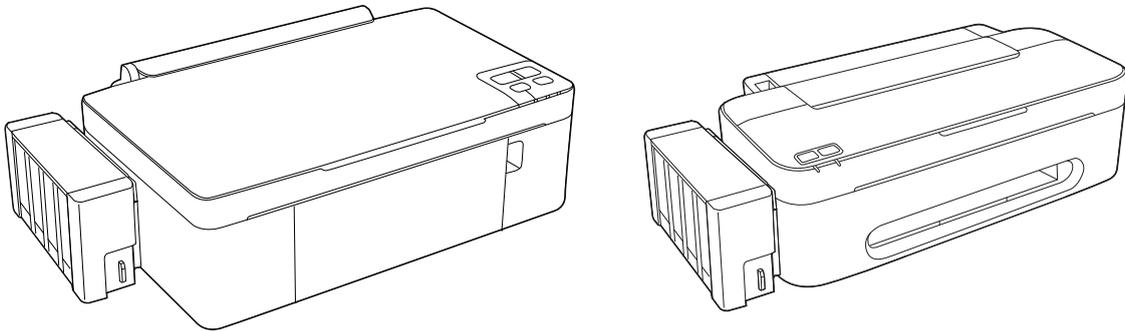


SERVICE MANUAL



Color Inkjet Printer

L200/L201
L100/L101

EPSON
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SEMF10-001

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IJP CS Quality Assurance Department

Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. 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.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
6. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
7. 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 you have a skin irritation, consult a doctor immediately.

8. When disassembling or reassembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
9. Use only recommended tools for disassembling, reassembling or adjusting the printer.
10. Observe the specified torque when tightening screws.
11. Be extremely careful not to scratch or contaminate the following parts.
 - Nozzle plate of the printhead
 - CR Scale
 - PF Scale
 - Coated surface of the PF Roller
 - Gears
 - Rollers
 - LCD
 - Scanner Sensor
 - Exterior parts
12. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
13. Apply the specified amount of grease described in this manual.
14. Make the specified adjustments when you disassemble the printer.
15. When cleaning this product, follow the procedure described in this manual.
16. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
17. Make sure to install antivirus software in the computers used for the service support activities.
18. Keep the virus pattern file of antivirus software up-to-date.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. DISASSEMBLY / REASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

CHAPTER 2. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 3. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 4. APPENDIX

Provides the following additional information for reference:

- Power-On Sequence
- Connector Summary
- Troubleshooting

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. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.



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



Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction 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.

For Chapter 1 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see “[1.2 Disassembly/Reassembly Procedures \(p14\)](#)”.

Revision Status

Revision	Date of Issue	Description
A	October 8, 2010	First Release

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CHAPTER 1

DISASSEMBLY/REASSEMBLY

1.1 Overview

This chapter describes procedures for disassembling the main parts/units of L200/L201/L100/L101. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. See the cautions or tips for disassembly/reassembly described in “[1.3 Details of Disassembling/Reassembling by Parts/Unit \(p23\)](#)”.

Read the following before disassembling and reassembling.

- “[Safety Precautions \(p3\)](#)”
- “[1.1.2 Checks and precautions before disassembling \(p10\)](#)”

When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

1.1.1 Tools

Use only specified tools to avoid damaging the printer.

Table 1-1. Tools

Name	EPSON Part Code*
(+) Phillips screwdriver #1	1080530
(+) Phillips screwdriver #2	---
Flathead screwdriver	---
Flathead Precision screwdriver #1	---
Tweezers	---
Longnose pliers	---
Acetate tape	1003963
Nippers	---

Note *: All of the tools listed above are commercially available.
EPSON provides the tools listed with EPSON part code.

1.1.2 Checks and precautions before disassembling

Ink may spill when removing the following parts from L200/L201/L100/L101.

This section describes the parts that may cause ink spill and the means to minimize the ink spill when removing the parts.

- The parts that may cause ink spill when removing

Parts	When ink may spill	Location
 Joint	Removing the tubes of the Valve Assy / Tube Assy from the Joint	A
 Ink Supply Tank Assy	Removing the tubes of the Valve Assy from the Joint Removing the tubes of the Valve Assy from the Ink Supply Tank Assy	A, B
 Valve Assy		
 Adapter Assy	Removing the Tube Assy from the Adapter Assy	C
 Tube Assy	Removing the tubes of the Valve Assy / Tube Assy from the Joint Removing the Tube Assy from the Adapter Assy	A, C

Note : These parts are indicated with the  icon in disassembly/reassembly flowchart. (See “ 1.2 Disassembly/Reassembly Procedures (p14)”.)

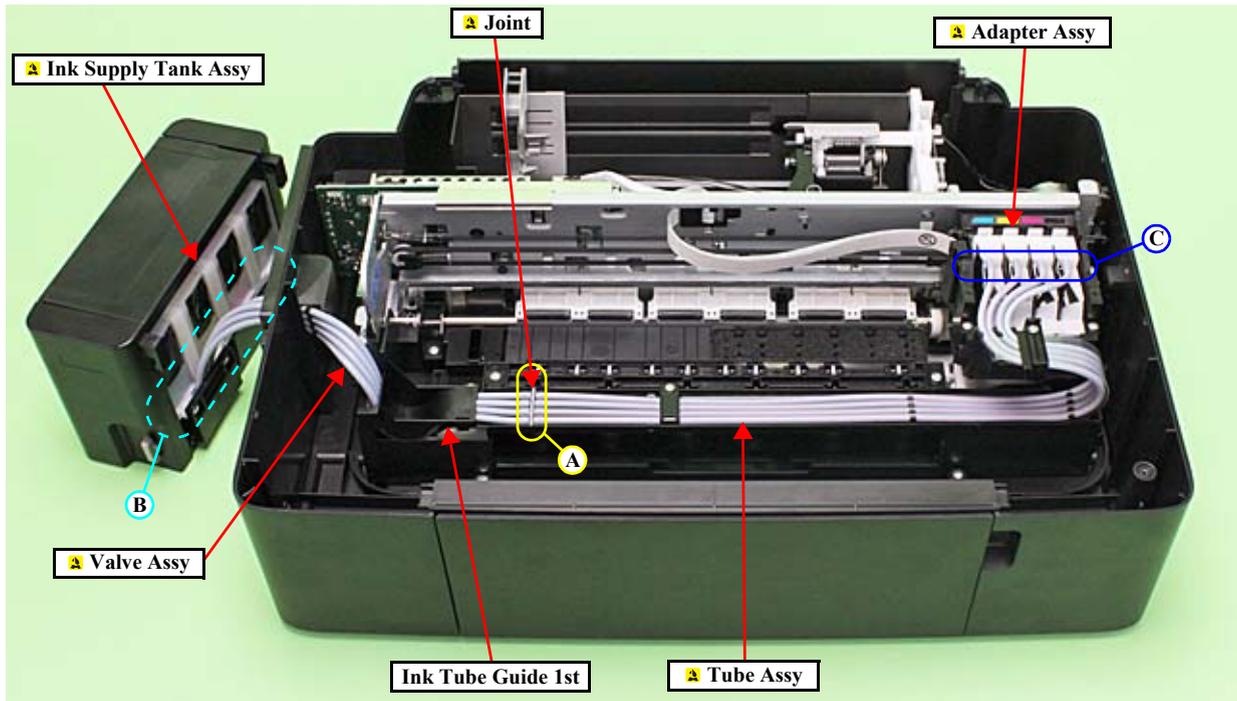


Figure 1-1. Location

- Means do to minimize the ink spill



Even observing the points described in this section, ink may spill in the following situations. Therefore, be careful not to contaminate the inside of the printer or its surroundings by preparing the container to receive the leaked ink, or the like.

- When removing the Valve Assy, some ink will spill from both ends of the ink tube even the Valve Lever is closed.
- When removing the Tube Assy, all the ink in the ink tube will spill.

Before disassembling, confirm that the printer is in the following condition.

- Choke Valve is closed



Do not turn the Valve Lever too much when closing the Choke Valve, otherwise, the Valve Lever and/or Valve Assy may get damaged.

- Before disassembling:
Turn the Valve Lever and be sure to close the Choke Valve.
- After reassembling is complete:
Open the Choke Valve to perform the print inspection.
- Before returning the printer to the user after repairing:
Make sure to turn the Valve Lever up to the choke position to close the Choke Valve before packing the printer.

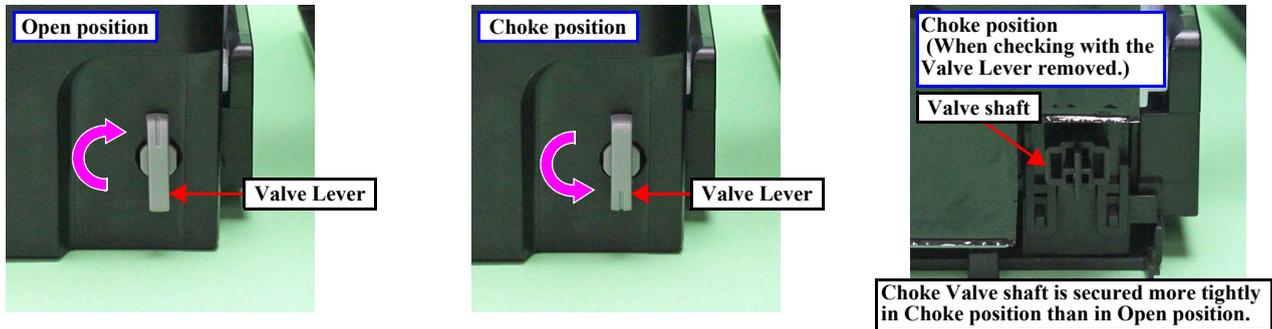


Figure 1-2. Opening/closing the Choke Valve

- Adapter Assy is removed

Before disconnecting the joint parts of the ink path, make sure that the Adapter Assy is removed from the Carriage.

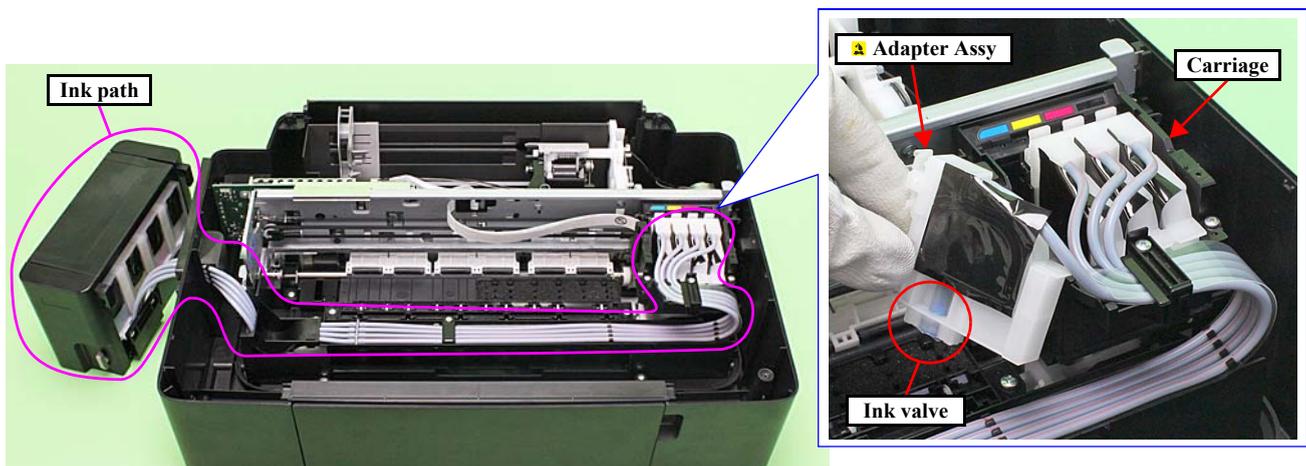


Figure 1-3. Adapter Assy



The Adapter Assy has an ink valve which cuts off the ink path when removing the Adapter Assy from the carriage.

1.1.3 Protection for Transportation

Before packing the printer for returning it to the user, secure it at the specified points with strong tape to avoid damaging the printer or ink leakage during transport, and make sure to check the points as follows.

□ Securing each parts

Secure the following parts with strong tape (width: 22 mm).

■ Securing the Carriage Assy

1. Confirm that the Carriage Assy is locked in the home position.
2. Attach the unfolded end of strong tape (fold the other end back 5 mm) on the bottom left of the CR Cover.
3. Pull the tape to the right side of the housing and attach it tightly.

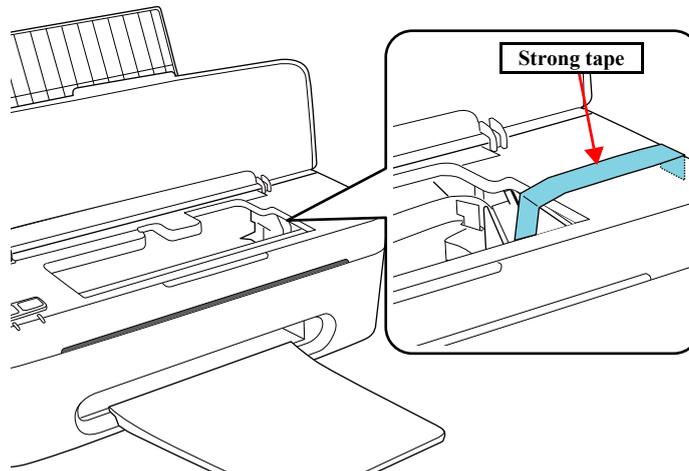


Figure 1-4. Securing the Carriage Assy

■ Securing the Ink Tank

- Secure both sides of the Top Cover with strong tape (x2).
- Secure the Ink Supply Tank Assy and Ink Supply Holder Assy with strong tape (x1).

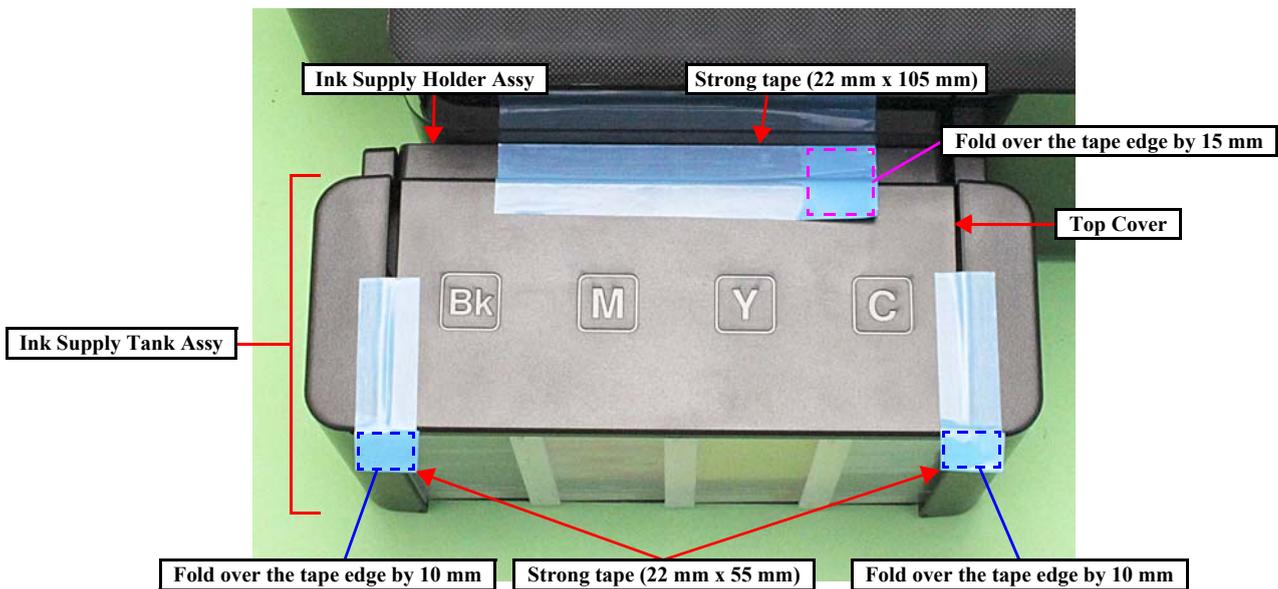
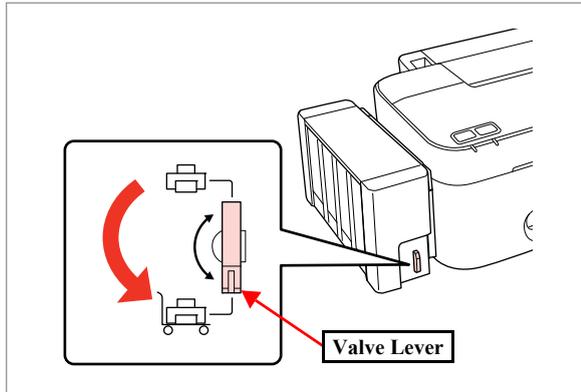


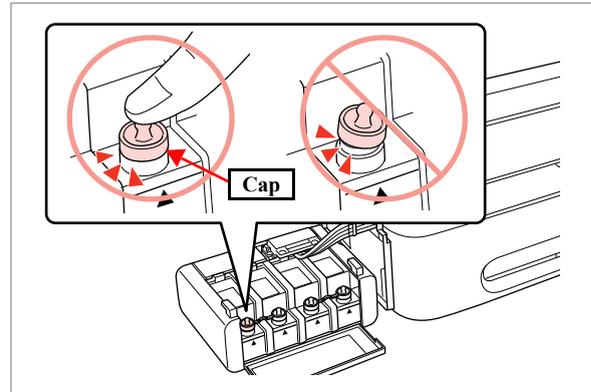
Figure 1-5. Securing the Ink Supply Tank Assy

□ Points to be checked before packing the printer

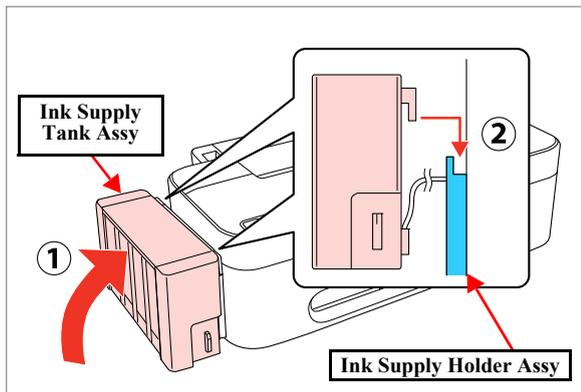
- The Valve Lever is on the position shown below (the Choke Valve is closed). (See Figure 1-2.)



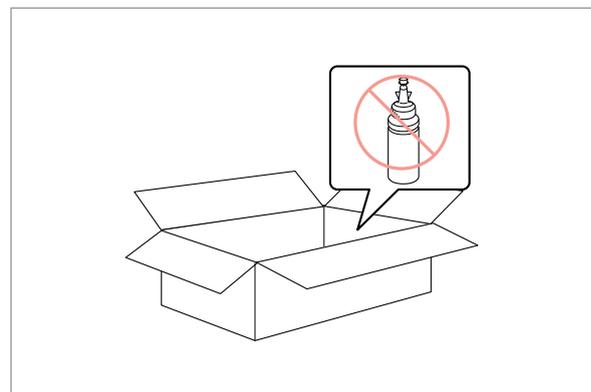
- All the caps of the Ink Supply Tank Assy are securely closed.



- The hooks (x2) of the Ink Supply Tank Assy are securely engaged with the Ink Supply Holder Assy.



- The opened ink bottle is not included in the box.

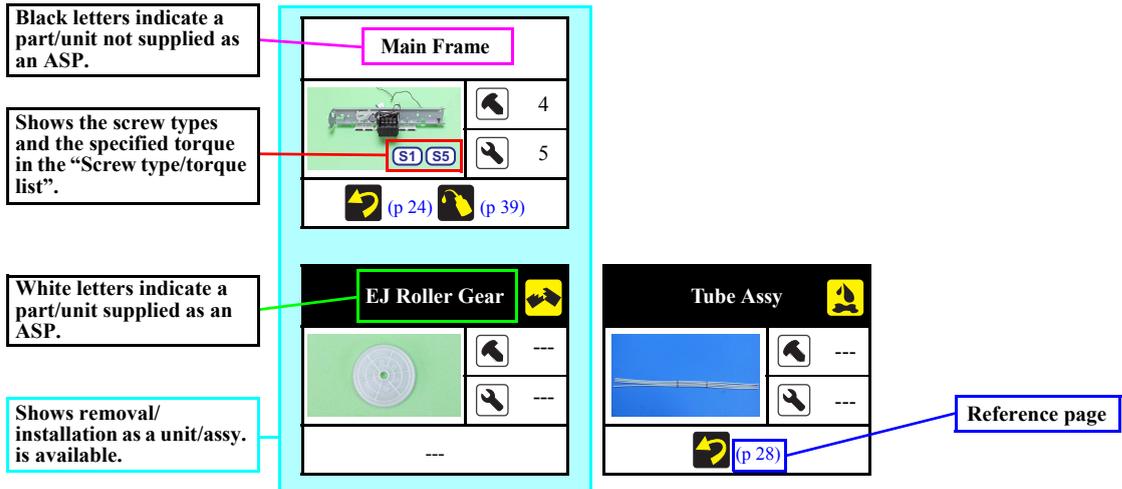


1.2 Disassembly/Reassembly Procedures

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and reassembling procedure. (See “ 1.3 Details of Disassembling/Reassembling by Parts/Unit (p23)”.)
 For routing cables, see “ 1.4 Routing FFCs/cables (p31)”



The example below shows how to see the charts on the following pages.



Item		Description	Reference
Parts/unit name	White-letter	Parts/units supplied as an ASP	---
	Black-letter	Parts/units not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	---
		Indicates the parts that may cause the ink spill when they are removed.	“ 1.1.2 Checks and precautions before disassembling (p10)”
		Indicates necessary check items in the disassembling/reassembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 2 “ Adjustment (p33)”
		Indicates lubrication is required.	Chapter 3 “ Maintenance (p37)”
		Indicates the number of screws securing the parts/units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

1.2.1 Standard Operation Time for servicing the product

The following are the standard operation time for servicing the product. Those are based on the MTTR result measured using a prototype.

The underlined parts/units are supplied as After Service Parts.

- Standard Operation Time for servicing L200/L201: See [Table 1-2](#).
- Standard Operation Time for servicing L100/L101: See [Table 1-3](#).

Table 1-2. Standard Operation Time (L200/L201)

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
<u>Panel Unit</u>	14	0	14	<u>Printhead</u>	364	1642	2006
<u>Panel Board</u>	29	0	29	Holder Contact	293	0	293
Paper Support Assy	12	0	12	EJ Frame Assy	149	0	149
<u>Paper Support Tray</u>	20	0	20	EJ Roller	170	406	576
<u>Paper Support Tray 2</u>	26	0	26	<u>EJ Roller Gear</u>	134	0	134
Stacker Assy	12	0	12	<u>Waste Ink Pads (for flushing)</u>	230	0	230
<u>Tray Exit Inner</u>	15	0	15	Cover Flashing	195	0	195
<u>Tray Exit Outer</u>	18	0	18	<u>Porous Pad Front Paper Guide</u>	159	0	159
<u>Jam Cover</u>	17	0	17	CR Motor	235	406	641
<u>Document Cover</u>	9	0	9	<u>Power Supply Unit</u>	129	406	535
<u>Document Pad</u>	20	0	20	Waste Ink Tray Assy	163	35	198
<u>ASF Cover</u>	5	0	5	<u>Waste Ink Pads</u>	239	35	274
<u>Ink Cartridge Cover</u>	18	0	18	Main Frame	501	406	907
<u>Rear Cover</u>	10	0	10	Carriage Assy	906	406	1312
<u>Scanner Unit</u>	228	0	228	<u>PCB Encoder</u>	953	406	1359
<u>CIS</u>	245	0	245	<u>Head FFC</u>	939	406	1345
Middle Housing Assy	674	0	674	Timing Belt	915	406	1321
<u>Middle Housing</u>	146	0	146	<u>Carriage</u>	995	406	1401
<u>USB Cover</u>	146	0	146	Upper Paper Guide	269	0	269
<u>LD Roller Assy</u>	186	406	592	Pump Assy	791	0	791
<u>LD Roller</u>	227	406	633	<u>Gear Pump Idle</u>	797	0	797
<u>Housing Buckler</u>	183	0	183	Lever Pick Clutch	798	0	798
Roller Idler Pick Assy	160	0	160	<u>Gear Pump</u>	811	0	811
CR Scale	181	0	181	<u>Bracket Pump</u>	832	0	832
<u>Main Board</u>	150	535	685	<u>Roller Pump</u>	827	0	827
Driven Pulley Assy	363	0	363	<u>Waste Ink Tube</u>	892	0	892
Pick Assy	376	0	376	<u>Pump Housing</u>	892	0	892
Cap Unit	405	0	405	<u>Waste Ink Pads (under the Cap Assy)</u>	409	0	409
Lever Cleaner	175	0	175	<u>PF Encoder</u>	148	0	148
<u>Cap Assy</u>	449	0	449	PF Scale	170	0	170

Table 1-2. Standard Operation Time (L200/L201)

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
PF Roller	579	0	579	<u>Left Cover</u>	44	0	44
PF Motor	531	0	531	<u>Ink Supply Tank Assy</u>	866	0	866
<u>Ink Tube Guide 1st</u>	278	0	278	<u>Ink Tube Guide 2nd</u>	698	0	698
Tube Pressing Plate	274	0	274	<u>Cap</u>	6	0	6
<u>Ink Supply Holder Assy</u>	613	0	613	<u>Joint</u>	449	0	449
CR Cover	746	0	746	<u>Tube Guide Plate</u>	515	0	515
Tube Holder Top / Tube Holder Lower	741	0	741	<u>Tube Guide Plate Support</u>	545	0	545
<u>Adapter Assy</u>	488	0	488	<u>Tube Assy</u>	677	0	677
CR Front	522	0	522	FFC Cover	461	0	461
<u>Top Cover</u>	9	0	9	<u>Valve Assy</u>	1473	0	1473
<u>Bottom Cover</u>	16	0	16				
<u>Valve Lever</u>	15	0	15				
<u>Right Cover</u>	49	0	49				

Table 1-3. Standard Operation Time (L100/L101)

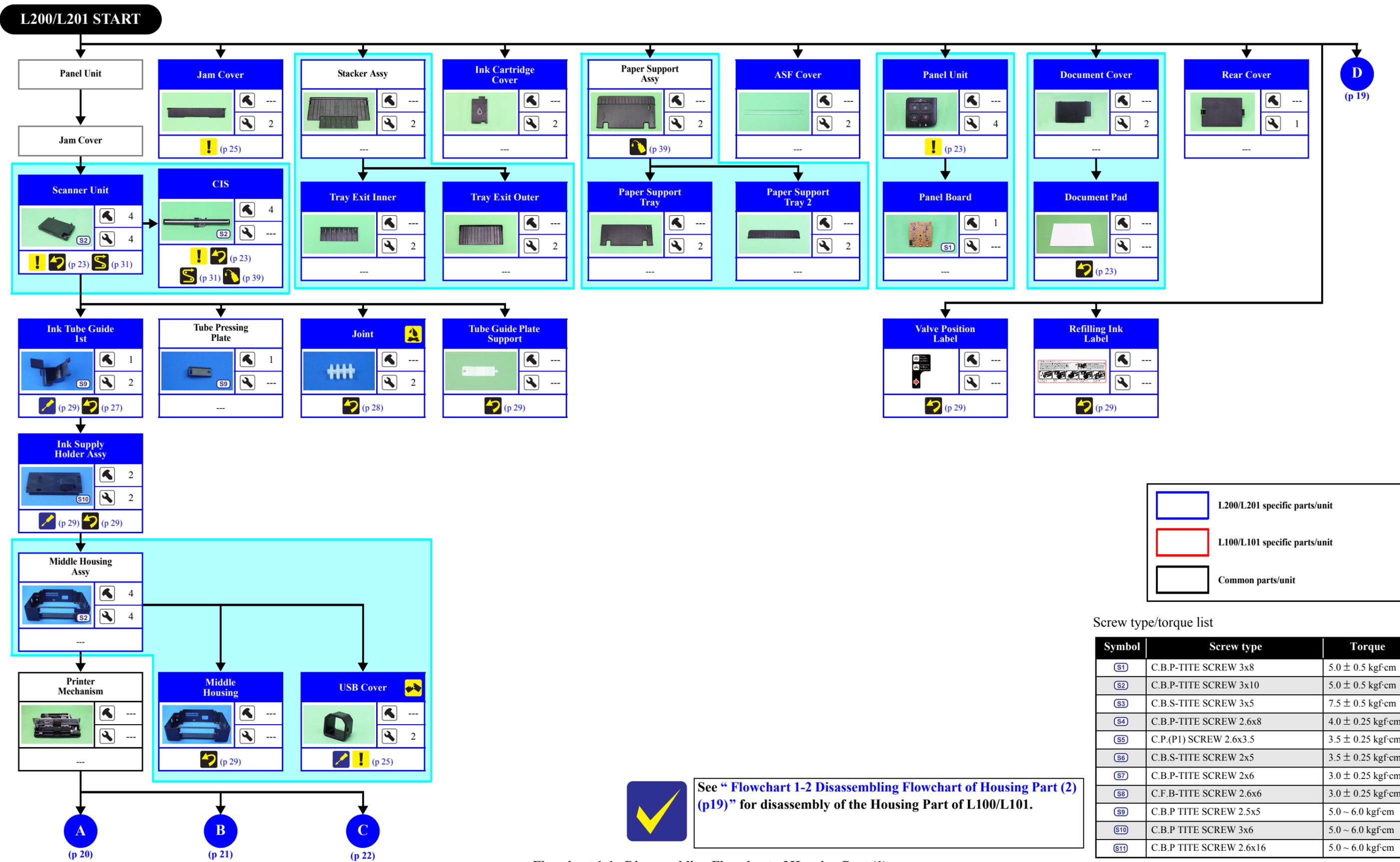
Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
<u>Printer Cover</u>	10	0	10	Holder Contact	234	0	234
<u>Panel Board</u>	204	0	204	EJ Frame Assy	90	0	90
Paper Support Assy	9	0	9	EJ Roller	111	406	517
<u>Paper Support Tray</u>	17	0	17	<u>EJ Roller Gear</u>	75	0	75
<u>Paper Support Tray 2</u>	23	0	23	<u>Waste Ink Pads (for flushing)</u>	171	0	171
Stacker Assy	3	0	3	Cover Flushing	136	0	136
<u>Rear Cover</u>	10	0	10	<u>Porous Pad Front Paper Guide</u>	100	0	100
Upper Housing Assy	144	0	144	CR Motor	176	406	582
<u>Upper Housing</u>	87	0	87	<u>Power Supply Unit</u>	70	406	476
<u>USB Cover</u>	87	0	87	Waste Ink Tray Assy	104	35	139
<u>LD Roller Assy</u>	127	406	533	<u>Waste Ink Pads</u>	180	35	215
<u>LD Roller</u>	168	406	574	Main Frame	442	406	848
<u>Housing Buckler</u>	124	0	124	Carriage Assy	847	406	1253
Roller Idler Pick Assy	101	0	101	<u>PCB Encoder</u>	894	406	1300
CR Scale	122	0	122	<u>Head FFC</u>	880	406	1286
<u>Main Board</u>	91	535	626	Timing Belt	856	406	1262
Cap Unit	346	0	346	<u>Carriage</u>	936	406	1342
Lever Cleaner	116	0	116	<u>PF Encoder</u>	89	0	89
<u>Cap Assy</u>	390	0	390	PF Scale	111	0	111
Driven Pulley Assy	304	0	304	<u>Adapter Assy</u>	389	0	389

Table 1-3. Standard Operation Time (L100/L101)

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
Pick Assy	317	0	317	CR Front	389	0	389
<u>Waste Ink Pads</u> (under the Cap Assy)	350	0	350	<u>Top Cover</u>	9	0	9
Pump Assy	732	0	732	<u>Bottom Cover</u>	16	0	16
<u>Gear Pump Idle</u>	738	0	738	<u>Valve Lever</u>	15	0	15
Lever Pick Clutch	739	0	739	<u>Right Cover</u>	49	0	49
<u>Gear Pump</u>	752	0	752	<u>Left Cover</u>	44	0	44
<u>Bracket Pump</u>	773	0	773	<u>Ink Supply Tank Assy</u>	778	0	778
<u>Roller Pump</u>	768	0	768	<u>Ink Tube Guide 2nd</u>	376	0	376
<u>Waste Ink Tube</u>	833	0	833	<u>Cap</u>	6	0	6
<u>Pump Housing</u>	833	0	833	<u>Joint</u>	365	0	365
Upper Paper Guide	195	0	195	<u>Tube Guide Plate</u>	431	0	431
PF Roller	476	0	476	<u>Tube Guide Plate</u> <u>Support</u>	461	0	461
PF Motor	472	0	472	<u>Tube Assy</u>	520	0	520
<u>Printhead</u>	305	1642	1947	FFC Cover	377	0	377
<u>Ink Tube Guide 1st</u>	194	0	194	<u>Valve Assy</u>	747	0	747
Tube Pressing Plate	190	0	190				
<u>Ink Supply Holder Assy</u>	352	0	352				
CR Cover	216	0	216				
Tube Holder Top / Tube Holder Lower	211	0	211				

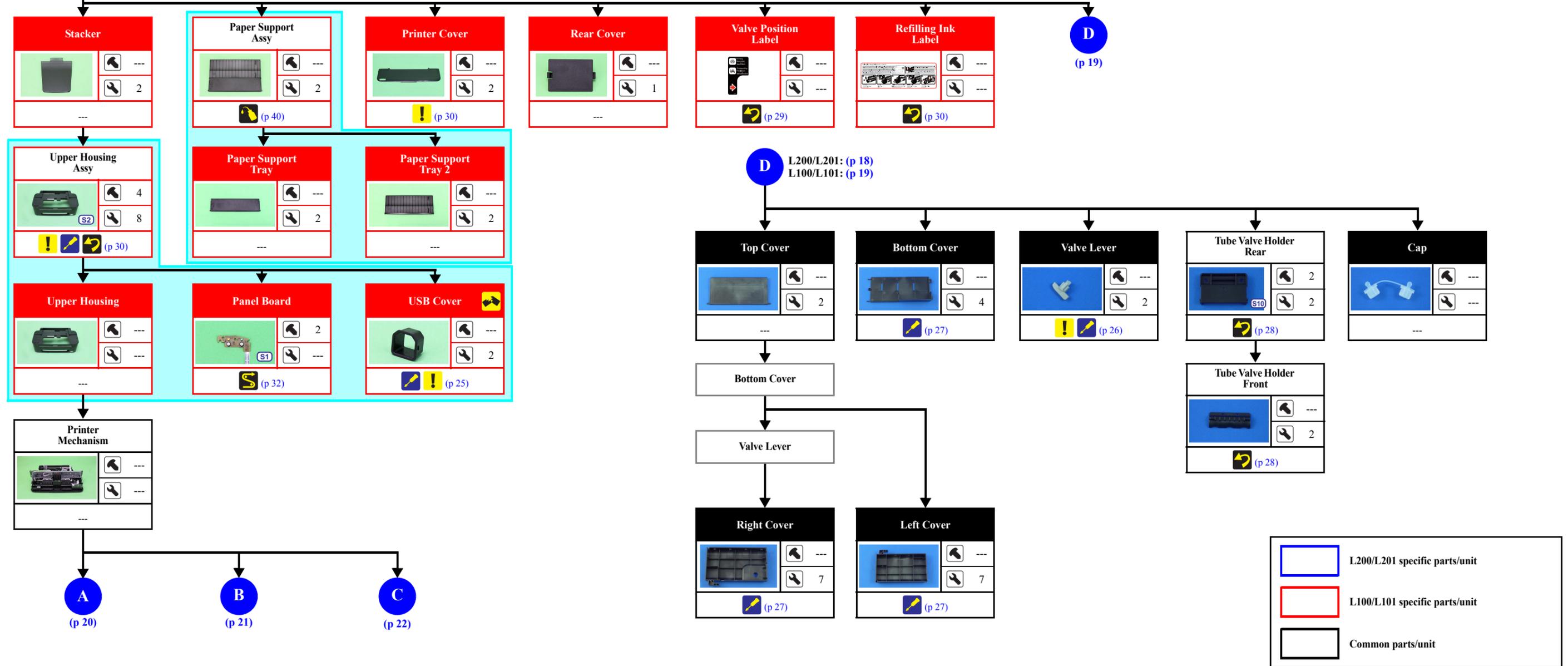
1.2.2 Disassembling/Reassembling Flowchart

1.2.2.1 Housing Part



Flowchart 1-1. Disassembling Flowchart of Housing Part (1)

L100/L101 START



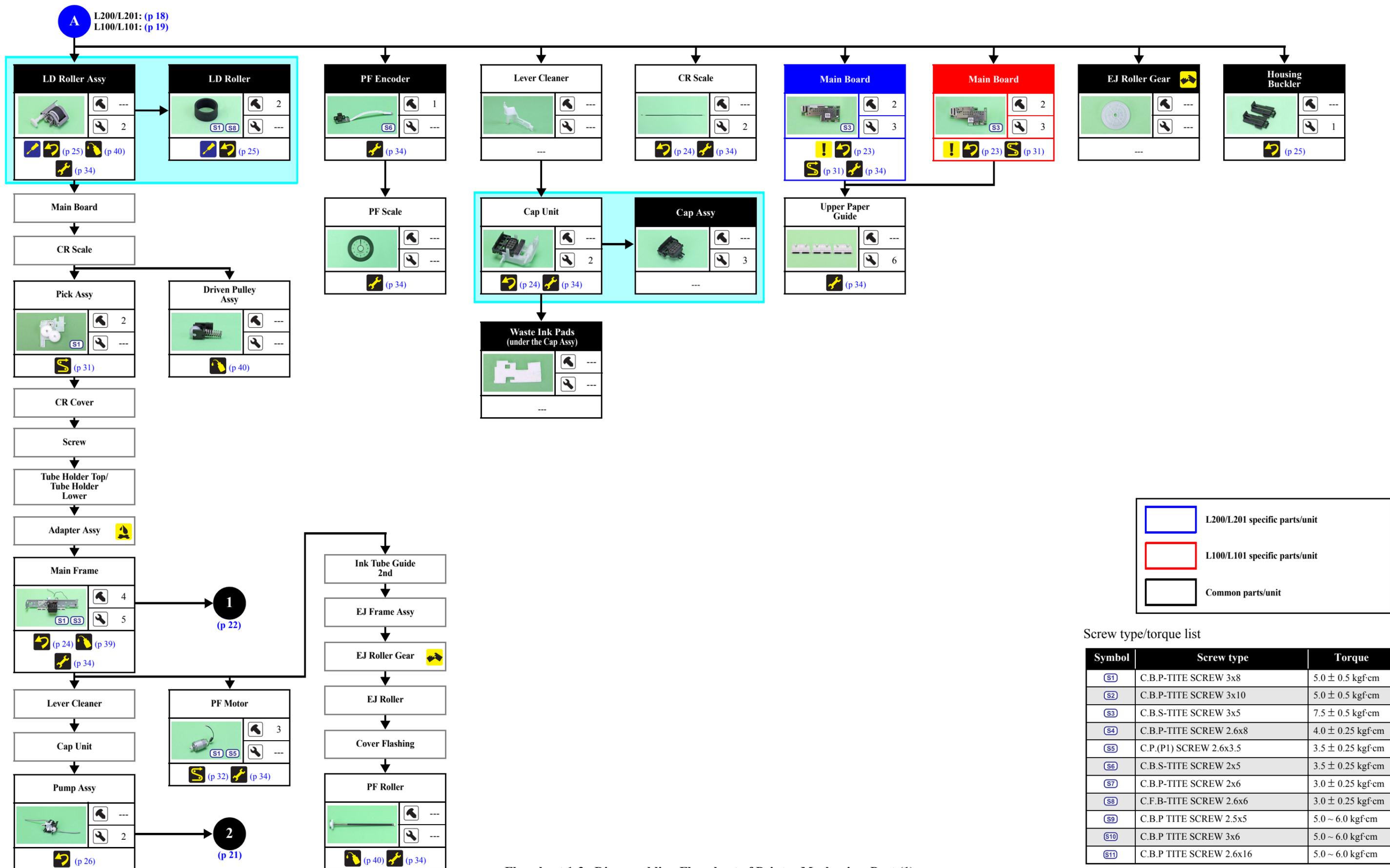
Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0 ± 0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0 ± 0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5 ± 0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0 ± 0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5 ± 0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5 ± 0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0 ± 0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0 ± 0.25 kgf·cm
S9	C.B.P TITE SCREW 2.5x5	5.0 ~ 6.0 kgf·cm
S10	C.B.P TITE SCREW 3x6	5.0 ~ 6.0 kgf·cm
S11	C.B.P TITE SCREW 2.6x16	5.0 ~ 6.0 kgf·cm

 See “Flowchart 1-1 Disassembling Flowchart of Housing Part (1) (p18)” for disassembly of the Housing Part of L200/L201.

Flowchart 1-2. Disassembling Flowchart of Housing Part (2)

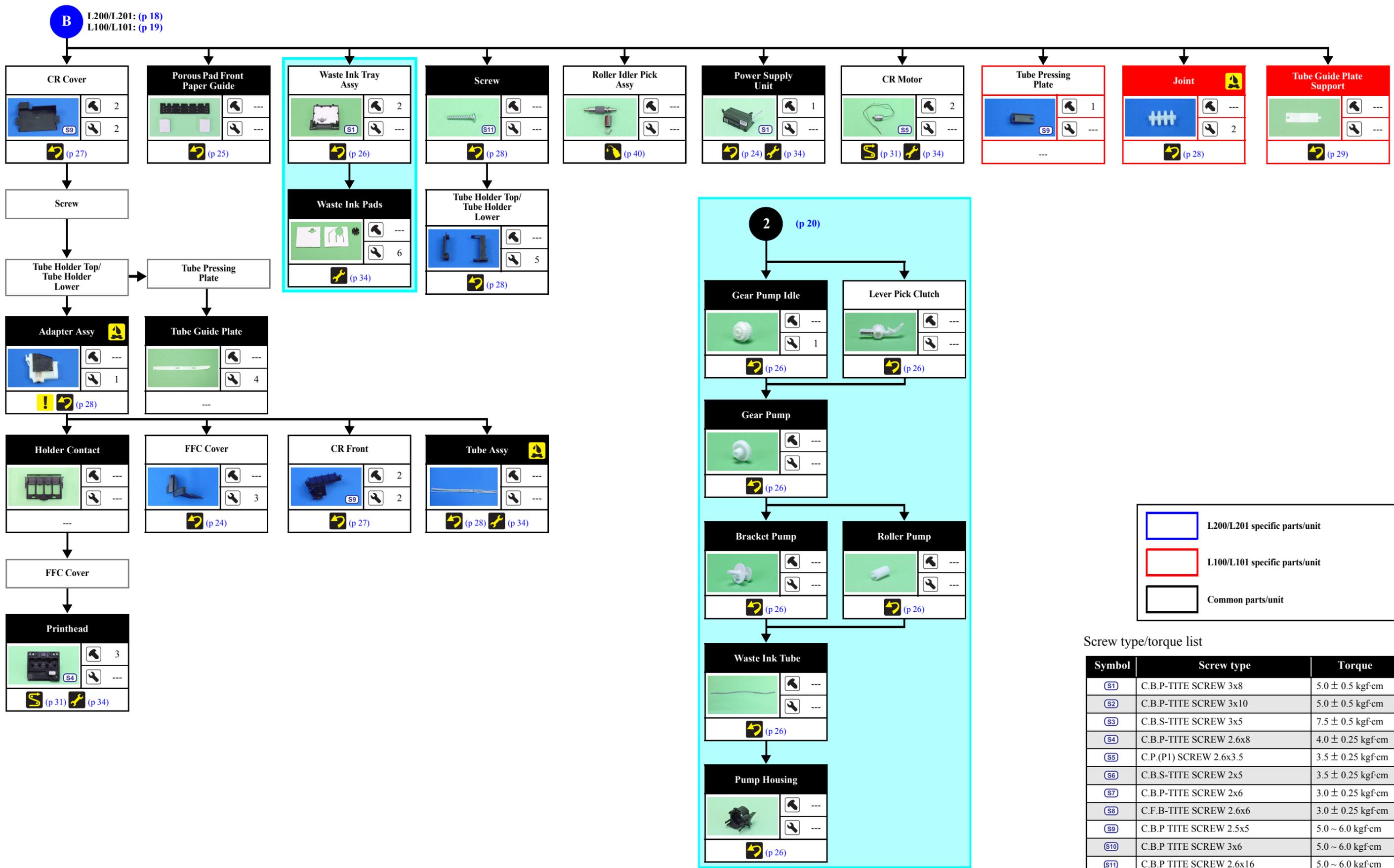
1.2.2.2 Printer Mechanism Part



Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0 ± 0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0 ± 0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5 ± 0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0 ± 0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5 ± 0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5 ± 0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0 ± 0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0 ± 0.25 kgf·cm
S9	C.B.P TITE SCREW 2.5x5	5.0 ~ 6.0 kgf·cm
S10	C.B.P TITE SCREW 3x6	5.0 ~ 6.0 kgf·cm
S11	C.B.P TITE SCREW 2.6x16	5.0 ~ 6.0 kgf·cm

Flowchart 1-3. Disassembling Flowchart of Printer Mechanism Part (1)



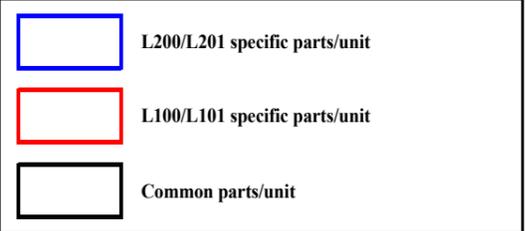
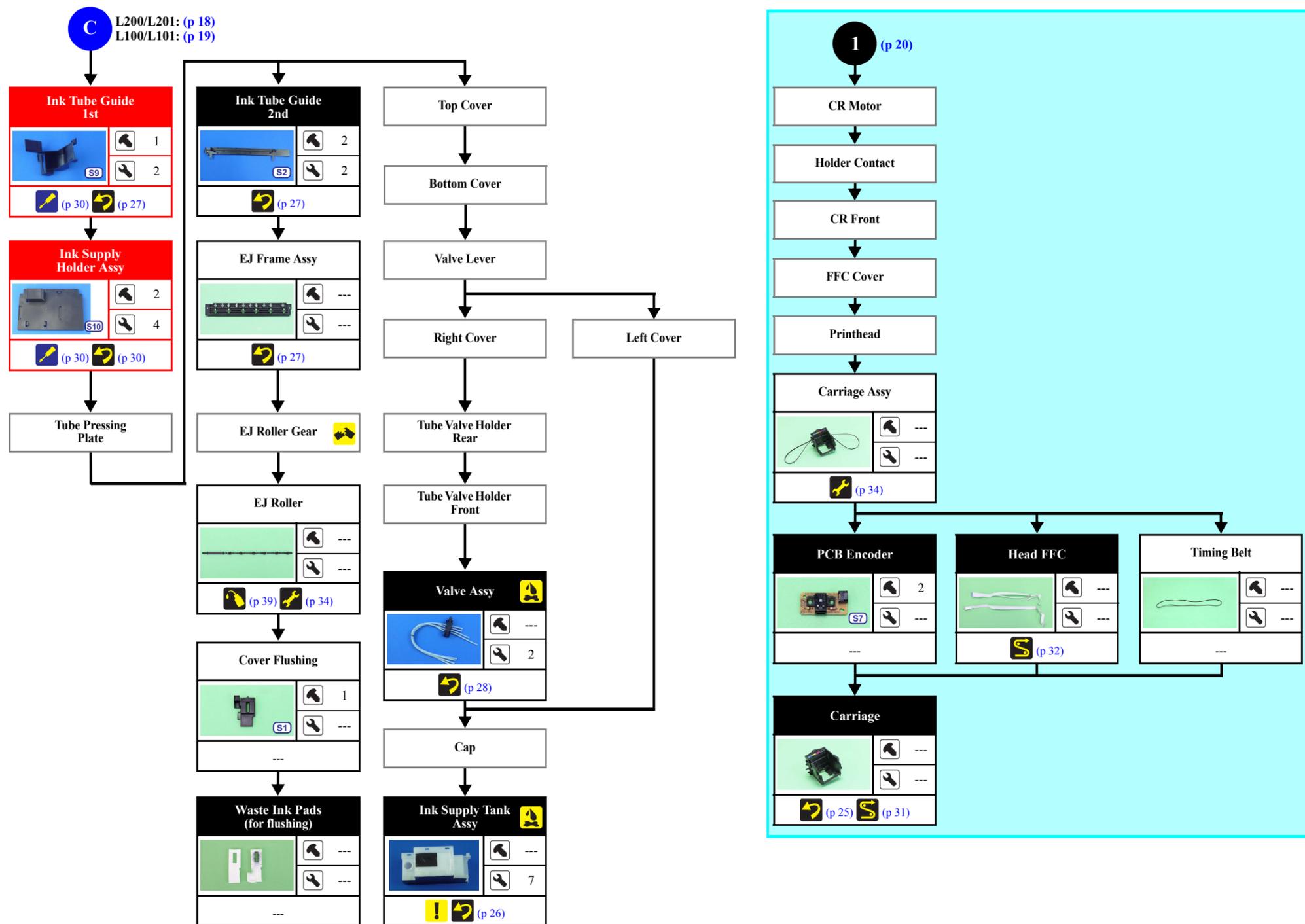
Legend:

- L200/L201 specific parts/unit
- L100/L101 specific parts/unit
- Common parts/unit

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0 ± 0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0 ± 0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5 ± 0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0 ± 0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5 ± 0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5 ± 0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0 ± 0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0 ± 0.25 kgf·cm
S9	C.B.P TITE SCREW 2.5x5	5.0 ~ 6.0 kgf·cm
S10	C.B.P TITE SCREW 3x6	5.0 ~ 6.0 kgf·cm
S11	C.B.P TITE SCREW 2.6x16	5.0 ~ 6.0 kgf·cm

Flowchart 1-4. Disassembling Flowchart of Printer Mechanism Part (2)



Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0 ± 0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0 ± 0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5 ± 0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0 ± 0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5 ± 0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5 ± 0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0 ± 0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0 ± 0.25 kgf·cm
S9	C.B.P TITE SCREW 2.5x5	5.0 ~ 6.0 kgf·cm
S10	C.B.P TITE SCREW 3x6	5.0 ~ 6.0 kgf·cm
S11	C.B.P TITE SCREW 2.6x16	5.0 ~ 6.0 kgf·cm

Flowchart 1-5. Disassembling Flowchart of Printer Mechanism Part (3)

1.3 Details of Disassembling/Reassembling by Parts/Unit

Panel Unit (L200/L201)

! Do not lift the Panel Unit too fast, since the Panel FFC is connected to the back of the Panel Unit.

Document Pad (L200/L201)

↻ When installing the Document Pad, follow the procedure below.

1. Place the Document Pad with the side where the double-sided tape attached upward on the document glass aligning its corner with the origin position.
2. Close the Document Cover to attach the Document Pad.

Scanner Unit (L200/L201)

! Do not lift the Scanner Unit too fast, since the Panel FFC, Scanner Motor cable and Scanner FFC are connected to the rear side of the Scanner Unit.

↻ Tighten the screws in the order indicated in the figure above.

○ C.B.P-TITE SCREW 3x10 (5.0 ± 0.5 kgf·cm)

CIS (L200/L201)

! Be careful not to lose the Spacer because it comes off easily when disassembling the CIS.

↻

- When installing the spacers, be sure to place them with the cutout facing inward.
- Align the toothed side of the Timing Belt with the same shaped rib of the backside of the CIS, and secure the Timing Belt with Torsion Spring.

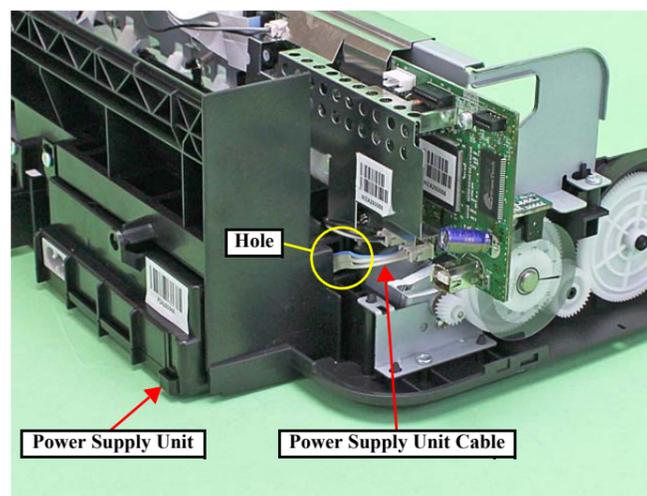
Main Board

! Take care not to damage the PE Sensor Lever.

↻

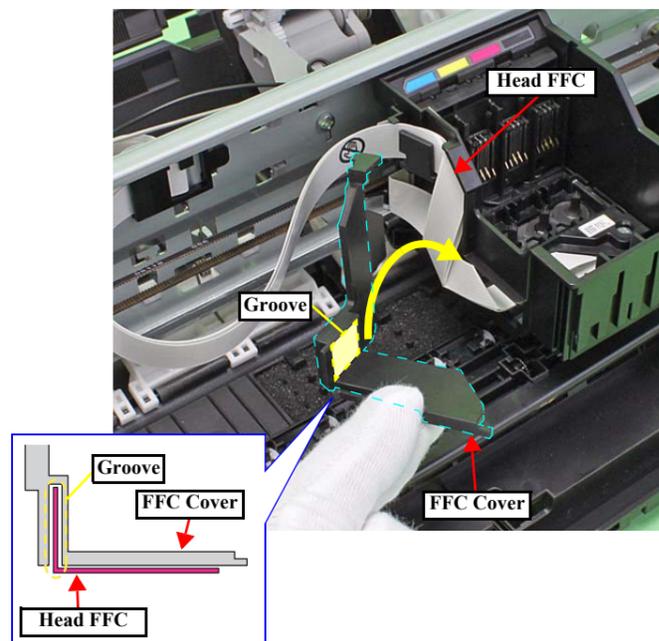
- Align the ribs (x3) of the Main Frame with the cutouts of the Main Board.
- Screw one side of the grounding wire (w/ ferrite core) together with the plate of the PF Motor, and the other side together with the Main Board.

Power Supply Unit



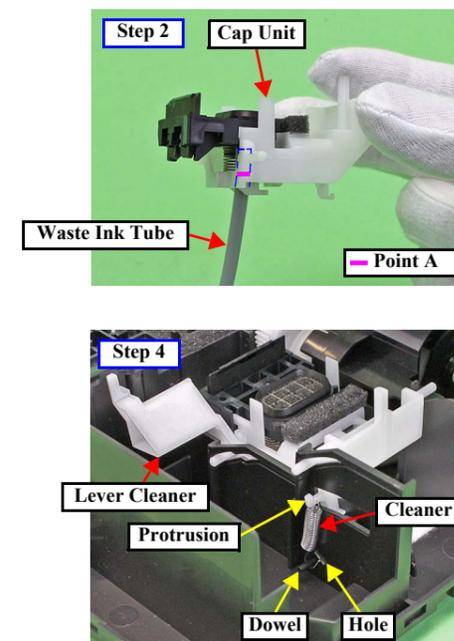
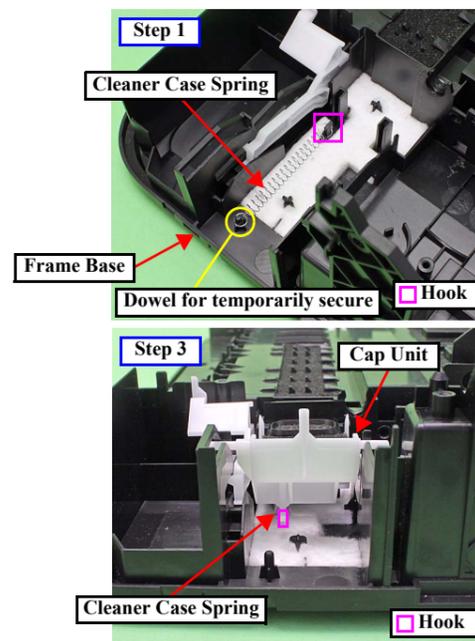
Route the Power Supply Unit cable through the hole of the Frame Base.

FFC Cover



Insert the folded part of the Head FFC into the groove of the FFC Cover.

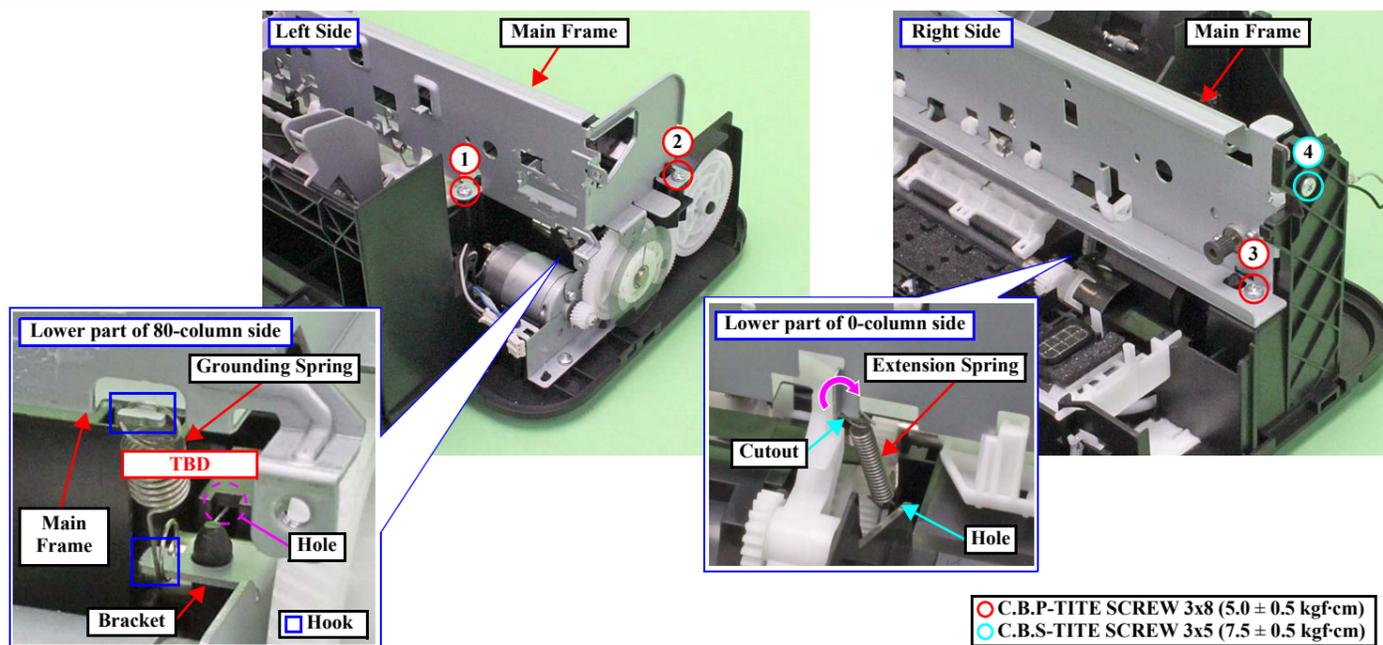
Cap Unit



When installing the Cap Unit, follow the instruction below.

1. Temporarily secure the Cleaner Case Spring to the hook and dowel of the Frame Base.
2. Insert the Waste Ink Tube to the Cap Unit until point A (p 26) is hidden.
3. Install the Cap Unit to the Frame Base, and attach the Cleaner Case Spring which is secured temporary earlier to the hook on the Cap Unit.
4. Insert one leg of the Cleaner Lever Spring to the hole of the Frame Base, and secure it to the dowel of the Frame Base, then secure the other leg to the protrusion of the Lever Cleaner.

Main Frame



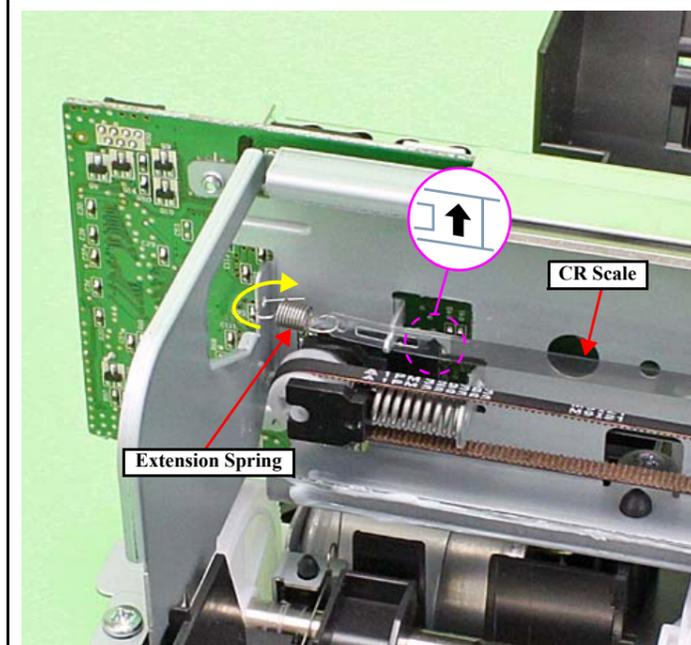
When installing the Grounding Spring of the lower part of the 80-digit side, follow the instruction below.

1. Insert the tip of the spring to the hole of the Frame Base.
2. Attach the eye of the spring to the Bracket and secure the other eye to the hook on the Main Frame.

When installing the Extension Spring of the lower part of the 0-digit side, attach the tip of the Extension Spring to the hole of the Frame Base first. Then attach the leg of the spring to the cutout of the Main Frame from the left side as seen from the rear of the printer.

Tighten the screws in the order indicated in the figure above.

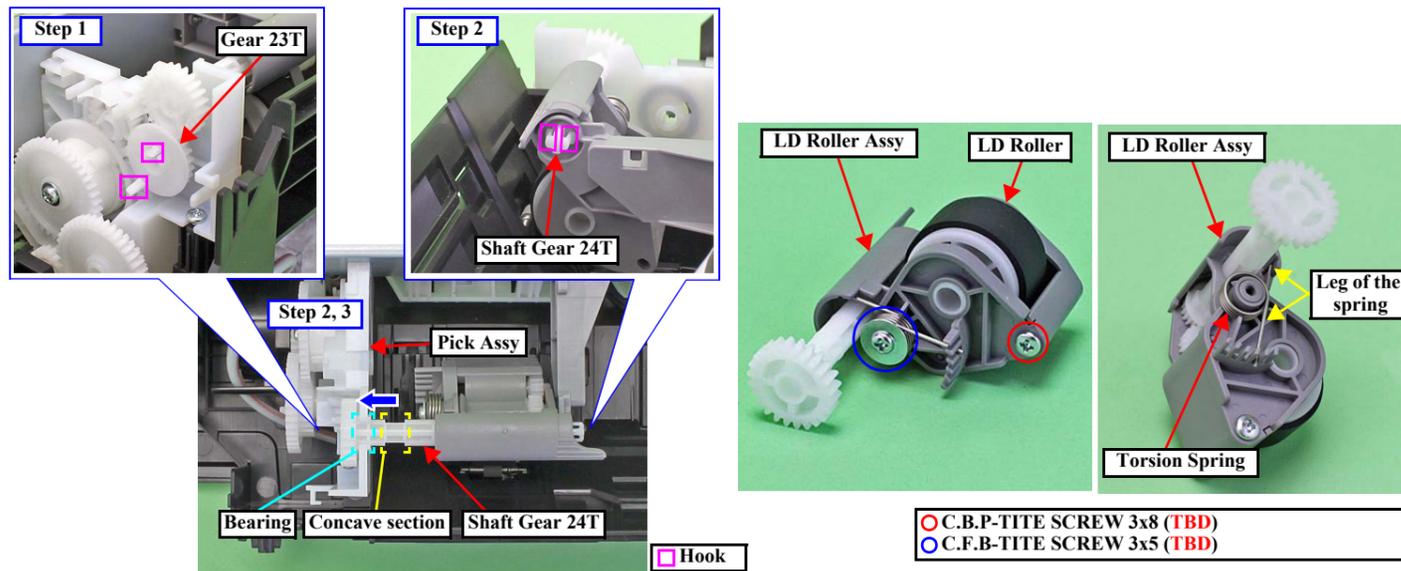
CR Scale



When installing the CR Scale, confirm that the arrows on both the edges of the CR Scale face upward.

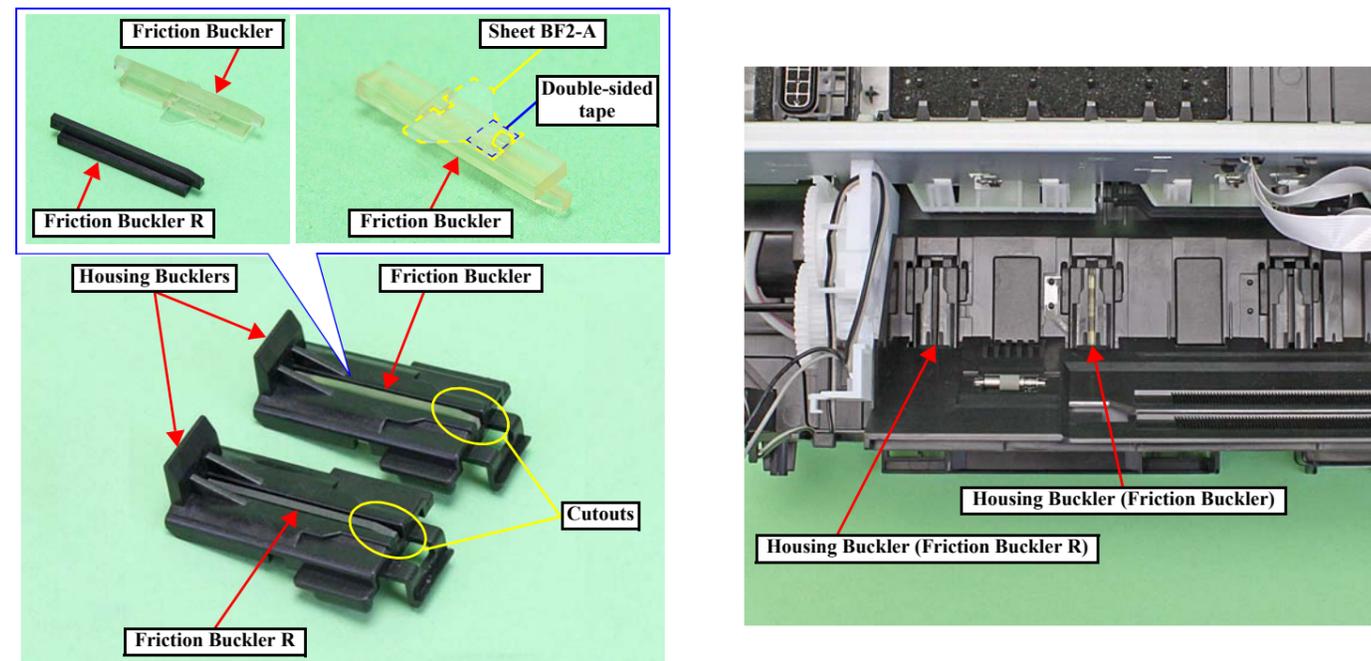
When installing the Extension Spring, be sure to attach it with its leg facing the rear of the printer.

LD Roller Assy / LD Roller



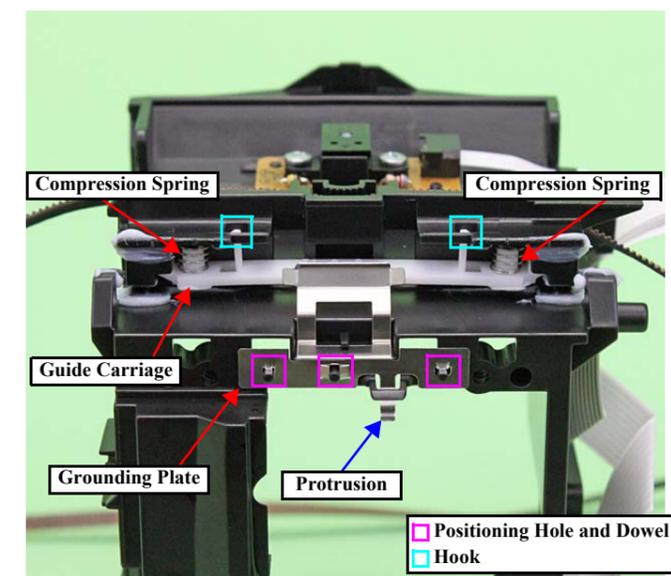
- When removing the LD Roller Assy, follow the procedure below.
 1. Release the hooks (x2) and remove the Gear 23T.
 2. Release the hooks (x2) and slide the Shaft Gear 24T to the 0-digit side until the concave section of the gear comes to the bearing part of the Pick Assy.
 3. Remove the LD Roller Assy upward.
 - When removing the LD Roller, remove the screws (x2) shown in the figure above.
- When install the Torsion Spring, make sure to align the leg to the position as shown above.

Housing Buckler



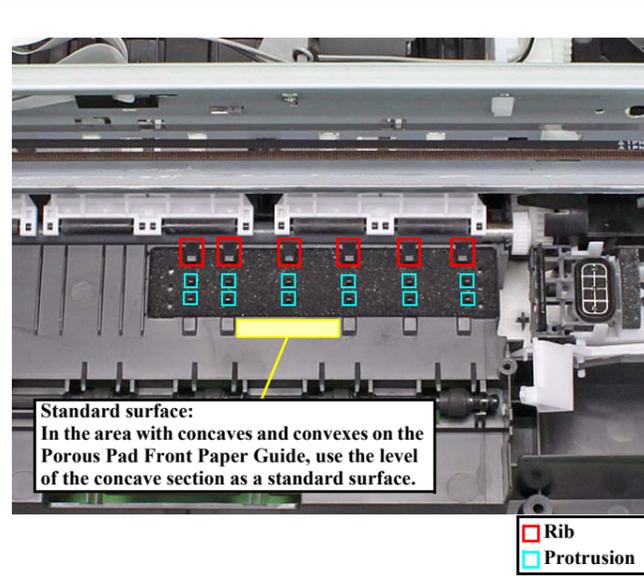
- When installing the Friction Buckler and Friction Buckler R to the Housing Buckler, pay attention to the following instructions.
 - Remove the Sheet BF2-A on the rear side of the Friction Buckler to be replaced, and secure the removed sheet with double-sided tape to the new Friction Buckler.
 - Install the friction bucklers to the Housing Bucklers with the cutouts facing forward.
- Install the buckler to the position as shown above.

Carriage



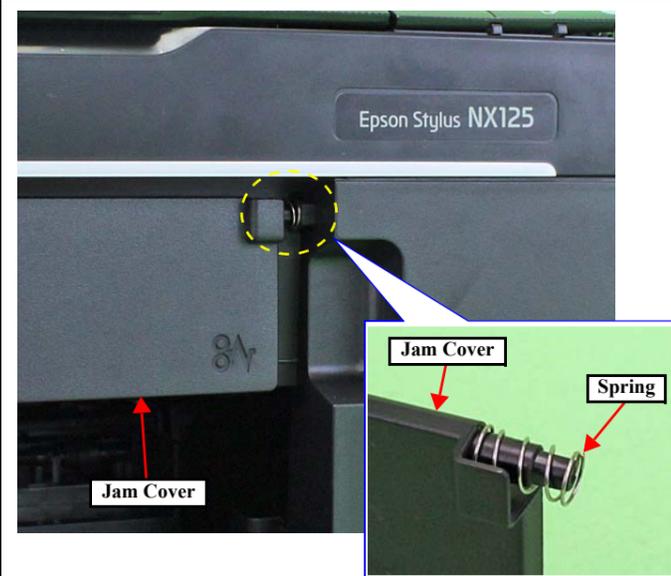
- When replacing the Carriage, be careful about the following and remove the Grounding Plate, Guide Carriage, Compression Springs from the Carriage to be replaced, then attach them to the new Carriage as shown in the figure above.
 - Insert the protrusion of the Grounding Plate to the hole of the Carriage, and align the dowels (x3) of the Carriage with the positioning holes (x3) of the Grounding Plate.
 - Secure hooks (x2) of the Guide Carriage by attaching them to the holes (x2) of the Carriage.

Porous Pad Front Paper Guide



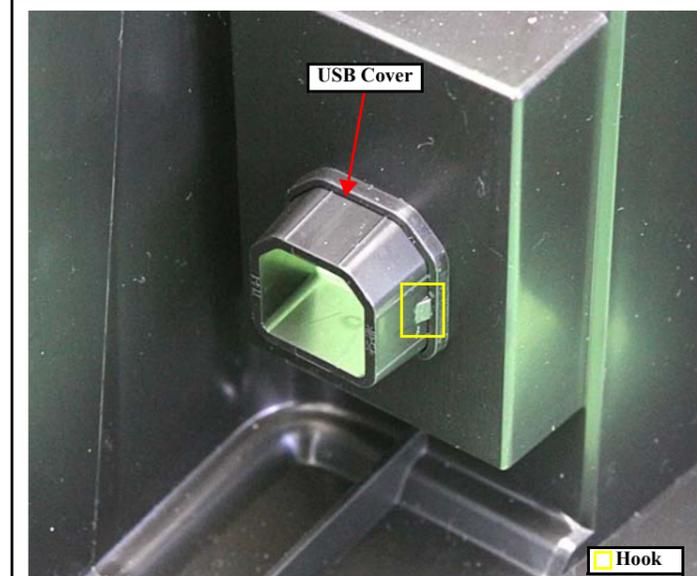
- When installing the Porous Pad Front Paper Guide, align the pad with the ribs and protrusions of the Platen. After installing the pad, make sure to fit it evenly 1.5mm lower than the standard surface.

Jam Cover



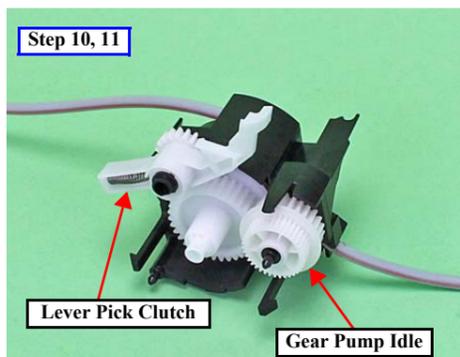
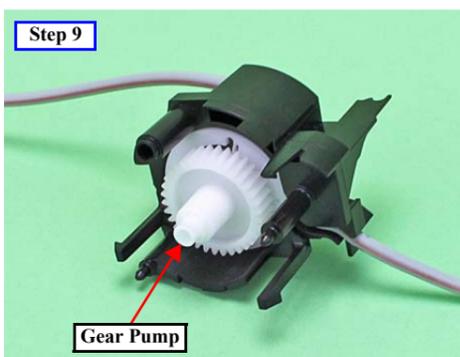
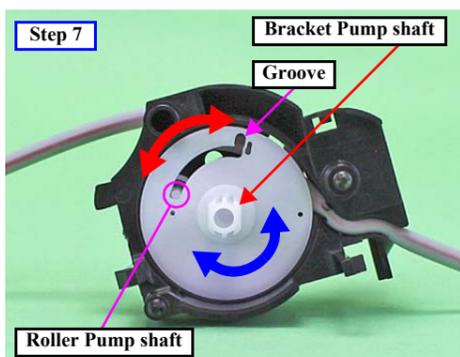
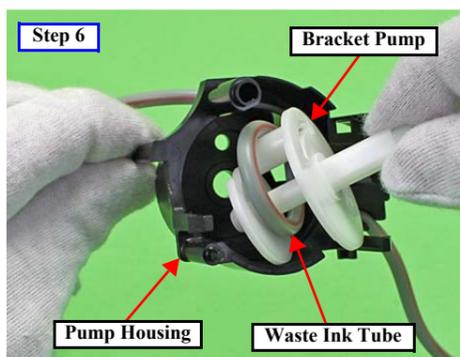
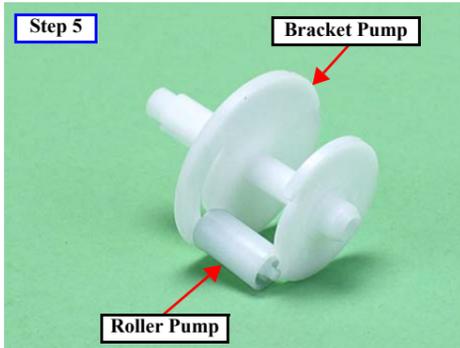
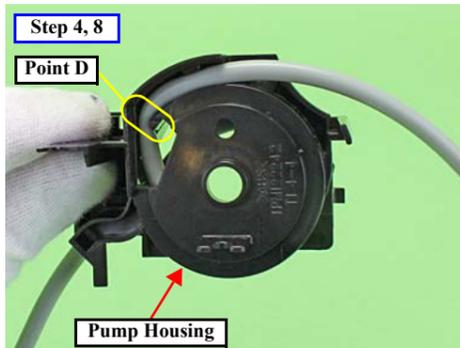
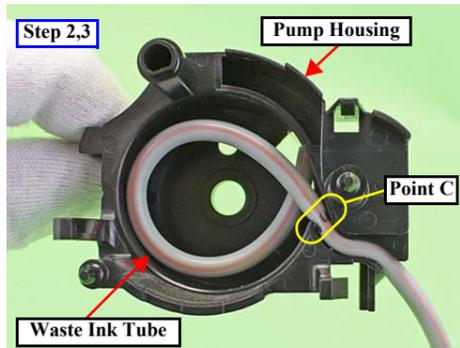
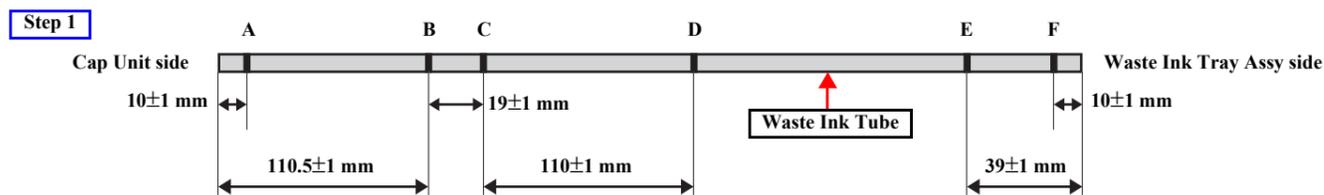
- ! When removing the Jam Cover, be careful not to lose the spring installed to the dowel on the right side.

USB Cover



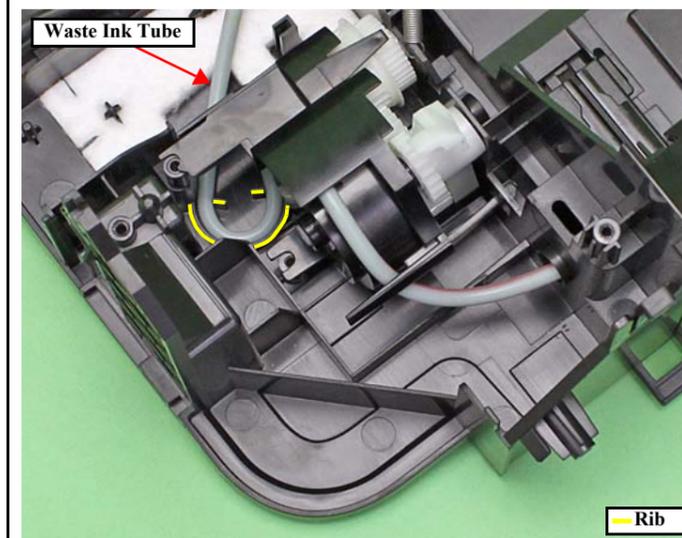
- ! The USB Cover cannot be re-used once it is removed. Whenever the cover is removed, make sure to replace it with a new one.
- When removing the USB Cover, cut the hook securing the USB Cover with a nipper. Be careful not to damage the Upper Housing then.

Gear Pump Idle/ Gear Pump/ Bracket Pump/ Roller Pump/ Waste Ink Tube/ Pump Housing



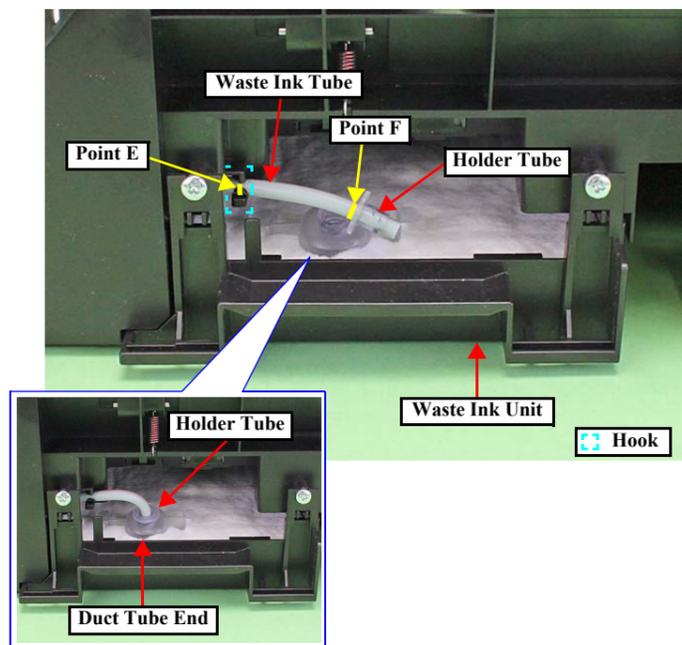
- When reassembling the Pump Assy, follow the instructions below.
1. Make six points on the Waste Ink Tube.
 2. Insert the Waste Ink Tube in the hole of the Pump Housing with the red line of the tube set as shown in the figure above.
 3. Secure point C of the Waste Ink Tube to the point C of the Pump Housing.
 4. Secure point D of the Waste Ink Tube to the point D of the Pump Housing.
 5. Install the Roller Pump to the Bracket Pump.
 6. Set the Waste Ink Tube inside the Bracket Pump, and install the Bracket Pump to the Pump Housing.
 7. Rotate the Bracket Pump shaft and make sure that the Roller Pump shaft moves to both ends in the groove.
 8. Make sure that point D is placed in the correct position.
 9. Install the Gear Pump.
 10. Install the Gear Pump Idle.
 11. Install the Lever Pick Clutch.

Pump Assy



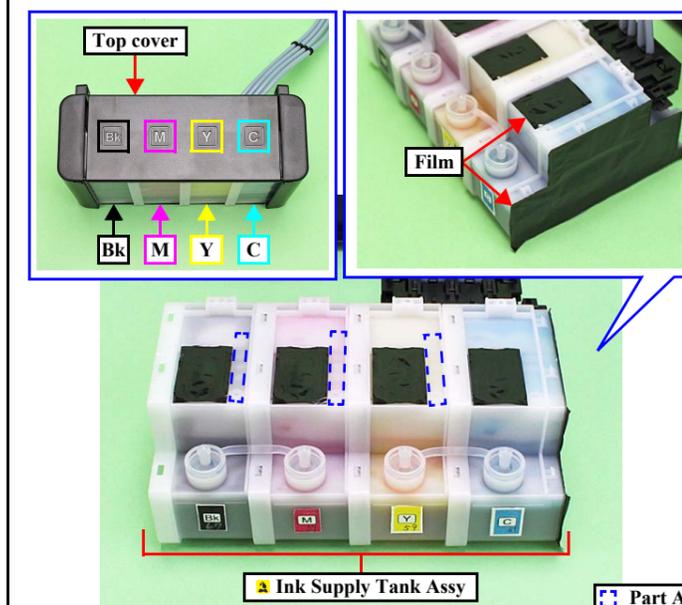
- Route the Ink Tube along the ribs on the Frame Base.
- After installing the Ink Tube, make sure that no part of the tube is pressed flat.

Waste Ink Tray Assy



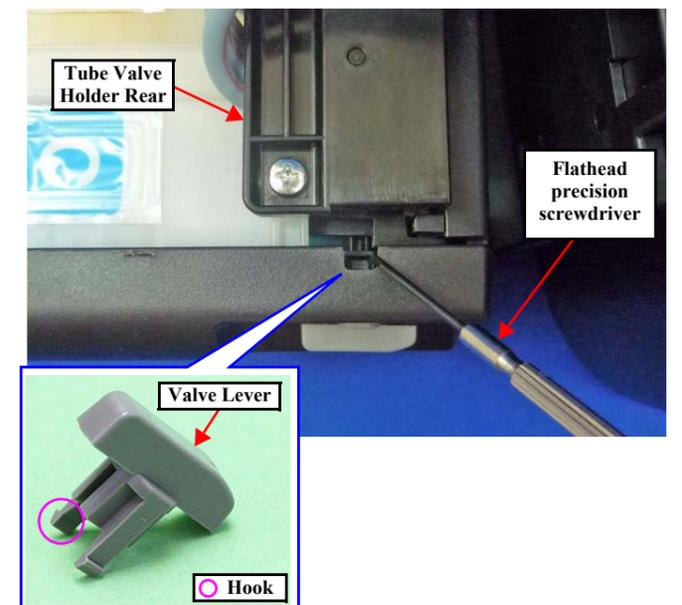
- When installing the Waste Ink Tube, pay attention to the following instructions.
- Align and secure the point E (p 26) of the Waste Ink Tube to the hook on the Frame Base.
 - Insert the Holder Tube up to the point F (p 26) of the Waste Ink Tube, and insert the holder into the Duct Tube End.

Ink Supply Tank Assy



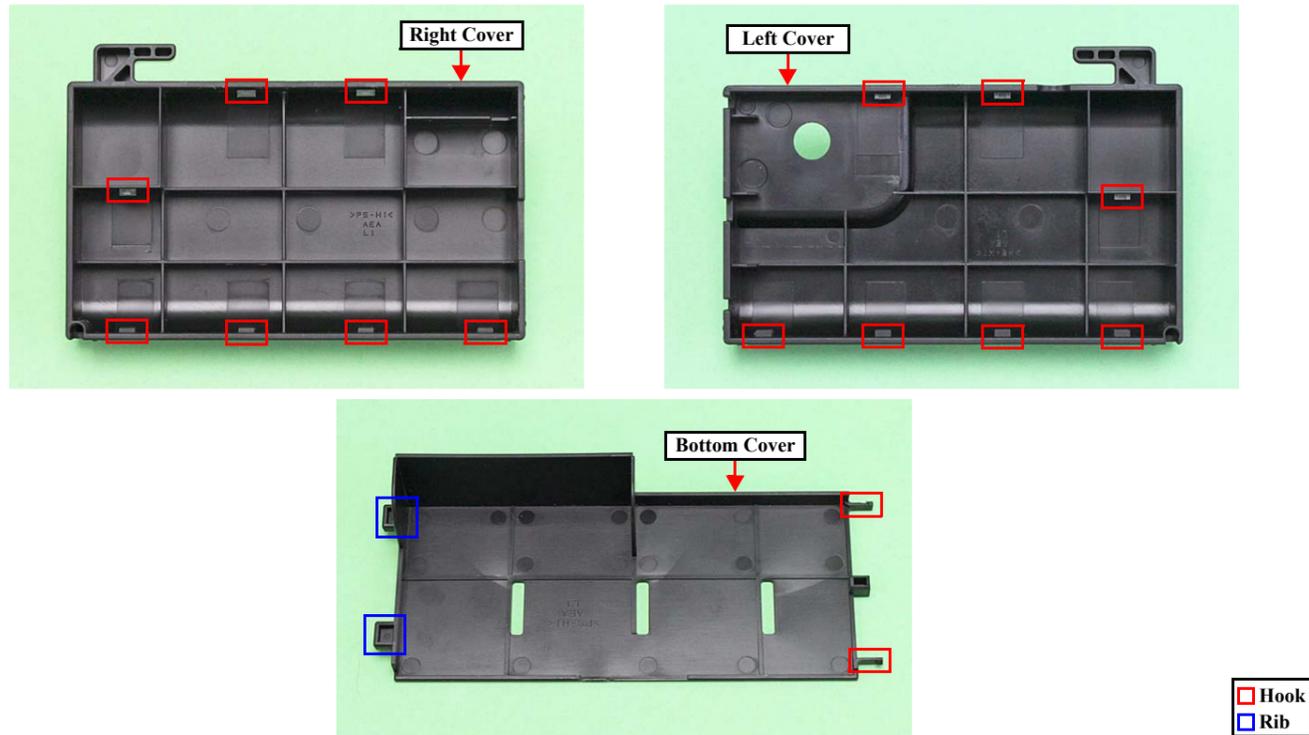
- Be careful not to damage or peel off the film of the Ink Supply Tank Assy.
- To make disassembling the Ink Supply Tank Assy easier, push slightly the part A of the Ink Supply Tank shown in the figure above to release the hooks.
- When assembling the Ink Supply Tank Assy, attach them according to their color in the order of the indications on the Top Cover.

Valve Lever



- In order to prevent ink spill, make sure to close the Valve Lever before disassembling. (p 10)
- When removing the Valve Lever, follow the instructions below.
1. Remove the Ink Supply Tank Assy from the Housing.
 2. Insert the flathead precision screwdriver by the Tube Valve Holder Rear as shown in the figure above.
 3. Release the hook and remove the Valve Lever.

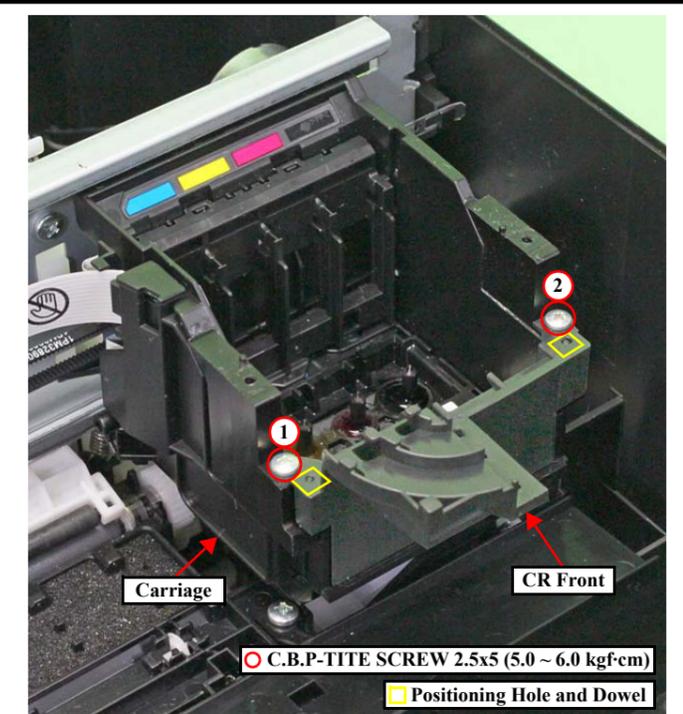
Right Cover / Left Cover / Bottom Cover



 Hook
 Rib

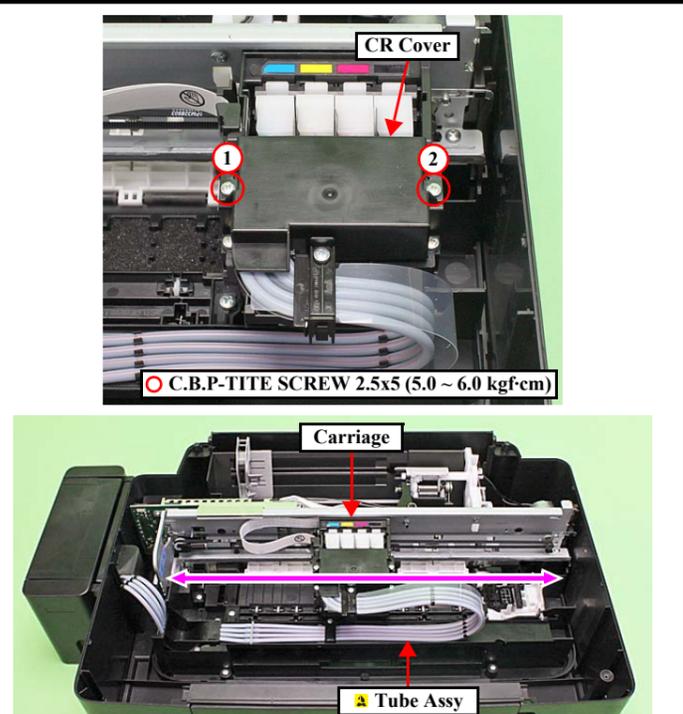
The figures above indicate the hooks and ribs that secure the parts.

CR Front



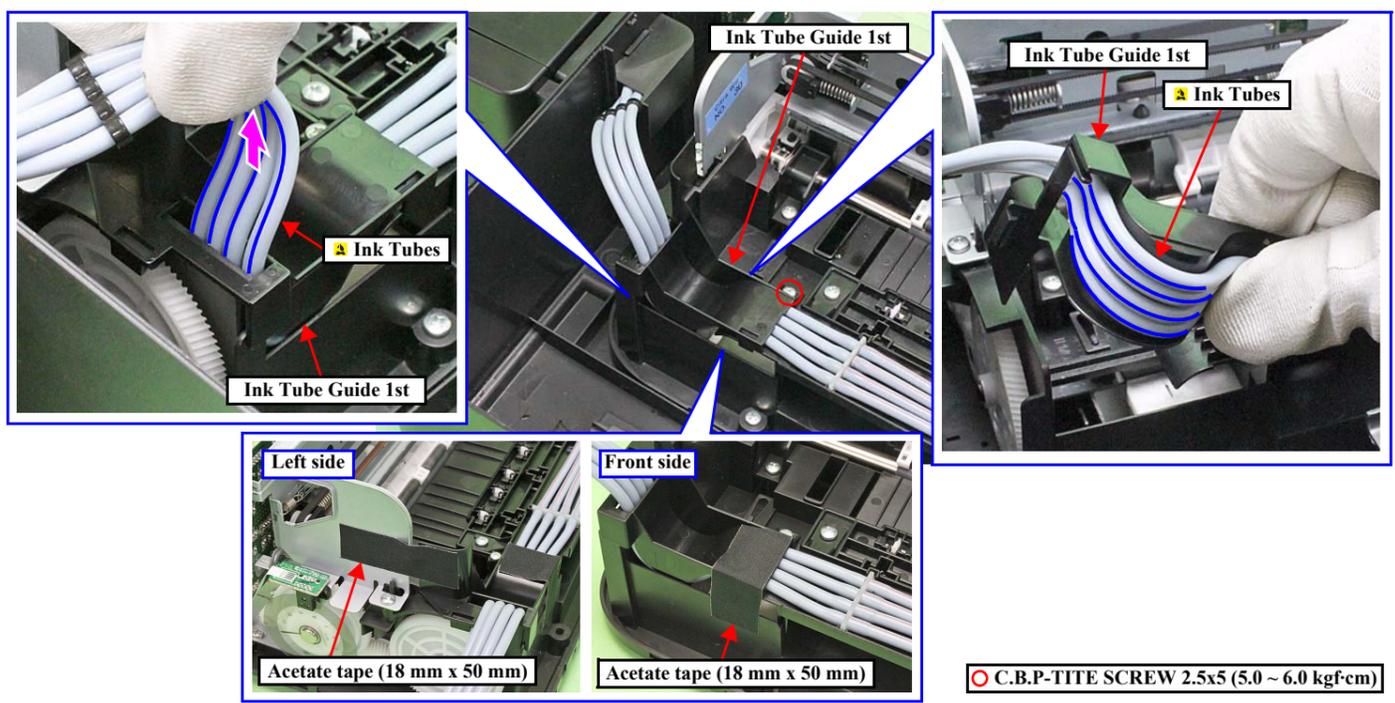
- Align the positioning holes (x2) of the CR Front with the dowels (x2) of the Carriage.
- Tighten the screws in the order indicated in the figure above.

CR Cover



- Tighten the screws in the order indicated in the figure above.
- After installing the CR Cover, move the Carriage from side to side to make sure that the Tube Assy does not apply extra load of carriage movement.

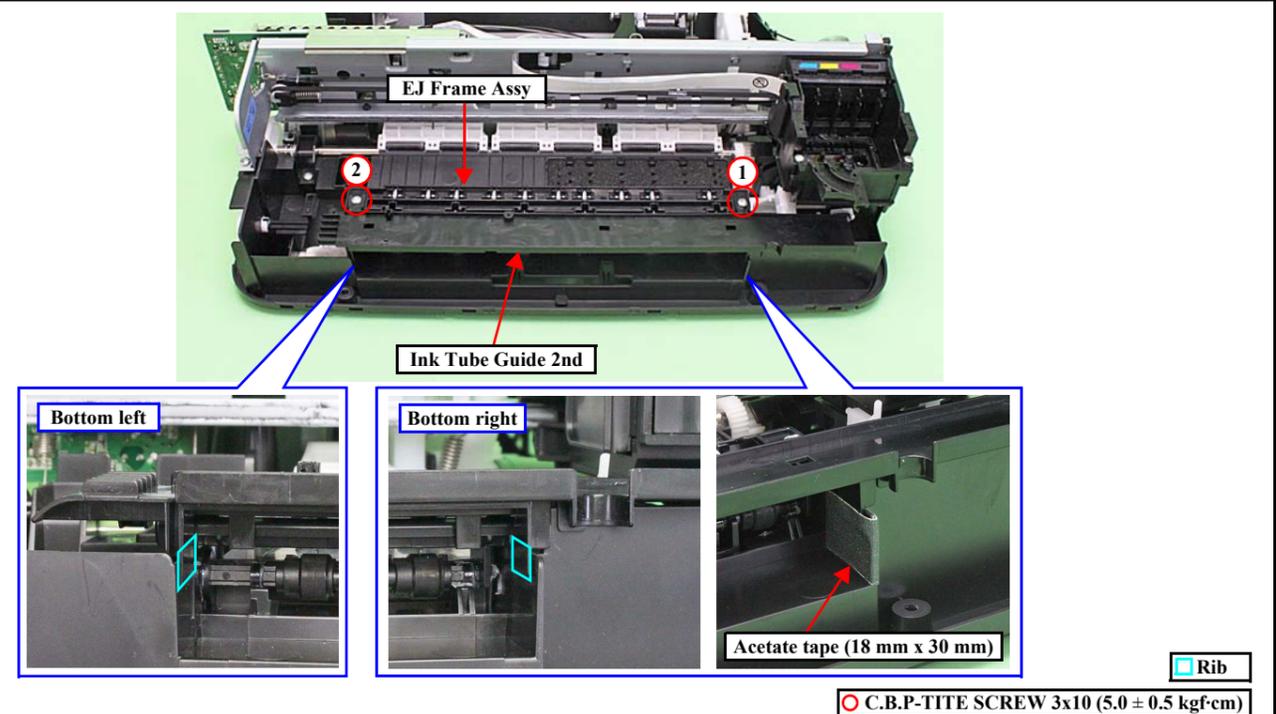
Ink Tube Guide 1st



C.B.P-TITE SCREW 2.5x5 (5.0 ~ 6.0 kgf-cm)

- When installing the Ink Tube Guide 1st, align the blue lines of the ink tubes (the red lines for L100/L101) in the same direction as shown in the figure above, and be careful not to let the ink tubes go slack on the bottom of the Ink Tube Guide 1st.
- After securing the Ink Tube Guide 1st, pull the ink tubes from the Ink Supply Tank Assy side to make sure that the ink tubes are not caught.
- Attach acetate tape (x2) in the positions shown above to secure the Ink Tube Guide 1st.

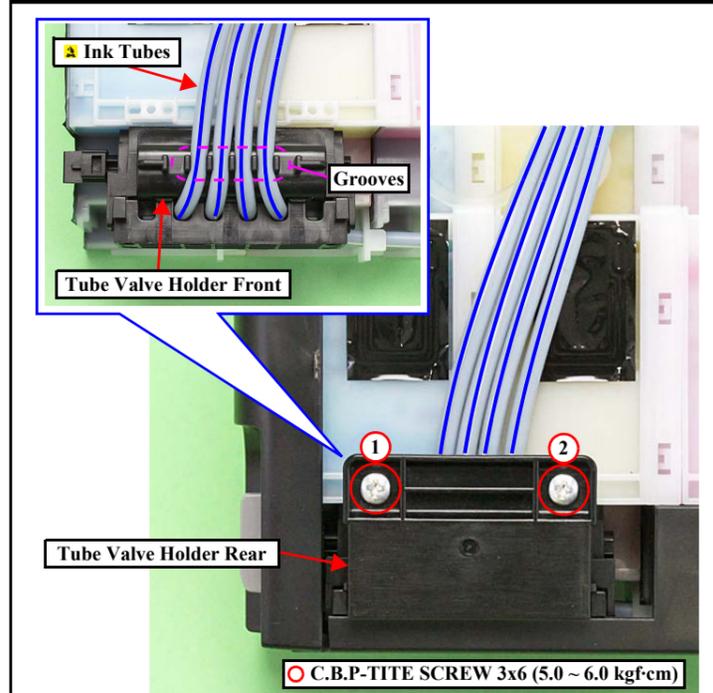
Ink Tube Guide 2nd / EJ Frame Assy



C.B.P-TITE SCREW 3x10 (5.0 ± 0.5 kgf-cm)

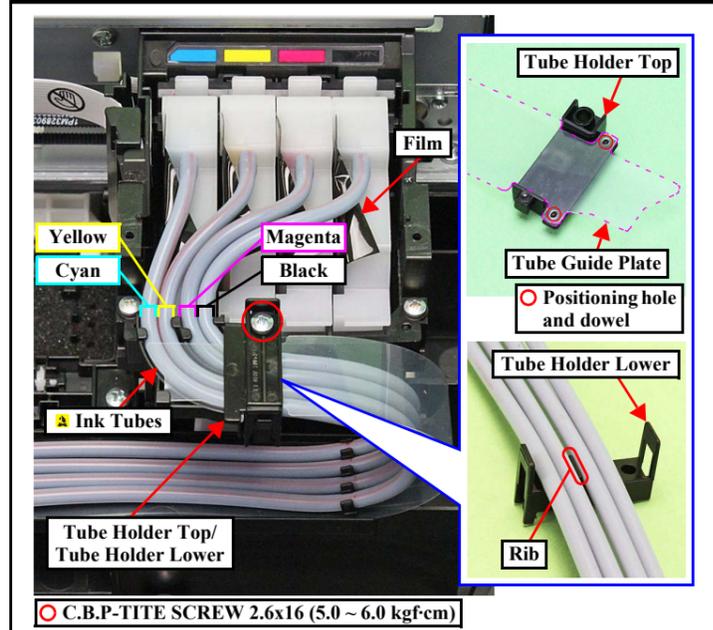
- Align the ribs on the left/right side of the Ink Tube Guide 2nd with the frame as shown in the figure above.
- Attach acetate tape in the position shown above to secure the Ink Tube Guide 2nd.
- Tighten the screws of the Ink Tube Guide 2nd together with the EJ Frame Assy in the order indicated in the figure above.

Tube Valve Holder Rear / Tube Valve Holder Front



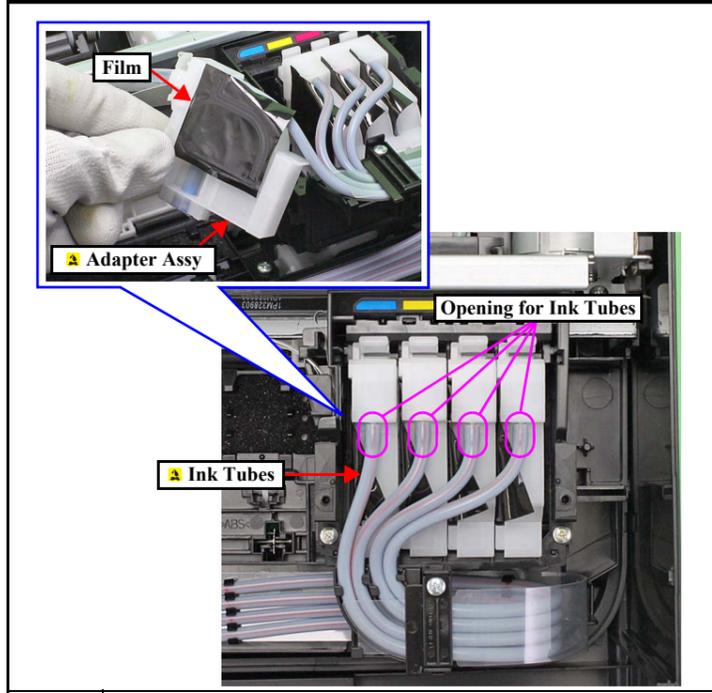
- When installing the Tube Valve Holder Front, align the blue lines (the red lines for L100/L101) of the ink tubes in the same direction as shown in the figure above, and route them through the grooves of the Tube Valve Holder Front.
- Tighten the screws in the order indicated in the figure above.

Tube Holder Top / Tube Holder Lower



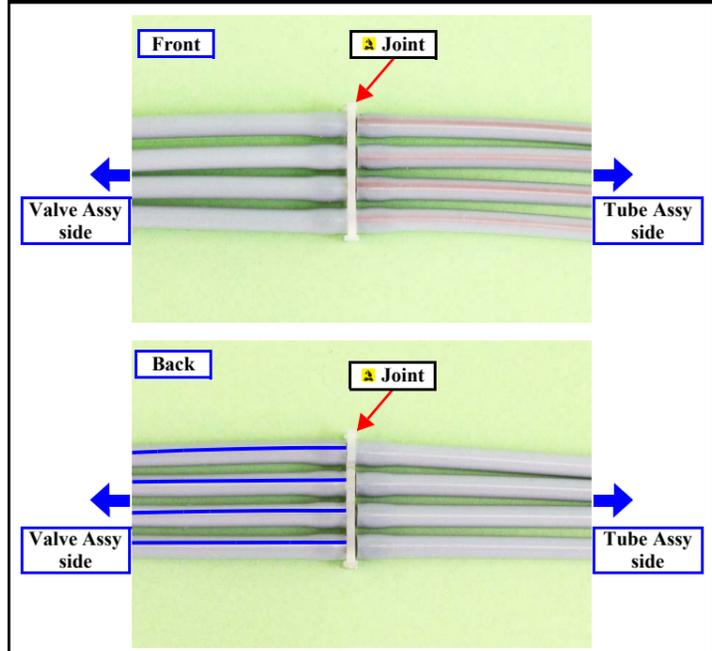
- Align the positioning holes (x2) of the Tube Guide Plate with the dowels (x2) of the Tube Holder Top.
- Route the ink tubes while avoiding the rib of the Tube Holder Lower to prevent the tubes from getting caught by the tube holders.
- Make sure to route the ink tubes as shown in the figure above when installing the Tube Holder Top/Tube Holder Lower.
- Route the ink tubes over the films of the Adapter Assy.

Adapter Assy



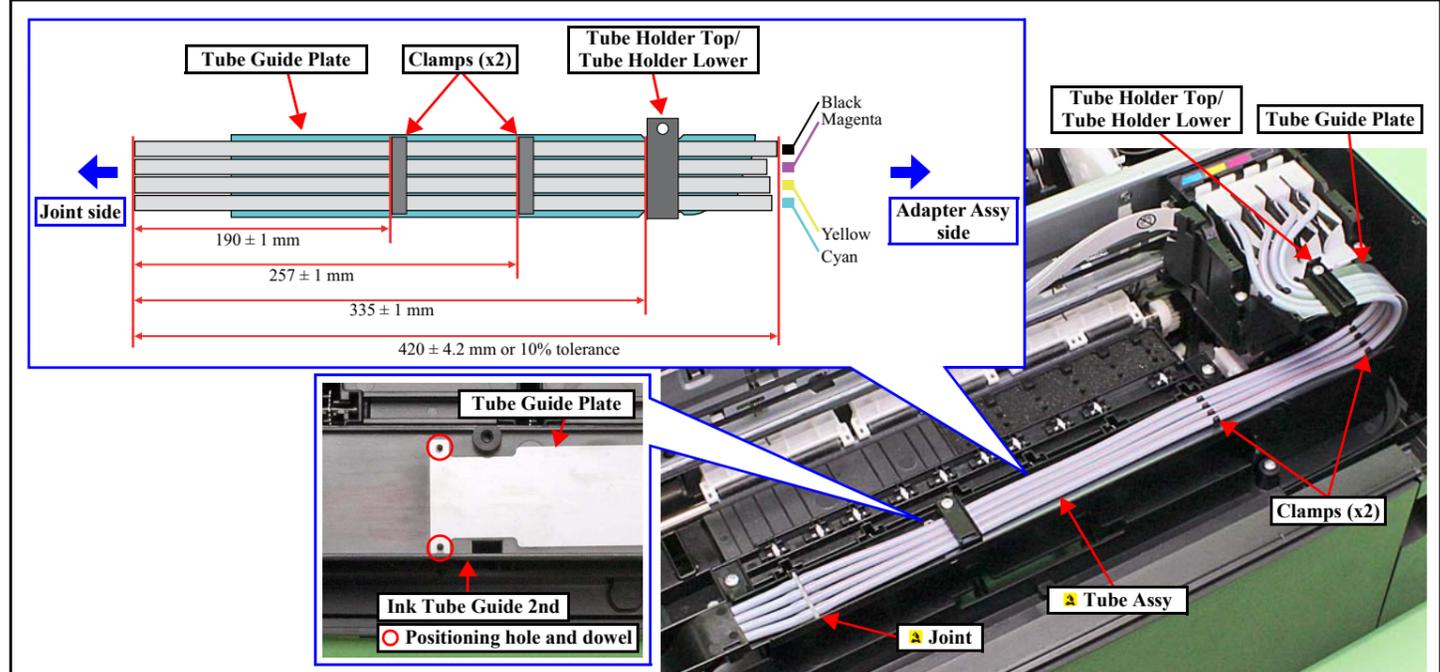
- Be careful not to damage or peel off the film of the Adapter Assy.
- When installing the ink tubes to the Adapter Assy, insert the ink tubes with their red lines facing upward as shown in the figure above.

Joint



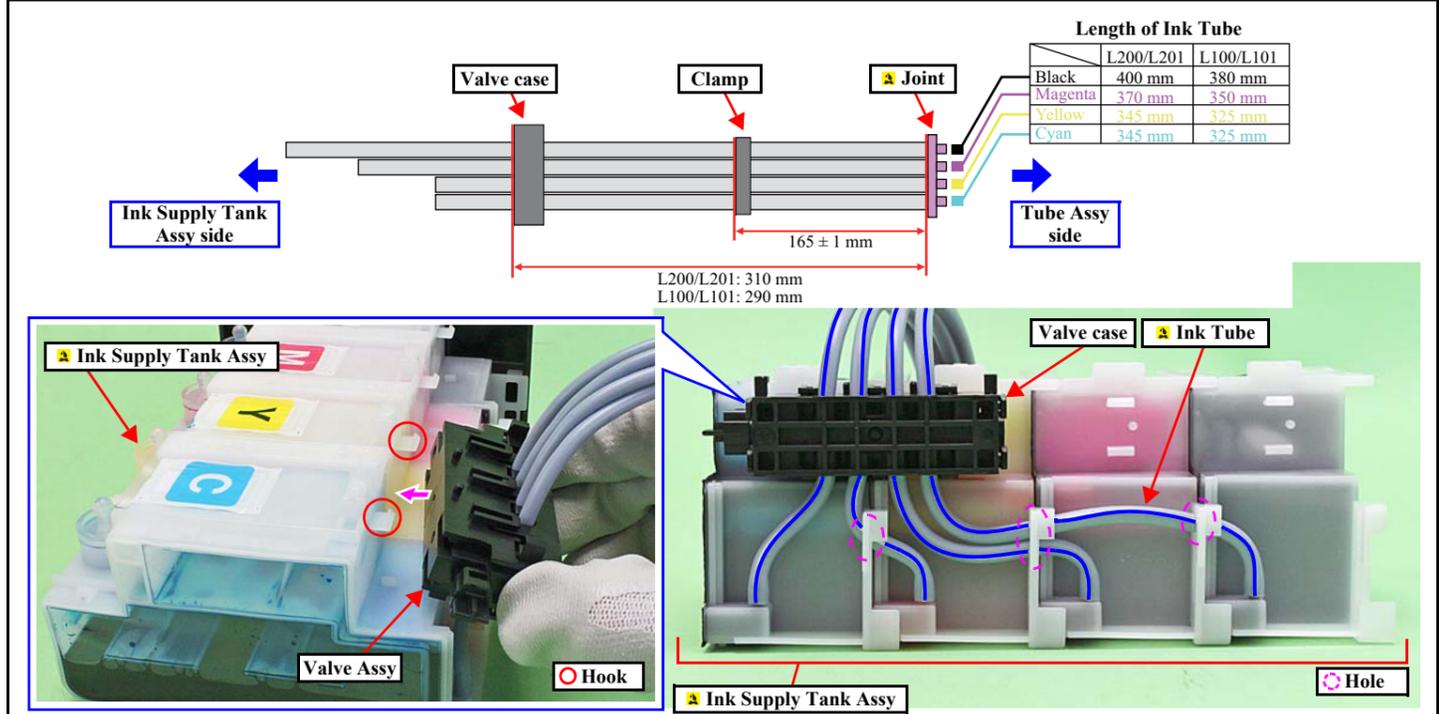
- Align the red lines and blue lines (the other red lines for L100/L101) respectively in the same direction as shown in the figure above, and insert them to the joint to the full to its base.
- Be careful not to damage the ink tubes and joint.

Tube Assy



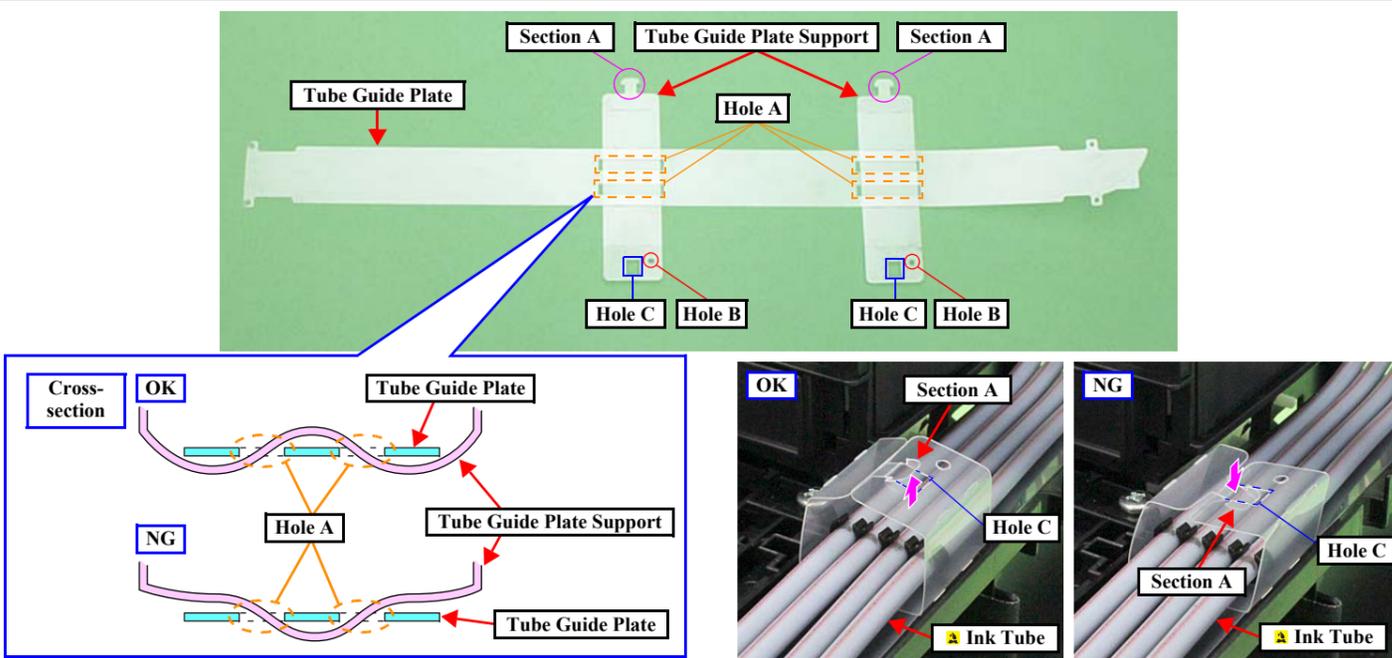
- Before installing the Tube Assy, align the positioning holes (x2) of the Tube Guide Plate with the dowels (x2) of the Ink Tube Guide 2nd.
- When installing the Tube Assy, attach the Clamps (x2)/Tube Holder Top/Tube Holder Lower/Tube Guide Plate in the positions shown in the figure above.
- When installing the Tube Assy, align the red lines of the ink tubes in the same direction as shown in the figure above, and attach them without any slack.

Valve Assy



- When installing the Valve Assy, attach the Clamp on the position shown in the figure above.
- When installing the Valve Assy, align the blue lines of the ink tubes (the red lines for L100/L101) in the same direction as shown in the figure above, and route them through the holes of the Ink Supply Tank Assy.
- When installing the Valve Assy, secure it with the hooks (x2) of the Ink Supply Tank Assy.

Tube Guide Plate Support



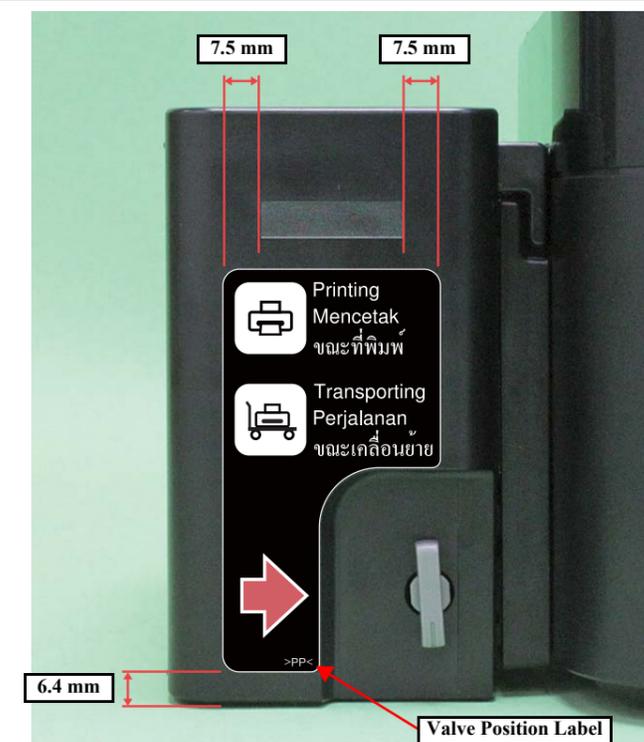
- Refer to the figure above and follow the procedure below when installing the Tube Guide Plate Support.
1. Make sure that the hole B of the Tube Guide Plate Support comes on the right front side as seen from the front of the printer, and route the Tube Guide Plate Support through the hole A (x2) of the Tube Guide Plate as shown in the "OK" image above.
 2. Route the ink tubes along with the Tube Guide Plate.
 3. Insert the section A of the Tube Guide Plate Support into the hole C of the Tube Guide Plate Support up from the bottom as shown in the "OK" image above to secure it

Refilling Ink Label (L200/L201)



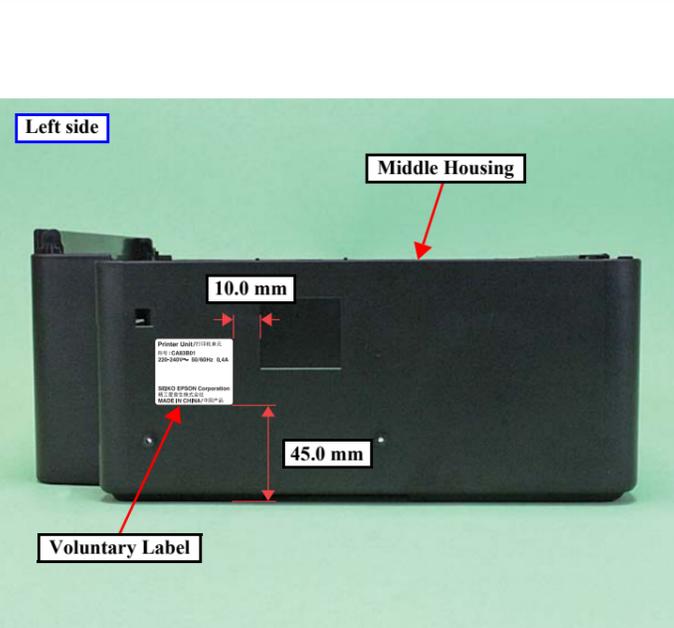
- Attach the Refilling Ink Label on the position shown in the figure above.

Valve Position Label



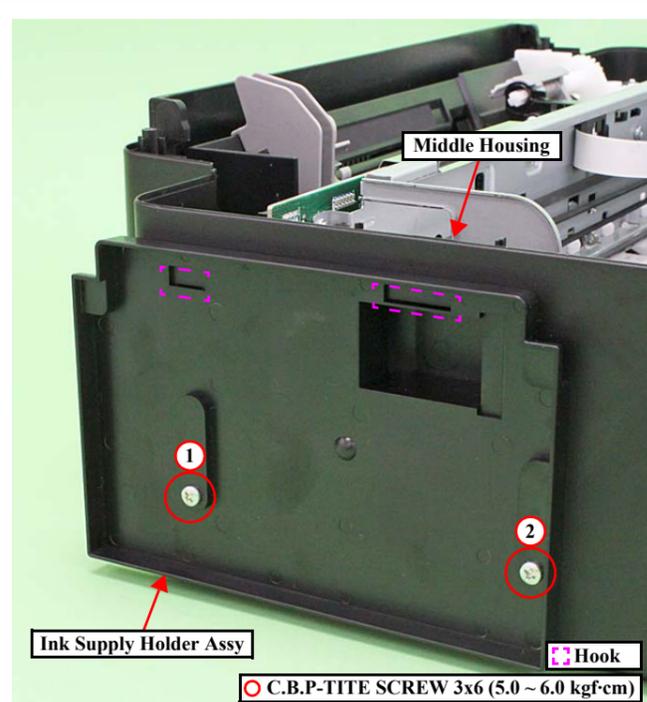
- Attach the Valve Position Label on the position shown in the figure above.

Middle Housing (L200/L201)



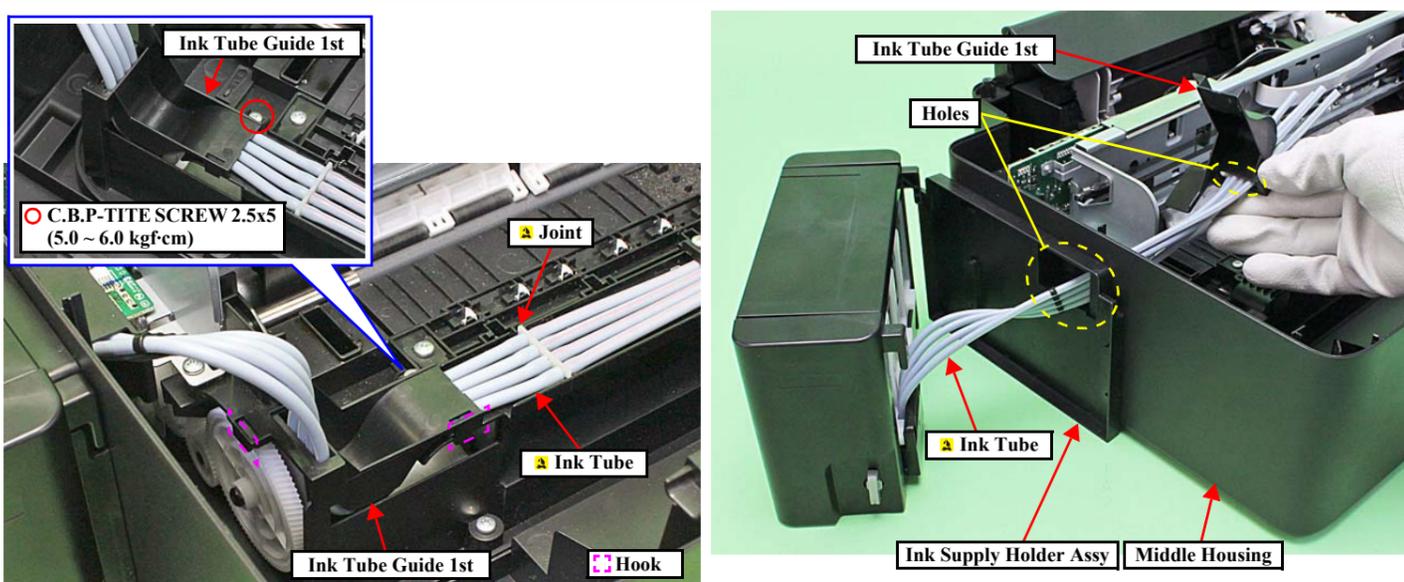
- When replacing the Middle Housing, peel off the Voluntary Label from the old housing and attach it to the new housing as specified in the figure above.

Ink Supply Holder Assy (L200/L201)



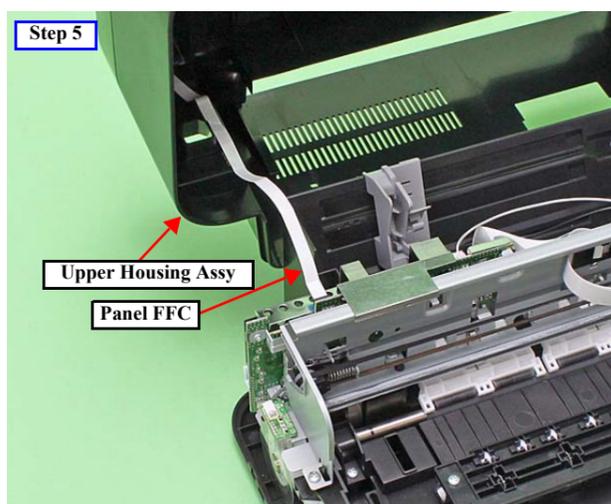
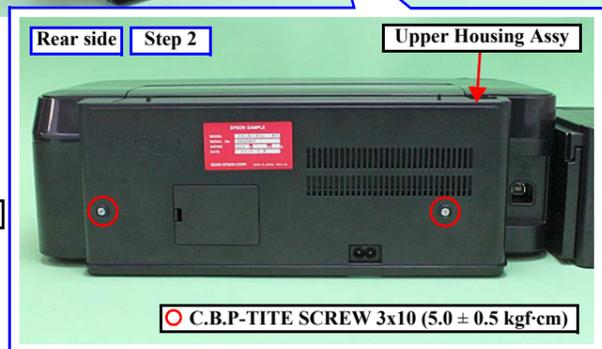
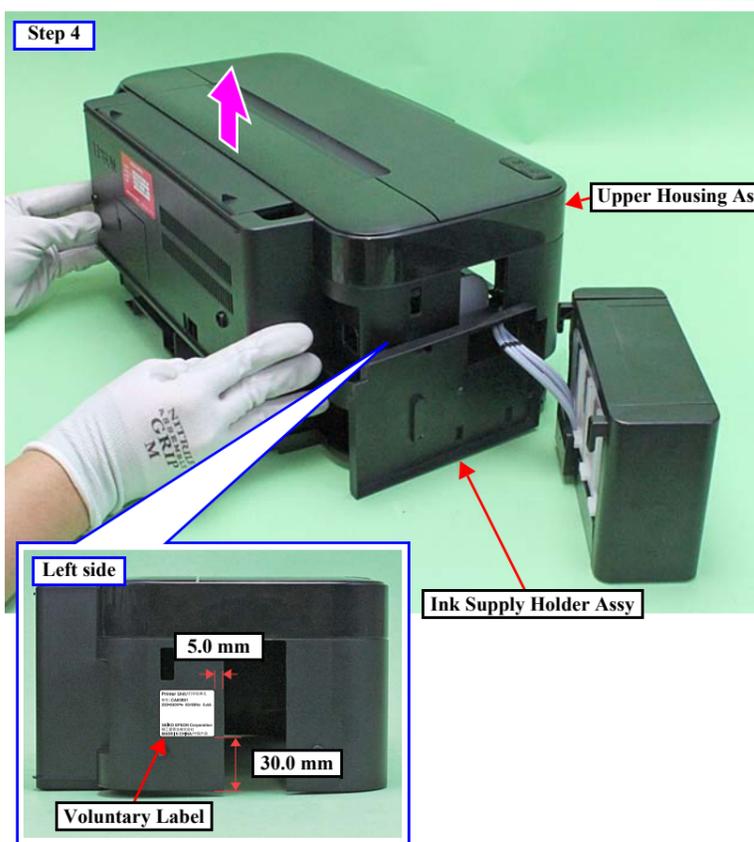
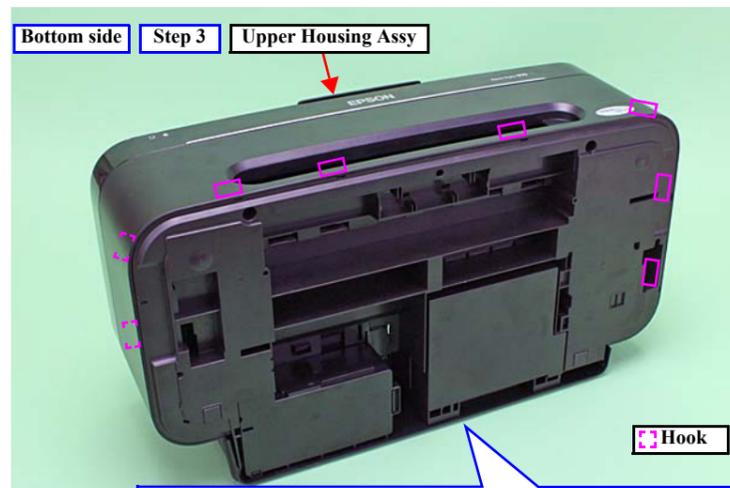
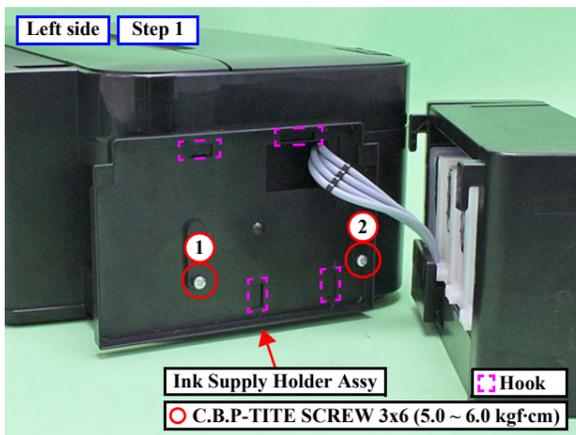
- When installing the Ink Supply Holder Assy, align the hooks (x2) with the hole of the Middle Housing, and tighten the screws in the order indicated in the figure above.

Ink Tube Guide 1st / Ink Supply Holder Assy (L200/L201)



- Follow the procedure below when removing the Ink Supply Holder Assy / Ink Tube Guide 1st.
1. Remove the screws (x2) that secure the Ink Supply Holder Assy. (p 29)
 2. Peel off the acetate tape (x2) that secure the Ink Tube Guide 1st. (p 27)
 3. Remove the screw (x1) that secures the Ink Tube Guide 1st.
 4. Release the hooks (x2) that secure the Ink Tube Guide 1st, and remove it from the frame.
 5. After confirming the Valve is closed, disconnect the Ink Tubes from the Joint. (p 10)
 6. Pull out the Ink Tubes from the holes of the Middle Housing / Ink Supply Holder Assy / Ink Tube Guide 1st, and remove the Ink Supply Holder Assy / Ink Tube Guide 1st.

Upper Housing Assy / Ink Supply Holder Assy (L100/L101)



- Do not lift the Upper Housing Assy too fast, since the Panel FFC is connected to the back of the Upper Housing Assy.
- Be careful not to damage the hooks (x2) on the bottom left because these cannot be seen when removing.

- Follow the procedure below when removing the Upper Housing Assy.
- Remove the screws (x2) that secure the Ink Supply Holder Assy.
 - Remove the screws (x2) that secure the Upper Housing Assy.
 - Release the hooks (x8) that secure the Upper Housing Assy.
 - Lift the Upper Housing Assy while leaving the Ink Supply Holder Assy.
 - Disconnect the Panel FFC from the connector on the main board, and remove the Upper Housing Assy.

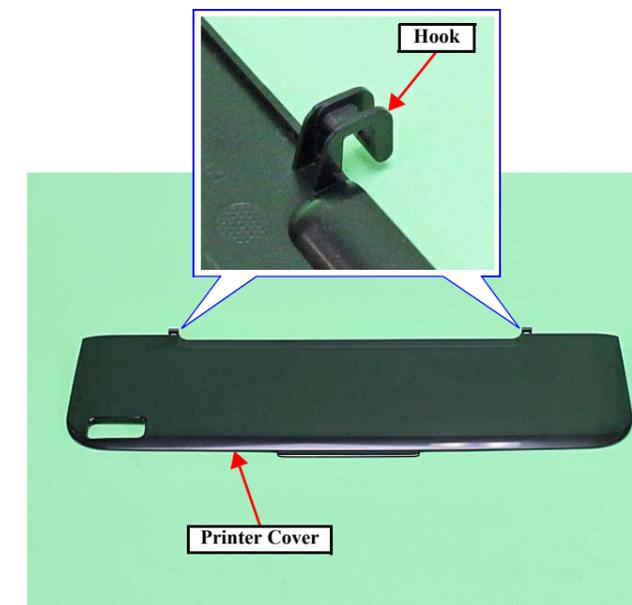
- When replacing the Upper Housing Assy, peel off the Voluntary Label from the old housing and attach it to the new housing as specified in the figure above.
- When installing the Ink Supply Holder Assy, align the hooks (x4) of it with the holes of the Upper Housing Assy and then tighten the screws in the order indicated in the figure above.

Refilling Ink Label (L100/L101)



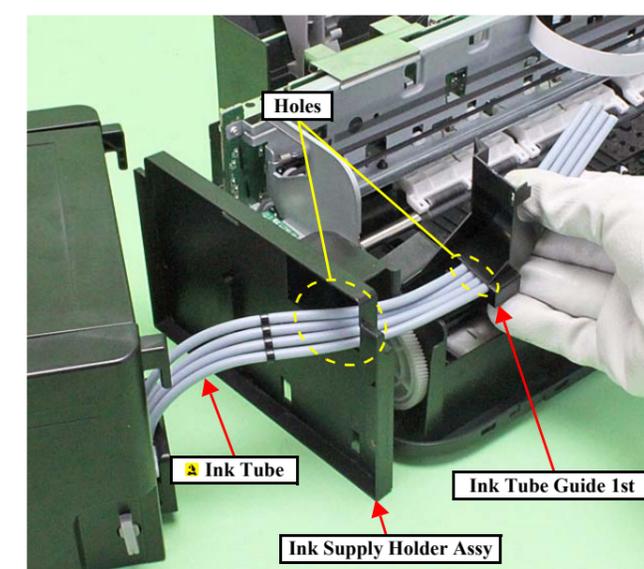
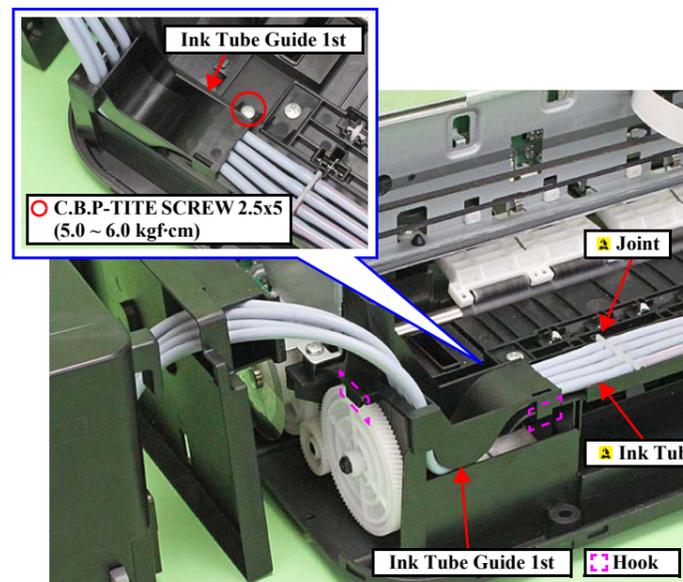
- Attach the Refilling Ink Label on the position shown in the figure above.

Printer Cover (L100/L101)



- Be careful when removing the Printer Cover, because the hooks (x2) are fragile and easily get damaged or softened.

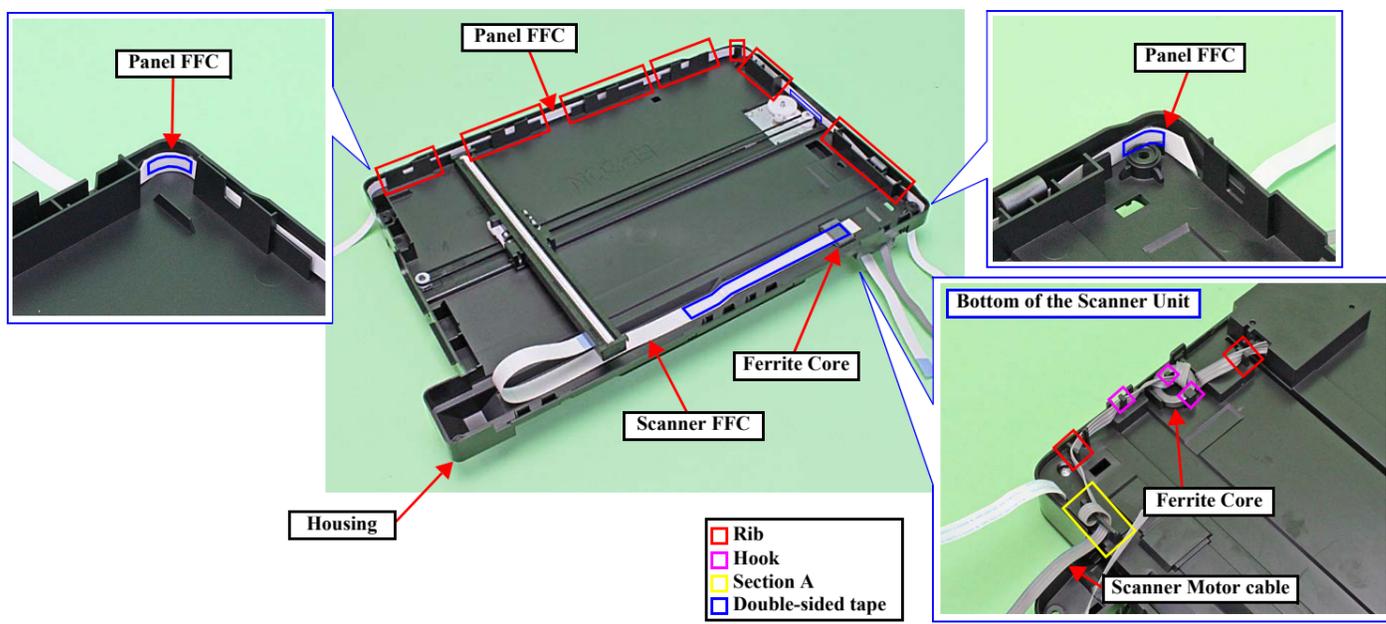
Ink Tube Guide 1st / Ink Supply Holder Assy (L100/L101)



- Follow the procedure below when removing the Ink Supply Holder Assy / Ink Tube Guide 1st.
- Remove the Upper Housing Assy. (p 30)
 - Peel off the acetate tape (x2) that secure the Ink Tube Guide 1st. (p 27)
 - Remove the screw (x1) that secures the Ink Tube Guide 1st.
 - Release the hooks (x2) that secure the Ink Tube Guide 1st, and remove it from the frame.
 - After confirming the Valve is closed, disconnect the Ink Tubes from the Joint. (p 10)
 - Pull out the Ink Tubes from the holes of the Ink Supply Holder Assy / Ink Tube Guide 1st, and remove the Ink Supply Holder Assy / Ink Tube Guide 1st.

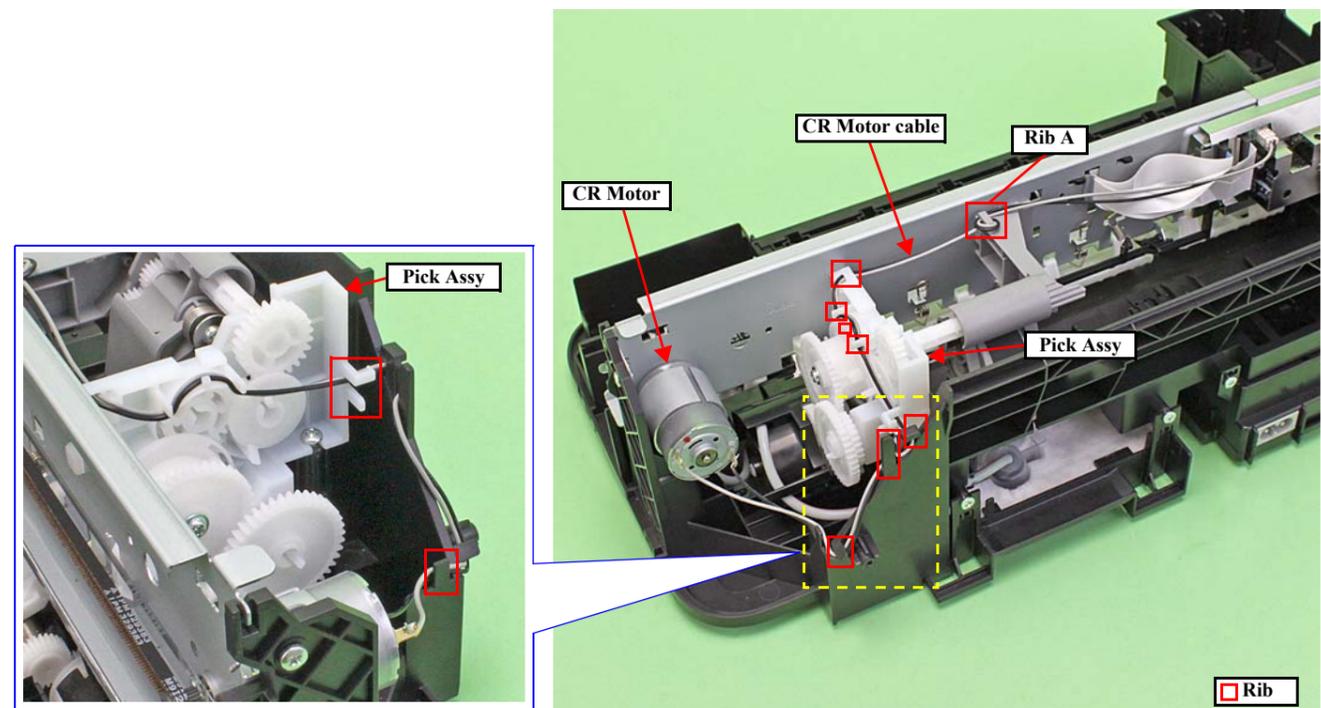
1.4 Routing FFCs/cables

Scanner Unit /CIS (L200/L201)



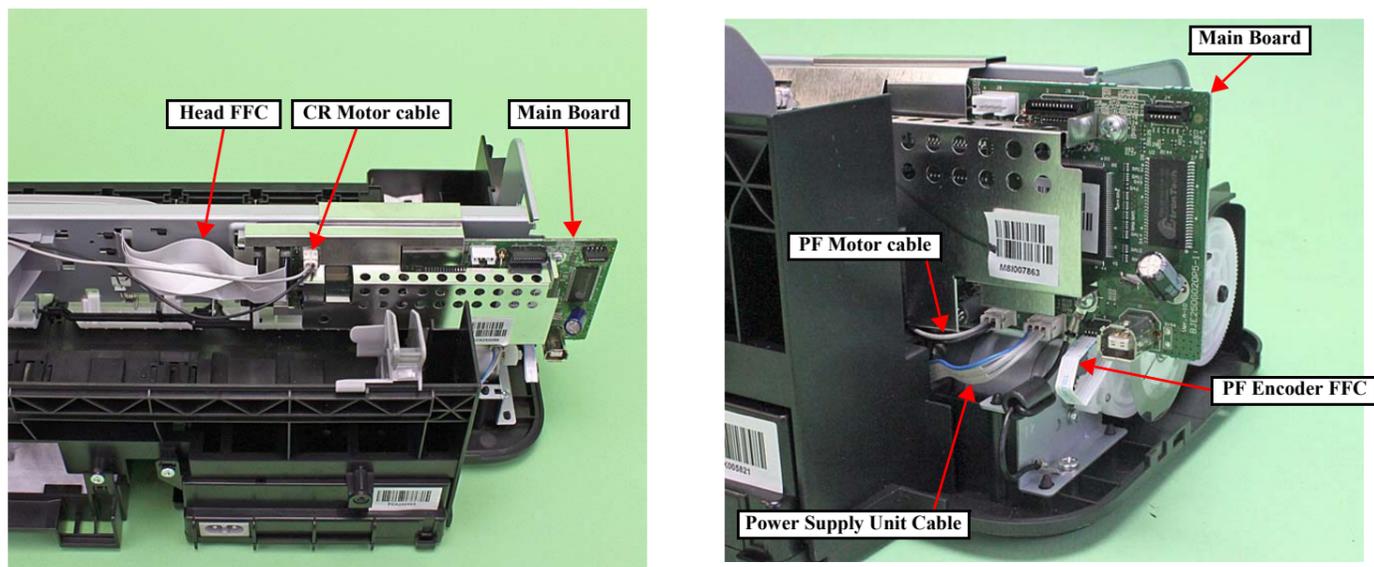
- When routing the Panel FFC, route it through the ribs (x7) of the Housing, and secure with double-sided tape (x3).
- When routing the Scanner FFC, secure it together with the Ferrite Core on the Housing with double-sided tape.
- When routing the Scanner Motor cable, pay attention to the following instructions.
 - Secure the Ferrite core with the hooks (x2) on the rear of the Scanner Unit.
 - Route the Scanner Motor cable through the ribs (x2) and hook (x1) on the rear of the Scanner Unit, and through the hole of the section A and make one turn around the frame of the section A.

CR Motor



- Route the CR Motor cable through the ribs (x10) and make one turn around the rib A.
- Route the CR Motor cable so as not to touch the surrounding gears.

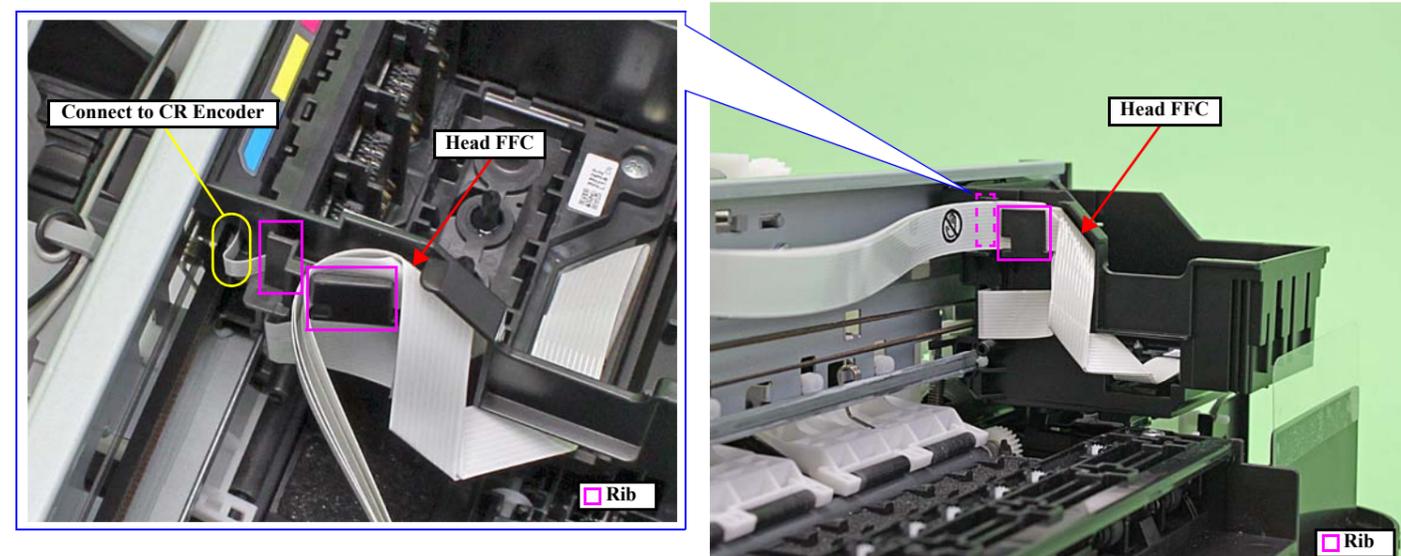
Main Board



Connect the following cable to the Main Board as shown in the figure above.

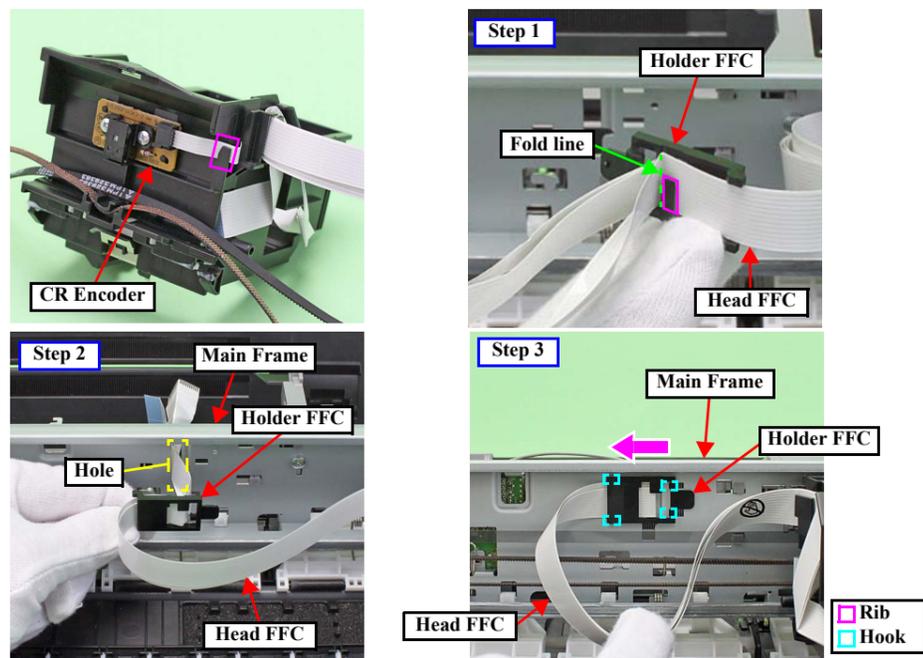
- PF Motor cable
- Power Supply Unit cable
- PF Encoder FFC
- CR Motor cable
- Head FFC

Printhead / Carriage



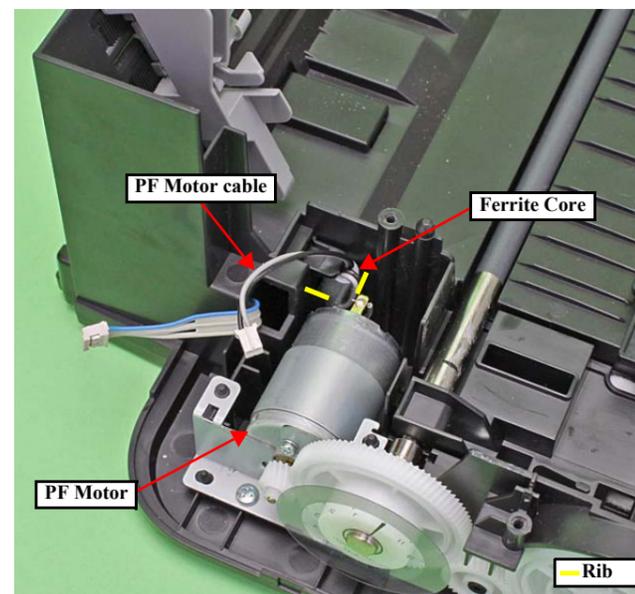
- Confirm the CR Encoder Head FFC is surely connected.
- Route the Head FFC through the rib of the Carriage as shown above.

Head FFC



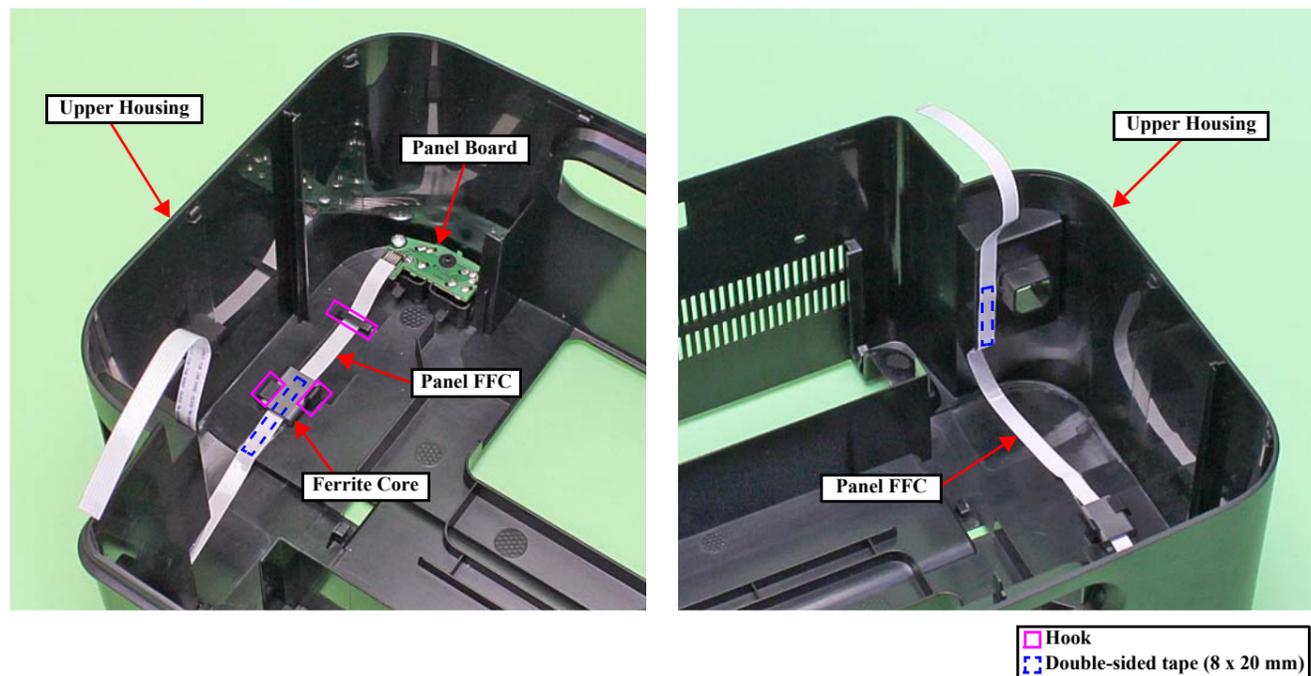
- When installing the Head FFC to the Carriage, route the Head FFC through the rib (x1) on the rear of the Carriage, and connect the Head FFC to the CR Encoder.
- When installing the Head FFC to the Main Frame, route the Head FFC in the procedure below and connect it to the Main Board.
 1. Align the fold line of the Head FFC with the rib (x1) of the Holder FFC, and route the FFC through the Holder FFC as shown in the figure above.
 2. Route the Head FFC through the hole of the Main Frame.
 3. Align the hooks (x4) of the Holder FFC with the holes (x4) on the Main Frame, and secure the Holder FFC to the Main Frame by sliding it to the 80-digit side.

PF Motor



Set the Ferrite Core of the PF Motor cable into the ribs of the Frame Base.

Panel Board (L100/L101)



- When routing the Panel FFC, follow the instructions below.
1. Route it through the Ferrite Core and the hook (x1).
 2. Secure the FFC with double-sided tape (x2) to the Upper Housing, and then secure the Ferrite core with the hooks (x2).

CHAPTER 2

ADJUSTMENT

2.1 Required Adjustments

The table below lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

Note: <Meaning of the marks in the table>

“O” indicates that the adjustment must be carried out. “O*” indicates that the adjustment is recommended. “---” indicates that the adjustment is not required. If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry out them in the order given in the “Priority” row.

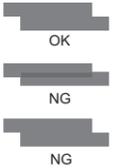


- When the EEPROM Data Copy cannot be made for the Main Board that needs to be replaced, the Waste Ink Tray Assy must be replaced after replacing the Main Board with a new one.
- After all required adjustments are completed, use the “Final check pattern print” function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.
- When using a new Main Board for replacing the Printer Mechanism, the Initial setting must have been made to the Main Board.

Table 2-1. Required Adjustment List

Priority		1	2	3	4	5	6	7	8	9	
Adjustment Item		EEPROM data copy	Initial setting	Maintenance counter reset	Ink charge	Head ID input	Top margin adjustment	Head angular adjustment	Bi-D adjustment	PF band adjustment	
Purpose		To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To apply settings for the target market after replacing the Main Board.	To reset the waste ink counter / the ink tube counter after replacing the Waste Ink Pad / the Tube Assy.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To correct characteristic variation of the replaced printhead by entering its Printhead ID (Head ID).	To correct top margin of printout.	To correct tilt of the Printhead caused at the installation by software.	To correct print start timing in bi-directional printing by software.	To correct variations in paper feed accuracy in order to achieve higher print quality in band printing.	
Part Name	Main board	Remove	---	---	---	---	O	O	O	O	
		Replace (Read OK)	O	---	---	---	---	---	---	---	
		Replace (Read NG)	---	O	O (Replace the pad)	---	O	O	O	O	O
	Printhead	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	O	O	O	O	O	O
	Power Supply Unit	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	LD Roller Assy	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	CR Motor	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	EJ Roller	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Main Frame	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Carriage Assy	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Printout pattern		---	---	---	---	---	See Figure 2-1.			
How to judge		---	---	---	---	---	Check if the top edge of the paper is within -3 to +3 steps from the standard line. See “2.2 Details of Adjustments (p36)” for the details.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	
Adjustment program		O	O	O	O	O	O	O	O	O	
Tool		---	---	---	---	---	---	---	---	---	

Table 2-1. Required Adjustment List

Priority			1	2	3	4	5	6	7	8	9	
Adjustment Item			EEPROM data copy	Initial setting	Maintenance counter reset	Ink charge	Head ID input	Top margin adjustment	Head angular adjustment	Bi-D adjustment	PF band adjustment	
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To apply settings for the target market after replacing the Main Board.	To reset the waste ink counter / the ink tube counter after replacing the Waste Ink Pad / the Tube Assy.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To correct characteristic variation of the replaced printhead by entering its Printhead ID (Head ID).	To correct top margin of printout.	To correct tilt of the Printhead caused at the installation by software.	To correct print start timing in bi-directional printing by software.	To correct variations in paper feed accuracy in order to achieve higher print quality in band printing.	
Part Name	Upper Paper Guide	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	PF Roller	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	Waste Ink Pads	Remove	---	---	---	---	---	O	O	O	---	
		Replace	---	---	O	---	---	O	O	O	---	
	Cap Unit	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	PF Motor	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	PF Encoder/ PF Scale	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	CR Scale	Remove	---	---	---	---	---	O	O	O	O	
		Replace	---	---	---	---	---	O	O	O	O	
	Tube Assy	Remove	---	---	---	---	---	---	---	---	---	
		Replace	---	---	O	---	---	---	---	---	---	
	Printout pattern			---	---	---	---	---	See Figure 2-1.			
	How to judge			---	---	---	---	---	Check if the top edge of the paper is within -3 to +3 steps from the standard line. See "2.2 Details of Adjustments (p36)" for the details.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.
Adjustment program			O	O	O	O	O	O	O	O	O	
Tool			---	---	---	---	---	---	---	---	---	

Note: In addition to the above adjustments, the following functions can be executed in the Adjustment Program. Refer to the Adjustment Program for the functions and their usage.

- Ink charge / Cleaning / Power cleaning (Each cleaning function with two options, whether counting up the waste ink counter or not.)
- Small ink counter reset
- Ink counter offset (with two options, whether counting up the waste ink counter or not.)
- Get Status (check for the ink consumption counter and accumulated number of printing)

2.2 Details of Adjustments

This section provides adjustment procedures for which explanation in details is necessary. See “2.1 Required Adjustments (p34)” for the adjustments not explained here.

2.2.1 TOP Margin Adjustment

Three adjustment patterns are printed on the top of the paper as shown in Figure 2-1.

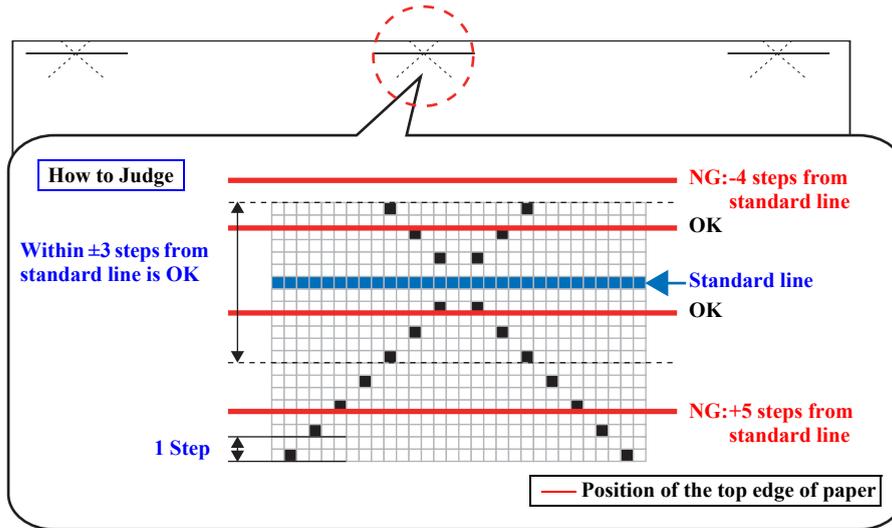


Figure 2-1. Top Margin Adjustment Printout Pattern

How to Judge

Check if the top edge of the paper is within -3 to +3 steps from the standard line.

Additional Information

If it is not within the OK range, select the adjustment value (-4 to +4 steps) on the adjustment program to adjust the top edge of paper until it becomes within -3 to +3 steps from the standard line. Then, print the adjustment pattern again to check the result.



- The patterns are printed on three sections. If those three patterns are in different position to the top edge of paper, the paper was fed on a skew. Set the papers correctly and print it again to adjust the top margin correctly.
 - The following pattern is printed with the optimal adjustment value.
-

CHAPTER 3

MAINTENANCE

3.1 Overview

This section provides information to maintain the printer in its optimum condition.

3.1.1 Cleaning

Except for the printhead, there are no other mechanism parts or units that require periodic cleaning. However, if need arises, clean the component observing the following instructions.

Instructions for cleaning

- Exterior parts such as housing
Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD roller used to feed paper
If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.



- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the LD roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

3.1.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to “[3.2 Lubrication Points and Instructions \(p39\)](#)” for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

Before applying the grease, make sure to wipe off old grease completely with BEMCOT.

Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-45 (TBD)	1033657 (TBD)	EPSON
Grease	G-71	1304682	EPSON
Grease	G-74	1409257	EPSON

Tools

Name	Availability	EPSON Part Code
Injector	O	---
Brush	O	---

3.2 Lubrication Points and Instructions

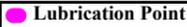
 <p>Left side</p>	 <p>Right side</p>	<p><Lubrication Point> Rail of the Paper Support Assy</p>
		<p><Type> G-74</p>
		<p><Application Amount> Appropriate amount</p>
		<p><Remarks></p> <ul style="list-style-type: none"> ■ Apply with brush. ■ Keep the lubrication within the rail. (No grease outside of the rail is allowed.)
 Lubrication Point		

Figure 3-1. Lubrication on Paper Support Assy (L200/L201)

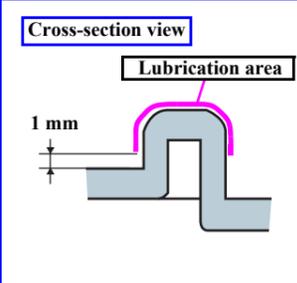
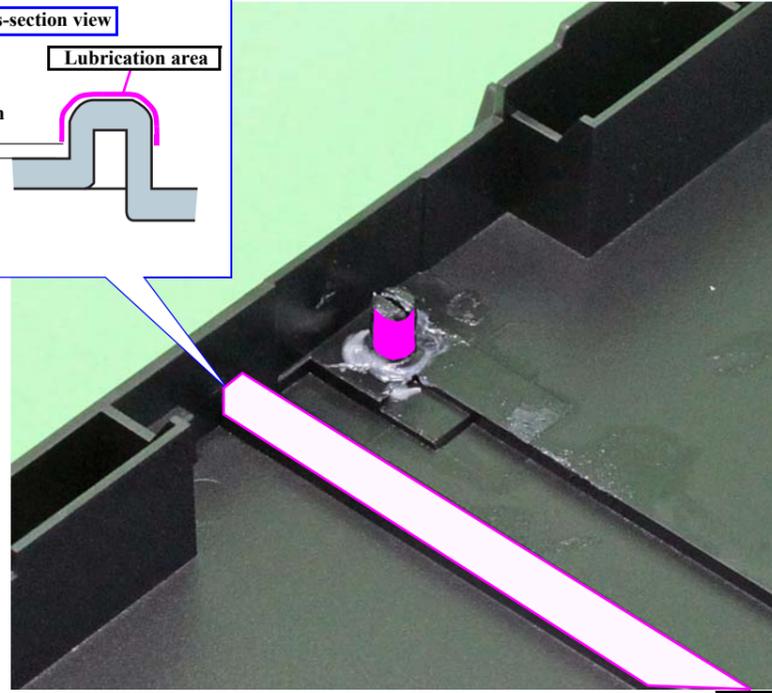
 <p>Cross-section view</p> <p>Lubrication area</p> <p>1 mm</p>		<p><Lubrication Point> Shaft on the Scanner Housing</p>
		<p><Type> G-45 (TBD)</p>
		<p><Application Amount> Appropriate amount</p>
		<p><Remarks></p> <ul style="list-style-type: none"> ■ Apply with brush. ■ Keep the lubrication within the rail. (No grease outside of the rail is allowed.)
 Lubrication Point		

Figure 3-2. Lubrication on Scanner Unit

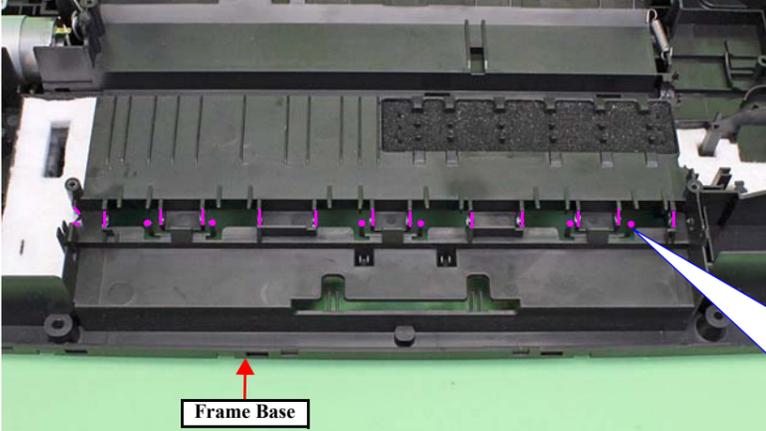
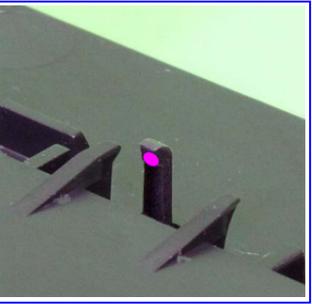
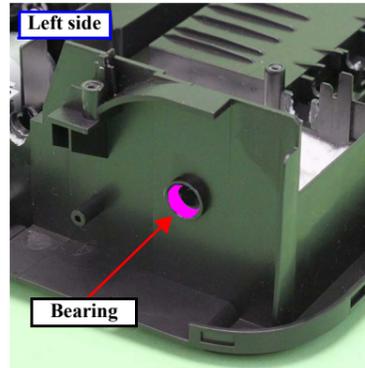
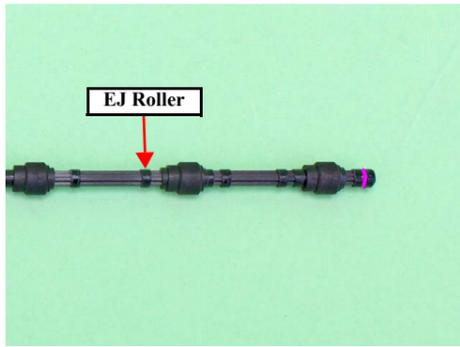
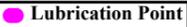
 <p>Frame Base</p>		<p><Lubrication Point></p> <ul style="list-style-type: none"> ■ 1. Ribs (x20) of the Frame Base (contacting points with the EJ Roller) ■ 2. Bearings of the Frame Base (contacting points with the EJ Roller) ■ 3. Shaft on the right side of the EJ Roller
		<p><Type> G-71</p>
		<p><Application Amount></p> <ol style="list-style-type: none"> 1. 0.04g / point 2. Appropriate amount 3. Appropriate amount
		<p><Remarks></p> <p>Apply with injector.</p>
 <p>Left side</p> <p>Bearing</p>	 <p>EJ Roller</p>	 Lubrication Point

Figure 3-3. Lubrication on EJ Roller

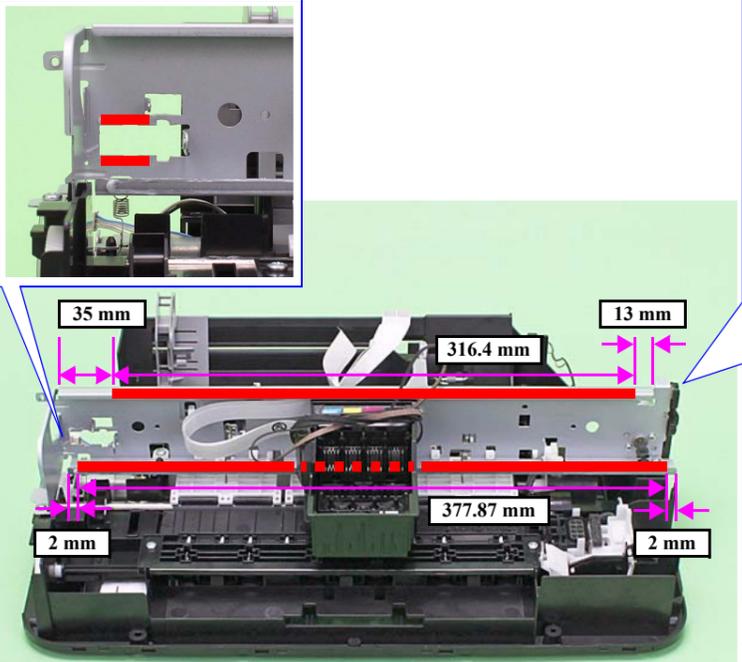
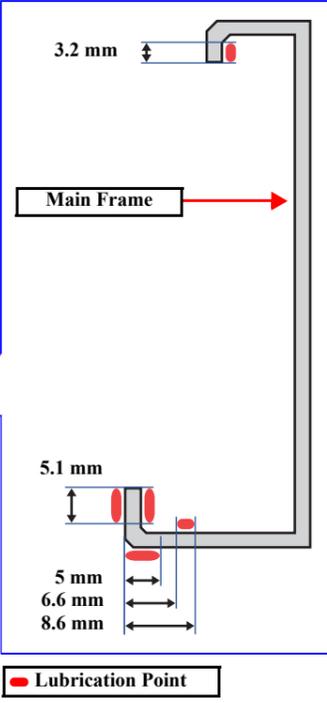
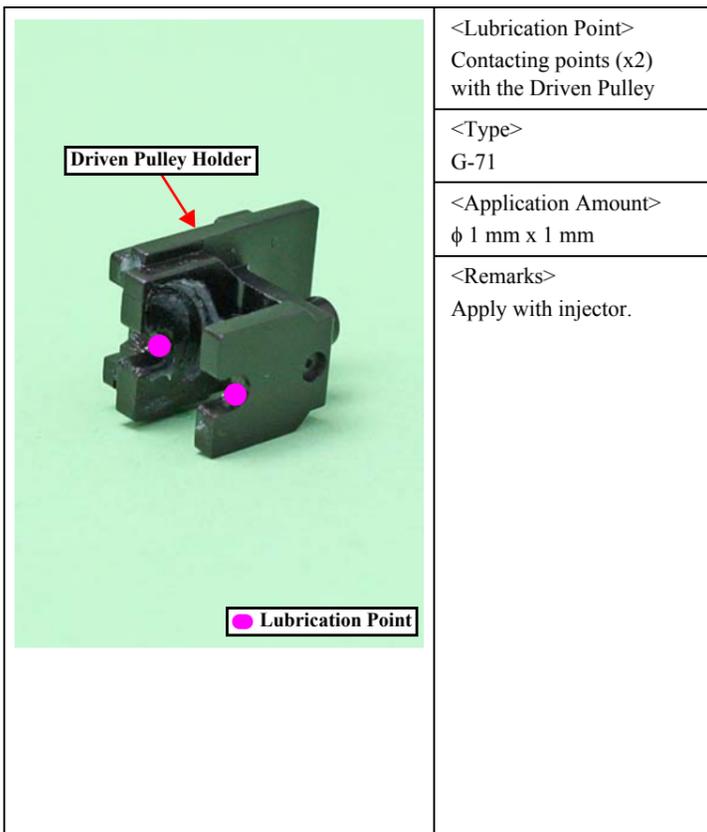
 <p>35 mm</p> <p>13 mm</p> <p>316.4 mm</p> <p>377.87 mm</p> <p>2 mm</p> <p>2 mm</p>	 <p>3.2 mm</p> <p>Main Frame</p> <p>5.1 mm</p> <p>5 mm</p> <p>6.6 mm</p> <p>8.6 mm</p> <p>Lubrication Point</p>	<p><Lubrication Point></p> <ul style="list-style-type: none"> ■ Contacting points (x5) with the Carriage Unit on the front side of the Main Frame ■ Contacting points (x2) with the Driven Pulley Holder
		<p><Type> G-71</p>
		<p><Application Amount> Appropriate amount</p>
		<p><Remarks></p> <ul style="list-style-type: none"> ■ Apply with injector. ■ Lubrication area: <ul style="list-style-type: none"> □ Top side of the Main Frame: 316.4 mm (x1) □ Bottom side of the Main Frame: 377.87 mm (x4)

Figure 3-4. Lubrication on Main Frame

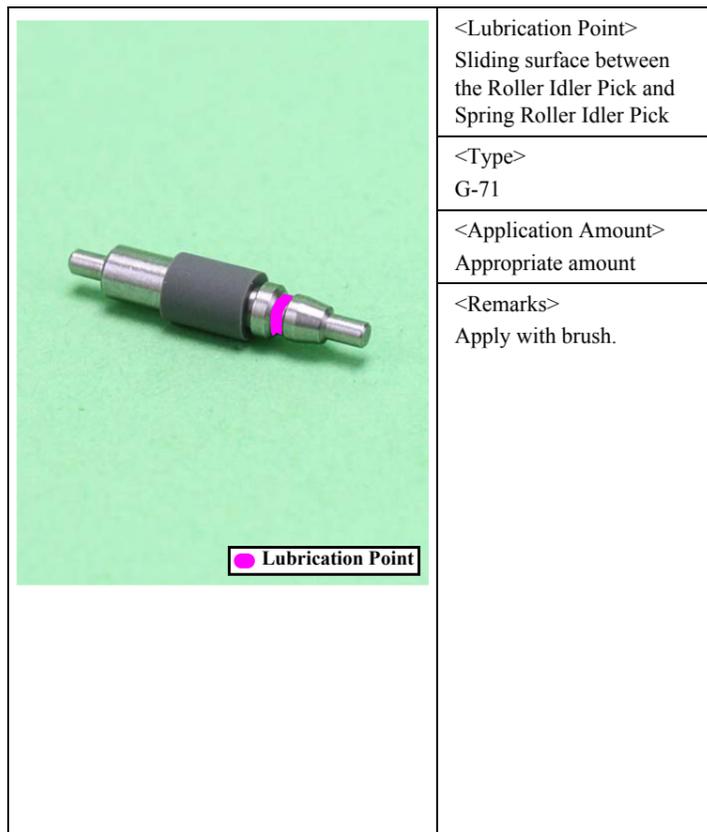


<Lubrication Point>
Contacting points (x2)
with the Driven Pulley

<Type>
G-71

<Application Amount>
φ 1 mm x 1 mm

<Remarks>
Apply with injector.

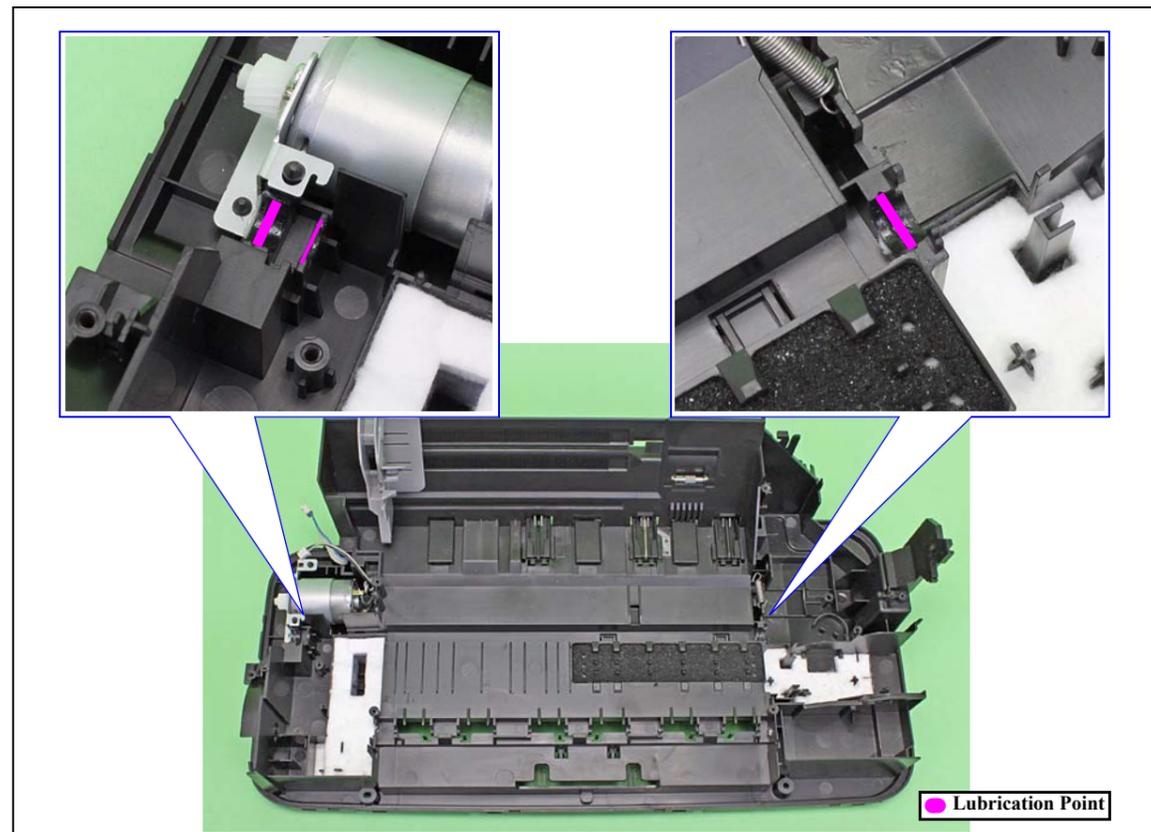


<Lubrication Point>
Sliding surface between
the Roller Idler Pick and
Spring Roller Idler Pick

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with brush.



<Lubrication Point>
Ribs (x3) of the Frame
Base (contacting points
with the PF Roller)

<Type>
G-71

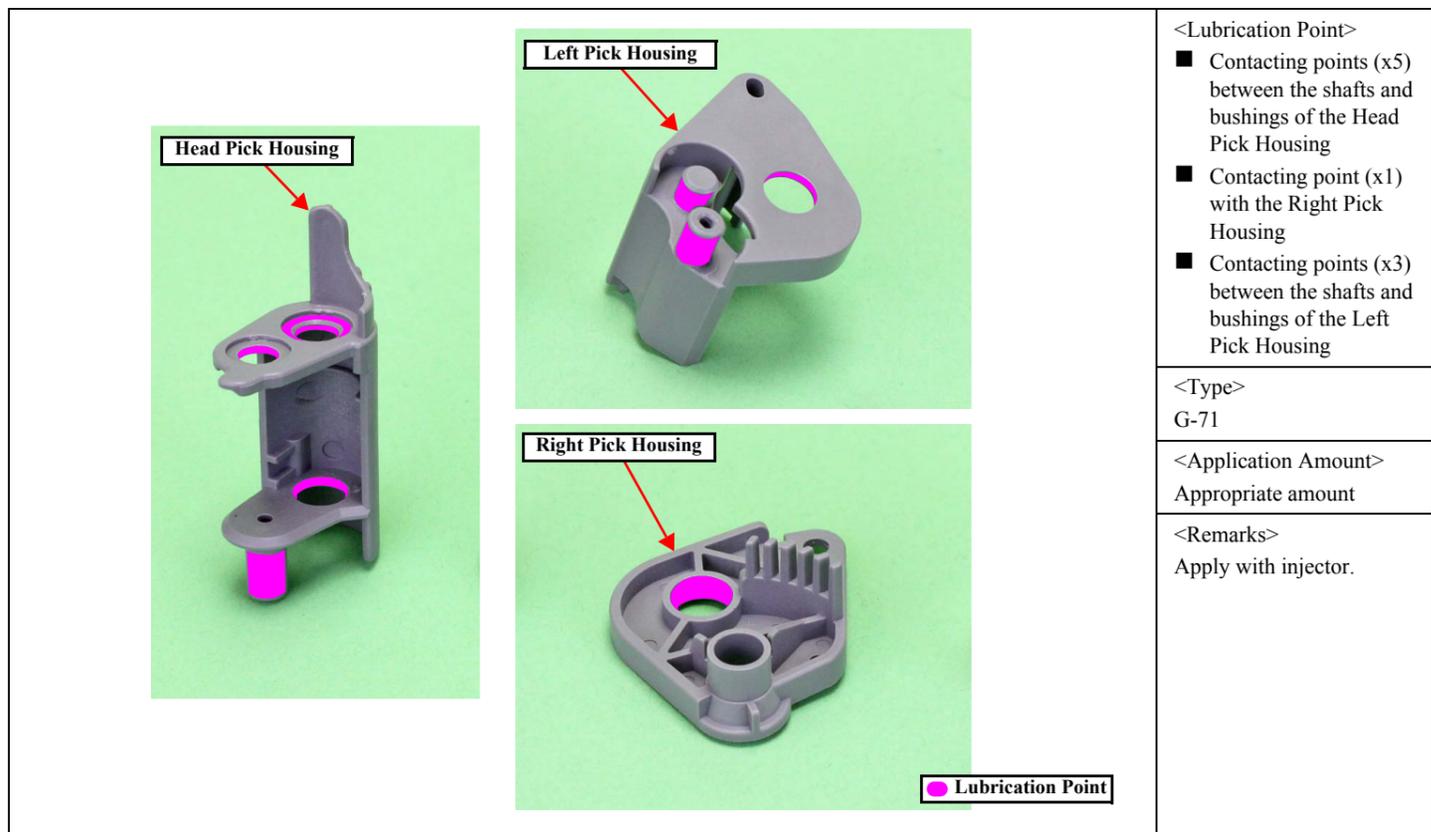
<Application Amount>
φ 1 mm x around shaft
(x 3)

<Remarks>
Apply with injector.

Figure 3-5. Lubrication on Driven Pulley Holder

Figure 3-6. Lubrication on Roller Idler Pick Assy

Figure 3-7. Lubrication on PF Roller



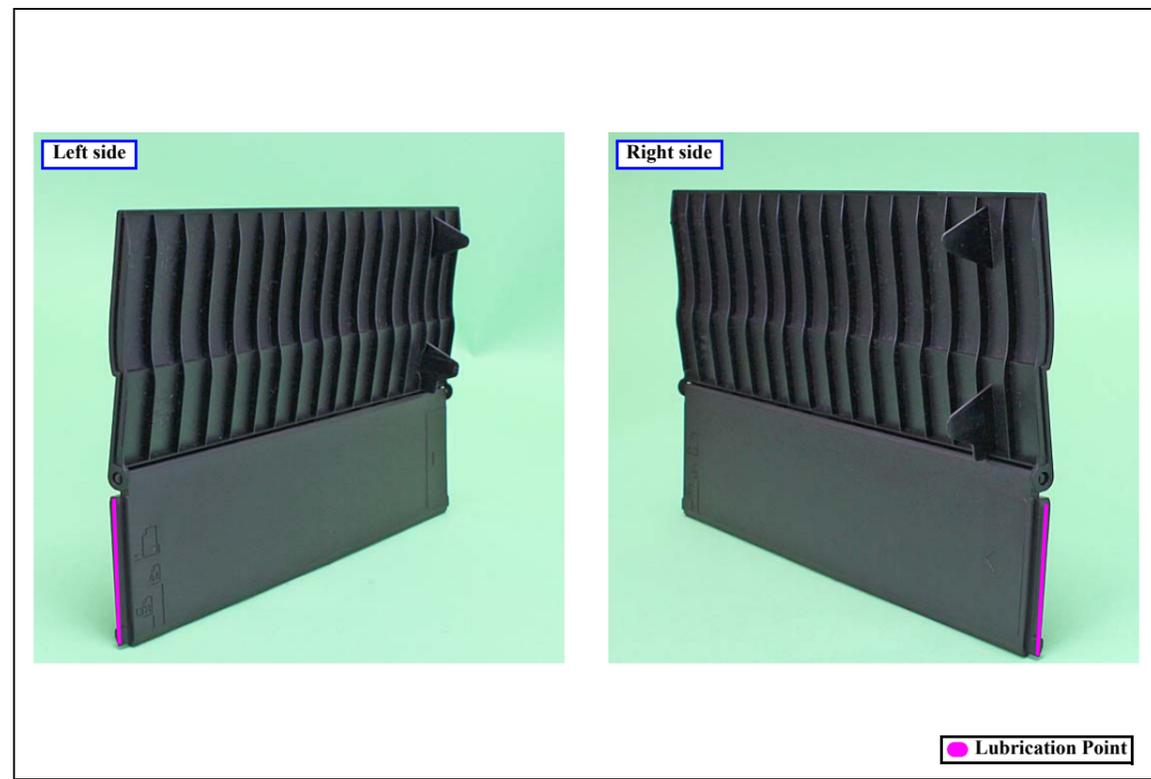
<Lubrication Point>

- Contacting points (x5)
between the shafts and
bushings of the Head
Pick Housing
- Contacting point (x1)
with the Right Pick
Housing
- Contacting points (x3)
between the shafts and
bushings of the Left
Pick Housing

<Type>
G-71

<Application Amount>
Appropriate amount

<Remarks>
Apply with injector.



<Lubrication Point>
Rail of the Paper Support
Assy

<Type>
G-74

<Application Amount>
Appropriate amount

<Remarks>

- Apply with brush.
- Keep the lubrication
within the rail. (No
grease outside of the
rail is allowed.)

Figure 3-8. Lubrication on LD Roller Assy

Figure 3-9. Lubrication on Paper Support Assy (L100/L101)

CHAPTER 4

APPENDIX

4.1 Power-On Sequence

This section describes the power-on sequences for this product. The preconditions are as follows.

- Condition
 - Completing ink charge.
 - No paper on the paper path.
 - The Printhead is capped with the Cap of the Ink System.
 - The Carriage is locked by the CR Lock.

Table 4-1. Operation of the power-on sequence

Operation ^{*1}	Carriage/PF roller movement and position ^{*2}
1. Checking for waste ink overflow 1-1. Reads out the protection counter value to check waste ink overflow.	<p>Diagram 1-1: Carriage (blue) is at the HP (Home Position) position. The CR lock (red) is engaged, locking the carriage. The 80-digit side is on the left and the 0-digit side is on the right.</p>
2. Seeking the home position 2-1. The carriage moves to the 80-digit side slowly and confirms it touches the CR lock.	<p>Diagram 2-1: The carriage moves slowly to the left towards the CR lock.</p>
2-2. The carriage moves to the 0-digit side slowly to leave from the CR lock.	<p>Diagram 2-2: The carriage moves slowly to the right away from the CR lock.</p>
2-3. Checks if paper does not exist with the PE sensor and the PF Motor rotates clockwise to release the CR lock.	<p>Diagram 2-3: The PF motor (indicated by a purple arrow) rotates clockwise to release the CR lock.</p>
2-4. The carriage moves to the 80-digit side slowly and confirms that the CR lock is released.	<p>Diagram 2-4: The carriage moves slowly to the left after the CR lock is released.</p>
2-5. The carriage quickly moves to the 80-digit side by the Left Frame.	<p>Diagram 2-5: The carriage moves quickly to the left towards the Left Frame.</p>
2-6. After the carriage continuously moves to the 80-digit side slowly and confirms it touches the Left Frame, sets the distance from the home position to the Left Frame as the theoretical value.	<p>Diagram 2-6: The carriage moves slowly to the left towards the Left Frame.</p>
2-7. The carriage quickly moves to the 0-digit side and slows down as it gets to its home position, and stops there.	<p>Diagram 2-7: The carriage moves quickly to the right towards the HP position.</p>
3. Low temperature operation sequence ^{*3} 3-1. The carriage moves back and forth between the 0-digit side and the 80-digit side for two times.	<p>Diagram 3-1: The carriage moves back and forth between the 0-digit side and the 80-digit side.</p>

(Continued to the next page...)

Table 4-1. Operation of the power-on sequence

Operation ^{*1}	Carriage/PF roller movement and position ^{*2}
4. Detecting ink cartridge and initializing ink system ^{*4}	
4-1. The carriage moves to the 80-digit side for IES detection.	
4-2. The carriage returns to its home position.	
4-3. The carriage slowly moves to the CR lock set position.	
4-4. The PF Motor rotates clockwise.	
4-5. The PF Motor rotates counterclockwise and sets the CR lock.	
4-6. The carriage slowly returns to its home position.	

Note *1: The rotation direction of the PF Motor is as follows.
 Clockwise direction : Paper is fed normally
 Counterclockwise direction : Paper is fed backward

*2: The conditions of the CR lock are as follows.
 Red: CR lock is set
 White: CR lock is released

*3: Executed when the detected temperature is under 5 °C (41°F) by the thermistor on the Printhead.

*4: The empty sanction operation may occur depending on the situation.

4.2 Connector Diagram

Cable connections of this printer are shown below.

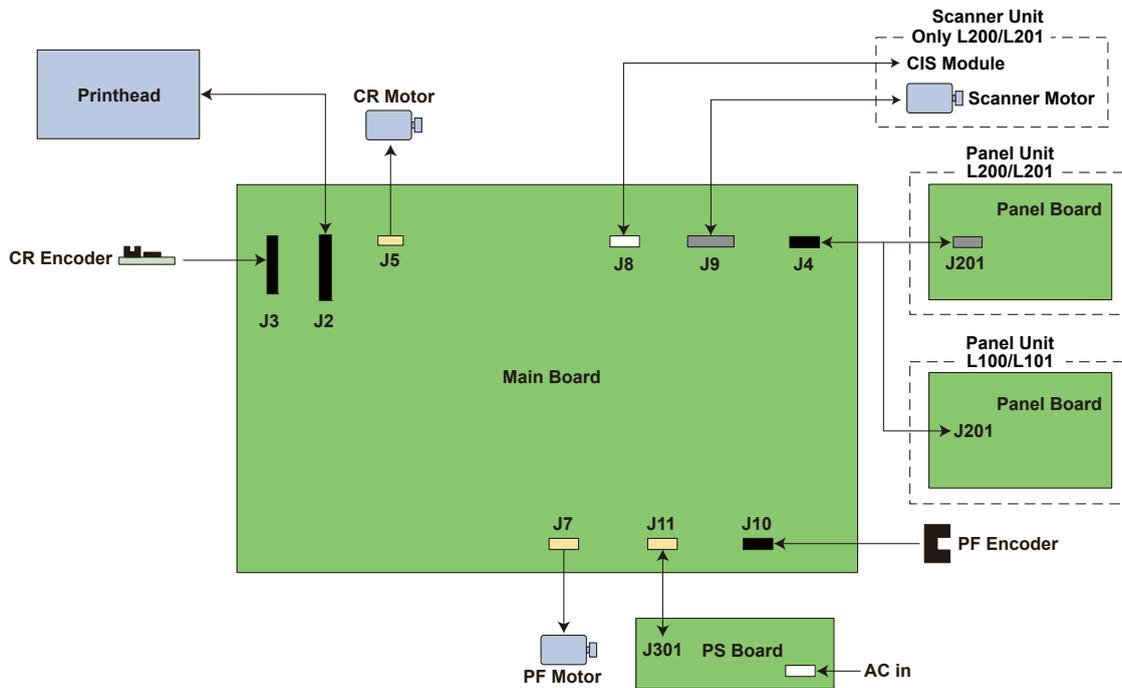


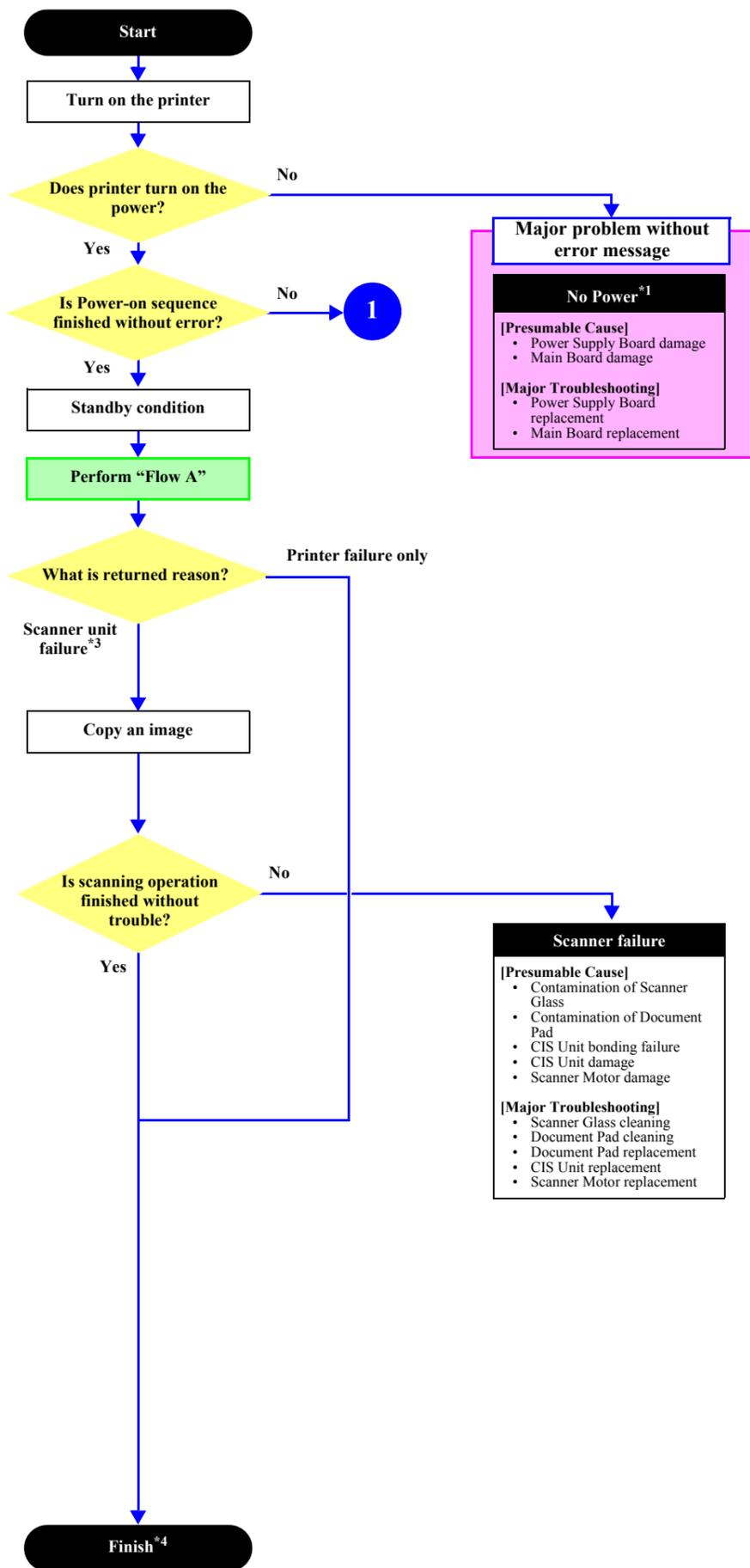
Figure 4-1. Connector Diagram

4.3 Troubleshooting

This section describes the troubleshooting workflow and fatal error information.

4.3.1 Troubleshooting Workflow

The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.



Major problem without error message

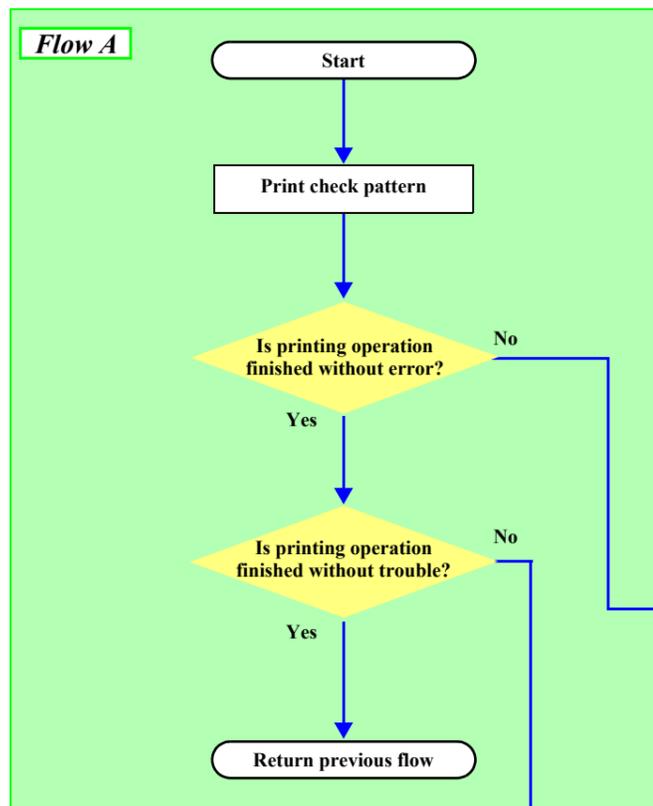
No Power*1

[Presumable Cause]

- Power Supply Board damage
- Main Board damage

[Major Troubleshooting]

- Power Supply Board replacement
- Main Board replacement



Major problem without error message

Poor Printing

[Phenomenon]

- Poor printing quality
- Ink stain on paper
- Dot missing
- Paper eject without printing

[Presumable Cause]

- Driver / Panel mis-setting
- Contamination of CR scale
- Contamination of Printhead cover
- Printhead damage
- Ink clogging of Printhead
- Contamination on Cap Unit / Wiper of Ink System Assy
- Ink System Assy damage
- Float of Porous Pad on Paper Guide Front
- Narrow PG
- PE Sensor Lever damage
- PE Sensor damage

[Major Troubleshooting]

- Driver / Panel re-setting
- CR Scale replacement
- Printhead cover cleaning
- Printhead cleaning
- Ink Cartridge replacement
- Printhead replacement
- Rubber cleaning of Cap Unit
- Ink System Assy replacement
- Porous Pad re-installation
- PG readjustment
- Printer Mechanism replacement
- PE Sensor Lever replacement

Poor Paper Loading

[Presumable Cause]

- Use of 3rd party media
- Edge guide mis-setting
- Foreign material
- Part come-off

[Major Troubleshooting]

- Recommendation of EPSON media
- Edge guide re-setting
- Foreign material removal
- Part re-installation
- Roller replacement

Abnormal Noise

[Presumable Cause]

- Foreign material
- Insufficient grease
- Gear damage

[Major Troubleshooting]

- Foreign material removal
- Lubrication of grease
- Gear replacement

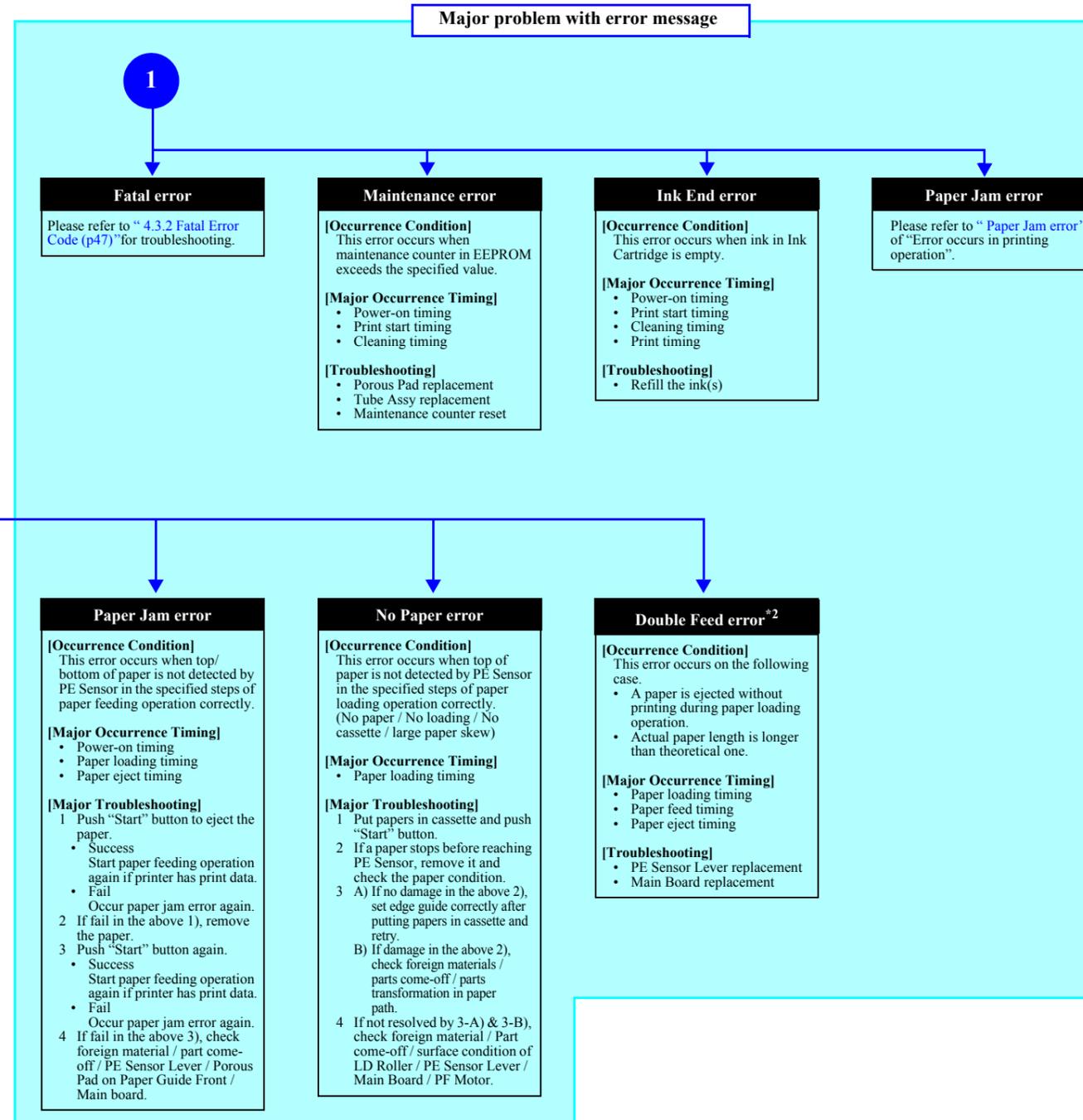
Blank Printing

[Presumable Cause]

- Valve closes
- Ink tank ventilation film gets wet
- Ink tube crumples
- Ink tube connection is incomplete.

[Major Troubleshooting]

- Open valve
- Ink tank replacement
- Ink tube re-installation



*1: If the printer can turn on but turns off right away, the protection circuit may cut off the power due to an error such as a circuit failure.
 *2: Only for manual duplex print
 *3: Only for L200/L201.
 *4: In case of "Not Trouble Found", check fatal error code.

This flowchart is compiled based on the following contents.

- Our experience regarding the quality problem.
- ESK's repair data on FY08 / FY09 models.
- Printer Mechanism specification for L200/L201/L100/L101.

4.3.2 Fatal Error Code

This section describes the fatal error code and the possible cause for this product.

Printer fatal error list

Table 4-2. Fatal Error List (Printer)

Error type	Error code	Error name	Possible cause
DC motor error	01H	Carrier stall error	<ul style="list-style-type: none"> • CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • CR Motor failure • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Carriage overload error (paper jam/foreign object) • Cable disconnection
	04H	Print incomplete error	<ul style="list-style-type: none"> • CR Encoder failure (contaminated/detached scale, Encoder Board failure) • Motor driver failure (Main Board failure) • CR Motor failure • Tooth skip of the CR Timing Belt • Improper tension of the CR Timing Belt • Carriage overload error (paper jam/foreign object)
	02H	Feed stall error	<ul style="list-style-type: none"> • PF Encoder failure (contaminated/detached scale, Encoder Board failure) • PF Motor failure • PF drive mechanism overload (paper jam/foreign object) • Cable disconnection
Printhead system error	03H	Head hot error	<ul style="list-style-type: none"> • Printhead failure • Head FFC disconnection
	08H	Head temperature error	<ul style="list-style-type: none"> • Printhead failure • Main Board failure • Head FFC disconnection
	09H	Environmental temperature error	<ul style="list-style-type: none"> • Main Board failure • Head FFC disconnection
Sequence error	0AH	Carrier multiple drive error	---*
Logic error	0CH	Analog-ASIC communication error	<ul style="list-style-type: none"> • Main Board failure

Note " "*": Not occurs except in manufacturing process.

Scanner fatal error list

Table 4-3. Fatal Error List (Scanner)

Error code	Error name	Possible cause
01H	Scanner HP detection error	<ul style="list-style-type: none"> • CIS Unit failure • Scanner Unit failure • Dust in Scanner Unit • Cable/FFC disconnection