed through the cutout of the sponge of the COVER, CR.**



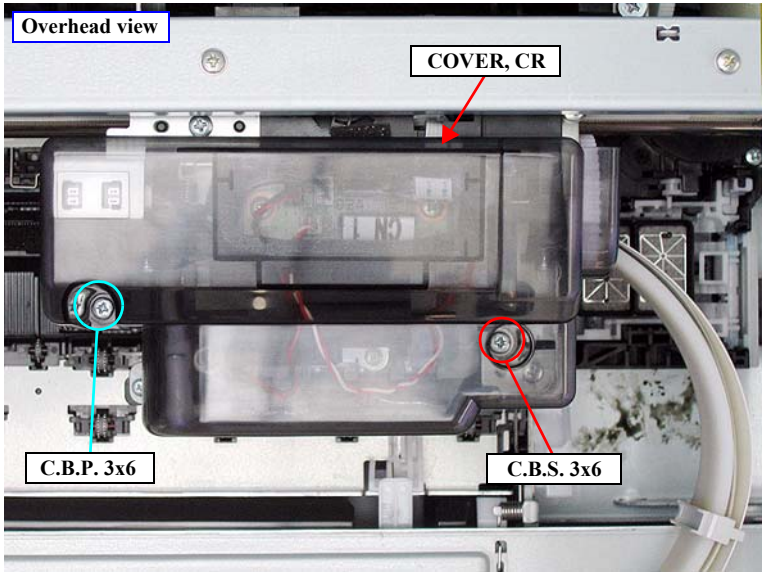


Figure 4-79. Removing the COVER, CR

4.3.9.3 INK, SYSTEM, ASSY.

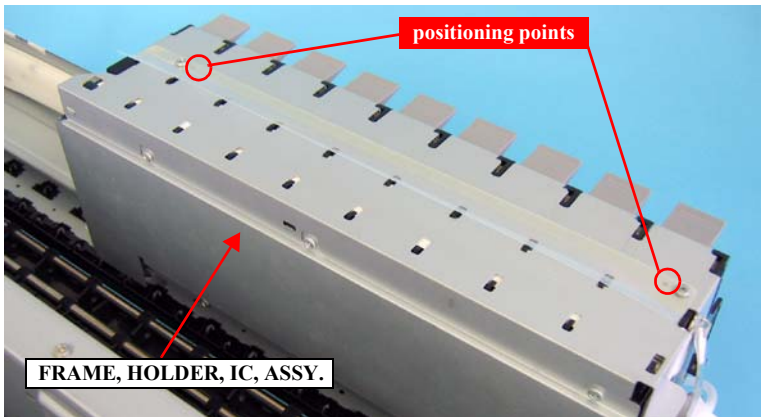
CAUTION

Since the INK, SYSTEM, ASSY. of Epson Stylus Pro 3800/3800C/ 3850 and Epson Stylus Pro 3880/3885/3890 has no compatibility, be careful not to install the wrong one.

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the three screws that secure the SHIELD PLATE, HOLDER, ASSY.
   - Three C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)
3. Slide the SHIELD PLATE, HOLDER, ASSY. toward the rear to remove the two tabs on the rear side, and remove the SHIELD PLATE, HOLDER, ASSY.

REASSEMBLY

Insert the two positioning holes of the SHIELD PLATE, HOLDER, ASSY. over the guide pins of the FRAME, HOLDER, IC, ASSY., to secure the SHIELD PLATE, HOLDER, ASSY.



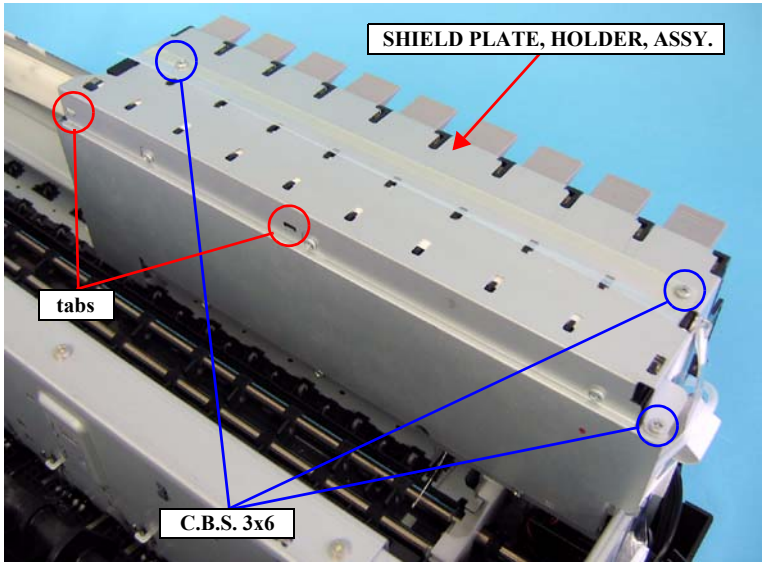


Figure 4-80. Removing the SHIELD PLATE, HOLDER, ASSY.

4. Pull out the tube of the PRESSURE, PUMP, ASSY. from the left side of the FRAME, HOLDER, IC, ASSY. *See Figure 4-81.*

5. Remove the FFC, ASSY., HOLDER from the nine connectors on the FRAME, HOLDER, IC, ASSY.

CAUTION

When performing the next steps, be careful not to bend the FFC.

6. Bow the center of the FFC, ASSY., HOLDER and release it from the 20 tabs.
7. Release the FFC, ASSY., HOLDER from the tab on the left side of the FRAME, HOLDER, IC, ASSY.

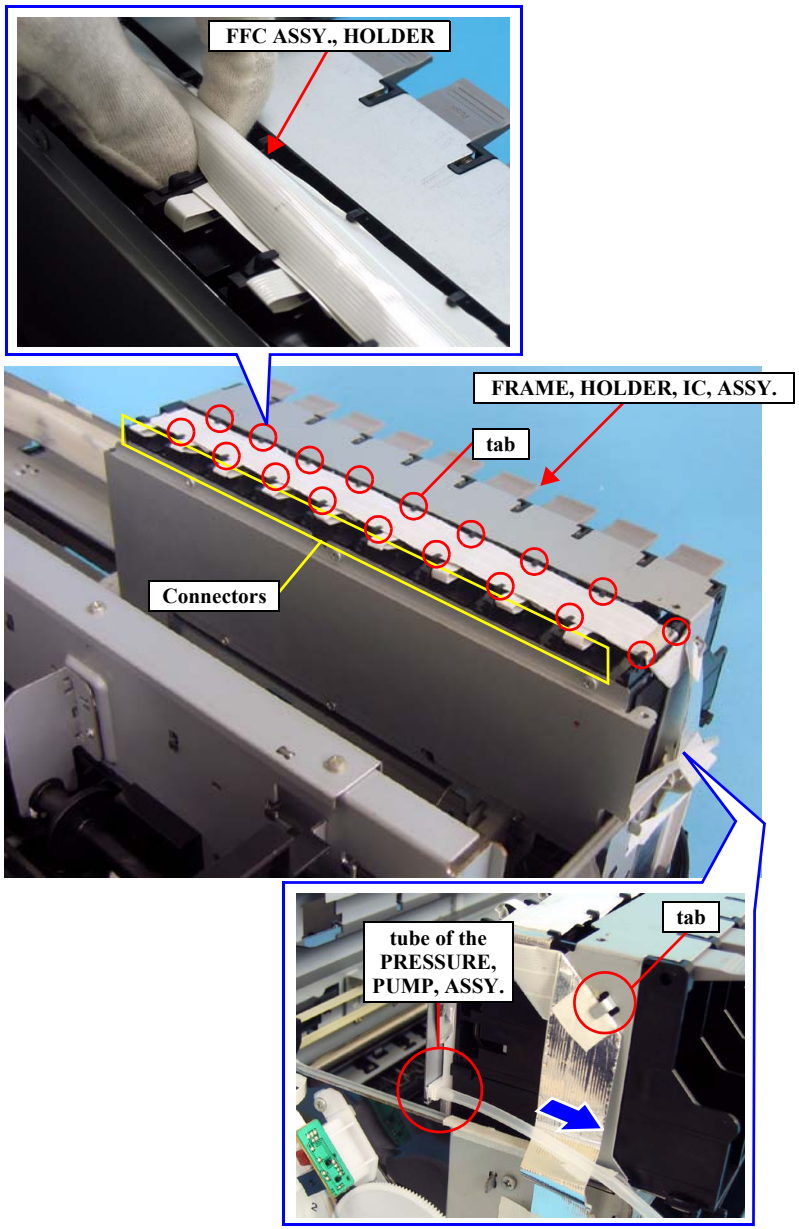


Figure 4-81. Releasing the FFC ASSY., HOLDER

8. Remove the three screws that secure the FRAME, HOLDER, IC, ASSY.
   - Three C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)
9. Use a precision screwdriver or a similar tool to pull out the guide pin of the HOLDER, TUBE from the FRAME, TOP, ASSY., and release the HOLDER, TUBE.

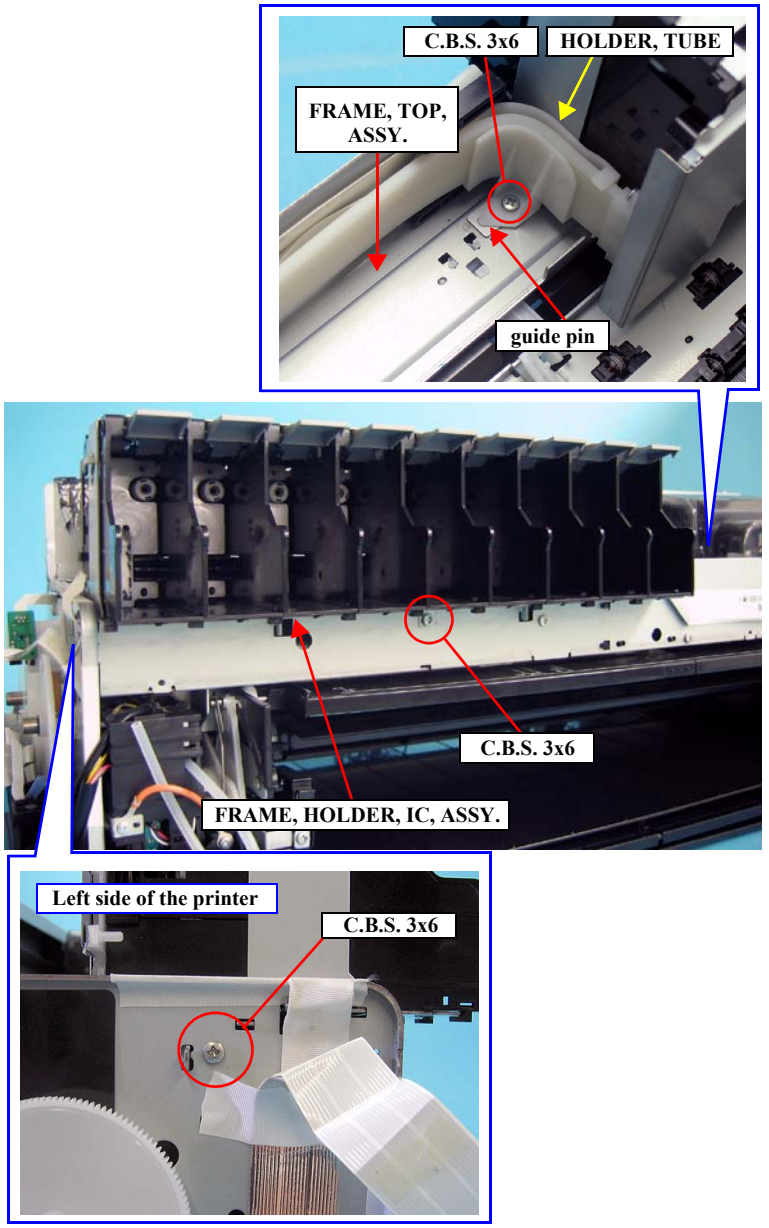
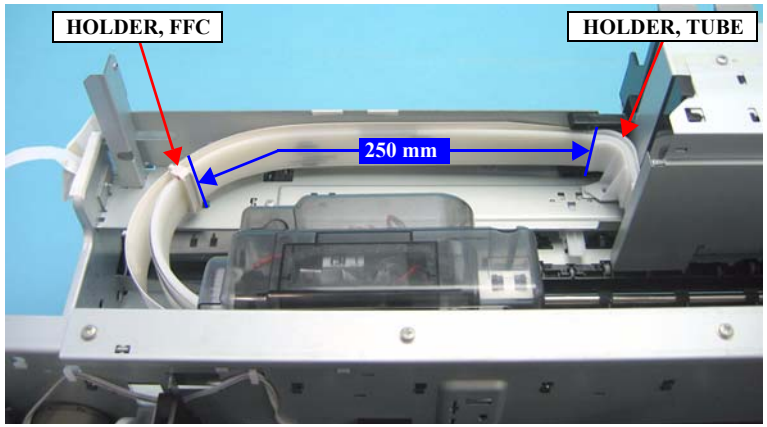


Figure 4-82. Removing the screws from the FRAME, HOLDER, IC, ASSY.

10. Disengage the tab and open the HOLDER, FFC, to release the TUBE, ASSY.

REASSEMBLY

Install the HOLDER, FFC at the position 250 mm away from the HOLDER, TUBE.



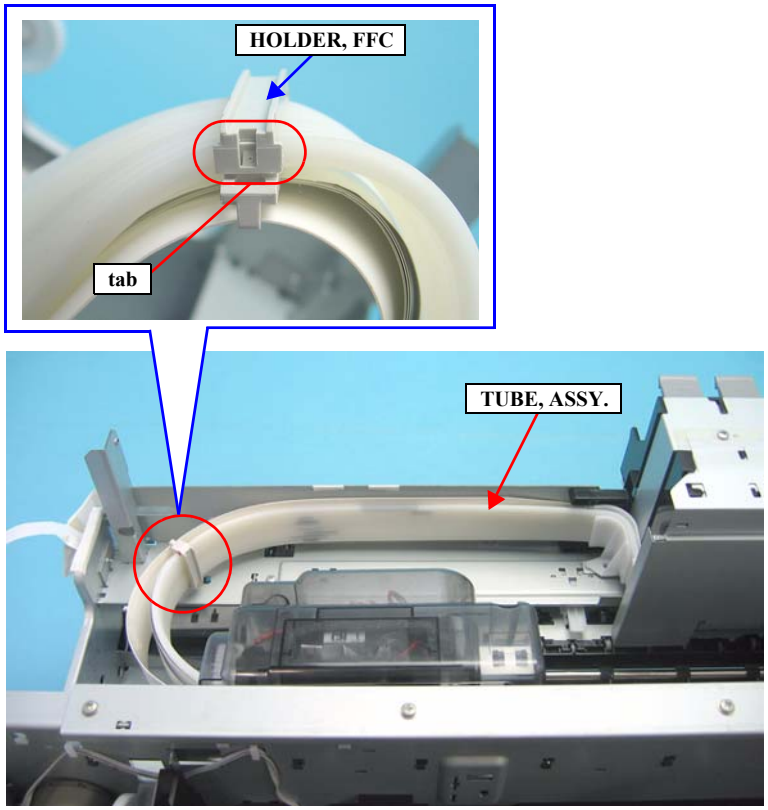
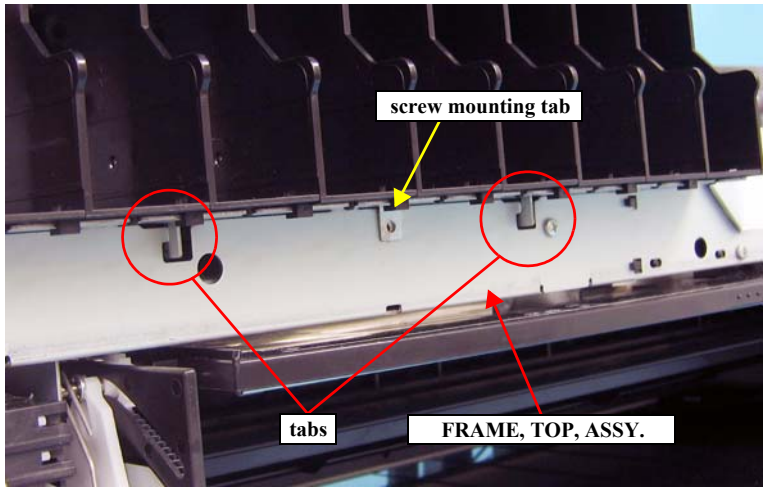


Figure 4-83. Releasing the TUBE, ASSY.

11. Slide the FRAME, HOLDER, IC, ASSY. to the right side and disengage the four tabs, then avoiding the screw mounting tab on the left side from contacting with the main frame, remove the FRAME, HOLDER, IC, ASSY.

REASSEMBLY

- **Install the FRAME, HOLDER, IC, ASSY. so that its screw mounting tab is put over the FRAME, TOP, ASSY.**
- **Check that the tabs of the FRAME, HOLDER, IC, ASSY. are securely engaged to the FRAME, TOP, ASSY.**



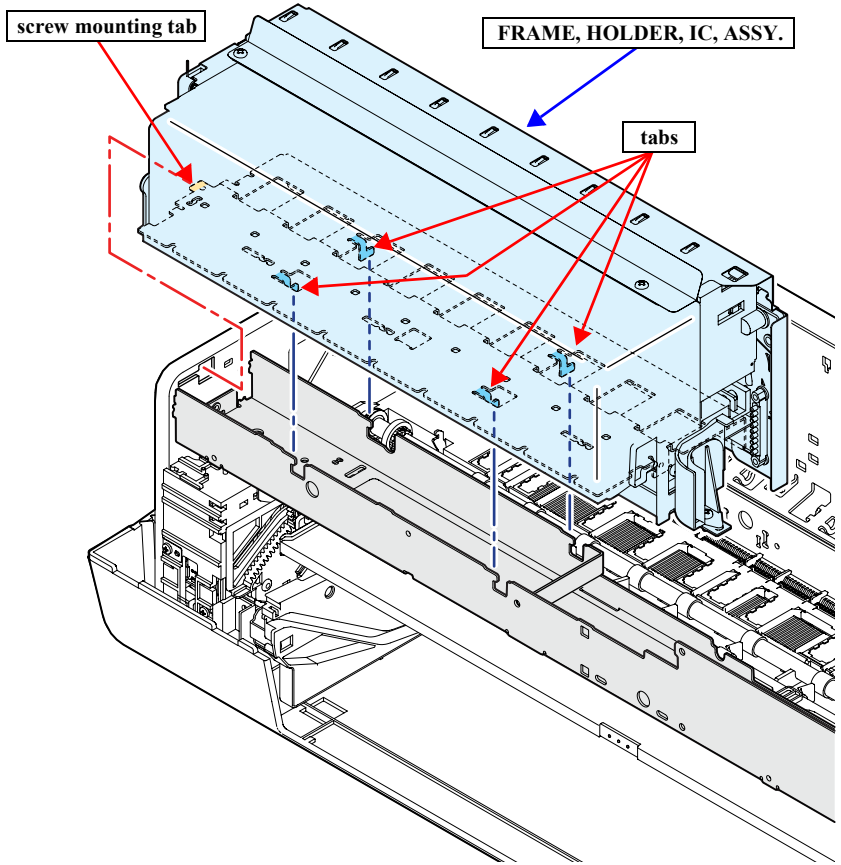


Figure 4-84. Removing the FRAME, HOLDER, IC, ASSY.

12. Remove the COVER, CR. *(p152)*

CAUTION

Do not disconnect/insert FFCs from/into the connectors at an angle. Doing so may damage, short, or break the terminals in the connector resulting in a breakdown of the elements on the board.

13. Disconnect the all connectors and FFCs from the BOARD ASSY., SUB.
14. Remove the screw that secures the grounding wire of the (MOTOR, INK SELECTER) to the BOARD ASSY., SUB. *See Figure 4-85.*
    - One C.B.S. 3 x 6 screw (6 ± 1 kgf.cm)
15. Remove the two screws that secure the STRENGTHEN PLATE, CR and remove it. *See Figure 4-86.*
    - Two C.B.P. 3 x 6 screws (3 ± 0.5 kgf.cm)

REASSEMBLY

Insert the positioning hole of the STRENGTHEN PLATE, CR over the guide pin of the CARRIAGE, ASSY. to secure the STRENGTHEN PLATE, CR. *See Figure 4-86.*

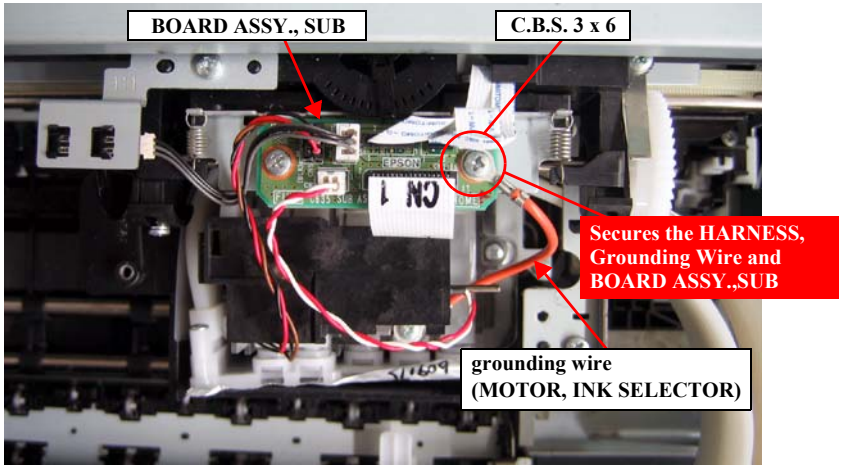


Figure 4-85. Removing the BOARD ASSY., SUB

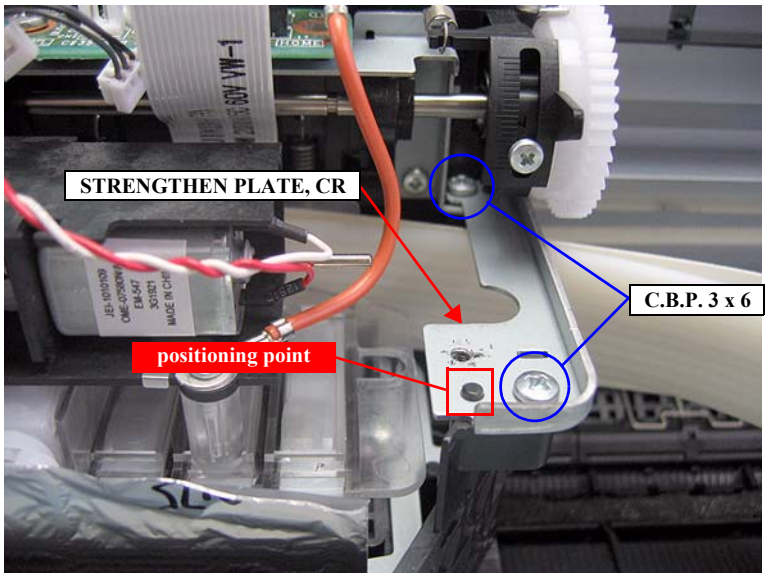


Figure 4-86. Removing the STRENGTHEN PLATE, CR

16. Remove the two screws that secure the SELECTOR, INK, ASSY. including the damper, and remove the SELECTOR, INK, ASSY. upward from the CARRIAGE, ASSY.
    - One C.B.P. 2.5 x 8 screw (2 ± 0.5 kgf.cm)
    - One C.B.S. 2.5 x 4 screw (2 ± 0.5 kgf.cm)

CAUTION

When installing the SELECTOR, INK, ASSY., make sure not to mix up the C.B.P. 2.5 x 8 screw and the C.B.P. 2.5 x 4 screws as they are similar to each other.

ADJUSTMENT REQUIRED

Whenever the INK, SYSTEM, ASSY., is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.

<Adjustment Item>

1. Reset When INK SYSTEM ASSY Change

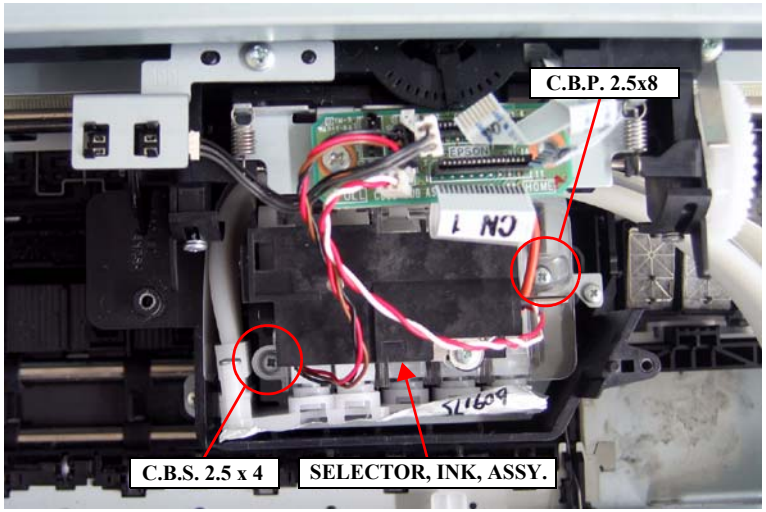


Figure 4-87. Removing the SELECTOR, INK, ASSY.

4.3.9.4 POROUS PAD, TRAY, INK EJECT

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the INK, SYSTEM, ASSY. *(p153)*
3. Remove the POROUS PAD, TRAY, INK EJECT from the TRAY, INK EJECT.

ADJUSTMENT REQUIRED

Whenever the POROUS PAD, TRAY, INK EJECT is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>
1. Reset When Ink Holder Waste Absorber Change

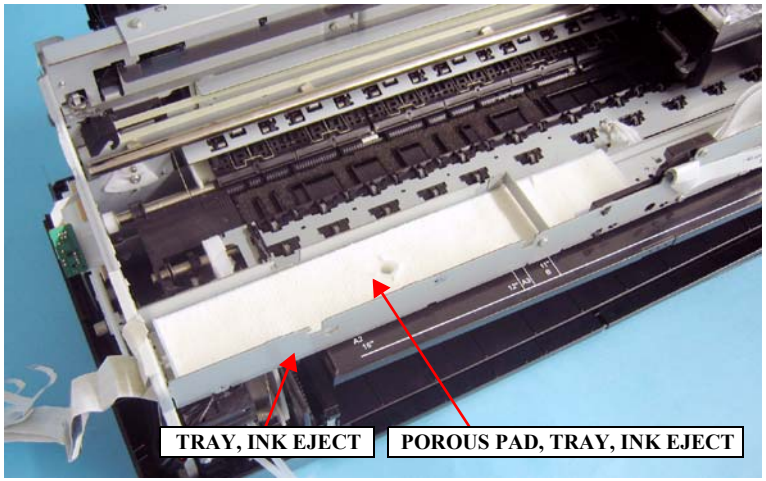


Figure 4-88. Removing the POROUS PAD, TRAY, INK EJECT

4.3.9.5 PRINT HEAD

CAUTION

Since the PRINT HEAD of Epson Stylus Pro 3800/3800C/3850 and Epson Stylus Pro 3880/3885/3890 has no compatibility, be careful not to install the wrong one.

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the COVER, CR. *(p152)*
3. Perform step 13. to step 16. in *"4.3.9.3 INK, SYSTEM, ASSY." (p153)* to remove the SELECTOR, INK, ASSY. from the CARRIAGE, ASSY.
4. Remove the screw that secures the MOUNTING PLATE, SELECT, INK and remove it. *See Figure 4-89.*
   - One C.B.P. 2.5 x 8 screw (3 ± 1 kgf.cm)

REASSEMBLY

Insert the rib of the PRINT HEAD into the cutout of the MOUNTING PLATE, SELECT, INK to secure the MOUNTING PLATE, SELECT, INK.

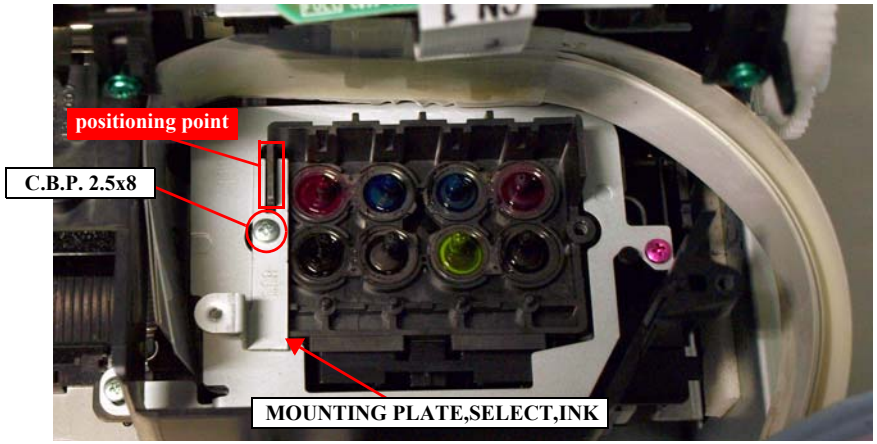
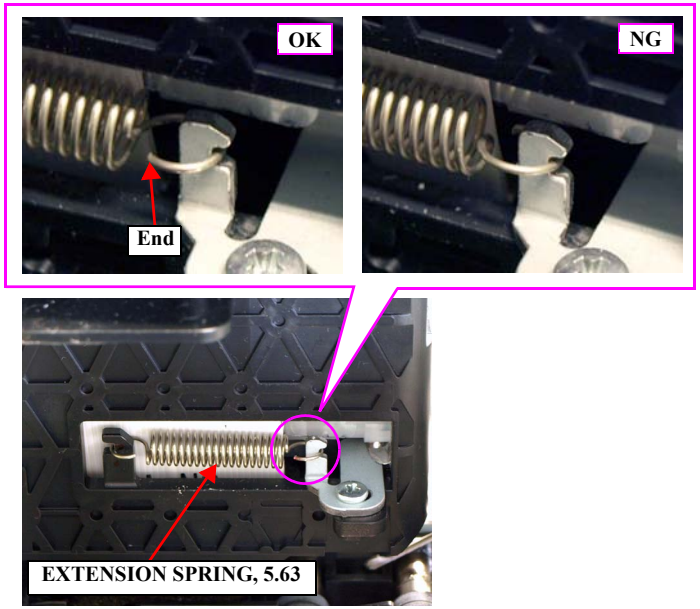


Figure 4-89. Removing the MOUNTING PLATE, SEIECT, INK

5. Remove the EXTENSION SPRING, 5.63 from each hooked tab on the CARRIAGE, ASSY. and the LEAF SPRING, LOCK, HEAD. *See Figure 4-90.*

REASSEMBLY

Attach the EXTENSION SPRING, 5.63 so that its both ends face toward the other side of the CARRIAGE, ASSY..



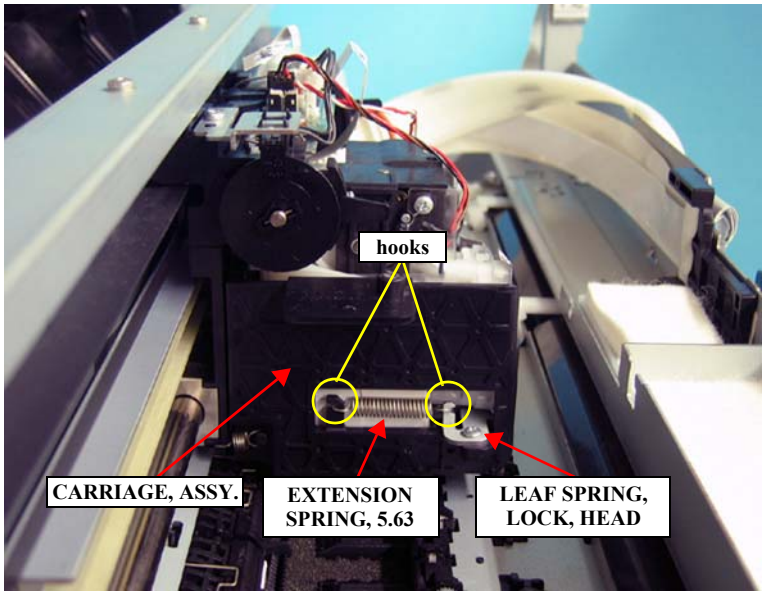
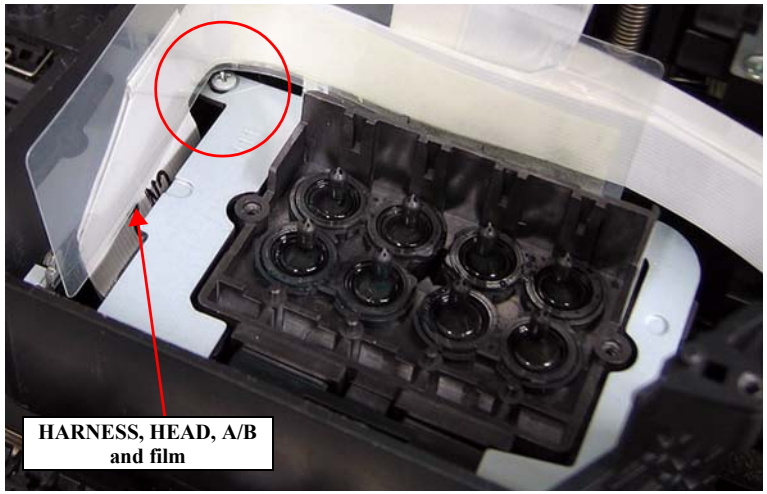


Figure 4-90. Removing the EXTENSION SPRING, 5.63

6. Slide the GUIDE, TUBE, CR in the direction of the arrow to release the hooks from the three guide pins on the CARRIAGE, ASSY., and remove it. *See Figure 4-91.*
7. Remove the three screws that secure the LEAF SPRING, LOCK, HEAD, and remove it upward. *See Figure 4-92.*
   - Three C.B.P. 2.5 x 8 screws (3 ± 0.5 kgf.cm)

REASSEMBLY

Put the far left section of the LEAF SPRING, LOCK, HEAD under the HARNESS, HEAD, A/B and the film, to install it.



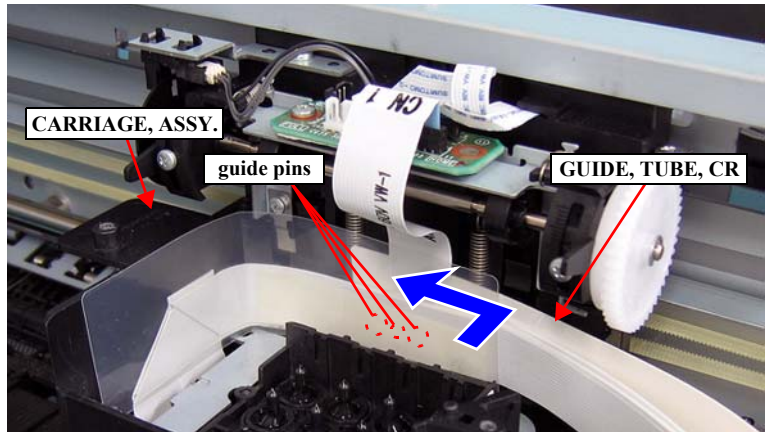


Figure 4-91. Releasing the GUIDE, TUBE, CR

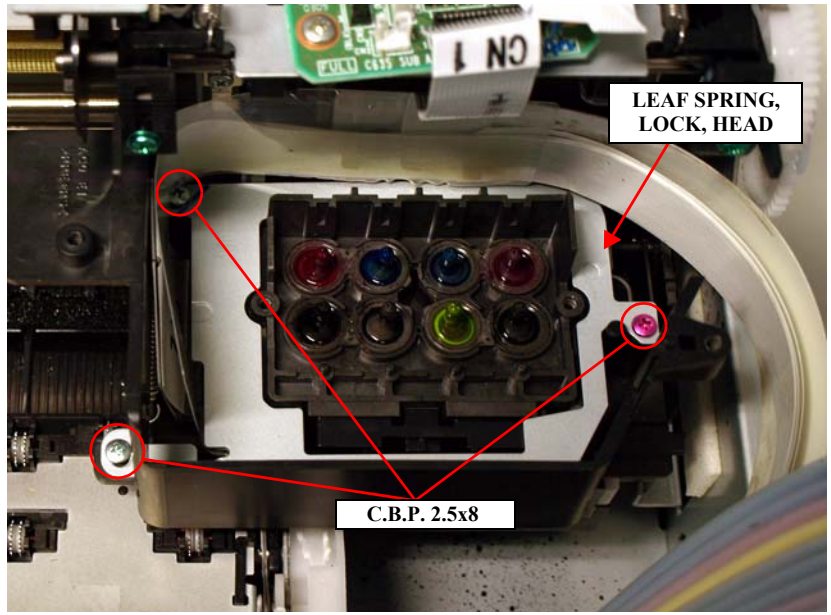


Figure 4-92. Removing the LEAF SPRING, LOCK, HEAD

CAUTION

Do not disconnect/insert FFCs from/into the connectors at an angle. Doing so may damage, short, or break the terminals in the connector resulting in a breakdown of the elements on the board.

8. Remove the PRINT HEAD from the CARRIAGE, ASSY., and disconnect the HARNESS, HEAD, A/B from CN1 and CN2 connectors on the PRINT HEAD. *See Figure 4-93.*

ADJUSTMENT REQUIRED

Whenever the PRINT HEAD is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.

<Adjustment Item>

1. **Cleaning**
2. **Head Rank ID**
3. **Print Head Slant Adjustment (CR)**
4. **PG Position Adjustment**
5. **Print Head Slant Adjustment (PF)**
6. **Auto Uni-D Adjustment**
7. **Auto Bi-D Adjustment**
8. **Colorimetric Calibration Tool**
9. **Print Image**
10. **Reset When Print Head Change**

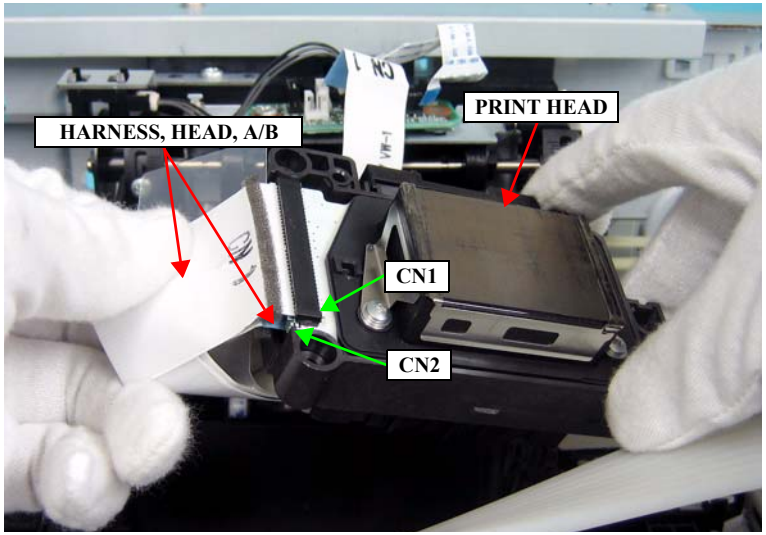


Figure 4-93. Removing the PRINT HEAD

4.3.9.6 POROUS PAD, INK WASTE BOX, RIGHT/ POROUS PAD, INK WASTE BOX, LEFT

1. Remove the STACKER, ASSY. *(p134)*
2. Remove the screw that secures the INK WASTE BOX. *See Figure 4-94.*
   - One C.B.P. 3 x 8 screw (6 ± 1 kgf.cm)

CHECK POINT

When removing/installing the screw that secures the INK WASTE BOX, insert a screwdriver (with a 140 mm or longer shaft is recommended) through the hole on the FRAME ASSY., SUB, RIGHT as shown in *Figure 4-94*.

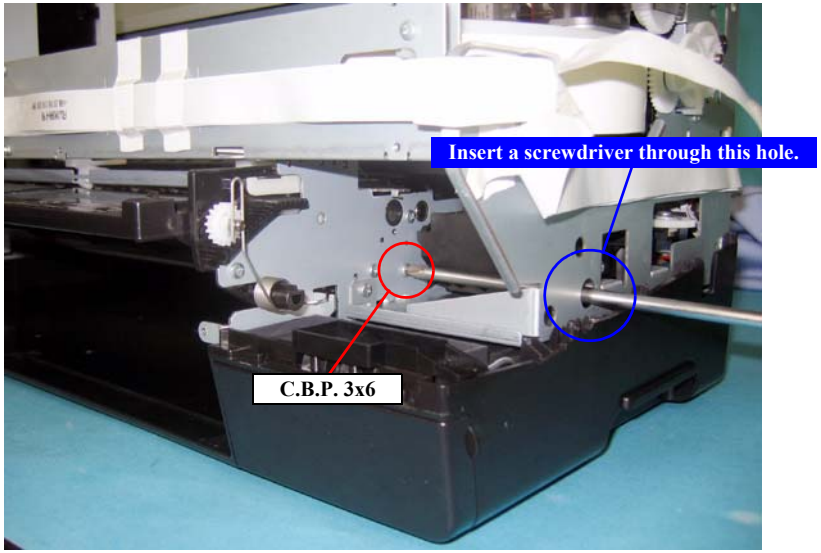
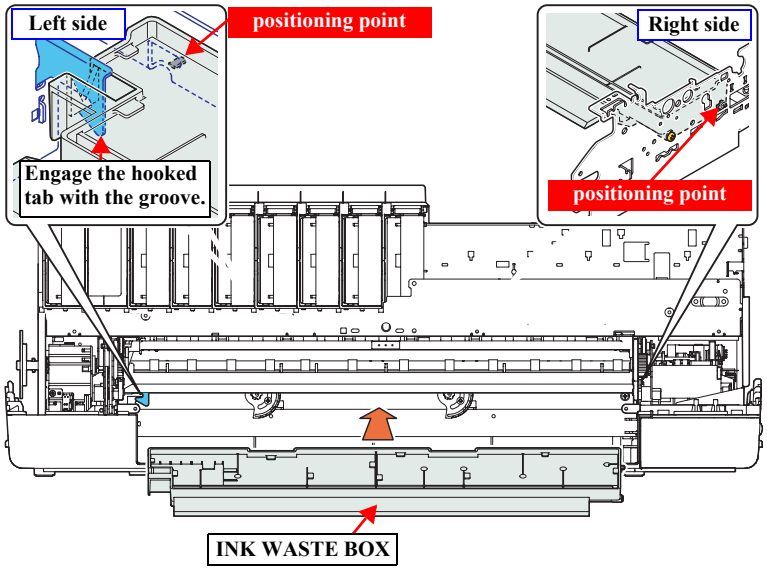


Figure 4-94. Removing the screw from the INK WASTE BOX

3. Slide the INK WASTE BOX to the left and release it from the tab of the main frame, and remove the INK WASTE BOX. *See Figure 4-95.*

REASSEMBLY

Align the two guide pins and one positioning groove of the INK WASTE BOX with the two positioning holes and one hooked tab of the main frame to secure the INK WASTE BOX.



4. Remove the POROUS PAD, INK WASTE BOX, RIGHT and the POROUS PAD, INK WASTE BOX, LEFT from the INK WASTE BOX. *See Figure 4-96.*

ADJUSTMENT REQUIRED

Whenever the POROUS PAD, INK WASTE BOX RIGHT/LEFT are replaced, the corresponding adjustments must be carried out.
See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>
1. Reset When Borderless Absorber Change

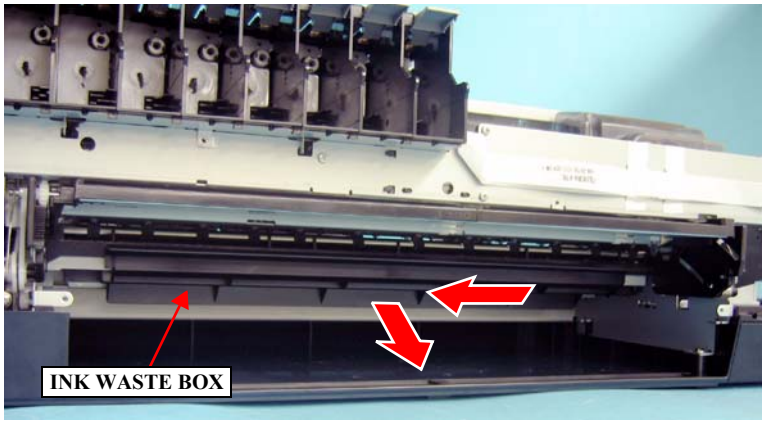


Figure 4-95. Removing the INK WASTE BOX

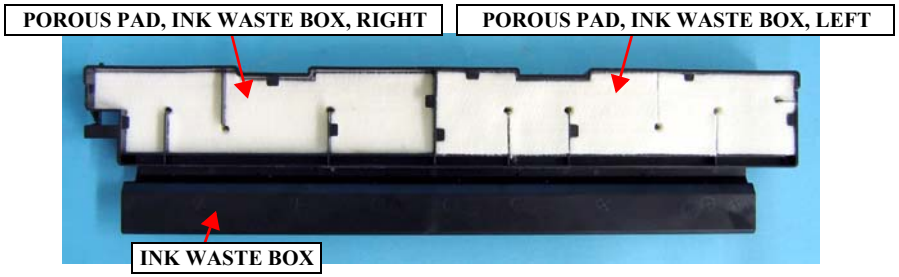


Figure 4-96. Removing the POROUS PAD, INK WASTE BOX, RIGHT/LEFT

4.3.9.7 PRESSURE, PUMP, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Pull out the tube of the PRESSURE, PUMP, ASSY. from the left side of the FRAME, HOLDER, IC, ASSY. *See Figure 4-97.*
3. Peel off the acetate tape that secure the tube of the PRESSURE, PUMP, ASSY., and release it. *See Figure 4-97.*
4. Disconnect the connectors CN46, CN52 on the BOARD ASSY., MAIN. *See Figure 4-29.*
5. Peel off the acetate tape on the COVER, ENCLOSURE, ASSY, and release the cables of the MOTOR ASSY., PRESSURIZING and PRESSURE SENSOR/PRESSURE PUMP HOME SENSOR. *See Figure 4-98.*
6. Remove the screw that secures the PRESSURE, PUMP, ASSY. and the grounding wire to the main unit, and remove the PRESSURE, PUMP, ASSY. *See Figure 4-97.*
   - One C.B.S. 3 x 6 screw (6 ± 1 kgf.cm)

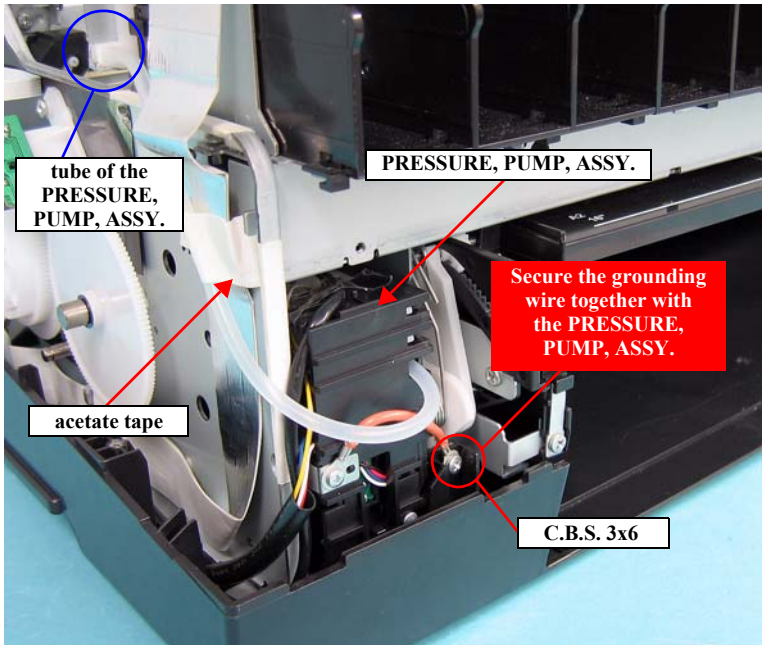


Figure 4-97. Removing the screws from the PRESSURE, PUMP, ASSY.

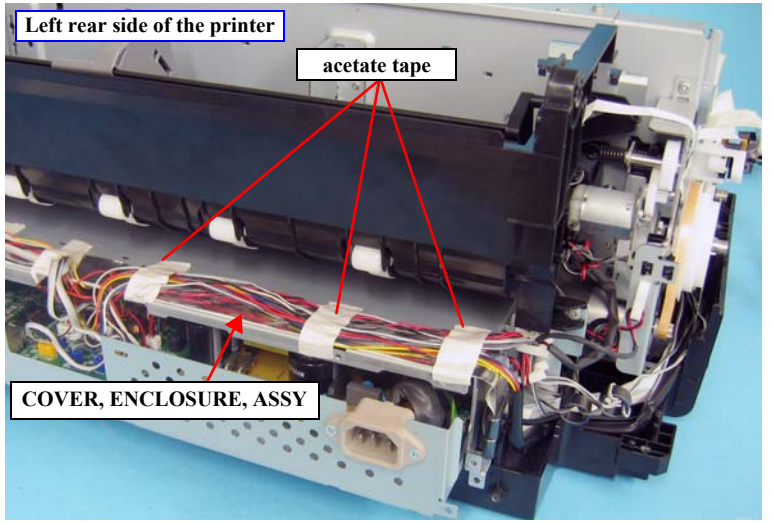
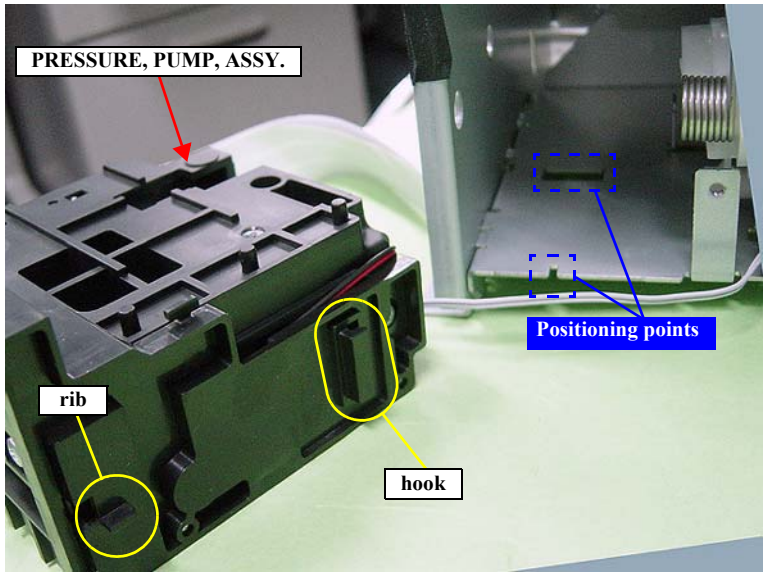


Figure 4-98. Releasing the HARNESS

7. Carry out step 4. of the *"4.3.10.2 TIMING BELT, PF" (p185)*, and remove the two screws of the HOUSING, LOWER.
8. Lift up the left side of the main frame, and remove the PRESSURE, PUMP, ASSY., from the main frame. *See Figure 4-99.*

REASSEMBLY

When installing the PRESSURE, PUMP, ASSY, be sure to insert the hook and rib on the PRESSURE, PUMP, ASSY. into the positioning holes on the main frame.



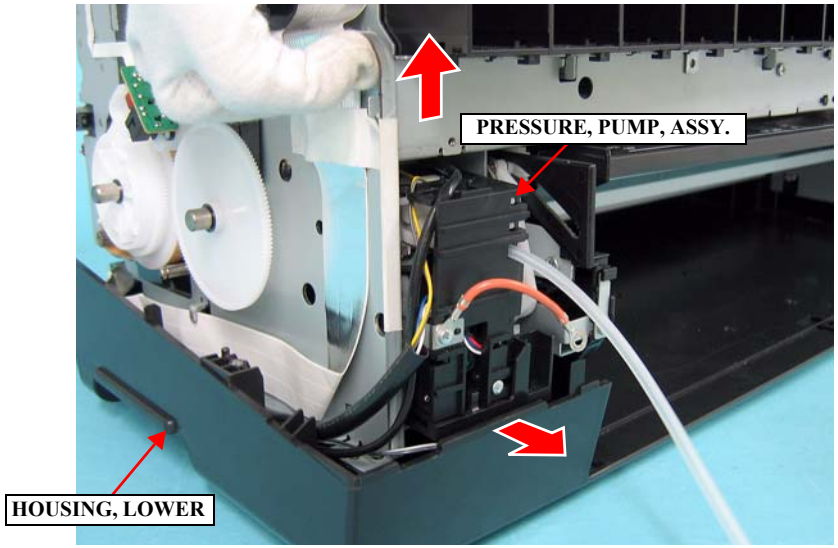


Figure 4-99. Removing the PRESSURE, PUMP, ASSY.

4.3.9.8 CABLE ASSY., ASP

CAUTION

When reassembling the CABLE ASSY., ASP, make sure to follow the procedure described from p171. Otherwise, the product quality may not be maintained.

DISASSEMBLY

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the COVER, CR. *(p152)*
3. Remove the INK, SYSTEM, ASSY. *(p153)*
4. Remove the PRINT HEAD. *(p161)*
5. Carry out step 1. to step 11. of *"4.3.3.15 BASE, ENCLOSURE" (p111)* to pull out the BASE, ENCLOSURE.
6. Disconnect the cables from CN63, CN69, CN70, CN71 and CN72 on the BOARD ASSY., MAIN.
7. Remove the two screws that secure the HOLDER,FFC,TUBE.
   - Two C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)
8. Slide the HOLDER,FFC,TUBE in the direction of the arrow to release the two hooks, and remove the HOLDER,FFC,TUBE.

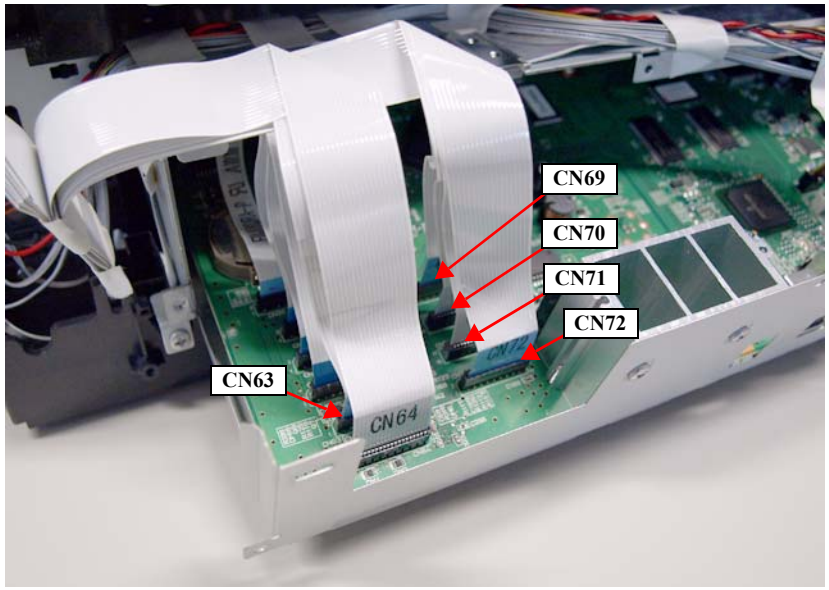


Figure 4-100. Disconnecting the Cables

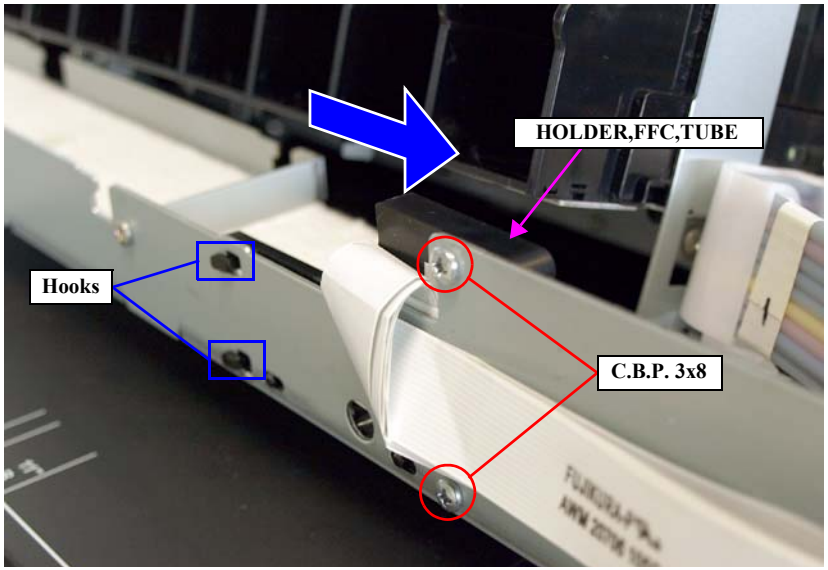


Figure 4-101. Removing the HOLDER,FFC,TUBE

9. Peel off the acetate tape, and separate the FFCs from the ink tube.
10. Peel off the three acetate tapes to release the CABLE ASSY., ASP.

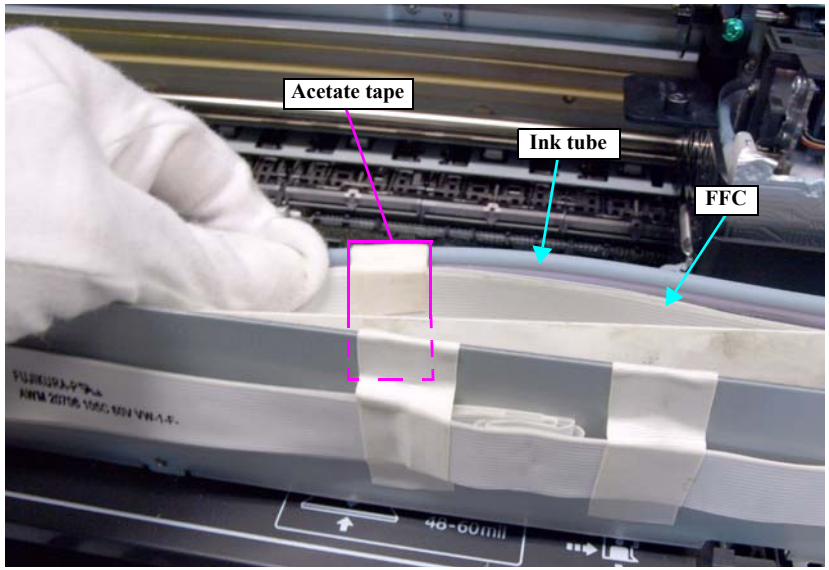


Figure 4-102. Releasing the Ink Tube and FFCs

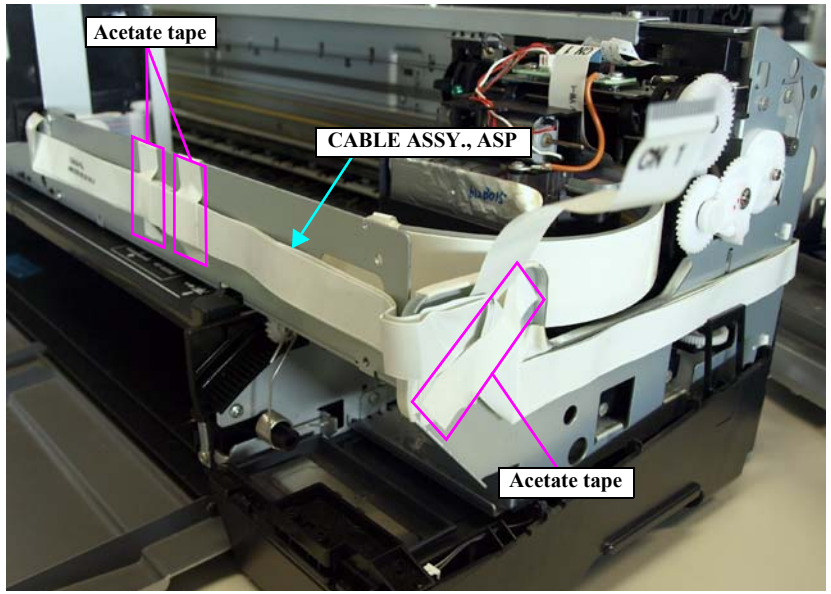


Figure 4-103. Releasing the CABLE ASSY., ASP

REASSEMBLY

☐ Preparing the tool

When reassembling CABLE ASSY., ASP, use a “Space Making Jig” to keep the proper clearance between the ink tube and CABLE ASSY., ASP. Follow the steps below to create the tool using three pieces of the Holder, FFC.

1. Cut each of the three Holder, FFC on a dotted red line shown in the figure. The portion shown in the blue box is used.
2. Wrap 3 portion of the Holder, FFC together with a cellophane tape and fix it. This unit is used as a “Space Making Jig”.

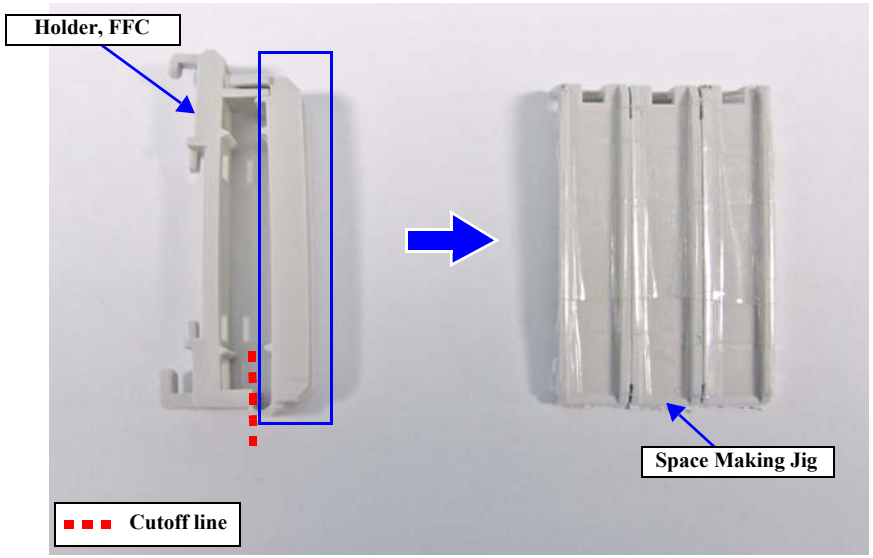


Figure 4-104. Preparing the Space Making Jig

☐ Procedure

1. Connect the FFCs (CN1, CN2) to the PRINT HEAD.
2. Install the PRINT HEAD to the CARRIAGE, ASSY.
3. Slide the GUIDE, TUBE, CR in the direction of the arrow to insert the two holes of the GUIDE, TUBE, CR over the tabs of the CARRIAGE, ASSY. Make sure that the positioning tab of the CARRIAGE, ASSY sticks out from the positioning hole of the GUIDE, TUBE, CR.

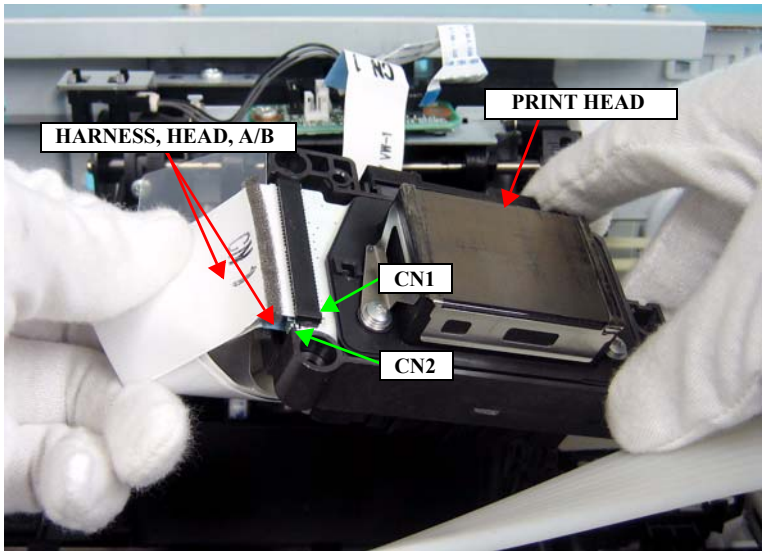


Figure 4-105. Installing the PRINT HEAD

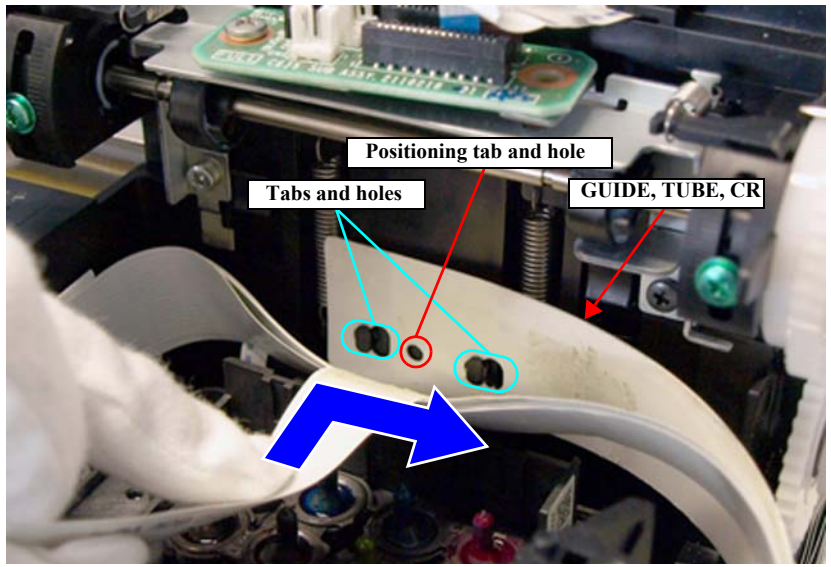
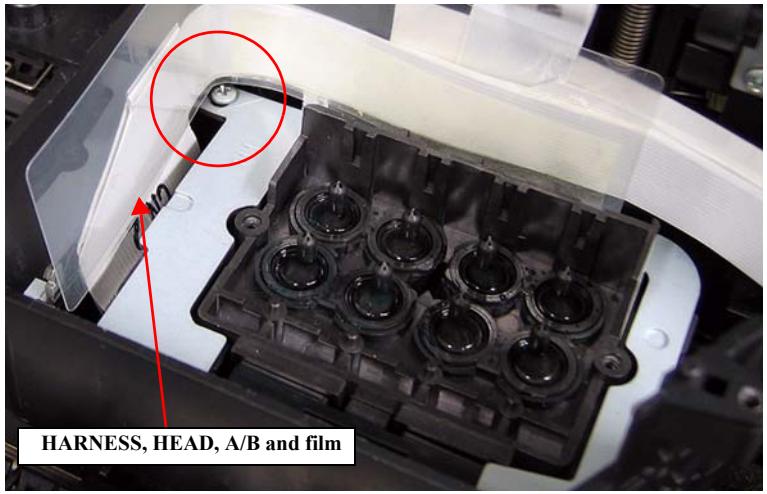


Figure 4-106. Installing the GUIDE, TUBE, CR

4. Secure the LEAF SPRING, LOCK, HEAD with three screws.
   - Three C.B.P. 2.5 x 8 screws (3 ± 0.5 kgf.cm)

Put the far left section of the LEAF SPRING, LOCK, HEAD under the HARNESS, HEAD, A/B and the film, to install it.



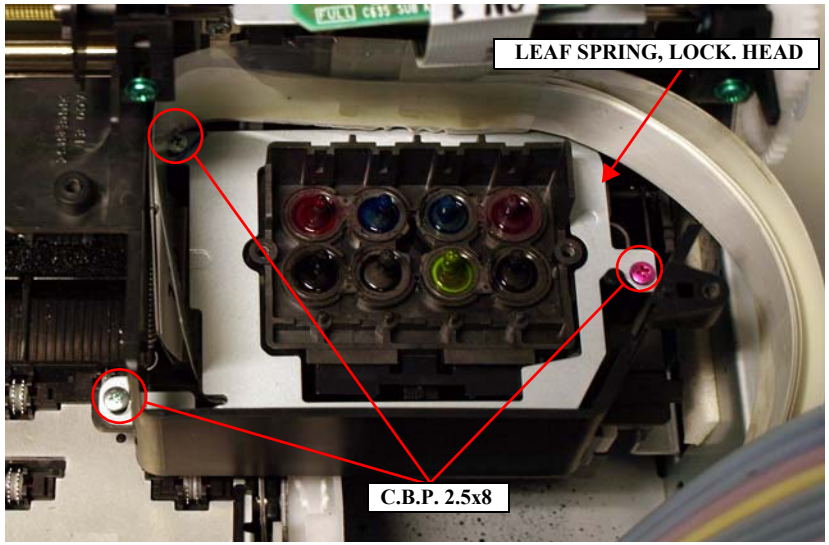


Figure 4-107. Securing the LEAF SPRING, LOCK, HEAD

5. Secure the MOUNTING PLATE, SELECT, INK with the screw.
   - ■ One C.B.P. 2.5 x 8 screw (3±1 kgf.cm)

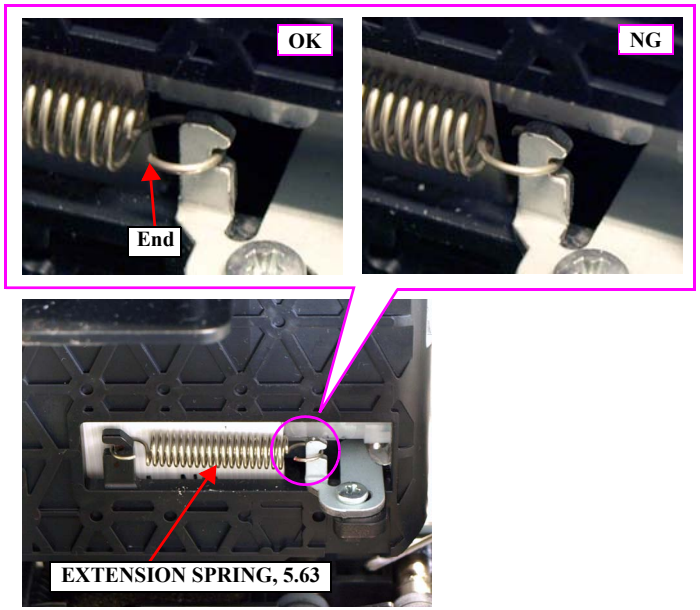
REASSEMBLY

Insert the rib of the PRINT HEAD into the cutout of the MOUNTING PLATE, SELECT, INK to secure the MOUNTING PLATE, SELECT, INK.

6. Attach the both hooks of the EXTENSION SPRING, 5.63 to the hooked tabs one each on the CARRIAGE, ASSY and LEAF SPRING, LOCK, HEAD.

REASSEMBLY

Attach the EXTENSION SPRING, 5.63 so that its both ends face toward the other side of the CARRIAGE, ASSY..



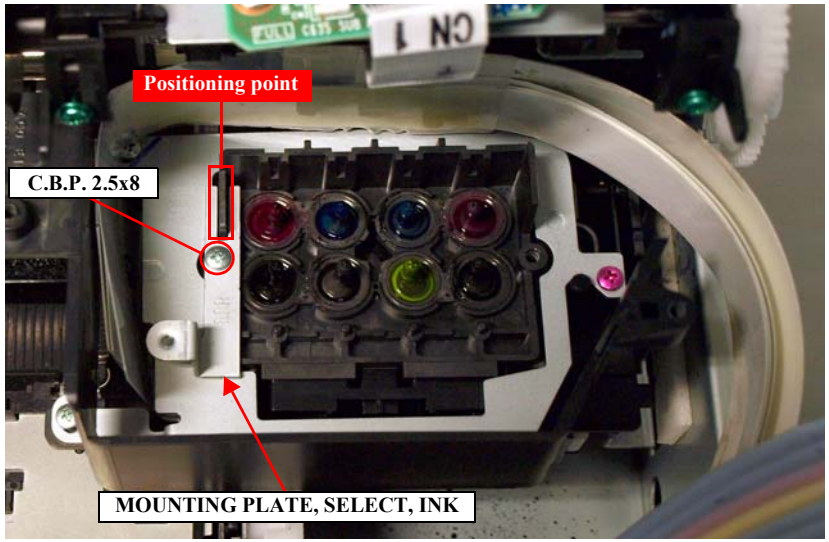


Figure 4-108. Installing the MOUNTING PLATE, SELECT, INK

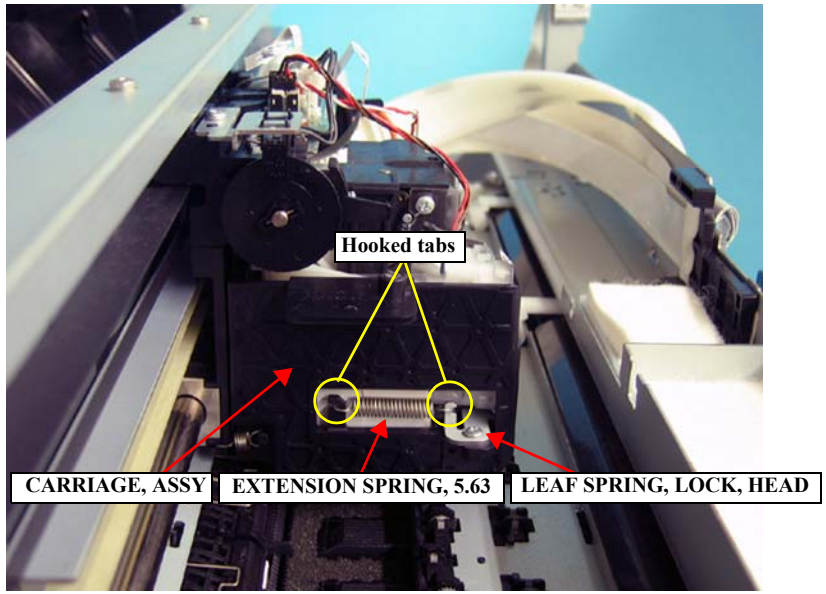


Figure 4-109. Attaching the EXTENSION SPRING, 5.63

7. Align the fold line of the SHEET, GUIDE, TUBE with that of the CABLE ASSY., ASP, and secure them with double-sided tape.
8. Insert the SELECTOR, INK, ASSY into the CARRIAGE, ASSY, and secure it with the two screws.
   - One C.B.P. 2.5 x 8 screw (2 ± 0.5 kgf.cm)
   - One C.B.S. 2.5 x 4 screw (2 ± 0.5 kgf.cm)

CAUTION

When installing the SELECTOR, INK, ASSY., make sure not to mix up the C.B.P. 2.5 x 8 screw and the C.B.P. 2.5 x 4 screw as they are similar to each other.

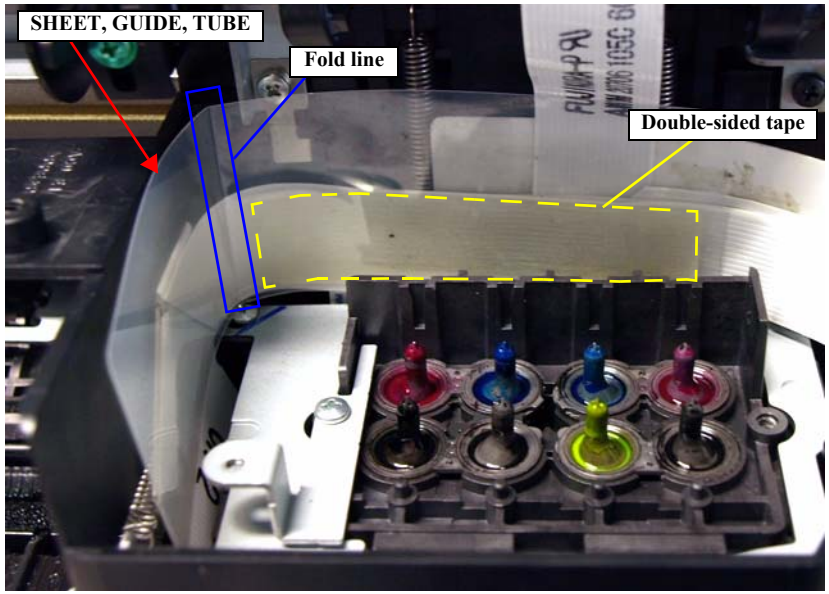


Figure 4-110. Attaching the SHEET, GUIDE, TUBE

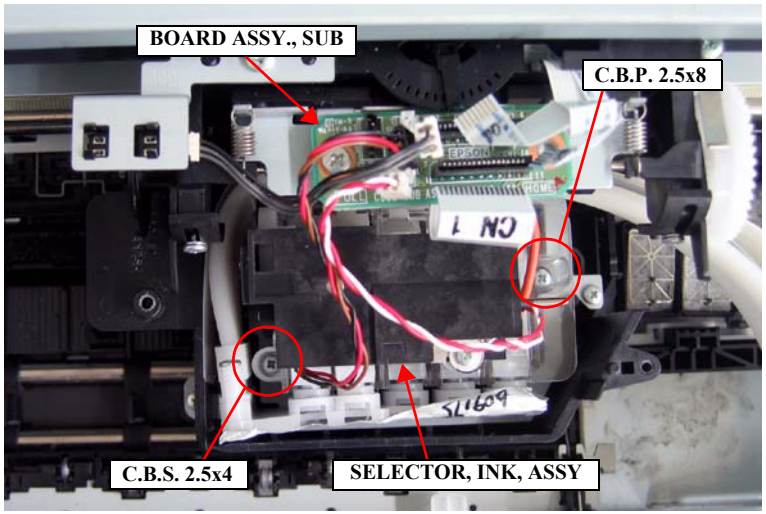


Figure 4-111. Installing the SELECTOR, INK, ASSY

9. Secure the STRENGTHEN PLATE, CR with two screws. *See Figure 4-113.*
   - Two C.B.P. 3 x 8 screws (3 ± 0.5 kgf.cm)

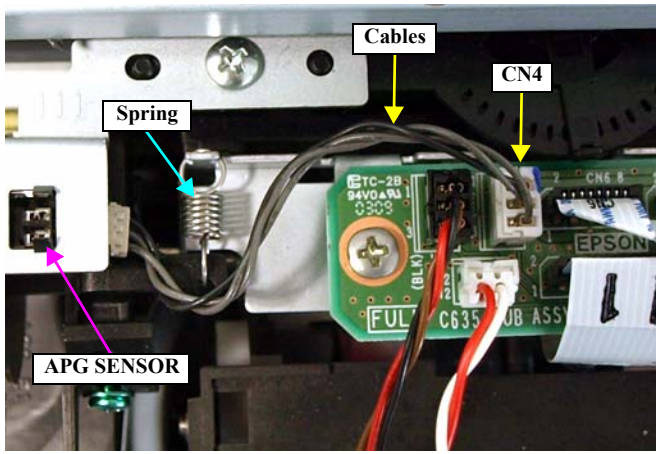
REASSEMBLY

When installing the STRENGTHEN PLATE, CR to the CARRIAGE, ASSY., be sure to insert the positioning hole of the STRENGTHEN PLATE, CR over the guide pins of the CARRIAGE, ASSY. *See Figure 4-113.*

10. Connect the all connectors and FFCs to the BOARD ASSY., SUB.

REASSEMBLY

- **Connect the FFCs to their correct positions matching the numbers written on the FFCs with those printed on the board as shown in *Figure 4-112* and *Table 4-6*.**
- **Route the cables of the APG SENSOR (CN4) keeping them from contact with the spring as shown below.**



11. Secure the grounding wire to the BOARD ASSY., SUB with the screw.
   - One C.B.S. 3 x 6 screw (6 ± 1 kgf.cm)

Table 4-6. List of Connectors on the BOARD ASSY., SUB

Connector No.	Color	Number of Pins	Destination
CN1	(FFC)	17	BOARD ASSY., MAIN
CN2	White	2	MOTOR, INK SELECTOR
CN3	(FFC)	4	INK MARK SENSOR
CN4	White	3	APG SENSOR
CN5	Black	3	SWITCH, INK SELECTOR
CN6	(FFC)	8	BOARD ASSY., DETECT, PW; B

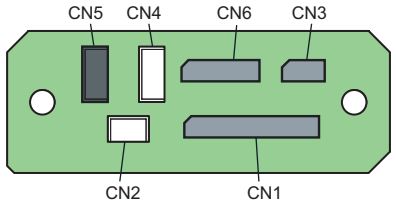


Figure 4-112. Connector Layout of the BOARD ASSY., SUB

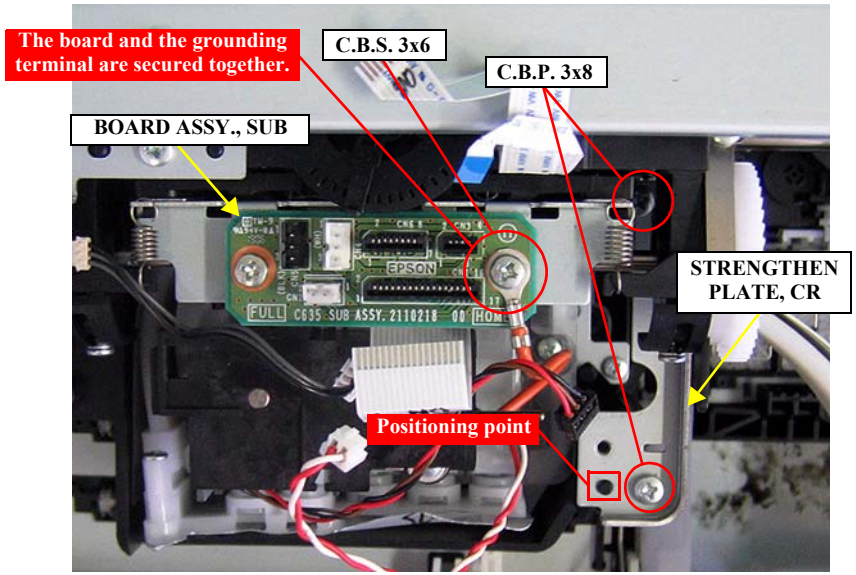


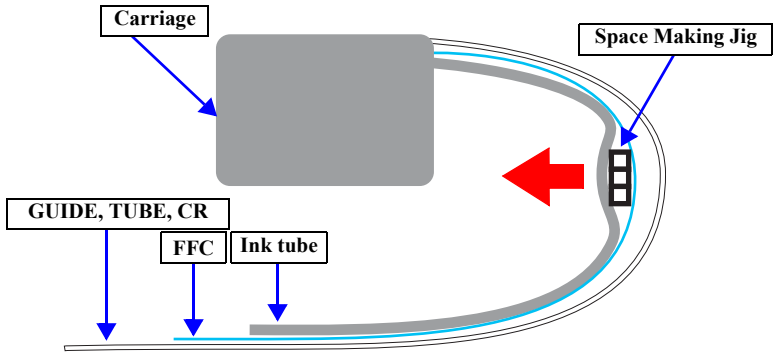
Figure 4-113. Installing the BOARD ASSY., SUB

12. Insert the "Space Making Jig" in the position shown in *Figure 4-114*.

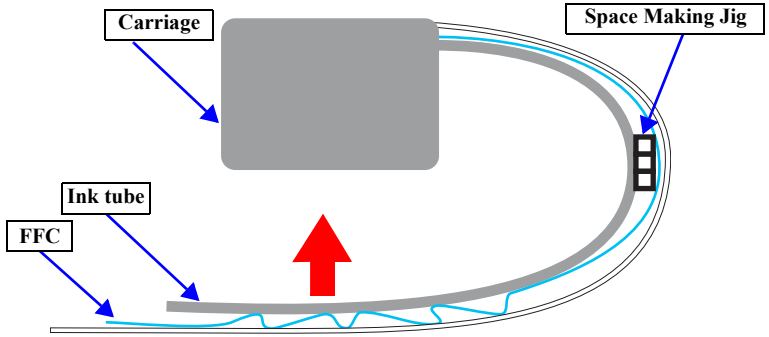
CAUTION

Before securing the FFC and tube with acetate tape in the next step, make sure they are NOT in the following conditions.

- **The FFC is tightly routed and causing the "Space Making Jig" to push the ink tube in the direction of the arrow.**



- **Too much slack in the FFC is causing the FFC to push the ink tube in the direction of the arrow.**



13. With the "Space Making Jig" is attached, temporarily secure the ink tube, FFC, GUIDE, TUBE, CR with acetate tape.

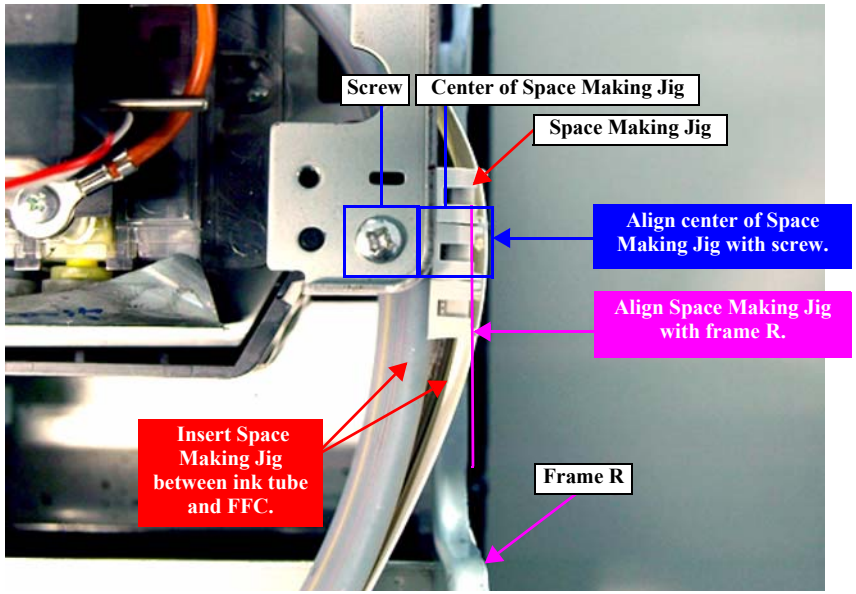


Figure 4-114. Attaching the Space Making Jig

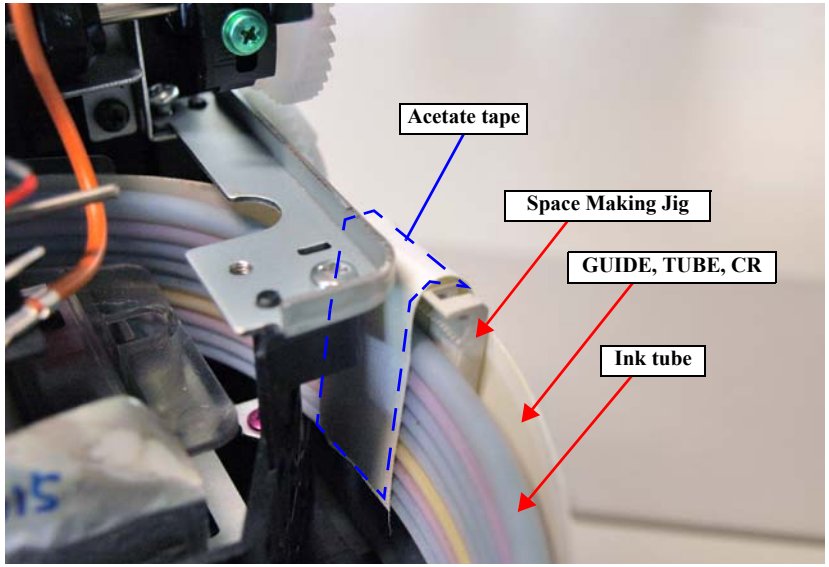


Figure 4-115. Temporarily Securing with Acetate Tape

14. Write a line on the ink tube with a pencil at the position shown in *Figure 4-116*.
15. At the 105 mm lined position, align the upper side edge of the FFC with the ink tube as shown in *Figure 4-117*, and wrap acetate tape around the FFC and ink tube.
16. At the 250 mm lined position, wrap acetate tape around the ink tube.
17. Attach the Holder, FFC to the taped portion of the ink tube and secure the FFC and GUIDE, TUBE, CR together with the ink tube.

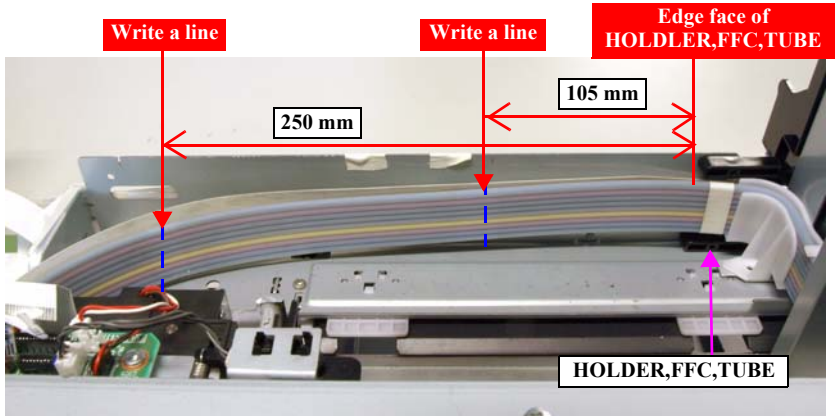


Figure 4-116. Writing a line on the Ink Tube

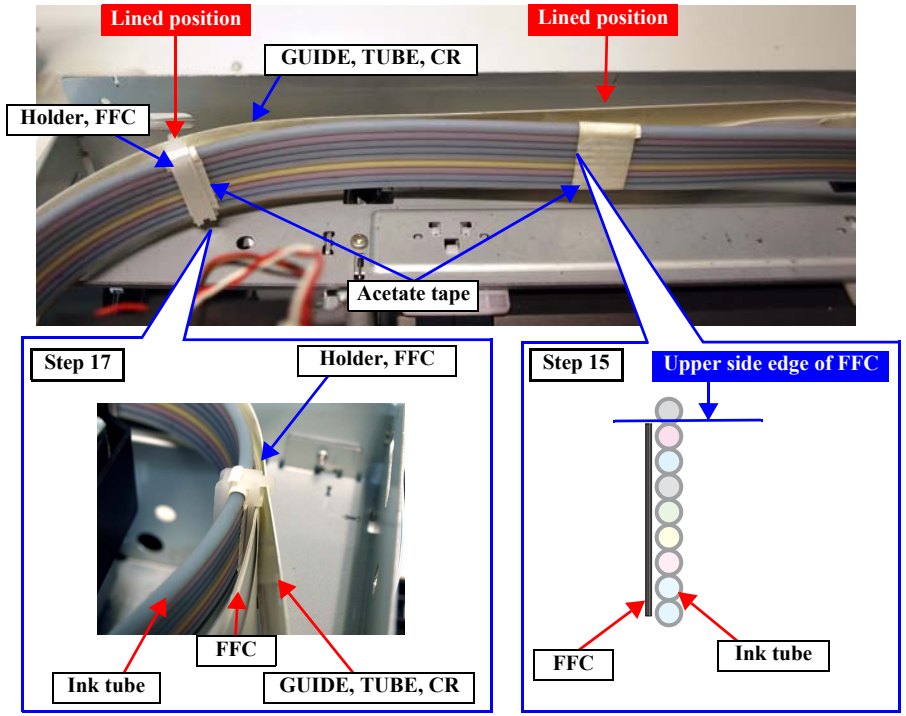
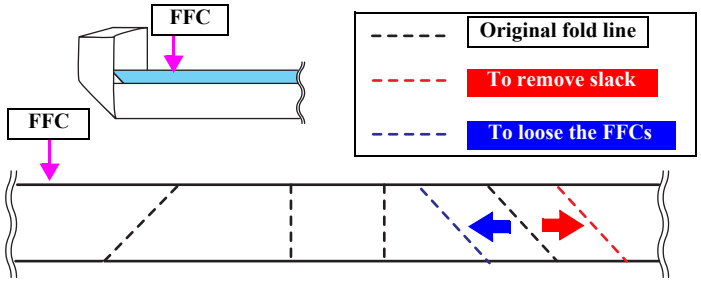


Figure 4-117. Securing the FFC

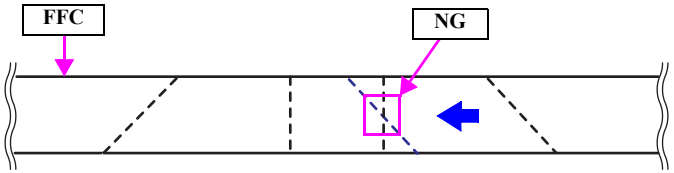
CAUTION

Be sure of the following when refolding the FFCs.

- **Keep the gap between the FFCs within 2 mm.** ***See Figure 4-118.***
- **Check the medially-located FFCs (shown in light blue in the figure below). If you see too much slack in them, move the fold line in the direction of red arrow, and if they are tightly routed, move the fold line in the direction of the blue arrow.**



- **Do not make a fold on the original lines. Doing so may damage the FFCs.**



- **Make sure to fold the five FFCs together.**

18. Fold the FFCs as shown in *Figure 4-118* carefully taking up the slack.
19. Attach the HOLDER, FFC, TUBE, and secure it with the two screws.
    - Two C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)
20. Peel off the temporarily attached acetate tape, and remove the "Space Making Jig".

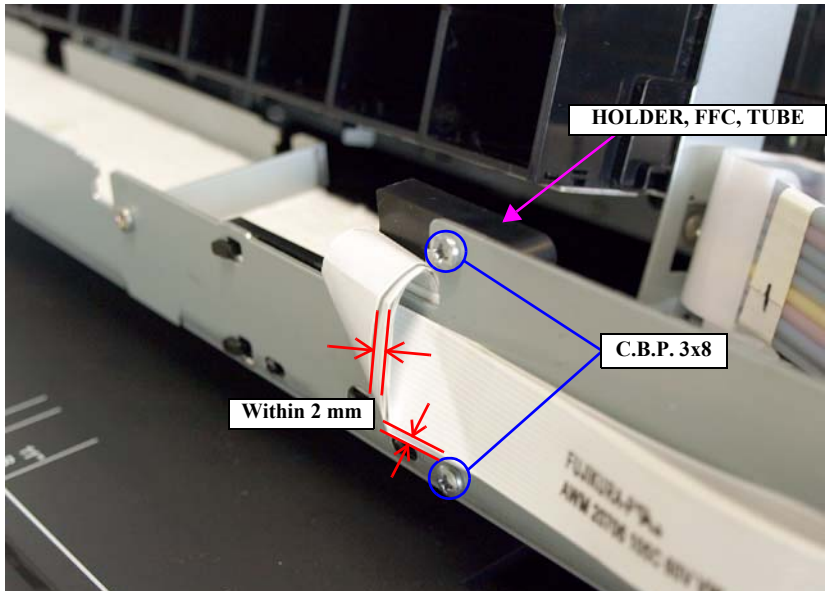


Figure 4-118. Installing the HOLDER, FFC, TUBE

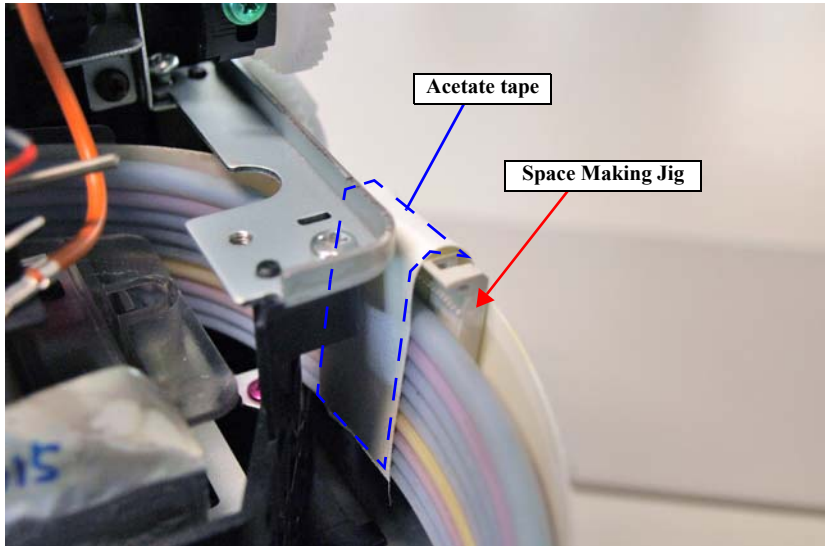


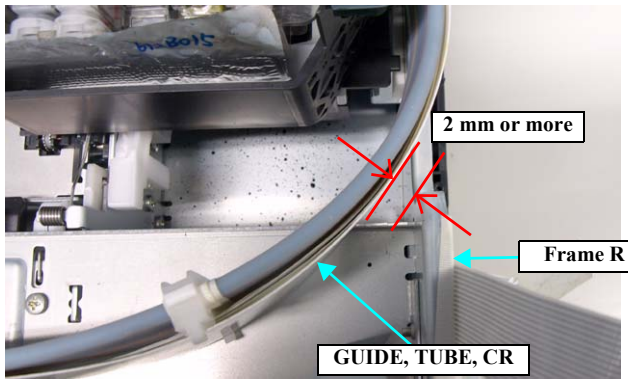
Figure 4-119. Removing the Space Making Jig

CAUTION

Before carrying out the following procedure, perform check 1 to 3 below. When one of them is not satisfied, go back to Step12 to reassemble the CABLE ASSY., ASP again.

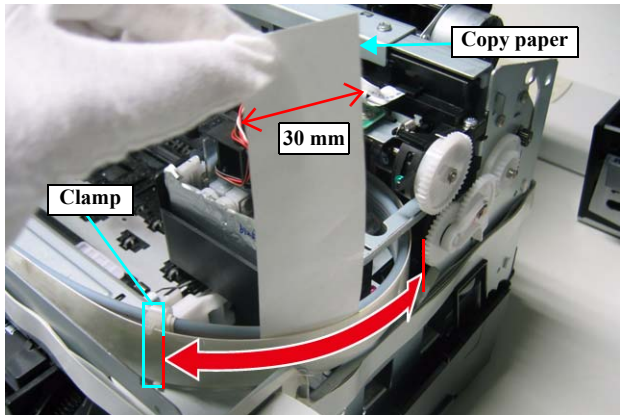
■ Check 1

The gap between the Frame R and GUIDE, TUBE, CR is 2 mm or more.



■ Check 2

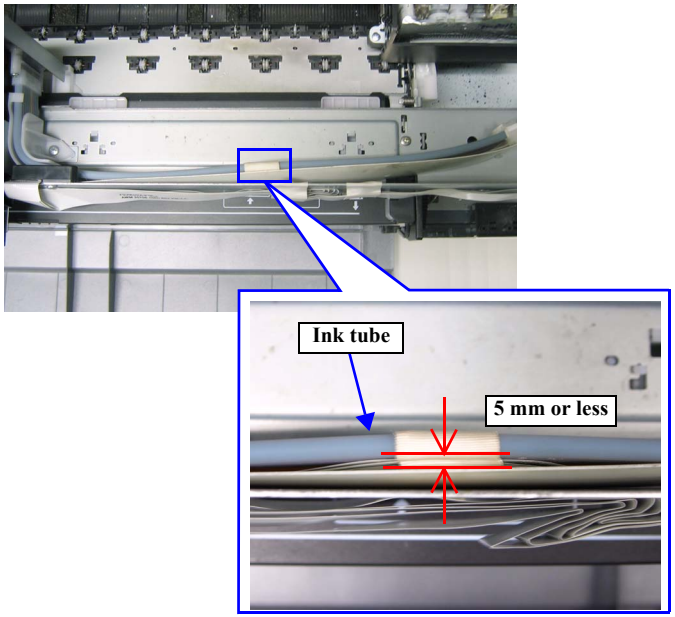
Insert a sheet of copy paper (30 mm x 150 mm) between the ink tube and FFC, and move it from side to side between the clamp and carriage. The paper moves smoothly without getting stuck.



CAUTION

■ Check 3

The gap between the guide plate and ink tube is 5 mm or less.



21. Align the fold line of the FFCs with the right edge of the main frame, and secure the FFCs to the main frame with double-sided tape.
22. Fold the FFCs back on themselves so that the folded portion do not extend off the positions marked on the front side of the main frame, and adjust the FFCs to take any slack.
23. Secure the FFCs with acetate tape on the position shown in *Figure 4-120*.

CAUTION

When folding back the FFCs with the following steps, make sure that the gap between FFCs are 5 mm or less. *See Figure 4-121.*

24. Fold back the FFCs on the position shown in *Figure 4-121*, and secure the FFCs with acetate tape.
25. Route the FFCs on the COVER, HOUSING, LOWER, and secure them to the COVER, HOUSING, LOWER with double-sided tape.

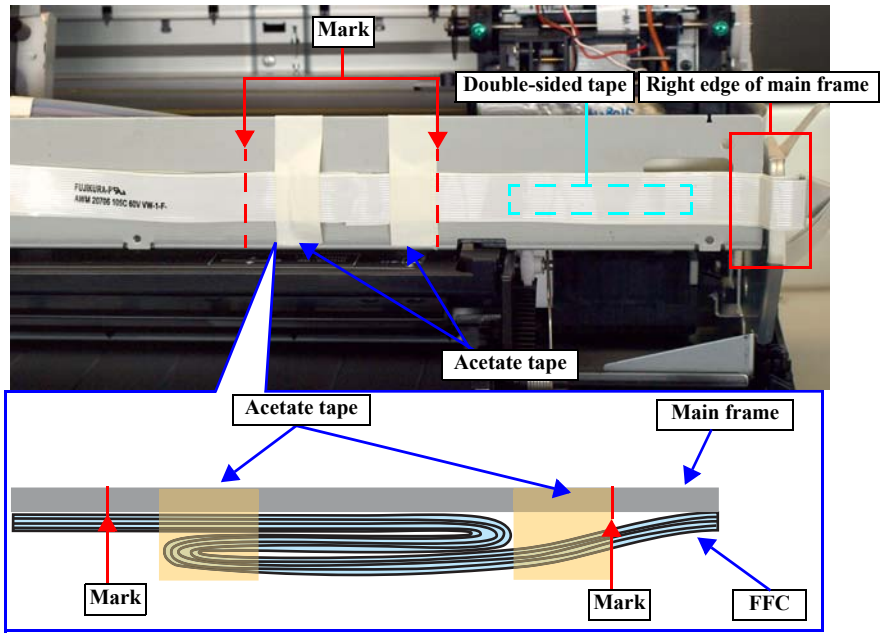


Figure 4-120. Securing the FFC

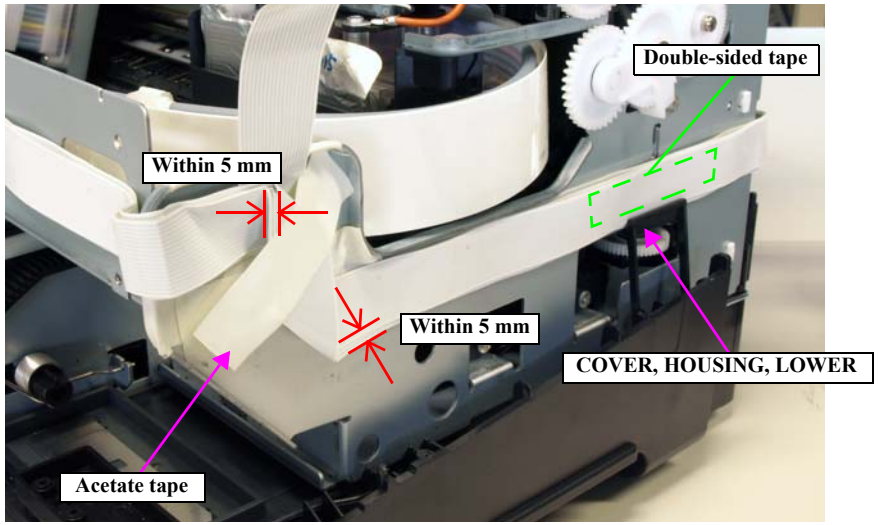


Figure 4-121. Routing the FFCs on the Right Side of the Main Frame

26. Attach acetate tape on the position shown in *Figure 4-122* to secure the six FFCs together.
27. Fold the FFCs back at the position of the cutout of the HOUSING LOWER ASSY, and wrap acetate tape around the FFCs at the positions shown in *Figure 4-123*.
28. Insert the folded part of the FFCs into the cutout of the HOUSING LOWER ASSY.

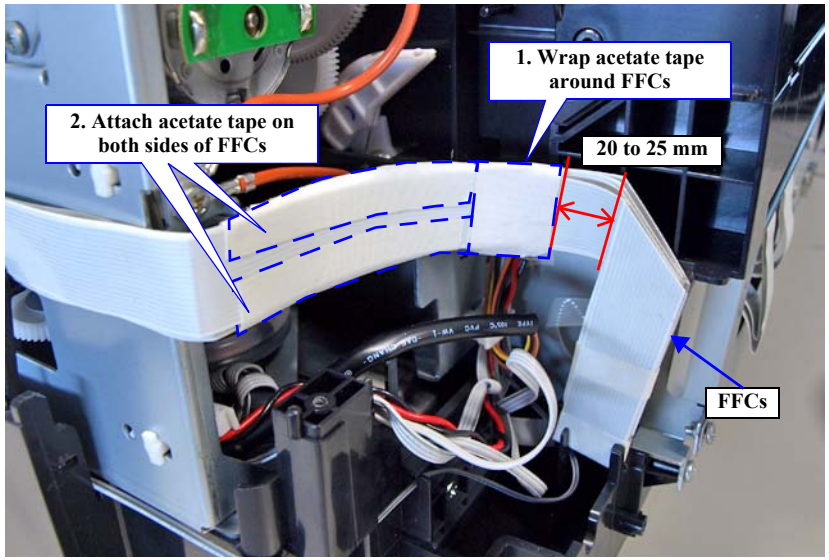


Figure 4-122. Taping the FFCs

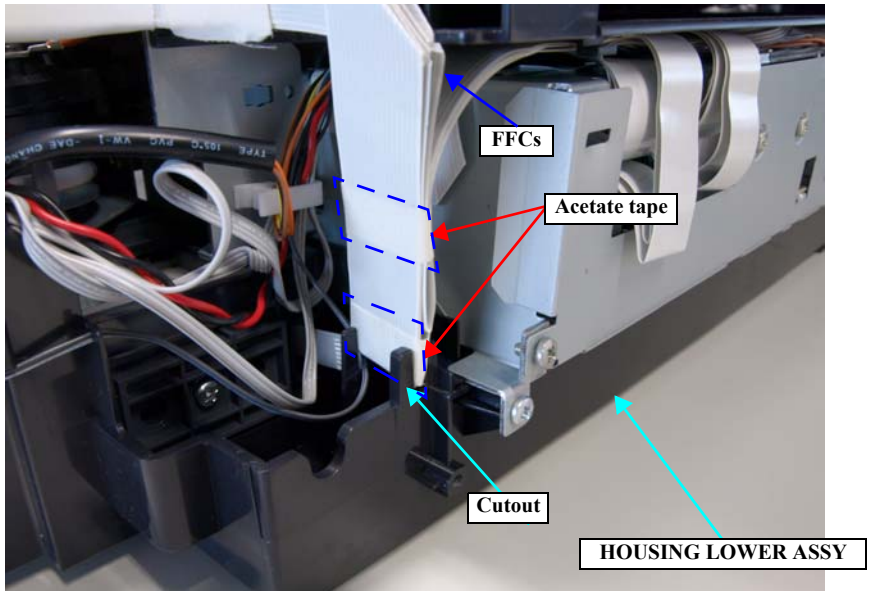
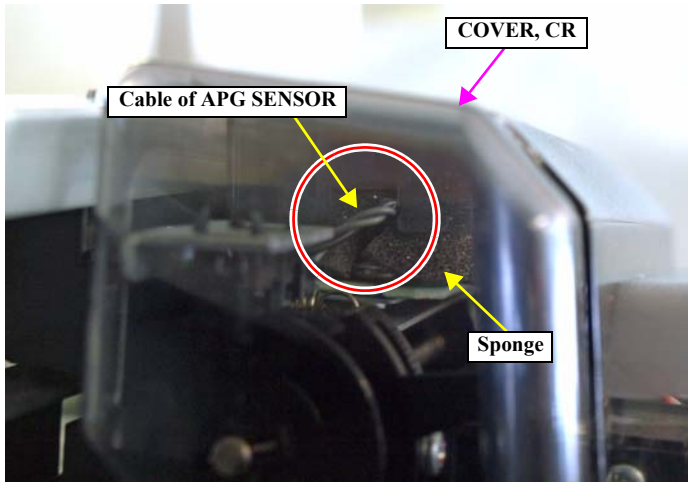


Figure 4-123. Securing the FFCs to the HOUSING LOWER ASSY

29. Connect the cables to the CN63, CN69, CN70, CN71 and CN72 on the BOARD ASSY., MAIN.
30. Push the BASE, ENCLOSURE back into the original position.
31. Route and fold back the FFCs on the COVER, ENCLOSURE, ASSY taking care of the followings.
    - Keep 5 mm or more away from the U-shaped cutout
    - Avoid covering the hole shown in *Figure 4-125*
32. Install the BASE, ENCLOSURE. *(p111)*
33. Install the INK, SYSTEM, ASSY.. *(p153)*

REASSEMBLY

When installing the COVER, CR, make sure that the cables of the APG SENSOR is routed through the cutout of the sponge of the COVER, CR.



34. Install the COVER, CR. *(p152)*
35. Install the HOUSING, UPPER. *(p107)*

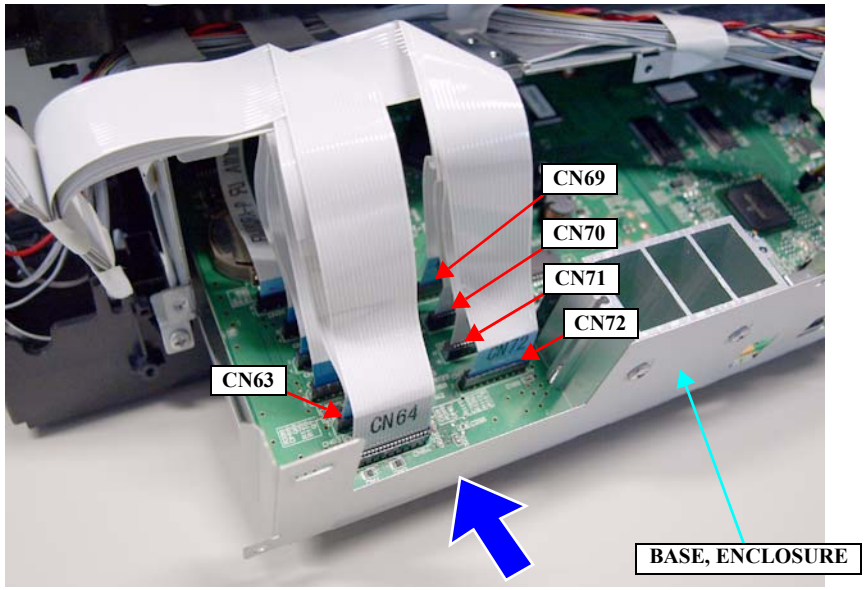


Figure 4-124. Connecting the Cables

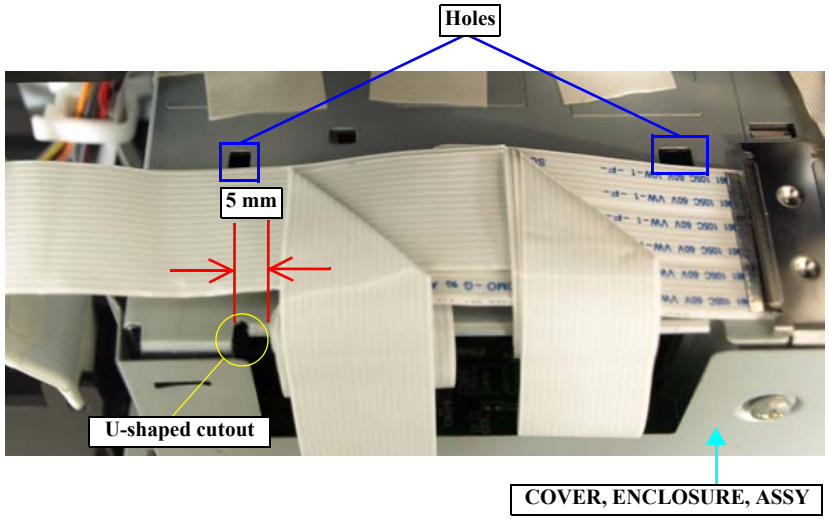


Figure 4-125. Routing the FFCs on the COVER, ENCLOSURE, ASSY

4.3.10 Removing the PAPER FEED MECHANISM

4.3.10.1 SCALE, PF, 180

1. Remove the HOUSING, UPPER. *(p107)*

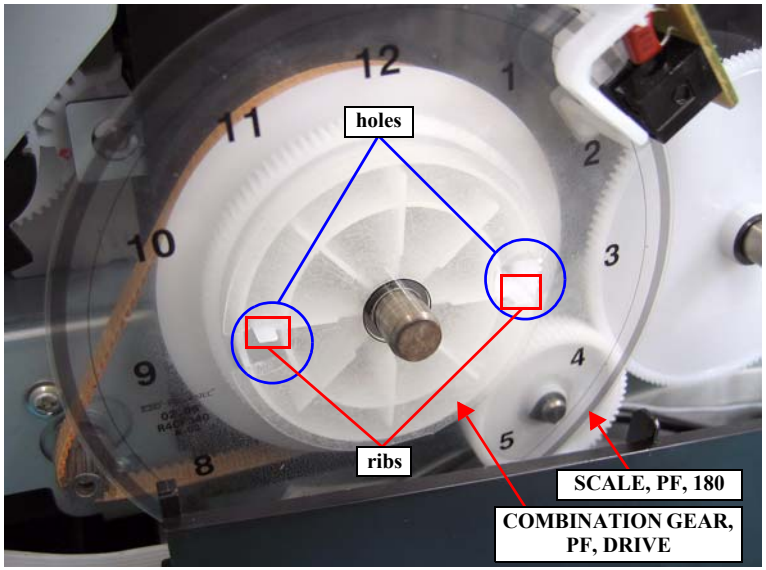
CAUTION

Be careful not to deform or damage the SCALE, PF, 180 when carrying out the following steps.

2. Peel off the double-sided tape that secure the SCALE, PF, 180, and remove it from the COMBINATION GEAR, PF, DRIVE.

REASSEMBLY

Insert the two positioning holes of the SCALE, PF, 180 over the two ribs of the COMBINATION GEAR, PF, DRIVE, to secure the SCALE, PF, 180.



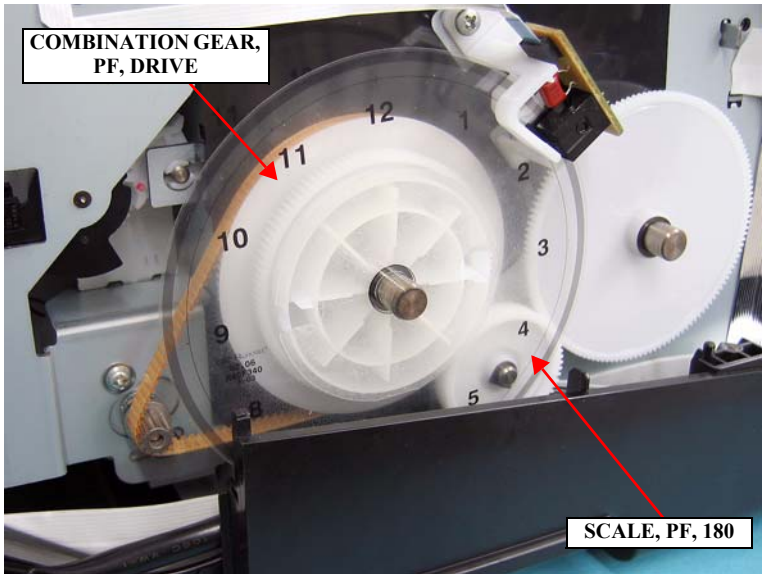


Figure 4-126. Removing the SCALE, PF, 180

4.3.10.2 TIMING BELT, PF

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the SCALE, PF, 180. *(p184)*
3. Remove the retaining ring that secure the SPUR GEAR, 31.5. *See Figure 4-127.*
4. Remove the two screws that secure the HOUSING, LOWER. *See Figure 4-128.*
   - Two C.B.P. 3 x 8 screws (6 ± 1 kgf.cm)

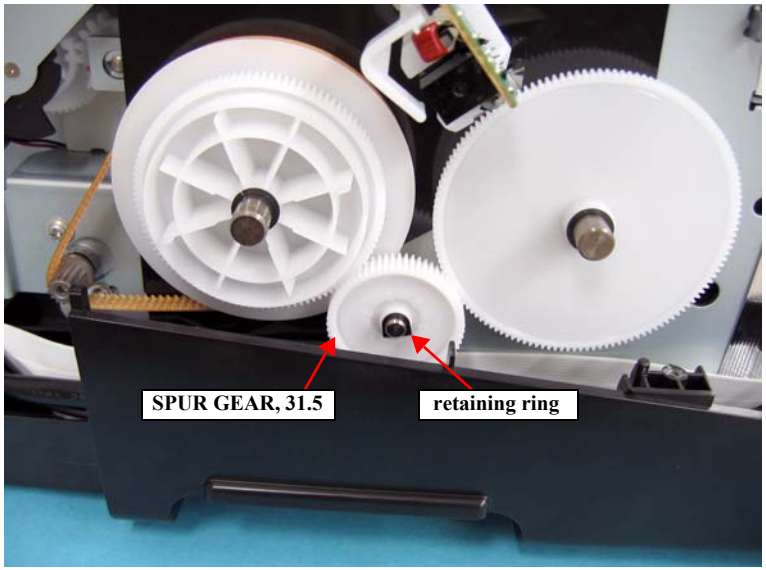


Figure 4-127. Removing the SUPUR GEAR, 31.5 (1)

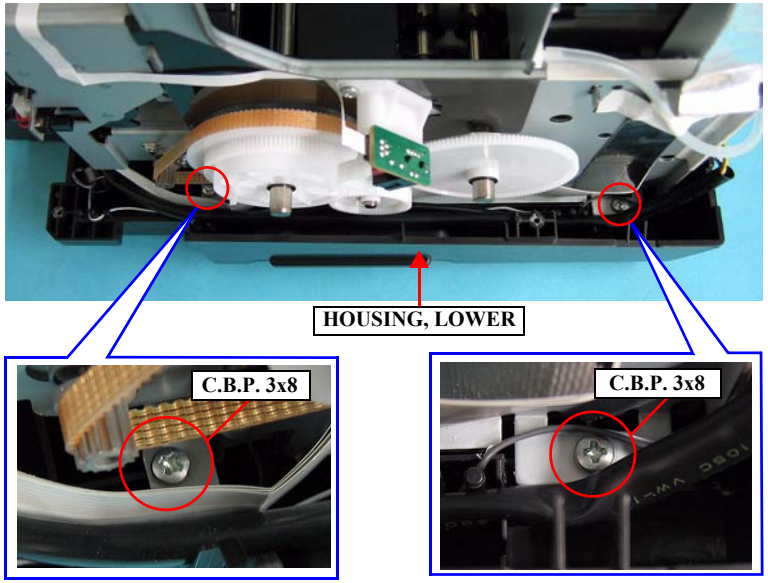


Figure 4-128. Removing the screws from the HOUSING, LOWER

5. Lift up the left side of the main frame, and remove the SPUR GEAR, 31.5 and the COMPRESSION, SPRING, 2.25 from the main frame. *See Figure 4-129.*

6. Remove the TIMING BELT, PF from the pinion gear and the COMBINATION GEAR, PF, DRIVE of the MOTOR ASSY., PF. *See Figure 4-130.*

ADJUSTMENT REQUIRED

- **Whenever the TIMING BELT, PF is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.**
  <Adjustment Item>
  1.PF Timing Belt Tension Adjustment
- **After replacing or removing the TIMING BELT, PF, be sure to perform the required lubrication. See Chapter 6 *"MAINTENANCE" (p269)*.**

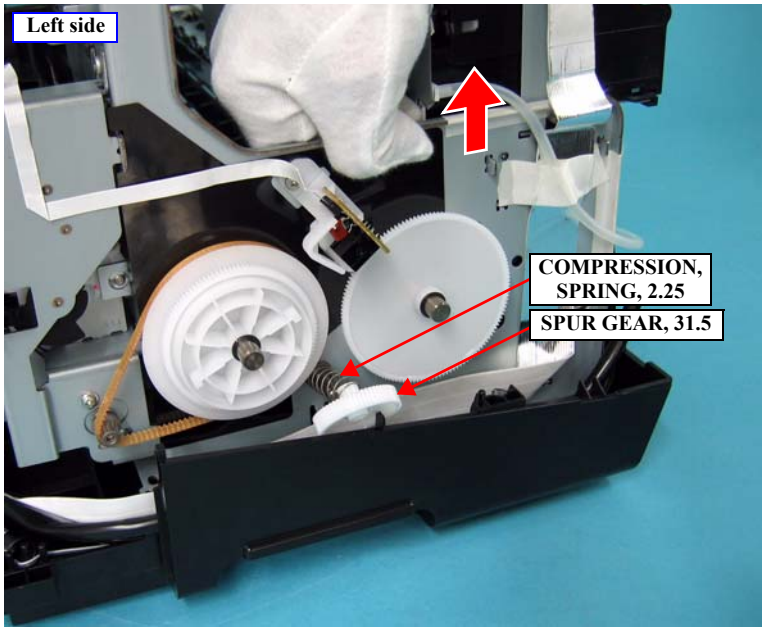


Figure 4-129. Removing the SUPUR GEAR, 31.5 (2)

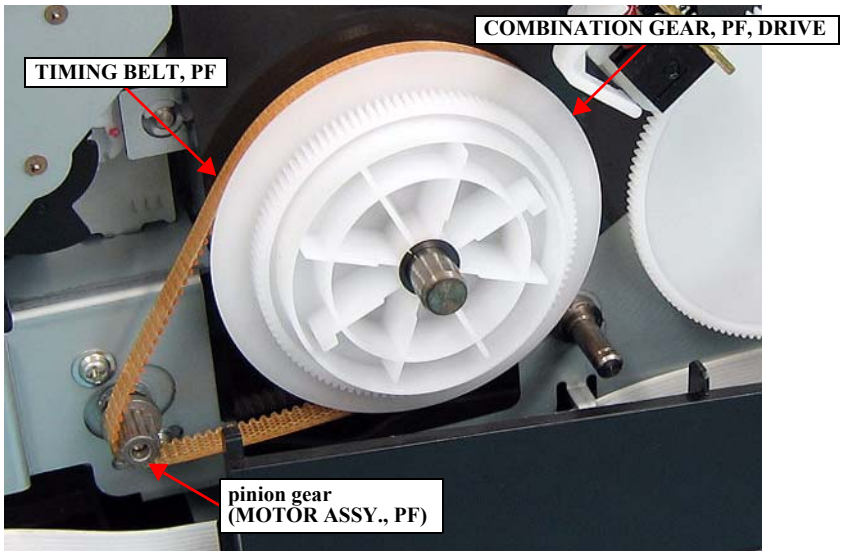


Figure 4-130. Removing the TIMING BELT, PF

4.3.10.3 MOTOR, RELEASE, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Pull out the BASE, ENCLOSURE. *(p111)*
3. Disconnect the cables from CN41, CN57, CN61 on the BOARD ASSY., MAIN. *See Figure 4-29.*
4. Remove the acetate tapes on the COVER, ENCLOSURE, ASSY. to release the cables of the MOTOR, RELEASE, ASSY. *See Figure 4-131.*

REASSEMBLY

Route the cables of the MOTOR, RELEASE, ASSY. with other cables and secure them with the acetate tapes as shown in *Figure 4-131*.

5. Release the cables of the parts listed below, which are components in the MOTOR, RELEASE, ASSY. from the two cable hooks. *See Figure 4-132.*
   - MOTOR ASSY., PF
   - MOTOR ASSY., RELEASE
   - RELEASE SENSOR

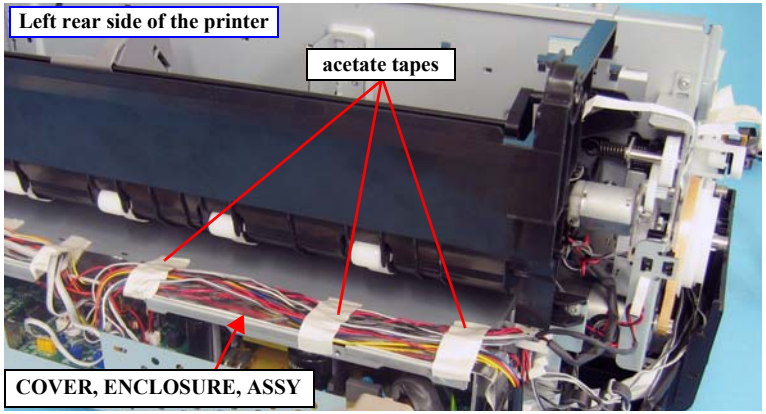


Figure 4-131. Releasing the MOTOR, RELEASE, ASSY. Cables (1)

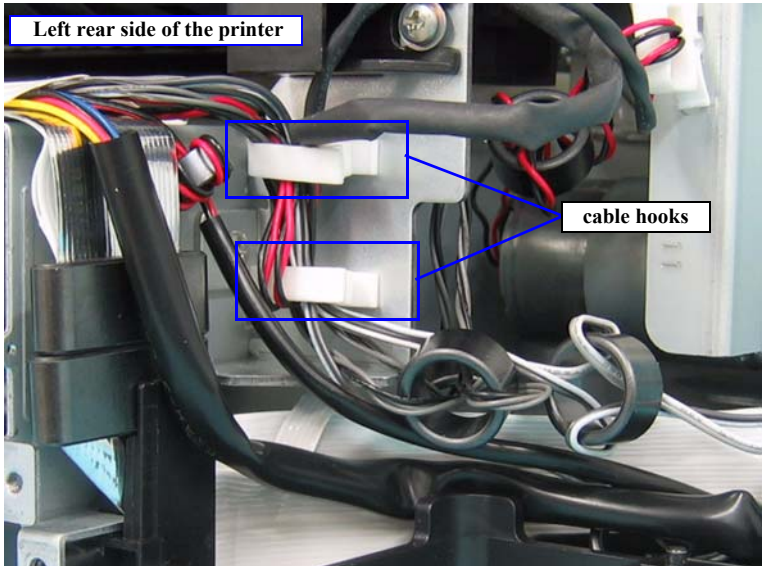


Figure 4-132. Releasing the MOTOR, RELEASE, ASSY. Cables (2)

6. Remove the HARNESS, ENCODER, PF secured to the MOTOR, RELEASE, ASSY., with the two-sided tape. *See Figure 4-133.*
7. Remove the three screws that secure the MOTOR, RELEASE, ASSY. *See Figure 4-134.*
   - Three C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)
8. Remove the TIMING BELT, PF from the pinion gear of the MOTOR ASSY., PF and remove the MOTOR, RELEASE, ASSY.

ADJUSTMENT REQUIRED

Whenever the MOTOR, RELEASE, ASSY., is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>
1. PF Adjustment
2. EJ Adjustment

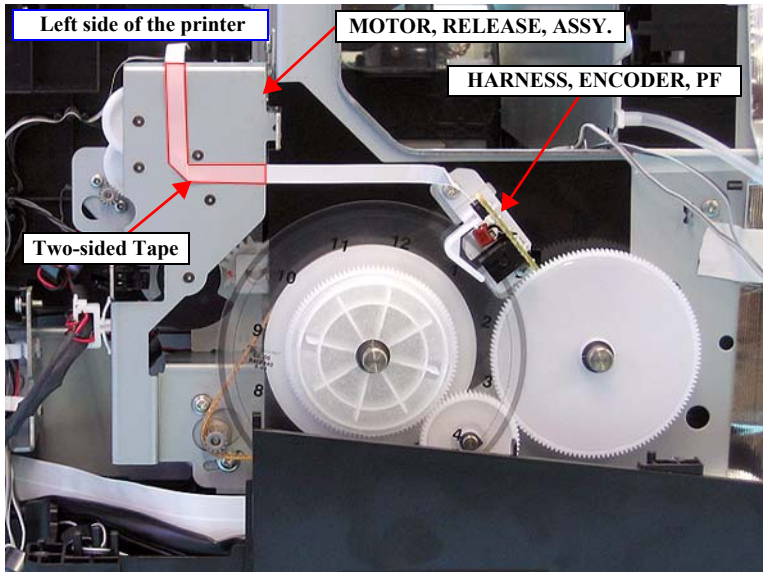


Figure 4-133. Removing the HARNESS, ENCODER, PF

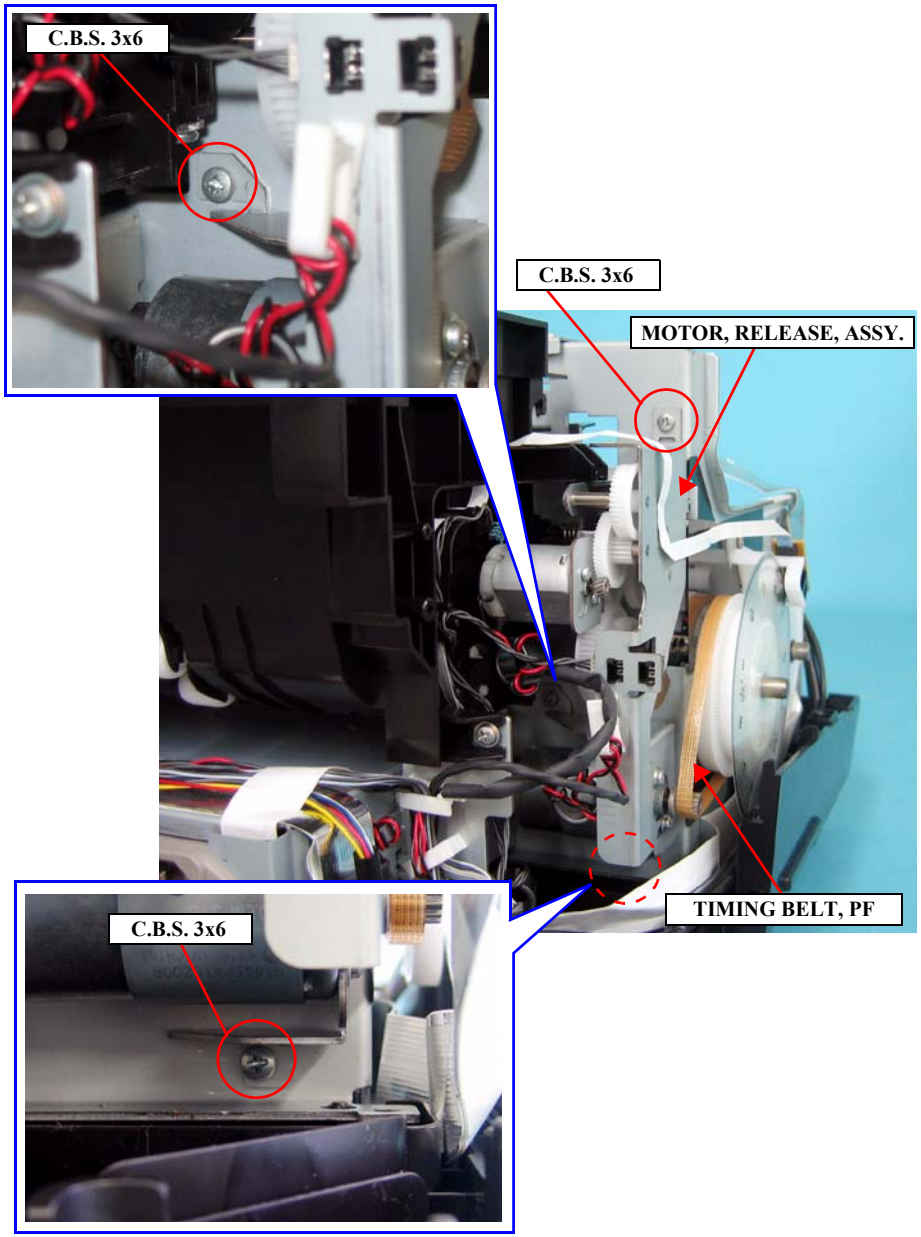


Figure 4-134. Removing the screws from the MOTOR, RELEASE ASSY.

4.3.11 Removing the Carriage Mechanism

4.3.11.1 CARRIAGE, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the COVER, HOUSING, LOWER. *(p108)*
3. Remove the MOTOR ASSY., CR. *(p123)*
4. Remove the SCALE, CR. *(p132)*
5. Remove the PUMP, CAP, ASSY. *(p150)*
6. Remove the COVER, CR. *(p152)*
7. Remove the INK, SYSTEM, ASSY. *(p153)*
8. Remove the PRINT HEAD. *(p161)*
9. Remove the screw on the rear of the main unit that secures the grounding wire of the MOTOR ASSY., ASF and the MOTOR SSY., PUMP, and release them from the main frame. *See Figure 4-135.*
   - One C.B.S. 3 x 6 screw (9 ± 1 kgf.cm)
10. Push the PULLEY, DRIVEN, ASSY. in the direction of the arrow, and remove the PULLEY, DRIVEN, ASSY. and the BELT, CR from the HOLDER, PULLEY, DRIVEN. *See Figure 4-136.*

Be sure to install the PULLEY, DRIVEN, ASSY. to the HOLDER, PULLEY, DRIVEN so that the protrusion of the PULLEY, DRIVEN, ASSY. is seen as shown in *Figure 4-136*.

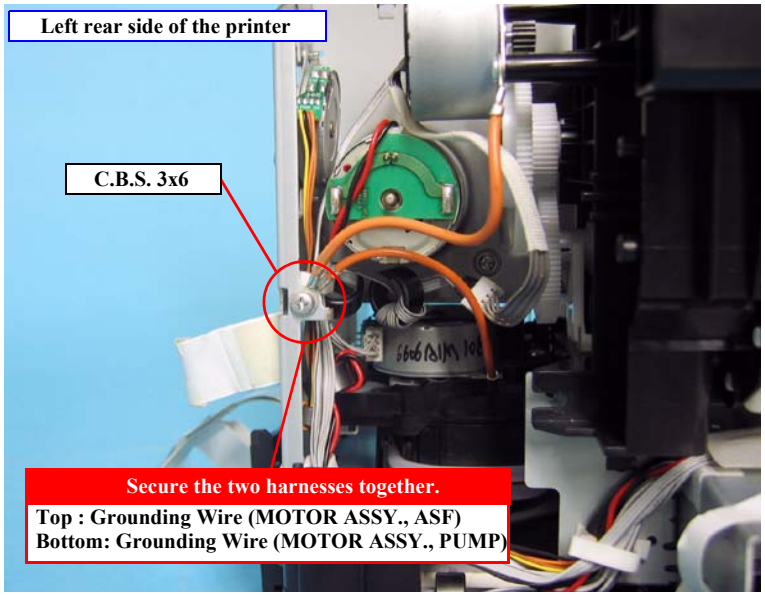


Figure 4-135. Releasing the HARNESS

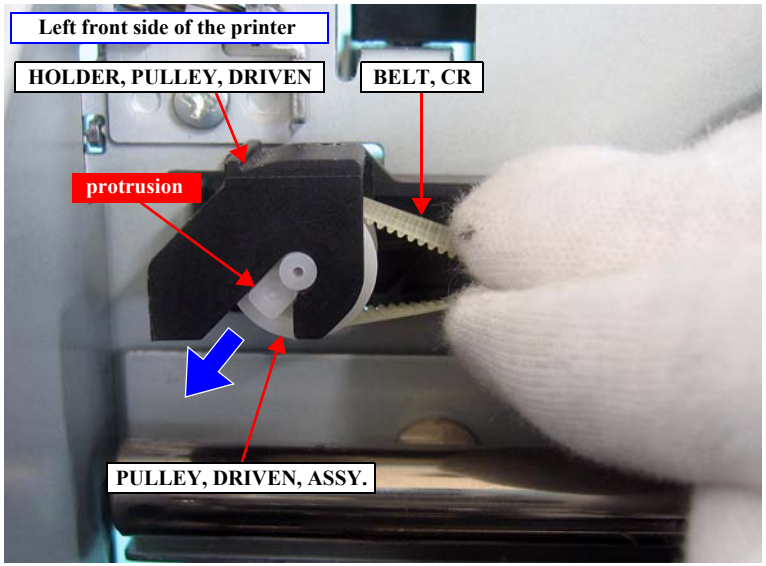


Figure 4-136. Removing the PULLEY, DRIVEN, ASSY.

11. Remove the FFCs secured with the two-sided tape to the FRAME ASSY., SUB, RIGHT. *See Figure 4-137.*
12. Remove the acetate tape shown in *Figure 4-138*.
13. Remove the five screws that secure the FRAME ASSY., SUB, RIGHT and remove it. *See Figure 4-137, 4-138.*
    - Five C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)

CHECK POINT

To remove/install the two of the five C.B.S. 3x6 screws, insert a screwdriver through the holes on the FRAME, ASSY, SUB, RIGHT shown in *Figure 4-137*.

REASSEMBLY

Make sure to carry out the followings when installing the FRAME ASSY., SUB, RIGHT to the main unit.

- **Be sure to align the seven positioning holes of the FRAME ASSY., SUB, RIGHT with the seven ribs on the main frame.**
- **After fastening the screws shown in *Figure 4-138*, be sure to reattach the acetate tape, which is removed in step 11., to cover the screw head and the rib so as not to damage the FFCs with them.**

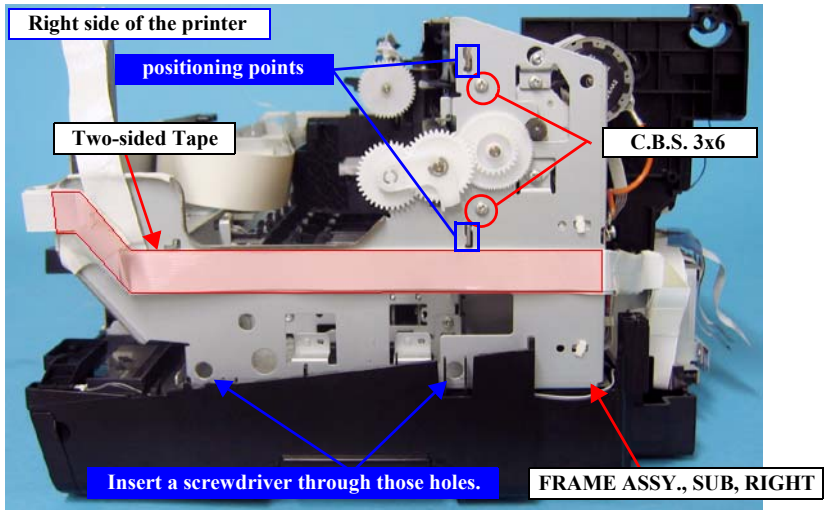


Figure 4-137. Removing the FRAME ASSY., SUB, RIGHT

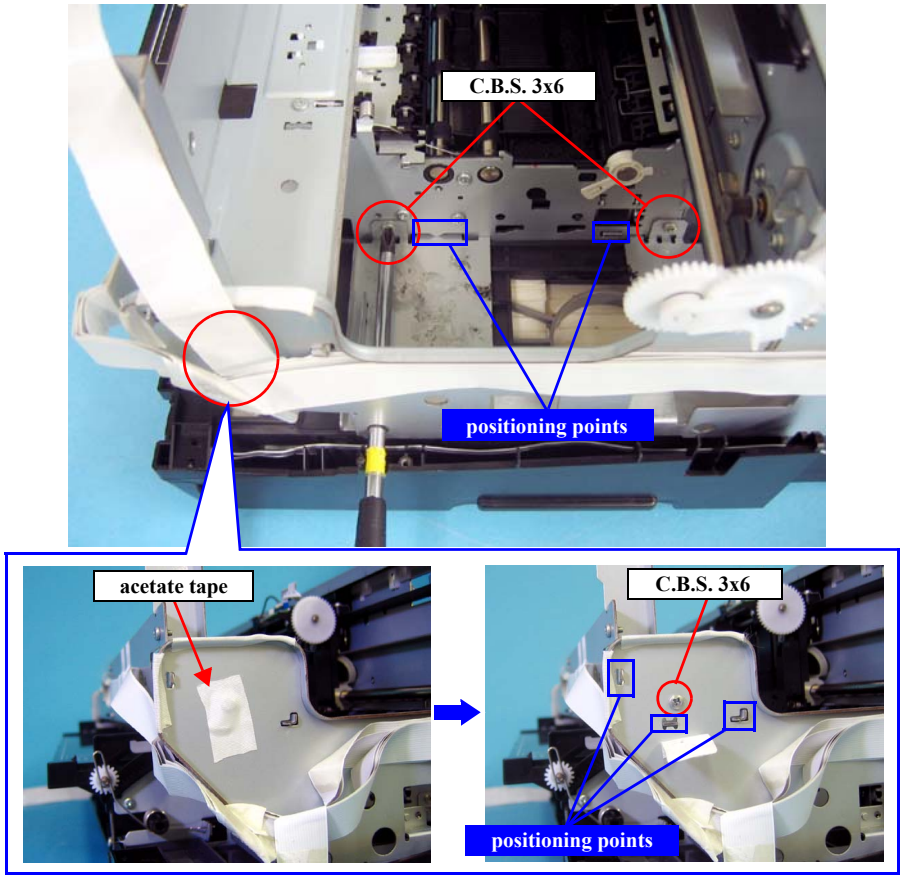


Figure 4-138. Removing the screws from the FRAME ASSY., SUB, RIGHT

14. Slide the CARRIAGE, ASSY rightward to remove it from the Carriage Shaft.

ADJUSTMENT REQUIRED

Whenever the CARRIAGE ASSY, is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.

<Adjustment Item>

1. **Print Head Slant Adjustment (CR)**
2. **PG Position Adjustment**
3. **Print Head Slant Adjustment (PF)**
4. **Ink Mark Sensor Adjustment for Auto Nozzle Check**
5. **Auto Uni-D Adjustment**
6. **Auto Bi-D Adjustment**
7. **T&B&S Adjustment**
8. **Colorimetric Calibration Tool**
9. **Print Image**

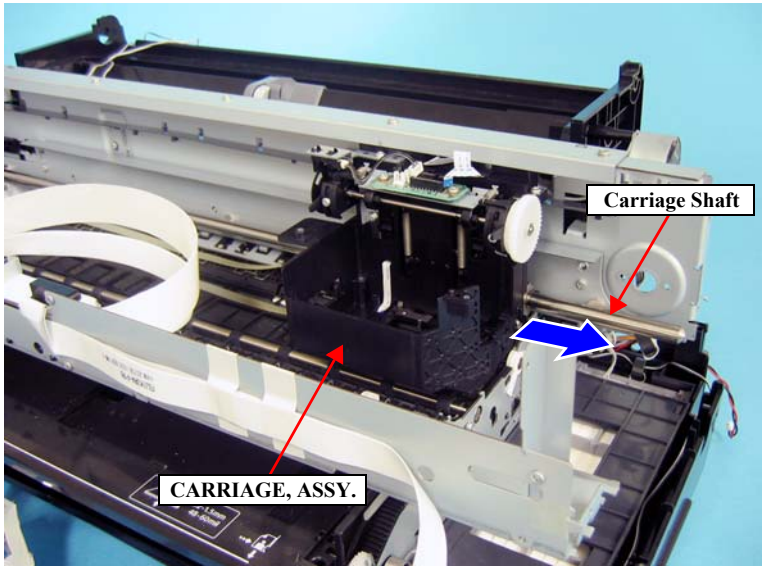


Figure 4-139. Removing the CARRIAGE, ASSY.

4.3.11.2 BOARD ASSY., ENCODER

1. Remove the CARRIAGE, ASSY. *(p189)*
2. Release the four tabs that secure the COVER, ENCODER and remove it. *See Figure 4-140.*

REASSEMBLY

Insert the positioning hole of the COVER, ENCODER over the guide pin of the CARRIAGE, ASSY. to secure the COVER, ENCODER. *See Figure 4-140.*

3. Remove the all FFCs on the BOARD ASSY., ENCODER. *See Figure 4-141.*

Table 4-7. Connectors on BOARD ASSY., ENCODER

Connector No.	Color	No. of Pins	Destination
CN1	(FFC)	8	BOARD ASSY., SUB
CN2	(FFC)	3	BOARD ASSY., DETECTOR, PW; B

4. Remove the two screws that secure the BOARD ASSY., ENCODER and remove it. *See Figure 4-141.*
   - Two C.B.P. 2.5 x 8 screws (1 ± 0.5 kgf.cm)

ADJUSTMENT REQUIRED

Whenever the BOARD ASSY., ENCODER is replaced, the corresponding adjustments must be carried out.
See Chapter 5 *"ADJUSTMENT" (p208)*.
<Adjustment Item>
1. Print Head Slant Adjustment (CR)
2. PG Position Adjustment
3. Print Head Slant Adjustment (PF)
4. Ink Mark Sensor Adjustment for Auto Nozzle Check
5. Auto Uni-D Adjustment
6. Auto Bi-D Adjustment
7. T&B&S Adjustment
8. Colorimetric Calibration Tool
9. Print Image

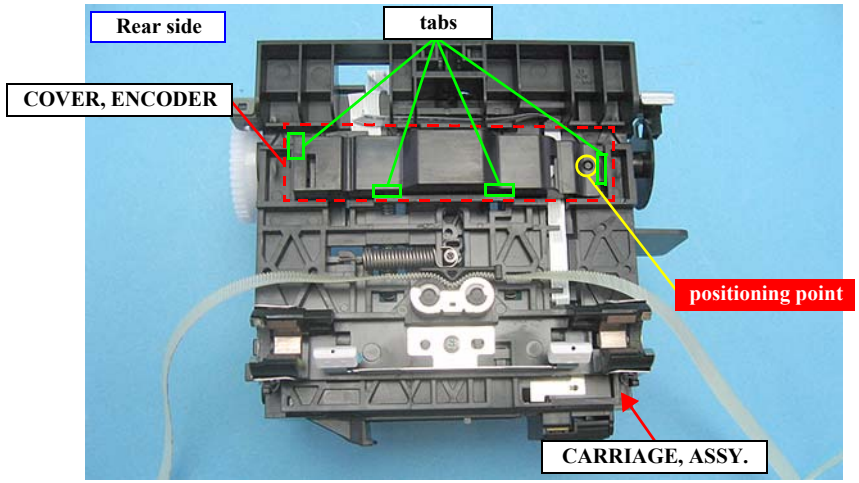


Figure 4-140. Removing the COVER, ENCODER

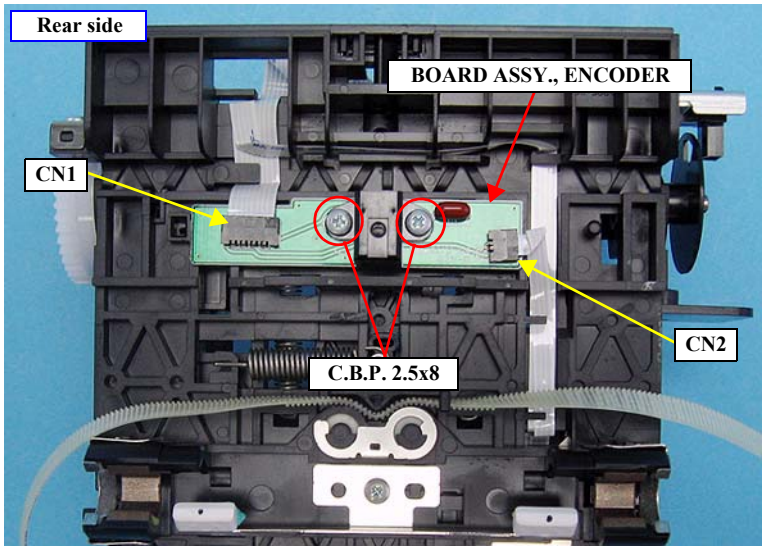


Figure 4-141. Removing the BOARD ASSY., ENCODER

4.3.11.3 BOARD ASSY., INK MARK

1. Remove the CARRIAGE, ASSY. *(p189)*
2. From the rear side of the CARRIAGE, ASSY., remove the screw that secures the HOLDER, DETECTOR, PW. *See Figure 4-142.*
   - ■ One C.P.B. 1.7 x 8 screw (1.25 ± 0.25 kgf.cm)
3. Disconnect the HARNESS, INK MARK from CN1 connector on the BOARD ASSY., INK MARK, and remove the BOARD ASSY., INK MARK. *See Figure 4-143.*

REASSEMBLY

Insert the positioning hole of the BOARD ASSY., INK MARK over the guide pin of the CARRIAGE, ASSY. to secure the BOARD ASSY., INK MARK. *See Figure 4-143.*

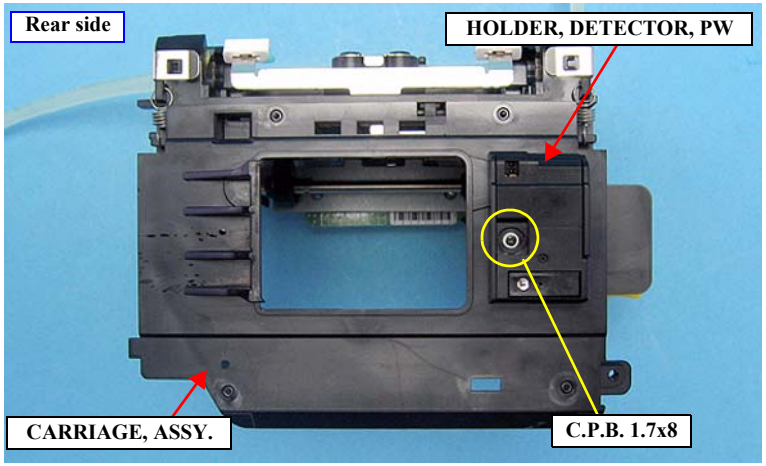


Figure 4-142. Removing the HOLDER, DETECTOR, PW

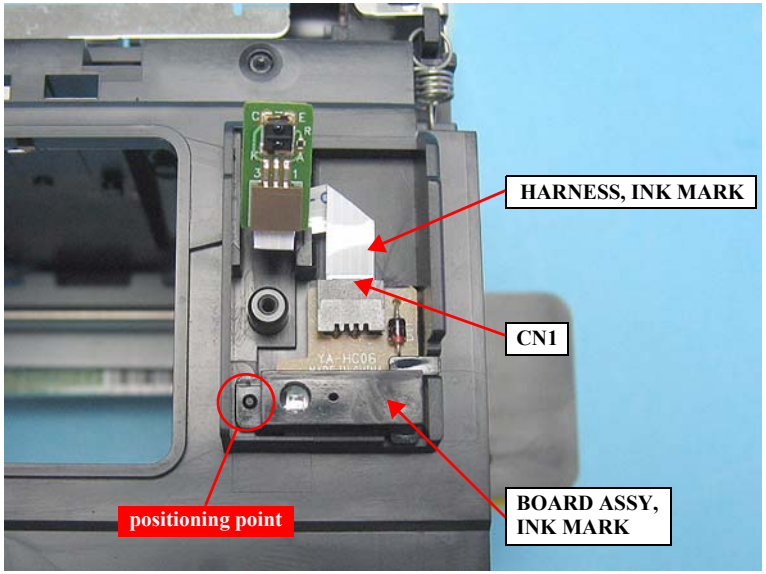


Figure 4-143. Removing the BOARD ASSY., INK MARK

4.3.11.4 BOARD ASSY., DETECTOR, PW; B

1. Remove the CARRIAGE, ASSY. *(p189)*
2. From the rear side of the CARRIAGE, ASSY., remove the screw that secures the HOLDER, DETECTOR, PW. *See Figure 4-144.*
   - One C.P.B. 1.7 x 8 screw (1.25 ± 0.25 kgf.cm)
3. Disconnect the HARNESS, PW from CN1 connector on the BOARD ASSY., DETECTOR, PW; B, and remove the BOARD ASSY., DETECTOR, PW; B. *See Figure 4-145.*

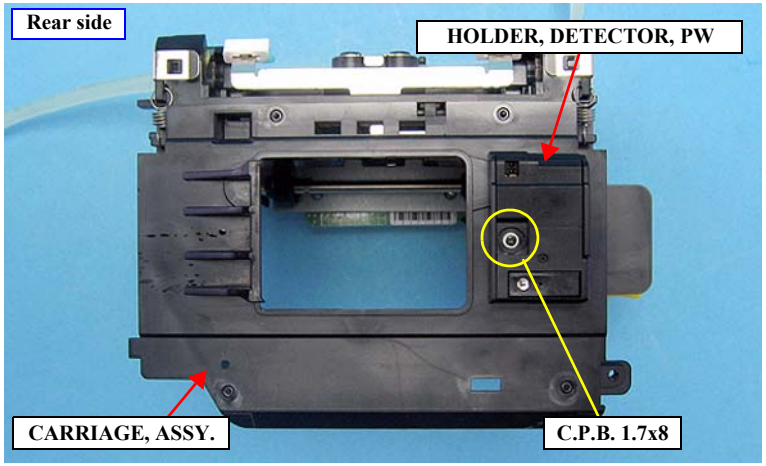


Figure 4-144. Removing the HOLDER, DETECTOR, PW

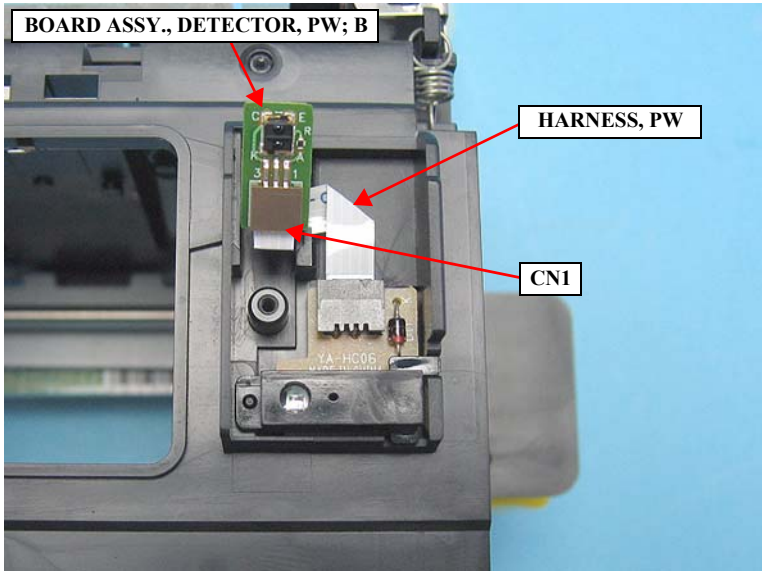


Figure 4-145. Removing the BOARD ASSY., DETECTOR, PW; B

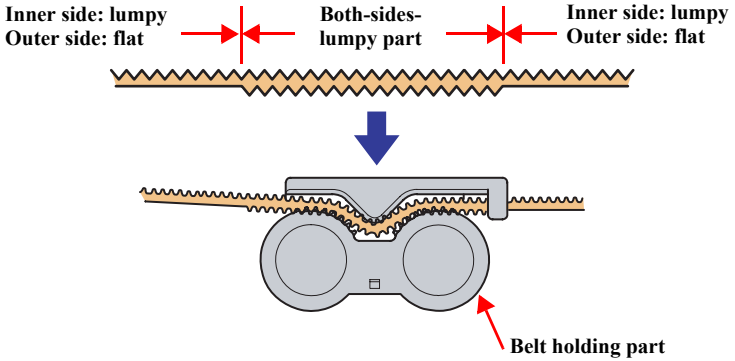
4.3.11.5 BELT, CR

1. Remove the CARRIAGE, ASSY. *(p189)*
2. Remove the BELT, CR from the belt holding part on the rear side of the CARRIAGE, ASSY.

REASSEMBLY

Make sure to check the following points when installing the BELT, CR.

- **Set the BELT, CR so that its lumpy side faces inward.**
- **Put the both-sides-lumpy part of the BELT, CR into the belt holding part of the CARRIAGE ASSY.**



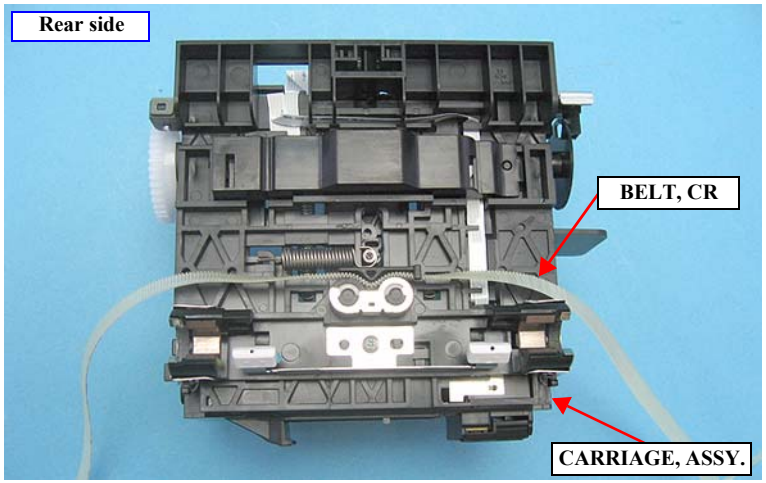


Figure 4-146. Removing the BELT, CR

4.3.12 PRINTER MECHANISM

4.3.12.1 Replacing the PRINTER MECHANISM

- Name: PRINTER MECHANISM, ASP

1. Remove the parts listed below from the old printer, and install them to the PRINTER MECHANISM, ASP except for the consumables.
   - Consumable goods (Ink cartridge, Maintenance cartridge)
   - BOARD ASSY., MAIN
   - PAPER, SUPPORT, MANUAL, ASSY.
   - PAPER, SUPPORT, ASSY.
   - STACKER, C

When the PRINTER MECHANISM, ASP needs to be replaced due to a failure of the BOARD ASSY., MAIN, the BOARD ASSY., MAIN also must be replaced with a new one.

2. A CD-ROM that contains mechanism parameter data comes with the PRINTER MECHANISM, ASP. Load the CD-ROM into to the PC.
3. Start up the Adjustment program.
   "NVRAM Backup utility" will automatically start up when the Adjustment program is started. Using the utility, write the mechanism parameter data into the PRINTER MECHANISM, ASP. See Chapter 5 "5.3.6 Parameter Backup" (Page 231) for the operation instructions.

4.4 Disassembly/Assembly Procedure (Group 2)

This section describes disassembly/assembly procedures required only for off-site servicing.

4.4.1 Removing the PAPER FEED MECHANISM

4.4.1.1 ASF, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Carry out step 1. to step 9. of *"4.3.3.15 BASE, ENCLOSURE" (p111)*, and remove the PAPER, GUIDE, LOWER, L and PAPER, GUIDE, LOWER, R.
3. Remove the two screws that secure the left and right GUIDE, ROLLER, LDs, and remove the two GUIDE, ROLLER, LDs. *See Figure 4-147.*
   - Two (one for each) C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)

CHECK POINT

When removing/installing the screw that secures the GUIDE, ROLLER, LD on the left side, use a screwdriver with a 100 mm or shorter shaft.

4. Lift up the two GUIDE, ROLLER, LDs on the rear side of the main unit to disengage the hook and the tab, and remove the GUIDE, ROLLER, LDs. *See Figure 4-148.*

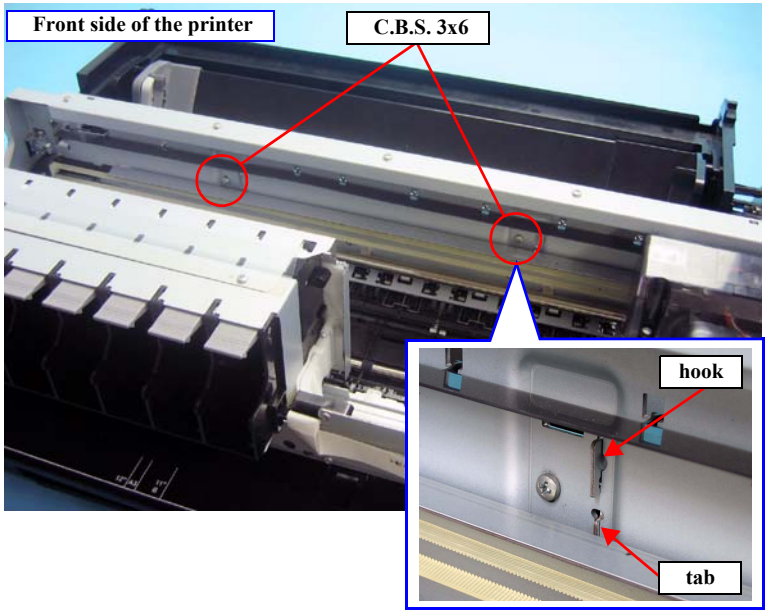


Figure 4-147. Screws, hooks and tabs that secure the GUIDE, ROLLER, LD

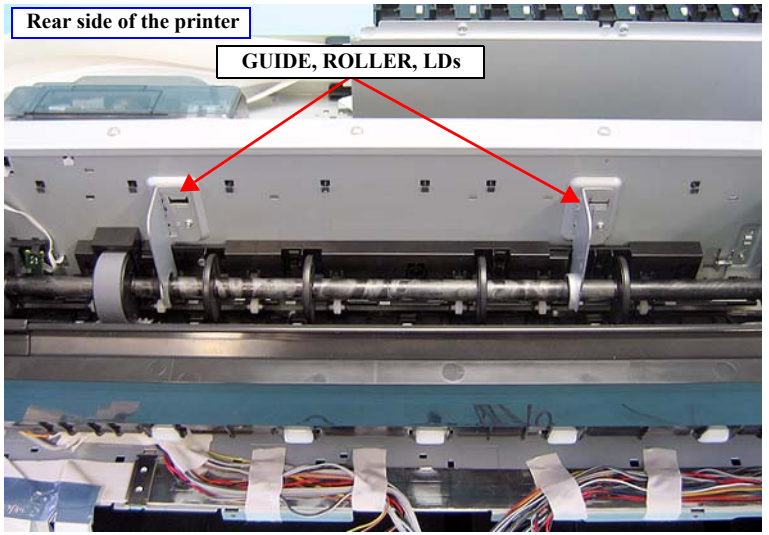


Figure 4-148. Removing the GUIDE, ROLLER, LDs

5. Disconnect the connector from the ASF SENSOR.
6. Release the FFC and cables listed below from the cable guides on the ASF, ASSY.*See Figure 4-149.*
   - HARNESS, ENCODER, PF
   - HARNESS, DETECTOR, ASF
   - HARNESS, DETECTOR, RELEASE
7. Remove the screw that secures the grounding wire of the MOTOR ASSY., ASF and remove the wire. *See Figure 4-150.*
   - One C.B.P. 3 x 8 screw (6 ± 1 kgf.cm)

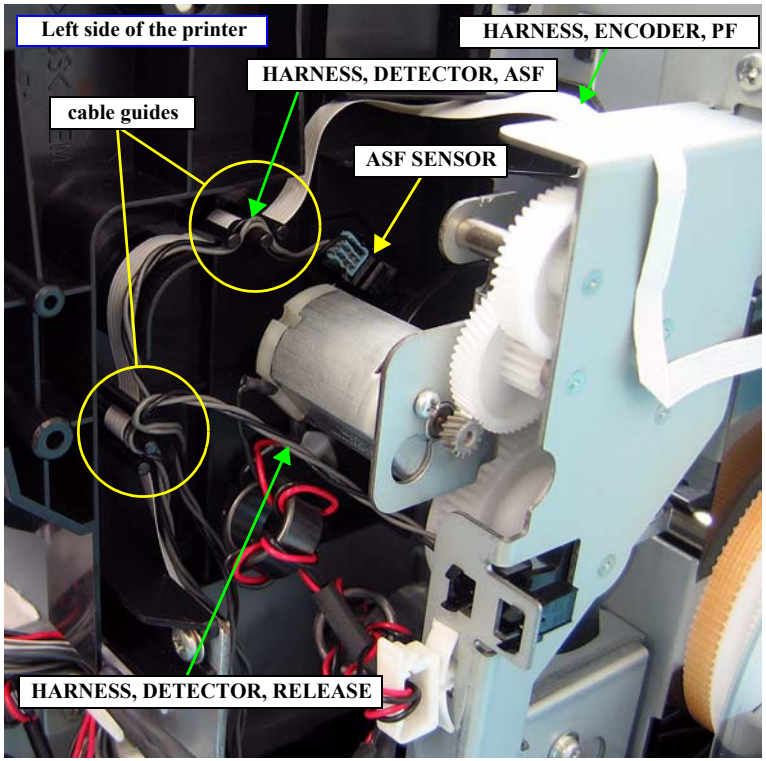


Figure 4-149. Releasing the FFC and cables

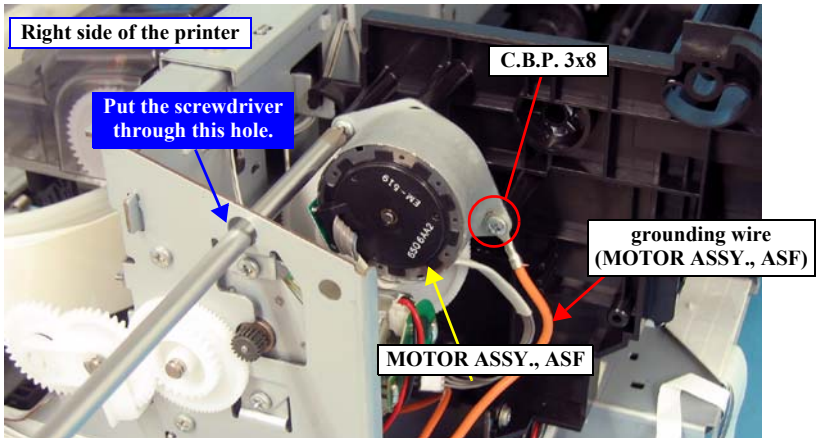


Figure 4-150. Removing the screws from the MOTOR ASSY., ASF

8. Disconnect the relay connector of the MOTOR ASSY., ASF, and release the cables from the two cable hooks. *See Figure 4-41.*
9. Remove the four screws that secure the ASF, ASSY. *See Figure 4-151.*
   - Two SHAFT, MOUNT, PLATEs: (9 ± 1 kgf.cm)
   - Two C.B.S. (P4). 3 x 8 screws: (9 ± 1 kgf.cm)
10. Lift up the ASF, ASSY., to disengage the two tabs from the main frame and remove the ASF, ASSY. *See Figure 4-151.*

ADJUSTMENT REQUIRED

Whenever the ASF, ASSY., is replaced, the corresponding adjustments must be carried out. See Chapter 5 *"ADJUSTMENT" (p208)*.

<Adjustment Item>

1. LD Roller Position Adjustment

2. Reset When ASF Unit Change

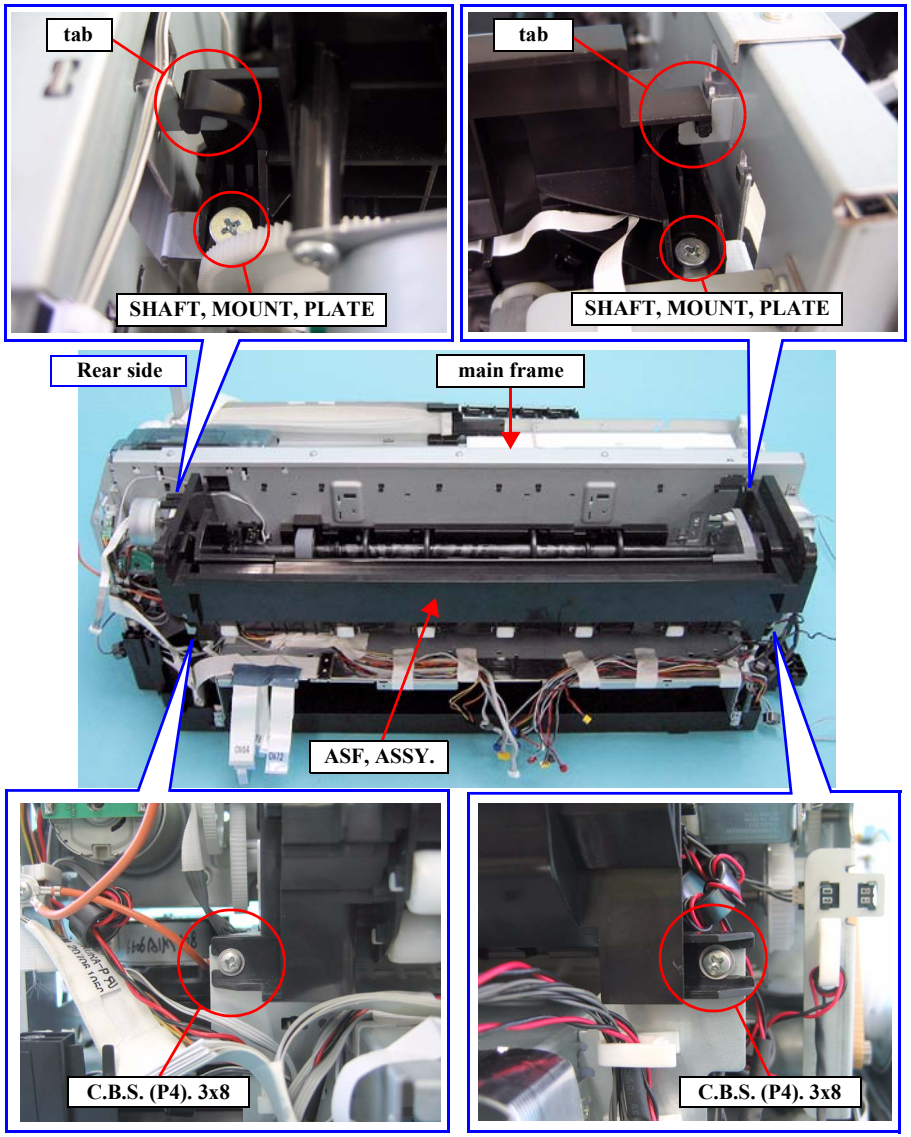
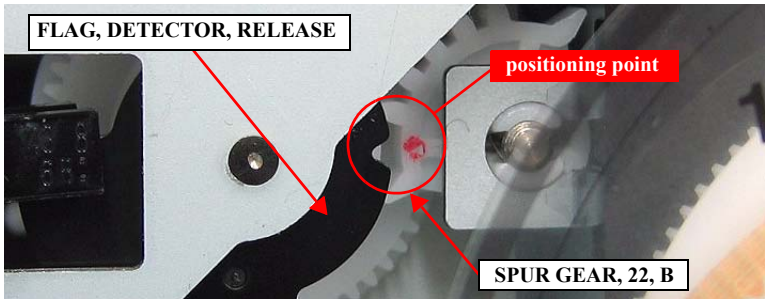


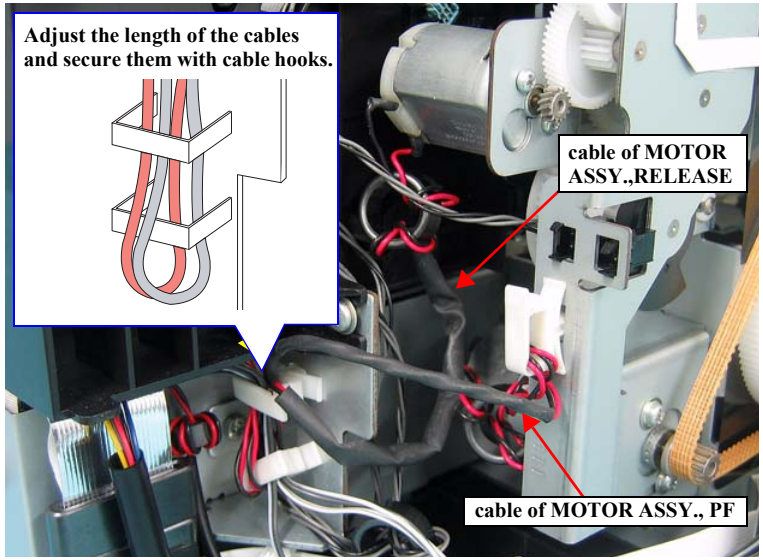
Figure 4-151. Removing the ASF, ASSY.

REASSEMBLY

- **Be sure to position the notch of the FLAG, DETECTOR, RELEASE and the red marking part of the SPUR GEAR, 22, B as shown in the figure below to install the MOTOR, RELEASE, ASSY.**



- **Route the cables correctly as shown in the figure below.**



4.4.1.2 PULLEY, DRIVEN, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the ASF, ASSY. *(p197)*
3. Remove the EXTENSION SPRING 28.38 from the each hook of the main frame and the HOLDER, PULLEY, DRIVEN.
4. Slide the HOLDER, PULLEY, DRIVEN to the right to disengage the two tabs, and remove the HOLDER, PULLEY, DRIVEN to the front.
5. Push down the PULLEY, DRIVEN, ASSY., to release the PULLEY, DRIVEN, ASSY. and the BELT, CR from the HOLDER, PULLEY, DRIVEN.

REASSEMBLY

Be sure to install the PULLEY, DRIVEN, ASSY. to the HOLDER, PULLEY, DRIVEN so that the protrusion on the shaft of the PULLEY, DRIVEN, ASSY. faces downward.

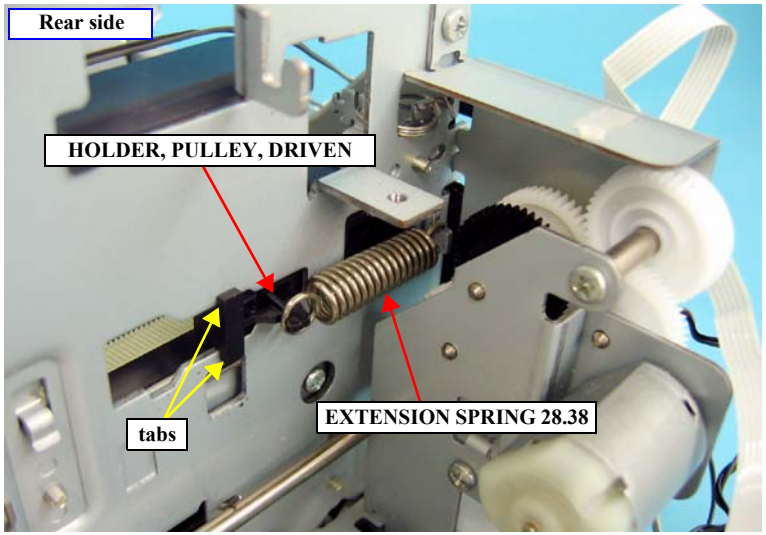


Figure 4-152. Removing the EXTENSION SPRING 28.38 and HOLDER, PULLEY, DRIVEN

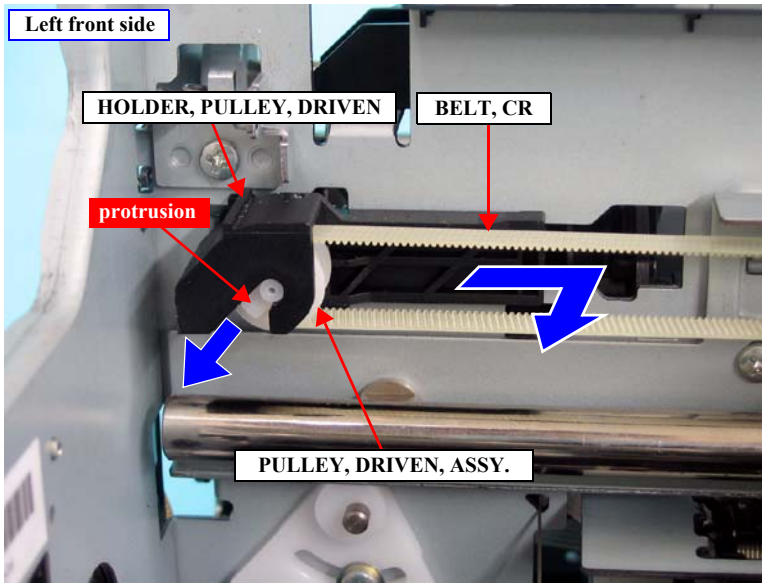


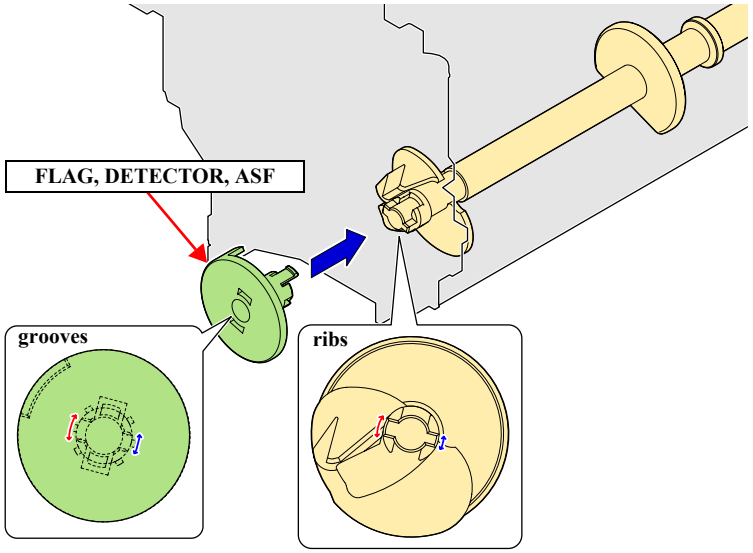
Figure 4-153. Removing the PULLEY, DRIVEN, ASSY.

4.4.1.3 ASF SENSOR

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the ASF, ASSY. *(p197)*
3. Disengage the two tabs of the FLAG, DETECTOR, ASF on the left side of the ASF, ASSY. from the inside, and remove the FLAG, DETECTOR, ASF.

REASSEMBLY

Be sure to align the two grooves of the FLAG, DETECTOR, ASF with the ribs of the LD ROLLER SHAFT to install the FLAG, DETECTOR, ASF.



4. Disengage the four tabs of the ASF SENSOR, and remove the ASF SENSOR.

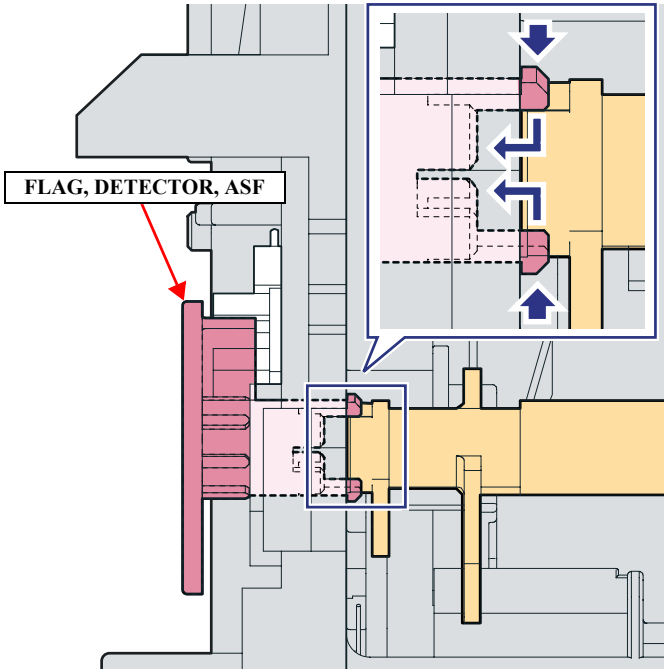


Figure 4-154. Removing the FLAG, DETECTOR, ASF

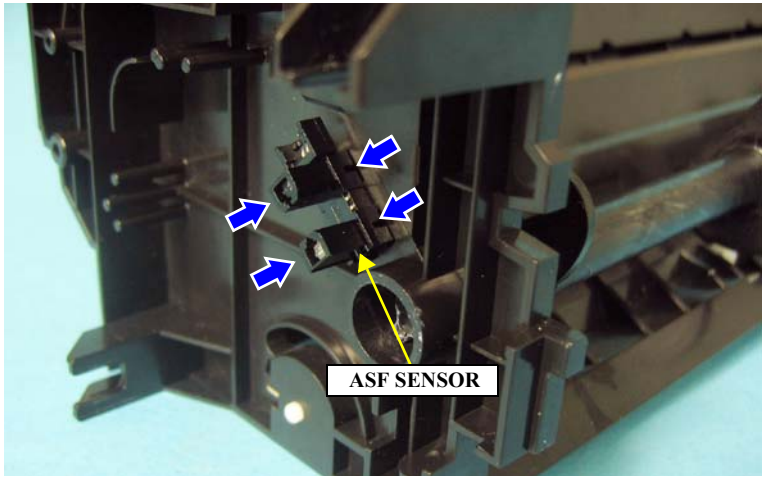


Figure 4-155. Removing the ASF SENSOR

4.4.1.4 PAPER, DETECTOR, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Pull out the BASE, ENCLOSURE. *(p111)*
3. Disconnect the cable from CN54 on the BOARD ASSY., MAIN. *See Figure 4-29.*
4. Remove the acetate tapes on the COVER, ENCLOSURE, ASSY. to release the cables of the PAPER, DETECTOR, ASSY. (PE SENSOR). *See Figure 4-156.*

REASSEMBLY

Route the cables of the PAPER, DETECTOR, ASSY. with other cables and secure them with the acetate tapes as shown in *Figure 4-156*.

5. Release the cables of the PAPER, DETECTOR, ASSY., from the three cable hooks. *See Figure 4-157.*
6. Remove the ASF, ASSY. *(p197)*

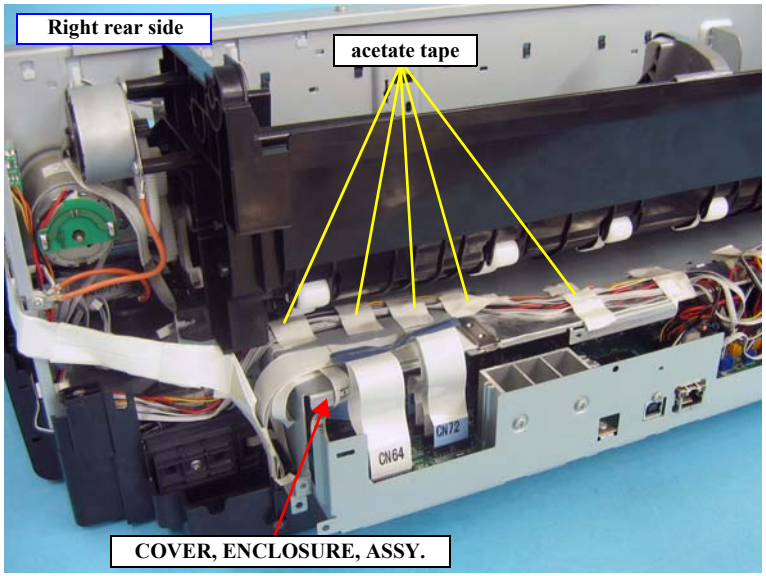


Figure 4-156. Releasing the PAPER, DETECTOR, ASSY. (PE SENSOR) Cables

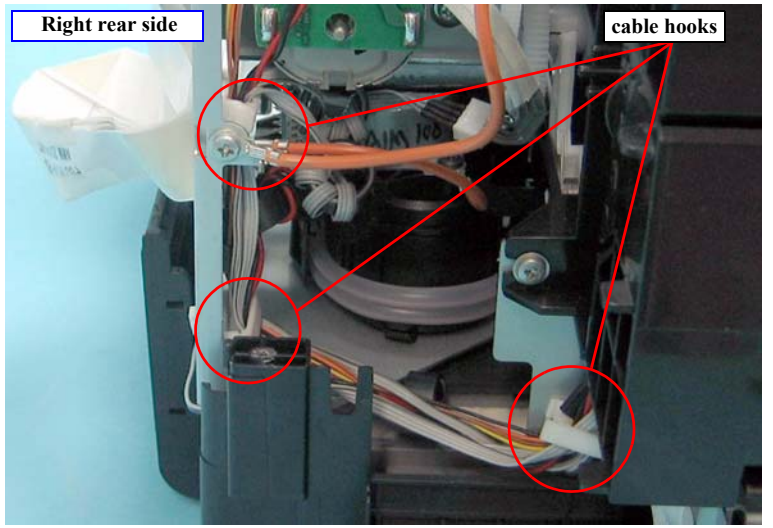


Figure 4-157. Releasing the PAPER, DETECTOR, ASSY. Cables

7. Release the cables of the PAPER, DETECTOR, ASSY., from the two cable hooks on the main frame.
8. While releasing the center tab of the PAPER, DETECTOR, ASSY. with a precision screwdriver or a similar tool, lift the PAPER, DETECTOR, ASSY. to disengage the two tabs, and remove it from the main frame.

REASSEMBLY

Route the cables of the PAPER, DETECTOR, ASSY., as shown in the figure below.

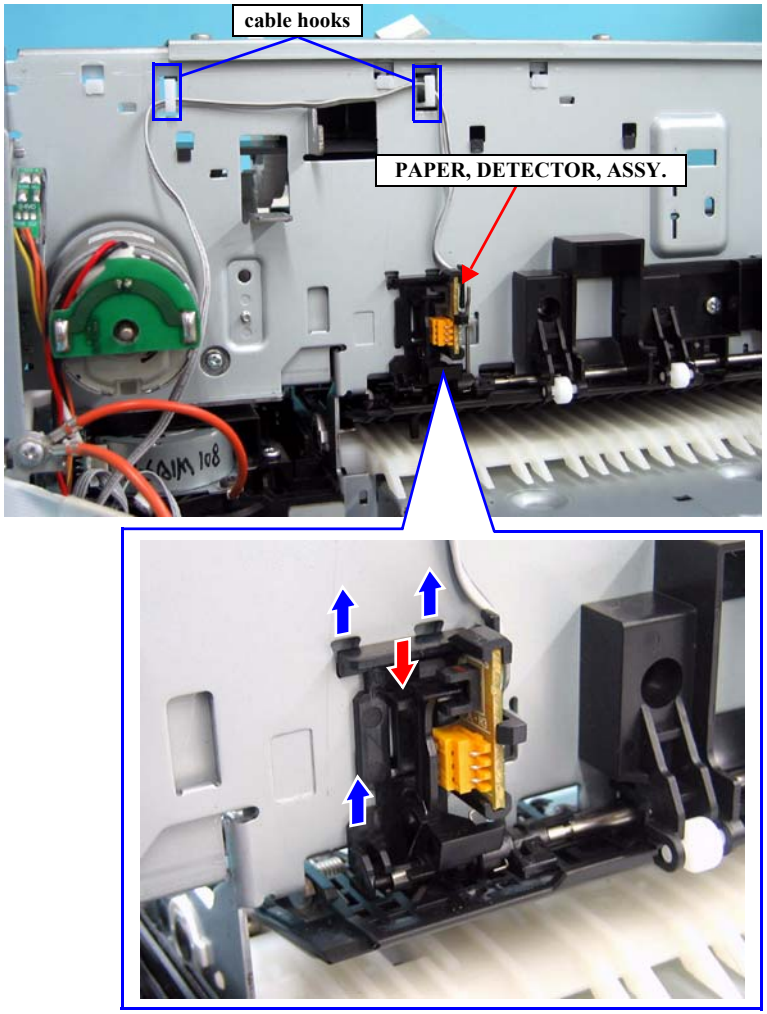


Figure 4-158. Removing the PAPER, DETECTOR, ASSY.

4.4.1.5 SHAFT, RELEASE, ASSY.

1. Remove the HOUSING, UPPER. *(p107)*
2. Remove the ASF, ASSY. *(p197)*
3. Remove the MOTOR, RELEASE, ASSY. *(p187)*
4. Remove the four screws that secure the SHAFT, RELEASE, ASSY. *See Figure 4-159.*
   - Four C.B.S. 3 x 6 screws (9 ± 1 kgf.cm)
5. Lift up the SHAFT, RELEASE, ASSY. while pushing down the three tabs on the SHAFT, RELEASE ASSY. *See Figure 4-160.*
6. Slide the SHAFT, RELEASE, ASSY. leftward to release the SHAFT, RELEASE, PAPER GUIDE, UPPER from the main frame, and then remove the SHAFT, RELEASE, ASSY. *See Figure 4-160.*

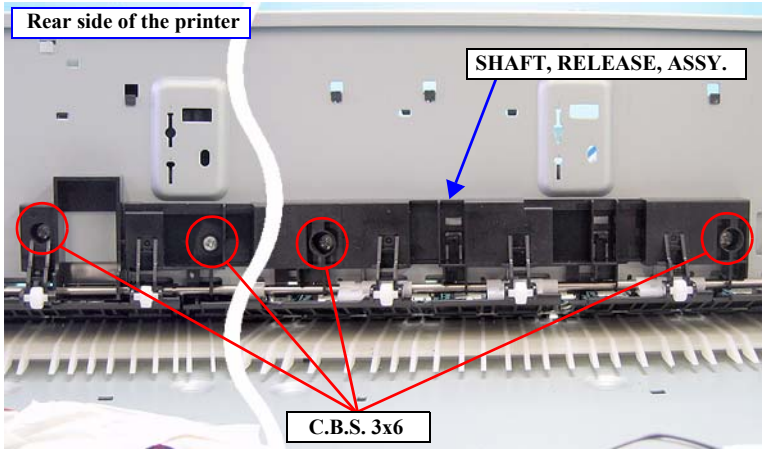


Figure 4-159. Removing the screws from the SHAFT, RELEASE, ASSY.

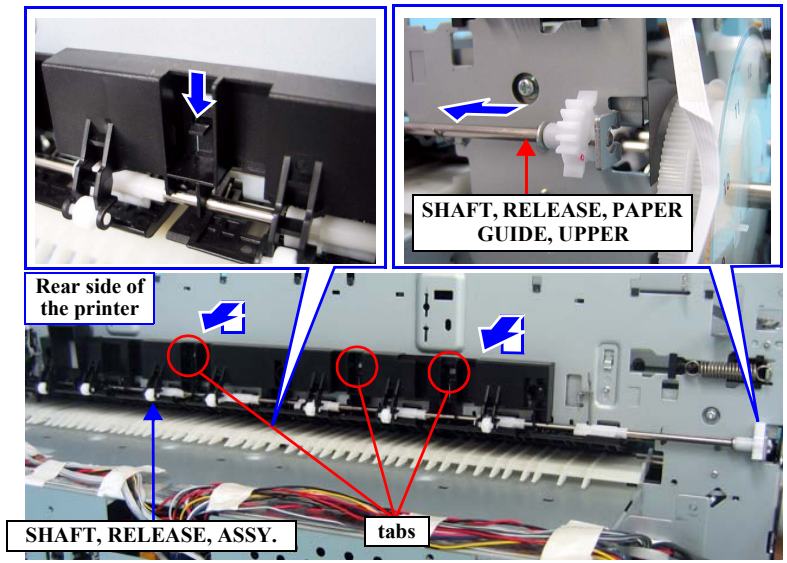


Figure 4-160. Removing the SHAFT, RELEASE, ASSY.

4.4.1.6 PAPER GUIDE, UPPER, ASSY.

1. Remove the MOTOR, RELEASE, ASSY. *(p187)*
2. Remove the PAPER, DETECTOR, ASSY. *(p203)*
3. Remove the SHAFT, RELEASE, ASSY. *(p205)*
4. Release the eight TORSION SPRING, PAPER GUIDE, UPPERs from each hook on the main frame.

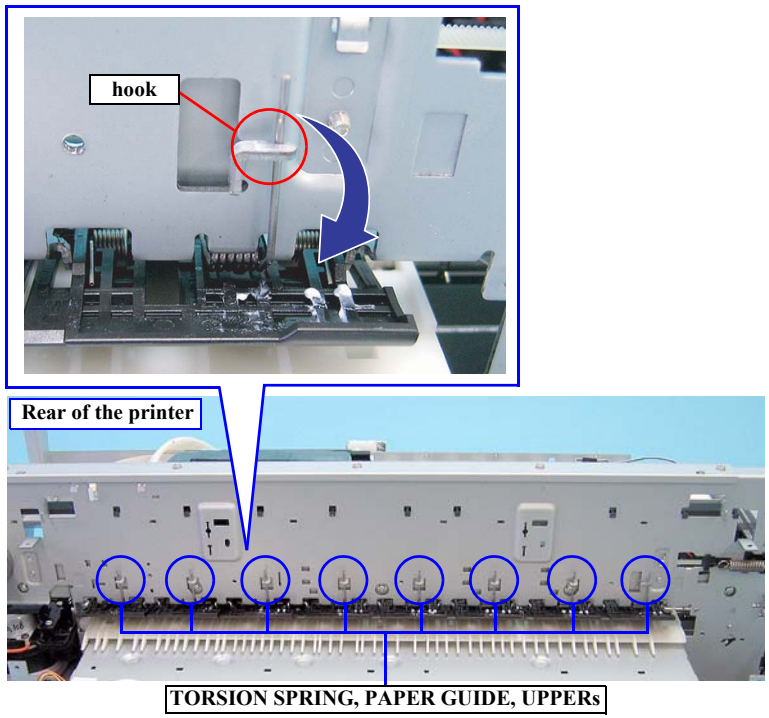


Figure 4-161. Removing the TORSION SPRING, PAPER GUIDE, UPPERs

5. Follow the steps described below to remove the each of the eight PAPER GUIDE, UPPER ASSYs from the main frame.
    1. Lift the PAPER GUIDE, UPPER, ASSY. to disengage its left and right dowels from the main frame.
    2. Slightly move the PAPER GUIDE, UPPER, ASSY. toward the rear of the printer, and pull the assy downward to remove it.

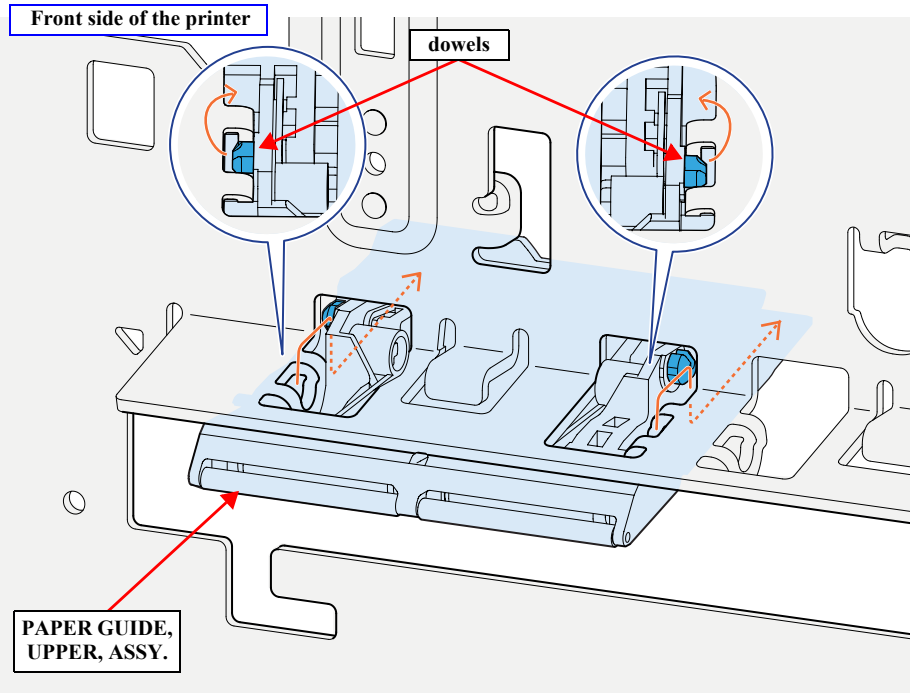


Figure 4-162. Removing the PAPER GUIDE, UPPER, ASSY.

CHAPTER

5

ADJUSTMENT

5.1 Overview

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

5.1.1 Precautions

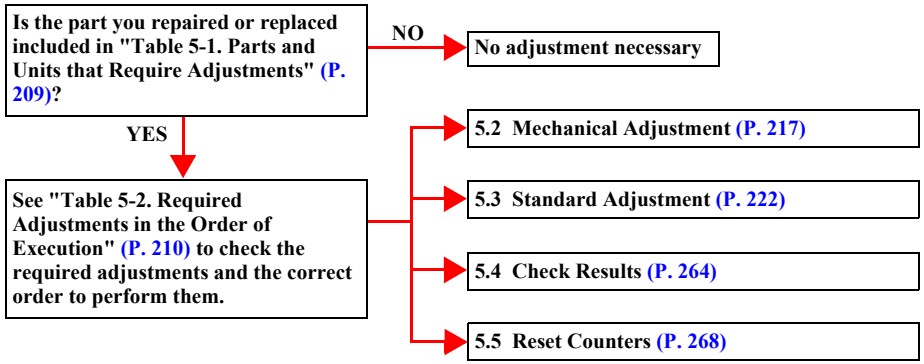
Always observe the following cautions whenever an adjustment is made on the printer.

CAUTION

- **Always refer to "5.1.4 Required Adjustments by Part or Unit" (Page 210) and make sure to perform all adjustments listed in the table in the given order.**
- **Always read and follow the precautions given in each section that explains each adjustment. Ignoring the precautions can result in malfunction of the printer.**

5.1.2 Adjustment Workflow

See "5.1.3 Parts and Units that Require Adjustments" (Page 209) to check whether the part you repaired or replaced is included in the list. And, if it is, see "5.1.4 Required Adjustments by Part or Unit" (Page 210) to make sure what adjustments must be made. Be sure to perform all the required adjustments in the specified order given in the table.



5.1.3 Parts and Units that Require Adjustments

The following parts and units require adjustments after they are repaired or replaced.

Table 5-1. Parts and Units that Require Adjustments

Part or Unit Name (Disassembly/Reassembly reference page)
ASF, ASSY. (p197)
PRINTER MECHANISM (p196)
MOTOR ASSY., CR (p123)
ENCODER, PF, ASSY.(p128)
CARRIAGE, ASSY (p189)
BOARD ASSY., ENCODER(p192)
INK, SYSTEM, ASSY. (p153)
TIMINIG BELT, PF (p185)
MOTOR, RELEASE, ASSY. (p187)
PRINT HEAD (p161)
PUMP, CAP ASSY. (p150)
BOARD ASSY., MAIN* (p113)
POROUS PAD, TRAY, INK EJECT (p160)
POROUS PAD, INK WASTE BOX, RIGHT / POROUS PAD, INK WASTE BOX, LEFT (p165)

Note *: Required adjustments after repairing or replacing the BOARD ASSY., MAIN differs according to whether parameters stored on the NVRAM can be backed up or not.

5.1.4 Required Adjustments by Part or Unit

The following table lists the parts/units and the adjustments required whenever replacing or repairing them. The adjustments are listed in the order of executing them.

Note "*1": RP = Required whenever replacing the part with a new one

"*2": RM = Required whenever repairing the part (includes when it is just removed and reinstalled)

Table 5-2. Required Adjustments in the Order of Execution

Part Name		Required Adjustment	RP*1	RM*2	Page
ASF, ASSY	1	LD Roller Position Adjustment	√	√	P. 219
	2	Reset When ASF Unit Change	√	---	P. 268
PRINTER MECHANISM	1	Parameter Backup	√	---	P. 231
MOTOR ASSY., CR	1	Write Constant When CR change	√	---	P. 263
	2	Reset When CR Motor Change	√	---	P. 268
ENCODER, PF, ASSY	1	Print Head Slant Adjustment (CR)	√	√	P. 226
	2	PG Position Adjustment	√	√	P. 220
	3	Print Head Slant Adjustment (PF)	√	√	P. 224
	4	Ink Mark Sensor Adjustment for Auto Nozzle Check	√	√	P. 249
	5	Auto Uni-D Adjustment	√	√	P. 253
	6	Auto Bi-D Adjustment	√	√	P. 252
	7	T&B&S Adjustment	√	√	P. 256
	8	Colorimetric Calibration Tool	√	√	P. 236
	9	Print Image	√	√	P. 265

Table 5-2. Required Adjustments in the Order of Execution (continued)

Part Name		Required Adjustment	RP*1	RM*2	Page
CARRIAGE, ASSY.	1	Print Head Slant Adjustment (CR)	√	---	P. 226
	2	PG Position Adjustment	√	---	P. 220
	3	Print Head Slant Adjustment (PF)	√	---	P. 224
	4	Ink Mark Sensor Adjustment for Auto Nozzle Check	√	---	P. 249
	5	Auto Uni-D Adjustment	√	---	P. 253
	6	Auto Bi-D Adjustment	√	---	P. 252
	7	T&B&S Adjustment	√	---	P. 256
	8	Colorimetric Calibration Tool	√	---	P. 236
	9	Print Image	√	---	P. 265
BOARD ASSY., ENCODER	1	Print Head Slant Adjustment (CR)	√	√	P. 226
	2	PG Position Adjustment	√	√	P. 220
	3	Print Head Slant Adjustment (PF)	√	√	P. 224
	4	Ink Mark Sensor Adjustment for Auto Nozzle Check	√	√	P. 249
	5	Auto Uni-D Adjustment	√	√	P. 253
	6	Auto Bi-D Adjustment	√	√	P. 252
	7	T&B&S Adjustment	√	√	P. 256
	8	Colorimetric Calibration Tool	√	√	P. 236
	9	Print Image	√	√	P. 265
INK, SYSTEM, ASSY.	1	Reset When INK SYSTEM ASSY Change	√	---	P. 268
TIMING BELT, PF	1	PF Timing Belt Tension Adjustment	√	√	P. 217
MOTOR, RELEASE, ASSY.	1	PF Adjustment	√	√	P. 258
	2	EJ Adjustment	√	√	P. 260

Table 5-2. Required Adjustments in the Order of Execution (continued)

Part Name		Required Adjustment	RP*1	RM*2	Page
PRINT HEAD	1	Cleaning	√	---	P. 234
	2	Head Rank ID	√	---	P. 223
	3	Print Head Slant Adjustment (CR)	√	---	P. 226
	4	PG Position Adjustment	√	---	P. 220
	5	Print Head Slant Adjustment (PF)	√	---	P. 224
	6	Auto Uni-D Adjustment	√	√	P. 252
	7	Auto Bi-D Adjustment	√	√	P. 253
	8	Colorimetric Calibration Tool	√	√	P. 236
	9	Print Image	√	√	P. 265
	10	Reset When Print Head Change	√	---	P. 268
PUMP, CAP ASSY.	1	Reset When Pump Motor Change	√	---	P. 268
BOARD ASSY., MAIN [Backup OK]	1	Install F/W	√	---	P. 248
	2	Parameter Backup	√	---	P. 231
	3	RTC&USB ID	√	---	P. 222

Table 5-2. Required Adjustments in the Order of Execution (continued)

Part Name		Required Adjustment	RP*1	RM*2	Page
BOARD ASSY., MAIN [Backup NG]	1	Head Rank ID	√	---	P. 223
	2	RTC&USB ID	√	---	P. 222
	3	Input Serial Number	√	---	P. 235
	4	Initial Ink Charge Flag ON/OFF	√	---	P. 230
	5	Install F/W	√	---	P. 248
	6	Write Constant When CR change	√	---	P. 263
	7	Print Head Slant Adjustment (CR)	√	---	P. 226
	8	PG Position Adjustment	√	---	P. 220
	9	Print Head Slant Adjustment (PF)	√	---	P. 224
	10	Ink Mark Sensor Adjustment for Auto Nozzle Check	√	---	P. 249
	11	Auto Uni-D Adjustment	√	---	P. 253
	12	Auto Bi-D Adjustment	√	---	P. 252
	13	T&B&S Adjustment	√	---	P. 256
	14	PF Adjustment	√	---	P. 258
	15	EJ Adjustment	√	---	P. 260
	16	Colorimetric Calibration Tool	√	---	P. 236
	17	Print Image	√	---	P. 265
POROUS PAD, TRAY, INK EJECT	1	Reset When Ink Holder Waste Absorber Change	√	---	P. 268
POROUS PAD, INK WASTE BOX, RIGHT / POROUS PAD, INK WASTE BOX, LEFT	1	Reset When Borderless Absorber Change	√	---	P. 268

5.1.5 Description of Adjustments

The following tables describe the general outline of the adjustments.

Note "*1": AU = Software tool including Adjustment Program

"*2": AT = Jig or Tool for the adjustment (does not include the program tool)

MECHANICAL ADJUSTMENT

Adjustment	General Overview	Tool		Page
		AU*1	AT*2	
PF Timing Belt Tension Adjustment	Adjusts the tension of the PF Timing Belt to a specified level.	---	√	P. 217
LD Roller Position Adjustment	Adjusts the height of the LD Roller to ensure stable paper feeding.	---	√	P. 219
PG Position Adjustment	Adjusts the platen gap to the proper amount.	---	√	P. 220

STANDARD ADJUSTMENT

Adjustment	General Overview	Tool		Page
		AU*1	AT*2	
RTC&USB ID	Carries out the initialization of the RTC and writes USB ID.	√	---	P. 222
Head Rank ID	Writes the Head Rank ID.	√	---	P. 223
Print Head Slant Adjustment (PF)	Prints an adjustment pattern to check if the print head is slanted in the PF direction and corrects if slanted.	√	---	P. 224
Print Head Slant Adjustment (CR)	Prints an adjustment pattern to check if the print head is slanted in the CR direction and corrects if slanted.	√	---	P. 226
Initial Ink Charge Flag ON/OFF	Sets or clears a flag for initial ink charge as necessary after replacing the main board.	√	---	P. 230
Parameter Backup	Backs up the parameters stored in the NVRAM on the previous board and uploads it to the new board.	√	---	P. 231
Check PG	Checks the operation of the APG.	√	---	P. 233
Initial ink Charge	Performs an initial ink charge.	√	---	P. 234
Cleaning	Carries out various cleanings.	√	---	P. 234
Input Serial Number	Writes and reads the serial number.	√	---	P. 235
Colorimetric Calibration Tool	Adjusts the amount of ink droplets.	√	√	P. 236
Install F/W	Installs the firmware.	√	---	P. 248
Ink Mark sensor Adjustment for Auto Nozzle Check	Checks and adjusts the operation of the ink mark sensor.	√	---	P. 249
Washing Head And Discharge Ink	Carries out head washing and discharging of ink.	√	---	P. 251
Auto Bi-D Adjustment	Adjusts the Bi-D automatically.	√	---	P. 252
Auto Uni-D Adjustment	Adjusts the Uni-D automatically.	√	---	P. 253

Adjustment	General Overview	Tool		Page
		AU*1	AT*2	
Check the Release Of Grid Roller	Checks the release operation of the grid roller.	√	---	P. 254
Check Network Communication	Checks if the printer is recognized over a network.	√	---	P. 255
T&B&S Adjustment	Adjusts the position to start printing on the paper.	√	---	P. 256
PF Adjustment	Adjusts a pitch of paper feeding during printing except for printing on the bottom area.	√	---	P. 258
EJ Adjustment	Adjusts a pitch of paper feeding during printing on the bottom area.	√	---	P. 260
Check Ink Selector Operation.	Checks the switching operation between the Photo Black and the Matte Black.	√	---	P. 262
Write Constant When CR change	Stores characteristic values of the CR Motor into the NVRAM in order to apply an appropriate current to the motor.	√	---	P. 263

CHECK RESULTS

Adjustment	General Overview	Tool		Page
		AU*1	AT*2	
Check Nozzle	Checks the nozzles for clogging.	√	---	P. 264
Print Image	Prints an image to check the print quality.	√	---	P. 265
Print Results	Prints all adjustment parameters, life counters, and error histories stored on the NVRAM.	√	---	P. 266
Check Alignment	Checks for any mis-alignment.	√	---	P. 267

RESET COUNTERS

Adjustment	General Overview	Tool		Page
		AU*1	AT*2	
Reset When Cleaning Unit Change	Resets life counter of the PUMP, CAP, ASSY.	√	---	P. 268
Reset When Print Head Change	Resets life counter of the PRINT HEAD	√	---	
Reset When Pump Motor Change	Resets life counter of the PUMP, CAP, ASSY.	√	---	
Reset When INK SYSTEM ASSY Change	Resets life counter of the INK SYSTEM ASSY (Ink Supply Tube and Ink Selector).	√	---	
Reset When Ink Holder Waste Absorber Change	Resets life counter of the POROUS PAD, TRAY, INK EJECT.	√	---	
Reset When Borderless Absorber Change	Resets life counter of the POROUS PAD, INK WASTE BOX, RIGHT/LEFT.	√	---	
Reset When CR Motor Change	Resets life counter of the MOTOR ASSY., CR.	√	---	
Reset When ASF Unit Change	Resets life counter of the ASF, ASSY.	√	---	

5.1.6 Tools for Adjustments

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

Table 5-3. Tools for Adjustments

Type	Name	Part Number	Remarks
Hard Tool	Thickness Gauge T = 0.90	commercially available	---
	Thickness Gauge T = 1.00	commercially available	---
	Sonic Tension Meter U-507	1294120	---
	Code type microphone (U-505)	1277074	---
	Roller LD Height Adjustment Gauge	---	Individually available upon request
	Roller LD Height Adjustment Tool	---	Individually available upon request
	Roller LD Height Confirmation Standard	---	Individually available upon request
	Enhanced Matte Paper (A4 or Letter) Archival Matte Paper (A4 or Letter)	---	Genuine paper
	Economy Super Fine Paper (A4)	---	Genuine paper
Soft-ware Tool	Adjustment Program*	---	Supplied
	NVRAM Backup Utility	---	Supplied
	Colorimetric Calibration Tool	---	Supplied

Note *: Since the adjustment program differs in Epson Stylus Pro 3800/3800C/3850 and Epson Stylus Pro 3880/3885/3890, be careful not to use the wrong one.

5.1.7 Adjustment Program Basic Operations

This section describes the basic operations of the Adjustment Program.

CAUTION

Since the adjustment program differs in Epson Stylus Pro 3800/ 3800C/3850 and Epson Stylus Pro 3880/3885/3890, be careful not to use the wrong one.

- System Requirements
  - OS: Windows 2000, XP
  - Interface: USB
  - The printer driver must have been installed.

- Startup

When you start the Adjustment program for this printer, the NVRAM Backup Utility will automatically start up. Unless carrying out parameter writing, execute parameter reading before carrying out the adjustments. For operation of the NVRAM Backup Utility, see "5.3.6 Parameter Backup" (Page 231).

1. Double-click on “adjwiz2.exe”, to start the NVRAM Backup Utility.
2. See "5.3.6 Parameter Backup" (Page 231) to execute parameter backup, and complete the NVRAM Backup Utility.
3. The startup screen of the Adjustment Program appears. Select whether to carry out the adjustments in Sequential Mode or Individual Mode.
4. Click [Start].

Figure 5-1. Adjustment Program Startup Screen

☐ Sequential mode

By selecting a part you replaced or repaired, this mode guides you to perform all the required adjustments in a predetermined sequence.

1. Highlight the part you replaced or repaired in the left box and click [Add].
2. Click [OK].

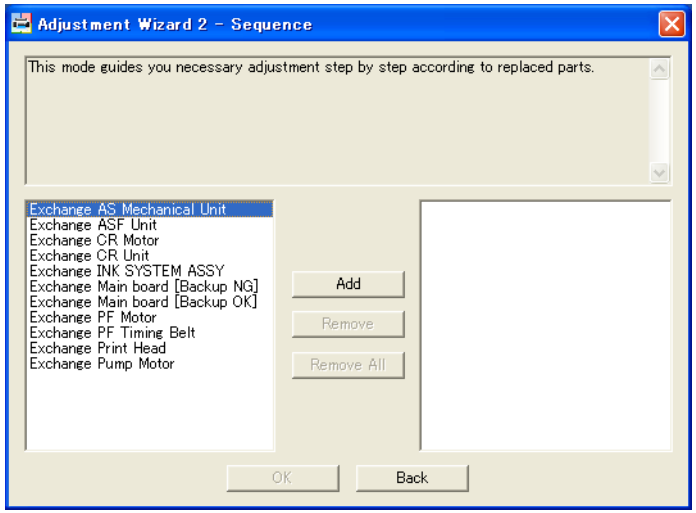


Figure 5-2. Sequential Mode

☐ Individual mode

This mode allows you to select and perform an adjustment individually.

1. Highlight the target adjustment item and click [OK].

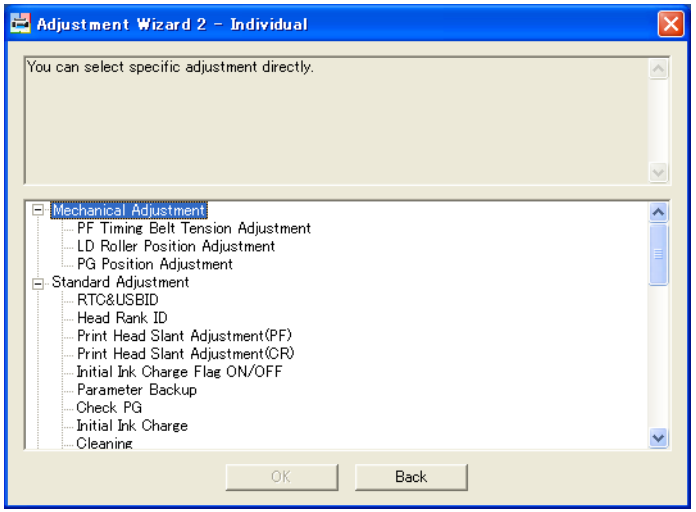


Figure 5-3. Individual Mode

5.2 Mechanical Adjustment

5.2.1 PF Timing Belt Tension Adjustment

☐ Purpose

In order to apply a proper tension to the PF timing belt, this adjustment must be carried out whenever the belt is replaced.

☐ Required Tool

- Sonic Tension Meter U-507
- Tweezers or a similar tool to pluck the Timing Belt

☐ Utility Tool (adjustments can be carried out without this)

- Code type microphone (U505)

☐ Standard Value

12.05 to 15.05N

☐ Procedure

CAUTION

When carrying out the following procedure, be careful not to deform or damage the SCALE, PF.

1. Input the following belt information to the tension meter.
   - M: 001.3 g/m
   - W: 005.0 mm
   - S: 0052 mm
2. Put the measurement microphone of the tension meter near the timing belt.

CHECK POINT

Bring the measurement microphone closer to the belt within a range of about 5 mm away from the belt. Be careful not to make them contact with each other.

3. Push the [MEASURE] button on the tension meter and pluck the timing belt using the tweezers to perform the tension measurement.

CAUTION

- **Pluck the belt as gently as possible so it can be measured by the tension meter.**
- **Do not allow the measurement microphone and the timing belt to contact with each other when the belt is plucked.**

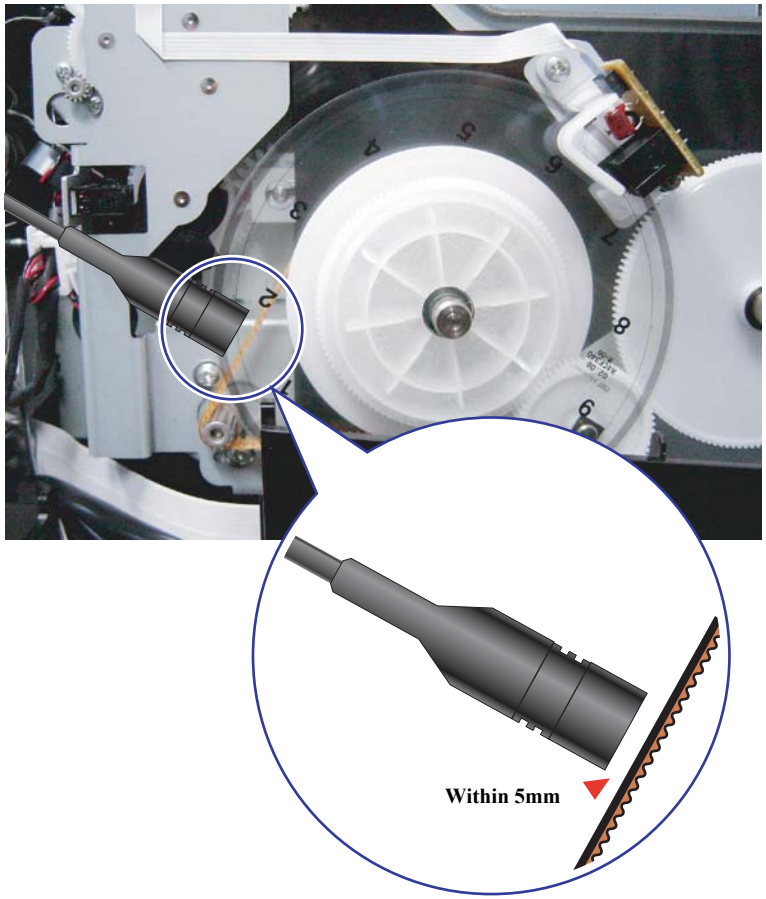


Figure 5-4. Tension Measurement

4. If the measured value is within the range of standard value, adjustment is not necessary.
   If the measured value fell outside the range, proceed to the next step to carry out the tension adjustment.
5. Loosen the two screws that secure the PF motor and then slide the motor in order to adjust the tension of the timing belt.
6. When the adjustment is completed, tighten the two screws and perform the measurement again.
7. When the measured value falls within the specified range, confirm it by performing the measurement another three times.

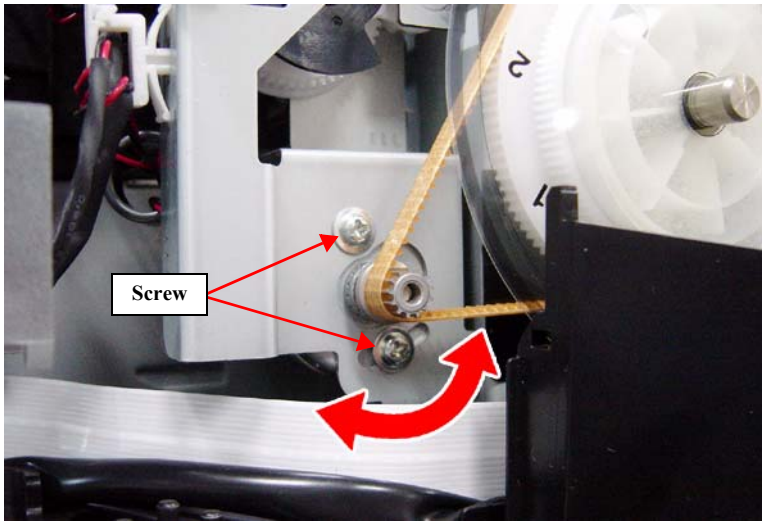


Figure 5-5. Tension Adjustment

5.2.2 LD Roller Position Adjustment

Adjust the height of the LD Roller in order to prevent a multi-feed or non-feed error.

- ☐ Tool
  - ■ Roller LD Height Adjustment Tool
  - ■ Roller LD Height Adjustment Gauge
  - ■ Roller LD Height Confirmation Standard
- ☐ Standard Value

  Must be judged as “appropriate” by the Roller LD Height Adjustment Tool
- ☐ Procedure

1. Install the ASF unit to the main unit.
   When installing, keep the left/right LD roller guides removed.
2. From the rear of the main unit, set the roller LD height adjustment tool along the rib of the ASF unit.
3. Install the right LD roller guide to the main frame, and lightly secure it with a screw.
4. Turn ON the power of the roller LD height adjustment tool.
5. Put the roller LD height adjustment gauge into the hole shown in Figure 5-7. Change the gauge type until the adjustment tool judges that the height is appropriate.
6. When the appropriate gauge is selected by the adjustment tool, tighten the screw that was lightly tightened at Step 3.
7. Install the left LD roller guide to the main frame.
   Secure the guide with a screw without changing its position or applying a pressure from the top.

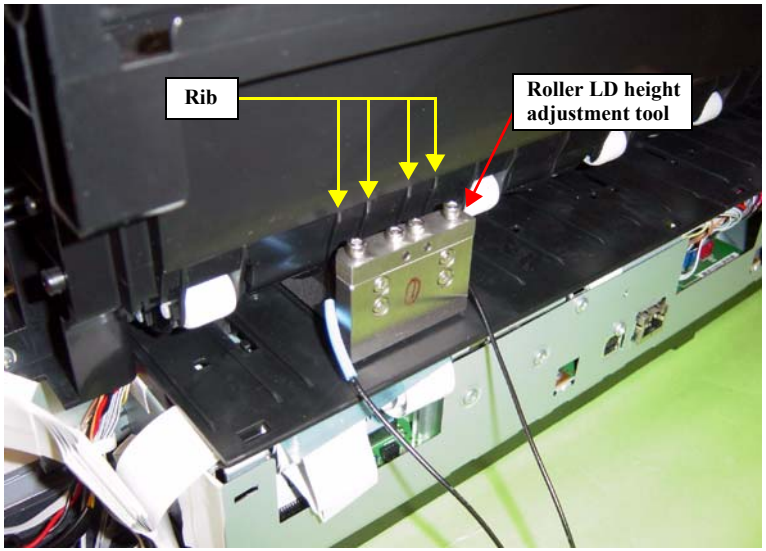


Figure 5-6. Setting the Roller LD Height Adjustment Tool

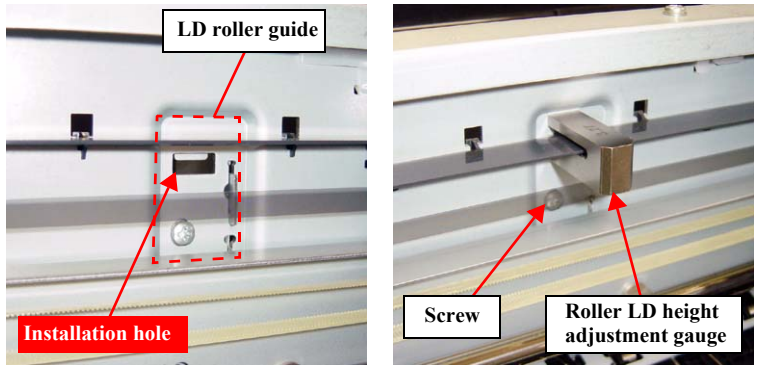


Figure 5-7. Setting the Roller LD Height Adjustment Gauge

5.2.3 PG Position Adjustment

☐ Purpose

Check the platen gap if it is properly adjusted.

☐ Tool

Thickness gauge T = 0.90, T = 1.00

☐ Standard Value

- T = 0.90: Carriage can slide over the gauge
- T = 1.00: Carriage is blocked by the gauge

☐ Procedure

1. Unlock the carriage unit manually. See "4.3.1 Unlocking the CARRIAGE, ASSY. manually" (Page 92).
2. Put the thickness gauge on the following location of the platen and move the carriage unit slowly over the thickness gauge.
   - Home Position side: Third and fifth rib from the right.
   - Center: Ninth and 12th rib from the right.
   - Opposite to the HP side:1 17th and 19th rib from the right.

CHECK POINT

Remove the HOUSING, UPPER if it interferes with the checking. See "4.3.3.12 HOUSING, UPPER" (Page 107).

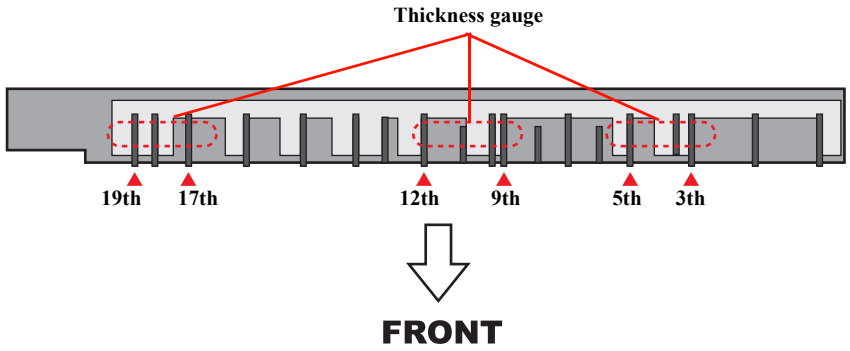


Figure 5-8. Thickness Gauge Set Position

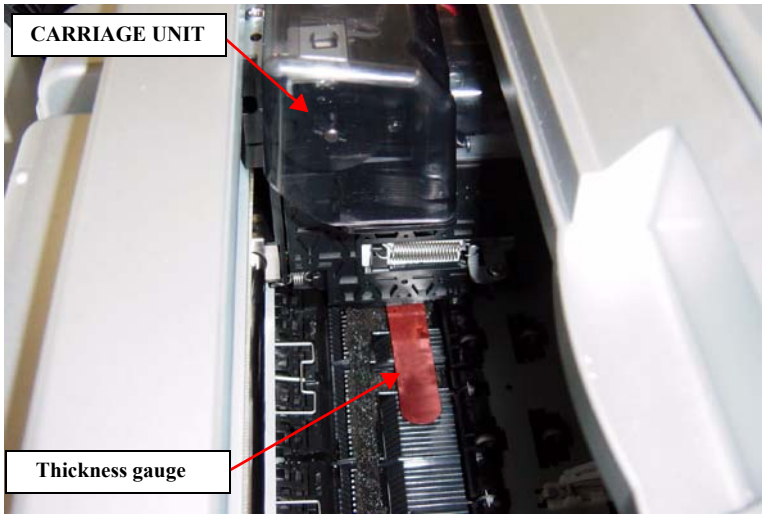


Figure 5-9. PG Height Check

3. Check the result if the value is within the standard range or not. If it is, the adjustment is not necessary. If not, proceed to the next step to carry out the adjustment.
4. Remove the HOUSING, UPPER.
   See "4.3.3.12 HOUSING, UPPER" (Page 107).
5. Remove the COVER, CR.
   See "4.3.9.2 COVER, CR" (Page 152).
6. Loosen the screws (one each) that secure the PG adjustment levers on the left and right side of the carriage unit.
7. Carry out the adjustment as follow:
   - When T=0.90 contacts with the head:
     Raise both right and left levers by the same amount.
   - When T=1.00 does not contact with the head:
     Lower both right and left levers by the same amount.
8. When the adjustment is completed, tighten the two screws and perform the measurement and adjustment again until the result satisfies the standard.

CAUTION

The adjustment levers are made of resin. Be careful not to tighten the screws too much.

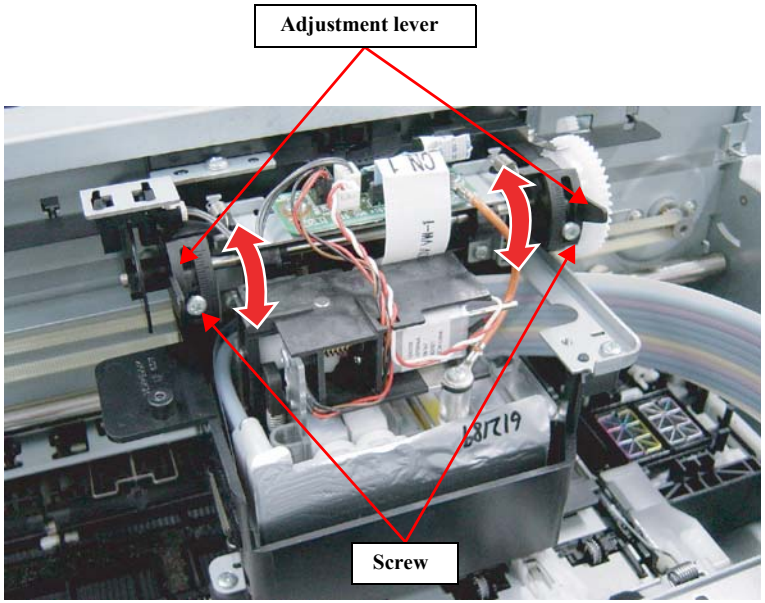


Figure 5-10. PG Height Adjustment

5.3 Standard Adjustment

5.3.1 RTC&USB ID

☐ Purpose

Whenever the main board is replaced, this must be carried out to initializes the RTC and write USB ID on the new board.

☐ Procedure

1. After replacing the main board, turn the printer ON.
2. Start up the Adjustment Program and select [RTC&USBID].
3. Check or enter the date and time displayed on the screen.
4. Enter the 10-digit serial number of the printer. USB ID is automatically created according to the serial number.
5. Click [Write] to write RTC&USB ID in the NVRAM on the new main board.
6. Click [Next] to display a confirmation screen. Click [Check] to display all the information written on the NVRAM on the screen. Confirm the information and click [OK].
7. Click [Finish].

CAUTION

A communication error will occur if the printer is turned OFF/ON after the USB ID is changed, because the PC recognizes the USB as a different port. To carry on with other adjustments using the program, restart the program and use a different port.

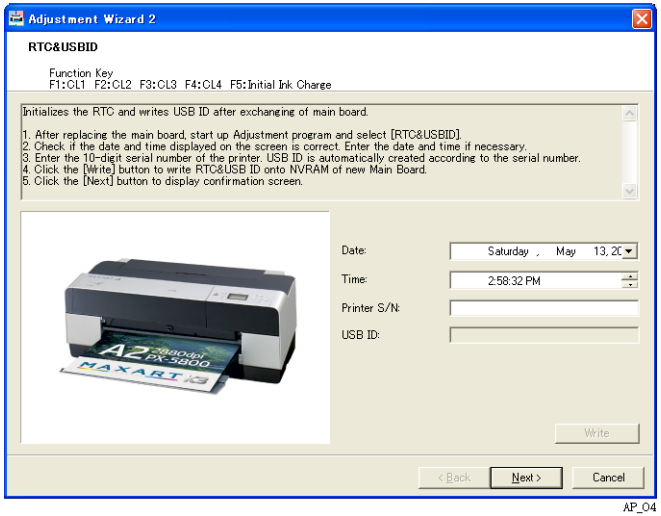


Figure 5-11. [RTC&USB ID] Screen (1)

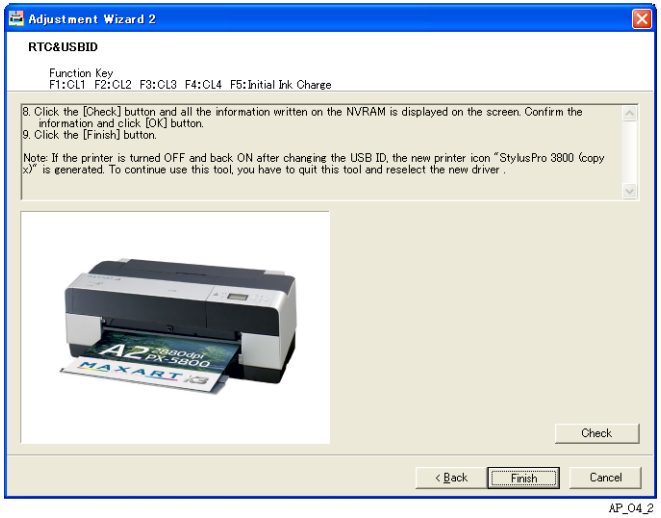


Figure 5-12. [RTC&USB ID] Screen (2)

5.3.2 Head Rank ID

☐ Purpose

The Head Rank ID is information on the individual print head characteristics. The printer controls drive voltage applied to the print head according to the information. Whenever the print head is replaced, this must be carried out to input the Head Rank ID of the new print head. (Head Rank ID can be read from a file or it can also be written to a file.)

☐ Procedure for Writing

■ When checking the Head Rank ID (QR Code) from the ID label affixed to the new print head

1. Write down the Head Rank ID indicated on the ID label affixed to the new print head.
2. Assemble the printer.
3. Turn the printer ON.
4. Start up the Adjustment Program, and select [Head Rank ID].
5. Enter the 30-digit ID written down at Step 3 into the edit boxes in the same order as indicated on the label.
6. Click [Write].
7. Click [Finish].

■ When you already have the Head Rank ID data (.txt) of the new print head

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Head Rank ID].
3. Click [File Open] and select a Head Rank ID data (.txt).
4. Click [Write].
5. Click [Finish].

☐ Procedure for storing the Head Rank ID Information as a File

1. Write down the 30-digit Head Rank ID (QR code) indicated on the ID label affixed to the new print head.
2. Assemble the printer.
3. Turn the printer ON.
4. Start up the Adjustment Program and select [Head Rank ID].
5. Enter the 30-digit ID written down at Step 1 into the edit boxes in the same order as indicated on the label.
6. Click [File Save] and save the ID information under a new file name.
7. Click [Finish].

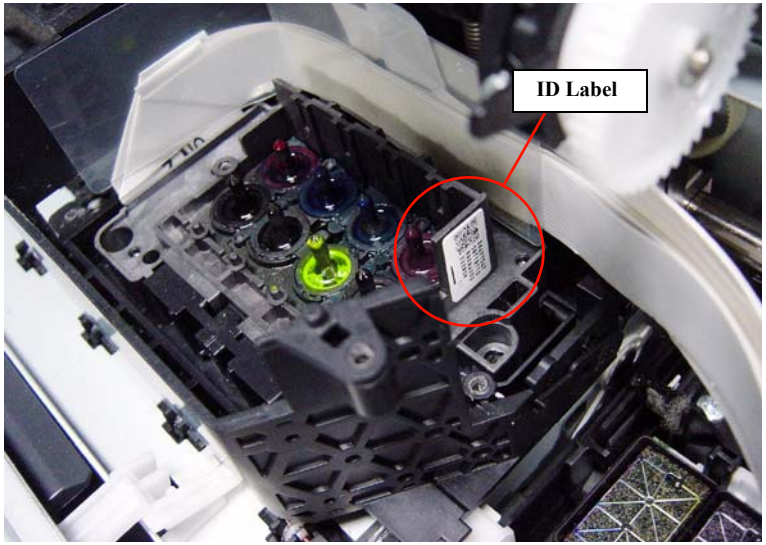


Figure 5-13. Head Rank ID Position

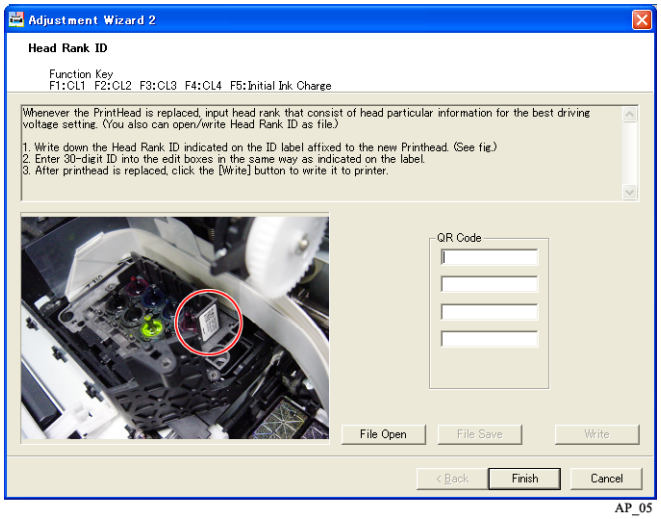


Figure 5-14. [Head Rank ID] Screen

5.3.3 Print Head Slant Adjustment (PF)

☐ Purpose

Check the print head for slanting in the PF direction and corrects if slanted.

☐ Paper Used

- Size: A4/Letter
- Type: Enhanced Matte Paper (US)/
  Archival Matte Paper (Europe, Asia)

☐ Procedure

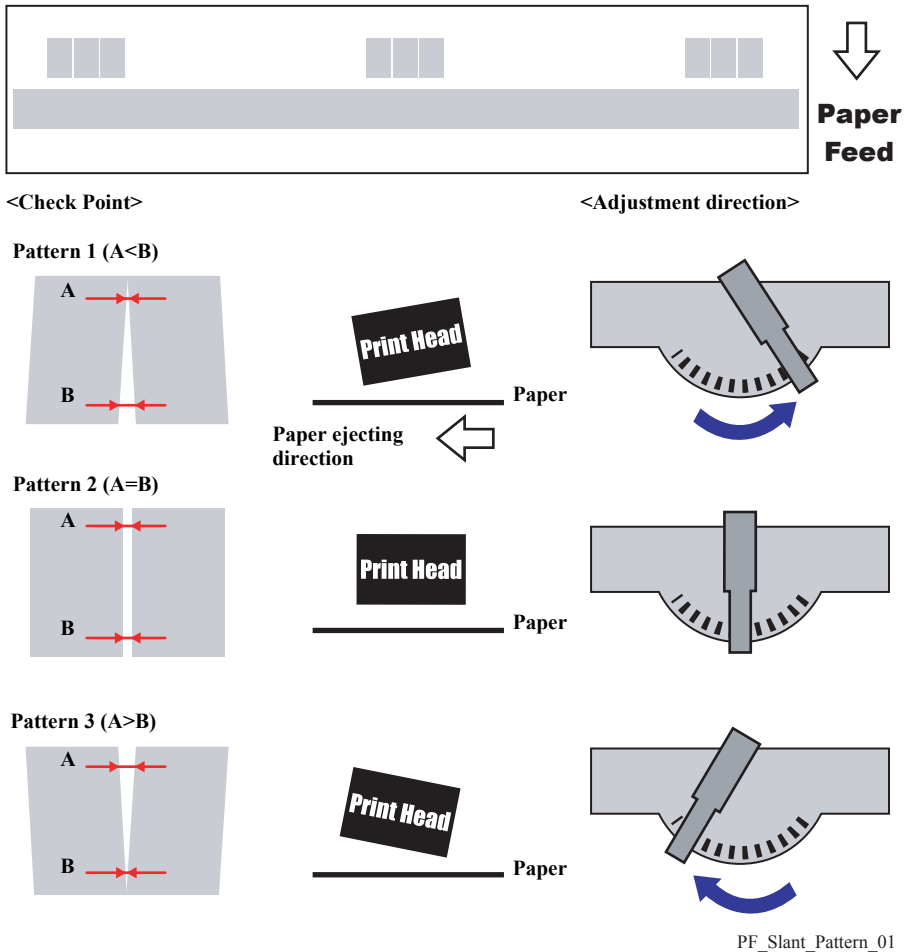
1. Remove the HOUSING, UPPER.

CHECK POINT

When removing the HOUSING, UPPER, do not remove the LOCK, COVER, ASSY. Keep the ink cover closed and turn the ink cover open sensor ON.

2. Remove the COVER, CR.
3. Attach the OPERATION, PANEL, ASSY to the printer and connect the FFC cable.
4. Turn the printer ON.
5. Start up the Adjustment Program and select [Print Head Slant Adjustment (PF)].
6. Select [Visual pattern], and click [Print] to print the adjustment pattern.
7. Examine the printout patterns with print start side facing downward, measure the top (A) and bottom (B) gaps between adjacent blocks using a calibrated magnifying glass.
   According to the measurement result, follow the instructions below.
   - A = B (Pattern2):
     Click [Next] twice and then click [Run] in order to move the carriage unit to its home position. Then, click [Finish] on the next screen to finish the adjustment.
   - A > B, or A < B (Pattern 1, 3):
     Click [Next], and start adjustment on the next screen
     → to Step 8
8. Slightly turn the Head Slant Lever left and right to correct the slant of the print head.
   - A < B (Pattern 1): Turn the Head Slant Lever counterclockwise.
   - A > B (Pattern 3): Turn the Head Slant Lever clockwise.
9. Click [Back] to return to the previous screen. Repeat Step 6 to Step 8 until the correct result is obtained.

<Adjustment Pattern>



PF_Slant_Pattern_01

Figure 5-15. Adjustment Pattern and Check Point

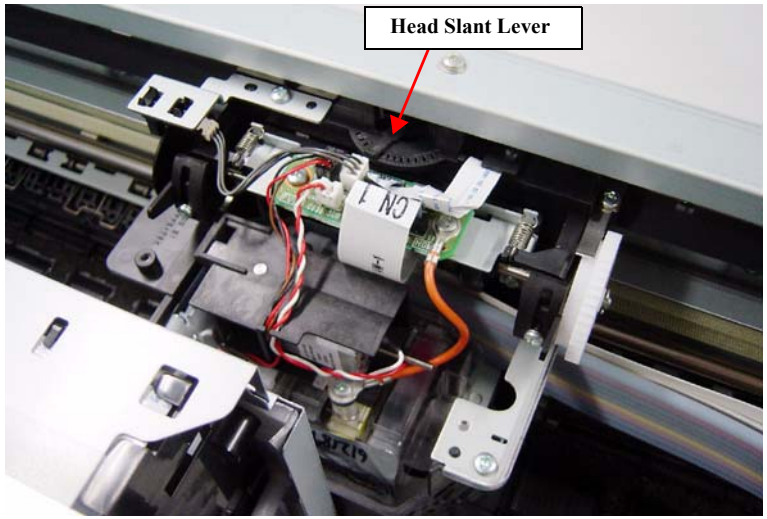
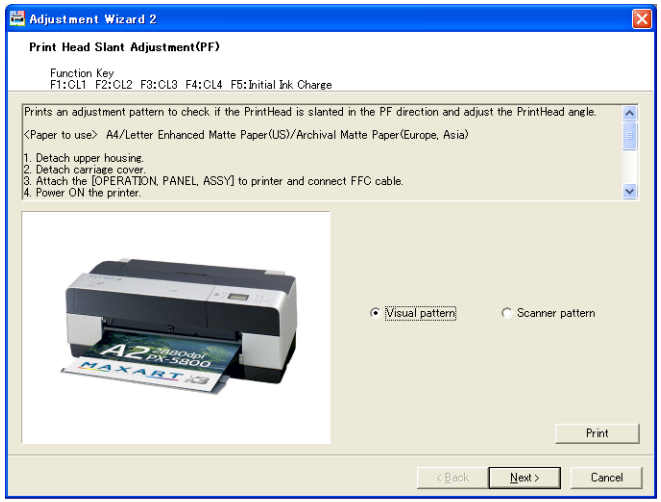
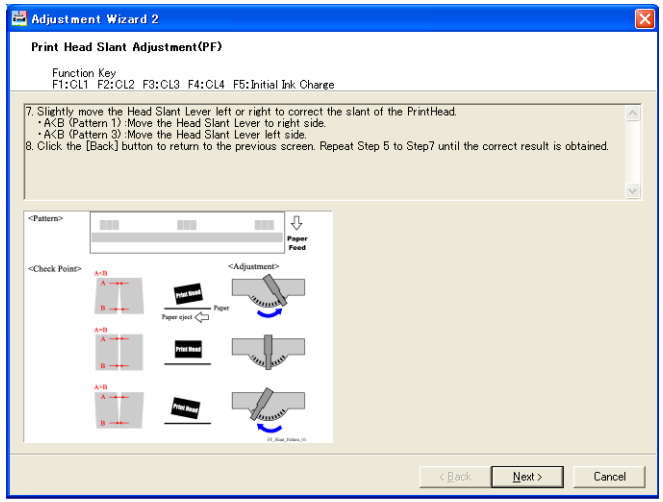


Figure 5-16. Head Slant Lever



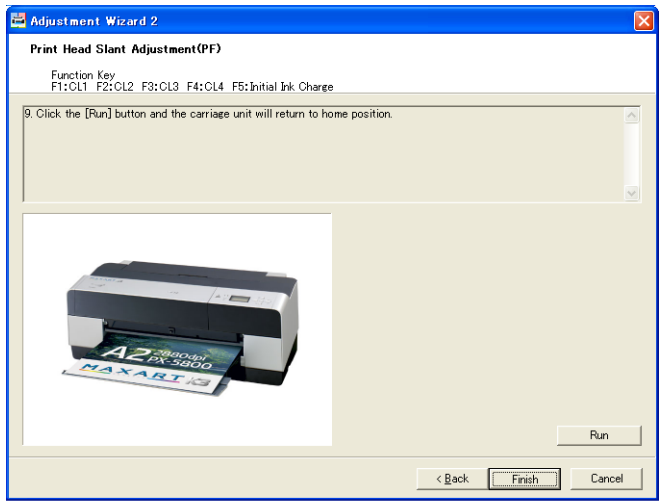
AP_06

Figure 5-17. Print Head Slant Adjustment (PF) Screen (1)



AP_08_2

Figure 5-18. Print Head Slant Adjustment (PF) Screen (2)



AP_08_3

Figure 5-19. Print Head Slant Adjustment (PF) Screen (3)

5.3.4 Print Head Slant Adjustment (CR)

☐ Purpose

Check the print head for slanting in the CR direction and corrects if slanted.

☐ Paper Used

- Size: A4/Letter
- Type: Economy Super Fine Paper

☐ Procedure

1. Remove the HOUSING, UPPER.

CHECK POINT

When removing the HOUSING, UPPER, do not remove the LOCK, COVER, ASSY. Keep the ink cover closed and turn the ink cover open sensor ON.

2. Remove the COVER, CR.
3. Attach the OPERATION, PANEL, ASSY to the printer and connect the FFC cable.
4. Turn the printer ON.
5. Start up the Adjustment Program and select [Print Head Slant Adjustment (CR)].
6. Select [Visual pattern] and click [Print] to print the adjustment pattern.
7. Examine the printout patterns with its print start side facing downward. Use the calibrated magnifying glass to check the point as shown in Figure 5-20. See Figure 5-21 and Figure 5-22 for judging each nozzle row.
   - OK Pattern:
     Click [Next] 3 times, and click [Run] on the screen shown in Figure 5-28. The carriage unit will return to its home position. Click [Finish] to finish the adjustment.
   - NG Pattern:
     Click [Next] and start adjustment on the next screen
     → to Step 8

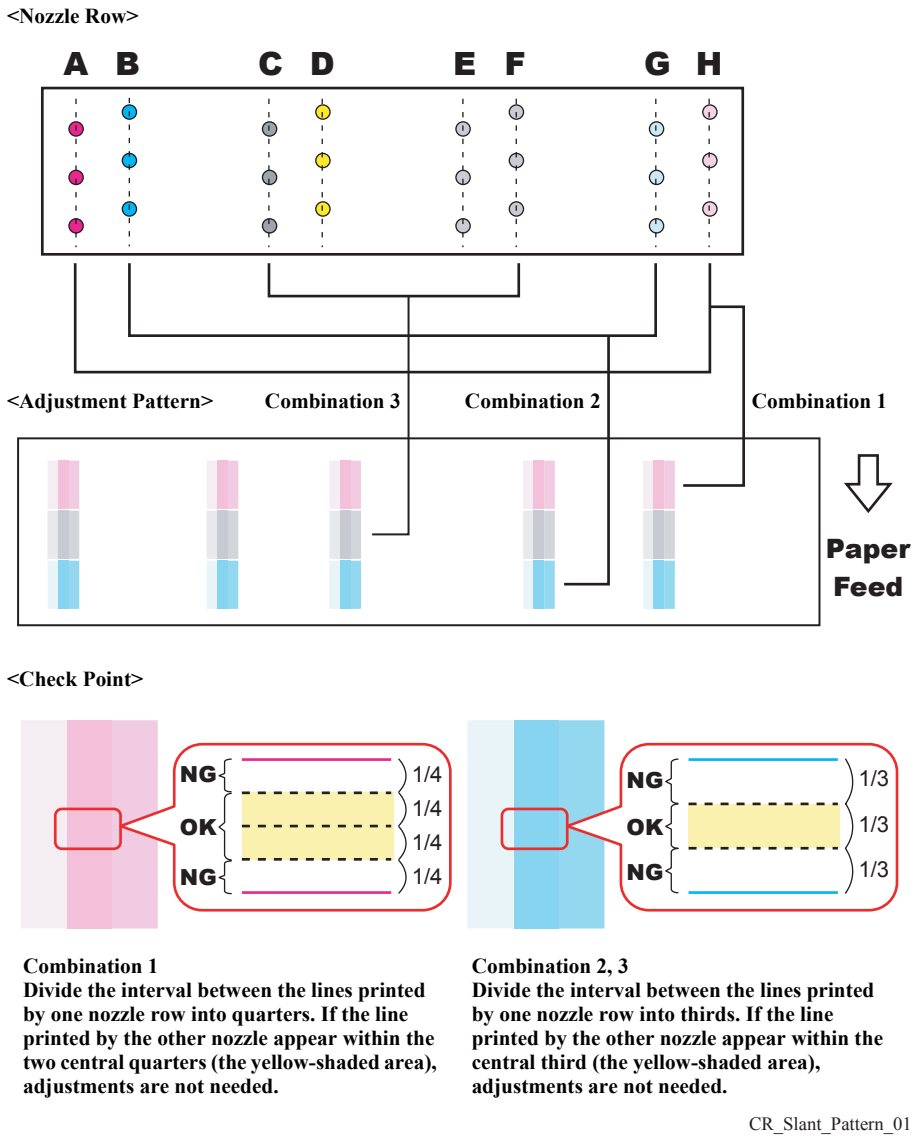


Figure 5-20. Adjustment Pattern

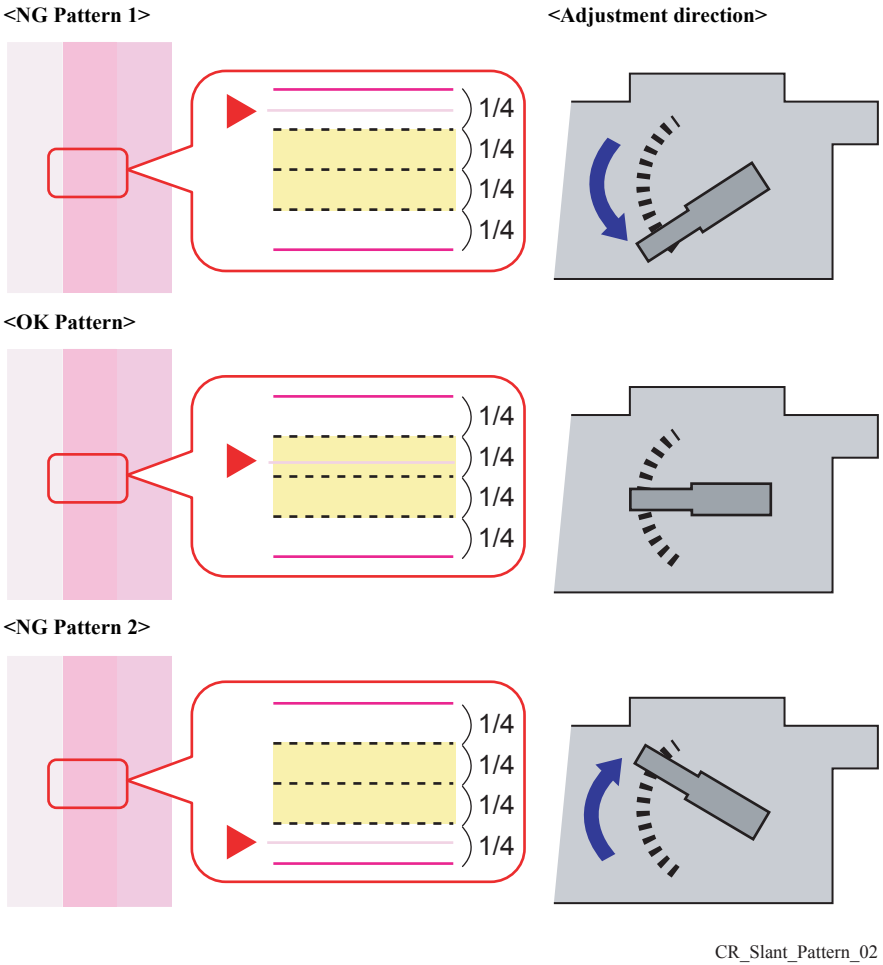


Figure 5-21. Confirmation Point of A/H Rows

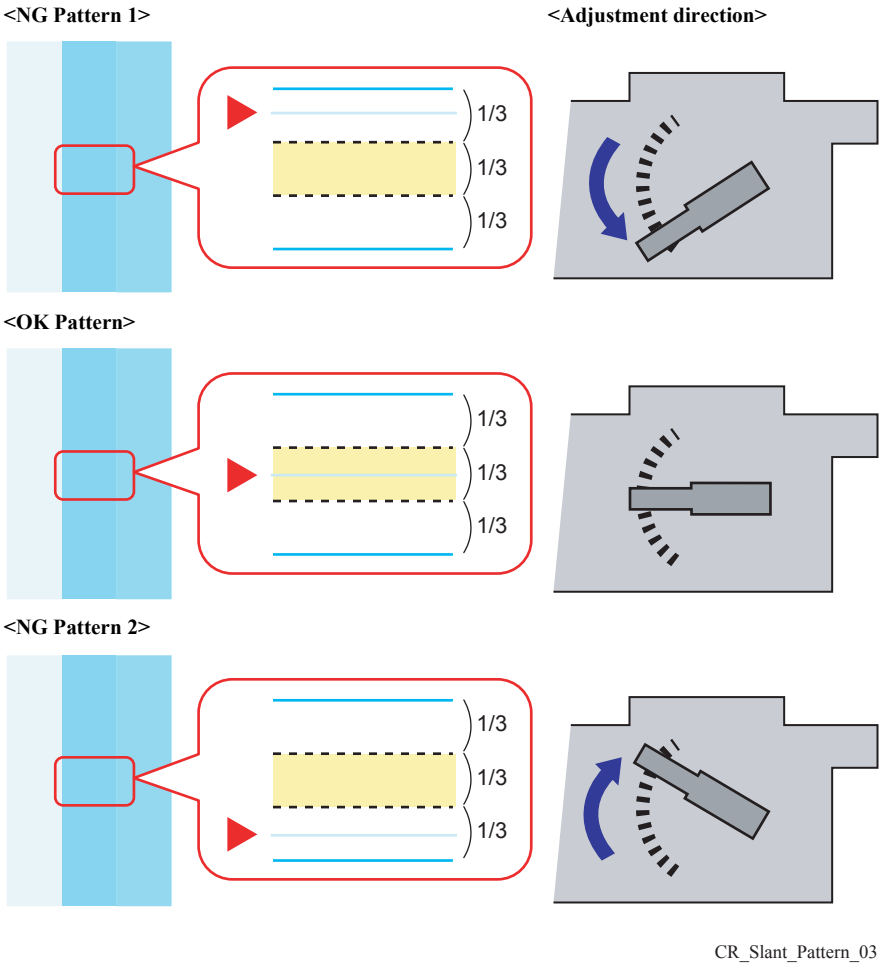


Figure 5-22. Confirmation Point of B/G Rows, C/F Rows

8. Loosen the three screws (A, B and C shown in Figure 5-24) that secure the LEAF SPRING, LOCK, HEAD.
9. Slightly turn the head adjust lever upward and downward to correct the slant of the print head.
   - In case of NG Pattern 1: turn the head adjust lever downward.
   - In case of NG Pattern 2: turn the head adjust lever upward.
10. Tighten the three screws loosened at Step 8 in the order of A → B → C
11. Click [Back] to go back to the previous screen and repeat Step 6 to Step 10 until the correct result is obtained.

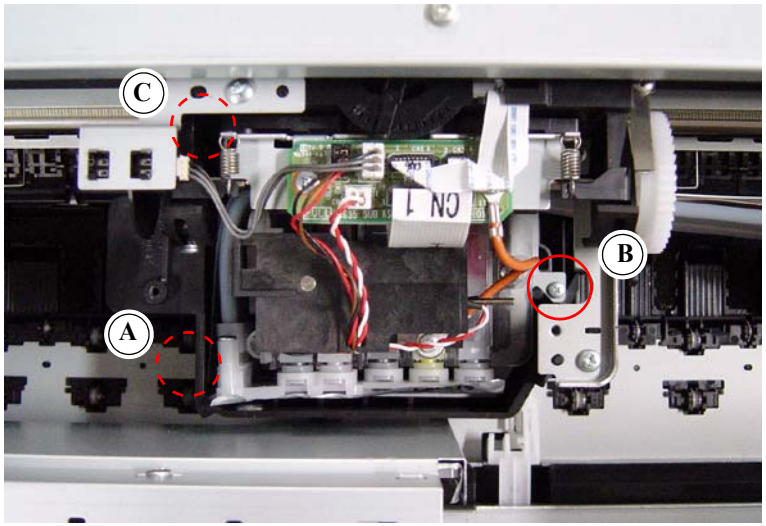


Figure 5-23. Screws Securing the [LEAF SPRING, LOCK, HEAD]

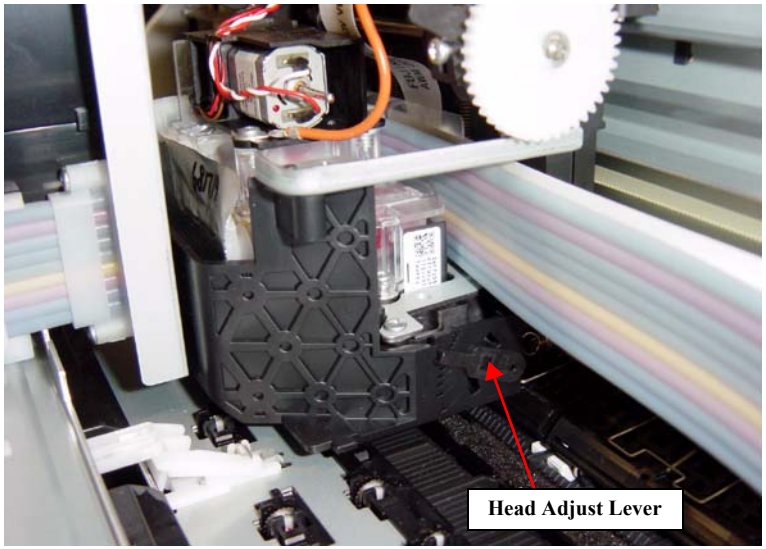


Figure 5-24. Head Adjust Lever

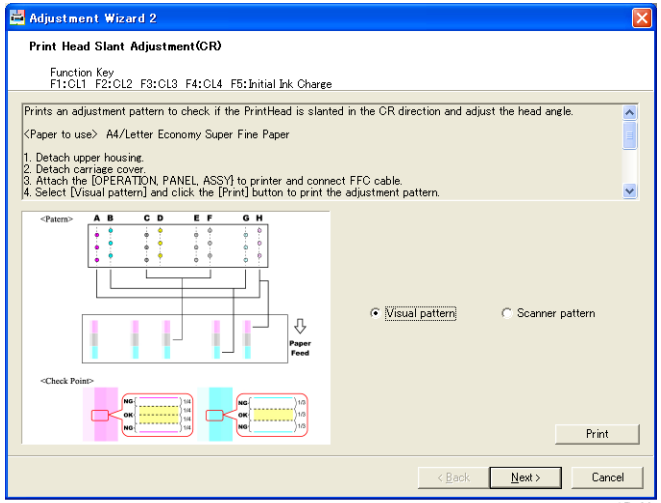


Figure 5-25. [Print Head Slant Adjustment (CR)] Screen (1)

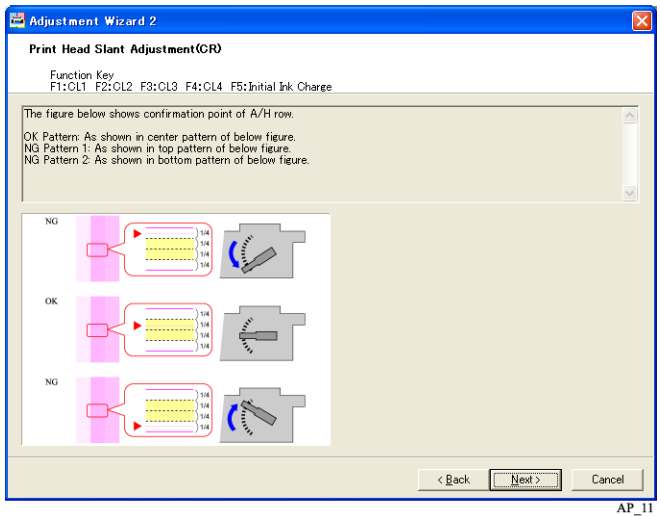


Figure 5-26. [Print Head Slant Adjustment (CR)] Screen (2)

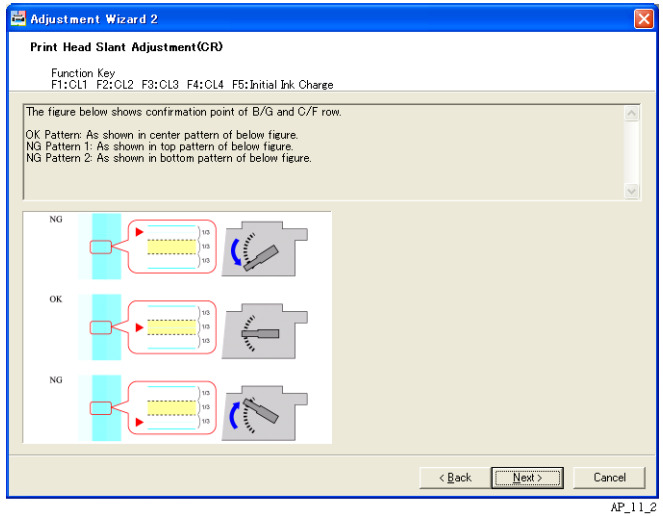


Figure 5-27. Print Head Slant Adjustment (CR)] Screen (3)

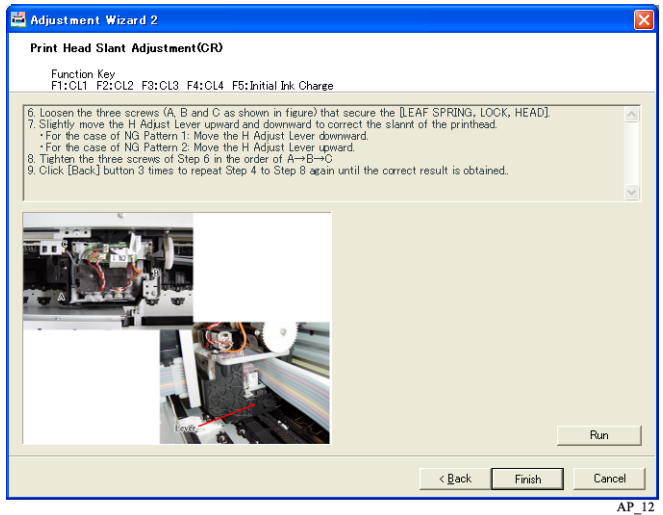


Figure 5-28. [Print Head Slant Adjustment (CR)] Screen (4)

5.3.5 Initial Ink Charge Flag ON/OFF

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Initial Ink Charge Flag ON/OFF].
3. Select [ON] or [OFF] and then click [Run].
4. Click [Finish].

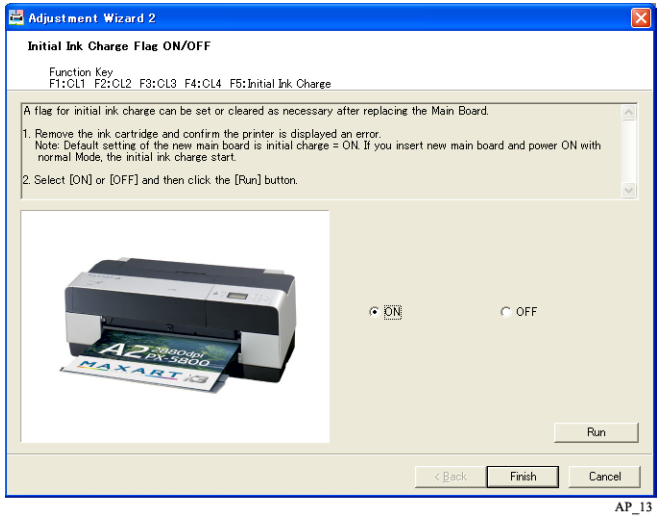


Figure 5-29. [Initial Ink Charge ON/OFF] Screen

5.3.6 Parameter Backup

☐ Purpose

Whenever the main board is replaced, parameters stored in the NVRAM on the previous board should be backed up and written onto the new board using this menu.

CHECK POINT

When writing the parameters, turn the printer ON in F/W update mode.

☐ Read & Save Procedure

1. Start up the Adjustment Program. The NVRAM Backup Utility will automatically start. If the Adjustment Program is already running, execute [Parameter Backup].
2. Turn the printer ON to start the printer in the ready mode.
3. Select the target printer from the [Printer Port].
4. Click [Read] to start reading the parameters. When reading is complete, the serial number is displayed.
5. Click [Save] and save the readout parameters under a new file name.

CHECK POINT

Clicking the "information display" button starts the NVRAM Viewer, and you can browse the NVRAM information.

6. To end, click [End].

☐ Write Procedure

1. Remove the all Ink Cartridges.
2. Remove the Maintenance Cartridge.
3. Start up the Adjustment Program. The NVRAM Backup Utility will automatically start. If the Adjustment Program is already running, execute [Parameter Backup].
4. Turn the printer ON while holding down the **Menu/Right** + **Back/Left** + **Ink Cover Open/UP** + **Paper Feed/Down** buttons on the printer's operation panel to start the printer in the F/W update mode.
5. Click [File Open] to select and open the parameter backup file.
6. Click [Write] to start writing the parameter.
7. When the writing is completed, click [End] to exit the NVRAM Backup Utility.

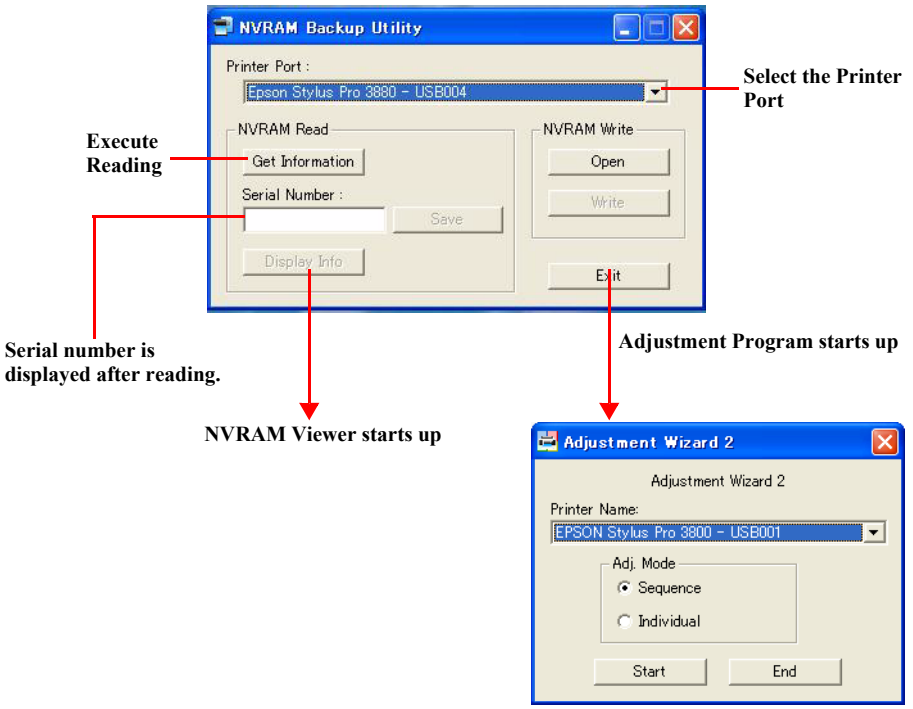


Figure 5-30. NVRAM Back Up Utility Screen Transition

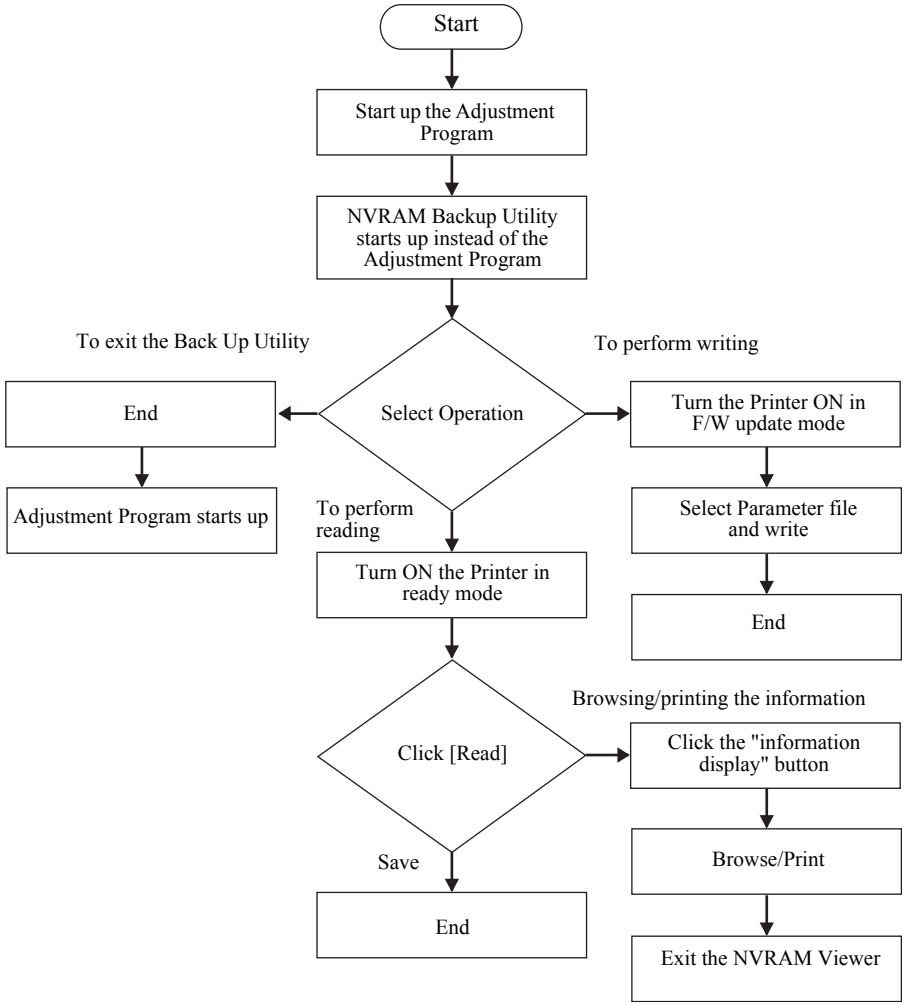


Figure 5-31. Adjustment Program Start Up Flow

5.3.7 Check PG

☐ Purpose

Check the PG switch operation if it is normally performed or not.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check PG].
3. Select any one of the PG settings, and then click [Run].
4. Visually check the PG switch operation. Be sure to check the following three points.
   - Does the carriage move upward and downward?
   - Is there any abnormality in driving transmission path?
   - Does the light-shielding plate rotate?
5. Click [Finish].

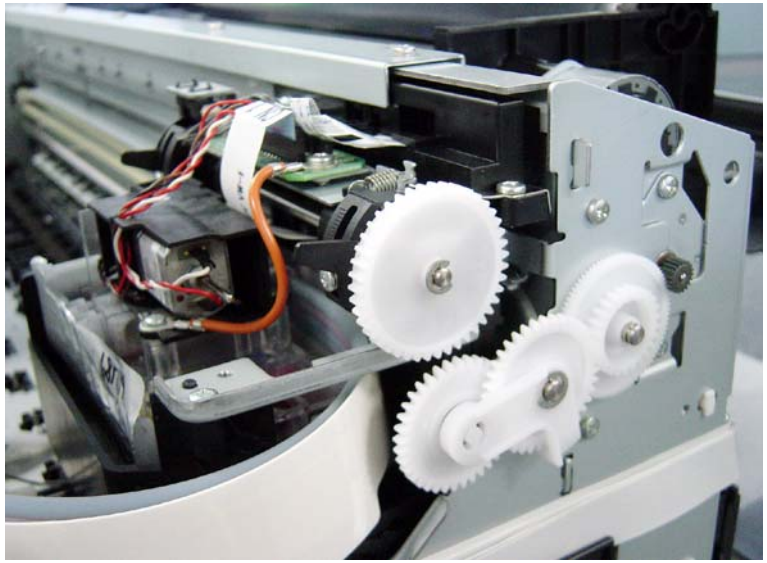


Figure 5-32. Check Point 1

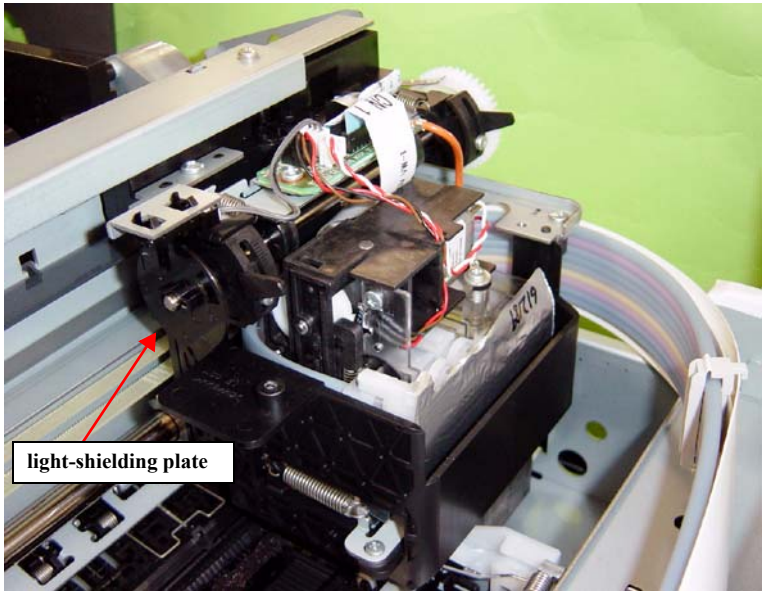


Figure 5-33. Check Point 2

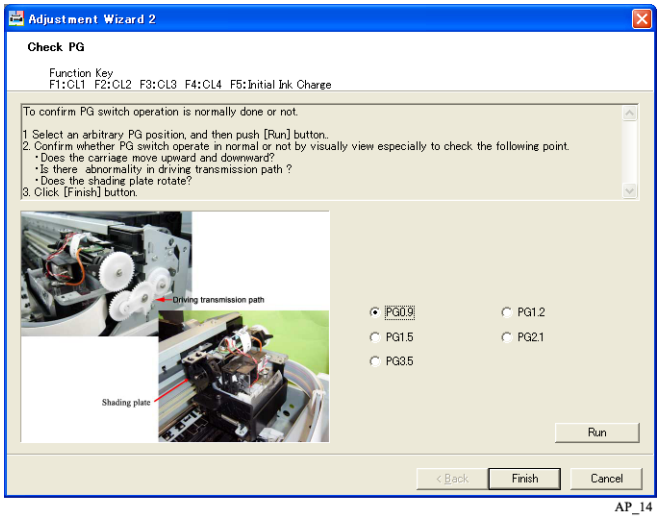


Figure 5-34. [Check PG] screen

5.3.8 Initial Ink Charge

☐ Purpose

Carry out the initial ink charge.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Initial Ink Charge].
3. Press the F5 key to pop up a verification screen, and click [OK] to start the initial ink charge.
4. When ink charge is completed, click [Finish].

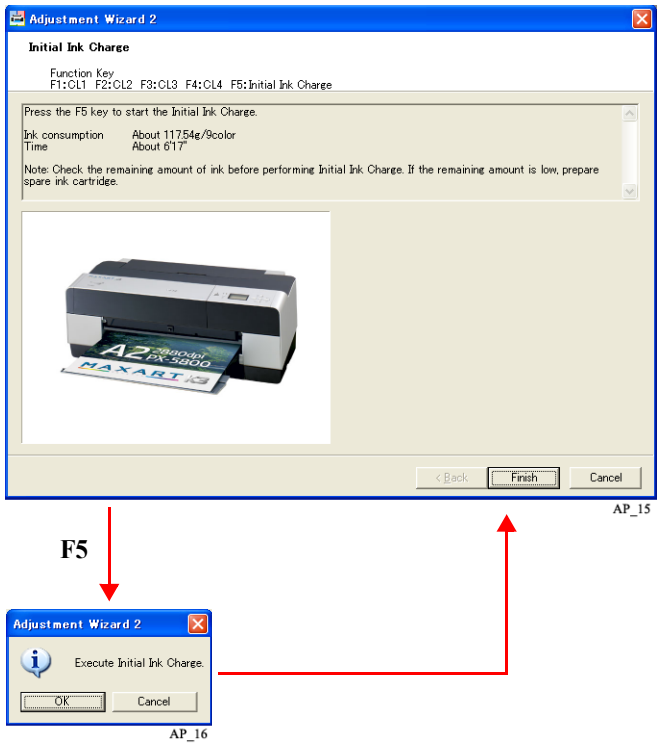


Figure 5-35. [Initial Ink Charge] screen

5.3.9 Cleaning

☐ Purpose

There are four types of head cleaning. Select and run a one of them to clean the print head.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Cleaning].
3. Select the cleaning type and press the corresponding key (F1 to F4) to run the selected cleaning.

Key	Cleaning
F1	CL1
F2	CL2
F3	CL3
F4	CL4

4. When the cleaning is completed, click [Finish].

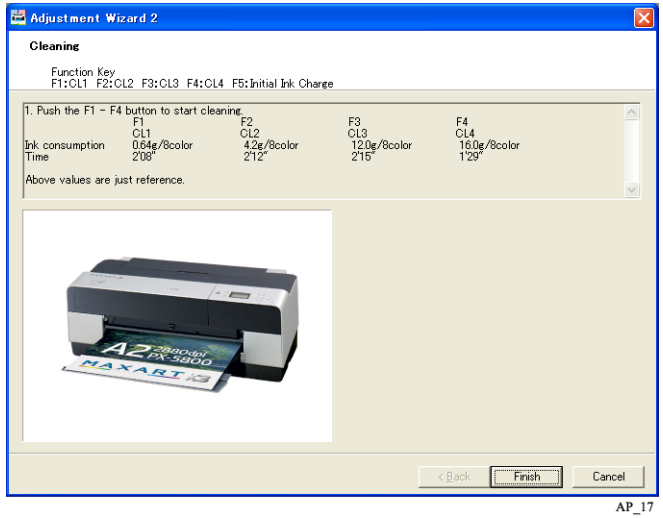


Figure 5-36. [Cleaning] Screen

5.3.10 Input Serial number

☐ Purpose

This allows you to write the serial number of the printer onto the NVRAM. The stored serial number can be read and displayed for verification.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Input Serial Number].
3. Enter the 10-digit serial number of the printer and click [Write]. The serial number is written onto the NVRAM on the main board.
4. Click [Read] to display the stored serial number.

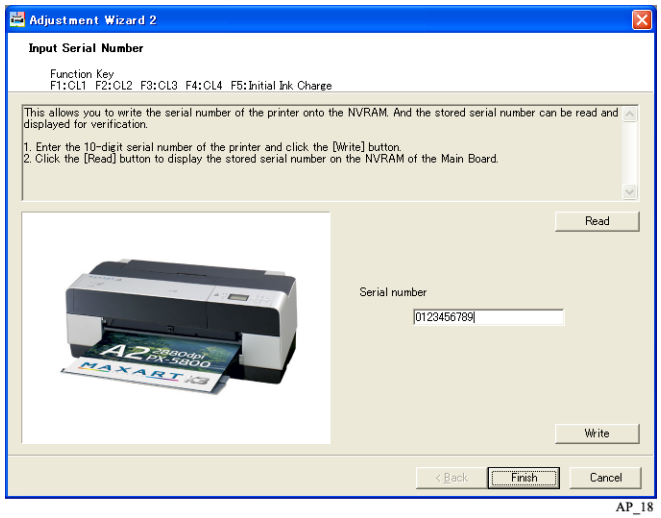


Figure 5-37. [Input Serial Number] Screen

5.3.11 Colorimetric Calibration Tool

CAUTION

This adjustment is described in the same manner as other models. Therefore, the procedure is basically the same, but some actual steps or patterns may differ.

5.3.11.1 Adjustment Overview

PURPOSE

By registering/controlling information concerning the ink droplets, this product improves calibration accuracy and ensures stable color quality. (Difference in color among individual products or each mode is reduced.) (Refer to "2.10 Colorimetric Calibration (Color ID) Overview" (Page 60))

PRINCIPLE

The calibration is performed by measuring a printed correction pattern with a calibrator. ID information that is calculated based on the acquired color values (L*, a*, b*) is transmitted to the printer driver, and the printer driver corrects the dot generation amount for each dot size of each color in the print data.

5.3.11.2 Adjusting Method

TOOLS REQUIRED

Table 5-4. Tools Required

Tool	Application/Specification
Plain Paper (A4)	For nozzle check and printing surface protection
Plain Paper (A3)	For alignment check
EPSON Enhanced (Archival) Matte Paper (A4)	For printing charts
Computer	Following drivers should be installed beforehand. ☐ Printer driver for this product ☐ USB driver for the calibrator
GretagMacbeth eye-one (i1) (Calibrator)	With UV filter
Calibration base plate (White plate)	Accessory provided with the calibrator
Scanning ruler (Scale)	Accessory provided with the calibrator
USB cable	To connect the computer and the calibrator
Black sheet	Should be larger than A4

ADJUSTMENT WORKFLOW

Following is the workflow of this adjustment.

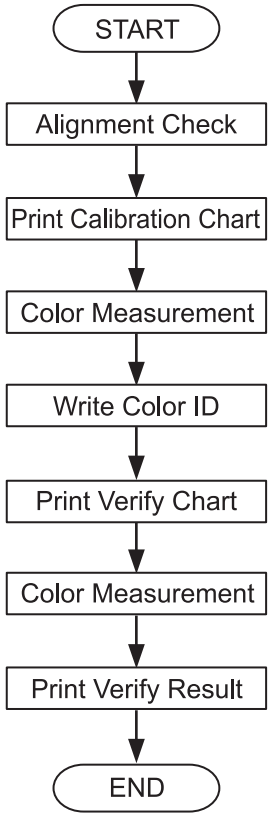


Figure 5-38. Adjustment Workflow

ADJUSTMENT PROCEDURE

1. Turn the printer ON.
2. Start the adjustment program, and select [Colorimetric Calibration Tool].
3. Click [Run] to start the [Colorimetric Calibration Tool].
4. Load an A4-sized plain paper vertically on the ASF, and click [Next] to start the alignment check.
5. Examine the printout. If any missing line or segment is observed, run a cleaning. If the pattern is normal, click [Next].
6. Load an A4-sized EPSON Enhanced (Archival) Matte paper vertically on the ASF, and click [Next] to print a calibration chart.

CAUTION

Never touch the printed calibration chart.

7. Make sure there is no missing dots in the nozzle check pattern at the bottom of the calibration chart.
   If there are missing dots, click [Print Calibration Chart Again]. The calibration chart will be printed again after performing cleaning.
   If there are no missing dots, let the chart stand for five minutes until it dries out paying attention not to touch the chart.
8. When the calibration chart dries out (after five minutes), click [Next].

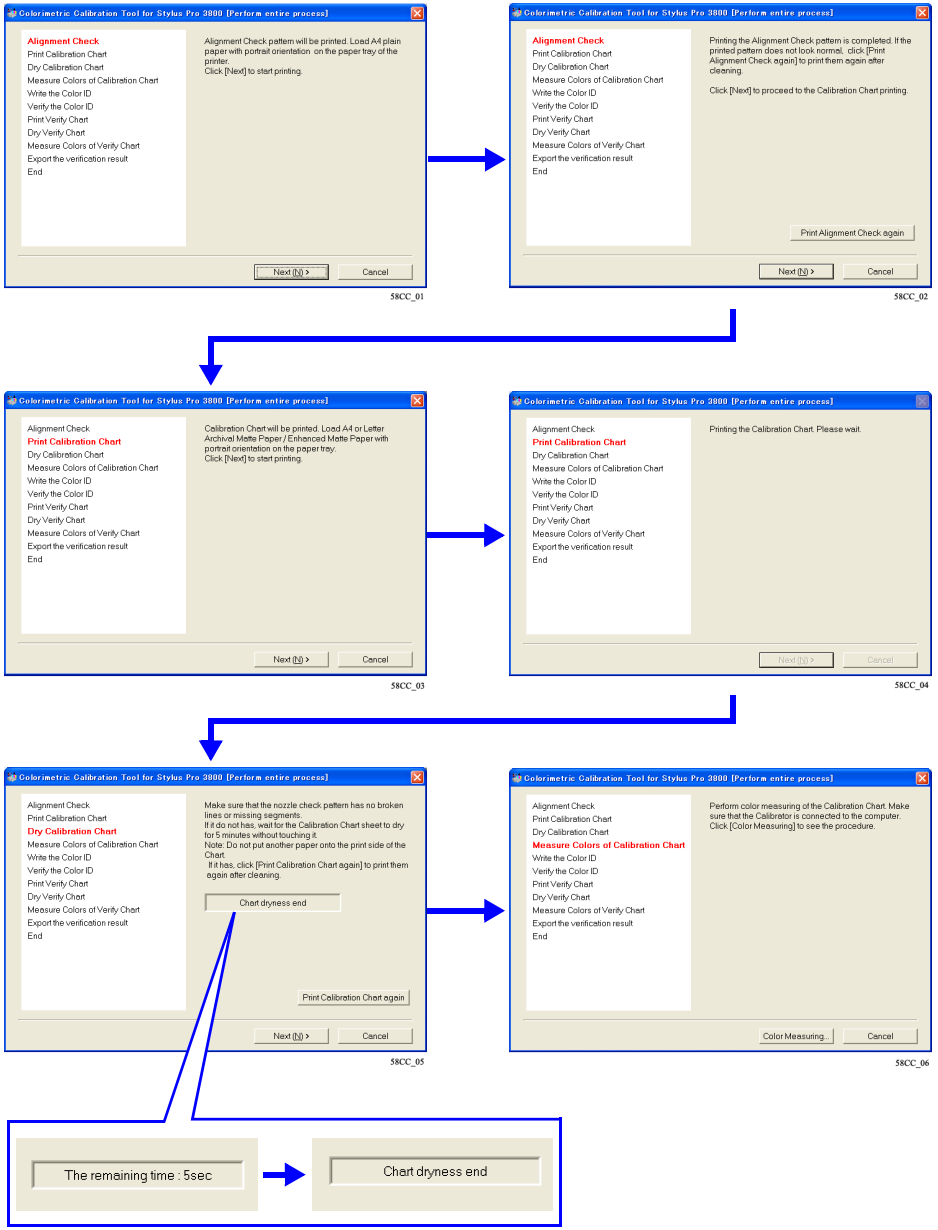


Figure 5-39. Screen Transition

9. Connect a calibrator to the computer, and click [Color Measuring...].
10. Place the calibrator on the calibration base plate, and click [Calibrate].
11. Hold down the button on the side of the calibrator until it beeps. Do not move or lift the calibrator during pressing the button.
    When the calibration is completed normally, the following screen appears

CAUTION

Do not contaminate the white plate on the calibration base plate. If any dirt is observed on the white plate, wipe it off using alcohol.

Figure 5-40. i1 Calibrator

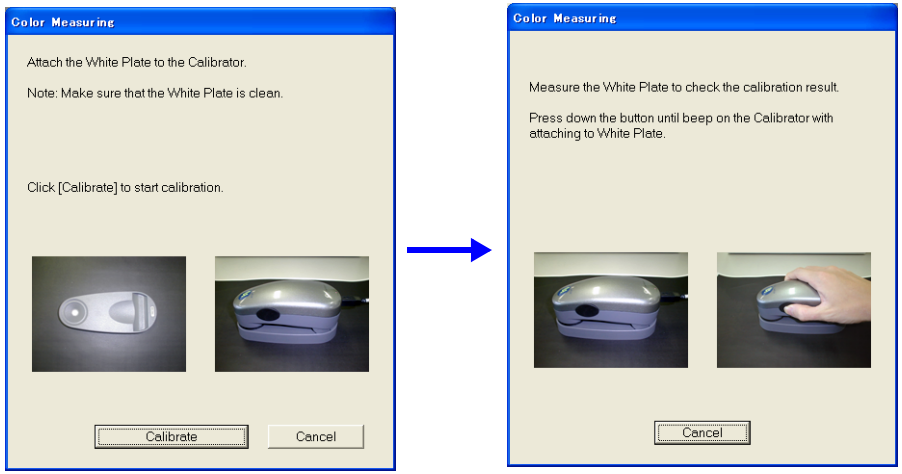


Figure 5-41. Calibration Screen

12. Make sure that the date and time printed in the second line on the upper left of the chart (measurable time and date) is within the range displayed under the heading "GMT" on the lower screen. (If the date and time is not within the range, it is necessary to print the cart again.)
13. Refer to Figure 5-43, place the chart on black paper (or a sheet) vertically with the upper part of the chart down, and set the scanning ruler onto the top most patch line.

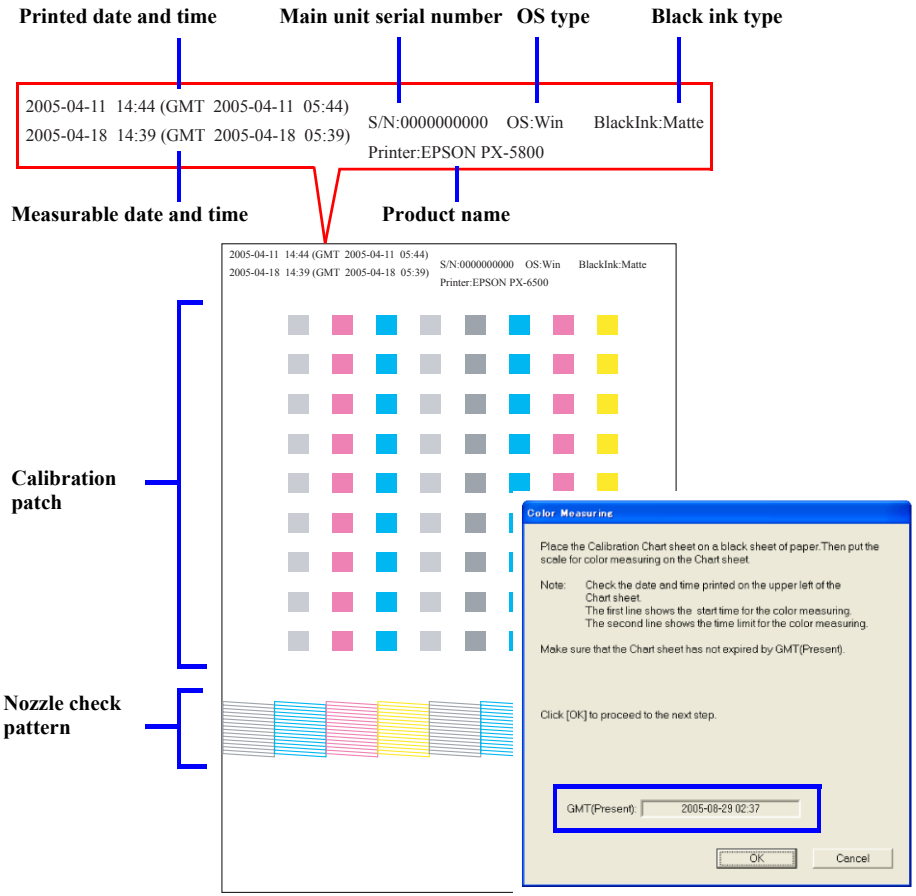


Figure 5-42. Measurable Time and Date Check

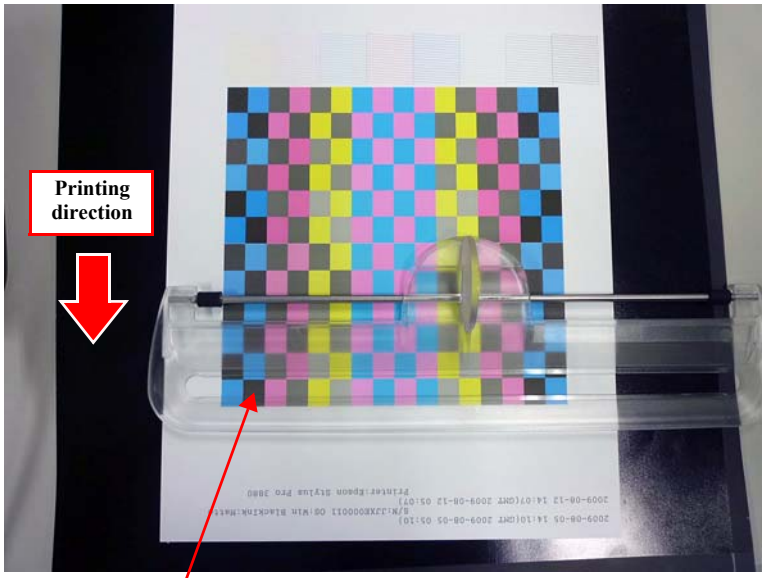


Figure 5-43. Setting the Chart and the Scanning Ruler

NOTE : The above chart is for Epson Stylus Pro 3880/3885/3890.

14. Click [OK] and follow the instructions (following procedure) displayed on the screen to perform color measuring.
    1. Set the calibrator with its measuring part matched with measuring start position (margin) as shown in Figure 5-45.
    2. Press the button on the side of the calibrator.
    3. When it beeps, keep holding down the button and scan the patch along the calibration guide to measuring end position (margin).
    4. Once the measuring is completed, release the button.
    5. Repeat Step 1 through 4 twice for the same patch line.
    6. Repeat Step 1 through 5 to measure the bottommost line to the top line. (The line that needs to be measured is displayed on the screen.)
15. Once all the lines (8 lines) are measured, click [OK].

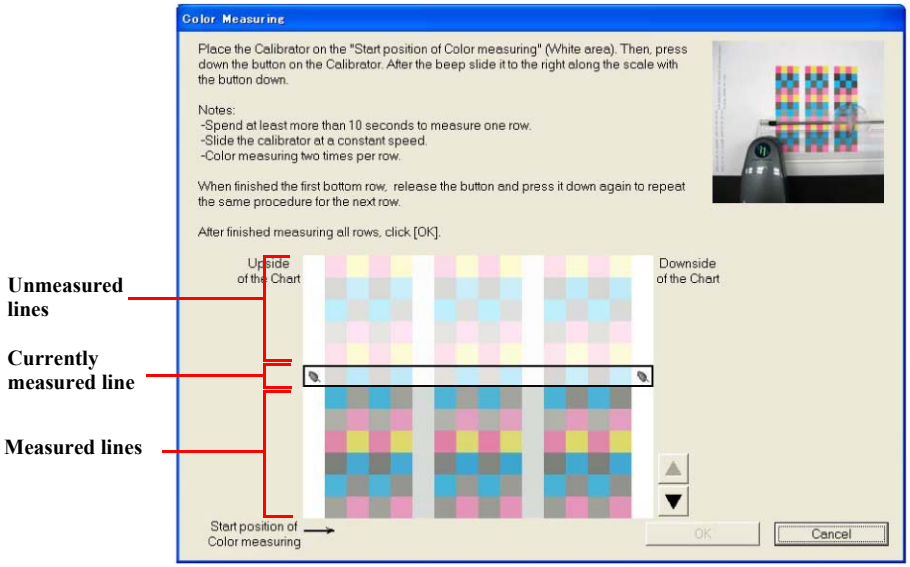


Figure 5-44. Color Measuring Screen

CAUTION

When measuring colors, pay attention to the instructions below.

- **Scan one line between five to ten seconds.**
- **Keep the scan speed constant as possible.**
- **Measure each of the lines twice. (Measure the line as instructed on the program screen.)**
- **Place the chart on a flat surface. The calibrator and the ruler must be attached firmly to the chart in order to measure the colors accurately.**
- **Do not scan any places other than the one shown in Fig. 5-45.**
- **If a color-measuring error occurs or the measured values are completely out of the standard values, a warning mark (⚠) appears. In this instance, check the instructions mentioned above and retry the color measuring again.**
- **If an error mark (⊗) appears, check the instructions mentioned above and retry the color measuring again.**

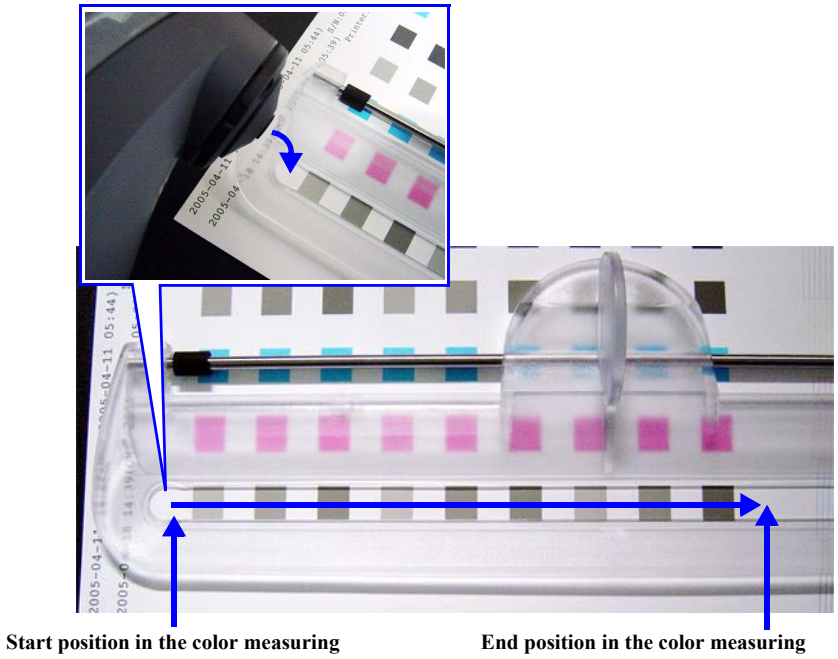


Figure 5-45. Setting the Calibrator/Measuring Position

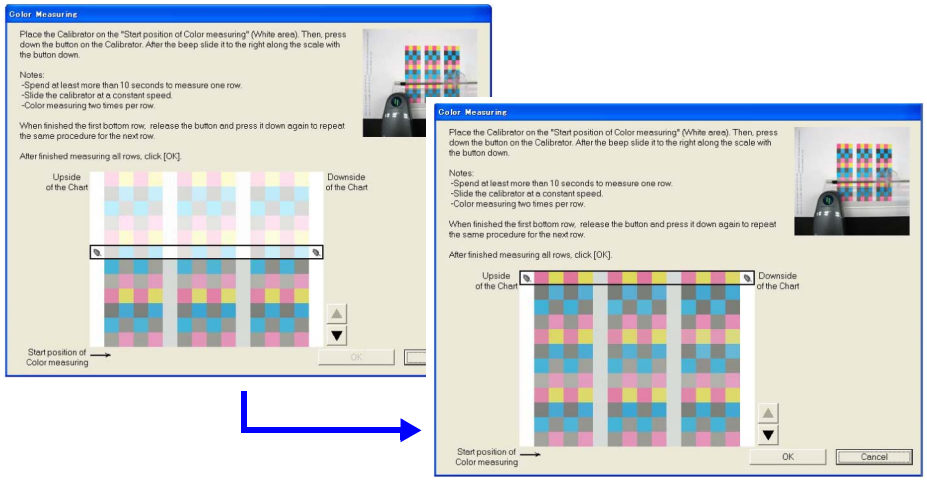


Figure 5-46. Color Measuring Screen

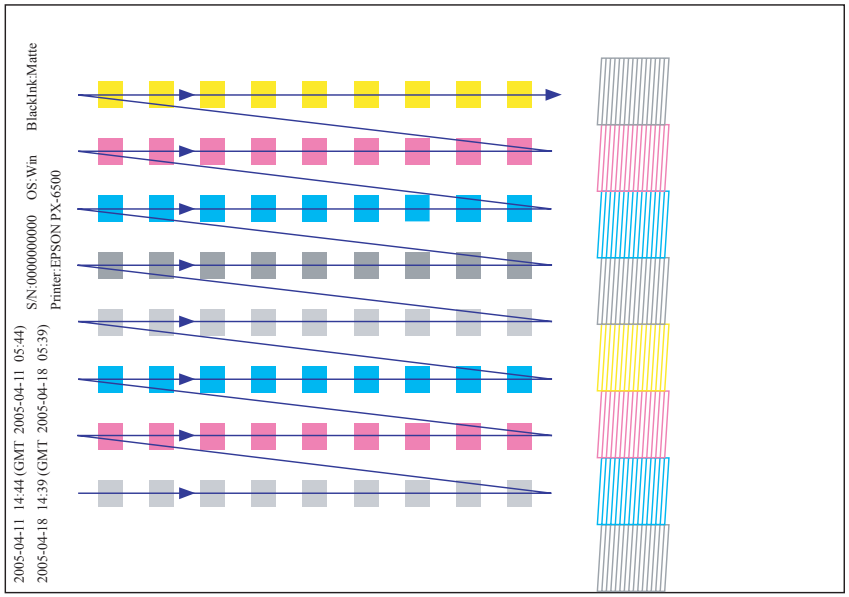


Figure 5-47. Color Measuring Order

16. Make sure that the “READY” message is displayed on the printer LCD panel, and click [Next] to write the Color ID to the printer main unit.
17. When the writing is completed, click [Next].

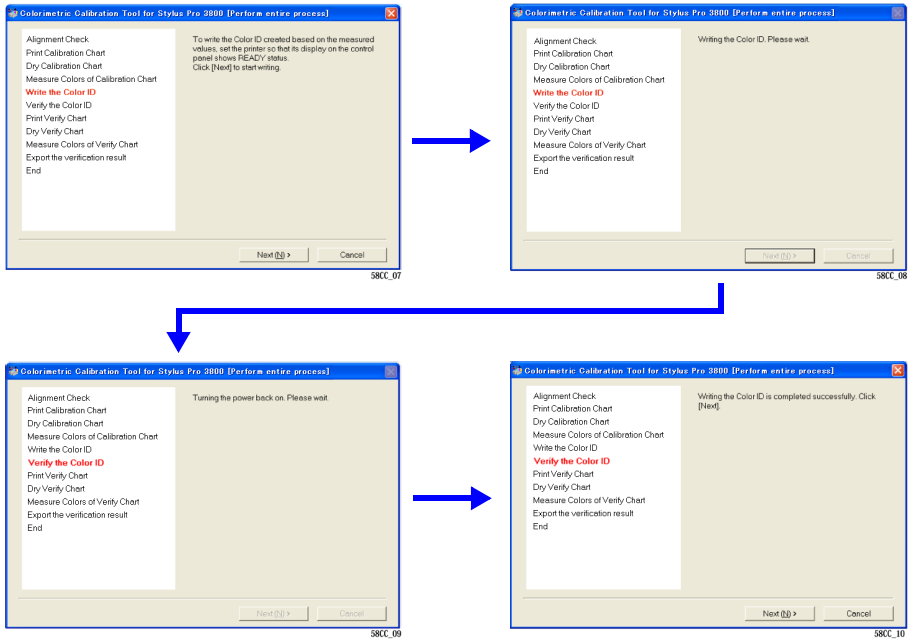


Figure 5-48. Screen Transition

18. Load an A4-sized EPSON Enhanced (Archival) Matte paper vertically on the ASF, and click [Next] to print the first page (Sheet1) of the verify chart.

CAUTION

Never touch the printed calibration chart.

19. When the first page of the verify chart is printed to the last, load another A4-sized EPSON Enhanced (Archival) Matte paper vertically on the ASF, and click [Next] to print the second page (Sheet2) of the verify chart.
20. Make sure that there is no missing dot in the verify chart.
    If there is any defect, click [Print Verify Chart Again]. The verify chart will be printed again after performing cleaning.
    If there are no missing dots, let the chart stand for five minutes until it dries out paying attention not to touch the chart
21. When the verify chart dries out (after five minutes), click [Next].
22. Connect the calibrator to the computer, and click [Color Measuring...].
23. Place the calibrator on the calibration base plate, and click [Calibrate].
24. Hold down the button on the side of the calibrator until it beeps. Do not move or lift the calibrator during pressing the button.
    When the calibration is completed normally, the following screen appears.

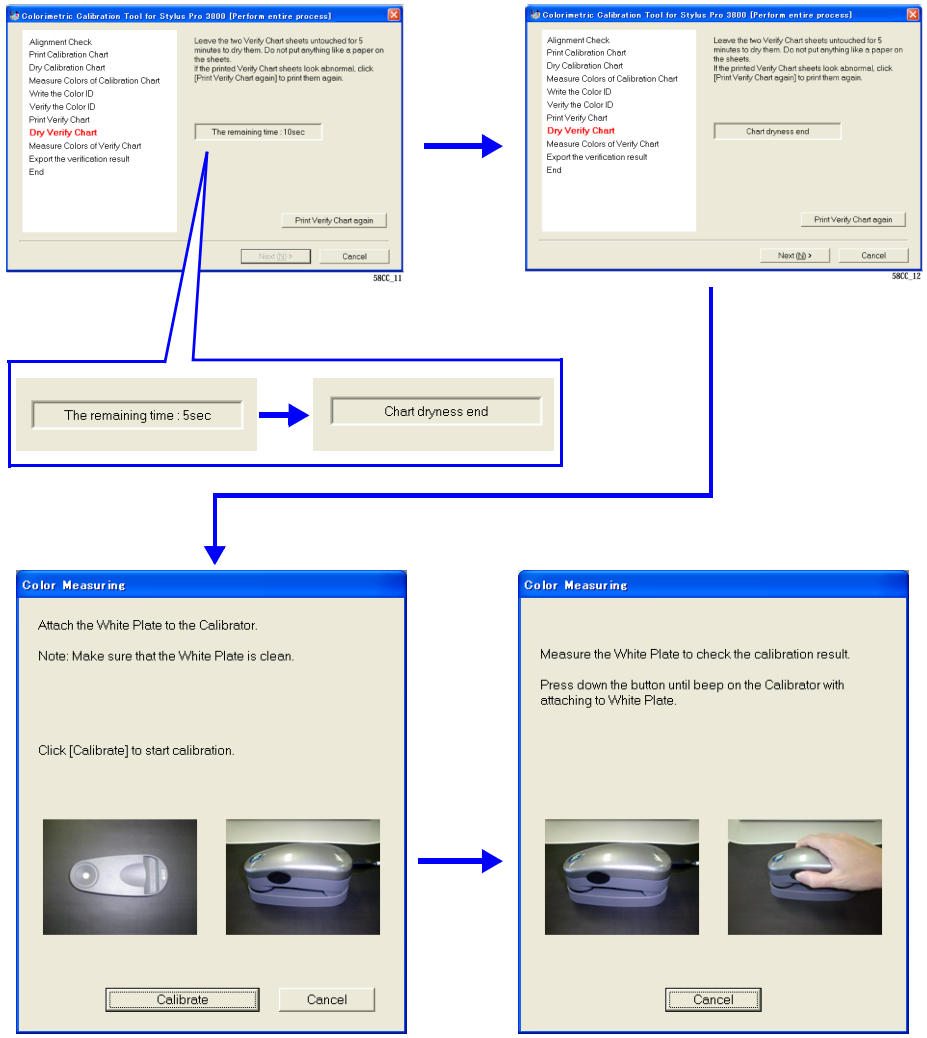


Figure 5-49. Screen Transition

25. Make sure that the date and time printed in the second line on the upper left of the chart (measurable time and date) is within the range displayed under the heading “GMT” on the lower screen. (If the date and time is not within the range, it is necessary to print the chart again.)
26. Refer to Figure 5-50, lay the chart on the black paper (or sheet) with the upper part of the chart facing left side, and set the scanning ruler onto the bottommost patch line.

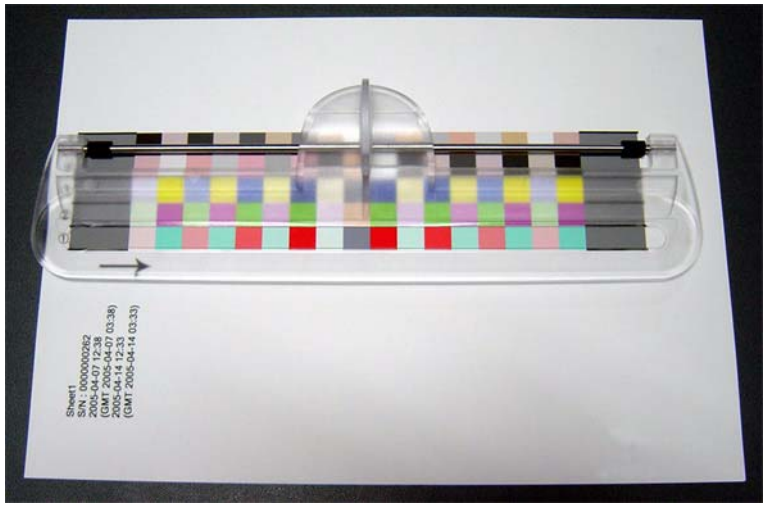


Figure 5-50. Setting the Chart and the Scanning Ruler

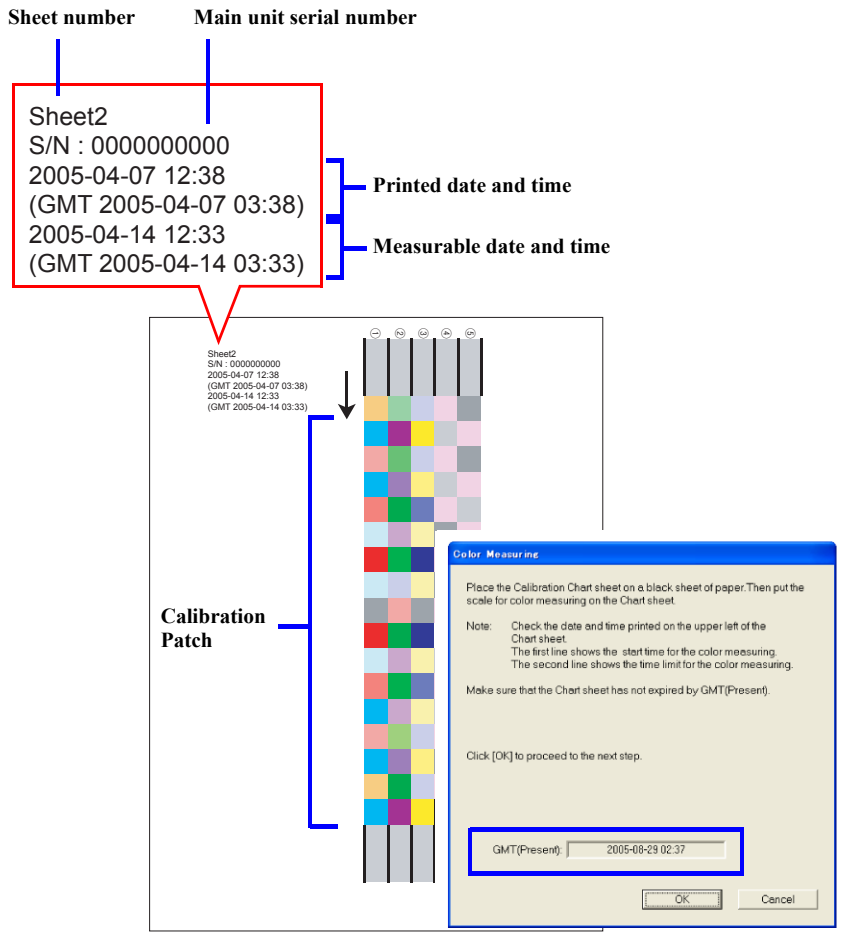


Figure 5-51. Measurable Date and Time Check

27. Click [OK] and follow the instructions (following procedure) displayed on the screen to perform color measuring.
    1. Set the calibrator with its measuring part matched with measuring start position (gray part) as shown in Figure 5-53.
    2. Press the button on the side of the calibrator.
    3. When it beeps, keep holding down the button and scan the patch along the scanning ruler to measuring end position (gray part).
    4. Once the measuring is completed, release the button.
    5. Repeat Step 1 through 4 twice for the same patch line.
    6. Repeat Step 1 through 5 to measure the bottommost line to the top line. (The line which needs to be measured is displayed on the screen.)
28. Once all the lines (5 lines) are measured, click [OK].
29. Measure Sheet 2 by following Step 25 through Step 27.

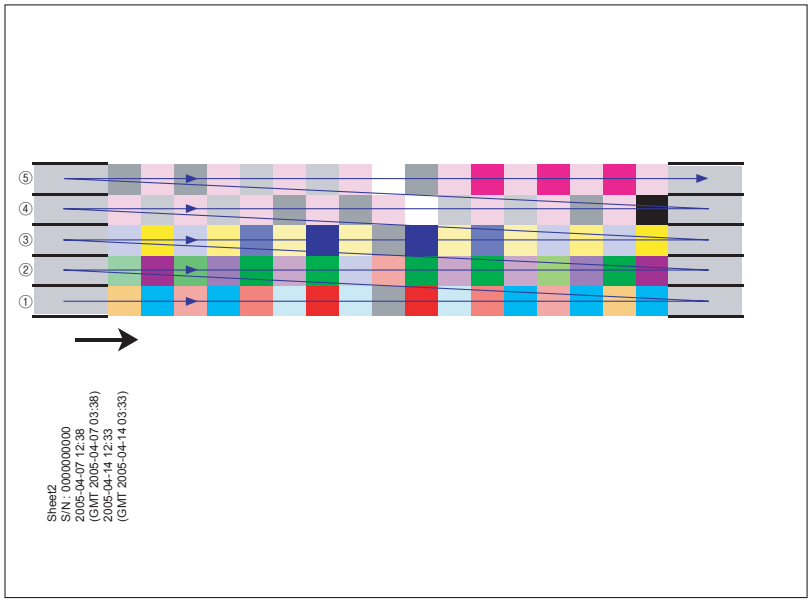


Figure 5-52. Color Measuring Order

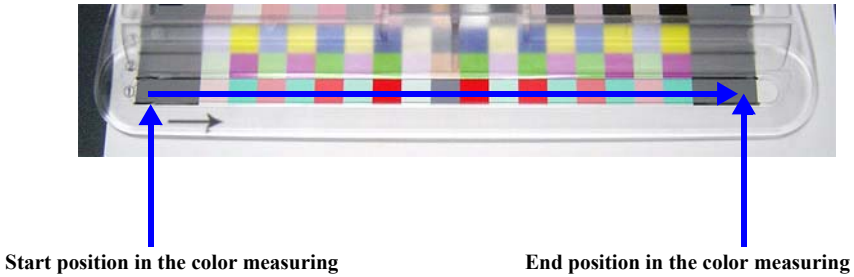


Figure 5-53. Setting the Calibrator/Color Measuring Position

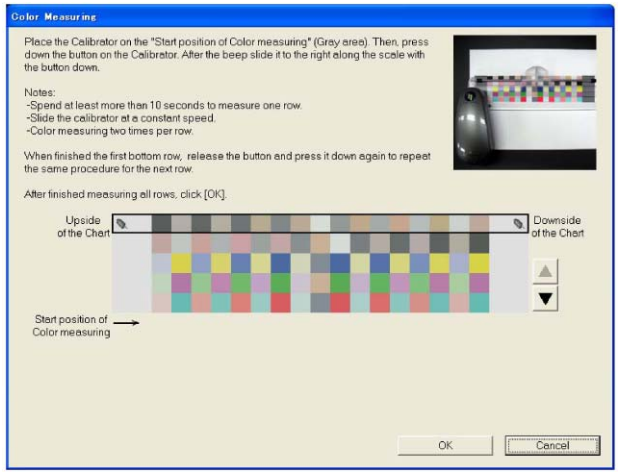


Figure 5-54. Color Measuring Screen

30. Click [Save] to save the result under a new file name (txt file).
31. Click [End].

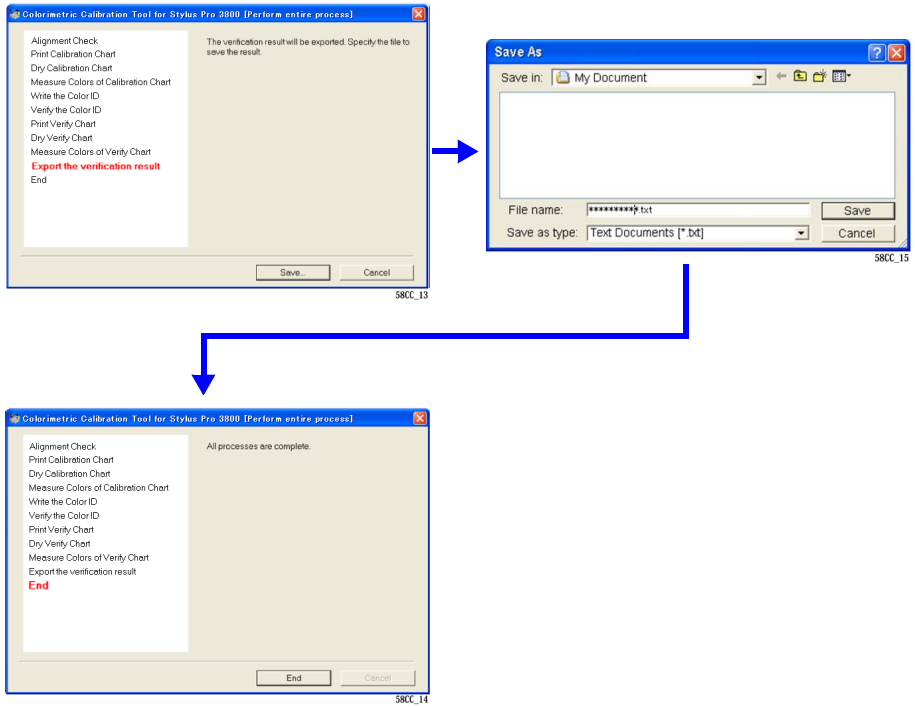


Figure 5-55. Entire Process Screen

5.3.12 Install F/W

The firmware of the printer is stored in the Flash ROM on the main board. Whenever the main board is replaced, or when updating the firmware is required, write the firmware into the Flash ROM following the procedure below.

CAUTION

If the printer is turned ON for the first time after the firmware is uploaded on the newly mounted main board which does not have any parameters at all, the printer automatically performs the initial ink charge. When the initial ink charge is not necessary, be sure to carry out settings referring to "5.3.5 Initial Ink Charge Flag ON/OFF" (Page 230).

CHECK POINT

When installing firmware, turn the printer ON in F/W update mode.

☐ Procedure

1. Turn both the printer and computer OFF and connect them with a USB cable.
2. Turn the computer ON.
3. Turn the printer ON while holding down the **Menu/Right** + **Back/Left** + **Ink Cover Open/UP** + **Paper Feed/Down** buttons on the printer's operation panel to start the printer in the F/W update mode.
4. Start up the Adjustment Program and select [Install F/W].
5. Select either of the following, and click on the Run button to start the tool to install each firmware.Install the firmware using the tool.
   - When installing the main firmware
     Selection item:XXXXX
     Tool: Firmware Update Tool
   - When installing the network firmware
     Selection item: XXXXX
     Tool: EpsonNet Config Utility

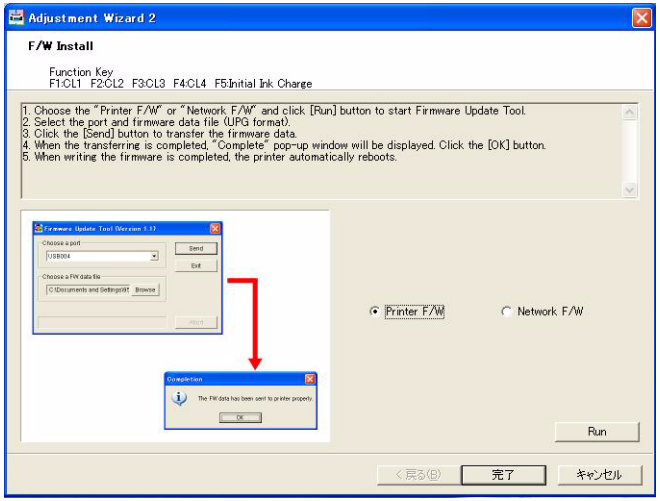


Figure 5-56. [Install F/W] Screen

☐ How to use the Firmware Update Tool

1. Select the port and the firmware file (UPG format).
2. Click [Send] to transfer the firmware data.
3. When the transferring is completed, "Complete" pop-up window will be displayed. Click [OK].
4. When writing the firmware is completed, the printer automatically reboots.

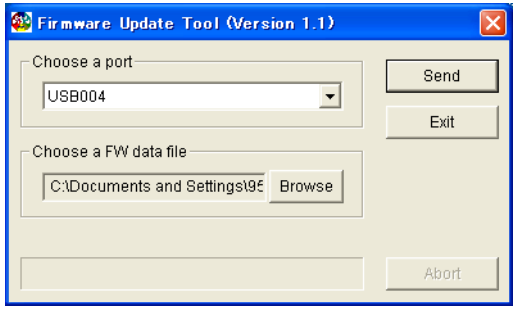


Figure 5-57. [Firmware Update Tool] Screen

5.3.13 Ink Mark Sensor Adjustment for Auto Nozzle Check

- Purpose
  - Verifies the sensitivity of the ink mark sensor. Malfunction of the sensor or poor connection status can be found.
  - Corrects the auto position of the ink mark sensor.
  - Checks if the ink mark sensor functions normally using the auto nozzle check.
- Paper Used
  - Size: A4/Letter
  - Type: Economy SuperFine Paper
- Procedure
  1. Turn the printer ON.
  2. Start up the Adjustment Program and select [Ink Mark Sensor Adjustment for Auto Nozzle Check].
  3. Click [Run] to print an adjustment pattern. The printer will automatically conducts the adjustment.
  4. Click [Finish].

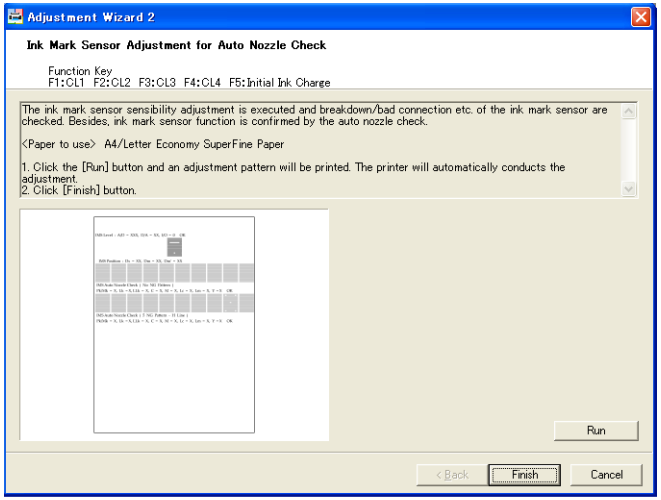
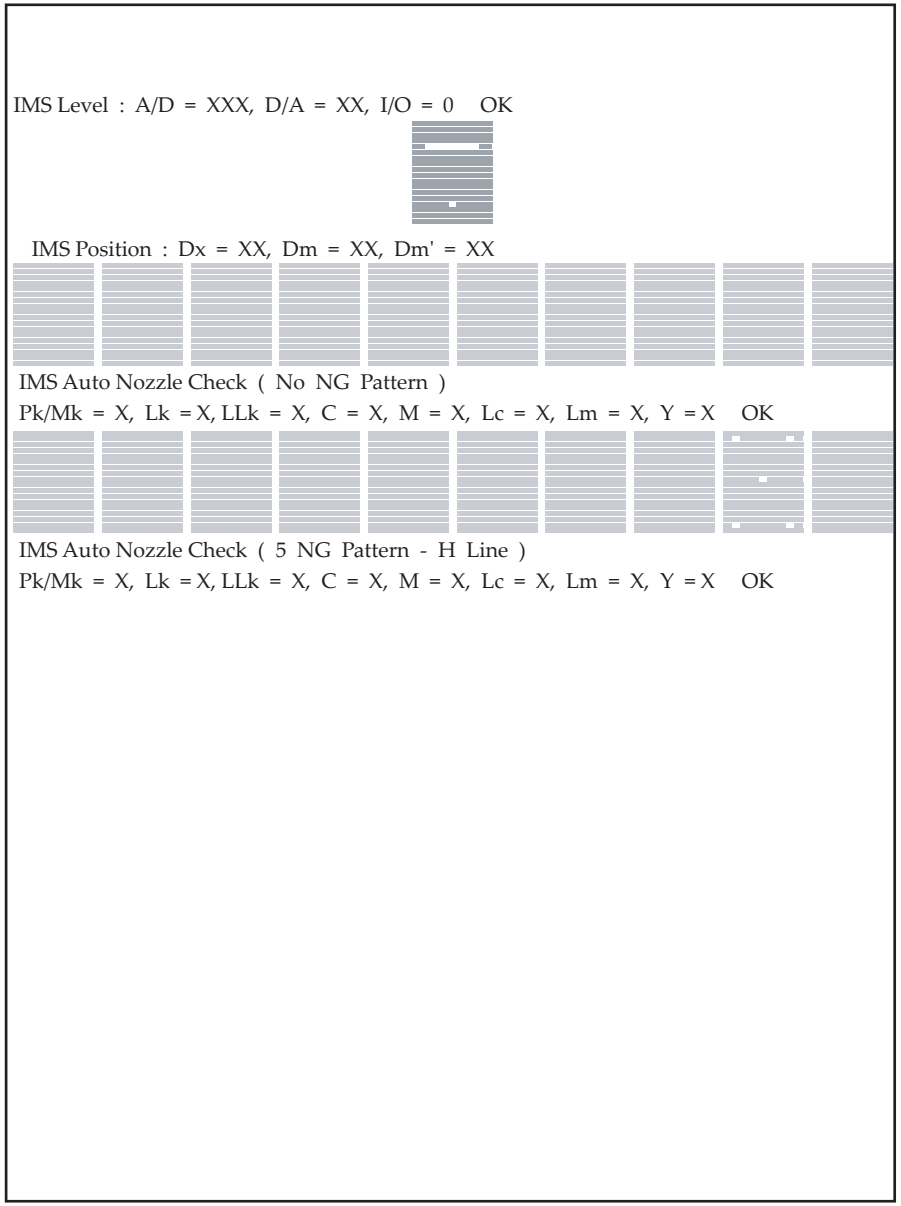


Figure 5-58. [Ink Mark Sensor Adjustment for Auto Nozzle Check] Screen



IMS-Check_01

Figure 5-59. Adjustment Pattern

5.3.14 Washing Head And Discharge Ink

☐ Purpose

Carries out head washing and discharging of ink.

CAUTION

This adjustment is provided only for refurbishing the Epson Stylus Pro 3800/3880.

☐ Procedure

1. Install PC Card Driver
   1-1. Unzip the LZF826DIO_553F.exe in the [LZF826DIO] folder. Execute the setup.exe in the [APIPAC/DIO/Disk1] folder to install the driver.
   1-2. If a new hardware detection wizard is displayed, select the unzipped folder of [INF/Win2000/Dio/PCCard].
2. Check DrvNo and GrpNo
   2-1. Start Menu -> CONTEC API-PAC(W32) -> Start up API-TOOL Configuration.
   2-2. Remember the DrvNo and GrpNo in the board list of Configuration Tool.
   2-3. Exit the Configuration Tool. At this time if the message to save in registry is displayed, click [Yes].
3. Set DrvNo, GrpNo
   3-1. In the screen of Head Washing and Ink Discharging in Adjustment Program, key in the DrvNo and GrpNo as remembered in Step 2.
4. Head Washing & Ink Discharge
   4-1. Click [Run] to Head Washing & Ink Discharge.
   4-2. Click [Finish].

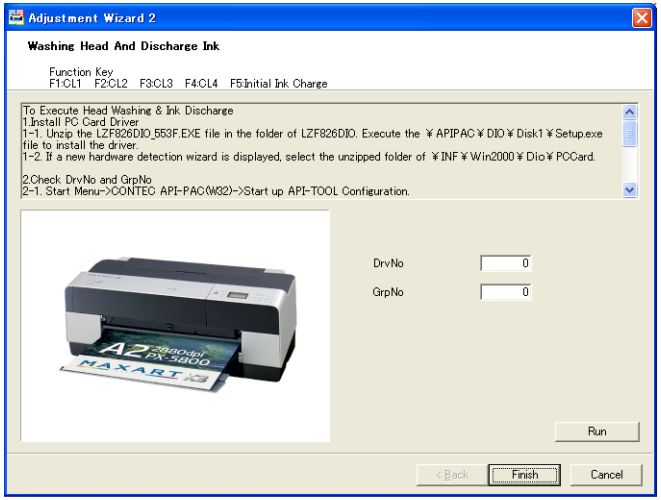


Figure 5-60. [Washing Head And Discharge Ink] Screen

5.3.15 Auto Bi-D Adjustment

☐ Purpose

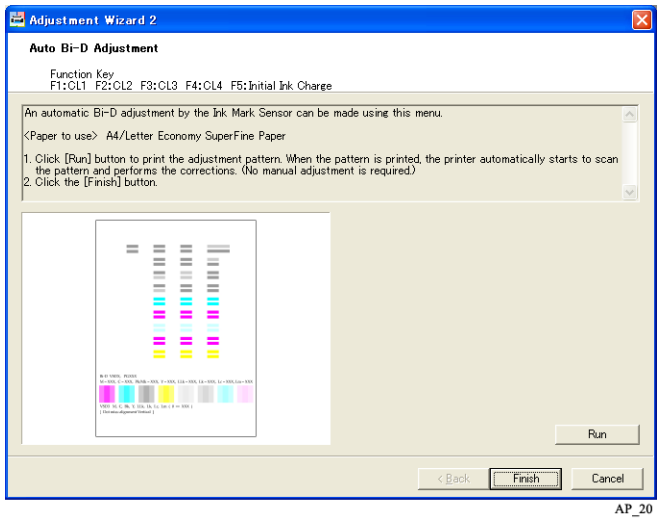
Carries out an automatic Bi-directional alignment adjustment using the ink mark sensor.

☐ Paper Used

- ■ Size: A4/Letter
- ■ Type: Economy SuperFine Paper

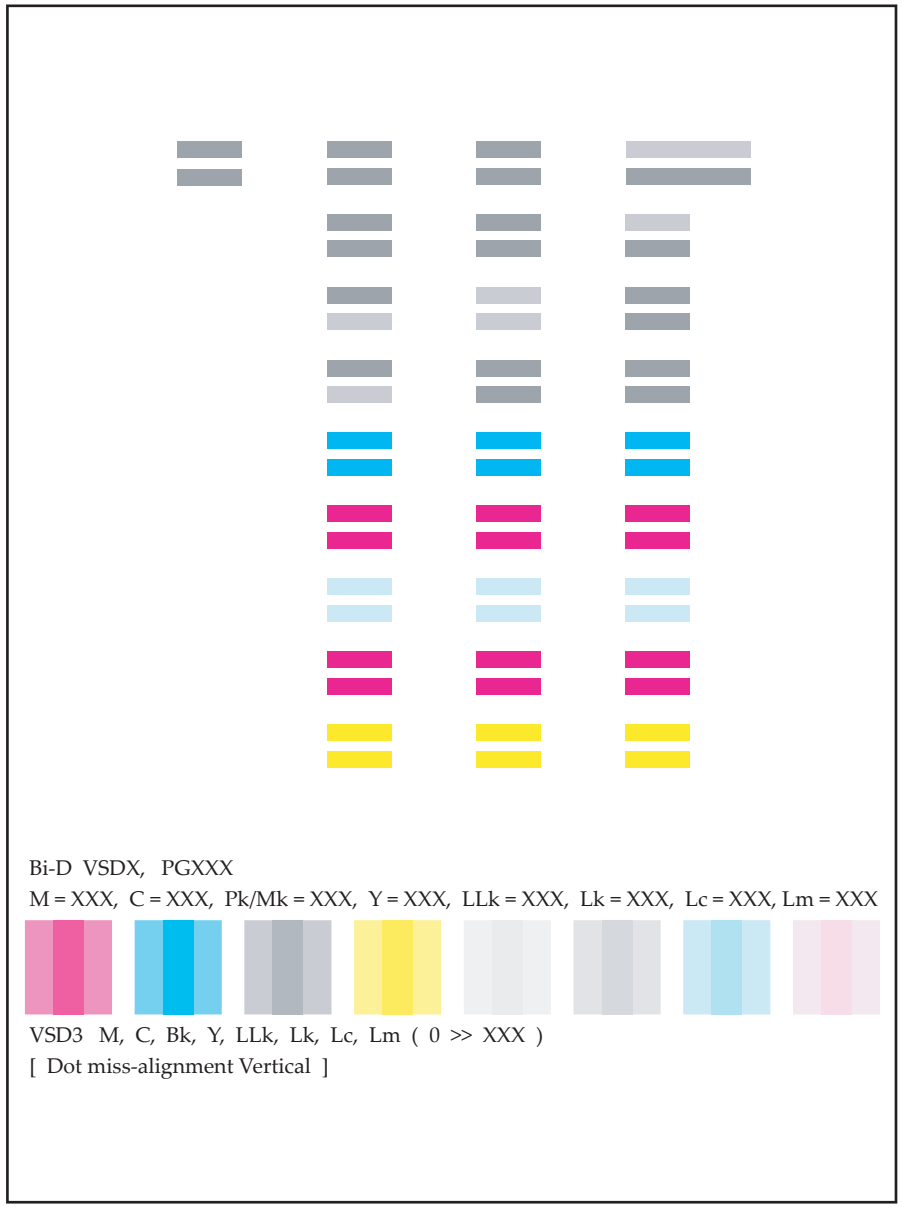
☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Auto Bi-D Adjustment].
3. Click [Run] to print the adjustment pattern.
   When the pattern is printed, the printer automatically starts to scan the pattern and performs the corrections. (No manual adjustment is required.)
4. Click [Finish].



AP_20

Figure 5-61. [Auto Bi-D Adjustment] Screen



Auto-Bid_01

Figure 5-62. Adjustment Pattern

5.3.16 Auto Uni-D Adjustment

☐ Purpose

Carries out an automatic Uni-directional alignment adjustment using the ink mark sensor.

☐ Paper Used

- Size: A4
- Type: Economy SuperFine Paper

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Auto Uni-D Adjustment].
3. Click [Run] to print the adjustment pattern.
   When the pattern is printed, the printer automatically starts to scan the pattern and performs the corrections. (No manual adjustment is required.)
4. Click [Finish].

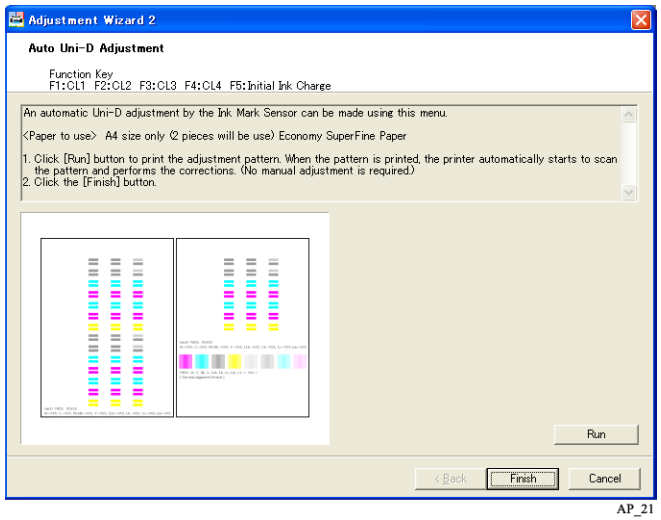


Figure 5-63. [Auto Uni-D Adjustment] Screen

Sheet 1 **Sheet 2**

Auto-Unid_01

Figure 5-64. Adjustment Pattern

5.3.17 Check the Release Of Grid Roller

☐ Purpose

Check the release operation of the grid roller.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check the Release Of Grid Roller].
3. Draw out the board paper tray and visually check the release (separating) operation of the grid roller.
4. Close the board paper tray and check whether the grid roller return to the original position or not.
5. Click [Finish].

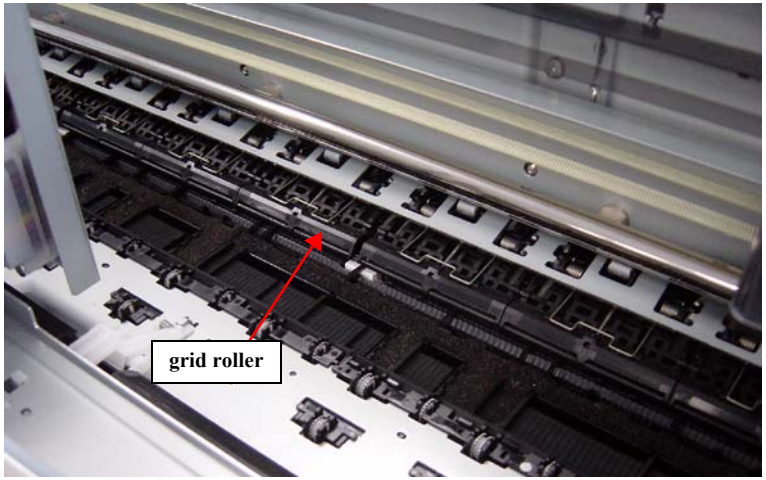
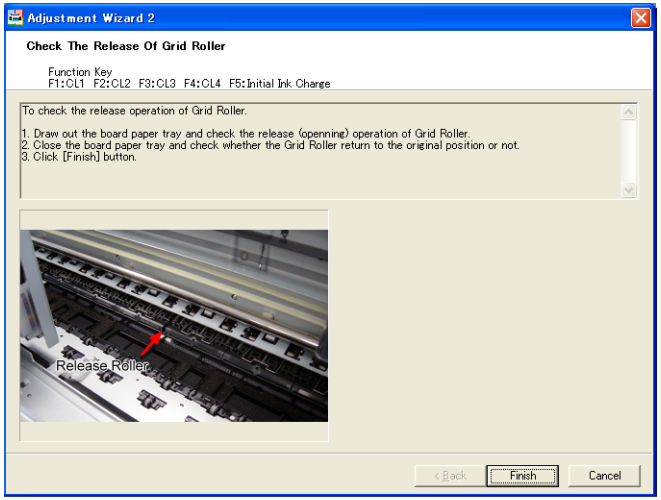


Figure 5-65. Grid Roller



AP_22

Figure 5-66. [Check the Release Of Grid Roller] Screen

5.3.18 Check Network Communication

☐ Purpose

Checks the printer communication through network connection.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check Network Communication].
3. Input IP address and click [Run].
4. Click [Finish].

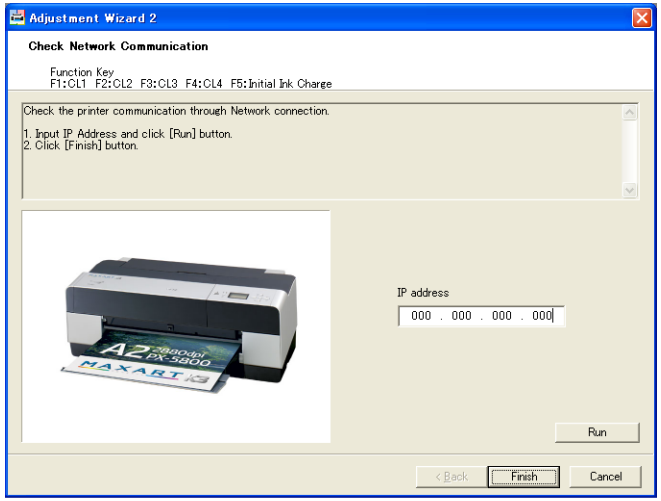


Figure 5-67. [Check Network Communication] Screen

5.3.19 T&B&S Adjustment

☐ Purpose

Adjusts the position to start printing on the paper.

☐ Paper Used

- Size: A4/Letter
- Type: Enhanced Matte Paper (US)/
  Archival Matte Paper (Europe, Asia)

☐ Standard

Margin 5mm

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [T&B&S Adjustment].
3. Click [Print] to print the adjustment pattern.
4. Referring to Figure 5-69, select the numerical value for the position where the printed line is exactly 5mm away from the paper edge (for each left, right, top, and bottom sides).
5. Enter the numerical values found in Step 4 into the corresponding edit boxes.
6. Click [Write] and then click [Print] to print the adjustment pattern again.
7. After confirming that all values are within the specified range, click [Finish]. If they are not, perform Step 4 to Step 6 again.

CAUTION

Be sure to place the adjustment pattern print on a flat surface when performing the measurement.

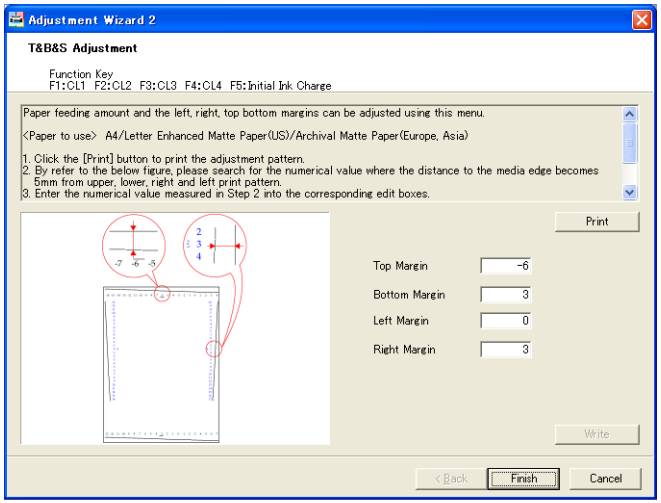
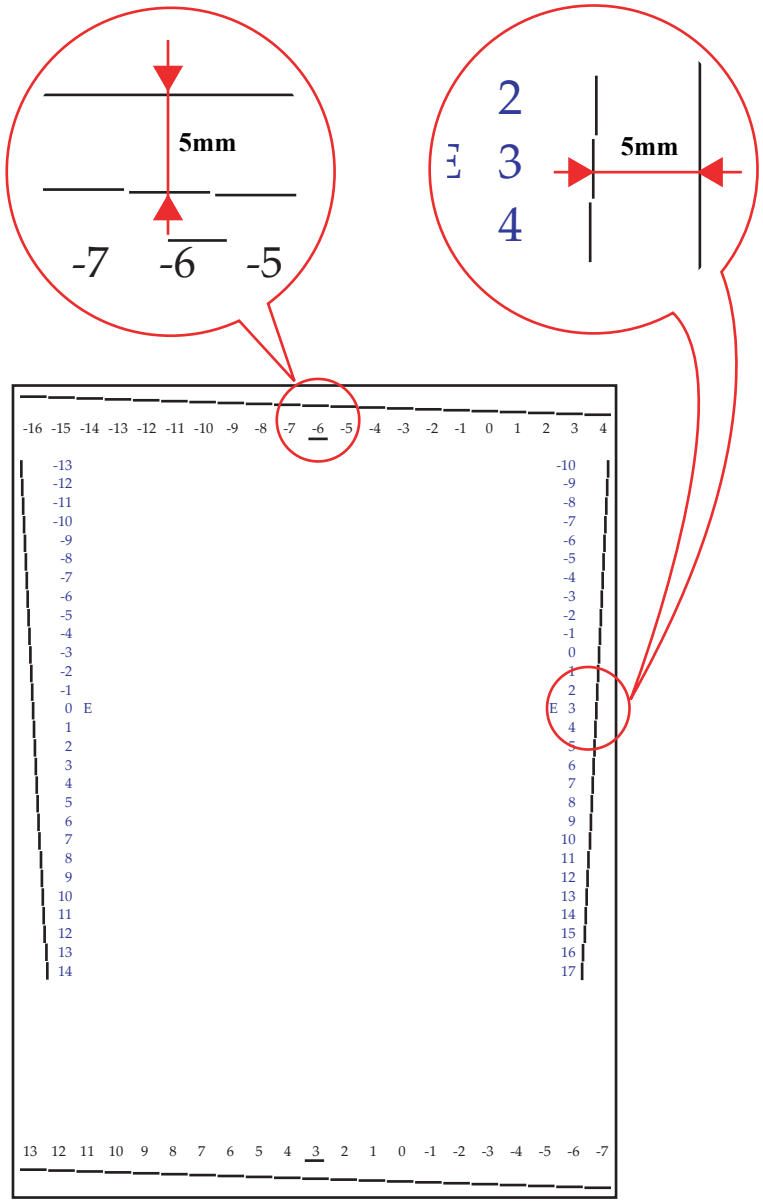


Figure 5-68. [T&B&S Adjustment] Screen



TBS_Adjustment_01

Figure 5-69. Adjustment Pattern

CHECK POINT

The under bar "_" on the top and bottom margins, and the "E" next to the left and right margins show the current settings.

5.3.20 PF Adjustment

☐ Purpose

Checks and corrects the pitch of paper feeding during printing (except for printing on the bottom area).

☐ Paper Used

- Size: A4/Letter
- Type: Enhanced Matte Paper (US)/
  Archival Matte Paper (Europe, Asia)

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [PF Adjustment].
3. Click [Print] to print the adjustment pattern.
4. Examine the printout patterns, and select the value for the group of most closely aligned patterns. (no gap but not overlapping each other).

CHECK POINT

The "E" next to the numbers show the current settings.

5. Enter the numerical value found in Step 4 into the corresponding edit box.
6. Click [Write] and then click [Print] to print the adjustment pattern again.
7. Confirm the adjustment condition and if they are proper results, click [Finish]. If they are not, perform Step 4 to Step 6 again.

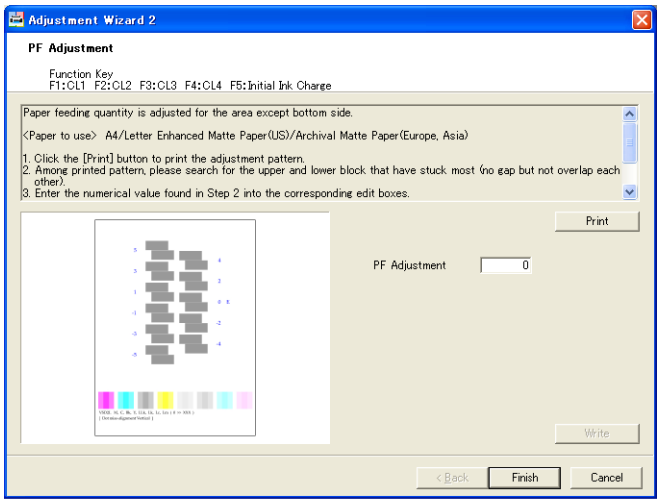


Figure 5-70. [PF Adjustment] Screen

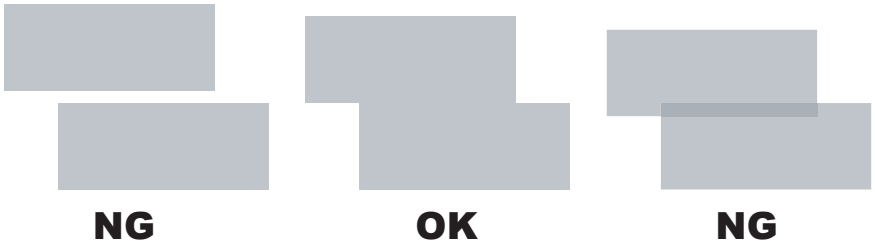
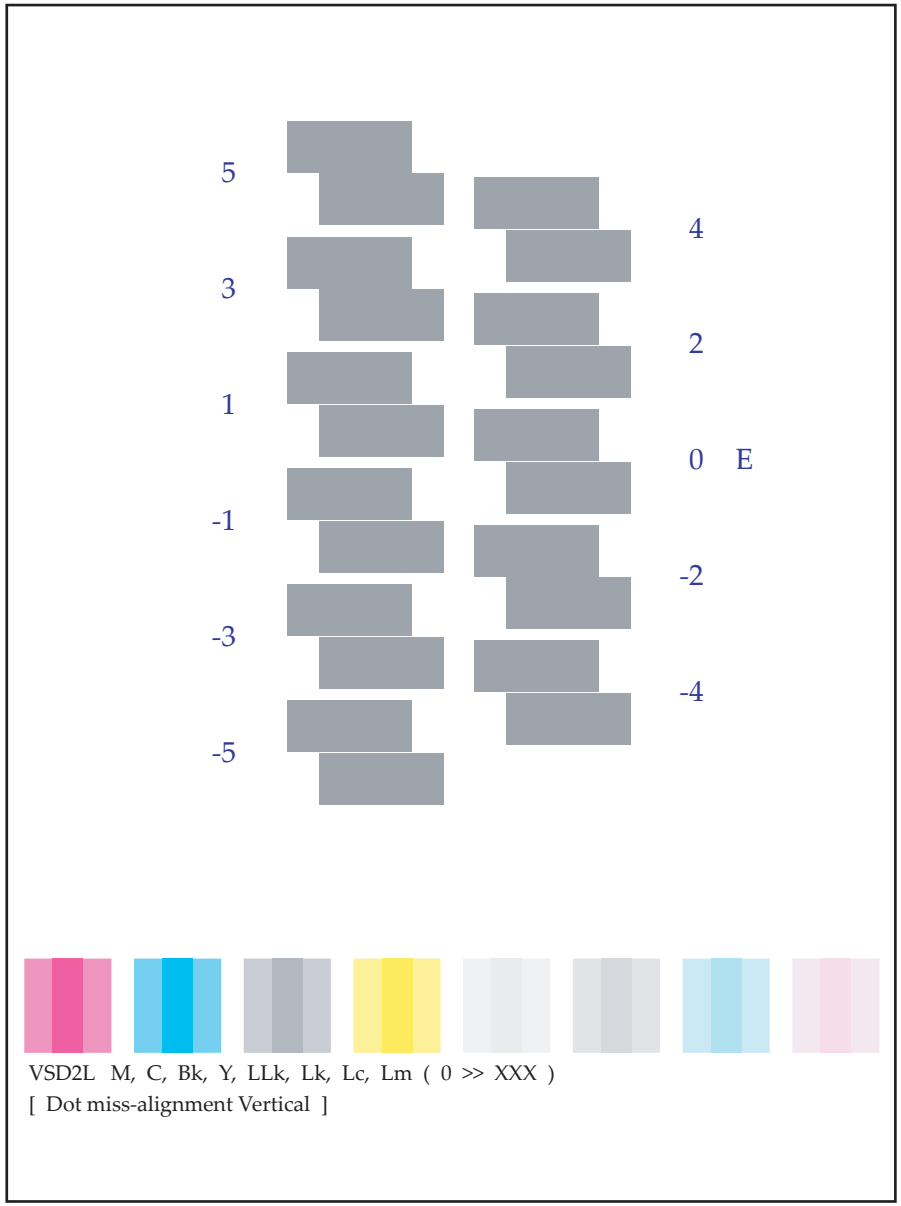


Figure 5-71. Confirmation Point



PF-Adjustment_01

Figure 5-72. Adjustment Pattern

5.3.21 EJ Adjustment

☐ Purpose

Checks and corrects the pitch of paper feeding during printing on the bottom area.

☐ Paper Used

- Size: A4
- Type: Enhanced Matte Paper (US)/
  Archival Matte Paper (Europe, Asia)

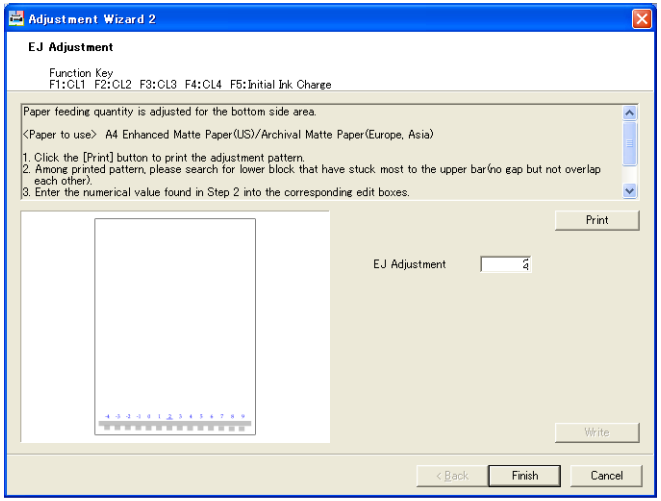
☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [EJ Adjustment].
3. Click [Print] to print the adjustment pattern.
4. Examine the printout patterns, and select the value for the pattern of most closely aligned with the upper bar. (no gap but not overlapping each other).

CHECK POINT

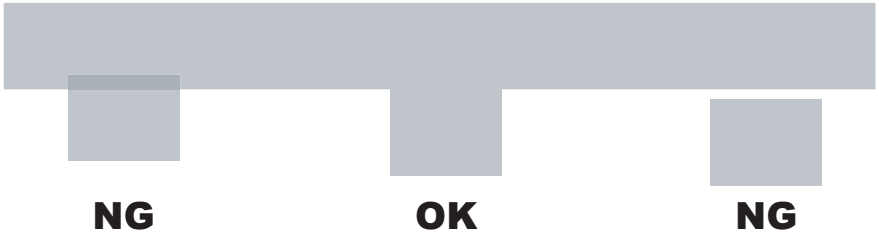
The "_" under the numbers show the current settings.

5. Enter the numerical value found in Step 4 into the corresponding edit box.
6. Click [Write] and then click [Print] to print the adjustment pattern again.
7. Confirm the adjustment condition and if they are proper results, click [Finish]. If they are not, perform Step 4 to Step 6 again.



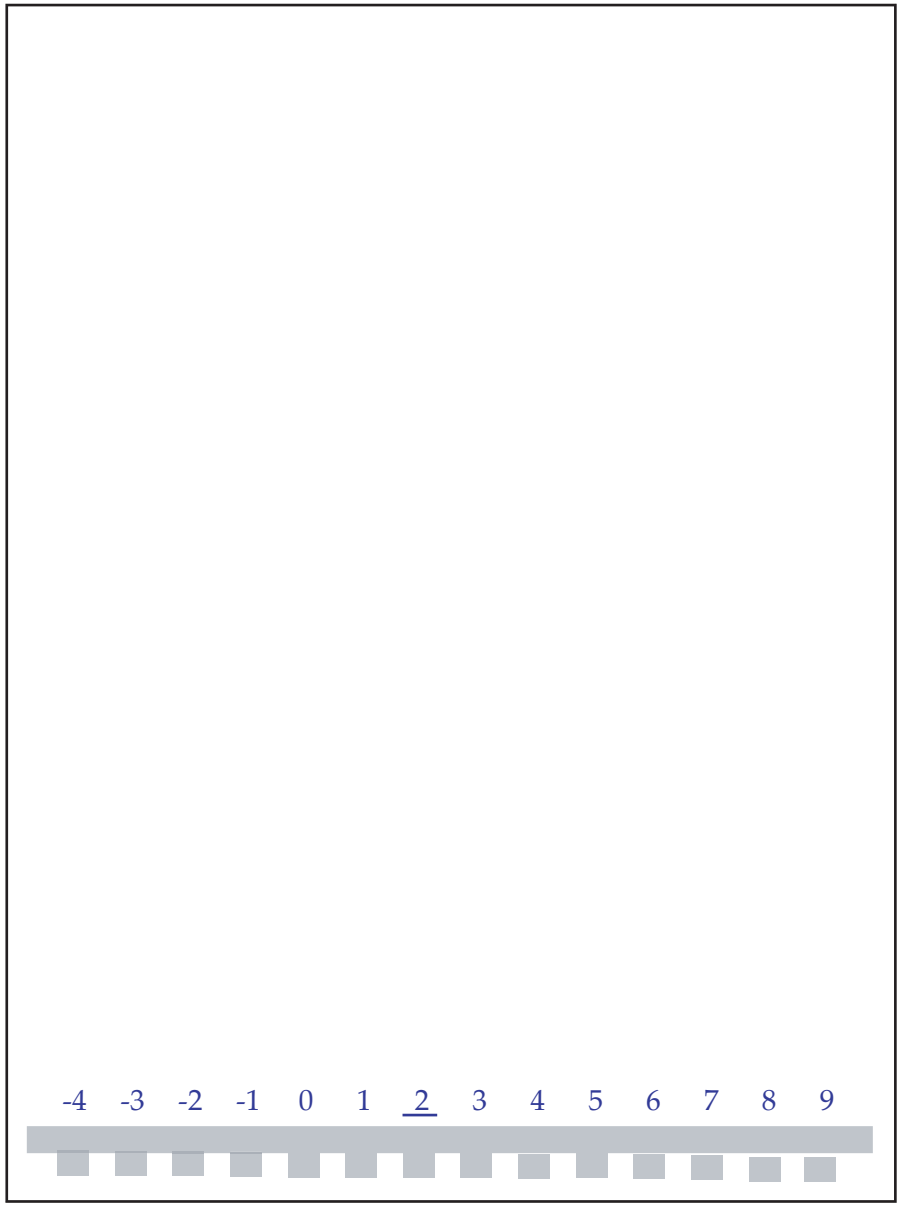
AP_26

Figure 5-73. [EJ Adjustment] Screen



EJ-Adjustment_02

Figure 5-74. Confirmation Point



EJ-Adjustment_01

Figure 5-75. Adjustment Pattern

5.3.22 Check Ink Selector Operation

☐ Purpose

Checks if the Ink Selector functions normally or not.

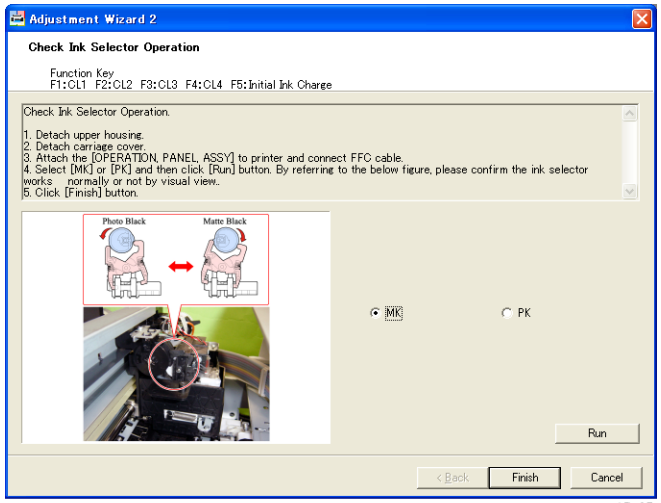
☐ Procedure

1. Remove the HOUSING, UPPER.

CHECK POINT

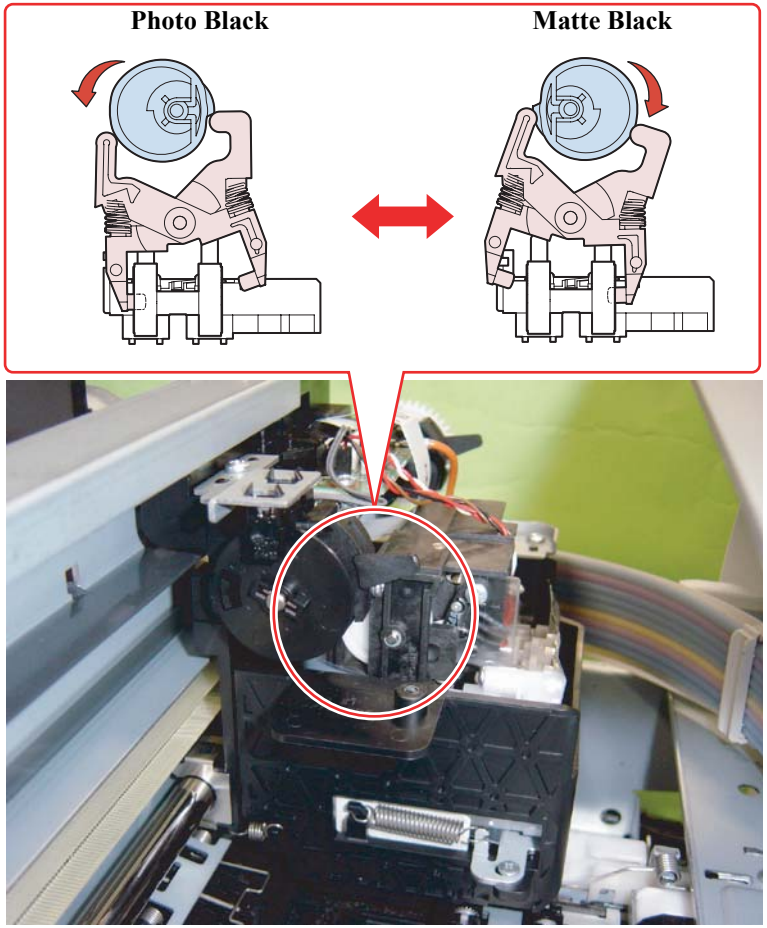
When removing the HOUSING, UPPER, do not remove the LOCK, COVER, ASSY. Keep the ink cover closed and turn the ink cover open sensor ON.

2. Remove the COVER, CR.
3. Attach the OPERATION, PANEL, ASSY to the printer and connect the FFC cable.
4. Turn the printer ON.
5. Start up the Adjustment Program and select [Check Ink Selector Operation].
6. Select [MK] or [PK] and then click [Run].
   Referring to Figure 5-77, visually check if the ink selector works normally or not.
7. Click [Finish].



AP_27

Figure 5-76. [Check Ink Selector Operation] Screen



INK-SLCT_01

Figure 5-77. Ink Selector Switching Operation

5.3.23 Write Constant When CR change

☐ Purpose

A current applied to the CR motor is controlled based on the mechanical load that changes with years of use and the motor characteristics stored in the NVRAM. Whenever the CR Motor is replaced, use this menu to store the characteristics of the new motor into the NVRAM.

☐ Procedure

1. Write down the following values printed on the label of the CR Motor. Then, replace the CR Motor and assembly the printer.
   - Induced voltage constant: xx.x mV/rad/s
   - Motor Resistance: xx.x Ω
2. Turn the printer ON.
3. Start up the Adjustment Program and select [Write Constant When CR change].
4. Input the values written down in Step 1 to the corresponding edit boxes of [Voltage Of Motor] and [Motor Resistance].
5. Click [Write].
6. Click [Finish].

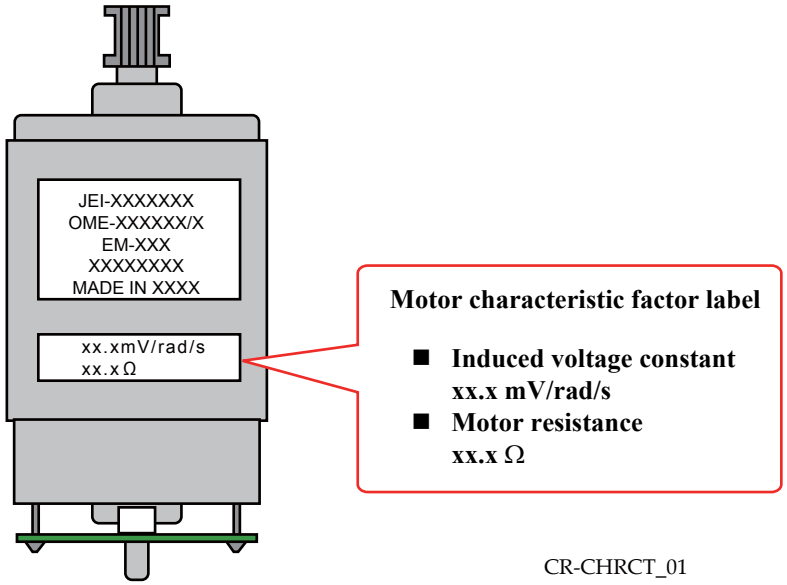


Figure 5-78. Motor Characteristic Factor Label

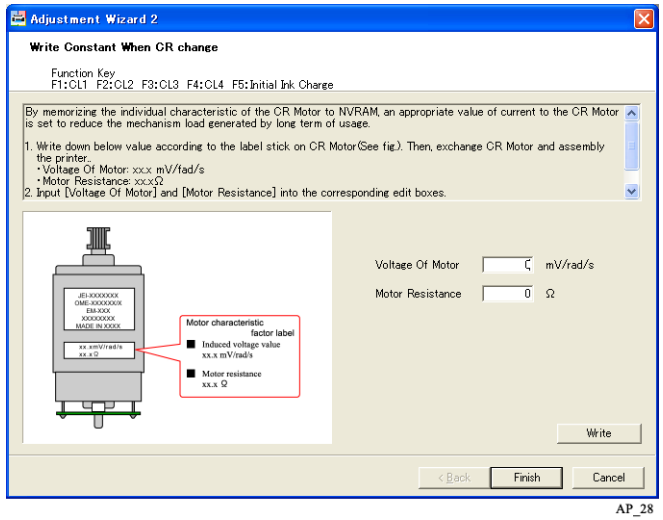


Figure 5-79. [Write Constant When CR change] Screen

5.4 Check Results

5.4.1 Check Nozzle

☐ Purpose

This menu allows you to check the ink nozzles for clogging. If they are found to be clogging, perform a cleaning and then check them again.

☐ Paper Used

- Size: A4/Letter
- Type: Economy Super Fine Paper

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check Nozzle].
3. Click [Run] to print a nozzle check pattern.
4. Check the printout pattern for dot missing.
5. When no dot-missing is observed, click [Finish] to exit out of the menu. If the pattern has broken lines or missing segment, run a cleaning. Then print the pattern again to check.

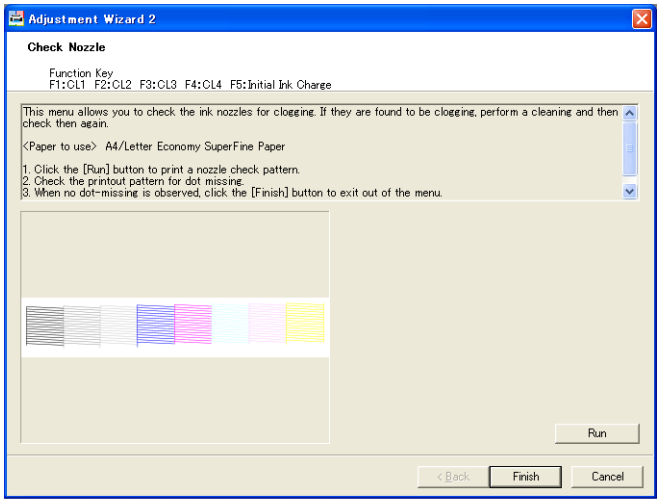
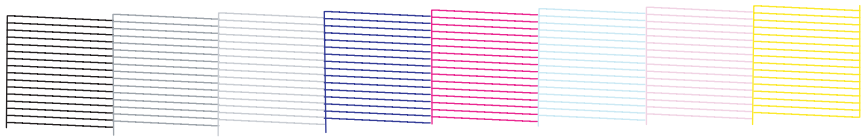


Figure 5-80. [Check Nozzle] Screen



Nozzle-Check

Figure 5-81. Nozzle Check Pattern

5.4.2 Print Image

☐ Purpose

To confirm adjustment result by printing your selected file.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Print Image].
3. Click [Open] and select any one of the image files.
   (The image files will be displayed in utility)
4. Click [Print] and printer windows appears. Select the printer driver.
5. Check the print quality, and click [Finish].

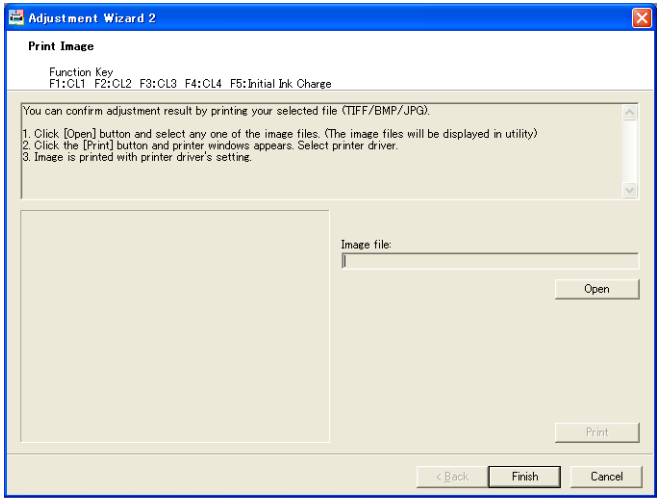


Figure 5-82. [Print Image] Screen

5.4.3 Check Results

☐ Purpose

Prints out all the adjustment patterns and parameters stored on the printer.

☐ Paper Used

- Size: A3
- Type: All types of paper

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check Results].
3. Click [Print] to print the Adjustment Result Check Sheet.
4. After confirming the result, click [Finish].

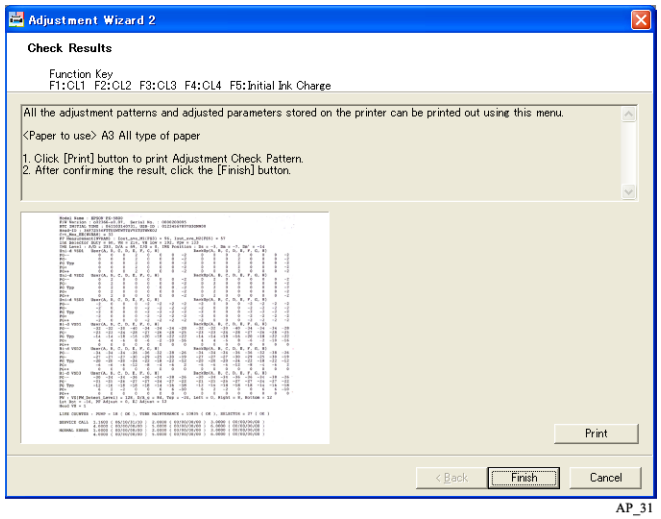


Figure 5-83. [Check Results] Screen

```
Model Name : EPSON PX-5800
F/W Version : o02366-a0.07,  Serial No. : 0000200095
RTC INITIAL TIME : 061103140731, USB-ID : 01234567897B3GNN00
Head-ID : 36F72556FTTUUWTWTTSVVXTUTWWK0J
Crt_Mea_EE(NVRAM) = 33
PF Measurement(NVRAM) : Iout_ave_M1(FS3) = 96, Iout_ave_M2(FS5) = 57
Ink Selector Duty = 60, VH = 214, VH low = 192, Vpw = 133
IMS Level : A/D = 233, D/A = 69, I/O = 0, IMS Position : Ds = -3, Dm = -7, Dm' = -14
Uni-d VSD1   User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--          0   0   0   2   0   0   0  -2           0   0   0   2   0   0   0  -2
PG-           0   0   0   2   0   0   0  -2           0   0   0   2   0   0   0  -2
PG Typ        0   0   0   2   0   0   0  -2           0   0   0   2   0   0   0  -2
PG+           0   0   0   2   0   0   0  -2           0   0   0   2   0   0   0  -2
PG++          0   0   0   2   0   0   0  -2           0   0   0   2   0   0   0  -2
Uni-d VSD2   User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--          0   2   0   0   0   0   0  -2           0   2   0   0   0   0   0  -2
PG-           0   2   0   0   0   0   0  -2           0   2   0   0   0   0   0  -2
PG Typ        0   2   0   0   0   0   0  -2           0   2   0   0   0   0   0  -2
PG+           0   2   0   0   0   0   0  -2           0   2   0   0   0   0   0  -2
PG++          0   2   0   0   0   0   0  -2           0   2   0   0   0   0   0  -2
Uni-d VSD3   User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--         -2   0   0   0  -2  -2  -2  -2          -2   0   0   0  -2  -2  -2  -2
PG-          -2   0   0   0  -2  -2  -2  -2          -2   0   0   0  -2  -2  -2  -2
PG Typ       -2   0   0   0  -2  -2  -2  -2          -2   0   0   0  -2  -2  -2  -2
PG+          -2   0   0   0  -2  -2  -2  -2          -2   0   0   0  -2  -2  -2  -2
PG++         -2   0   0   0  -2  -2  -2  -2          -2   0   0   0  -2  -2  -2  -2
Bi-d VSD1    User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--        -32 -32 -30 -40 -34 -34 -34 -28          -32 -32 -30 -40 -34 -34 -34 -28
PG-         -23 -23 -24 -28 -27 -26 -28 -25          -23 -23 -24 -28 -27 -26 -28 -25
PG Typ      -14 -14 -18 -16 -20 -18 -22 -22          -14 -14 -18 -16 -20 -18 -22 -22
PG+           4   4  -6   8  -6  -2 -10 -16            4   4  -6   8  -6  -2 -10 -16
PG++          0   0   0   0   0   0   0   0            0   0   0   0   0   0   0   0
Bi-d VSD2    User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--        -34 -34 -34 -36 -36 -32 -38 -26          -34 -34 -34 -36 -36 -32 -38 -26
PG-         -27 -27 -27 -30 -29 -25 -30 -19          -27 -27 -27 -30 -29 -25 -30 -19
PG Typ      -20 -20 -20 -24 -22 -18 -22 -12          -20 -20 -20 -24 -22 -18 -22 -12
PG+          -6  -6  -6 -12  -8  -4  -6   2           -6  -6  -6 -12  -8  -4  -6   2
PG++          0   0   0   0   0   0   0   0            0   0   0   0   0   0   0   0
Bi-d VSD3    User(A, B, C, D, E, F, G, H)              BackUp(A, B, C, D, E, F, G, H)
PG--        -30 -34 -34 -36 -36 -34 -38 -26          -30 -34 -34 -36 -36 -34 -38 -26
PG-         -21 -25 -26 -27 -27 -24 -27 -22          -21 -25 -26 -27 -27 -24 -27 -22
PG Typ      -12 -16 -18 -18 -18 -14 -16 -18          -12 -16 -18 -18 -18 -14 -16 -18
PG+           6   2  -2   0   0   6   6 -10            6   2  -2   0   0   6   6 -10
PG++          0   0   0   0   0   0   0   0            0   0   0   0   0   0   0   0
PW : VS(PW_Detect_Level) = 128, D/A_g = 84, Top = -24, Left = 0, Right = 8, Bottom = 12
1st Dot = -16, PF Adjust = 0, EJ Adjust = 12
Head VH = 1

LIFE COUNTER : PUMP = 18 ( OK ), TUBE MAINTENANCE = 10835 ( OK ), SELECTOR = 27 ( OK )

SERVICE CALL  1.1600 ( 06/10/31/10 )  2.0000 ( 00/00/00/00 )  3.0000 ( 00/00/00/00 )
              4.0000 ( 00/00/00/00 )  5.0000 ( 00/00/00/00 )  6.0000 ( 00/00/00/00 )
NORMAL ERROR  1.0000 ( 00/00/00/00 )  2.0000 ( 00/00/00/00 )  3.0000 ( 00/00/00/00 )
              4.0000 ( 00/00/00/00 )  5.0000 ( 00/00/00/00 )  6.0000 ( 00/00/00/00 )
```

Figure 5-84. Adjustment Result Check Sheet Sample

5.4.4 Check Alignment

☐ Purpose

Checks the print alignment for the all print modes (ECO, VSD1L, VSD2L and VSD3). If any misalignment symptoms or abnormalities are found on the printed pattern, a cleaning must be performed.

☐ Paper Used

- Size: A4/Letter
- Type: Economy Super Fine Paper

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select [Check Alignment].
3. Click [Run] to print an alignment check pattern.
4. Check the printout pattern for any misalignment symptoms.
5. When no misalignment symptom is observed, click [Finish] to exit out of the menu. If misalignment is found on the pattern, run a cleaning. Then print the pattern to check again.

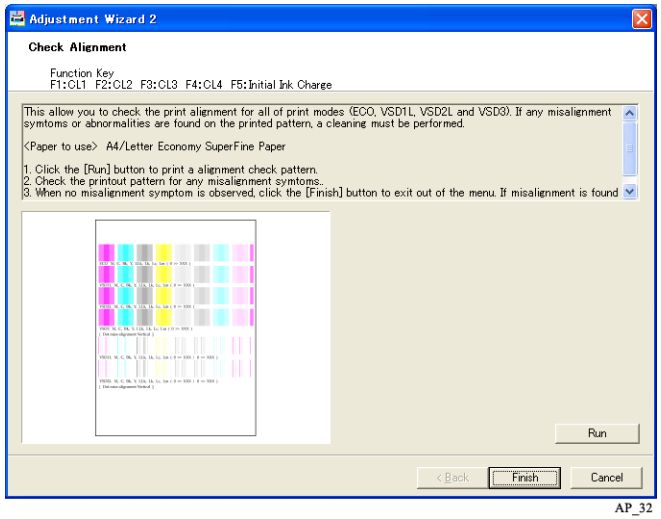


Figure 5-85. [Check Alignment] Screen

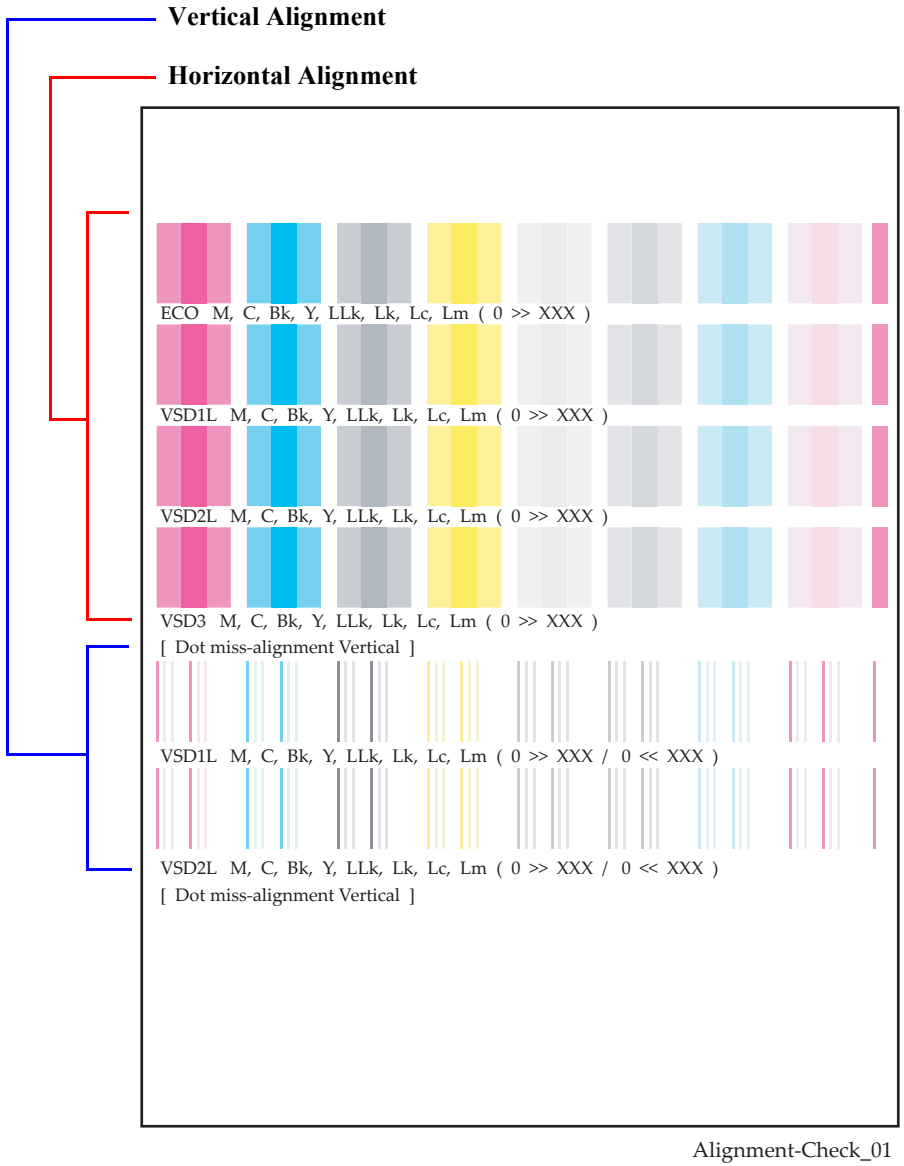


Figure 5-86. Alignment Check Pattern

5.5 Reset Counters

Whenever replacing a part/unit whose service life is counted by the counter, the corresponding counter must be reset immediately after installing a new one.

☐ Purpose

To exchange parts in an appropriate timing, keep the counter counts managed precisely.

☐ Procedure

1. Turn the printer ON.
2. Start up the Adjustment Program and select the applicable counter reset menu.
3. Click [Run] to reset the counter.
4. Click [Finish].

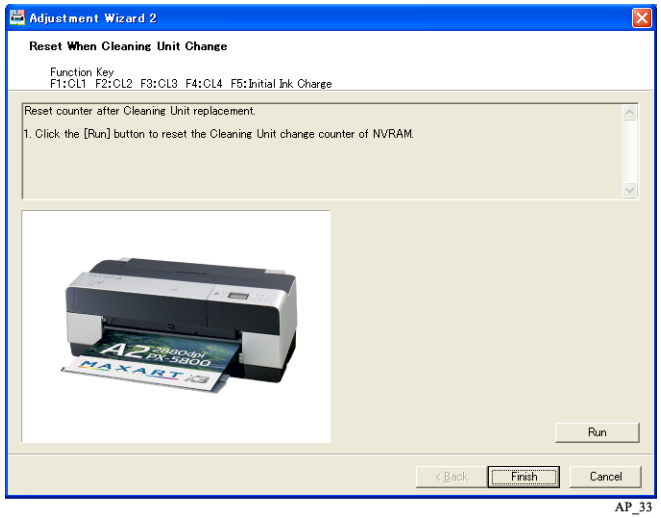


Figure 5-87. Counter Reset Screen

Table 5-5. Counter Reset List

Replaced Parts Name	Reset Menu Name
PUMP, CAP, ASSY	Reset When Cleaning Unit Change
	Reset When Pump Motor Change
PRINT HEAD	Reset When Print Head Change
INK, SYSTEM, ASSY	Reset When INK SYSTEM ASSY Change
POROUS PAD, TRAY, INK EJECT	Reset When Ink Holder Waste Absorber Change
POROUS PAD, INK WASTE BOX, RIGHT/ POROUS PAD, INK WASTE BOX, LEFT	Reset When Borderless Absorber Change
MOTOR ASSY., CR	Reset When CR Motor Change
ASF, ASSY	Reset When ASF Unit

CHAPTER

6

MAINTENANCE

6.1 Overview

This chapter provides information on how to maintain the printer in its optimum operating condition.

Basically, servicing on the printer should be performed on-site. Be sure to strictly observe the following precautions 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 code from the wall outlet before disassembling or assembling the printer to prevent electric shock and damage to the circuit.**
- **A lithium battery is mounted on the Main Board (control circuit) for memory backup. Be sure to observe the following precautions when handling the lithium battery.**
  - **Be careful not to short the electrode of the battery.**
  - **When replacing the battery, make sure to insert it in correct orientation.**
  - **Never heat the battery or plunge it into the flames.**
  - **Do not put the Main Board directly on conductive materials.**
- **Be extremely careful not to get the ink into your eye or let it come into contact with your skin. If it happens, wash out your eye or skin with water immediately. If any abnormality is found, contact a physician.**

- **Ensure sufficient work space for servicing.**
- **Locate the printer on a stable and flat surface.**
- **When carrying the printer, be sure to hold the printer by its holding positions.**
- **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 drive gear unit or carriage 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.**
  1. **Check that the Print Head is capped properly.**
  2. **Remove the all ink cartridges.**
  3. **Repack the printer using the packaging box, cushioning materials and protective equipment indicated in the unpacking guide.**

6.2 Product Life Information

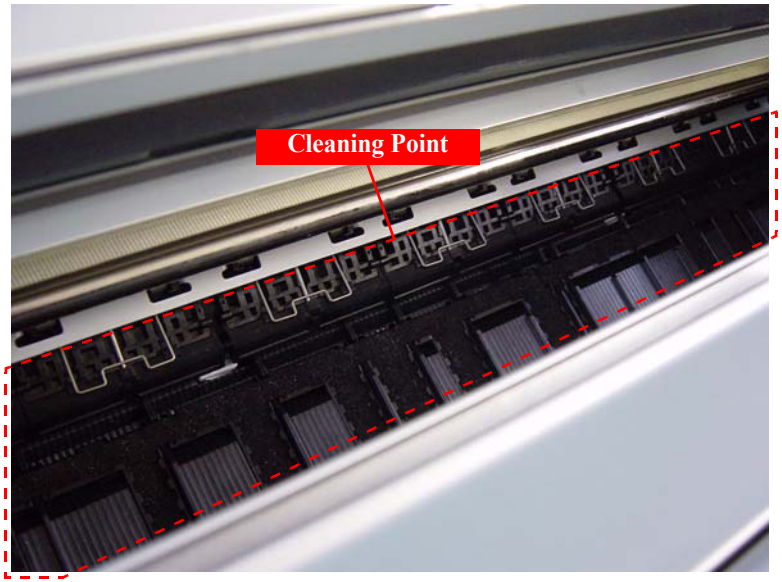
The information of the parts whose product life is controlled is shown below.

Name		Life	Maintenance Call Threshold Value to Call	Service Call	Actions when the Life is Reached
Main Unit		The end of the life is reached when any one of the following conditions is met. • Duration of service: 5 years • Print pages: 12,000 pages (with A2-sized plain paper in the Quality mode) • Carriage movements: 1,600,000 cycles	None	None	None
Print Head		The end of the life is reached when any one of the following conditions is met. • Duration of service: 5 years (at room temperature) • Total shots: 28,000,000,000 shots/nozzle	None	None	None
Ink System	Pump Assy.	Pump Motor's revolutions: 400,000	MAINTENANCE REQUEST 0040 Remaining Life 4%	SERVICE CALL ERROR 142D	Replace the PUMP, CAP, ASSY. Reset the life counter using the Adjustment program.
	Cartridge Holder Waste Ink Pads	Ink Cartridge removal: 1,200 times (Total amount of 9 inks: 160 g)	MAINTENANCE REQUEST 0080 1,194 times	SERVICE CALL ERROR 1430	Replace the POROUS PAD, TRAY, INK EJECT. Reset the life counter using the Adjustment program.
	Ink Selector	Selection lever switching operations: 7,800 cycles	1000 Remaining Life 1%	SERVICE CALL ERROR 1431	Replace the INK SYSTEM ASSY. Reset the life counter using the Adjustment program.
	Ink Tube	Carriage movements: 4,800,000 cycles	MAINTENANCE REQUEST 0002 Remaining Life 4%	SERVICE CALL ERROR 1101	Replace the INK SYSTEM ASSY. Reset the life counter using the Adjustment program.
Mechanism	Absorbers for Borderless Printing	Counter of Absorbers for Borderless Printing (Print pages: 10,000 pages with L-sized paper)	MAINTENANCE REQUEST 0001 Remaining Life 1%	SERVICE CALL ERROR 1550	Replace the POROUS PAD, INK WASTE BOX, LEFT/RIGHT. Reset the life counter using the Adjustment program.

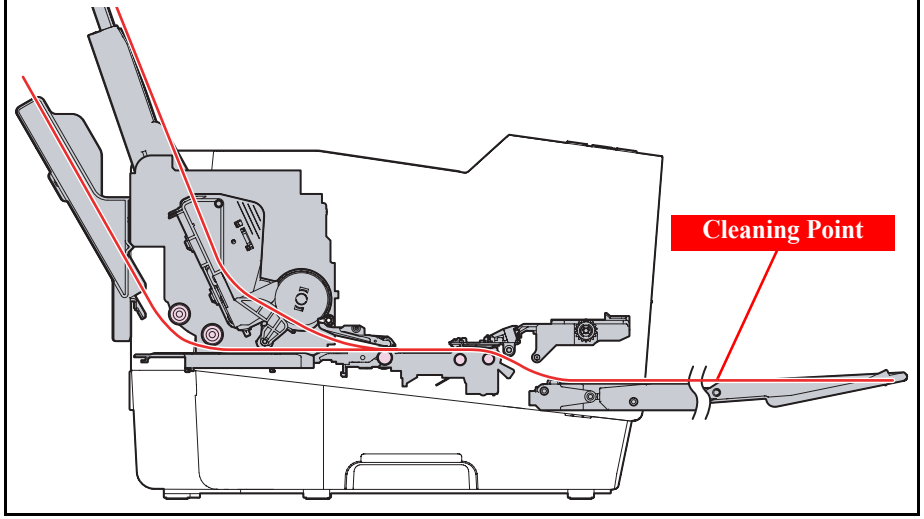
6.3 Cleaning

Be sure to check the following items when servicing the printer, and clean the printer as necessary.

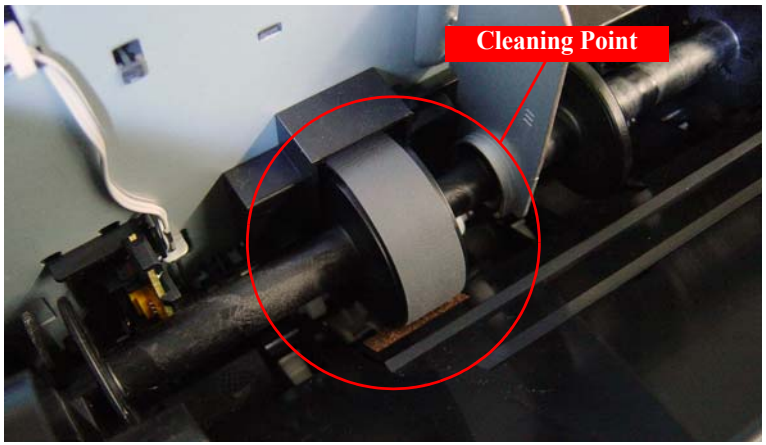
Item	Platen's surface
Point to be checked	1. Is there any paper dust or foreign matter on it? 2. Is there any ink adhered to it?
Remedy	1. Clean it off with a brush or OA cleaner. 2. Wipe it off with a damped cloth, and then wipe with a clean, dry cloth.



Item	Paper feed path
Point to be checked	Has any paper dust been accumulated?
Remedy	Clean it off with a brush or OA cleaner.



Item	ASF PF roller / Separation pad
Point to be checked	Has any paper dust been accumulated?
Remedy	Clean it off with a clean, dry cloth.



6.4 Lubrication

LUBRICATION

To maintain the functions and performance of this printer, make sure to properly lubricate the parts/units specified in this section as necessary when replacing or maintaining them.

CAUTION

Be sure to perform the lubrication by strictly adhering to the specified application points, lubricants, and amount. Failing to do so may cause a malfunction of the printer.

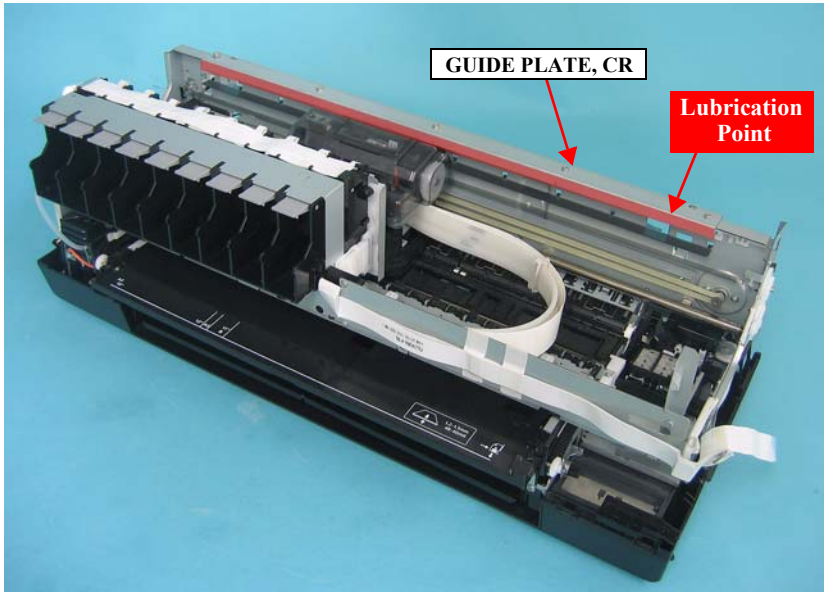
LUBRICATION POINTS LIST

Lubrication No.	Corresponding Part	Name of Lubricant	Remarks
1	GUIDE PLATE, CR (FRAME, ASSY., MAIN)	Part name:G-71 Part code: 1304682	*p.274*
2, 3, 4	PAPER GUIDE, UPPER, ASSY.	Part name:G-26 Part code: 1080614	*p.274*
5	Spur Gear, 22, B (SHAFT, RELEASE, ASSY.)	Part name:G-26 Part code: 1080614	*p.276*
6	HOLDER, ROLLER, SUPPORT, L (SHAFT, RELEASE, ASSY.)	Part name:G-26 Part code: 1080614	*p.276*
7	HOLDER, ROLLER, SUPPORT, R (SHAFT, RELEASE, ASSY.)	Part name:G-26 Part code: 1080614	*p.277*
8	FRAME, EJECT, ASSY.	Part name:G-26 Part code: 1080614	*p.277*
9	Board Paper Tray	Part name:G-26 Part code: 1080614	*p.278*
10	Guide, Stacker, Left (Board Paper Tray)	Part name:G-45 Part code: 1033657	*p.278*
11	Guide, Stacker, Right (Board Paper Tray)	Part name:G-45 Part code: 1033657	*p.279*
12, 13	Torsion Spring, 0.15	Part name:G-45 Part code: 1033657	*p.279*
14	STACKER, ASSY	Part name:G-26 Part code: 1080614	*p.280*
15	SHAFT	Part name:G-45 Part code: 1033657	*p.281*

LUBRICATION POINTS

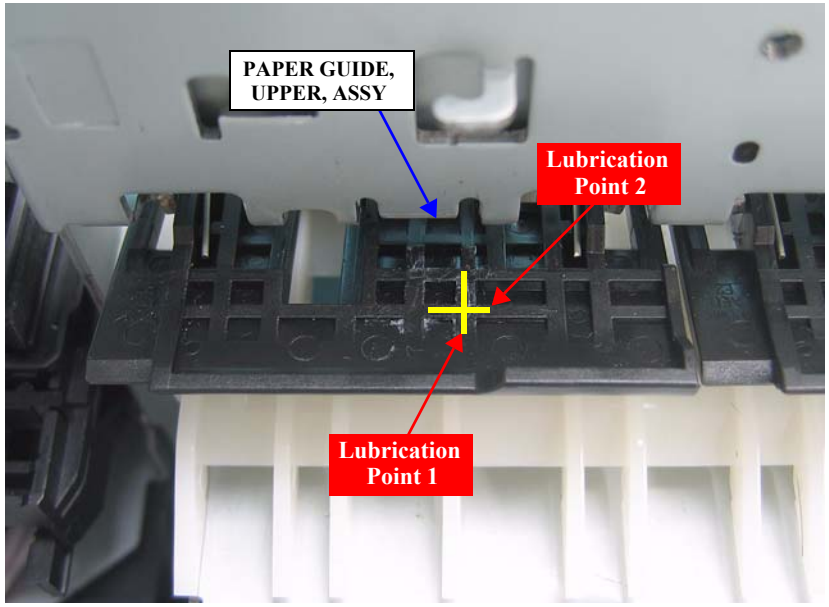
[Lubrication 1]

Part Name	GUIDE PLATE, CR (FRAME, ASSY, MAIN)
Lubrication Point	On the GUIDE PLATE, CR with where the CARRIAGE, ASSY contacts.
Lubricants	G-71
Amount	ϕ2 mm x full length x 1 point
Remarks	• Completely wipe any ink stains or dust off the lubrication point with a cloth moistened with alcohol. • Apply with a syringe. (Pin head: ϕ2 mm)



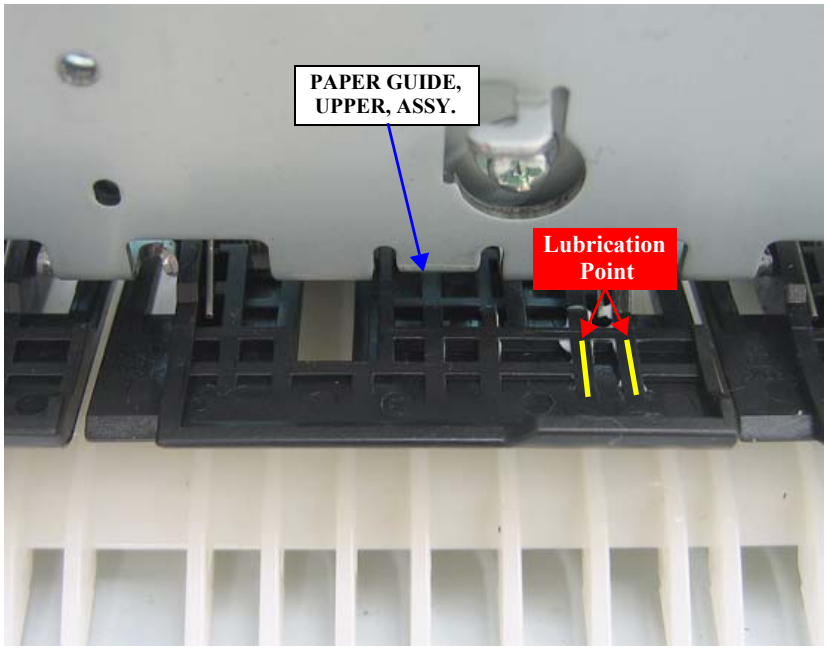
[Lubrication 2]

Part Name	PAPER GUIDE, UPPER, ASSY
Lubrication Point	From the home position side, the first PAPER GUIDE, UPPER, ASSY. (as seen from the rear of the printer). On the assy. with where the release shaft contacts.
Lubricants	G-26
Amount	1. ϕ2 mm x 7 mm x 1 point 2. ϕ2 mm x 5 mm x 1 point
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



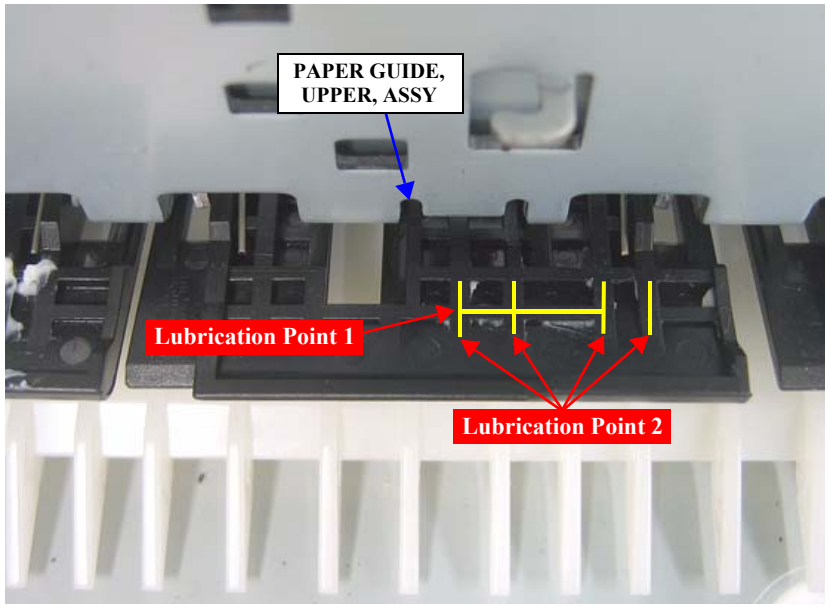
[Lubrication 3]

Part Name	PAPER GUIDE, UPPER, ASSY
Lubrication Point	From the home position side, the 2nd PAPER GUIDE, UPPER, ASSY. (as seen from the rear of the printer). On the assy. with where the release shaft contacts.
Lubricants	G-26
Amount	Vertical: ϕ2 mm x 7 mm x 2 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



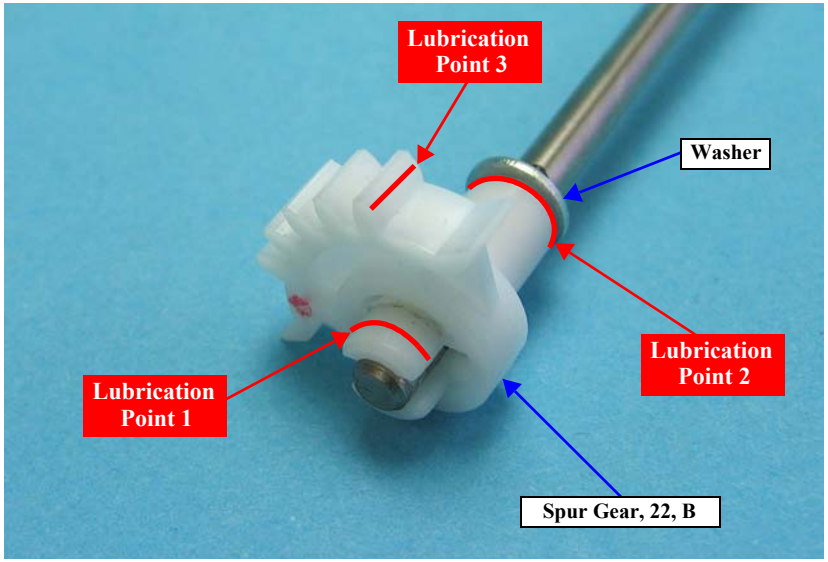
[Lubrication 4]

Part Name	PAPER GUIDE, UPPER, ASSY
Lubrication Point	From the home position side, the 3rd to 8th PAPER GUIDE, UPPER, ASSYs. (as seen from the rear of the printer). On the assys with where the release shaft contacts.
Lubricants	G-26
Amount	1. ϕ2 mm x 13 mm x 6 points 2. ϕ2 mm x 7 mm x 6 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



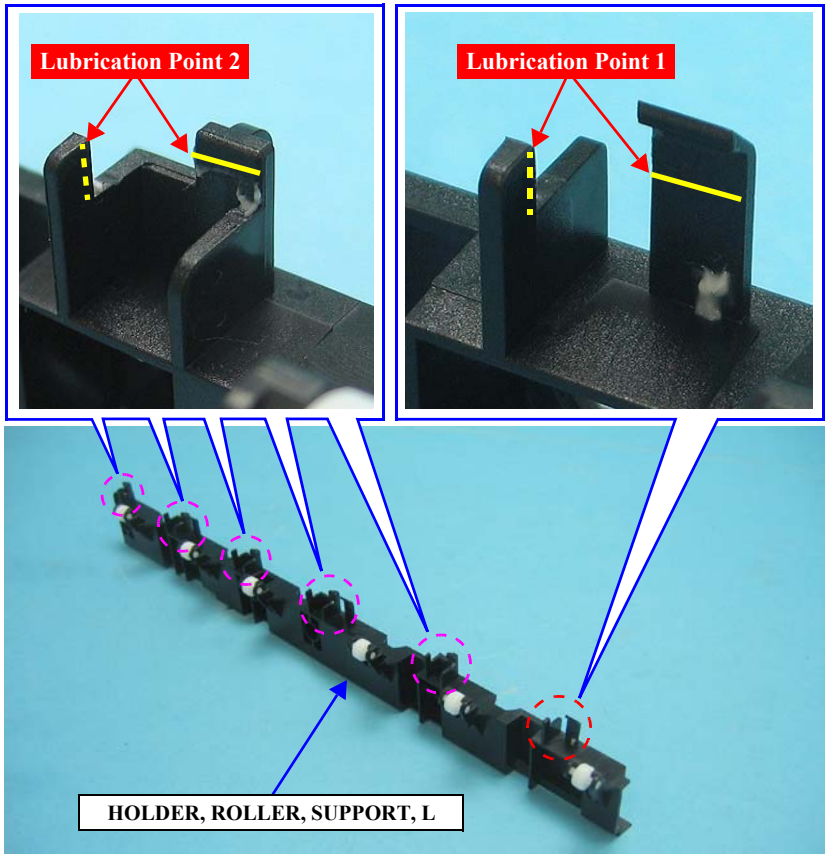
[Lubrication 5]

Part Name	Spur Gear, 22, B (SHAFT, RELEASE, ASSY.)
Lubrication Point	1. On the Spur Gear, 22, B with where the FRAME, ASSY., MAIN contacts. 2. On the Spur Gear, 22, B with where the washer contacts. 3. On the gear tooth of the Spur Gear, 22, B
Lubricants	G-26
Amount	1. ϕ2 mm x all around x 1 point 2. ϕ2 mm x all around x 1 point 3. ϕ2 mm x 2 mm x 1 point
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



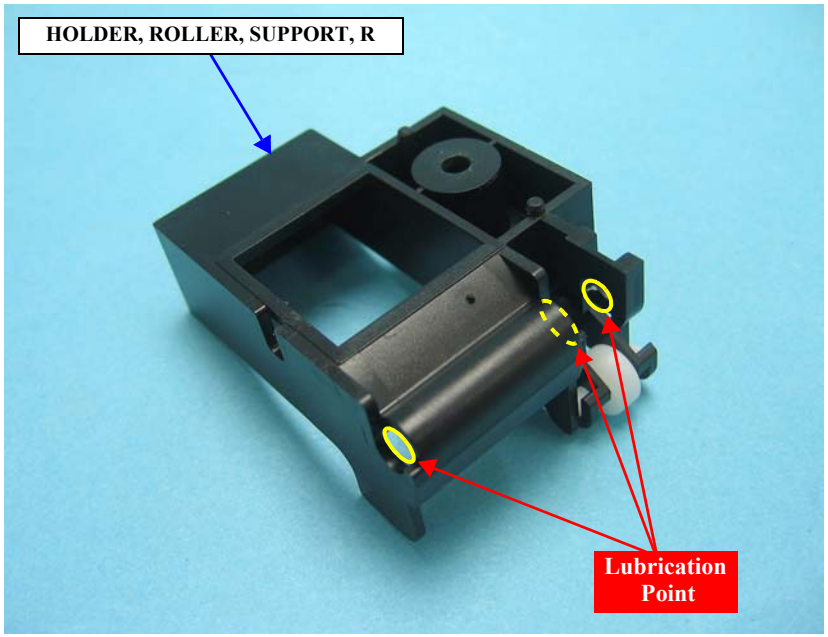
[Lubrication 6]

Part Name	HOLDER, ROLLER, SUPPORT, L (SHAFT, RELEASE, ASSY)
Lubrication Point	On the HOLDER, ROLLER, SUPPORT, L with where the SHAFT, RELEASE, PAPER GUIDE, UPPER contacts
Lubricants	G-26
Amount	1. ϕ2 mm x 2 mm x 2 points 2. ϕ2 mm x 2 mm x 2 points x 5 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



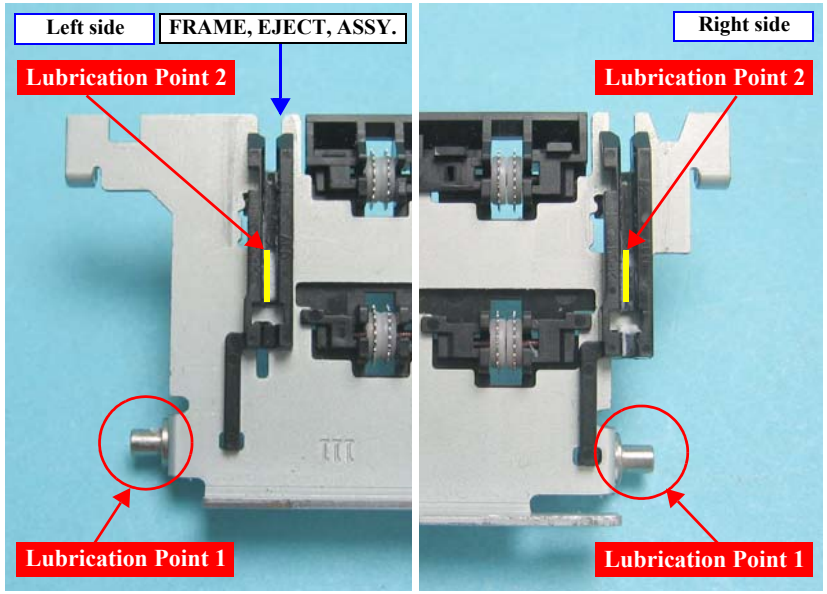
[Lubrication 7]

Part Name	HOLDER, ROLLER, SUPPORT, R (SHAFT, RELEASE, ASSY)
Lubrication Point	On the HOLDER, ROLLER, SUPPORT, R with where the SHAFT, RELEASE, ASSY. contacts
Lubricants	G-26
Amount	ϕ2 mm x 2 mm x 3 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



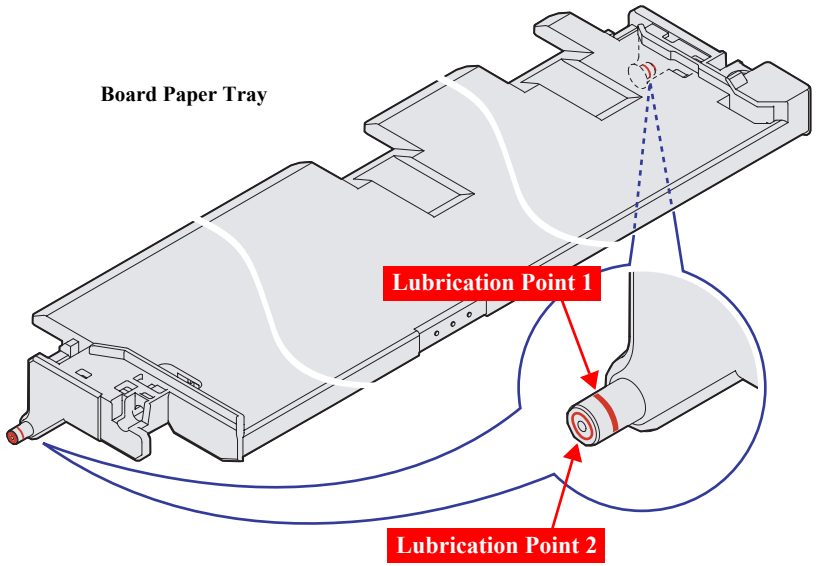
[Lubrication 8]

Part Name	FRAME, EJECT, ASSY.
Lubrication Point	Left and right pivots of the FRAME, EJECT, ASSY. Left and right shafts for the torsion spring 0.046
Lubricants	G-26
Amount	1. ϕ2 mm x all around x each point 2. ϕ2 mm x 5 mm x each point
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



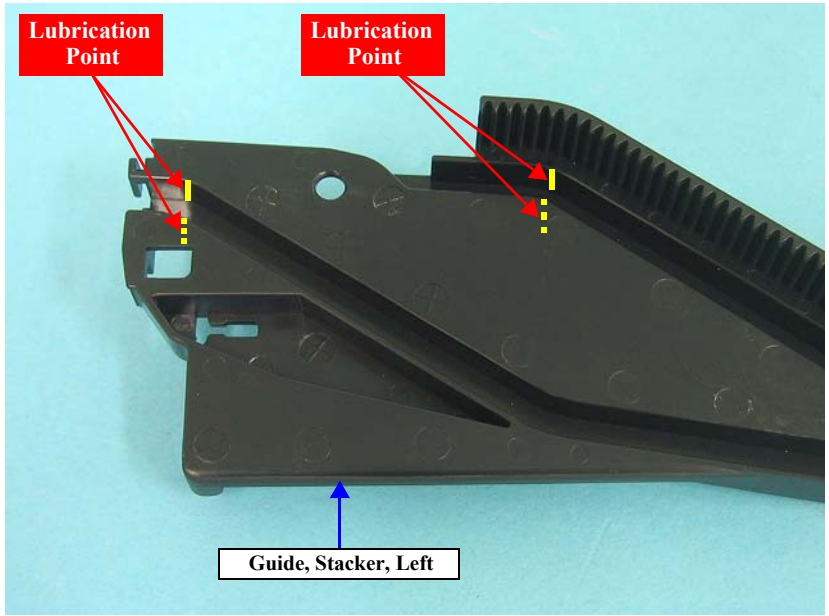
[Lubrication 9]

Part Name	Board Paper Tray
Lubrication Point	On the sides of the left and the right dowels of the Board Paper Tray On the ends of the left and the right dowels of the Board Paper Tray
Lubricants	G-26
Amount	1. ϕ2 mm x all around x each point 2. ϕ2 mm x 2 mm x each point
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



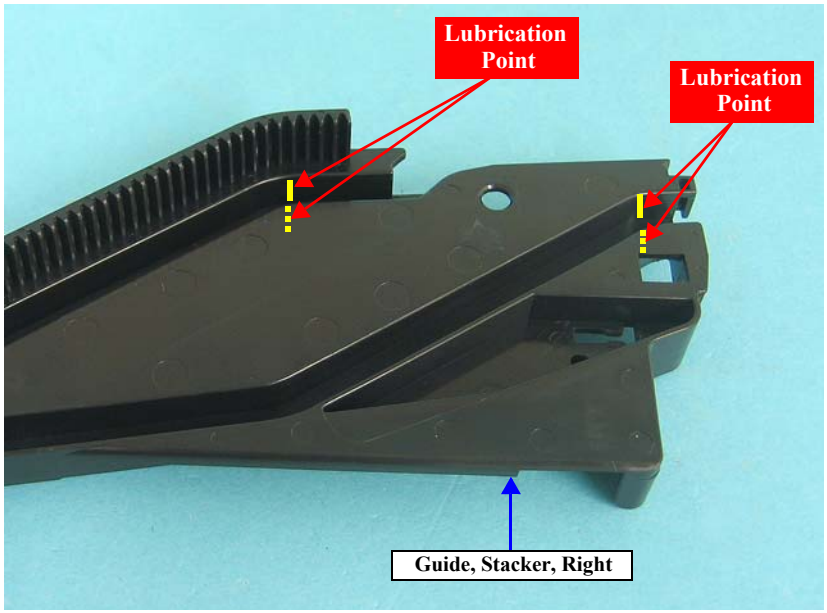
[Lubrication 10]

Part Name	Guide, Stacker, Left (Board Paper Tray)
Lubrication Point	In the groove of the Guide, Stacker, Left. On the both inner sides at the corner of the groove.
Lubricants	G-45
Amount	ϕ2 mm x 4 mm x 2 points each
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



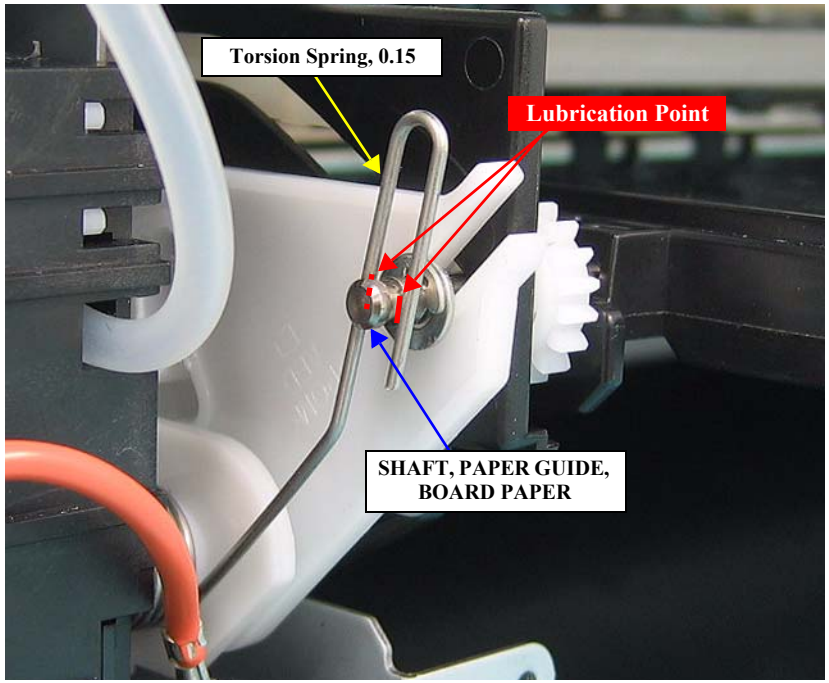
[Lubrication 11]

Part Name	Guide, Stacker, Right (Board Paper Tray)
Lubrication Point	In the groove of the Guide, Stacker, Right. On the both inner sides at the corner of the groove.
Lubricants	G-45
Amount	ϕ2 mm x 4 mm x 2 points each
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



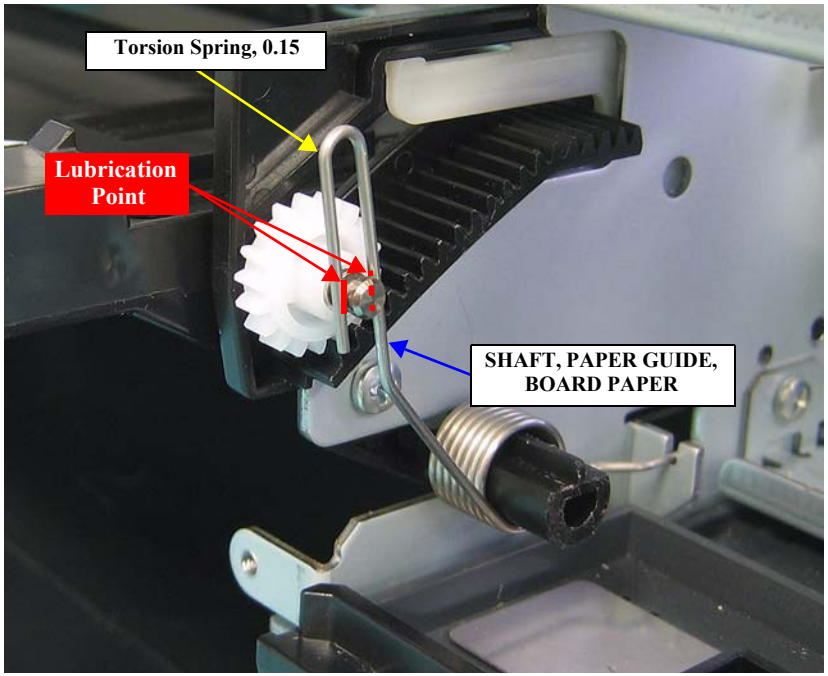
[Lubrication 12]

Part Name	Torsion Spring, 0.15
Lubrication Point	On the Torsion Spring 0.15 at the left side of the Board Paper Tray with where the SHAFT, PAPER GUIDE, BOARD PAPER contacts
Lubricants	G-45
Amount	ϕ2 mm x 2 mm x 2 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



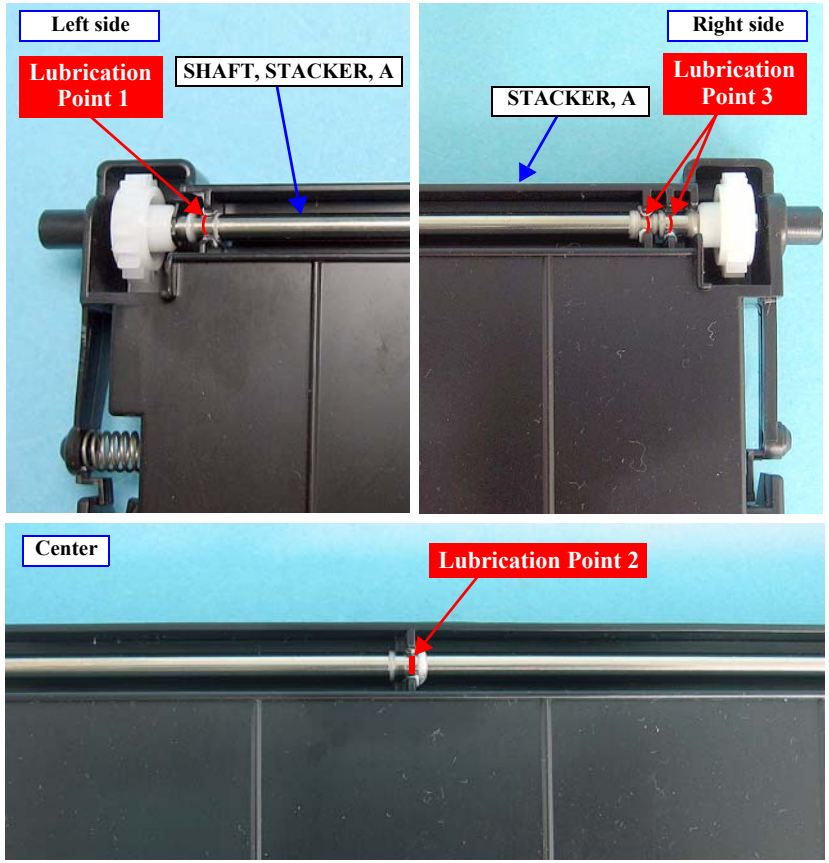
[Lubrication 13]

Part Name	Torsion Spring, 0.15
Lubrication Point	On the Torsion Spring 0.15 at the right side of the Board Paper Tray with where the SHAFT, PAPER GUIDE, BOARD PAPER contacts
Lubricants	G-45
Amount	ϕ2 mm x 2 mm x 2 points
Remarks	Apply with a syringe. (Pin head: ϕ2 mm)



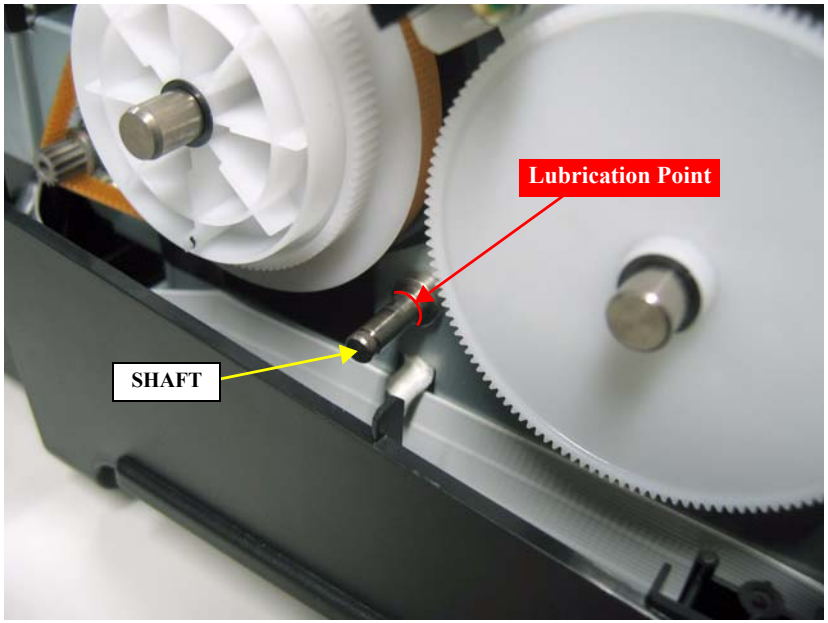
[Lubrication 14]

Part Name	STACKER, ASSY
Lubrication Point	On the SHAFT, STACKER, A with where the STACKER, A contacts (three points: the left, center, and right)
Lubricants	G-26
Amount	1. ϕ2 mm x 2 mm x 1 point 2. ϕ2 mm x 2 mm x 1 point 3. ϕ2 mm x 2 mm x 2 points
Remarks	Apply with a syringe. (Pin Head: ϕ2 mm)



[Lubrication 15]

Part Name	SHAFT
Lubrication Point	On the SHAFT where the COMPRESSION, SPRING, 2.25 contacts
Lubricants	G-45
Amount	ϕ2mm x 2mm x 1 point
Remarks	Apply with a syringe. (Pin Head: ϕ2 mm)



CHAPTER

7

APPENDIX

7.1 Connectors

CONNECTORS LIST

☐ C635/CA61 Main Board

Table 7-1. C635/CA61 Main Board Connectors List

CN. No.	Color	Pins	Connected to
CN13	White	8	BOARD ASSY.,POWER SUPPLY [CN2]
CN30	(FFC)	7	Maintenance Cartridge Sensor (CSIC)
CN40	White	3	MOTOR,ASSY.,CR
CN41	Black	3	MOTOR,ASSY.,PF
CN43	White	4	MOTOR,ASSY.,ASF
CN44	Black	2	Ink Cover Solenoid
CN45	Black	4	MOTOR,ASSY.,PG
CN46	Red	2	PRESSURE,PUMP,ASSY.,ESL,ASP
CN49	(FFC)	5	BOARD ASSY.,ENCORDER,PF [CN2]
CN50	Blue	2	Board Paper Tray Open Sensor
CN51	Red	3	Ink Cover Lock Sensor
CN52	White	6	Pressure Sensor/Pressure Pump Home Sensor
CN53	Blue	4	ASF Phase Sensor
CN54	Yellow	4	PE Sensor
CN57	Yellow	2	MOTOR,RELEASE,ASSY.,ESL,ASP
CN58	Red	4	MOTOR,ASSY.,PUMP
CN59	White	2	Unassigned
CN61	Yellow	3	Release Roller Position Sensor
CN62	Blue	3	Maintenance Cartridge Cover Sensor
CN63	(FFC)	17	BOARD ASSY.,SUB [CN1]
CN64	(FFC)	19	BOARD ASSY.,PANEL [CN1]
CN67	--	4	USB I/F
CN69	(FFC)	17	Print Head
CN70	(FFC)	17	Print Head
CN71	(FFC)	17	Print Head
CN72	(FFC)	17	Print Head

Table 7-1. C635/CA61 Main Board Connectors List

CN. No.	Color	Pins	Connected to
CN76	(FFC)	23	Ink Cartridge Sensor (CSIC) Light Cyan/Light Magenta/Yellow
CN77	(FFC)	23	Ink Cartridge Sensor (CSIC) Light Light Black/Cyan/Magenta
CN78	(FFC)	23	Ink Cartridge Sensor (CSIC) Matte Black/Photo Black/Light Black
CN102	--	12	Network I/F

☐ C635 Power Supply Board

Table 7-2. C635 Power Supply Board Connectors List

CN. No.	Color	Pins	Connected to
CN1	White	2	AC Input
CN2	--	8	C635/CA61 Main Board [CN13]

☐ C635 Panel Board

Table 7-3. C635 Panel Board Connectors List

CN. No.	Color	Pins	Connected to
CN1	(FFC)	17	C635/CA61 Main Board [CN64]
CN2	(FFC)	4	LCD
CN3	(FFC)	19	LCD

☐ C635 CR Relay Board

Table 7-4. C635 CR Relay Board Connectors List

CN. No.	Color	Pins	Connected to
CN1	White	17	C635/CA61 Main Board [CN63]
CN2	White	2	Ink Select Motor
CN3	(FFC)	4	Ink Mark Sensor
CN4	White	3	PG Home Sensor
CN5	Black	3	Ink Selector Sensor
CN6	(FFC)	8	CR Encorder/PW Sensor

BLOCK DIAGRAM

NOTE: The figure is for Epson Stylus Pro 3800/3800C/3850.

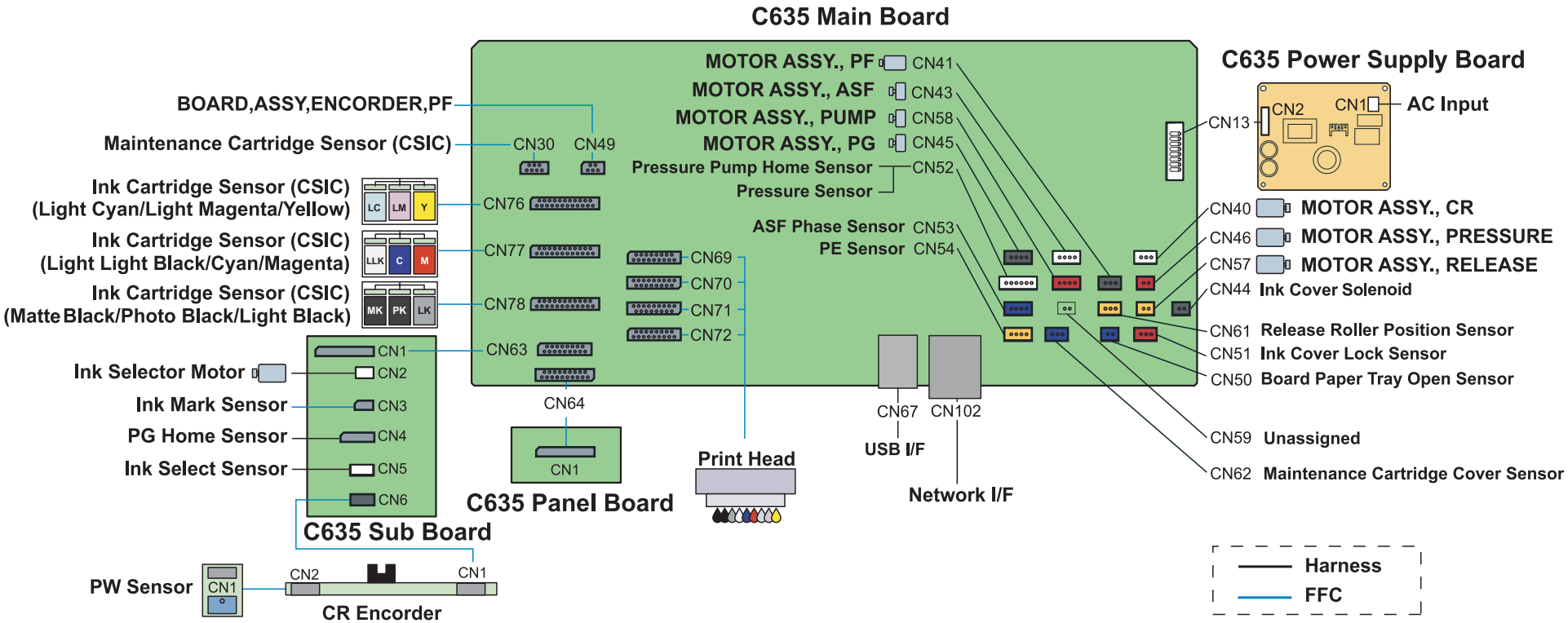


Figure 7-1. Block Diagram

7.2 Cables Connection Layout

The section shows how FFCs and cables are routed inside the printer.

No.	P/CN	J	Pins
CN64	BOARD ASSY.,PANEL	Main Board FFC	19
CN69-72	Print Head	Main Board FFC	17 x 4
CN62	Maintenance Cartridge Cover Sensor	Main Board Cable	2
CN30	Maintenance Cartridge Sensor (CSIC)	Main Board FFC	7
CN76-78	Ink Cartridge Sensor (CSIC)	Main Board FFC	23 x 3

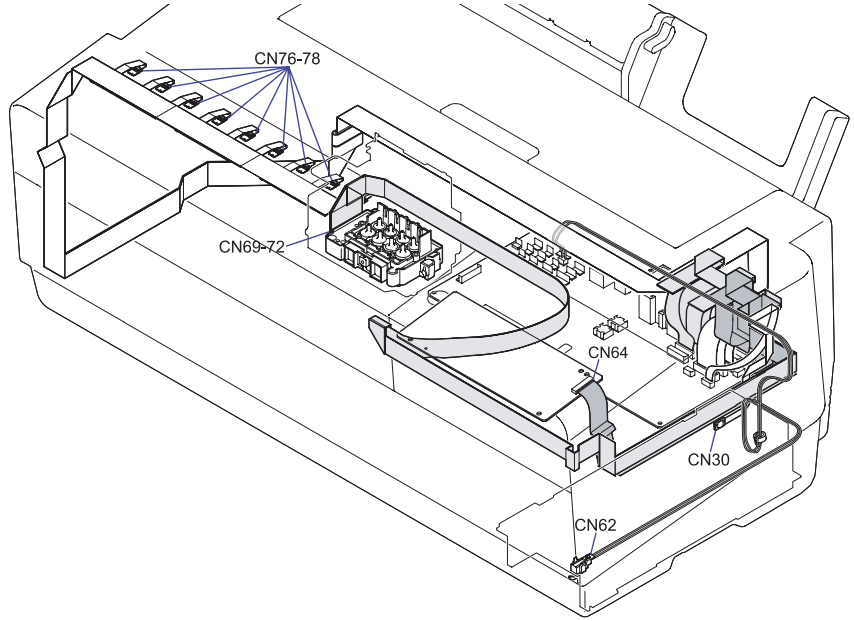


Figure 7-2. Routing Layout (1)

No.	P/CN	J	Pins
S-CN1	BOARD ASSY.,SUB	Main Board FFC	17
CN2	Ink Selector Motor	Main Board Cable	2
CN3	Ink Mark Sensor	Sub Board FFC	4
CN4	PG Origin Sensor	Sub Board Cable	3
CN5	Ink Select Sensor	Sub Board Cable	3
CN6	CR Encorder	Sub Board FFC	8
P-CN1	PW Sensor	CR Encorder FFC	3

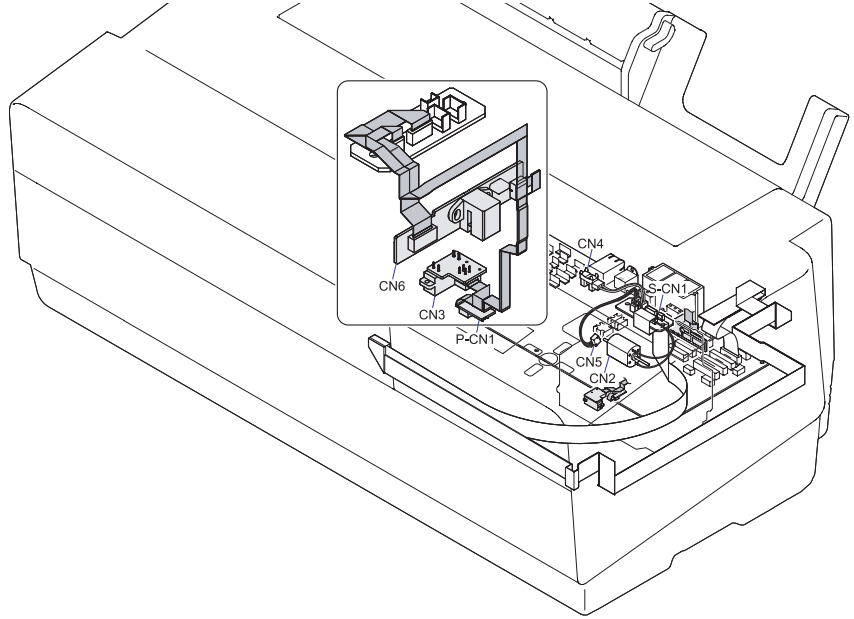


Figure 7-3. Routing Layout (2)

No.	P/CN	J	Pins
CN13	BOARD ASSY.,POWER SUPPLY	Main Board Cable	7
CN40	MOTOR,ASSY.,CR	Main Board Cable	3
CN41	MOTOR,ASSY.,PF	Main Board Cable	3
CN43	MOTOR,ASSY.,ASF	Main Board Cable	4
CN44	Ink Cover Solenoid	Main Board Cable	2
CN45	MOTOR,ASSY.,PG	Relay Cable	4
--	Relay Cable	Main Board-APG Motor Cable	5
CN46	MOTOR,ASSY.,PRESSURE	Main Board Cable	2
CN57	MOTOR,RELEASE,ASSY.,ESL,ASP	Main Board Cable	2

No.	P/CN	J	Pins
CN58	MOTOR,ASSY.,PUMP	Main Board Cable	4
CN49	BOARD ASSY.,ENCORDER,PF	Main Board FFC	5
CN50	Board Paper Tray Open Sensor	Main Board Cable	2
CN51	Ink Cover Lock Sensor	Main Board Cable	3
CN52	Pressure Pump Home Sensor	Main Board Cable	6
	Pressure Sensor	Main Board Cable	
CN53	ASF Phase Sensor	Main Board Cable	4
CN54	PE Sensor	Main Board Cable	4
CN61	Release Roller Position Sensor	Main Board Cable	3

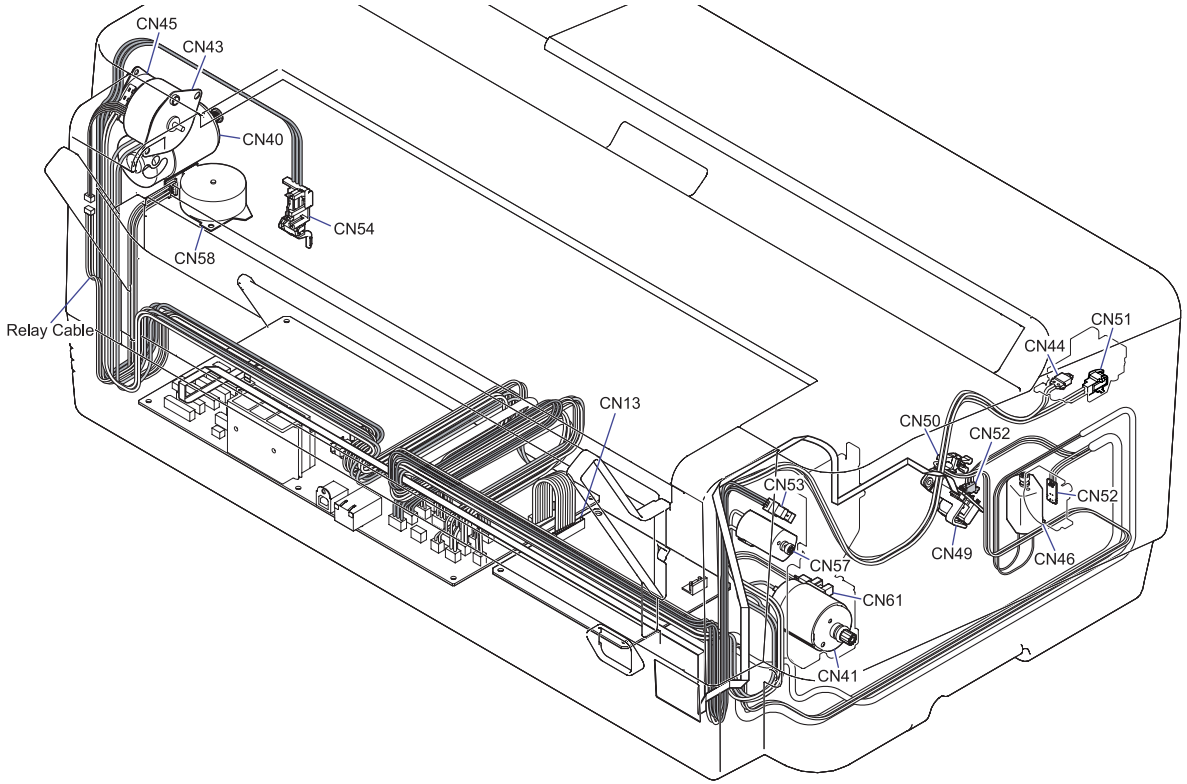


Figure 7-4. Routing Layout (3)

7.3 ASP List

Table 7-5. After Service Part List

Ref No.	Part Name
110	"BOARD,PAPER,ASSY.,ESL,ASP"
111	"HOLDER,MAINTENANCE,TANK,ASSY.,ESL,ASP"
113	"PAPER,SUPPORT,MANUAL,ASSY.,ESL,ASP"
114	"PAPER,SUPPORT,ASSY.,ESL,ASP"
115	"STACKER,ASSY.,ESL,ASP"
116	"LOCK,COVER,ASSY.,ESL,ASP"
117	"COVER,IH,ASSY.,ESL,ASP"
118	"HOUSING,REAR,ASSY.,ESL,ASP"
119	"OPERATION,PANEL,ASSY.,ESL,ASP"
120	"HOUSING,UPPER"
121	"COVER,PRINTER"
122	"HINGE,COVER,PRINTER"
123	"HOUSING,LOWER"
124	"COVER,WB"
125	"STACKER,C"
126	"COVER,CR"
127	"PAD,COVER,CR"
128	"HOUSING,RIGHT"
129	"HOUSING,LEFT"
130	"HOUSING,FRONT,UPPER"
131	"HOUSING,FRONT,RIGHT"
132	"HOUSING,FRONT,LEFT"
133	"COVER,HOUSING,LOWER"
134	"LOGO PLATE,8.4X32"
143	OPERATION PANEL
144	OPERATION BUTTON
145	"COVER,LCD"
147	"OPTICAL TUBE,LED,RIGHT"

Table 7-5. After Service Part List

Ref No.	Part Name
148	"OPTICAL TUBE,LED,LEFT"
149	"BUTTON,PS"
152	"SHAFT,HINGE,COVER,PRINTER"
153	"TORSION SPRING,RIGHT,0.17"
154	"TORSION SPRING,LEFT,0.17"
155	"LEVER,OPEN"
156	"SHEET,INK MIST"
157	"LABEL,MAXART,K3;B"
160	"LABEL,PAPER SUPPORT,MANUAL" ("LABEL,PAPER SUPPORT,MANUAL;B")
162	"LABEL,PX INNOVATION" ("LABEL,ULTORA CHROME INK,K3;B")
163	"LABEL,PAPER SUPPORT" ("LABEL,PAPER SUPPORT;B")
165	"LABEL,INK POSITION" ("LABEL,INK POSITION;B")
580	"ASF,ASSY.,ESL,ASP"
200	"BOARD ASSY.,MAIN"
300	"BOARD ASSY.,POWER SUPPLY"
310	HARNESS
320	"SHEET,HEATSHINK"
500	"PRINTER MECHANISM,ASP"
501	PRINT HEAD
505	"MOTOR,RELEASE,ASSY.,ESL,ASP"
506	"CARRIAGE,ASSY.,ESL,ASP"
507	"PRESSURE,PUMP,ASSY.,ESL,ASP"
510	"PUMP,CAP,ASSY.,ESL,ASP"
511	"INK,SYSTEM,ASSY.,ESL,ASP"
512	"POROUS PAD,INK WASTE BOX,LEFT"
513	"POROUS PAD,INK WASTE BOX,RIGHT"
514	"POROUS PAD,TRAY,INK EJECT"
515	"POROUS,PAD,LEFT ASSY.,ESL,ASP"
516	"POROUS,PAD,RIGHT ASSY,ESL,ASP"

Table 7-5. After Service Part List

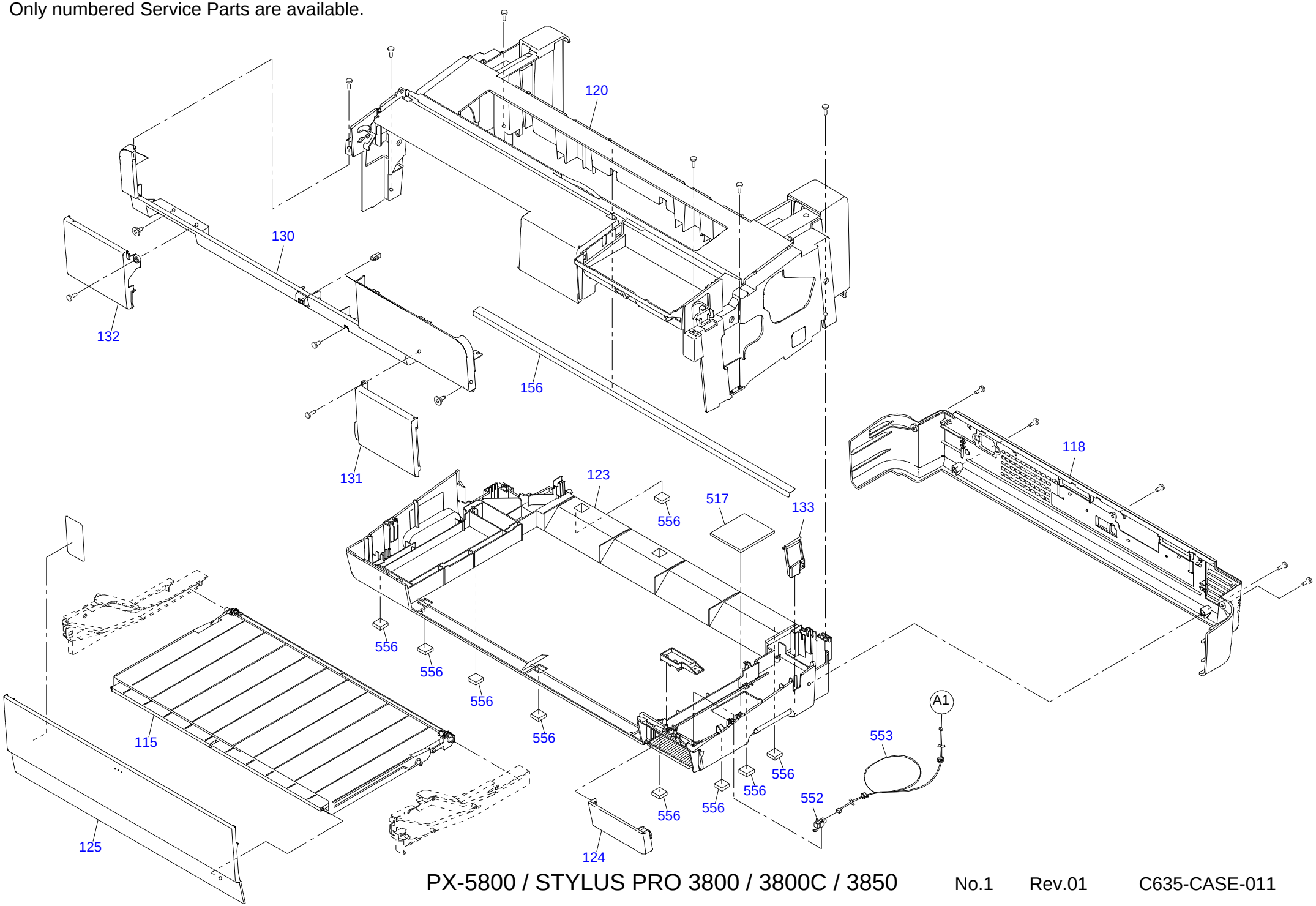
Ref No.	Part Name
517	"POROUS PAD,INK EJECT,TANK,LOWER;B"
518	"MOTOR ASSY.,CR,CS"
520	"PAPER,GUIDE,UPPER,ASSY.,ESL,ASP"
521	"SHAFT,RELEASE,ASSY.,ESL,ASP"
522	"PAPER,DETECTOR,ASSY.,ESL,ASP"
523	"FRAME,PAPER,EJECT,ASSY.,ESL,ASP"
524	"PULLEY,DRIVEN,ASSY.,ESL,ASP"
525	"ENCODER,PF,ASSY.,ESL,ASP"
526	"FFC,ASSY.,HOLDER,ESL,ASP."
527	"PHOTO INTERUPTER,TLP1243(C8)"
528	"HARNESS,ENCODER"
529	"HARNESS,DETECTOR"
530	"HARNESS,DETECTOR,PG"
531	"BOARD ASSY.,SUB"
532	"BOARD ASSY.,ENCORDER"
533	"BOARD ASSY.,DETECTOR,PW;B"
534	"HARNESS,PW"
535	"HARNESS,INK MARK"
536	"BOARD ASSY.,INK MARK"
537	"DETECTOR,LEAF,B2"
538	"HARNESS,PAPER GUIDE,BOARD PAPER"
541	"POLY SLIDER,STW-FT70,t=0.25"
542	"HOLDER,PLANET"
543	"SPUR GEAR,29.6"
544	"COMBINATION GEAR,13.6,31.2"
545	"COMBINATION GEAR,20,34.4"
546	"COMPRESSION SPRING,3.05"
547	"POROUS PAD,INK EJECT,TANK,RIGHT"
548	"MOTOR ASSY.,APG"
552	LEAF SENSOR

Table 7-5. After Service Part List

Ref No.	Part Name
553	"HARNESS,MAINTENANCE TANK"
556	FOOT
557	"BELT,CR"
558	"HOLDER,PULLEY,DRIVEN"
559	"SCALE,PF,180"
560	"TORSION SPRING,PAPER GUIDE,UPPER"
561	"HARNESS,ENCODER,PF"
562	"HARNESS,HEAD,A"
563	"HARNESS,HEAD,B"
564	"HARNESS,PANEL"
565	"POROUS PAD,HARNESS,CR"
566	"GUIDE,STACKER,RIGHT"
567	"GUIDE,STACKER,LEFT"
568	"TIMING BELT,PF"
569	"HARNESS,DETECTOR,RELEASE"
570	"HARNESS,DETECTOR,ASF"
571	"HARNESS,GROUNDING"
572	"HARNESS,GROUNDING,MOTOR"
573	"HARNESS,GROUNDING,SELECTOR"
581	"COMBINATION GEAR,58,22"
582	"SPUR GEAR,SHAFT,LD"
583	"MOTOR,ASSY.,ASF"
584	"BASE,ENCLOSURE"

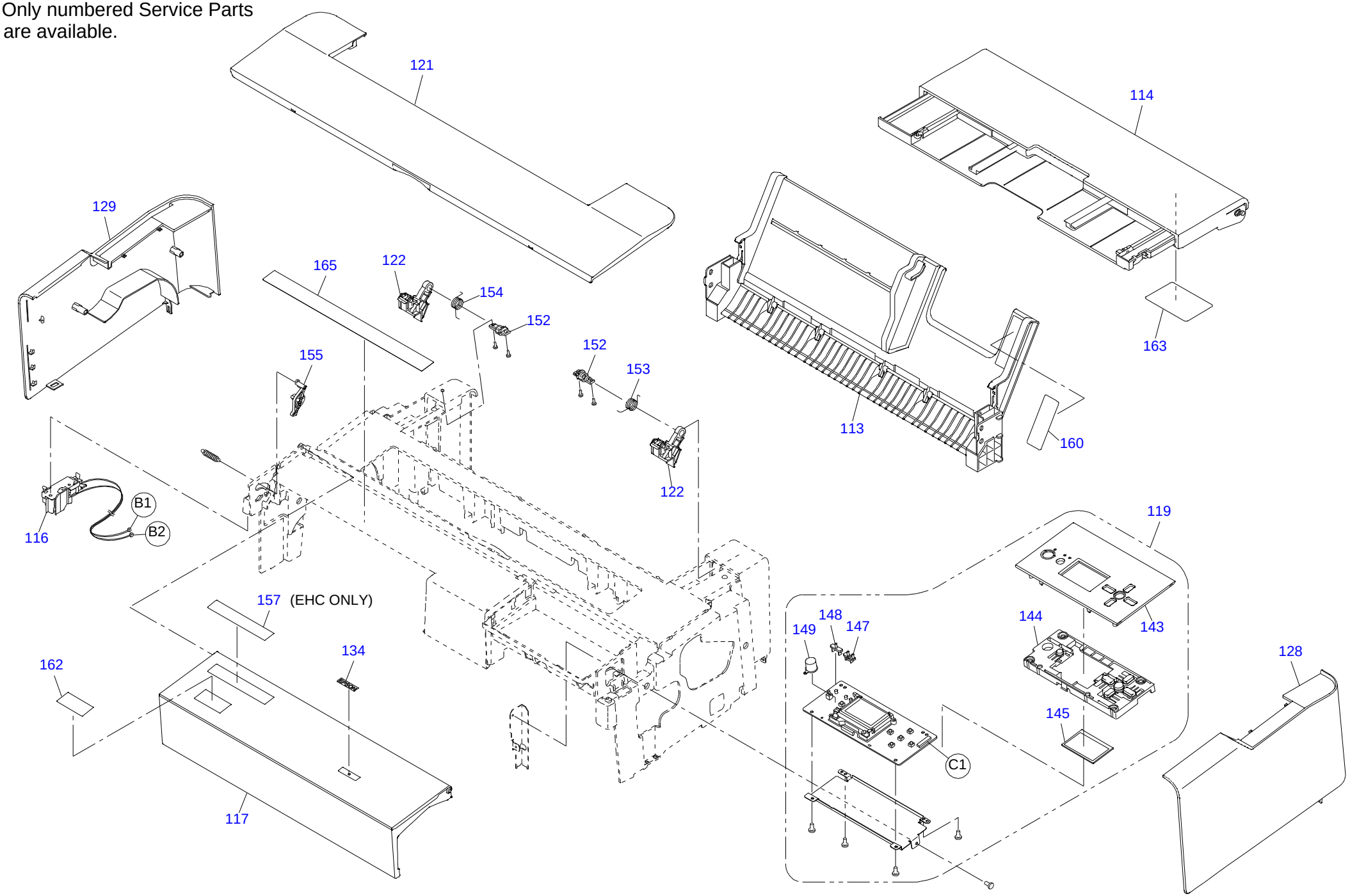
7.4 Exploded Diagrams

Only numbered Service Parts are available.

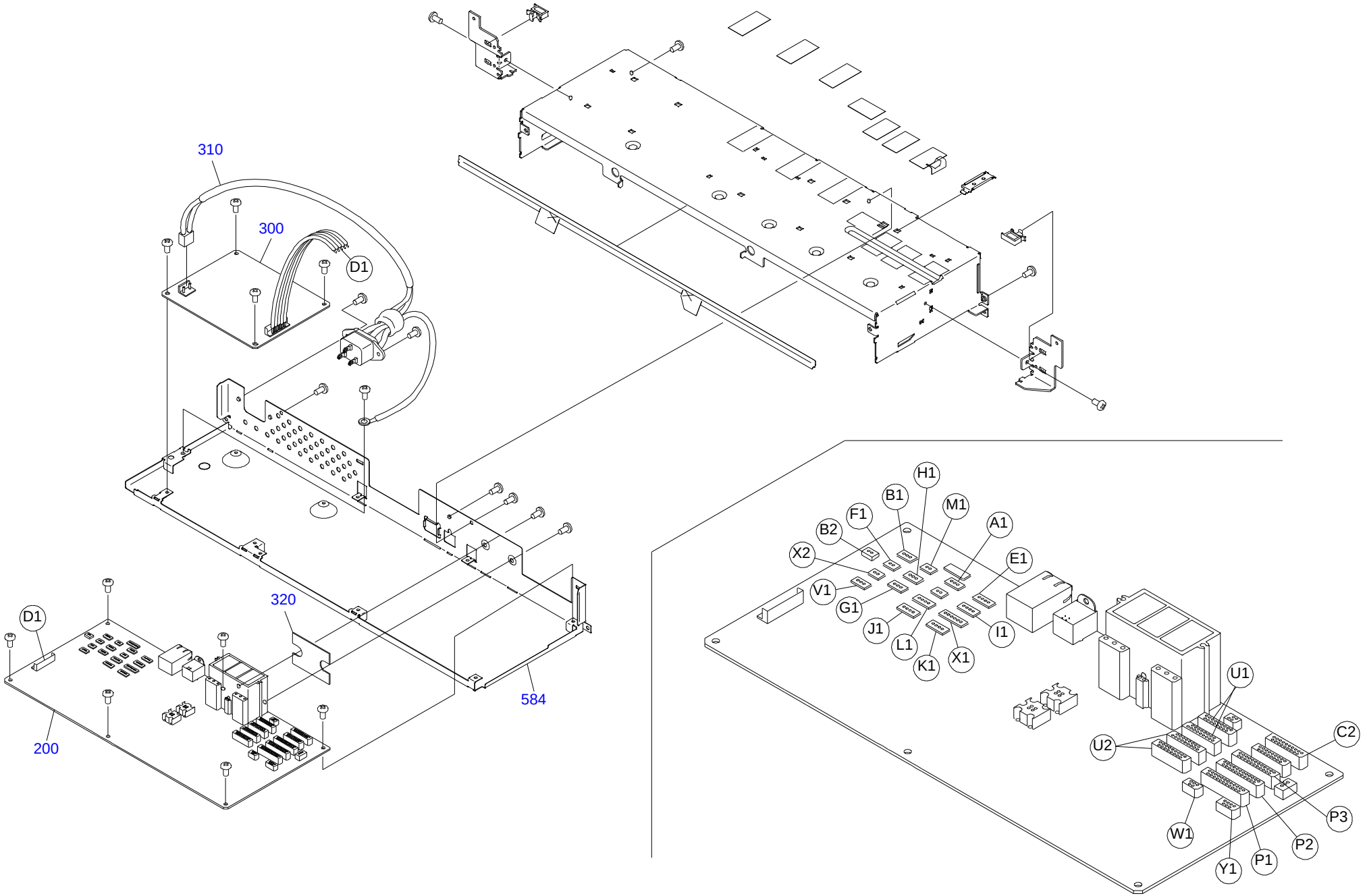


PX-5800 / STYLUS PRO 3800 / 3800C / 3850 No.1 Rev.01 C635-CASE-011

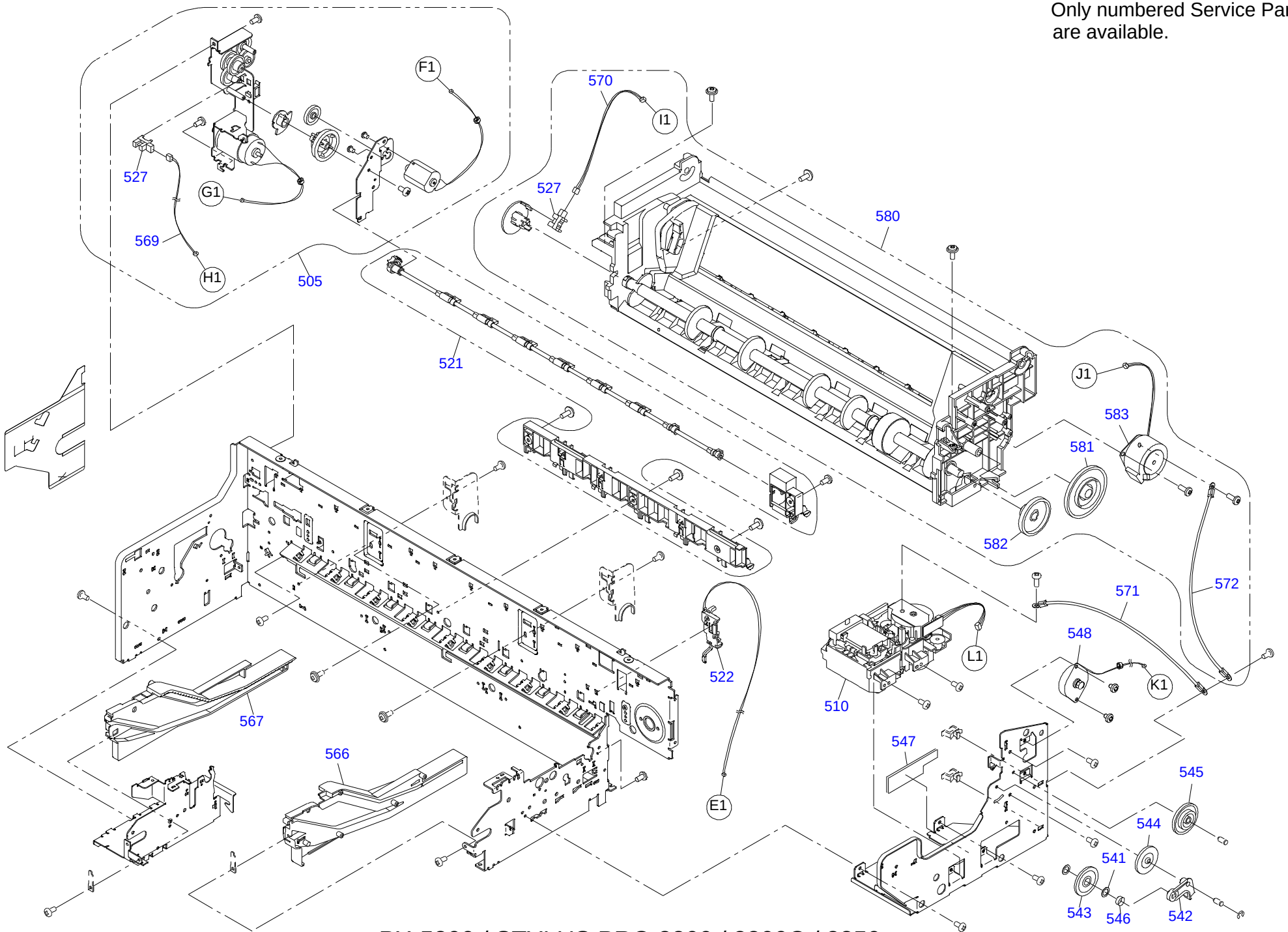
Only numbered Service Parts
are available.



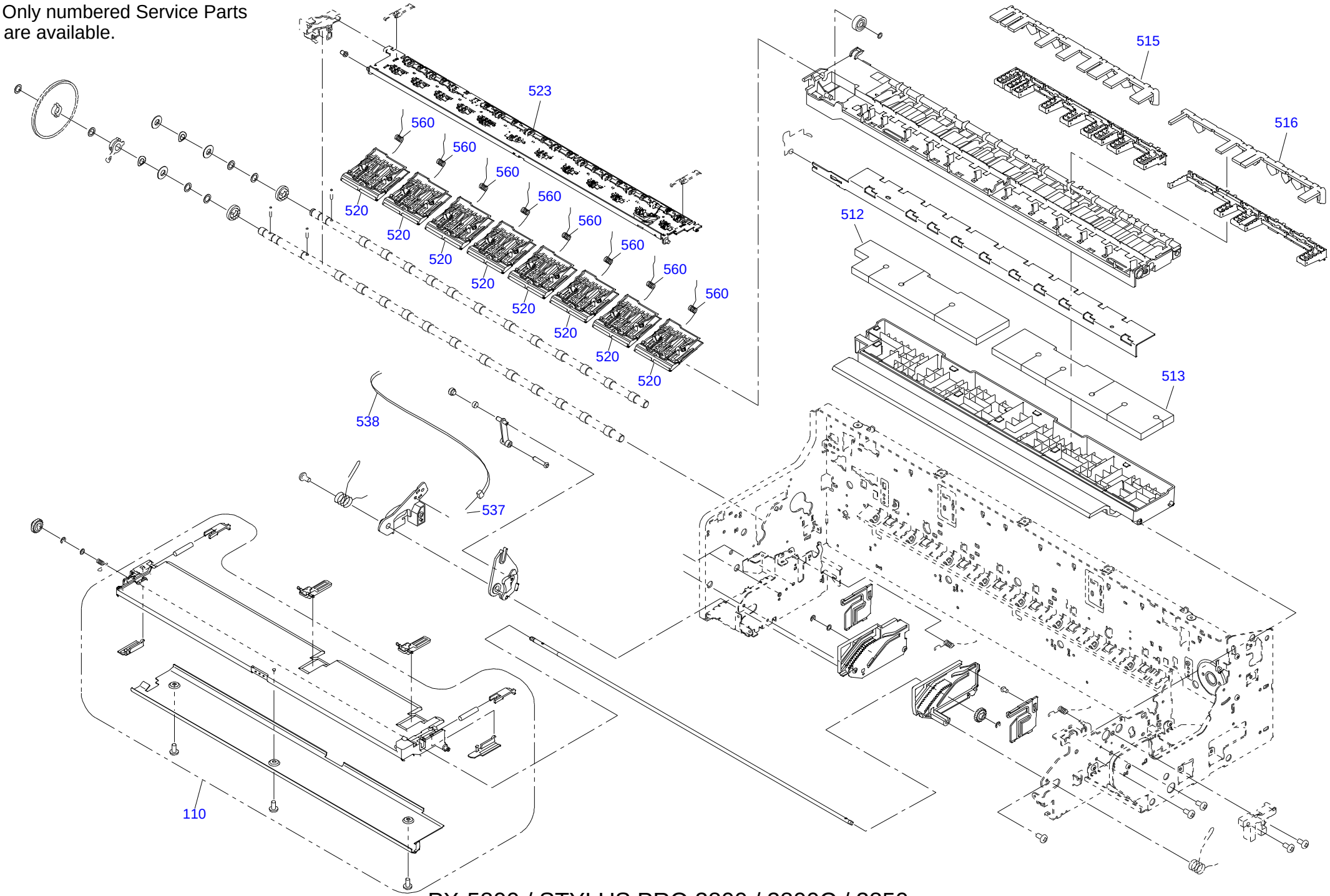
Only numbered Service Parts are available.



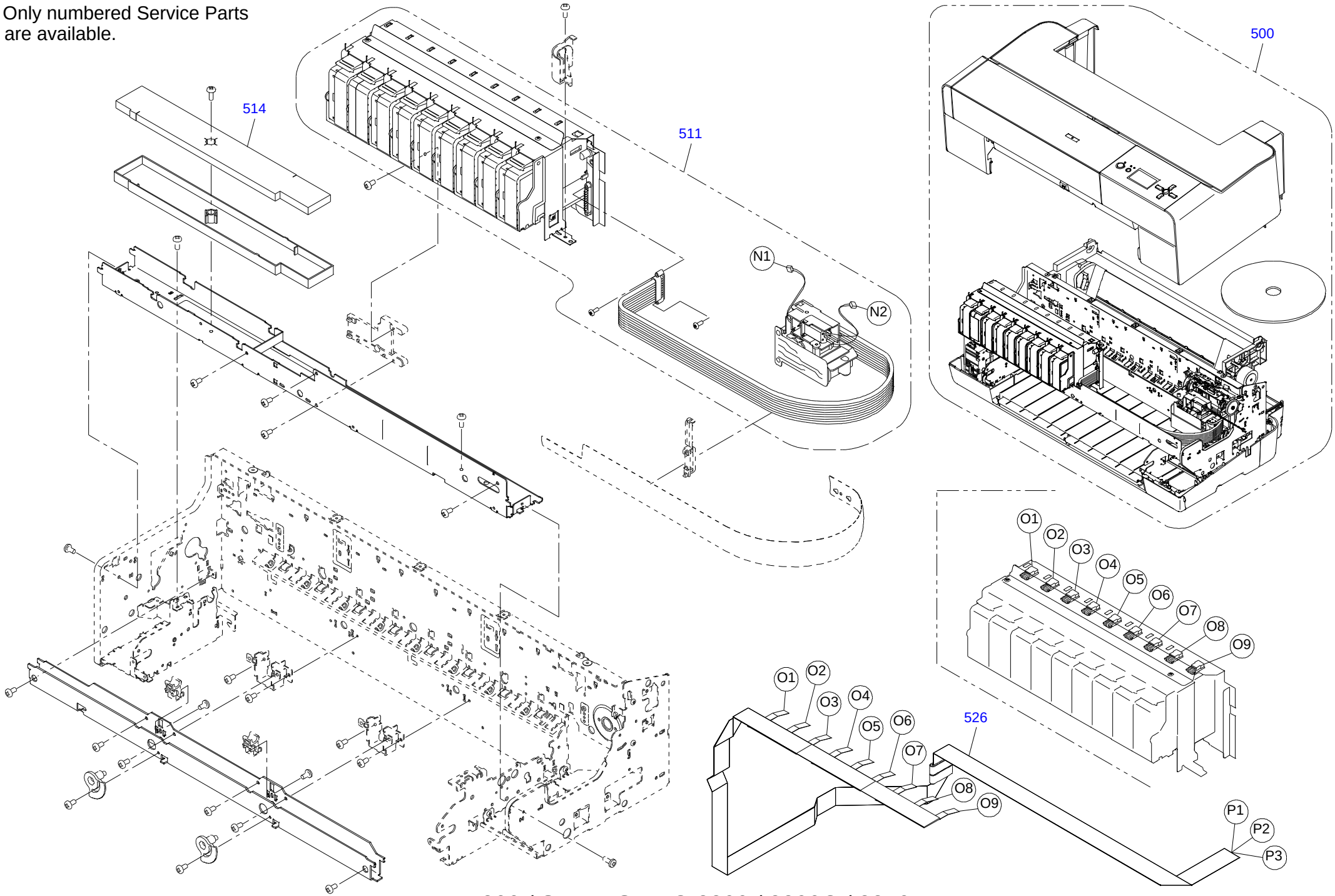
Only numbered Service Parts are available.



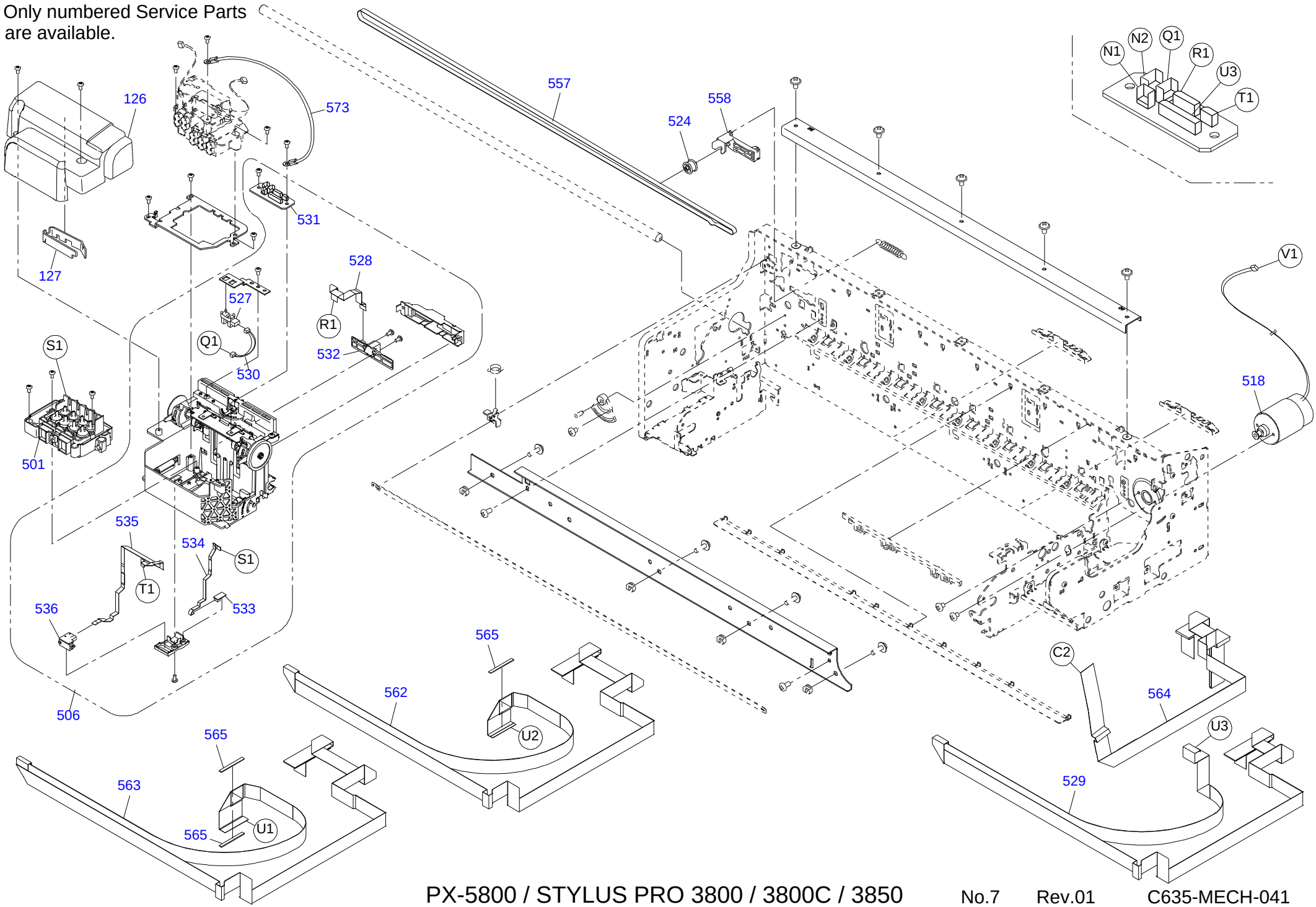
Only numbered Service Parts
are available.



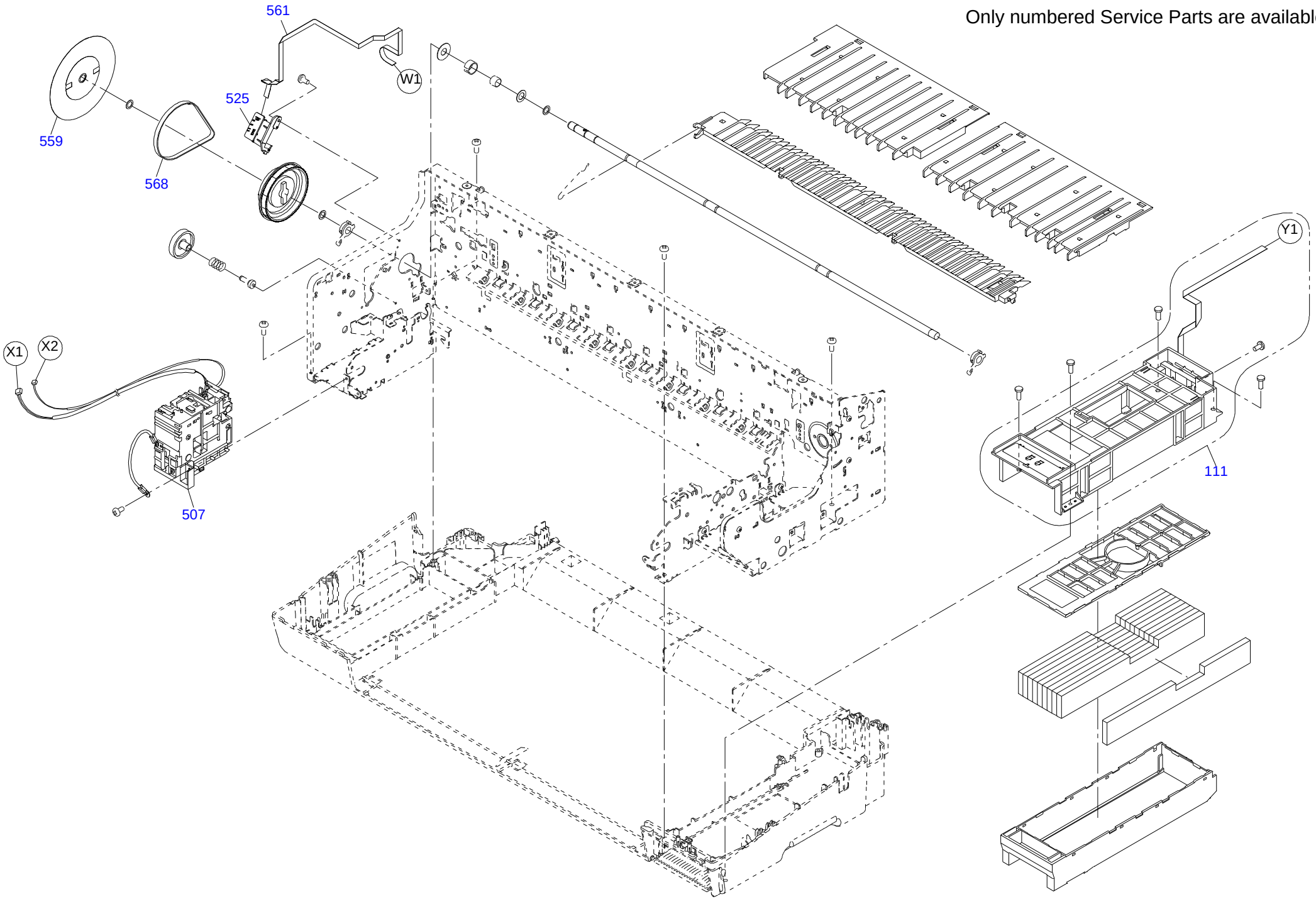
Only numbered Service Parts
are available.



Only numbered Service Parts are available.



Only numbered Service Parts are available.

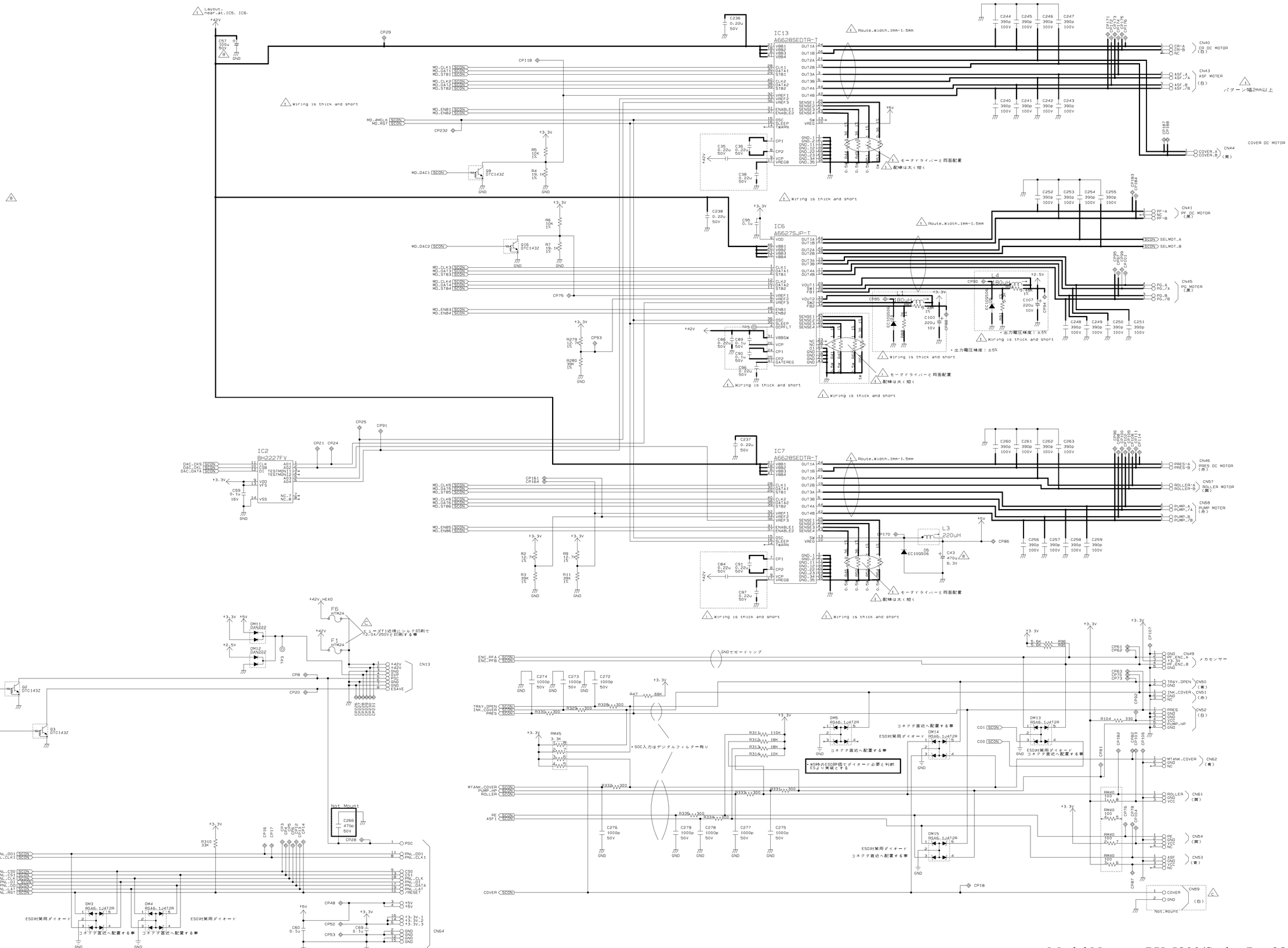


7.5 Circuit Diagrams

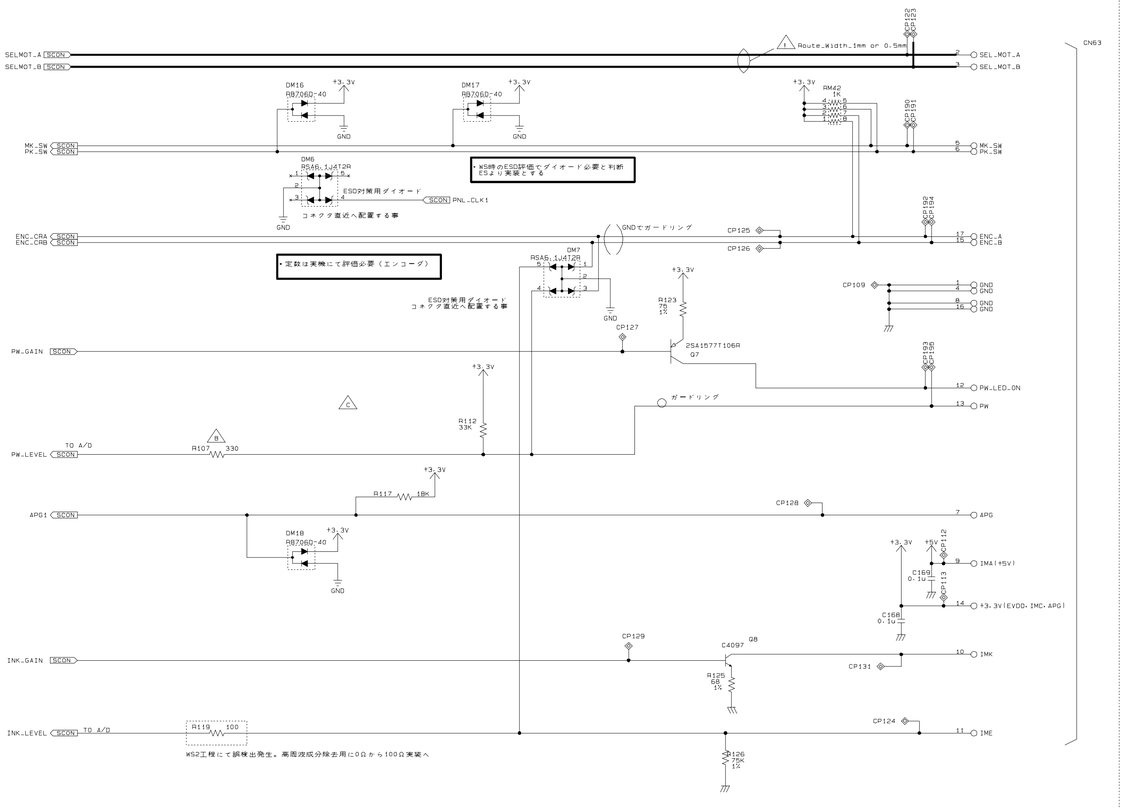
The circuit diagrams of the Epson Stylus Pro 3800/3800C/3850 circuit boards are shown on the following pages.

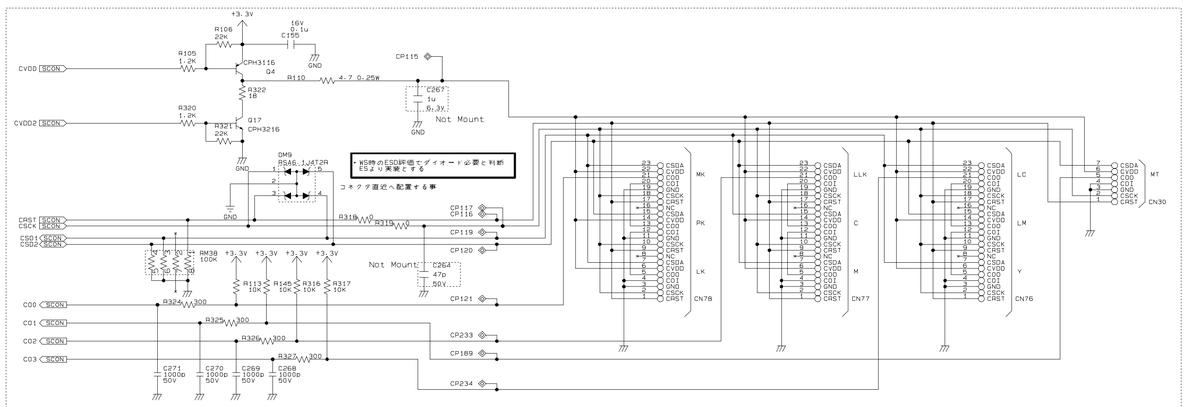
- Main Board 1 (C635 MAIN-1)
- Main Board 2 (C635 MAIN-2)
- Main Board 3 (C635 MAIN-3)
- Main Board 4 (C635 MAIN-4)
- Panel Board (C635 PNL-1)
- Sub Board (C635 SUB-1)
- PSB Board (C635 PSB-1)
- PSE Board (C635 PSE-1)

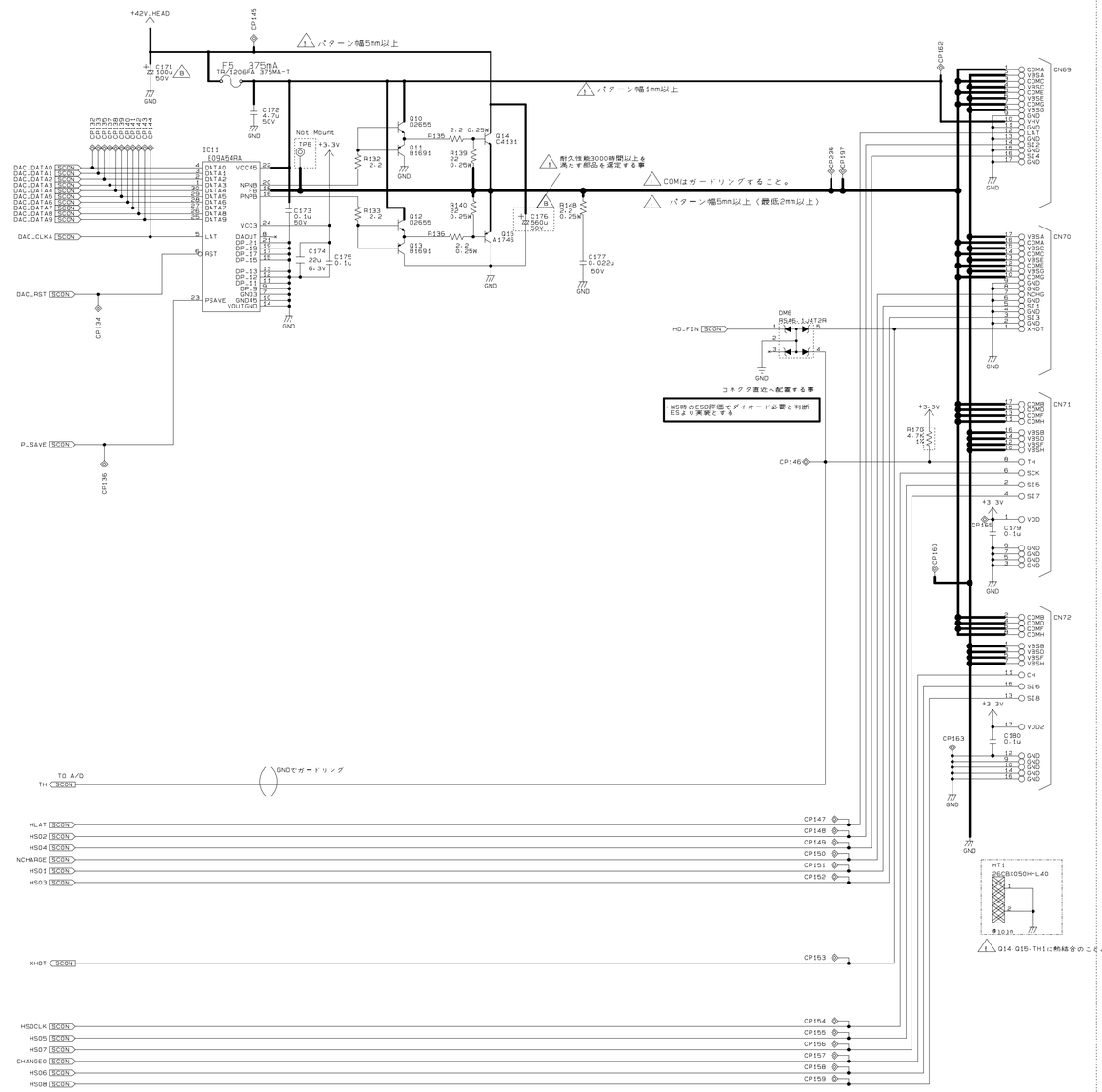
Model Name:	PX-5800/Stylus Pro 3800
Board Name:	C635MAIN
Sheet:	1 of 4
Revision:	F

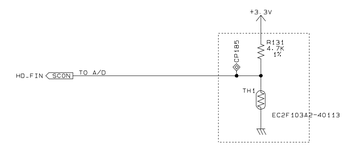


Model Name: PX-5800/Stylus Pro 3800
Board Name: C635MAIN
Sheet: 2 of 4
Revision: C

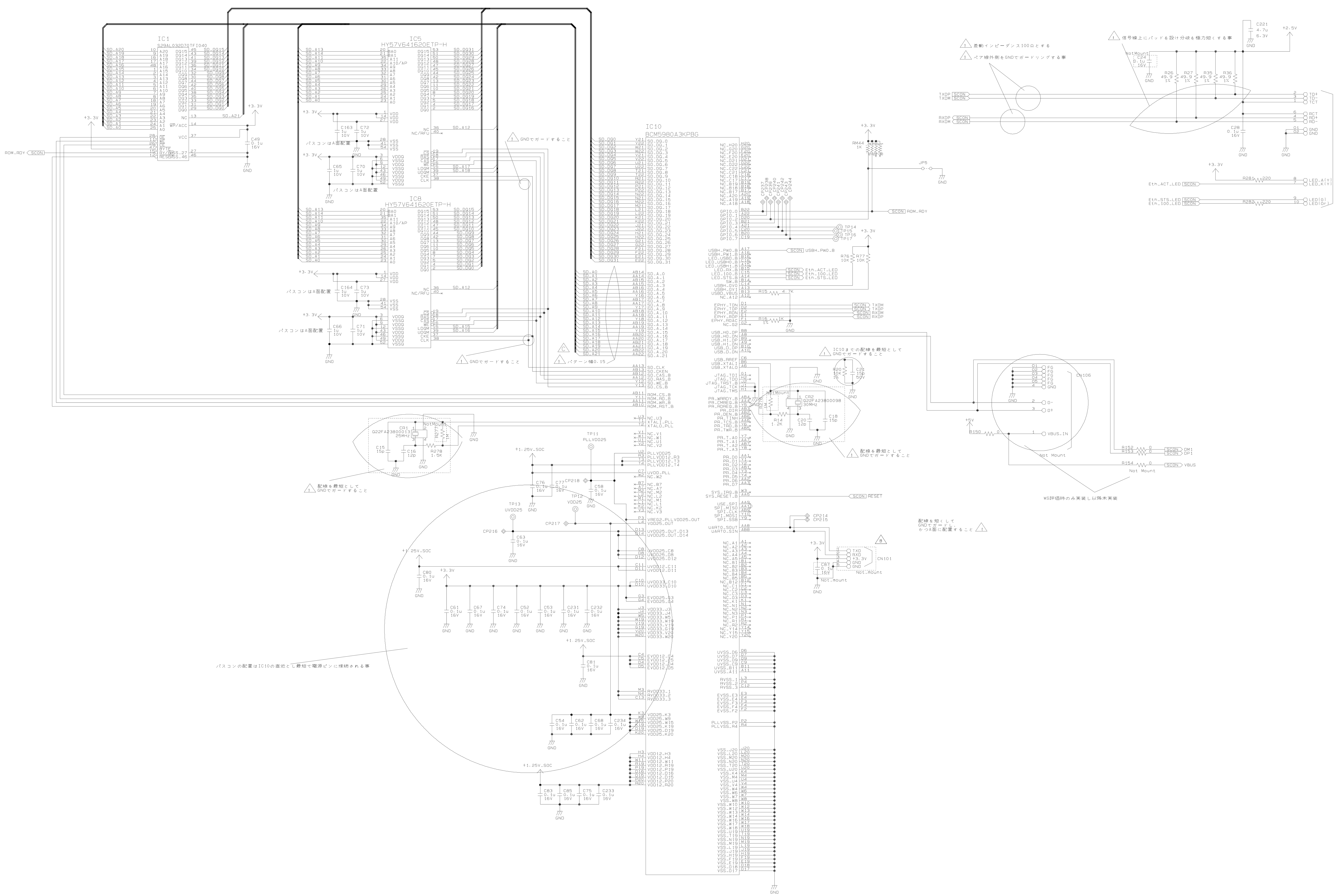




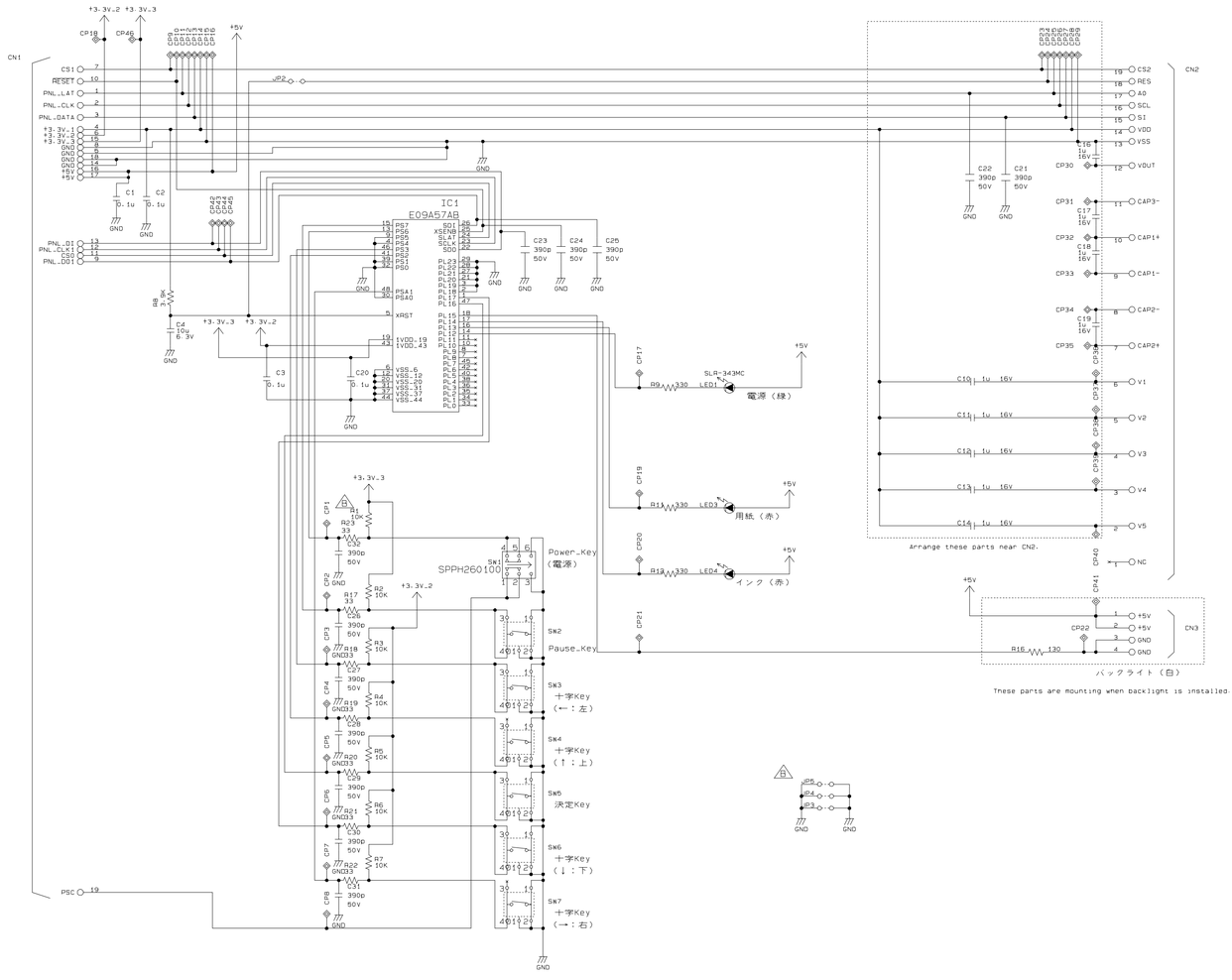




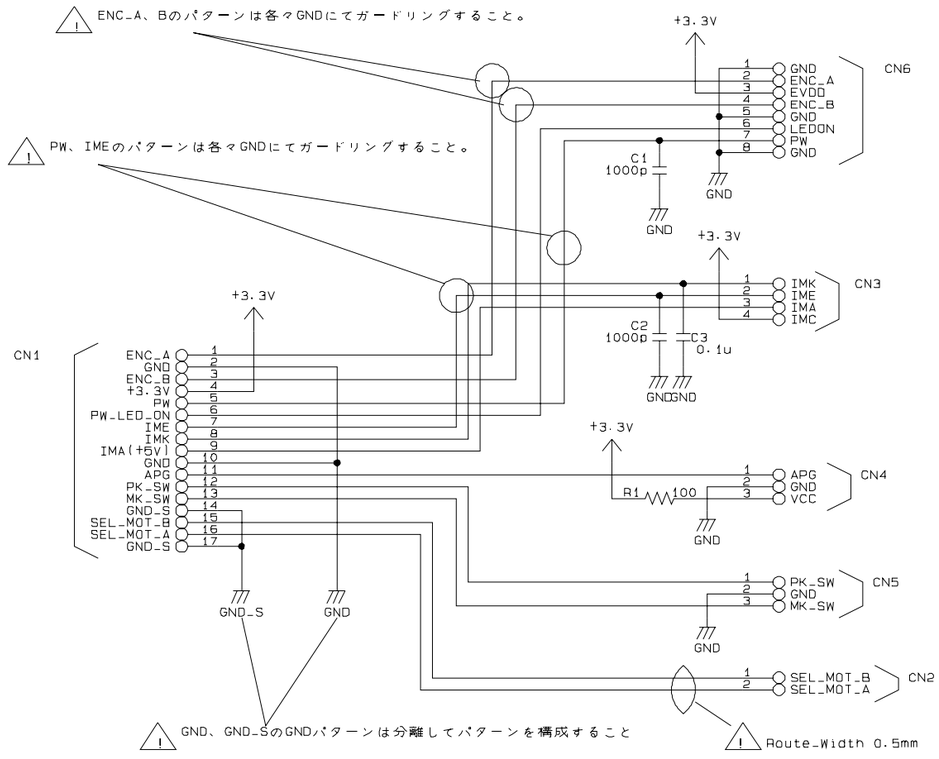
Model Name: PX-5800/Stylus Pro 3800
Board Name: C635MAIN
Sheet: 3 of 4
Revision: C



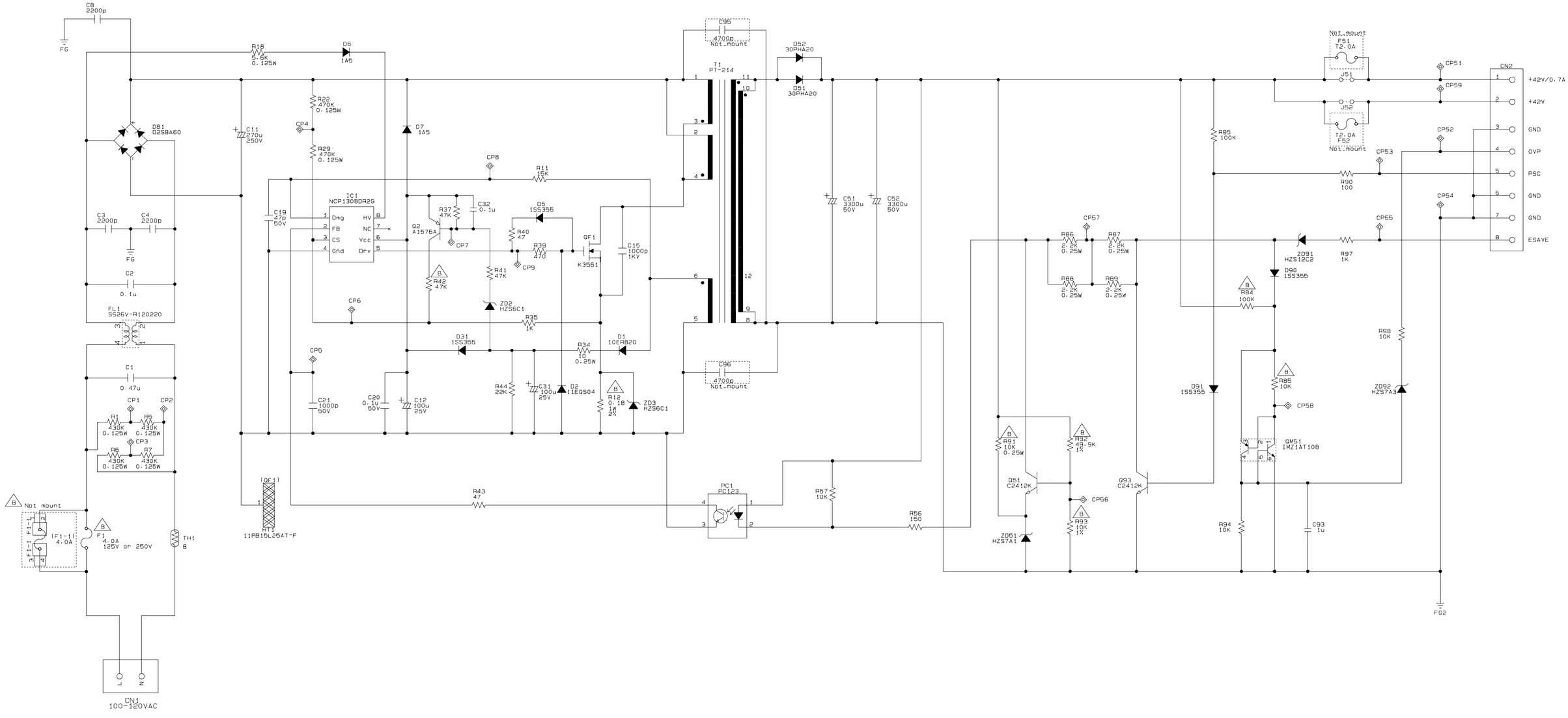
Model Name: PX-5800/Stylus Pro 3800
Board Name: C635MAIN
Sheet: 4 of 4
Revision: C



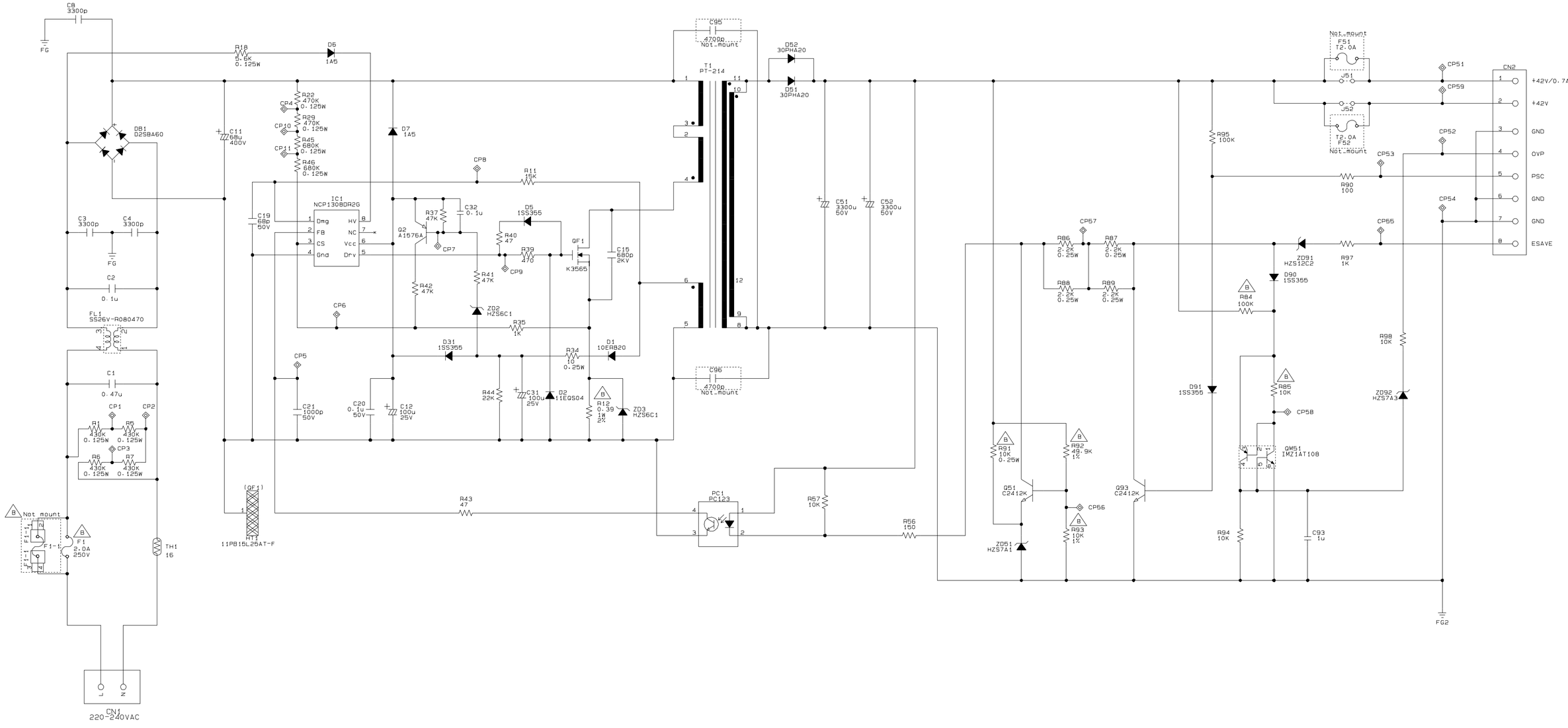
Model Name:	PX-5800/Stylus Pro 3800
Board Name:	C635 PNL
Sheet:	1 of 1
Revision:	B



Model Name:	PX-5800/Stylus Pro 3800
Board Name:	C635 SUB
Sheet:	1 of 1
Revision:	A



Model Name:	PX-5800/Stylus Pro 3800
Board Name:	C635PSB
Sheet:	1 of 1
Revision:	B



Model Name:	Stylus Pro 3800
Board Name:	C635PSE
Sheet:	1 of 1
Revision:	B