

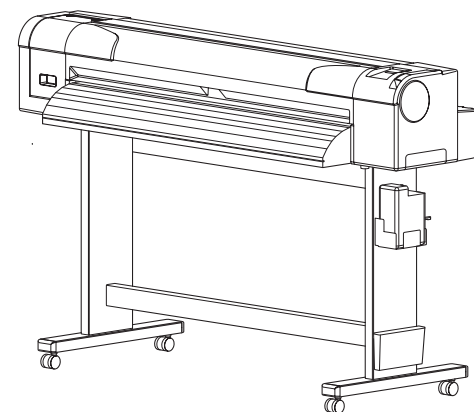
MUTOH

MAINTENANCE MANUAL

Full-Color Inkjet Printer

ValueJet
VJ-1324

VJ1324E-M-02



1 Safety Instruction

1.1 Introduction	1-2
1.1.1 Types and Meanings of Warnings	1-2
1.2 Warning Labels	1-2
1.2.1 Handling the Warning Labels	1-2
1.2.2 Location and Type of Warning Labels	1-2

2 Trouble Shooting

2.1 Introduction	2-2
2.2 Troubleshooting with Error Messages	2-7
2.2.1 Operation Status	2-7
2.2.2 Errors with Message	2-9
2.2.3 Errors Requiring Reboot	2-15
2.2.4 Error Messages During File Transmission	2-32
2.3 Troubleshooting Without Error Messages	2-35
2.3.1 Initial Operation Problems	2-35
2.3.2 Media Feed Problems	2-41
2.3.3 Printing Problems	2-44
2.3.4 Noise Problems	2-57
2.3.5 Media Cutting Problems	2-60
2.3.6 Online Function Problems	2-63
2.3.7 Other Problems	2-65
2.3.8 Problems in Using MUTOH Service Assistance	2-67

3 Parts Replacement

3.1 Introduction	3-5
3.2 Removing Covers	3-6
3.2.1 Removing I/H Cover	3-7

3.2.2 Remove Side Cover R	3-8
3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder	3-11
3.2.4 Removing Front Cover and Replacing Front Cover Holder	3-13
3.2.5 Removing Paper Guide F(Upper)	3-14
3.2.6 Removing Top Cover	3-16
3.2.7 Removing Paper Guide R2	3-17
3.2.8 Removing Scroller Holder (L, R)	3-18
3.2.9 Assembling of Scroller Holder L and R	3-19

3.3 Replacing Cover Peripherals 3-21

3.3.1 Replacing Panel Unit	3-21
3.3.2 Replacing Panel FFC (Panel tape wires)	3-22
3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy	3-25
3.3.4 Replacing Cover L Cable Assy	3-32
3.3.5 Replacing Cover R Cable Assy	3-35

3.4 Replacing Board Base 3-36

3.4.1 Removing Connector Panel	3-37
3.4.2 Replacing Cooling FAN 24V Assy (For MAIN Board)	3-38
3.4.3 Removing MAIN Board Bracket	3-39
3.4.4 Replacing MAIN Board Assy	3-42
3.4.5 Replacing SODIMM	3-43
3.4.6 Removing Controller Board Bracket	3-44
3.4.7 Replacing HEATER CONT Board Assy	3-46
3.4.8 Replacing HEATER RELAY Board Assy	3-47
3.4.9 Remove Power Board Bracket	3-48
3.4.10 Replacing Power Board Assy	3-50
3.4.11 Replacing JUNCTION Board Assy	3-51
3.4.12 Replacing JUNC_FFC	3-53
3.4.13 Replace JUNC_ID Cable Assy	3-55

3.4.14	Cooling FAN (24V) Assy、Cooling Fan Cable Assy	3-56	3.7.6	Replacing Print Head	3-106
3.4.15	Replacing AC Inlet、AC Cable Noise Filter-Fuse Assy、Noise Filter FG_Assy	3-58	3.7.7	Replacing Solenoid Head Assy	3-111
3.4.16	Other Cable Assy and Serial Cable Assy	3-59	3.7.8	Replacing Ink Tube	3-116
3.4.17	Replace Power Cable CNT-RLY Assy	3-60	3.7.9	Replacing Y Fitting	3-123
3.5	Replacement of PF Driving Section Components	3-61	3.7.10	Replacing Head FFC	3-124
3.5.1	Replace PF Motor Assy	3-61	3.7.11	Replacing Cutter Solenoid Cable Assy	3-125
3.5.2	Replacing PF Motor Relay Assy	3-64	3.7.12	Replacing CR Encoder Assy	3-126
3.5.3	Replacing PF Encoder Assy	3-65	3.7.13	Replacing Photometer JUNCTION Board Assy	3-128
3.5.4	Replacing PF Encoder Scale	3-66	3.7.14	Removing Cutter Holder	3-131
3.5.5	Replacing X speed reduction belt 、Speed reduction Pulley	3-67	3.7.15	Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy	3-133
3.5.6	Replacing Heater Section	3-71	3.7.16	Replacing P_EDGE Sensor Assy	3-135
3.6	Replacing CR Driving Section Components	3-86	3.7.17	Replacing Head FG_Assy	3-137
3.6.1	Replacing CR Motor Assy	3-86	3.8	Replacing Maintenance Section	3-138
3.6.2	Replacing CR Motor Cable Assy	3-88	3.8.1	Replacing Maintenance Assy	3-138
3.6.3	Replacing CR_HP sensor	3-89	3.8.2	Replacing PumpMotor Relay Assy	3-141
3.6.4	Replacing CR Origin Sensor Cable Assy	3-90	3.8.3	Replacing Cap Head Assy	3-142
3.6.5	Replacing Lever Sensor	3-91	3.8.4	Replacing Waste Fluid Sensor Cable Assy	3-143
3.6.6	Replacing Lever Sensor Cable Assy	3-92	3.8.5	Replacing Wiper Assy	3-144
3.6.7	Replacing T Fence, T Fence Spring Assy	3-93	3.8.6	Replacing Wiper Origin Sensor Cable Assy	3-145
3.6.8	Replacing CR Return Pulley Assy, CR Belt RJ13Assy	3-95	3.9	Replacing Ink Supply Section Components	3-146
3.6.9	Replacing Pressure roller Arm Assy	3-97	3.9.1	Replacing Cartridge Holder Assy	3-146
3.7	Replacing Carriage Peripherals	3-98	3.9.2	Replacing Ink ID Board Assy、Pressure Roller Holder Spring Assy	3-148
3.7.1	How To Release Carriage Lock	3-98	3.10	Replacement of Frame Section Components	3-149
3.7.2	Removing Carriage Cover	3-99	3.10.1	Replacing Adsorption FAN	3-149
3.7.3	Removing CR Board Cover	3-100	3.10.2	Replacing P_REAR Sensor	3-150
3.7.4	Replacing CR Board Assy	3-101	3.10.3	Replacing Lock Arm Assy, Lock Arm Spring Assy, Arm Axis Assy	3-151
3.7.5	Replacing Carriage Assy	3-102	3.11	Replacing Cable Guide Section Components	3-152

3.11.1 Replacing Tube Fixing Clamp	3-152	4.5.1 Adjustment Procedure	4-8
3.11.2 Replace Steel Bare	3-153	4.6 CR Belt Tension Adjustment	4-10
3.11.3 Replacing CR_FFC	3-154	4.7 Head Accuracy Adjustment	4-11
3.11.4 Replace Valve Solenoid (Exploded View CR Assy2) 3-158		4.7.1 Head Alignment (Horizontal Height)	4-11
3.11.5 Replace Solenoid Tube Assy	3-160	4.7.2 Head Alignment (Vertical Slant)	4-13
3.12 Replacing Accessory Unit	3-161	4.8 Cutter Holder Height Adjustment	4-15
3.12.1 Replacing Waste Fluid Level Switch ,Waste Fluid Bottle Assy 3-161		4.8.1 Jigs and Tools	4-15
3.13 Replacing Take-Up Unit (Option)	3-162	4.8.2 Adjustment Procedure	4-15
3.13.1 Removing Tension Arm	3-162	4.9 Head Height Adjustment	4-16
3.13.2 Removing Take-Up Unit	3-164	4.9.1 Jigs and Tools	4-16
3.13.3 Removing Take-Up Unit Cover	3-165	4.9.2 Adjustment Procedure	4-16
3.13.4 Replacing Scroller	3-166	4.10 Capping Position Adjustment	4-18
3.13.5 Replacing Take-Up Unit Control Board Assy	3-169	4.11 Cover Switch Sensor Assy Position Adjustment	4-20
3.13.6 Replacing Take-Up ON Sensor and Take-Up OFF Sensor 3-176		4.12 Rear/ Edge Sensor Adjustment	4-21
3.13.7 Replacing Peripheral Devices of VJ Take-Up Unit Motor Assy 3-179		4.13 Cutter position adjustment	4-23
4 Adjustment		5 Self-Diagnosis Mode	
4.1 Introduction	4-2	5.1 Introduction	5-3
4.2 Adjustment Item	4-2	5.2 Preparation	5-3
4.3 Working with MUTOH Service Assistance Software	4-4	5.2.1 Preparations on Machine	5-3
4.4 X Speed Reduction Belt Tension Adjustment	4-5	5.2.2 Starting Up	5-3
4.4.1 Jigs and Tools	4-5	5.3 Operations in Self-Diagnosis Mode	5-4
4.4.2 Adjustment Procedure	4-6	5.3.1 Operating Self-Diagnosis Mode	5-4
4.5 PF Encoder Assy Position Adjustment	4-8	5.3.2 Diagnosis Items in Self-Diagnosis Menu	5-5
		5.4 Platen Adjustment Menu	5-6

5.5 Inspection Menu	5-7	5.10 Parameter Menu	5-59
5.5.1 Ram Capacity Menu	5-9	5.10.1 Parameter Initialization Menu	5-59
5.5.2 Version Menu	5-10	5.10.2 Parameter Update Menu	5-61
5.5.3 Panel Menu	5-11	5.11 Servo Setting Menu	5-70
5.5.4 Sensor Menu	5-12	5.12 Endurance Running Menu	5-71
5.5.5 Cut Solenoid Menu	5-14	5.12.1 CR Motor Assy Endurance Menu	5-72
5.5.6 Choke Valve Menu	5-15	5.12.2 PF Motor Assy Endurance Menu	5-73
5.5.7 Encoder Menu	5-16	5.12.3 Cutter Endurance Menu	5-74
5.5.8 Fan Menu	5-17	5.12.4 Pump Endurance Menu	5-75
5.5.9 Record Menu	5-18	5.12.5 Head Lock Menu	5-76
5.5.10 Head Signal Menu	5-24	5.12.6 Choke Valve Menu	5-77
5.5.11 Spectro Vue Menu	5-25	5.12.7 Print Head Endurance (Nozzle Print) Menu	5-78
5.5.12 Time Check Menu	5-26	5.12.8 General Endurance Menu	5-79
5.6 Ink Charging Menu	5-27	5.12.9 Endurance Running Check Menu	5-80
5.7 Adjustment Menu	5-28	5.13 Media Feed Menu	5-81
5.7.1 Rear/ Edge Sensor Adjustment	5-30	5.14 ExControl Menu	5-82
5.7.2 CR Return Position adjustment	5-32	5.14.1 Version Menu	5-83
5.7.3 Head Nozzle Check Menu	5-33	5.14.2 Sensor Menu	5-84
5.7.4 Skew Check Menu	5-36	5.14.3 Heater Menu	5-85
5.7.5 Head Slant Check Menu	5-37	5.15 PaperInitial Menu	5-86
5.7.6 Uni-D/Bi-D Adjustment Menu	5-42	6 Maintenance Mode 2	
5.7.7 Bi-D Copy	5-49	6.1 Introduction	6-2
5.7.8 Top&Bottom adjustment Menu	5-50	6.2 Operations in Maintenance Mode 2	6-2
5.7.9 Test Printing Menu	5-51	6.2.1 Starting Up the Maintenance Mode 2	6-2
5.7.10 Longstore Menu	5-53	6.2.2 Operating Maintenance Mode 2	6-3
5.7.11 Software Counter Initialization Menu	5-54	6.3 Maintenance Mode 2 Menu	6-4
5.7.12 Feed Pitch Check Menu	5-55		
5.7.13 Solid Print Menu	5-56		
5.8 Cleaning Menu	5-57		
5.9 Sample Printing Menu	5-58		

6.3.1	Counter Indication Menu	6-5
6.3.2	Counter Initialization Menu	6-11
6.3.3	Counter Print Menu	6-12
6.3.4	Paper Feed Menu	6-13

7 Maintenance

7.1	Introduction	7-2
7.2	Periodical Services	7-3
7.2.1	Periodic Replacement Parts	7-3
7.2.2	Parts Which Require Inspection/Replacement	7-4
7.3	Part Life Information	7-5
7.4	Jigs and Tools	7-6
7.4.1	Required Tools	7-6
7.5	Lubrication/Bonding	7-7
7.6	Transportation of Product.	7-8

8 Product Overview

8.1	Introduction	8-2
8.2	Part Names and Functions	8-2
8.2.1	Front Section	8-2
8.2.2	Rear Section	8-3
8.2.3	Operation Panel.	8-4
8.3	Printer Status	8-7
8.3.1	Operating Status Type.	8-7
8.3.2	Switching Operating Status	8-8
8.3.3	Selecting Panel Language.	8-10

9 Specifications

9.1	Introduction.	9-2
9.2	Product Specifications.	9-2
9.2.1	Main Unit Specifications	9-2
9.3	Interface Specifications	9-3
9.3.1	Network Interface Specifications	9-3
9.4	Options/Supplies List.	9-3
9.4.1	Supplies	9-3
9.5	Choosing a Place for the Printer	9-4

10 Appendix

10.1	Introduction.	10-2
10.2	Maintenance Part List	10-2

Important Notice

1. For Users in Europe

**Important:**

This is a Class A product approved for industrial environments. In a domestic environment this product may cause radio interference in which case you may be required to take adequate measures.

2. For Users in the United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

3. Trademark Mentioned in this Manual

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- MUTOH INDUSTRIES LTD. shall not be liable for any damages or troubles resulting from the use of this equipment or this manual.

Warranty Limitations

1. MUTOH INDUSTRIES LTD. warrants part repair or replacement as a sole measure only if a failure is found in the system or in the materials and workmanship of the product the seller produced.
However, if the cause of failure is uncertain, decide the action after due mutual consultation.
2. The warranty shall not apply to any direct or indirect loss, or compensation for the loss due to the product that has been subject to misuse, neglect, or improper alternation.
3. The warranty period is described in the warranty certificate.

About this Manual

1. Purpose and Target Readers

This manual explains preparations needed before maintaining and checking operations for MUTOH Full Color Ink Jet Printer (VJ-1324).

This manual is prepared for the maintenance personnel of this printer.

Before using this printer, fully understand the contents and directions in this manual.

2. Manual Configuration

Section	Contents
1 Safety Instructions	Explains types of warnings, cautions and warnings labeled on the printer for the both operators of the printer and maintenance personnel.
2 Troubleshooting	Explains troubles that may occur when using the printer and how to solve them.
3 Parts Replacement	Explains the procedures of replacement and removal of the service parts of the printer.
4 Adjustment	Explains the adjusting procedures of the printer parts.
5 Self-Diagnostic Mode	Explains the self-diagnostic functions of the printer.
6 Maintenance Mode 2	Explains the maintenance mode2 of the printer.
7 Maintenance	Explains daily maintenance of the printer.
8 Product Overview	Explains the features, part names, and functions of the printer.
9 Specifications	Explains the specifications of the printer.
10 Appendix	Explains the maintenance information and the exploded views for this printer.

Use the built-in self-diagnostic program to locate a defective part and adjust/check during maintenance.

3. Manual Notation

The following symbols are used in this manual for easier understanding of the information.

Symbol	Meaning
 WARNING	Must be followed carefully to avoid death or serious bodily injury
 CAUTION	Must be observed to avoid slight or moderate bodily injury or damage to your equipment
NOTE	Contains important information and useful tips on the operation of the product
TIP	Indicates useful tips for operating or understanding the equipment
	Indicates reference pages in this manual

4. Establishment Date of This Document

This document was established on Mar. 31, 2011.

5. Firmware version covered by this document

Firmware version: V.1.00

Revision	Reason	Chapter	Section	Contents	Page No.	Errata	Remarks
00	-	-	-	new	-	-	-
01	Revising	ALL	ALL	footer and header	ALL	-	-
	misdescription	2	2.2.3	Remove E080	P2-29	-	-
	undocumented	2	2.2.3	Add E093,E146,E147,E140,E141,E142,E146,E147	P2-29~31	-	-
	misdescription	3	3.3.2	Add directions to CAUTION.	P3-22	-	-
	misdescription	3	3.3.2	Add illustration.	P3-24	-	-
	misdescription	3	3.4.12	Add TIP.	P3-53	-	-
	misdescription	3	3.4.14	Add TIP.	P3-56	-	-
	misdescription	3	3.5.2	Add TIP.	P3-64	-	-
	misdescription	3	3.5.5	Add TIP.	P3-67	-	-
	misdescription	3	3.5.6	Modify the procedure in Replacing HEATER.	P3-71~85	-	-
	Working efficiency improvement	3	3.6.8	Modify the illustration in Step 12.	P3-96	-	-
	Working efficiency improvement	3	3.7.5	Modify the procedure in Replacing Carriage Assy..	P3-102~105	-	-
	misdescription	3	3.7.8	Modify the length in the Table.	P3-116	-	-
	undocumented	3	3.7.9	Add the procedure of Replacing Y Fitting	P3-123	-	-
	misdescription	3	3.8.3	Modify the directions in TIP.	P3-142	-	-
	Working efficiency improvement	3	3.8.5	Wiper Assy → Wiper	P3-144	-	-
	misdescription	3	3.11.1	Add NOTE.	P3-152	-	-
	changing specifications	3	3.11.2	Modify the directions in CAUTION.	P3-153	-	-
	misdescription	3	3.11.3	Modify the directions in CAUTION.	P3-157	-	-
	changing specifications	4	4.12	Add Rear/Edge Sensor Adjustment.	P4-21~22	-	-

Revision	Reason	Chapter	Section	Contents	Page No.	Errata	Remarks
01	misdescription	5	5.2.1	Modify the descriptions in NOTE.	P5-3	-	-
	changing specifications	5	5.3.2	Add S/C Log to Test Print Menu.	P5-5	-	-
		5	5.3.2	Add Cut Function to Media Feed Menu.	P5.5	-	-
		5	5.5.9	Add Initiallizing S/C Log to Record Menu.	P5-18	-	-
		5	5.5.10	Modify the descriptions in NOTE.	P5-24	-	-
		5	5.7	Add Bi-D Copy to Adjustment Menu.	P5-28	-	-
		5	5.8.5	Modify the printing speed in Uni-D/Bi-D Adjustment Menu.	P5-42~49	-	-
		5	5.8.8	Add S/C Log info to Test Printing Menu.	P5-51	-	-
		5	5.8.8	Modify the Sample printings in TIP.	P5-52	-	-
		5	5.10	Add S/C Log info to Sample printing Menu.	P5-58	-	-
		5	5.11.2	Modify the Items and contents.	P5-63	-	-
		5	5.12	Modify the items in Servo Settime Menu.	P5-69	-	-
		5	5.13	Add Choke Valve endurance Menu.	P5-70	-	-
		5	5.13.1	Modify Carriage speed.	P5-71	-	-
	misdescription	5	5.13	Modify the TIP.	P5-73~78	-	-
	misdescription	7	7.4.1	Modify the Remarks in the 11 of Table 7-3.	P7-6	-	-
	changing specifications	7	7.4.1	Add Solenoid Head Washing Kit to the Tools for Adjustment.	P7-6	-	-
	misdescription	8	8.2.3	Modify the color of Status Lamp in the 9 of table (2).	P8-6	-	-
	misdescription	8	8.3.2	Modify illustration in (2)..	P8-8	-	-
	changing specifications	8	8.3.3	Add length changing function.		-	-
	misdescription	10	10.2	Modify the contents of Platen Heater (100)	P10-7	-	-
02	Revising	ALL	Header,Footer	VJ1324-M-02 → VJ1324-M-03	-	-	-
	Revising	4	4.2,4.3	VJ1324-M-02 or later to VJ1324-M-03 or later	P4-2,P4-4	-	-
	Omitted	5	5.5	Add “S/C LogInit” to the contents in “Record”	P5-7	-	-
	Omitted	5	5.5.9	Add “S/C LogInit”	P5-18	-	-

Revision	Reason	Chapter	Section	Contents	Page No.	Errata	Remarks
02	changing specifications	5	5.5.9	Add “(4-C) Effect”	P5-21	-	-
		5	5.5.10	Modify Head wavwform	P5-24	-	-
		5	5.7.6	Modify speed and waveform	P5-42	-	-
		5	5.7.8	Modify adjusting range of margin values.	P5-50	-	-
		5	5.10.2	Modify (4) speed	P5-64	-	-
		5	5.10.2	Modify (5) Setting range of mechanical parameters	P5-66	-	-

1 Safety Instruction

1.1	Introduction	1- 2
1.1.1	Types and Meanings of Warnings.....	1-2
1.2	Warning Labels.....	1- 2
1.2.1	Handling the Warning Labels	1-2
1.2.2	Location and Type of Warning Labels.....	1-2

1.1 Introduction

This chapter explains the installation of this printer, the warning terms that operators need to know, the caution items and warning labels on the main unit.



Make sure to follow all instructions and warnings on this manual when installing, operating, or maintaining the equipment.

1.1.1 Types and Meanings of Warnings

Safety terms in this manual and the contents of warning labels attached to the printer are categorized into the following five types depending on the degree of risk (or the scale of the accident).

Make sure to understand the meaning of the following warning terms, and follow the instruction in this manual

Safety terms	Details
	Must be followed carefully to avoid death or serious bodily injury.
	Must be observed to avoid slight or moderate bodily injury or damage to the whole or each part of the product.
	Contains important information and useful tips on the operation of the product.

1.2 Warning Labels

This section explains the handling of warning label, pasting location and types. Warning labels are attached to parts of the printer that need special caution. Understand the locations and the descriptions of the danger associated with each label before operating the printer.

1.2.1 Handling the Warning Labels

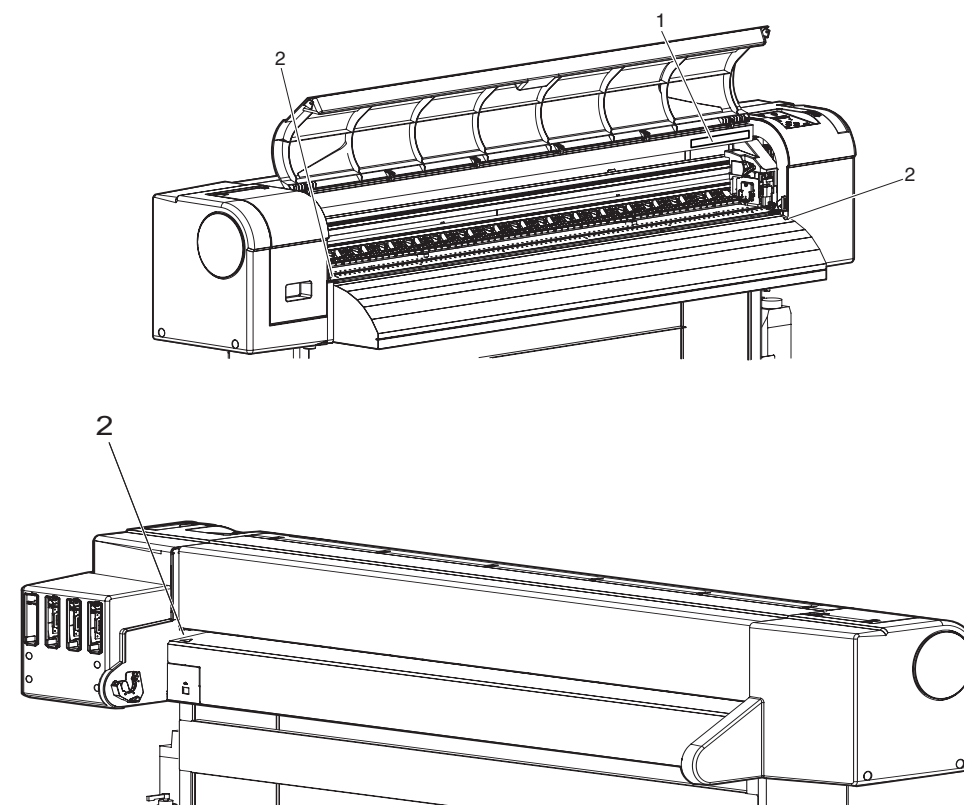
Make sure to note the following when handling the warning labels.

NOTE

- Make sure that all warning labels can be recognized. If the text or illustrations cannot be seen clearly, clean or replace the label.
- When cleaning warning labels, use a cloth with water or neutral detergent. Do not use a solvent or gasoline.
- If a warning label is damaged, lost, or cannot be recognized, replace the label.

1.2.2 Location and Type of Warning Labels

The locations of warning labels are shown in the following figure.



No.	Types of Warning Labels
1	 The warning label for the cutting blade is shown. It features a black and white pictogram of a hand being cut by a blade, with a red prohibition symbol (a circle with a diagonal line) over it. To the right of the pictogram, there are five yellow rectangular boxes, each containing a warning symbol (a triangle with an exclamation mark) and text in different languages: Japanese (注意), English (Caution), Chinese (注意), Korean (주의), and another Japanese (注意). Below these boxes, the warning text is provided in the same five languages, stating that the cutting blade is sharp and that fingers should not be inserted into it, as this could cause injury.
2	 The warning label for the hot surface is shown. It is a yellow triangular warning sign with a black border. Inside the triangle, there are three wavy lines representing heat or steam, indicating a hot surface.

2 Trouble Shooting

2.1	Introduction	2- 2
2.2	Troubleshooting with Error Messages.....	2- 7
2.2.1	Operation Status	2-7
2.2.2	Errors with Message	2-9
2.2.3	Errors Requiring Reboot	2-15
2.2.4	Error Messages During File Transmission	2-32
2.3	Troubleshooting Without Error Messages.....	2- 35
2.3.1	Initial Operation Problems.....	2-35
2.3.2	Media Feed Problems	2-41
2.3.3	Printing Problems	2-44
2.3.4	Noise Problems	2-57
2.3.5	Media Cutting Problems	2-60
2.3.6	Online Function Problems	2-63
2.3.7	Other Problems	2-65
2.3.8	Problems in Using MUTOH Service Assistance	2-67

2.1 Introduction

This chapter provides information on possible causes of machine errors/damage and recovery actions.

If the machine is malfunctioning and an error message is displayed on Operation panel, refer to **"2.2 Troubleshooting with Error Messages" p.2-7**. If the machine is malfunctioning but no error messages are displayed, refer to **"2.3 Troubleshooting Without Error Messages" p.2-35**. If cause of errors/damage and recovery actions are not found in this chapter, or the machine cannot restore to normal status, please contact the distributor you purchased the product from or our customer support center.

Table 2-1 Error type

No.	Trouble	Contents	Reference
1	When the message is displayed	Trouble with an error message displayed on Operation panel when the printer is malfunctioning.	 "2.2 Troubleshooting with Error Messages" p.2-7
2	When the message is not displayed	Trouble without an error message displayed on Operation panel even when the printer is malfunctioning.	 "2.3 Troubleshooting Without Error Messages" p.2-35

Table 2-2 When the message is displayed

Message type	Contents	Reference
Operation status	Cover open	 "2.2.1 Operation Status" p.2-7
	Mainte. Cover[*] Open (*L or R)	
	Set media	
	End of Roll	
	No media	
Error with message	Undefined Media	 "2.2.2 Errors with Message" p.2-9
	Media Slant	
	Ink NearEnd	
	Ink End	
	NoCartridges	
	S/C Read Err	
	S/C Ink Err	
	S/C Code Err	

Table 2-2 When the message is displayed (Continued)

Message type	Contents	Reference
Error with message	S/C Col. Err	☞ "2.2.2 Errors with Message" p.2-9
	Full wasteInk Tank	
	Media cut Err	
	Smart/C End	
	Broken Chip	
	Check Life [Head]	☞ "2.2.2 Errors with Message" p.2-9
	Check Life [Pump]	
	Check Life [CR Motor]	
	Check Life [PF Motor]	
Error requiring restart	E016 Error (CPU errors) [00] - [35]	☞ "2.2.3 Errors Requiring Reboot" p.2-15
	E016 Errors (Mechanical errors) [065] - [152]	
Errors while transmitting/ receiving data	Transfer failed *****.	☞ "2.2.4 Error Messages During File Transmission" p.2-32
	Boot transfer failed *****.	

Table 2-3 When the message is not displayed

Message	Symptoms	Reference
Initial Operation Problems	Printer cannot be turned on	 "2.3.1 Initial Operation Problems" p.2-35
	LCD display malfunction	
	Initial ink charge does not start	
	Initial ink charge started, but ink does not reach Head	
	Ink does not come out even after initial ink charge is completed	
	The printer does not operate after turned on.	
	The printer does not stop operation even when Front cover or Maintenance cover is opened.	
	After the printer is turned on, "Initializing" is displayed and the printer resets	
	Loading media does not start the initial operation	
	The printer does not operate even when Front cover or Maintenance cover is closed.	
	The printer does not recognize the installed ink cartridges	
	Nothing can be input from Operation panel	 "2.3.1 Initial Operation Problems" p.2-35
	Printing does not start even after receiving data.	
Media Feed Problems	Media slips during media initialization or printing.	 "2.3.3 Printing Problems" p.2-44
	Media skews or meanders during media initialization or printing.	
	Media wrinkles during media initialization or printing.	
	Media tears during media initialization or printing.	
	Media size is not correctly detected after media initialization.	
	LCD display malfunction	

Table 2-3 When the message is not displayed (Continued)

Message	Symptoms	Reference
Printing Problems	The printer does not print continuously.	 "2.3.3 Printing Problems" p.2-44
	After printing, the printer feeds an extra amount of media.	
	Nozzles are clogged during printing	
	Cleaning does not mend the clogged nozzles or skewed ink discharge.	
	Cannot print at all, a specific color is missing	
	The page is printed all black.	
	The page is printed blocky.	
	Images are printed unevenly.	
	Lines in the CR direction look split.	
	White or black lines appear on printed media	
	The printed borders are blurred.	
	There are unwanted dots (satellites).	
	Characters with jagged edges are printed.	
	Lines are printed blurry (messy printing result)	 "2.3.3 Printing Problems" p.2-44
	Mixed color lines are not overlapped.	
	The printed results are uneven. (Vertical direction against the printer unit)	
	The printed results are uneven. (Horizontal direction against the printer unit)	
Noise Problems	Abnormal noise is heard when media is sucked	 "2.3.4 Noise Problems" p.2-57
	Abnormal noise is heard during waiting time	
	Abnormal noise is heard while Head is moving laterally	
	Abnormal noise is heard when feeding media	

Table 2-3 When the message is not displayed (Continued)

Message	Symptoms	Reference
Online Function Problems	Other functions do not work correctly	 "2.3.6 Online Function Problems" p.2-63
	Data or printing is garbled	
	Part of the data is not printed (missing)	
Other Problems	The printer hangs up	 "2.3.7 Other Problems" p.2-65
	The power is shut down during printing	
	Ink cartridges cannot be inserted	
	Ink spills out of Waste fluid tank	
	Ink spills out of Flushing box	
	Ink spills around X rail	
Problems in Using MUTOH Service Assistance	MUTOH Service Assistance does not start up	 "2.3.8 Problems in Using MUTOH Service Assistance" p.2-67
	"Transfer failed (Data timeout)" is displayed during transfer.	
	"Main F/W data is invalid" is displayed during firmware transfer.	
	"No compatibility between main F/W data and printer" is displayed during firmware transfer.	
	"F/W version downgrade is not available" is displayed during firmware transfer.	 "2.3.8 Problems in Using MUTOH Service Assistance" p.2-67
	"Heater controller F/W data is invalid" is displayed during Heater controller firmware transfer.	
	"No compatibility between Heater controller F/W data and printer is displayed during Heater controller firmware transfer.	

2.2 Troubleshooting with Error Messages

This section describes the messages displayed in normal operation and upon an error occurrence as well as how to correct the error. The available messages are as follows.

2.2.1 Operation Status

This section describes the message contents, check items, and recovery actions for normal operation.

Table 2-4 Events and Check Items for Operation Status Messages

No.	Message	Event/symptom	Check item	Action	Reference
1	Cover open	Front cover is open.	1. Is Cover sensor Assy wobbly?	Tighten the screw on Cover sensor Assy .	 "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25  "3.3.4 Replacing Cover L Cable Assy" p.3-32  "3.3.5 Replacing Cover R Cable Assy" p.3-35  "3.4.4 Replacing MAIN Board Assy" p.3-42
			2. Are the cables of F cover R sensor Assy and F cover L sensor Assy securely connected?	Securely connect the cable of F cover R sensor Assy to MAIN board Assy connector (J13) and the cable of F cover L sensor Assy to MAIN board Assy connector (J14).	
			3. Are F cover R sensor Assy and F cover L sensor Assy damaged?	Replace F cover R sensor Assy and F cover L sensor Assy .	
			4. Check the operation of Cover sensor in “Sen 4: Lever” in the self-diagnosis function.		
			5. MAIN board Assy may be damaged.	Replace MAIN board Assy .	
2	Set media	Media holding lever is raised.	1. Does Pressurizing lever move smoothly?	Lubricate pressure cam.	 "7.5 Lubrication/Bonding" p.7-7
			2. Is Lever sensor Assy securely installed?	Adjust the mounting position of Lever sensor Assy .	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
			3. Is the sensor portion of Lever sensor Assy dirty?	Clean the sensor portion with a cotton swab, etc.	 "3.6.5 Replacing Lever Sensor" p.3-91
			4. Is Lever sensor Assy securely installed?	Securely connect Lever sensor cable Assy to JUNCTION board Assy connector J15.	 "3.6.6 Replacing Lever Sensor Cable Assy" p.3-92
			5. Check the operation of Lever sensor in “Sen 6: Lever” in the self-diagnosis function.	Replace Lever sensor Assy if it is not working properly.	 "3.6.5 Replacing Lever Sensor" p.3-91
			6. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

Table 2-4 Events and Check Items for Operation Status Messages(Continued)

No.	Message	Event/symptom	Check item	Action	Reference
3	No media	Displayed in the following cases: • When media is not set • When printing finishes in cut media mode	1. Is media edge sensor Assy cable at the head section connected correctly?	Securely connect it to CR board Assy connector.	 "3.7.4 Replacing CR Board Assy" p.3-101
			2. Is media rear sensor Assy under media guide R connected correctly?	Securely connect it to MAIN board Assy connector.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			3. Check sensor sensitivity from "Sen7: Edge AD" of self-diagnosis function.	Replace P_Edge sensor Assy .	 "3.7.16 Replacing P_EDGE Sensor Assy" p.3-135
			4. CR board Assy may be damaged.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
			5. Check presence of media from "Sen8: Rear AD" of self-diagnosis function.	When "No media" is displayed even if media is set, replace P_Rear sensor Assy .	 "3.10.2 Replacing P_REAR Sensor" p.3-150
			6. CR_FFC may be damaged.	Replace CR_FFC.	 "3.11.3 Replacing CR_FFC" p.3-154
			7. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
4	Maintenance cover open	Maintenance cover is open.	1. Is the maintenance cover open?	Close maintenance cover.	 Operation Manual
			2. Is maintenance cover sensor Assy loose?	Tighten the screws of maintenance cover sensor Assy .	 "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
			3. Is the cable of maintenance cover sensor Assy securely connected?	Securely connect the cable of maintenance cover sensor Assy to MAIN board Assy.	
			4. Is maintenance cover sensor Assy damaged?	Replace maintenance cover sensor Assy .	

2.2.2 Errors with Message

This section describes the contents of errors with messages as well as the check items and recovery actions.

These messages are displayed when an abnormal condition occurs while the machine is running.

Upon an occurrence of an error with message, the machine stops its operation at the same time.

The error can be cancelled by removing the error causes. After that, the machine will restart its operation.

No.	Message	Event/ symptom	Check item	Action	Reference
1	Media detection error	Media detection failed	1. Is media edge sensor Assy cable at head connected correctly?	Securely connect it to CR board Assy connector.	 "3.7.4 Replacing CR Board Assy" p.3-101
			2. Is media rear sensor Assy under media guide R connected correctly?	Securely connect it to MAIN board Assy connector.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			3. Check sensor sensitivity from "Sen8:Edge AD" of self-diagnosis function.	Replace P_Edge sensor Assy .	 "3.7.16 Replacing P_EDGE Sensor Assy" p.3-135
			4. Is CR_FFC cable inserted obliquely?	Securely connect to MAIN board Assy and CR board Assy	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.4 Replacing CR Board Assy" p.3-101
			5. CR_FFC may be damaged.	Replace CR_FFC.	 "3.11.3 Replacing CR_FFC" p.3-154
			6. CR board Assy may be damaged.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
			7. Check presence of media from "Sen7:Rear AD" of self-diagnosis function.	When "No media" is displayed even if media is set, replace P_Rear sensor.	 "3.10.2 Replacing P_REAR Sensor" p.3-150
			8. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Event/ symptom	Check item	Action	Reference
2	Media skew error	Media is running obliquely.	1. Set media again and check reappearance.	If this error is caused by user's inappropriate media setting, instruct correct media setting procedure.	—
			2. Is suction fan judged as normal when checked through "Test: Fan" of self-diagnosis function?	• Check the connection of following MAIN board Assy connectors. • Suction fan relay Assy : J27 • Replace cable of suction fan that does not operate normally. • Replace suction fan Assy .	 "3.10.1 Replacing Adsorption FAN" p.3-149
			3. Is shielding material secured at specified position?	Remount it at specified position.	—
			4. Check pressure lever operation.	Apply grease (G501) to pressure cam and make adjustment.	 "7.5 Lubrication/Bonding" p.7-7
3	Remove media	Displayed if lever is raised during printing or cutting media and then lowered without removing media.	1. Does the same message appear if turning machine OFF and turn it ON again?	If the message appears, refer to the action in check item No. 2.	—
			2. Is pressure lever detected as normal when checked through "Sen: Lever" of self-diagnosis function?	Check that LCD monitor does not display up/down as chattering when slowly raising/lowering pressure lever.	 "5.5.4 Sensor Menu" p.5-12
			3. Check contact of lever sensor Assy .	• Reconnect MAIN board Assy connector J15. • If LCD displays as chattering, sensor may be damaged. Replace lever sensor Assy .	 "3.4.11 Replacing JUNCTION Board Assy" p.3-51  "3.6.5 Replacing Lever Sensor" p.3-91
			4. Is media rear sensor Assy under media guide R connected correctly?	Securely connect it to MAIN board Assy connector J26.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			5. Check presence of media from "Sen: Rear AD" of self-diagnosis function.	When "No media" is displayed even if media is set, replace P_Rear sensor Assy .	 "3.10.2 Replacing P_REAR Sensor" p.3-150
			6. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Event/ symptom	Check item	Action	Reference
4	Media cut error	Even though cutting operation is performed, media is not cut off.	1. Does media dust accumulate in cutter groove?	Remove accumulated media dust along groove.	 Operation Manual
			2. Is cutter cap securely installed?	Reinstall cutter cap securely.	 Operation Manual
			3. Check cutter sliding up/down operation.	- When it does not rise: Refer to action in check item No. 4. - When it rises: Refer to action in check item No. 5.	—
			4. When setting cutter, lower cutter with finger and check that cutter rises to upper end only by spring force.		—
			5. When setting cutter after removing cutter spring, does cutter lower to lower end by its own weight?	- When it lowers: Cutter spring may be defective. Replace cutter spring referring to exploded views. - When it does not lower: Cutter may be defective. Replace cutter.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
			6. Check if solenoid goes up/down from "Life: Cutter" of self-diagnosis function. a) Goes up/down: Check the position where cutter goes down to cutter groove. b) Does not go up/down:	- OK: Cutter has reached the end of life or be damaged. Replace cutter with new one. - NG: Adjust cutter holder position. Connector may be poorly connected. Check the connection of following connectors.	-
			7. CR_FFC may be broken, solenoid Assy may be defective, or each board Assy may be defective. a) Replace CR_FFC with new one.	If solenoid goes up/down, replace CR_FFC.	 Operation Manual  "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133  "3.7.4 Replacing CR Board Assy" p.3-101  "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Event/ symptom	Check item	Action	Reference
4	Media cut error	Even though cutting operation is performed, media is not cut off.	b) Replace solenoid Assy with new one. (Check by connecting connectors directly)	If solenoid goes up/down, replace solenoid Assy .	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
			c) Replace CR board Assy .	After replacement, adjust sensor reflection amount from "Sen: Edge AD" of "Test: Sensor" of self-diagnosis function.	 "3.7.4 Replacing CR Board Assy" p.3-101
			d) Replace MAIN board Assy .	Before replacing MAIN board, back up parameters and recover to new MAIN board Assy . Then start operation check.	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Event/ symptom	Check item	Action	Reference
4	1. [KCMY] Ink Near End 2. [KCMY] Ink End The ink color that is/are subject to this caution is/are displayed in the [].	1. Ink is running short. Printing is possible. 2. Ink has run out. Any printing operation stops immediately.	1. Check which cartridge has no ink from "Sen: Ink NOT" of self-diagnosis function.	Remove all cartridges and lightly push the black resin lever of ink sensor Assy (K, C, M, Y) to check that the display of "Sen: Ink NOT" changes.	 "5.5.4 Sensor Menu" p.5-12
			2. Check contact of the ink sensor Assy .	Reconnect following connectors. • connector18(K) • connectorJ9(C) • connectorJ10(M) • connectorJ11(Y)	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			3. For the ink color that is displayed as "Ink Near End" or "Ink End", switch ink sensor Assy connector with that of normally displayed ink color.	• If ink color display changes after replacing connector: Ink sensor Assy is damaged. Replace ink sensor Assy . • If ink color display does not change after replacing connector: MAIN board Assy may be damaged. Replace MAIN board Assy .	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146  "3.4.4 Replacing MAIN Board Assy" p.3-42
5	[KCMY] No Cartridge	Cartridge is not installed.	1. Turn machine OFF. Turn it ON again and check if the same message appears.	If message appears: Refer to action in check item No. 2.	—
			2. Check presence of ink cartridge from "Sen: Ink NOT" of self-diagnosis function.	Remove all cartridges and lightly push the switch of ink NOT sensor Assy (K, C, M, Y) with something with a flat tip such as ballpoint pen to check that the display of "Sen: Ink NOT" changes.	 "5.5.4 Sensor Menu" p.5-12
			3. Check contact of ink sensor Assy connector.	Reconnect following connectors. • connector 15(K) • connector J6(C) • connector J7(M) • connector J8(Y)	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			4. For the ink color that is displayed as "No cartridge", switch ink sensor Assy connector with that of normally displayed ink color.	If ink color displayed as "No cartridge" changes after replacing connector: Ink sensor Assy is damaged. Replace ink sensor Assy .	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146

No.	Message	Event/ symptom	Check item	Action	Reference
6	Life Times [Head]	The operational life of Print head has almost expired.	Check the condition of Head.	Replace Head as necessary. Clear the counter after replacing it.	 "3.7.6 Replacing Print Head" p.3-106
7	Life Times [PF Motor]	The operational life of PF motor has almost expired.	The operational life of PF motor has almost expired.	Replace PF motor as necessary. Clear the counter after replacing it.	 "3.5.1 Replace PF Motor Assy" p.3-61
8	Life Times [CR Motor]	The operational life of CR motor has almost expired.	Check the condition of CR motor.	Replace CR motor as necessary. Clear the counter after replacing it.	 "3.6.1 Replacing CR Motor Assy" p.3-86
9	Life Times [Pump]	The operational life of Pump has almost expired.	Check the condition of Pump.	Replace Pump as necessary. Clear the counter after replacing it.	 "3.8.1 Replacing Maintenance Assy" p.3-138

NOTE

- The square bracket pair in an error message indicates the applicable ink color.
- If no ink and no cartridge occur at the same time, no cartridge message has priority to be displayed.

2.2.3 Errors Requiring Reboot

This section describes the contents of reboot-requiring errors as well as the check items and recovery actions.

These errors are issued when any of the following critical problems occur.

- Obstacle that prevents the machine's operation
- Damage of electric circuits (Boards, Motors, Sensors)
- Abnormal operation of control programs

When any of the above conditions occur, the machine follows the steps shown below before stopping its operation.

1. Turn OFF the driving system power automatically.
2. Flash all lamps on Operation panel and generate intermittent audible alarm.
3. Display the applicable error message on the LCD.

The error can be cancelled by removing the error causes and restarting the machine.

(1) CPU system serious error

No.	Message	Event/ symptom	Check item	Action	Reference
1	E 016Interrupt [00]	Interruption exception error: An anomaly is detected during interruption process.	1. Check AC power supply and printer peripherals. 2. Check whether the same error occurs. Even when there is no problem, turn off the printer and turn it back on a few times to check. 3. Check the serial number of the printer.	• Replace MAIN board Assy .	 Operation Manual  "3.4.4 Replacing MAIN Board Assy" p.3-42
2	E016 TLB Modif [01]	Command border exception/TLB exception (load or command fetch) error: An anomaly is detected in command border. Or TLB exception is detected while loading data or fetching data.	4. MAIN board Assy may be damaged.		

No.	Message	Event/ symptom	Check item	Action	Reference
3	E 016 TLB-L/I [02]	Data border exception/TLB exception (store) error: An anomaly is detected in data border. Or TLB exception is detected while storing data.	1. Check AC power supply and printer peripherals. 2. Check whether the same error occurs. Even when there is no problem, turn off the printer and turn it back on a few times to check. 3. Check the serial number of the printer. 4. MAIN board Assy may be damaged.	• Replace MAIN board Assy .	 Operation Manual  "3.4.4 Replacing MAIN Board Assy" p.3-42
4	E 016 TLB-S [03]	Data border exception/TLB exception (store) error: An anomaly is detected in data border. Or TLB exception is detected while storing data.			
5	E 016 AddErr-L/I [04]	Address exception error (load or command fetch): Address error is detected while loading or fetching command.			
6	E 016 AddErr-S [05]	Address exception error (store): An address error is detected while escaping.			

No.	Message	Event/ symptom	Check item	Action	Reference
7	E 016 BUS Err-L [06]	Pass exception error (command fetch): Address error is detected while loading or storing command.	1. Check the serial number of the printer. 2. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
8	E 016 BusErr-L/S [07]	Bus exception error (load or store): Bus error is detected while loading or storing command.	1. Check AC power supply and printer peripherals. 2. Check whether the same error occurs. Even when there is no problem, turn off the printer and turn it back on a few times to check. 3. Check the serial number of the printer. 4. MAIN board Assy may be damaged.		
9	E 016SystemCall [08]	System call exception error: An anomaly is detected in system call.			
10	E016 BreakPoint [09]	Break point exception error: An anomaly is detected in break point.			
11	E 016 Reserved [10]	Reserved command exception error: An anomaly is detected in reserved command.			
12	E 016 Copro [11]	Coprocessor disabled exception error: An anomaly is detected in coprocessor .			

No.	Message	Event/ symptom	Check item	Action	Reference
13	E 016 Overflow [12]	Arithmetic overflow exception error: Overflow is detected.	1. Check AC power supply and printer peripherals. 2. Check whether the same error occurs. Even when there is no problem, turn off the printer and turn it back on a few times to check. 3. Check the serial number of the printer. 4. MAIN board Assy may be damaged.	• Contact your local MUTOH dealer. • Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
14	E 016 Trap [13]	Arithmetic overflow exception error: Overflow is detected.			
15	E 016 Floating [15]	Floating decimal point exception error: An anomaly is detected in floating decimal point.			
16	E 016 WatchDog [32]	Watchdog time- out exception error: A time-out is detected in Watchdog.			
17	E 016 Abort Err [33]	Abort error: Abort is detected.			
18	E016 Flash Rom[35]	The content of flash ROM may be destroyed.			
19	E016 Exception Err [XX]	EXC error (undefined) other than the above has occured. XX stands for a number.			

TIP

For the PC settings, refer to your PC's operation manual.

(2) Mechanical Serious Errors

No.	Message	Symptoms	Check Item	Action	Reference
1	E 065Err PF motor	Abnormal condition in PF motor (X-axis) during printer operation. Displayed if the difference between motor command value and feedback from encoder is large.	1. Check error history from "Test: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Set the number of endurance running cycles to 50 or more from "Life: PF motor" of self-diagnosis function, and check if "PF motor error" occurs.	Check the connection of the following MAIN board Assy connectors: • PF motor cable Assy connector • PF encoder Assy connector	 "5.12 Endurance Running Menu" p.5-71  "3.4.4 Replacing MAIN Board Assy" p.3-42
			3. Check "Encoder: PF" from "Test: Encoder" of self-diagnosis function.	If NG, check the connection of MAIN board Assy connector.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			4. Is the area around PF encoder contaminated?	Clean around PF encoder. Replace PF encoder if it is damaged.	 "3.5.3 Replacing PF Encoder Assy" p.3-65
			5. Check if MAIN Power Board normally supplies DC24V.	Replace the power board Assy if it is damaged.	 "3.4.10 Replacing Power Board Assy" p.3-50
			6. PF motor Assy may be damaged.	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
			7. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
2	E 067Err PF encoder	Abnormal condition in media feed amount (X-axis) during printer operation. Displayed if there is no feedback from encoder.	1. Check error history from "Test7: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			1.		
			2. Set the number of endurance running cycles to 50 or more from "Life: PF motor" of self-diagnosis function, and check if "PF encoder error" occurs.	Check the connection of the following MAIN board Assy connectors: - PF motor cable Assy connector - PF encoder Assy connector	 "5.12 Endurance Running Menu" p.5-71  "3.4.4 Replacing MAIN Board Assy" p.3-42
			3. Check "Encoder: PF" from "Test5: Encoder" of self-diagnosis function.	If NG, check the connection of MAIN board Assy connector.	 "5.5.4 Sensor Menu" p.5-12  "3.4.4 Replacing MAIN Board Assy" p.3-42
			4. Is the area around PF encoder contaminated?	Clean around PF encoder. Replace PF encoder if it is damaged.	 "3.5.3 Replacing PF Encoder Assy" p.3-65
			5. Check if MAIN Power Board normally supplies DC24V.	Replace the power board Assy if it is damaged.	 "3.4.10 Replacing Power Board Assy" p.3-50
			6. PF motor Assy may be damaged.	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
			7. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
3	E069 Err PF Timeout	An anomaly is detected in media feed amount (X-axis) during printer operation. Displayed when Grid roller has not reached the designated position.	1. Check error history from "Test7: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Set the number of endurance running cycles to 50 or more from "Life2: PF motor" of self-diagnosis function, and check if "PF motor Timeout" occurs.	Check the connection of following MAIN board Assy connectors. - PF motor cable Assy connector - PF encoder Assy connector Replace the power board Assy if it is damaged.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "5.12 Endurance Running Menu" p.5-71  "5.5.4 Sensor Menu" p.5-12  "3.4.10 Replacing Power Board Assy" p.3-50
			3. Check "Encoder: PF" from "Test5: Encoder" of self-diagnosis function.	If NG, check the connection of MAIN board Assy connector.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			4. Check if MAIN Power Board normally supplies DC24V.	Replace the power board Assy if it is damaged.	 "3.4.10 Replacing Power Board Assy" p.3-50
			5. PF motor Assy may be defective.	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
			6. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
4	E071 Err PF Current E073 Err PF2 Current	An overload condition is detected in PF motor (X-axis) during printer operation.	1. Check error history from "Test7: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Set the number of endurance running cycles to 50 or more from "Life2: PF motor" of self-diagnosis function, and check if "PF motor Timeout" occurs.	Check the connection of following MAIN board Assy connectors. • PF motor cable Assy connector • PF encoder Assy connector Replace the power board Assy if it is damaged.	 "5.12 Endurance Running Menu" p.5-71  "5.5.4 Sensor Menu" p.5-12
			3. Check "Encoder: PF" from "Test5: Encoder" of self-diagnosis function.	If NG, check the connection of MAIN board Assy connector.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
			4. Check if MAIN Power Board normally supplies DC24V.	Replace the power board Assy if it is damaged.	 "3.4.10 Replacing Power Board Assy" p.3-50
			5. PF motor Assy may be defective.	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
			6. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
5	E066 Err CR Motor	An anomaly is detected in CR motor (Y-axis) during printer operation.	1. Check error history from "Test7: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Move carriage in both directions while the printer is turned off, and check if there is any position where carriage does not move smoothly.	Clean and lubricate CR rail roller guide.	 "7.5 Lubrication/Bonding" p.7-7
			3. Set the number of endurance running cycles to 50 or more from "Life1: CR motor" of self-diagnosis function, and check if "CR motor error" occurs.	- Check the connection of following connectors. MAIN board: - CR motor relay Assy - CR_FFC CR board: - CR_FFC	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "5.5.9 Record Menu" p.5-18  "3.7.4 Replacing CR Board Assy" p.3-101
			4. Check if T fence is contaminated or worn out.	- If grease or dust collect: Wipe fence with a dry cloth. - If ink deposit presents: Wipe it off with cloth dampened with neutral detergent. - If contamination or deposit is too heavy: Replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
			5. Check "Encoder: CR" from "Check: Test" - "Test5: Encoder" of self-diagnosis function.	If NG: - Check the following cable connection: - CR board Assy. - Replace the following parts: - T fence - CR motor Assy - CR board Assy - CR_FFC	 "3.7.4 Replacing CR Board Assy" p.3-101  "3.11.3 Replacing CR_FFC" p.3-154

No.	Message	Symptoms	Check Item	Action	Reference
6	E068 Err CR Encoder	Displayed when there is a big difference between motor command value and feedback from encoder.	1. Check error history from "Test7: Record" of self-diagnosis function.	-	-
			2. Move carriage in both directions while the printer is turned off, and check if there is any position where carriage does not move smoothly.	Clean and lubricate CR rail roller guide.	-
			3. Set the number of endurance running cycles to 50 or more from "Life 1: CR motor" of self-diagnosis function, and check if "Y encoder error" occurs.	- Check the connection of following connectors. MAIN board: - CR motor relay Assy - CR_FFC CR board: - CR_FFC connector	🔗 "3.4.4 Replacing MAIN Board Assy" p.3-42 🔗 "5.12 Endurance Running Menu" p.5-71 🔗 "3.7.4 Replacing CR Board Assy" p.3-101
			4. Check if T fence is contaminated or worn out.	- If grease or dust collect: Wipe fence with a dry cloth. - If ink deposit presents: Wipe it off with cloth dampened with neutral detergent. - If contamination or deposit is too heavy: Replace T fence.	🔗 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
			5. Check "Encoder: CR" from "Check: Test" - "Test5: Encoder" of self-diagnosis function.	If NG: - Check the following cable connection: - CR board Assy connector. - Replace the following parts: - T fence - CR motor Assy - CR board Assy - CR_FFC	🔗 "3.7.4 Replacing CR Board Assy" p.3-101 🔗 "3.11.3 Replacing CR_FFC" p.3-154

No.	Message	Symptoms	Check Item	Action	Reference
7	E070 Err CR Timeout	A timeout is detected in the Head shift amount (Y-axis) during printer operation. Displayed when Carriage has not reached the designated position.	1. Check error history from "Test: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Move carriage in both directions while the printer is turned off, and check if there is any position where carriage does not move smoothly.	Clean and lubricate CR rail roller guide.	 "7.5 Lubrication/Bonding" p.7-7
			3. Set the number of endurance running cycles to 50 or more from "Life1 : CR motor" of self-diagnosis function, and check if "CR time out" occurs.	- Check the connection of following connectors. MAIN board: - CR motor relay Assy - CR_FFC CR board: - CR_FFC connector	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "5.12 Endurance Running Menu" p.5-71  "3.7.4 Replacing CR Board Assy" p.3-101
			4. Check if T fence is contaminated or worn out.	- If grease or dust collect: Wipe fence with a dry cloth. - If ink deposit presents: Wipe it off with cloth dampened with neutral detergent. - If contamination or deposit is too heavy: Replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
			5. Check "Encoder: CR" from "Check: Test" - "Test5: Encoder" of self-diagnosis function.	If NG: a) Check the following cable connection: - CR board Assy connector. b) Replace the following parts: - T fence - CR motor Assy - CR board Assy - CR_FFC	 "3.7.4 Replacing CR Board Assy" p.3-101  "3.11.3 Replacing CR_FFC" p.3-154
			6. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
8	E072 Err CR Current E074 Err CR2 Current E092 Err CR Over Load	An overload condition is detected in CR motor (Y-axis) during printer operation.	1. Check error history from "Test: Record" of self-diagnosis function.	-	 "5.5.9 Record Menu" p.5-18
			2. Move carriage in both directions while the printer is turned off, and check if there is any position where carriage does not move smoothly.	Clean and lubricate CR rail roller guide.	 "7.5 Lubrication/Bonding" p.7-7
			3. Set the number of endurance running cycles to 50 or more from "Life1 : CR motor" of self-diagnosis function, and check if "CR Current" or "CR2 current" occurs.	- Check the connection of the following connectors. MAIN Board Assy : - CR motor relay Assy connector - CR_FFC connectors CR board Assy : - CR_FFC connectors	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "5.12 Endurance Running Menu" p.5-71  "3.7.4 Replacing CR Board Assy" p.3-101
			4. Check if T fence is contaminated or worn out.	- If grease or dust is adhered: Wipe T fence with a dry cloth. - If ink is adhered: Wipe it off lightly with a cloth dampened with neutral detergent. - If contamination or deposit is too heavy: Replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
			5. Check "Encoder: CR" from "Check: Test" - "Test5: Encoder" of self-diagnosis function.	When failed: a) Check the connection of the following locations. - CR board Assy connector b) Replace the following parts. - T Fence - CR Motor Assy - CR Board Assy - CR_FFC	 "3.7.4 Replacing CR Board Assy" p.3-101  "3.11.3 Replacing CR_FFC" p.3-154
9	E081 Err CR Origin	CR_HP cannot be detected.	1. Check CR origin sensor in "Sen.: CR Origin" in the self-diagnosis function. (Check if "ON" is displayed when Carriage is locked and "OFF" is displayed when Carriage is moved.)	Check the connection of CR origin sensor relay Assy connector.	 "5.5.4 Sensor Menu" p.5-12
			2. CR origin sensor may be damaged.	Replace CR origin sensor.	 "3.6.3 Replacing CR_HP sensor" p.3-89
			3. MAIN board Assy may be damaged.	Replace MAIN board Assy	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
10	E075 Err Head cable	An anomaly is detected in Pre heater system (Thermistor, Heater).	Head FFC may be malfunctioning.	1. Check the connection of head FFC. 2. Replace head FFC. 3. Replace print head.	 "3.7.10 Replacing Head FFC" p.3-124  "3.7.6 Replacing Print Head" p.3-106
11	E076 Err Pre heat	An anomaly is detected in Pre heater system (Thermistor, Heater).	1. Thermistor or Heater's connector may be disconnected, wiring may be faulty, or Thermistor cable maybe nipped by plates, or Heater may be damaged.	1. Check the connection of the communication cable. 2. Replace the communication cable. 3. Replace Heater CONT board Assy.	 "Operation Manual"  "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.4.7 Replacing HEATER CONT Board Assy" p.3-46  "3.4.8 Replacing HEATER RELAY Board Assy" p.3-47
12	E076 Err Plt. heat	An anomaly is detected in Platen heater system (Thermistor, Heater).			
13	E078 Err After Heat	An anomaly is detected in After heater system (Thermistor, Heater).			

No.	Message	Symptoms	Check Item	Action	Reference
14	E079 Err Commu.	An anomaly is detected in serial communication between JUNCTION board and controller board during printer operation.	1. The communication cable may be malfunctioning. 2. Heater CONT board Assy may be malfunctioning. 3. F/W on Heater controller board maybe malfunctioning. 4. MAIN board Assy may be malfunctioning.	1. Check the connection of the communication cable. 2. Replace the communication cable. 3. Replace Heater CONT board Assy. 4. Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.4.7 Replacing HEATER CONT Board Assy" p.3-46
15	E080 Err Junction		1. The communication cable may be malfunctioning. 2. F/W on Heater controller board maybe malfunctioning. 3. Junction board may be malfunctioning. 4. Heater controller board may be malfunctioning.	1. Check the connection of the communication cable. 2. Replace the communication cable. 3. Replace Junction Board Assy. 4. Replace Heater CONT board Assy.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4  "3.4.11 Replacing JUNCTION Board Assy" p.3-51  "3.4.7 Replacing HEATER CONT Board Assy" p.3-46
16	E081 Err CR Origin	CR_HP cannot be detected.	1. Check CR origin sensor in “Sen.1: CR Origin” in the self-diagnosis function. (Check if “ON” is displayed when Carriage is locked and “OFF” is displayed when Carriage is moved.) 2. CR origin sensor may be damaged. 3. Replace CR_ORG Sensor Assy. 4. MAIN board Assy may be damaged.	Check connection of CR origin sensor cable Assy connector.	 "3.6.4 Replacing CR Origin Sensor Cable Assy" p.3-90  "3.6.3 Replacing CR_HP sensor" p.3-89  "3.4.4 Replacing MAIN Board Assy" p.3-42
17	E082 Err Wiper Sns.	An anomaly is detected in Wiper sensor.	Wiper sensor Assy and MAIN board Assy may be malfunctioning.	1. Check the connection of the connector of Wiper oriting point sensor relay Assy . 2. Replace Wiper oriting point sensor relay Assy . 3. Replace Wiper oriting sensor Assy . 4. Replace MAIN board Assy .	 "3.8.5 Replacing Wiper Assy" p.3-144  "3.8.6 Replacing Wiper Origin Sensor Cable Assy" p.3-145  "3.4.4 Replacing MAIN Board Assy" p.3-42
18	E085 error Head overheat	Abnormal condition in the head driver.	Print head or head_FFC may be malfunctioning.	1. Replace head_FFC. 2. Replace the print head.	 "3.7.10 Replacing Head FFC" p.3-124  "3.7.6 Replacing Print Head" p.3-106
19	E 087 error Head transistor Th.	Abnormal condition in head transistor.	The temperature of head transistor on MAIN board or thermistor sensor may be malfunctioning.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
20	E090 Err Heater Volt.	Displayed when voltage exceeds the threshold level of 200V start up even though the printer was started with the voltage of 100V on HEATER CONT board Assy .	Input voltage from AC inlet or HEATER CONTROL board Assy may be malfunctioning.	- Connect two power cables(for MAIN and for HEATER) to separate outlets. - Check the connection of HEATER CONT board Assy. - Replace HEATER CONT board Assy .	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46
21	E093 Err Control Ver	Controller F/W may be malfunction.	- Controller F/W version may be malfunction. - HEATER CONT board Assy may be malfunction.	Replace HEATER CONT board Assy.	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46
22	E097 Err NVRAM.	An anomaly is detected in NVRAM.	MAIN board Assy may be malfunctioning.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
23	E140Err Pre heat Th.	An anomaly is detected in Pre Thermistor.	- Thermistor connector may be malfunctioning. - Thermistor may be disconnecting. - HEATER CONT board Assy may be malfunctioning.	- Make sure to connect thermistor connector securely. - Repace Themistor. - Replace HEATER CONT board Assy.	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46  "3.5.6 Replacing Heater Section" p.3-71
24	E141Err Platen heat Th.	An anomaly is detected in Platen Thermistor.			
25	E142Err After heat Th.	An anomaly is detected in After Thermistor.			

No.	Message	Symptoms	Check Item	Action	Reference
26	E144 Err Serial WR	Failure is detected during serial communication writing between MAIN board Assy and CR board Assy .	1. CR FFC’s connection may be faulty or it may be damaged. 2. CR board Assy may be malfunctioning. 3. MAIN board Assy may be malfunctioning.	1. Restart the printer to see if the same error still occurs. 2. Check the connection of CR FFC. 3. Replace CR FFC. 4. Replace CR board Assy . 5. Replace MAIN board Assy .	 "3.11.3 Replacing CR_FFC" p.3-154  "3.7.4 Replacing CR Board Assy" p.3-101  "3.4.4 Replacing MAIN Board Assy" p.3-42
27	E145 Err Serial RD	Failure is detected during serial communication reading between MAIN board Assy and CR board Assy .			
28	E146Err Serial AD Cable1	An anomaly is detected in Serial communication between MAIN board Assy and CR board Assy.			
29	E147Err Serial AD Cable2				
30	E148 Err Serial Comp	A data read in by serial communication between MAIN board Assy and CR board Assy is different from the required one.	1. CR FFC’s connection may be faulty or it may be damaged. 2. CR board Assy may be malfunctioning. 3. MAIN board Assy may be malfunctioning.	1. Restart the printer to see if the same error still occurs 2. Check the connection of CR FFC. 3. Replace CR FFC. 4. Replace CR board Assy . 5. Replace MAIN board Assy .	 "3.11.3 Replacing CR_FFC" p.3-154  "3.7.4 Replacing CR Board Assy" p.3-101  "3.4.4 Replacing MAIN Board Assy" p.3-42
31	E152 Err CR Base Fuse	The power-supply from the printer to Colorimeter may be disconnected.	1. The fuse of CR board Assy may be blown.	1. Replace CR board Assy.	 "3.7.4 Replacing CR Board Assy" p.3-101

2.2.4 Error Messages During File Transmission

This section describes the error messages displayed when sending backup parameters and firmware using dedicated online software, as well as their recovery actions.

Table 2-5 Error Messages During File Transmission (Continued)

No.	Message	Symptoms	Check Item	Action	Reference
1	Transfer failed Data format error	Firmware data format is wrong.	Check if the transferred firmware was the correct file.	After checking, reinstall the firmware.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
2	Transfer failed Aborted by the HOST	The cancel button on the computer is clicked.	-	Retransfer the firmware.	
3	Transfer failed Data timeout	A communication time-out is detected.	Check the connection between the printer and computer.	After solving the problem, retransfer the firmware.	
4	Transfer failed Check-sum error	File checksum error is detected.	-	1. Retransfer the firmware. 2. If this does not solve the problem, check if the transferred firmware was the correct file.	
5	Transfer failed Wrong size xxxxxxx	Received wrong- sized data.	Check if the program file is correct.	After checking, retransfer the data.	
6	Transfer failed Incompatible F/W	Incompatible firmware is detected.	Check if the program file is correct.	After checking, reinstall the firmware.	
7	Transfer failed Flash erase error	ROM erase error is detected.	MAIN Board may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
8	Transfer failed Flash write error	ROM writing error is detected.	MAIN Board may be damaged.		
9	Transfer failed Flash compare error	ROM comparing error is detected.	MAIN Board may be damaged.		
10	Transfer failed Unknown Flash size	FROM with unknown written method is detected.	This should not normally happen. FROM may be damaged.		
11	Internal Error Memory Exhausted	No memory area is available.	This should not normally happen. SODIMM may be damaged.	• Replace SODIMM. • Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

No.	Message	Symptoms	Check Item	Action	Reference
12	Transfer failed Block replay timeout	Block reply timeout is detected during system code transfer.	Check the connection between HEATER CONT board Assy and MAIN board Assy .	• Reconnect HEATER CONTROL board and MAIN board Assy . • Replace the cable connecting HEATER CONT board Assy and MAIN board Assy . • Replace HEATER CONT board Assy. • Replace MAIN board Assy .	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46  "3.4.4 Replacing MAIN Board Assy" p.3-42
13	Transfer failed Block replay error xx	Received invalid value by block reply during system code transfer.			
14	Transfer failed Final reply timeout	Final reply timeout is detected during system code transfer.			
15	Transfer failed Final reply error xx	Received invalid value by final reply during system code transfer.			
16	Boot Transfer failed Opening seq. failed	Opening sequence of boot code transfer failed.	• Check the connection between HEATER CONT board Assy and MAIN board Assy . • Check if the green LED is on HEATER CONT board Assy is on. • Check if the red LED is on HEATER CONT board Assy is blinking.	• Reconnect HEATER CONT board Assy and MAIN board Assy . Or replace the cable connecting HEATER CONT board Assy and MAIN board Assy . • If the green LED is still off after turning on the power, replace HEATER CONT board Assy . • If the red LED is blinking and there is no problem on the connection between HEATER CONT board Assy and MAIN board Assy , reinstall the firmware.	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46  "3.4.4 Replacing MAIN Board Assy" p.3-42  "4.3 Working with MUTOH Service Assistance Software" p.4-4

No.	Message	Symptoms	Check Item	Action	Reference
17	Boot Transfer failed 55-AA Timeout	AA did not reply to the boot code transfer procedure 55.	Check the connection between HEATER CONT board Assy and MAIN board Assy .	• Reconnect HEATER CONT board Assy and MAIN board Assy . • Replace the cable connecting HEATER CONT board Assy and MAIN board Assy . • Replace HEATER CONT board Assy . • Replace MAIN board Assy .	 "3.4.7 Replacing HEATER CONT Board Assy" p.3-46  "3.4.4 Replacing MAIN Board Assy" p.3-42
18	Boot Transfer failed 55-AA reply error xx	xx replied to the boot code transfer procedure 55.			
19	Boot Transfer failed End code xx	Error (xx) replied to the end of boot code transfer.			
20	Boot Transfer failed Echo timeout	An echo of the boot code transfer procedure did not reply.			
21	Boot Transfer failed Echo error xx	An invalid error (xx) of boot code transfer procedure replied.			
22	Internal error Parameter save error	Parameter writing failed.	This should not normally happen. FROM may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
23	Transfer failed Wrong year xxxx	Received wrong year data. (xxxx).	SODIMM or MAIN board Assy may be damaged.	• Replace SODIMM. • Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
24	Transfer failed Wrong month xx	Received wrong month data. (xx).			
25	Transfer failed Wrong day xx	Received wrong date data. (xx).			
26	Transfer failed Wrong hour xx	Received wrong time data. (xx).			
27	Transfer failed Wrong min xx	Received wrong minute data. (xx).			
28	Transfer not ready	Transfer is not available.	Check if the LED display on Operation panel is in standby state in Board manager mode.	Press an arbitrary button on Operation panel to set the panel display in the standby state, and then reinstall.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4

2.3 Troubleshooting Without Error Messages

This section describes the symptoms of errors without an error message as well as the check items and recovery actions.

2.3.1 Initial Operation Problems

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems

No.	Symptoms	Check Item	Action	Reference
1	Printer cannot be turned on	1. Is Power Cable connected?	Connect Power cable securely.	 Operation Manual
		2. Is FFC of Panel unit Assy cut or shorted out?	Replace Panel FFC.	 "3.3.2 Replacing Panel FFC (Panel tape wires)" p.3-22
		3. Panel unit Assy may be damaged.		
		4. Panel unit Assy may be damaged.	Replace Panel unit Assy .	 "3.3.1 Replacing Panel Unit" p.3-21
		5. Inlet Assy may be damaged.	Replace Inlet Assy .	 "3.4.15 Replacing AC Inlet, AC Cable Noise Filter-Fuse Assy, Noise Filter FG_Assy" p.3-58
2	LCD display malfunction	1. Check the connection of Panel FFC connector area on the Panel unit Assy side and MAIN board Assy side. • Is Panel FFC obliquely inserted?	Correctly plug the following connectors again. • Panel FFC	 "3.3.1 Replacing Panel Unit" p.3-21
		2. Panel FFC may be damaged.	Replace Panel FFC.	
		3. Is LCD monitor of Panel unit Assy damaged?	Replace Panel unit Assy .	
		4. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		5. Power board Assy may be damaged.	Replace Power board Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
3	Initial ink charge does not start	1. Is "Maintenance cover open" displayed on LCD monitor while Maintenance cover is closed?	- Check the connection of cover sensor Assy connector. - Replace cover sensor Assy .	 "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
		2. Check panel FFC for proper connection at operation panel unit Assy side and MAIN board Assy side. - Is the panel FFC inserted obliquely? - Is the connector securely locked?	Reconnect following connectors. - MAIN board Assy - Operation panel unit Assy	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		3. Is "Sen: Lever up" displayed on LCD with media set lever lowered?	Adjust lever sensor.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		4. Check MAIN board Assy connectors for proper connection.	- Reconnect the connector. - Replace lever sensor Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		5. Are the following self-diagnosis functions judged as normal when checked with specified cartridge securely inserted? - Presense detection of ink from "Sen: Ink END" - Presense detection of cartridge from "Ink NOT"	- Follow the steps for the message "[KCMY] No Cartridge". - After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "5.10 Parameter Menu" p.5-59
		6. Is specified cartridge status judged as normal when checked through "Sen. : Ink ID" of self-diagnosis function with specified cartridge securely inserted?	After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	
		7. MAIN board Assy may be damaged.	- Replace MAIN board Assy . - After replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
4	Though initial charge has started, ink does not reach head.	Is spring of maintenance Assy detached or damaged?	- If the part is detached, remount it. - If the part is damaged, replace maintenance Assy .	 "3.8.1 Replacing Maintenance Assy" p.3-138
5	Though ink reaches head, ink is not discharged from head.	Is capping position appropriate?	If ink inflow is confirmed, execute initial ink charge.	 Operation Manual

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
6	Ink is not discharged after the initial ink charge is finished.	1. Are the joint screws of the Connector Solenoid Head Assy, ink tube and cartridge pipes (K,C, M,Y) tightly screwed? Is O-ring properly installed?	- Remove the head cover and check the Connector Solenoid Head Assy. - Check the joint screws of ink tubes and cartridge pipes.	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146  "3.7.8 Replacing Ink Tube" p.3-116  "3.7.6 Replacing Print Head" p.3-106
		2. Is there an air leakage from the shield part of the damper Assy?	- Replace Connector Solenoid Head Assy. Check if ink inflows by cleaning operation. - After confirming that the ink inflows, perform the initial ink charge.	 "3.7.7 Replacing Solenoid Head Assy" p.3-111
		3. Is the ink tube inside the maintenance Assy bent?	- Replace maintenance Assy. Check if ink inflows by cleaning operation. - After confirming that the ink inflows, perform the initial ink charge.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		4. Does the pump motor whirl during cleaning operation?	- Reconnect the connectors of MAIN board Assy. - Replace MAIN board Assy.	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		5. Are gears damaged or poorly engaged during cleaning operation?	Replace maintenance Assy.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		6. When cleaning operation is performed, is the transmission gear damaged?		
		7. Are the ink tubes bent, have a cut, or air leakage?	- Replace the damaged ink tube, perform cleaning every time you replace the tube to check if the ink inflows. - After confirming that the ink inflows, perform the initial ink charge.	 "3.7.8 Replacing Ink Tube" p.3-116

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
6	Ink is not discharged after the initial ink charge is finished.	8. Check the connection of the head cable connector area of CR board Assy side and the head side. - Is head FFC inserted obliquely? - Is it locked securely?	Reconnect head FFC to the connector.	 "3.7.6 Replacing Print Head" p.3-106  "3.7.4 Replacing CR Board Assy" p.3-101
		9. Is head FFC broken?	Replace head FFC.	 "3.7.10 Replacing Head FFC" p.3-124
		10. Is print head damaged?	Replace print head.	 "3.7.6 Replacing Print Head" p.3-106
		11. Is CR board Assy damaged?	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
		12. Check the connection of the CR_FFC of CR board Assy side and the MAIN board Assy side. - Is head FFC inserted obliquely? - Is it locked securely?	Reconnect the following connectors: - CR board Assy connector - MAIN board Assy connector	 "3.7.4 Replacing CR Board Assy" p.3-101  "3.4.4 Replacing MAIN Board Assy" p.3-42
		13. Is CR_FFC broken?	Replace CR_FFC.	 "3.11.3 Replacing CR_FFC" p.3-154
7	Machine makes no operations after turned ON.	14. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		1. Is "Cover open" displayed on LCD with printer cover closed? Or, is cover sensor Assy function detected as normal when checked through "Test: Sensor" of self-diagnosis function?	- Check MAIN board Assy connectors J13 and J14. - Replace cover sensor Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
8	After turned ON, machine displays "Initializing" and resets itself.	1. Check the connection of panel FFC of the panel unit Assy side and MAIN board Assy side. - Is panel FFC inserted obliquely? - Is it locked securely?	Reconnect following connectors: - MAIN board Assy : J33 - Panel unit Assy : J1	 "3.4.4 Replacing MAIN Board Assy" p.3-42
9	Machine does not perform initialization even if media is set.	1. Is "Set Paper" displayed on LCD with pressure arm lowered?	- Check MAIN board Assy connector J15. - Replace lever sensor Assy .	 "3.4.11 Replacing JUNCTION Board Assy" p.3-51  "3.6.5 Replacing Lever Sensor" p.3-91

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
10	Machine does not start operation even if front cover is closed.	1. Is media rear sensor Assy judged as normal when checked through "Test: Sensor" of self-diagnosis function? 2. Is front cover sensor Assy judged as normal when checked through "Test: Sensor" of self-diagnosis function?	• Check MAIN board Assy connector J26. • Replace media rear sensor Assy . • Check MAIN board Assy connector: J13, J14 • Replace cover sensor Assy .	 "5.5.4 Sensor Menu" p.5-12  "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.10.2 Replacing P_REAR Sensor" p.3-150  "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
11	Machine does not stop even if front cover is opened.	1. Is front cover sensor Assy judged as normal when checked through "Test: Sensor" of self-diagnosis function?	• Check MAIN board Assy connector J13, J14. • Replace cover sensor sensor Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
		2. Is DC cable Assy connected correctly between power board Assy and MAIN board Assy ?	• Reconnect DC cable Assy . • Replace DC cable Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50  "3.4.4 Replacing MAIN Board Assy" p.3-42
		3. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		4. Power board Assy may be defective.	Replace power board Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50
12	Ink cartridge cannot be detected even if installed.	1. Are the following self-diagnosis functions detected as normal when checked with specified cartridge securely inserted? • Presense detection of ink from "Sen14: Ink END " • Presense detection of cartridge from "Sen.13:Ink NOT"	• Follow the steps for the message "[KCMY] No Cartridge". • After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "5.10 Parameter Menu" p.5-59
		2. Is specified cartridge status detected as normal when checked through "Sen: Ink ID" of self-diagnosis function with specified cartridge securely inserted?	• After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "5.10 Parameter Menu" p.5-59

Table 2-6 Symptoms, Check Items and Actions for Initial Operation Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
13	Operation panel accepts no inputs.	1. Is operation panel cover broken or contaminated?	Replace operation panel cover.	—
		2. Check panel FFC connectors at operation panel unit Assy side and MAIN board Assy side. • Is panel FFC inserted obliquely? • Is it locked securely?	Reconnect following connectors. • MAIN board Assy : J33 • Operation panel unit Assy : J1	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		3. Operation panel unit Assy may be damaged.	Replace panel unit Assy .	 "3.3.1 Replacing Panel Unit" p.3-21
		4. MAIN board Assy may be malfunctioning.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
14	Machine prints nothing though it receives data.	1. Refer to "2.3.6 Online Function Problems" p.2-63 .	—	-

2.3.2 Media Feed Problems

Table 2-7 Symptoms, Check Items and Actions for Media Feed Problems

No.	Symptoms	Check Item	Action	Reference
1	Media comes off during media set initialization or printing.	1. Are P_Rear sensor Assy and P_EDGE sensor Assy detected as normal when checked through "Test: Sensor" of self-diagnosis function?	- Check following connectors. - CR board Assy : J16 - Replace P_Rear sensor Assy and media edge sensor Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.4 Replacing CR Board Assy" p.3-101  "3.10.2 Replacing P_REAR Sensor" p.3-150  "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
2	Media runs obliquely or meanders during media set initialization or printing.	2. Is suction fan run as normal when checked through "Test6: Fan" of self-diagnosis function?	- Check the connection of following MAIN board Assy connectors. - Suction fan relay Assy : J27 - Replace suction fan Assy . - Replace cable of suction fan that does not operate normally.	 "3.10.1 Replacing Adsorption FAN" p.3-149

Table 2-7 Symptoms, Check Items and Actions for Media Feed Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
3	Media wrinkles during media initialization or printing. Media tears during media initialization or printing. Media size is not correctly detected after media initialization.	1. Is suction fan operate normally through "Test6: Fan" of self-diagnosis function?	- Check the connection of following MAIN board Assy connectors. - Suction fan relay Assy : J27 - Replace suction fan Assy . - Replace cable of suction fan that does not operate normally.	 "3.10.1 Replacing Adsorption FAN" p.3-149
4		2. Is shielding material secured at specified position?	Remount it at the specified position.	-
5		3. When pressure lever is moved backward and forward, does pressure Assy move smoothly in synchronization with it?	Lubricate pressure cam.	 "7.5 Lubrication/Bonding" p.7-7
		4. Does pressure roller drag when pressure lever is raised?	If pressure roller collects media dust on itself, wipe dust away using a wet soft cloth.	 Operation Manual
		5. Does media guide have large distortion or foreign objects?	- If media guide collects media dust or other foreign objects on it, remove them. - Replace media guide.	 "3.2.7 Removing Paper Guide R2" p.3-17
		6. When using roll media, are flanges attached correctly?	Insert flanges correctly into core pipe of media roll.	 Operation Manual

Table 2-7 Symptoms, Check Items and Actions for Media Feed Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
6 7	Machine registers wrong media size after media set initialization. Tracing paper and thin paper cannot be detected.	1. Is media in use a recommended one?	Set recommended media and check printout again. With non-authorized media, media sensor may fail to detect media correctly.	 Operation Manual
		2. Is media rear sensor Assy and media edge Assy sensor judged as normal when checked through "Test: Sensor" of printer self-diagnosis?	- Check the connection of following MAIN board Assy connectors. - CR board Assy : J16 - Replace media rear sensor Assy and media edge sensor Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.4 Replacing CR Board Assy" p.3-101  "3.10.2 Replacing P_REAR Sensor" p.3-150  "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		3. Check sensor reflection amount from "Sen: PaperEdge AD" of self-diagnosis function.	Replace media edge sensor Assy .	 "3.7.16 Replacing P_EDGE Sensor Assy" p.3-135  "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		4. Check panel FFC connectors at operation panel unit Assy side and MAIN board Assy side. - Is panel FFC inserted obliquely? - Is it locked securely?	Reconnect following connectors. - MAIN board Assy : J33 - Operation panel unit Assy : J1	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		5. Panel FFC may be damaged.	Replace panel FFC.	 "3.3.2 Replacing Panel FFC (Panel tape wires)" p.3-22
		6. Is operation panel unit Assy LCD damaged?	Replace operation panel unit Assy .	 "3.3.1 Replacing Panel Unit" p.3-21
		7. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

2.3.3 Printing Problems

Table 2-8 Symptoms, Check Items and Actions for Printing Problems

No.	Symptoms	Check Item	Action	Reference
1	Machine cannot print sequentially.	1. Printer driver may be defective.	Update printer driver.	🔗 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		2. Program ROM may be defective.		
		3. MAIN board Assy may be damaged.	Replace MAIN board Assy .	🔗 "3.4.4 Replacing MAIN Board Assy" p.3-42
2	Media feed after printing is excessive.	1. Is media rear sensor Assy judged as normal when checked through "Test: Sensor" of self-diagnosis function?	- Reconnect MAIN board Assy connector J26. - Replace P_REAR sensor .	🔗 "3.4.4 Replacing MAIN Board Assy" p.3-42 🔗 "4.12 Rear/ Edge Sensor Adjustment" p.4-21
		2. Program ROM may be defective.	Update firmware.	🔗 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		3. MAIN board Assy may be damaged.	Replace MAIN board Assy .	🔗 "3.4.4 Replacing MAIN Board Assy" p.3-42
3	Missing dots in printing.	1. Ask the user if daily maintenance is performed.	If daily maintenance is not performed, instruct him/her to do it daily.	🔗 Operation Manual
		2. Is cleaning done adequately?	Perform cleaning twice or more consecutively.	
		3. Is ink caked on wiper?	Wiper Assy may be damaged. Replace it.	🔗 "3.8.5 Replacing Wiper Assy" p.3-144
		4. Is ink filled in the ink tubes?	Perform economy ink charge.	🔗 Operation Manual
		5. Print from "Check: Adjustment" -"Adj: Nozzle Check" of self-diagnosis function.	If the nozzle check patterns are printed correctly, refer to the action in check item No. 4.	🔗 "3.8.5 Replacing Wiper Assy" p.3-144
		6. Does pump motor rotate during cleaning operation?	- Reconnect MAIN board Assy connectors - Replace maintenance Assy . - Replace MAIN board Assy .	🔗 "3.4.4 Replacing MAIN Board Assy" p.3-42 🔗 "3.8.1 Replacing Maintenance Assy" p.3-138
		7. Are gears and transmission gear shaft damaged or poorly engaged during cleaning operation?	Replace maintenance base Assy .	🔗 "3.8.1 Replacing Maintenance Assy" p.3-138

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
4	Nozzle plugging or ink splash is not eliminated even after cleaning.	1. Check the wiper condition.	- Wipe the wiper surface with accessory polynit wiper, and then perform cleaning twice consecutively. - If wiper is sticky with ink, replace it with a new one.	 Operation Manual  "3.8.5 Replacing Wiper Assy" p.3-144
		2. Is nozzle face wiped correctly?	Check wiper installation condition and secure it correctly.	
		3. Is nozzle face wiped/rubbed correctly?	Check wiper installation condition and secure it correctly.	 "5.10 Parameter Menu" p.5-59
		4. Does residual ink collect on print head Assy or in nozzles?	Clean head as follows: - Clean head from "Adj: Clean Head" of printer self-diagnosis. - Perform initial ink charge from "Adj: Input Rank". - Check printouts again.	 "5.7.10 Longstore Menu" p.5-53  "5.10 Parameter Menu" p.5-59
		5. Check if CR encoder Assy and T fence contact with each other.	- If they contact with each other, adjust CR encoder Assy and T fence positions. - If problem remains even after position adjustment, replace CR board Assy and T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		6. Is ink tube in maintenance Assy bent?	- Replace maintenance Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		7. Is print head damaged?	Replace damaged print head.	 "3.7.6 Replacing Print Head" p.3-106
		8. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
5	No printing. Particular color is missing.	1. Check power supply voltage (DC24, DC42V).	-	-
		2. Is spring of maintenance Assy detached or damaged?	- If the part is detached, remount it. - If the part is damaged, replace maintenance Assy.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		3. Is CR_FFC inserted obliquely?	Reconnect MAIN board Assy connectors J7,8,9,10,11 and CR board Assy connectors J1,2,3,4,5.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.4 Replacing CR Board Assy" p.3-101
		4. CR_FFC may be damaged.	Replace CR_FFC Assy.	 "3.11.3 Replacing CR_FFC" p.3-154
		5. Are damper Assy, ink tube and cartridge pipe joint screws (K, C, M, Y) securely tightened? Is O-ring properly installed?	- Check Solenoid Head Assy. - Check ink tube and cartridge pipe joint screws.	 "3.7.6 Replacing Print Head" p.3-106  "3.9.1 Replacing Cartridge Holder Assy" p.3-146
		6. Does shield part of Solenoid Head Assy have air leak?	- Replace Solenoid Head Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	
		7. Is ink tube in maintenance Assy bent?	- Replace maintenance Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		8. Does ink tube have bend, scratch, or leak?	- Replace damaged ink tube and check if cleaning operation causes ink inflow after each replacement. - If ink inflow is confirmed, execute initial ink charge.	 "3.7.8 Replacing Ink Tube" p.3-116

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
5	No printing. Particular color is missing.	9. Are the following self-diagnosis functions detected as normal when checked with specified cartridge securely inserted? - Detection of presence of ink from "Sen: Ink END" - Detection of presence of cartridge from "Ink NOT"	After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "5.10 Parameter Menu" p.5-59
		10. Is ink tube in maintenance Assy bent?	- Replace maintenance Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		11. Does pump motor rotate during cleaning operation?	- Reconnect connector of Pump Motor Assy. - Replace pump. - Replace MAIN board Assy.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.8.1 Replacing Maintenance Assy" p.3-138
		12. When cleaning operation is performed, does transmission gear rotate properly?	Replace maintenance Assy.	 "3.8.1 Replacing Maintenance Assy" p.3-138
		13. When cleaning operation is performed, is transmission gear shaft damaged?		
		14. Check head FFC connectors at CR board Assy side and print head Assy side. - Is head FFC inserted obliquely? - Is it locked securely?	Reconnect head FFC.	 "3.7.6 Replacing Print Head" p.3-106  "3.7.4 Replacing CR Board Assy" p.3-101
		15. Is print head damaged?	Replace damaged print head.	 "3.7.6 Replacing Print Head" p.3-106
		16. CR board Assy may be defective.	Replace CR board Assy.	 "3.7.4 Replacing CR Board Assy" p.3-101
		17. MAIN board Assy may be damaged.	Replace MAIN board Assy.	 "3.4.4 Replacing MAIN Board Assy" p.3-42

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
6	Machine outputs all black printing.	1. Check the connection of head FFC connectors on CR board Assy side and print head side. - Is head cable inserted obliquely? - Is it locked securely?	Reconnect head FFC.	 "3.7.6 Replacing Print Head" p.3-106  "3.7.4 Replacing CR Board Assy" p.3-101
		2. Is CR_FFC inserted obliquely?	Reconnect MAIN board Assy connectors J7,8,9,10,11, and CR board Assy connectors J1,2,3,4,5.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.4 Replacing CR Board Assy" p.3-101
		3. CR_FFC Assy may be damaged.	Replace CR_FFC Assy .	 "3.11.3 Replacing CR_FFC" p.3-154
		4. Is print head damaged?	Replace damaged print head Assy .	 "3.7.6 Replacing Print Head" p.3-106
		5. CR board Assy may be malfunctioning.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
		6. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
7	Blocky printing quality. Blocky image printing. CR line seems dotted. White or black lines appear.	1. Is working environment appropriate?	Use machine under specified environment.	 "9.5 Choosing a Place for the Printer" p.9-4
		2. Have you started printing immediately after initial charge?	Printing just after initial charge may cause following symptoms. - Printed line blurs. - White lines appear. In such cases, perform cleaning two or three times and check printout again. If symptoms remain even after cleaning, leave machine unused for 1 hour or more. Then perform cleaning again and check printout.	 Operation Manual

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
7	Blocky printing quality. Blocky image printing. CR line seems dotted. White or black lines appear.	3. Is suction fan run as normal when checked through "Test6: Fan" of self-diagnosis function?	- Check the connection of following MAIN board Assy connectors. - Suction fan relay Assy : J27 - Replace cable of suction fan Assy that does not operate normally. - Replace suction fan Assy .	 "3.10.1 Replacing Adsorption FAN" p.3-149
		4. Is shielding material secured at specified position?	Remount it at specified position.	
		5. If the media in problem is roll media, does scroller rotate evenly?	Adjust roll holder Assy position. Replace roll holder Assy .	 "3.2.8 Removing Scroller Holder (L, R)" p.3-18
		6. Is PF belt tension adjusted to specification?	Adjust PF reduction belt tension.	 "4.4 X Speed Reduction Belt Tension Adjustment" p.4-5
		7. Check the wiper condition.	- Wipe the wiper surface with accessory polynit wiper, then perform cleaning twice consecutively. - If cleaning wiper is sticky with ink, replace it with a new one.	 Operation Manual
		8. Is nozzle face wiped normally?	Check wiper installation condition and secure it correctly.	 "3.8.5 Replacing Wiper Assy" p.3-144
		9. Is T fence contaminated?	- Clean T fence. - If T fence is still contaminated or damaged, replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		10. Does pressure roller rotate harder when pressure arm is raised?	If pressure roller collects media dust on itself, wipe dust away using a wet soft cloth.	 Operation Manual

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
7	Blocky printing quality. Blocky image printing. CR line seems dotted. White or black lines appear	11. Does pump rotate during cleaning operation?	- Reconnect MAIN board Assy connector J18. - Replace maintenance Assy . - Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.8.1 Replacing Maintenance Assy" p.3-138
		12. When cleaning operation is performed, does transmission gear rotate properly?	Replace maintenance Assy .	 "3.8.1 Replacing Maintenance Assy" p.3-138
		13. Are the screws of maintenance Assy missing or damaged?	- If missing, reinstall them. - If damaged, replace maintenance Assy .	
		14. Is ink tube in maintenance Assy bent?	- Replace maintenance Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	
		15. Is registered head voltage different from actual head voltage?	Enter correct head voltage.	 "5.10 Parameter Menu" p.5-59
		16. Does residual ink collect on head Assy or in nozzles?	Clean head as follows. 1. Clean head through "Adj: Clean Head" of self-diagnosis function. 2. Perform initial charge through "Adjustment: Voltage input". 3. Check plotouts again.	
		17. Is print head damaged?	Replace damaged print head.	
		18. Are the following self-diagnosis functions judged as normal when checked with specified cartridge securely inserted? - Detection of presence of ink from "Sen14: Ink END" - Detection of presence of cartridge from "Sen.13:Ink NOT"	After adjustment/replacement, execute initial ink charge from "Adj: Input Rank" of self-diagnosis function.	 "3.7.6 Replacing Print Head" p.3-106
		19. CR board Assy may be malfunctioning.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
7	Blocky printing quality. Blocky image printing. CR line seems dotted. White or black lines appear.	20. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
8	Printout borders blur.	1. Does purge correct symptom?	Perform purge twice consecutively.	 Operation Manual
		2. Is media in use a recommended one?	Set recommended media and check printout again. With non-authorized media, media sensor may fail to detect media correctly.	 Operation Manual
		3. CR_FFC Assy may be damaged.	Replace CR_FFC Assy wire.	 "3.11.3 Replacing CR_FFC" p.3-154
		4. Is print head damaged?	Replace damaged print head.	 "3.7.6 Replacing Print Head" p.3-106
		5. CR board Assy may be malfunctioning.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
		6. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
9	Many satellites (unnecessary dots) Shaggy plotout Uneven lines (plotted with stains)	1. Is working environment appropriate?	Use machine under specified environment.	 "9.5 Choosing a Place for the Printer" p.9-4

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
9	Many satellites (unnecessary dots) Shaggy plotout Uneven lines (plotted with stains)	2. Is the ink level remained sufficient?	Replace ink cartridge with new one.	☞ Operation Manual
		3. Perform cleaning three times consecutively.	Print out drawing again.	
		4. Perform test printing.	If nozzle check patterns are plotted correctly, refer to step (6)	
		5. Have you started plotout immediately after initial charge?	Be sure to wait 6 hours or more after initial ink charge. Plotout before ink charge stabilization will not provide adequate printing quality.	
		6. Check if CR encoder Assy and T fence contact with each other.	- If they contact with each other, adjust CR encoder Assy and T fence positions. - If problem remains even after position adjustment, replace CR board Assy and T fence.	☞ "3.7.4 Replacing CR Board Assy" p.3-101 ☞ "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		7. Check the wiper condition.	- Wipe the wiper surface with accessory cleaning wiper cleaning cloth dampened with small amount of cleaning liquid. After wiping the wiper, perform cleaning twice consecutively. - If the wiper is sticky with ink, replace it with a new one.	☞ Operation Manual ☞ "3.8.5 Replacing Wiper Assy" p.3-144
		8. Is nozzle face wiped normally?	Check wiper installation condition and secure it correctly.	
		9. Is registered head voltage different from actual head voltage?	Enter correct head voltage.	☞ "5.10 Parameter Menu" p.5-59
		10. Does pump motor rotate during cleaning operation?	- Reconnect MAIN board Assy connector J18. - Replace MAIN board Assy.	☞ "3.4.4 Replacing MAIN Board Assy" p.3-42

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
10	Many satellites (unnecessary dots)	11. When cleaning operation is performed, are gears and transmission gear shaft damaged?	Replace maintenance Assy .	 "3.8.1 Replacing Maintenance Assy" p.3-138
	Shaggy plotout	12. Is the spring of maintenance Assy detached or damaged?	- If the part is detached, remount it. - If the part is damaged, replace maintenance Assy .	
	Uneven lines (plotted with stains)	13. Is ink tube in maintenance Assy bent?	- Replace maintenance Assy and check if cleaning operation causes ink inflow. - If ink inflow is confirmed, execute initial ink charge.	
		14. Does residual ink collect on print head or in the nozzles?	Clean head as follows. 1) Clean head from "Adj: Clean Head" of printer self-diagnosis. 2) Perform initial ink charge from "Adj: Input Rank". 3) Check printouts again.	 "5.7.10 Longstore Menu" p.5-53  "5.10 Parameter Menu" p.5-59
		15. Is print head Assy damaged?	Replace damaged print head Assy .	 "3.7.6 Replacing Print Head" p.3-106
		16. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
10	Mixed color lines are not overlaid.	1. Is registered head voltage different from actual head voltage?	Enter correct head ranks.	 "5.10 Parameter Menu" p.5-59
		2. Is head slant inappropriate?	Adjust head slant.	 "4.7 Head Accuracy Adjustment" p.4-11
		3. Are Bi-Directional printing positions aligned correctly?	Align Bi-Directional printing positions.	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
		4. Is CW adjustment inappropriate?	Perform CW adjustment.	
11	Black and other colors do not align.	1. Check if CR encoder Assy and T fence contact with each other.	- If they contact with each other, adjust CR encoder Assy and T fence positions. - If problem remains even after position adjustment, replace CR board Assy and T fence.	 "3.7.4 Replacing CR Board Assy" p.3-101  "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
12	Poor accuracy of segment length in head travel direction (main scan direction).	1. Is working environment appropriate?	Use machine under specified environment.	 "9.5 Choosing a Place for the Printer" p.9-4
		2. Is T fence contaminated?	- Clean T fence. - If T fence is still contaminated or damaged, replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		3. Internal process of MAIN board Assy may be abnormal.	Initialize parameters and reenter or modify them. Then, check machine operation again.	 "5.10 Parameter Menu" p.5-59
13	Poor linearity in head scan direction (straightness)	1. Is suction fan run as normal when checked through "Test6: Fan" of self-diagnosis function?	- Check the connection of following MAIN board Assy connectors. - Adsorption fan relay Assy : J27 - Replace suction fan Assy . - Replace cable of suction fan that does not operate normally.	"3.10.1 Replacing Adsorption FAN" p.3-149 
		2. Is PF driving pulley loose?	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
		3. Is PF speed reduction belt tension adjusted to specification?	Adjust PF speed reduction belt tension.	 "4.4 X Speed Reduction Belt Tension Adjustment" p.4-5
		4. If the media in problem is roll media, does scroller rotate evenly?	- Adjust roll holder Assy position. - Replace roll holder Assy .	 "3.2.8 Removing Scroller Holder (L, R)" p.3-18
		5. Does pressure roller rotate harder when pressure arm is raised?	If pressure roller collects media dust on itself, wipe dust away using a wet soft cloth.	 Operation Manual

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
14	Poor accuracy of segment length in media feed direction (sub scan direction)	1. Is working environment appropriate?	Use machine under specified environment.	 "9.5 Choosing a Place for the Printer" p.9-4
		2. Have you performed distance correction with media in use?	Perform distance correction.	 "5.7.12 Feed Pitch Check Menu" p.5-55
		3. Is PF driving pulley loose	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
		4. Is PF belt tension adjusted to specification?	Adjust PF speed reduction belt tension.	 "4.4 X Speed Reduction Belt Tension Adjustment" p.4-5
		5. Does pressure roller rotate harder when pressure arm is raised?	If pressure roller collects media dust on itself, wipe dust away using a wet soft cloth.	 Operation Manual
		6. Is rough surface of grid roller partially worn out?	If grid roller is contaminated with media dust, clean roller with a nylon brush.	 Operation Manual
		7. Is grid roller rotation heavy? Does rattling occur when it rotates?		
		8. If the media in problem is roll media, does scroller rotate evenly?	Adjust roll holder Assy position. Replace roll holder Assy . Change media to be used.	 "3.2.8 Removing Scroller Holder (L, R)" p.3-18
15	Poor linearity in media feed direction (media splicing accuracy)	1. Is registered head voltage different from actual head voltage?	Enter correct head voltage.	 "5.10 Parameter Menu" p.5-59
		2. Adjust head slant.	Adjust head slant.	 "4.7 Head Accuracy Adjustment" p.4-11
		3. Are Bi-Directional printing positions aligned correctly?	Align two-way printing positions.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		4. Is T fence contaminated?	Clean T fence. If T fence is still contaminated or damaged, replace T fence.	 "4.7 Head Accuracy Adjustment" p.4-11
		5. Is carriage Assy loose?	Replace carriage Assy .	 "3.7.5 Replacing Carriage Assy" p.3-102

Table 2-8 Symptoms, Check Items and Actions for Printing Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
16	Poor right-angle accuracy	1. Is suction fan judged as normal when checked through "Test6: Fan" of self-diagnosis function?	- Check the connection of following maintenance board Assy connectors. - Suction fan relay Assy : J27 - Replace cable of suction fan that does not operate normally. - Replace suction fan Assy .	 "3.10.1 Replacing Adsorption FAN" p.3-149
		2. Does pressure roller rotate harder when pressure arm is raised?	If pressure roller collects media dust on itself, wipe dust away using a wet soft cloth.	 Operation Manual
		3. Is rough surface of grid roller partially worn out?	If grid roller is contaminated with media dust, clean roller with a nylon brush.	 Operation Manual
		4. Is grid roller rotation heavy? Does rattling occur when it rotates?		

2.3.4 Noise Problems

Table 2-9 Symptoms, Check Items, and Actions for Noise Problems

No.	Symptoms	Check Item	Action	Reference
1	Abnormal noise is heard when media is suctioned.	1. Are there any foreign objects or obstacles around rotating fin of suction fan Assy ?	Remove obstacles and foreign objects.	 "3.10.1 Replacing Adsorption FAN" p.3-149
		2. Check damage of cables and connection of connectors.	If damaged, replace damaged part.	—
		3. Suction fan Assy may be defective.	Replace suction fan Assy .	 "3.10.1 Replacing Adsorption FAN" p.3-149
		4. MAIN board Assy may be malfunctioning.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
		1. Are there any foreign objects or obstacles around rotating fin of suction fan Assy ?	Remove obstacles and foreign objects.	
		2. Power board Assy may be defective.	Replace power board Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50
2	Abnormal noise in waiting mode	1. Are there any foreign objects or obstacles at noise-generating position?	Remove obstacles and foreign objects.	—
		2. Is abnormal noise heard from board?	Replace applicable one of the following board assemblies. • MAIN board Assy • CR board Assy • Print head Assy	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.6 Replacing Print Head" p.3-106  "3.7.4 Replacing CR Board Assy" p.3-101

Table 2-9 Symptoms, Check Items, and Actions for Noise Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
3	Abnormal noise is heard during waiting time	1. Is abnormal noise caused by loose screw in covers?	Additionally tighten screws.	—
		2. Is rattling noise heard when moving carriage laterally?	- Remove dust from carriage bearing and roller strip. - After cleaning roller strip, always apply thin lubricant film over its surface using a grease-sprayed cloth.	 "3.2 Removing Covers" p.3-6
		3. Is abnormal noise heard from CR_FFC?	- Remove twists from CR_FFC. - If abnormal noise sounds from between steel bearer and tube guide, replace tube guide.	—
		4. Is abnormal noise caused by loose screw in covers?	Additionally tighten screws.	 "3.11.3 Replacing CR_FFC" p.3-154
		5. Does the cable connected to CR board Assy on carriage contact with CR cover?	If they contact with each other, adjust the positions of the parts with a problem.	
		6. Check if CR encoder Assy and T fence contact with each other.	If problem remains even after position adjustment, replace parts with a problem.	
		7. Is abnormal noise heard from CR following movement belt pulley bearing?	Replace CR following moving belt pulley pulley.	 "3.6.8 Replacing CR Return Pulley Assy, CR Belt RJ13Assy" p.3-95
		8. Is CR belt tension adjusted to specification?	Adjust CR belt tension.	 "4.6 CR Belt Tension Adjustment" p.4-10
		9. Is abnormal noise heard from CR motor Assy ?	Replace CR motor Assy .	 "3.6.1 Replacing CR Motor Assy" p.3-86
4	Abnormal noise is heard during media feeding.	1. Is PF speed reduction belt slipping between PF speed reduction pulleys?	Replace PF speed reduction belt.	 "3.5.5 Replacing X speed reduction belt 、 Speed reduction Pulley" p.3-67
		2. Is abnormal noise heard from PF motor Assy ?	Replace PF motor Assy .	 "3.5.1 Replace PF Motor Assy" p.3-61
		3. Is rough surface of grid roller partially worn out? 4. Is grid roller rotation heavy? Does rattling occur when it rotates?	If grid roller is contaminated with media dust, clean roller with a nylon brush.	 Operation Manual

Table 2-9 Symptoms, Check Items, and Actions for Noise Problems (Continued)

No.	Symptoms	Check Item	Action	Reference
5	Abnormal noise is heard during media cut.	1. Is cutter cap on upper side of cutter set securely?	Remount cutter cap.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		2. Does cutter move up and down smoothly?	• Remount cutter spring. • Remove foreign objects, if any.	
		3. Are there any foreign objects attached on cutter groove and surface of Platen?	Remove foreign objects.	—
		4. Are Platen cutter groove and cutter blade parallel?	Perform adjustment.	 "4.8 Cutter Holder Height Adjustment" p.4-15
		5. Cutter may be defective.	Replace cutter.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		6. CR board Assy may be defective.	Replace CR board Assy .	 "3.7.4 Replacing CR Board Assy" p.3-101
		7. CR_FFC may be damaged.	Replace CR_FFC.	 "3.11.3 Replacing CR_FFC" p.3-154
		8. Power board Assy may be defective.	Replace power board Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50

2.3.5 Media Cutting Problems

Table 2-10 Symptoms, Check Items, and Actions for Media Cutting Problems

No.	Symptoms	Check Item	Action	Reference
1	Cutting operation is abnormal.	1. Is cutter blade tip chipped off or deteriorated?	Replace cutter.	🔧 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		2. Is cutter cap on upper side of cutter set securely?	Remount cutter cap.	
		3. Does cutter move up and down smoothly?	- Remount cutter spring. - Remove foreign objects, if any.	
		4. Are there any foreign objects attached on cutter groove and surface of Platen part?	Remove foreign objects.	—
		5. Are Platen part cutter groove and cutter blade parallel?	Perform adjustment.	🔧 "4.8 Cutter Holder Height Adjustment" p.4-15
		6. Check cutter up/down operation from "Life: Cutter" of printer self-diagnosis.	Check the connection of following connectors. CR board Assy connectors.	🔧 "3.7.4 Replacing CR Board Assy" p.3-101
		7. Is CR_FFC inserted obliquely?	Check the connection of following connectors. - CR board Assy connector J1,2,3,4,5 - MAIN board Assy connector J7,8,9,10,11	🔧 "3.4.4 Replacing MAIN Board Assy" p.3-42
		8. CR board Assy may be malfunctioning.	Replace CR board Assy .	
		9. MAIN board Assy may be malfunctioning.	Replace MAIN board Assy .	
2	Cutting operation occurs during printing.	1. Printer driver may be defective.	Update printer driver.	🔧 Operation Manual
		2. Program ROM may be defective.	Update firmware.	🔧 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		3. Is CR_FFC inserted obliquely?	Check the connection of following connectors. - CR board Assy connector J1,2,3,4,5 - MAIN board Assy connector J7,8,9,10,11	🔧 "3.7.4 Replacing CR Board Assy" p.3-101 🔧 "3.4.4 Replacing MAIN Board Assy" p.3-42
		4. CR board Assy may be defective.	Replace CR board Assy .	
		5. MAIN board Assy may be defective.	Replace MAIN board Assy .	

Table 2-10 Symptoms, Check Items, and Actions for Media Cutting Problems(Continued)

No.	Symptoms	Check Item	Action	Reference
3	Media cannot be cut in spite of normal cutting operation.	1. Is cutter blade tip chipped off or deteriorated?	Replace cutter.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
4	Media jams due to poor cutting operation.	1. Is cutter cap on upper side of cutter set securely?	Remount cutter cap.	
		2. Does cutter move up and down smoothly?	• Remount cutter spring. • Remove foreign objects, if any.	
		3. Are there any foreign objects attached on cutter groove and surface of Platen?	Remove foreign objects.	
		4. Are Platen cutter groove and cutter blade parallel?	Perform adjustment.	 "4.8 Cutter Holder Height Adjustment" p.4-15
5	Media cannot be cut off in spite of normal cutting operation.	1. Is media guide surface cleaned on a daily basis?	Clean media guide surface.	 Operation Manual
		2. Media guide L or media may have static electricity.	• Perform grounding correctly. • Check humidity of operation environment and set it within specified operation environmental conditions.	
6	Poor accuracy of media cutting	1. Is cutter blade tip chipped off or deteriorated?	Replace cutter.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133
		2. Is cutter cap on upper side of cutter set securely?	Remount cutter cap.	
		3. Does cutter move up and down smoothly?	• Remount cutter spring. • Remove foreign objects, if any.	
		4. Are there any foreign objects attached on cutter groove and surface?	Remove foreign objects.	—
		5. Are cutter groove and cutter blade parallel?	Perform adjustment.	 "4.8 Cutter Holder Height Adjustment" p.4-15
		6. Cutter may be defective.	Replace cutter.	 "3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy" p.3-133

Table 2-10 Symptoms, Check Items, and Actions for Media Cutting Problems(Continued)

No.	Symptoms	Check Item	Action	Reference
7	Cutting operation occurs some time after printing.	1. Can built-in sample printing be output without any problems?	Take actions referring to "5 No printing" in "2.3.3 Printing Problems" p.2-44.	—
8	Blank media is cut.	1. Printer driver may be defective.	Update printer driver.	 Operation Manual
		2. Program ROM may be defective.	Update firmware.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		3. MAIN board Assy may be defective.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

2.3.6 Online Function Problems

Table 2-11 Symptoms, Check Items, and Actions

No.	Symptoms	Check Item	Action	Reference
1	Other functions do not work correctly	1. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
2	Printing position is incorrect	1. Is there a problem with CW adjustment?	Perform adjustment.	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
		2. Is there a problem with P_Edge sensor adjustment?	Perform adjustment.	 "3.7.16 Replacing P_EDGE Sensor Assy" p.3-135
		3. Is P_Edge sensor correctly connected?	Connect it.	
		4. P_Edge sensor may be damaged.	Replace P_Edge sensor.	
		5. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
3	Part of the data is not printed (missing)	1. Firmware on the Main side may be faulty.	Upgrade Firmware on the Main side.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		2. Check if T fence is dirty or twisted.	- When there is grease or dust on it: Wipe it with a dry cloth. - When there is ink on it: Damp a cloth with mild detergent and lightly wipe off the ink. - When it is too dirty and the adhered substance cannot be removed: Replace T fence.	 "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93
		3. Check "Encoder: CR" in "Check3: Test" – "Test5: Encoder" in the self-diagnosis function.	- If NG, check the connection of the connector of CR board Assy . - Replace T fence. - Replace CR motor Assy . - Replace CR board Assy - Replace CR_FFC.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.6.7 Replacing T Fence, T Fence Spring Assy" p.3-93  "3.11.3 Replacing CR_FFC" p.3-154  "3.6.1 Replacing CR Motor Assy" p.3-86  "3.7.4 Replacing CR Board Assy" p.3-101
		4. Main board Assy may be malfunctioned.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
4	Some data or printing results get garbled.	Main board Assy may be malfunctioned.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

Table 2-11 Symptoms, Check Items, and Actions (Continued)

No.	Symptoms	Check Item	Action	Reference
5	Media feed after printout is excessive.	1. Are print start position and layout method set properly?	Update printer driver.	 Operation Manual
		2. Printer driver setting may be unsuitable.	Modify the value to an appropriate value (Media size).	—
		3. Program ROM may be defective.	Update firmware.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		4. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42

2.3.7 Other Problems

Table 2-12 Symptoms, Check Items, and Actions

No.	Symptoms	Check Item	Action	Reference
1	Machine hangs up.	1. Internal process of MAIN board Assy may be abnormal.	Initialize parameters and reenter or modify them.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		2. MAIN board Assy may be damaged.	Replace MAIN board Assy .	 "3.4.4 Replacing MAIN Board Assy" p.3-42
2	Machine power is shut off during printing.	1. Is power cable shorted?	Check by a circuit tester.	—
		2. Is there any electric leakage?	Check for short to chassis ground due to damaged cable insulation.	—
		3. Check power supply voltage (AC100V).	Replace power board Assy .	 "3.4.10 Replacing Power Board Assy" p.3-50
		4. Check power supply voltage (DC5V).		
3	Ink cartridge cannot be inserted.	1. Is the needle of frame Assy deformed or damaged?	Replace frame Assy needle.	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146
		2. Is ink NOT sensor (black resin lever switch) of ink sensor Assy damaged?	Replace ink sensor Assy .	
4	Ink spills out of waste fluid tank.	1. Check if the waste fluid tank is full.	Replace waste fluid tank.	-
		2. Check presence of ink cartridge from "Sen.: Ink NOT" of self-diagnosis function.	Remove all cartridges and lightly push the switch of ink NOT sensor (K, C, M, Y) with something with a flat tip such as ballpoint pen to check that the display of "Sen: Ink NOT" changes.	 "5.5.4 Sensor Menu" p.5-12
		3. Is waste fluid tube coming out of flushing box bent?	Reinstall it.	 "3.8 Replacing Maintenance Section" p.3-138
5	Ink spills out of flushing box.	1. Is flushing box clogged with dust?	- Remove dust. - Replace flushing box Assy .	
		2. Is waste fluid tube coming out of flushing box bent?	Reinstall waste fluid tube.	

Table 2-12 Symptoms, Check Items, and Actions (Continued)

No.	Symptoms	Check Item	Action	Reference
6	Ink spills around X rail.	1. The tubes of flushing box or maintenance Assy may be disconnected.	- Check if the tubes of flushing box or maintenance Assy are disconnected. - Replace maintenance Assy .	 "3.8 Replacing Maintenance Section" p.3-138
		2. Ink tube may be cut.	Replace ink tube.	
		3. Print head, MAIN board Assy and CR board Assy may be defective.	Replace MAIN Board Assy, CR board Assy. After removing ink cartridge, check if each board operates properly.	 "3.4.4 Replacing MAIN Board Assy" p.3-42  "3.7.6 Replacing Print Head" p.3-106  "3.7.4 Replacing CR Board Assy" p.3-101

2.3.8 Problems in Using MUTOH Service Assistance

Table 2-13 Problems in Using Dedicated Network Software

No.	Symptoms	Check Item	Action	Reference
1	MUTOH Service Assistance does not start up	-	Reinstall and perform initial settings.	 Network administration manual
2	"Transfer failed (Data timeout)" is displayed during transfer.	1. Are the printer and computer correctly connected with a LAN cable (when directly connected, use a cross cable and when connected via a hub, use a straight cable)?	Yes: Proceed to (2). No: Connect the printer and computer correctly.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		2. Is the computer's IP address correct?	Yes: Proceed to (3). No: From the computer's network connection settings, use the property of local area connection to adjust the properties of TCP/IP. The computer and printer must have the same sub net addresses (such as 192.168.1.1/24 and 192.168.1.253, etc).	
		3. Does the device connected to the hub have the same IP address as the computer or printer?	Yes: Remove the relevant device from LAN. No: Proceed to (4).	-
		4. Was the printer started in Board manager mode and only Power LED is lit?	Yes: Proceed to (5). No: Start in Board manager mode. If there is nothing displayed on LCD monitor, MAIN board maybe faulty or firmware is not installed (including a power shutdown due to power outage during installation).	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
		5. Is the computer's IP address correct?	Yes : Proceed to (6). No: MAIN board Assy may be faulty.	
		6. Can the computer communicate with other devices via LAN?	Yes: Connect the computer with other devices via LAN cable and check with ping command, etc. No: The computer or MAIN board may be faulty.	-
3	"The main F/W data is incorrect." is displayed during firmware transfer.	Is the firmware data (*.jfl) to be transferred correct?	Transfer the correct firmware data again.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
4	"The main F/W data is incompatible with the printer." is displayed during firmware transfer.	Does the firmware data (*.jfl) to be transferred match the printer model?	Transfer the firmware date (*.jfl) that matches the printer model again.	

Table 2-13 Problems in Using Dedicated Network Software (Continued)

No.	Symptoms	Check Item	Action	Reference
5	"The F/W version cannot be downgraded to the older version." is displayed during firmware transfer.	Is the version of the firmware data (*.jfl) to be transferred older than that of the printer?	Make sure that the version of the firmware data (*.jfl) is newer than that of the printer and transfer it again.	 "4.3 Working with MUTOH Service Assistance Software" p.4-4
6	"The heater controller F/W data is incorrect." is displayed during Heater controller firmware transfer.	Is the Heater controller firmware data (*.mfl) to be transferred correct?	Transfer the correct Heater controller firmware data (*.mfl) again.	
7	"The heater controller F/W data is incompatible with the heater controller of the printer." is displayed during Heater controller firmware transfer.	Does the firmware data (*.mfl) to be transferred match the printer model?	Transfer Heater controller firmware data (*.mfl) that matches the printer model again.	

3 Parts Replacement

3.1 Introduction 3- 5

3.2 Removing Covers..... 3- 6

3.2.1 Removing I/H Cover 3-7

3.2.2 Remove Side Cover R 3-8

3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder3-11

3.2.4 Removing Front Cover and Replacing Front Cover Holder3-13

3.2.5 Removing Paper Guide F(Upper) 3-14

3.2.6 Removing Top Cover 3-16

3.2.7 Removing Paper Guide R2 3-17

3.2.8 Removing Scroller Holder (L, R) 3-18

3.2.9 Assembling of Scroller Holder L and R 3-19

3.3 Replacing Cover Peripherals 3- 21

3.3.1 Replacing Panel Unit..... 3-21

3.3.2 Replacing Panel FFC (Panel tape wires) 3-22

3.3.3 Replacing Cover Switch Assy、Sensor Cover L Assy, Sensor Cover R Assy3-25

3.3.4 Replacing Cover L Cable Assy..... 3-32

3.3.5 Replacing Cover R Cable Assy 3-35

3.4 Replacing Board Base 3- 36

3.4.1 Removing Connector Panel..... 3-37

3.4.2 Replacing Cooling FAN 24V Assy (For MAIN Board)3-38

3.4.3 Removing MAIN Board Bracket..... 3-39

3.4.4 Replacing MAIN Board Assy 3-42

3.4.5 Replacing SODIMM..... 3-43

3.4.6 Removing Controller Board Bracket..... 3-44

3.4.7 Replacing HEATER CONT Board Assy 3-46

3.4.8 Replacing HEATER RELAY Board Assy..... 3-47

3.4.9 Remove Power Board Bracket 3-48

3.4.10 Replacing Power Board Assy 3-50

3.4.11 Replacing JUNCTION Board Assy..... 3-51

3.4.12 Replacing JUNC_FFC 3-53

3.4.13 Replace JUNC_ID Cable Assy 3-55

3.4.14 Cooling FAN (24V) Assy、Cooling Fan Cable Assy3-56

3.4.15 Replacing AC Inlet、 AC Cable Noise Filter-Fuse Assy、 Noise Filter FG_Assy	3-58	3.6.7 Replacing T Fence, T Fence Spring Assy	3-93
3.4.16 Other Cable Assy and Serial Cable Assy	3-59	3.6.8 Replacing CR Return Pulley Assy, CR Belt RJ13Assy	3-95
3.4.17 Replace Power Cable CNT-RLY Assy	3-60	3.6.9 Replacing Pressure roller Arm Assy	3-97
3.5 Replacement of PF Driving Section Components... 3- 61		3.7 Replacing Carriage Peripherals 3- 98	
3.5.1 Replace PF Motor Assy	3-61	3.7.1 How To Release Carriage Lock.....	3-98
3.5.2 Replacing PF Motor Relay Assy	3-64	3.7.2 Removing Carriage Cover	3-99
3.5.3 Replacing PF Encoder Assy	3-65	3.7.3 Removing CR Board Cover	3-100
3.5.4 Replacing PF Encoder Scale	3-66	3.7.4 Replacing CR Board Assy	3-101
3.5.5 Replacing X speed reduction belt 、 Speed reduction Pulley	3-67	3.7.5 Replacing Carriage Assy	3-102
3.5.6 Replacing Heater Section	3-71	3.7.6 Replacing Print Head.....	3-106
3.6 Replacing CR Driving Section Components..... 3- 86		3.7.7 Replacing Solenoid Head Assy	3-111
3.6.1 Replacing CR Motor Assy	3-86	3.7.8 Replacing Ink Tube.....	3-116
3.6.2 Replacing CR Motor Cable Assy.....	3-88	3.7.9 Replacing Y Fitting	3-123
3.6.3 Replacing CR_HP sensor	3-89	3.7.10 Replacing Head FFC	3-124
3.6.4 Replacing CR Origin Sensor Cable Assy.....	3-90	3.7.11 Replacing Cutter Solenoid Cable Assy.....	3-125
3.6.5 Replacing Lever Sensor	3-91	3.7.12 Replacing CR Encoder Assy	3-126
3.6.6 Replacing Lever Sensor Cable Assy.....	3-92	3.7.13 Replacing Photometer JUNCTION Board Assy	3-128

3.7.14 Removing Cutter Holder.....	3-131	3.10.3 Replacing Lock Arm Assy, Lock Arm Spring Assy, Arm Axis Assy	3-151
3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy	3-133	3.11 Replacing Cable Guide Section Components	3- 152
3.7.16 Replacing P_EDGE Sensor Assy	3-135	3.11.1 Replacing Tube Fixing Clamp	3-152
3.7.17 Replacing Head FG_Assy.....	3-137	3.11.2 Replace Steel Bare.....	3-153
3.8 Replacing Maintenance Section	3- 138	3.11.3 Replacing CR_FFC	3-154
3.8.1 Replacing Maintenance Assy.....	3-138	3.11.4 Replace Valve Solenoid (Exploded View CR Assy2)	3-158
3.8.2 Replacing PumpMotor Relay Assy.....	3-141	3.11.5 Replace Solenoid Tube Assy	3-160
3.8.3 Replacing Cap Head Assy	3-142	3.12 Replacing Accessory Unit	3- 161
3.8.4 Replacing Waste Fluid Sensor Cable Assy...	3-143	3.12.1 Replacing Waste Fluid Level Switch ,Waste Fluid Bottle Assy	3-161
3.8.5 Replacing Wiper Assy	3-144	3.13 Replacing Take-Up Unit (Option)	3- 162
3.8.6 Replacing Wiper Origin Sensor Cable Assy....	3-145	3.13.1 Removing Tension Arm.....	3-162
3.9 Replacing Ink Supply Section Components	3- 146	3.13.2 Removing Take-Up Unit	3-164
3.9.1 Replacing Cartridge Holder Assy	3-146	3.13.3 Removing Take-Up Unit Cover.....	3-165
3.9.2 Replacing Ink ID Board Assy、 Pressure Roller Holder Spring Assy	3-148	3.13.4 Replacing Scroller	3-166
3.10 Replacement of Frame Section Components.....	3- 149	3.13.5 Replacing Take-Up Unit Control Board Assy ..	3-169
3.10.1 Replacing Adsorption FAN.....	3-149	3.13.6 Replacing Take-Up ON Sensor and Take-Up OFF Sensor	3-176
3.10.2 Replacing P_REAR Sensor	3-150		

3.13.7 Replacing Peripheral Devices of VJ Take-Up Unit	
Motor Assy	3-179

3.1 Introduction

This chapter provides information on removal and replacement of service parts.



WARNING

- Before starting part replacement, always perform the following operations.
- Turn OFF machine power.
- Remove Power plug from outlet.
Otherwise, you may suffer electric shock or system circuit may be damaged.
- Remove any Cables connected to the printer.
Otherwise, the printer may be damaged.



CAUTION

Components in the printer can be disassembled only if so instructed in this manual. Do not disassemble frame components and other components that are not instructed to disassemble in the manual.

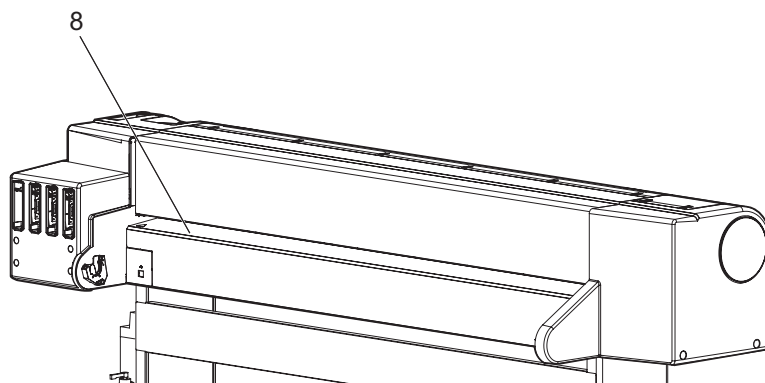
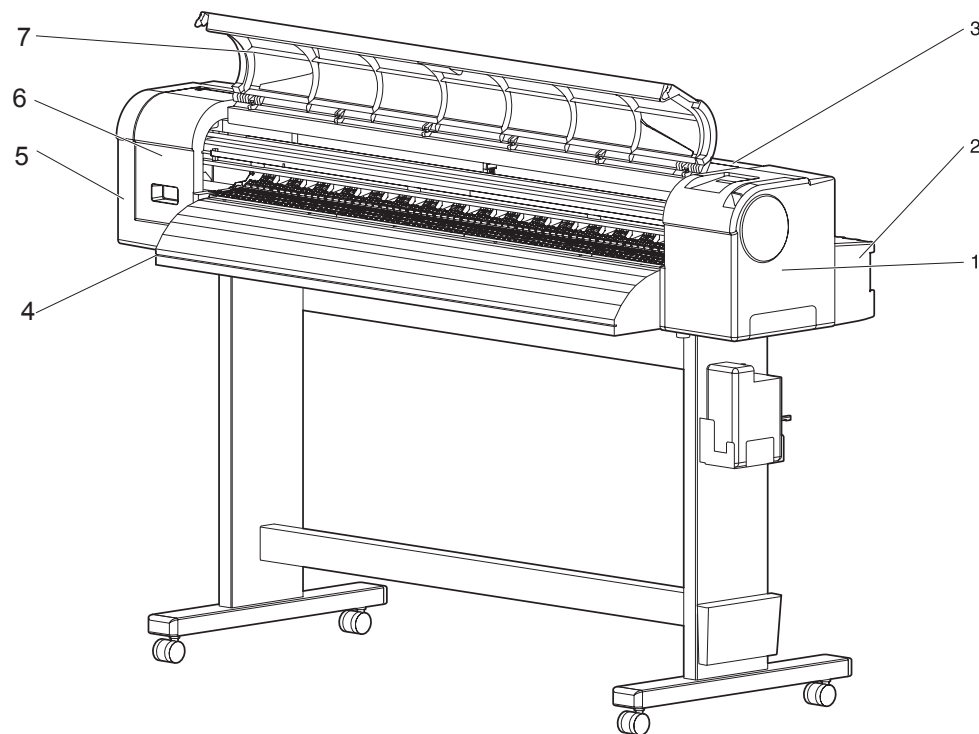
The printer has been assembled in MUTOH factory with extremely high precision up to 1/100mm. If disassembled inappropriately, it may not restore its normal functionality.

NOTE

- After replacing any service parts, perform necessary lubrication and bonding the following instructions in section **"7.5 Lubrication/Bonding" p.7-7**.
- The pictures and illustrations of the disassembly procedure are still under development. The specification of the parts that are not directly related to the procedure may not be up-to-date.

3.2 Removing Covers

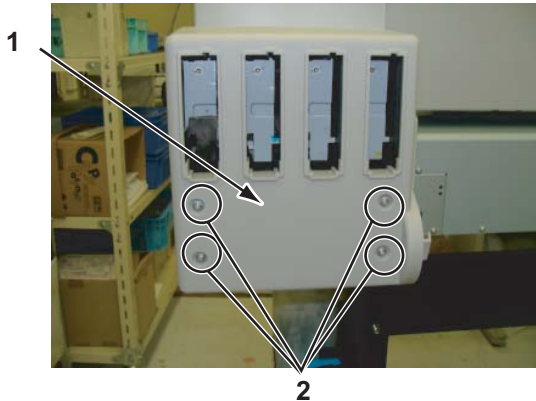
This section describes the procedures to replace Covers.
Followings describe the list of Cover parts.



No.	Name
1	Side Cover R
2	I/H Cover
3	Top Cover
4	Paper Guide F(Upper)
5	Side Cover L
6	Maintenance Cover
7	Front Cover
8	Paper Guide R2

3.2.1 Removing I/H Cover

- 1. Remove Ink Cartridges.
- 2. Remove Screws (4 piece) retaining Back side of I/H Cover.

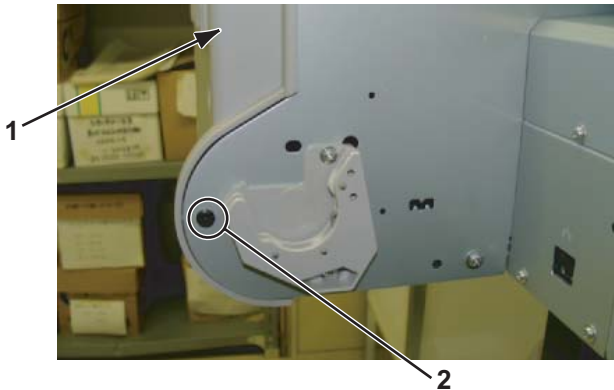


No.	Name
1	I/H Cover
2	Tapping screwM4 × 12 P Tight Bind Black

- 4. Remove I/H Cover.
- 5. To reassemble unit, reverse the removal procedure.

No.	Name
1	I/H Cover
2	Tapping screwM4 × 8 S Tight cup

- 3. Remove Screws retaining side of I/H Cover (Scroller holder side:1 piece).



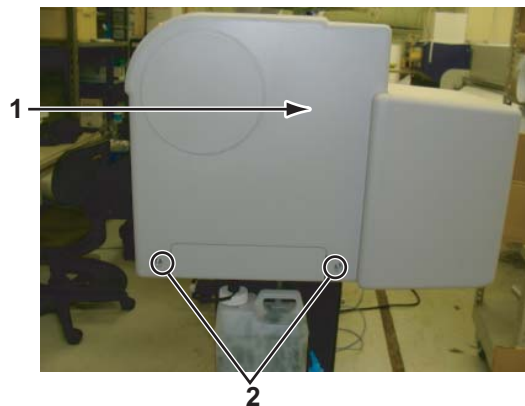
3.2.2 Remove Side Cover R

1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Move pressure lever to the UP status.
3. Remove the screw (1 piece) retaining pressure lever cap.



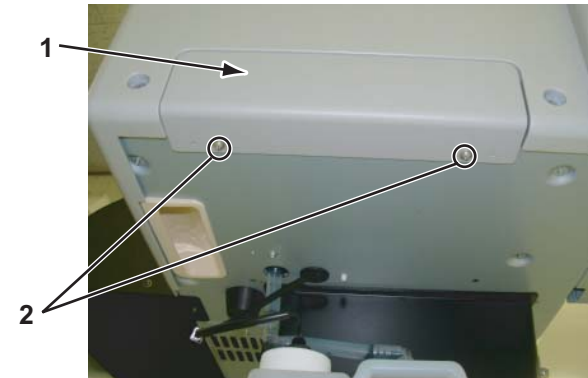
No.	Name
1	Pressure lever cap
2	M4 × 10, P tight binding

4. Remove the screws (2 pieces) on the out side of side cover R.



No.	Name
1	Side Cover
2	Tapping screw M4 × 8, S tight cup

5. Remove Screws (2 pieces) retaining Waste Fluid Cover.



No.	Name
1	Waste fluid Cover
2	Tapping screw M3 × 6 S Tight cup

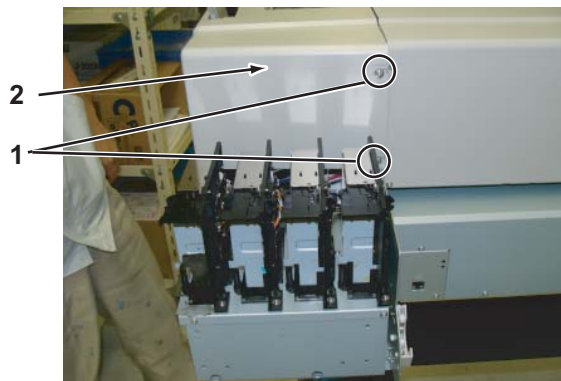
6. Remove Waste Fluid Cover.
7. Open Front Cover.

8. Remove screw (2 pieces) retaining inside of Side Cover R.



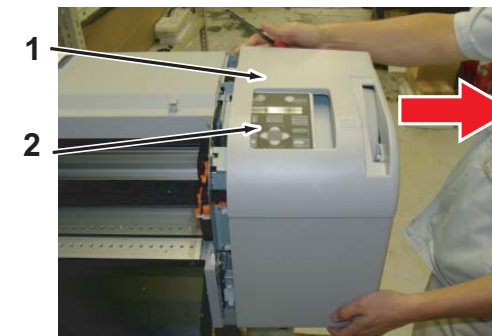
No.	Name
1	Side Cover R
2	Tapping screwM4 × 12 P Tight bind Black

9. Remove screws (2pieces) retaining back side of Side Cover R.



No.	Name
1	Tapping screwM4 × 12 S Tight cup
2	Side Cover R

10. Return pressure lever to the Down status and remove side cover R to the right direction (shown with a red arrow in the figure).



No.	Name
1	Side Cover R
2	Panel Unit Assy

NOTE

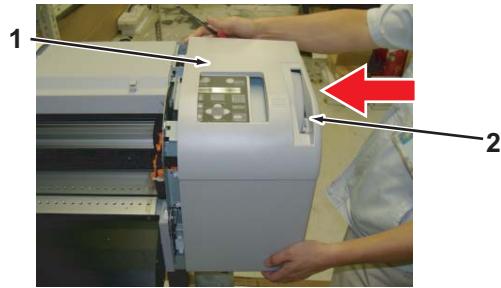
When removing side cover R, the switches on panel unit Assy may be stuck. To avoid this, lift up the side cover R from the switches.

Also, in case pressure lever is stuck, remove side cover R to the right direction slowly. The pressure lever's material is elastic, therefore it is laterally distortion-resistant to an extent.

To install, follow the steps below.

11. Make sure that pressure lever is in the Down status.

12. Assemble Side Cover R.



No.	Name
1	Pressure lever
2	Slit of Pressure lever

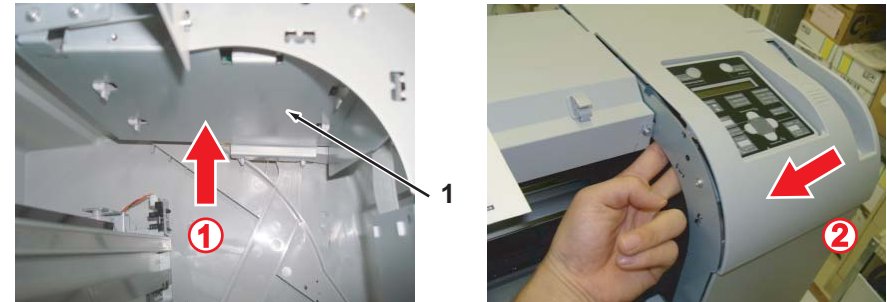
NOTE

- While bending pressure lever to the right with your left hand, place the tip of pressure lever through the slit on side cover R.
- At this stage, there is a gap between panel unit Assy and side cover R. To get rid of this gap, proceed to the step 13.



Gap

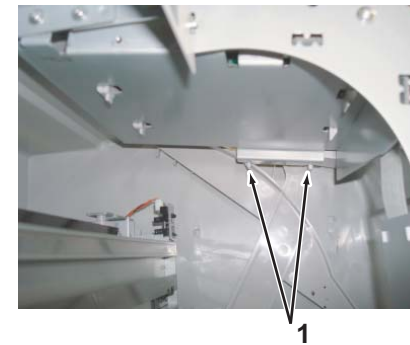
13. While pushing up panel unit Assy from the bottom (red arrow 1), push side cover R further to the left direction (red arrow 2), and mount side cover R completely.



No.	Name
1	Panel unit Assy (bottom)

NOTE

If you try to mount side cover R without pushing up the panel unit Assy, side cover R tabs shown in the next figure may break.

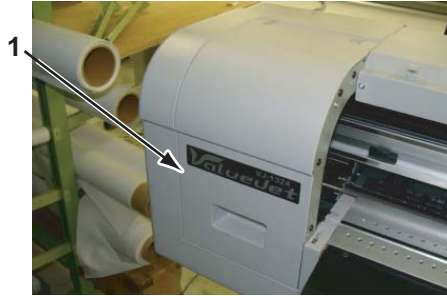


No.	Name
1	Side cover R tabs

14. To reassemble unit, reverse the removal procedure.

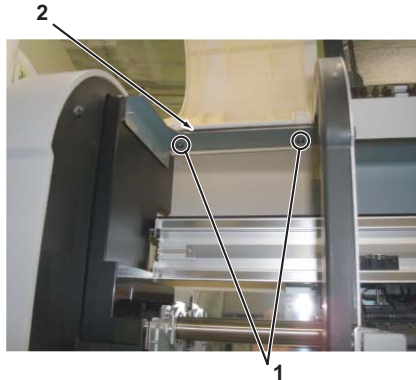
3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder

1. Open Front Cover.
2. Open Maintenance Cover.



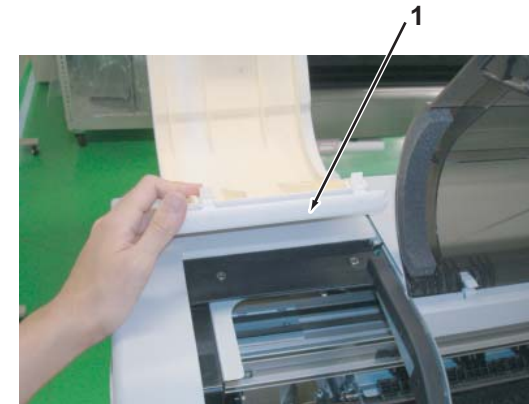
No.	Name
1	Maintenance Cover

3. Remove the screws (2 pieces) retaining Maintenance cover holder using an offset ratchet driver.



No.	Name
1	Tapping screw M4 × 12 P Tight binding
2	Maintenance cover holder

4. Remove maintenance cover holder.
When removing side cover L only, proceed to the step 7.



No.	Name
1	Maintenance cover holder

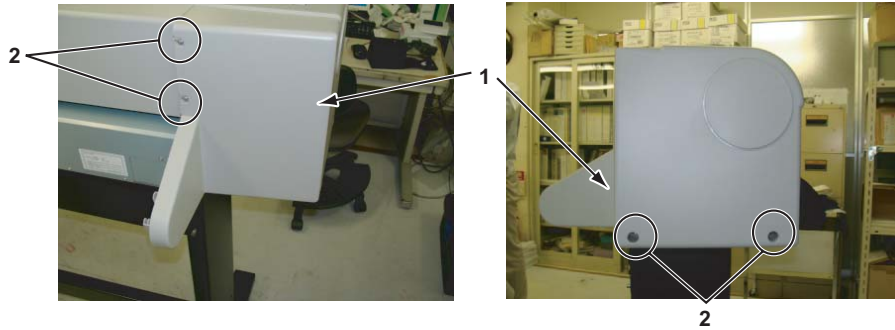
5. Remove the maintenance cover from the maintenance cover holder.

NOTE

Also Removing Maintenance cover holder spacer. (Exploded View Cover Assy : H-61)
Make sure to assemble (or replace) it.

6. Replace the maintenance cover holder.

7. Remove the screws (2 pieces) on the rear side of side cover.
8. Remove the screws (2 pieces) on the right side of side cover.
9. Removing Scroller L.
 **"3.2.8 Removing Scroller Holder (L, R)" p.3-18**
10. Remove the screw (1 piece) on scroller holder side.



No.	Name
1	Side Cover L
2	Tapping screwM4 × 8 S Tight cup
3	Tapping screwM4 × 12 P Tight binding

11. Remove Side Cover L.
12. To reassemble unit, reverse the removal procedure.

NOTE

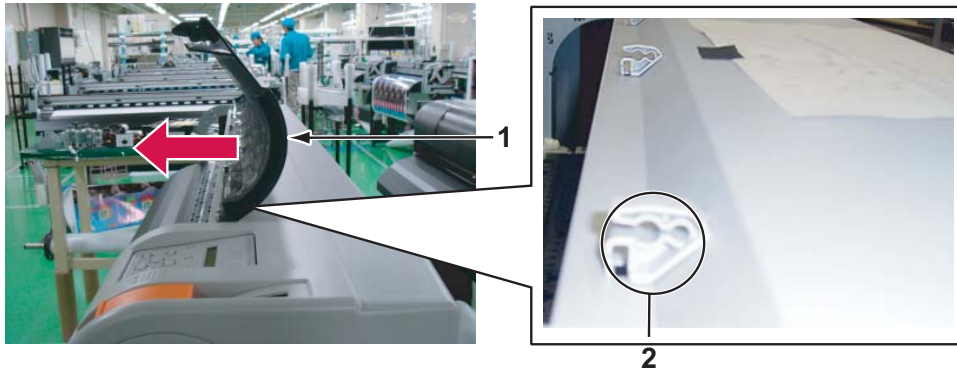
As shown in the next figure, mount side cover L so as the frame goes between the convex of side cover L and maintenance cover holder.



No.	Name
1	Convex of side cover L
2	Maintenance Cover Holder
3	Frame

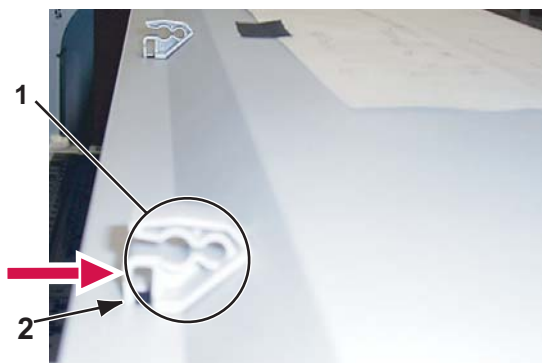
3.2.4 Removing Front Cover and Replacing Front Cover Holder

1. Open Front Cover.
2. Remove front cover by pulling it toward the direction of the arrow shown below.



No.	Name
1	Front cover
2	Front cover holder

3. Unhook and remove the front cover holder by pushing it toward the direction of the arrow shown below and remove.



No.	Name
1	Front cover holder

No.	Name
2	Front cover holder hook

4. Replace front cover holder.

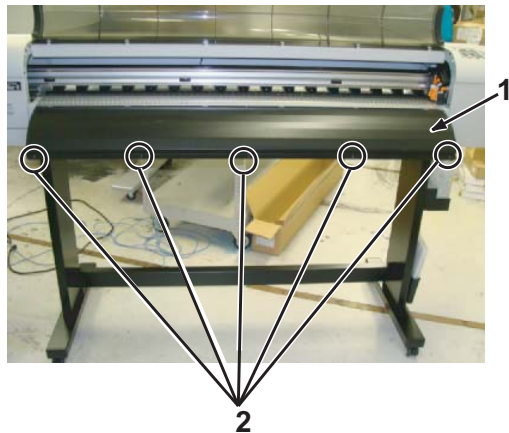
NOTE

Do not remove front cover by force. It may damage or deform the resin.

5. To reassemble unit, reverse the removal procedure.

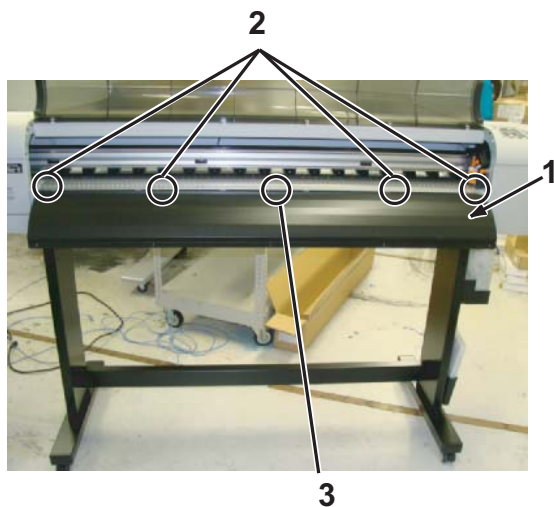
3.2.5 Removing Paper Guide F(Upper)

6. Remove the screws (5 pieces) retaining the front side of the paper guide F



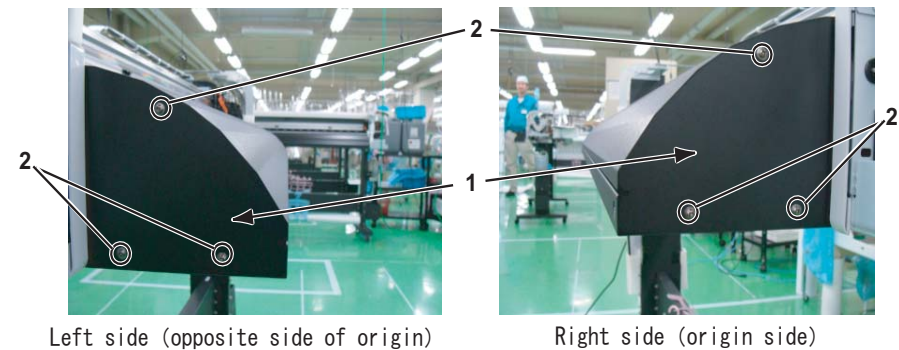
No.	Name
1	Paper Guide F (upper)
2	Cup screw M3 × 6 Ni-3bk

7. Remove the screws (5 pieces) retaining the front side of the paper guide F (Upper).



No.	Name
1	Paper Guide F (upper)
2	Platen fixing screw NX
3	Cup screw M3 × 6Ni-3bk

8. Remove the screws (3pieces each side) retaining the paper guide F right side covers.



No.	Name
1	Paper Guide F right Cover
2	Cup screw M3 × 6

9. Remove Paper Guide F (upper).

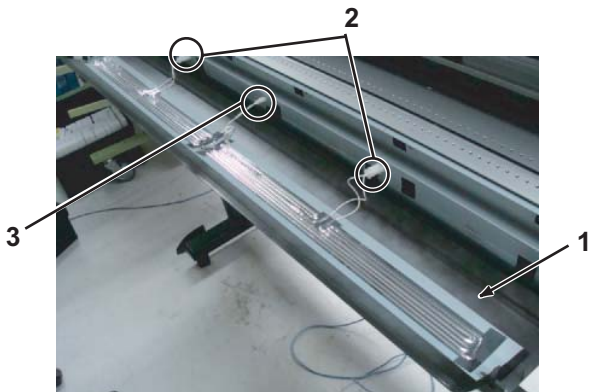


No.	Name
1	Paper Guide F (upper)

NOTE

Make sure not to tuck the cables into Front cover F (Upper), when assembling.

10. Remove connectors of After Heater and the connector of After Heater Thermistor.

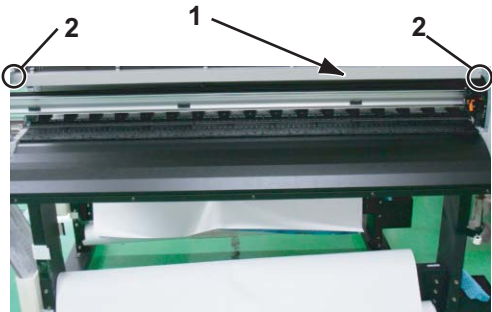


No.	Name
1	Paper Guide F (upper)
2	Connector of After Heater
3	Connector of After Heater thermistor

11. To reassemble the unit, reverse the removal procedure.

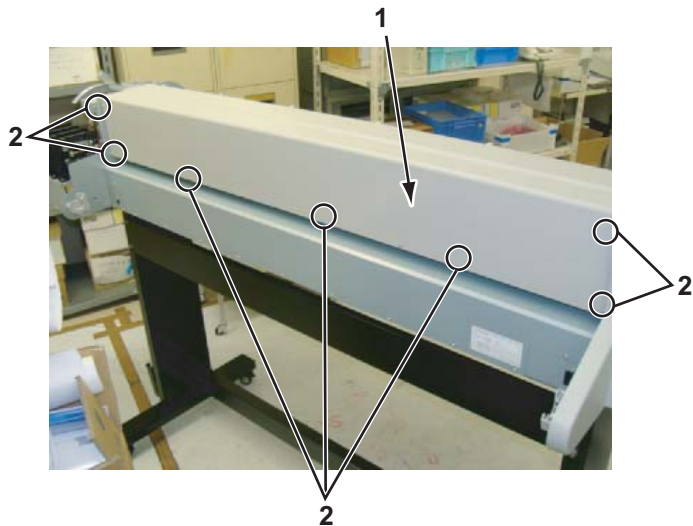
3.2.6 Removing Top Cover

- 1. Remove Front Cover.
👉 "3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13
- 2. Remove the screw (2 pieces) retaining the front side of top cover.



No.	Name
1	Top Cover
2	Pan-head screw with spring washer and flat washerM3 × 5

- 3. Remove the screws (7 pieces) retaining the rear side of top cover.

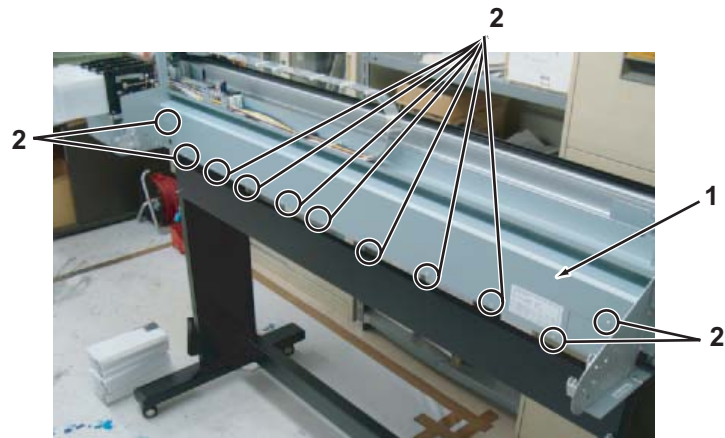


No.	Name
1	Top Cover
2	Pan-head screw with spring washer and flat washerM3 × 5

- 4. Remove Top Cover.
- 5. To reassemble unit, reverse the removal procedure.

3.2.7 Removing Paper Guide R2

1. Remove the screws (11 pieces) retaining media guide R2.

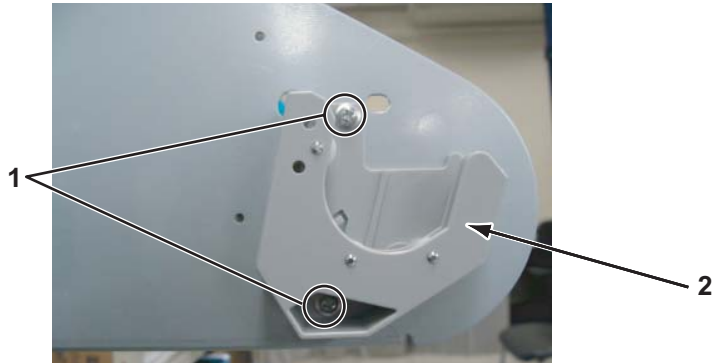


No.	Name
1	Paper Guide R2
2	Tapping screw M3 × 6 S Tight cup

2. Remove media guide R2 by pulling it backward.
3. To reassemble unit, reverse the removal procedure.

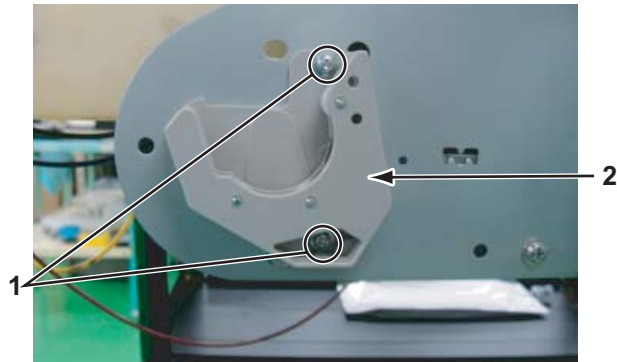
3.2.8 Removing Scroller Holder (L, R)

1. Remove the screws (2 pieces) retaining scroller holder L.



No.	Name
1	Tapping screw M3 × 6 S Tight cup
2	Scroller holder L

2. Remove scroller holder L.
3. Remove the screws (2 pieces) retaining scroller holder R.



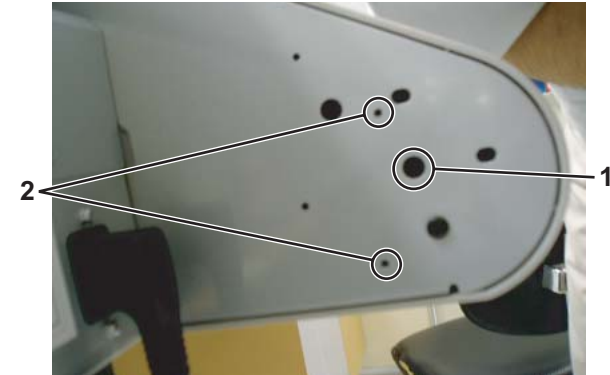
No.	Name
1	Tapping screw M3 × 6 S Tight cup
2	Scroller holder R

4. Remove scroller holder R.

5. To reassemble unit, reverse the removal procedure.

NOTE

There are two holes to mount scroller holder on frame side. The mounting holes are shown on the right of illustration below. Make sure to mount the part on the appropriate position.



No.	Name
1	Mounting hole for scroller holder
2	Screw holes to fix scroller holder

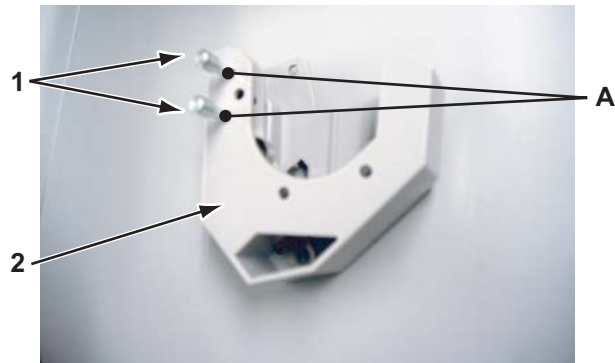
3.2.9 Assembling of Scroller Holder L and R

NOTE

Before assembling scroller holder, remove the following part.

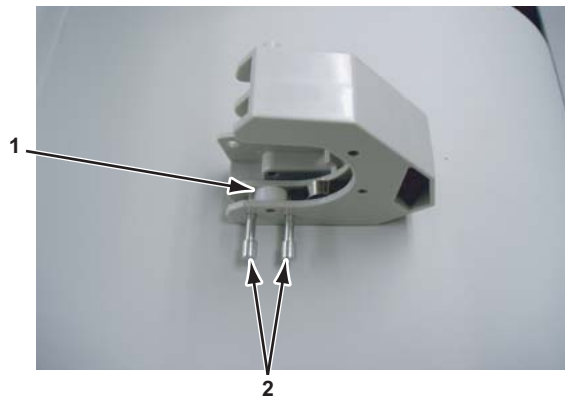
- Scroller holder:  **"3.2.8 Removing Scroller Holder (L, R)" p.3-18**

- Mount position adjustment scroller roller shafts R (2 pieces) to the part A shown below of scroller holder L (or R). Make sure that the parts' facing direction are the same in the figure below.



No.	Name
1	Scroller roller shaft L
2	Scroller holder L

- Place scroller holder roller on scroller roller shafts R.

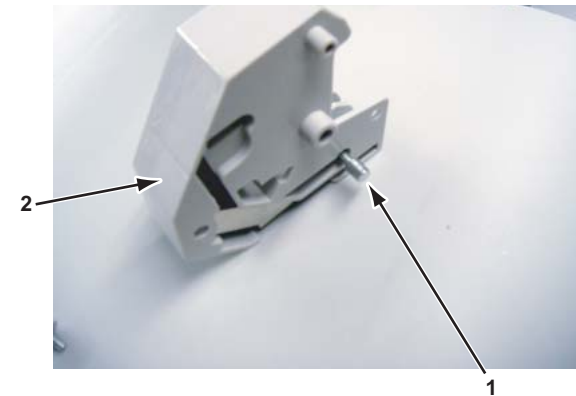


No.	Name
1	Scroller holder roller
2	Scroller roller shaft R

NOTE

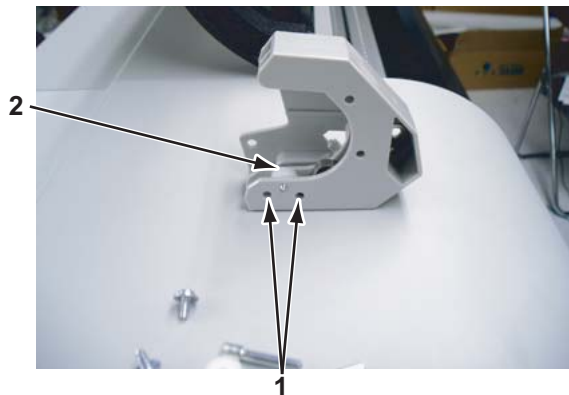
Scroller roller shaft R is easy-to-fall. Do not let the shaft to fall by pressing or slanting it with a finger.

- From the other side of scroller holder L (or R), insert scroller roller shaft L (or R) and fix scroller holder roller set in step 2.



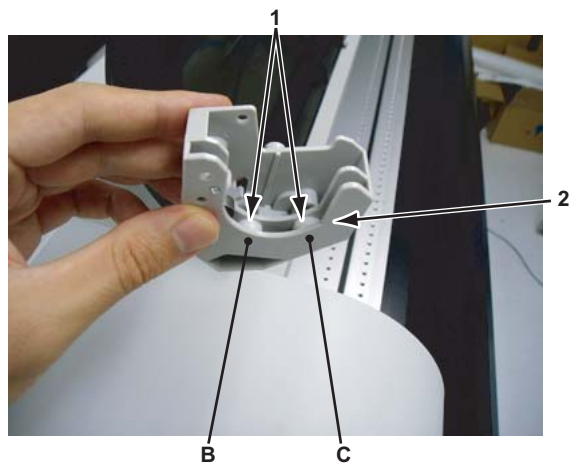
No.	Name
1	Scroller roller shaft L
2	Scroller holder L

4. Remove position adjustment scroller roller shaft R set in step 1.



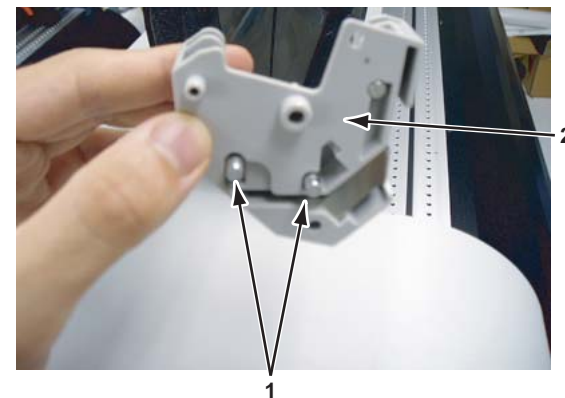
No.	Name
1	Remove the scroller roller shaft R in this position.
2	Mounted scroller holder roller

5. Set scroller holder roller to the position B and C in the figure below. Make sure to set on the appropriate position of the scroller holder R (or L).



No.	Name
1	Scroller holder rollers
2	Scroller holder R

6. From the other side of scroller holder R (or L), insert scroller roller shaft R and fix scroller holder roller.



No.	Name
1	Scroller roller shaft R
2	Scroller holder R

3.3 Replacing Cover Peripherals

This section describes the procedures to replace cover peripherals.

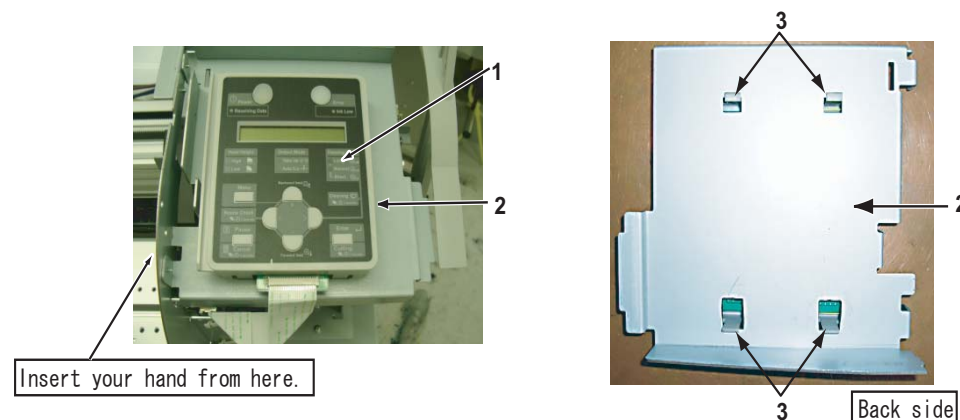
3.3.1 Replacing Panel Unit

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Move the Carriage to the opposite side of origin.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
4. Remove Panel FFC from Panel unit.

CAUTION

- Before replacing panel unit, make sure to unplug Power cable. There may be a risk of electric shock by residual electrical charge.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

5. Release Panel unit back tabs (4 pieces) from Panel stay.



No.	Name
1	Panel unit
2	Panel stay
3	Tabs retaining panel unit

6. Replace Panel unit.
7. To reassemble unit, reverse the removal procedure.

3.3.2 Replacing Panel FFC (Panel tape wires)

CAUTION

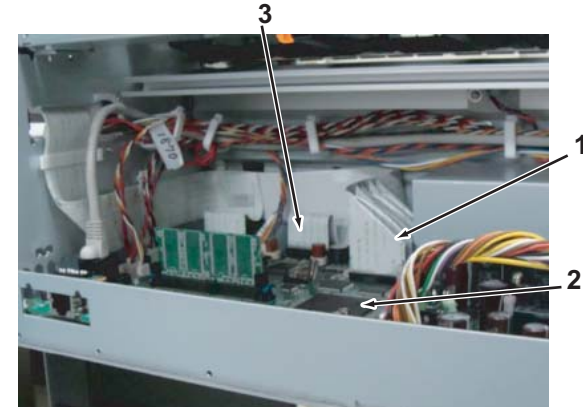
- Before replacing Board Assy and pulling or pushing FFC type cables, unplug Power cable and leave it for a while.
If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by residual electric charge.
- When you handle Circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Make sure to plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

TIP

Replacing Procedure For Maintenance Part:Panel Cable Assy.
This part will be referred to as the Panel FFC in this manual.

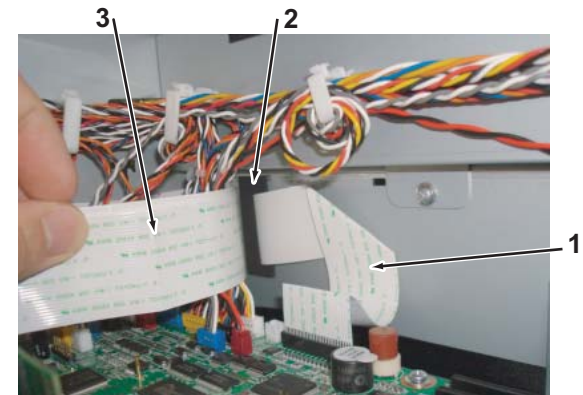
1. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
4. Remove Connector Panel.
🔧 ["3.4.1 Removing Connector Panel" p.3-37](#)

5. Remove CR_FFC (5 pieces) from MAIN board Assy (J7,J8,J9, J10, J11).



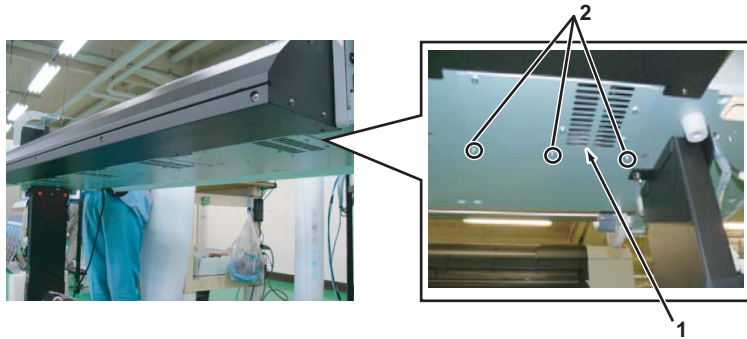
No.	Name
1	CR_FFC
2	MAIN BoardAssy
3	Panel_FFC

6. Remove panel FFC (1 piece) from MAIN board Assy (J5).



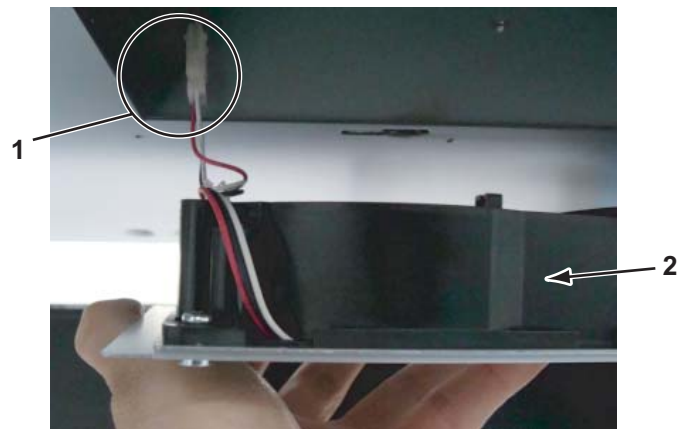
No.	Name
1	Panel FFC
2	Rubber bush
3	CR_FFC

7. Remove the screws (3 pieces) retaining the Adsorption FAN mounting plate.



No.	Name
1	Adsorption FAN mounting plate
2	Tapping screw M3 × 6 S Tight cup

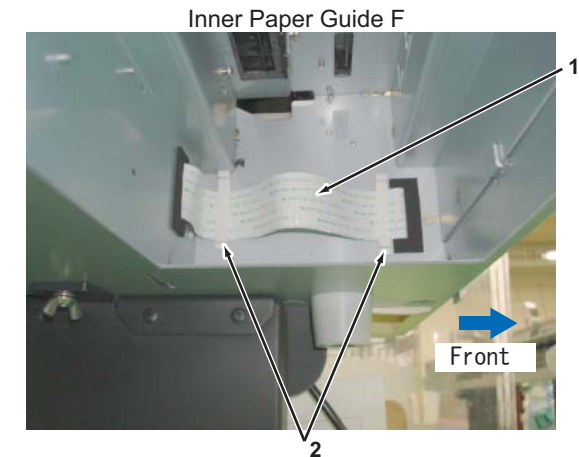
8. Remove Adsorption FAN relay connector from suction FAN.



No.	Name
1	Adsorption FAN relay connector
2	Adsorption FAN

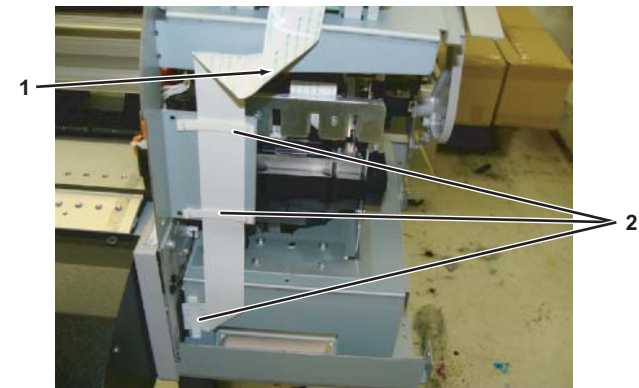
9. Remove Adsorption FAN mounting plate.

10. Remove Panel_FFC from Clamps (2 pieces) on the origin side of inner Paper Guide F.



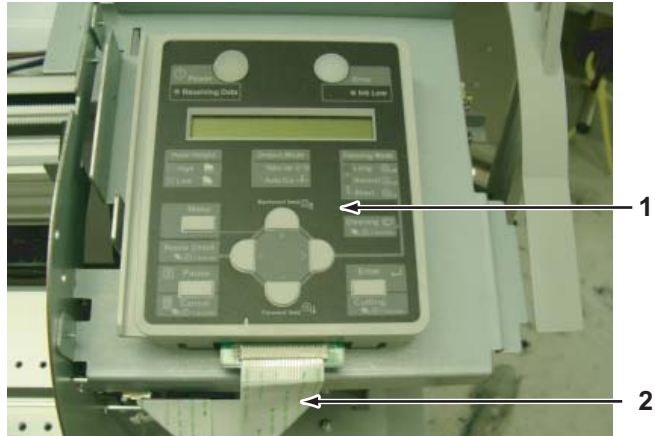
No.	Name
1	Panel_FFC
2	Clamp

11. Remove Panel_FFC from the clamps (3 pieces) on the front side of the printer.



No.	Name
1	Pnel_FFC
2	Clamp

12. Remove Panel_FFC from Panel Unit Assy.



No.	Name
1	Panel Unit Assy
2	Panel FFC

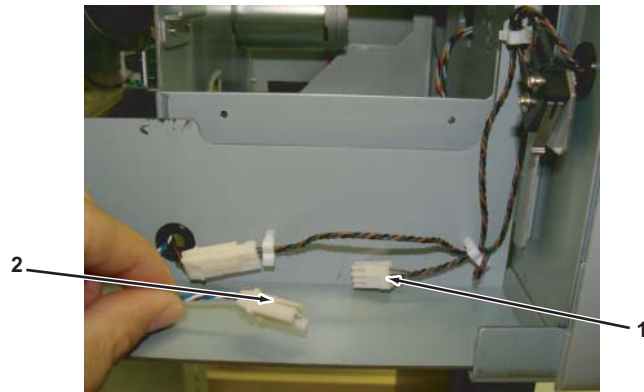
13. Replace Panel_FFC.

14. To reassemble the unit, reverse the removal procedure.

3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy

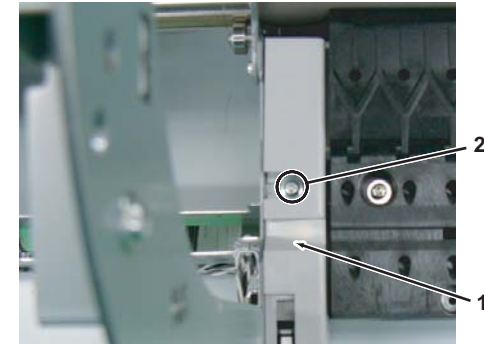
(1) Front Cover (L side)

1. Remove Side Cover L.
 **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
2. Remove Cover Switch Assy Cable from Clamps (2 pieces) .
3. Remove Cover L Cable Assy from Cover Switch Assy.



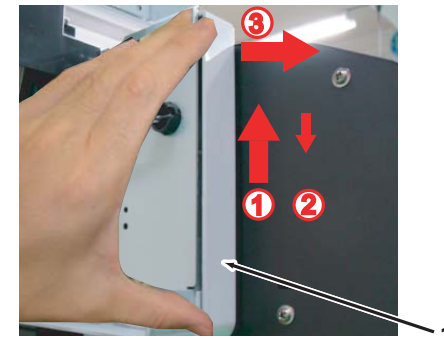
No.	Name
1	Clamp
2	Cover L Cable Assy
3	Cover Switch Assy

4. Remove the screw retaining Sensor Cover L Assy.



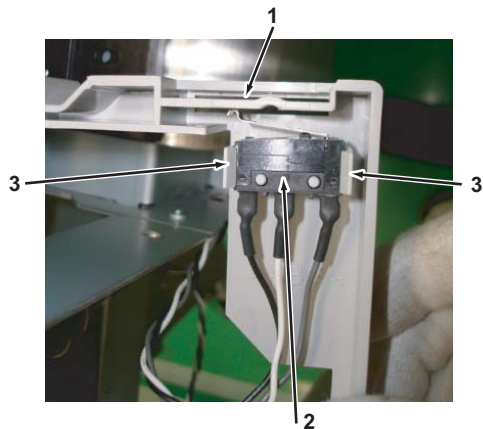
No.	Name
1	Sensor Cover L Assy
2	Tapping screw M3 × 6 S Tight cup

5. Pull up sensor cover L Assy till its limit (red arrow 1), and slightly move back down (red arrow 2).
6. Pull forward (red arrow 3) and remove sensor cover L Assy.



No.	Name
1	Sensor Cover L Assy

7. Open the tabs of sensor cover L Assy and remove cover L sensor Assy .

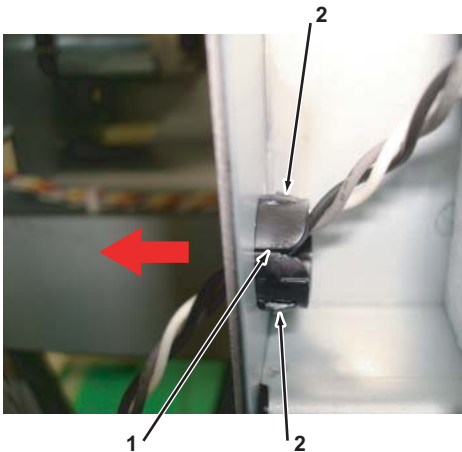


No.	Name
1	Sensor Cover L Assy
2	Cover Switch Assy
3	Tab of Sensor Cover L Assy

NOTE

When replacing only sensor cover L, replace it at this stage.
To reassemble unit, reverse the removal procedure.

8. While pushing the tabs of bush using longnose pliers, etc., push toward the direction of the red arrow to remove bush.



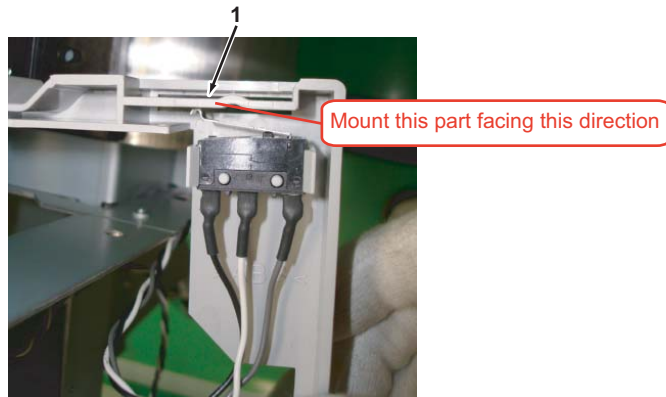
No.	Name
1	Bush
2	Tabs of bush

9. Open bush using a small flat-head screwdriver, etc.
10. Replace cover L sensor Assy .

11. To reassemble the unit, reverse the removal procedure.

NOTE

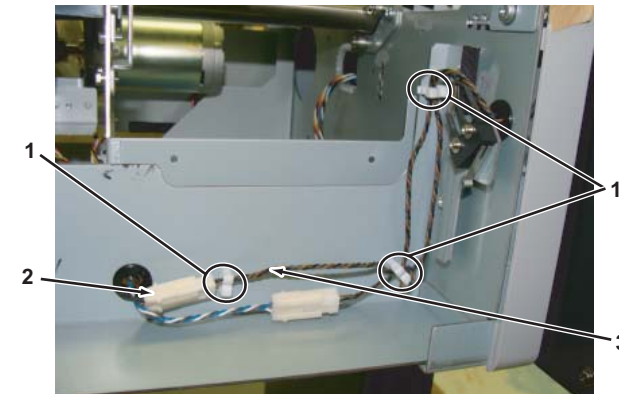
When mounting a new cover L sensor Assy to sensor cover L Assy, refer to the next figure. Be careful of the facing direction of switch board of cover L sensor Assy when mounting.



No.	Name
1	Switch board of cover L sensor Assy

(2) Maintenance Cover L side

1. Remove Side Cover L.
 **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
2. Remove Cover Switch Assy Cable from Clamps (3 pieces).
3. Remove Cover L Cable Assy from Cover Switch Assy.



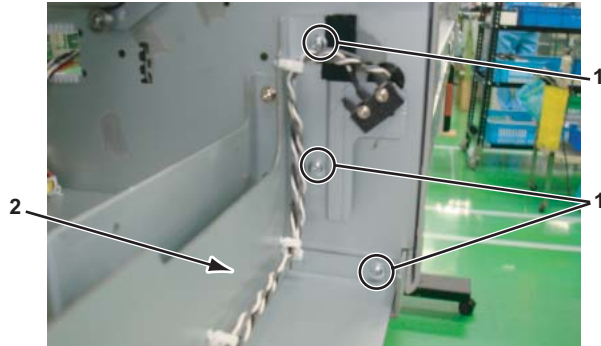
No.	Name
1	Clamp
2	Cover L Cable Assy
3	Cover Switch Assy

4. Remove the screws retaining Cover Switch Assy.

TIP

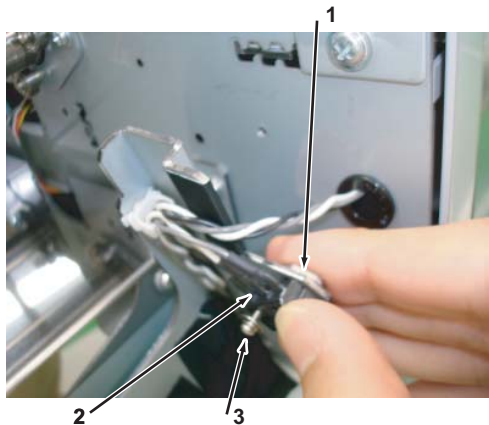
Cover Cable L Assy for Using Maintenance Cover is stranded wire of 3 pieces (Black, Brown, Gray). Same color as Cover Switch Assy.

5. Remove the screws (3 pieces) retaining cover L fixing material B.



No.	Name
1	Screws retaining cover L fixing material B
2	cover L fixing material B

6. While holding square nut placed on the behind of maintenance cover sensor Assy, remove screws (2 pieces) retaining maintenance cover sensor Assy.



No.	Name
1	Square nut
2	Cover Switch Assy
3	Pan-head screw with spring washer and flat washer M2 × 12

7. Remove square nut and cover Switch Assy .
8. Replace cover Switch Assy .
9. To reassemble the unit, reverse the removal procedure.

NOTE

After replacing maintenance cover sensor Assy, make sure to adjust the mounting position of maintenance cover sensor Assy.

☞ ["4.11 Cover Switch Sensor Assy Position Adjustment" p.4-20](#)

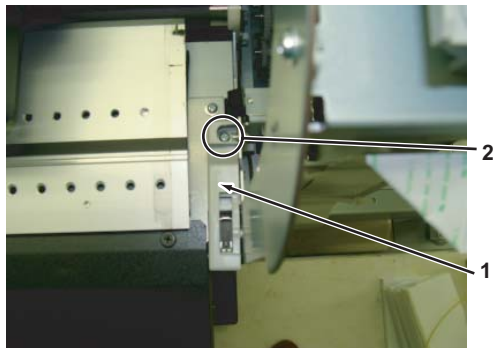
(3) Front Cover R side

1. Remove I/H Cover.
 "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
 "3.2.2 Remove Side Cover R" p.3-8
3. Remove Cover Switch Assy from Cover R Cable Assy.



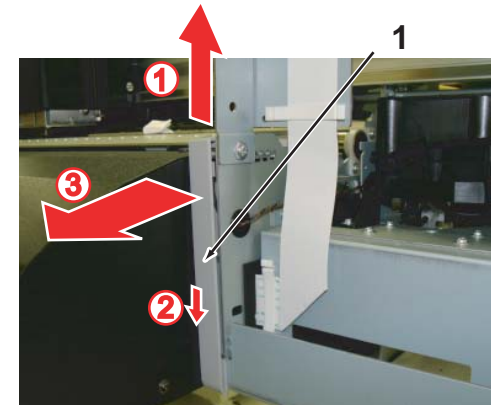
No.	Name
1	Connection position

4. Remove Cover switch Assy from clamps on the path.
5. Remove the screws retaining the Sensor Cover R Assy.



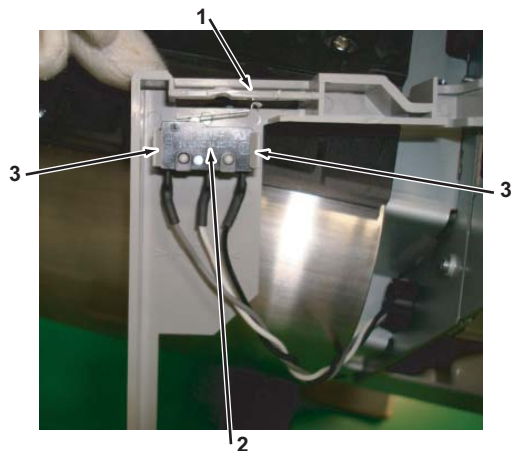
No.	Name
1	Sensor Cover R Assy
2	Tapping screw M3 × 6S Tight cup

6. Pull up sensor cover L Assy till its limit (red arrow 1), and slightly move back down (red arrow 2).
7. Pull forward (red arrow 3) and remove sensor cover L Assy.



No.	Name
1	Sensor Cover R Assy

8. Open the tabs of sensor cover L Assy and remove cover L sensor Assy .

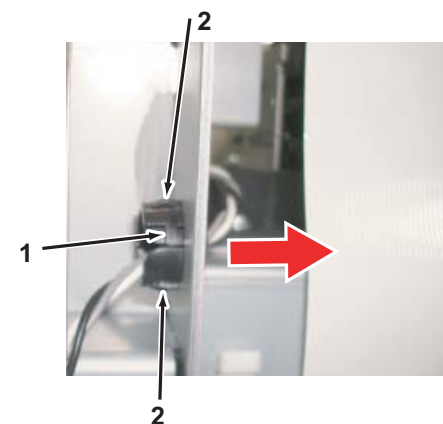


No.	Name
1	Sensor Cover R Assy
2	Cover Switch Assy
3	Tabs of Sensor Cover R Assy

NOTE

When replacing only sensor cover L, replace it at this stage.
To reassemble unit, reverse the removal procedure.

9. While pushing the tabs of bush using longnose pliers, etc., push toward the direction of the red arrow to remove bush.

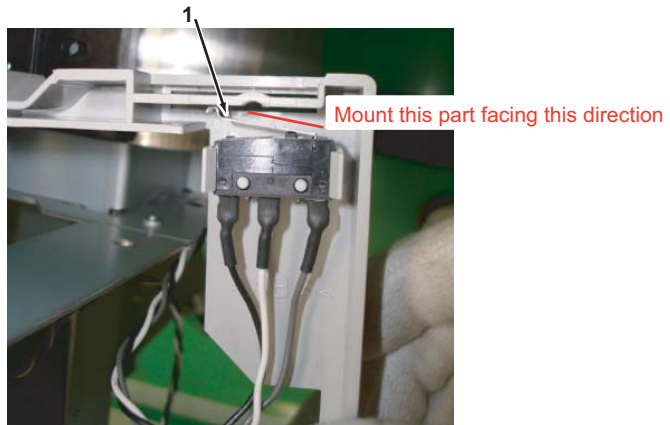


No.	Name
1	Bush
2	Tabs of bush

10. Open bush using a small flat-head screwdriver, etc.
11. Replace cover L sensor Assy .
12. To reassemble the unit, reverse the removal procedure.

NOTE

When mounting a new cover L sensor Assy to sensor cover L Assy, refer to the next figure.
Be careful of the facing direction of switch board of cover L sensor Assy when mounting.



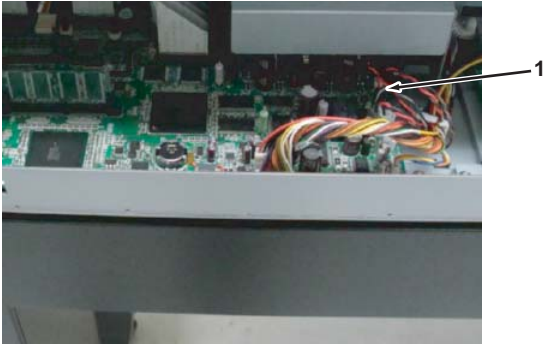
No.	Name
1	Switch board of cover L sensor Assy

3.3.4 Replacing Cover L Cable Assy

TIP

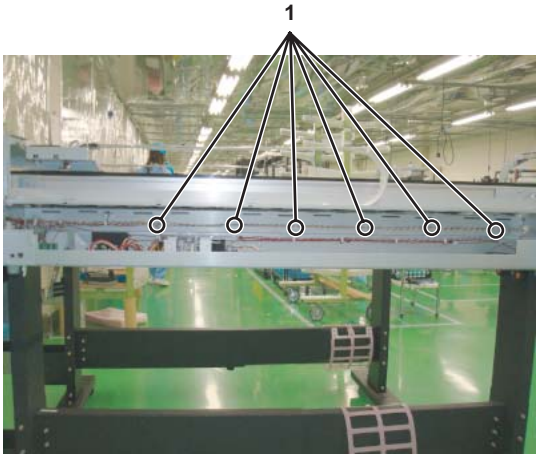
Cover L Cable Assy is stranded wires of 4 pieces (Blue,White,Brown,Black).Connector color is white.

- 1. Replace Paper Guide R2.
🔧 "3.2.7 Removing Paper Guide R2" p.3-17
- 2. Remove Connector of Cover L Cable Assy from MAIN Board (J14).
🔧 "3.4.3 Removing MAIN Board Bracket" p.3-39



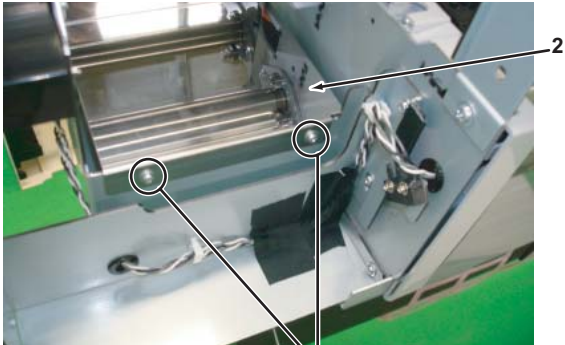
No.	Name
1	Cover L Cable Assy

- 3. Remove Cover L Cable Assy from clamps on the back side of printer.



No.	Name
1	Clamp

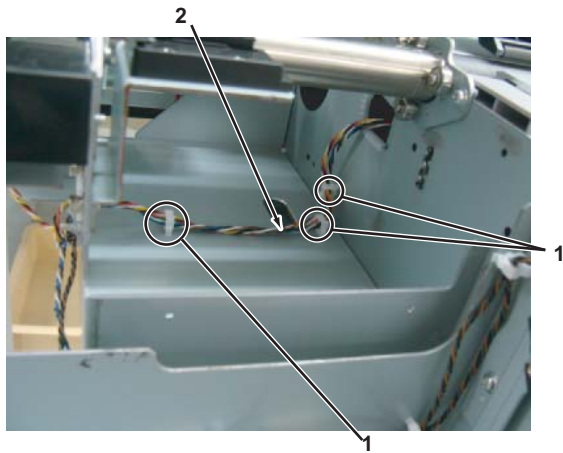
- 4. Remove the screws (2 pieces) retaining reflecting plate.



No.	Name
1	Tapping screw M3 × 6 S Tight cup
2	Reflecting plate

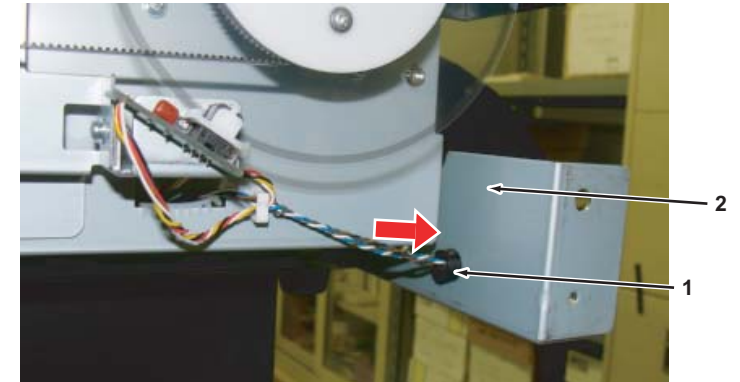
- 5. Remove Reflecting Plate.

6. Remove Cover L Cable Assy from Clamps (3 pieces) .



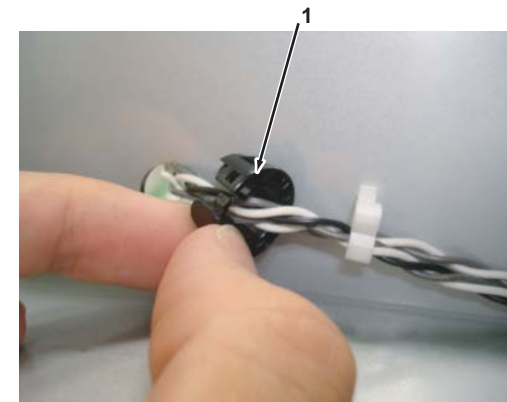
No.	Name
1	Clamp
2	Cover L Cable Assy

7. Push out bush from behind.



No.	Name
1	Bush
2	Mounting bracket

8. Open bush using a small flat blade screwdriver, etc., and remove Cover L Cable Assy..



No.	Name
1	Bush

9. Remove Cover LCable Assy from Cover Switch Assy.

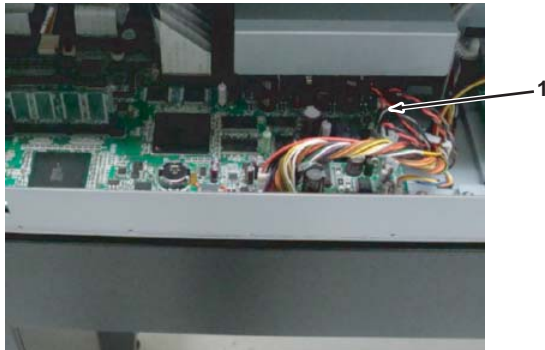


No.	Name
1	Cover Switch Assy
2	Cover L Cable Assy

10. Replace Cover L Cable Assy.
11. To reassemble unit, reverse the removal procedure.

3.3.5 Replacing Cover R Cable Assy

1. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
4. Remove connector Panel.
🔧 ["3.4.1 Removing Connector Panel" p.3-37](#)
5. Move the Carriage to the opposite side of origin.
🔧 ["3.7.1 How To Release Carriage Lock" p.3-98](#)
6. Remove Cover R Cable Assy from MAIN Board Assy (J13).
🔧 ["3.4.3 Removing MAIN Board Bracket" p.3-39](#)

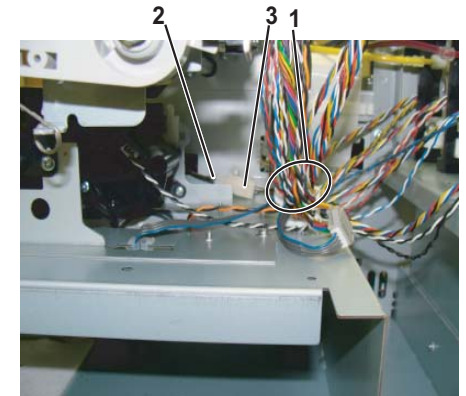
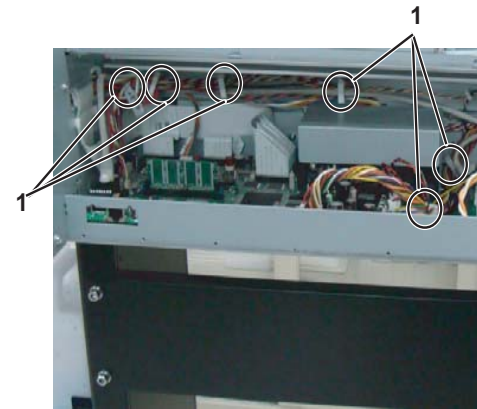


No.	Name
1	Cover R Cable Assy

TIP

Cover R Cable is stranded wires of 3 pieces (Red,Black,Gray).

7. Remove Cover R Cable Assy from Clamps on the path.
8. Remove Cover R Cable Assy from Cover Switch Assy.



No.	Name
1	Clamp
2	Cover Switch Assy
3	Cover R Cable Assy

9. Replace Cover R Cable Assy.
10. To reassemble unit, reverse the removal procedure.

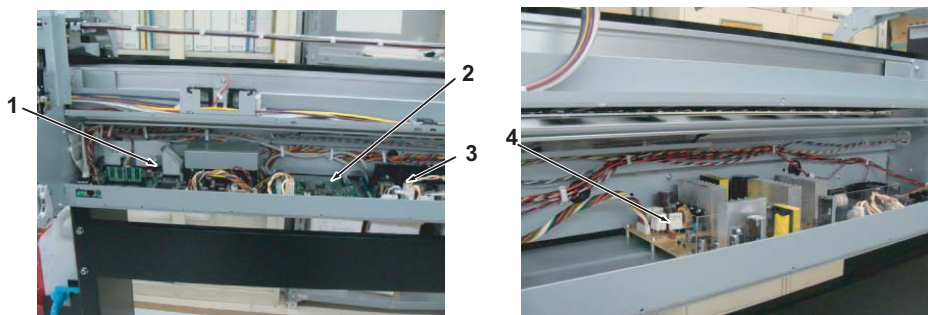
3.4 Replacing Board Base

This section describes the procedure to replace Power supply, Board, etc.

CAUTION

When you handle a circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.

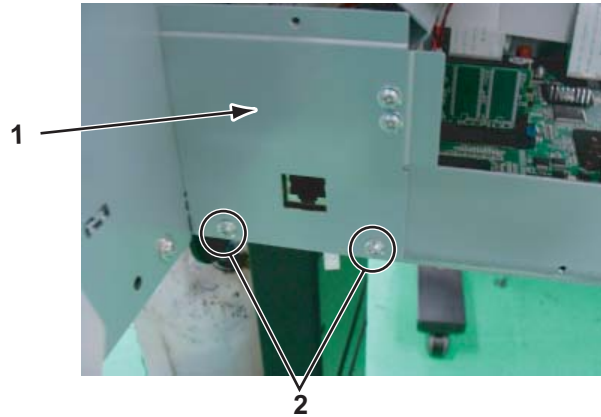
Boards are arranged as follows.



No.	Name
1	MAIN Board Assy
2	HEATER CONT Board Assy
3	HEATER RELAY Board Assy
4	Power Board Assy

3.4.1 Removing Connector Panel

1. Remove Paper Guide R2.
👉 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove the screws (2 pieces) retaining Connector Panel.



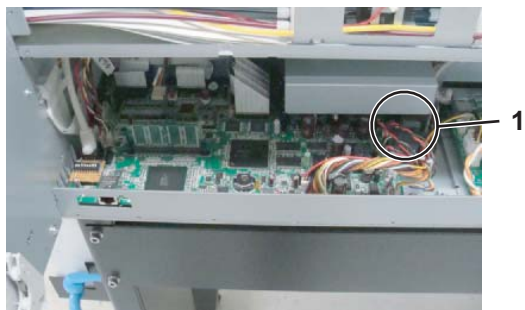
No.	Name
1	Connector Panel
2	Tapping screwM3×6 S

3. Remove connector Panel.
4. To reassemble the unit, reverse the removal procedure.

3.4.2 Replacing Cooling FAN 24V Assy (For MAIN Board)

1. Remove the connector of Cooling FAN(24V)Assy from MAIN Board (J30).

 "3.4.4 Replacing MAIN Board Assy" p.3-42

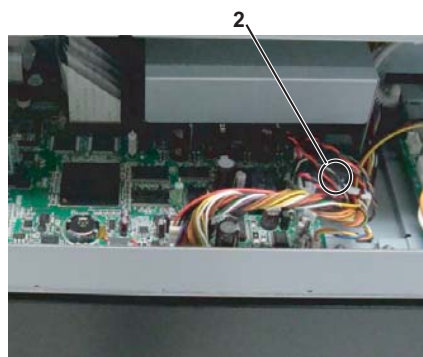
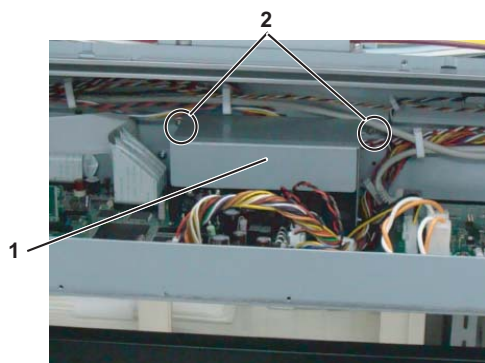


No.	Name
1	connector of Cooling FAN(24V)Assy

NOTE

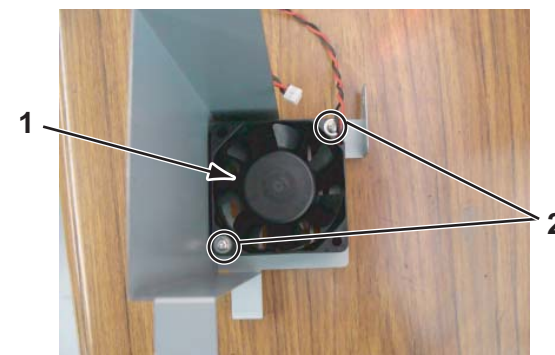
Cooling FAN (24V)Assy is stranded wire of 2pieces(Red,Black).Connector color is white.

2. Remove the screws (3pieces) retaining Cooling FAN Bracket.



No.	Name
1	Cooling FAN Bracket
2	Tapping screwM3×6 S Tight cup

3. Remove Cooling FAN Bracket.
4. Remove the screws (2 pieces) retaining Cooling FAN.



No.	Name
1	Cooling FAN(24V)Assy
2	Pan-head screw with spring washer and flat washer M3 × 20

5. Replacing Cooling FAN (24V)Assy.

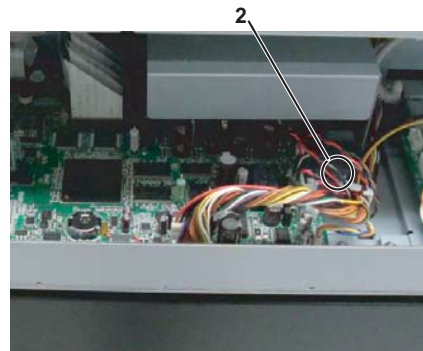
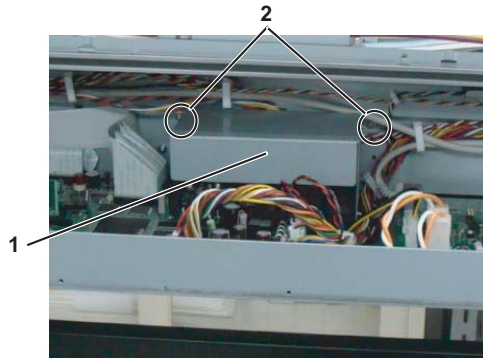
NOTE

- When reassembling Cooling FAN (24V) Assy, note the direction of label attached to Fan. If it is reassembled on the opposite direction (inside/outside), the direction of ventilation reverses
- During installation, be careful not to nip Cable.
- Be careful with the direction of Cooling FAN cable.

6. To reassemble the unit, reverse the removal procedure.

3.4.3 Removing MAIN Board Bracket

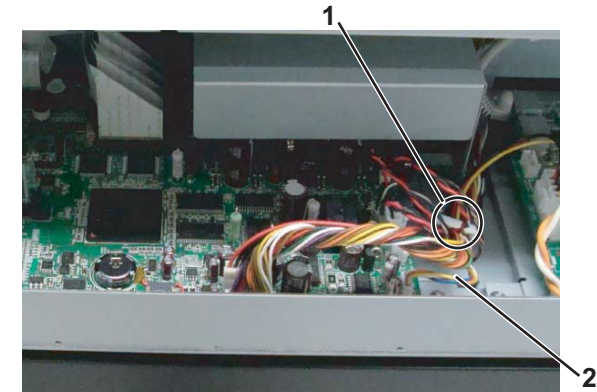
1. Remove Paper Guide R2.
🔧 "3.2.7 Removing Paper Guide R2" p.3-17
2. Remove connector Panel.
🔧 "3.4.1 Removing Connector Panel" p.3-37
3. Remove the screws (3pieces) retaining Cooling FAN Bracket.



No.	Name
1	Cooling FAN Bracket
2	Tapping screwM3×6 S Tight cup

4. Remove Cooling FAN Bracket.

5. Remove the Cables from Clamps on the MAIN Board Bracket.



No.	Name
1	Clamp
2	MAIN Board Bracket

6. Remove the Cables from MAIN Board Assy.

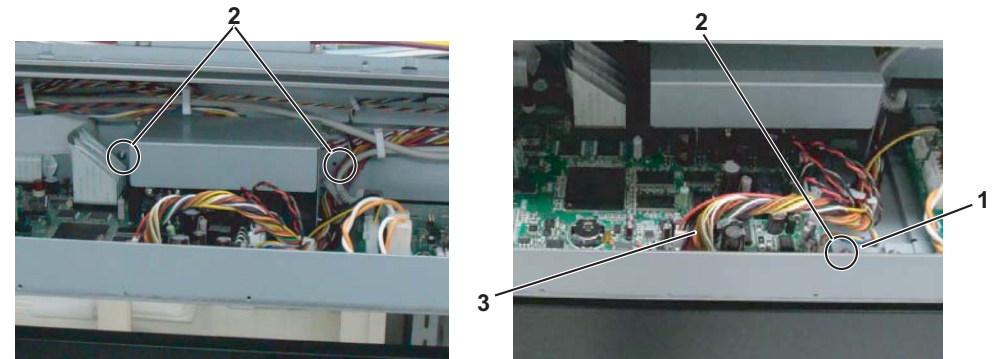
⚠ CAUTION

- Before replacing Board Assy and pulling or pushing FFC type cables, unplug Power cable and leave it for a while.
If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by residual electric charge.
- When you handle Circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Make sure to plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

No.	Connector No.	# of Pins	Color	Connect to	Remark
1	J1	-	-	-	-
2	J2	-	-	-	-
3	J3	-	-	SODIMM(128M)	-
4	J4	-	-	-	Unpopulated
5	J5	6	Black	-	Not in Use
6	J6	8	Black	HEATER CONT	UTP Cable
7	J7	31	Black	CR1	FFC
8	J8	31	Black	CR2	FFC
9	J9	31	Black	CR3	FFC
10	J10	31	Black	CR4	FFC
11	J11	31	Black	CR5	FFC
12	J12	2	White	PF Motor	-
13	J13	4	White	Cover R	-
14	J14	4	White	Cover L	-
15	J15	-	-	-	-
16	J16	-	-	-	-
17	J17	3	White	CR Motor	-
18	J18	4	White	Pump Motor	-
19	J19	31	-	JUNCTION J1	FFC
20	J20	31	-	-	Unpopulated
21	J21	8	White	JUNCTION J20	-
22	J22	8	White	-	Unpopulated
23	J23	7	-	-	Unpopulated
24	J24	4	White	PF_ENC	-
25	J25	3	White	-	Not in Use
26	J26	5	White	P_REAR	-

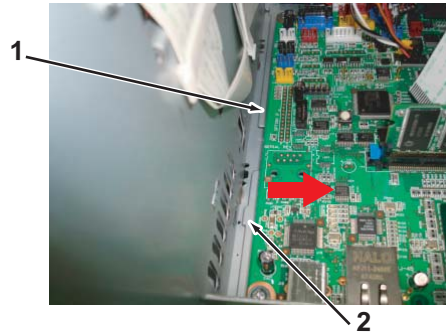
No.	Connector No.	# of Pins	Color	Connect to	Remark
27	J27	12	White	Adsorption FAN	-
28	J28	8	White	-	Not in Use
29	J29	2	Blue	-	Not in Use
30	J30	2	White	Cooling FAN (24V) For MAIN Board Assy	-
31	J31	2	White	Solenoid	-
32	J32	2	Black	Cooling FAN (24V) For Power Board Assy	-
33	J33	28	Black	Panel_FFC	FFC
34	J34	4	White	CONT_PS	-
35	J35	20	White	Power Board (CN301)	-

7. Remove the screws (3 pieces) retaining MAIN Board Bracket.



No.	Name
1	MAIN Board Bracket
2	Tapping screw M3 × 6 S Tight cup
3	MAIN Board Assy

8. Slide MAIN board bracket about 2cm to the right, and pull it up to remove it.



No.	Name
1	MAIN board bracket
2	Mating part of MAIN board bracket and the frame

9. To reassemble the unit, reverse the removal procedure.

**CAUTION**

Make sure NOT to nip cables with the bracket when installing.
Doing so may cause cable disconnection.

3.4.4 Replacing MAIN Board Assy

CAUTION

When handling boards, do NOT touch the elements on the boards.
Elements may be destroyed by static electricity.

NOTE

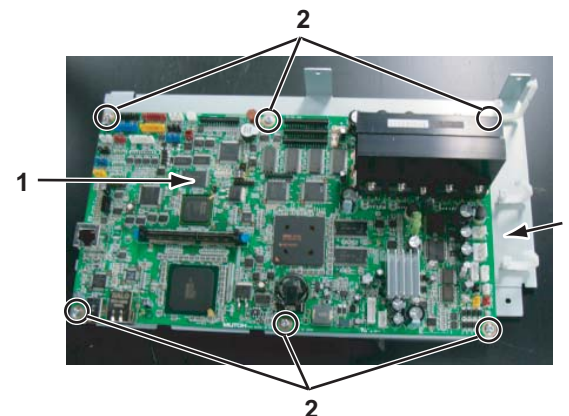
- MSA (MUTOH Service Assistance) corresponding to VJ1324 is needed for replacing MAIN Board Assy. (Refer to ["4.3 Working with MUTOH Service Assistance Software" p.4-4](#))

- Remove Paper Guide R2.
["3.2.7 Removing Paper Guide R2" p.3-17](#)
- Remove connector Panel.
["3.4.1 Removing Connector Panel" p.3-37](#)
- Remove MAIN Board Bracket.
["3.4.3 Removing MAIN Board Bracket" p.3-39](#)
- Remove SODIMM.
["3.4.5 Replacing SODIMM" p.3-43](#)

NOTE

Make sure NOT to lose the removed SODIMM. It will be mounted on MAIN board to be newly installed.

- Remove the screws (6 pieces) retaining MAIN board Assy to MAIN board bracket.



No.	Name
1	MAIN Board Assy
2	Cup screw M3 × 6
3	MAIN Board Bracket

- Replace MAIN Board Assy.
- To reassemble unit, reverse the removal procedure.
- Perform various adjustment.
["4.2 Adjustment Item" p.4-2](#)

3.4.5 Replacing SODIMM

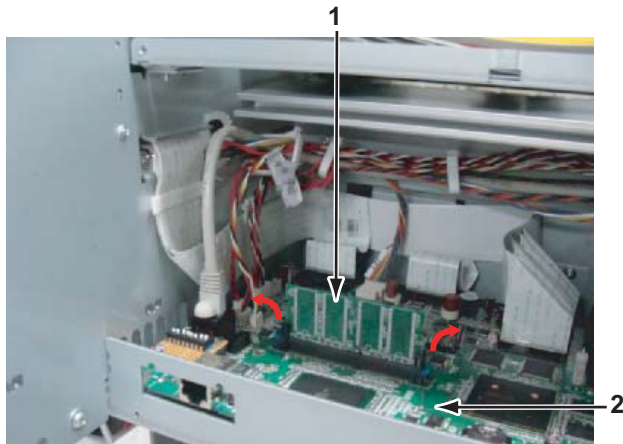
TIP

Replacing Procedure For Maintenance Part:SODIMM 128M Assy.
This part will be referred to as the SODIMM in this manual.

CAUTION

When handling boards, do NOT touch the elements on the boards.
Elements may be destroyed by static electricity.

1. Remove Paper Guide R2.
👉 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove connector Panel.
👉 ["3.4.1 Removing Connector Panel" p.3-37](#)
3. Unlock the blue locks placed on the both sides of SODIMM.



No.	Name
1	SODIMM
2	MAIN Board Assy

4. Replace SODIMM.
5. To reassemble the unit, reverse the removal procedure.

3.4.6 Removing Controller Board Bracket

1. Remove Paper Guide R2.
 **"3.2.7 Removing Paper Guide R2" p.3-17**
2. Remove all Connectors from HEATER CONT Board Assy.

No.	Connector No.	# of Pins	Color	Connect to	Remark
1	J1	-	-	-	-
2	J2	-	-	-	Unpopulated
3	J3	-	-	-	Unpopulated
4	J4	-	-	-	Unpopulated
5	J5	-	-	-	Unpopulated
6	J6	-	Black	HEATER RELAYBoad Assy	FFC
7	J7	-	-	-	Unpopulated
8	J8	4	White	-	-
9	J9	4	White	-	-
10	J10	-	White	MAIN Board Assy (J6)	Serial Cable
11	J11	-	-	-	Not in Use
12	J12	-	-	-	Unpopulated
13	J13	-	-	-	Unpopulated
14	J14	-	-	-	Unpopulated
15	J15	-	-	-	Unpopulated
16	J16	-	-	-	Unpopulated
17	J17	-	-	-	Unpopulated
18	J18	-	-	-	Unpopulated
19	J19	8	White	MAIN 基板 Assy	-
20	J20	-	-	-	Unpopulated
21	J21	-	-	-	Unpopulated

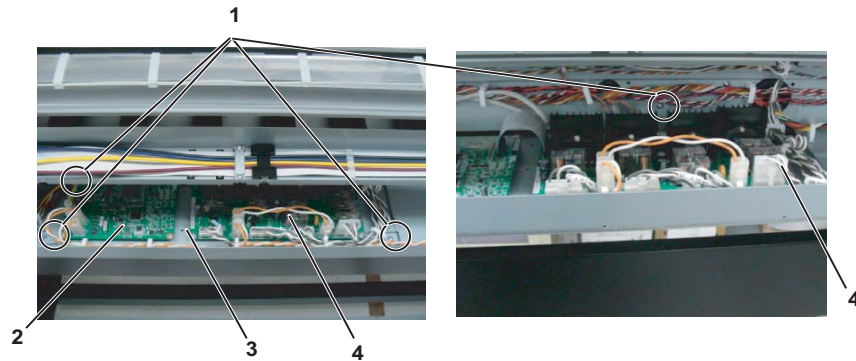
No.	Connector No.	# of Pins	Color	Connect to	Remark
22	J22	2	White	Terminal Block	-
23	J23	2	White	HEATER RELAY Board Assy	-

3. Remove all Connectors from HEATER RELAY Board Assy

No.	Connector No.	# of Pins	Color	Connect to	Remark
1	J1	2	White	HEATER CONT Board Assy	-
2	J2	4	White	PLT_HT1	-
3	J3	-	Black	HEATER_CONTBoard Assy	FFC
4	J4	2	White	J6	-
5	J5	4	White	PLT_HT2	-
6	J6	2	White	J4	-
7	J7	2	White	PRE_HT1	-
8	J8	2	White	PRE_HT2	-
9	J9	2	White	AFT_HT	-
10	J10	-	-	-	Not in Use
11	J11	-	-	-	Unpopulated
12	J12	2	White	PLT_1	-
13	J13	2	White	PLT_2	-
14	J14	-	-	-	Unpopulated
15	J15	2	Red	PRE_T	-
16	J16	2	Yellow	-	Not in Use
17	J17	3	White	AFT_T	-

No.	Connector No.	# of Pins	Color	Connect to	Remark
18	J18	3	Black	-	Not in Use
19	J19	3	Red	-	Not in Use
20	J20	3	Yellow	-	Not in Use

4. Remove the screws (4 pieces) retaining controller board bracket.



No.	Name
1	Tapping screw M3 × 6 S Tight cup
2	HEATER CONT Board Assy
3	controller board bracket
4	HEATER RELAY Board Assy

5. Remove Controller Board Bracket.
6. To reassemble the unit, reverse the removal procedure.

**CAUTION**

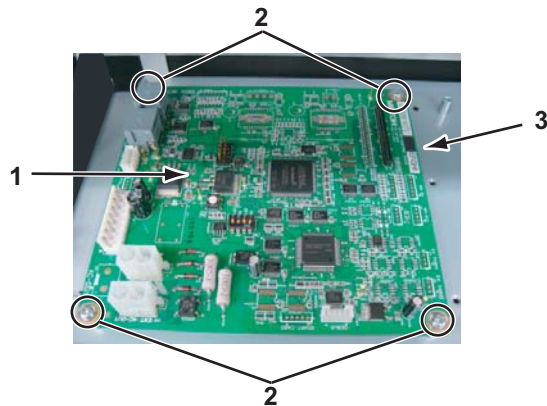
Make sure NOT to nip cables with the bracket when installing.
Doing so may cause cable disconnection.

3.4.7 Replacing HEATER CONT Board Assy

TIP

Replacing Procedure For Maintenance Part:HEATER CONT Board2 Assy.
This part will be referred to as the HEATER CONT Board Assy in this manual.

1. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove controller board bracket.
🔧 ["3.4.6 Removing Controller Board Bracket" p.3-44](#)
3. Remove the screws (4 pieces) retaining HEATER CONT board Assy to controller board bracket.



No.	Name
1	HEATER CONT Board Assy
2	Cup screw M3 × 6
3	controller board bracket

4. Remove HEATER CONTROL 2 board Assy from controller board bracket.
5. Replace HEATER CONTROL 2 board Assy .
6. To reassemble the unit, reverse the removal procedure.

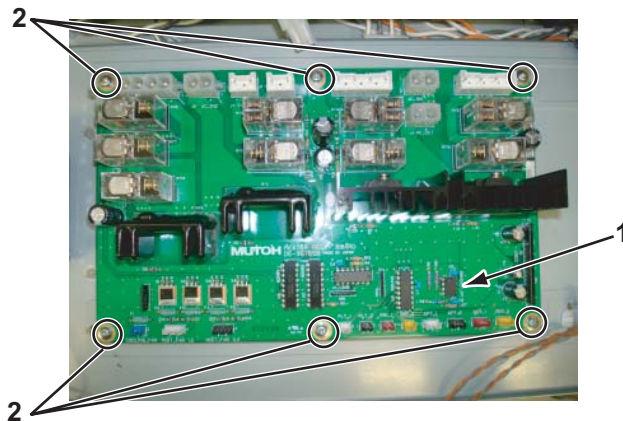
7. Install the latest firmware on MAIN board Assy.
🔧 ["4.3 Working with MUTOH Service Assistance Software" p.4-4](#)
8. Install the latest firmware on HEATER CONT board Assy.
🔧 ["4.3 Working with MUTOH Service Assistance Software" p.4-4](#)
9. Perform various adjustment.
🔧 ["4.2 Adjustment Item" p.4-2](#)

3.4.8 Replacing HEATER RELAY Board Assy

TIP

Replacing Procedure For Maintenance Part:HEATER RELAY 3 Board Assy.
This part will be referred to as the HEATER RELAY Board Assy in this manual.

1. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove controller board bracket.
🔧 ["3.4.6 Removing Controller Board Bracket" p.3-44](#)
3. Remove the screws (6 pieces) retaining HEATER RELAY board Assy to controller board bracket.



No.	Name
1	HEATER RELAY Board Assy
2	Cup screw M3 × 6

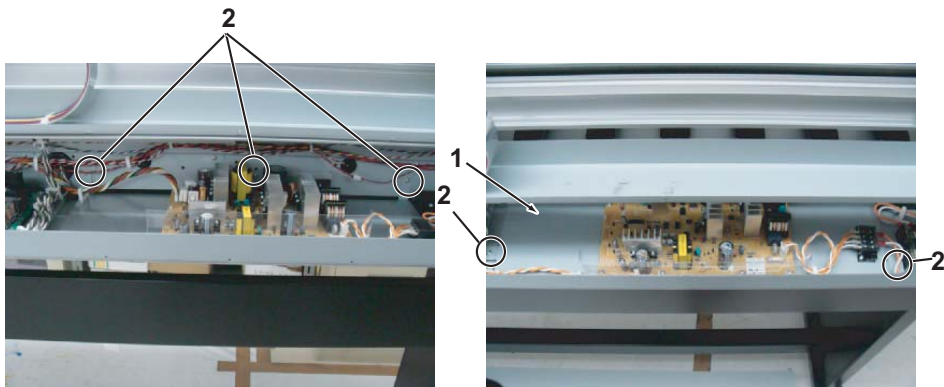
4. Remove HEATER RELAY Board Assy from controller board bracket.
5. Replace HEATER RELAY Board Assy.

3.4.9 Remove Power Board Bracket

CAUTION

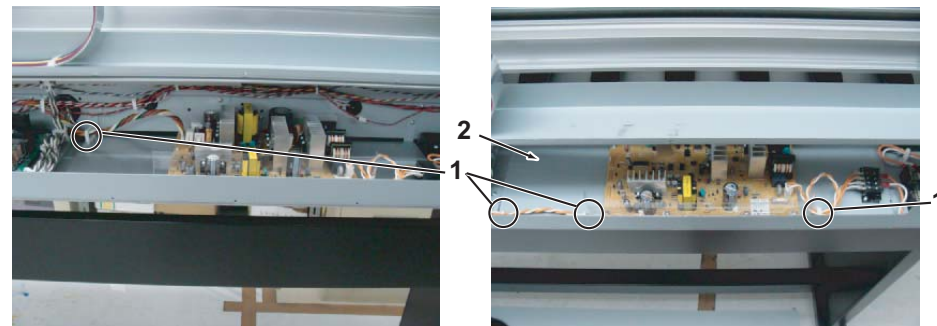
When handling boards, do NOT touch the elements on the boards.
Elements may be destroyed by static electricity.

1. Remove Paper Guide R2.
🔗 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove the screws (5pieces) retaining POWER board bracket.



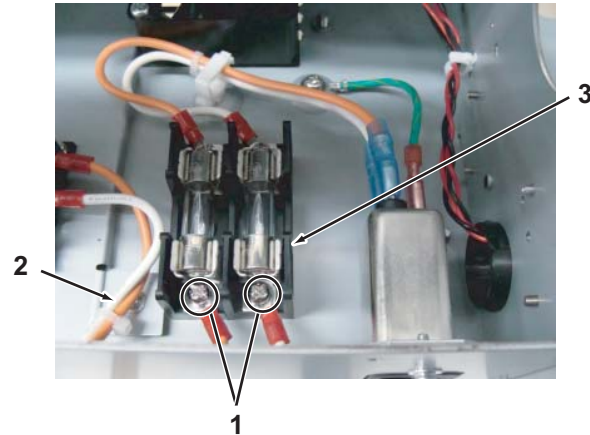
No.	Name
1	POWER board bracket
2	Tapping screwM3 × 6 S Tight cup

3. Remove Cables from clamps on the POWER board bracket.



No.	Name
1	Clamp
2	Power Board Bracket

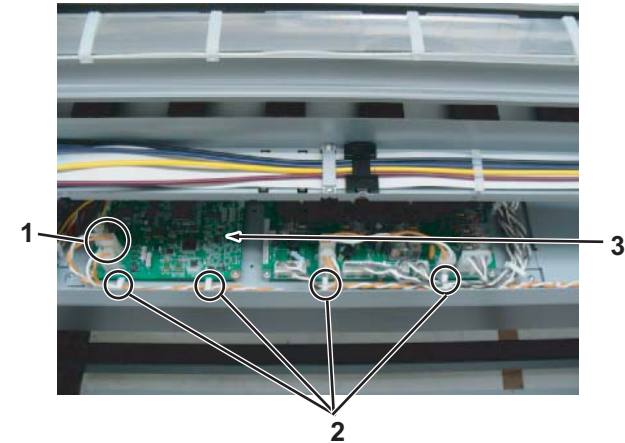
4. Remove the screws (2pieces) retaining AC Cable Fuse-Terminal Block Assy.



No.	Name
1	Screw
2	AC Cable Fuse-Terminal Block Assy
3	Fuse Box

5. Remove AC Cable Fuse-Terminal Block Assy from Fuse Box.
6. Remove following Cable from Power Board Assy.
- MAIN DC Cable Assy, 1piece (Connected to MAIN Board Assy)

7. Remove AC Cable Terminal Block-CNT Assy (J22) from HEATER CONT Board Assy.
8. Remove AC Cable Terminal Block-CNT Assy from Clamps.



No.	Name
1	AC Cable Terminal Block-CNT Assy
2	Clamp
3	HEATER CONT Board Assy

9. Remove POWER Board bracket.
10. To reassemble the unit, reverse the removal procedure.

**CAUTION**

Make sure NOT to nip cables with the bracket when installing.
Doing so may cause cable disconnection.

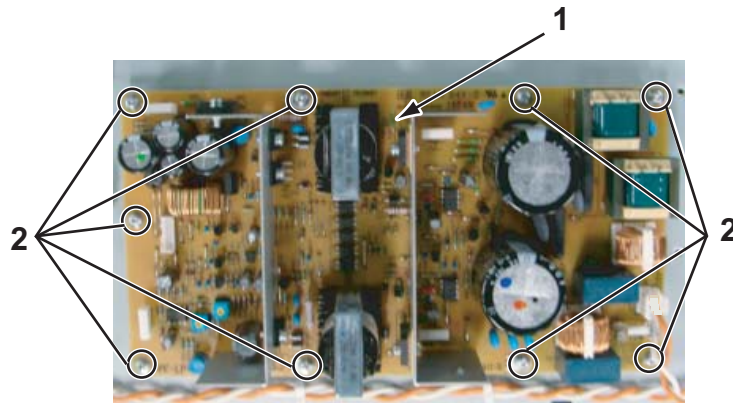
3.4.10 Replacing Power Board Assy

5. To reassemble unit, reverse the removal procedure.

CAUTION

- When removing power board Assy, remove the power cable and wait for at least 5 minutes before taking it out. This will discharge the residual electrical charge of the electrolytic capacitor.
If you handle these boards before the capacitor charge is fully discharged, you may suffer electric shock.
- To avoid electric shock, never touch the back of power board. When handling power board, take the side of the board.
- To avoid a short circuit, do not place the power board Assy directly on conductive objects.

1. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove Power Board Bracket.
🔧 ["3.4.9 Remove Power Board Bracket" p.3-48](#)
3. Remove screws (9pieces) retaining Power Board Assy.



No.	Name
1	Power Board Assy
2	Cup screw M3 × 6 Zn — CM2

4. Replacing Power Board Assy.

3.4.11 Replacing JUNCTION Board Assy

CAUTION

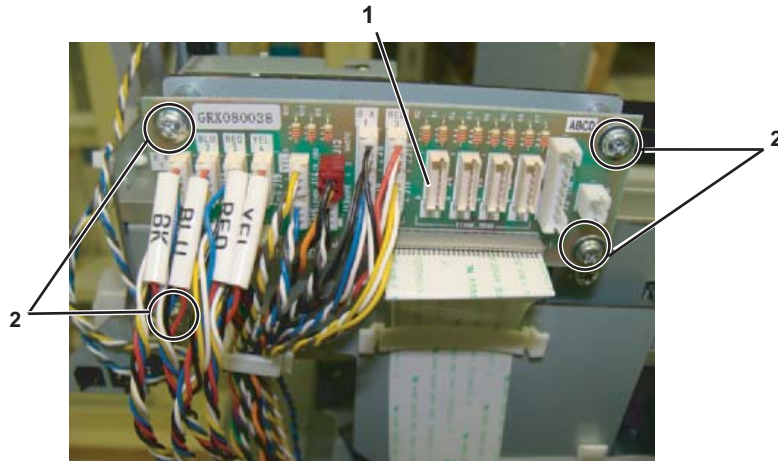
- Before replacing Board Assy and pulling or pushing FFC type cables, unplug Power cable and leave it for a while.
If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by residual electric charge.
- When you handle Circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Make sure to plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Cables from JUNCTION Board Assy.

No.	Connector No.	# of Pins	Colors	Connect to	Remark
1	J1	-	Beige	-	FFC
2	J2	2	White	-	Not in Use
3	J3	8	White	-	Not in Use
4	J4	6	White	-	Not in Use
5	J5	6	White	-	Not in Use
6	J6	6	White	-	Not in Use
7	J7	6	White	-	-
8	J8	4	White	INK_SLOT	K
9	J9	4	White	INK_SLOT	C

No.	Connector No.	# of Pins	Colors	Connect to	Remark
10	J10	4	White	INK_SLOT	M
11	J11	4	White	INK_SLOT	Y
12	J12	2	Red	Waste Fluid Sensor	-
13	J13	3	White	Wiper Sensor	-
14	J14	3	White	CR Origin Sensor	-
15	J15	3	White	Lever Sensor	-
16	J16	5	White	CARD_ID	「BK」
17	J17	5	White	CARD_ID	「BLU」
18	J18	5	White	CARD_ID	「RED」
19	J19	5	White	CARD_ID	「YEL」
20	J20	8	White	-	-

4. Remove the screws (4 pieces) retaining JUNCTIONBoard Assy.



No.	Name
1	JUNCTION Board Assy
2	Cup screw M3 × 6 Zn — CM2

5. Replace JUNCTION Board Assy.
6. To reassemble the unit, reverse the removal procedure.

3.4.12 Replacing JUNC_FFC

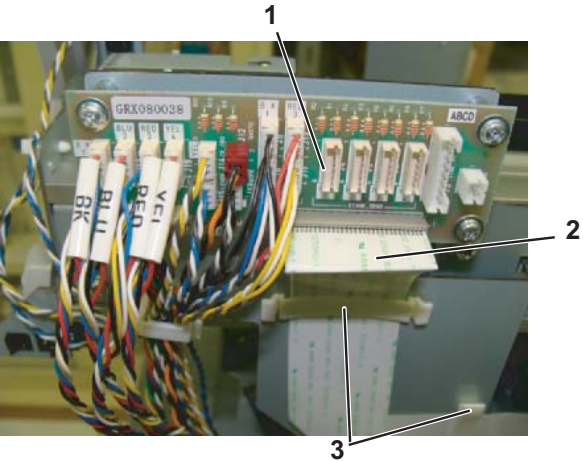
TIP

Replacing Procedure For Maintenance Part:JUNC_FFC Assy.
This part will be referred to as the JUNC_FFC in this manual.

CAUTION

- Before replacing Board Assy and pulling or pushing FFC type cables, unplug Power cable and leave it for a while.
If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by residual electric charge.
- When you handle Circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Make sure to plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

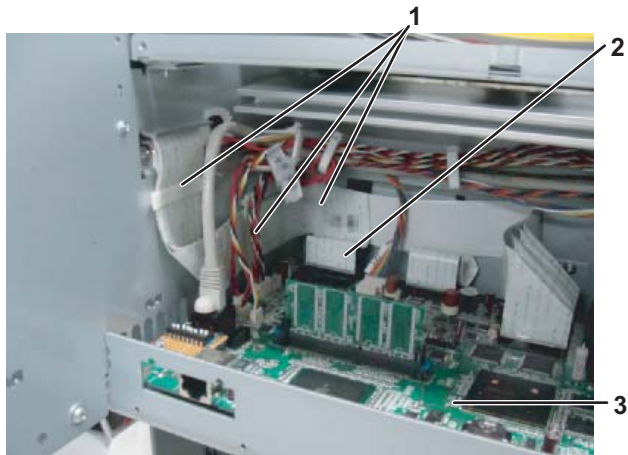
5. Remove JUNC_FFC Assy (J1)from JUNCTION Board Assy.



No.	Name
1	JUNCTION Board Assy
2	JUNC_FFC
3	Flat Clamp

1. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
3. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
4. Remove JUNC_FFC from Flat Clamp (1 piece) .

6. Remove JUNC_FFC from Flat Clamps.
7. Remove JUNC_FFC (J19) from MAIN board Assy.

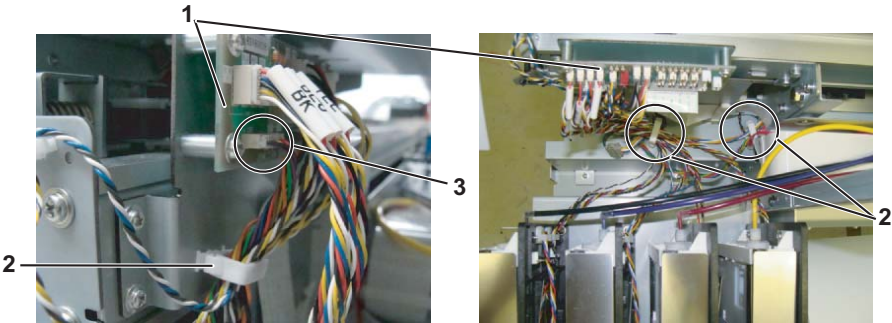


No.	Name
1	Flat Clamp
2	JUNC_FFC
3	MAIN Board Assy

8. Replace JUNC_FFC.
9. To reassemble unit, reverse the removal procedure.

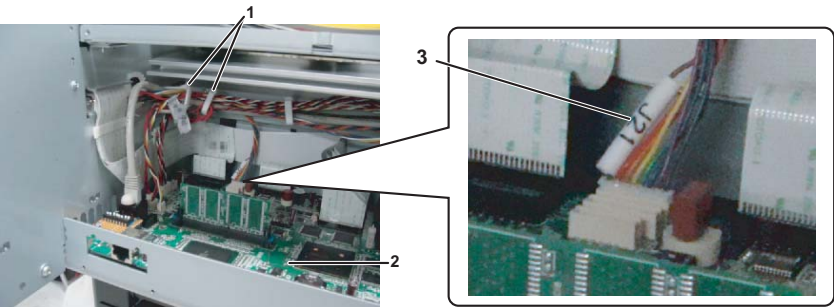
3.4.13 Replace JUNC_ID Cable Assy

- 1. Remove Paper Guide R2.
🔧 "3.2.7 Removing Paper Guide R2" p.3-17
- 2. Remove I/H Cover.
🔧 "3.2.1 Removing I/H Cover" p.3-7
- 3. Remove Side Cover R.
🔧 "3.2.2 Remove Side Cover R" p.3-8
- 4. Remove JUNC_ID Cable Assy from JUNCTION Board Assy.



No.	Name
1	JUNCTION Board Assy
2	Clamp
3	JUNC_IDCableAssy

- 5. Remove JUNC_ID Cable Assy from clamps on the path.
- 6. Remove JUNC_IDCableAssy (J21) from MAIN board Assy.



No.	Name
1	Clamp
2	MAIN Board Assy
3	JUNC_ID CableAssy

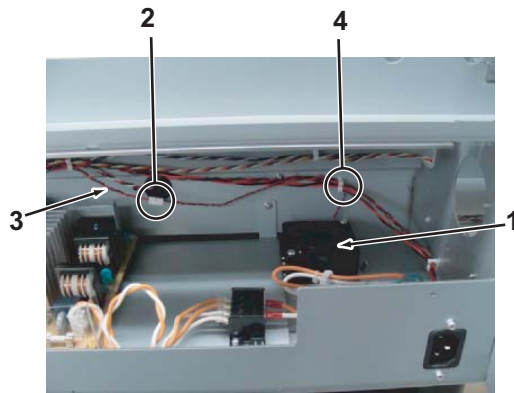
- 7. Replace JUNC_ID Cable Assy.
- 8. To reassemble unit, reverse the removal procedure.

3.4.14 Cooling FAN (24V) Assy、Cooling Fan Cable Assy

TIP

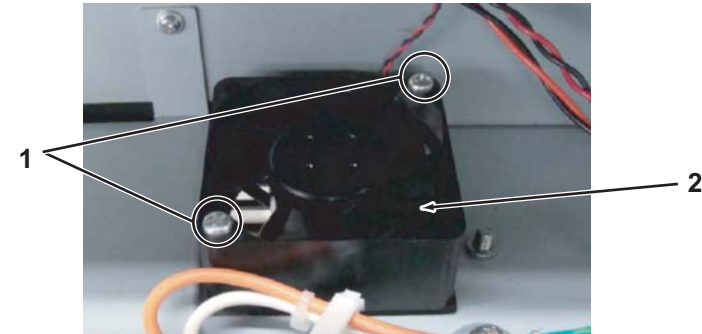
- Replacing Procedure For Maintenance Part: Cooling FAN(24V)Assy.
This part will be referred to as the Cooling FAN in this manual.
- Replacing Procedure For Maintenance Part: Cooling Fan Cable Assy.
This part will be referred to as the Cooling Fan Cable Assy in this manual.

1. Remove Paper Guide R2.
☞ "3.2.7 Removing Paper Guide R2" p.3-17
2. Remove Relay connector from Cooling FAN .
3. Remove Cooling Fan Cable Assy from Clamps.



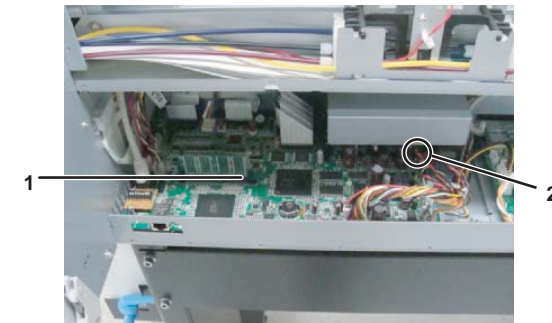
No.	Name
1	Cooling FAN
2	Connector of Cooling FAN
3	Cooling Fan Cable Assy
4	Clamp

4. Remove screws (2 pieces) retaining Cooling FAN (24V) Assy.



No.	Name
1	Pan-head small screw M4 × 30
2	Cooling FAN

5. Replace Cooling FAN.
6. Remove Connector of Cooling FAN from MAIN Board Assy (J32) .



No.	Name
1	MAIN Board Assy (J32)
2	Connector of Cooling FAN

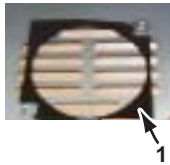
NOTE

Cooling Fan Cable Assy is stranded wire of 2pieces (Red,Black) .Connector color is white.

7. Remove Cooling Fan Cable Assy from clamps on the path.
8. Replace Cooling Fan Cable Assy.
9. To reassemble unit, reverse the removal procedure.

TIP

- When reassembling Cooling FAN, spread the FAN seal (shown in the diagram below) under FAN, then screw FAN on it

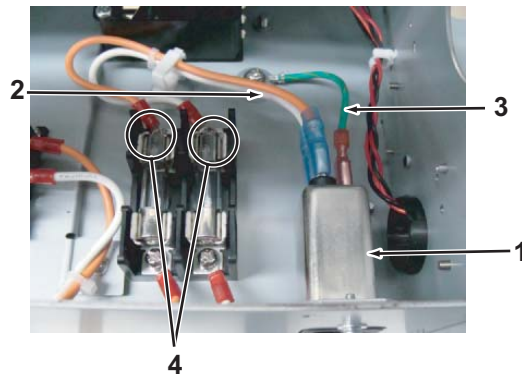


No.	Name
1	Fan seal

- Facing direction of Cooling FAN Assy (sealing surface and cable pulling direction) is specified. Install it with the sealing surface facing down.

3.4.15 Replacing AC Inlet, AC Cable Noise Filter-Fuse Assy、 Noise Filter FG_Assy

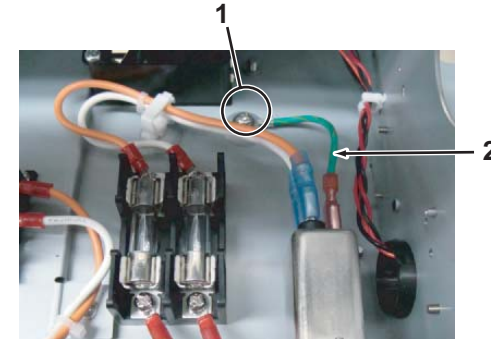
1. Remove Paper Guide R2.
 **"3.2.7 Removing Paper Guide R2" p.3-17**
2. Remove following connectors from AC Inlet.
 - AC Cable Noise Filter-Fuse Assy (orange、 White)
 - Noise Filter FG_Assy (Green)
3. Loosen the screw (2 pieces) retaining AC Cable Noise Filter-Fuse Assy, Remove AC Cable Noise Filter-Fuse Assy from Fuse Box.



No.	Name
1	Inlet Assy
2	AC Cable Noise Filter-Fuse Assy
3	Noise Filter FG_Assy
4	screw

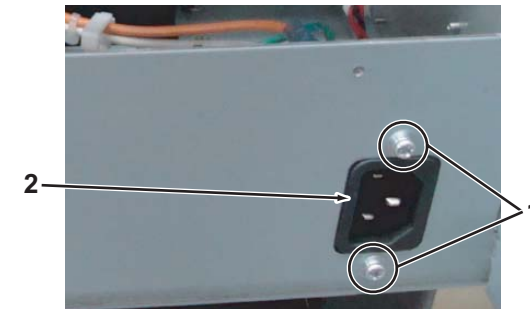
4. Replace AC Cable Noise Filter-Fuse Assy.

5. Remove the screw (1 piece) retaining Noise Filter FG_Assy.



No.	Name
1	Pan-head screw with spring washer and flat washer polished M4 × 6
2	Noise Filter FG_Assy

6. Replace Noise Filter FG_Assy.
7. Remove the screws (2pieces) retaining AC Inlet.



No.	Name
1	Pan-head screw with spring washer and flat washer polished M3 × 10
2	AC Inlet

8. Replace AC Inlet.
9. To reassemble the unit, reverse the removal procedure.

3.4.16 Other Cable Assy and Serial Cable Assy



CAUTION

When handling boards, do NOT touch the elements on the boards.
Elements may be destroyed by static electricity.

The following Maintenance parts are discussed in this chapter.

- MAIN-CNT Cable Assy (connected to MAIN board Assy)
- Power Cable MAIN-CNT Assy
- MAIN-DCCableAssy
- Terminal Block-Power Cable Assy
- AC Cable Fuse-Terminal Block Assy
- AC Cable Terminal Block-CNT Assy
- RLY-ACCableAssy
- AC Cable CNT-RLY Assy

1. Remove Paper Guide R2.
 **"3.2.7 Removing Paper Guide R2" p.3-17**
2. Remove Cable from clamps on the path.

3. Referring following Table, Remove the connector from Boards.

CableName	Connected to
MAIN-CNT Cable Assy	J6 (MAIN Board Assy) J10 (HEATER CONT Board Assy)
Power Cable MAIN-CNT Assy	J34 (MAIN Board Assy) J19 (HEATER CONT Board Assy)
MAIN-DCCableAssy	J35 (MAIN Board Assy) CN301(Power Board Assy)
Terminal Block-Power Cable Assy	Terminal Block CN001(Power Board Assy)
AC Cable Terminal Block-CNT Assy	Terminal Block J22 (HEATER CONT Board Assy)
RLY-ACCableAssy	J4 (HEATER RELAY Board Assy) J6 (HEATER RELAY Board Assy)
AC Cable CNT-RLY Assy	J1 (HEATER CONT Board Assy) J23 (HEATER RELAY Board Assy)
AC Cable Fuse-Terminal Block Assy	Fuse Terminal Block

4. Replace the cable.
5. To reassemble the unit, reverse the removal procedure.

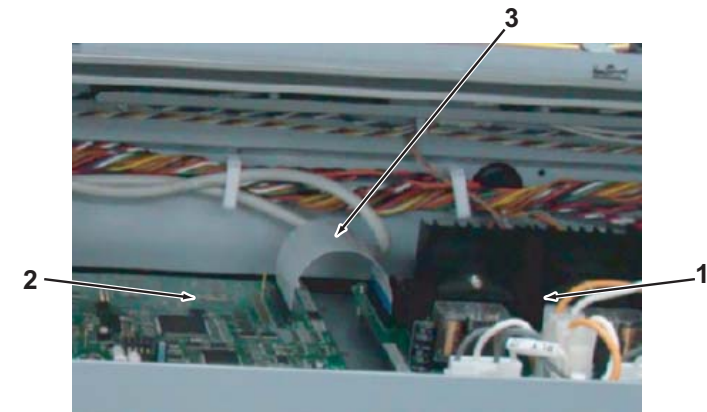
3.4.17 Replace Power Cable CNT-RLY Assy

CAUTION

- Before replacing Board Assy and pulling or pushing FFC type cables, unplug Power cable and leave it for a while.
If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by residual electric charge.
- When you handle Circuit board, do not touch any elements on it with bare hands. Doing so may cause electrostatic discharge and damage the elements.
- Before plugging FFC, check the condition of FFC terminals (that the corners of the terminals are not crooked and reinforcing plate is not peeled).
- Plug/unplug FFC perpendicularly to the connector. Never plug/unplug it obliquely. If plugged obliquely, it may damage/shorten/break terminals in connectors, causing a breakdown of on-board devices.
- Make sure to plug FFC all the way in the connector. After plugging it, make sure that FFC and the connector terminals are not misaligned sideways and that FFC is not plugged obliquely.

1. Remove Paper Guide R2.
👉 ["3.2.7 Removing Paper Guide R2" p.3-17](#)

2. Remove Power Cable CNT-RLY Assy from HEATER CONT Board Assy と HEATER RELAY Board Assy.



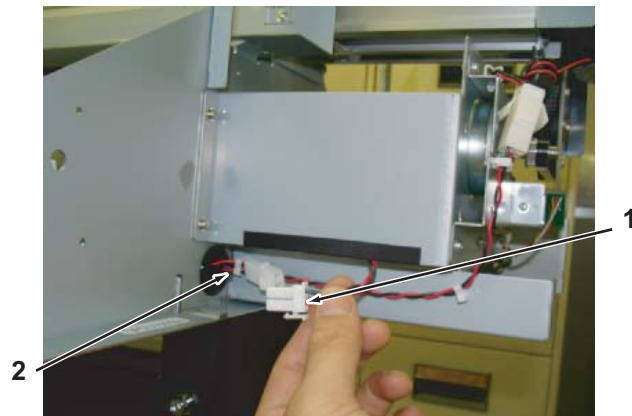
No.	Name
1	HEATER RELAY Board Assy
2	HEATER CONT Board Assy
3	Power Cable CNT-RLY Assy

3. Replace Power Cable CNT-RLY Assy.
4. To reassemble unit, reverse the removal procedure.

3.5 Replacement of PF Driving Section Components

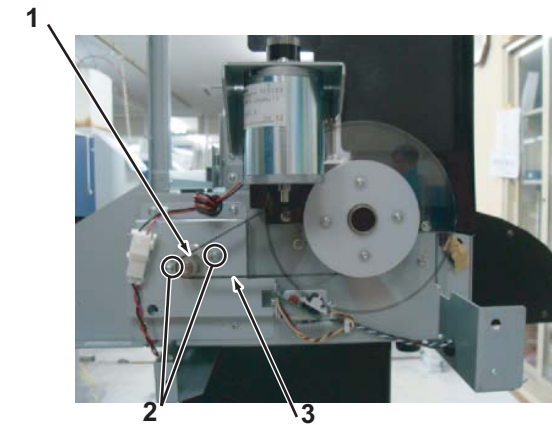
3.5.1 Replace PF Motor Assy

1. Initialize PF Motor counter.
☞ **"6.3.2 Counter Initialization Menu" p.6-11**
2. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
3. Remove the cable of PF Motor Assy from PF Motor Relay Assy.



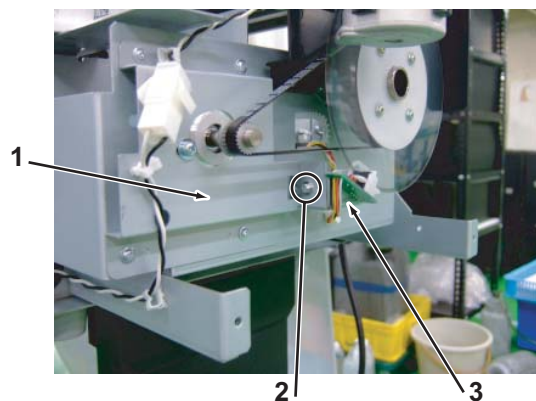
No.	Name
1	Cable of PF Motor Assy
2	PF Motor Relay Assy

4. Loosen the screws (2 pieces) retaining PF motor Assy on PF bracket, then remove PF speed reduction belt from PF motor Assy.



No.	Name
1	PF bracket
2	Pan-head screw with spring washer and flat washerM4 × 8
3	PF speed reduction belt

5. Remove the screw (1 piece) retaining PF encoder mounting plate on PF bracket, then remove PF encoder mounting plate.

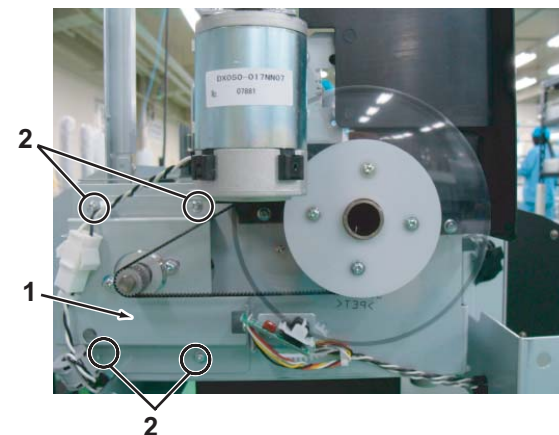


No.	Name
1	PF bracket
2	Pan-head screw with spring washer and flat washer M3 × 6
3	PF Encoder mounting plate

NOTE

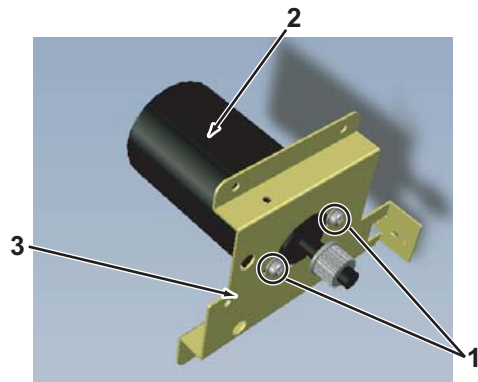
When removing PF encoder mounting plate from PF bracket, do not damage PF scale by contacting with PF encoder Assy. Also, do not bend or touch the circumference of PF scale.

6. Remove the screws (4 pieces) retaining PF bracket, Remove PF bracket with mounted PF Motor Assy.



No.	Name
1	PF bracket
2	Tapping screw M3×6 S Tight cup

7. Remove the screws (2 pieces) retaining PF Motor Assy.



No.	Name
1	Pan-head screw with spring washer and flat washerM4×8
2	PF Motor Assy
3	PF Motor bracket

8. Replace PF Motor Assy.
9. To reassemble unit, reverse the removal procedure.

NOTE

Move PF speed reduction pulley with your hand to check if PF speed reduction belt is equally balanced on the pulley center section of PF motor Assy.

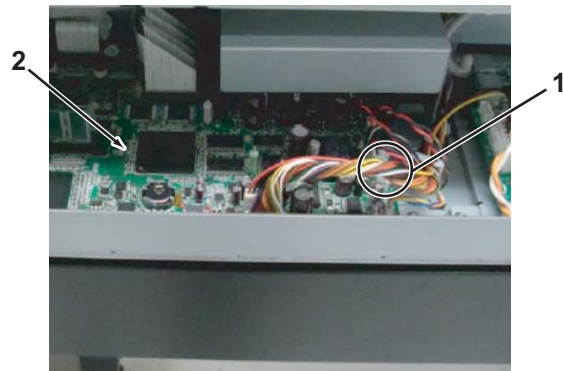
10. Perform adjustments by following the instructions in  ["4.2 Adjustment Item" p.4-2](#)

3.5.2 Replacing PF Motor Relay Assy

TIP

- Replacing Procedure For Maintenance Part:PF motor relay A0 Assy.
This part will be referred to as the PF motor relay Assy in this manual.

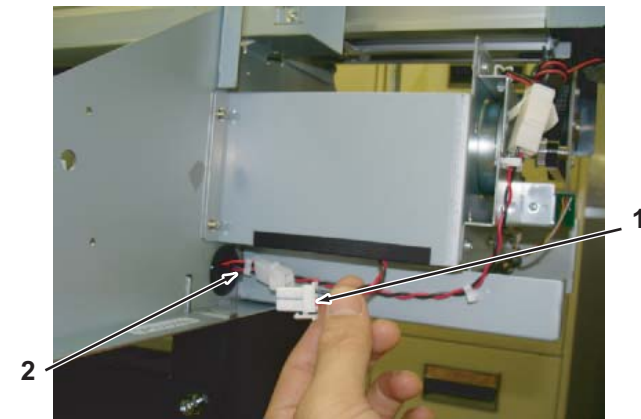
- Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
- Remove Paper Guide R2.
☞ **"3.2.7 Removing Paper Guide R2" p.3-17**
- Remove PF motor relay Assy connector (white) from MAIN board Assy (J12).
(PF motor relay Assy is a stranded wire of red and black)



No.	Name
1	Connector of PF motor relay Assy
2	MAIN Board Assy

- Remove PF Motor relay Assy from clamps on the Path.

- Remove Connector of PF Motor Relay Assy from Connector of PF Motor Assy.

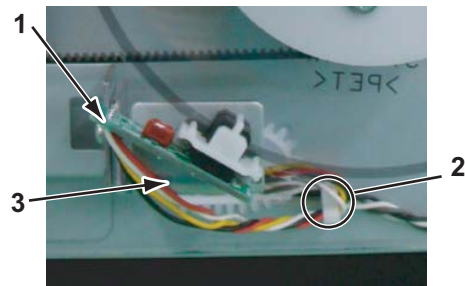
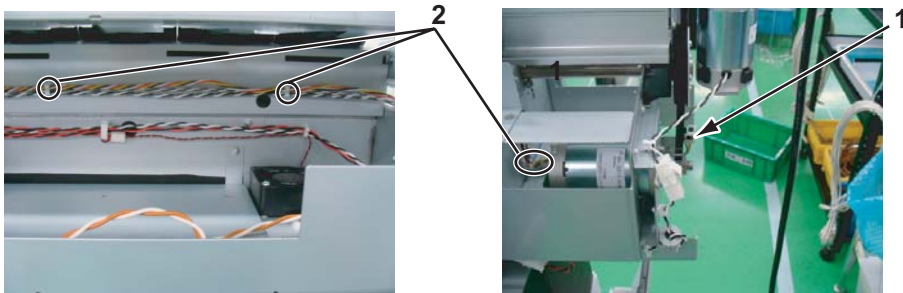


No.	Name
1	Connector of PF Motor Assy
2	Connector of PF Motor relay Assy

- Replace PF Motor relay Assy.
- To reassemble unit, reverse the removal procedure.

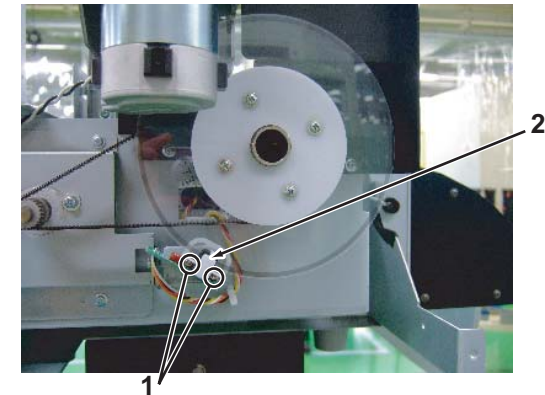
3.5.3 Replacing PF Encoder Assy

1. Remove Side Cover L.
☞ "3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11
2. Remove Paper Guide R2.
☞ "3.2.7 Removing Paper Guide R2" p.3-17
3. Remove PF Encoder Assy connector from MAIN board Assy.
☞ "3.4.4 Replacing MAIN Board Assy" p.3-42
4. Remove PF encoder Assy cable from the clamp, then pull it out from L frame cable inlet.



No.	Name
1	PF Encoder Assy
2	Clamp
3	Cable hole

5. Remove the screws (2 pieces) that retaining PF encoder Assy.



No.	Name
1	Pan head screw M2 × 8
2	PF Encoder Assy

NOTE

Do not damage or bend PF scale, or touch the circumference of scale.

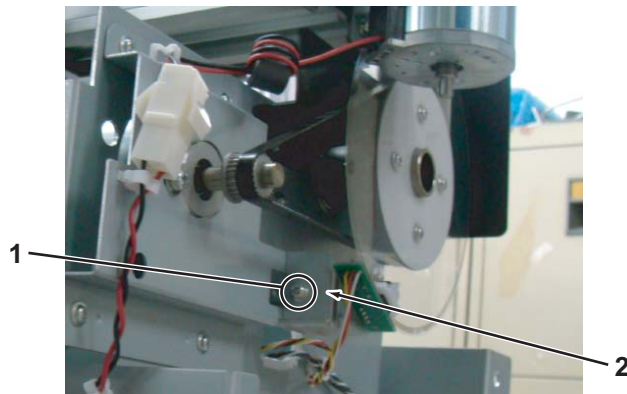
6. Replace PF encoder Assy.
7. To reassemble unit, reverse the removal procedure.
8. Perform adjustments by following the instructions in "4.2 Adjustment Item" p.4-2.

3.5.4 Replacing PF Encoder Scale

TIP

Replacing Procedure For Maintenance Part:PF_ENC scale Assy.
This part will be referred to as the PF Encoder Scale in this manual.

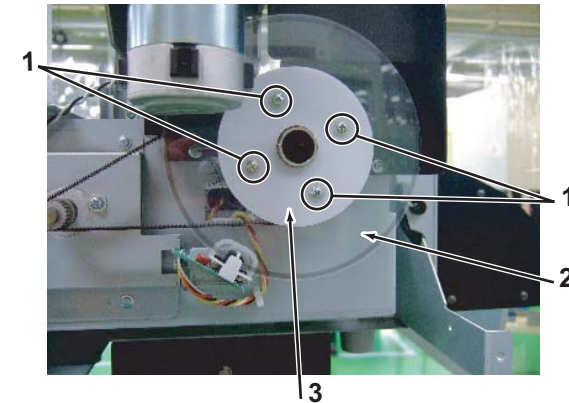
1. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder"** p.3-11
2. Remove the screw (1piece) retaining PF Encoder holding Plate.



No.	Name
1	Pan-head screw with spring washer and flat washer M3x6
2	PF Encoder Scale
3	ENC holder

3. Remove PF Encoder holding Plate.

4. Remove the screws (4 pieces) retaining ENC holder.



No.	Name
1	Tapping screw M3 × 8 P Tight cup
2	PF Encoder Scale
3	ENC holder

5. Remove ENC holder.
6. Replace PF Encoder scale.
7. To reassemble unit, reverse the removal procedure.

NOTE

When handling PF Encoder scale, note the following.

- Do not damage or bend PF Encoder scale. Do not touch the circumference of PF Encoder scale.
- Make sure that any residual of double-sided tape are not remained on the slit mounting flange.

8. Perform adjustments by following the instructions in ☞ **"4.2 Adjustment Item"** p.4-2

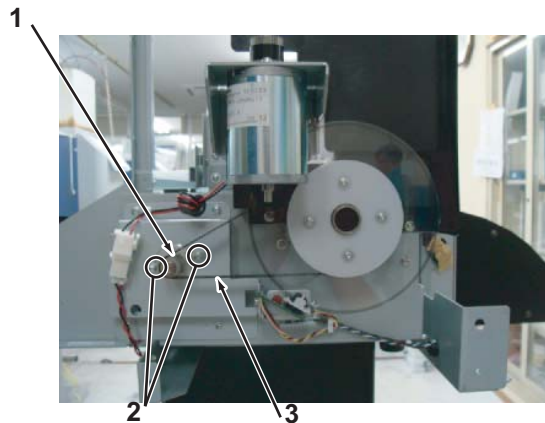
3.5.5 Replacing X speed reduction belt 、 Speed reduction Pulley

TIP

- Replacing Procedure For Maintenance Part:X speed reduction belt Assy.
This part will be referred to as X speed reduction belt in this manual.
- Replacing Procedure For Maintenance Part:Speed reduction Pulley Assy.
This part will be referred to as the Speed reduction Pulley in this manual.

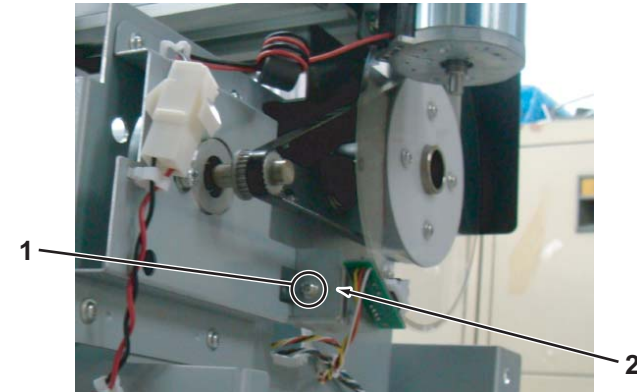
(1) Replacing X Speed Reduction Belt

1. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
2. Loosen screws (2 pieces) retaining PF Motor Assy, and remove X Speed reduction belt from PF Motor Assy Pulley.



No.	Name
1	PF Motor Assy pulley
2	Pan-head screw with spring washer and flat washer M4 × 8
3	X speed reduction belt

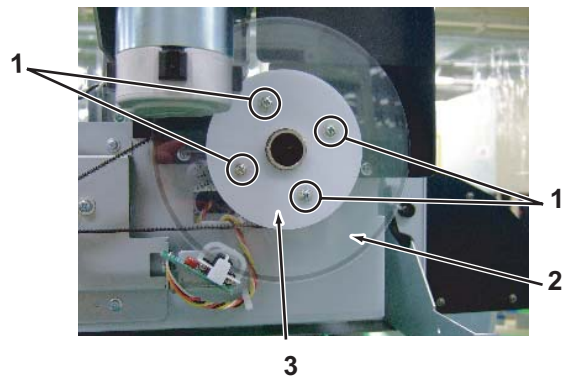
3. Remove the screw (1piece) retaining PF Encoder holding Plate.



No.	Name
1	Pan-head screw with spring washer and flat washer M3x6
2	PF Encoder Scale
3	ENC holder

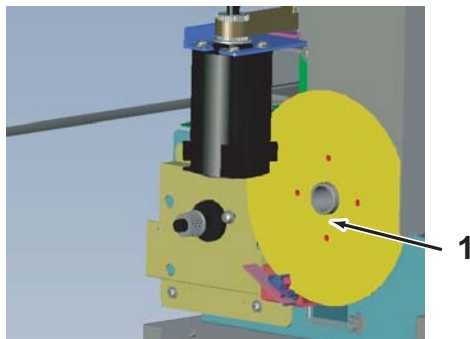
4. Remove PF Encoder holding Plate.

5. Remove the screws (4 pieces) retaining ENC holder.



No.	Name
1	Tapping screw M3 × 8 P Tight cup
2	PF Encoder scale
3	ENC holder

6. Remove ENC holder.
7. Remove PF Encoder scale.



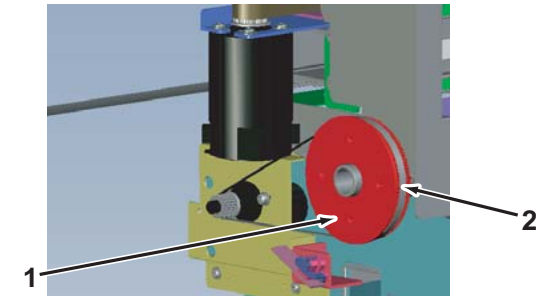
No.	Name
1	PF Encoder scale.

NOTE

When handling PF Encoder scale, be careful with the following:

- Do NOT damage or bend PF Encoder scale or touch its outer circumference.
- Make sure that slit mounting flange has NO remaining double-sided tape.

8. Remove Speed reduction belt from speed reduction pulley.



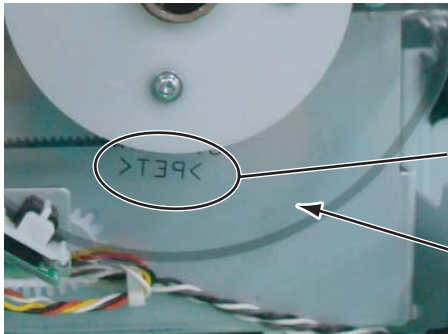
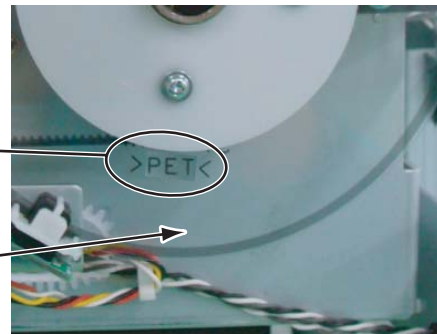
No.	Name
1	Speed reduction pulley
2	X speed reduction belt

9. Replace X Speed reduction belt.
10. Install PF Encoder Scale.

NOTE

When installing PF encoder scale, make sure that the letters printed on PF encoder scale are inverted.

If it is NOT mounted with the letters inverted, read accuracy of PF encoder may be reduced.

OK**NG**

2	Pan-head screw with spring washer and flat washerM4 × 8
3	Speed reduction belt

NOTE

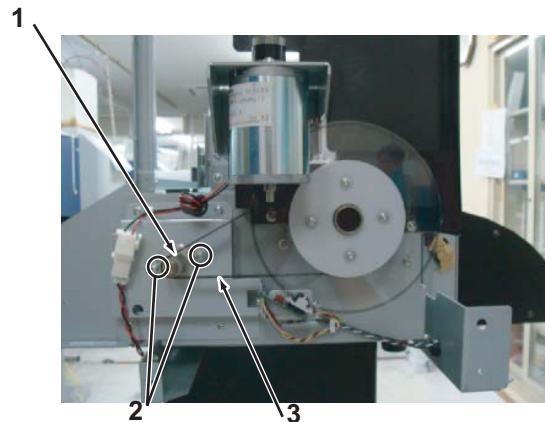
When installing X speed reduction belt, make sure that X speed reduction belt is evenly placed in the center of PF motor Assy pulley.

13. Perform adjustment referring to ["4.2 Adjustment Item" p.4-2](#)

14. To reassemble unit, reverse the removal procedure.

11. Install ENC holder.

12. Lightly tighten the screws (2 pieces) retaining PF motor and install X speed reduction belt on PF motor pulley



No.	Name
1	PF Motor pulley

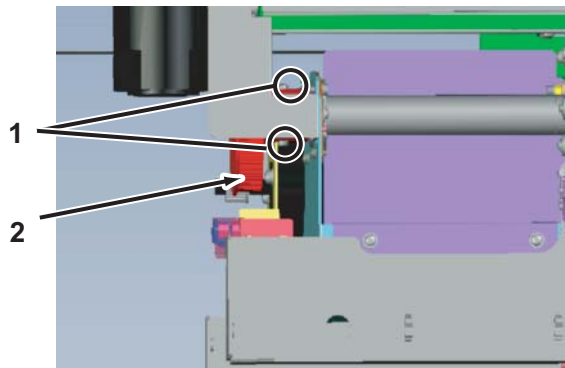
(2) Replacing Speed reduction Pulley

NOTE

Before replacing Speed reduction Pulley, remove up to X speed reduction belt.

☞ "3.5.5 Replacing X speed reduction belt 、 Speed reduction Pulley" p.3-67

1. Remove PF Motor Assy
☞ "3.5.1 Replace PF Motor Assy" p.3-61
2. Remove the screws (2 pieces) retaining speed reduction pulley .



No.	Name
1	Pan-head screw with spring washer and flat washerM3 × 8 Ni-3
2	Speed reduction Pulley

3. Replace Speed reduction Pulley.
4. To reassemble unit, reverse the removal procedure.
5. Perform adjustments by following the instructions in ☞ "4.2 Adjustment Item" p.4-2

3.5.6 Replacing Heater Section

(1) After Heater section

TIP



The procedure to replace After heater is the same for the Origin side and the opposite side of Origin. This section describes the procedure to replace the Origin side.

(1-a) Replacing After Heater

TIP

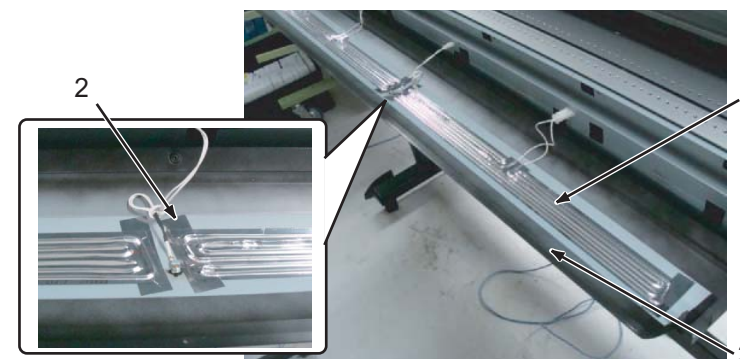
Replacing Procedure For Maintenance Part: Pre Heater (100).
This part will be referred to as After Heater in this manual.

1. Remove Paper Guide F (Upper).
🔧 **"3.2.5 Removing Paper Guide F(Upper)" p.3-14**
2. Remove the cable of After Heater from After Heater relay Assy.



No.	Name
1	After Heater relay Assy
2	the cable of After Heater

3. Remove Alminium Patch.
4. Remove After Heater from Paper guide F (Upper).



No.	Name
1	After Heater
2	Alminium patch
3	Paper guide F (Upper)

5. Replacing After Heater.

NOTE

Wipe the grease away from the heater attachment area before installing it.
Attach New After Heater to the position where removed Heater has been attached.

6. To reassemble unit, reverse the removal procedure.

(1-b)Replacing After Thermistor

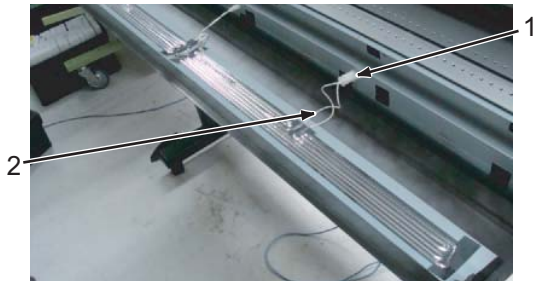
TIP

Replacing Procedure For Maintenance Part:Thermistor Assy.
This part will be referred to as After Thermistor in this manual.

1. Remove Paper guide F(Upper).

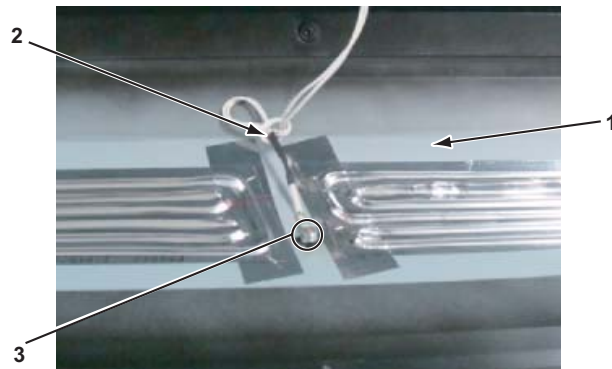
 **"3.2.5 Removing Paper Guide F(Upper)" p.3-14**

2. Remove After Thermistor from After Thermistor Relay Assy.



No.	Name
1	After Thermistor relay Assy
2	After Thermistor

3. Removing the nut (1 piece) retaining After Thermistor.



No.	Name
1	Paper Guide F (Upper)

2	After Heater
3	Serrated toothed flange nut M3

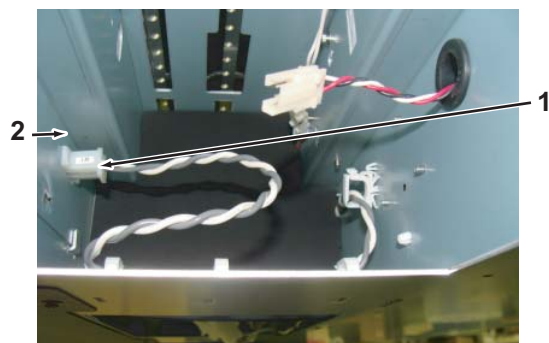
4. Replace After Thermistor.
5. To reassemble unit, reverse the removal procedure.

(1-c)Replacing After Heater Relay Assy

TIP

Replacing Procedure For Maintenance Part:AFT_H relay Assy.
This part will be referred to as After Heater Relay Assy in this manual.

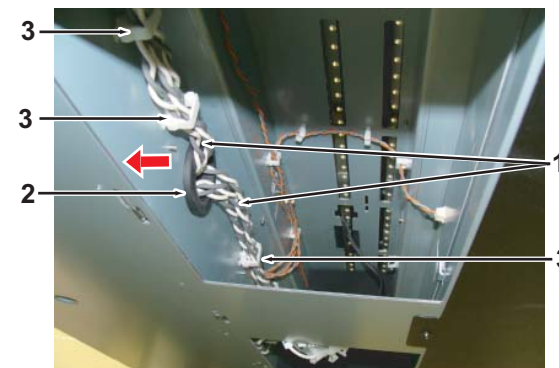
1. Remove Paper guide F(Upper).
☞ **"3.2.5 Removing Paper Guide F(Upper)" p.3-14**
2. Remove Paper guide R2.
☞ **"3.2.7 Removing Paper Guide R2" p.3-17**
3. Remove the cables from After Heater Relay Assy.
☞ **"(1-a) Replacing After Heater" p.3-71**
4. Remove screws (3 pieces each) retaining suction fan mounting plate to B Frame.
Remove the cable of Suction fan Assy (4pieces) from the connector of Suction fan relay cable.
☞ **"3.10.1 Replacing Adsorption FAN" p.3-149**
5. Remove After Heater Relay Assy from Frame.



No.	Name
1	After Heater Relay Assy
2	Frame

6. Remove After Heater Relay Assy from clamps on the path.

7. Pull out After Heater relay Assy through grommet(Large) to the back side of printer (HEATER RELAY board Assy side).



No.	Name
1	After Heater Relay Assy
2	Grommet (Large)
3	Clamp

8. Remove After Heater relay Assy from HEATER RELAY board Assy.



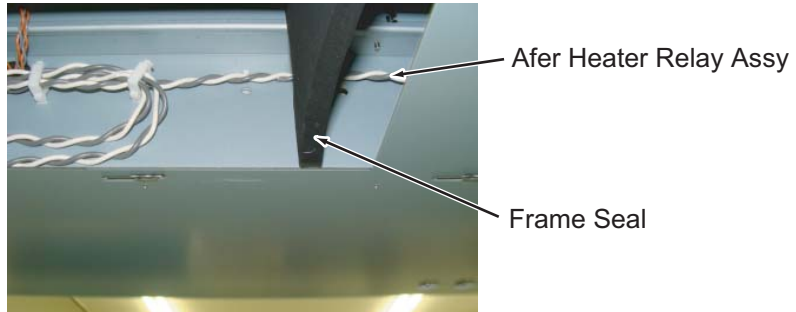
No.	Name
1	Afer Heater relay Assy
2	Grommet (Large)
3	HEATER RELAY boardAssy

9. Replace After Heater relay Assy.

10. To reassemble the unit, reverse the removal procedure.

NOTE

- While at work, no need to remove Frame seal.
- After replacing, make sure not to bend the frame seal and not to peel the frame seal. When the frame seal attached improperly, suction fan might not function improperly.

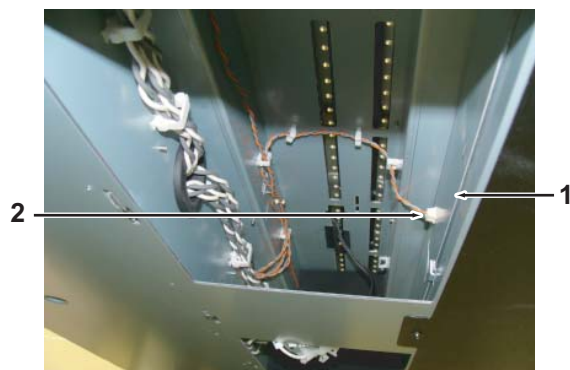


(1-d)Replacing After Thermistor relay Assy

TIP

Replacing Procedure For Maintenance Part:AFT_T relay Assy.
This part will be referred to as After Thermistor Relay Assy in this manual.

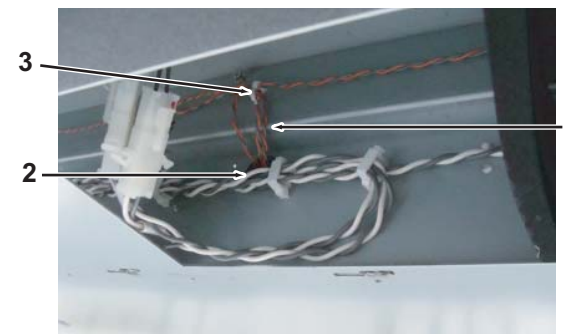
1. Remove Paper guide F (Upper).
☞ **"3.2.5 Removing Paper Guide F(Upper)" p.3-14**
2. Remove Paper guide R2.
☞ **"3.2.7 Removing Paper Guide R2" p.3-17**
3. Remove the cable of After Thermistor from After Thermistor relay Assy.
☞ **"(1-a) Replacing After Heater" p.3-71**
4. Remove the screws (3 pieces) retaining suction fan mounting plate (Third from origin side) to B frame, and remove Suction fan (1 piece).
☞ **"3.10.1 Replacing Adsorption FAN" p.3-149**
5. Remove After Thermistor relay Assy from Frame.



No.	Name
1	Frame
2	After Thermistor relay Assy

6. Remove After Thermistor relay Assy from clamps on the path.

7. Pull out After Thermistor relay Assy through grommet (Small) to the back side of printer (HEATER RELAY board Assy side).



No.	Name
1	After Thermistor relay Assy
2	grommet (Small)
3	Clamp

8. Remove After Thermistor relay Assy from HEATER RELAY Board Assy.



No.	Name
1	HEATER RELAY Board Assy
2	grommet (small)
3	After Thermistor relay Assy

9. Replace After Thermistor relay Assy.
10. To reassemble the unit, reverse the removal procedure.

(2) Replacing Pre-Heater Section

(2-a) Replacing Pre Heater relay Assy

TIP

- Replacing Procedure For Maintenance Part: PRE_H relay Assy, PRE_H2 Relay Assy. These parts will be referred to as Pre Heater relay Assy in this manual.
- The seal is stuck on the connector of the Pre Heater relay Assy.

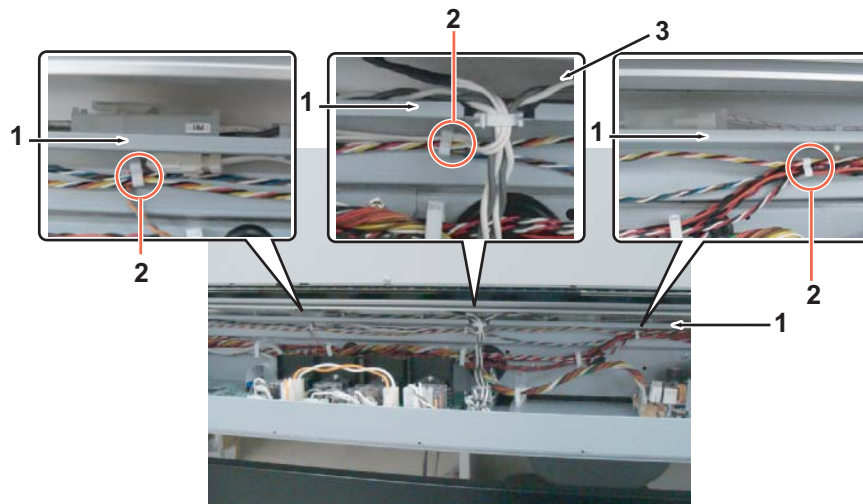
Connected to (Maintenance parts name)	Seal
Origin side (PRE_H relay Assy)	PRI
The opposite side of Origin (PRE_H2 relay Assy)	PR2

- This section describes the procedure to replace PRE_H2 relay Assy. When replacing PRE_H relay Assy(origin side), refer to the procedure in this section.

1. Remove Paper guide R2.

 **"3.2.7 Removing Paper Guide R2" p.3-17**

2. Remove the clamps (3 pieces) under the plate which the Pre Heater relay Assy is mounted.

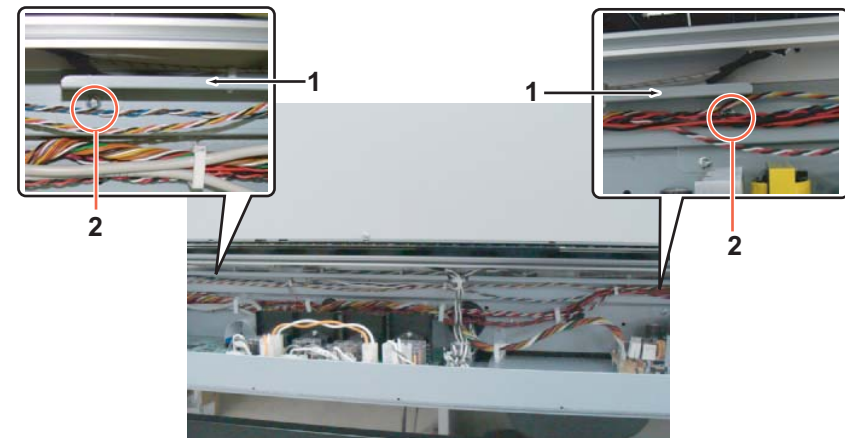


No.	Name
1	Plate
2	Clamp
3	Pre Heater relay Assy

NOTE

Remove the clamps (3 pieces) with clamping the cables.

3. Remove the screws (2 pieces) retaining plate.



No.	Name
1	plate
2	clamp

4. Remove plate.



No.	Name
1	plate

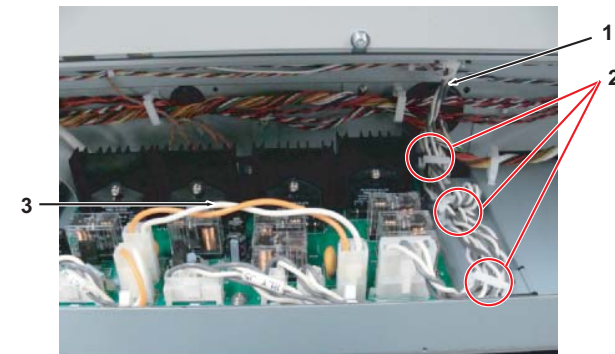
5. Remove the cable of Pre Heater from Pre Heater relay Assy.



No.	Name
1	Pre Heater relay Assy
2	Cable of Pre Heater

6. Remove the Pre Heater relay Assy from the clamps on the path.

7. Remove the connector of Pre Heater relay Assy from HEATER RELAY Board Assy.(origin side J7 : the opposite side of origin:J8).



No.	Name	
1	Pre Heater relay Assy	
2	Clamp	
3	HEATER RELAY Board Assy	Origin side J7
		The opposite side of origin J8

8. Replace Pre Heater relay Assy.
9. To reassemble the unit, reverse the removal procedure.

NOTE

- When reassembling the plate , make sure not to nip cables. Doing so may cause disconnecting.
- Please note that Maintenance parts are different on the origin side and the opposite side origin.
If connecting the cables incorrectly, the printer might not function properly.

(2-b)Replacing Pre Thermistor relay Assy

TIP

Replacing Procedure For Maintenance Part:PRE_T relay Assy.
This part will be referred to as Pre thermistor relay Assy in this manual.

1. Remove Paper guide R2.

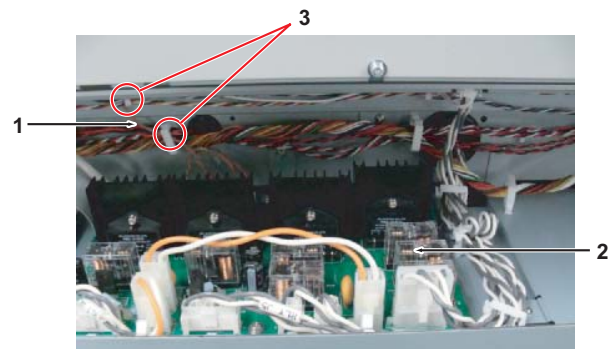
 **"3.2.7 Removing Paper Guide R2" p.3-17**

2. Remove Pre Thermistor from Pre thermistor relay Assy.



No.	Name
1	Pre thermistor relay Assy
2	Pre thermistor

3. Remove Pre thermistor relay Assy from clamps on the path.
4. Remove the connector of the Pre thermistor relay Assy from HEATER RELAY Board Assy(15).



No.	Name
1	Pre thermistor relay Assy
2	HEATER RELAY Board Assy (J15)
3	Clamp

5. Replace Pre thermistor relay Assy.
6. To reassemble the unit, reverse the removal procedure.

(2-c)Replacing Pre Heater, Pre Thermistor

TIP

- Replacing Procedure For Maintenance Part:Platen Heater (100).
This part will be referred to as Pre Heater in this manual.
- Replacing Procedure For Maintenance Part:Thermistor Assy.
This part will be referred to as Pre thermistor in this manual.

NOTE

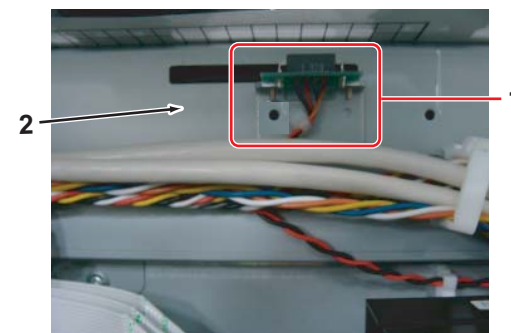
- Pre Heater is attached to the back side of Paper guide R1.
When replacing Pre Heater, make sure to remove the Paper guide R1 from Printer.
- When replacing Pre Thermistor, make sure to remove the Paper guide R1 from Printer.
- When replacing Pre Thermistor, replace Pre Heater simultaneously.

1. Remove Paper guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove Pre Thermistor from Pre thermistor relay Assy.
🔧 ["\(2-b\) Replacing Pre Thermistor relay Assy" p.3-78](#)
3. Remove the plate that Pre Heater relay Assy is fixed.
🔧 ["\(2-a\) Replacing Pre Heater relay Assy" p.3-76](#)
4. Remove Pre Heater relay Assy from the cable of Pre Heater.
🔧 ["\(2-a\) Replacing Pre Heater relay Assy" p.3-76](#)
5. Remove Cooling Fan Bracket.
🔧 ["3.4.2 Replacing Cooling FAN 24V Assy \(For MAIN Board\)" p.3-38](#)
6. Remove the screw(1 piece) retaining P_REAR sensor.



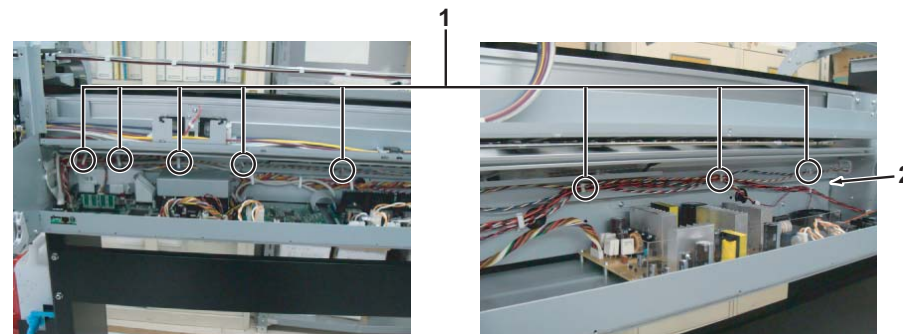
No.	Name
1	P_REAR sensor
2	Tapping screw M3×6 S tight cup

7. Remove P_REAR sensor from Paper guide R1.



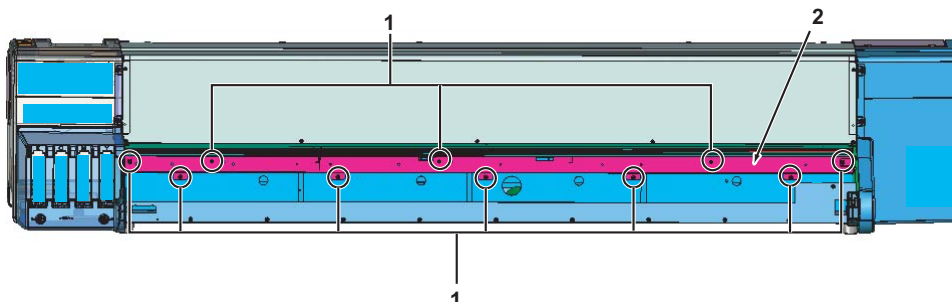
No.	Name
1	P_REAR sensor
2	Paper guide R1

8. Remove all clamp that is fixed to paper guide stay a1.
(With cables fixed.)



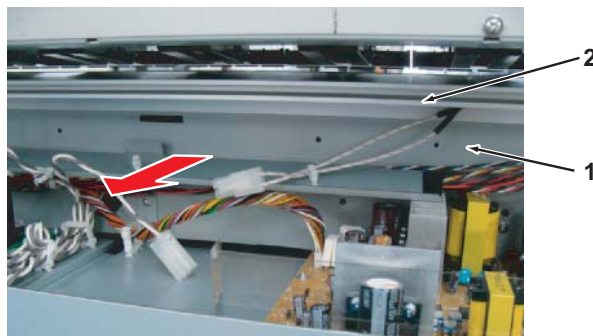
No.	Name
1	clamp
2	paper guide stay a1

9. Remove the screws (10 pieces) retaining paper guide stay a1.



No.	Name
1	Tapping screw M3 × 6S tight cup
2	paper guide stay a1

10. Remove paper guide stay a1.
(Remove paper guide R1 with paper guide stay a1 assembled.)

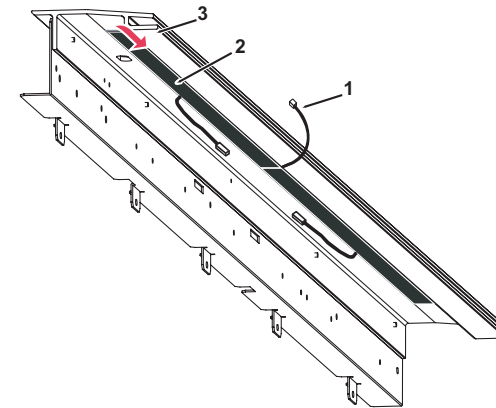


No.	Name
1	Paper guide stay a1
2	Paper guide R1

NOTE

- Not to disconnect cables.
- Draw out the paper guide R1 and remove it.

11. Remove insulator from paper guide stay R1.



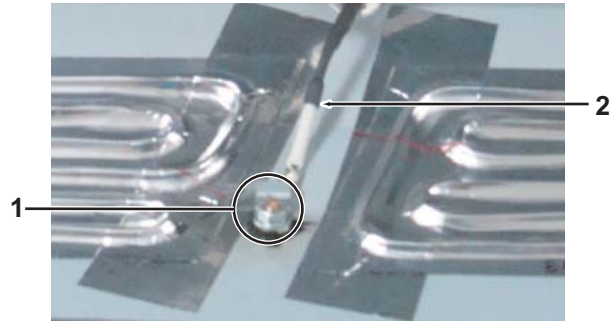
No.	Name
1	Pre thermistor
2	insulator
3	paper guide stay R1

TIP

- Insulator and Pre Heater are attached with double-faced tape.
- When insulator is removed, Pre Heater is removed too.

When replacing Pre Thermistor, go to STEP 12.
When replacing Pre Heater only, go to STEP 14.

12. Remove the screw (1 piece) retaining Pre thermistor.

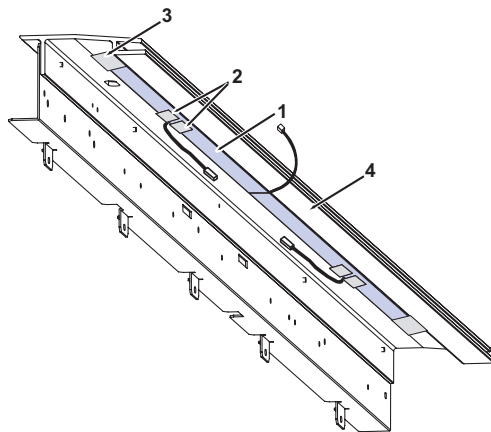


No.	Name
1	Pan head screw with spring washer and flat washer M3 × 5
2	Pre thermistor

13. Replacing Pre Thermistor.

14. Attach new Pre Heater.

15. Attach new aluminium patch.



No.	Name
1	Pre Heater
2	Aluminium patch (small)
3	Aluminium patch (Large)
4	Paper guide R1

NOTE

- Attach new Pre Heater to the place where old Pre Heater was attached.
- Wipe the grease away from the heater attachment area before installing it. Otherwise Pre Heater may peel off easily.

16. Attach new insulator.

17. To reassemble the unit, reverse the removal procedure.

18. Perform adjustments by following the instructions in ["4.2 Adjustment Item" p.4-2](#)

(3) Platen Heater Section

NOTE

- Not to replace Platen Heater and Platen Thermistor.
- Print Quality may be affected if removing Platen.

(3-a) Replacing Platen Heater relay Assy

TIP

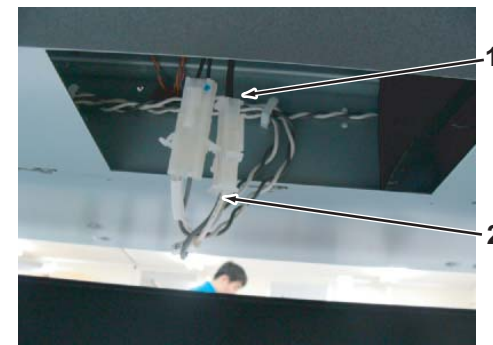
- Replacing Procedure For Maintenance Part: PLT_H1 Cable Assy, PLT_H2 Cable Assy. This part will be referred to as Platen Heater relay Assy in this manual.
- The seal is stuck on the connector of the Pre Heater relay Assy.

Connected to (Maintenance Part name)	Seal	
Originside (PLT_H1 Cable Assy)	PT1A	PT1B
Opposite side of origin (PLT_H2 Cable Assy)	PT2A	PT2B

- This section describes the procedure to replace PLT_H1 Cable Assy. When replacing PLT_H2 Cable Assy (opposite side of origin), refer to the procedure in this section.

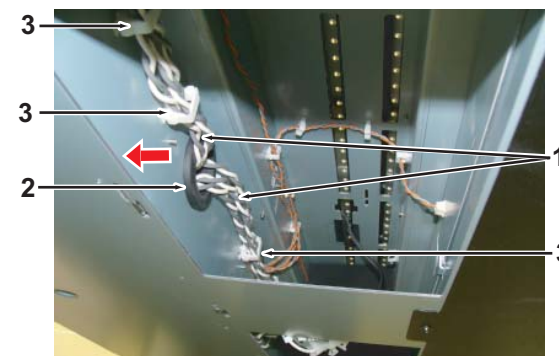
1. Remove Paper guide R2.
🔧 "3.2.7 Removing Paper Guide R2" p.3-17
2. Remove the screws retaining Suction fan mounting plate to B frame, and remove suction fan Assy (Origin side: 2 parts of center, the opposite side of origin : 2 parts of L side).
🔧 "3.10.1 Replacing Adsorption FAN" p.3-149

3. Remove Platen Heater relay Assy from the cable of Platen Heater.



No.	Name
1	the cable of Platen Heater
2	Platen Heater relay Assy

4. Remove Platen Heater relay Assy from clamps on the path.
5. Pull out Platen Heater relay Assy through grommet (Large) to the back side of printer (HEATER RELAY board Assy side).



No.	Name
1	Platen Heater relay Assy
2	Grommet (Large)
3	Clamp

6. Remove Platen Heater relay Assy from HEATER RELAY board Assy.



No.	Name	
1	Platen Heater relay Assy	
2	Grommet (Large)	
3	HEATER RELAY board Assy	Origin side J2
		The opposite side of origin J5

7. Replace Platen Heater relay Assy.
8. To reassemble the unit, reverse the removal procedure.

(3-b)Replacing Platen Thermistor relay Assy

TIP

- Replacing Procedure For Maintenance Part:PLT_T1 Cable Assy,PLT_T2 Cable Assy. This part will be referred to as Platen Heater relay Assy in this manual.
- This section describes the procedure to replace PLT_T1 Cable Assy.When replacing PLT_T2 Cable Assy (the opposite side of origin) , refer to the procedure in this section.

1. Remove Paper guide R2.

☞ "3.2.7 Removing Paper Guide R2" p.3-17

2. Remove the screws (3 pieces) retaining Suction fan mounting plate (3 parts at the opposite side of origin) to B frame, and remove Suction fan relay Assy connectors (3 pieces) from suction fan Assy .

☞ "3.10.1 Replacing Adsorption FAN" p.3-149

TIP

When replacing Platen Thermistor relay Assy (Origin side), remove the suction mounting plate (2 parts at origin side).

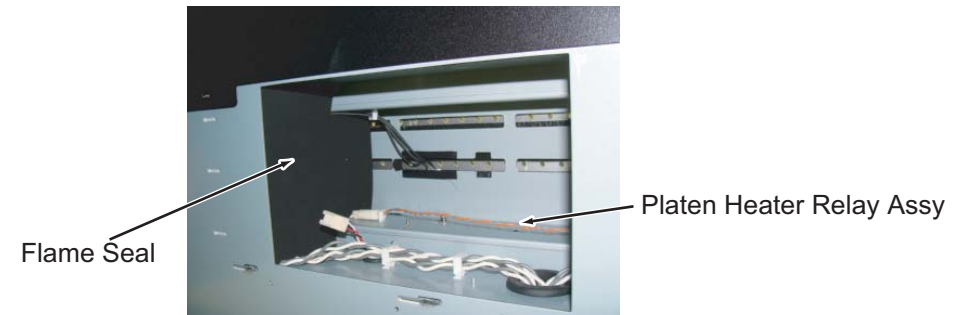
3. Remove Platen Thermistor relay Assy from PLaten Thermistor.



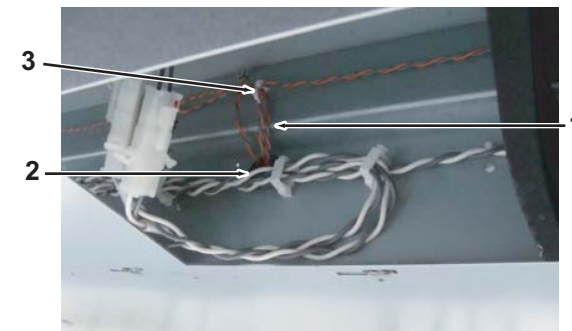
No.	Name
1	Platen Thermistor relay Assy (orange, grey)
2	Platen Thermistor (White)

TIP

- While at work, no need to remove Frame seal.
- After replacing, make sure not to bend the frame seal and not to peel the frame seal. When the frame seal attached improperly, suction fan might not function properly.



4. Remove Platen Thermistor relay Assy from clamps on the path.
5. Pull out Platen Thermistor relay Assy through grommet (Small) to the back side of printer (HEATER RELAY board Assy side).



No.	Name
1	Platen Thermistor relay Assy
2	Grommet (small)
3	Clamp

6. Remove Platen Thermistor relay Assy from HEATER RELAY board Assy.



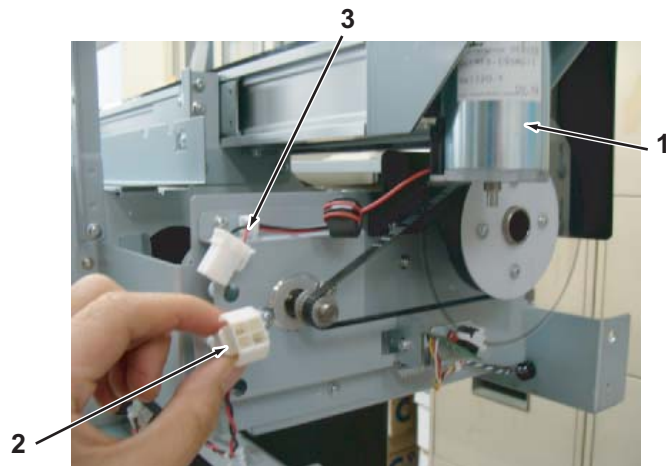
No.	Name	
1	Platen Thermistor relay Assy	
2	Grommet (small)	
3	HEATER RELAY board Assy	Origin side : J12
		the opposite side of origin : J13

7. Replace Platen Thermistor relay Assy.
8. To reassemble the unit, reverse the removal procedure.

3.6 Replacing CR Driving Section Components

3.6.1 Replacing CR Motor Assy

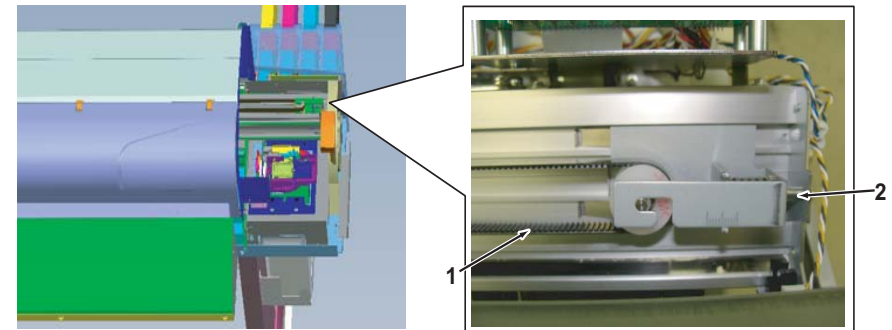
1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Side Cover L.
☞ ["3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11](#)
4. Detach CR motor Assy connector from Relay connector.
5. Remove CR motor Assy cable from the clamp (1 piece)



No.	Name
1	CR Motor Assy
2	Relay connector
3	Clamp

6. Move the Carriage to the opposite side of origin.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)

7. Loosen the screw (1 piece) for adjusting CR belt tension on the origin, and loosen CR belt tension.

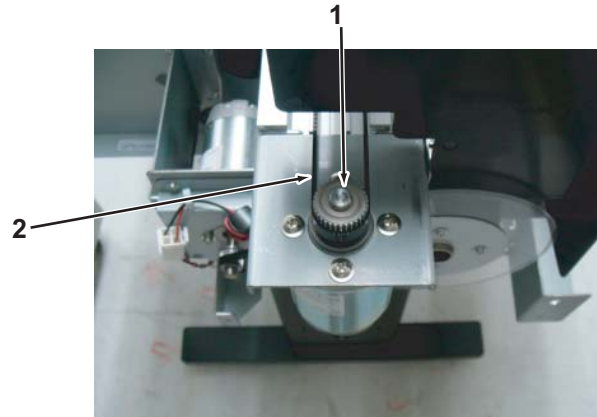


No.	Name
1	CRbelt
2	pan-head small screwM4 × 35

NOTE

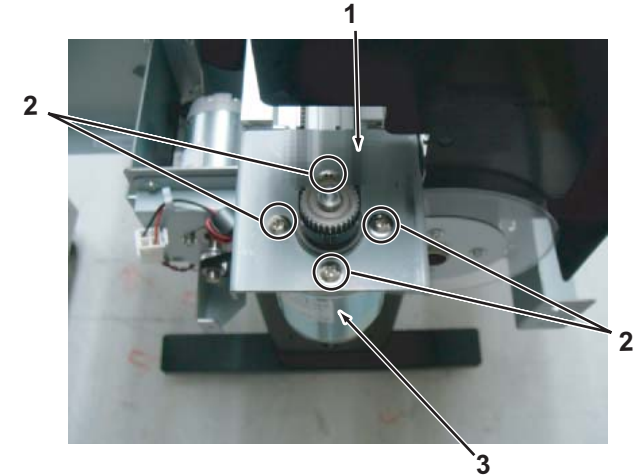
The screws for adjusting CR belt tension have threadlock applied to. Make sure to apply threadlock when fixing them again.

8. Remove CR belt from CR motor Assy pulley on the opposite side of the origin.



No.	Name
1	CR Motor Assy Pulley
2	CR belt

9. Remove the screws (4 pieces) retaining CR motor Assy on CR motor mounting material

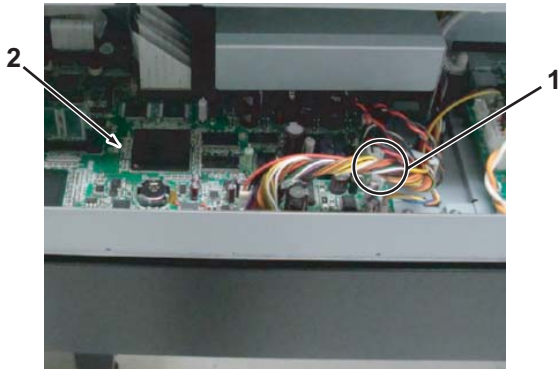


No.	Name
1	CR Motor mounting material
2	Cup screw M4 × 8
3	CR Motor Assy

10. Replace CR Motor Assy.
11. To reassemble unit, reverse the removal procedure.
12. Perform adjustments by following the instructions in ["4.2 Adjustment Item" p.4-2](#)

3.6.2 Replacing CR Motor Cable Assy

- 1. Remove Side Cover L.
🔧 "3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11
- 2. Remove Paper Guide R2.
🔧 "3.2.7 Removing Paper Guide R2" p.3-17
- 3. Remove Connector of CR Motor Cable Assy from MAIN Board Assy (J17).

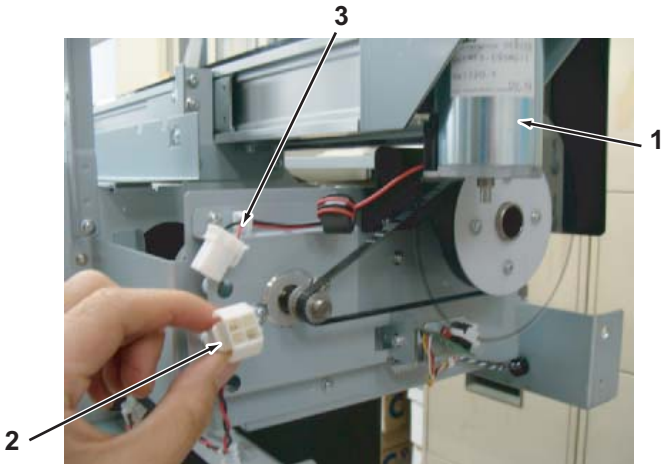


No.	Name
1	Connector of CR Motor Cable Assy
2	MAIN Board Assy

NOTE

CR Motor Cable is a stranded wires of 2 pieces (Red,Black) .Cable color is White.

- 4. Remove CR Motor Cable Assy from Connector of CR Motor Assy.



No.	Name
1	CR Motor Assy
2	CR Motor CableAssy
3	Connector of CR Motor Assy

- 5. Remove CR Motor Cable Assy from Clamps on the Path.
- 6. Replace CR Motor Cable Assy.
- 7. To reassemble the unit, reverse the removal procedure.

3.6.3 Replacing CR_HP sensor

TIP

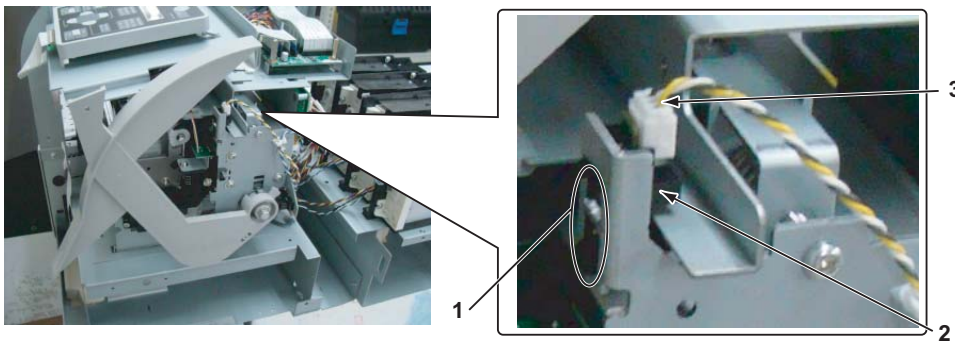
Replacing Procedure For Maintenance Part:CR_HP Sensor, Lever Sensor.
This part will be referred to as the CR_HP sensor in this manual.

NOTE

Apply threadlocker to the new CR_HP sensor when installing it.

8. Perform adjustments by following the instructions in ["4.2 Adjustment Item" p.4-2](#).

1. Remove I/H Cover.
["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
["3.2.2 Remove Side Cover R" p.3-8](#)
3. Move the Carriage to the opposite side of origin.
["3.7.1 How To Release Carriage Lock" p.3-98](#)
4. Remove connector of CR Origin Sensor Cable Assy from CR_HP sensor.
5. Release the hook retaining CR_HP sensor, remove CR_HP sensor.

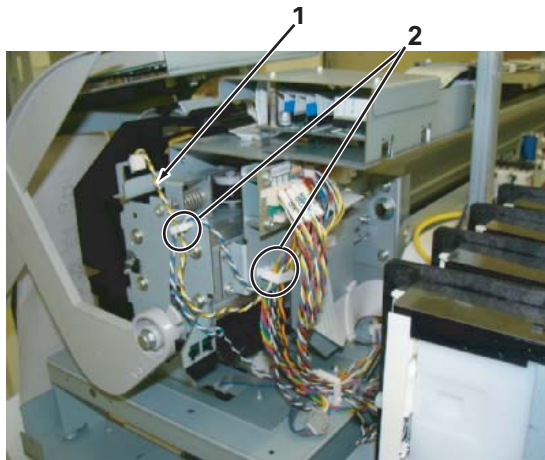


No.	Name
1	Hook
2	CR_HP sensor
3	Connector

6. Replace CR_HP sensor.
7. To reassemble unit, reverse the removal procedure.

3.6.4 Replacing CR Origin Sensor Cable Assy

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Move the Carriage to the opposite side of origin.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
4. Remove Connector (White) of CR Origin Sensor Cable Assy from JUNCTION Board Assy.
(CR Origin Sensor Cable Assy is a stranded wires of 3 pieces (White, Gray, Yellow).
☞ ["3.4.11 Replacing JUNCTION Board Assy" p.3-51](#)
5. Remove CR Origin Sensor Cable Assy from clamps on the Path.



No.	Name
1	CR Origin Sensor Cable Assy
2	Clamp

6. Replace CR Origin Sensor Cable Assy.
7. To reassemble the unit, reverse the removal procedure.

3.6.5 Replacing Lever Sensor

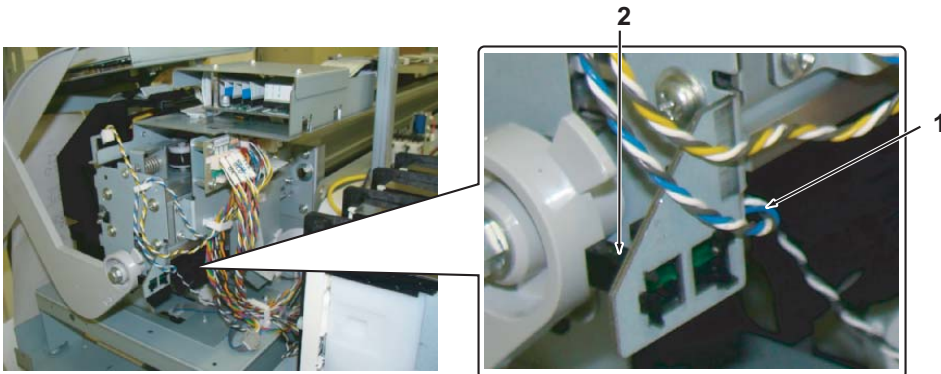
TIP

Replacing Procedure For Maintenance Part:CR_HP Sensor, Lever Sensor.
This part will be referred to as the Lever sensor in this manual.

NOTE

- Lever sensor is fixed with threadlock.
- Apply threadlock to the new lever sensor before installing it.
- Lever sensor relay Assy is a stranded wire of Gray, White and blue.

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Shift Pressure lever forward (Downward) .
4. Remove lever sensor cable Assy connector from Lever sensor.

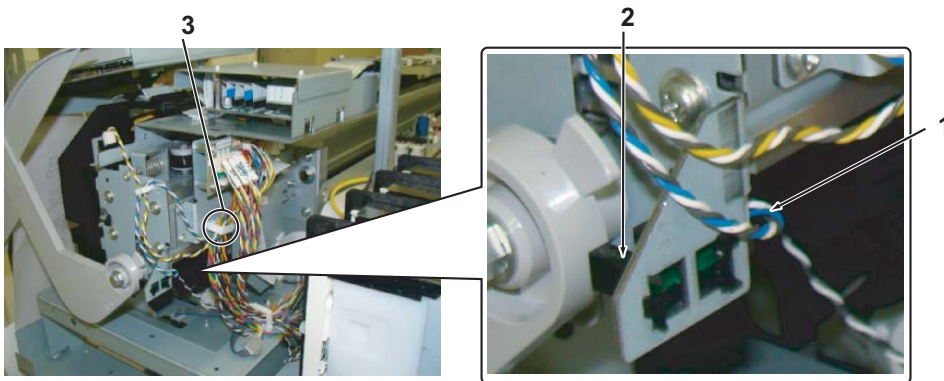


No.	Name
1	Lever Sensor Cable Assy
2	Lever Sensor

5. Release the hook retaining lever sensor, then replace lever sensor.
6. To reassemble unit, reverse the removal procedure.

3.6.6 Replacing Lever Sensor Cable Assy

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Lever sensor Cable Assy from JUNCTION board Assy.
(Lever sensor Cable Assy is a stranded wires of 3 pieces (White, Blue, Gray).
☞ ["3.4.11 Replacing JUNCTION Board Assy" p.3-51](#)
4. Shift pressure lever forward (Downward).
5. Remove Lever sensor Cable Assy from Lever sensor.
6. Remove Lever Sensor Cable Assy from Clamp.



No.	Name
1	Lever Sensor Cable Assy
2	Lever Sensor
3	Clamp

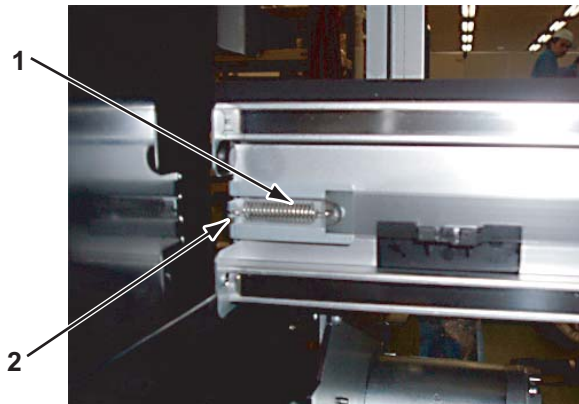
7. Replace Lever Sensor Cable Assy.
8. To reassemble the unit, reverse the removal procedure.

3.6.7 Replacing T Fence, T Fence Spring Assy

TIP

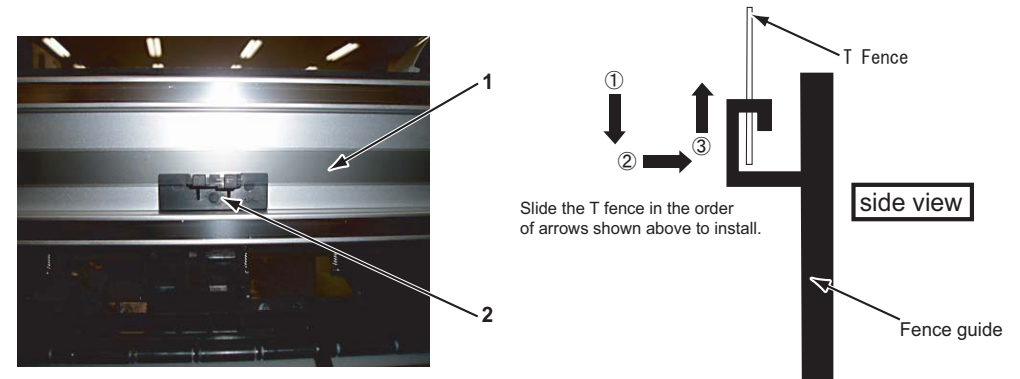
Replacing Procedure For Maintenance Part:T Fence RJ1300 Assy.
This part will be referred to as the T Fence in this manual.

1. Remove I/H Cover.
☞ **"3.2.1 Removing I/H Cover" p.3-7**
2. Remove Side Cover R.
☞ **"3.2.2 Remove Side Cover R" p.3-8**
3. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
4. Remove T Fence Spring Assy from T Fence spring hook (opposite side of origin).



No.	Name
1	T Fence Spring Assy
2	T Fence Spring hook

5. From three fence guides, remove T fence by following instructions in the diagram below.



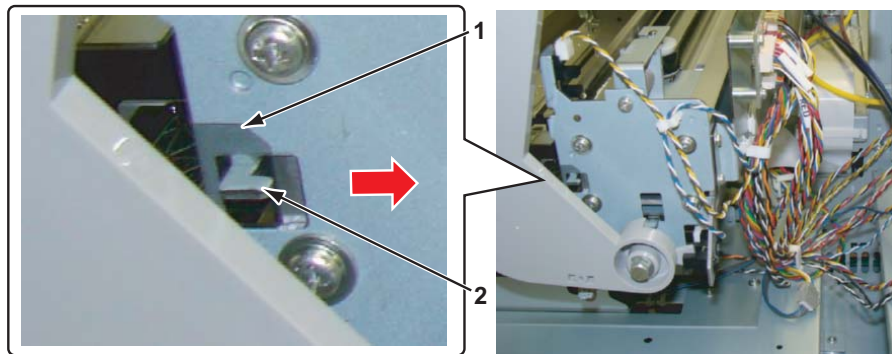
No.	Name
1	T Fence
2	Fence guide

CAUTION

When removing T fence, note the following.

- Do not pull T fence by force; the fence guide can be easily broken.
- Pay attention not to damage or break T fence.

6. Remove T fence from hook on the origin side, then pull it out toward the direction of the arrow in the diagram.



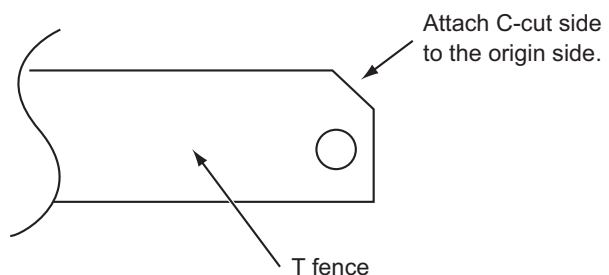
No.	Name
1	T Fence
2	T Fence hook

7. Replace T Fence.

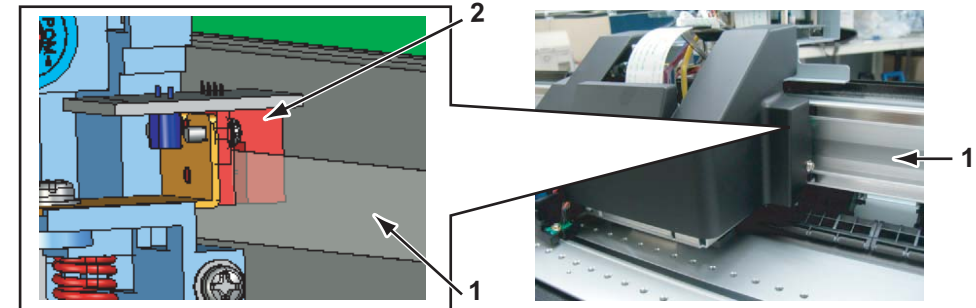
NOTE

Fold a new T fence to the outside (90 degrees) at the point 9 mm from the edge, then install it to Y rail frame hook.

Attach C-cut side of T fence to the origin side.



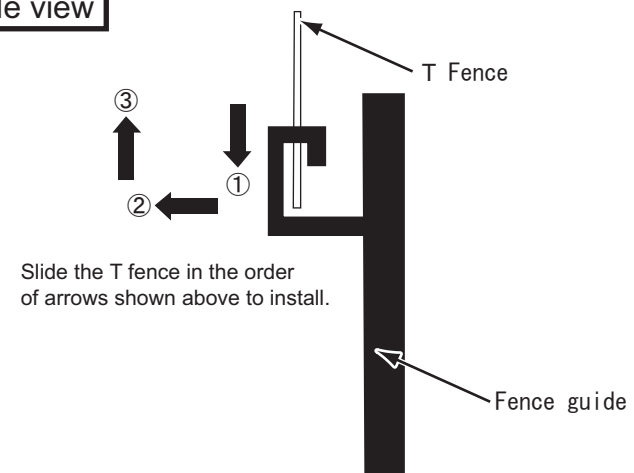
8. Insert T fence into CR encoder Assy.



No.	Name
1	T Fence
2	CR Encoder Assy

9. Install T fence to fence guide.

side view



10. Install T fence spring on T fence spring hook on opposite side of the origin.

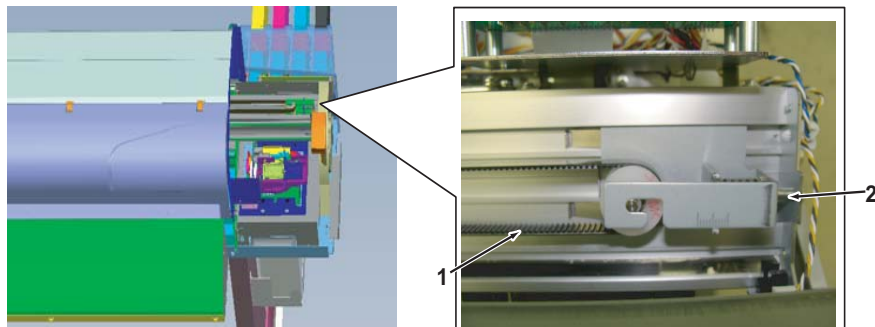
11. Perform adjustments by following the instructions in ["4.2 Adjustment Item" p.4-2](#)

3.6.8 Replacing CR Return Pulley Assy, CR Belt RJ13Assy

TIP

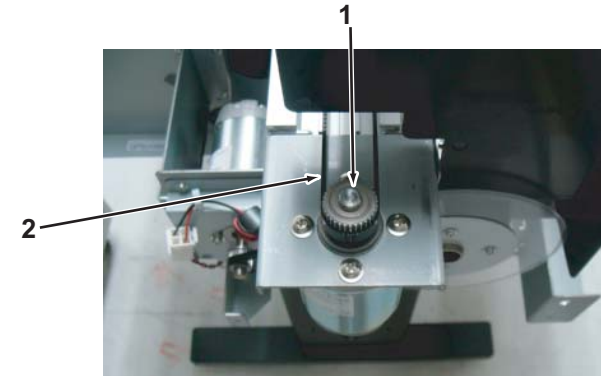
Replacing Procedure For Maintenance Part:CR Return Pulley, CR Belt RJ13 Assy.
This part will be referred to as the CR Return Pulley, CR Belt in this manual.

1. Remove I/H Cover.
☞ **"3.2.1 Removing I/H Cover" p.3-7**
2. Remove Side Cover R.
☞ **"3.2.2 Remove Side Cover R" p.3-8**
3. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
4. Remove Top Cover.
☞ **"3.2.6 Removing Top Cover" p.3-16**
5. Move the Carriage to the opposite side of origin.
☞ **"3.7.1 How To Release Carriage Lock" p.3-98**
6. Loosen the screw (1 piece) for adjusting CR belt tension on the origin, and loosen CR belt tension.



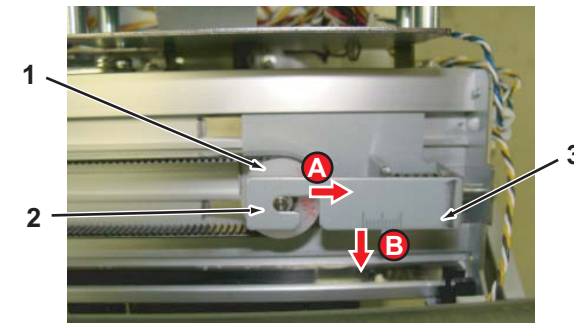
No.	Name
1	CRbelt
2	pan-head small screw M4 × 35

7. Remove CR belt from CR motor Assy pulley.



No.	Name
1	CR Motor Assy Pulley
2	CR Belt

8. Remove CR return pulley from CR return pulley base.
 - i) Shift CR return pulley toward the direction of A shown below.
 - ii) Shift CR return pulley toward the direction of B shown below.



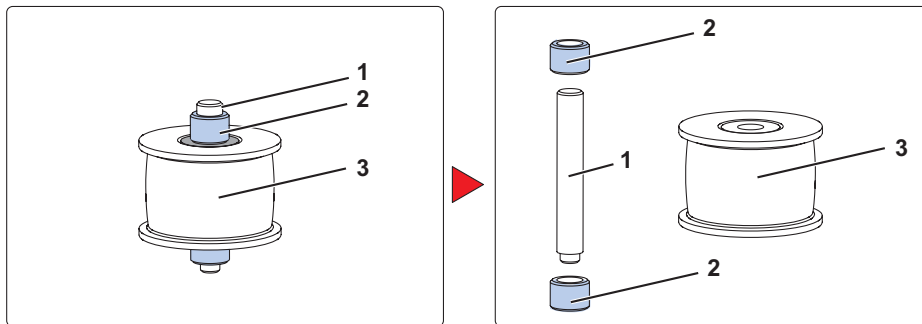
No.	Name
1	CR return pulley
2	CR return pulley shaft
3	CR return pulley base

9. Remove CR return pulley.
10. Remove CR belt.
11. Replace CR belt.

NOTE

When replacing CR belt only, the procedure is complete here. To reassemble the unit, reverse the removal procedure.

12. Remove CR following movement belt pulley shaft from CR return pulley.



No.	Name
1	CR Return Pulley Assy
2	Return Pulley axis
3	Bearing holder

13. Replace CR Return Pulley Assy.
14. To reassemble unit, reverse the removal procedure.

NOTE

- When installing following movement belt pulley shaft, make sure that the thinner shaft side faces down.
See also Exploded View
- After installing CR following movement belt pulley, move the carriage with your hand from side to side, and check if CR belt is equally balanced on the pulley center section of CR motor Assy .

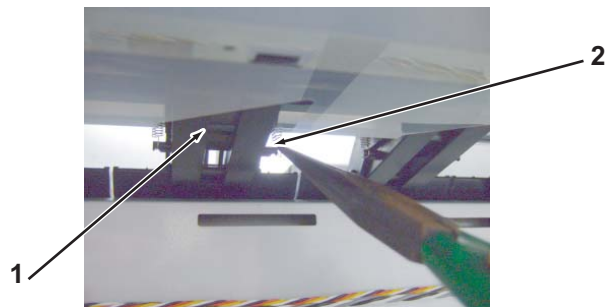
15. Perform adjustments by following the instructions in "4.2 Adjustment Item" p.4-2.

3.6.9 Replacing Pressure roller Arm Assy

This section describes Pressure Roller Assy, Pressure Roller Axis Assy, Pressure Roller Spring and Pressure Arm Assy.

(1) Replacing Pressure roller Spring

1. Remove Paper Guide R2.
☞ ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove the pressure Roller spring using longnose pliers, etc.



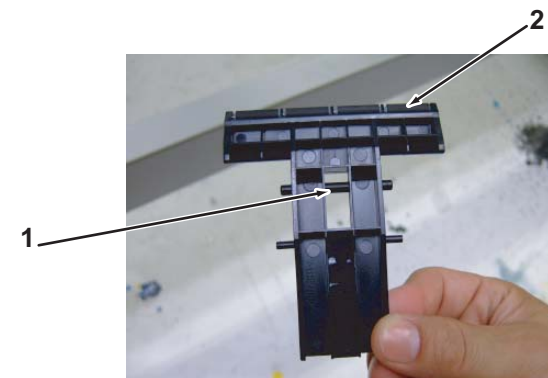
No.	Name
1	Pressure Roller Arm Assy
2	Pressure Roller Spring

3. Replace Pressure Roller Spring.
4. To reassemble the unit, reverse the removal procedure.

(2) Replace Pressure Roller Arm Assy

1. Remove Pressure Arm Spring Assy (2 pieces) retaining Pressure Roller Arm Assy.
☞ ["\(1\) Replacing Pressure roller Spring" p.3-97](#)
2. Remove Pressure Roller Arm Assy.

3. Remove Pressure Roller Assy from removed Pressure Roller Arm Assy.



No.	Name
1	Pressure Roller Arm Assy
2	Pressure Roller Assy

4. Replace Pressure Roller Arm Assy.
5. To reassemble the unit, reverse the removal procedure.

NOTE

If the upper spring comes off, attach it from the front side

(3) Pressure Roller Assy、 Pressure Roller Axis Assy

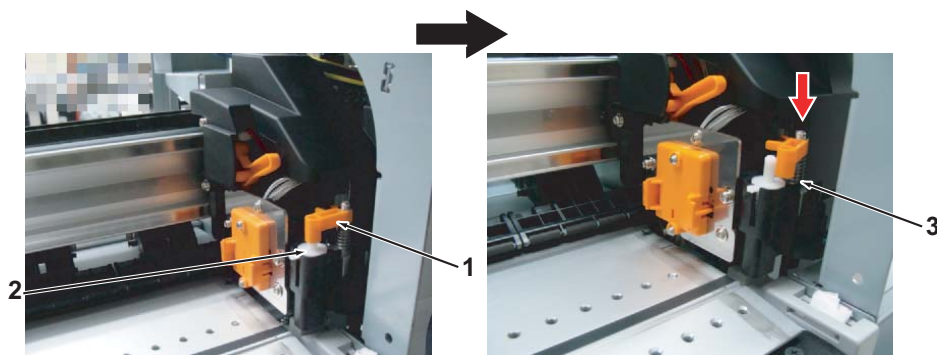
Refer to Exploded View for Components of Pressure Roller Assy、 Pressure Roller Axis Assy.
☞ Exploded View

1. Remove pressure Roller spring (2 pieces) .
☞ ["\(1\) Replacing Pressure roller Spring" p.3-97](#)
2. Remove Pressure Roller Assy and Pressure Roller Axis Assy from Pressure Roller Arm Assy.
☞ ["\(2\) Replace Pressure Roller Arm Assy" p.3-97](#)
3. Replace Pressure Roller Assy and Pressure Roller Axis Assy.
4. To reassemble the unit, reverse the removal procedure.

3.7 Replacing Carriage Peripherals

3.7.1 How To Release Carriage Lock

1. Open front cover.
2. Remove Cutter Cap from Cutter Blade.
3. Push down carriage lock solenoid with hand, and release the lock.



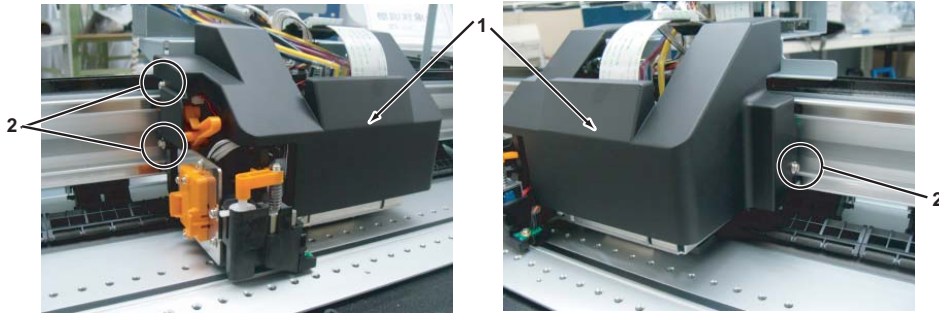
No.	Name
1	Cutter Cap
2	Cutter Blade
3	Carriage Lock Solenoid

NOTE

- Not to push down the Carriage Lock Solenoid with Cutter Cap is not removed, Cutter might be damaged.
- For enabling Head lock again, Carriage lock does not need to be moved. Move Carriage towards the origin until Carriage is fixed with a sound.

3.7.2 Removing Carriage Cover

1. Move Carriage to the center of the platen.
☞ **"3.7.1 How To Release Carriage Lock" p.3-98**
2. Remove screws (3 pieces) retaining Carriage cover.

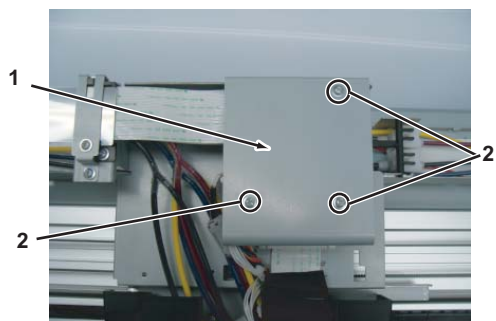


No.	Name
1	Carriage Cover
2	Pan-head screw with spring washer and flat washerM3 × 8

3. Remove carriage cover.
4. To reassemble the unit, reverse the removal procedure.

3.7.3 Removing CR Board Cover

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove the screws (3 pieces) retaining CR Board Cover.



No.	Name
1	CR board Cover
2	Cup screw M3 × 6 Zn-CM2

4. Remove CR board Cover.
5. To reassemble the unit, reverse the removal procedure.

3.7.4 Replacing CR Board Assy

1. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove CR Board Cover.
🔧 ["3.7.3 Removing CR Board Cover" p.3-100](#)
4. Detach connectors to CR board Assy listed below.

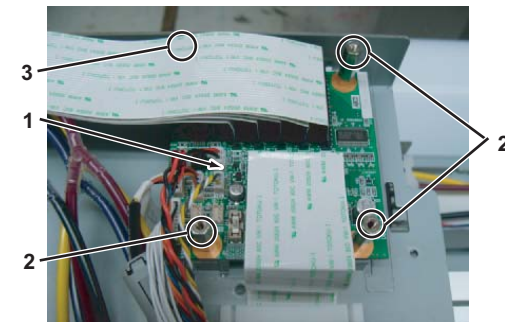
⚠ CAUTION

- Before replacing the board or plugging/unplugging FFC, unplug Power cable and leave it for a while. If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by standby electricity.
- When handling board, do not touch on-board devices with bare hands.
- Before plugging FFC, check FFC terminal (to see the corner of the terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to the connector.
If plugged/unplugged obliquely, it may damage, shunt, or disconnect the terminals inside the connector, and may damage the elements on the board.
- Make sure to plug FFC all the way. After plugging, make sure that FFC and connector terminal are aligned and that FFC is not plugged obliquely.

No.	Connector No.	# of Pins	Colors	Connect to	Remark
1	J1	-	Black	MAIN J7	FFC
2	J2	-	Black	MAIN J8	FFC
3	J3	-	Black	MAIN J9	FFC
4	J4	-	Black	MAIN J10	FFC
5	J5	-	Black	MAIN J11	FFC
6	J6	-	Black	Head	FFC
7	J7	-	Black	Head	FFC
8	J8	-	Black	Head	FFC
9	J9	-	Black	Head	FFC
10	J10	2	Red	-	-

No.	Connector No.	# of Pins	Colors	Connect to	Remark
11	J11	3	White	-	-
12	J12	3	White	PGorigin Sensor	-
13	J13	2	Black	-	-
14	J14	3	White	-	-
15	J15	2	White	Carriage Lock Solenoid	-
16	J16	5	White	Paper Edge sensor	-
17	J17	4	White	CR encoder	-
18	J18	10	White	Spectrovue	-

5. Remove screw (1 piece) and Hexagon spacers (3 pieces) retaining CR Board Assy.



No.	Name
1	CR Board Assy
2	Hexagon spacer
3	Cup screw M3 × 6

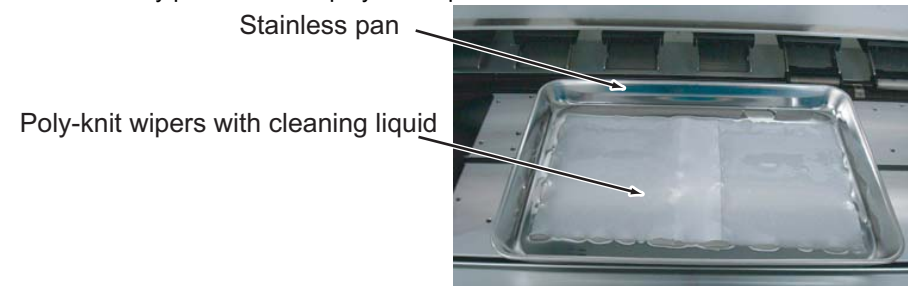
6. Replace CR Board Assy.
7. To reassemble unit, reverse the removal procedure.

3.7.5 Replacing Carriage Assy

1. Perform ink drainage operation and drain ink from all the ink path.
☞ ["5.7.10 Longstore Menu" p.5-53](#)
2. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
3. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
4. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
5. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
6. Remove carriage cover.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
7. Remove CR board Cover Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)
8. Remove CR_FFC.
☞ ["3.11.3 Replacing CR_FFC" p.3-154](#)
(Remove only Print Head side.)
9. Remove Cutter holder.
☞ ["3.7.14 Removing Cutter Holder" p.3-131](#)
10. Remove Print Head.
☞ ["3.7.6 Replacing Print Head" p.3-106](#)

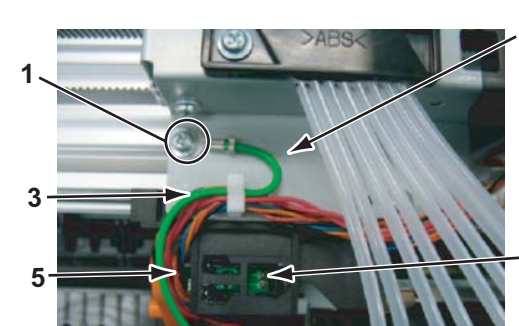
CAUTION

- Do NOT touch the nozzle surface of the removed print head.
- Place poly-knit wiper in stainless pan and pour enough cleaning liquid (for the ink in use) to soak poly-knit wiper. Face down the nozzle side of removed print head and softly place it on the poly-knit wiper.



- When placing the removed print head, do NOT put the nozzle surface facing down.

11. Remove the screw (1 piece) retaining head FG cable to CR base.
12. Remove PG origin sensor relay Assy connector from PG origin sensor

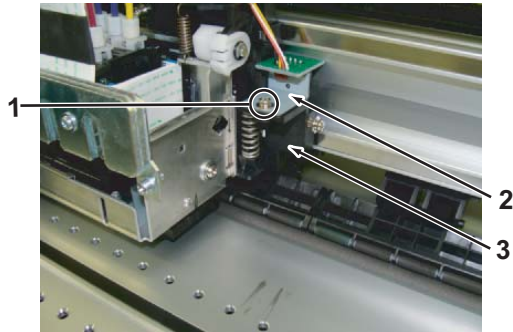


No.	Name
1	Tapping screw M3 × 6 S Tight cup
2	CR base
3	Head FG Cable
4	PG origin sensor
5	PG origin Sensor Relay Assy Cable

NOTE

PG origin sensor relay Assy cable is a stranded wire of yellow, gray, and white.
The connector is white.

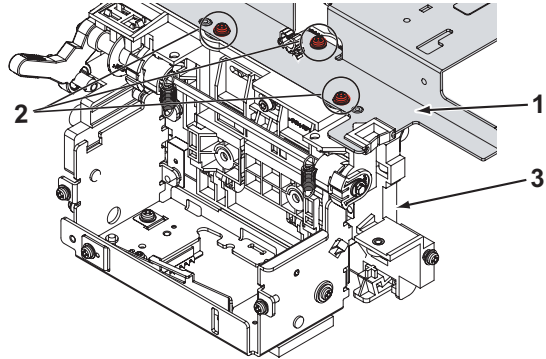
13. Remove the screw (1 piece) retaining CR encoder mounting plate to CR cursor



No.	Name
1	Pan-head screw with spring washer and flat washerM3 × 8 Ni-3
2	CR encoder mounting plate
3	CR Cursor

14. Remove CR encoder mounting plate from CR cursor.

15. Remove the screws (3pieces) retaining CR cursor to CR base.



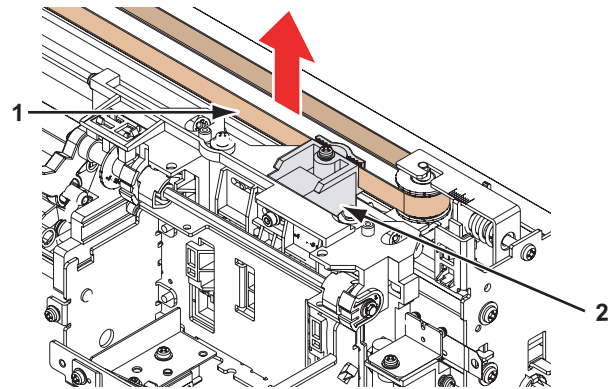
No.	Name
1	CR base
2	Pan head screw with spring washer and flat washer M3 × 6
3	CR cursor

16. Remove CR base from CR cursor.

NOTE

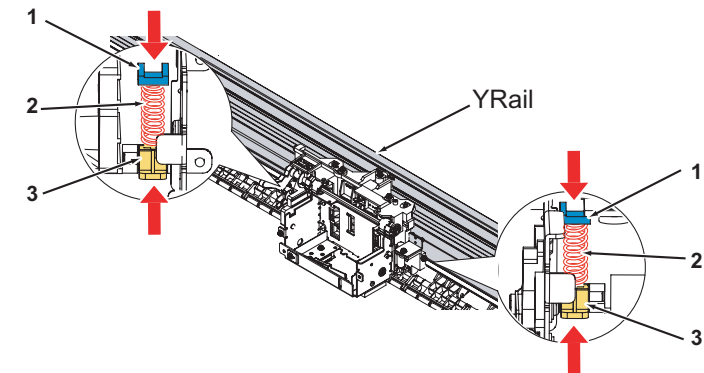
Put the removed CR base on top of IH cover .etc.
Removig CR cursor from CR base is Carriage Assy (Maintenace parts).

17. Remove CR belt from the inset of CR cursor.



No.	Name
1	CR belt
2	the inset of CR cursor

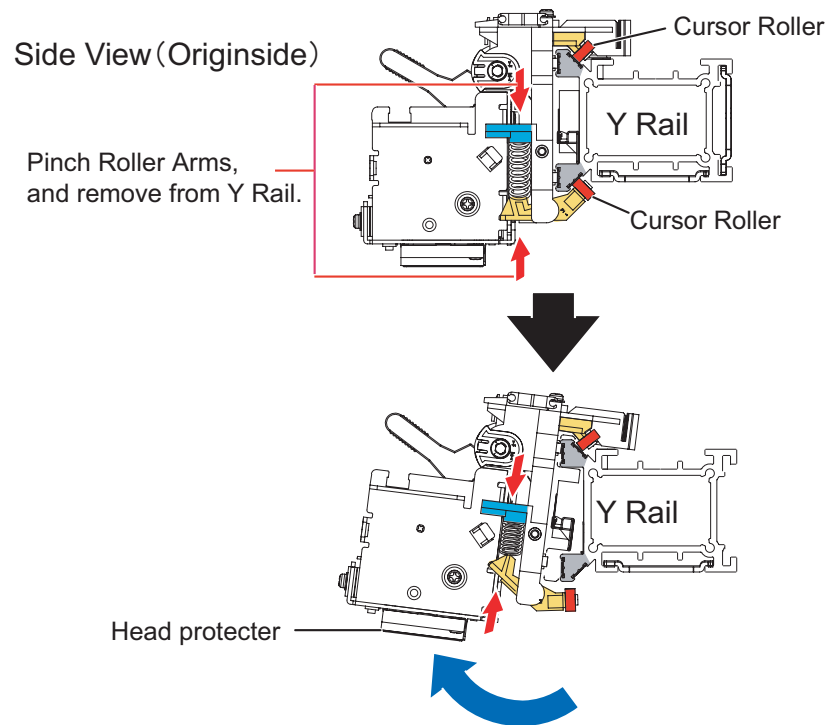
18. Strongly pinch the roller arms and the arms on the CR cursor side on both sides of the carriage, compress cursor arm spring, and remove carriage Assy from Y rail.



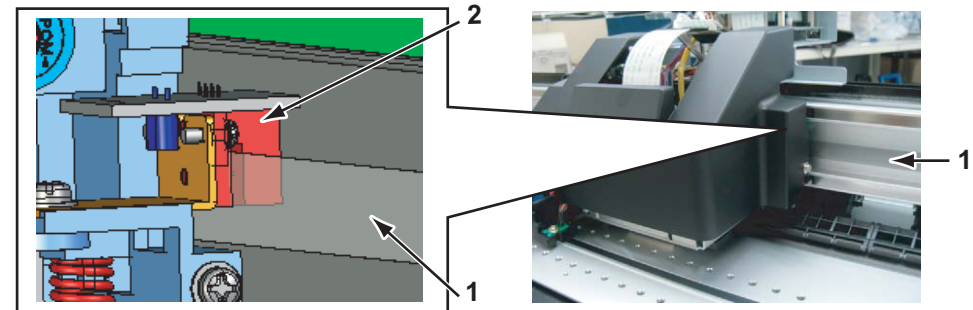
No.	Name
1	Roller arm spring
2	Arms on CR cursor side
3	Roller arm

CAUTION

- Rotate Carriage Assy, and remove it from Y Rail.
- When removing carriage Assy, be careful not to damage cursor roller with Y rail.

**NOTE**

When installing carriage on Y rail, insert T fence to CR encoder as shown in the next figure.



No.	Name
1	T fence
2	CR Encoder Assy

22. To reassemble the unit, reverse the removal procedure.

23. Perform adjustments by following the instructions in ["4.2 Adjustment Item" p.4-2](#)

19. Assemble removed CR encoder mounting plate, Head FG cable and PG origin sensor relay connector to new Carriage Assy.
20. Assemble CR base to the Carriage Assy.
21. Assemble the Carriage Assy (assembled CR base) to Y Rail.

CAUTION

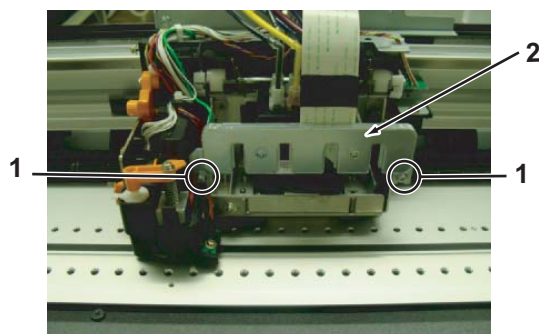
When assembling carriage Assy, be careful not to damage cursor roller with Y rail.

3.7.6 Replacing Print Head

TIP

Replacing Procedure For Maintenance Part:Head Assy.
This part will be referred to as the Print Head in this manual.

1. Perform ink drainage operation and drain ink from all the ink path.
2. Initialize Life Counter of Print Head.
☞ "5.7.11 Software Counter Initialization Menu" p.5-54
3. Move Carriage toward the center of Platen.
☞ "3.7.1 How To Release Carriage Lock" p.3-98
4. Remove carriage cover.
☞ "3.7.2 Removing Carriage Cover" p.3-99
5. Remove screws (2 pieces) retaining Carriage Weight holder.



No.	Name
1	Pan-head screw with spring washer and flat washerpolished M3 × 10
2	Carriage Weight holder、 Carriage weight

6. Remove Carriage Weight holder and Carriage Weight.

CAUTION

- Do not press transparent film on the side of Solenoid Head Assy with your hand. The ink charged inside Solenoid Head Assy may be discharged.
- Be careful not to damage the transparent film on Solenoid Head Assy side panel.

NOTE

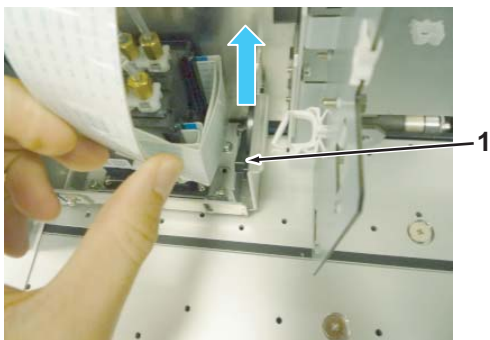
To prevent the leakage of remaining ink, place some waste media or a polynit wiper, etc. under the removed damper.

7. Loosen the screw (1 piece) retaining Head guide leaf spring.



No.	Name
1	Pan-head screw with spring washer and flat washerM3 × 6
2	Head guide leaf spring

8. Raise the notch of Head adjustment cam to the top.



No.	Name
1	Notch of Head adjustment cam

9. Turn Connector Solenoid Heads (8 pieces) 45 degrees (clockwise), release the lock, and pull it out.



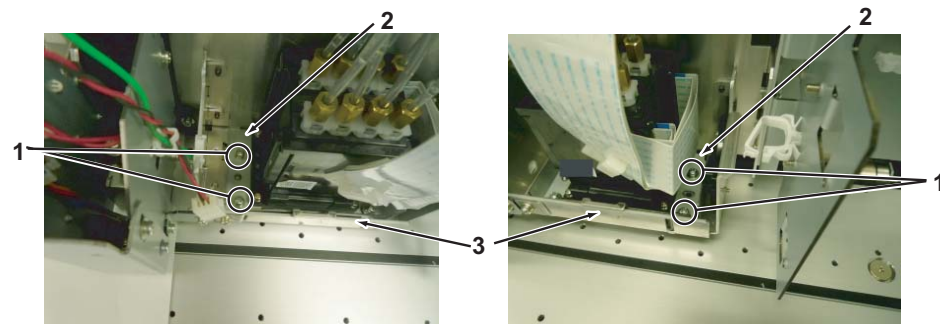
No.	Name
1	Connector Solenoid head



CAUTION

Turning it anticlockwise will loosen the joint, resulting in ink leakage.

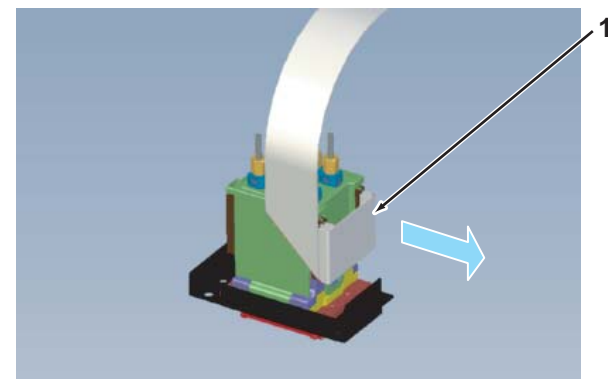
10. Remove screws (4 pieces) retaining Head base.



No.	Name
1	Pan-head screw with spring washer and flat washer M3 × 6
2	Head base
3	Head mounting plate

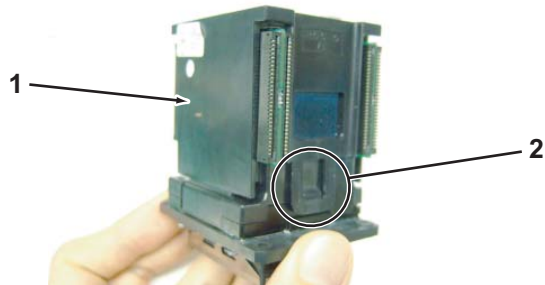
11. Remove Print head from Head mounting plate.

12. Pull out Head FFCs (4 pieces) from Print head.



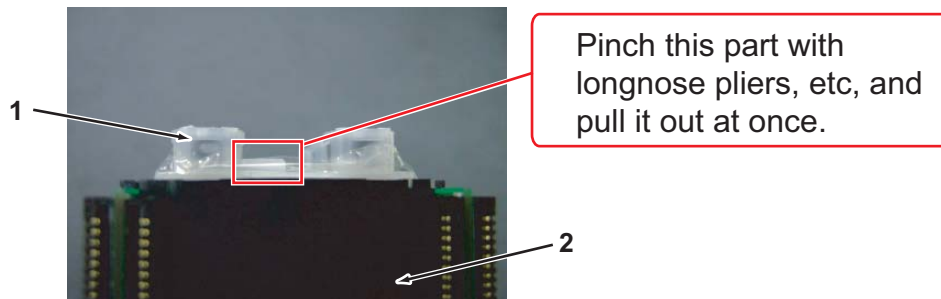
No.	Name
1	Head FFC

13. Remove Head cover from the hooks (2 pieces on both sides).



No.	Name
1	Head cover
2	Hook of Print head

14. Remove Solenoid Head Assy from Print Head.



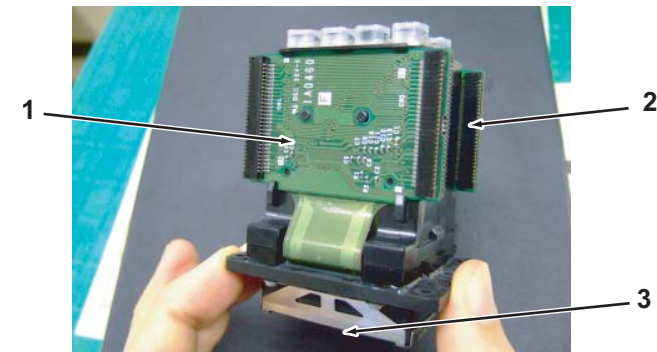
No.	Name
1	Solenoid Head Assy
2	Print head

15. Replace Print head.



CAUTION

Be careful not to damage Head board, Head nozzles, and Head FFC connector.



No.	Name
1	Head board
2	FFC connector
3	Head nozzles

16. Install Solenoid Head.

17. Install Head cover.

18. Install Head FFC.

NOTE

Make sure to insert Head FFC fully.

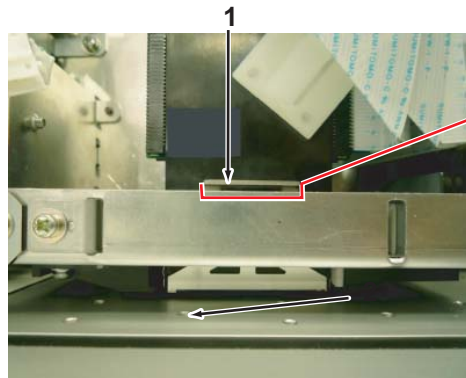
19. Put Print head back to the fixing position of Head mounting plate.

NOTE

Do not screw on Print head at this point.

20. Install Connector Solenoid Head Assy.

21. Adjust so that Head guide leaf spring is horizontal.



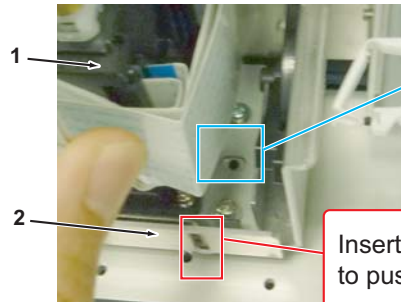
Insert a slotted screwdriver to adjust.

No.	Name
1	Head guide leaf spring

22. Make sure that the notch of Head adjustment cam is raised to the top.

☞ "8. Raise the notch of Head adjustment cam to the top." p.3-107

23. Adjust the fixing position of Print head.

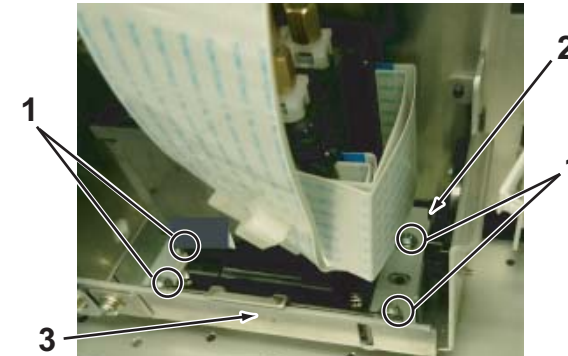


Adjust so that the circular hole is positioned in front of the slotted hole.

Insert a slotted screwdriver to push Print head in.

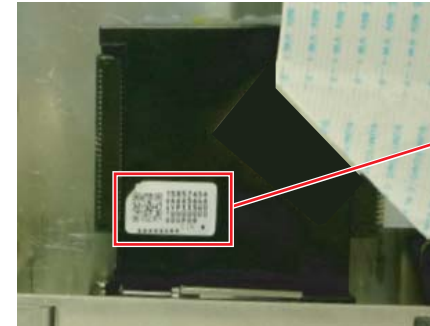
No.	Name
1	Print head
2	Head mounting plate

24. Tighten the screws retaining Head base and Head mounting plate.



No.	Name
1	Pan-head screw with spring washer and flat washer M3 × 6
2	Head base
3	Head mounting plate

25. Replace the old head rank sticker with a new head rank sticker.



Head rank sticker

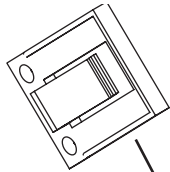
26. To reassemble unit, reverse the removal procedure.

27. Perform various adjustment.

☞ "4.2 Adjustment Item" p.4-2

CAUTION

- Write down the QR code on the label on Print head for inputting it later, or peel the QR code label and keep it in a safe place. Head rank is on the QR code label. You will need Head rank after replacing MAIN board assy. Make sure to manage the labels so that it is easy to see the relationship between the QR code label and the printer which has the relevant Print head.
- Flat Cable clip, which is included in the maintenance part Head Assy, does not have to be installed for VJ1324.



Flat Cable clip

3.7.7 Replacing Solenoid Head Assy

TIP

Replacing Procedure For Maintenance Part:Solenoid Head Assy.
This part will be referred to as the Solenoid Head Assy in this manual.

- (1) Pour Cleaning fluid into the new Solenoid Head Assy and let it settle for a while.
- (2) Replace the faulty Solenoid head Assy.

(1) Pouring Cleaning liquid

For a test and quality maintenance, the Solenoid head Assy for VJ-1324 is filled with the water-based cleaning liquid when that is ship.



CAUTION

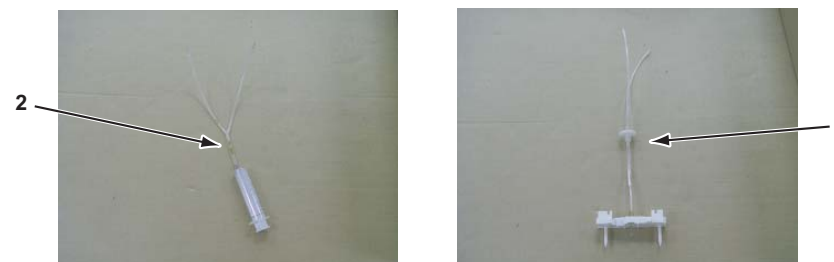
- Make sure to pour Cleaning fluid into the new Solenoid head Assy.
If ink is charged before Cleaning liquid is poured in, Solenoid head might get damaged.
- Be careful not to get Cleaning liquid in your eyes.If Cleaning liquid gets in your eye, immediately wash your eye with running water for over 15 minutes and see your ophthalmologist.

The tools required for pouring Cleaning liquid are as follows:

- Solenoid head cleaning jig (Maintenance number: DG-41787. Maintenance part name: Solenoid head cleaning kit (VJ ink))
- Cleaning liquid (for Eco solvent ink)

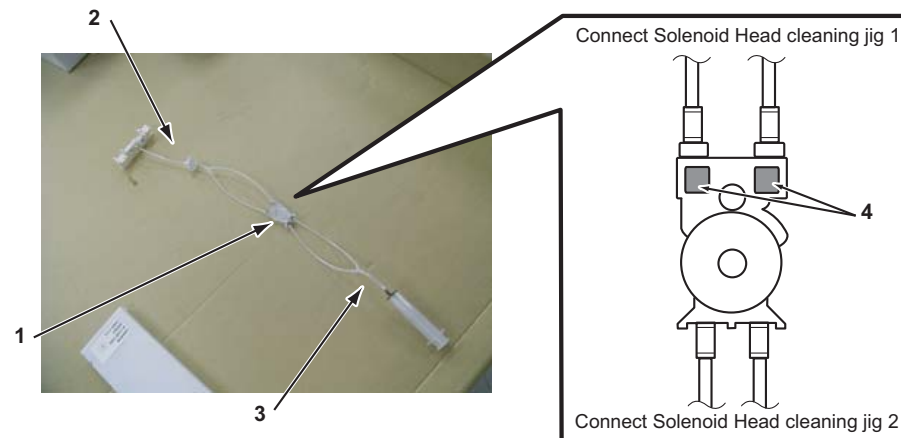
NOTE

For the following procedure, Solenoidhead cleaning jigs are separated into two parts and called Solenoid head cleaning jig 1 and 2, for the sake of convenience.



No.	Name
1	Solenoid head cleaning jig 1
2	Solenoid head cleaning jig 2

1. Install Solenoid head cleaning jib on the new Solenoid head Assy.
Make sure that the filter (silver part) side of Solenoid head Assy is connected to the Solenoid head cleaning jig 1 side.



No.	Name
1	Solenoid head Assy
2	Solenoid head cleaning jig 1
3	Solenoid head cleaning jig 2
4	Filter

2. Attach the cleaning cartridge for the eco solvent inks to the top of the Solenoid head cleaning jig 1.



No.	Name
1	Cleaning liquid cartridge
2	Solenoid head cleaning jig 1
3	Syringe

3. Pull Pump of Syringe attached to Solenoid head cleaning jig 2 and inflow about 3cc of Cleaning liquid into the cylinder of Syringe.

NOTE

Air should not be included in the 3cc. Make sure that there is 3cc of Cleaning liquid only when pulling the pump of Injector.

4. Turn Solenoid head Assy upside down to let Cleaning liquid settle in Solenoid head Assy.

CAUTION

- Do not hold the transparent films on the sides of Solenoid head Assy. Cleaning liquid inside Solenoid head Assy inflows into the tube.
- Do not damage the transparent films on the sides of Solenoid head Assy.

5. Remove the cleaning cartridge from the Solenoid head cleaning jig1.
6. Remove the cleaning liquid from the Solenoid head Assy by pulling the syringe pump.

NOTE

Step 6 above is only for avoiding any leakage. You do not need to empty the Solenoid head Assy completely.

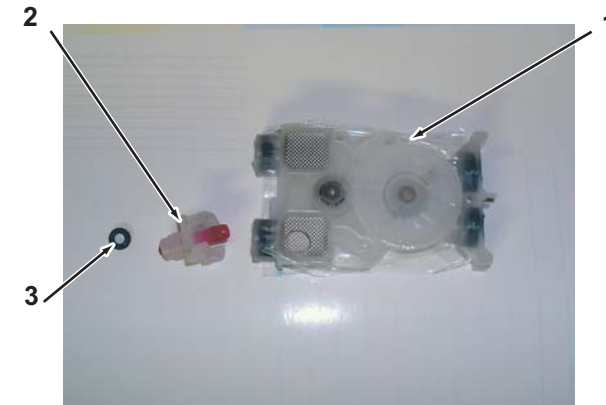
7. Remove the Solenoid head cleaning tools from the Solenoid head Assy.

CAUTION

- When removing the tube, make sure to cover the tip of it with a Polynit wiper, etc so that Cleaning liquid does not spit out of the removed tube. Make sure to use a clean Polynit wiper with no ink attached. If a foreign substance on the Polynit wiper adheres on the tube, it may cause Print head malfunction.
- Be careful not to get Cleaning liquid in your eyes. If Cleaning liquid gets in your eye, immediately wash your eye with running water for over 15 minutes and see your ophthalmologist.

(2) Replacing Solenoid Head Assy**NOTE**

When replacing Solenoid Head Assy, replace the following parts at the same time.



No.	Name
1	Solenoid Head Assy
2	Connector Solenoid head
3	O ring (M6)

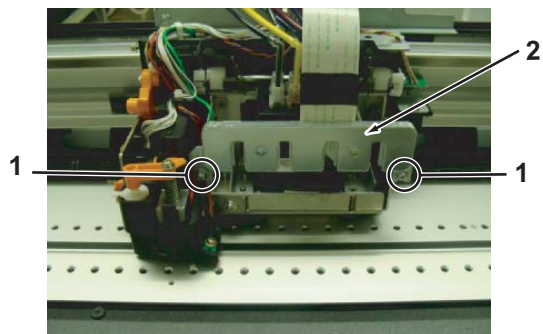
8. Perform ink drainage operation and drain ink from all the ink path.

NOTE

After ink discharge operation, make sure that Ink cartridge is pulled out.

9. Remove I/H Cover.
["3.2.1 Removing I/H Cover" p.3-7](#)
10. Remove Side Cover R.
["3.2.2 Remove Side Cover R" p.3-8](#)
11. Remove CR Cover.
["3.7.2 Removing Carriage Cover" p.3-99](#)

12. Remove screws (2 pieces) retaining Carriage Weight holder.



No.	Name
1	Pan-head screw with spring washer and flat washerpolished M3 × 10
2	Carriage Weight holder、 Carriage weight

13. Remove Carriage Weight holder and Carriage Weight.

14. Remove Solenoid Head Assy from Print head.

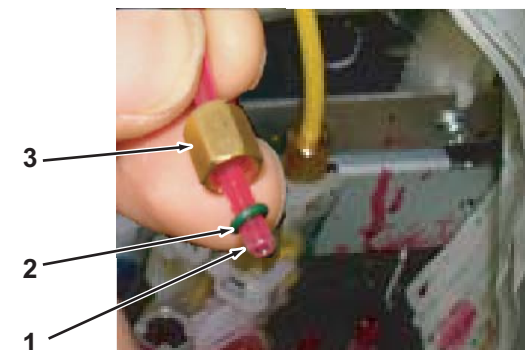
["3.7.6 Replacing Print Head" p.3-106](#)

CAUTION

- Do not hold the transparent films on the sides of Solenoid head Assy. The ink inside of Solenoid head Assy is discharged.
- Do not damage the transparent films on the sides of Solenoid head Assy.
- To avoid leakage of the remaining ink, place a waste cloth under the removed Solenoid head Assy or put Solenoid head Assy into a plastic bag.

15. Refer to the Note of the step 20 in this section to mark on Ink tube (K, C, Y, M etc).

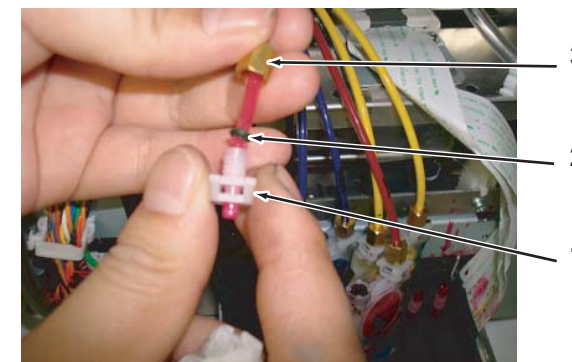
16. Remove the O-ring (1 piece) from Ink tube.



No.	Name
1	Ink tube
2	O ring (M6)
3	Joint screw

17. Install a new O-ring around the tip of Ink tube.

18. Push the O-ring with Connector Solenoid head to connect the joint screw and Connector Solenoid head.



No.	Name
1	Connector Solenoid head
2	O ring (M6)
3	Joint screw

19. Install the new Solenoid head Assy filled with Cleaning liquid on Print head.

NOTE

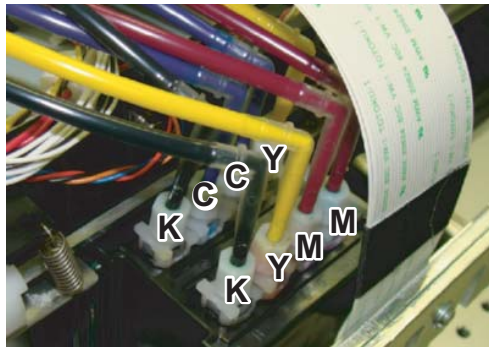
Replace Solenoid head Assy and mount Ink tube one color at a time.

When replacing four Solenoid head Assy at the same time, there is a higher possibility of inserting a wrong Ink tube into a wrong Solenoid head Assy.

20. Install Ink tube to Solenoid Head Assy as it was before.

NOTE

- When inserting Ink tube into Solenoid head Assy, make sure to insert it to the original slot. If it is inserted to the wrong slot, the correspondence relationship between the nozzle and ink will be changed.
- Before removing Connector solenoid head from Solenoid Head Assy, mark on the joint screw (or Ink tube) so that it is easy to see where it should be inserted.
- Refer to the following chart for the connections of Ink tubes.



21. To reassemble unit, reverse the removal procedure.

22. Charge ink.

☞ ["5.6 Ink Charging Menu" p.5-27](#)

3.7.8 Replacing Ink Tube

TIP

- Replacing Procedure For Maintenance Part: VJ Tube 3-4(1m), VJ Tube3-4 (2m). This part will be referred to as the Ink Tube in this manual.
- The length of the ink tube in the table below.

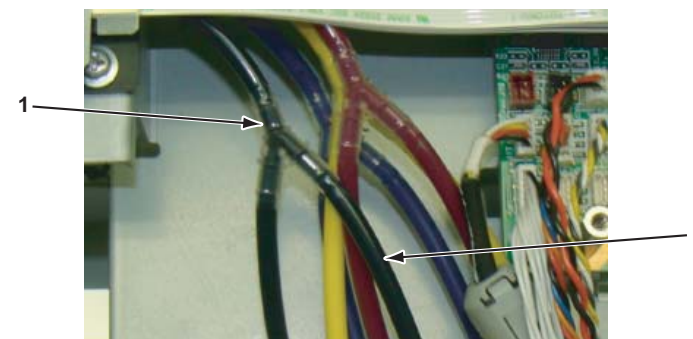
Line	Length(mm), Q'ty	Size
Print Head — YFitting	150mm × 4, 135mm × 4	3 φ
Y Fitting — Ink Cartridge	2015、1975、1945、1865 (1 piece each)	3 φ

NOTE

Cut Ink tube at an appropriate length to use. When cutting it, use a tube cutter so that the cut surface is even. If it is not cut evenly, ink may leak.

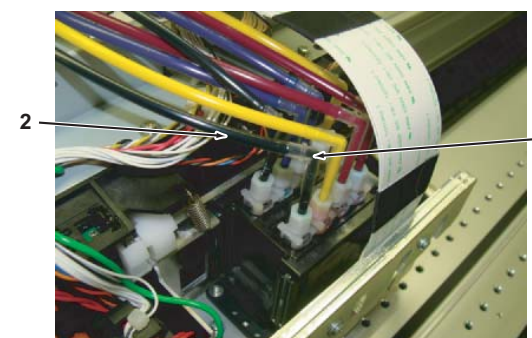
(1) Y Fitting - Print Head

1. Perform ink drainage operation and drain ink from all the ink path.
2. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
3. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
4. Remove carriage cover.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
5. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
6. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
7. Remove Ink tube from Y fitting.



No.	Name
1	Y fitting.
2	Ink Tube

8. Remove Ink tube from L fitting.

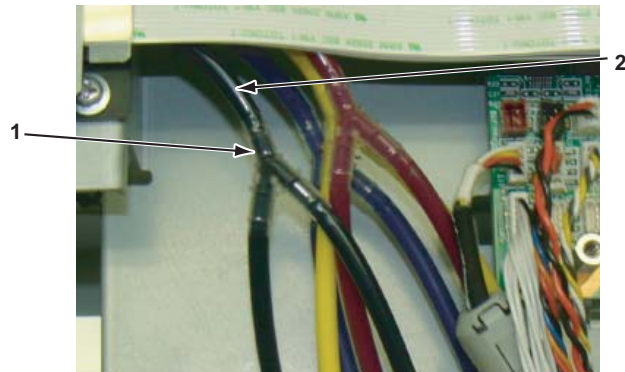


No.	Name
1	L fitting
2	Ink Tube

9. Replace Ink Tube.
10. To reassemble the unit, reverse the removal procedure.
11. Charge ink.
☞ ["5.6 Ink Charging Menu" p.5-27](#)

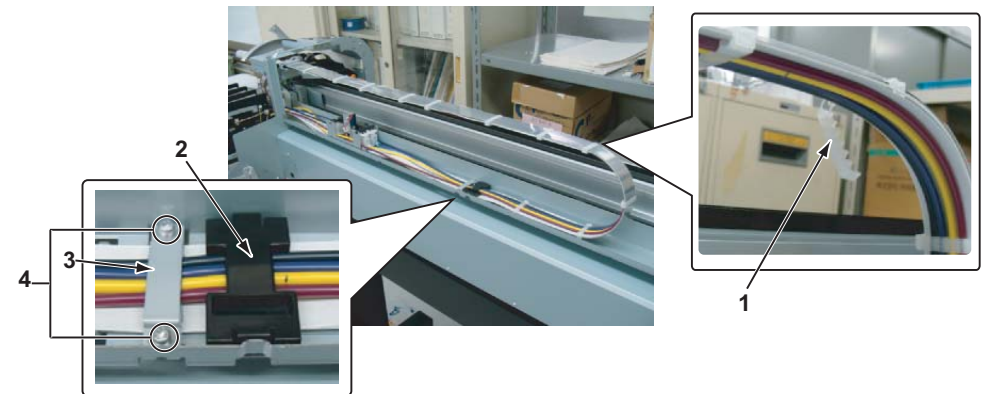
(2) Y fitting. — Solenoid Tube Assy

1. Perform ink drainage operation and drain ink from all the ink path.
2. Remove Front Cover.
☞ **"3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13**
3. Remove Top Cover.
☞ **"3.2.6 Removing Top Cover" p.3-16**
4. Remove I/H Cover.
☞ **"3.2.1 Removing I/H Cover" p.3-7**
5. Remove Side Cover R.
☞ **"3.2.2 Remove Side Cover R" p.3-8**
6. Remove carriage cover.
☞ **"3.7.2 Removing Carriage Cover" p.3-99**
7. Remove Ink tube from Y fitting.



No.	Name
1	Y fitting.
2	Ink Tube

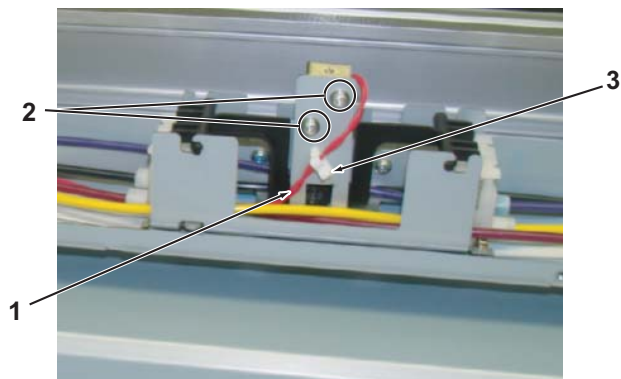
8. Remove Tube fholding clamps (11 pieces).
9. Remove Tube presser.
10. Remove screws (2pieces) retaining Bare holder.



No.	Name
1	Tube holding Clamp
2	Tube presser
3	Bare holder
4	Pan-head screw with spring washer and flat washerM3 × 6

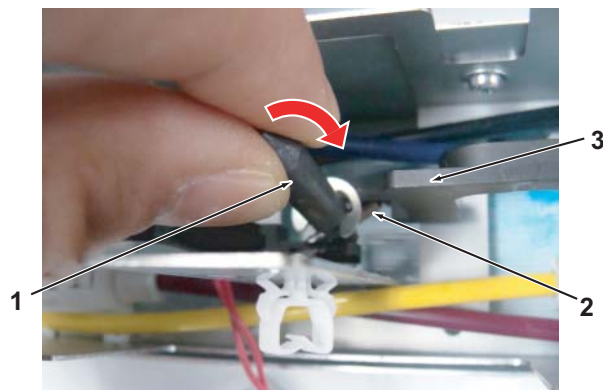
11. Remove Bare holder.

12. Remove screws (2 pieces) retaining Solenoid Solenoid.
13. Remove Solenoid Cable from clamp.



No.	Name
1	Solenoid Cable
2	Pan-head screw with spring washer and flat washerM 3 × 5
3	Clamp

14. Turn the plunger and remove spring pin from Choke Solenoid cam.



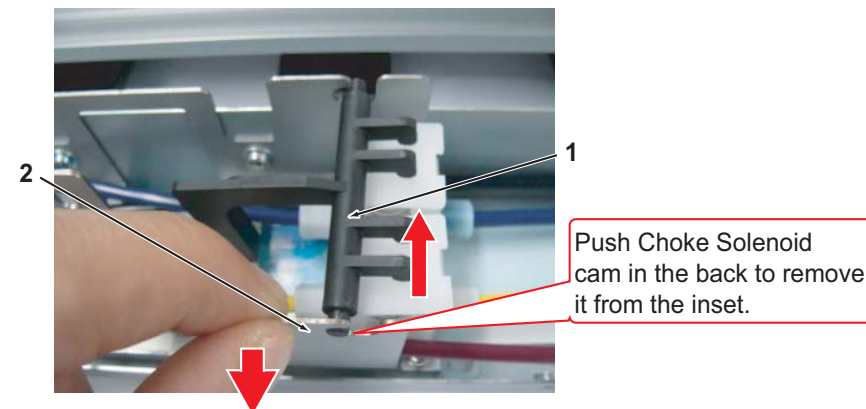
No.	Name
1	plunger

2	Spring pin
3	Choke Solenoid cam

15. Remove Choke Solenoid cam (2 pieces) .

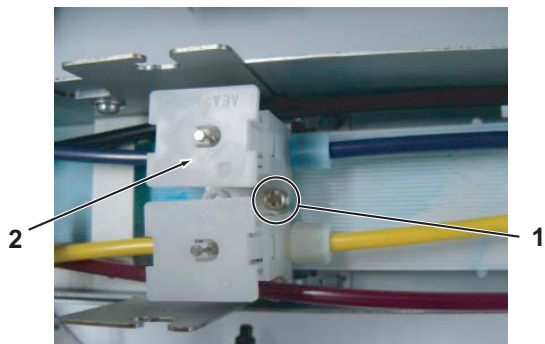
NOTE

Slightly open Choke SolenoidSolenoid Base to remove Choke Solenoid cam. Be careful not to distort it.



No.	Name
1	Choke Solenoid cam
2	Choke Solenoid Base

16. Remove the screw (1 pieces) retaining Solenoid TubeAssy.



No.	Name
1	Pan-head screw with spring washer and flat washer small M3 × 6
2	Solenoid TubeAssy

17. Loosen Joint ScrewM7, and remove Ink Tube from Solenoid TubeAssy.



No.	Name
1	Joint ScrewM 7
2	Solenoid TubeAssy
3	Ink Tube

18. Replace Ink Tube.

NOTE

Replace O-ring M7 inside Joint Screw M7 with a new one.
Reusing an old O-ring M7 may cause ink leakage.

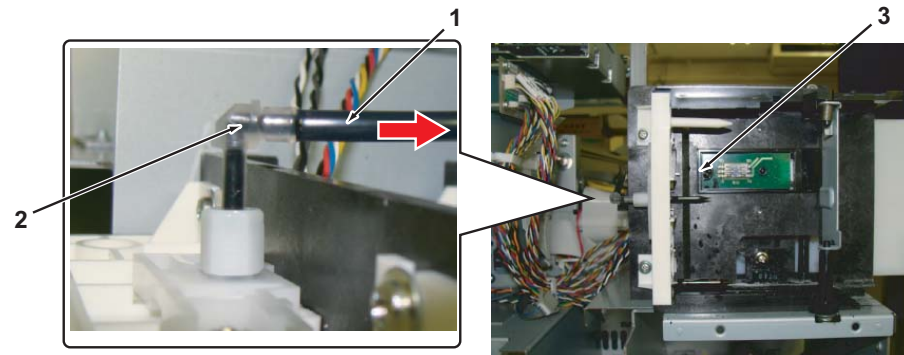
19. To reassemble the unit, reverse the removal procedure.

20. Charge ink.

 ["5.6 Ink Charging Menu" p.5-27](#)

(3) Solenoid Tube Assy — Ink Cartridge

1. Perform ink drainage operation and drain ink from all the ink path.
2. Remove Front Cover.
☞ "3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13
3. Remove Top Cover.
☞ "3.2.6 Removing Top Cover" p.3-16
4. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
5. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
6. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
7. Remove Ink Tube from Joint of back side of Ink Cartridge.

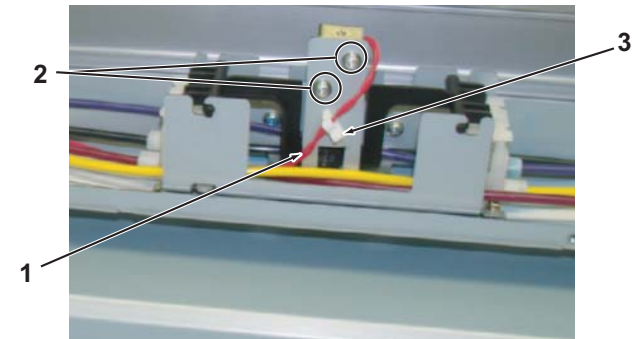


No.	Name
1	Ink Tube
2	Joint
3	Cartridge Holder

NOTE

K,C,M are L type fittings, and Y is I type fitting.

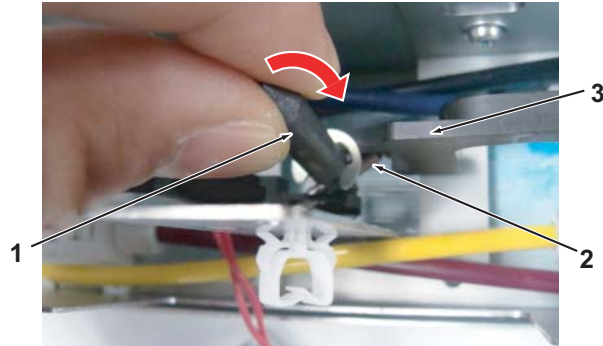
8. Remove screws (2 pieces) retaining Solenoid .
9. Remove Solenoid Cable from clamp.



No.	Name
1	Solenoid Cable
2	Pan-head screw with spring washer and flat washerM 3 × 5
3	Clamp

10. Remove Solenoid Assy.

11. Turn the plunger and remove spring pin from choke Solenoid cam.

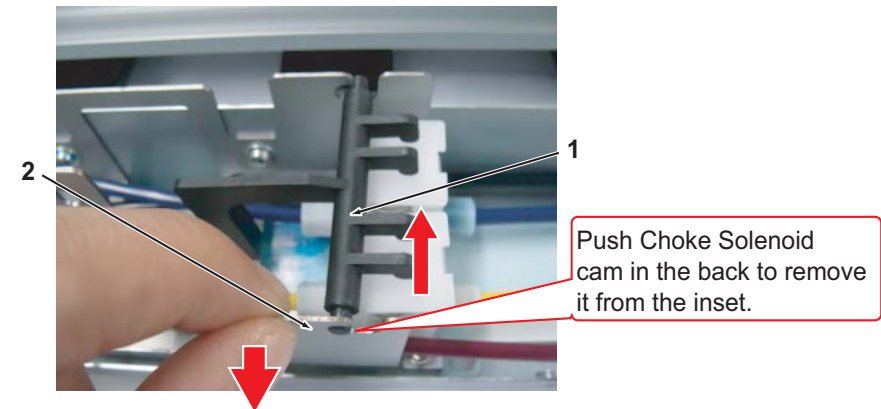


No.	Name
1	plunger
2	Spring pin
3	Choke Solenoid cam

12. Remove Choke Solenoid cam (2 pieces).

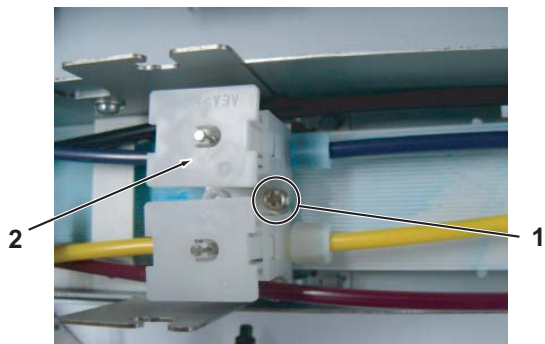
NOTE

Slightly open Choke Solenoid Base to remove Choke Solenoid cam. Be careful not to distort it.



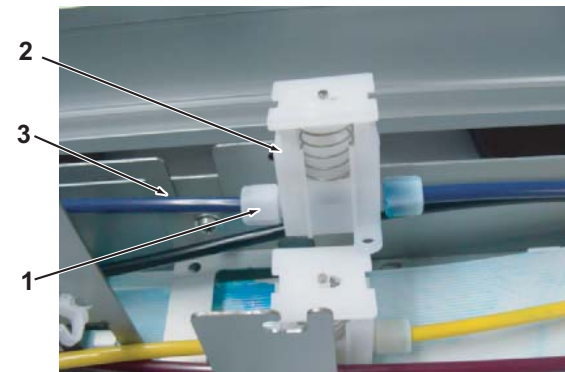
No.	Name
1	Choke Solenoid cam
2	Choke Solenoid base

13. Remove the screw (1 pieces) retaining Solenoid Tube Assy.



No.	Name
1	Pan-head screw with spring washer and flat washer small M3 × 6
2	Solenoid Tube Assy

14. Loosen Joint Screw M7, and remove Ink Tube from Solenoid Tube Assy.



No.	Name
1	Joint Screw M 7
2	Solenoid Tube Assy
3	Ink Tube

15. Replace Ink Tub.

NOTE

Replace O-ring M7 inside Joint Screw M7 with a new one.
Reusing an old O-ring M7 may cause ink leakage.

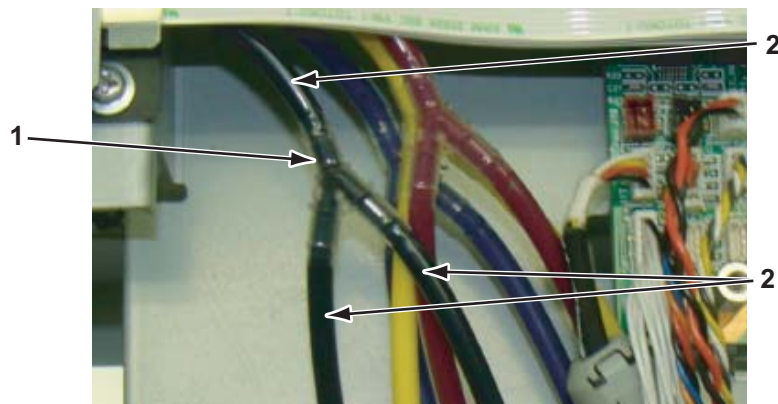
16. To reassemble the unit, reverse the removal procedure.

17. Charge ink.

 ["5.6 Ink Charging Menu" p.5-27](#)

3.7.9 Replacing Y Fitting

1. Perform ink drainage operation and drain ink from all the ink path.
2. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
3. ☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
4. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
5. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
6. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
7. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
8. Remove Ink tubes (3 pieces) from Y Fitting (1 piece) .



No.	Name
1	Y Fitting
2	Ink tube

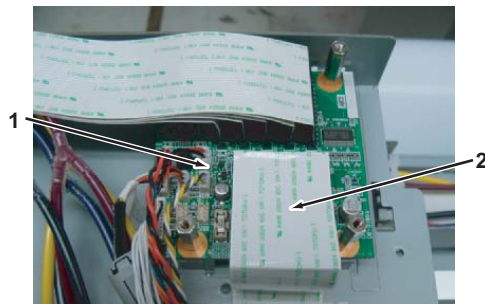
9. Replace Y Fitting(1 piece).
10. To reassemble the unit, reverse the removal procedure.
11. Charge ink.
☞ ["5.6 インク充填メニュー" p.5-23](#)

3.7.10 Replacing Head FFC

TIP

Replacing Procedure For Maintenance Part: Head FFC (D).
This part will be referred to as the Head FFC in this manual.

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove CR board Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)
4. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
5. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
6. Move Carriage toward the center of Platen.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
7. Remove Head FFC (4 pieces) from Print Head.
☞ ["3.7.6 Replacing Print Head" p.3-106](#)
8. Remove Head FFC (4 pieces) from CR board Assy.



No.	Name
1	CR board Assy
2	Head FFC

CAUTION

- During operation, make sure not to touch the nozzle surface of Head or let foreign substances adhere.
- Print head Assy has been adjusted. Do not disassemble it.
- Before replacing the board or plugging/unplugging FFC, unplug Power cable and leave it for a while. If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by standby electricity.
- When handling board, do not touch on-board devices with bare hands.
- Before plugging FFC, check FFC terminal (to see the corner of the terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to the connector.
If plugged/unplugged obliquely, it may damage, shunt, or disconnect the terminals inside the connector, and may damage the elements on the board.
- Make sure to plug FFC all the way. After plugging, make sure that FFC and connector terminal are aligned and that FFC is not plugged obliquely.

9. Remove Ferritic Core from removed Head FFC.
10. Hold New Head FFC, and Install Ferritic Core.

NOTE

Fold the new Head FFC referring to the removed Head FFC.

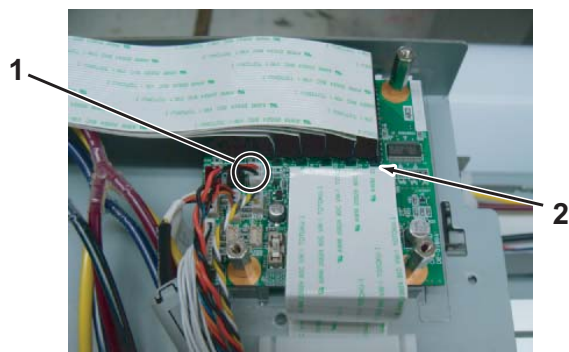
11. Connect Head FFC(4 pieces) to CR board Assy.
12. To reassemble the unit, reverse the removal procedure.

3.7.11 Replacing Cutter Solenoid Cable Assy

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
4. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
5. Move Carriage toward the center of Platen.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
6. Remove CR board Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)
7. Remove Cutter Solenoid Cable Assy connector from CR board Assy.

NOTE

Cutter Solenoid Cable Assy is a stranded wires of Red and Black.

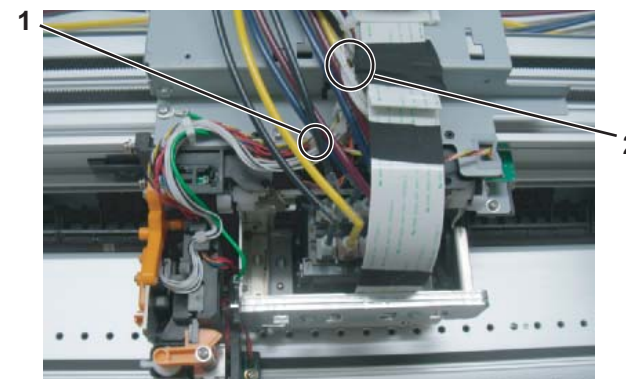


No.	Name
1	Cutter Solenoid Cable Assy
2	CR board Assy

8. Remove Cutter Solenoid Cable Assy connector from Cutter Solenoid Assy Cable.

NOTE

Cutter Solenoid Cable Assy is a stranded wires of Red.

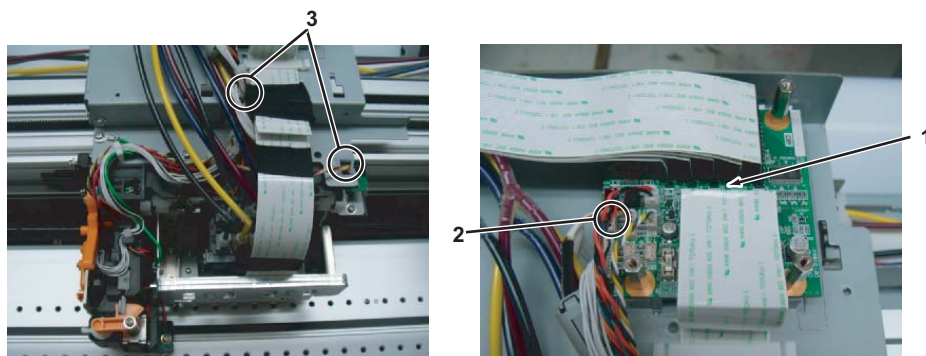


No.	Name
1	Connecting point of Cutter Solenoid Cable Assy with Cutter Solenoid Assy Cable

9. Replace Cutter Solenoid Cable Assy.
10. To reassemble the unit, reverse the removal procedure.

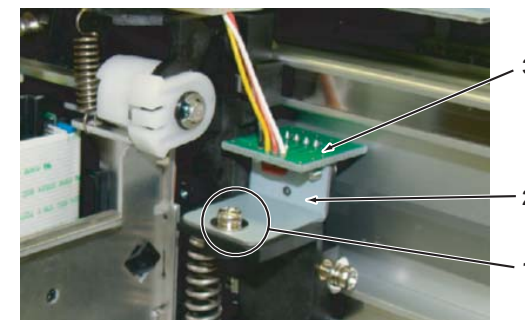
3.7.12 Replacing CR Encoder Assy

1. Remove I/H Cover.
☞ **"3.2.1 Removing I/H Cover"** p.3-7
2. Remove Side Cover R.
☞ **"3.2.2 Remove Side Cover R"** p.3-8
3. Remove Front Cover.
☞ **"3.2.4 Removing Front Cover and Replacing Front Cover Holder"** p.3-13
4. Remove Top Cover.
☞ **"3.2.6 Removing Top Cover"** p.3-16
5. Remove carriage cover.
☞ **"3.7.2 Removing Carriage Cover"** p.3-99
6. Move Carriage toward the center of Platen.
☞ **"3.7.1 How To Release Carriage Lock"** p.3-98
7. Remove CR board Assy.
☞ **"3.7.3 Removing CR Board Cover"** p.3-100
8. Remove connector of CR Encoder Assy (white) from CR board Assy (J 17) .
(CR Encoder Assy is a stranded wires of White, Yellow, Red, Black).
9. Remove CR Encoder Assy from Clamps (2 pieces) .



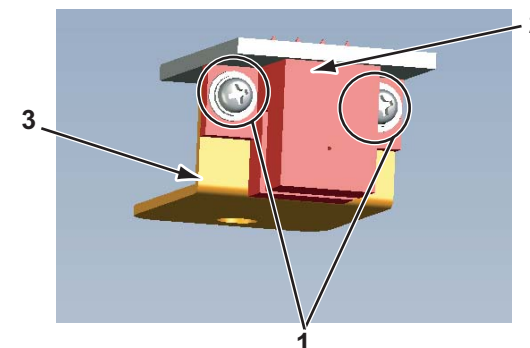
No.	Name
1	Connector of CR Encoder Assy
2	CR board Assy
3	Clamp

10. Remove screw retaining CR_ENC mounting plate.



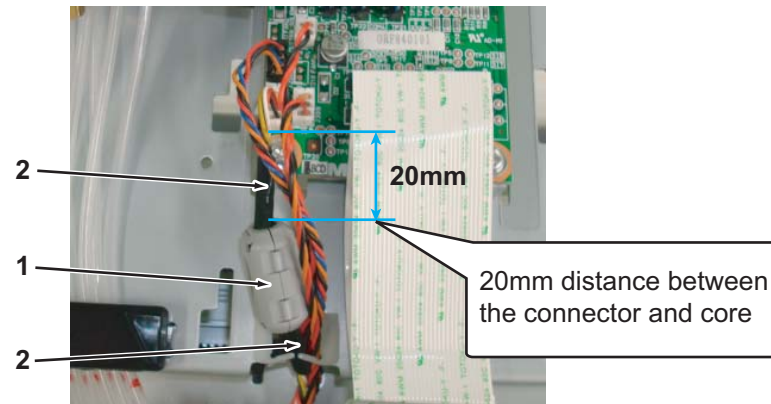
No.	Name
1	Pan-head screw with spring washer and flat washer M3 × 8 Ni × 3
2	CR_ENC mounting plate
3	CR Encoder Assy

11. Remove CR_ENC mounting plate.
12. Remove screws (2 pieces) retaining CR Encoder Assy to CR_ENC mounting plate.



No.	Name
1	Pan-head screw with spring washer and flat washer (polished) M2 × 6 Ni × 3
2	CR Encoder Assy
3	CR_ENC mounting plate

13. Remove CR encoder Assy .
14. Remove ferritic core (1 piece) from the removed CR encoder Assy .
15. Mount a new CR encoder Assy .
16. Mount ferritic core (1 piece) on the cable of CR encoder Assy .



No.	Name
1	Ferritic core
2	Acetate tape

NOTE

Make sure that there is a distance of 20mm between CR encoder Assy connector and ferritic core.

17. Tape around the cable of CR encoder Assy located on the both edges of the ferritic core with acetate tape (2 to 3 rounds) so the ferritic core does not move.
18. To reassemble unit, reverse the removal procedure.
19. Perform various adjustments.
👉 ["4.2 Adjustment Item" p.4-2](#)

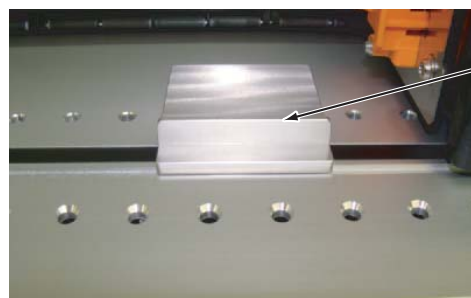
3.7.13 Replacing Photometer JUNCTION Board Assy

TIP

Replacing Procedure For Maintenance Part: Photometer JUNCTION Board Assy (VJ1324).
This part will be referred to as the Photometer JUNCTION Board Assy in this manual.

NOTE

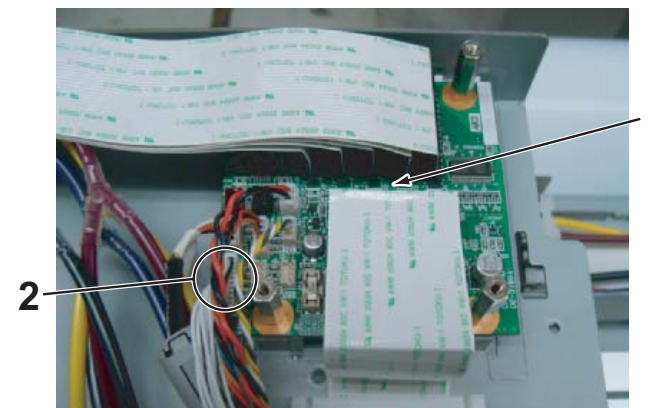
Using dedicated Jig to assemble Photometer JUNCTION board Assy.



Dedicated Jig

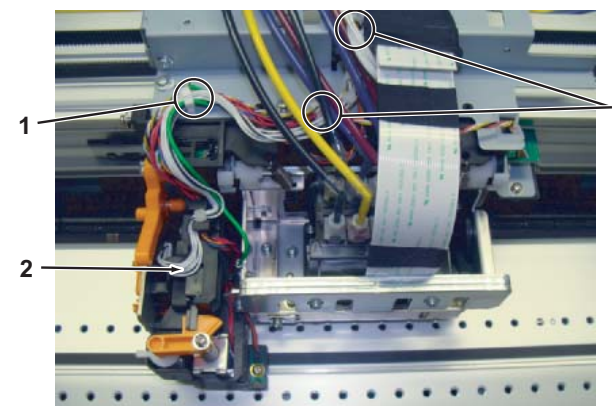
1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
4. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
5. Move Carriage toward the center of Platen.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
6. Remove carriage cover.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
7. Remove CR board Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)

8. Remove CR-JUNCTION relay Assy from CR board Assy (J18).



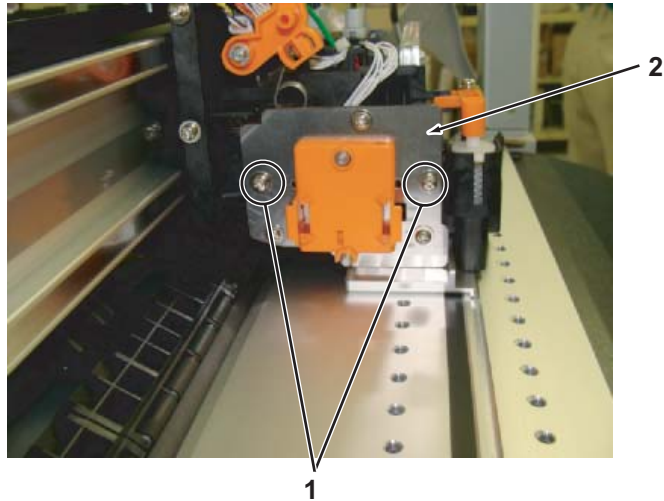
No.	Name
1	CR board Assy
2	Connector of CR-JUNCTION relay Assy

9. Remove CR-JUNCTION relay Assy from clamps (3pieces).



No.	Name
1	Clamp
2	CR-JUNCTION relay Assy

10. Remove the screws (2 pieces) retaining Bracket.



No.	Name
1	Pan-head screw with spring washer and flat washerM3 × 8
2	Bracket

11. Replace Photometer JUNCTION Board Assy.

NOTE

Dedicated Jig is needed to assemble Photometer JUNCTION board Assy.

12. Set dedicated Jig on mounting position, and set Photometer JUNCTION board Assy.



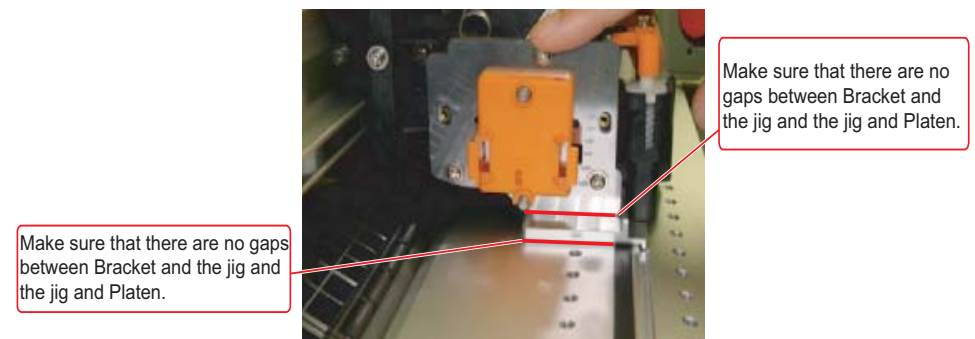
No.	Name
1	Photometer JUNCTION board Assy
2	Dedicated Jig

NOTE

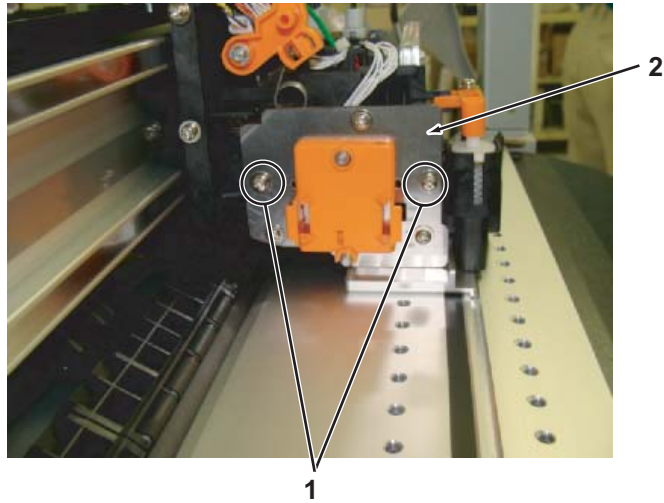
Install the jig before (temporarily) fixing Bracket with screws.

If installed after (temporarily) fixing Bracket with screws, it may damage Platen.

13. Make sure that there are no gaps between Bracket and the jig and the jig and Platen.



14. Fix Bracket with screws (2 pieces).



No.	Name
1	Bracket
2	Pan-head screw with spring washer and flat washerM3 × 8

15. To reassemble unit, reverse the removal procedure.

3.7.14 Removing Cutter Holder

NOTE

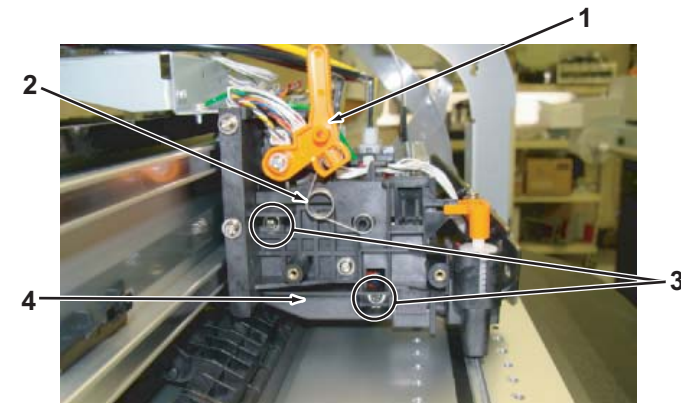
Using dedicated Jig to assemble Cutter Holder.



Dedicated Jig

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
4. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
5. Move Carriage toward the center of Platen.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
6. Remove carriage cover.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
7. Remove CR board Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)
8. Remove Photometer JUNCTION Board Assy.
☞ ["3.7.13 Replacing Photometer JUNCTION Board Assy" p.3-128](#)

9. Remove spring from PF adjusting Lever.
10. Remove screws (2 pieces) retaining Cutter Holder.



No.	Name
1	PG adjusting Lever
2	Spring
3	Pan-head screw with spring washer and flat washerM3 × 8 Ni-3
4	Cutter Holder

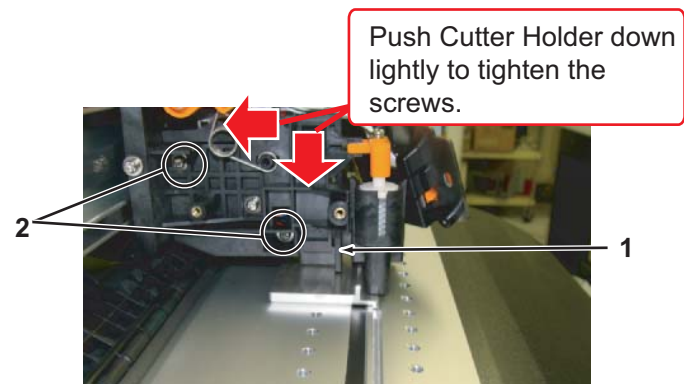
TIP

11. Set dedicated Jig on mounting position.



No.	Name
1	Cutter Holder
2	Dedicated Jig

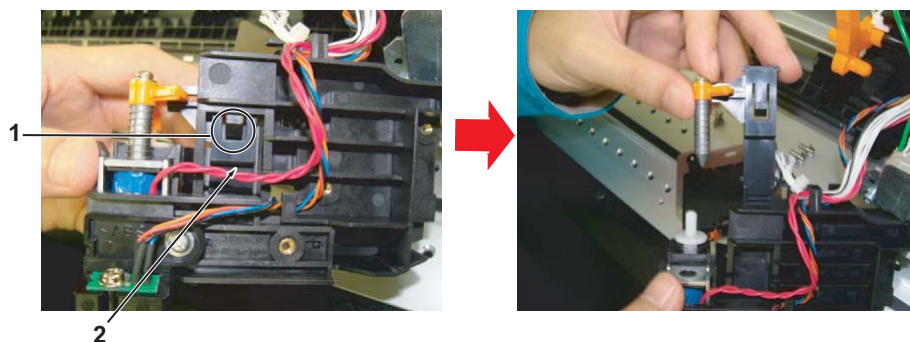
12. Push Cutter Holder down lightly to tighten the screws



13. To reassemble unit, reverse the removal procedure.

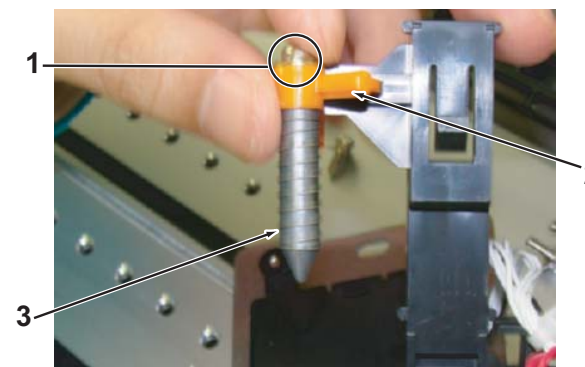
3.7.15 Replacing Cutter Solenoid Assy, Cutter Solenoid Spring Assy

1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
3. Remove Front Cover.
☞ "3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13
4. Remove Top Cover.
☞ "3.2.6 Removing Top Cover" p.3-16
5. Move Carriage toward the center of Platen.
☞ "3.7.1 How To Release Carriage Lock" p.3-98
6. Remove carriage cover.
☞ "3.7.2 Removing Carriage Cover" p.3-99
7. Remove Photometer JUNCTION Board Assy.
☞ "3.7.13 Replacing Photometer JUNCTION Board Assy" p.3-128
8. Remove Cutter Holder.
☞ "3.7.14 Removing Cutter Holder" p.3-131
9. Push the tab of lock kicker with a driver, etc. to remove lock kicker.



No.	Name
1	Tab of lock kicker
2	lock kicker

10. Remove Screw (1piece) retaining Cutter Cap.
11. Remove plunger.



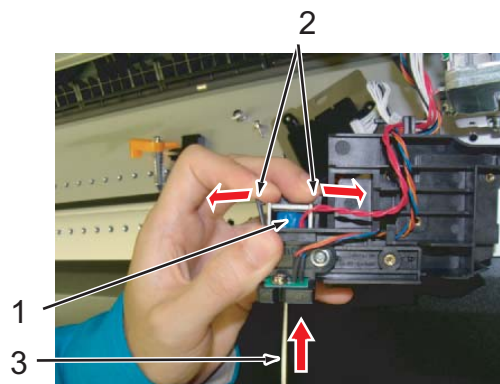
No.	Name
1	Pan-head screw with spring washer and flat washerM3 × 8 Ni-3
2	Cutter Cap
3	plunger (Cutter Solenoid Spring Assy)

12. Replace plunger.

NOTE

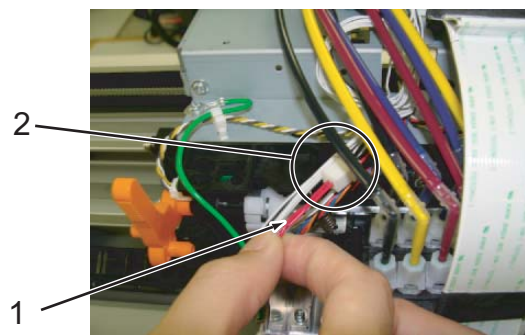
When replacing Cutter Solenoid spring itself, replace it at this stage.
To reassemble the unit, reverse the removal procedure.

13. While opening the upper tab of cutter holder Assy (next figure A), push out cutter solenoid Assy with a flat head screwdriver shaft, etc. from the bottom of cutter holder Assy to remove it.



No.	Name
1	Solenoid Assy
2	Tab of Cutter Holder
3	Screwdriver, etc.

14. Remove Cutter Solenoid Cable Assy from Cutter Solenoid Assy.



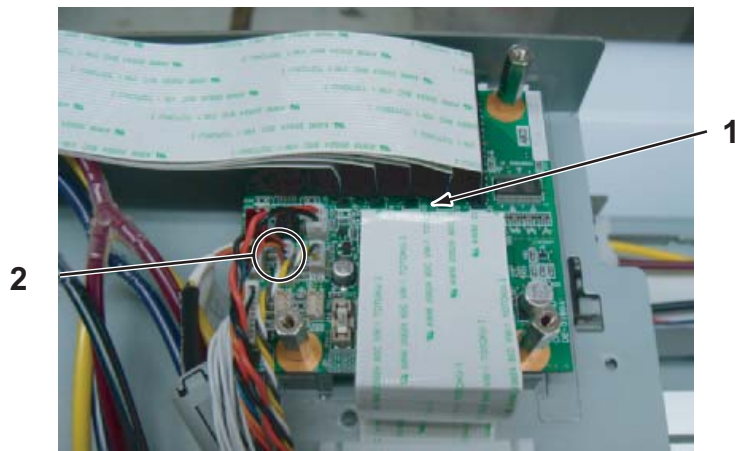
No.	Name
1	Cable of Cutter Solenoid Assy
2	Connecting Point of Cutter Solenoid Assy and Cutter Solenoid Cable Assy

15. Replace Cutter Solenoid Assy.

16. To reassemble unit, reverse the removal procedure.

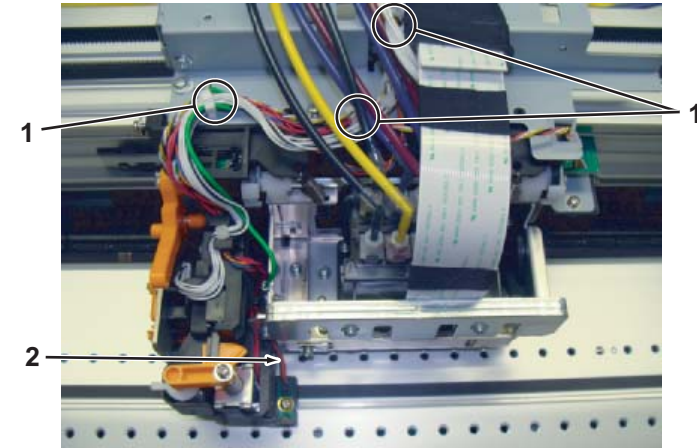
3.7.16 Replacing P_EDGE Sensor Assy

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
4. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
5. Move Carriage toward the center of Platen.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
6. Remove carriage cover.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
7. Remove CR board Assy.
☞ ["3.7.3 Removing CR Board Cover" p.3-100](#)
8. Remove connector of P_EDGE sensor Assy.



No.	Name
1	CR board Assy
2	Connector of P_EDGE sensor Assy

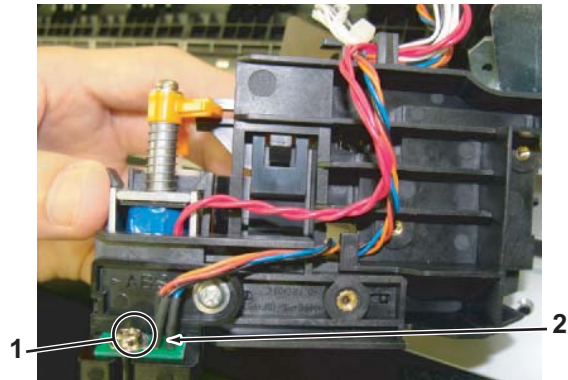
9. Remove P_EDGE sensor Assy from Clamps (3 pieces) .



No.	Name
1	Clamp
2	P_EDGE sensor Assy

10. Remove Photometer JUNCTION Board Assy.
☞ ["3.7.13 Replacing Photometer JUNCTION Board Assy" p.3-128](#)
11. Remove Cutter Holder.
☞ ["3.7.14 Removing Cutter Holder" p.3-131](#)

12. Remove screw (1 piece) retaining P_EDGE Sensor Assy.

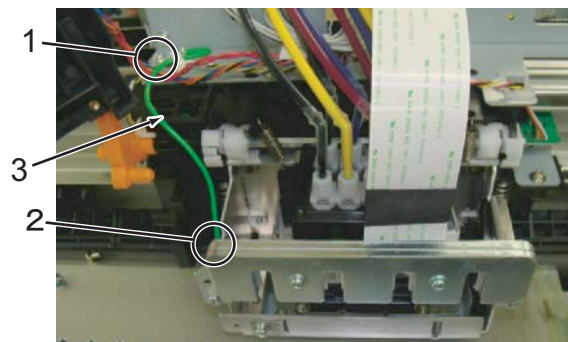


No.	Name
1	M3 × 6 P Tight cup
2	P_EDGE Sensor Assy

13. Replace P_EDGE Sensor Assy.
14. To reassemble unit, reverse the removal procedure.
15. Perform various adjustments..
- ☞ **"4.2 Adjustment Item" p.4-2**

3.7.17 Replacing Head FG_Assy

1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove carriage cover.
☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)
4. Remove Photometer JUNCTION Board Assy.
☞ ["3.7.13 Replacing Photometer JUNCTION Board Assy" p.3-128](#)
5. Remove Cutter Holder.
☞ ["3.7.14 Removing Cutter Holder" p.3-131](#)
6. Remove the screws (2 pieces) retaining Head FG_Assy.



No.	Name
1	Tapping screwM3 × 6S Tight cup
2	Pan-head screw with spring washer and flat washerM3 × 6
3	Head FG_Assy

7. Replace Head FG_Assy.
8. To reassemble unit, reverse the removal procedure.

3.8 Replacing Maintenance Section

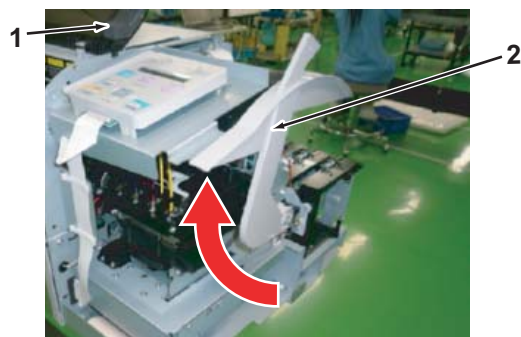
3.8.1 Replacing Maintenance Assy

NOTE

When replacing maintenance Assy, make sure to clear the following counter.

- 「Cleaning」:  **"6.3.2 Counter Initialization Menu" p.6-11**

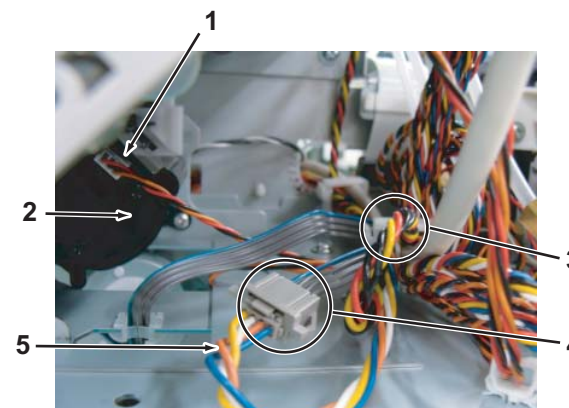
1. Remove I/H Cover.
 **"3.2.1 Removing I/H Cover" p.3-7**
2. Remove Side Cover R.
 **"3.2.2 Remove Side Cover R" p.3-8**
3. Open Front Cover.
4. Push up pressure lever in the direction of the red arrow.



No.	Name
1	Front Cover
2	Pressure Lever

5. Move the Carriage to the opposite side of origin.
 **"3.7.1 How To Release Carriage Lock" p.3-98**
6. Remove the connector of wiper origin sensor relay Assy from wiper origin sensor.
7. Remove the connector of wiper origin sensor relay Assy from the clamp.

8. Remove the connector of pump motor relay Assy.



Back side of Maintenance Section

No.	Name
1	Connector of wiper origin sensor relay Assy
2	Wiper origin sensor
3	Clamp
4	Connector of pump motor relay Assy
5	Pump motor relay Assy

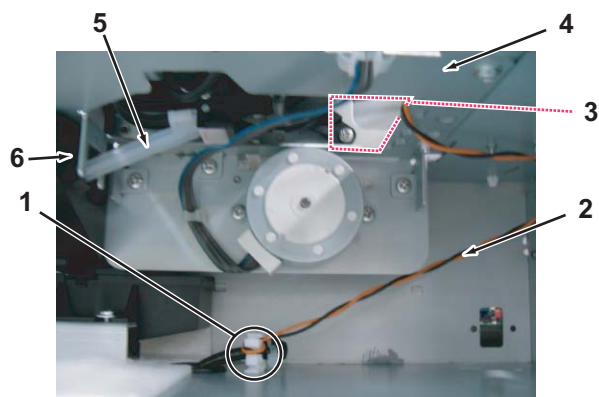
9. Remove the connector of waste fluid sensor relay Assy from waste fluid sensor.



No.	Name
1	Connector
2	Waste Fluid Sensor Cable Assy
3	Waste Fluid Sensor

10. Remove waste fluid sensor relay Assy from the clamp on the path and remove from the Hole of maintenance base.

11. Remove the tube of pump cap Assy from waste fluid guide 2

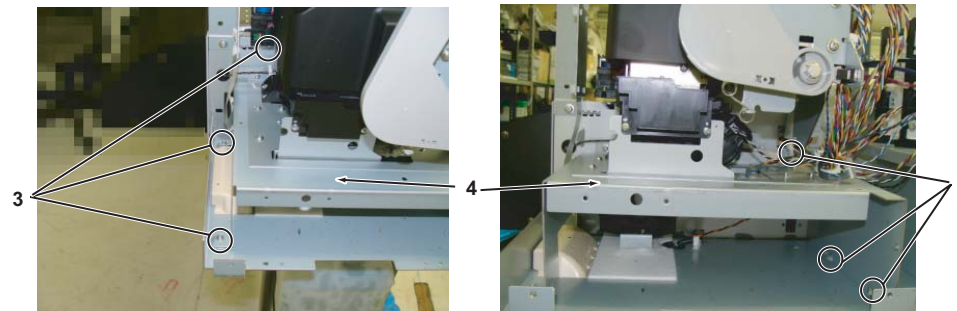


No.	Name
1	Clamp

2	Waste Fluid Sensor Cable Assy
3	Hole of Maintenance base
4	Maintenance base
5	Tube
6	Waste fluid guide 2

12. Remove Panel_FFC from Clamp.

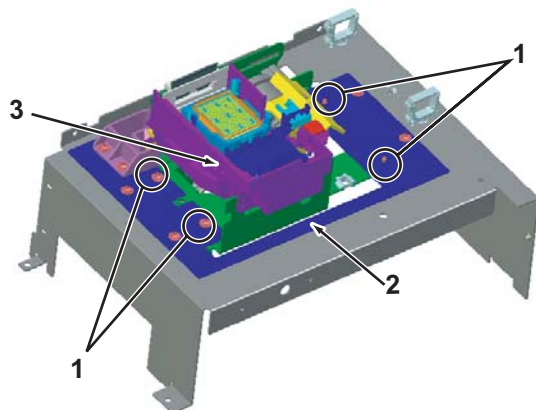
13. Remove the screws (2 pieces) retaining the front and rear sides of maintenance Assy .



No.	Name
1	Clamp
2	FFC
3	Tapping screw M3 × 6 S Tight cup)
4	Maintenance Base 2

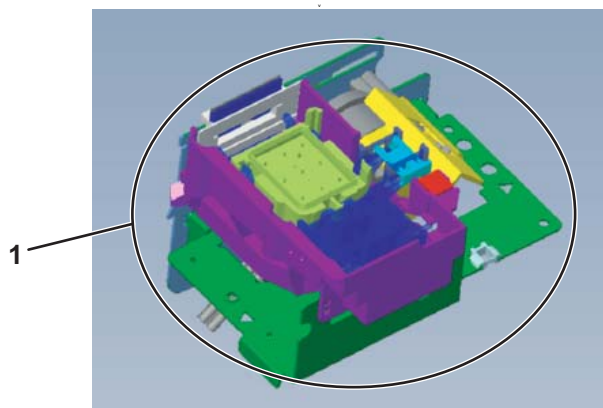
14. Remove Maintenance Base 2 (with Maintenance Assy mounted) from Printer MAIN body.

15. Remove the screws (4 pieces) retaining maintenance Assy to maintenance base 1.



No.	Name
1	Tapping screw M3 × 6S Tight cup
2	Maintenance base 1
3	Maintenance Assy

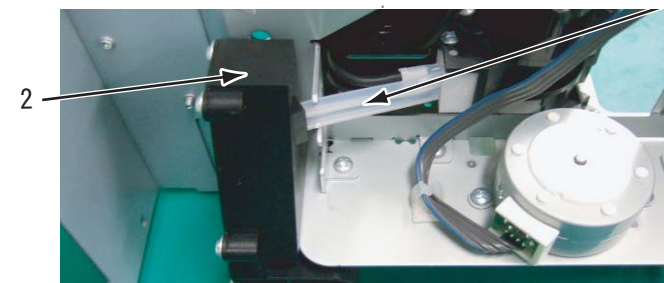
16. Replace Maintenance Assy.



No.	Name
1	Maintenance Assy

17. Install a new maintenance Assy to maintenance base 1.

18. Insert a tube to waste fluid guide 2



No.	Name
1	Tube
2	Waste fluid guide 2

19. Install Maintenance base 1 with Maintenance Assy mounted to Printer MAIN body.

20. To reassemble unit, reverse the removal procedure.

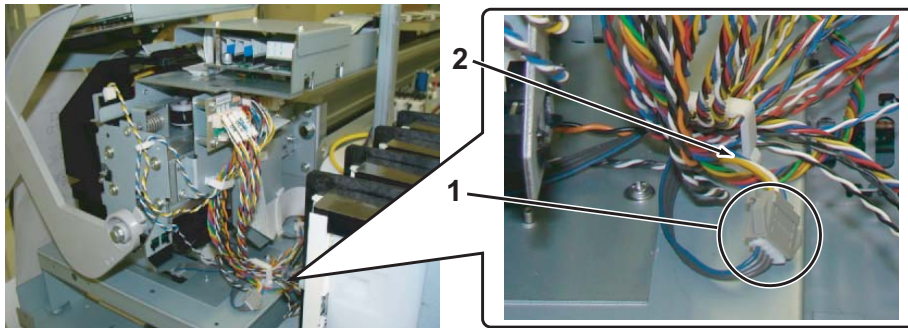
21. Perform adjustments by following the instructions in [☞ "4.2 Adjustment Item" p.4-2](#)

3.8.2 Replacing PumpMotor Relay Assy

NOTE

Pump Motor Relay Assy is a stranded wires of Yellow,orange, Blue,White.

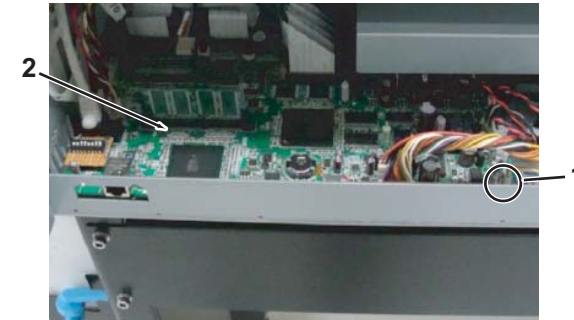
1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
3. Remove Paper Guide R2.
☞ "3.2.7 Removing Paper Guide R2" p.3-17
4. Remove connector of Pump Motor Relay Assy.



No.	Name
1	Connector of Pump Motor Relay Assy
2	Pump Motor Relay Assy

5. Remove Pump Motor Relay Assy from clamps on the path.

6. Remove Pump Motor Relay Assy from MAIN Board Assy (J18) .



No.	Name
1	Connector of Pump Motor Relay Assy
2	MAIN Board Assy

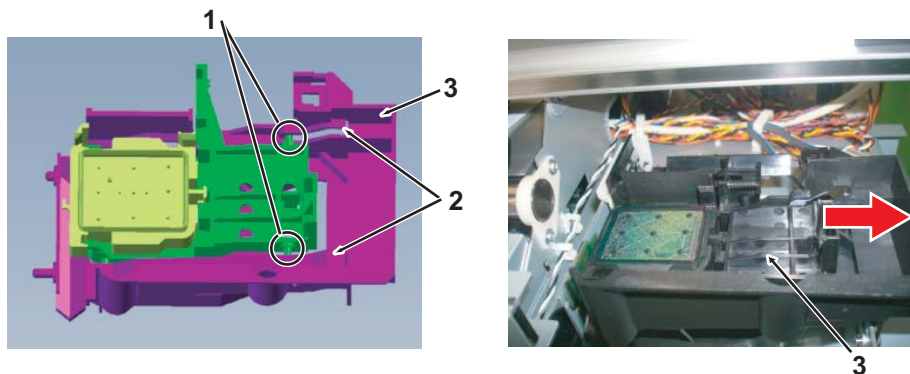
7. Replace Pump Motor Relay Assy.
8. To reassemble unit, reverse the removal procedure.

3.8.3 Replacing Cap Head Assy

TIP

Replacing Procedure For Maintenance Part: Cap Head Assy.
This part will be referred to as the Cap Head. in this manual.

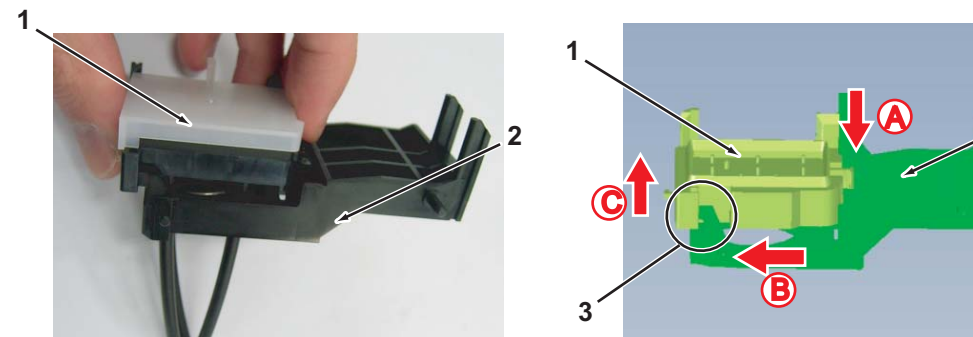
1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Move the Carriage to the opposite side of origin.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
4. Shift cap slider toward the direction of the arrow shown below. Remove the protruding portion of cap slider from the frame cap groove.



No.	Name
1	Protruding portion of cap slider
2	Frame cap groove
3	Frame cap

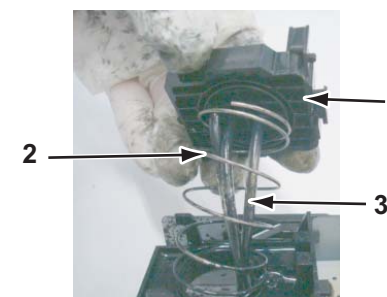
5. Remove cap slider from frame cap.

6. While pushing cap head toward the direction of A, shift toward the direction of B shown below.
7. Unhook cap slider and lift up toward the direction of C shown below.



No.	Name
1	Cap head
2	Cap slider
3	Cap slider hook

8. Remove cap tubes (3 pieces) from cap head.

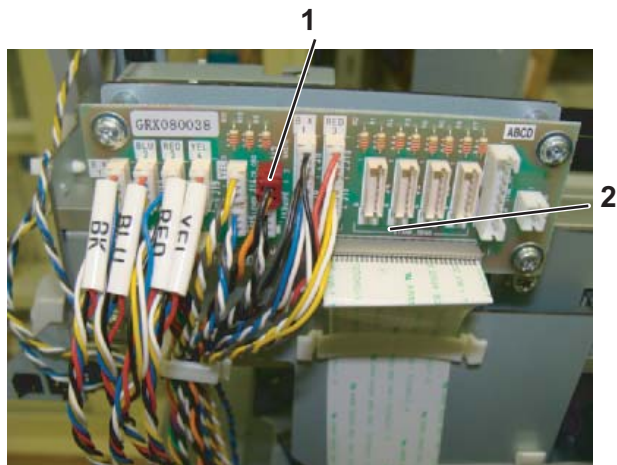


No.	Name
1	Pump cap Assy
2	Cap spring
3	Cap tube

9. Replace cap head.

3.8.4 Replacing Waste Fluid Sensor Cable Assy

1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
3. Remove connector (red) of Waste Fluid Sensor Cable Assy from JUNCTION board Assy (J12).
(Waste Fluid Sensor Cable Assy is a stranded wires of orange,Black.)



No.	Name
1	Waste Fluid Sensor Cable Assy
2	MAIN board Assy

4. Remove Waste Fluid Sensor Cable Assy from clamps (6 pieces) on the path.



No.	Name
1	Connector
2	Waste Fluid Sensor Cable Assy
3	Waste Fluid Sensor

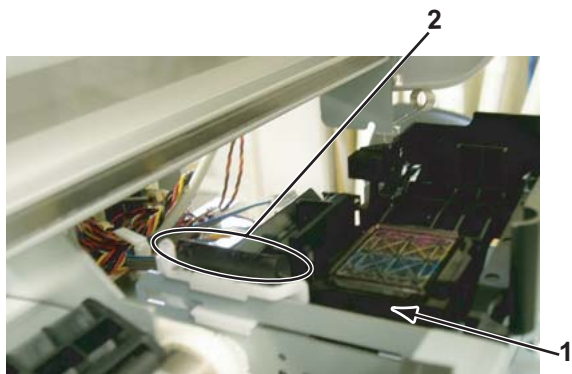
5. Remove Waste Fluid Sensor Cable Assy from Waste Fluid Sensor.
6. Replace Waste Fluid Sensor Cable Assy.
7. To reassemble the unit, reverse the removal procedure.

3.8.5 Replacing Wiper Assy

TIP

Replacing Procedure For Maintenance Part: Cleaner Head Assy.
This part will be referred to as the Wiper in this manual.

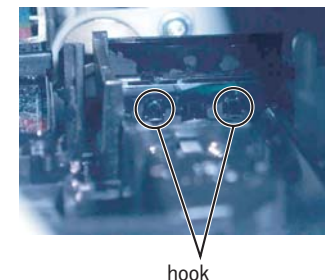
1. Remove I/H Cover.
👉 "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
👉 "3.2.2 Remove Side Cover R" p.3-8
3. Move the Carriage to the opposite side of origin.
👉 "3.7.1 How To Release Carriage Lock" p.3-98
4. Remove wiper from hook in the wiper Assy holder by using tweezers, and lift it from the holder upward.



No.	Name
1	Pump cap Assy
2	Wiper

NOTE

To remove wiper, use tweezers to unhook the lower hook of wiper.

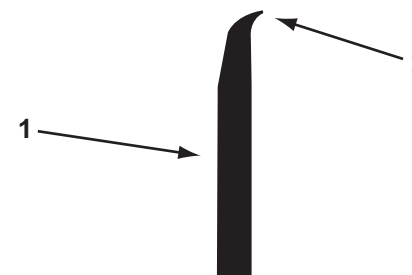


5. Replace wiper.
6. To reassemble unit, reverse the removal procedure.

NOTE

When removing wiper, note the following.

- Do not touch wiper with your bare hands.
- Make sure that wiper is not contaminated with dust or oil etc.
- Mount wiper with the point of wiper facing on your right side



No.	Name
1	Wiper
2	Head point

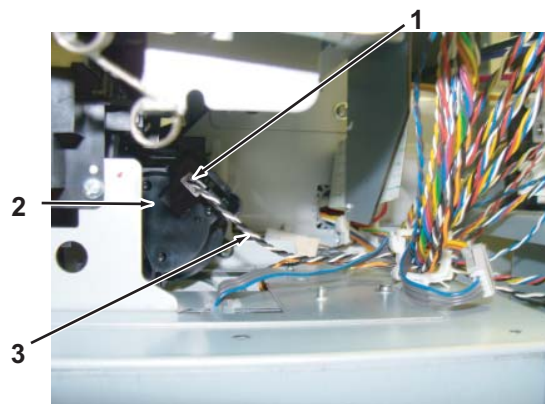
- Insert wiper into holder to the full depth securely and hook it.

3.8.6 Replacing Wiper Origin Sensor Cable Assy

NOTE

Wiper Origin Sensor Cable Assy is a stranded of White、Black、gray.

1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
3. Remove Wiper Origin Sensor Cable Assy from Wiper origin Sensor.

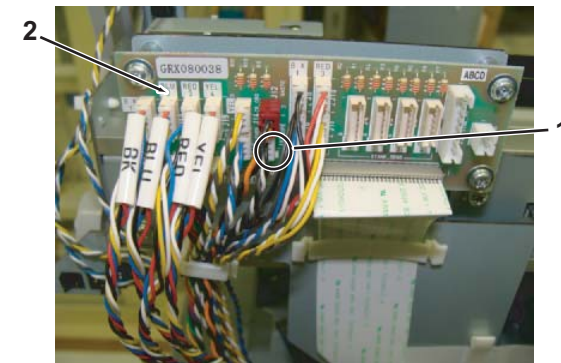


Back side of Maintenance Section

No.	Name
1	Connector of Wiper Origin Sensor Cable Assy
2	Wiper origin Sensor
3	Wiper Origin Sensor Cable Assy

4. Remove Wiper Origin Sensor Cable Assy from clamps (4 pieces) on the path.

5. Remove connector (white) of Wiper Origin Sensor Cable Assy from JUNCTION Board Assy (J13) .



No.	Name
1	Connector of Wiper Origin Sensor Cable Assy
2	JUNCTION Board Assy

6. Replace Wiper Origin Sensor Cable Assy.
7. To reassemble unit, reverse the removal procedure.

3.9 Replacing Ink Supply Section Components

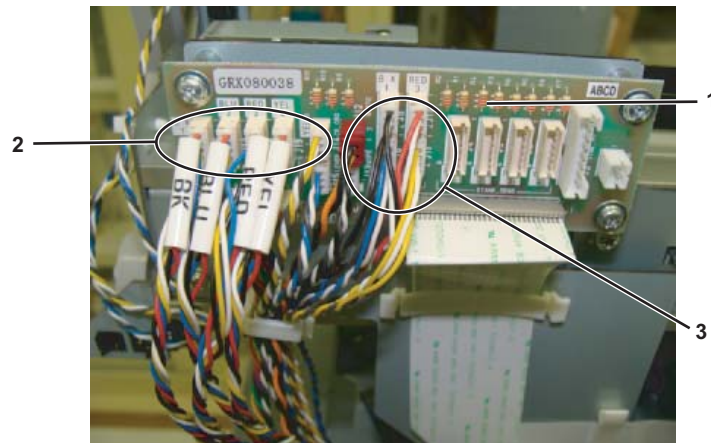
3.9.1 Replacing Cartridge Holder Assy

1. Perform ink drainage operation and drain ink from all the ink path.

TIP

☞ "5.7.10 Longstore Menu" p.5-53

2. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
3. Remove Side Cover R.
☞ "3.2.2 Remove Side Cover R" p.3-8
4. Remove Ink ID Cable Assy and I/C Cable Assy from Cartridge Holder Assy from JUNCTION Board Assy.

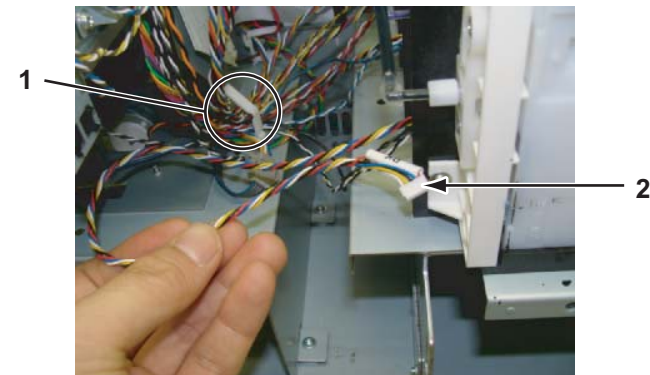


No.	Name
1	JUNCTION Board Assy
2	Ink ID Cable Assy
3	I/C Cable Assy

TIP

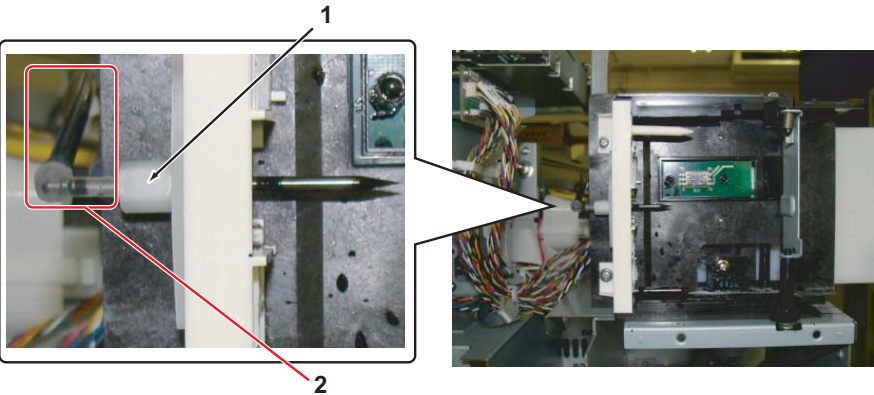
☞ "3.4.11 Replacing JUNCTION Board Assy" p.3-51

6. Remove removed Cable from clamp s on the path.



No.	Name
1	Clamp

7. Loosen Joint screw, remove Joint and Ink tube.

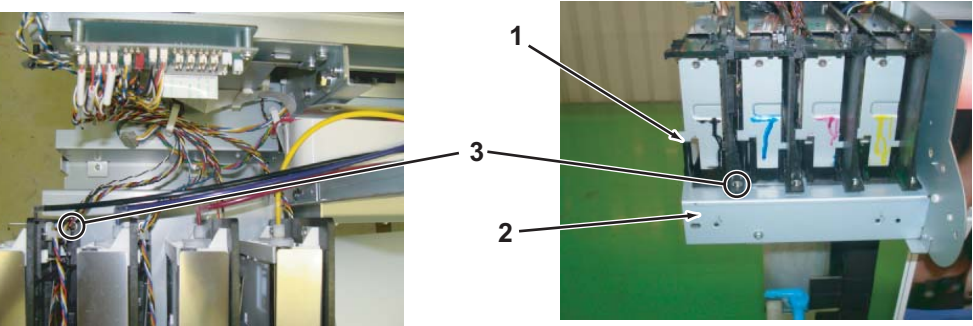


No.	Name
1	Joint screw
2	Joint、 Ink tube

NOTE

- Replace O-ring M7 inside Joint Screw with a new one.
- Reusing an old O-ring M7 may cause ink leakage.
- K,C,M are L type fitting, and Y is I type fitting.

8. Remove screws (2 pieces) retaining Cartridge holder Assy to Cartridge base.



No.	Name
1	Cartridge holder Assy
2	Cartridge base
3	Tapping screw M3 × 12 Stight cup

9. Replace Cartridge holder Assy.
10. To reassemble unit, reverse the removal procedure.

NOTE

When tightening Joint screws, use dedicated jigs, and be careful with the tightening torque.

["7.4 Jigs and Tools" p.7-6](#)

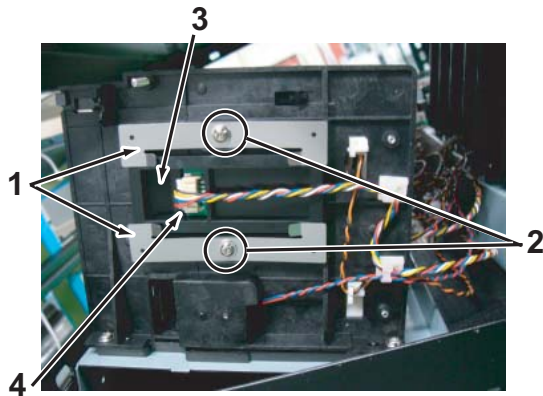
3.9.2 Replacing Ink ID Board Assy、 Pressure Roller Holder Spring Assy

1. Remove I/H Cover.
☞ "3.2.1 Removing I/H Cover" p.3-7
2. Remove Cartridge Holder Assy from Cartridge base.
☞ "3.9.1 Replacing Cartridge Holder Assy" p.3-146
3. Remove screws (2 pieces) retaining Holder Roller Pressure Spring (2 pieces).

TIP

When replacing Pressure Roller Holder Spring Assy only, replace it here.

4. Remove INK ID Cable Assy from INK ID Board Assy.



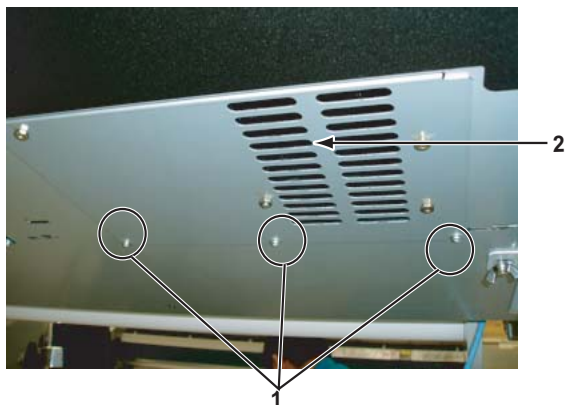
No.	Name
1	Holder Roller Pressure Spring
2	P Tight cup M3 × 6 Ni-3
3	INK ID Board Assy
4	INK ID Cable Assy

5. Remove Holder Roller Pressure Spring.
6. Replace INK ID Board Assy.
7. To reassemble unit, reverse the removal procedure.

3.10 Replacement of Frame Section Components

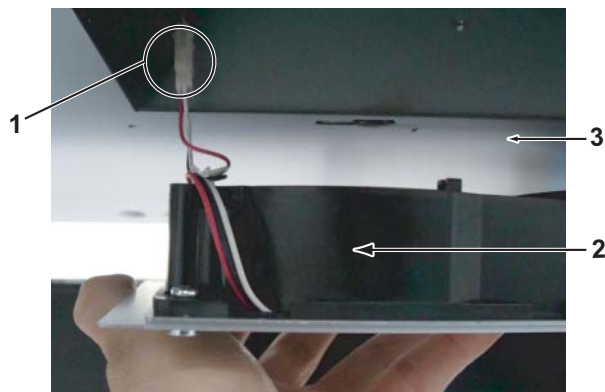
3.10.1 Replacing Adsorption FAN

1. Remove the screws (3 pieces) retaining adsorption FAN mounting plate to B frame, then remove the adsorption FAN.



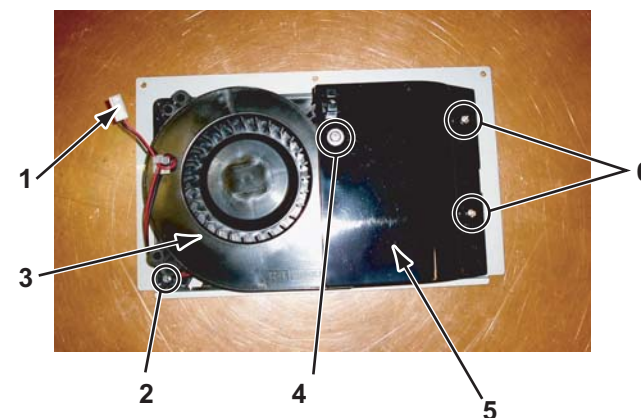
No.	Name
1	M3×6 S Tight cup
2	Adsorption FAN mounting plate

1. Remove the adsorption FAN Cable connector.



No.	Name
1	Cable of Adsorption FAN
2	Adsorption FAN

2. Remove the screws (2 pieces) retaining FAN duct to remove FAN duct.
3. Remove the screws (2 pieces) retaining adsorption FAN.
4. Replace adsorption FAN.



No.	Name
1	Adsorption FAN Cable connector
2	Pan head small screw M4× 8
3	Adsorption Fan Assy
4	M4× 40Pan-head screw with spring washer and flat washer polished
5	Fan Duct
6	Pan head small screwM4× 5

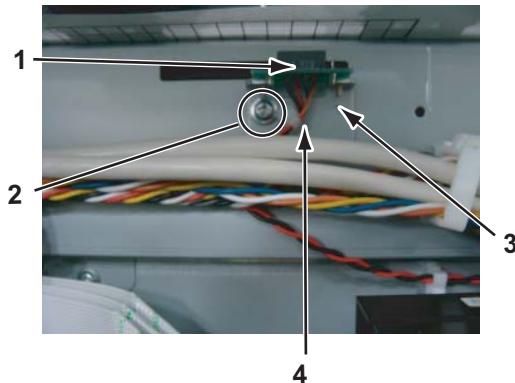
5. To reassemble unit, reverse the removal procedure.

3.10.2 Replacing P_REAR Sensor

TIP

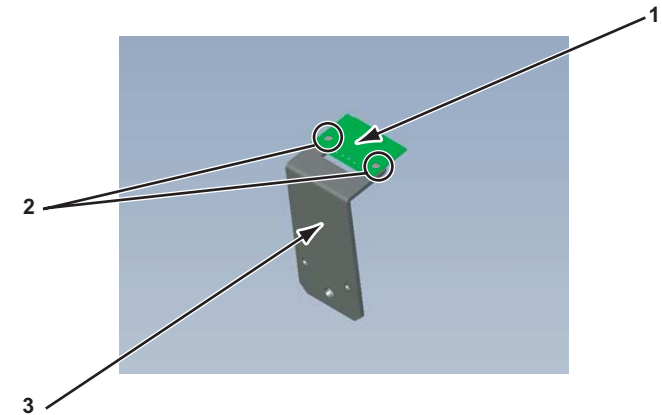
Replacing Procedure For Maintenance Part: P_REAR sensor Assy
This part will be referred to as the P_REAR sensor in this manual.

1. Remove Paper Guide R2.
 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
2. Remove Connector of P_REAR Sensor from MAIN board Assy.
3. Remove P_REAR Sensor from Clamps on the path.
4. Remove screw (1 piece) retaining PE Sensor plate to Frame.



No.	Name
1	P_REAR Sensor
2	Tapping screw M3×6 S Tight cup
3	PE Sensor plate
4	Clamp

5. Remove the screw (2 pieces) retaining P_REAR sensor on PE sensor plate.

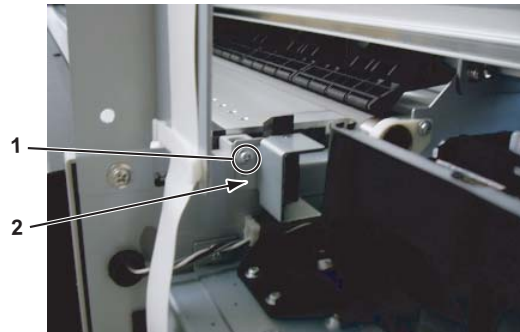


No.	Name
1	Cup screw M2 × 6
2	P_REAR Sensor
3	PE sensor plate

6. Remove P_REAR Sensor.
7. To reassemble unit, reverse the removal procedure.
8. Perform various adjustments.
 ["4.2 Adjustment Item" p.4-2](#)

3.10.3 Replacing Lock Arm Assy, Lock Arm Spring Assy, Arm Axis Assy

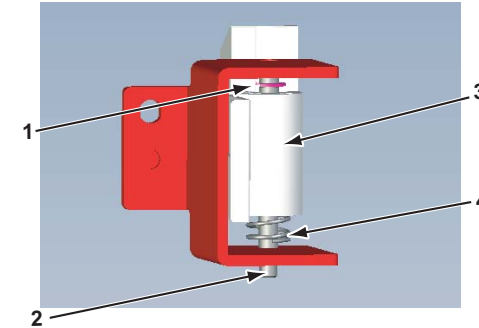
1. Remove I/H Cover.
☞ ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
☞ ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Move the Carriage to the opposite side of origin.
☞ ["3.7.1 How To Release Carriage Lock" p.3-98](#)
4. Remove screw (1piece) retaining Lock Bracket.



No.	Name
1	Tapping screw M3x6 S Tight cup
2	Lock bracket

5. Remove Lock Bracket.

6. Remove E-type ring from Arm Axis Assy.



No.	Name
1	E-type ring
2	Arm Axis Assy
3	Lock Arm Assy
4	Lock Arm Spring Assy

7. Remove Arm Axis Assy from Lock Arm Assy.
8. Replace each parts.
9. To reassemble unit, reverse the removal procedure.

3.11 Replacing Cable Guide Section Components

3.11.1 Replacing Tube Fixing Clamp

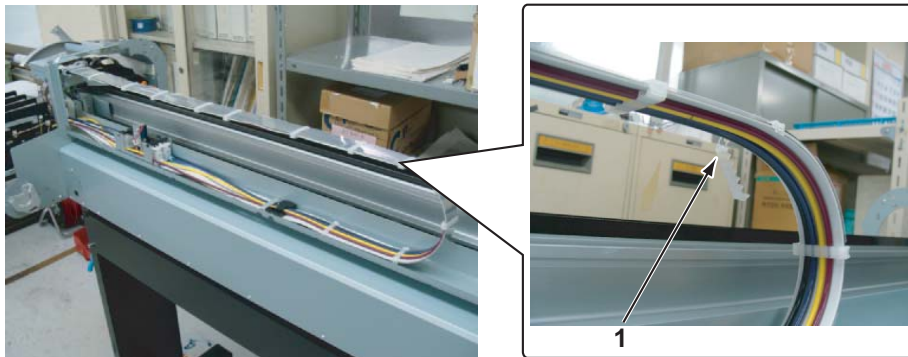
TIP

Replacing Procedure For Maintenance Part: Tube Fixing Clamp Assy.
This part will be referred to as the Tube Fixing Clamp in this manual.

NOTE

Install the tube fixing clamp so that the part of open turn in front of the printer.

1. Remove Front Cover.
☞ ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
2. Remove Top Cover.
☞ ["3.2.6 Removing Top Cover" p.3-16](#)
3. Remove tube fixing clamp.



No.	Name
1	tube fixing clamp

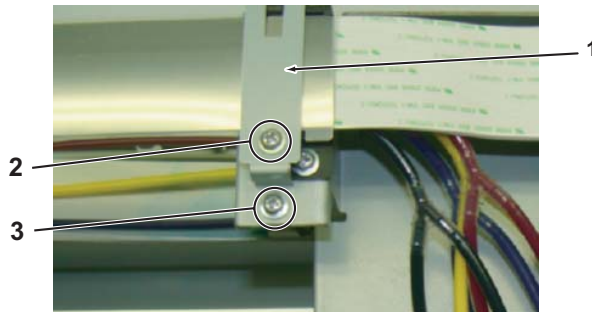
4. Replace tube fixing clamp.
5. To reassemble unit, reverse the removal procedure.

3.11.2 Replace Steel Bare

TIP

Replacing Procedure For Maintenance Part: Steel Bare RJ13_ Assy.
This part will be referred to as the Steel Bare in this manual.

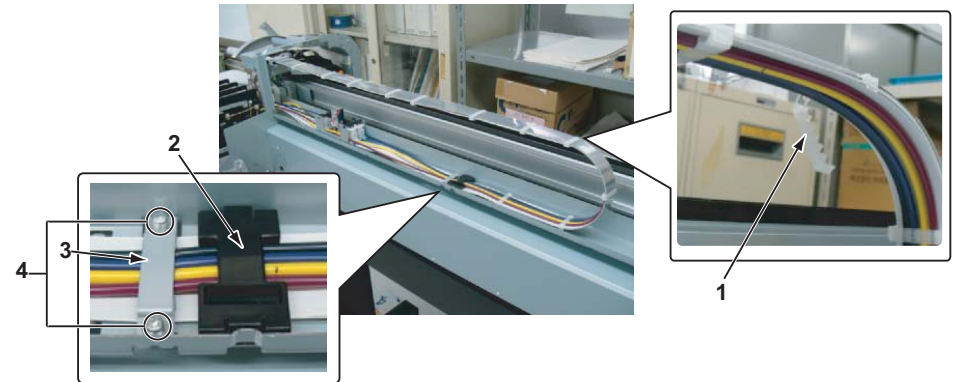
1. Remove I/H Cover.
☞ **"3.2.1 Removing I/H Cover" p.3-7**
2. Remove Side Cover R.
☞ **"3.2.2 Remove Side Cover R" p.3-8**
3. Remove Side Cover L.
☞ **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
4. Remove Front Cover.
☞ **"3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13**
5. Remove Top Cover.
☞ **"3.2.6 Removing Top Cover" p.3-16**
6. Remove screws (2 pieces) retaining Bare fixing plate.



No.	Name
1	Bare fixing plate
2	Tapping screw M3 × 8 P Tight cup
3	Tapping screw M3 × 8 S Tight cup

7. Remove Bare fixing plate.
8. Remove the screws (2 pieces) retaining bare retainer, and remove bare retainer.

9. Remove Tube holding clamps (11 pieces).
10. Remove Tube presser.

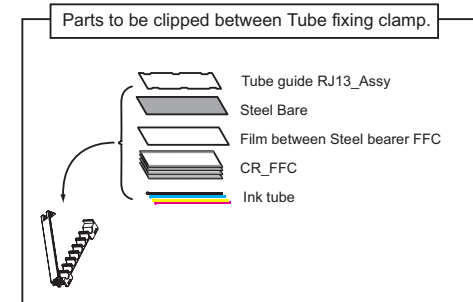


No.	Name
1	tube fixing clamp Assy
2	Tube retainer
3	Bare retainer
4	Pan-head screw with spring washer and flat washer M3 × 6

11. Replace Steel Bare.

CAUTION

- Install Tube fixing clamp referring to the following.
- Install the tube fixing clamp so that the part of open turn in front of the printer.



12. To reassemble unit, reverse the removal procedure.

3.11.3 Replacing CR_FFC

TIP

Replacing Procedure For Maintenance Part: CR FFC Assy.
This part will be referred to as the CR FFC in this manual.

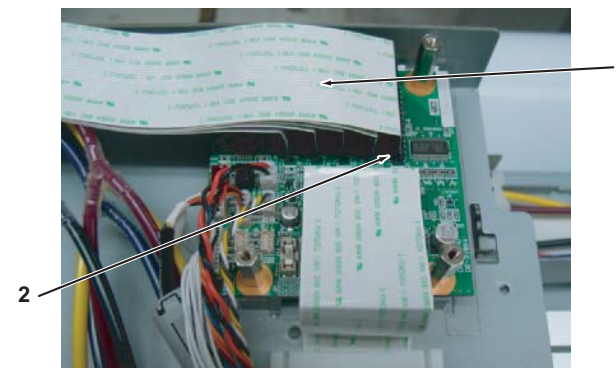


CAUTION

- Before replacing the board or plugging/unplugging FFC, unplug Power cable and leave it for a while. If operating with Power cable still plugged, Board may be damaged or operators may get an electric shock by standby electricity.
- When handling board, do not touch on-board devices with bare hands.
- Before plugging FFC, check FFC terminal (to see the corner of the terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to the connector.
If plugged/unplugged obliquely, it may damage, shunt, or disconnect the terminals inside the connector, and may damage the elements on the board.
- Make sure to plug FFC all the way. After plugging, make sure that FFC and connector terminal are aligned and that FFC is not plugged obliquely.

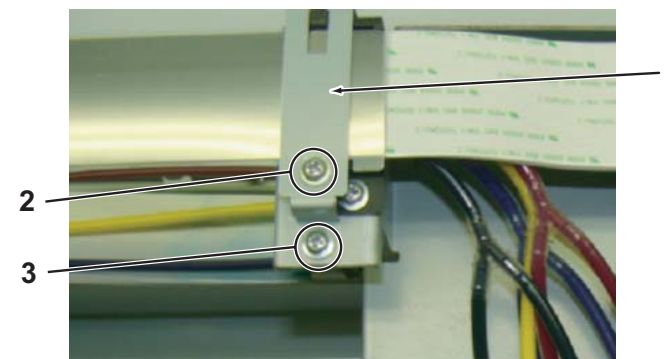
1. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
2. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
3. Remove Side Cover L.
🔧 ["3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11](#)
4. Remove Front Cover.
🔧 ["3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13](#)
5. Remove Top Cover.
🔧 ["3.2.6 Removing Top Cover" p.3-16](#)
6. Remove Paper Guide R2.
🔧 ["3.2.7 Removing Paper Guide R2" p.3-17](#)
7. Remove CR board Assy.
🔧 ["3.7.3 Removing CR Board Cover" p.3-100](#)

8. Remove CR_FFC (5 pieces) from CR board Assy (J1、J2、J3、J4、J5) .



No.	Name
1	CR_FFC
2	CR board Assy

9. Remove screws (2 pieces) retaining Bare fixing plate.



No.	Name
1	Bare fixing plate
2	Tapping screw M3 × 8 P Tight cup
3	Tapping screw M3 × 8 S Tight cup

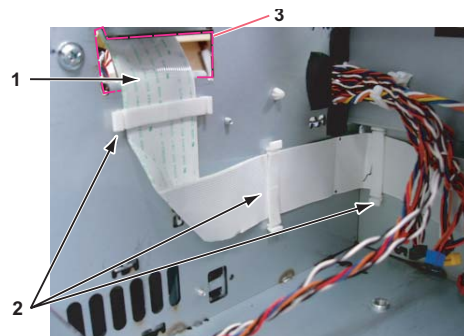
10. Remove Bare fixing plate.

11. Remove CR_FFC (5pieces) from MAIN Board Assy (J7、J8、J9、J10、J11) .



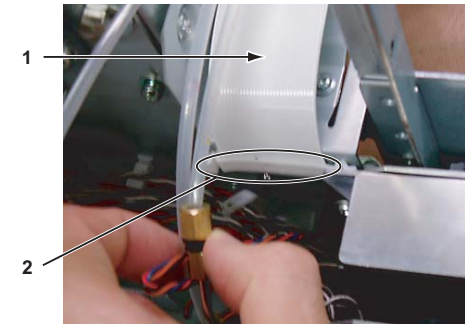
No.	Name
1	CR_FFC
2	MAIN Board Assy

12. Remove CR_FFC from the clamps around MAIN board and pull it out from the cable mouth of R frame.



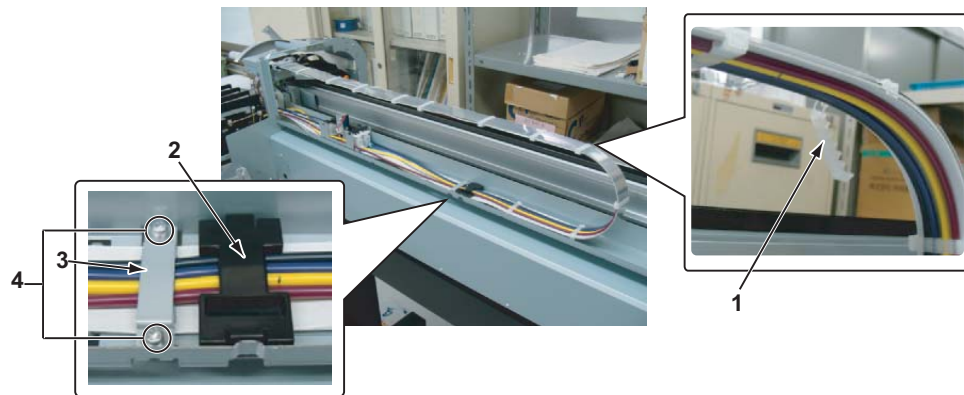
No.	Name
1	CR_FFC
2	Clamp
3	Cable inlet

13. Remove CR_FFC from the clamp (1 place) near the cable insertion hole of R frame (I/H Assy side).



No.	Name
1	CR_FFC
2	Clamp

14. Remove the screws (2 pieces) retaining bare retainer, and remove bare retainer.
15. Remove Tube fholding clamps (11 pieces).
16. Remove Tube presser.



No.	Name
1	tube fixing clamp Assy
2	Tube retainer
3	Bare retainer
4	Pan-head screw with spring washer and flat washerM3 × 6

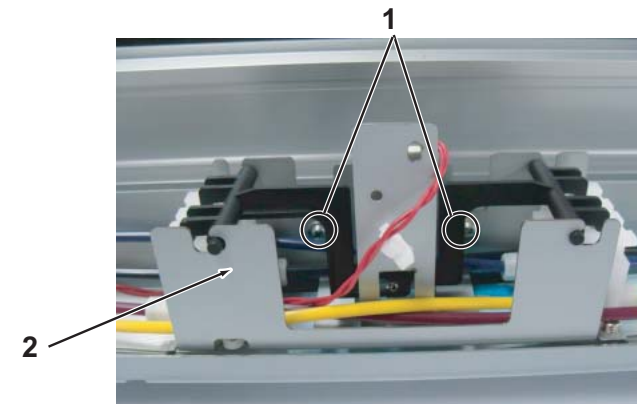
17. Open Steel Bare.



No.	Name
1	Steel Bare

2	CR_FFC
---	--------

18. Remove the screws (2 pieces) retaining Choke Solenoid base.



No.	Name
1	Tapping screwM3 × 6 S Tight cup
2	Choke Solenoid base

19. Lift Choke Solenoid base up, and remove CR_FFC.
20. Fold New CR_FFC.

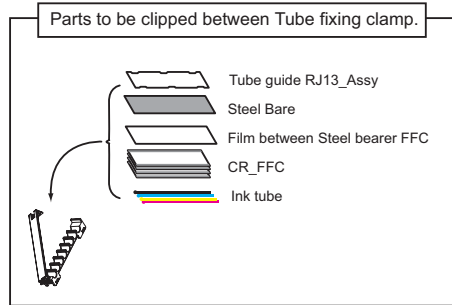
NOTE

Fold the new CR FFC referring to the removed CR FFC.

21. To reassemble unit, reverse the removal procedure.

CAUTION

- CR_FFC has 5 layers, so be careful with the connection source and its destination.
- Install Tube fixing clamp preferring to the following.
- Install the tube fixing clamp so that the part of open turn in front of the printer.



3.11.4 Replace Valve Solenoid (Exploded View CR Assy2)

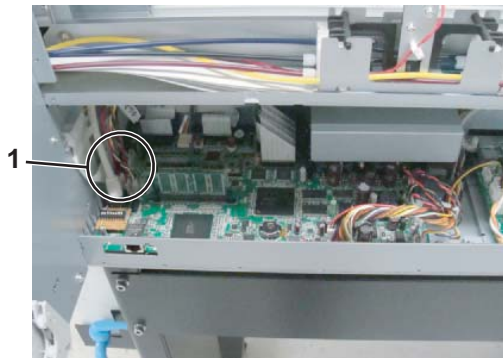
TIP

Replacing Procedure For Maintenance Part: Carriage Lock Solenoid Assy.
This part will be referred to as the Valve Solenoid Assy in this manual.

1. Remove Front Cover.
☞ "3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13
2. Remove Top Cover.
☞ "3.2.6 Removing Top Cover" p.3-16
3. Remove Connector of Valve Solenoid from MAIN Board Assy (J31).

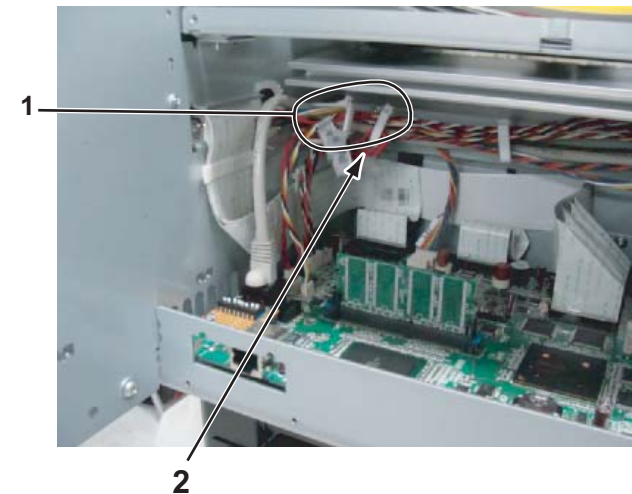
TIP

Solenoid Cable is a stranded wires of Red. Connector color is White.



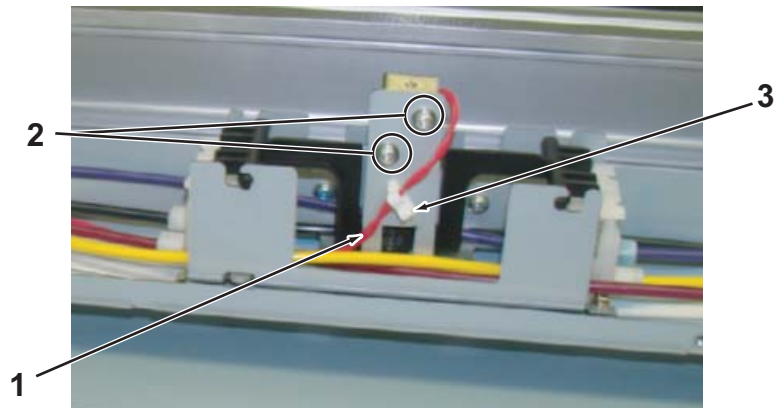
No.	Name
1	Connector of Solenoid Assy

4. Remove Solenoid Cable from clamps around MAIN board Assy.



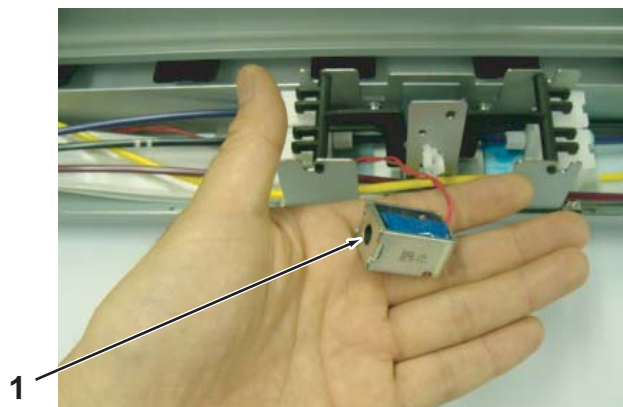
No.	Name
1	Solenoid Cable
2	Clamp

5. Remove screws (2 pieces) retaining Valve Solenoid.
6. Remove Solenoid Cable from clamp.



No.	Name
1	Solenoid Cable
2	Pan-head screw with spring washer and flat washerM3 × 5
3	Clamp

7. Remove Valve Solenoid.



No.	Name
1	Valve Solenoid

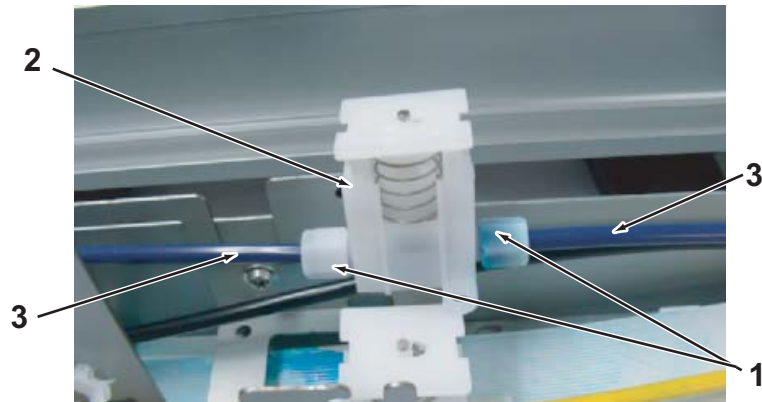
8. Replace Valve Solenoid.
9. To reassemble unit, reverse the removal procedure.

3.11.5 Replace Solenoid Tube Assy

TIP

Replacing Procedure For Maintenance Part: Solenoid Tube Assy.
This part will be referred to as the Solenoid tube Assy in this manual.

1. Perform ink drainage operation and drain ink from all the ink path.
2. Remove Front Cover.
☞ **"3.2.4 Removing Front Cover and Replacing Front Cover Holder" p.3-13**
3. Remove Top Cover.
☞ **"3.2.6 Removing Top Cover" p.3-16**
4. Proceed to the step 15 of the replacement procedure in ☞ **"(2) Y fitting. — Solenoid Tube Assy" p.3-117.**
5. Loose Joint ScrewM7 (2pieces) , remove Ink Tube from Solenoid Tube Assy .



No.	Name
1	Joint ScrewM 7
2	Solenoid Tube Assy
3	Ink Tube

6. Replace Solenoid TubeAssy.

NOTE

Replace O-ring M7 inside Joint Screw M7 with a new one.
Reusing an old O-ring M7 may cause ink leakage.

7. To reassemble the unit, reverse the removal procedure.
8. Perform various adjustments.
☞ **"4.2 Adjustment Item" p.4-2**

3.12 Replacing Accessory Unit

3.12.1 Replacing Waste Fluid Level Switch ,Waste Fluid Bottle Assy

TIP

Replacing Procedure For Maintenance Part: Waste Fluid Level Switch (VJ16) and Waste Fluid Bottle Assy.

This part will be referred to as the Waste Fluid Switch and Waste Fluid Bottle Assy in this manual.

NOTE

- Discharge the waste fluid fully to replace Waste fluid bottle.
- Confirm that there remains no waste fluid in the waste fluid tube.

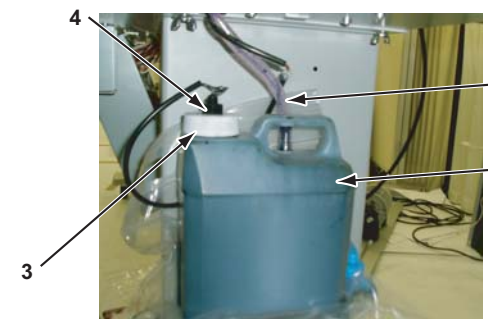
1. Remove waste fluid level switch from connector.



No.	Name
1	Waste fluid level switch
2	Connector

2. Remove Waste fluid tube.
3. Loosen Cap of Waste fluid bottle.

4. Loosen the nut of Waste fluid level switch.



No.	Name
1	Waste fluid bottle
2	Waste fluid tube
3	Cap of Waste fluid bottle
4	Nut of Waste Fluid Level switch

5. Pull out the nut of Waste fluid level switch and Waste fluid bottle cap from Waste fluid bottle.



No.	Name
1	Cap of Waste fluid bottle
2	Nut of Waste fluid level switch

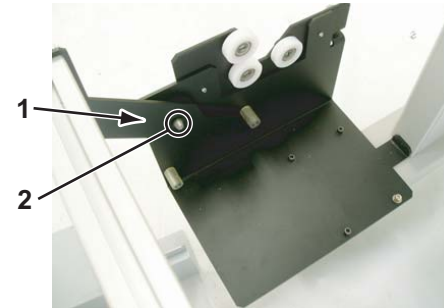
6. Replace Waste fluid bottle.
7. Replace Waste Fluid Level switch.
8. To reassemble unit, reverse the removal procedure.

3.13 Replacing Take-Up Unit (Option)

This section describes the procedure to replace take-up unit.

CAUTION

- When replacing take-up unit, unplug the AC inlet cable and leave it for a while before operation.
If operating while the AC inlet is still plugged in, it may damage the board or may give an electrical shock to the operator.
- When handling board, do not touch the elements on the board with bare hand.
The elements may be damaged by static electricity.



No.	Name
1	Tension arm L
2	Tension fulcrum shaft

3.13.1 Removing Tension Arm

- Remove take-up scroller.
- Remove the two screws (2 pieces) retaining tension arm R.



No.	Name
1	Tension arm R
2	Tension arm R screw (hexagon socket pan flat head M4 × 10)

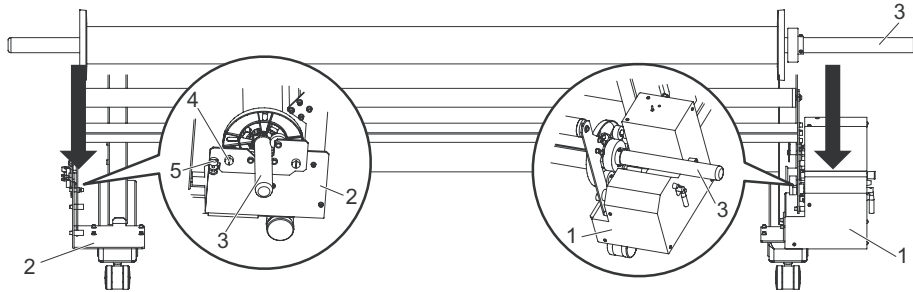
- Remove tension arm L from tension fulcrum shaft.

- Remove tension arm.

5. To reassemble the unit, reverse the removal procedure.

NOTE

If the scroller is not in an horizontal position after the installation, loosen the fixing screw for scroller height. Loosen the screw for scroller height adjustment to adjust the horizontal balance.



No.	Name
1	Take-up Unit
2	Scroller holder
3	Scroller
4	Scroller height fixing screw
5	Scroller height adjustment screw

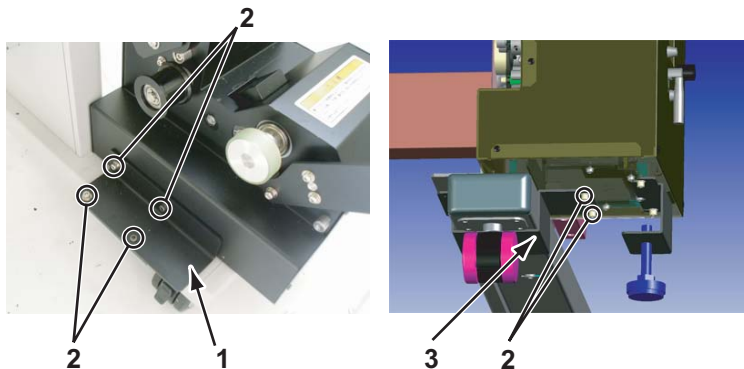
3.13.2 Removing Take-Up Unit

CAUTION

When replacing take-up unit, unplug the AC inlet cable and leave it for a while before operation.

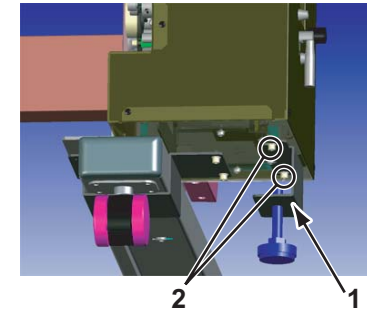
If operating while the AC inlet is still plugged in, standby electricity may give an electrical shock to the operator.

1. Remove take-up scroller.
2. Remove tension arm.
3. Remove the screws (4 pieces) retaining take-up unit fixing plate on the origin side.



No.	Name
1	Take-up fixing bracket
2	Take-up unit fixing plate screw (hexagon socket head bolt M4 × 10)
3	Take-up unit fixing plate

4. Remove take-up unit fixing plate.
5. Remove the screws (4 pieces) retaining adjuster mounting plate.



No.	Name
1	Adjuster mounting plate
2	Adjustment mounting plate screw (hexagon socket head bolt M4 × 10)
3	Take-up unit

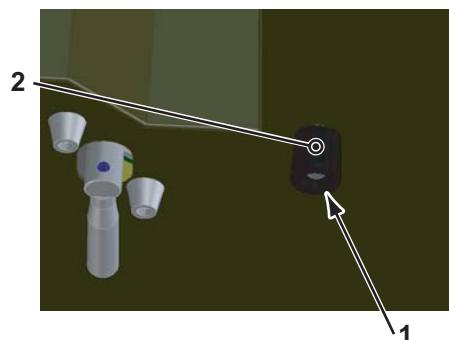
6. Remove adjuster mounting plate.
7. Remove take-up unit.
8. To reassemble the unit, reverse the removal procedure.

3.13.3 Removing Take-Up Unit Cover

NOTE

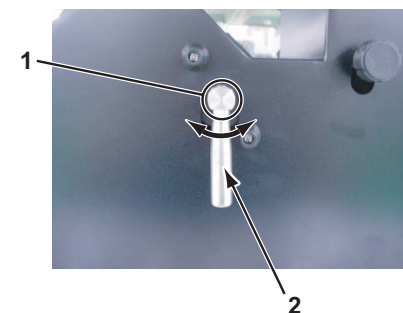
Shift release lever to the FREE side before removing take-up unit cover.

1. Remove take-up scroller.
2. Remove tension arm.
🔗 ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
🔗 ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove the screw (1 piece) retaining knob.



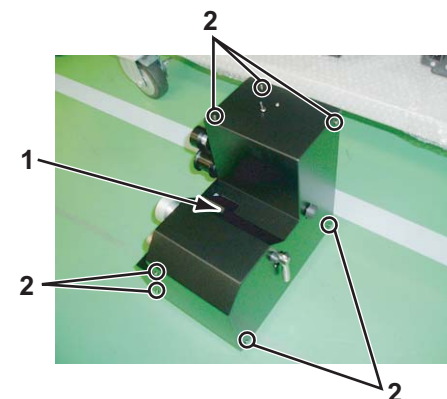
No.	Name
1	Knob
2	Screws retaining knob (set screw)

5. Remove the base part of lever from release cam with a pincer etc.



No.	Name
1	Release cam
2	Lever

6. Remove the screws (7 pieces) retaining take-up unit cover.



No.	Name
1	Take-up unit cover
2	Take-up unit cover screw (binding head small screw M3 × 5)

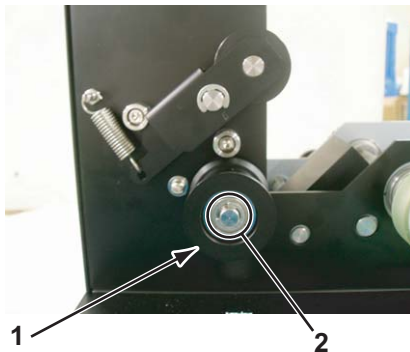
7. Remove take-up unit cover.
8. To reassemble the unit, reverse the removal procedure.

3.13.4 Replacing Scroller

6. To reassemble unit, reverse the removal procedure.

(1) Replacing Holding Roller

1. Remove take-up scroller.
2. Remove tension arm.
 ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove the E ring (1 piece) retaining holding roller with flat head screwdrivers etc.



No.	Name
1	Holding roller
2	E ring retaining holding roller (E-6)

4. Remove holding roller and its accessories.

NOTE

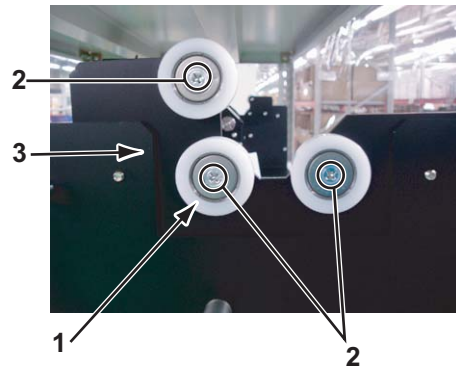
The accessories attached to holding roller when it is removed are as follows:

- Bearing
- Supporting shaft
- Flat washer (polished) M6
- E-type snap ring E-5

5. Replace holding roller and its accessories.

(2) Replacing Holding Roller L

1. Remove take-up scroller.
2. Remove the screws retaining holding roller L on scroller holder.

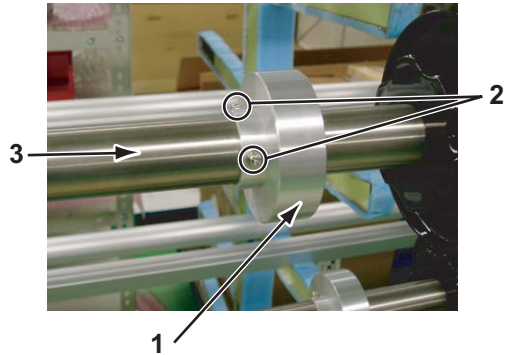


No.	Name
1	Holding roller L
2	Holding roller L screw
3	Scroller holder (left)

3. Remove holding roller L.
4. To reassemble the unit, reverse the removal procedure.

(3) Replacing Drive Collar

1. Remove take-up scroller.
2. Remove the screws (2 pieces) retaining driving collar on take-up scroller L.



No.	Name
1	Driving collar
2	Driving collar screw (pan-head screw with spring washer and flat washer M3 × 8)
3	Take-up scroller L

3. Remove driving collar.
4. To reassemble the unit, reverse the removal procedure.

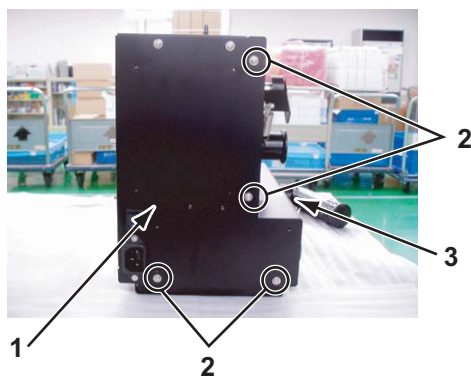
3.13.5 Replacing Take-Up Unit Control Board Assy

CAUTION

- When replacing take-up unit, unplug the AC inlet cable and leave it for a while before operation.
If operating while the AC inlet is still plugged in, it may damage the board or may give an electrical shock to the operator.
- When handling board, do not touch the elements on the board with bare hands.
The elements may be damaged by static electricity.

(1) Removing Board Chassis

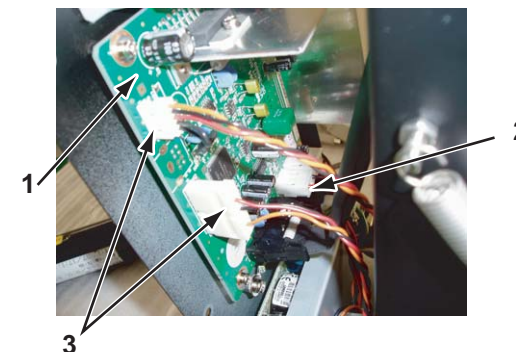
- Remove take-up scroller.
- Remove tension arm.
☞ ["3.13.1 Removing Tension Arm" p.3-162](#)
- Remove take-up unit.
☞ ["3.13.2 Removing Take-Up Unit" p.3-164](#)
- Remove the screws (4 pieces) retaining board chassis on chassis (out).



No.	Name
1	Board chassis
2	Board chassis screw (pan-head screw with spring washer and flat washer M3 × 6)

3	Chassis (out)
---	---------------

- Remove take-up motor Assy cable, take-up ON sensor relay Assy, and take-up OFF sensor relay Assy from the connector on take-up control board Assy that came out.



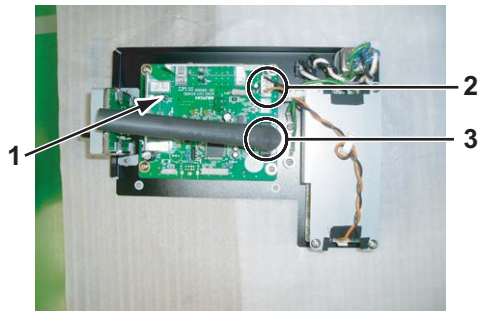
No.	Name
1	Take-up control board Assy
2	Cable of the take-up motor Assy
3	Take-up ON sensor relay Assy , Take-up OFF sensor relay Assy .

- Remove board chassis.
- To reassemble the unit, reverse the removal procedure.

(2) Replacing Take-Up Control Board Assy

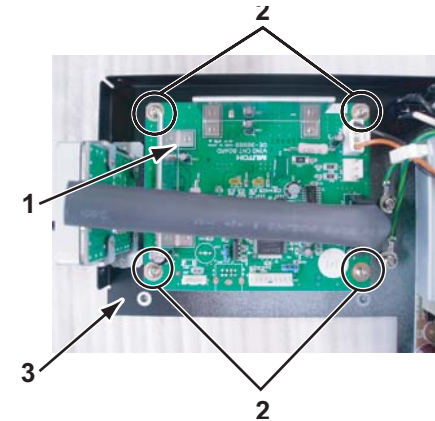
This section describes the procedure to replace take-up control board Assy
(Maintenance number: DG-40478, Maintenance part name: VJ take-up CNT board Assy.

1. Remove take-up scroller.
2. Remove tension arm.
☞ ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
☞ ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove board chassis.
☞ ["\(1\) Removing Board Chassis" p.3-169](#) of ["3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169](#)
5. Remove the cable of DC cable Assy and take-up switch board Assy from the connector on take-up unit control board Assy.



No.	Name
1	Take-up control board Assy
2	DC cable Assy
3	Take-up switch board Assy cable

6. Remove the screws (4 pieces) retaining the take-up control board Assy on the board chassis

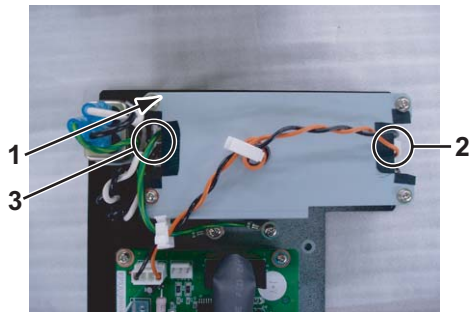


No.	Name
1	Take-up unit control board Assy
2	pan-head screw with spring washer and flat washer polished M3 × 6
3	Board chassis

7. Remove take-up control board Assy.
8. To reassemble the unit, reverse the removal procedure.

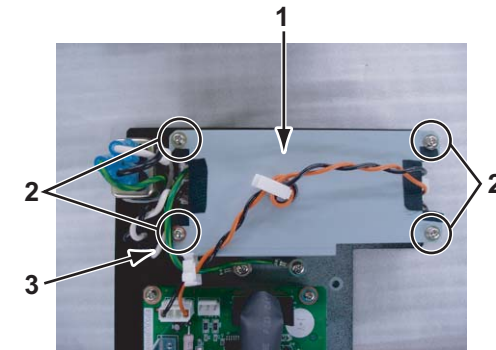
(3) Replacing Power Board Assy

1. Remove take-up scroller.
2. Remove tension arm.
 ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
 ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove board chassis.
 ["\(1\) Removing Board Chassis" p.3-169](#) of ["3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169](#)
5. Remove AC cable Assy and DC cable Assy from the connector on power board Assy.



No.	Name
1	Power Board Assy
2	DCCableAssy
3	ACCableAssy

6. Remove the screws (4 pieces) retaining power supply cover on hexagon spacer.



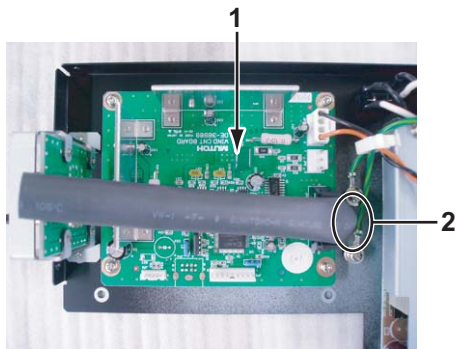
No.	Name
1	Power supply cover
2	pan-head screw with spring washer and flat washer M 4 × 8
3	Hexagon spacer

7. Remove hexagon spacers (4 pieces) from power board Assy.
8. Remove power board Assy from board chassis.
9. Replace power board Assy.
10. To reassemble the unit, reverse the removal procedure.

(4) Replacing Take-Up Switch Board Assy

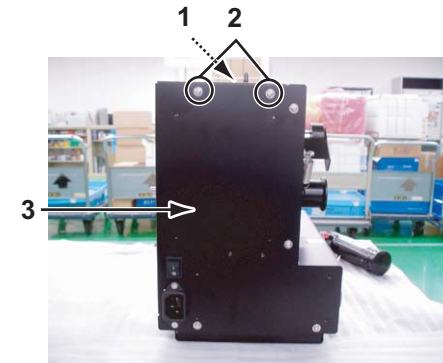
This section describes the procedure to replace take-up switch board Assy (Maintenance number: DG-40479, Maintenance part name: VJ take-up SW board Assy).

1. Remove take-up scroller.
2. Remove tension arm.
☞ ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
☞ ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove board chassis.
☞ ["\(1\) Removing Board Chassis" p.3-169](#) of ["3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169](#)
5. Remove the cable of take-up switch board Assy from the connector on take-up control board Assy.



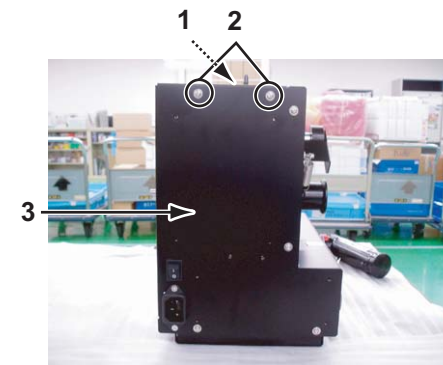
No.	Name
1	Take-up control board Assy
2	Cable of take-up switch board Assy

6. Remove the screws (2 pieces) retaining switch mounting plate on board chassis.



No.	Name
1	Switch mounting plate
2	countersunk head screw M3 × 6
3	Board chassis

7. Remove the screws (4 pieces) retaining take-up switch board Assy on switch mounting plate.

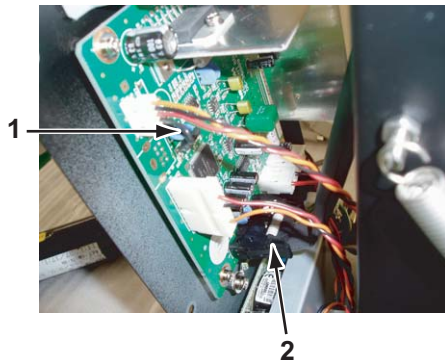


No.	Name
1	Take-up switch board Assy
2	pan-head small screw M3 × 6
3	Switch mounting plate

8. Remove take-up switch board Assy.
9. Replace take-up switch board Assy.
10. To reassemble the unit, reverse the removal procedure.

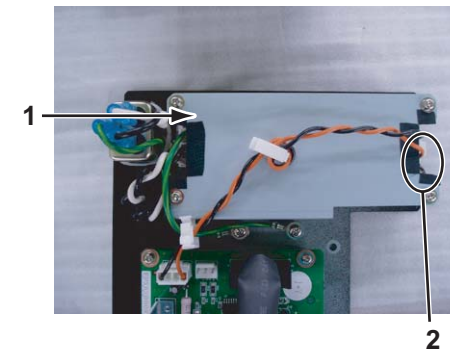
(5) Replacing DC Cable Assy

1. Remove take-up scroller.
2. Remove tension arm.
 ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
 ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove board chassis.
 ["\(1\) Removing Board Chassis" p.3-169](#) of ["3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169](#)
5. Remove DC cable Assy from the connector on take-up control board Assy.



No.	Name
1	Take-up control board Assy
2	DC cable Assy

6. Remove DC cable Assy from the connector on power board Assy.

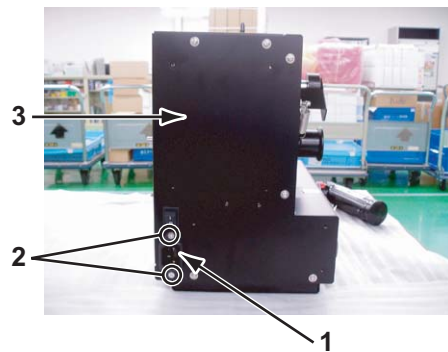


No.	Name
1	Power board Assy
2	DC cable Assy

7. Replace DC cable Assy.
8. To reassemble the unit, reverse the removal procedure.

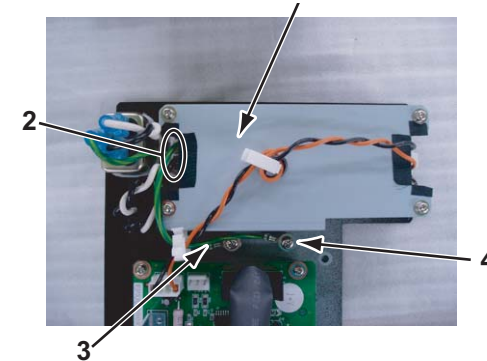
(6) Replacing AC Cable Assy

1. Remove take-up scroller.
2. Remove tension arm.
☞ **"3.13.1 Removing Tension Arm" p.3-162**
3. Remove take-up unit.
☞ **"3.13.2 Removing Take-Up Unit" p.3-164**
4. Remove board chassis.
☞ **"(1) Removing Board Chassis" p.3-169** of **"3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169**
5. Remove the screws (2 pieces) retaining AC cable Assy on board chassis.



No.	Name
1	AC cable Assy
2	pan-head screw with spring washer and flat washer polished M4 × 8
3	Board chassis

6. Remove AC cable Assy from the connector on power board Assy.



No.	Name
1	Power board Assy
2	AC cable Assy
3	FG cable
4	pan-head screw with spring washer and flat washer polished M4 × 8 Ni-3

7. Remove the screw (1 piece) retaining FG cable.
8. Cut the cable tie retaining AC cable Assy to replace AC cable Assy.

NOTE

After replacing the AC cable Assy, secure it with cable tie as it was before.

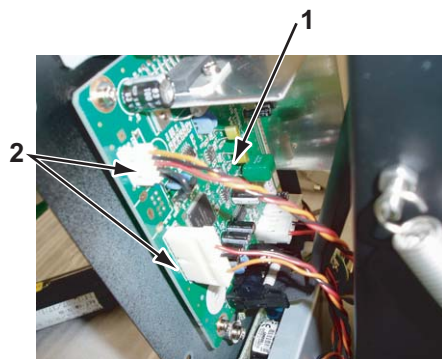
9. To reassemble the unit, reverse the removal procedure.

3.13.6 Replacing Take-Up ON Sensor and Take-Up OFF Sensor

(1) Replacing Take-Up ON Sensor Relay Assy and Take-Up OFF Sensor Relay Assy

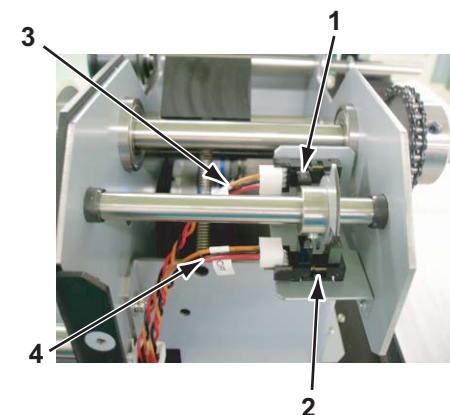
This section describes the procedure to replace take-up ON sensor relay Assy (Maintenance number: DG-40480, Maintenance part name: W_ON sensor Assy) and take-up OFF sensor relay Assy (Maintenance number: DG-40481, Maintenance part name: W_OFF sensor Assy).

1. Remove take-up scroller.
2. Remove tension arm.
☞ ["3.13.1 Removing Tension Arm" p.3-162](#)
3. Remove take-up unit.
☞ ["3.13.2 Removing Take-Up Unit" p.3-164](#)
4. Remove board chassis.
☞ ["\(1\) Removing Board Chassis" p.3-169](#) of ["3.13.5 Replacing Take-Up Unit Control Board Assy" p.3-169](#)
5. Remove cables for take-up ON sensor relay Assy and take-up OFF sensor relay Assy from the connector to take-up control board Assy.



No.	Name
1	Take-up control board Assy
2	Cable for take-up ON sensor relay Assy and take-up OFF sensor relay Assy

6. Remove take-up ON sensor relay Assy and take-up OFF sensor relay Assy from take-up ON and OFF sensors.



No.	Name
1	Take-up ON sensor
2	Take-up OFF sensor
3	Take-up ON sensor relay Assy
4	Take-up OFF sensor relay Assy

7. Replace take-up ON sensor relay Assy and take-up OFF sensor relay Assy
8. To reassemble the unit, reverse the removal procedure.

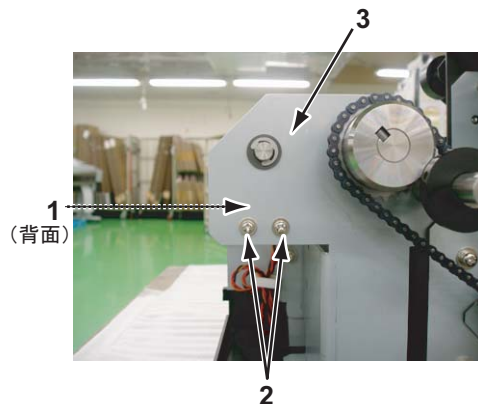
(2) Replacing Take-Up ON Sensor and Take-Up OFF Sensor

This section describes the procedure to replace take-up ON sensor and take-up OFF sensor (Maintenance number: DF-49471, Maintenance part name: CR_HP sensor, Lever sensor).

1. Remove take-up scroller.
2. Remove tension arm.

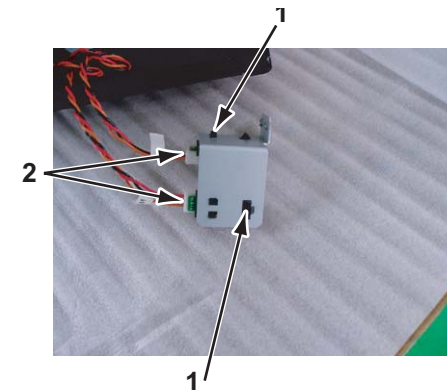
 **"3.13.1 Removing Tension Arm" p.3-162**

3. Remove the screws (2 pieces) retaining sensor mounting plate on the right of inside chassis.



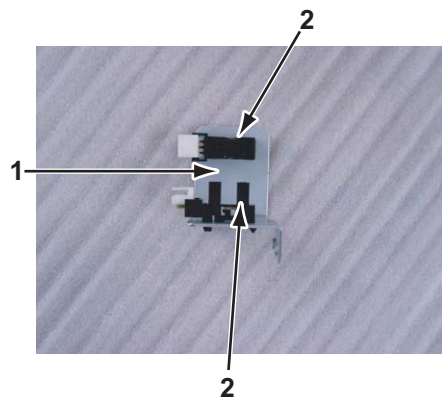
No.	Name
1	Sensor mounting plate
2	pan-head screw with spring washer and flat washer polished M3 × 6
3	Right of inside chassis

4. Remove take-up ON sensor relay Assy and take-up OFF sensor relay Assy from take-up ON sensor and take-up OFF sensor.



No.	Name
1	Take-up ON sensor
2	Take-up OFF sensor
3	Take-up ON sensor relay Assy
4	Take-up OFF sensor relay Assy

5. Remove take-up ON sensor and take-up OFF sensor from sensor mounting plate.



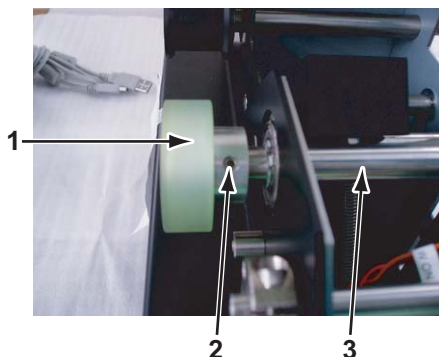
No.	Name
1	Sensor mounting plate
2	Take-up ON sensor
3	Take-up OFF sensor

6. To reassemble the unit, reverse the removal procedure.

3.13.7 Replacing Peripheral Devices of VJ Take-Up Unit Motor Assy

(1) Replacing Drive Roller

1. Remove take-up scroller.
2. Remove the flat head screws (2 pieces) retaining drive roller on driving axis C.



No.	Name
1	Driving roller
2	set screw thin tip M4 × 6
3	Driving axis C

3. Remove driving roller.
4. Replace driving roller.
5. To reassemble the unit, reverse the removal procedure.

(2) Replacing Take-Up Motor Assy



CAUTION

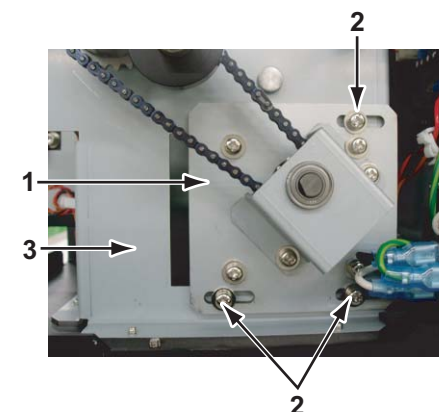
Do not touch motor right after starting up the printer. Otherwise, you may be burned.

NOTE

Remove the following parts before replacing take-up motor Assy.

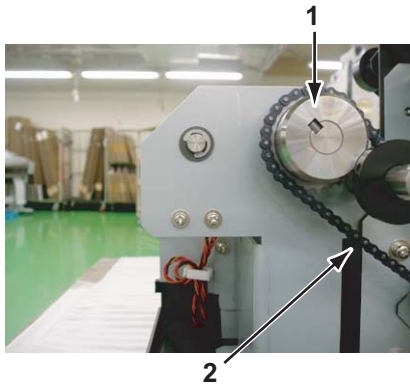
- Take-up scroller:
- Tension arm : [☞ "3.13.1 Removing Tension Arm" p.3-162](#)
- Take-up unit : [☞ "3.13.2 Removing Take-Up Unit" p.3-164](#)
- Take-up unit cover : [☞ "3.13.3 Removing Take-Up Unit Cover" p.3-165](#)
- Board chassis : [☞ "\(1\) Removing Board Chassis" p.3-169](#)

1. Remove the screws (3 pieces) retaining motor mounting plate on the right of inside chassis.



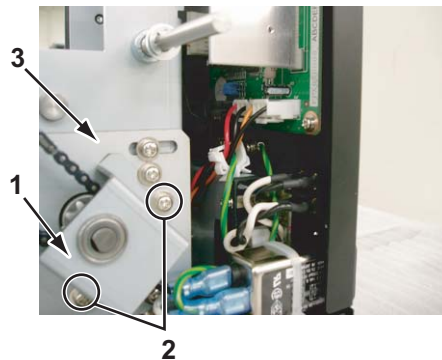
No.	Name
1	Motor mounting plate
2	pan-head screw with spring washer and flat washer polished M4 × 10
3	Right of inside chassis

2. Remove chain from sprocket large.



No.	Name
1	Sprocket large
2	Chain

3. Remove the screws (2 pieces) retaining axis holder on motor mounting plate.



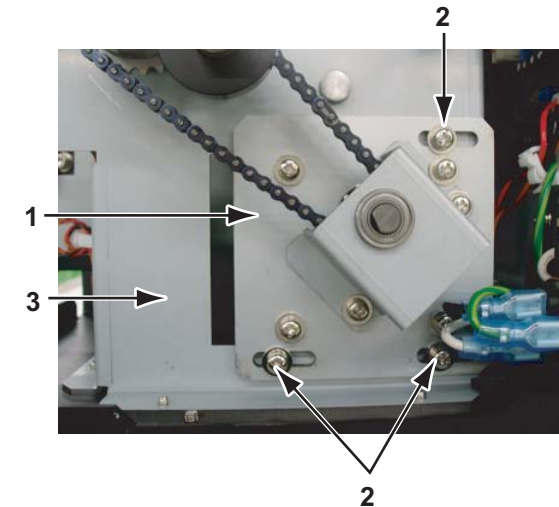
No.	Name
1	Axis holder
2	pan-head screw with spring washer and flat washer polished M4 × 6
3	Motor mounting plate

- Remove bearings.
- Replace take-up unit motor Assy.

NOTE

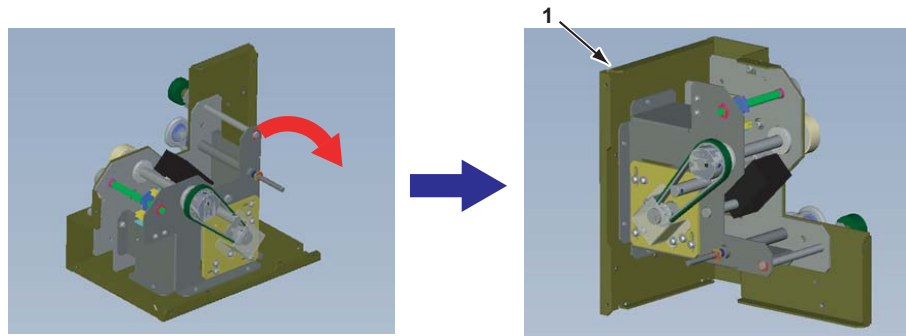
When mounting take-up motor, adjust the tension of the chain referring the steps below.

- Temporarily tighten the screws (3 pieces) retaining motor mounting plate on the right of inside chassis.



No.	Name
1	Motor mounting plate
2	pan-head screw with spring washer and flat washer polished M4 × 10 3 pieces
3	Right of inside chassis

- Tilt take-up unit at 90 degrees, and hold it as shown in the following right figure.



No.	Name
1	Take-up unit

6. To reassemble the unit, reverse the removal procedure.

4 Adjustment

4.1	Introduction	4- 2
4.2	Adjustment Item	4- 2
4.3	Working with MUTOH Service Assistance Software. 4- 4	
4.4	X Speed Reduction Belt Tension Adjustment	4- 5
4.4.1	Jigs and Tools	4-5
4.4.2	Adjustment Procedure.....	4-6
4.5	PF Encoder Assy Position Adjustment.....	4- 8
4.5.1	Adjustment Procedure.....	4-8
4.6	CR Belt Tension Adjustment.....	4- 10
4.7	Head Accuracy Adjustment.....	4- 11
4.7.1	Head Alignment (Horizontal Height).....	4-11
4.7.2	Head Alignment (Vertical Slant)	4-13
4.8	Cutter Holder Height Adjustment	4- 15
4.8.1	Jigs and Tools	4-15
4.8.2	Adjustment Procedure.....	4-15
4.9	Head Height Adjustment.....	4- 16
4.9.1	Jigs and Tools	4-16

4.9.2	Adjustment Procedure	4-16
4.10	Capping Position Adjustment	4- 18
4.11	Cover Switch Sensor Assy Position Adjustment ...	4- 20
4.12	Rear/ Edge Sensor Adjustment.....	4- 21
4.13	Cutter position adjustment.....	4- 23

4.1 Introduction

This chapter provides information on necessary adjustment items and procedure.

TIP

 "7.4 Jigs and Tools" p.7-6

4.2 Adjustment Item

This section describes the adjustment items required in part replacement procedures.

When you adjust or replace any of the maintenance parts listed in "Table 7-1 Adjustment Item List", you must always adjust the printout quality using the self-diagnosis function referring to Table 7-1 "Adjustment Item List" (p.4-3).

Part replaced or adjusted	Adjustment order	Adjustment item	Reference
Printer head	1	Head rank input (including initial ink charge)	 "(3) Head Rank" p.5-63  "5.6 Ink Charging Menu" p.5-27
	2	Head nozzle check	 "5.7.3 Head Nozzle Check Menu" p.5-33
	3	Head height adjustment	 "4.7 Head Accuracy Adjustment" p.4-11
	4	Head slant check	 "5.7.5 Head Slant Check Menu" p.5-37  "4.7 Head Accuracy Adjustment" p.4-11
	5	Uni-D / Bi-D Adjustment	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
	6	Test printing	 "5.7.9 Test Printing Menu" p.5-51
	7	Reset of head unit life counter	 "6.3.2 Counter Initialization Menu" p.6-11

Part replaced or adjusted	Adjustment order	Adjustment item	Reference
MAIN Board Assy	1	Differs depending on the status of MAIN Board Assy.	Refer to Maintenance Manual VJ1324E-M-03 onward.
CR Motor Assy	1	Initialize Life counter	 "6.3.2 Counter Initialization Menu" p.6-11
	2	Uni-D / Bi-D adjustment	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
	3	Side margin adjustment	 "5.7.8 Top&Bottom adjustment Menu" p.5-50
	4	Test printing	 "5.7.9 Test Printing Menu" p.5-51
PF Motor Assy	1	X speed reduction belt tension adjustment	 "4.4 X Speed Reduction Belt Tension Adjustment" p.4-5
	2	Test printing	 "5.7.9 Test Printing Menu" p.5-51
	3	Duration counter clear	 "6.3.2 Counter Initialization Menu" p.6-11
P_Edge Sensor Assy	1	P_Edge Sensor Assy sensitivity adjustment	 "4.12 Rear/ Edge Sensor Adjustment" p.4-21
	2	Side margin adjustment	 "5.7.8 Top&Bottom adjustment Menu" p.5-50
P_Rear Sensor Assy	1	P_Rear Sensor Assy sensitivity adjustment	 "4.12 Rear/ Edge Sensor Adjustment" p.4-21
PF Encoder Assy	1	PF encoder inspection	 "5.5.7 Encoder Menu" p.5-16
	2	Test printing	 "5.7.9 Test Printing Menu" p.5-51
T Fence	1	CR encoder inspection	 "5.5.7 Encoder Menu" p.5-16
	2	Uni-D / Bi-D Adjustment	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
	3	Side margin adjustment	 "5.7.8 Top&Bottom adjustment Menu" p.5-50

Part replaced or adjusted	Adjustment order	Adjustment item	Reference
T Fence	4	Test printing	 "5.7.9 Test Printing Menu" p.5-51
CR Return Pulley	1	Steel belt tension adjustment	 "4.6 CR Belt Tension Adjustment" p.4-10
	2	Uni-D/Bi-D adjustment	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
	3	Side adjustment	 "5.7.8 Top&Bottom adjustment Menu" p.5-50
	4	Test printing	 "5.7.9 Test Printing Menu" p.5-51
Carriage Assy	1	PG height adjustment	 "4.9 Head Height Adjustment" p.4-16
	2	CR encoder inspection	 "5.5.7 Encoder Menu" p.5-16
	3	Paper Edge Sensor Assy sensitivity adjustment	 "4.12 Rear/ Edge Sensor Adjustment" p.4-21
	4	Sequential printing endurance operation check	 "5.12.8 General Endurance Menu" p.5-79
	5	Side margin adjustment	 "5.7.8 Top&Bottom adjustment Menu" p.5-50
	6	Head nozzle check	 "5.7.3 Head Nozzle Check Menu" p.5-33
	7	Head slant check	 "5.7.5 Head Slant Check Menu" p.5-37
	8	Head slant adjustment	 "4.7 Head Accuracy Adjustment" p.4-11
	9	Uni-D/Bi-D adjustment	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
	10	Test printing	 "5.7.9 Test Printing Menu" p.5-51

4.3 Working with MUTOH Service Assistance Software

TIP

"MUTOH Service Assistance" is being built at the moment. For usage, refer to Maintenance manual VJ1324E-M-03 onward.

4.4 X Speed Reduction Belt Tension Adjustment

This section describes the procedure to adjust X reduction belt.

After replacing X reduction belt such as PF motor removal, adjust X speed reduction belt tension.

4.4.1 Jigs and Tools

The jigs and tools required for X speed reduction belt tension are as follows.

- Tension gauge: for measuring Max. 50N (5,000gf)

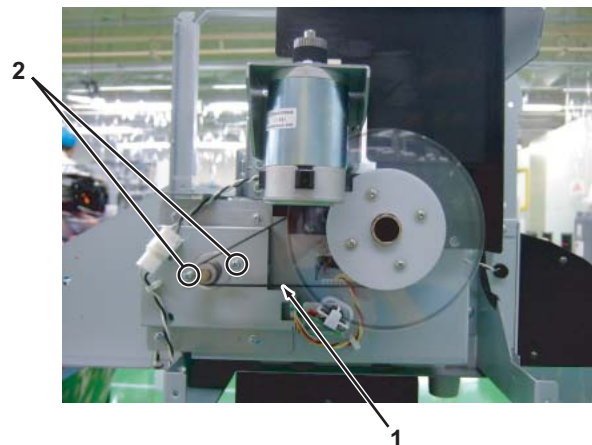
TIP

 ["7.4 Jigs and Tools" p.7-6](#)

4.4.2 Adjustment Procedure

To adjust X speed reduction belt tension, follow the steps below.

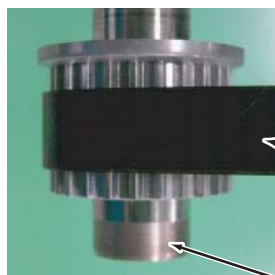
1. Remove Side maintenance cover L.
 "3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11
2. Loosen the screws (4pieces) retaining PF Motor Mounting Plate.



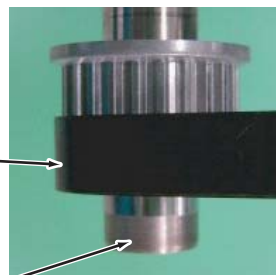
No.	Name
1	X speed reduction belt
2	Pan-head screw with spring washer and flat washer M4 × 8

3. Make sure that X Speed Reduction Belt, refer to the following procedure.

OK

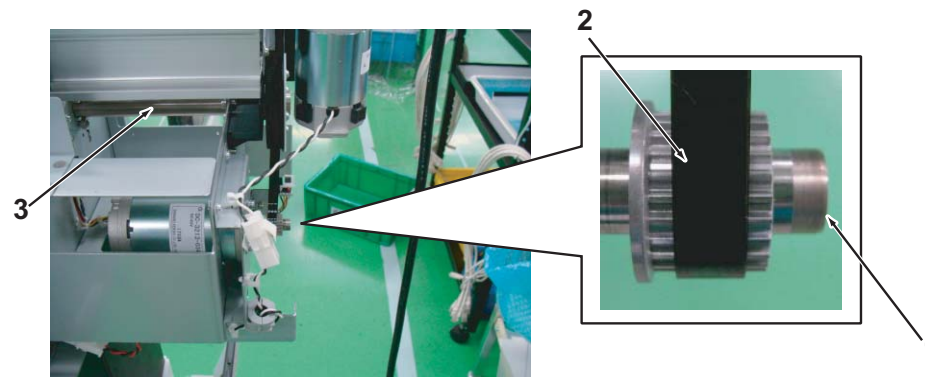


NG



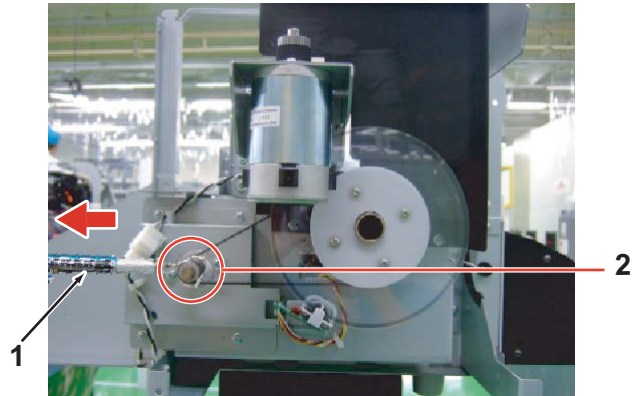
No.	Name
1	PF Motor Assy shaft
2	X speed reduction belt

4. Rotate Grid roller more than 5 times to check that X Speed Reduction Belt does not come off PF motor shaft and that it does not obliquely-rotated.



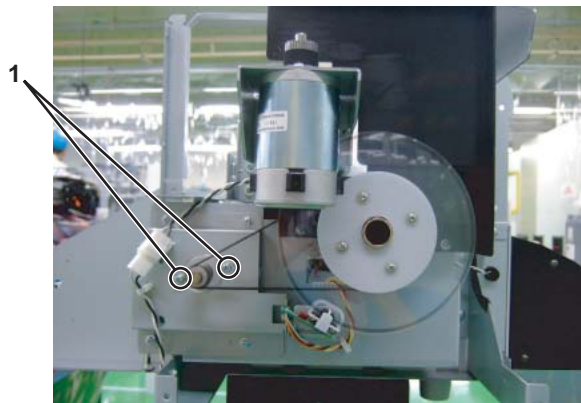
No.	Name
1	PF Motor Assy Axis
2	X Speed reduction Belt
3	Grid Roller

5. Hook on Tension gauge to PF motor Assy Axis.



No.	Name
1	Tension Gauge
2	PF Motor Assy Axis

6. Pull in a horizontal direction as much as possible to the way shown with red arrow in above picture. Set Tension gauge to $40.0\text{N} \pm 0.5\text{N}$ ($4078.8\text{g} \pm 50.9\text{g}$) and tighten the screw to retain PF motor.



No.	Name
1	Pan-head screw with spring washer and flat washer M4 × 8

7. Remove Tension Gauge.
8. To reassemble the unit, reverse the removal procedure.

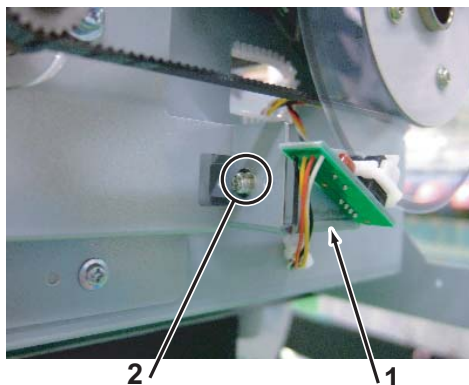
4.5 PF Encoder Assy Position Adjustment

This section describes the procedure to adjust the PF encoder assembly.
After replacing the PF encoder, adjust the PF encoder position.

4.5.1 Adjustment Procedure

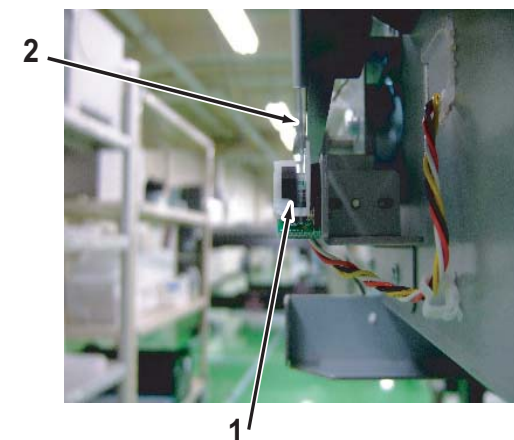
To adjust PF encoder Assy, follow the steps below.

1. Remove Side Cover L.
 **"3.2.3 Removing Side Cover L and Replacing Maintenance Cover Holder" p.3-11**
2. Loosen the screws retaining the PF encoder fixing plate.



No.	Name
1	PF encoder Assy
2	PF encoder fixing plate screw (round head spring screw M3 × 6: 1)

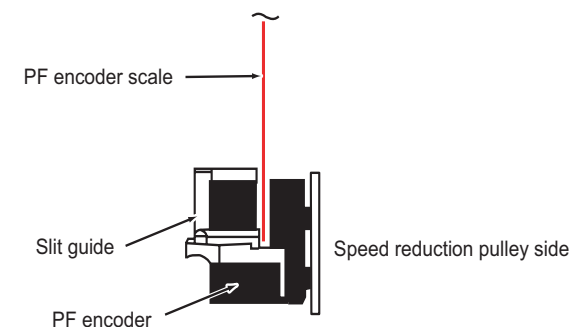
3. Align so that the PF encoder scale is placed in the gap of the PF encoder Assy, and then tighten the screw.



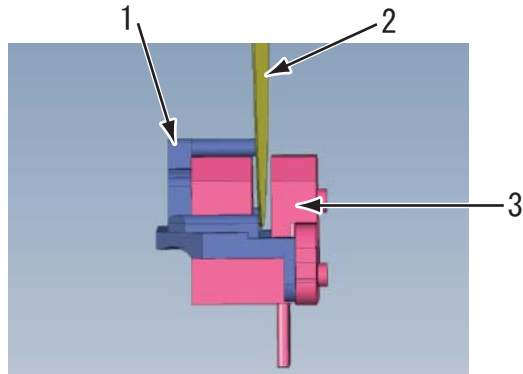
No.	Name
1	PF encoder Assy
2	PF encoder scale

NOTE

Align so that the PF encoder scale is placed in the gap of the PF encoder.



4. Install a slit guide on PF encoder assembly.



No.	Name
1	Slit guide
2	Scale
3	PF Encoder Assy

5. Turn the PF encoder scale around once to check that the scale does not swing toward the speed reduction pulley from the center of the encoder gap. If it swings, adjust the PF encoder assembly position again.

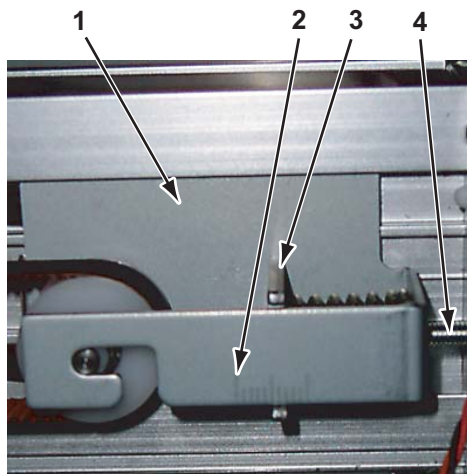
NOTE

There is no problem even if the scale hits the slit guide when turned around.

4.6 CR Belt Tension Adjustment

This section describes the procedure to adjust the tension of the CR belt. When you have removed and installed the CR belt, adjust the CR belt tension.

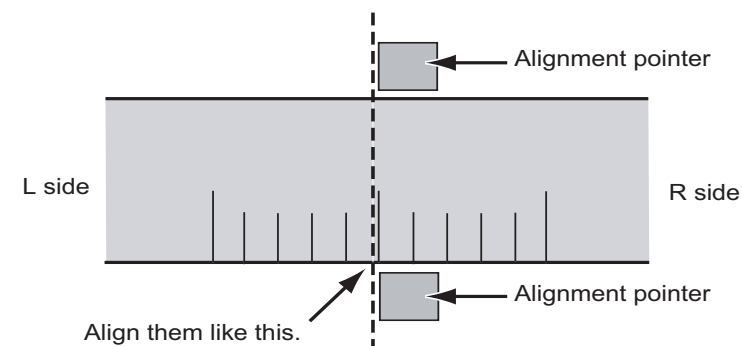
1. Tighten the CR tension mounting shaft, and align the left side (viewed from the front of the printer) of the graduation alignment pointer with the center line of graduations on the driven pulley base.



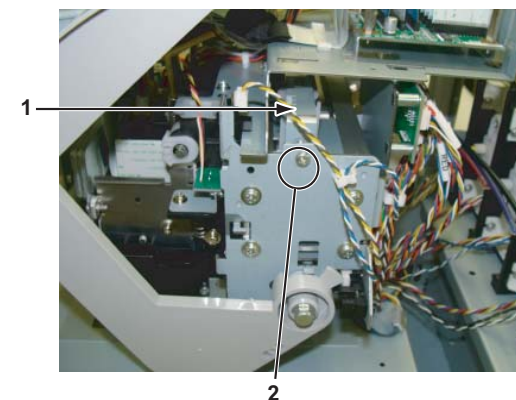
No.	Name
1	Driven pulley base
2	Driven pulley base graduations
3	Graduation alignment pointer
4	CR tension mounting shaft

NOTE

To align the graduation alignment pointer with the center line of driven pulley base, align the left side (viewed from the front of the printer) of the pointer with the center line as shown below.



2. After adjustment, apply screw-locking agent to the screw head of the CR tension mounting shaft not to loosen it.



No.	Name
1	Driven pulley base graduations
2	CR tension mounting shaft screw head

4.7 Head Accuracy Adjustment

4.7.1 Head Alignment (Horizontal Height)

This section describes the procedure to adjust the head slant.

When you have removed and installed the head assembly, such as head assembly replacement, always adjust the head slant following the steps below.

NOTE

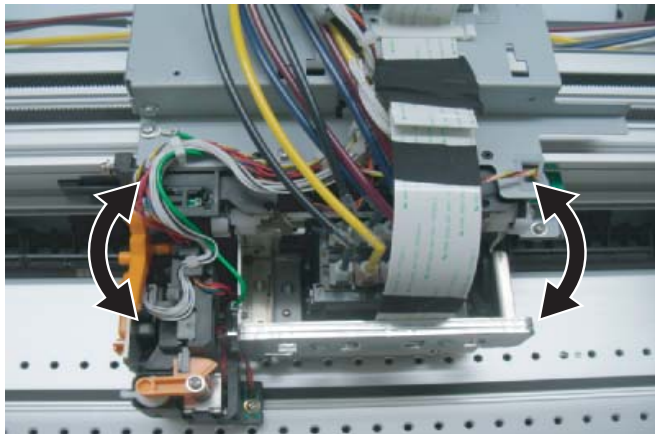
Before starting adjustment, remove the following parts.

- Carriage cover

☞ ["3.7.2 Removing Carriage Cover" p.3-99](#)

Adjust the horizontal height of the head alignment before adjusting the vertical alignment slant of head alignment.

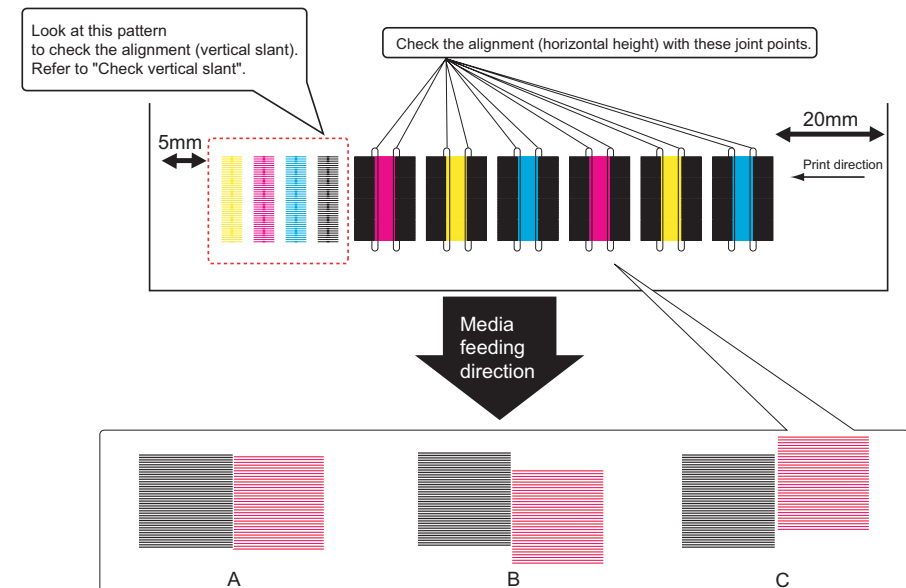
In this procedure, the print head will be aligned in the directions (horizontal slant) shown below.



1. Start the printer in the self-diagnosis function mode and print the check patterns in "Head Slant: Slant1"

☞ ["5.7.5 Head Slant Check Menu" p.5-37](#)

2. Make adjustment based on the printed check patterns.

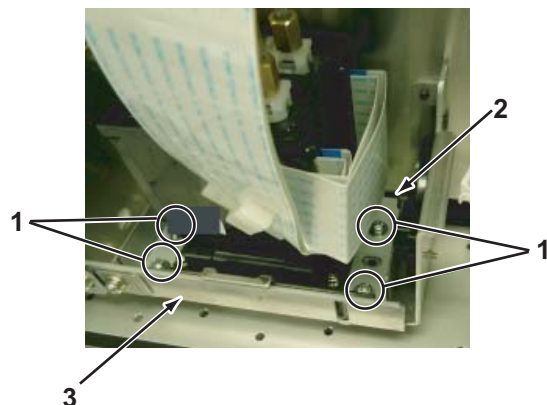


A : OK

B : Move magenta upward considering black as the center.
(Move Head adjustment cam upward.)

C : Move the magenta downward considering black as the center.
(Move Head adjustment cam downward.)

3. Loosen the screws (4 pieces) retaining Head base.



No.	Name
1	Pan-head screw with spring washer and flat washer M3 × 6
2	Head base
3	Head mounting plate

4. Move Head adjusting cam lever to adjust the print position of Magenta, and align the print head.

NOTE

Be careful of the following points when moving Head adjusting cam lever.

- Adjust magenta position to keep misalignment within 1/2 dot considering black as the center.
- When raising Lever, magenta also moves upward (in step 2 figure B).
*Be careful as follows.
 - Do not pull up Lever upward at once. Move Head adjusting cam lever for a few notch at first, then slightly press Head from front. Then gradually lower Lever to adjust.

When lowering Lever, Head adjusting plate pushes Head and slant changes. When raising Lever, Head adjusting plate draws apart from Head so that when raising Head adjusting cam, Head does not follow the movement and Head cannot be adjusted properly.

- When lowering Lever, magenta also lowers. (in step 2 figure C).
- Directly lower Head adjusting cam lever to adjust magenta position.



No.	Name
1	Head adjusting cam

5. Print check pattern again to check head slant (horizontal height) is appropriate.
☞ **"5.7.5 Head Slant Check Menu" p.5-37**
6. Tighten the screws (4 pieces) that were loosened in Step 3.
7. When head slant is not correct, repeat step 4 and 5.
8. To reassemble the unit, reverse the removal procedure.

4.7.2 Head Alignment (Vertical Slant)

This section describes the procedure to adjust the head slant in the front-back direction.

After operation such as head replacement, you might need to adjust the head slant. When needed, adjust the head slant following the steps below. After an operation such as head replacement, adjust the head slant following the steps below.

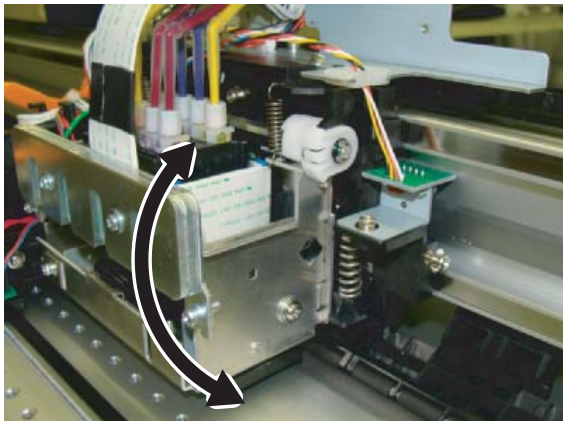
NOTE

Before starting adjustment, remove the following parts.

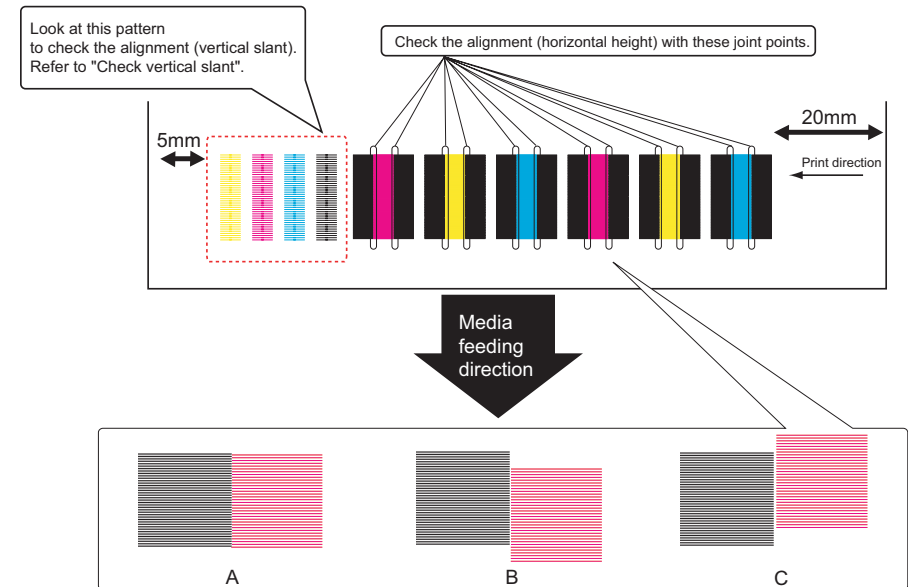
- Carriage cover
 **"3.7.2 Removing Carriage Cover" p.3-99**
- Adjust the horizontal height of the head alignment before adjusting the vertical alignment slant of head alignment.

 **"5.7.5 Head Slant Check Menu" p.5-37**

This procedure is to adjust the front-back slant of print head (in the direction of the arrow shown in the figure)

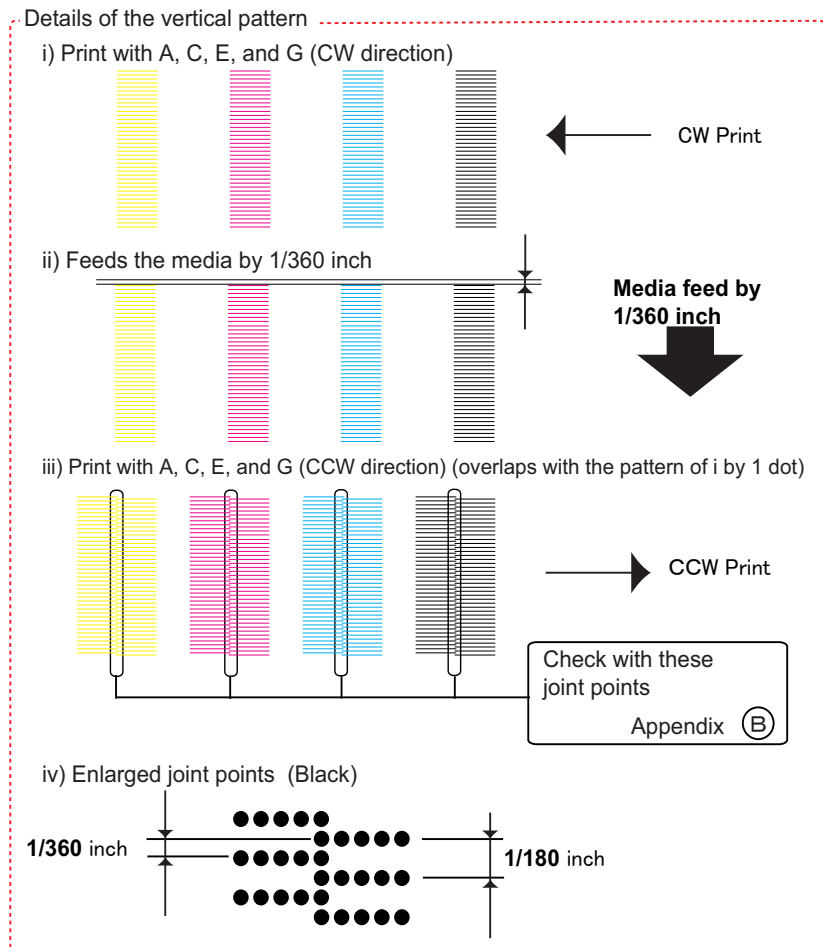


1. Start the printer in the self-diagnosis function mode and print the check patterns in "Head Slant: Slant 1.".
 **"5.7.5 Head Slant Check Menu" p.5-37**
2. Make adjustment based on the printed check patterns.



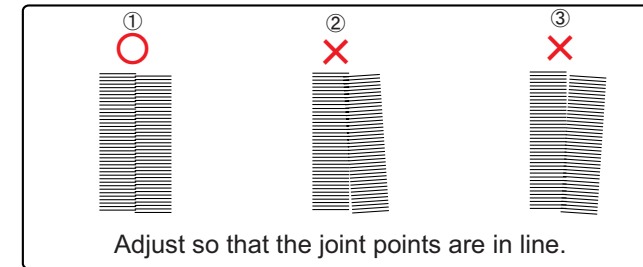
TIP

Adjustment patterns of Head alignment (horizontal height) and (vertical) are printed when printing the adjustment pattern of "Head Slant: Slant1".



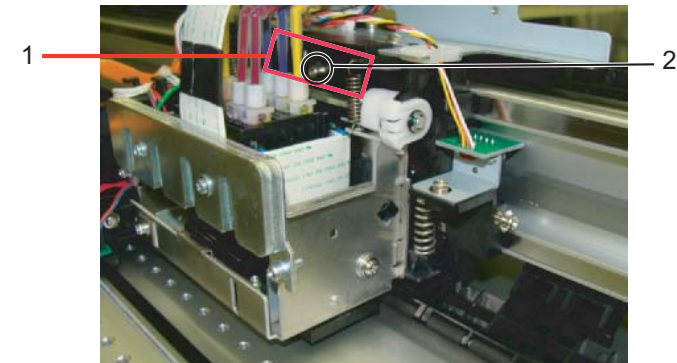
3. Refer to Appendix B to check the print result.

Appendix
(B)



4. Loosen the screw retaining Head base mounting plate, refer to the above (1), (2), and (3) to adjust.

- ① : No need to adjust.
② : Move the vertical-slant adjusting tab to the right.
③ : Move the vertical-slant adjusting tab to the left.



No.	Name
1	Vertical-slant adjusting tab
2	Vertical-slant adjusting tab screw

5. Print the adjustment patterns again to check whether head slant (vertical slant) is adjusted properly.
🔗 ["5.7.5 Head Slant Check Menu" p.5-37](#)
6. If the head is still NOT aligned, repeat the steps 2 to 4.
7. When the operation is completed, tighten the screw that was loosened in the step 4, and install Carriage cover.

4.8 Cutter Holder Height Adjustment

This section describes the procedure to adjust cutter holder height.

4.8.1 Jigs and Tools

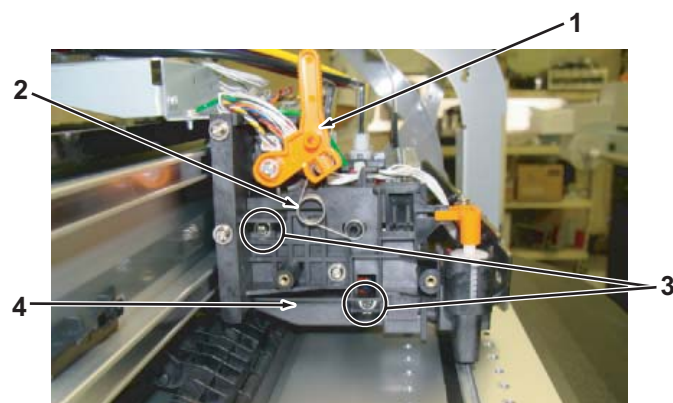
- Cutter Holder adjustment Jig: DG-43191

TIP

☞ "7.4 Jigs and Tools" p.7-6

4.8.2 Adjustment Procedure

- Remove Carriage Cover.
☞ "3.7.2 Removing Carriage Cover" p.3-99
- Release the Carriage Lock.
☞ "3.7.1 How To Release Carriage Lock" p.3-98
- Remove Photometer JUNCTION Board Assy.
☞ "3.7.13 Replacing Photometer JUNCTION Board Assy" p.3-128
- Loosen the screws (2 pieces) retaining Cutter Holder.



No.	Name
1	PG adjustment Lever

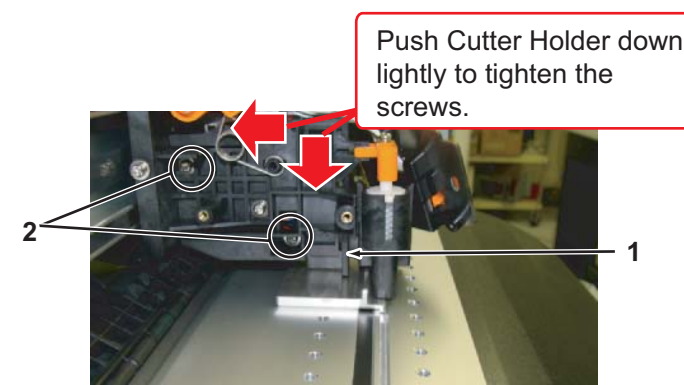
2	Spring
3	Pan-head screw with spring washer and flat washer M3 × 8 Ni-3
4	Cutter Holder

- Using dedicated Jig to assemble Cutter Holder .
Set dedicated Jig on mounting position.



No.	Name
1	Cutter Holder R
2	Dedicated Jig

- Push Cutter Holder down lightly to tighten the screws.



- To reassemble unit, reverse the removal procedure.
- Turn on cutter to check if it cuts paper properly.
☞ "5.12.3 Cutter Endurance Menu" p.5-74

4.9 Head Height Adjustment

This section describes the procedure to check the carriage height (distance from platen).

4.9.1 Jigs and Tools

- PG height adjusting jig (1.1/1.3) : DG-43193

☞ "7.4 Jigs and Tools" p.7-6

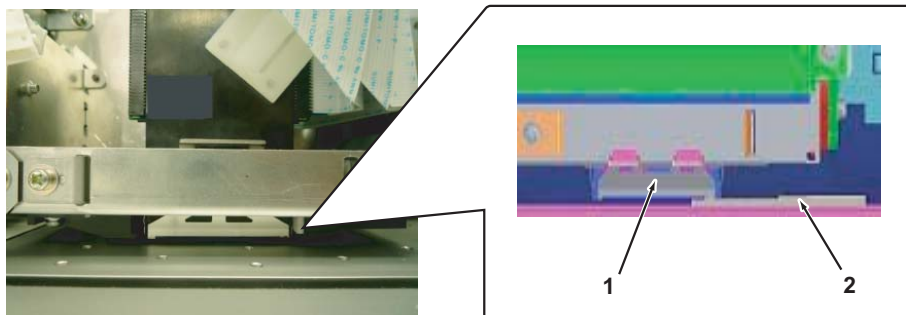
4.9.2 Adjustment Procedure

- Remove Carriage Cover.
☞ "3.7.2 Removing Carriage Cover" p.3-99
- Release Carriage Lock.
☞ "3.7.1 How To Release Carriage Lock" p.3-98
- Set the PG height adjusting jigs on the Platen.



CAUTION

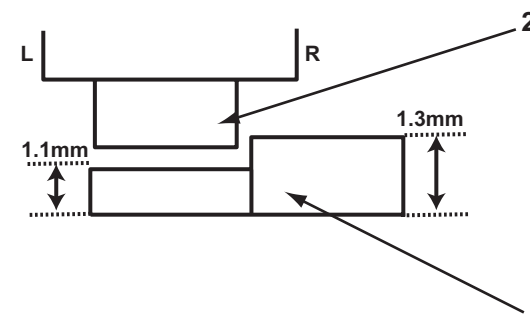
Place the head height check jig on the printer head away from the print head nozzle. Interference may cause damage on print head.



No.	Name
1	Print Head

No.	Name
2	PG height adjusting jig

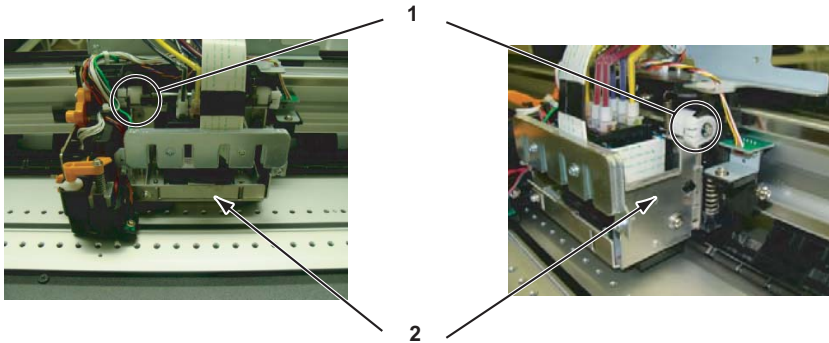
- Move the carriage from the carriage origin while the lever is set to the "LOW" mode.
- Confirm print head go through 1.1 mm step by head hight adjustment jig but not go through 1.3 mm step.



No.	Name
1	PG height adjusting jig
2	Print Head

- Shift Carriage from the opposite side of Origin and check its height in the same way as in the step 5.

7. If the carriage does not pass through the gap of 1.1mm and pass through 1.3mm, readjust PG height by moving two height adjust cams on both left and right of carriage.1.1mm.
- To raise head height: Rotate cam upward.
 - To lower head height: Rotate cam downward.



No.	Name
1	Height adjustment cam
2	Carriage

NOTE

The left and right cams change the height separately. Make sure to follow the steps 3 to 6 and check both left and right of the head height is proper by using PG height adjusting jigs.

8. Apply adhesion bond to the height adjustment cam and fix the height.
9. To reassemble the unit, reverse the removal procedure.

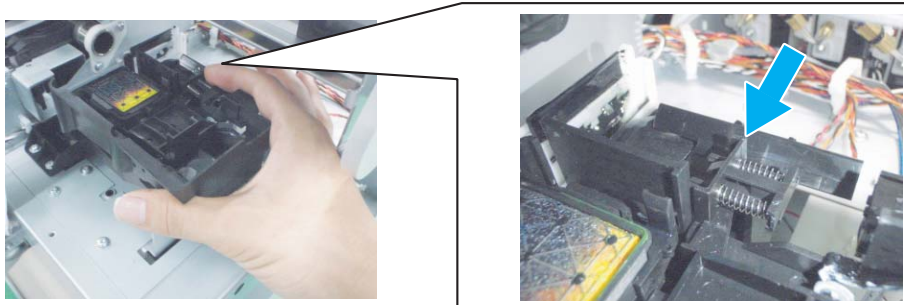
4.10 Capping Position Adjustment

This section describes the procedure to adjust the position of print head and cap assembly.

Always adjust capping position after replacing the following parts:

- Print head
- Cap assembly
- Maintenance assembly

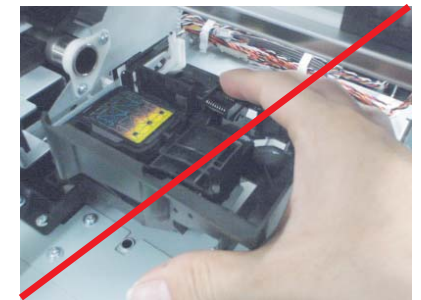
1. Remove I/H Cover.
🔧 ["3.2.1 Removing I/H Cover" p.3-7](#)
1. Remove Side Cover R.
🔧 ["3.2.2 Remove Side Cover R" p.3-8](#)
2. Release carriage lock and bring out carriage on platen.
🔧 ["3.7.1 How To Release Carriage Lock" p.3-98](#)
3. Start up from self-diagnosis mode and display "Check: Adjustment" - "Adj: CR Return" - "CR Return: Check".
🔧 ["5.7.2 CR Return Position adjustment" p.5-32](#)
4. Place your fingers lightly on the place shown with the blue arrow in the next figure.



CAUTION

Be careful of the following when operating:

- Do not place your hand on the cap slider so as not to nip your hand with carriage.
- Hold cap slider as if wrapping it with your hand from the bottom.



NOTE

- Accurate adjustment is required for capping adjustment. Do not wear gloves during this operation.
- Place your fingers lightly so as not to press the parts with your fingers.

5. Press "Enter" from "CR Return: Check."

NOTE

Be careful of the following when operating:

- If it feels like your fingers have touched the slider when the right side of print head touches cap slider, proceed to the step **"(1) If it feels like your fingers have touched slider:" p.4-19**
- If it does not feel like your fingers have touched the slider when the right side of print head touches cap slider, proceed to the step **"(2) If it does not feel like your fingers have touched slider." p.4-19**

(1) If it feels like your fingers have touched slider:

CR return position should be finalized at 0.1mm lower than the parameter point where the print head has the first contact with the cap slider. Adjust the position as follows.

1. Adjust the parameters -0.1mm from "Check: Adjustment" - "Adj: CR Return" - "CR Return: Input" of self-diagnosis mode.
2. Press "Enter" from "Check: Adjustment" - "Adj: CR Return" - "CR Return: Check" of self-diagnosis mode.
3. Check if it feels like your fingers have touched slider when the right side of the print head touches the cap slider. If it does not feel like they have touched it, adjustment is complete.

NOTE

It still feels like your fingers have touched cap slider, repeat the steps 1 to 3 until your fingers do not touch it.

NOTE

CR return position should eventually be set to 0.1mm lower from the position with the parameters of the first contact of print head and cap slider.

(2) If it does not feel like your fingers have touched slider.

CR return position should be finalized at 0.1mm lower than the parameter point where the print head has the first contact with the cap slider. Adjust the position as follows.

1. Adjust the parameters +0.1mm from "Check: Adjustment" - "Adj: CR Return" - "CR Return: Input" of self-diagnosis mode.
2. Press "Enter" from "Check: Adjustment" - "Adj: CR Return" - "CR Return: Check" of self-diagnosis mode.
3. Check if it feels like your fingers have touched slider when the right side of print head touches cap slider. If it feels like they have touched it, proceed to the step 11.

NOTE

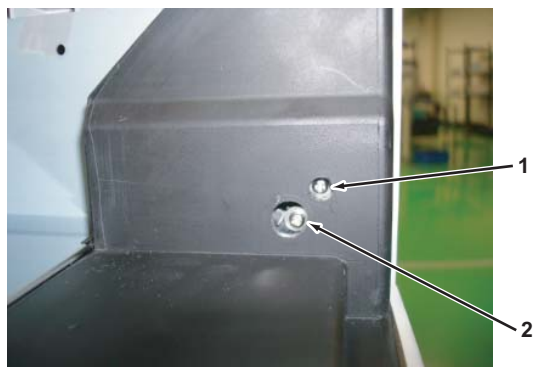
If it still does not feel like your fingers have touched the cap slider, repeat the steps 1 to 3 until your fingers touch it.

4. Adjust parameters -0.1mm from "Check: Adjustment" - "Adj: CR Return" - "CR Return: Input" of self-diagnosis mode

4.11 Cover Switch Sensor Assy Position Adjustment

Always adjust the mounting position of Cover Switch sensor Assy after replacing Cover Switch sensor Assy.

1. Open maintenance cover.
2. Loosen the screw above maintenance cover sensor assembly



No.	Name
1	Screw above Cover Switch Sensor Assy
2	Screw below Cover Switch Sensor Assy

3. Loosen screw below maintenance cover sensor assembly.
4. Secure assembly with the screw below maintenance cover sensor assembly as close as to the front side.
5. Tighten the screw above maintenance cover sensor assembly.

Start up from self-diagnosis mode and check that “Closed” is displayed when maintenance cover is closed from “Check: Test” - “Test: Sensor” - “Sensor: Maintenance cover.”

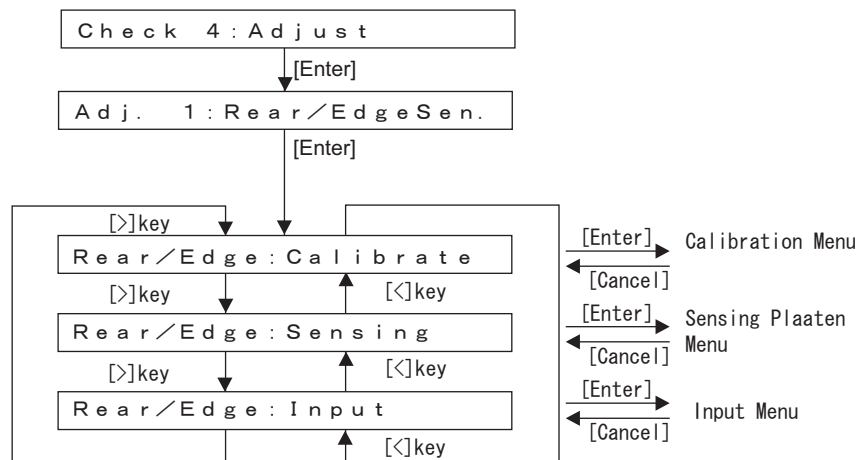
 ["5.14.2 Sensor Menu" p.5-84](#)

4.12 Rear/ Edge Sensor Adjustment

TIP

- Automatically Adjusting AD values of P_REAR sensor and P_EDGE sensor to proper values.
- After adjusting, measuring AD values when paper is not set.
Confirming threshold that is used to judge whether paper is set.
- Measuring AD values of Edge sensor at four positions of Platen.
- Using MF-3G for adjusting sensor.

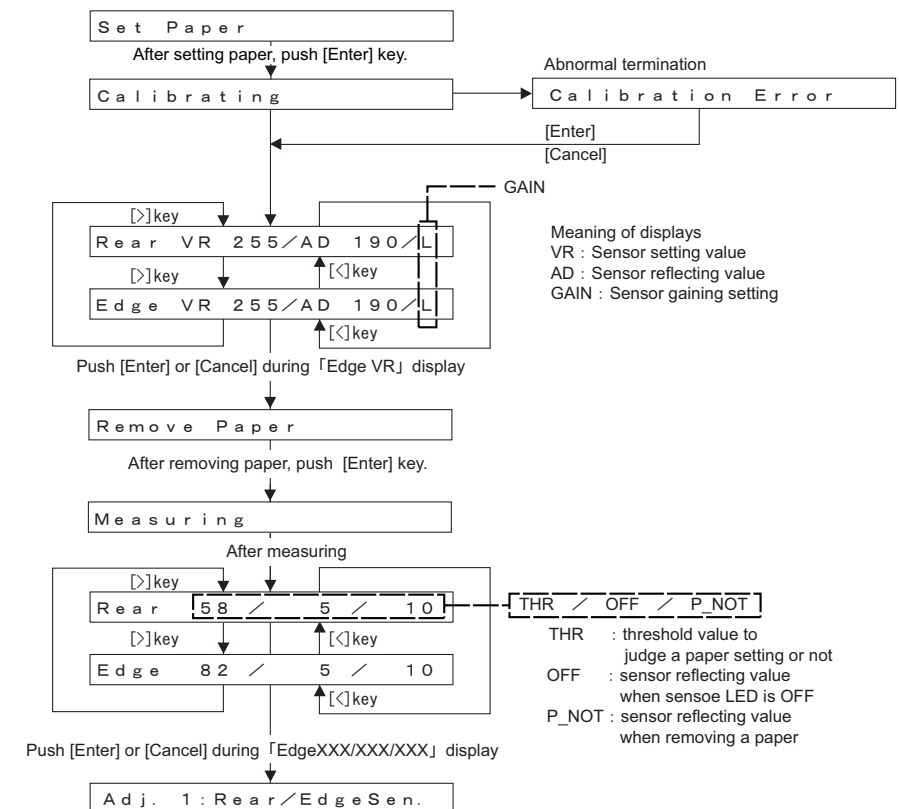
"4.12 Rear/ Edge Sensor Adjustment" p.4-21



(1) Calibration

TIP

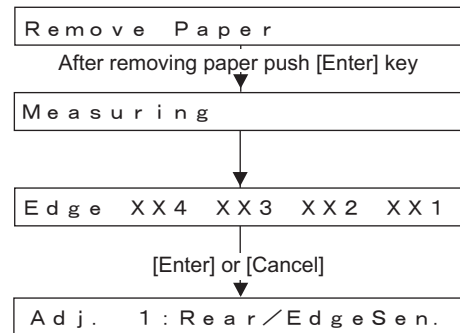
- After adjusting AD values of P_REAR sensor and P_EDGE sensor to proper values, panel displays results.
- When abnormal termination, panel displays the VR values that is final state of adjusting process.



(2) Measuring Platen reflecting value (Sensing Platen)

TIP

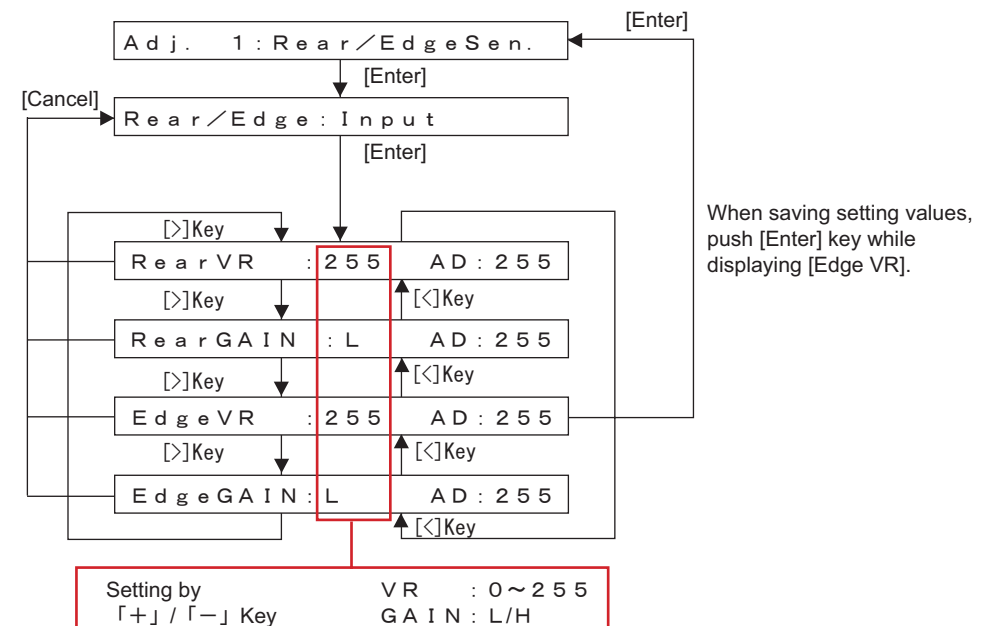
- Measuring AD values of Edge sensor at four positions of Platen.
- Measuring AD values at the four positions as shown below, and the AD values is displayed on the panel.



(3) Input

NOTE

- Do not usually use this function.
- Use only in:
When any problems are occurred at paper recognition, while adjusting the sensor at Calibration.
When adjustment is needed for using environment (environment light, media type and so on) of user.
- You can Set the sensor parameter manually which was adjusted automatically at Calibration.
- Setting values are displayed immediately.
AD (Sensor reflecting value) : 0 ~ 255



4.13 Cutter position adjustment

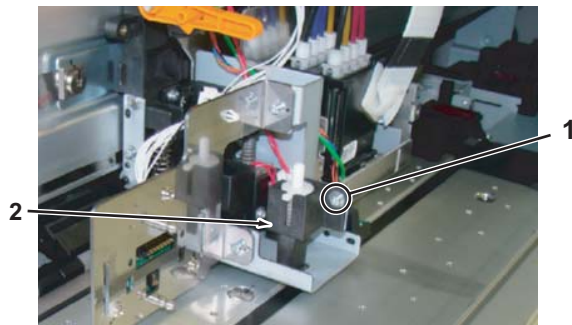
TIP

Use dedicated Jig



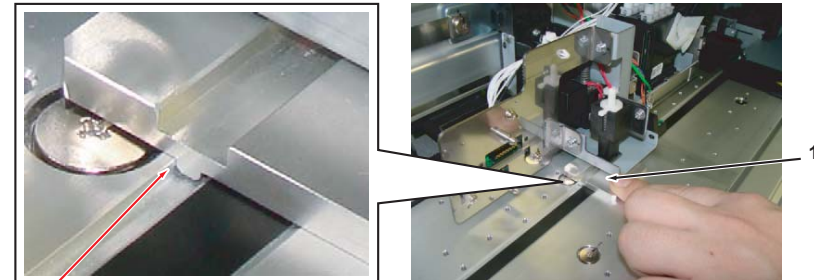
Cutter adjustment Jig

1. Open front cover.
2. Release Carriage lock.
👉 "3.7.1 How To Release Carriage Lock" p.3-98
3. Move Carriage to Platen.
4. Loosen the screw (1piece) retaining Cutter holder B.



No.	Name
1	Pan head screw with spring washer and flat washer M3 × 6
2	Cutter holder B

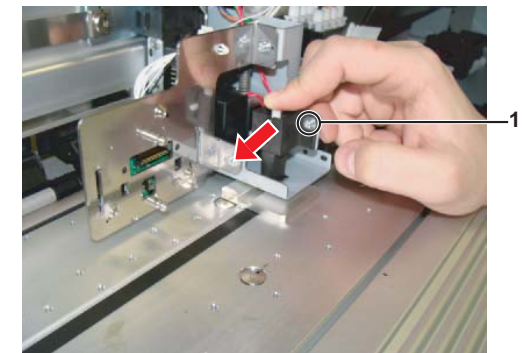
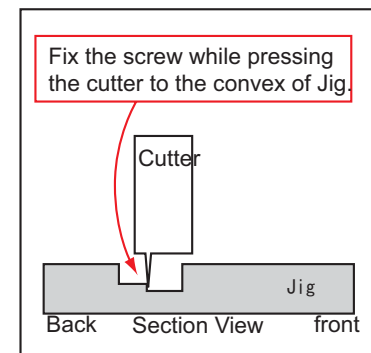
6. Set Cutter adjustment Jig.



Set the jig to the back side in groove

No.	Name
1	Cutter adjustment Jig

8. Lightly Press the cutter holder B in obliquely downward, and fix the screw (1piece).



No.	Name
1	Pan head screw with spring washer and flat washer M3 × 6

10. To reassemble the unit, reverse the removal procedures.

5 Self-Diagnosis Mode

5.1	Introduction	5- 3			
5.2	Preparation	5- 3			
5.2.1	Preparations on Machine	5-3			
5.2.2	Starting Up	5-3			
5.3	Operations in Self-Diagnosis Mode.....	5- 4			
5.3.1	Operating Self-Diagnosis Mode	5-4			
5.3.2	Diagnosis Items in Self-Diagnosis Menu.....	5-5			
5.4	Platen Adjustment Menu	5- 6			
5.5	Inspection Menu	5- 7			
5.5.1	Ram Capacity Menu.....	5-9			
5.5.2	Version Menu	5-10			
5.5.3	Panel Menu	5-11			
5.5.4	Sensor Menu	5-12			
5.5.5	Cut Solenoid Menu.....	5-14			
5.5.6	Choke Valve Menu	5-15			
5.5.7	Encoder Menu	5-16			
5.5.8	Fan Menu	5-17			
5.5.9	Record Menu	5-18			
5.5.10	Head Signal Menu	5-24			
5.5.11	Spectro Vue Menu.....	5-25			
5.5.12	Time Check Menu	5-26			
5.6	Ink Charging Menu	5- 27			
5.7	Adjustment Menu	5- 28			
5.7.1	Rear/ Edge Sensor Adjustment.....	5-30			
5.7.2	CR Return Position adjustment	5-32			
5.7.3	Head Nozzle Check Menu.....	5-33			
5.7.4	Skew Check Menu.....	5-36			
5.7.5	Head Slant Check Menu.....	5-37			
5.7.6	Uni-D/Bi-D Adjustment Menu	5-42			
5.7.7	Bi-D Copy	5-49			
5.7.8	Top&Bottom adjustment Menu	5-50			
5.7.9	Test Printing Menu	5-51			
5.7.10	Longstore Menu	5-53			
5.7.11	Software Counter Initialization Menu.....	5-54			
5.7.12	Feed Pitch Check Menu	5-55			

5.7.13 Solid Print Menu	5-56	5.14 ExControl Menu	5- 82
5.8 Cleaning Menu.....	5- 57	5.14.1 Version Menu	5-83
5.9 Sample Printing Menu.....	5- 58	5.14.2 Sensor Menu	5-84
5.10 Parameter Menu	5- 59	5.14.3 Heater Menu.....	5-85
5.10.1 Parameter Initialization Menu.....	5-59	5.15 PaperInitial Menu.....	5- 86
5.10.2 Parameter Update Menu	5-61		
5.11 Servo Setting Menu.....	5- 70		
5.12 Endurance Running Menu.....	5- 71		
5.12.1 CR Motor Assy Endurance Menu.....	5-72		
5.12.2 PF Motor Assy Endurance Menu	5-73		
5.12.3 Cutter Endurance Menu	5-74		
5.12.4 Pump Endurance Menu	5-75		
5.12.5 Head Lock Menu	5-76		
5.12.6 Choke Valve Menu	5-77		
5.12.7 Print Head Endurance (Nozzle Print) Menu	5-78		
5.12.8 General Endurance Menu	5-79		
5.12.9 Endurance Running Check Menu	5-80		
5.13 Media Feed Menu	5- 81		

5.1 Introduction

This chapter provides information on the self-diagnosis function.

The self-diagnosis function adjusts the printing accuracy. It is used in the manufacturing process, adjustment, and maintenance.

The self-diagnosis function is implemented in the system firmware. All functions are available from Operation panel.

TIP

The contents of this manual are created based on F/W Ver.1.00.

5.2 Preparation

Before you can use the self-diagnosis function, you must make the machine ready to call up the self-diagnosis menu.

5.2.1 Preparations on Machine

Before starting up the self-diagnosis function, prepare the following.

(1) Setting Media

Set roll media for adjustment.

NOTE

For adjustment, use MF-3G.

(2) Connecting Power Cable

Connect Power cable to the machine's inlet Assy and insert Power plug into an outlet.

CAUTION

Make sure to supply power directly from a power supply outlet (AC 100 V to 120 V or AC 220 V to 240 V). Avoid using outlets that other appliances are plugged into. Doing so generates heat in the printer and may cause fire.

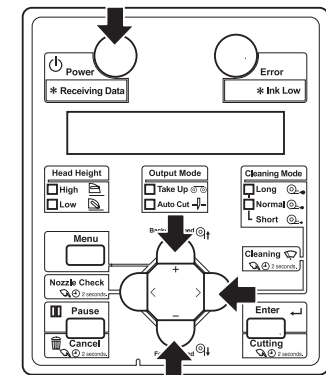
5.2.2 Starting Up

Display the self-diagnosis menu on Operation panel to use the self-diagnosis function.

The self-diagnosis menu is completely independent from the normal operation mode or setup menu display mode. Switch to the self-diagnosis menu display mode, following the steps below:

1. When the printer is in the operation mode or in the self-diagnosis menu mode, press the [Power] key to turn off the printer.
2. While holding down the [Setting value -], [Setting value +], and [>] keys on Operation panel simultaneously, press the [Power] key.

The system will transit to the self-diagnosis menu display mode



5.3 Operations in Self-Diagnosis Mode

This section explains how to operate in the self-diagnosis mode as well as providing the list of available diagnosis items.

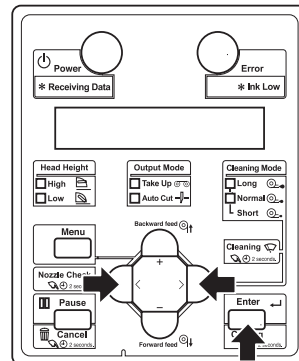
5.3.1 Operating Self-Diagnosis Mode

Follow the flow shown below to operate the self-diagnosis mode.

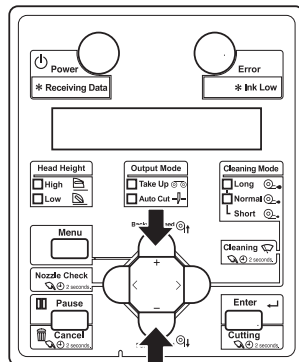
TIP

For more detailed operation procedure, refer to the flow chart of the applicable diagnosis items.

- Press [<] key or [>] key on Operation panel to select the item to be diagnosed, and press [Enter] key.
 - The selected item is accepted.
 - If the item has a sub menu, the sub menu is displayed.



- When the LCD monitor on Operation panel indicates a setting value, the value can be modified. Press [Setting/value +] key or [Setting/value -] key on Operation panel to modify the value.



- To save the modified value, press [Enter] key on Operation panel.

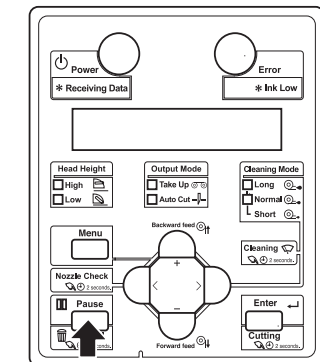
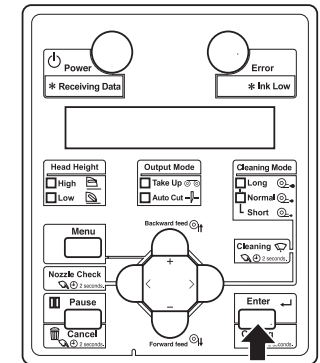
*The modified set value is stored and the next item is displayed.

NOTE

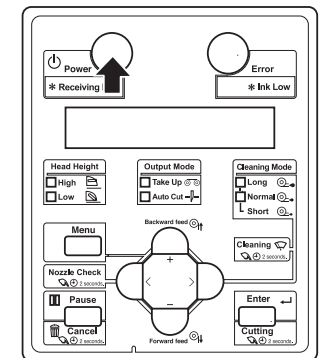
If you press [Cancel] key, or, [Setting/value +] key or [Setting/value -] key, instead of [Enter] key, the modification is not stored.

- To quit the diagnosis, press [Cancel] key on Operation panel.

*The system returns to an upper hierarchy of the diagnosis menu.



- To exit the self-diagnosis menu, press [Power] key.

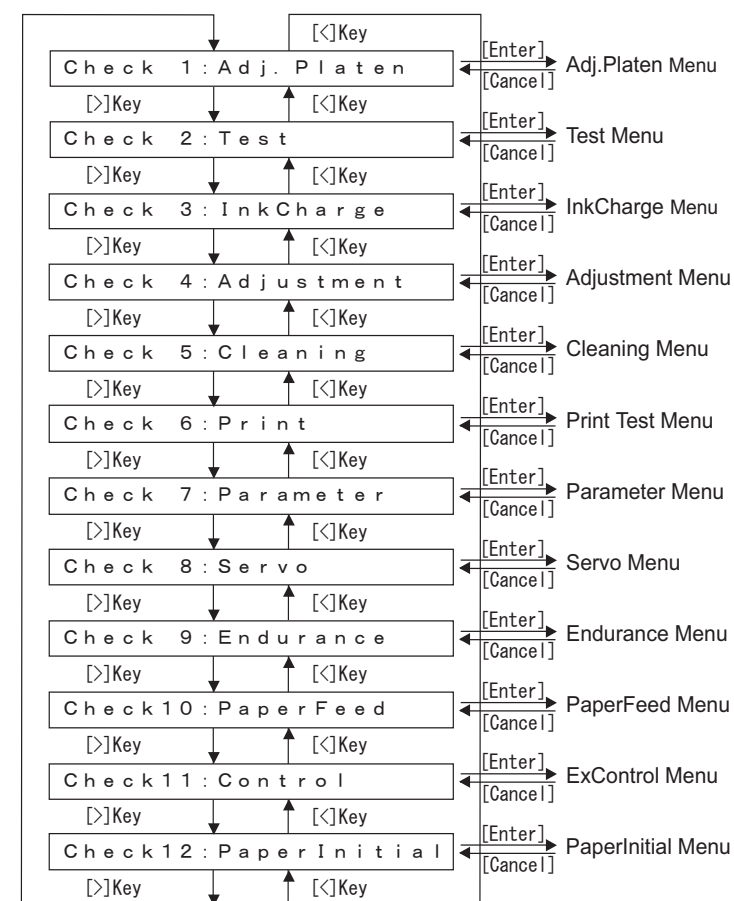


5.3.2 Diagnosis Items in Self-Diagnosis Menu

The self-diagnosis menu includes the following diagnosis items.

Diagnosis item	Contents	Reference
Platen Adjustment Menu	Raise the temperature for Platen heater to 42°C. Raise the temperature for Pre-heater to 47°C.	"5.4 Platen Adjustment Menu" p.5-6
Inspection Menu	Display the following items on Operation panel. • Memory size • Firmware version of the main side • Panel • Sensor • Encoder • Fan • Head wave form • History • Spectro Vue • Time Check	"5.5 Inspection Menu" p.5-7
Ink Charging Menu	Performs initial cleaning of Print head and ink charging.	"5.6 Ink Charging Menu" p.5-27
Adjustment Menu	Head Adjustment, Sensor Position, Sensivity adjustment	"5.6 Ink Charging Menu" p.5-27
Cleaning Menu	Performs cleaning of Print head.	"5.8 Cleaning Menu" p.5-57
Test Print Menu	Performs printing of the following items: • Adjustment pattern ALL • Parameter ALL • Error history • S/C Log	"5.9 Sample Printing Menu" p.5-58
Parameter Menu	Performs the setting and initialization of the adjustment parameter.	"5.10 Parameter Menu" p.5-59
Servo Setting Menu	Performs setting for Servo motor.	"5.11 Servo Setting Menu" p.5-70
Endurance Running Menu	Performs endurance running of the printer mechanism.	"5.12 Endurance Running Menu" p.5-71
Media feed Menu	Feeds media into the printer forward or backward. Cut media.	"5.13 Media Feed Menu" p.5-81

Diagnosis item	Contents	Reference
ExControl Menu	Checks the following items about the Heater Cont board Assy. • Firmware version of the controller side • Sensor • Heater	"5.14 ExControl Menu" p.5-82
PaperInitial Menu	Performs media detection setting.	"5.15 PaperInitial Menu" p.5-86



5.4 Platen Adjustment Menu

Raise the temperature of Pre-heater and Platen heater to 47°C and 42°C respectively.

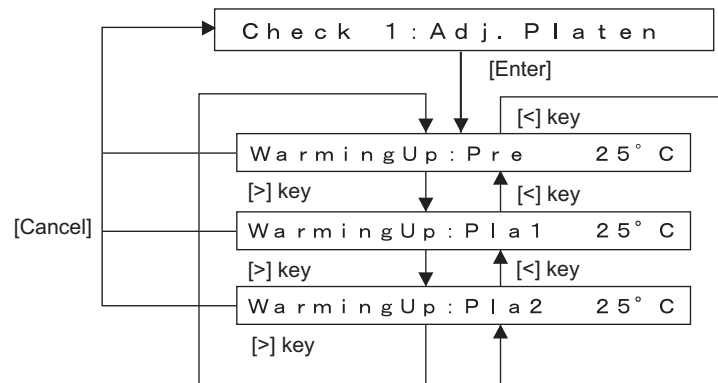


Fig. 5-1 The display before Pre-heater reaches 47°C and Platen heater reaches 42°C.

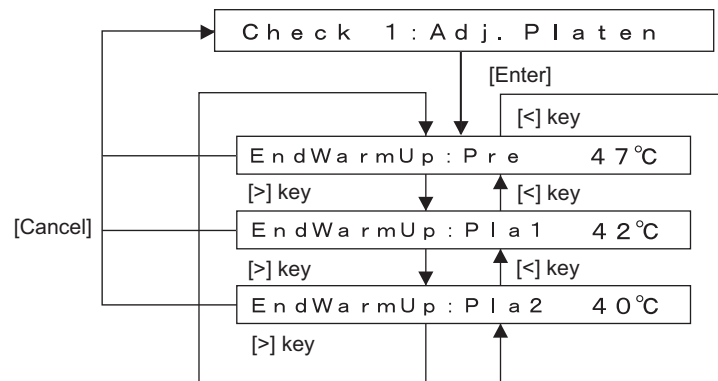


Fig. 5-2 The display after Pre-heater reached 47°C and Platen heater reached 42°C.

NOTE

- When Heater reaches the specified temperature, a buzzer is sounded.
- Pla2 is a reference value. Though Pla2 does not reach 42°C, Pla1 or pla2 reaches 42°C and it will be complete.

5.5 Inspection Menu

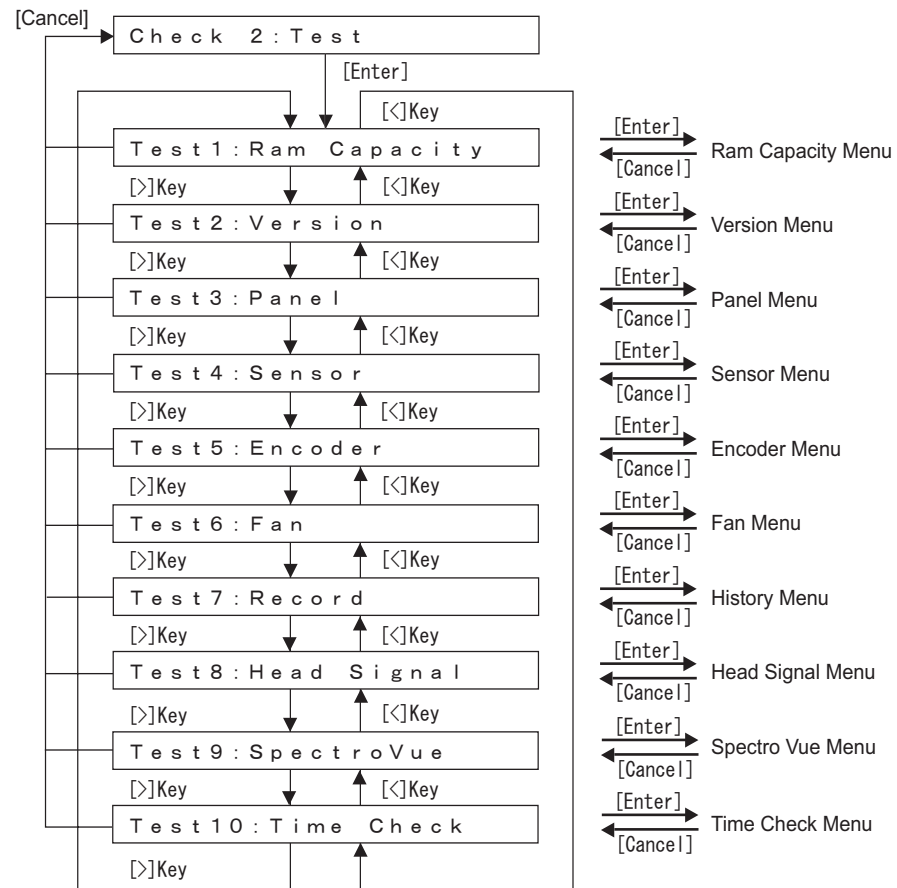
This menu displays the following items on Operation panel.

Table 5-1 Diagnosis Items for Inspection Menu

Diagnosis item	Contents	Reference
Ram capacity	Displays the size of memories installed on the MAIN board Assy .	 "5.5.1 Ram Capacity Menu" p.5-9
Version	Displays the following items on Operation panel: • Firmware version • Backup parameter version • Setting of dip switches of MAIN board Assy • Revision of MAIN board Assy • Company code • Serial No.	 "5.5.2 Version Menu" p.5-10
Panel	Used to check the operations of Operation panel keys, LCD, and LED.	 "5.5.3 Panel Menu" p.5-11
Sensor	Displays the status of the following sensors: • CR origin sensor • Waste fluid tank sensor • Wiper sensor • Cover sensor • Maintenance cover L sensor • Maintenance cover R sensor • Lever sensor • Paper edge sensor • Paper rear sensor • Head Gap • Head thiristor sensor • Head Trans.1/2 • INK NOT (4 colors) • INK END (4 colors) • INK ID (4 colors) • Cutter Solenoid • Choke Valve	 "5.5.4 Sensor Menu" p.5-12
Encoder	Displays the detected values from the following encoders: • CR encoder • PF encoder	 "5.5.7 Encoder Menu" p.5-16

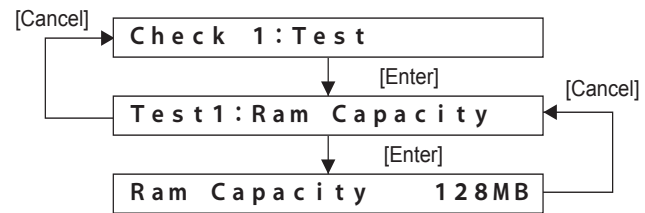
Table 5-1 Diagnosis Items for Inspection Menu (Continued)

Diagnosis item	Contents	Reference
Fan	Used to check if the following fans operate normally by turning them ON and OFF: • Suction Fan • Cooling fan (24V) Assy (for MAIN board Assy)	 "5.5.8 Fan Menu" p.5-17
Record	Used to check the following records. Used to initialize the serious error history. • Maintenance history • Serious error history • Confirming Printing information • Confirming Operating Time • Confirming S/C Log	 "5.5.9 Record Menu" p.5-18
Head signal	Used to check the head-driving waveform.	 "5.5.10 Head Signal Menu" p.5-24
Spectro Vue	Check the connection of Spectro Vue	 "5.5.11 Spectro Vue Menu" p.5-25
Time Check	Confirming RTC activation	 "5.5.12 Time Check Menu" p.5-26



5.5.1 Ram Capacity Menu

This menu is used to display the size of memories installed on MAIN board Assy on Operation panel.



5.5.2 Version Menu

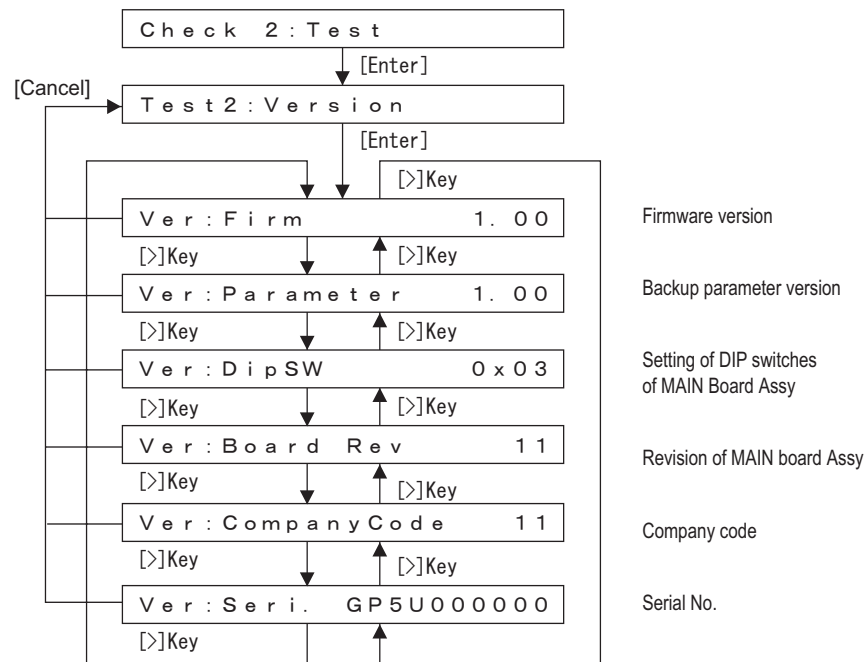
This menu is used to display the following items on Operation panel.

- Firmware version of the MAIN side
- Backup parameter version
- Setting of dip switches of MAIN board Assy
- Revision of MAIN board Assy
- Serial No.

TIP

The following is a supplement explanation about display contents.

- Settings for the DIP switch on the MAIN board Assy are displayed as follows:
 - ON: 0, OFF: 1
 - Switch No.1: LSB
 - Switch No.2: MSB



5.5.3 Panel Menu

This menu is used to check the operations of Operation panel keys, LCD, and LEDs.

(1) Operation Panel Key Check

When you press a key on Operation panel, the name of the key is displayed on LCD. To exit Operation panel key check, press [Cancel] key twice.

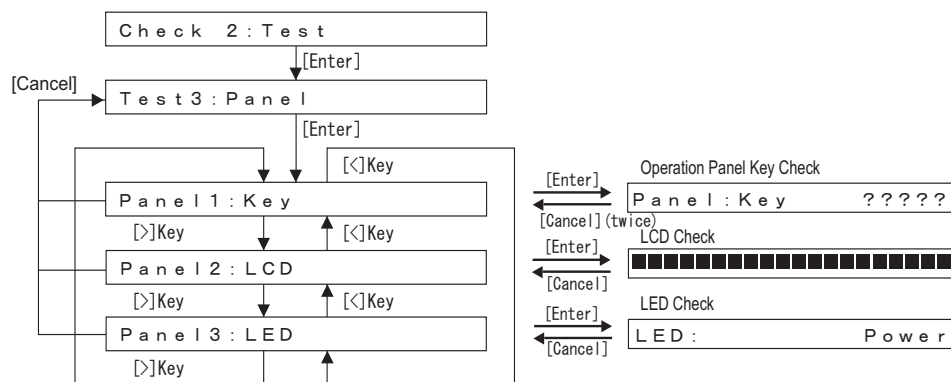
(2) LCD Check

The entire LCD screen is filled in black. You can check for any missing dots.

(3) LED Check

The following LEDs light up in the following order. The LCD displays the name of LED that is currently illuminated.

- Power lamp
- Data lamp
- High lamp
- Low lamp
- Wave lamp
- Fine lamp
- Strong lamp
- Normal lamp
- Economy lamp



5.5.4 Sensor Menu

This menu is used to display the sensor status on Operation panel.

If the displayed sensor status does not match the actual machine status, replace or adjust the relevant sensor.

Table 5-2 Sensor Menu

No.	Sensor name	Status in display	Reference
1	CR origin sensor	ON / OFF	 "3.6.3 Replacing CR_HP sensor" p.3-89
2	Waste fluid tank sensor	ON / OFF	 "3.12.1 Replacing Waste Fluid Level Switch ,Waste Fluid Bottle Assy" p.3-161
3	Wiper sensor	ON / OFF	 "3.8.5 Replacing Wiper Assy" p.3-144
4	Cover sensor	Open / Close	 "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
5	Maintenance cover L sensor	Open / Close	 "3.3.3 Replacing Cover Switch Assy, Sensor Cover L Assy, Sensor Cover R Assy" p.3-25
6	Lever sensor	Up / Down	 "3.6.5 Replacing Lever Sensor" p.3-91
7	Paper edge sensor	0 to 255	 "3.7.16 Replacing P_EDGE Sensor Assy" p.3-135  "4.12 Rear/ Edge Sensor Adjustment" p.4-21
8	Paper rear sensor	0 to 255	 "3.10.2 Replacing P_REAR Sensor" p.3-150  "4.12 Rear/ Edge Sensor Adjustment" p.4-21
9	Head Gap	High/Low	 "3.7.6 Replacing Print Head" p.3-106
10	Head thermistor	** °C	 "3.7.6 Replacing Print Head" p.3-106
11	Head transistor thermistor sensor 1	** °C	 "3.7.6 Replacing Print Head" p.3-106
12	Head transistor thermistor sensor 2	** °C	 "3.7.6 Replacing Print Head" p.3-106
13	Ink NOT	KCMY	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146
14	Ink END	KCMY	 "3.9.1 Replacing Cartridge Holder Assy" p.3-146
15	Ink ID	KCMY	 "3.9.2 Replacing Ink ID Board Assy, Pressure Roller Holder Spring Assy" p.3-148

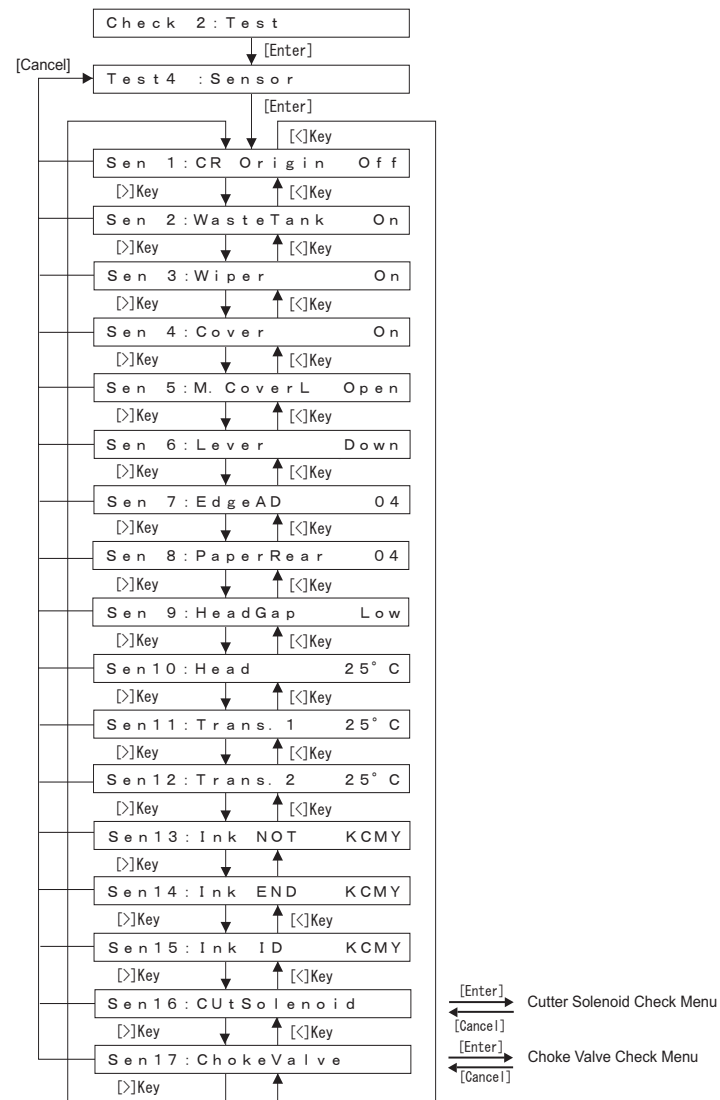
Table 5-2 Sensor Menu (Continued)

No.	Sensor name	Status in display	Reference
16	CutSolenoid	-	 "5.5.5 Cut Solenoid Menu" p.5-14
17	ChokeValve	-	 "3.11.5 Replace Solenoid Tube Assy" p.3-160

NOTE

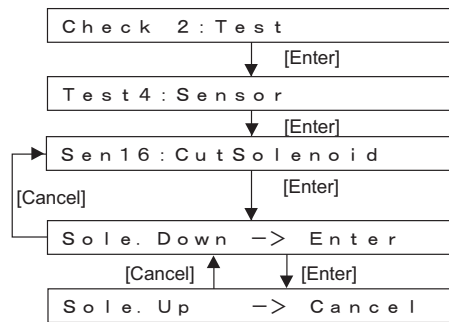
For the following sensors, the sensor sensitivity is displayed in decimal number.

- P_EDGE sensor
- P_REAR sensor



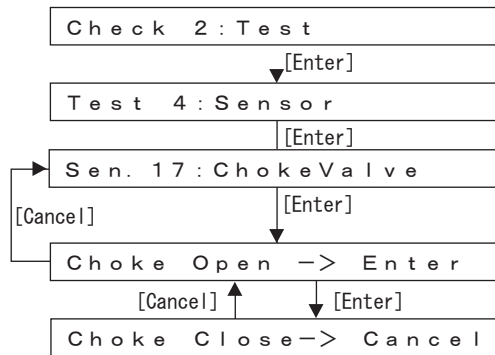
5.5.5 Cut Solenoid Menu

Check the up/down operations of Cutter solenoid.



5.5.6 Choke Valve Menu

Check the Open/Close operations of Choke Valve.



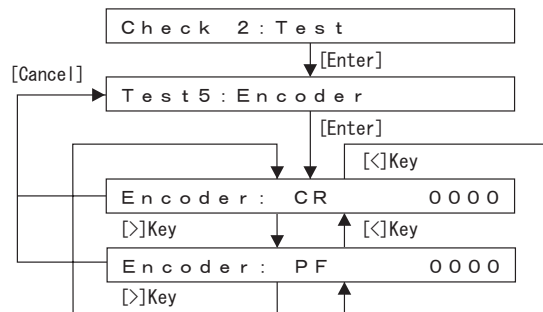
5.5.7 Encoder Menu

This menu is used to display the detected values from the following encoders:

- CR encoder
- PF encoder

NOTE

For the encoder-detected values, the encoder pulse numbers are displayed in hexadecimal number.



5.5.8 Fan Menu

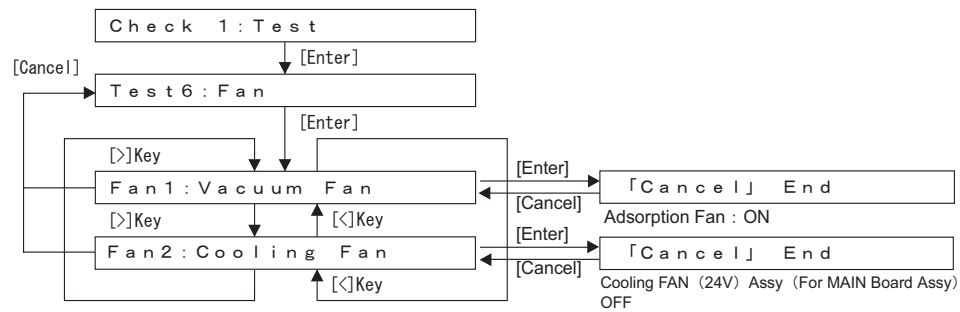
This menu is used to check if the following fans operate normally by turning them ON and OFF:

- Vacuum FAN
- Cooling FAN (24V) Assy (for MAIN board)

NOTE

- The “Cooling fan” on Panel indicatestCooling FAN (24V) Assy (for MAIN board).
- While the power is on, Cooling FAN is always on.
- Depending on the type of FAN, the operation after the [Enter] key is pressed differs as below.

FAN name	While Power is ON	After [Enter] is pressed	After [Cancel] is pressed
Vacuum Fan	OFF	ON	OFF
Cooling FAN (24V)	ON	OFF	ON

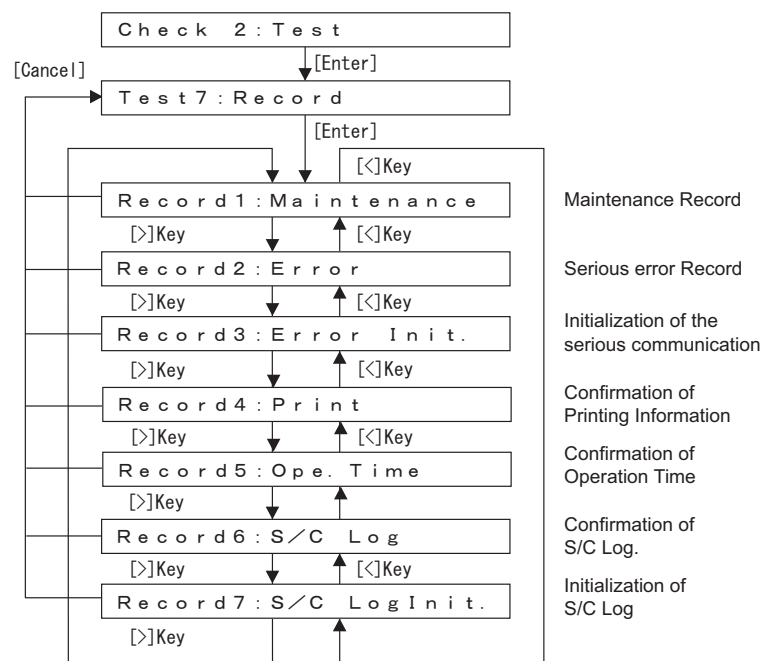


5.5.9 Record Menu

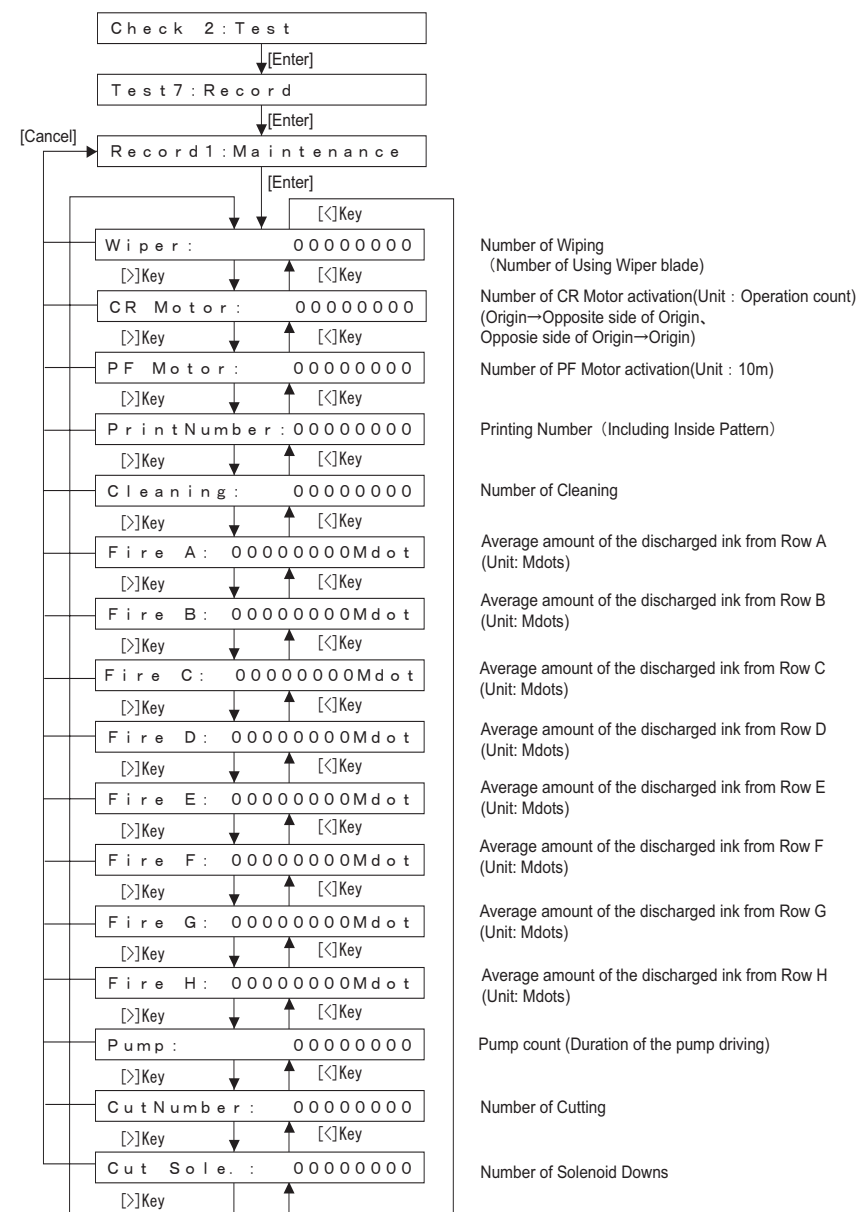
This menu is used to check the following record. In addition, it initializes serious error record.

- Maintenance record
- Serious error record
- Printing Information
- Operation Time
- S/C Log

Initializing Record and S/C Log.



(1) Maintenance record



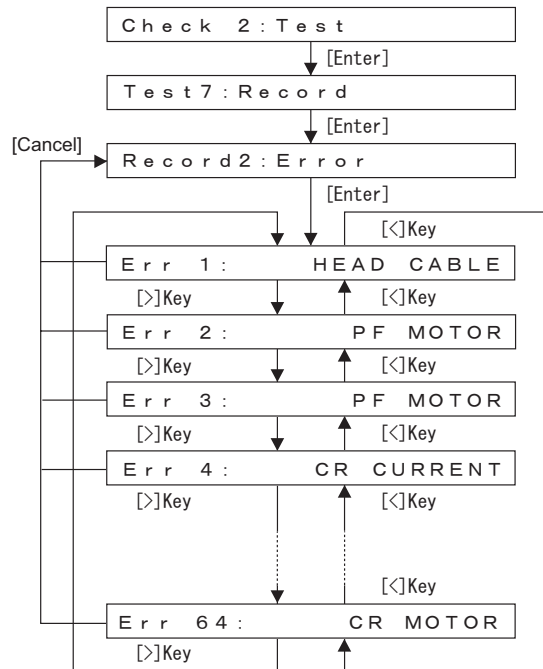
The number of ink discharge is the average of per nozzle, which was calculated by accumulated total number/180.

(2) Serious Error Record

This menu is used to display serious error record on Operation panel.

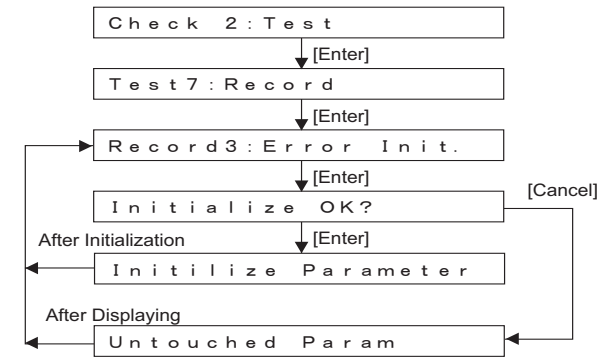
NOTE

- The serious error history does not include CPU error.
- The serious error history menu indicates up to 64 history of items.



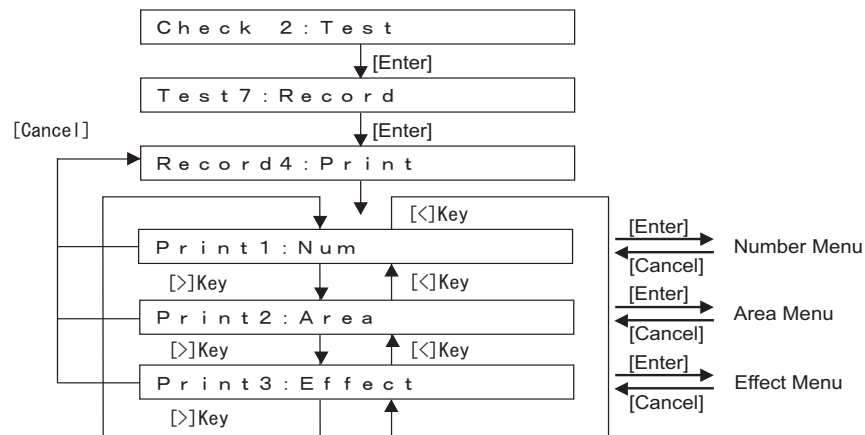
(3) Error Initialization

This menu is used to initialize the serious error record.



(4) Printing Information

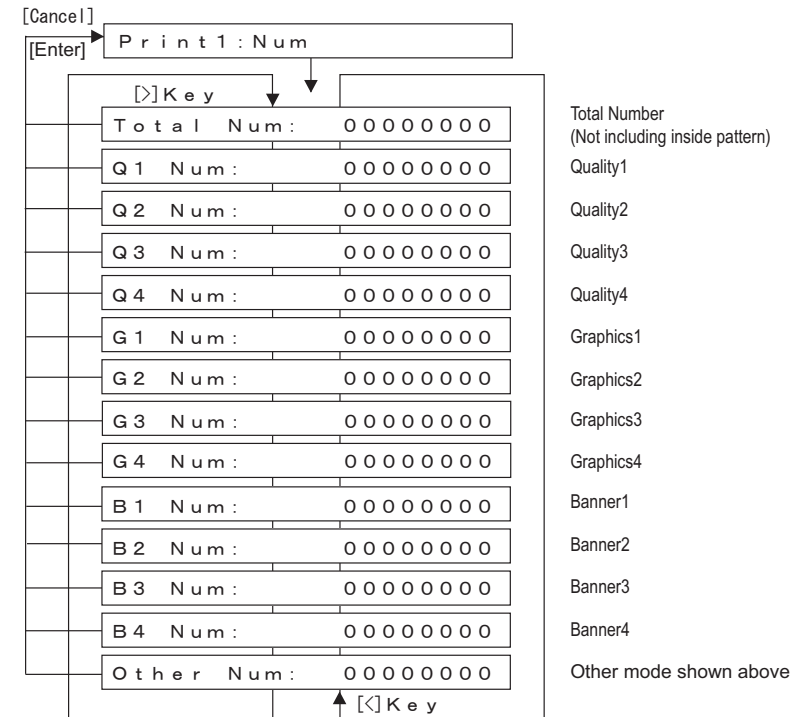
Check printing information (number of printed copies of each print mode, print area, and number of printed copies of each effect). The inner pattern will not be accumulated.

**TIP**

Displayed as a decimal.

(4-a) Number

Check the number of printed copies of each print mode.



Total Number
(Not including inside pattern)

Quality1

Quality2

Quality3

Quality4

Graphics1

Graphics2

Graphics3

Graphics4

Banner1

Banner2

Banner3

Banner4

Other mode shown above

(4-b)Area

Check the number of printed copies of each effect

[Cancel] [Enter] Print 2 : area

[<] Key

Total area :	00000000
Q1 area :	00000000
Q2 area :	00000000
Q3 area :	00000000
Q4 area :	00000000
G1 area :	00000000
G2 area :	00000000
G3 area :	00000000
G4 area :	00000000
B1 area :	00000000
B2 area :	00000000
B3 area :	00000000
B4 area :	00000000
Other area :	00000000

[>] Key

Total area (㎡)
 Quality1 (㎡)
 Quality2 (㎡)
 Quality3 (㎡)
 Quality4 (㎡)
 Graphics1 (㎡)
 Graphics2 (㎡)
 Graphics3 (㎡)
 Graphics4 (㎡)
 Banner1 (㎡)
 Banner2 (㎡)
 Banner3 (㎡)
 Banner4 (㎡)
 Other mode shown above

(4-c)Effect

Check the number of printed copies of each print effect.

[Cancel] [Enter] Print 3 : Effect

[>] Key

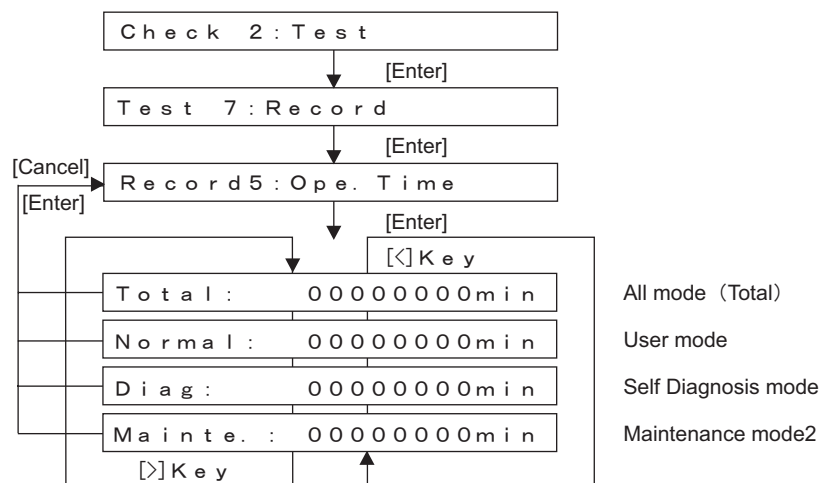
None 1 :	00000000
None 2 :	00000000
Wave 1 :	00000000
Wave 2 :	00000000
Fog 1 :	00000000
Fog 2 :	00000000
Fuzz 1 :	00000000
Fuzz 2 :	00000000
Wow 1 :	00000000
Wow 2 :	00000000
Fine&Wave 1 :	00000000
Fine&Wave 2 :	00000000
Fine&Fuzz 1 :	00000000
Fine&Fuzz 2 :	00000000
Fine&Fuzz 3 :	00000000
Fine&Fuzz 4 :	00000000
Fine&Fog 1 :	00000000
Fine&Fog 2 :	00000000
A-S. F&W :	00000000
B-S. F&W :	00000000

[<] Key

A-SuperFine&Wave
 B-SuperFine&Wave

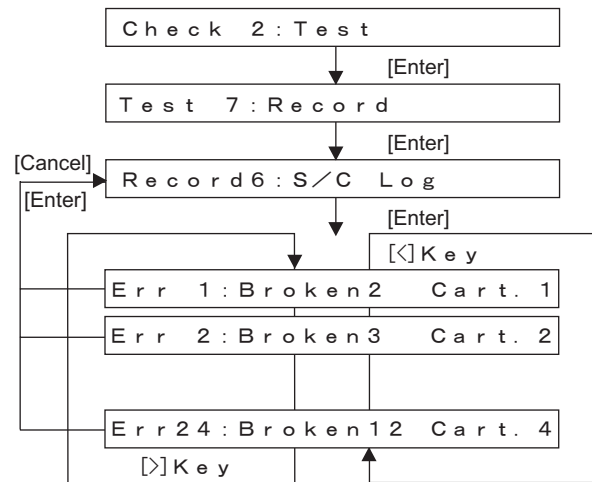
(5) Operation Time

Check the accumulated operation time of each activation mode.



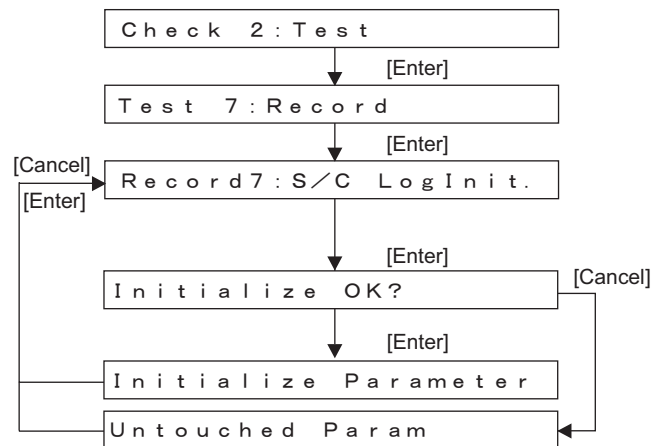
(6) S/C Log

Check the Smart chip log.
It Displays up to error 24.



(7) Initialization of S/C Log

Initialize the Smart chip log.

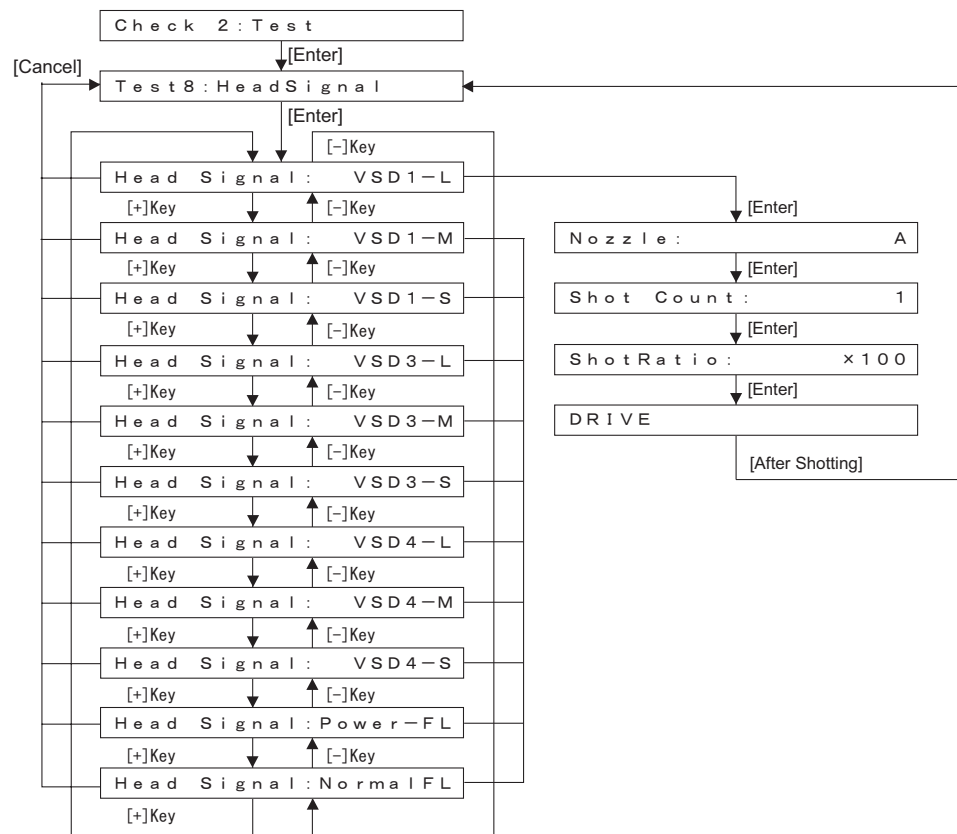


5.5.10 Head Signal Menu

This menu is used to check the head-driving waveform.

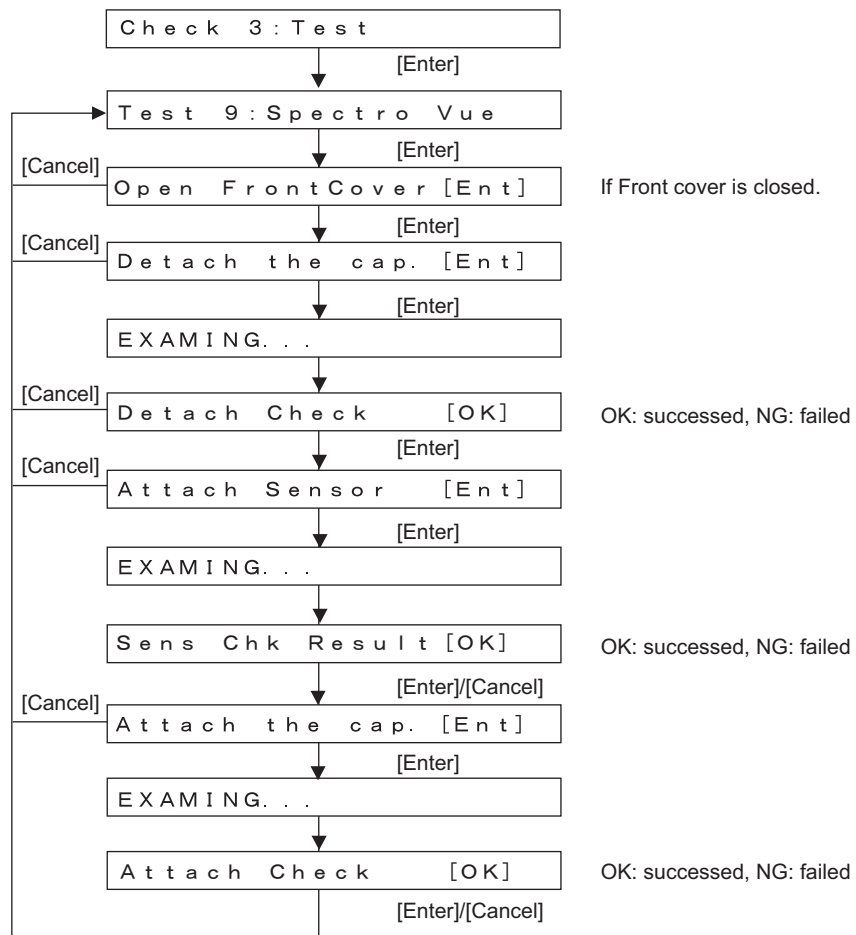
NOTE

- The number of shots can be selected in a range from 1 to 655.
- Magnification can be selected from the $\times 1$, $\times 100$, $\times 10000$, $\times 1000000$.
Nozzles can be selected among A to H or ALL.
- This is a function that is not normally used in maintenance work.



5.5.11 Spectro Vue Menu

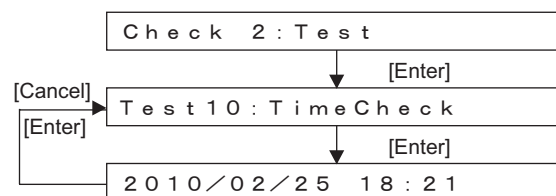
Check the connection of Spectro Vue.



5.5.12 Time Check Menu

Check the date which is managed by RTC (Real Time Clock) on MAIN board.

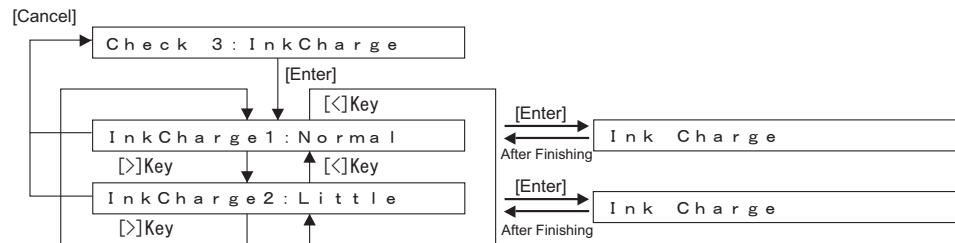
You can only check it in Self-diagnosis function. To setup, use Mutoh Service Assistance.



5.6 Ink Charging Menu

In the ink charging menu, you can execute the initial wash of Print head and ink charge. The charging items of the ink charging menu are as follows:

Charging item	Contents
Normal	Performs after initial washing.
Little	Performs after replacing Solenoid head Assy .



5.7 Adjustment Menu

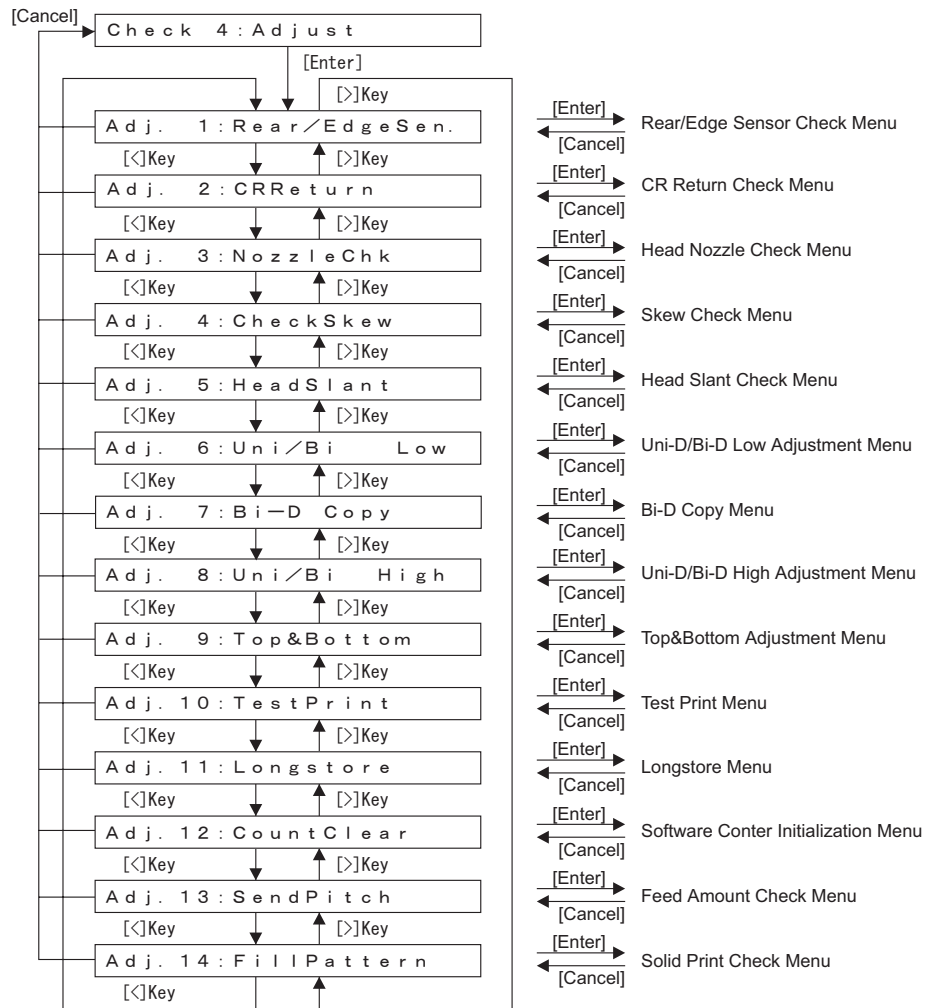
This menu is used to align the printing position and correct the media feed operation.
When replacing Head, perform head wash (after this, turn off the power and replace Head), head nozzle check, UniD adjustment, BiD adjustment, Side margin adjustment, Test pattern printing.

Table 5-3 Diagnosis Items in Adjustment Menu

Diagnosis item	Contents	Reference
Rear / Edge Sensor adjustment	Automatically adjusts the sensor sensitivity for Media detection.	 "5.7.1 Rear/ Edge Sensor Adjustment" p.5-30
CR Return Position	Adjusting CR Return position.	 "5.7.2 CR Return Position adjustment" p.5-32
Head nozzle check	Checks whether the ink is normally discharged from Head nozzles from the printing results.	 "5.7.3 Head Nozzle Check Menu" p.5-33
Skew check	Performs media feed and detects the degree of skew in media feed by Sensor.	 "5.7.4 Skew Check Menu" p.5-36
Head slant check	Checks Print head slant (horizontal and vertical direction) from the printing results. Mechanical adjustment must be performed as necessary.	 "5.7.5 Head Slant Check Menu" p.5-37
Uni-D / Bi-D adjustment Low	When PG_Low, performs adjustments of gaps between the nozzle rows and aligns the position in bi-directional printing.	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
Bi-D Copy	Copy All adjustment values form Bi-D Low to Bi-D High. (When Copying adjustment values, which are adjusted for Bi-D High.)	 "5.7.7 Bi-D Copy" p.5-49
Uni-D / Bi-D adjustment High	When PG_High, performs adjustments of gaps between the nozzle rows and aligns the position in bi-directional printing.	 "5.7.6 Uni-D/Bi-D Adjustment Menu" p.5-42
Top & Bottom adjustment	Adjusts Top, bottom, and side margins.	 "5.7.8 Top&Bottom adjustment Menu" p.5-50
Test printing	Prints out adjustment pattern ALL, adjustment parameters ALL, and serious error history.	 "5.7.9 Test Printing Menu" p.5-51

Table 5-3 Diagnosis Items in Adjustment Menu (Continued)

Diagnosis item	Contents	Reference
Longstore	Cleans Ink tubes and Print heads using Cleaning liquid.	 "5.7.10 Longstore Menu" p.5-53
Software counter initialization	Clears various software counters.	 "5.7.11 Software Counter Initialization Menu" p.5-54
Feed amount check	Checks whether there is an error in feed amount per band from the printing results.	 "5.7.12 Feed Pitch Check Menu" p.5-55
Solid print check	Performs solid nozzle print check (color selection, nozzle selection and print direction selection are available).	 "5.7.13 Solid Print Menu" p.5-56

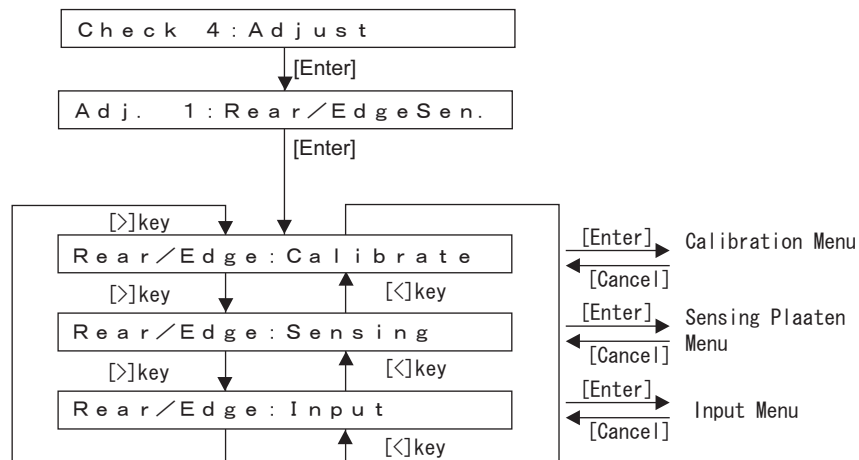


5.7.1 Rear/ Edge Sensor Adjustment

TIP

- Automatically Adjusting AD values of P_REAR sensor and P_EDGE sensor to proper values.
- After adjusting, measuring AD values when paper is not set.
Confirming threshold that is used to judge whether paper is set.
- Measuring AD values of Edge sensor at four positions of Platen.
- Using MF-3G for adjusting sensor.

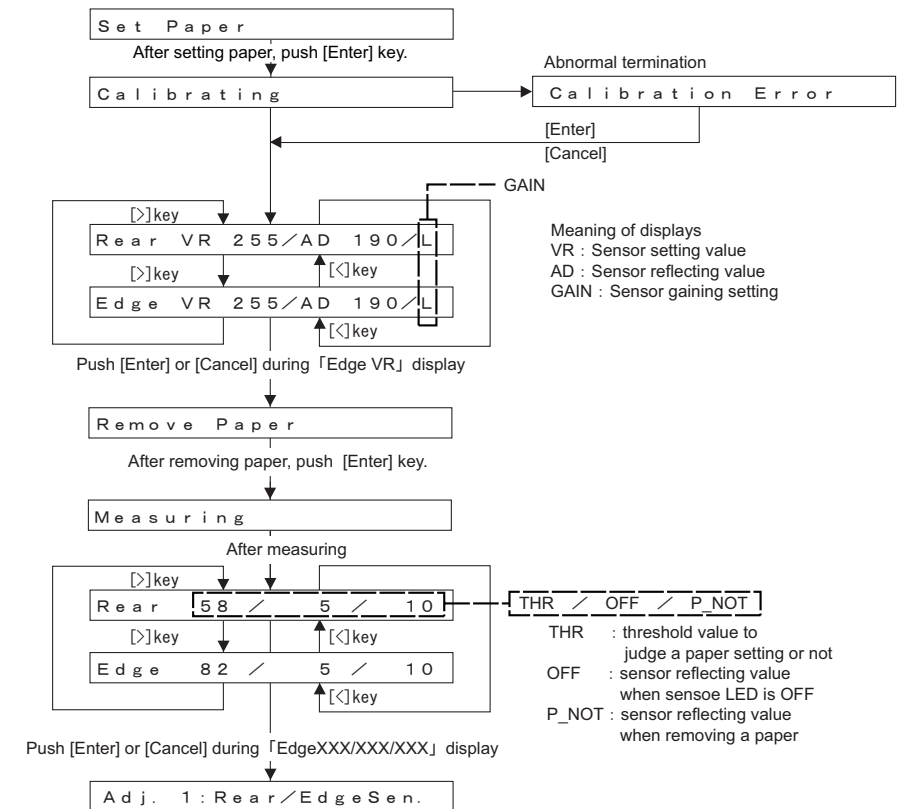
☞ "5.7.1 Rear/ Edge Sensor Adjustment" p.5-30



(1) Calibration

TIP

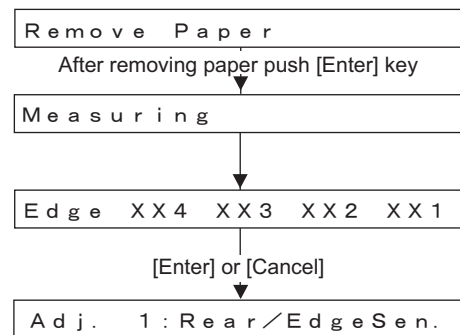
- After adjusting AD values of P_REAR sensor and P_EDGE sensor to proper values, panel displays results.
- When abnormal termination, panel displays the VR values that is final state of adjusting process.



(2) Measuring Platen reflecting value (Sensing Platen)

TIP

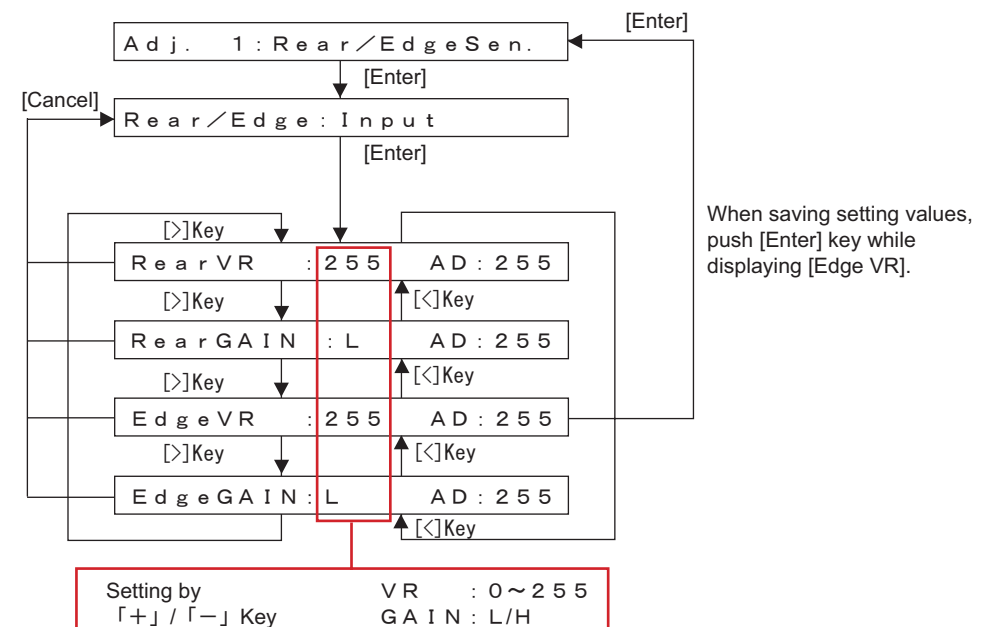
- Measuring AD values of Edge sensor at four positions of Platen.
- Measuring AD values at the four positions as shown below, and the AD values is displayed on the panel.



(3) Input

NOTE

- Do not usually use this function.
- Use only in:
When any problems are occurred at paper recognition, while adjusting the sensor at Calibration.
When adjustment is needed for using environment (environment light , media type and so on) of user.
- You can Set the sensor parameter manually which was adjusted automatically at Calibration.
- Setting values are displayed immediately.
AD (Sensor reflecting value) : 0 ~ 255

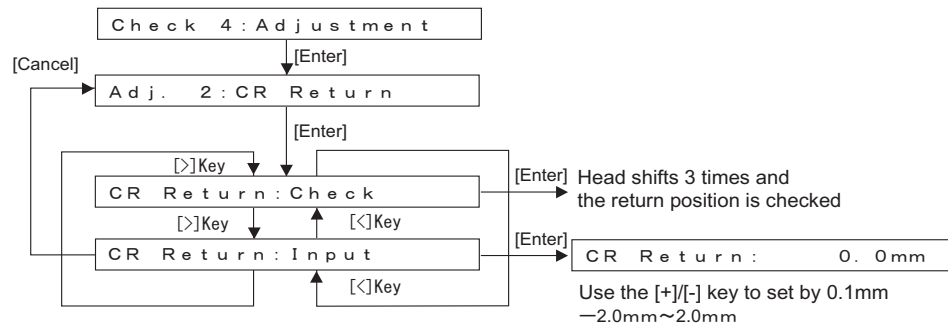


5.7.2 CR Return Position adjustment

Adjust CR return position on the opposite side of Origin when printing.

Head shifts 3 times with "CR Return: Check"

Adjust Head return position with "CR Return: Input"



5.7.3 Head Nozzle Check Menu

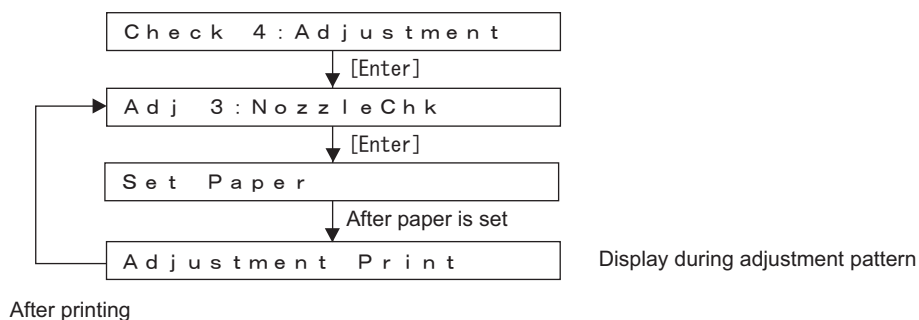
This menu is used to check if Head nozzles can discharge ink correctly from the printing results.

TIP

- CW : In this manual, it indicates the direction from origin to opposite side of the origin.
- CCW : In this manual, it indicates the direction from opposite side of the origin to origin.

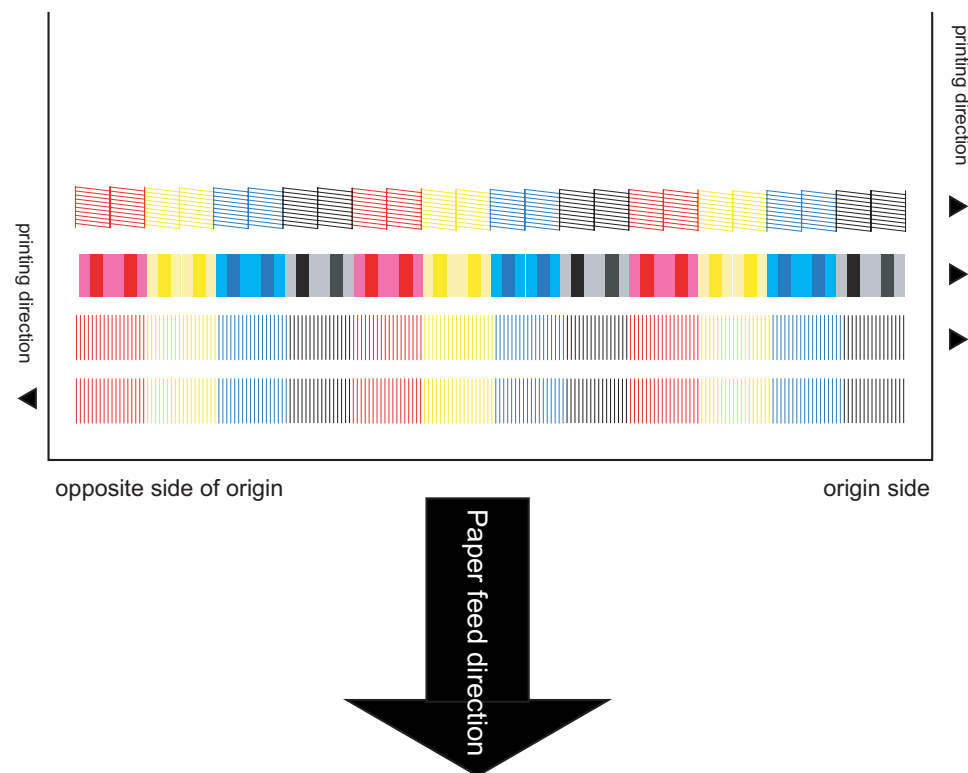
To check Head nozzles, follow the procedure below.

1. Set media as necessary.
2. After media is set, the machine prints out head nozzle check patterns in the following modes:
 - 1 pass, Uni-D
 - PF: 360 dpi
 - CR: 360 dpi
3. Nozzle check patterns will be printed from the media origin, in the order of A to H.



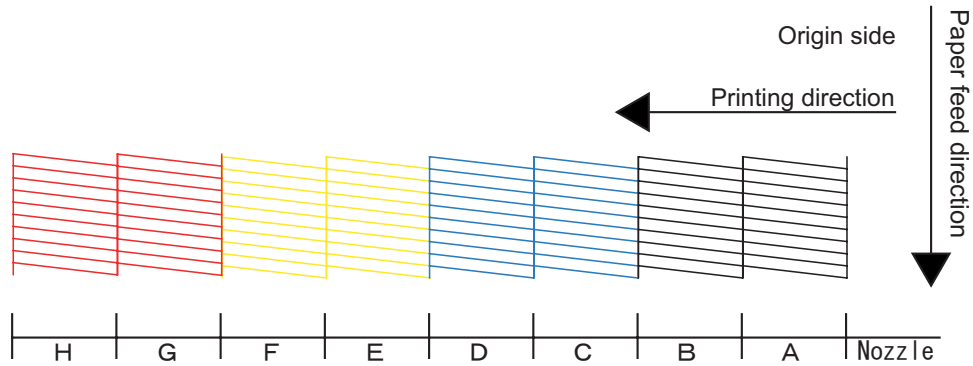
TIP

- The following pattern will be printed.

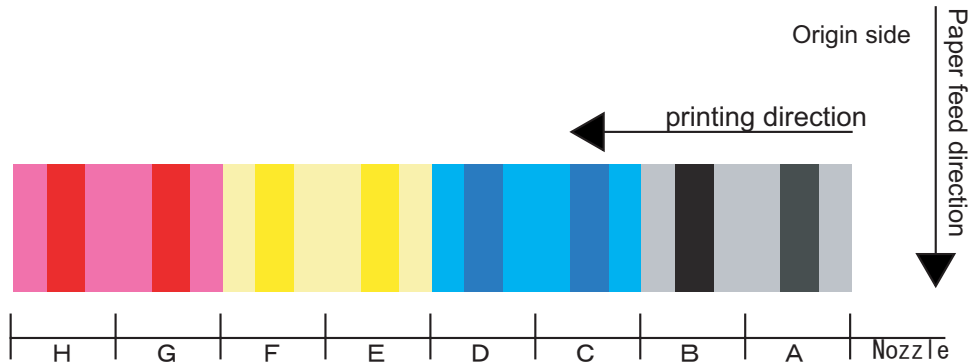


4. Check the printed head nozzle check patterns for the following points:
 - Ink nozzle discharge (missing dots, discontinuity, meandering)
 - Satellite
 - Nozzle alignment in the vertical direction
 - Nozzle alignment in the horizontal direction

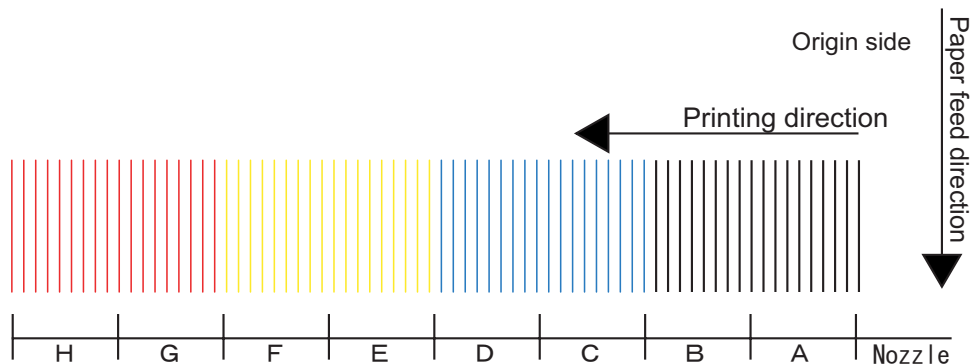
Nozzle check: Prints out the pattern in the order of A to H from the paper origin side.



Nozzle alignment in the vertical direction: Prints out the pattern in the order of A to H from the paper origin side.

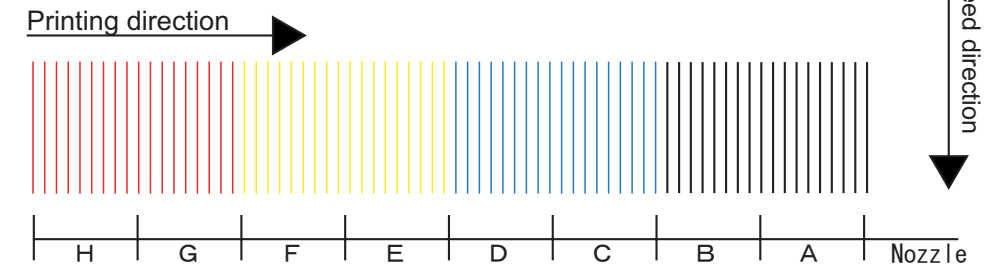


Nozzle alignment in the horizontal direction (CW direction): Prints out the pattern in the order of H to A from the paper origin side.

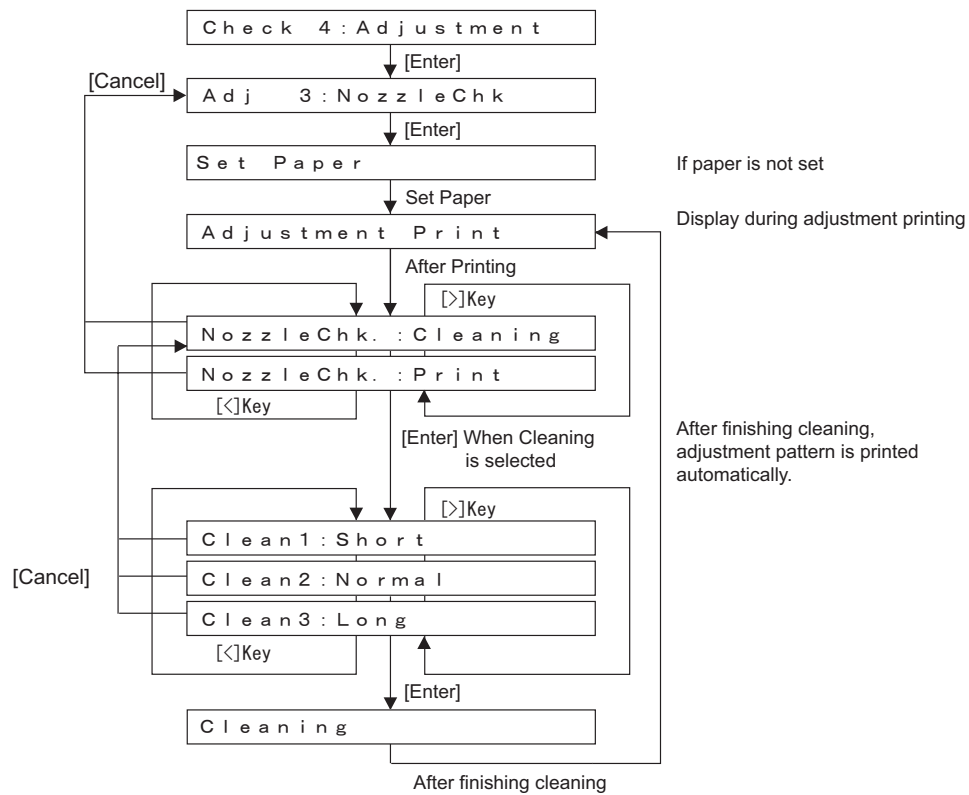


Nozzle alignment in the horizontal direction (CCW direction): Prints out the pattern in the order of A to H from the paper origin side.

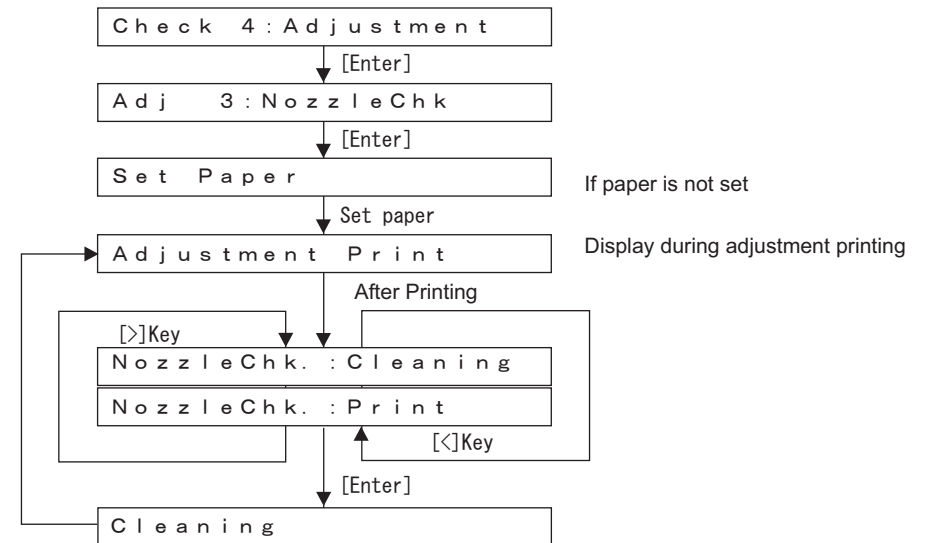
Opposite side of Origin



5. If any abnormal conditions are found in the ink discharge status of Head nozzles, perform cleaning.



6. After cleaning, print out head nozzle check patterns again.



5.7.4 Skew Check Menu

Feed the paper to check the skew size using Sensor.

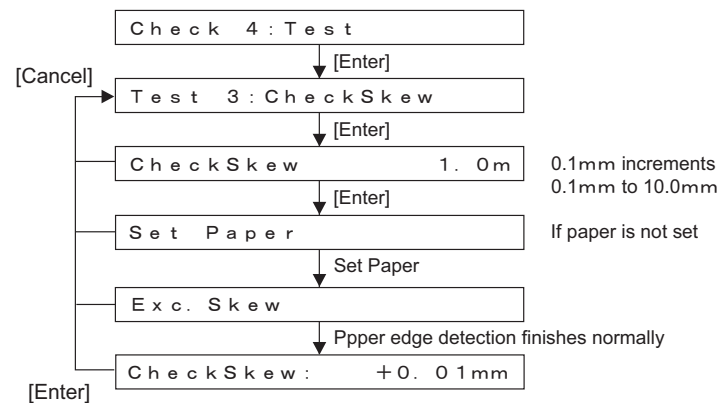
When you select this item from the Adjustment Menu, the printer feeds the loaded media by one pass and checks difference of the media edge positions before and after the media feed detected by Sensor.

NOTE

Before performing skew check, ensure that the media is set correctly.

The printer determines the media setting reference position during the first detection of media left edge. Therefore, the media that is not set correctly may cause errors as below:

- Media error occurs during skew check and printer operation stops.
- During media initial operation after power is turned on, "Undefined Paper" is frequently displayed.



5.7.5 Head Slant Check Menu

This menu is used to check print head slant (horizontal direction, vertical direction) from a sample printing. And performs mechanical adjustment if necessary.

The printer has 8 nozzle rows per head. This menu adjusts the slant of each nozzle row evenly.

TIP

- Uni-D (Uni-Direction) indicates uni-directional printing.
- Bi-D (Bi-Direction) indicates bi-directional printing.

The items for head slant is as follows

Items	Contents
Head slant slant1	Head slant check in the horizontal direction
Head slant slant2	Head slant check in the vertical direction

NOTE

- When printing "Head slant: Slant1" adjustment pattern, the pattern for vertical adjustment is also printed.
- You can use the printed "Head slant: Slant2" adjustment pattern to adjust the head slant (vertical).

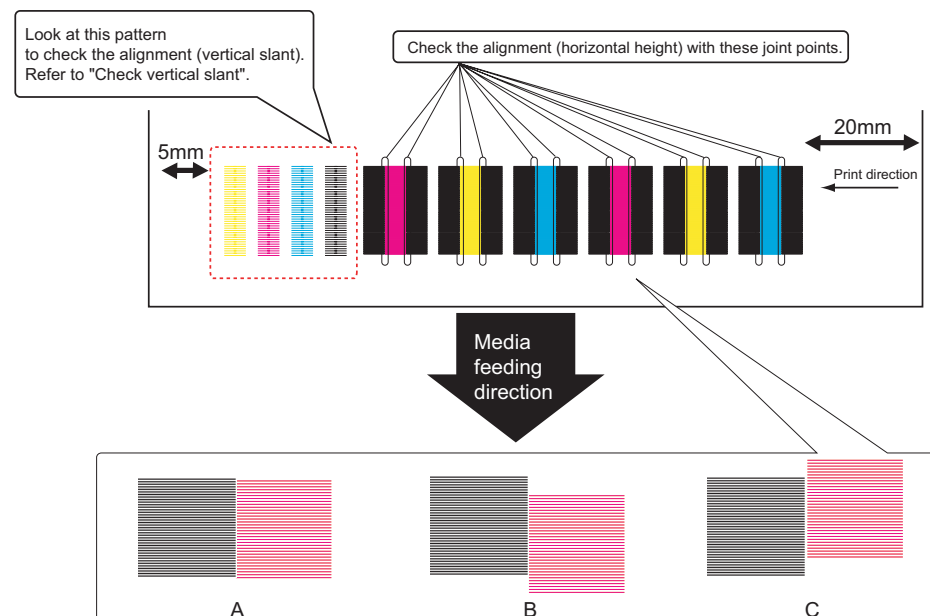
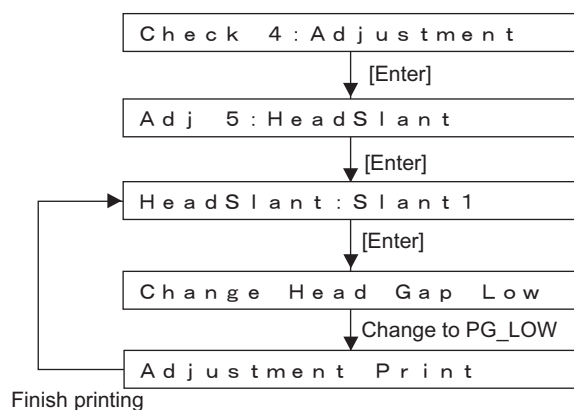
(1) Printing 「Head slant : slant1」

The printer prints out head slant check patterns in the following modes:

- 1 pass, Uni-D/Bi-D
- PF: 360 dpi, CR: 360 dpi
- According to the width of media, the right pattern is printed on three places or less.

TIP

When printing "Head slant: Slant1" adjustment pattern, the adjustment patterns for Head slant (horizontal height) and Head slant (vertical) are also printed.



(1-a) Check Head slant (horizontal height).

Items to check are as follows.

- A : OK
- B : On a "Black" basis, shift Magenta upward.
- C : On a "Black" basis, shift Magenta downward.

- When the print result has misalignment, perform machine adjustment.
[☞ "4.7.1 Head Alignment \(Horizontal Height\)" p.4-11](#)

TIP

- From the media origin side, each path is printed in the combination shown below.
 Nozzle lines A/C, A/E, A/G, B/D, B/F, B/H
- CW direction printing.

- After machine adjustment, print the confirmation pattern of Head slant again.
- When Head slant is still misaligned, perform adjustment.

(1-b) Check the vertical direction

TIP

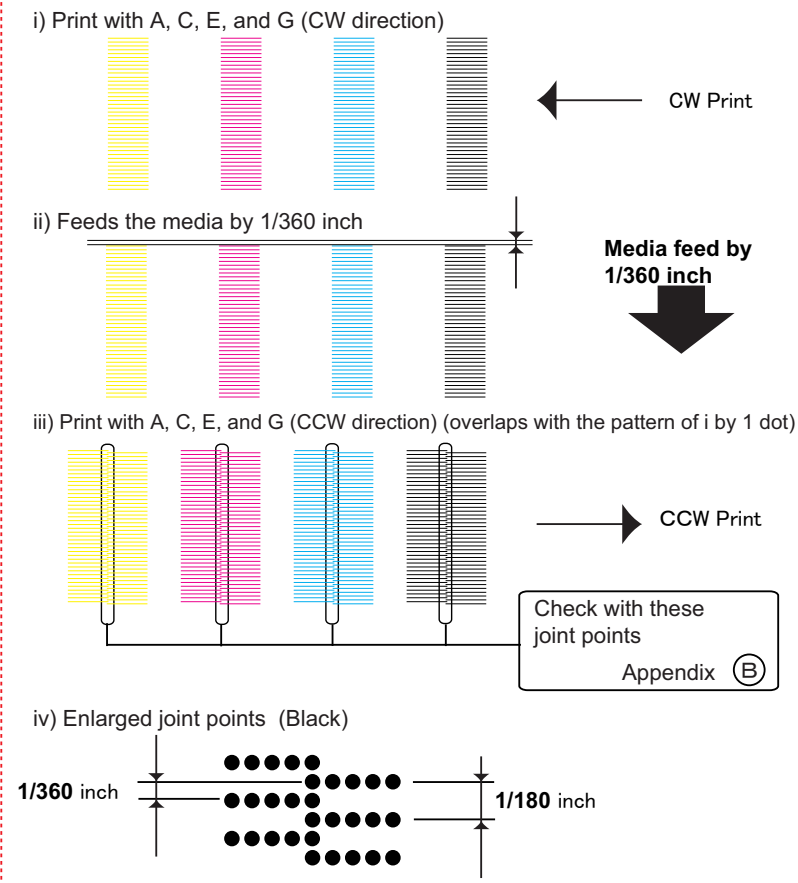
- From the media origin side, each path is printed in the order of shown below.
- Nozzle lines A/C/E/G
- CW/CCW direction printing.

Check if Head is slanted in a horizontal direction from the print result.
Follow the procedure below and check the head slant.

1. Check the print result of the head slant confirmation pattern. The items to check are as follows.

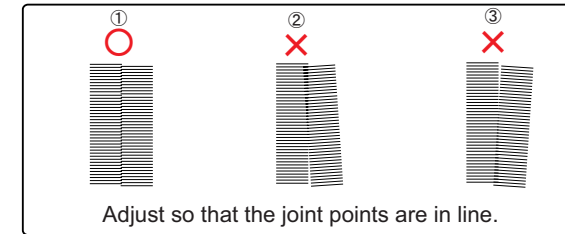
- Head slant

Details of the vertical pattern



2. Refer to Appendix B to check the print result.

Appendix
(B)



- ① : No adjustment required.
- ② : Move the vertical-slant adjusting tab to the right.
- ③ : Move the vertical-slant adjusting tab to the left.

☞ "4.7.2 Head Alignment (Vertical Slant)" p.4-13

- After adjusting Head base mounting plate, confirmation pattern again.
- If Head slant is still not adjusted, repeat printing and adjusting.

(2) Printing in 「Head slant : slant2」

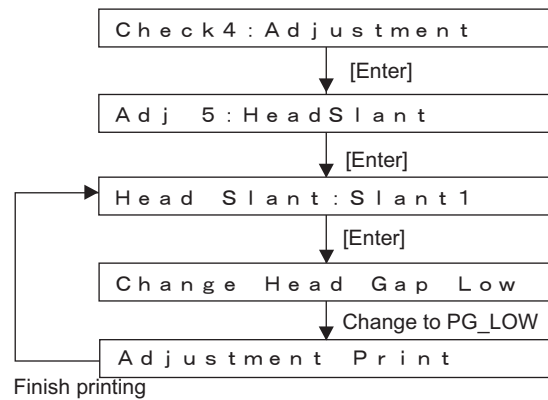
This menu is used to print out a sample printing to check for head slant in the vertical direction.
To perform head slant check, follow the procedure below.

1. The Printer prints out head slant check patterns in the following modes:

- 1 pass, Uni-D
- PF: 360 dpi, CR: 360 dpi

I is printed from the origin side in the order of A to H.

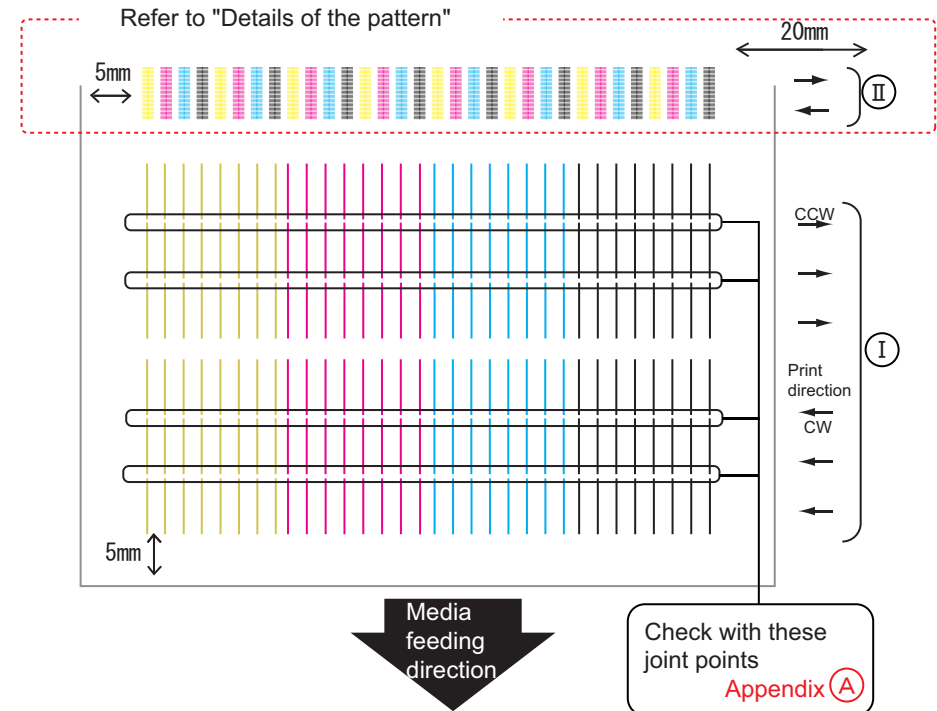
II is printed by CW/CCW from the origin in the order of A, C, E, to G.

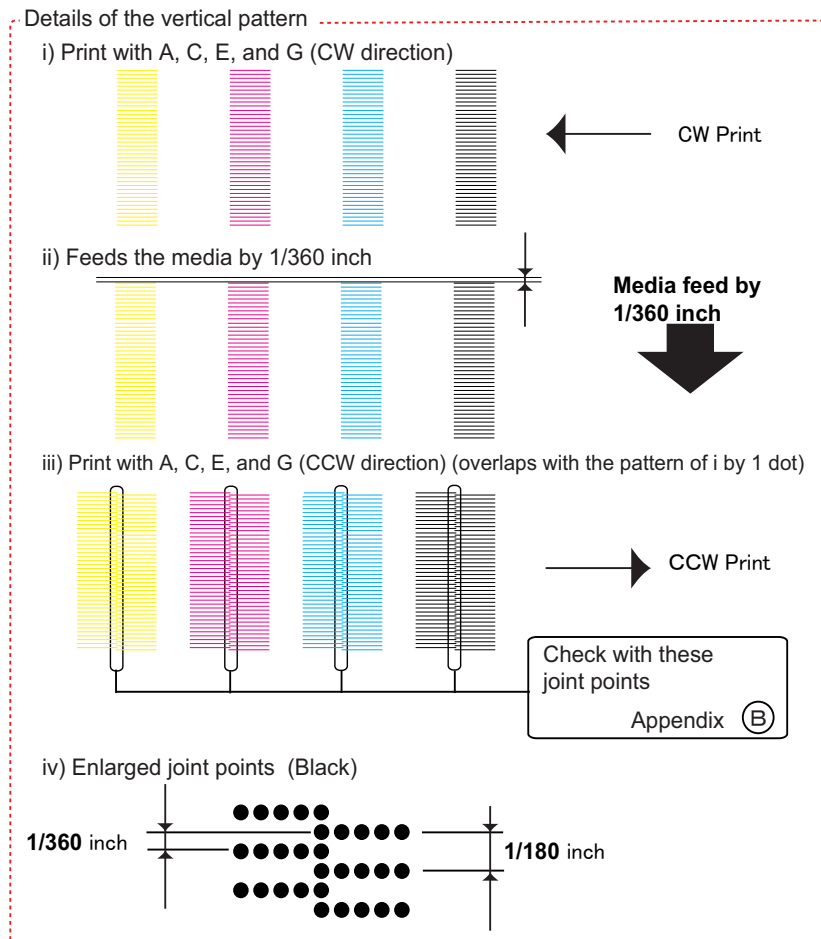


TIP

For the details on the following pattern II, refer to "Details of the vertical pattern".

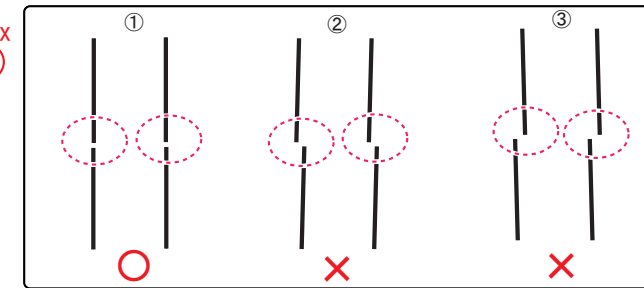
Head slant (vertical) pattern





- Refer to Appendix A to check the print result.

Appendix
(A)

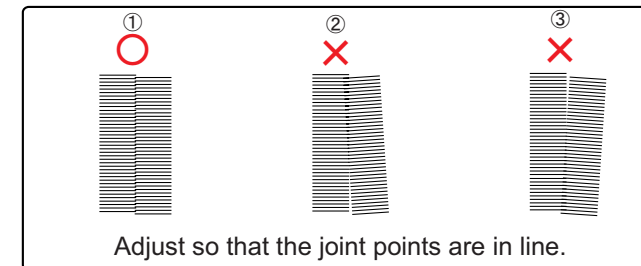


- ① : No adjustment required.
 ② : Move the vertical-slant adjusting tab to the right.
 ③ : Move the vertical-slant adjusting tab to the left.

☞ "4.7.2 Head Alignment (Vertical Slant)" p.4-13

- Refer to Appendix B to check the print result.

Appendix
(B)



- ① : No adjustment required.
 ② : Move the vertical-slant adjusting tab to the right.
 ③ : Move the vertical-slant adjusting tab to the left.

☞ "4.7.2 Head Alignment (Vertical Slant)" p.4-13

- After adjusting Head base mounting plate, confirmation pattern again.
- If Head slant is still not adjusted, repeat printing and adjusting.

5.7.6 Uni-D/Bi-D Adjustment Menu

This menu is used to adjust the gap of the nozzle rows and perform the print position of the bi-directional printing.

- For the gap of the nozzle rows, check the printing results of the Uni-D adjustment check patterns and adjust the gaps.
- For the print position of the bi-directional printing, check the printing results of the Bi-D adjustment check patterns and adjust the positions.

TIP

- Uni-D (Uni-Direction) indicates uni-directional printing.
- Bi-D (Bi-Direction) indicates bi-directional printing.
- Because of the Print head specification, only one adjustment value corresponds to all nozzle rows.
- The cps (Characters Per Second) is the unit of printing speed.

The menu items of Uni-D/Bi-D are as follows.

Item	Contents
Uni-D 320 VSD1	Uni-D Adjustment confirmation pattern of 320cps, VSD1, and PG LOW/HIGH value
Uni-D 320 VSD3	Uni-D Adjustment confirmation pattern of 320cps, VSD3, and PG LOW/HIGH value
Uni-D 320 VSD4	Uni-D Adjustment confirmation pattern of 320cps, VSD4, and PG LOW/HIGH value
Uni-D 400 VSD1	Uni-D Adjustment confirmation pattern of 400cps, VSD1, and PG LOW/HIGH value
Uni-D 400 VSD3	Uni-D Adjustment confirmation pattern of 400cps, VSD3, and PG LOW/HIGH value
Uni-D 400 VSD4	Uni-D Adjustment confirmation pattern of 400cps, VSD4, and PG LOW/HIGH value
Bi-D 320 VSD1	Bi-D Adjustment confirmation pattern of 320cps, VSD1, and PG LOW/HIGH value
Bi-D 320 VSD3	Bi-D Adjustment confirmation pattern of 320cps, VSD3, and PG LOW/HIGH value

Item	Contents
Bi-D 320 VSD4	Bi-D Adjustment confirmation pattern of 320cps, VSD4, and PG LOW/HIGH value
Bi-D 400 VSD1	Bi-D Adjustment confirmation pattern of 400cps, VSD1, and PG LOW/HIGH value
Bi-D 400 VSD3	Bi-D Adjustment confirmation pattern of 400cps, VSD3, and PG LOW/HIGH value
Bi-D 400 VSD4	Bi-D Adjustment confirmation pattern of 400cps, VSD3, and PG LOW/HIGH value
Bi-D ALL	Adjust all Bi-D pattern.

Item	Contents
Set up	Parameters setup for the items selected as shown on the left.
Print (Only when Uni-D is selected)	Prints out the patterns of the items selected on the left, with the current parameters.
Print 1 (Only when Bi-D is selected)	Prints out the patterns of the items selected on the left, with the current parameters and the parameters with ± 2 , ± 4 , ± 6 , and ± 8 (1 vertical line in turn, with each parameters). Check the current amount of misalignment.
Print 2 (Only when Bi-D is selected)	Prints out the patterns of the items selected on the left, with the current parameters.
Print3 (Only when Bi-D ALL is selected)	Prints all Bi-D pattern in current parameter.

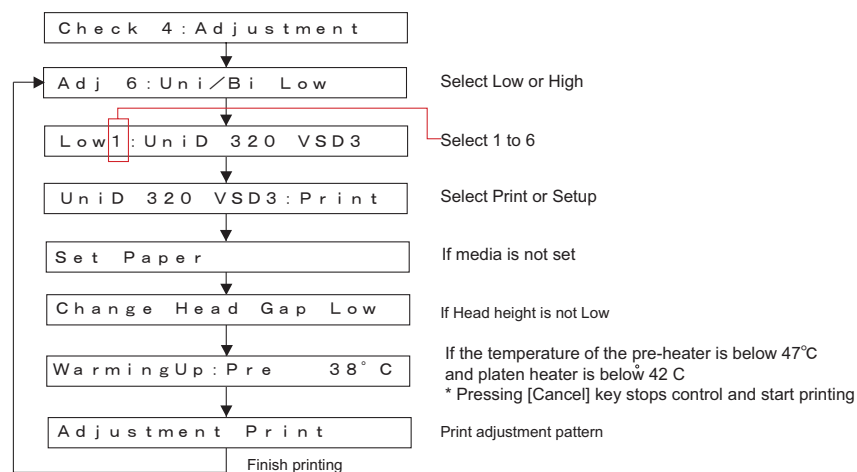
To adjust the Uni-D/Bi-D, follow the procedure below.

- (1) Set media as necessary.
- (2) The printer prints the adjustment check patterns.

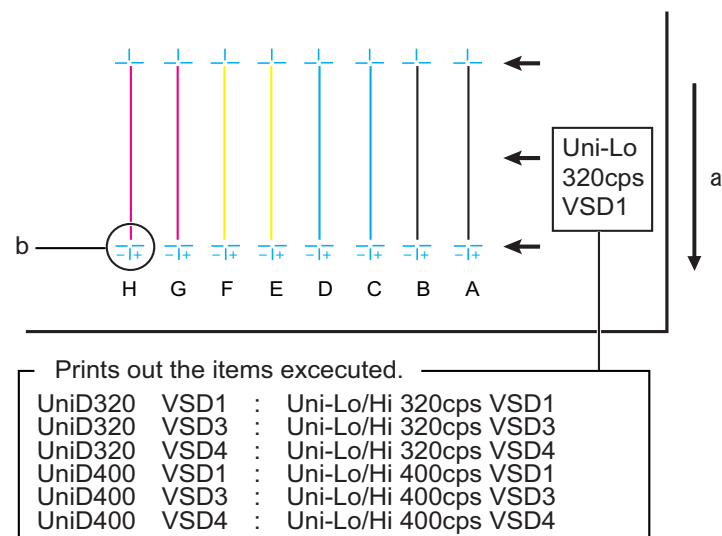
Uni-D adjustment → (2-a) → (2-e)

Bi-D adjustment → (2-b) → (2-c) → (2-e)

(2-a) Uni-D adjustment patterns (when Print is selected)



- Prints out the pattern from the origin side, in the order of A to H. (Uni-D 320 VSD1)

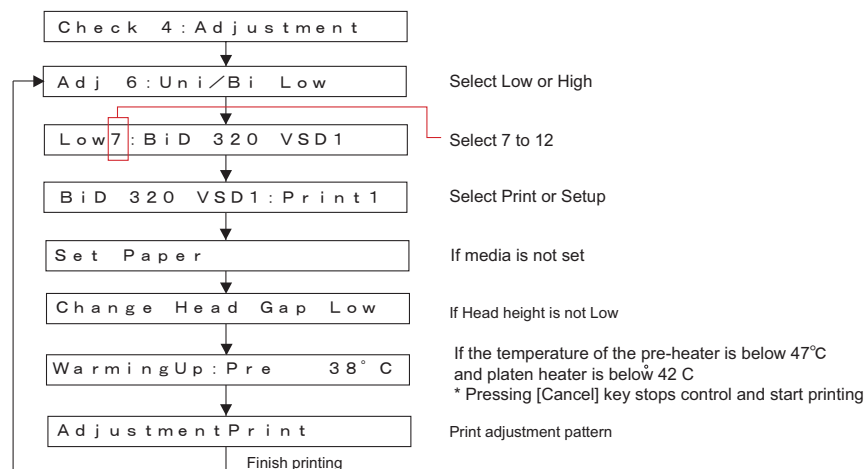


a:Media feed direction

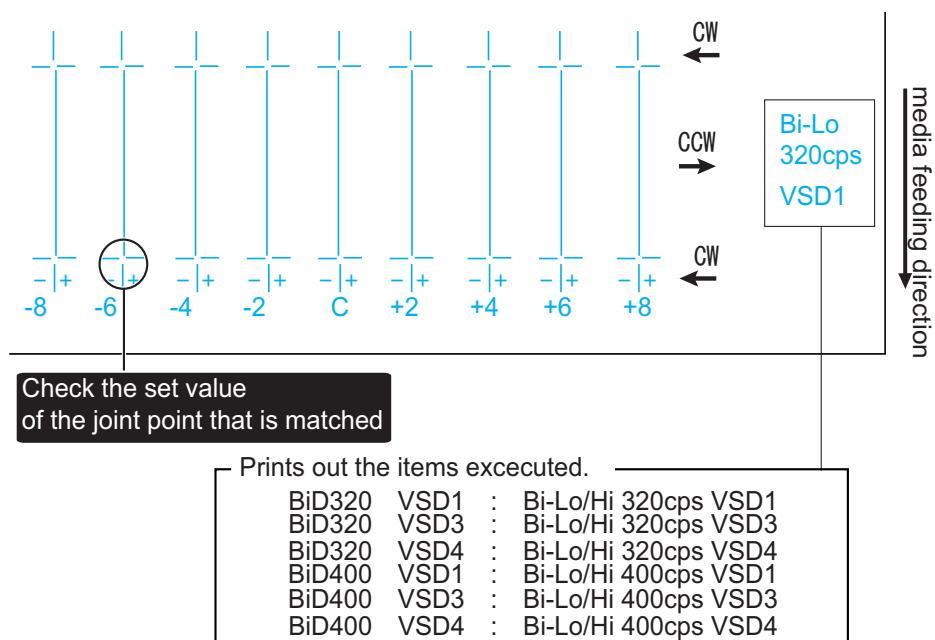
b: Adjust the setting value so that these points match.

- If connecting points above do not match, enter adjust values under 'setup'.
🔗 "(2-e) Setup menu" p.5-47
- Repeat steps 1 through 3 until connecting points match.

(2-b) Bi-D adjustment pattern (when Print 1 is selected)



- Prints out the pattern on the basis of Nozzle line C. (Bi-D 320 VSD1)



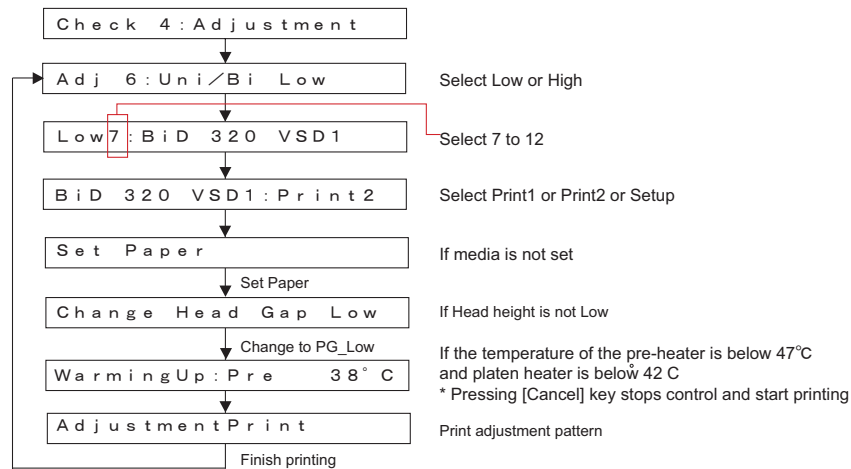
- After printing patterns, enter adjust values under 'setup'.

🖱️ "(2-e) Setup menu" p.5-47

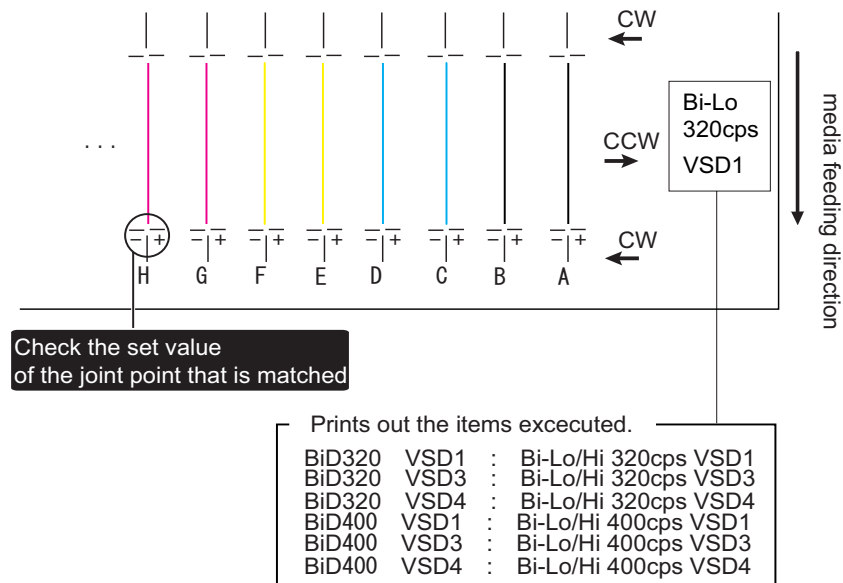
- After entering adjustment values, print again adjustment patterns, and check.
- Repeat steps 1 through 3 until points match at "C".

(2-c)Bi-D adjustment pattern (When Print2 is selected)

4. Repeat steps 1 through 3 until each connecting points matches.



1. Prints out the pattern on the basis of Nozzle line C. (Bi-D 320 VSD1)

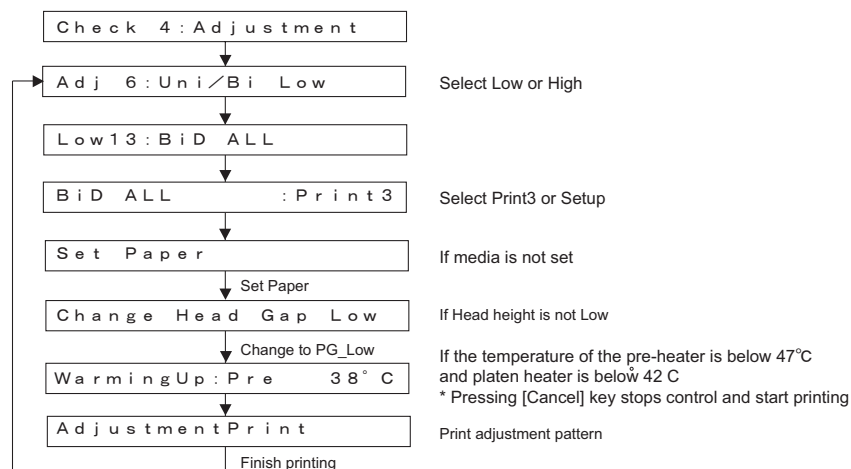


2. After printing patterns, enter adjust values under 'setup'.

🔧 "(2-e) Setup menu" p.5-47

3. After entering adjustment values, print again adjustment patterns, and check.

(2-d)Bi-D adjustment pattern (When Print3 is selected)



Printing speed is different in each item.

Prints out all adjustment patterns (Print2).

Printing items are as shown below.

Bi-D 320 VSD1	Bi-D Adjustment confirmation pattern of 320cps, VSD1, and PG LOW/HIGH value
Bi-D 320 VSD3	Bi-D Adjustment confirmation pattern of 320cps, VSD3, and PG LOW/HIGH value
Bi-D 320 VSD4	Bi-D Adjustment confirmation pattern of 320cps, VSD4, and PG LOW/HIGH value
Bi-D 400 VSD1	Bi-D Adjustment confirmation pattern of 400cps, VSD1, and PG LOW/HIGH value
Bi-D 400 VSD3	Bi-D Adjustment confirmation pattern of 400cps, VSD3, and PG LOW/HIGH value
Bi-D 400 VSD4	Bi-D Adjustment confirmation pattern of 400cps, VSD3, and PG LOW/HIGH value

About adjustment pattern, refer to  "(2-c) Bi-D adjustment pattern (When Print2 is selected)" p.5-45

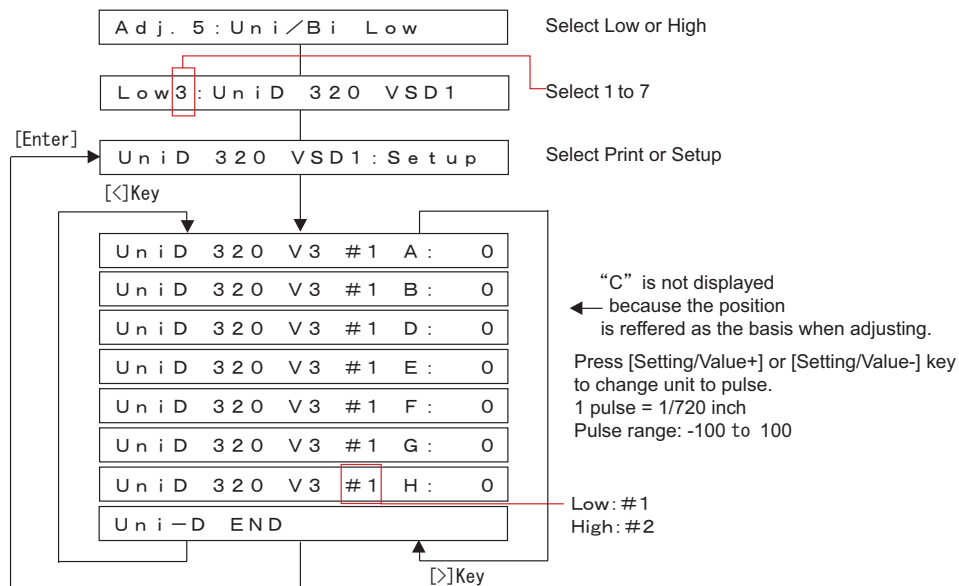
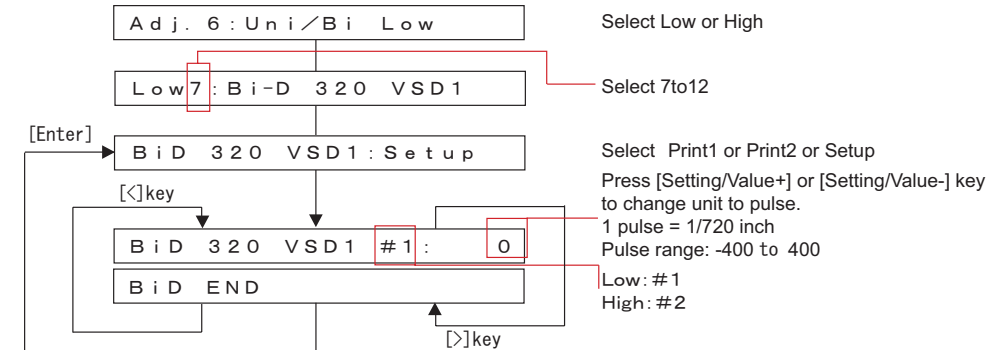
(2-e) Setup menu

Select the Setup menu for parameters, and then press [Enter] to renew the parameters.

NOTE

The initial value is set to values that are suited for the manufacturer genuine ink.

Enter setting values from panel.

Inputting Uni-D Adjusted value (When Uni-D 320 VSD1 is selected.)**Inputting Bi-D Adjusted value (When Bi-D 320 VSD1 is selected.)**

- After entering adjustment values, print again adjustment patterns, and check.

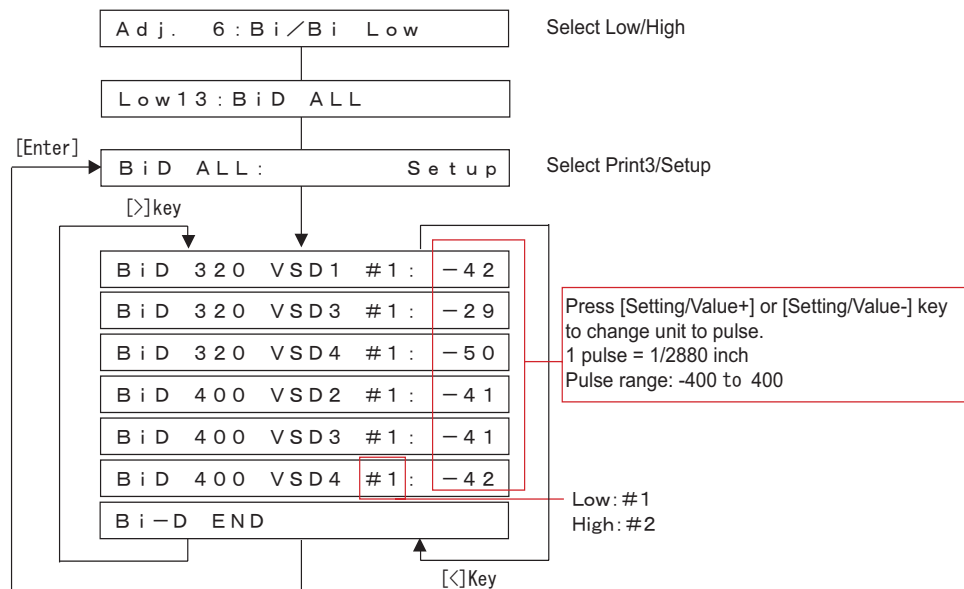
(2-f) Setup menu (Bi-D ALL)

Select the Setup menu for parameters, and then press [Enter] to renew the parameters.

NOTE

- The initial value is set to values that are suited for the manufacturer genuine ink.
- Bi-D ALL adjusts all setting values.

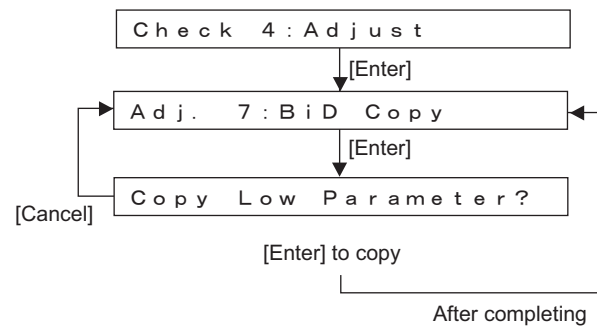
Enter setting values from panel.



5.7.7 Bi-D Copy

Copy All adjustment values form Bi-D Low to Bi-D High.

(When Copying adjustment values, which are adjusted for Bi-D High.)

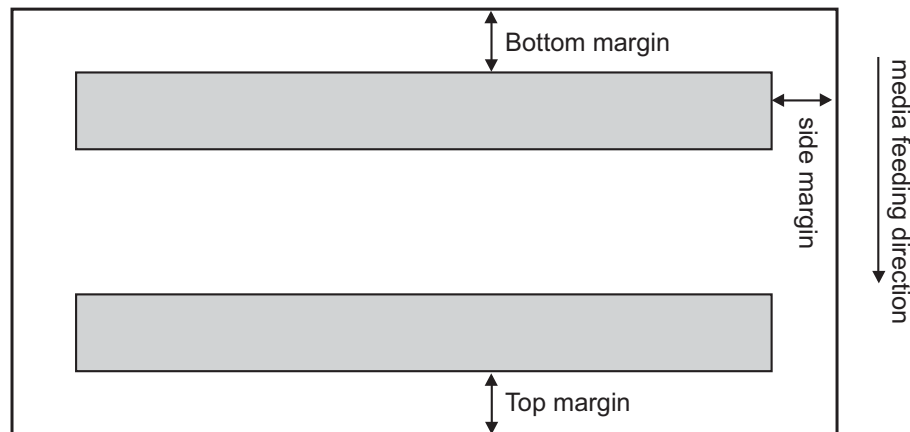


5.7.8 Top&Bottom adjustment Menu

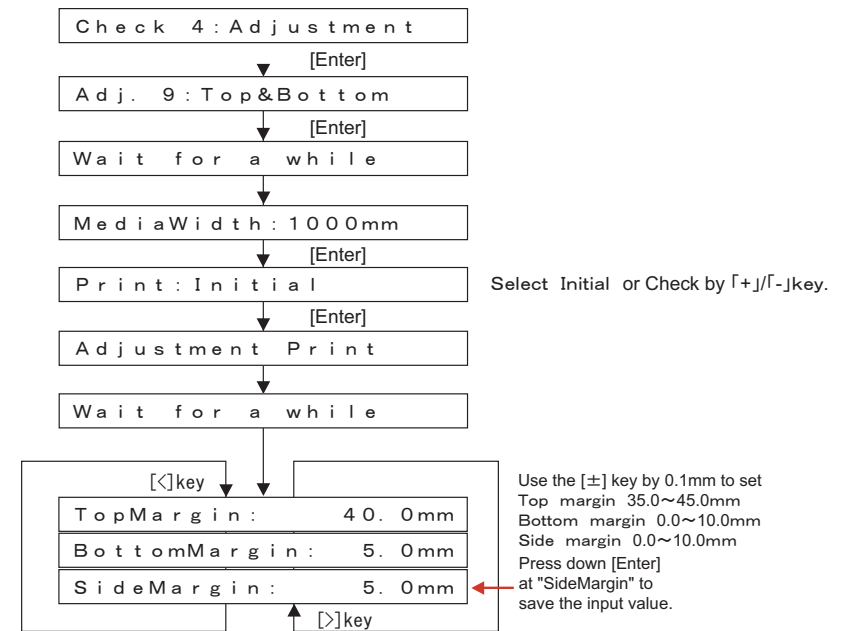
After printing and cutting the media, enter the distances of between Front sensor and Head (Top margin), Cutter and Head (Bottom margin), and Media edge sensor and Head (print start location), and adjust Top, Bottom, and Side margins.

Follow the procedure below to adjust.

1. Set media as necessary.
2. After media is set, the detected width of the set media is displayed.
3. After media is set, the printer prints out band feed correction adjustment patterns in the following modes.
 - Black, 1 pass, Uni-D, 360 dpi
 - If "check" is selected, black replaces magenta.
4. Check the printed top & bottom adjustment patterns for the measurement. Measure each margins with a scale and so on.



5. Enter each measured value as the parameter.



6. Perform "Print: Check", print out the Top&Bottom adjustment pattern, and cut the media.
7. Measure the followings on the print result and check that the print margins are adjusted.
 - 1 : Top margin
 - 2 : Bottom margin
 - 3 : Side margin
8. If the margins are not adjusted, repeat (3) to (7).

5.7.9 Test Printing Menu

This menu is used to print out the following terms.

Item	Contents
Adjust ALL	Prints adjustment patterns.
Parameter ALL	Prints each adjustment parameter setting value.
Log info.	Prints the serious error history.
S/C Log info.	Prints S/C Log history

NOTE

If you have not registered the serial number of the machine, you must enter the number before you can start the parameter ALL printing.

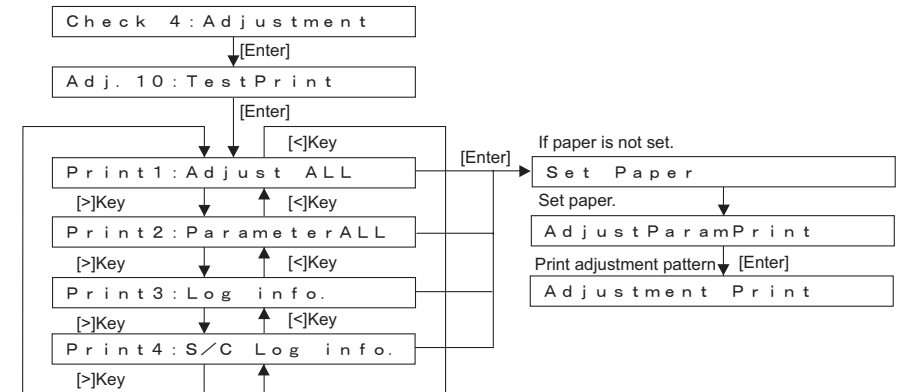
TIP

This menu provides the same functions with "5.9 Sample Printing Menu" p.5-58

Print out the adjustment patterns to check the adjustment items.
Follow the following procedure to perform adjustment:

1. Set media as necessary.
2. After media is set, the machine prints out the following test printings.
 - Adjust ALL: Prints adjustment patterns.
 - Parameter ALL: Prints adjustment parameters.
 - Log info.: Prints the serious error history.
 - S/C Log info.: Prints the S/C Log history.

3. Press [Enter] key in the operation panel to start the selected test printing.



TIP

- Sample printing (parameter ALL print)

```

Adjust Parameters
No. GP5U*****   Date 2010/09/22   Celsius 24
Name             Ver 1.00         Dipsw 03h

CR Return Pos    = 0.8mm
Head Rank        = 18FS*****
                  [1]   [2]   [3]   [4]

*Unid 320 VSD3 A  -#1- = 0    --  0    0
*Unid 320 VSD3 B  -#1- = 0    0    0    0
*Unid 320 VSD3 A  -#2- = 0    --  0    0
*Unid 320 VSD3 B  -#2- = 0    0    0    0
*Unid 320 VSD4 A  -#1- = 0    --  0    0
*Unid 320 VSD4 B  -#1- = 0    0    0    0
*Unid 320 VSD4 A  -#2- = 0    --  0    0
*Unid 320 VSD4 B  -#2- = 0    0    0    0
*Unid 360 VSD1 A  -#1- = 0    --  0    0
*Unid 360 VSD1 B  -#1- = 0    0    0    0
*Unid 360 VSD1 A  -#2- = 0    --  0    0
*Unid 360 VSD1 B  -#2- = 0    0    0    0
*Unid 420 VSD3 A  -#1- = 0    --  0    0
*Unid 420 VSD3 B  -#1- = 0    0    0    0
*Unid 420 VSD3 A  -#2- = 0    --  0    0
*Unid 420 VSD3 B  -#2- = 0    0    0    0
*Unid 420 VSD4 A  -#1- = 0    --  0    0
*Unid 420 VSD4 B  -#1- = 0    0    0    0
*Unid 420 VSD4 A  -#2- = 0    --  0    0
*Unid 420 VSD4 B  -#2- = 0    0    0    0
BiD 320 VSD3      -#1- = -19
BiD 320 VSD3      -#2- = -32
BiD 320 VSD3      -#1- = -30
BiD 320 VSD3      -#2- = -45
BiD 360 VSD4      -#1- = -18
BiD 360 VSD1      -#2- = -26
BiD 420 VSD3      -#1- = -26
BiD 420 VSD3      -#2- = -37
BiD 460 VSD4      -#2- = -47
BiD 460 VSD4      -#2- = -56
Side Margin       = 7.20mm
*Company Code     = 1
*Servo 320 Cw     gp = 0x3000
*Servo 320 Cw     gi = 0x0060
*Servo 320 Cw     glpf = 234
*Servo 320 Cw     scale = 13
*Servo 320 Cw     wc = 45
*Servo 320 Ccw    gp = 0x3000
*Servo 320 Ccw    gi = 0x0060
*Servo 320 Ccw    glpf = 232
*Servo 320 Ccw    scale = 13
*Servo 320 Ccw    wc = 45
*Servo 360 Cw     gp = 0x3000
*Servo 360 Cw     gi = 0x0060
*Servo 360 Cw     glpf = 234
*Servo 360 Cw     scale = 13
*Servo 360 Cw     wc = 45
*Servo 360 Ccw    gp = 0x3000
*Servo 360 Ccw    gi = 0x0060
*Servo 360 Ccw    glpf = 232
*Servo 360 Ccw    scale = 13
*Servo 360 Ccw    wc = 45
*Servo 420 Cw     gp = 0x3000
*Servo 420 Cw     gi = 0x0060
*Servo 420 Cw     glpf = 234
*Servo 420 Cw     scale = 13
*Servo 420 Cw     wc = 45
*Servo 420 Ccw    gp = 0x3000
*Servo 420 Ccw    gi = 0x0060
*Servo 420 Ccw    glpf = 232
*Servo 420 Ccw    scale = 13
*Servo 420 Ccw    wc = 45

```

When adjustment values are initial values, "*" is displayed at the head of the adjustment variable.

TIP

- Sample printing (error record)

Log Information

```

No. FB6A00050   Date 2007/02/27   Celsius 19
Name             Ver 1.06         Dipsw 03h

Log0 : E85 HEAD OVER HEAT 2007/02/26 11:59
Log1 : E85 HEAD OVER HEAT 2007/02/26 11:59
Log2 : E85 HEAD OVER HEAT 2007/02/26 11:57
Log3 : E85 HEAD OVER HEAT 2007/02/26 11:52
Log4 : E85 HEAD OVER HEAT 2007/02/26 10:26
Log5 : E85 HEAD OVER HEAT 2007/02/26 10:25
Log6 : E85 HEAD OVER HEAT 2007/02/26 10:23
Log7 : E85 HEAD OVER HEAT 2007/02/26 10:22
Log8 : E85 HEAD OVER HEAT 2007/02/26 10:20
Log9 : E85 HEAD OVER HEAT 2007/02/26 10:19
Log10 : E85 HEAD OVER HEAT 2007/02/26 09:59
Log11 : E85 HEAD OVER HEAT 2007/02/26 09:56
.
.
.
Log63 : E75 HEAD CABLE 2007/01/10 11:37

```


5.7.10 Longstore Menu

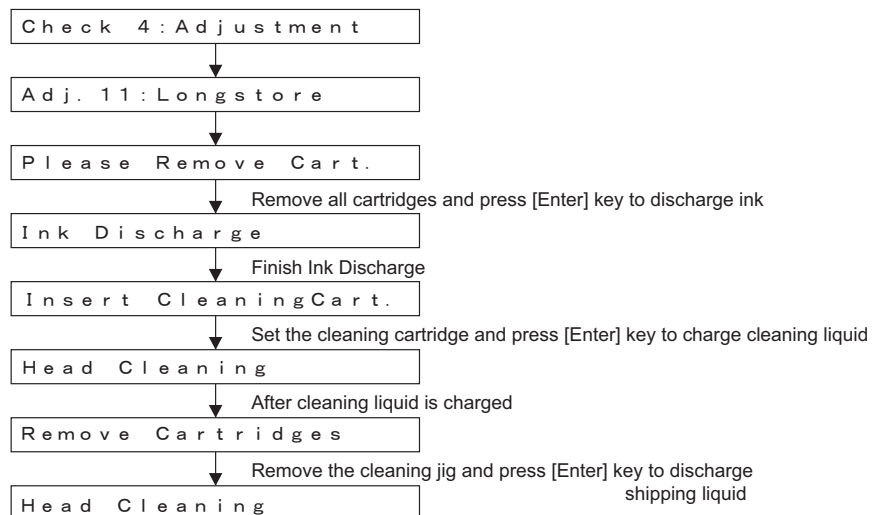
This menu is used to clean the ink tube and print head with cleaning liquid.
Follow the procedures below when cleaning..

1. Press [Enter] key in the operation panel to determine the Head Cleaning Menu.
2. Remove all ink cartridges.
3. Press [Enter] key in the operation panel to discharge ink.

NOTE

When performs the ink discharge only for maintenance parts replacement (Solenoid head Assy, Ink tube, Carriage Assy, etc.), turn OFF the power now.

4. After ink is discharged, install the cleaning cartridge.
5. Press [Enter] key in the operation panel to charge cleaning liquid.
6. After cleaning liquid is charged, remove the head cleaning jig.



5.7.11 Software Counter Initialization Menu

This menu is used to initialize various software counters.

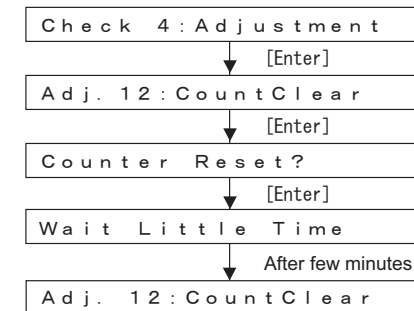
NOTE

The counters are initialized before delivery. Do not initialize them during maintenance.

The software counters that can be initialized through this menu are as follows.

Counters to be initialized	Initial value
Cumulative print timer	0
Ink consumption counterK	0
Ink consumption counterC	0
Ink consumption counterM	0
Ink consumption counterY	0
Ink amount count in the cap	0
Waste ink count	0
User not-filled flag	0
Not-filled flag	1
User First Start up flag	1
Coynter for plugging/ un plugging 1L adapter	0

Pressing [Enter] key on Operation panel in the “Counter Reset?” screen performs the software counter initialization.

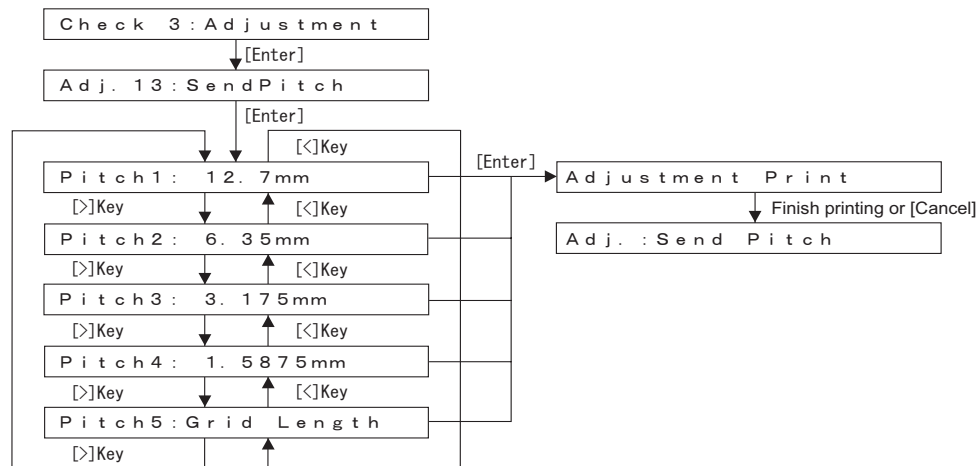


5.7.12 Feed Pitch Check Menu

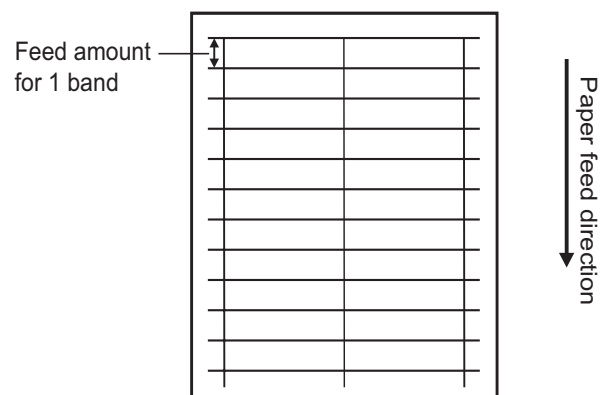
This menu is used to check whether there is an error in the media feed amount for one band by reviewing a sample printing. There are no adjustment items.

To check the feed pitch, follow the procedure below.

1. Set media as necessary.
2. Select "Adj 11: SendPitch".
3. Select the feed pitch.



4. Print out with 320cps, VSD4, and Large dots.



This menu is used to perform solid nozzle print check (color selection, nozzle selection and print direction selection are available).

```

graph TD
    A[Check 4: Adjustment] -- "[Enter]" --> B[Adj. 14: Fill Pattern]
    B -- "[Enter]" --> C[Color: K]
    B -- "[<]key" --> D[Color: C]
    B -- "[>]key" --> E[Color: Y]
    B -- "[>]key" --> F[Color: M]
    C -- "[>]key" --> D
    D -- "[<]key" --> C
    D -- "[>]key" --> E
    E -- "[<]key" --> D
    E -- "[>]key" --> F
    F -- "[<]key" --> E
    F -- "[>]key" --> G[Nozzle: ALL]
    G -- "[<]Key" --> H[Nozzle: ODD]
    G -- "[>]Key" --> I[Nozzle: EVEN]
    H -- "[<]Key" --> G
    H -- "[>]Key" --> I
    I -- "[<]Key" --> H
    I -- "[>]Key" --> J[Dir: CW]
    J -- "[<]Key" --> K[Dir: CCW]
    J -- "[>]Key" --> L[ ]
    K -- "[<]Key" --> J
    K -- "[>]Key" --> L
    L -- "[<]Key" --> J
    L -- "[>]Key" --> M[ ]
  
```

Press > or < key to select color to check

Press > or < key to select color to check
 ALL: All nozzles
 ODD: Odd numbered nozzles
 EVEN: Even numbered nozzles

Press > or < key to select color to check
 CW: Eject ink when CW scanning
 CCW: Eject ink when CCW scanning

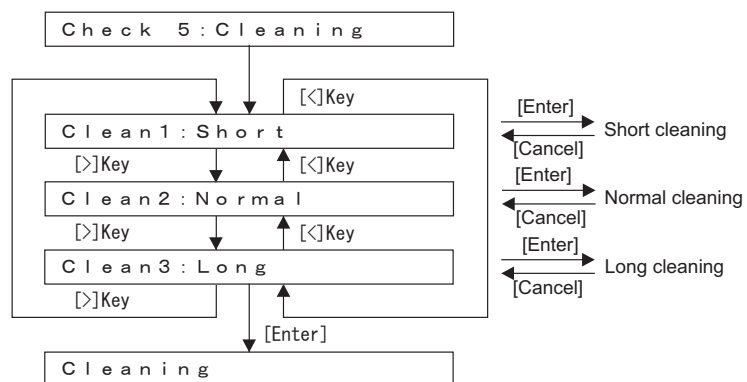
-
- Diagram illustrating the nozzle layout for the 100% Printing area. The layout is a rectangle divided into three horizontal sections:
- Top section (black): Specified color nozzles of both series A and B
 - Middle section (light gray): Nozzles for series B only
 - Bottom section (medium gray): Nozzles for series A only
- Dimensions and orientation:
- Top margin: 5mm
 - Width: 20mm
 - Bottom margin: 5mm
 - Paper feed direction: Indicated by a downward arrow on the right.

5.8 Cleaning Menu

This menu is used to clean Print heads.

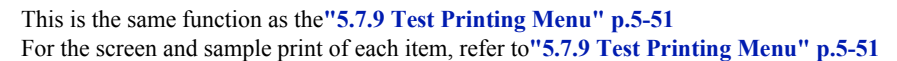
The cleaning menu includes the following diagnosis items.

Diagnosis item	Contents
Short	Performs economy cleaning
Normal	Performs normal cleaning
Long	Performs strong cleaning



This menu is used to print out a sample printing.

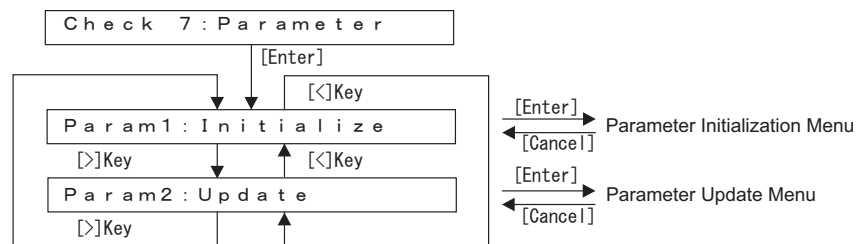
If you have not registered the serial number of the machine, you must enter the number before you can start the Parameter All printing.



5.10 Parameter Menu

This menu is used to set the adjustment parameter and perform initialization.
The parameter menu includes the following items.

Diagnosis item	Contents	Reference
Initialization	Initializes the adjustment parameters.	"5.10.1 Parameter Initialization Menu" p.5-59
Update	Updates the adjustment parameters.	"5.10.2 Parameter Update Menu" p.5-61



NOTE

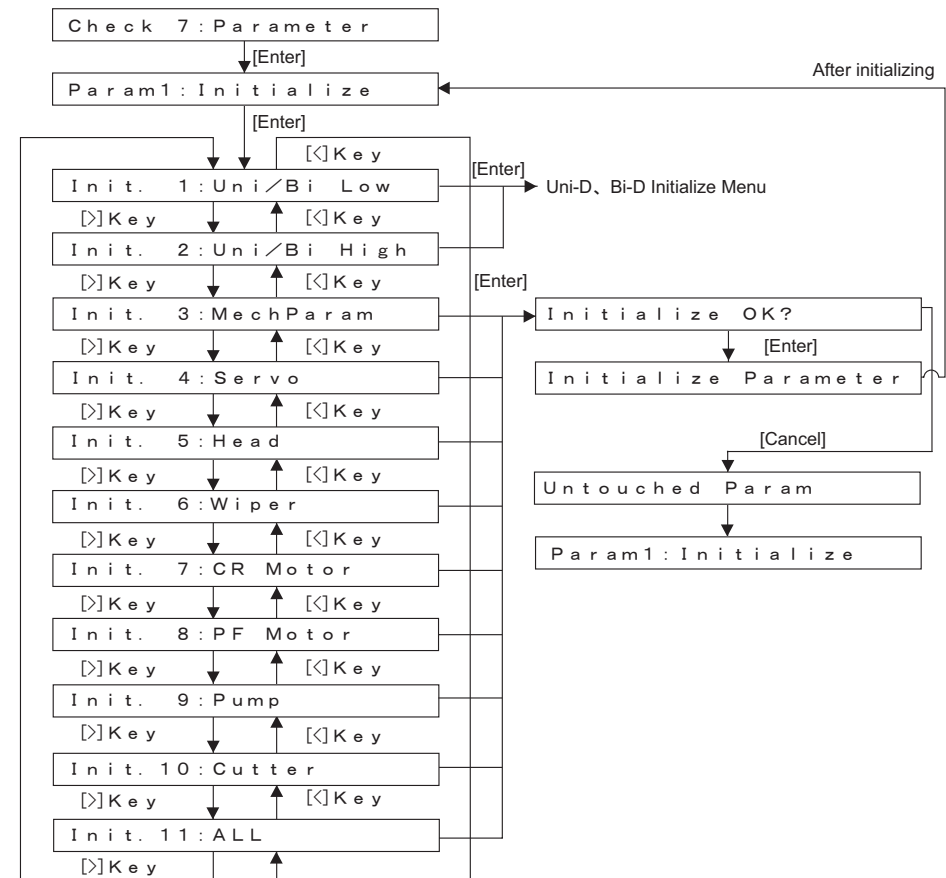
To backup the parameter or recover the backup parameter, start up the printer with “Board Manager Mode” and use the printer with Mutoh Service Assistance installed on, via LAN cable.

["4.3 Working with MUTOH Service Assistance Software" p.4-4](#)

5.10.1 Parameter Initialization Menu

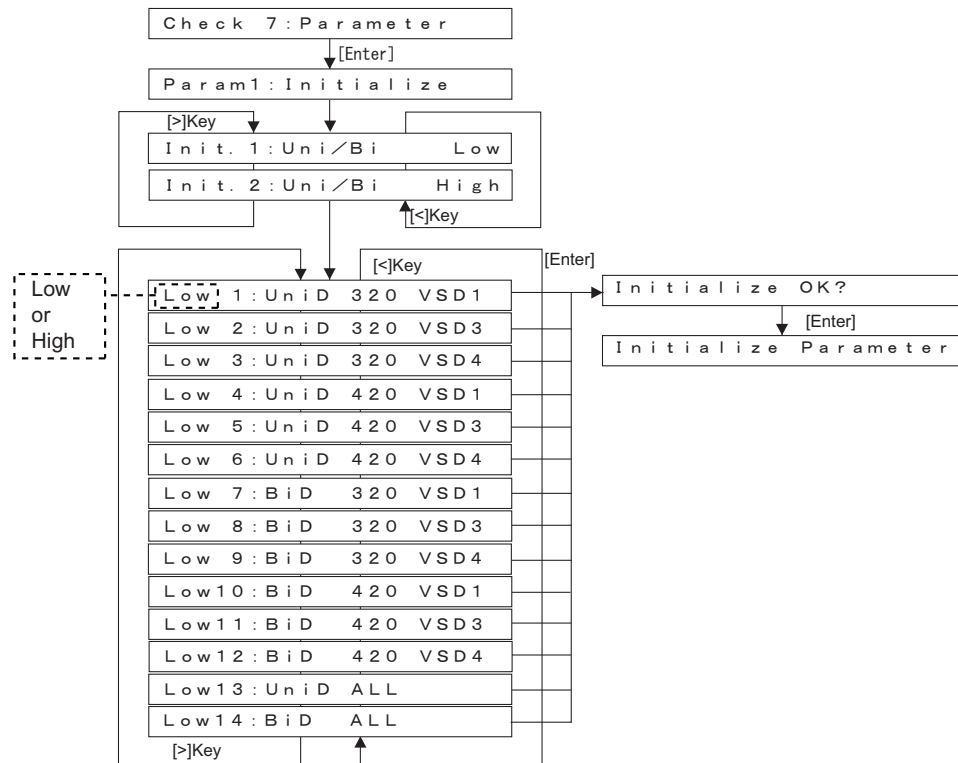
This menu is used to initialize the adjustment parameters. The parameters that can be initialized through this menu are as follows.

- Uni-D/ Bi-D Parameter, Mechanical parameter, Servo, Printhead, Wipae, CR motor, PF motor, Pump, Cutter
- Initialization of all items



(1) Uni-D/Bi-D

This menu is used to perform the initialization of the Uni-D/Bi-D adjustment parameters.



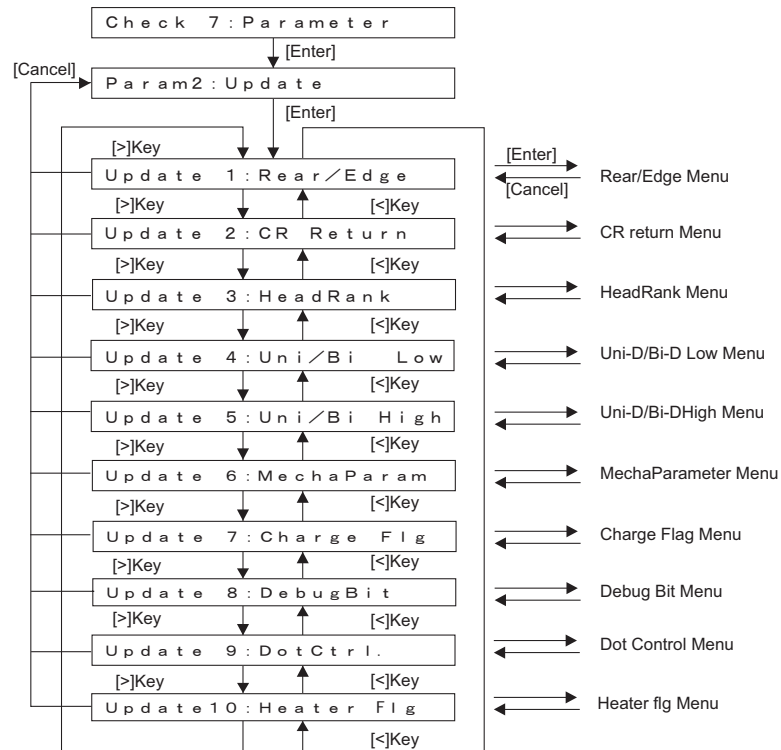
5.10.2 Parameter Update Menu

This menu is used to update the adjustment parameters. The parameters that can be updated through this menu are as follows.

NOTE

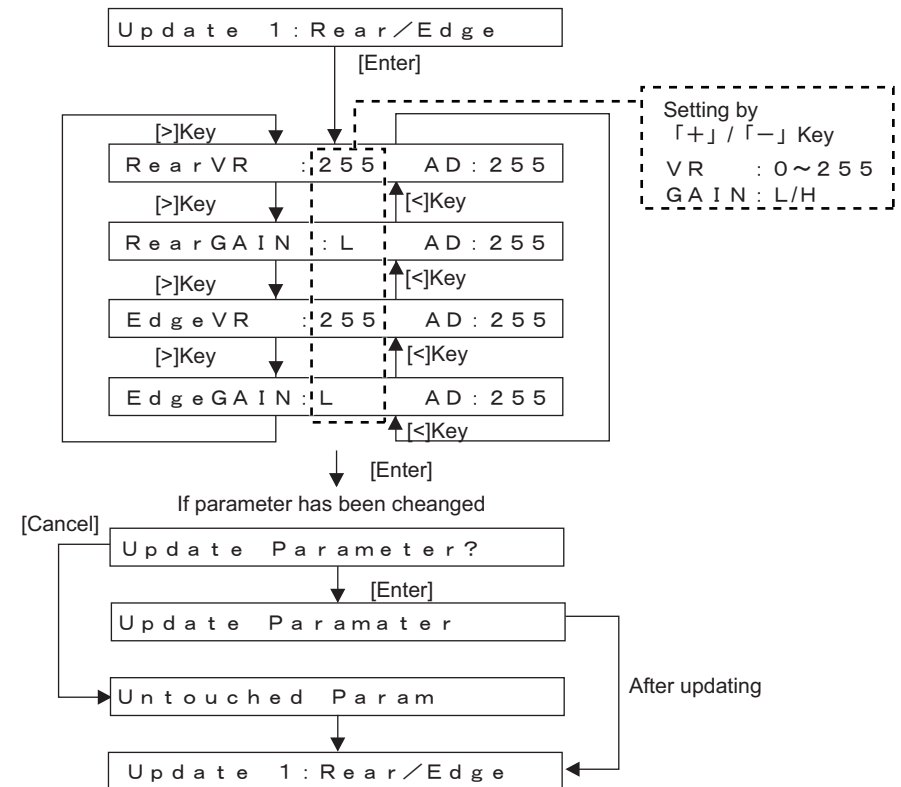
The updated parameters will not be stored in the flash memory unless the system power is turned OFF.

- Rear/Edge sensor
- CR return position
- Head rank
- Uni-D/ Bi-D
- Mechanical parameter
- Charge flag
- DebugBit
- Heater flag
- Dot control



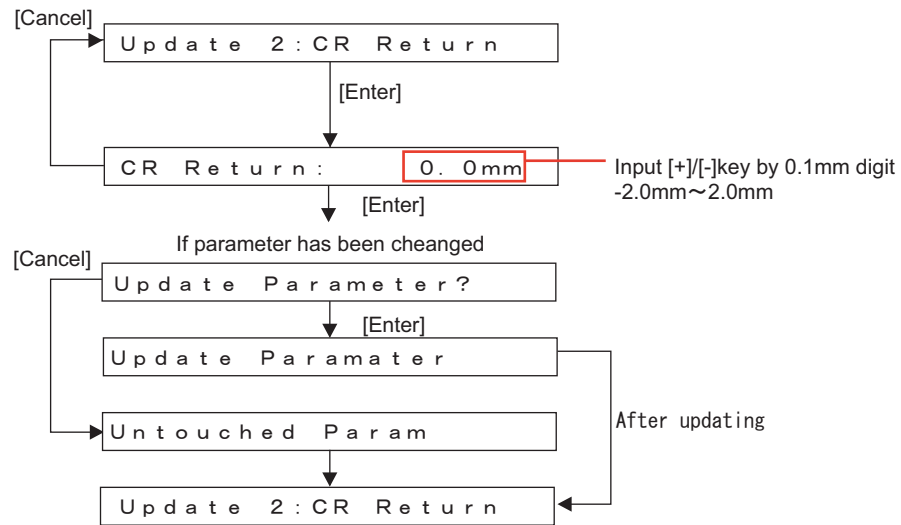
(1) Rear/Edge

Inputting values of Rear/Edge sensor adjusting values.



(2) CR Return

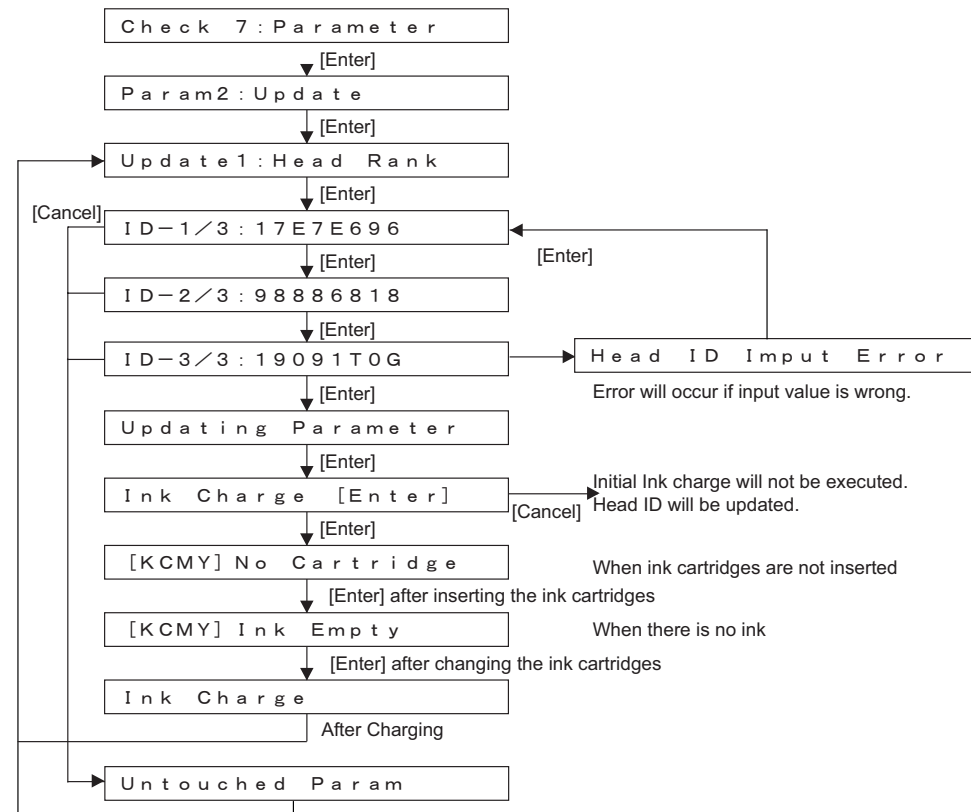
Inputting values of CR return position at origin side when printing.



(3) Head Rank

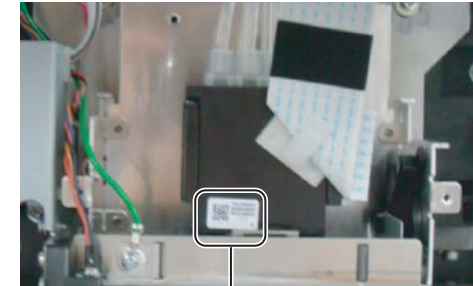
This menu is used to update the head rank parameters.

The head rank is used to determine Print head driving voltage and correct the head temperature. After head rank is entered, the system shifts to the Ink Charge Menu.



NOTE

- When entering the head rank, once the eight-digit number is entered, it will proceed to the next screen.
- The sticker of head rank information is attached to the part shown below.



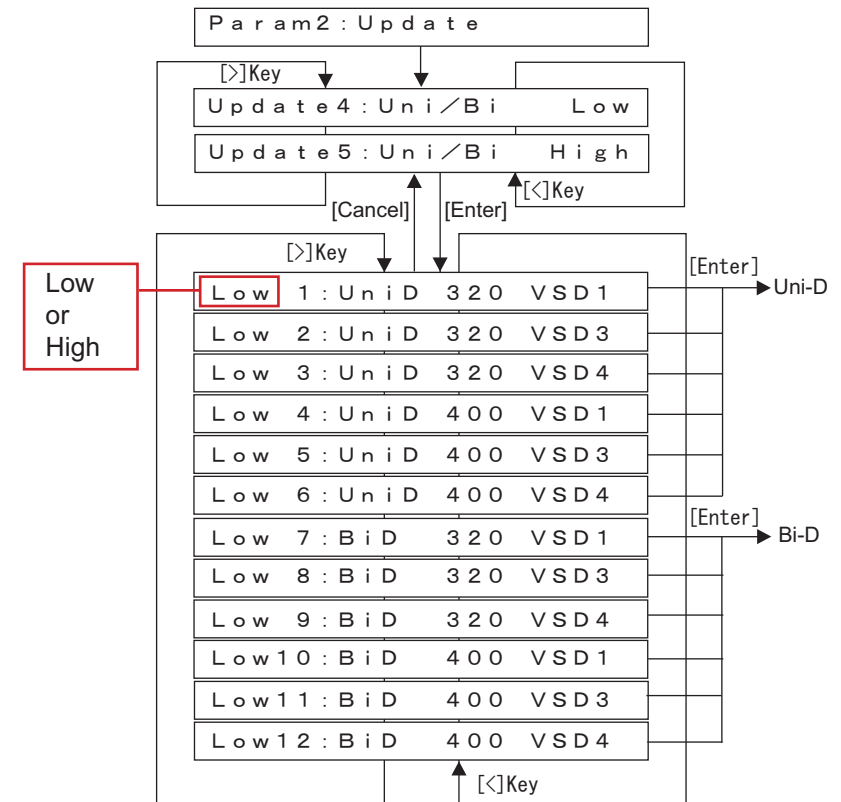
Sticker
(Head Rank prented)

(4) Uni-D/Bi-D

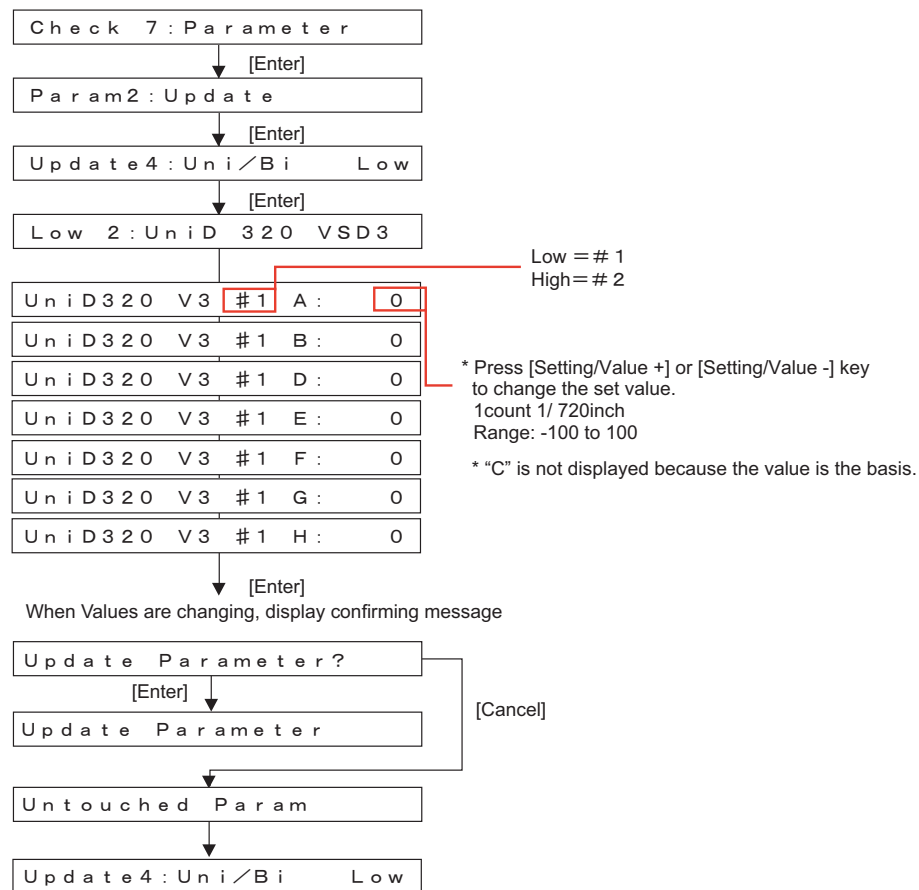
This menu is used to update the Uni-D/Bi-D adjustment parameters.

The setting items for update menu for Uni-D/Bi-D adjustment parameters are as follows

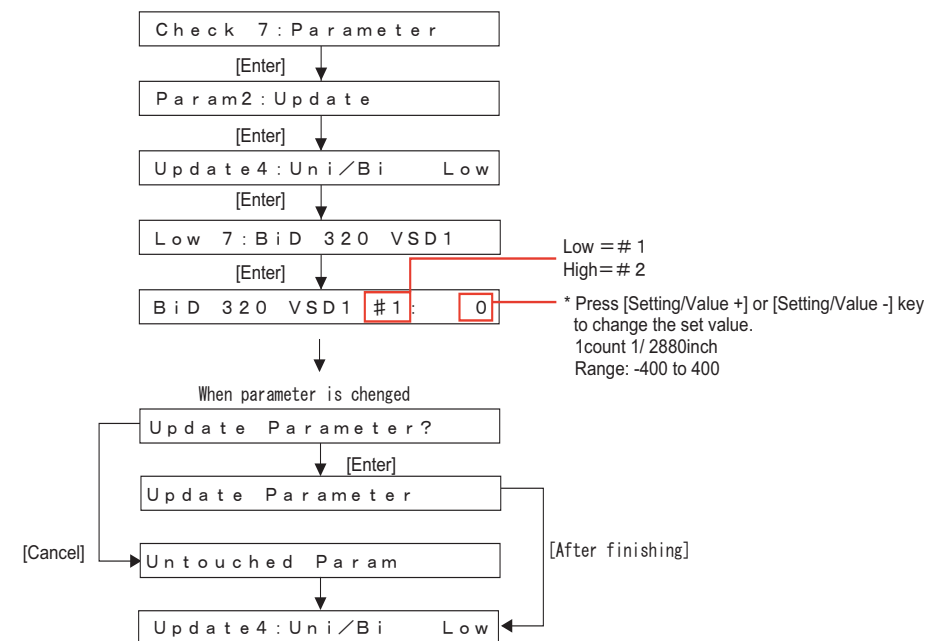
Item	Contents
Uni-D 320 VSD1	Uni-D adjustment PG_Low/High of 320cps and VSD1
Uni-D 320 VSD3	Uni-D adjustment PG_Low/High of 320cps and VSD3
Uni-D 320 VSD4	Uni-D adjustment PG_Low/High of 320cps and VSD4
Uni-D 400 VSD1	Uni-D adjustment PG_Low/High of 400cps and VSD1
Uni-D 400 VSD3	Uni-D adjustment PG_Low/High of 400cps and VSD3
Uni-D 400 VSD4	Uni-D adjustment PG_Low/High of 400cps and VSD4
Bi-D 320 VSD1	Bi-D adjustment PG_Low/High of 320cps and VSD1
Bi-D 320 VSD3	Bi-D adjustment PG_Low/High of 320cps and VSD3
Bi-D 320 VSD4	Bi-D adjustment PG_Low/High of 320cps and VSD4
Bi-D 400 VSD1	Bi-D adjustment PG_Low/High of 400cps and VSD1
Bi-D 400 VSD3	Bi-D adjustment PG_Low/High of 400cps and VSD3
Bi-D 400 VSD4	Bi-D adjustment PG_Low/High of 400cps and VSD4



(The following shows a case when “Uni-D 320 Low VSD3” is selected.)

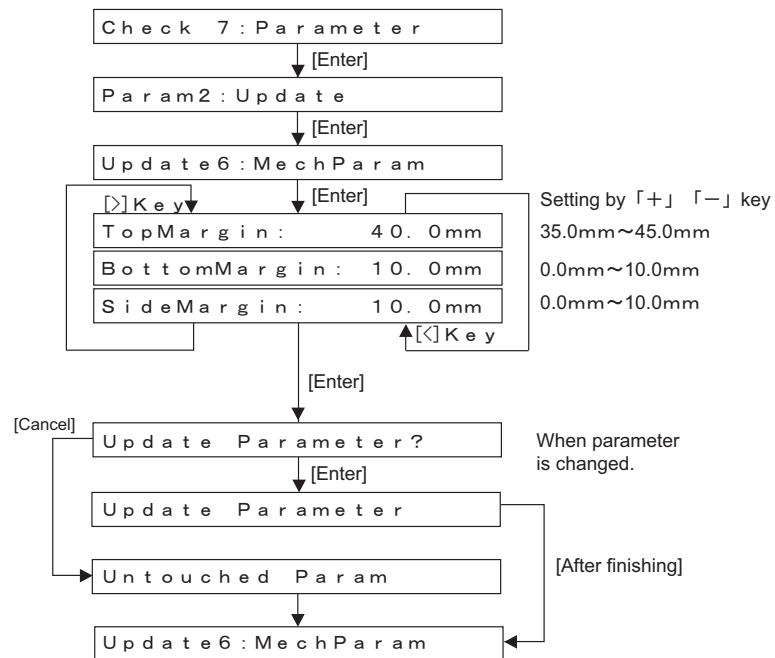


(The following shows a case when “Bi-D 320 Loe VSD1” is selected.)



(5) Mechanical Parameter

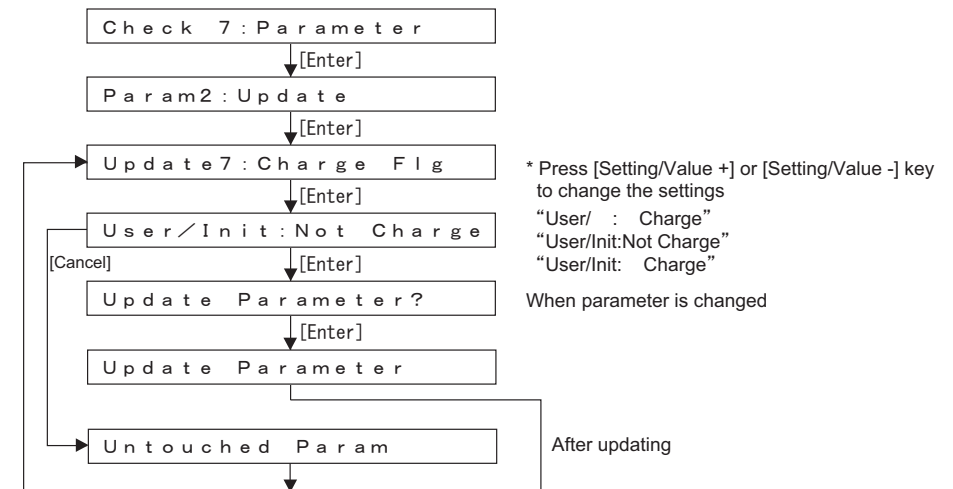
Update the machine position parameters.



(6) Ink filled flag

This menu is used to update the ink parameters. The setting items are as follows.

Item	Initial wash	Initial Charge
User/Init:Not Charge	×	×
User/ : Charge	○	×
User/Init: Charge	○	○



NOTE

Before selecting "Reset", make sure that Ink cartridges are installed.

(7) Debug Bit Update

This menu is used to update the debug bit.
The debug bit is used for testing.

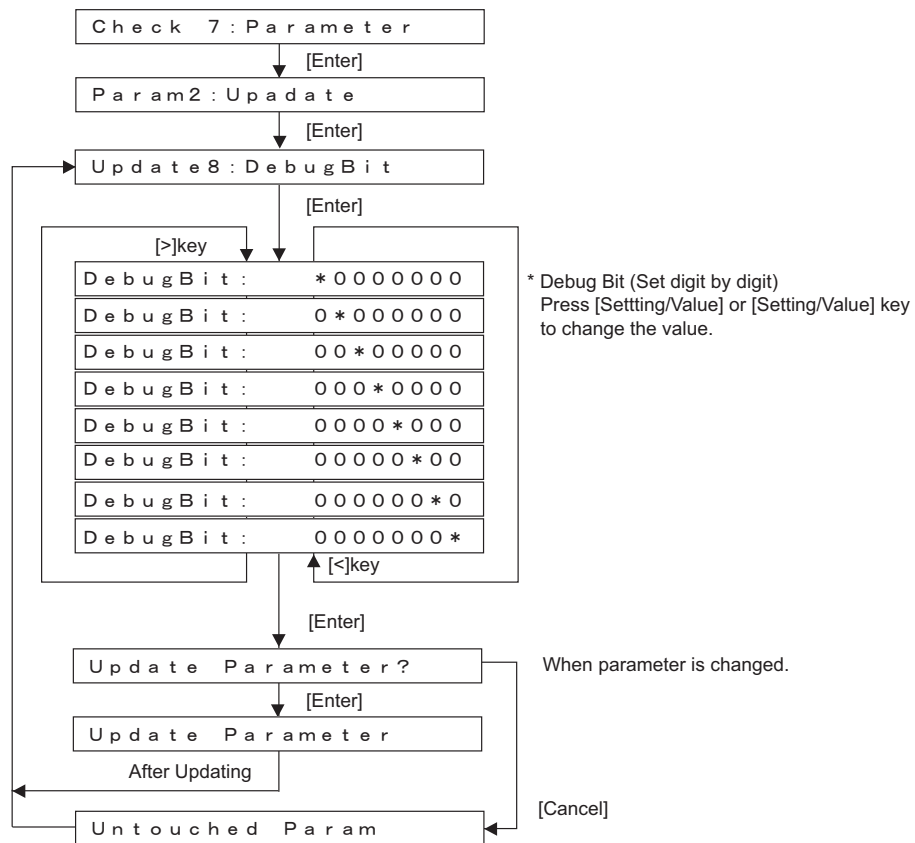
TIP

The debug bit is displayed in binary digits. The setting values and initial values at the time of shipping are as follows:

- At the time of shipping: 00000000
- Initial value: 00000000

NOTE

This menu is not used for maintenance operation.



(8) Dot Control

Setup the waveform and dot size when printing.

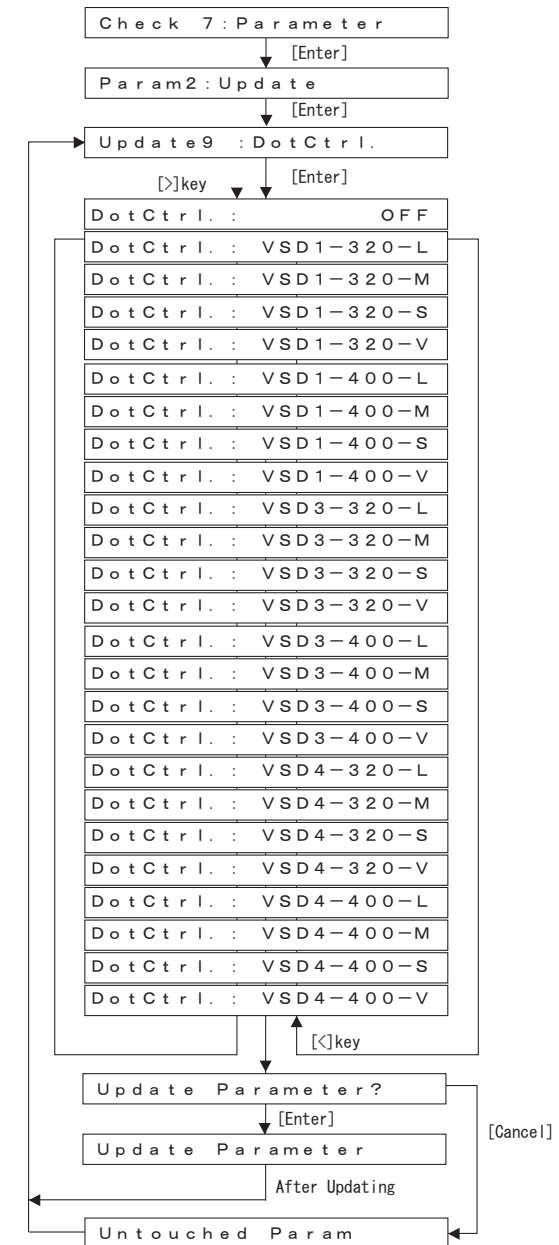
When OFF is set, they are determined automatically to match printing.

NOTE

This menu is not used for maintenance operation.

TIP

- L : Large (1bit / dot)
- M : Middle(1bit / dot)
- S : Small(1bit / dot)
- V : Variable(2bit / dot)

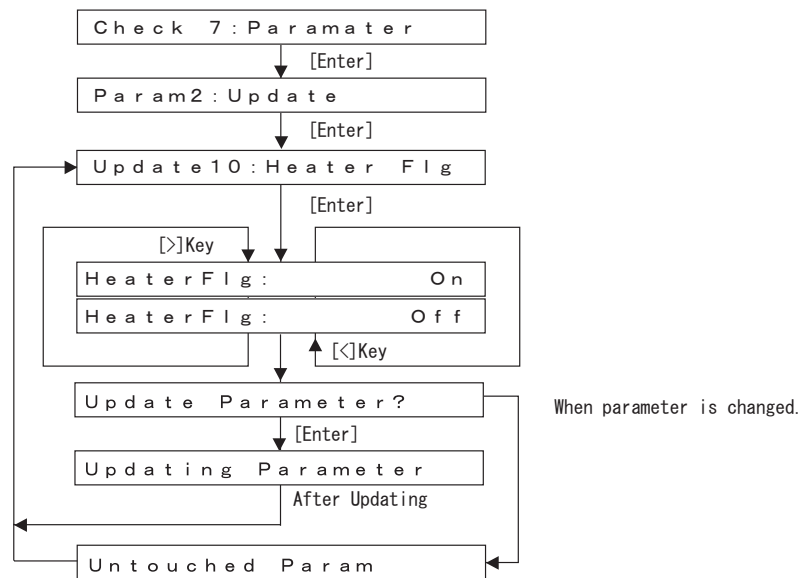


(9) Heater Flag Update

This menu is used to update the heater flag.

NOTE

- When setting the heater flag “Off,” heater warmup is not performed during adjustment printing or waiting.
- Since the setting of the heater flag is not saved, the setting returns to "Flag On" every time the power is turned off.



5.11 Servo Setting Menu

This menu is used to change the servo settings.

NOTE

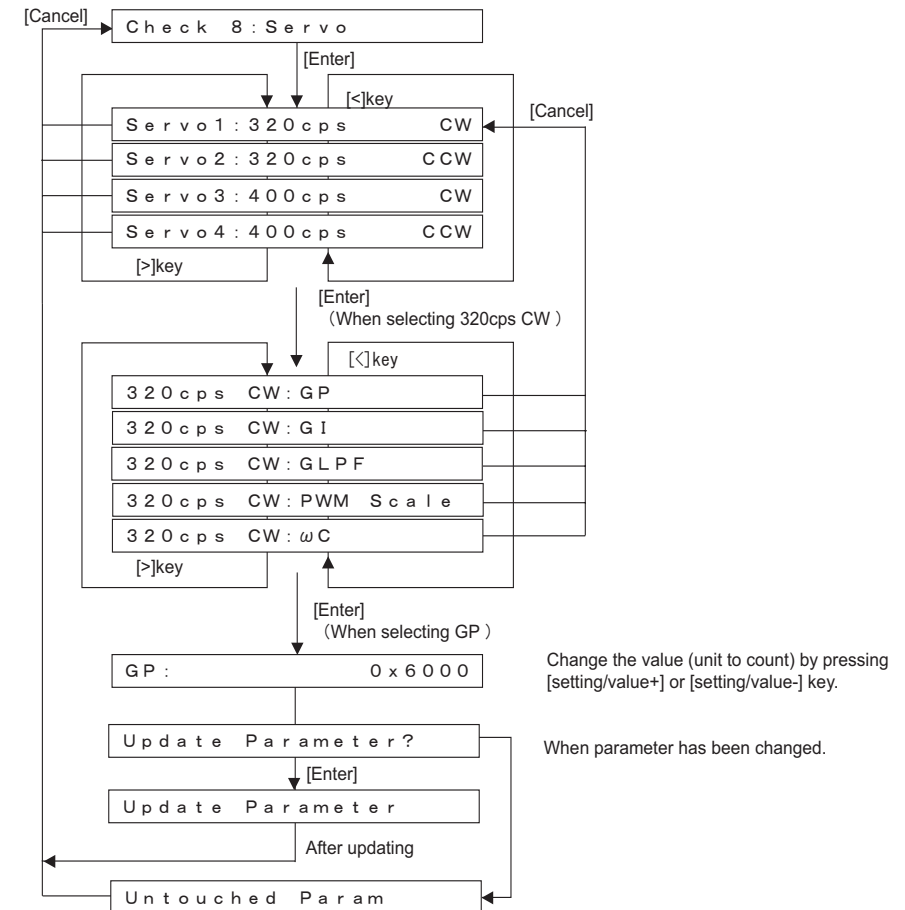
Because this is a menu for evaluating problems of the printer (noise, vibration) and improving the image quality (measures for vertical unevenness), basically do not change these parameters.

The menu items for servo setting are as follows.

Servo setting items	
Items	Contents
320cps CW	Servo setting of CR CW direction 、 320cps
320cps CCW	Servo setting of CR CCW direction 、 320cps
400cps CW	Servo setting of CR CW direction 、 400cps
400cps CCW	Servo setting of CR CCW direction 、 400cps

Servo Adjustment Items	
Items	Contents
Proportional gain	Proportional gain setting
Integral gain	Integral gain setting
Low path filter	Low path filter setting
PWM scale	PWM scale setting
ωC	ωC setting

Initial values of Servo setting Items					
Item	GP	Gi	GLPF	PWM	ωC
320cps CW	0x4800	0x0080	228	13	45
320cps CCW	0x4800	0x0080	228	13	45
400cps CW	0x3000	0x0080	200	13	45
400cps CCW	0x3000	0x0080	200	13	45



Change the value (unit to count) by pressing [setting/value+] or [setting/value-] key.

When parameter has been changed.

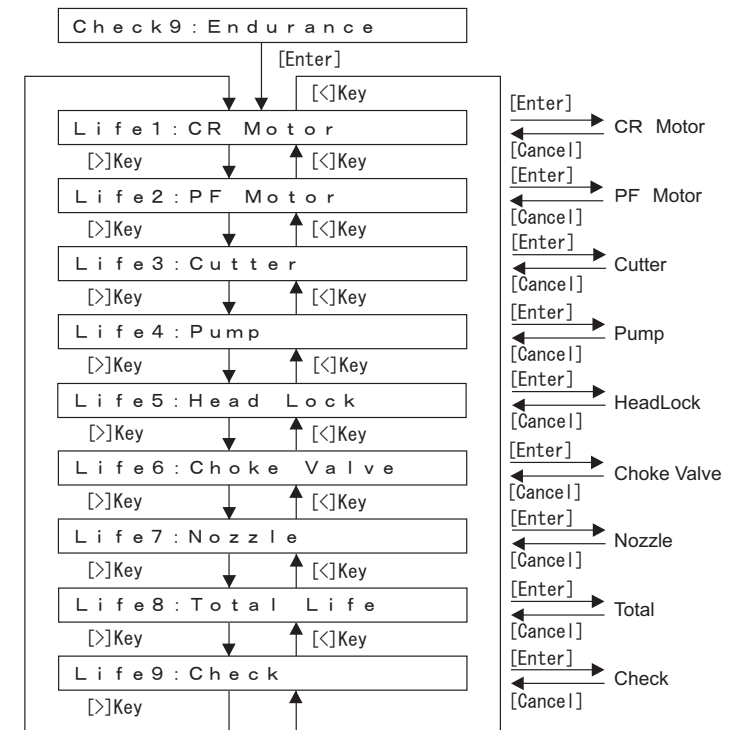
The minimum / maximum / count value for each item is shown below.

Values of Setting Items			
Items	Min.	Max.	Count
GP (Proportional gain)	0x2000	0x7800	0x200
GI (Integral gain)	0x0002	0x0800	1
GLPF (Low-pass filter)	0	255	1
PWM (PWM scale)	10	15	1
ωC (ωC)	30	60	5

5.12 Endurance Running Menu

This menu is used to perform endurance running of printer mechanicals.
The endurance running menu includes the following items.

Diagnosis item	Contents	Reference
CR Motor Assy	Performs carriage stroke to perform the endurance running of CR motor Assy.	"5.12.1 CR Motor Assy Endurance Menu" p.5-72
PF Motor Assy	Performs media feeding operation to perform the endurance running of PF motor Assy.	"5.12.2 PF Motor Assy Endurance Menu" p.5-73
Cutter	Performs cutter driving endurance	"5.12.3 Cutter Endurance Menu" p.5-74
Pump	Performs endurance running of Pump motor Assy.	"5.12.4 Pump Endurance Menu" p.5-75
Choke valve	continuous actions of Open/Close	"5.12.6 Choke Valve Menu" p.5-77
Head lock	Performs endurance running of Carriage lock.	"5.12.5 Head Lock Menu" p.5-76
Nozzle print	Performs sequential printing to perform the endurance running of Print head.	"5.12.7 Print Head Endurance (Nozzle Print) Menu" p.5-78
General endurance	Performs endurance running on CR axis (CR motor Assy, Bearing, Tube, etc) and PF axis (PR motor Assy, etc) simultaneously.	"5.12.8 General Endurance Menu" p.5-79
Confirmation	Confirms the number of endurance running cycles.	"5.12.9 Endurance Running Check Menu" p.5-80



5.12.1 CR Motor Assy Endurance Menu

This menu is used to perform carriage stroke to perform the endurance running of CR motor Assy .
The available settings are shown below.

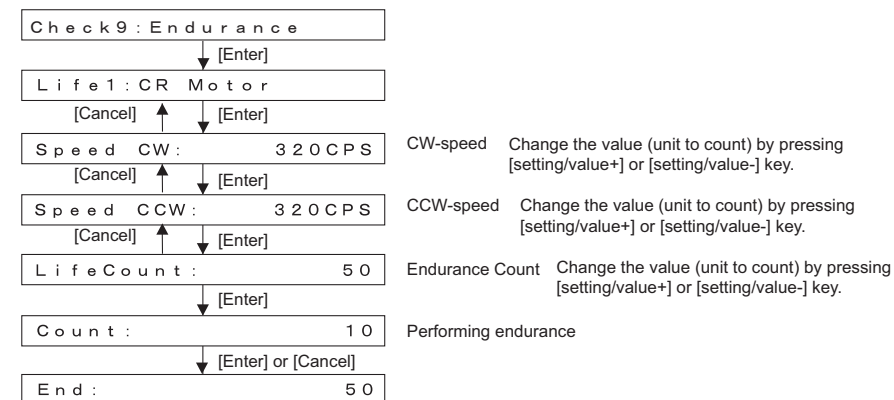
Item	Contents	Values	Remark
Running speed (CW, CCW)	Set Carriage running speed (CW direction, CCW direction).	320、400、420	Unit : cps
Travel distance	Travel distance of Carriage	400 ~ 1541	mm
Number of endurance running cycles	Set the number of endurance running cycles.	- 1 ~ 10000	-

CAUTION

When performing the CR motor Assy endurance running, install Ink cartridges.
If the CR motor Assy endurance running is performed without ink cartridges, ink inside the tube may leak through the ink holder during Carriage movement.

TIP

- If the number of endurance running cycles is set to -1, Carriage continuously repeats endurance running until it is canceled from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



5.12.2 PF Motor Assy Endurance Menu

This menu is used to perform media feeding operation to perform the endurance running of PF motor Assy.

The available settings are shown below.

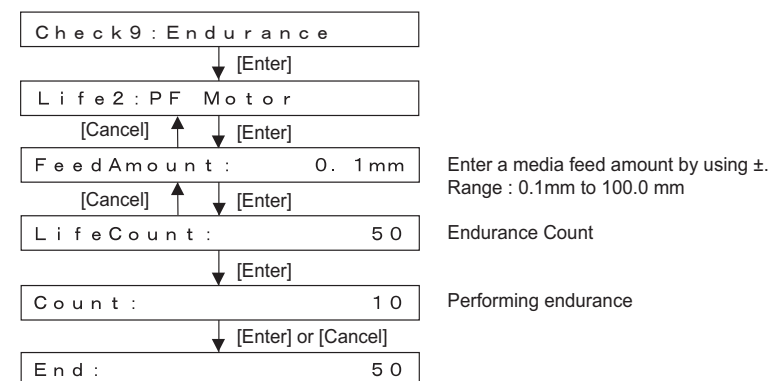
Set item	Contents	Set value	Remark
Media feed amount	Set the media feed amount per endurance running cycle.	0.1 to 100	Unit: mm
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000	-

TIP

- The following table shows the motor transfer parameters to media feed amount.

Speed	35cps
Acceleration	0.1G
Deceleration	0.1G

- If the number of endurance running cycles is set to -1, the PF motor Assy continuously repeats endurance running until cancel input is given from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.

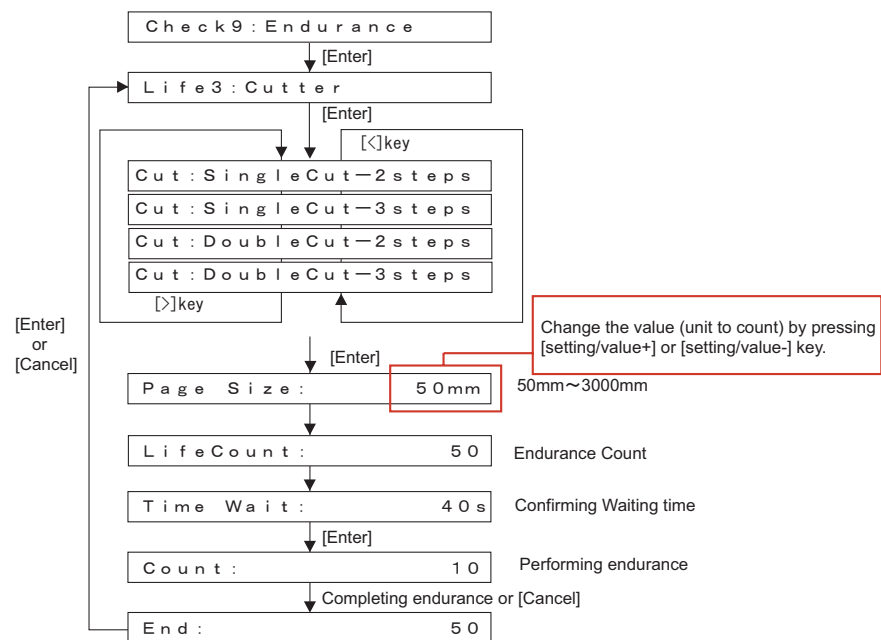


5.12.3 Cutter Endurance Menu

Performs media cutting by the designated cut method for the designated number of times.

TIP

- If the number of endurance running cycles is set to -1, Cutter continuously repeats endurance running until it is canceled from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



5.12.4 Pump Endurance Menu

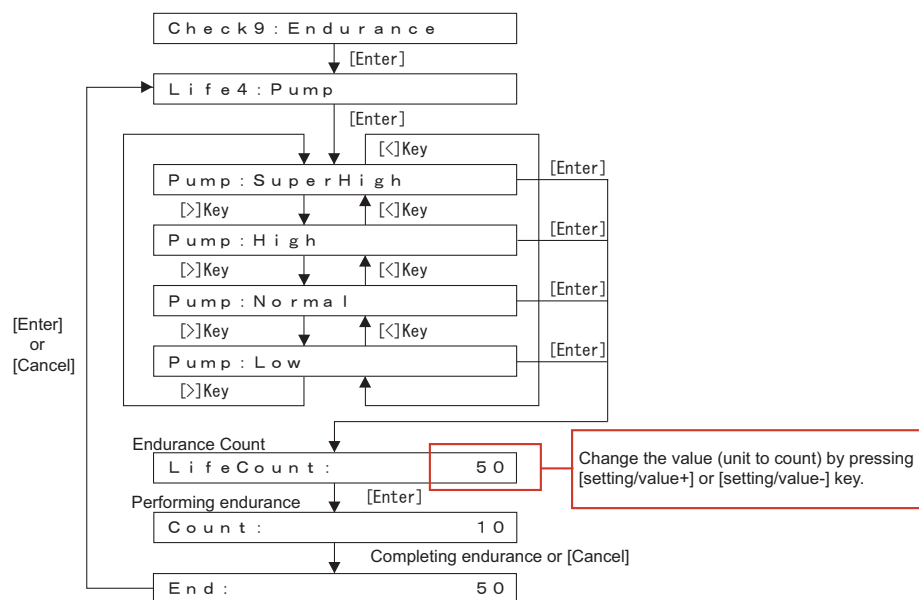
This menu is used to perform endurance running for Pump motor Assy .
You can drive Pump motor Assy according to your desired settings.
The available settings are shown below.

Set item	Contents	Set value
Running speed	Set the running speed of Pump motor Assy .	Super high / High / Normal / Low
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000

TIP

- If the number of endurance running cycles is set to -1, Pump motor Assy continuously repeats endurance running until cancel input is given from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.

1. Pump motor Assy endurance running starts.
2. Pump phase detection is performed.
3. Rotates at the specified suction speed. This rotation is counted as one cycle.
Step 2 above is repeated the number of times specified as follows:
 Super high : 4000 step
 High : 3000 step
 Normal : 2000 step
 Low : 1000 step
4. Pump release is performed.
5. Pump motor Assy endurance running ends.



Pump motor Assy endurance running sequence is as follows.

5.12.5 Head Lock Menu

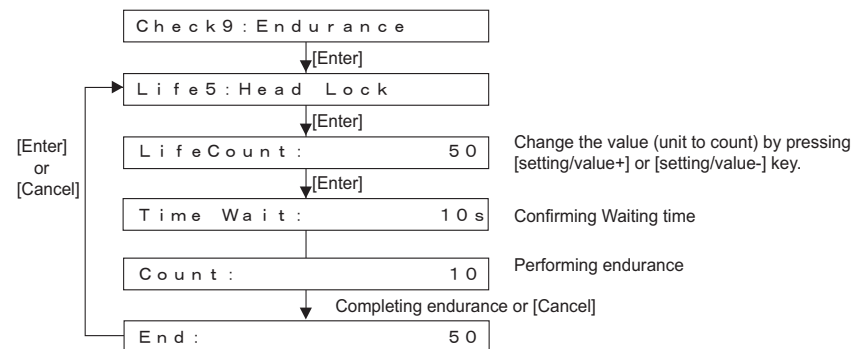
This menu is used to perform endurance running of Carriage lock.

The available settings are shown below.

Set item	Contents	Set value	Remark
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000	-

TIP

- If the number of endurance running cycles is set to -1, Carriage rock continuously repeats endurance running until cancel input is given from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



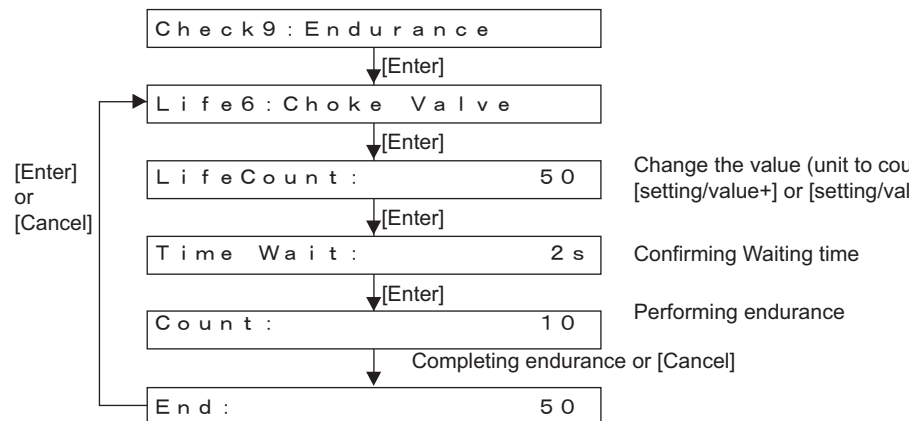
5.12.6 Choke Valve Menu

This menu is used to perform endurance running of Choke Valve.
The available settings are shown below.

Set item	Contents	Set value	Remark
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000	-

TIP

- If the number of endurance running cycles is set to -1, Carriage rock continuously repeats endurance running until cancel input is given from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



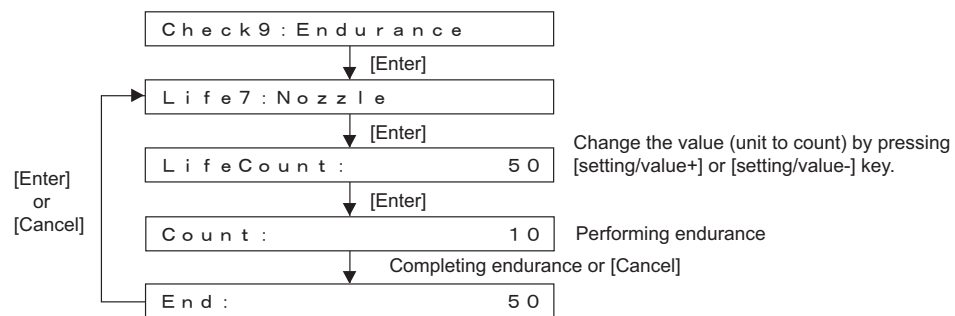
5.12.7 Print Head Endurance (Nozzle Print) Menu

This menu is used to perform sequential printing to perform the endurance running of Print head.
The available settings are shown below.

Set item	Contents	Set value	Remark
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000	-

TIP

- If the number of endurance running cycles is set to -1, Carriage rock continuously repeats endurance running until cancel input is given from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



5.12.8 General Endurance Menu

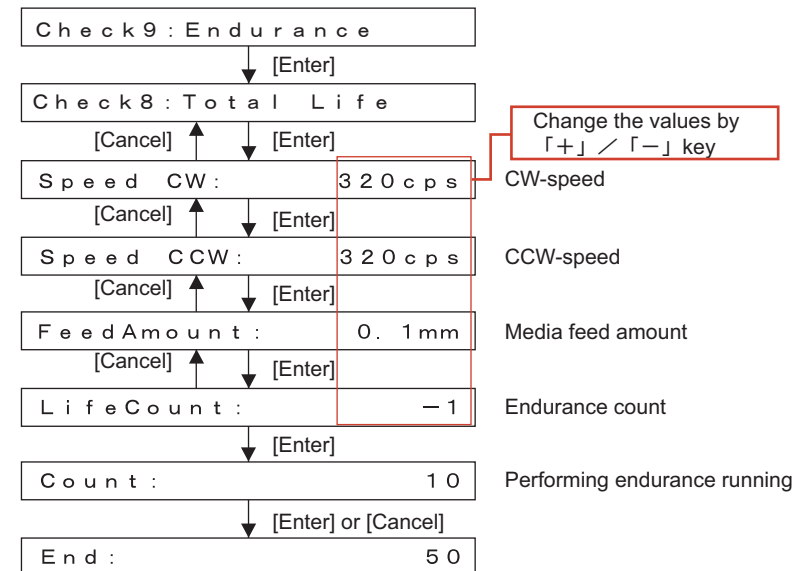
This menu is used to perform endurance running on the CR line (CR motor Assy , Bearing, Tube, etc) and PF line (PR motor Assy , etc) simultaneously.

The available settings are shown below.

Set item	Contents	Set value	Remark
Running speed (CW, CCW)	Set Carriage running speed (CW direction, CCW direction).	320、400、420	Unit : cps
Media feed amount	Set the media feed amount per endurance running cycle.	0.1 to 100	Unit: mm
Number of endurance running cycles	Set the number of endurance running cycles.	-1 to 10000	-

TIP

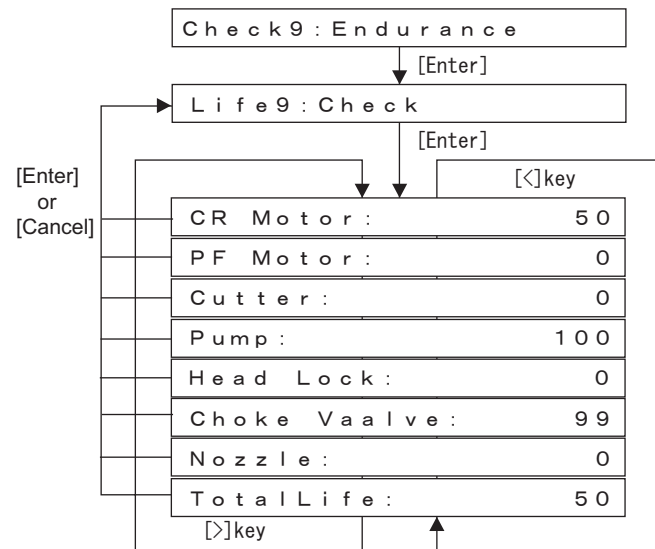
- In the general endurance menu, the following operations are performed as one cycle of endurance running:
The counter indicates above-mentioned set number, and the count number counts the same value as the only CR motor assembly endurance, etc.
 - Carriage stroking: 1 stroke
 - Media feed: 1 cycle
- If the number of endurance running cycles is set to -1, Carriage continuously repeats stroking until it is canceled from Operation panel.
- The maximum counter value for endurance running cycles is 99999999 (up to 8-digit number). If the number of cycles exceeds the maximum value, the counter displays 99999999.



5.12.9 Endurance Running Check Menu

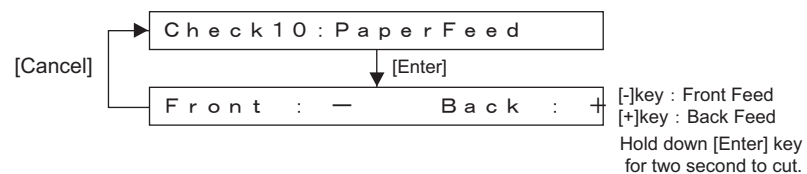
This menu is used to confirm the number of endurance running cycles.

The number of endurance running cycles is stored in NVRAM in the system. Therefore, even if a serious error occurs during endurance running, you can confirm the number of the performed cycles just before the occurrence of the serious error.



5.13 Media Feed Menu

This menu is used to feed media into the printer frontward or backward.
The mechanical initialization should be done if it is not performed yet.
Hold down a[Enter] key for two second to cut media.



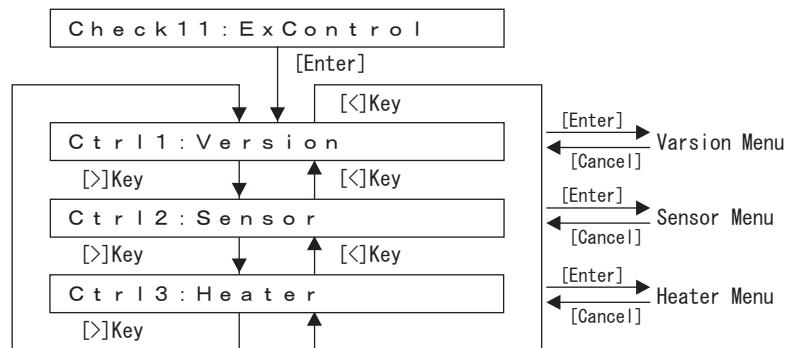
TIP

This is the same function as the "[6.3.4 Paper Feed Menu](#)" p.6-13

5.14 ExControl Menu

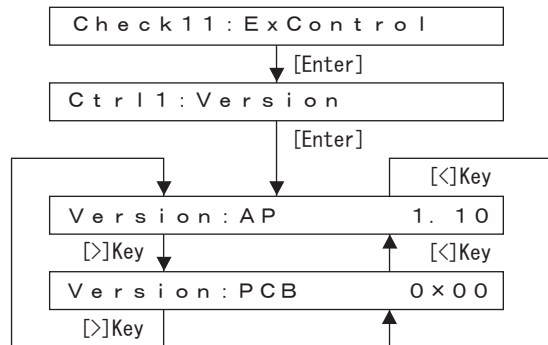
This menu is used to diagnose the following items on HEATER CONT board Assy .

Items	Contents	Items
Version	Firm、 Board Rev.	
Sensors	Pre-Heater thermistor,Platen Heater thermistor1/2、 After Heater Thermistor 1/2	
Heater	Pre-Heater,Platen Heater,After Heater,ALL	



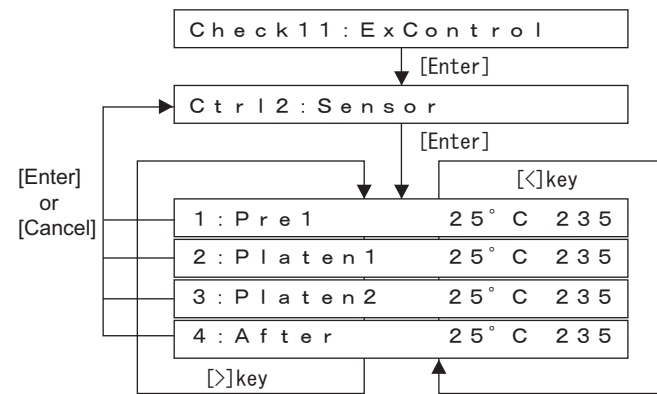
5.14.1 Version Menu

This menu is used to check the firmware version of the controller side, and the version of Controller board. The firmware version (AP version) is displayed as “XX.XX”. The controller board version is displayed in hex format (2 digits).



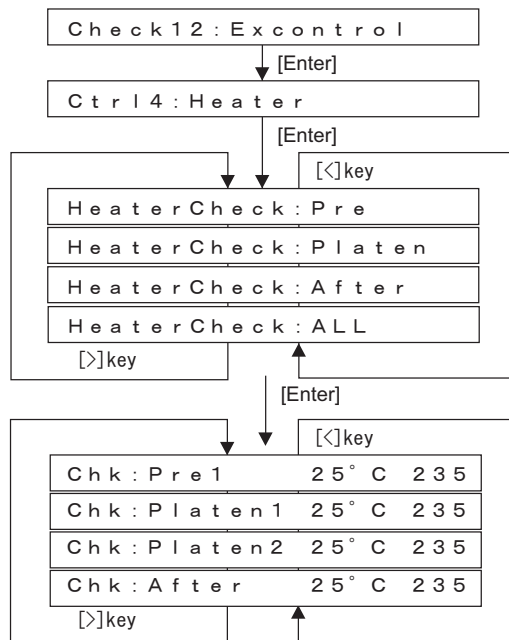
5.14.2 Sensor Menu

This menu is used to display the status of the following sensors on Controller board.



5.14.3 Heater Menu

This menu is used to check if Pre heater, Platen heater, Drier, and Air heater correctly operate.
 When selecting Pre, Platen, After, or ALL (Pre, Platen, and Driers are controlled simultaneously), the heater temperature is controlled with the target temperature of 50°C.
 When selecting Air heater, the heater temperature is controlled with the target temperature of 190°C.
 This will continue till [Cancel] is clicked or six minutes after its start.
 When the temperature reaches the target, the temperature will be maintained.



5.15 PaperInitial Menu

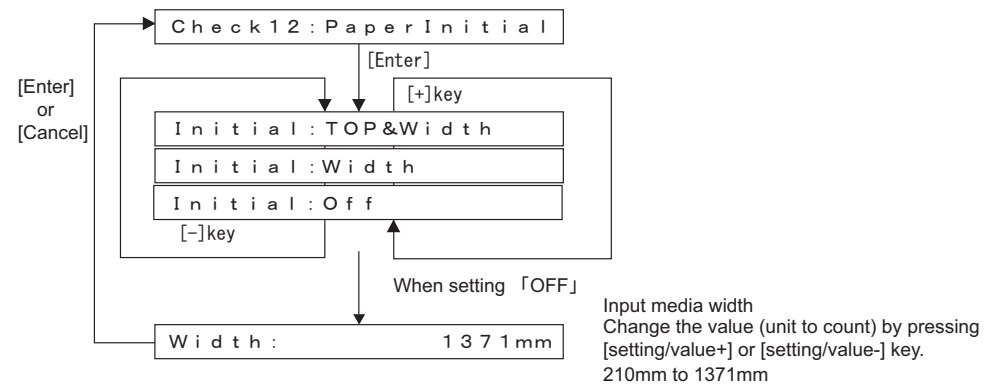
This menu is used to set the media detection.

The default value is the same as that of the normal operation mode (chart mode).

Select either Top & Width, Width, or Off. When Off is selected, you can set the media width in the media width setting menu.

The available settings are shown below.

Items	Contents
Top & Width	Normal media detection mode
Width	Detects media width.
Off	Does not detect media.



6 Maintenance Mode 2

6.1	Introduction	6- 2
6.2	Operations in Maintenance Mode 2	6- 2
6.2.1	Starting Up the Maintenance Mode 2.....	6-2
6.2.2	Operating Maintenance Mode 2.....	6-3
6.3	Maintenance Mode 2 Menu	6- 4
6.3.1	Counter Indication Menu	6-5
6.3.2	Counter Initialization Menu.....	6-11
6.3.3	Counter Print Menu	6-12
6.3.4	Paper Feed Menu	6-13

6.1 Introduction

This chapter provides information on the maintenance mode 2.

The maintenance mode 2 provides the user with functions of displaying and initializing the life counters. It is used in the manufacturing process, adjustment, and maintenance.

The maintenance mode 2 is implemented in the system firmware. All functions are available from the operation panel.

 **"8.3.2 Switching Operating Status" p.8-8**

TIP

This manual is made based on firmware Ver.1.00.

6.2 Operations in Maintenance Mode 2

This section explains how to start up and operate the maintenance mode 2 as well as provides the list of available diagnosis items.

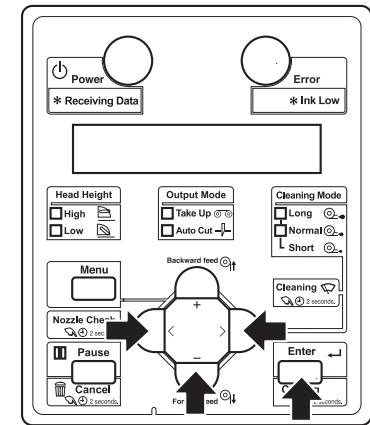
6.2.1 Starting Up the Maintenance Mode 2

Before using the maintenance mode 2, make sure that the maintenance menu is displayed on Operation panel.

To run the maintenance menu, switch the display to the normal operation status or setup menu display

1. If the system is in the operation mode or the setup menu mode, press the [Power] key to turn the power off.
2. While holding down [<] key, [Setting/Value-] key and [>] key on Operation panel simultaneously, press [Power] key.

The operation panel displays the maintenance mode 2 menu.



6.2.2 Operating Maintenance Mode 2

Before using the maintenance mode 2, make sure that the maintenance menu is displayed on Operation panel.

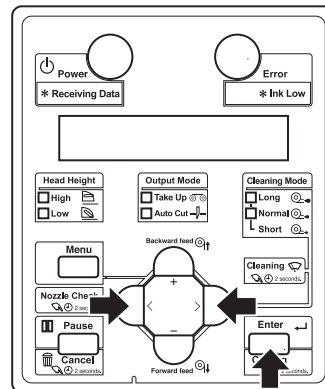
To run the maintenance menu, switch the display to the normal operation status or setup menu display status.

TIP

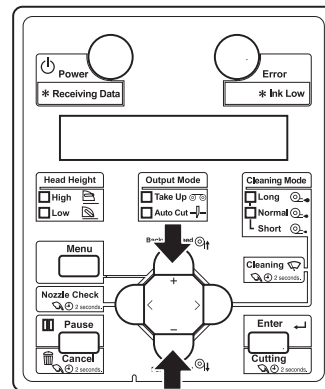
For details of operating procedure, refer to the flow chart of each diagnosis item.

1. Press either [<] or [>] of Operation panel to select the item to be diagnosed, and press [Enter] key.

- Determine the diagnosis item
- When the diagnosis item has a submenu, shift to the next hierarchy of menus.



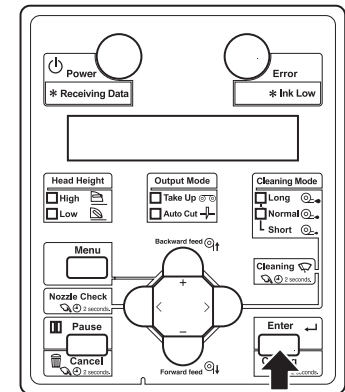
2. If the set value is displayed on the LCD of Operation panel, the value can be changed. Press either [Setting/value +] or [Setting/value -] to change the value.



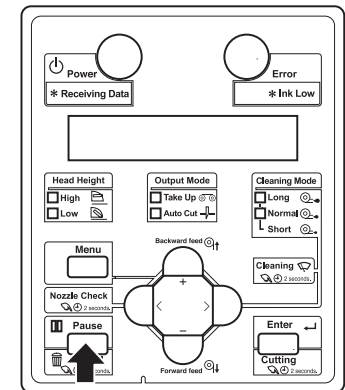
3. To save the changed setting, press [Enter] key on Operation panel.
*The setting is saved and the next diagnosis item is displayed.

NOTE

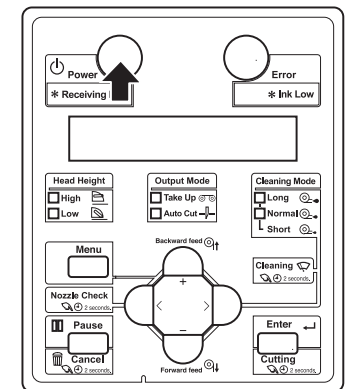
If you press [Cancel] key, or, [Setting/value +] key or [Setting/value -] key, instead of [Enter] key, the modification is not stored.



4. To quit diagnosis, press [Cancel] key on Operation panel.
*The system returns to an upper hierarchy of the diagnosis menu.



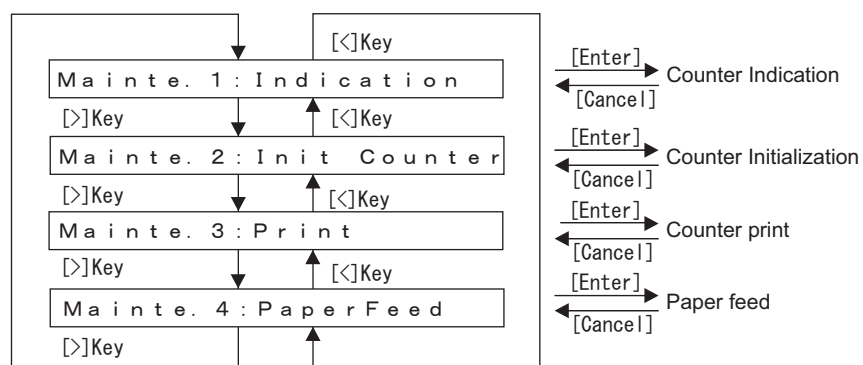
5. When quitting Self-diagnosis menu, press [Power] key.



6.3 Maintenance Mode 2 Menu

The maintenance mode 2 menu includes the following diagnosis items.

Diagnosis item	Contents	Reference
Indication	Displays the life counter.	 "6.3.1 Counter Indication Menu" p.6-5
Init Counter	Initializes the life counter.	 "6.3.2 Counter Initialization Menu" p.6-11
Print	Prints the life counter.	 "6.3.3 Counter Print Menu" p.6-12
MediaFeed	Feeds media into the printer frontward or backward.	 "6.3.4 Paper Feed Menu" p.6-13

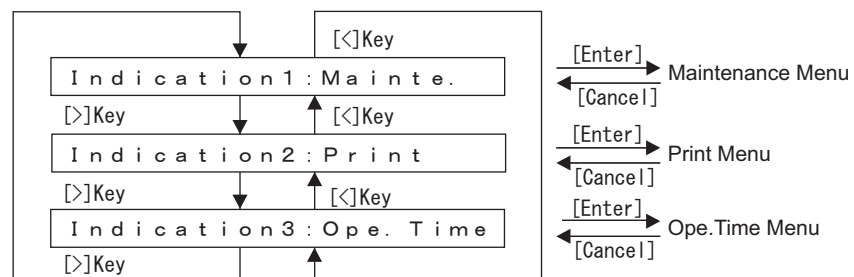


6.3.1 Counter Indication Menu

This menu is used to display the life counters.

It consists of the following diagnosis items.

Diagnosis item	Contents	Reference
Mainte.	Print Number,CR Motor,PF Motor,Pump,Head,Cleaning,Wiper,CutNumber,CutNumberSol,UnlockPos.	☞ "6.3.1 Counter Indication Menu" p.6-5
Print	Num,Area,Effect	☞ "6.3.2 Counter Initialization Menu" p.6-11
Ope.Time	Operation Time each Mode Normal Diag Mainte	☞ "6.3.3 Counter Print Menu" p.6-12



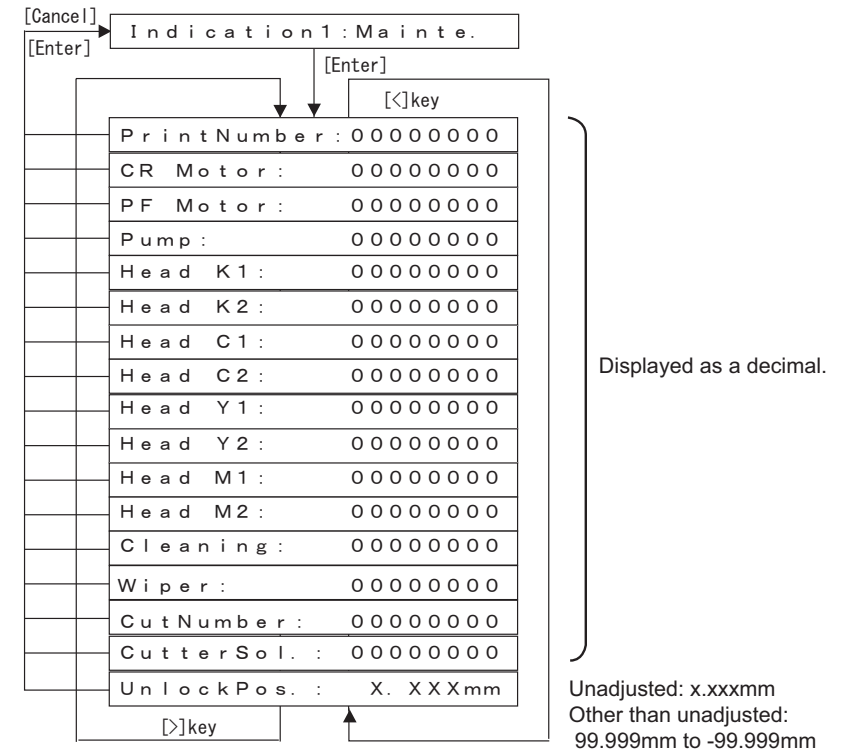
(1) Maintenance Menu

This menu is used to display the life counters.

NOTE

- CR motor is counted every time Head shifts either left to right or right to left.
- CR motor is counted every time the print head moves sideways (left to right, right to left).
- Number of Pump wheel rotations: The conversion of the number of Pump wheel rotations from the number of Wiper motor driving steps is as follows:
1 rotation of Pump wheel = 330 steps (2-phase excitation conversion)

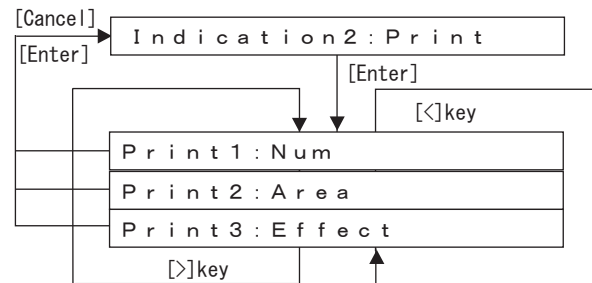
Diagnosis item	Contents	Unit
PrintNumber	Displays the total number of printed copies.	copy
CR Motor	Displays the life counter of CR motor.	scanning count
PF Motor	Displays the life counter of PF motor.	10m
Pump	Displays the life counter of Pump unit.	Number of rotation
HeadK1、K2	Displays the life counter of Head unit (K).	Number of the average discharge shot per nozzle (Mega shot)
HeadC1、C2	Displays the life counter of Head unit (C).	
HeadY1、Y2	Displays the life counter of Head unit (Y).	
HeadM1、M2	Displays the life counter of Head unit (M).	
Cleaening	Displays the life counter of Cleaning unit.	Number of cleanings
Wiper	Displays the life counter of Wiper.	Number of wiping
CutNumber	Displays the life counter of Cutter.	Number of cutting
CutteSol.	Displays the life counter of Solenoid.	Number of Solenoid downing
UnlockPos.	Displays the position of Unlocking the Head lock..	0.001 mm



(2) Print Menu

Confirming printing information.

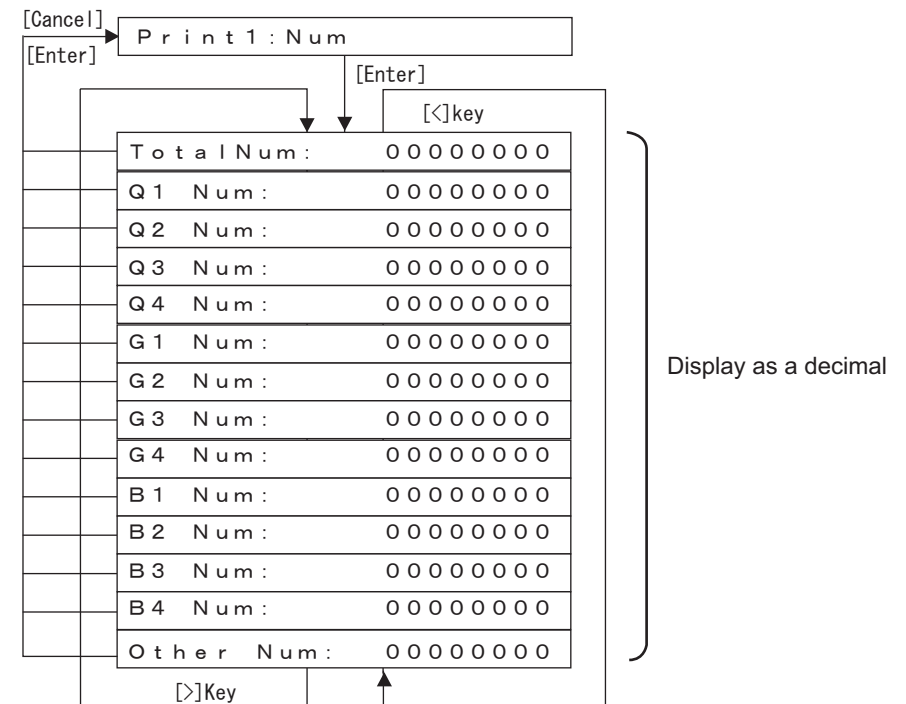
Diagnosis item	Contents
Num	Displays the counter value of the number of printed copies per mode
Area	Displays the counter value of the print area per mode
Effect	Number of the printed copies per effect



(2-a) Num

Check the number of printed copies per print mode. (Excluding the inner patterns.)

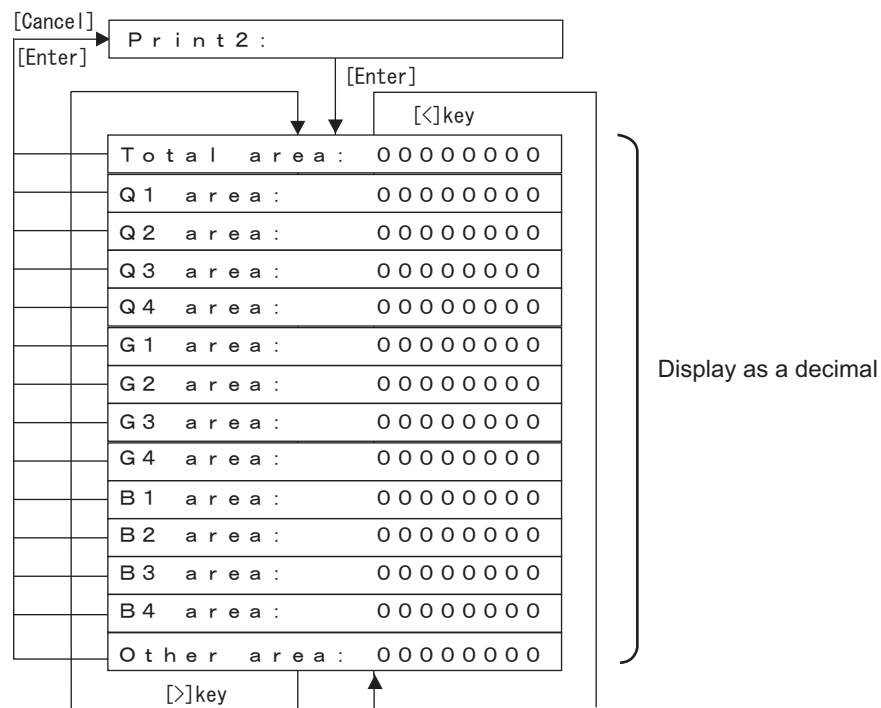
Diagnosis item	Contents	Unit
Total Num	Displays the counter value of the total number of printed copies of all modes	Copies
QX Num	Displays the counter value of the number of printed copies of Quality 1 to 4	Copies
GX Num	Displays the counter value of the number of printed copies of Graphics1 to 4	Copies
BX Num	Displays the counter value of the number of printed copies of Banner 1 to 4	Copies
Other Num	Displays other counter values of the number of printed copies	Copies



(2-b)Area

Check the print area per print mode. (Excluding the inner patterns.)

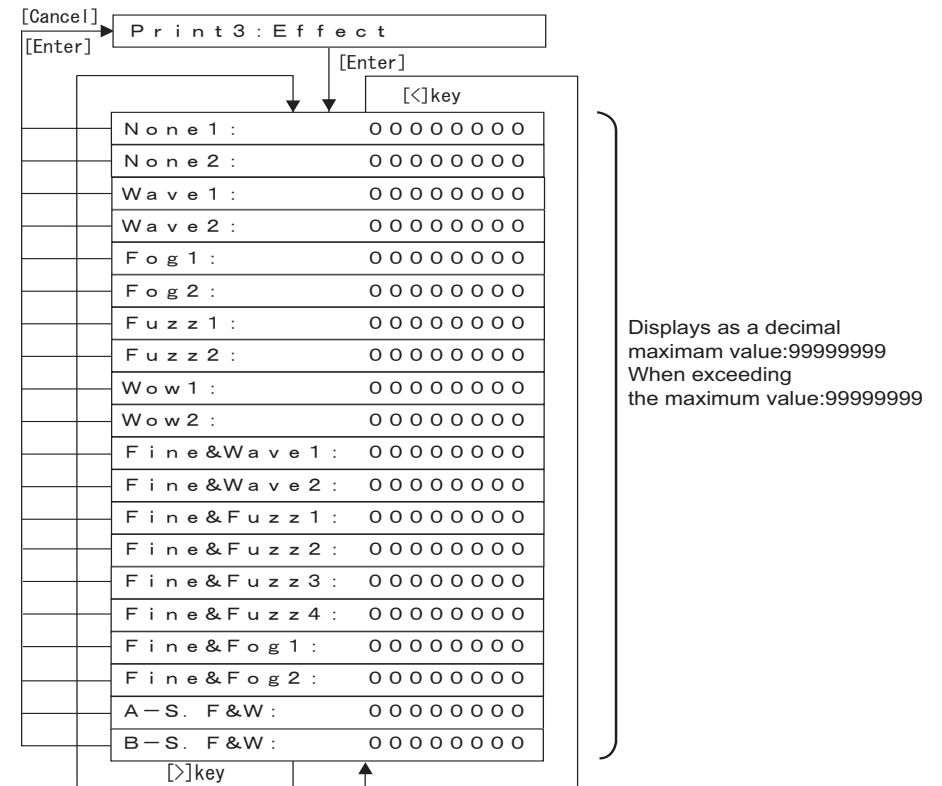
Diagnosis item	Contents	Unit
Total area	Displays the counter value of the total print area of all modes	m ²
QX area	Displays the counter value of the print area of Quality 1 to 4	m ²
GX area	Displays the counter value of the print area of Graphics 1 to 4	m ²
BX area	Displays the counter value of the print area of Banner 1 to 4	m ²
Other area	Displays other counter values of the print area	m ²



(2-c)Effect

Check the number of the printed copies per effect. (Excluding the inner patterns.)

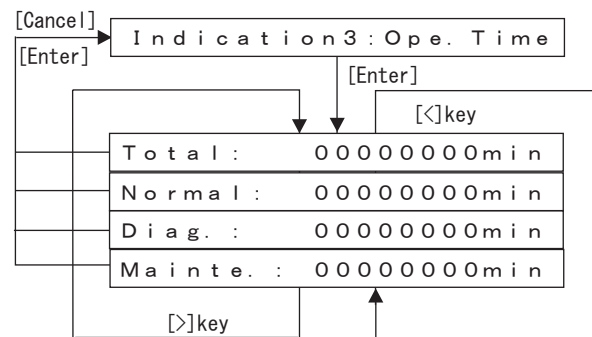
Diagnosis item	Contents	Unit
None 1	Number of printings in None1	copies
None2	Number of printings in None2	
Wave1	Number of printings in Wave1	
Wave2	Number of printings in Wave2	
Fog1	Number of printings in Fog1	
Fog2	Number of printings in Fog2	
Fuzz1	Number of printings in Fuzz1	
Fuzz2	Number of printings in Fuzz2	
Wow1	Number of printings in Wow1	
Wow2	Number of printings in Wow2	
Fine&Wave1	Number of printings in Fine&Wave1	
Fine&Wavw2	Number of printings in Fine&Wave2	
Fine&Fuzz1	Number of printings in Fine&Fuzz1	
Fine&Fuzz2	Number of printings in Fine&Fuzz2	
Fine&Fuzz3	Number of printings in Fine&Fuzz3	
Fine&Fuzz4	Number of printings in Fine&Fuzz4	
Fine&Fog1	Number of printings in Fine&Fog1	
Fine&Fog2	Number of printings in Fine&Fog2	
A-S.F&W	Number of printings in A-S.F&W	
B-S.F&W	Number of printings in B-S.F&W	



(3) Ope.Time

Confirming Operation time.

Diagnosis item	Contents	Unit
Total	Operation time of All modes.	minutes
Normal	Operation time of User mode.	
Diag.	Operation time of Self Diagnostic mode.	
Mainte.	Operation time of Maintenance mode 2.	

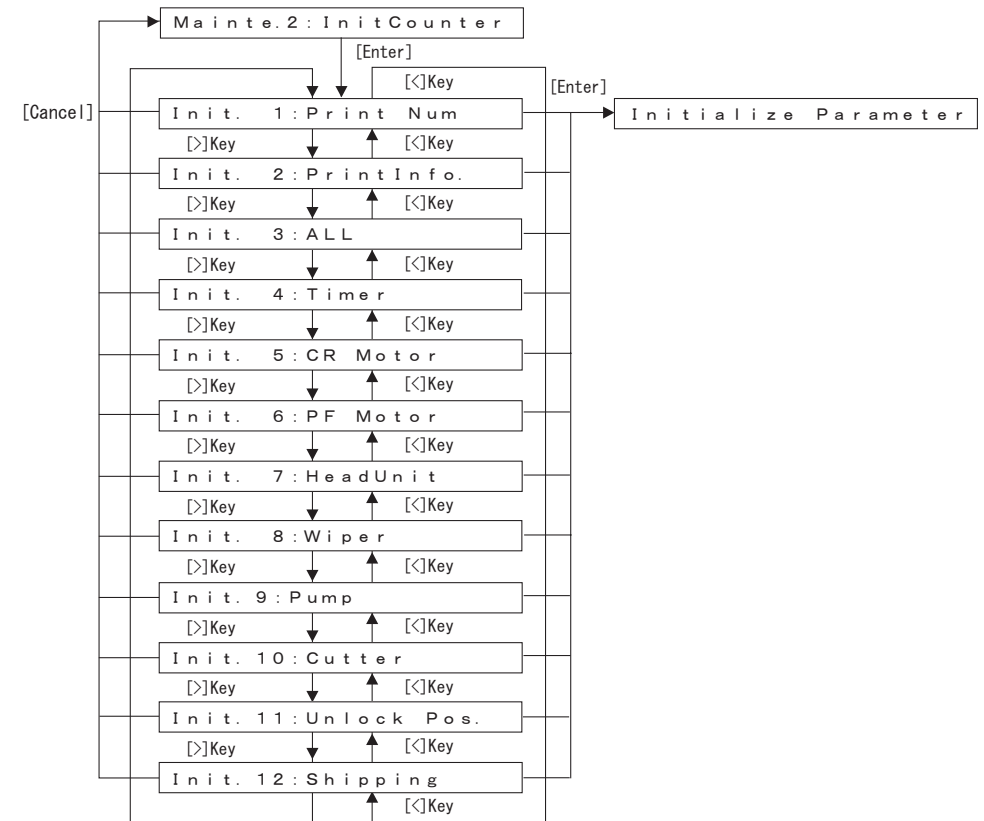


6.3.2 Counter Initialization Menu

This menu is used to initialize the life counters.

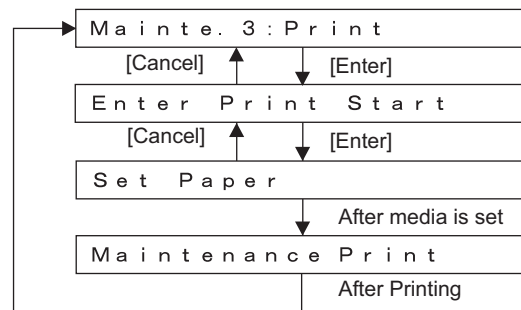
The parameters that can be initialized in this menu are as follows.

Diagnosis item	Contents
Print Num	Initializes the total print counter.
PrintInfo.	Initializes the number of printed copies per mode, print area per mode, and the number of printed copies per effect
All	Initialize Timer,Life counter,Mechanical counter,Mechanical adjustment values,Head ID.
CR Motor	Initializes the CR motor life counter.
PF Motor	Initializes the PF motor life counter.
HeadUnit	Initializes the head nozzle life counter.
Wiper	Initializes the wiper life counter.
Pump	Initializes the Pump unit life counter.
Cutter	Initializes the Cutter life counter.
Unlock Pos.	Initializes the position of unlocking Head lock.
Shipping	This menu is executed only when shipping.



6.3.3 Counter Print Menu

This menu is used to print the life counter values.



6.3.4 Paper Feed Menu

This menu is used to feed media into the printer frontward or backward.
The mechanical initialization should be performed, if it is not performed yet.

M a i n t e . 4 : P a p e r F e e d	
[Cancel]	[Enter]
F e e d : - / + C u t : E n t e r	

[–] key: Feeds frontward
[+] key: Feeds backward
Press down the [Enter] key
for more than two seconds
to cut the media

TIP

This is the same function as the  ["5.13 Media Feed Menu" p.5-81](#)

7 Maintenance

7.1	Introduction	7- 2
7.2	Periodical Services	7- 3
7.2.1	Periodic Replacement Parts.....	7-3
7.2.2	Parts Which Require Inspection/Replacement....	7-4
7.3	Part Life Information	7- 5
7.4	Jigs and Tools	7- 6
7.4.1	Required Tools.....	7-6
7.5	Lubrication/Bonding	7- 7
7.6	Transportation of Product.....	7- 8

7.1 Introduction

This chapter provides information about the periodical services, part life, lubrication/bonding, and transport.

WARNING

Before starting any maintenance work, always perform the following operations.

- Turn the printer power OFF.
- Remove Power cable from Power outlet.
Not doing so may cause electric shock or damage to the electric circuit.
- Unplug the cables connected to the printer.

Failure to do so could result in damage to the printer.

CAUTION

- Make sure there is sufficient space around the printer when performing maintenance work.
- When servicing the machinery inside with some covers removed, pay special attention not to be injured by the driving mechanisms.
- Maintenance must be done by two or more persons for the following work.
 - When disassembling or reassembling the printer and Dedicated stand
 - When packing the printer for transportation

7.2 Periodical Services

This section describes the periodical services required for this printer.

The periodical services ensures stable plotting quality of the printer.

Perform periodical inspections according to **"7.2.1 Periodic Replacement Parts" p.7-3** and perform cleaning and part replacement as necessary.

TIP

-  Operation manual
-  Exploded View

7.2.1 Periodic Replacement Parts

The parts in the following table require replacement once per year.

Maintenance part names (Maintenance part numbers)	Contents	Q't y	Replacement procedure
VJ1324 Periodical Maintenance Kit (DG-42986) (Continued)	Mini clamp	1	 "3.8.1 Replacing Maintenance Assy" p.3-138 ※Remove Silicon Tube 8-11 from Wipe waste fluid holder.
	Regin spacer	1	
	Head protecting material	2	 "3.7.6 Replacing Print Head" p.3-106
	Sponge H	2	

Maintenance part names (Maintenance part numbers)	Contents	Q't y	Replacement procedure
VJ1324 Regular Maintenance Kit (DG-42986)	Joint screw M6	8	 "3.7.7 Replacing Solenoid Head Assy" p.3-111
	O ring M6	8	
	Connector Solenoid Head	8	
	Solenoid Head	4	
	Pump Cap assembly	1	 "3.8.3 Replacing Cap Head Assy" p.3-142
	Cap Head assembly	1	
	Cleaner Head	1	
	Cap slider	1	
	Flame , Cap	1	
	Cap spring	1	 "3.8.1 Replacing Maintenance Assy" p.3-138

7.2.2 Parts Which Require Inspection/Replacement

Table 7-1 Periodical Inspection Part List

Part	Timing	Check point	Action
Media guide F Platen front surface	Several times per year	- Media dust accumulation - Foreign objects - Damages	Clean it. If ink deposits are present, remove them with a dampened cloth and wipe the area with a clean dry cloth.
Timing fence (CR encoder detection slit plate)	Several times per year	- Media dust accumulation - Foreign objects - Damages	Clean it. If any damage is found, replace the part.
Paper rear sensor front surface	Several times per year	- Media dust accumulation - Foreign objects	Clean it.
Daily maintenance check point by the user (Platen, pressure roller, wiper, outer surface of the print head)	Several times per year	- Ink deposits - Foreign objects - Damages - Daily cleaning	If the stain is left, tell the user to clean it periodically according to the explanation of the User's Manual. (Parts should be replaced more often if stain is left.)
Pressure roller	Several times per year	- Ink deposits - Foreign objects - Damages - Lubrication	Clean it. Refer to "7.5 Lubrication/Bonding" p.7-7 for lubrication if necessary.

7.3 Part Life Information

This section shows how to check the life of the service parts.

To know the life of the service parts, check the maintenance counter from the counter display menu in the maintenance mode.

TIP

 **"6.3.1 Counter Indication Menu" p.6-5**

Part life information of this printer is shown in the table below.

Table 7-2 List of Parts Life Expectancy

Part	Life expectancy	Warning display	How to restore	Replacement parts	References
CR motor	4,600,000 passes	Check Life [CR motor]	Counter clear	At the first warning: - CR motor - CR Return pulley (Check Ink tube as well.) At the next warning: - Replace CR cable after above parts is replaced.	 "3.6.1 Replacing CR Motor Assy" p.3-86 "3.6.8 Replacing CR Return Pulley Assy, CR Belt RJ13Assy" p.3-95 "3.7.8 Replacing Ink Tube" p.3-116 "3.11.3 Replacing CR_FFC" p.3-154
PF motor	21Km	Check Life [PF motor]	Counter clear	Replace as necessary	 "3.5.1 Replace PF Motor Assy" p.3-61
Print head	6 × 10 ⁹ (6 thousand million) dots	Check Life [Head]	Counter clear	Replace as necessary	 "3.7.6 Replacing Print Head" p.3-106

Table 7-2 List of Parts Life Expectancy (Continued)

Part	Life expectancy	Warning display	How to restore	Replacement parts	References
Cap Pump Unit	60,060,000 steps	Check Life [Pump]	Counter clear	Replace as necessary	 "3.6.1 Replacing CR Motor Assy" p.3-86

7.4 Jigs and Tools

This section provides lists of jigs and tools required for service operations.

7.4.1 Required Tools

(1) Tools for Part Replacement

Table 7-3 Tools for Part Replacement

No.	Name	Part number	Remarks
1	Phillips driver No.2	Generic product	More than 250 mm shaft length is recommended.
2	Phillips driver No.2	Generic product	Less than 50 mm shaft length is recommended.
3	Phillips driver No.1	Generic product	-
4	Flat-head driver	Generic product	For replacing E rings
5	Box driver	Generic product	For replacing CR board assemblies
6	Ratchet	Generic product	-
7	Long-nose pliers	Generic product	-
8	Tweezers	Generic product	-
9	Hex wrench (1.5 to 6 mm)	Generic product	-
10	Hex wrench (2.5mm)	Generic product	For screws retaining Head base. More than 150mm shaft length and not L-type are recommended.
11	E ring holder (E-2.5)	Generic product	Name: JIS E-2.5 Manufacturer: Iwata Denko Co., Ltd
12	E ring holder (E-6)	Generic product	Name: JIS E-6 Manufacturer: Iwata Denko Co., Ltd
13	Penlight	Generic product	-
14	Tube cutter	Generic product	For replacing solenoid heads and ink tubes
15	Scale	Generic product	For replacing Steel belt. Longer than 3 meters is recommended.

(2) Tools for Adjustment

No.	Name	Part number	Remarks
1	Personal computer	Generic product	Network interface connector (RJ-45) should be equipped. (10M/100M Ethernet I/F)
2	Network interface cable	Generic product	Cross-type cable * Use straight-type cable to connect HUB.
3	Dedicated network software	-	MUTOH Service Assistance
4	Tension gauge	Generic product	Max. 40 N (4,080gf) for measurement Manufacturer: Ohba Keiki Seisakusho Co., Ltd.
5	Tension gauge	Generic product	Max. 2N (204gf) for measurement Manufacturer: Ohba Keiki Seisakusho Co., Ltd.
6	MF-3G	Exclusive use media	For Paper edge sensor, for print accuracy adjustment
7	PG height adjustment jig(1.1/1.3)	DG-43193	For adjusting Head height (1.1mm/1.3mm)
8	level	Generic product	For confirming Installation Environment
9	Cutter Holder adjustment jig	DG-43191	For assembling Photometer JUNCTION Board Assy and Cutter Holder
10	Solenoid Head Washing Kit	DG-41787	For replacing Solenoid Head Assy
11	Solenoid Head Washing Kit(VJ Ink)	DG-41787	For replacing Solenoid Head.

7.5 Lubrication/Bonding

This section covers the lubrication/bonding information.

After disassembling/assembling this printer, always perform necessary lubrication/bonding referring the following table.

CAUTION

- Only use specified lubricants to the printer. The use of unauthorized lubricants may damage the components and shorten the printer life.
- Pay attention not to lubricate too much on a part.

Table 7-4 Lubricant List

Parts		Item	Manufacturer	Type
Cover section	Roll receiver (L, R)	Apply to the top cover contacting surface.	Dow Corning Toray Co.,Ltd.	MOLYKOT E(R)EM-60L GREASE
	Front cover support pin L	Apply to the top cover contacting surface.	Dow Corning Toray Co.,Ltd.	MOLYKOT E(R)EM-60L GREASE
CR section	Cursor guide	Apply to the front surface.	Dow Corning Toray Co.,Ltd.	MOLYKOT E E PASTE
	Pressure shaft bearing	Apply to the peripheral surface.	Dow Corning Toray Co.,Ltd.	MOLYKOT E(R)EM-60L GREASE
	Pressure shaft stopper	Apply to the pressure lever springs.	Dow Corning Toray Co.,Ltd.	MOLYKOT E(R)EM-60L GREASE

Table 7-4 Lubricant List (Continued)

Parts		Item	Manufacturer	Type
Head section	Head cable	Affix to each cable (for locating and holding)	Not specified	10mm-width double faced tape
Cable guide section	CR cable	Affix to each cable (for locating)	Not specified	10mm-width double faced tape
	Tube guide	Affix to the tube guide (for locating)	Not specified	10mm-width double faced tape
Others	Screw	Apply to the area screw-locking agent is applied.	Three Bond Co., Ltd.	1401
	The areas sharpened edge is likely to emerge	Attach acetate tapes to the tape wires or harnesses where sharpened edge is likely to emerge.	Not specified	-

7.6 Transportation of Product

This section describes how to transport the product.

Before transporting the product, you must package it in the same manner as it was delivered using protective materials and packaging materials so that the product will not be subject to excessive impact and vibrations during the transportation.

Refer to 『Installation Manual』

8 Product Overview

8.1	Introduction	8- 2
8.2	Part Names and Functions	8- 2
8.2.1	Front Section	8-2
8.2.2	Rear Section	8-3
8.2.3	Operation Panel	8-4
8.3	Printer Status	8- 7
8.3.1	Operating Status Type	8-7
8.3.2	Switching Operating Status	8-8
8.3.3	Selecting Panel Language	8-10

8.1 Introduction

This chapter explains the features, part names and functions of this printer.

8.2 Part Names and Functions

Part names and functions are explained below.

8.2.1 Front Section

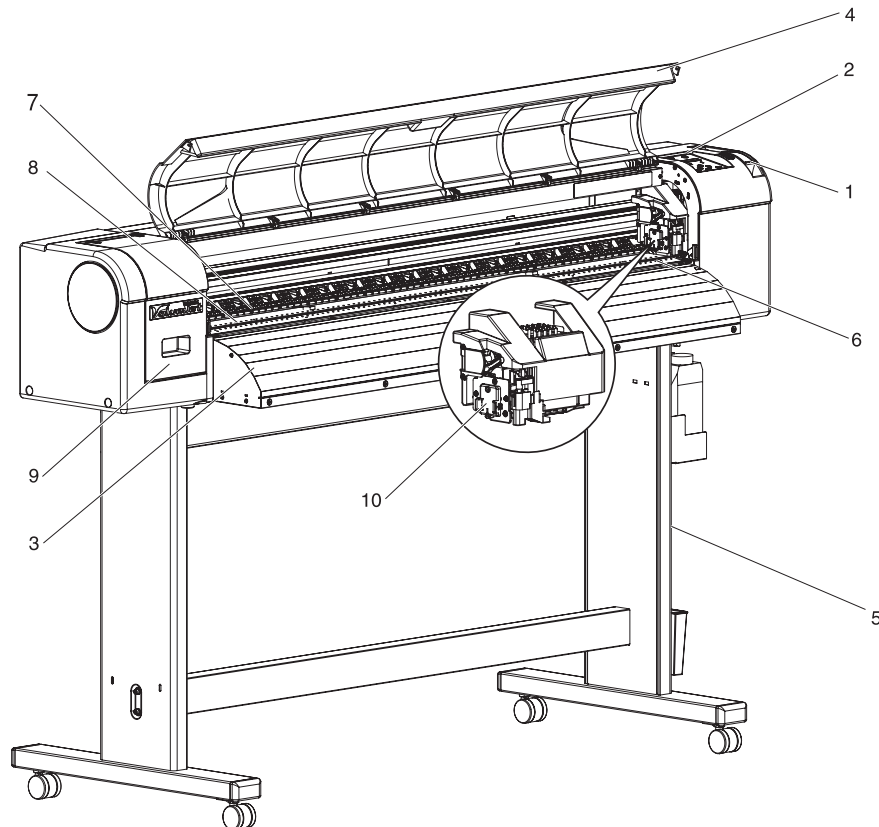


Table 8-1 Part Names and Functions of Front Section

No.	Name	Function
1	Front cover	Keeps the operator safe from the drive parts of the printer while it is operating. Opened and closed when media is set or jammed. It is normally closed.
2	Dedicated stand	Used to set the printer on the level surface of the floor.
3	Media guide	Feeds the media smoothly when printing and/or setting the media. The heater (After Heater) for drying ink is installed inside.
4	Front cover	Keeps the operator safe from the drive parts of the printer while it is operating. Opened and closed when media is set or jammed. It is normally closed.
5	Dedicated stand	Used to set the printer on the level surface of the floor.
6	Media cut groove	Installed inside of the front cover. Used to cut printed media straight.
7	Pressure roller	Installed inside the front cover. Presses the media from above and holds it when printing.
8	Platen	Installed inside the front cover. The heater (platen heater) for drying ink is installed.
9	Maintenance cover	Protects users from the mechanical parts inside the printer in the following cases: - Cleaning the cleaning wiper - Cleaning around the print head This cover must usually be closed.
10	Connector	Used to install spectrophotometer (SPECTROVUE VM-10).

8.2.2 Rear Section

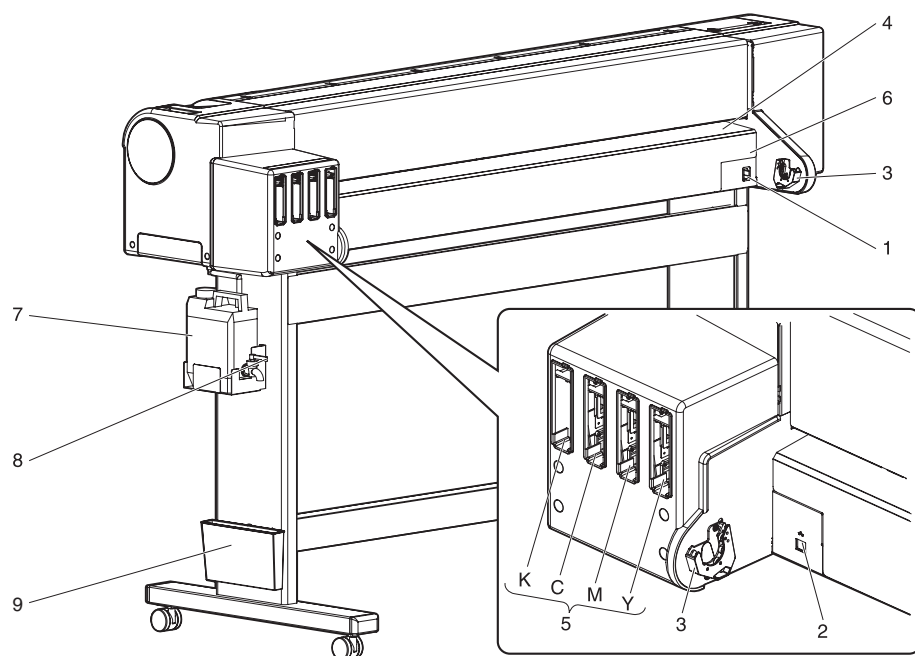


Table 8-2 Part Names and Functions of Rear Section (Continued)

No.	Name	Function
8	Waste fluid valve	Open and close when discharging the waste fluid from the waste fluid tank. It is normally closed.
9	Book holder	Quick reference etc can be stored.

Table 8-2 Part Names and Functions of Rear Section

No.	Name	Function
1	AC inlet	Inlet to connect Power cable.
2	Network interface connector	Connector to connect a network interface cable.
3	Roll media holders	Holds the roll media. Includes flanges where roll media is attached, and the levers that fixes the roll media holders.
4	Media feed slot	Insert media from here when feeding media.
5	Ink cartridge slot	Install the ink cartridges.
6	Media guide	Used for feeding media smoothly when the media is set or printed. The heater (Pre-heater) to warm media is installed.
7	Waste Fluid Tank	Used for collecting waste ink discharged from the printer.

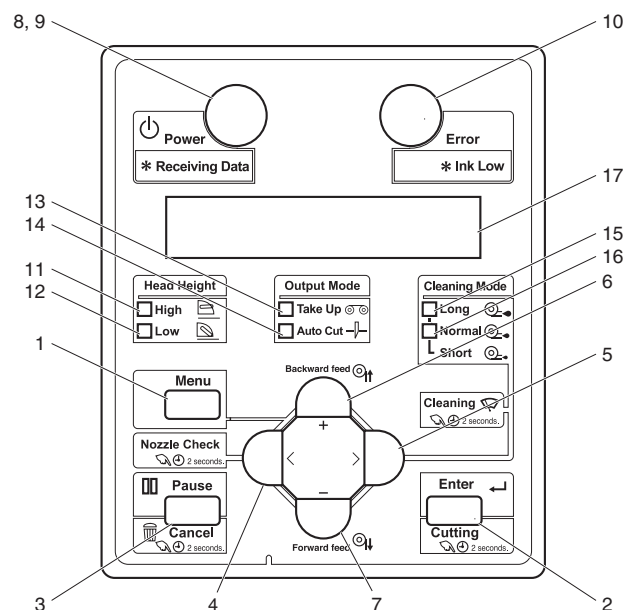
8.2.3 Operation Panel

Operation panel is used to set operational conditions, display the status of the printer, and set other functions.

The names and functions of the operation keys and status lamps are explained below.

TIP

☞『Operation Manual』



(1) Operation Keys

TIP

Some keys have multiple functions and names depending on the printer status (normal or setup menu display). See ["8.3 Printer Status" p.8-7](#) for more details.

No.	Name	Normal	Setup menu display
1	[Menu] key	Changes LCD monitor display to setup menu status.	Changes the setup menu display status to normal status.
2	[Enter] key	Restarts printing when it is pressed while the printer pauses printing.	- Selects the menu to be set and shifts to the next hierarchy. - Determines and saves the parameter value.
	[Cleaning] key	Hold down the key for over 2 seconds to start cleaning the printer head.	-
3	[Pause] key	Pauses printing.	—
	[Cancel] key	.When printing: When pressed for more than two seconds, forcefully terminates printing and deletes one file of the remaining data. .When receiving or analyzing data: When pressed for more than two seconds, deletes the data already received and analyzed.	Returns to the previous menu hierarchy. Changes made in the setting are discarded. .Shifts from Setup menu display to Normal.
4	[<]Key	—	—
	[Nozzle Check]Key	Press and hold this key for two seconds or more to perform Nozzle Check printing.	—
5	[>]Key	Sets Cleaning Mode. .The lamp of Cleaning Mode that you set lights up in green.	Down the menu level in the directory tree.
	[Cleaning] Key	When pressed for more than two seconds, cleaning starts.	—

No.	Name	Normal	Setup menu display
6	[Backward ↑]Key	Media is fed in the reverse direction.	—
	[+]Key	—	Changes to the previous item in the displayed menu. .The setting is changed to the reverse direction. .The numeric value is increased during numerical input.
7	[Forward↓] Key	Media is fed in the forward direction.	—
	[-]Key	—	.Changes to the previous item in the displayed setting. .The setting is changed to the forward direction. .The numeric value is decreased during numerical input.
8	[Power]Key	Turns the printer ON and OFF.	Turns the printer ON and OFF.

(2) LCD Monitor and Status Lamps

No.	Name	Color	Status	Function
9	Powerlamp	Blue	On	The printer is switched on.
			Blinking	An error has occurred. The contents will be displayed on LCD monitor.
			Off	The printer is switched off.
10	Errorlamp	Orange	On	- The printer is analyzing received data. - The printer is printing data.
			Blinking	The printer is receiving data.
			Off	The printer is not receiving, analyzing or printing data.
11	Highlamp	Green	Lamp ON	The head height is set to High.
			Lamp OFF	The head height is set to Low.
12	Lowlamp	Green	Lamp ON	The head height is set to Low.
			Lamp OFF	The head height is set to High.
13	Take Uplamp	Green	Lamp ON	Media ejection mode is set to "Take-up".
			Lamp OFF	Media ejection mode is set to "Off" or "Auto cut".
14	Auto Cutlamp	Green	Lamp ON	Media ejection mode is set to "Auto cut".
			Lamp OFF	Media ejection mode is set to "Off" or "Take-up".
15	Longlamp	Green	Lamp ON	Cleaning mode is set to Long. When the Normal lamp is also on, Cleaning mode is set to Short.
			Lamp OFF	Cleaning Mode is set to Normal.

No.	Name	Color	Status	Function
16	Normal lamp	Green	Lamp ON	.Cleaning Mode is set to Normal. When the Long lamp is also on, Cleaning mode is set to Short.
			Lamp OFF	Cleaning Mode is set to Strong.
17	LCD display section	—	—	Displays operation status of the printer or an error message.

8.3 Printer Status

The status of the printer is explained below.

8.3.1 Operating Status Type

(1) Normal

Indicates that the printer can print when media is loaded.
Each setup concerning printing can be operated by using Operation panel.

TIP

 Operation manual

(2) Setup Menu

Each setup concerning printing can be operated by using Operation panel.
The settings required for normal printing are usually made on the printer driver or application, but can also be made using Operation panel.

TIP

 Operation manual

(3) Self-Diagnosis Function

Indicates that each settings concerning printing using Operation panel. Names and functions of Operation panel keys are the same as those of setup menu display.

TIP

 ["5.3 Operations in Self-Diagnosis Mode" p.5-4](#)

(4) Maintenance Mode 2

Indicates that each setup concerning to the life counter on this printer can be operated by using Operation panel. Names and functions of Operation panel keys are the same as those of setup menu display.

TIP

 ["6.2.1 Starting Up the Maintenance Mode 2" p.6-2](#)

8.3.2 Switching Operating Status

Follow the steps below to switch the operation conditions.

(1) Normal Status → Setup menu display

Press the [Menu] key of Operation panel when the printer is in a normal status.

- [Menu 1: Setting>] is displayed on Operation panel and transits to a setup menu status.

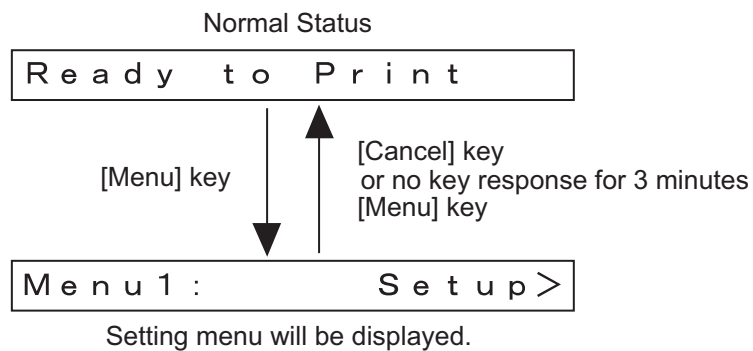
TIP

 Operation manual

(2) Setup Menu display → Normal Status

When the setup menu is displayed, operate either of the following. Operation panel transits to the normal status display.

- Press [Cancel] key on Operation panel.
- When in the setup menu status, leave the printer without any key operations for 3 minutes.



TIP

Despite of the operation described as above, while displaying the CR maintenance menu, Operation panel does not go back to the normal status.

 Operation manual

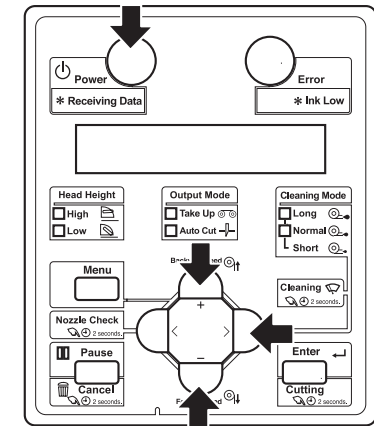
(3) Self-Diagnosis Function

Display the self-diagnosis menu on Operation panel to use the self-diagnosis function.

The self-diagnosis menu is completely independent from the normal operation mode or setup menu display mode. Switch to the self-diagnosis menu display mode, following the steps below:

1. When the printer is in the operation mode or in the self-diagnosis menu mode, press the [Power] key to turn off the printer.
2. While holding down the [Setting value -], [Setting value +], and [>] keys on Operation panel simultaneously, press the [Power] key.

The system will transit to the self-diagnosis menu display mode.



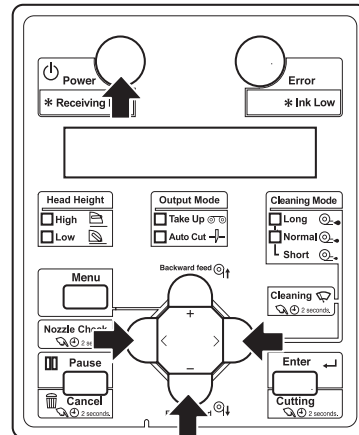
(4) Maintenance Mode 2 Display status

Display the maintenance mode 2 menu on Operation panel to use the maintenance mode.

The maintenance mode 2 is completely independent from the normal operation mode and setup menu display mode. Switch to the maintenance mode menu display mode, following the steps below.

1. When the printer is in the operation mode or in the setup menu mode, press the [Power] key to turn off the printer.
2. While holding down the [>], [Setting value -], and [<] keys on Operation panel simultaneously, press the [Power] key.

The system will transit to the maintenance mode 2 menu display mode.



8.3.3 Selecting Panel Language

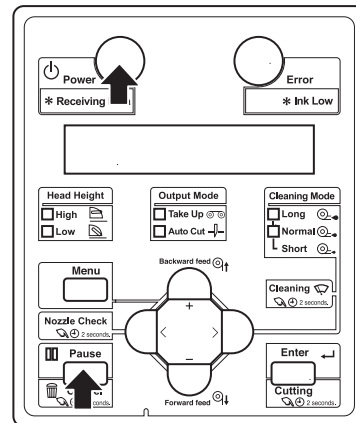
This section explains how to select the language displayed on Operation panel.
Follow the steps below to select the language.

NOTE

For this printer, you can choose the following:

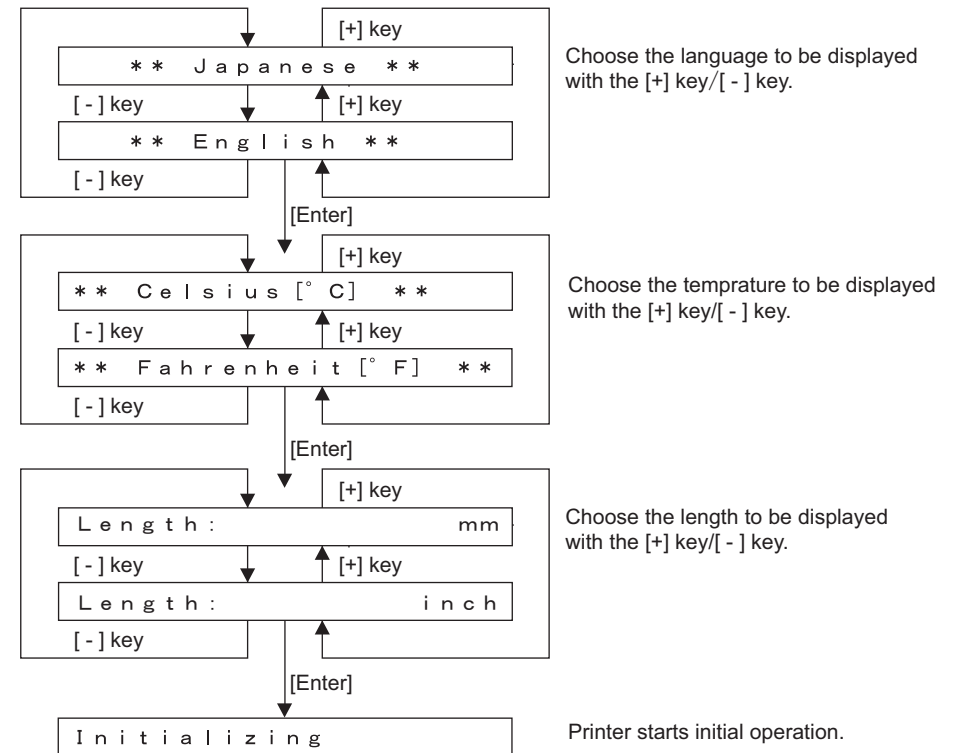
- Language: Japanese or English
- Temperature: Celsius (°C) or Fahrenheit (°F).
- Length:mm or inch
- Selecting mode is displayed in only first start up.

1. Press [Power] key on Operation panel while pressing [Cancel] key.



2. Select the language either from English or Japanese then press [Enter] to determine.
3. Select the temperature either from Celsius or Fahrenheit then press [Enter] to determine.

4. Select the length either from mm or inch then press [Enter] to determine.



5. The printer starts initial operation.

9 Specifications

9.1	Introduction	9- 2
9.2	Product Specifications	9- 2
9.2.1	Main Unit Specifications	9-2
9.3	Interface Specifications	9- 3
9.3.1	Network Interface Specifications	9-3
9.4	Options/Supplies List	9- 3
9.4.1	Supplies	9-3
9.5	Choosing a Place for the Printer.....	9- 4

9.1 Introduction

This chapter explains the specifications of the product, optional parts, supplies, and user support.

9.2 Product Specifications

9.2.1 Main Unit Specifications

Item	Specifications
Model name	VJ-1324
printing method	On-demand piezo drive
Motor driving method	Firmware servo / DC motor drive
Media feeding method	Multi-point pressure grid roller method
Media fixing method	Pressurizing roller manual-down method
Media supply and ejection/Roll Media	Roll media: Rear feeding / front ejection
Roll media outer diameter	under 150mm
Roll media weight	under 19kg
Maximum media width	1371 mm
Maximum media thickness	0.3mm (PG Low) / 1.3mm (PG High)
Maximum printable media width	1361 mm
Print margin/Roll media	Front: 5mm, Back: 5mm (40mm at the roll media end), Left: 5 to 25mm, Right: 5 to 25mm
Media cut system	Horizontal automatic cut system/manual cut system
Head height adjustment	Two adjustable positions of Normal/High
CPU	64Bit RISC CPU
Memory	128MB
Command	MH-RTL (RTL-PASS)

Item		Specifications
Interface		Network Interface (Ethernet IEEE802.3)
Ink	Supply method	Supplied through tubes from four-color independent cartridges
	Cartridges	Black, Cyan, Magenta, Yellow: 220ml $\pm$ 5ml each or 440ml $\pm$ 5ml (1000ml $\pm$ 5ml when the optional high capacity pack adapter is used)
Environmental conditions	Operation environment	Temperatures: 20 ° C to 32 ° C Humidity: 40 % to 60 %, No condensation
	Printing accuracy warranty range	Temperatures: 22 ° C to 30 ° C Humidity: 40 % to 60 %, No condensation
	Rate of change	Temperature: within 2° C per hour Humidity: within 5 % per hour
	Archiving condition (Ink not filled)	Temperature: -20 ° C to 60 ° C Humidity: 20 % to 80 %, No condensation Storage life: six months
	Archiving condition (Ink filled)	Temperature: -10 ° C to 40 ° C Humidity: 20 % to 80 %, No condensation Storage life: four days (32 ° C or higher)
Power source	Voltage	AC 90V $\sim$ 132V
	Frequency	50Hz / 60Hz $\pm$ 1Hz
Power consumption	Printing	1550W or less
	Standby	44W
Outer diameter	Height	1218mm (including the stands)
	Width	1916mm
	Depth	685mm
Weight		61kg
Dedicated Stand		21.3kg

9.3 Interface Specifications

This section explains the specification of the interfaces Supported for this printer.

9.3.1 Network Interface Specifications

Item	Specifications
Network type	Ethernet IEEE802.3
Network I/F	10BASE-T / 100BASE-TX Auto-switching (RJ-45 connector twist pair cable) MDI / MDI-X Auto-switching
Corresponding protocol	TCP/IP

9.4 Options/Supplies List

9.4.1 Supplies

(1) Ink Cartridges

NOTE

- For more information about the options and the supply items, contact your local MUTOHdealer. 『Operation Manual』
- For problems resulting from using a non-genuine ink will exempt the warranty.

(2) Roll Media

NOTE

- For more information about the options and the supply items, contact your local MUTOHdealer. 『Operation Manual』
- For problems resulting from using a non-suggested media will exempt the warranty.

(3) Other 『Operation Manual』

Name	Model	Sales units
Clean stick	RH Clean Stick	1 box (100 pieces per box)

9.5 Choosing a Place for the Printer

WARNING

- Do not place the printer in a location under the following conditions. Doing so may cause the product to fall, become damaged, or cause injury.
 - Unstable surfaces
 - Slanted areas
 - Locations that are subject to vibration from other product

Confirm the horizontal with a level when installation environment might inclined, and set up the printer in horizontal place.

- Do not stand on the printer or place any heavy objects on it. Doing so may cause it to fall over, become damaged, or cause injury.
- Do not cover the ventilation hole of the printer with cloth, such as a blanket or table cloth. Doing so could prevent the printer from ventilating and cause fire.
- Keep the printer away from humid and dusty areas. Failure to do so may result in electrical shock or fire.

NOTE

- Avoid the following temperature and humidity conditions. Otherwise, printed images may appear different from what you expectation.
- Places where sudden changes in temperature and humidity are expected, even though the condition is within the range specified
- Places where direct sunlight or excessive lighting are expected
- Places where air conditioners blow directly
- MUTOH recommends that the printer should be installed where air conditioning can be adjusted easily.

(1) Installation Environment Requirements

Choose a place for printer installation following the requirements of the table below.

Floor loading capability		2940Pa (300kgf/m ²) or over
Electrical specifications	Voltage	AC90V ~ 132V
	Frequency	50/60Hz ± 1Hz
Environmental conditions	Operation environment	Temperatures: 20 ° C to 32 ° C Humidity: 40 % to 60 %, No condensation
	Printing accuracy warranty range	Temperatures: 22 ° C to 30 ° C Humidity: 40 % to 60 %, No condensation
	Rate of change	Temperature: within 2 ° C per hour Humidity: within 5 % per hour
	Storage environment (when ink is filled)	Temperature: -10 ° C to 40 ° C Humidity: 20 % to 80 %, No condensation Storage life: four days (32 ° C or higher)

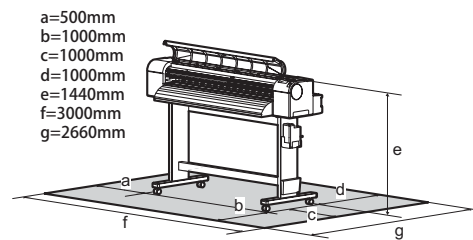
(2) Required Space

Install the printer on a flat surface that fulfills the following conditions.

- The place to install printer with the dedicated stand should have enough loading capacity.

NOTE

For the printer and the dedicated stand, refer to **"9.2 Product Specifications" p.9-2**



* Do not use the printer without dedicated stand.

10 Appendix

10.1 Introduction	10- 2
10.2 Maintenance Part List	10- 2

10.1 Introduction

This chapter provides referential information such as service data.

10.2 Maintenance Part List

The following table lists the maintenance parts per unit (as of Mar. 15th, 2011).

The part number below is identical to that of the exploded view.

Table 10-1 Carriage Assy1

Part Name	No.	Exploded View	Remark
O ring M6	DF-46671	A-98	-
Solenoid Head Assy	DG-41543	A-85	-
		A-96	-
		A-97	-
		A-98	-
Head Assy	DG-42987	A-84	-
		A-87	-
		A-89	-
		A-86	-
		-	Including Flat Cable Clip, but not to use in VJ1324.
Head FG_Assy	DF-49018	A-78	-
Carriage Assy	DG-42981	A-11	-
		A-12	-
		A-13	-
		A-6	-
		A-16	-
		A-17	-
		A-18	-

Table 10-1 Carriage Assy1(Continued)

Part Name	No.	Exploded View	Remark
Carriage Assy (Continued)	DG-42981	A-24	-
		A-21	-
		A-22	-
		A-23	-
		A-25	-
		A-28	-
		A-29	-
		A-30	-
		A-31	-
		A-32	-
		A-38	-
		A-39	-
		A-42	-
		A-41	-
		A-43	-
		A-45	-
		A-44	-
		A-58	-
		A-56	-
		A-57	-
		A-59	-
		A-60	-
		A-61	-
		A-62	-
		A-63	-
		A-64	-

Table 10-1 Carriage Assy1(Continued)

Part Name	No.	Exploded View	Remark
Carriage Assy (Continued)	DG-42981	A-65	-
		A-66	-
		A-67	-
		A-68	-
		A-73	-
		A-74	-
		A-75	-
		A-76	-
		A-77	-
CR_HP Sensor、Lever Sensor	DF-49471	A-37	For CR_HP Sensor
Head FFC(D)	DG-41072	A-91	Including 1 piece
PG origin sensor Assy	DG-42952	A-46	-

Table 10-2 Carriage Assy 2(Continued)

Part Name	No.	Exploded View	Remark
Cutter Solenoid Assy	DF-42234	A-167	-
Cutter Solenoid Spring Assy	DF-49062	A-168	-
Head FFC(D)	DG-41072	A-91	Including 1 piece
VJ Tube 3-4(1m)	DG-42722	A-1	-
Cutter Solenoid Cable Assy	DG-42954	A-177	-
Y type fitting Assy	DG-42982	A-117	-

Table 10-2 Carriage Assy 2

Part Name	No.	Exploded View	Remark
CR Board Assy	DG-42959	A-125	-
CR_Encoder Assy	DG-42947	A-51	-
Photometer JUNCTION Board Assy (VJ1324)	DG-42983	A-196	-
		A-197	-
		A-192	-
		A-194	-
		A-198	-
Color Mesuring device Connector Cap Assy	DG-42779	A-195	-
P_EDGE Sensor Assy	DG-42946	A-173	-

Table 10-3 CR Assy 1

Part Name	No.	Exploded View	Remark
CR_HP Sensor、Lever Sensor	DF-49471	B-71	For CR_Origin Sensor
CR Origin Sensor Cable Assy	DG-42951	B-72	-
Lever Sensor Cable Assy	DF-42955	B-74	-
CR_HP Sensor、Lever Sensor	DF-49471	B-73	For Lever Sesnor
Fence Guide Assy	DF-49027	B-103	-
JUNC_ID Cable Assy	DG-42980	B-118	-
JUNC_FFC Assy	DG-42967	B-117	-
JUNCTION Board Assy	DG-42966	B-113	-
CR Belt Clip Assy	DG-41144	L-1	-
CR Belt RJ13_Assy	DG-42071	B-62	-
CR Return Pulley Assy	DF-49047	B-58	-
		B-56	-
CR Motor Cable Assy	DG-42948	B-48	-
CR Motor Assy	DG-42957	B-45	-
Pressure Roller Spring	DF-49691	B-21	
Pressure Roller Arm Assy	DF-49052	B-18	-
Pressure Roller Axis Assy	DF-49054	B-19	-
Pressure Roller Assy	DF-49053	B-20	-
T Fence Spring Assy	DF-49026	B-106	-

Table 10-4 CR Assy 2

Part Name	No.	Exploded View	Remark
Tube Fixing Clamp Assy	DG-43128	B-96	Including 1 piece
CR_FFC Assy	DG-42965	B-98	Including 1 piece
Tube Guide RJ13_Assy	DG-42069	B-91	-
Steel Bare RJ13_Assy	DG-42070	B-92	-
VJ Tube 3-4(1m)	DG-42722	B-88	-
VJ Tube 3-4(2m)	DG-42723	B-88	-
Carriage Lock Solenoid	DG-41076	B-129	-
Solenoid Tube Assy	DG-42989	B-125	-
		B-128	-

Table 10-5 PF Assy

Part Name	No.	Exploded View	Remark
PF_ENC Scale Assy	DF-49028	C-20	-
Speed Reduction Pulley Assy	DF-49051	C-17	-
PF Encoder Assy	DG-42972	C-40	-
		C-41	-
		C-42	-
X Speed Reduction Belt Assy	DF-49046	C-33	-
PF Motor Assy	DF-49020	C-27	-
PF Motor Relay Assy	DF-48990	C-29	-

Table 10-6 IH_Assy

Part Name	No.	Exploded View	Remark
Cartridge HolderAssy1	DG-42968	F-1	-
Cartridge HolderAssy2	DG-42969	F-5	-
Cartridge HolderAssy3	DG-42970	F-6	-
Cartridge HolderAssy4	DG-42971	F-4	-
		F-8	-
		F-9	-
		F-10	-
		F-11	-
		F-14	-
		F-12	-
		F-15	Dedicated part for Cartridge HolderAssy1
		F-18	Dedicated part for Cartridge HolderAssy2
		F-19	Dedicated part for Cartridge HolderAssy3
		F-20	Dedicated part for Cartridge HolderAssy4
		F-17	-
		F-16	-
		F-22	-
		F-24	-
		F-25	-
		F-55	-
		F-56	-
		F-58	-

Table 10-6 IH_Assy (Continued)

Part Name	No.	Exploded View	Remark
Cartridge HolderAssy1	DG-42968	F-50	-
Cartridge HolderAssy2	DG-42969	F-57	-
Cartridge HolderAssy3	DG-42970	F-27	-
Cartridge HolderAssy4	DG-42971	F-48	-
(Continued)		F-59	-
		F-60	Dedicated part for Cartridge HolderAssy1
		F-61	Dedicated part for Cartridge HolderAssy2
		F-62	Dedicated part for Cartridge HolderAssy3
		F-63	Dedicated part for Cartridge HolderAssy4
		F-59	-
O ring M6	DF-46671	F-33	-
INK ID Board Assy	DF-43968	F-55	-
		F-57	-
Pressure Roller Spring	DF-43967	F-56	-

Table 10-7 Paper Guide Assy

Part Name	No.	Exploded View	Remark
PRE_T Relay Assy	DF-49681	I-32	-
Thermistor Assy	DF-46639	E-52	-
		E-21	-
		E-54 E-22	-
P_REAR Sensor Assy	DG-42945	E-87	-
PRE_H Relay Assy	DF-49677	I-27	-
PRE_H2 Relay Assy	DG-40529	I-28	-
AFT_T Relay Assy	DF-49682	I-35	-
AFT_H Relay Assy	DF-49678	I-31	-
Pre Heater (100)	DF-49695	E-18	For After Heater
		E-19	
		E-20	
Platen Heater (100)	DF-49696	E-51	For Pre Heater
		E-55	
		E-56	
		E-57	

Table 10-9 Maintenance Assy

Part Name	No.	Exploded View	Remark
Maintenance Assy	DG-42985	G-1	-
		G-2	-
		G-3	-
		G-4	-
		G-5	-
		G-6	-
		G-7	-
		G-11	-
Cleaner Head Assy	DF-49687	G-2	-
Wiper origin Sensor Cable Assy	DG-42953	G-9	-
Cap Head Assy	DG-41179	G-5	-
Pump Motor Relay Assy	DF-48993	G-8	-
Waste Fluid Sensor Cable Assy	DG-42977	G-47	-

Table 10-8 Platen Assy

Part Name	No.	Exploded View	Remark
PLT_T1 Cable Assy	DG-42963	I-33	-
PLT_H1 Cable Assy	DG-42961	I-29	-
PLT_H2 Cable Assy	DG-42962	I-30	-
PLT_T2 Cable Assy	DG-42964	I-34	-

Table 10-10 Cover Assy1

Part Name	No.	Exploded View	Remark
Front Cover Receiver Assy	DF-49056	H-44	-
Panel Unit Assy	DG-42984	H-21	-
Panel Cable Assy	DF-49014	H-22	-
Cover R Cable Assy	DG-42979	H-37	-
Cover Switch Assy	DG-42956	H-35	-
Sensor Cover R_Assy	DF-49058	H-34	-
Scroller Receiver Roler Assy (VJ13)	DG-41135	H-3、H-12	Including 1 piece
Scroller Receiver R_Assy (VJ13)	DG-41137	H-1	-
		H-2	-
		H-3	-
		H-4	-
Scroller Receiver L_Assy (VJ13)	DG-41136	H-10	-
		H-11	-
		H-12	-
		H-13	-
Cover L Cable Assy	DG-42978	H-30	-
Cover Switch Assy	DG-42956	H-28	-
Sensor Cover L_Assy	DF-49057	H-27	-
Cover Receiving Assy	DG-42333	H-61	-
		H-62	-

Table 10-11 Flame Assy1

Part Name	No.	Exploded View	Remark
Cover Switch Assy	DG-42956	C-99	-
Lock Arm Assy	DF-49059	D-33	-
Lock Arm Spring Assy	DF-49060	D-34	-
Arm Axis Assy	DF-49061	D-35	-
Adsorption Fan Assy	DG-42988	D-49	-
Adsorption Fan Cable Assy	DG-42949	D-56	-

Table 10-12 Board Assy

Part Name	No.	Exploded View	Remark
AC Cable Fuse-Terminal Block Assy	DF-49664	I-71	-
AC Cable Terminal Block - CNT Assy	DG-49667	I-51	-
Terminal Block -Power Cable Assy	DG-43168	I-52	-
Power Board Assy	DG-43172	I-40	-
HEATER RELAY3 Board Assy	DG-43169	I-18	-
Power Cable CNT-RLY Assy	DF-49669	I-25	-
HEATER CONT Board 2 Assy	DG-41105	I-16	-
MAIN Board Assy	DG-42958	I-1	-
SODIMM 128M Assy	DF-49715	I-4	-
Cooling Fan Cable Assy	DG-42950	I-79	-
AC Cable CNT-RLY Assy	DF-49668	I-24	-
Fuse	DF-49683	I-70	-
AC Inlet	DF-46652	I-57	-

Table 10-12 Board Assy

Part Name	No.	Exploded View	Remark
AC Cable Noise Filter -Fuse Assy	DF-49663	I-62	-
Cooling Fan 24V Assy	DF-49022	I-76	-
Noise Filter FG_Assy	DF-49019	I-60	-
Power Cable MAIN-CNT Assy	DG-40137	I-9	-
RLY-AC Cable Assy	DF-49670	I-26	-
Cooling FAN (24V)Assy	DG-42943	I-94	-
MAIN-DC Cable Assy	DG-42960	I-10	-
MAIN-CNT Cable Assy	DF-49672	I-8	-

Table 10-13 Stand , Accesory Assy

Part Name	No.	Exploded View	Remark
Caster with Locker Assy	DF-49070	-	-
Caster Assy	DF-49071	-	-
Waste Fluid Level Switch (VJ16)	DG-41091	J-35	-
Waste Fluid Bottle Assy	DF-47867	J-34	-
Cutter Holder adjustment jig	DG-43191	-	Jig for adjustinr Cutter holder
PG height adjustment jig (1.1/1.3)	DG-43193	-	Jig for adjusting PG height (1.1mm/1.3mm)
Solenoid Head Washing Kit (VJ Ink)	DG-41787	-	Jig for replacing Solenoid Head Assy
VJ1324 Regular Maintenance Kit	DG-42986	-	-
VJ Tube 3-4(1m)	DG-42722	B-88	-
VJ Tube 3-4(2m)	DG-42723	B-88	-

The following is the list of the maintenance parts for take-up unit
The maintenance numbers correspond to those of the Exploded view's.

Table 10-14 Take-up 1 Assy

Part Name	No.	Exploded View	Remark
VJ take-up motor assembly	DG-40471	M-10	-
		M-11	-
		M-12	-
		M-14	-
Driving roller	DG-40472	M-28	-
		M-29	-
Support roller	DG-40473	M-35	-
		M-36	-
		M-37	-
		M-38	-
		M-39	-
		M-40	-
Driving collar	DG-40475	M-166	-
		M-167	-
CR_HP sensor, Lever sensor	DF-49471	M-86	-
VJ take-up CNT board assembly	DG-40478	M-92	-
Power supply (Overseas take-up)	DF-44506	M-93	-
Take-up SW board assembly for VJ	DG-40479	M-99	-
W_ON sensor assembly	DG-40480	M-105	-
W_OFF sensor assembly	DG-40481	M-106	-

Table 10-14 Take-up 1 Assy

Part Name	No.	Exploded View	Remark
AC cable assembly	DG-40482	M-107	-
DC cable assembly	DG-40483	M-108	-

Table 10-15 Take Up 2 Assy

Part Name	No.	Exploded View	Remark
Support roller L	DG-40474	M-124	Including 3 pieces
Driving collar	DG-40475	M-166	-
		M-167	-
VJ take-up scroller 13	DG-42381	M-165	-
		M-166	-
		M-167	-
		M-168	-
		M-170	-
		M-171	-
Power supply cable 15A (USA)	DG-42392	M-172	-
		M-203	-



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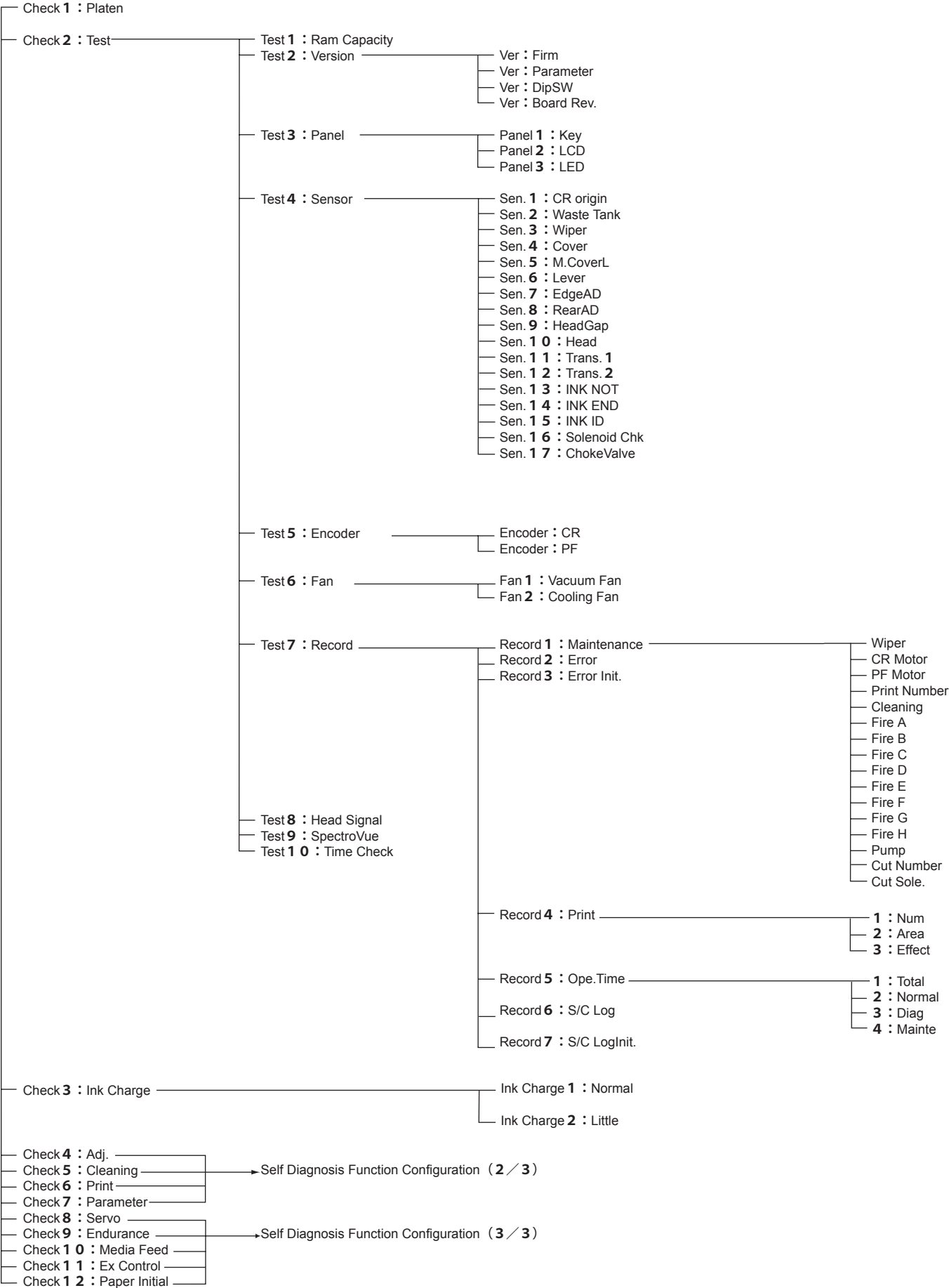
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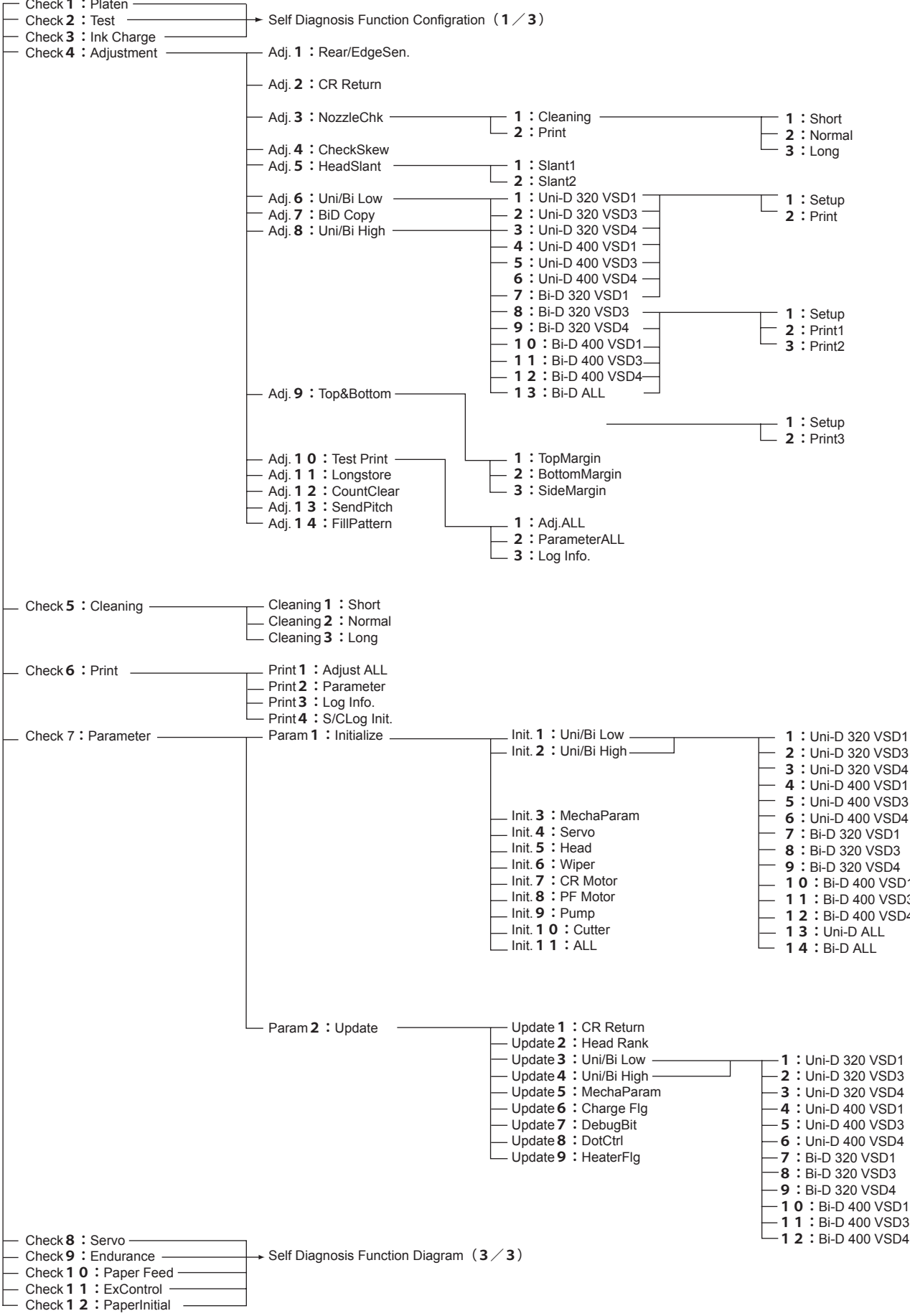
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Self Diagnosis Function Configuration（1／3）

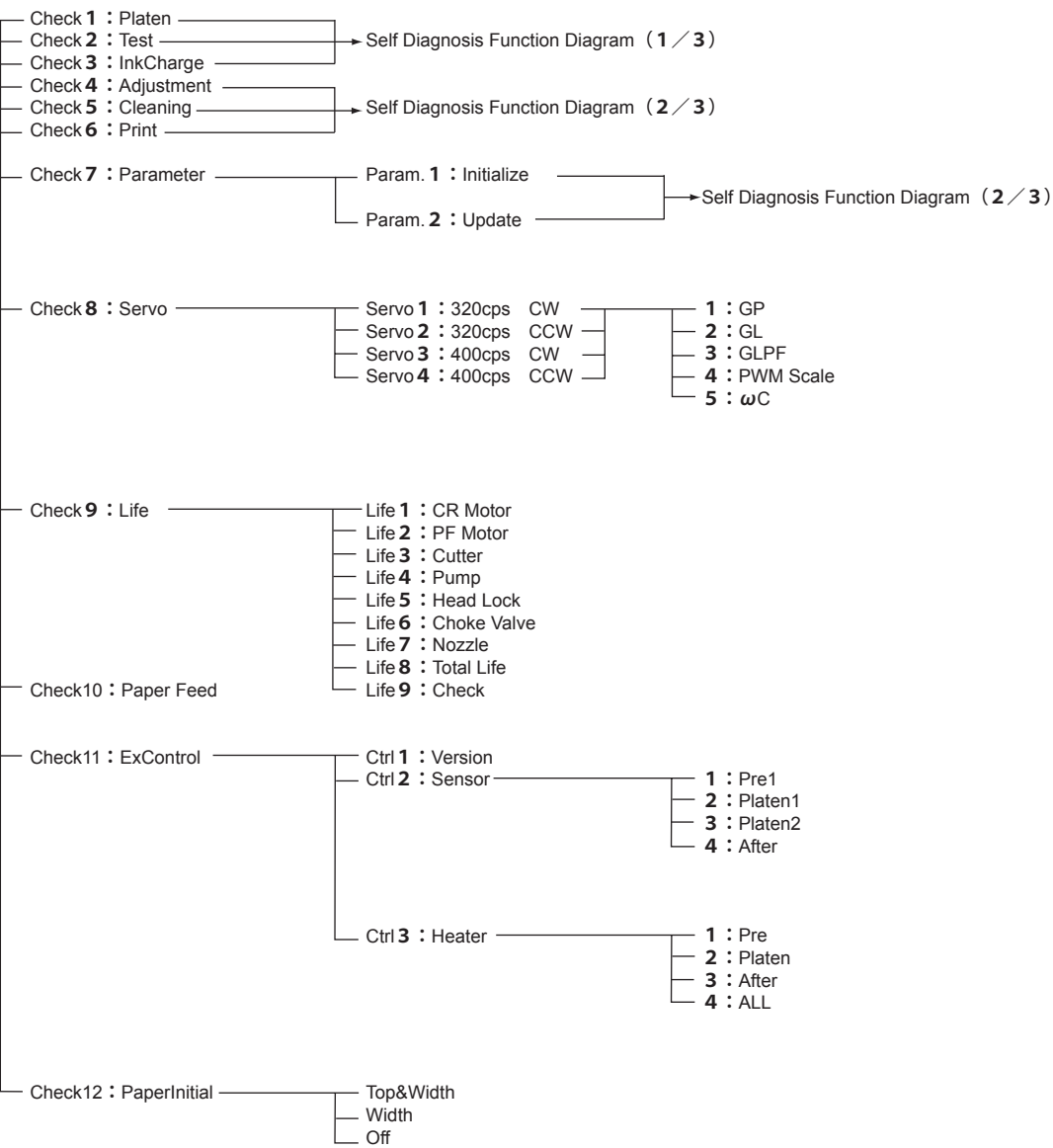


Self Diagnosis Function Configuration（2／3）



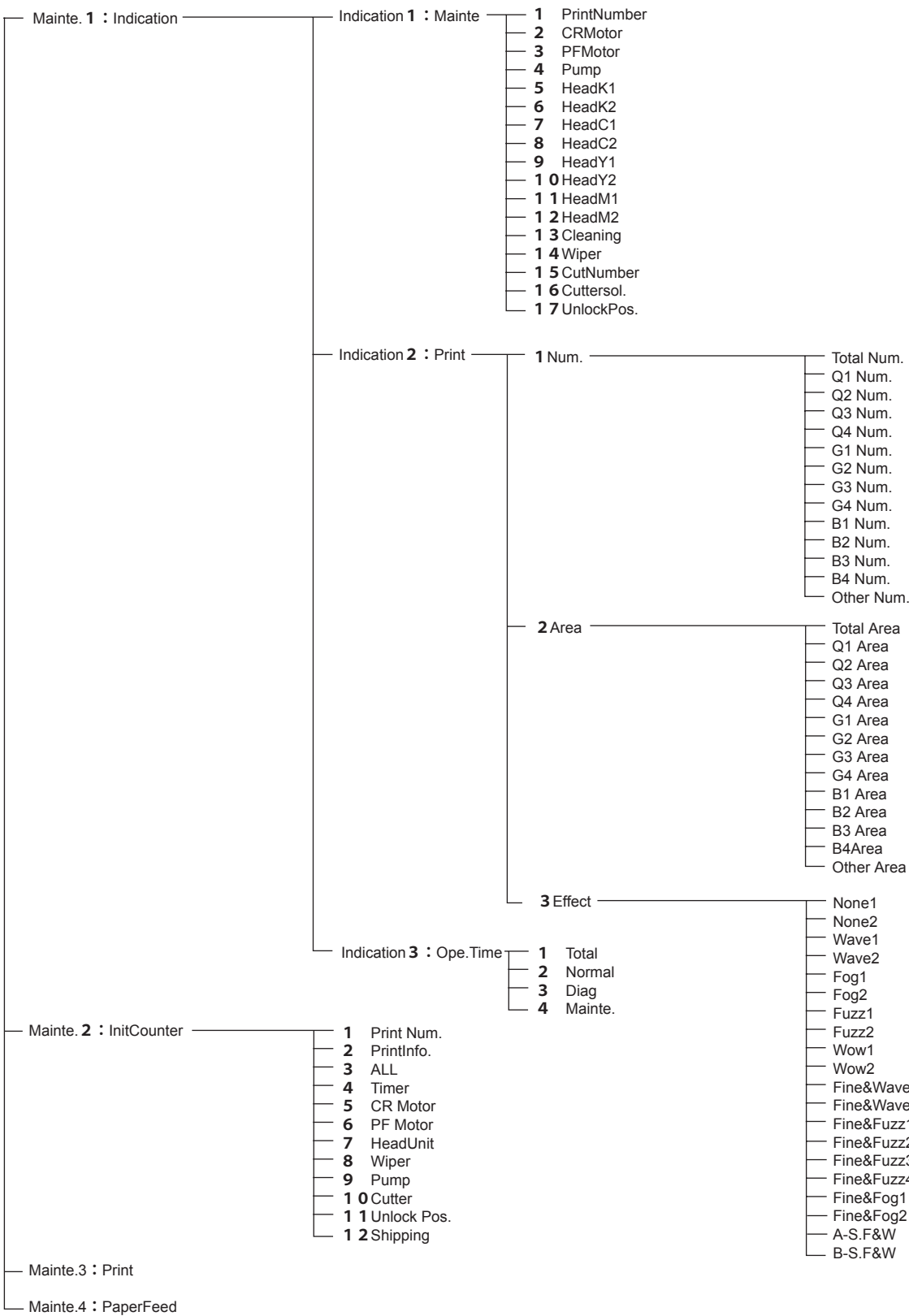
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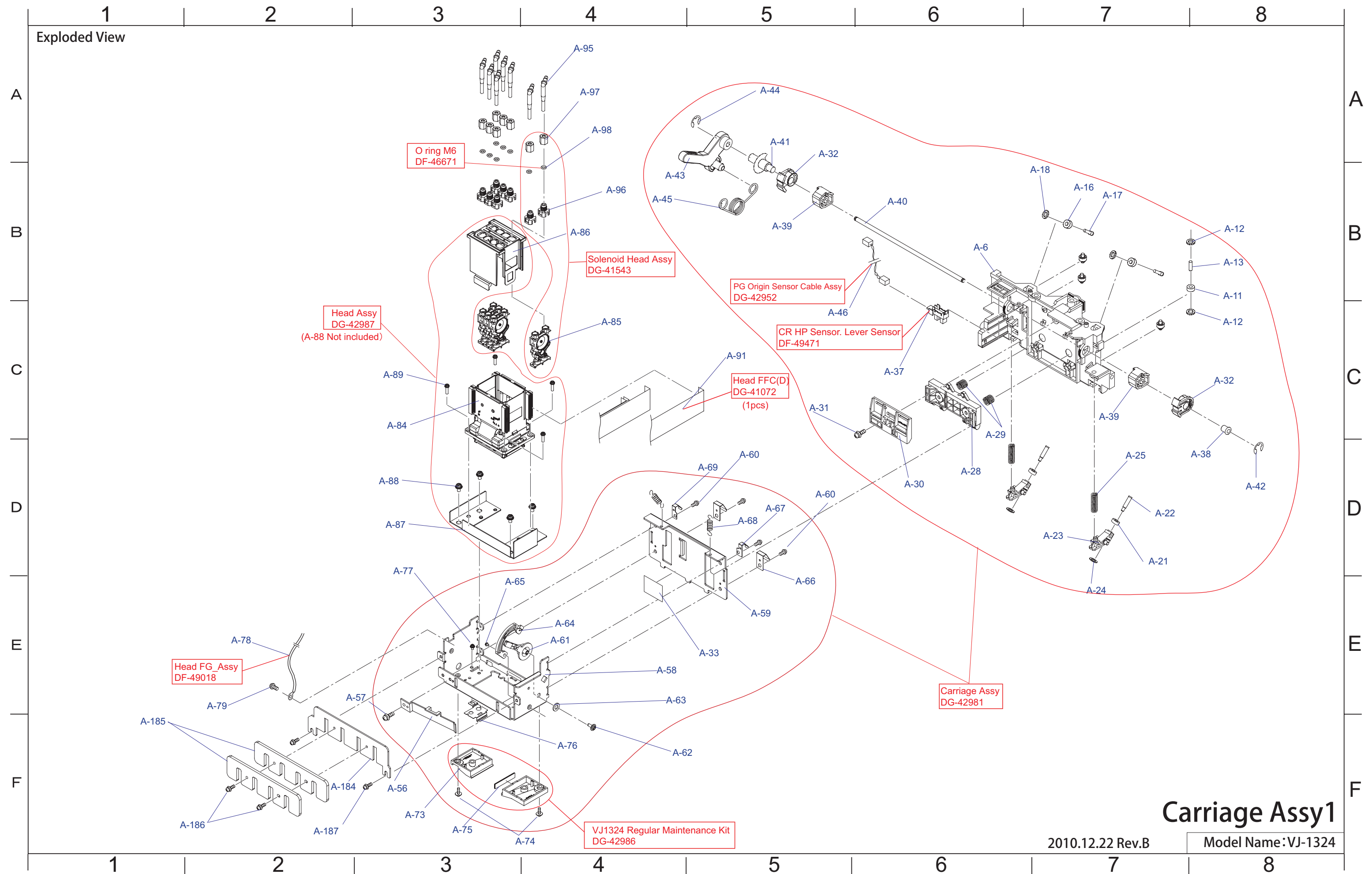
Self Diagnosis Function Diagram (3 / 3)

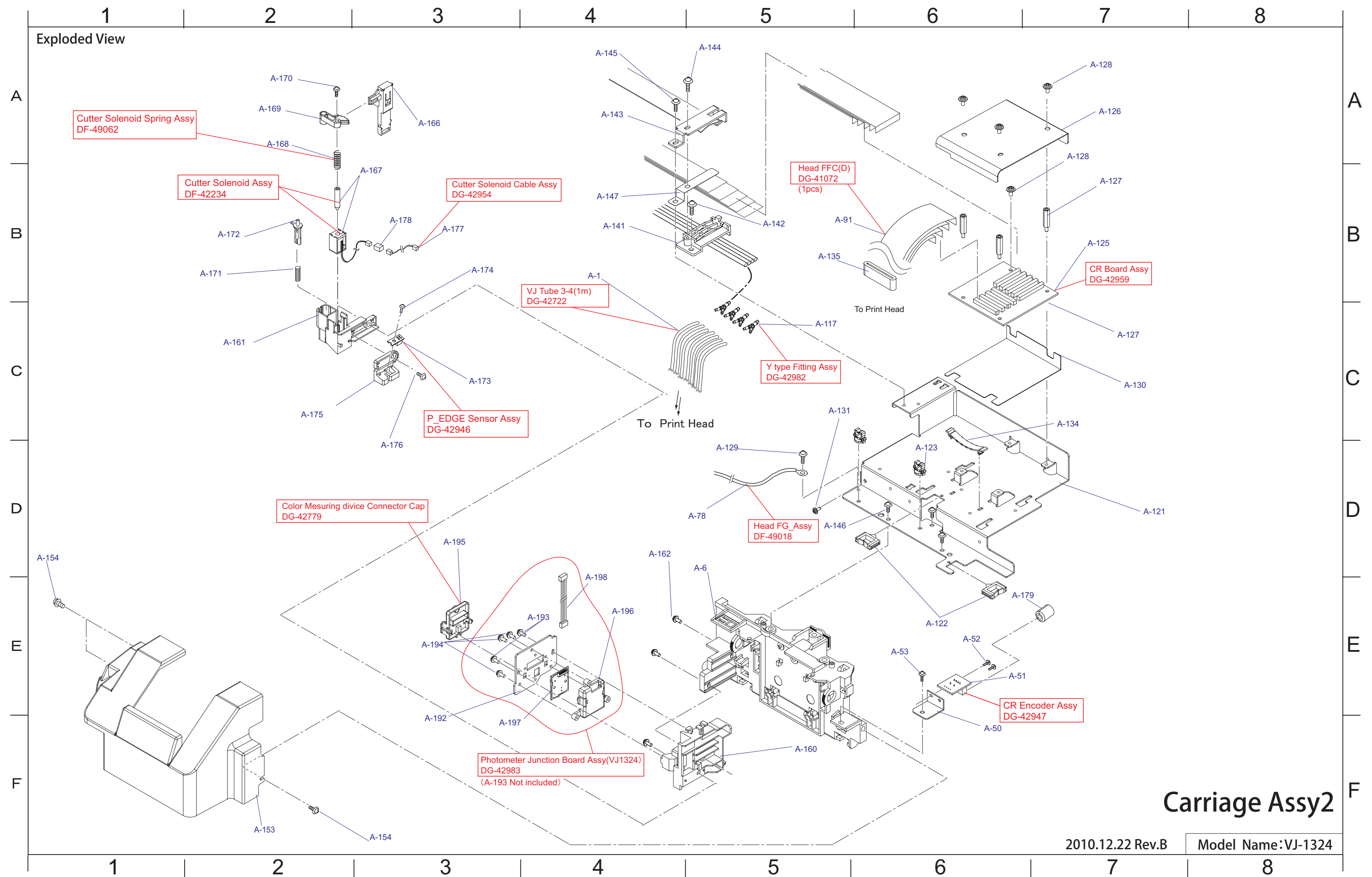


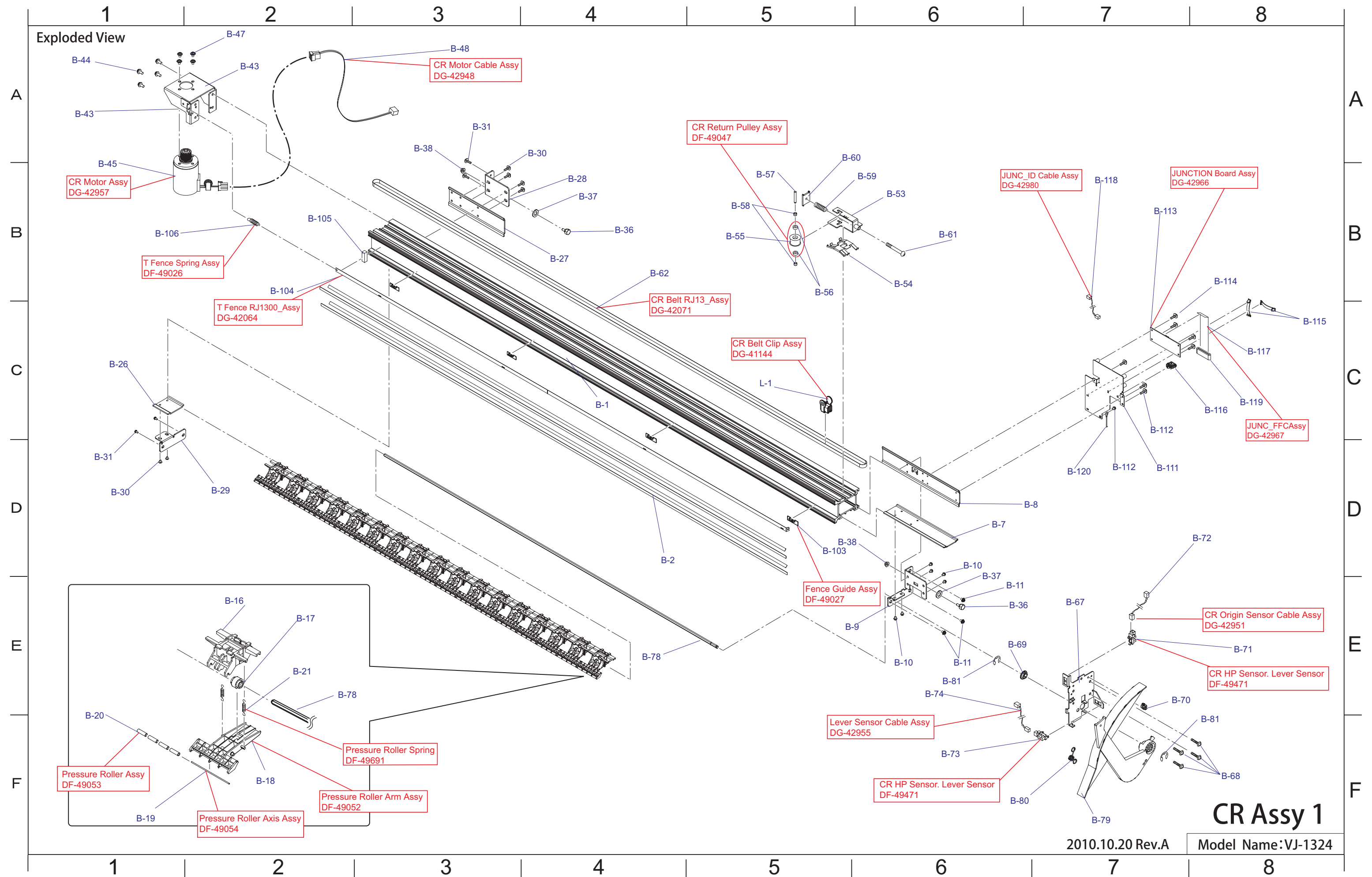
Maintenance Mode 2 Diagram

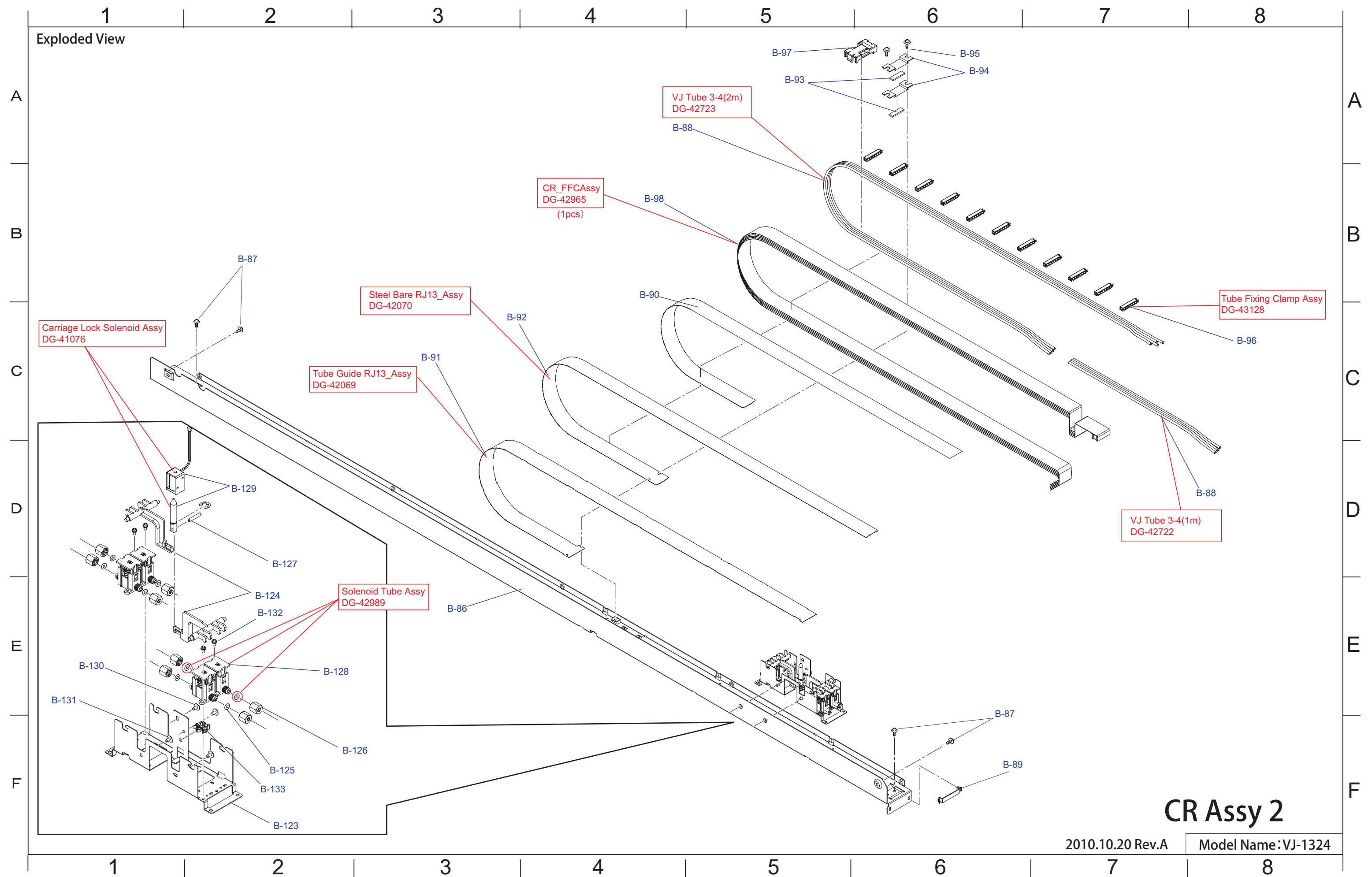
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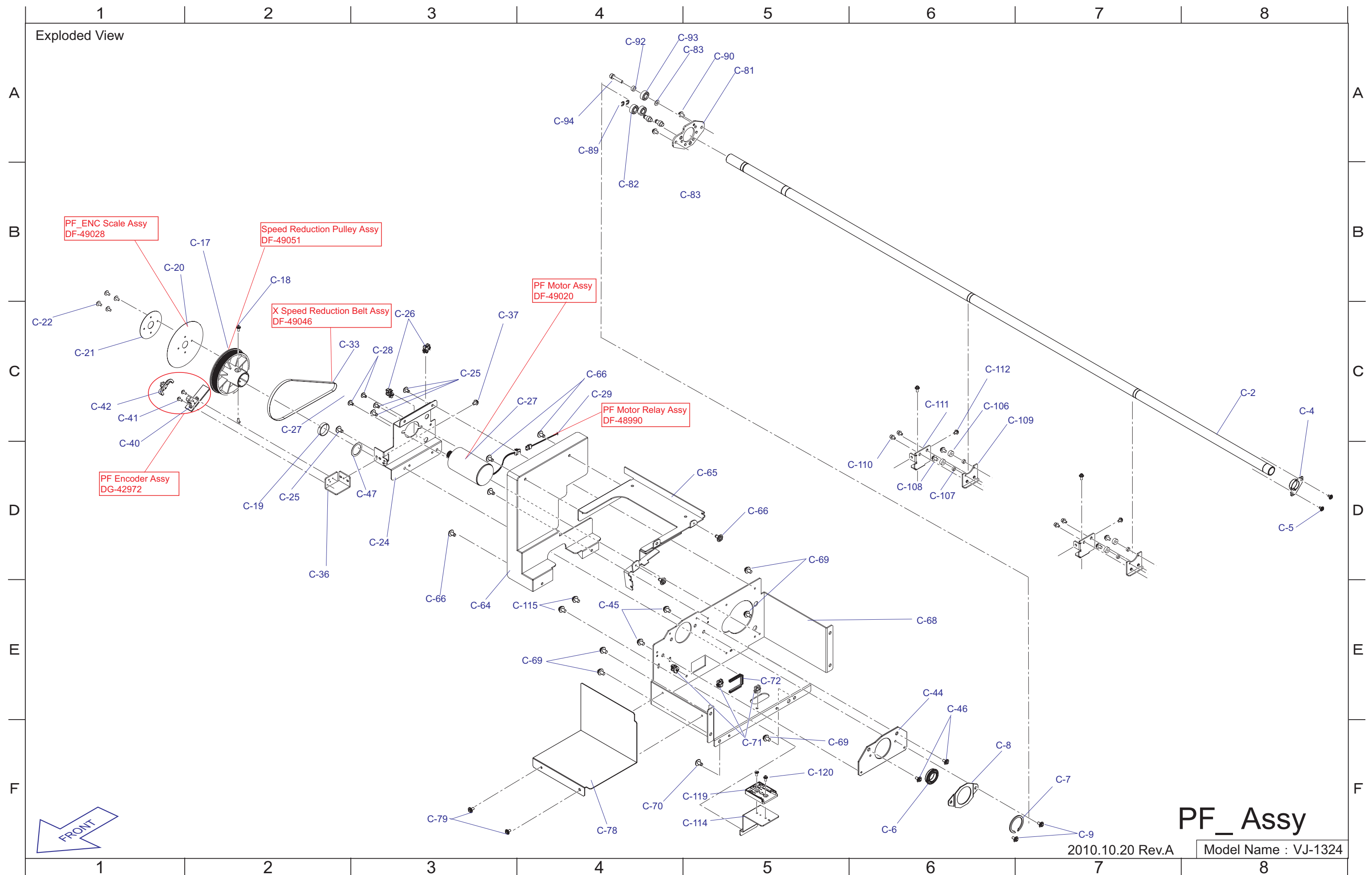


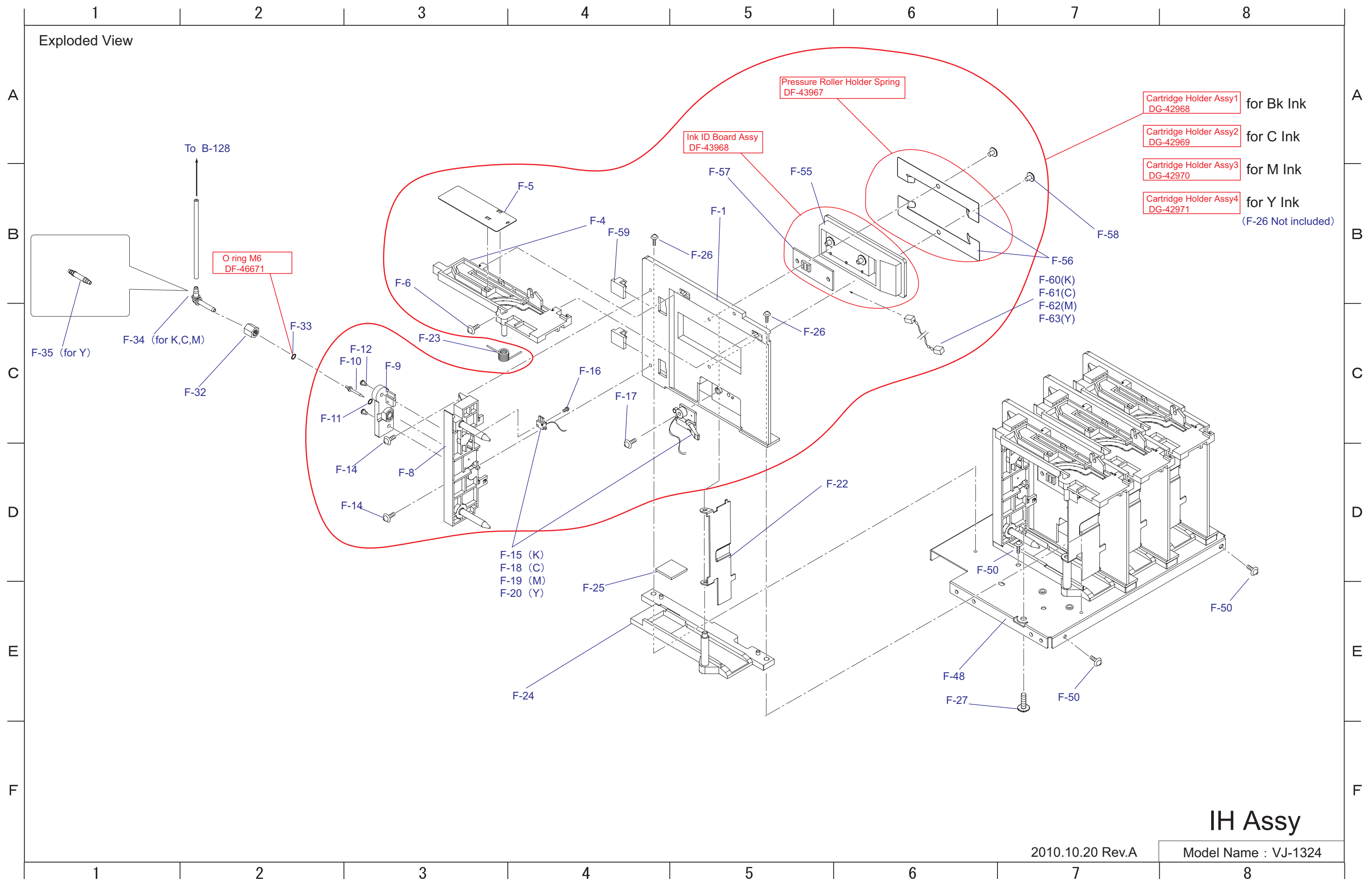


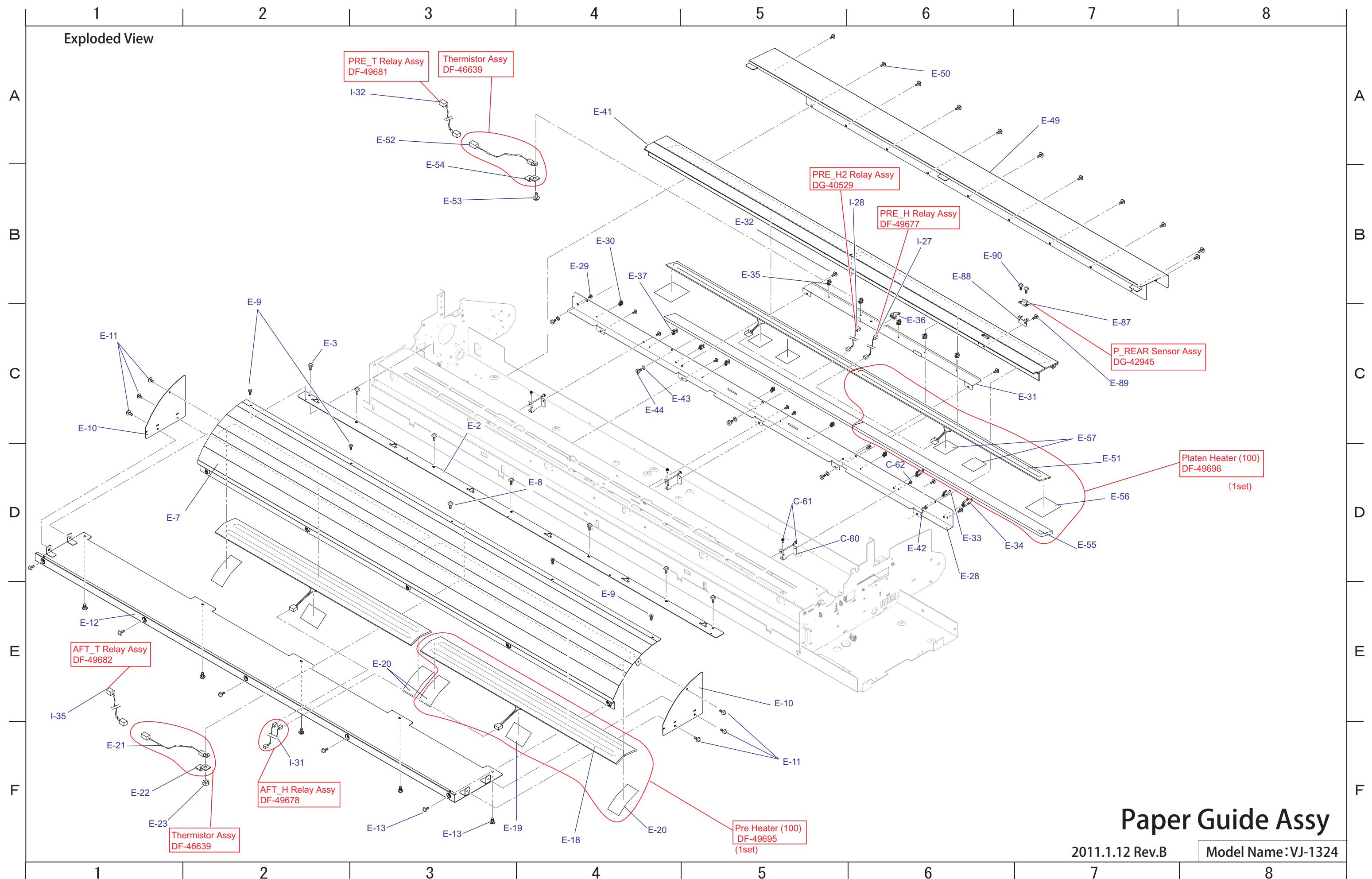




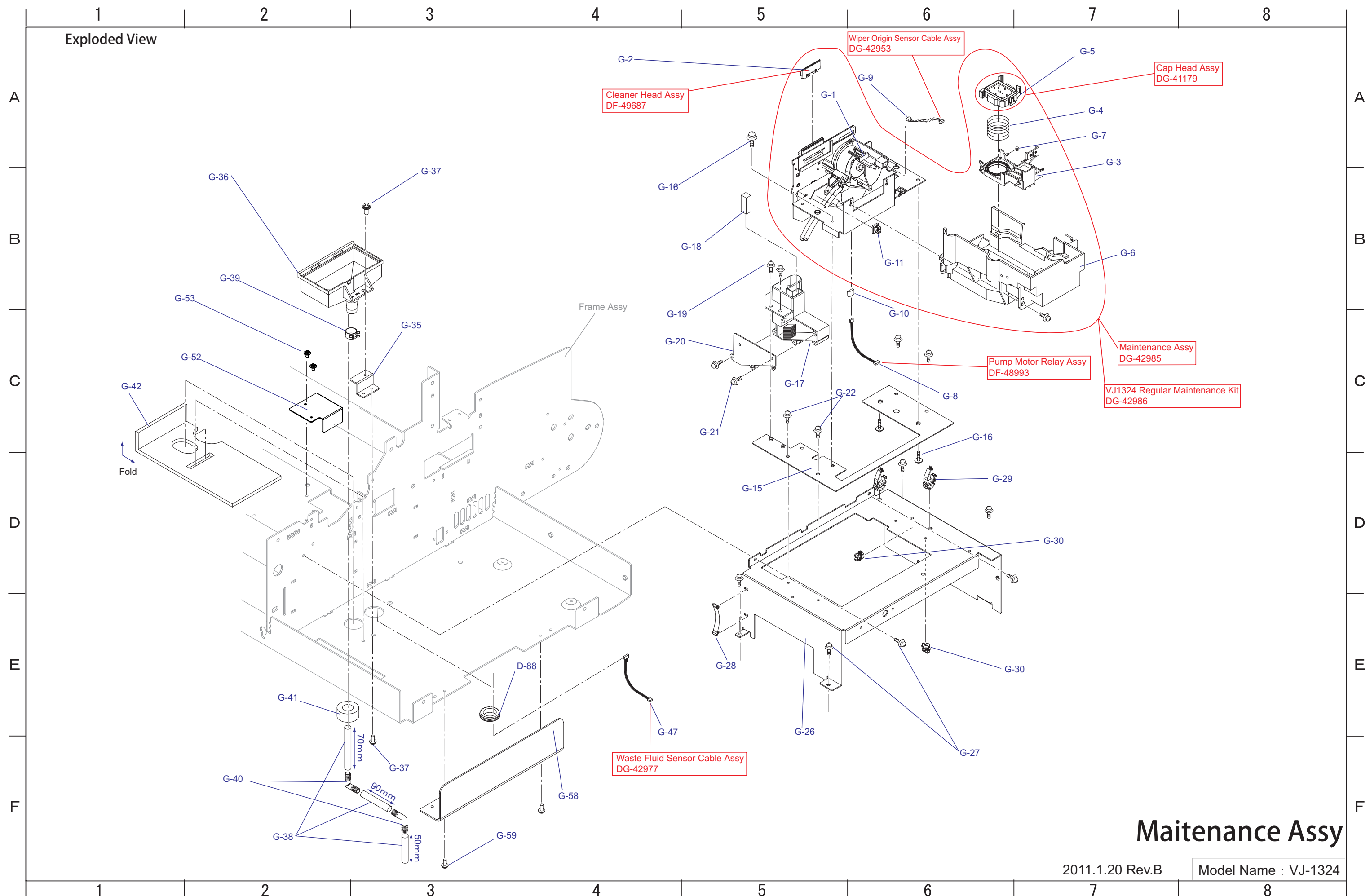












Maitenance Assy



Model Name: VJ-1324



