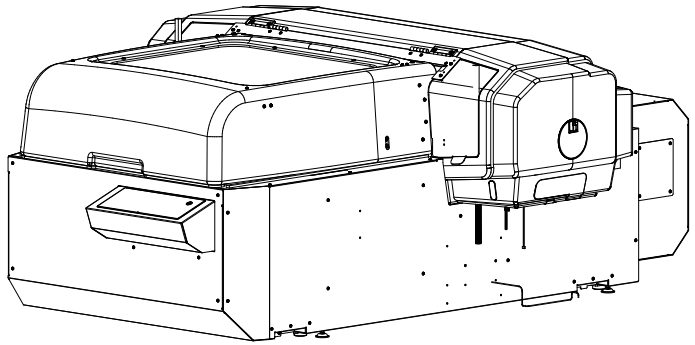
MUTOH

MAINTENANCE MANUAL

Full-Color Inkjet Printer

XpertJet 661UF



XPJ661UFE-M-01

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1.1 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. 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

1. Introduction

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 mode 2 of the printer.

7. Maintenance

Explains daily maintenance of the printer.

8. Appendix

Explains the maintenance information and the exploded views for this printer.

(3) Manual Notation

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

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.

(4) Firmware version covered by this document

Firmware version:1.00

(5) Establishment Date of This Document

This document was established on August 21, 2020

TIP

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=> 1 Introduction

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1.2 Important Notice

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TIP

Chapter TOC

=> 1 Introduction

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1.3 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.

WARNING

Follow all instructions and warnings on this manual when installing, operating, or maintaining the equipment.

NOTE

- All warning labels must be visually recognized.
  If the text or illustrations cannot be seen clearly, clean or replace the label.
  When cleaning warning labels, use cloth with water or neutral detergent.
- Do not use solvent or gasoline.
  If a warning label is damaged, lost, or cannot be recognized, replace the label.
- Location and type of warning labels
  => Installation Manual

TIP

Chapter TOC=> **1 Introduction**

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1.4 Before starting maintenance

Note the following points when performing the maintenance.

WARNING

- Read the installation manual and operation manual carefully before starting the operation.Otherwise, you may be injured.
  => Installation manual
  => Operation manual
- Before starting part(s) replacement, always perform following operations.
  - Turn OFF power.
  - Remove Power plug from outlet.
  Otherwise, you may suffer electric shock or system circuit may be damaged.
- Remove any cable(s) connected to the printer.
  Otherwise, the printer may be damaged.

CAUTION

- Components in printer can be disassembled only if instructed so in this manual.
  - Donot disassemble Frame components and/or other components that are not instructed.
  - The printer has been assembled in MUTOH factory with extremely high precision up to 1/100mm.
  - If disassembled inappropriately, normal functionality may not be restored.
- Check if 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.

Note the following points when using UV ink.

WARNING

UV ink may cause strong irritation to your skin.
Wear butyl rubber glovesand protective goggles to prevent skin contact.

CAUTION

The printer uses UV ink.
There is a possibility that the ink would be cured by strong light from fluorescent lamps or sunlight.
Do not leave for a long time (1 or more days) with the cover removed.

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2.1 Introduction

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

NOTE

If the machine is malfunctioning but no error messages are displayed, refer to**2.3Troubleshooting Without Error Messages**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.

Trouble	Contents	Reference
When the message is displayed	Trouble with an error message displayed on Operation panel when the printer is malfunctioning.	**2.2Error Messages**
When the message is not displayed	Trouble without an error message displayed on Operation panel even when the printer is malfunctioning.	**2.3Troubleshooting Without Error Messages**

TIP

Chapter TOC=> **2 Troubleshooting**

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2.2 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.

Error	Symptom	Cause
E016 Interrupt [00]	(Interrupt problem) Interrupt handling problem	Main board is damaged
E016 TLB Modify [01]	(TLB Modification exception) Instruction boundary error	
E016 TLB – L / I [02]	(TLBL: TLB exception (load or instruction fetch)) Instruction boundary error	
E016 TLB – S [03]	(TLBS: TLB exception (store)) Instruction boundary error	
E016 Add Err – L / I [04]	(Address error exception (load or instruction fetch)) Address error in loading a command or at a time of fetch	
E016 Add Err – S [05]	(Address error exception (store)) Address error in data storing process	
E016 Bus Err – I [06]	(Bus exception error (instruction fetch)) Bus error in loading or storing a command	
E016 Bus Err – L / S [07]	(Bus error (data reference: load or store)) Bus error in loading or storing a command	
E016 System Call [08]	(System Call) System call error	
E016 Break Point [09]	(Break Point) Breakpoint error NOTE • including zero-divide operation • the compiler generates codes so as to generate an error when the operation is a zero-divide	
E016 Reserved [10]	(Reserved instruction) Reserved instruction error	

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Error	Symptom	Cause
E016 Copro [11]	(Coprocessor Unusable) Coprocessor error	Main board is damaged
E016 Overflow [12]	(Arithmetic overflow) Occurrence of overflow	
E016 Trap [13]	(Trap) Occurrence of trap	
E016 Floating [15]	(Floating Point) Floating point error	
E016 Watch [23]	(Watch exception error) Error in Watch	
E016 Watch Dog [32]	(Watchdog time-out) Time-out error in watchdog	
E016 Abort Err[33]	(Abort Error) CPU becomes aborted	
CPU ERROR [35]	(Checksum error) The content of Flash ROM may be damaged	
E016 Exception Err [XX]	EXC error (undefined) other than above (EXC error number will be displayed in XX.)	
E065 Error: PF Motor	Error in media feeding motor (X-axis) during printer operation.	PF Motor is damaged Main board is damaged
E066 Error: CR Motor	Error in head moving motor (Y-axis) during printer operation	T Fence is damaged CR Motor is damaged CR board is damaged Main board is damaged
E067 Error: PF Encoder	Error in media feeding amount (X-axis) during printer operation	PF Motor is damaged Main board is damaged
E068 Error: CR Encoder	Error in head moving amount (Y-axis) during printer operation	CR board is damaged Main board is damaged
E069 Error: PF Time-out	Time-out error in media moving amount (X-axis) during printer operation	PF Motor is damaged Main board is damaged
E070 Error: CR Time-out	Time-out error in head moving amount (Y-axis) during printer operation	T Fence is damaged CR Motor is damaged CR board is damaged Main board is damaged
E071 Error: PF Over current	Problem caused by the media feeding motor (X-axis) overload during printer operation	PF Motor is damaged Main board is damaged

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Error	Symptom	Cause
E072 Error: CR Over current	Problem caused by the head moving motor (Y-axis) overload during printer operation	T Fence is damaged CR Motor is damaged CR board is damaged Main board is damaged
E073 Error: PF2 Over current	E071 error detected by the firmware	PF Motor is damaged Main board is damaged
E074 Error: CR2 Over current	E072 error detected by the firmware	T Fence is damaged CR Motor is damaged CR board is damaged Main board is damaged
E075 Error: Head Temperature	Head cable or head thermistor problem- Cable break of the head cable or defect in the head thermistor	Head FFC (D): Connection failure or damage Print Head is damaged
E081 Error: CR Origin	CR origin cannot be detected	CR HP Sensor is damaged
E085 Error: Head overheat	Defect in the head driver or print head- Defect in the print head or cable break of the head cable	Head FFC (D): Connection failure or damage Print Head is damaged
E087 Error: Head transistor thermistor	Defect in the head transistor- Defect in the temperature of the head transistor on the main board or sensor abnormality	Print Head is damaged Main board is damaged
E092 Error: CR Overload	E072 Error detected by the firmware	Carriage Lock Solenoid is damaged T Fence is damaged CR Motor is damaged CR board is damaged Main board is damaged CR Return Pulley is damaged Roller Strip (front) is damaged Roller Strip (slope) is damaged
E097 Error: NVRAM	Problem with the NVRAM	Main board is damaged
E154 Error: AC Voltage drop	Power-supply disconnection or brownout- Disconnected AC cable, Temporary blackout, or Defect in the power supply board	CR board is damaged
E155 Error: Abnormal end	Defect in CPU memory- “E016” is shown on the screen.	
E224 Error: UV Fan 1	UV Fan 1 is stopped.- Defect in UV Fan 1	
E226 Error: UV Temp Err.	UV Lamp is overheated.- Defect in UV Lamp	

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Error	Symptom	Cause
E240 Error: PG Origin	PG origin cannot be detected.- Defect in the PG origin sensor assembly or main board assembly	
E241 Error: PG Limit	PG limit cannot be detected.- Defect in the PG limit sensor assembly or main board assembly	

TIP

Chapter TOC=> **2 Troubleshooting**

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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

=> 2.3.2 Media Feed Problems
=> 2.3.3 Printing Problems
=> 2.3.4 Noise Problems
=> 2.3.5 Online Function Problems
=> 2.3.6 Other Problems

TIP

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2.3.1 Initial Operation Problems

No.	Symptom	Possible Error Factor
1	Printer cannot be turned on	Power cable is damaged Main Side AC Inlet Fan Box Cable: Connection failure or damage Fuse-Terminal Block Cable: Connection failure or damage Terminal Blocks Power Supply Cable: Connection failure or damage Main BoardDC Cable: Connection failure or damage AC Fuse is damaged Panel FFC: Connection failure or damage Panel Unit is damaged AC Inlet is damaged Power Supply board is damaged Main board is damaged
2	LCD display malfunction	Panel FFC: Connection failure or damage Panel Unit is damaged Power Supply board is damaged Main board is damaged
3	Initial ink charge does not start	[Cover open] displayed: Maintenance cover is open Front cover is open Cover switch: Connection failure or damage [No Cartridge] displayed: Ink cartridges are not installed. Ink cartridge is not MUTOH exclusive ones. Panel FFC: Connection failure or damage Main board is damaged
4	Initial ink charge started, but ink does not reach Head	Cap Head is damaged Capping Station is damaged Ink tube: Connection failure or damage DC Pump is damaged Valve Head is damaged Print Head is damaged
5	Ink does not come out even after initial ink charge is completed	Cap Head is damaged Wiper Solenoid is damaged DC Pump is damaged Valve Head is damaged Head FFC (D): Connection failure or damage CR-FFC: Connection failure or damage Print Head is damaged CR board is damaged Main board is damaged
6	The printer does not stop operation even when Front cover or Maintenance cover is opened.	Cover switch: Connection failure or damage
7	After the printer is turned on, "Initializing" is displayed and the printer resets	Panel FFC: Connection failure or damage

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No.	Symptom	Possible Error Factor
8	Loading media does not start the initial operation	Cover switch: Connection failure or damage
9	The printer does not operate even when Front cover or Maintenance cover is closed.	Cover switch: Connection failure or damage
10	The printer does not recognize the installed ink cartridges	Ink cartridge is not MUTOH exclusive ones.
11	Nothing can be input from Operation panel	Panel is contaminated Panel FFC: Connection failure or damage Main board is damaged
12	Printing does not start even after receiving data.	

TIP

Chapter TOC=> **2 Troubleshooting**

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2.3.2 Media Feed Problems

No.	Symptom	Possible Error Factor
1	Media size is not correctly detected after media initialization.	Media is not MUTOH recommended media.

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Chapter TOC=> **2 Troubleshooting**

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2.3.3 Printing Problems

Symptom	Possible Error Factor
The printer does not print continuously.	Wrong F/W in Main side Main board is damaged
After printing, the printer feeds an extra amount of media.	If no problem with other data: Data damaged Wrong F/W in Main side Main board is damaged
Nozzles are clogged during printing	Daily maintenance is not performed Ink accumulation in flushing box
Cleaning does not mend the clogged nozzles or skewed ink discharge.	Cleaning is not sufficient. Ink adhered on wiper Wiper is not fixed properly. No ink in ink tube Ink tube: Connection failure or damage Nozzle is clogged. Wrong head rank Ink adhered on head surface or in nozzle. DC Pump is damaged Print Head is damaged CR board is damaged Main board is damaged
Cannot print at all A specific color is missing	CR-FFC: Connection failure or damage Valve Head is damaged Ink tube: Connection failure or damage Head FFC (D): Connection failure or damage DC Pump is damaged Print Head is damaged CR board is damaged Main board is damaged
The page is printed all black.	Head FFC (D): Connection failure or damage CR-FFC: Connection failure or damage Print Head is damaged CR board is damaged Main board is damaged
The page is printed blocky.	Daily maintenance is not performed Printer used in such environment that exceeds operating condition range.

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Symptom	Possible Error Factor
Images are printed unevenly. Lines in the CR direction look split. White or black lines appear on printed media	Printing immediately after initial ink replenishment Media feed compensation value inccorrect Incorrect print head adjustment Nozzle clog Printing in banner mode Oil or grease adhered on media X speed reduction belt tension is not correct Pressure rollers do not operate smoothly Adsorption Fan is damaged Wiper blade is damaged Wiper Solenoid is damaged Wiper is damaged T Fence is damaged DC Pump is damaged Ink tube: Connection failure or damage Wrong head rank Ink adhered on head surface or in nozzle. Print Head is damaged CR board is damaged Main board is damaged
The printed borders are blurred.	Cleaning is not sufficient. Media is not MUTOH recommended media. Heater temperature setting is incorrect Incorrect print head adjustment Print Head is damaged CR board is damaged Main board is damaged
There are unwanted dots (satellites). Lines are printed blurry (messy printing result)	Printer used in such environment that exceeds operating condition range. Cleaning is not sufficient. Printing immediately after initial ink replenishment Ink adhered on wiper Ink adhered on head surface or in nozzle. Incorrect print head adjustment Ink left in cartridge is not sufficient PG is too high Interference between CR encoder and T fence. Wiper blade is damaged Wiper Solenoid is damaged Wiper is damaged DC Pump is damaged Ink tube: Connection failure or damage Wrong head rank Ink adhered on head surface or in nozzle. Print Head is damaged CR board is damaged Main board is damaged

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Symptom	Possible Error Factor
Mixed color lines are not overlapped.	Incorrect print head adjustment Interference between CR encoder and T fence.
The printed results are uneven. (Vertical direction against the printer unit)	Interference between CR encoder and T fence. X speed reduction belt tension is not correct Roll Media holder flange is not installed properly Pressure rollers do not operate smoothly T fence is contaminated. Main board malfunction X speed reduction belt is loose Media feed compensation value inccorrect Dust adhere on grid roller. Incorrect print head adjustment Wrong head rank Roller guide is contaminated. Adsorption Fan is damaged Bare Steel Shees is damaged VJ Cursor Roller Arm is damaged Cursor is damaged

TIP

Chapter TOC=> **2 Troubleshooting**

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2.3.4 Noise Problems

No.	Symptom	Possible Error Factor
1	Abnormal noise is heard when media is sucked	Foreign material or obstacle on adsorption fan or its neighborhood. Adsorption Fan is damaged Main board is damaged Power Supply board is damaged
2	Abnormal noise is heard during waiting time	Foreign material or obstacle makes noise. Board makes noise.
3	Abnormal noise is heard while cursor is moving laterally	Client thinks mechanical sound as noise. Roller guide is contaminated. Foreign material in bearing(s). Noise generation due to loose screw(s) Rattling noise heard when carriage is moved to the left or right CR FFC makes noise. Cable cover of carriage makes contact noise. CR return pulley makes noise. CR motor makes noise.
4	Abnormal noise is heard when feeding media	Jumping gear teeth between X speed reduction belt and PF speed reduction pulley PF motor makes noise. Dust adhere on grid roller. PF encoder scale is contaminated PF encoder is not installed properly

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2.3.5 Online Function Problems

No.	Symptom	Possible Error Factor
1	Other functions do not work correctly	Main board is damaged
2	Printing position is incorrect	Incorrect print head adjustment Main board is damaged
3	Data or printing is garbled	Wrong F/W in Main board
4	Part of the data is not printed (missing)	T fence is contaminated. CR Encoder is damaged Main board is damaged

TIP

Section Top => **2.3 Troubleshooting Without Error Messages**

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2.3.6 Other Problems

No.	Symptom	Possible Error Factor
1	System hang up during operation	Main board malfunction
2	Power outage during operation	Power cable is damaged Short circuit. Power Supply board is damaged
3	Ink cartridge cannot be inserted	Ink cartridge is not installed properly Ink cartridge is not MUTOH exclusive ones.
4	Ink overflow in waste fluid tank	Waste ink bottle is damaged
5	Ink overflow in flushing box	Ink accumulation in flushing box
6	Ink overflow in X rail and its neighborhood	Ink accumulation in flushing box Wiper tube connection failure Maintenance tube connection failure Ink tube: Connection failure or damage CR board is damaged Print Head is damaged Main board is damaged

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3.1 Introduction

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

WARNING

Before starting part(s) replacement, always perform following operations.

- Turn OFF power.
- Remove Power plug from outlet.
  Otherwise, you may suffer electric shock or system circuit may be damaged.
- Remove any Cable connected to the printer.

CAUTION

- Components in printer can be disassembled only if instructed so in this manual. Do not disassemble Frame components and/or other components that are not instructed.
- The printer has been assembled in MUTOH factory with extremely high precision up to 1/100mm. If disassembled inappropriately, normal functionality may not be restored.
- The printer uses UV ink.
  There is a possibility that the ink would be cured by strong light from fluorescent lamps or sunlight.
- Do not leave for a long time (1 or more days) with the cover removed.

NOTE

Pictures and illustrations are taken at development phase.
Thus specification and procedure may not be up-to-date.

TIP

Chapter TOC
=> 3 Parts Replacement
Index by section
=> 3.2 Cover-Remove / Assemble
=> 3.3 Frame
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=> 3.14 Accessories
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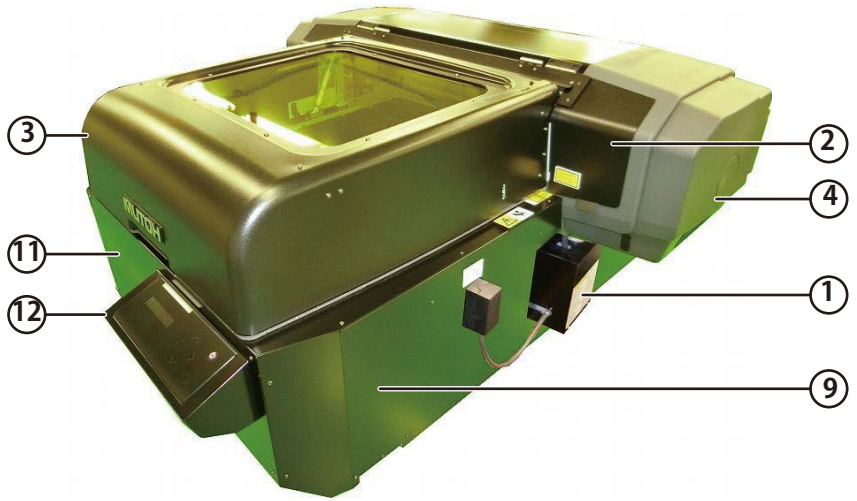
3.2 Cover-Remove / Assemble

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Parts Replacement
=> **3 Parts Replacement**
Index by section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0300 Cover - Overview**

The following table lists the printer covers.
This section describes how to remove/reinstall the printer covers.

No	Name	Reference
1	Waste Fluid Bottle Cover	**3.2.1 Waste Fluid Bottle Cover**
2	Maintenance Cover	**3.2.2 Maintenance Cover**
3	Front Cover	**3.2.3 Front Cover**
4	Side Cover R	**3.2.4 Side Cover R**
5	Side Cover L	**3.2.5 Side Cover L**
6	Base Rear Cover	**3.2.6 Rear Cover**
7	Top Cover	**3.2.7 Base Rear Cover**
8	Side Outer Cover R	**3.2.8 Top Cover**
9	Side Outer Cover L	**3.2.9 Side Outer Cover R**
10	Panel Cover	**3.2.10 Side Outer Cover L**
11	Cover F	**3.2.11 Cover F**
12	Panel Cover	**3.2.12 Panel Cover**





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3.2.1 Waste Fluid Bottle Cover

A : waste fluid bottle cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1 Remove screw(s).
- round head screw with split washer_M3x6 (x7)

2 Remove waste fluid bottle cover.

3 Reverse the above procedure to reinstall the parts.

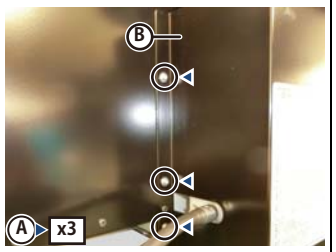
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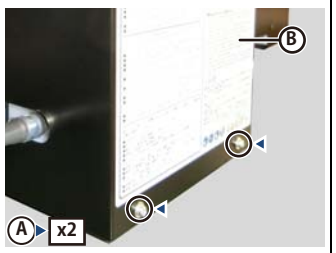
● Procedure (Details)

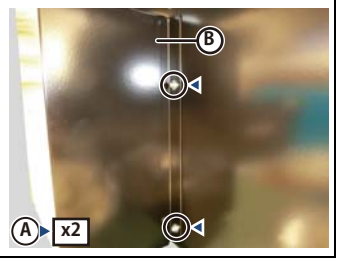
1 Remove screw(s).

A : round head screw with split washer_M3x6 (x7)

B: waste fluid bottle cover







2 Remove waste fluid bottle cover.

3 Reverse the above procedure to reinstall the parts.

NOTE

Do not pinch the waste fluid tube.

TIP

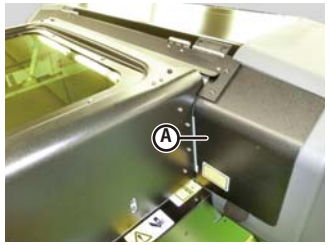
Section top

=> 3.2 Cover-Remove / Assemble

CONFIDENTIAL

3.2.2 Maintenance Cover

A : front cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Insert the media.
2. Open the maintenance cover.
3. Remove screw(s).
   - truss head small screw (black)_M4x6 (x4)
4. Remove maintenance cover.
5. Reverse the above procedure to reinstall the parts.
6. Check the operation of maintenance cover sensor.

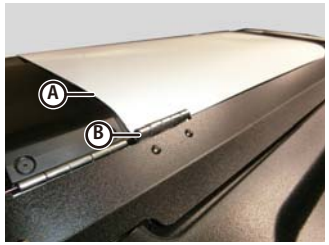
CONFIDENTIAL

● Procedure (Details)

1 Insert media.

A : media

B: hinge



NOTE

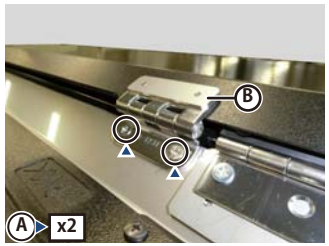
Insert the media under the hinge to protect the top cover.

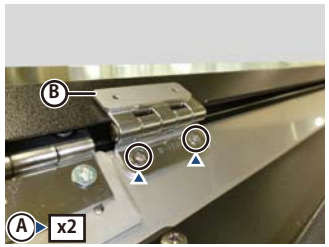
2 Remove maintenance cover.

3 Remove screw(s).

A : truss head small screw (black)_M4x6 (x4)

B: hinge





4 Remove maintenance cover.

5 Reverse the above procedure to reinstall the parts.

6 Check the operation of maintenance cover sensor.
=> 4.2 Adjustment Item

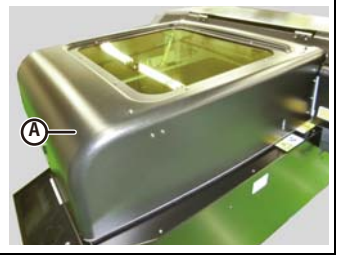
TIP

Section top
=> 3.2 Cover-Remove / Assemble

CONFIDENTIAL

3.2.3 Front Cover

A : front cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-
-	Hex Wrench (2.5mm)	-
-	Hex Wrench (2.0mm)	-

● Procedure

1. Remove cover(s).
   - maintenance cover
2. Remove left damper.
   - hexagon socket round head screw_M3x6 (x2)
3. Remove right damper.
   - hexagon socket round head screw_M3x6 (x2)
4. Remove screw(s).
   - flat head hexagon socket screw (black)_M4x8 (x4)
5. Remove front cover.
6. Reverse the above procedure to reinstall the parts.
7. Check the operation of front cover sensor.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- maintenance cover

2 Remove left damper.

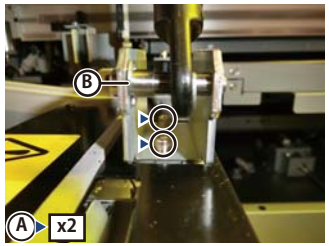
A : hexagon socket round head screw_M3x6 (x2)

B: damper Stay

C: damper

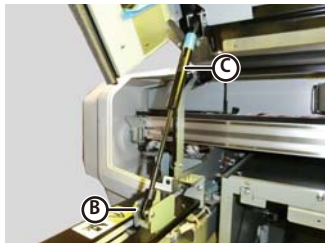
D: tape

(1) Remove screws fixing the damper stay.



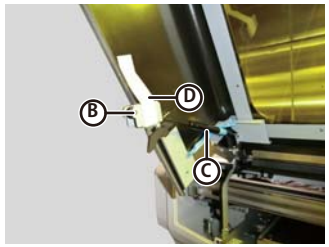
NOTE

- Support the front cover with your hands.
- Otherwise, the cover may fall off when removing the screws.



(2) Remove damper.

(3) Fix the damper to the front cover with tape.



3 Remove right damper.

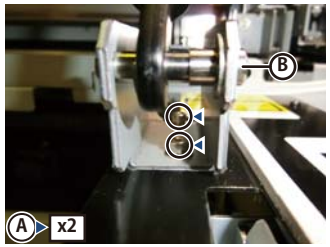
A : hexagon socket round head screw_M3x6 (x2)

B: damper Stay

C: damper

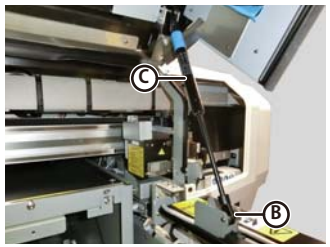
D: tape

(1) Remove screws fixing the damper stay.



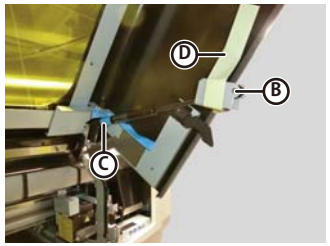
NOTE

- Support the front cover with your hand.
- Otherwise, the cover may fall off when removing the screws.



(2) Remove damper.

(3) Fix the damper to the front cover with tape.



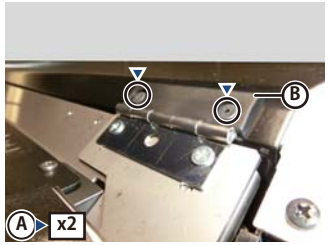
continue

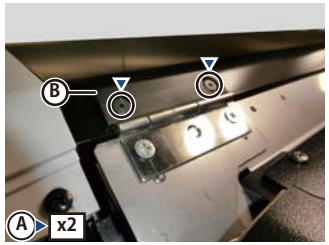
CONFIDENTIAL

4 Remove screw(s)

A : flat head hexagon socket screw (black)_M4x8 (x4)

B: hinge cover (x2)





NOTE

Do not lose the hinge cover since it is required for the installation.

5 Remove front cover.

6 Reverse the above procedure to reinstall the parts.

7 Check the operation of front cover sensor.
=> **4.2 Adjustment Item**

TIP

Section top
=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.4 Side Cover R

A : Side Cover R



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Loosen the screw fixing the top cover.
   - tap tight s bind screw (black)_M4x8 (x1)
2. Remove screw(s).
   -s tight cup tapping screw_M4x10 (x3)
   - tap tight s bind screw (black)_M4x8 (x2)
3. Remove side cover R.
4. Reverse the above procedure to reinstall the parts.
5. Check the operation of laser sensor.

CONFIDENTIAL

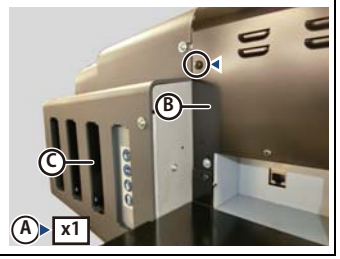
● Procedure (Details)

1 Loosen the screw fixing the top cover.

A : tap tight s bind screw (black)_M4x8 (x1)

B: top cover

C: side cover R

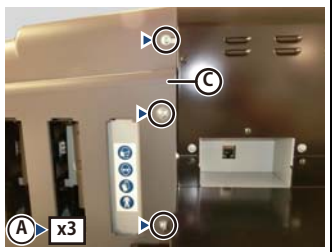


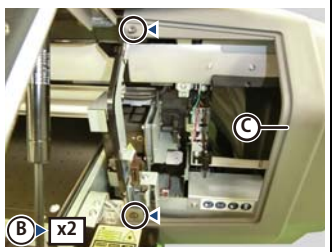
2 Remove screw(s).

A : s tight cup tapping screw_M4x10 (x3)

B: tap tight s bind screw (black)_M4x8 (x2)

C: side cover R





3 Remove side cover R.

NOTE

Pull out the cover horizontally.

4 Reverse the above procedure to reinstall the parts.

5 Check the operation of laser sensor.
=> 4.2 Adjustment Item

TIP

Section top
=> 3.2 Cover-Remove / Assemble

CONFIDENTIAL

3.2.5 Side Cover L

A : side cover L



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Loosen the screw fixing the top cover.
   - tap tight s bind screw (black)_M4x8 (x1)
2. Remove screw(s).
   -s tight cup tapping screw_M4x10 (x3)
   - tap tight s bind screw (black)_M4x8 (x2)
3. Remove side cover L.
4. Reverse the above procedure to reinstall the parts.
5. Check the operation of laser sensor.

CONFIDENTIAL

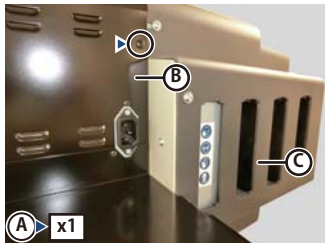
● Procedure (Details)

1 Loosen the screw fixing the top cover.

A : tap tight s bind screw (black)_M4x8 (x1)

B: top cover

C: side cover L



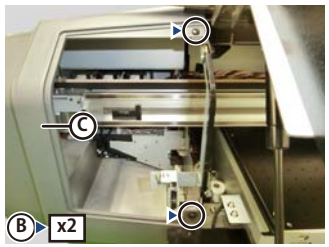
2 Remove screw(s).

A : s tight cup tapping screw_M4x10 (x3)

B: tap tight s bind screw (black)_M4x8 (x2)

C: side cover L





3 Remove side cover L.

NOTE

Pull out the cover horizontally.

4 Reverse the above procedure to reinstall the parts.

5 Check the operation of laser sensor.
=> **4.2 Adjustment Item**

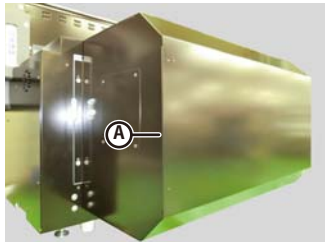
TIP

Section top
=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.6 Rear Cover

A : rear cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

NOTE

Work with two people.

● Procedure

1 Remove screw(s).
- tap tight s bind screw (black)_M3x6 (x1)

2 Remove rear cover.

3 Reverse the above procedure to reinstall the parts.

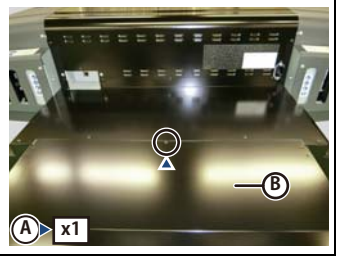
CONFIDENTIAL

● Procedure (Details)

1 Remove screw(s).

A : tap tight s bind screw (black)_M3x6 (x1)

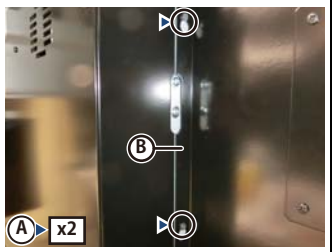
B: rear cover

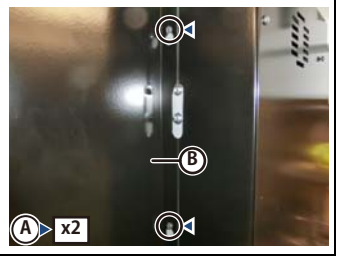


2 Loosen screw(s).

A : tap tight s bind screw (black)_M3x6 (x4)

B: rear cover





3 Remove rear cover.

NOTE

Pulloutthecoverbackwards and horizontally.

4 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.7 Base Rear Cover

A : base rear cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1 Remove screw(s).
- tap tight s bind screw (black)_M3x6 (x10)

2 Remove base rear cover.

3 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

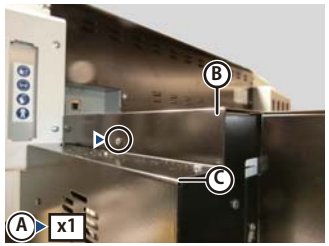
1 Remove screw(s).

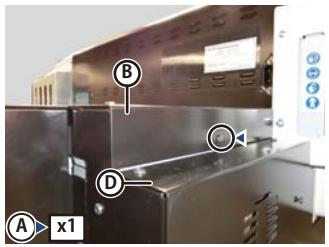
A : tap tight s bind screw (black)_M3x6 (x10)

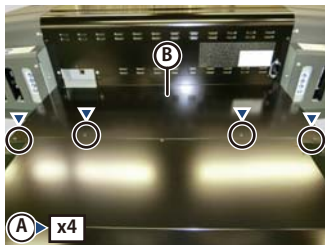
B: base rear cover

C: side outer cover R

D: side outer cover L



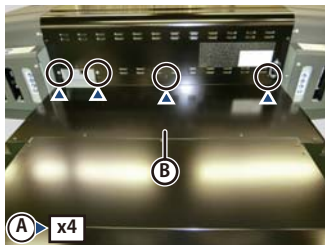




2 Remove screw(s).

A : tap tight s bind screw (black)_M3x6 (x21)

B: base rear cover



3 Remove base rear cover.

4 Reverse the above procedure to reinstall the parts.

TIP

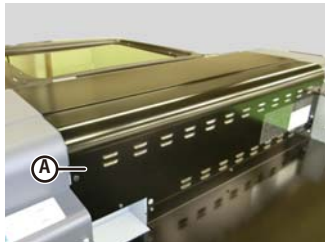
Section top

=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.8 Top Cover

A : top cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   -maintenance cover
   - front cover
   - base Rear cover
2. Remove screw(s).
   - tap tight s bind screw (black)_M4x8 (x4)
   - tap tight s bind screw (black)_M3x6 (x6)
3. Remove top cover.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- Maintenance Cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- base rear cover
=> **3.2.6 Rear Cover**

NOTE

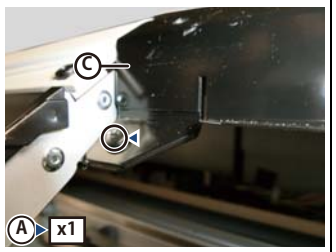
After reinstalling the front cover, check the operation of front cover
sensor.

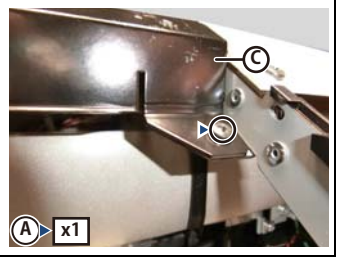
2 Remove screw(s).

A : tap tight s bind screw (black)_M4x8 (x4)

B: tap tight s bind screw (black)_M3x6 (x6)

C: top cover



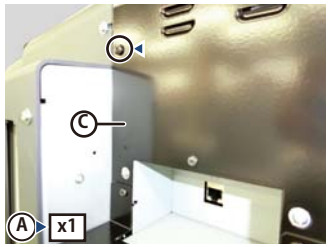


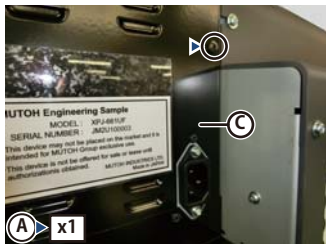
3 Remove screw(s).

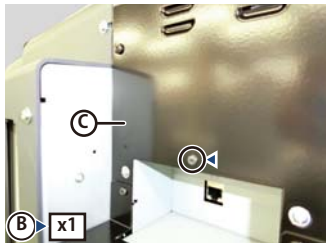
A : tap tight s bind screw (black)_M4x8 (x4)

B: tap tight s bind screw (black)_M3x6 (x6)

C: top cover







continue

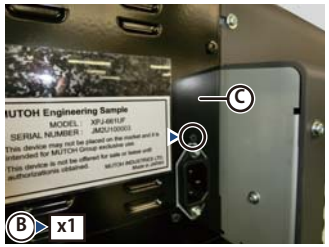
CONFIDENTIAL

4 Remove screw(s).

A : tap tight s bind screw (black)_M4x8 (x4)

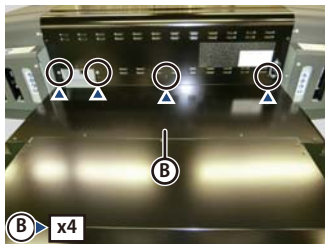
B: tap tight s bind screw (black)_M3x6 (x6)

C: top cover



NOTE

These screws fix the base rear cover altogether



5 Remove top cover.

6 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.9 Side Outer Cover R

A : side outer cover R



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - waste fluid bottle cover
2. Remove waste fluid bottle.
3. Remove waste fluid bottle base.
   - round head screw with split washer_M3x6 (x4)
4. Remove screw(s).
   - tap tight s bind screw (black)_M3x6 (x24)
5. Remove side outer cover R.
6. Reverse the above procedure to reinstall the parts.

⚠ CAUTION

Precautions when using UV ink

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber gloves and protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by strong light from fluorescent lamps or sunlight.
- Work in an environment where UV light does not interfere as much as possible.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- waste fluid bottle cover
=> **3.2.1 Waste Fluid Bottle Cover**

2 Remove waste fluid bottle.
=> **3.14.2 Waste Fluid Bottle**

NOTE

The waste fluid bottle is attached to the side outer cover R.

NOTE

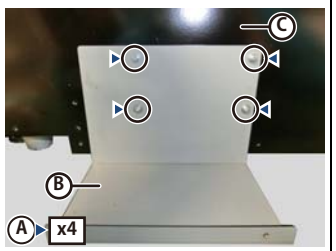
- Do not spill the waste fluid.It may contaminate the floor.
- Remove tube carefully since the waste fluid still remains inside the tube. It may contaminate the system.

3 Remove waste fluid bottle base.

A : round head screw with split washer_M3x6 (x4)

B: waste fluid bottle base

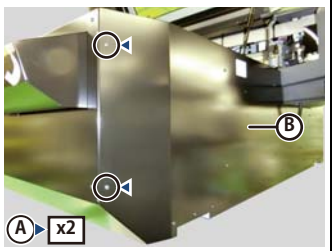
C: side outer cover R

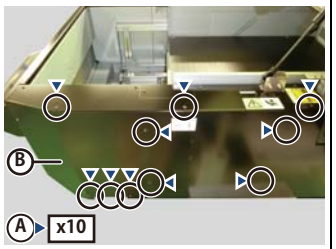


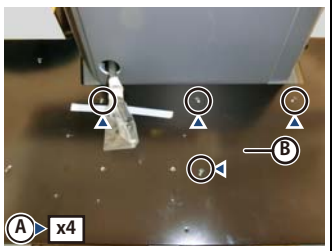
4 Remove screw(s).

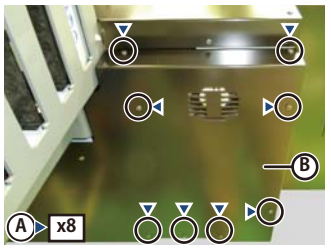
A : tap tight s bind screw (black)_M3x6 (x24)

B: side outer cover R









5 Remove side outer cover R.

6 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

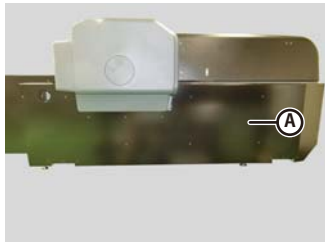
TIP

Section top
=> 3.2 Cover-Remove / Assemble

CONFIDENTIAL

3.2.10 Side Outer Cover L

A : side outer cover L



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1 Remove screw(s).
- tap tight s bind screw (black)_M3x6 (x24)

2 Remove side outer cover L.

3 Reverse the above procedure to reinstall the parts.

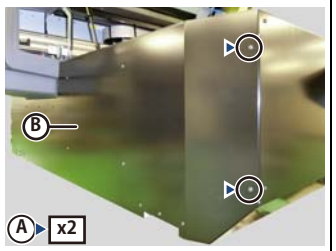
CONFIDENTIAL

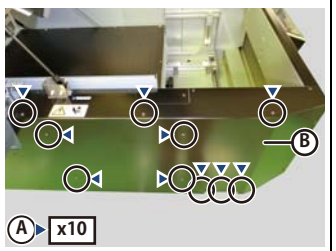
● Procedure (Details)

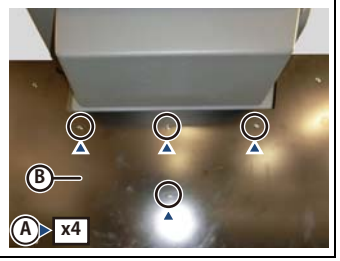
1 Remove screw(s).

A : tap tight s bind screw (black)_M3x6 (x24)

B: side outer cover L



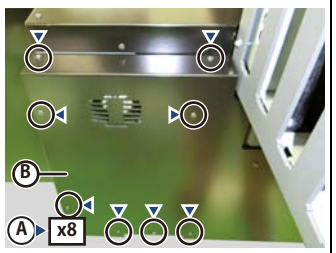




2. Remove screw(s).

A : tap tight s bind screw (black)_M3x6 (x24)

B: side outer cover L



2 Remove side outer cover L.

3 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.11 Cover F

A : cover F



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1 Remove screw(s).
- tap tight s bind screw (black)_M3x6 (x7)

2 Remove cover F.

3 Reverse the above procedure to reinstall the parts

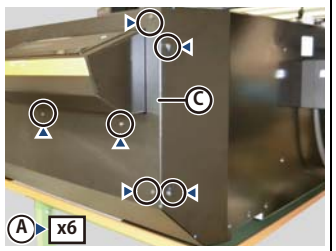
CONFIDENTIAL

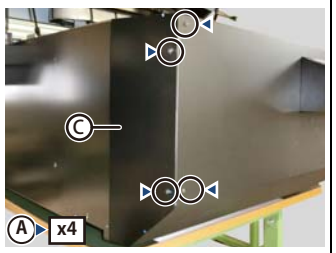
● Procedure (Details)

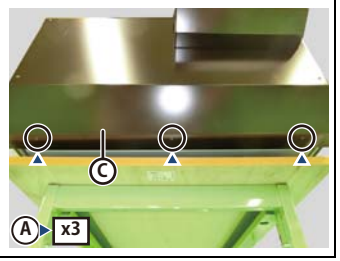
1 Remove screw(s).

A : tap tight s bind screw (black)_M3x6 (x7)

B: cover F.







2 Remove cover F.

3 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.2.12 Panel Cover

A : panel cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - cover F
2. Remove screw(s).
   -s tight cup tapping screw_M3x6 (x4)
3. Remove panel cover.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

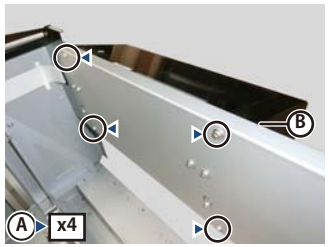
● Procedure (Details)

1 Remove cover(s).
- cover F
=> **3.2.11 Cover F**

2 Remove screw(s).

A : s tight cup tapping screw_M3x6 (x4)

B: panel cover



3 Remove panel cover.

4 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> **3.2 Cover-Remove / Assemble**

CONFIDENTIAL

3.3 Frame

3.3.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0100 Frame Overview**

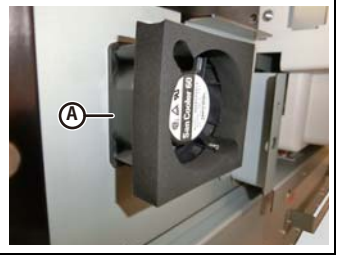
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Exhaust Fan (left-side)	**3.3.2 Exhaust Fan (left-side)**
2	Exhaust Fan (right-side)	**3.3.3 Exhaust Fan (right-side)**
3	Exhaust Fan Filter (left-side)	**3.3.4 Exhaust Fan Filter (left-side)**
4	Exhaust Fan Filter (right-side)	**3.3.5 Exhaust Fan Filter (right-side)**
5	Front Cover Switch (left-side)	**3.3.6 Front Cover Switch (left-side)**
6	Front Cover Switch (right-side)	**3.3.7 Front Cover Switch (right-side)**
7	Laser Sensor	**3.3.8 Laser Sensor**
8	Maintenance Cover Switch (left-side)	**3.3.9 Maintenance Cover Switch (left-side)**
9	Maintenance Cover Switch (right-side)	**3.3.10 Maintenance Cover Switch (right-side)**
10	PF Belt	**3.3.11 PF Belt**
11	PF Encoder	**3.3.12 PF Encoder**
12	PF Motor	**3.3.13 PF Motor**
13	PF Pulley	**3.3.14 PF Pulley**
14	PF Scale	**3.3.15 PF Scale**

CONFIDENTIAL

3.3.2 Exhaust Fan (left-side)

A : exhaust fan (left-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-45354	Cooling Fan Assy	**8.3_ 0117 Frame - Details 01**
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “fan”.



● Procedure

1. Remove cover(s).
   - front cover
   - base rear cover
   - side outer cover L
2. Remove cable.
3. Remove fan unit.
   - binding head screw_M3x35 (x2)
   - hexagon nut_M3 (x2)
4. Remove fan.
5. Replace the fan.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- front cover
  => **3.2.3 Front Cover**
- base rear cover
  => **3.2.7 Base Rear Cover**
- side outer cover_L
  => **3.2.10 Side Outer Cover L**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

connecting destination:
mist fan cable

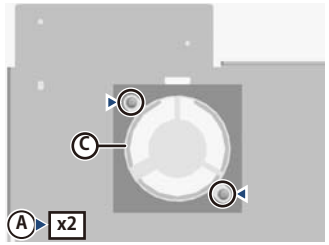
3 Remove fan unit.

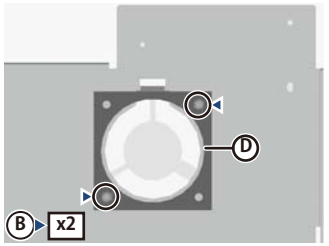
A : binding head screw_M3x35 Ni-3 (x2)

B: hexagon nut_M3 (x2)

C: ren unit

D: filter





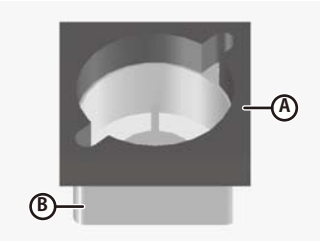
NOTE

Do not lose the hex nut(s).

4 Remove fan.

A : fan guide

B: fan



5 Replace the fan.

6 Reverse the above procedure to reinstall the parts.

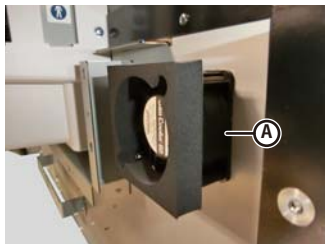
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.3 Exhaust Fan (right-side)

A : exhaust fan (right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-45354	Cooling Fan Assy	8.3_ 0117 Frame - Details 01
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “fan”.



● Procedure

1 Remove cover(s).
- waste fluid bottle cover
- front cover
- base rear cover
- side outer cover R

2 Remove cable.

3 Remove fan.
- binding head screw_M3x35 (x2)
- hexagon nut_M3 (x2)

4 Remove fan.

5 Replace the fan.

6 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- front cover
  => **3.2.3 Front Cover**
- base rear cover
  => **3.2.7 Base Rear Cover**
- side outer cover_L
  => **3.2.10 Side Outer Cover L**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

connecting destination:
mist fan cable

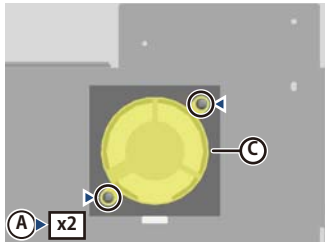
3 Remove fan unit.

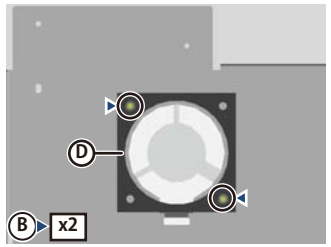
A : binding head screw_M3x35 Ni-3 (x2)

B: hexagon nut_M3 (x2)

C: ren unit

D: filter





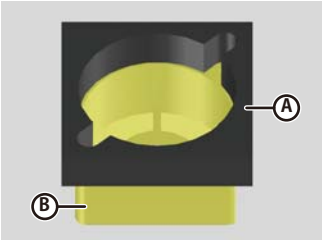
NOTE

Do not lose the hex nut(s).

4 Remove fan.

A : fan guide

B: fan



5 Replace the fan.

6 Reverse the above procedure to reinstall the parts.

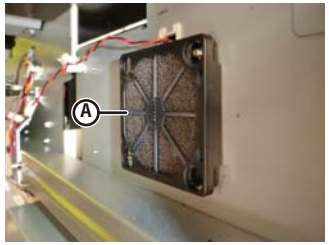
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.4 Exhaust Fan Filter (left-side)

A : exhaust fan Filter (left-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44782	Resin Filter Kit	**8.3_ 0117 Frame - Details 01**
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “filter”.



● Procedure

1. Remove cover(s).
   - front cover
   - base rear cover
   - side outer cover L
2. Remove filter.
   - binding head screw_M3x35 (x2)
   - hexagon nut_M3 (x2)
3. Replace the filter.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- front cover
 => **3.2.3 Front Cover**
- base rear cover
 => **3.2.7 Base Rear Cover**
- side outer cover_L
 => **3.2.10 Side Outer Cover L**

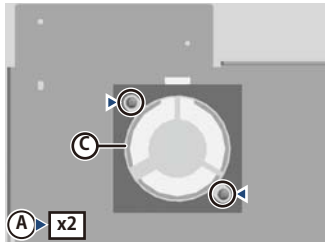
2 **Remove filter.**

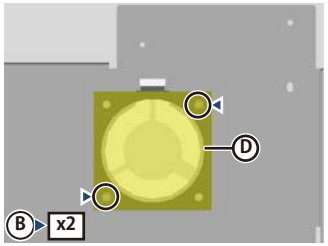
A : binding head screw_M3x35 Ni-3 (x2)

B: hexagon nut_M3 (x2)

C: fan assy

D: filter





NOTE

Do not lose the hex nut(s).

3 Replace the filter.

4 Reverse the above procedure to reinstall the parts.

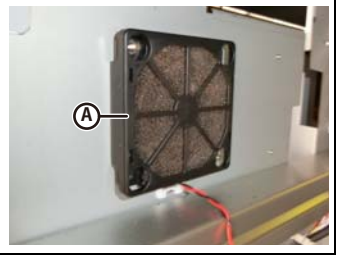
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.5 Exhaust Fan Filter (right-side)

A : exhaust fan Filter (right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44782	Resin Filter Kit	**8.3_ 0117 Frame - Details 01**
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “filter”.



● Procedure

1. Remove cover(s).
   - waste fluid bottle cover
   - front cover
   - base rear cover
   - side outer cover R
2. Remove filter.
   - binding head screw_M3x35 (x2)
   - hexagon nut_M3 (x2)
3. Replace the filter.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- rear cover
 => **3.2.6 Rear Cover**
- base rear cover
 => **3.2.7 Base Rear Cover**
- side outer cover_R
 => **3.2.9 Side Outer Cover R**

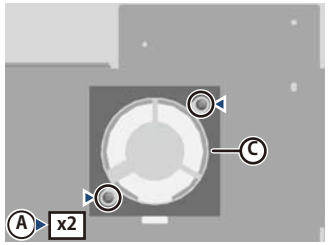
2 **Remove filter.**

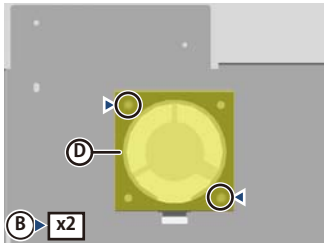
A : binding head screw_M3x35 Ni-3 (x2)

B: hexagon nut_M3 (x2)

C: fan assy

D: filter





NOTE

Do not lose the hex nut(s).

3 Replace the filter.

4 Reverse the above procedure to reinstall the parts.

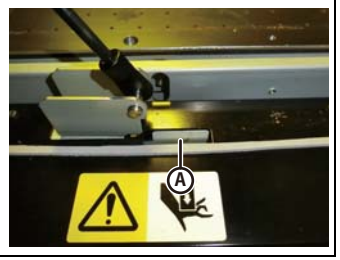
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.6 Front Cover Switch (left-side)

A : front cover switch (left-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42956	Cover Switch Assy	8.3_ 0118 Frame - Details 02
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “switch”.



● Procedure

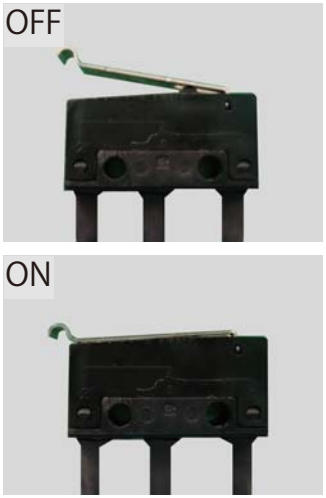
1. Remove cable.
2. Remove switch unit.
   - tapping screws tight cup M3x6 (x2)
3. Remove switch.
   - tapping screws tight cup M3x6 (x1)
   - round head screw with split washer (polished)_M2x12 Ni-3 (x2)
4. Replace the switch.
5. Reverse the above procedure to reinstall the parts.
6. Check the operation of front cover sensor.

CONFIDENTIAL

● Procedure (Details)

TIP

front cover states are as per right figures.



1 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

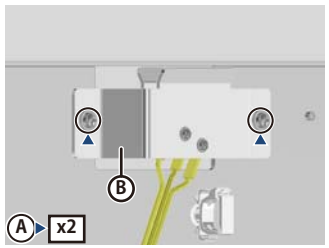
NOTE

connecting destination:
cover LR cable

2 Remove switch unit.

A : tapping screws tight cup_M3x6 (x2)

B: switch unit



3 Remove switch.

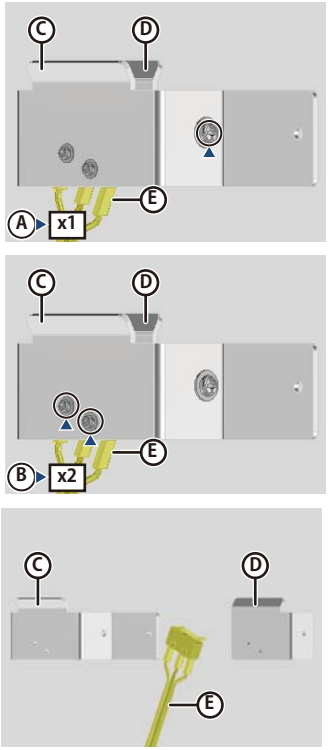
A : tapping screws tight cup_M3x6 (x1)

B: round head screw with split washer (polished)_M2x12 Ni-3 (x2)

C: switch mount plate guide_L1

D: switch mount plate guide_L2

E: switch



4 Replace the switch.

5 Reverse the above procedure to reinstall the parts.

6 Adjust the switch position.
=> **4.7 Cover switch adjustment (front cover)**

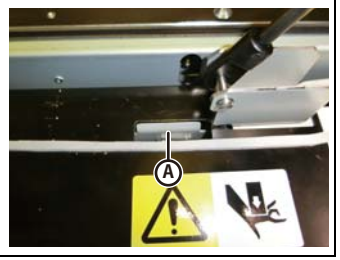
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.7 Front Cover Switch (right-side)

A : front cover switch (right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42956	Cover Switch Assy	**8.3_ 0118 Frame - Details 02**
-	Phillips screwdriver No.1	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “switch”.



● Procedure

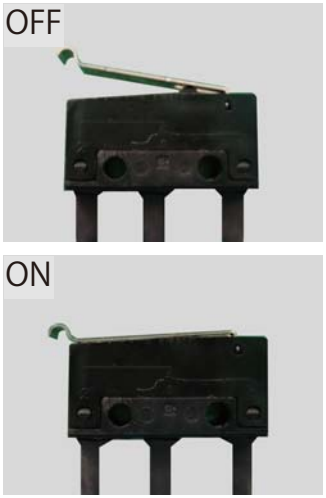
1. Remove cable.
2. Remove switch unit.
   - tapping screws tight cup M3x6 (x2)
3. Remove switch.
   - tapping screws tight cup M3x6 (x1)
   - round head screw with split washer (polished)_M2x12 Ni-3 (x2)
4. Replace the switch.
5. Reverse the above procedure to reinstall the parts.
6. Check the operation of front cover sensor.

CONFIDENTIAL

● Procedure (Details)

TIP

front cover states are as per right figures.



1 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

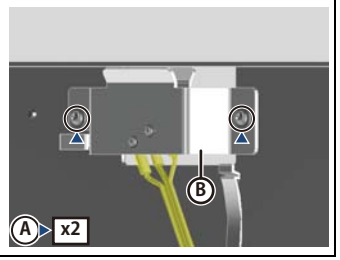
NOTE

connecting destination:
cover LR cable

2 Remove switch unit.

A : tapping screws tight cup_M3x6 (x2)

B: switch unit



3 Remove switch.

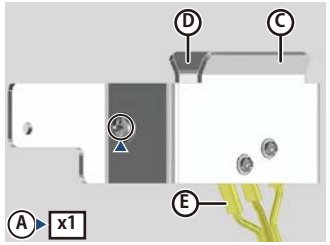
A : tapping screws tight cup_M3x6 (x1)

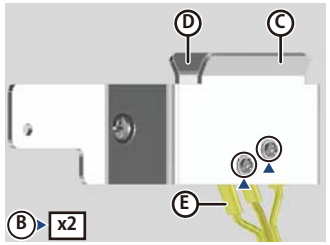
B: round head screw with split washer (polished)_M2x12 Ni-3 (x2)

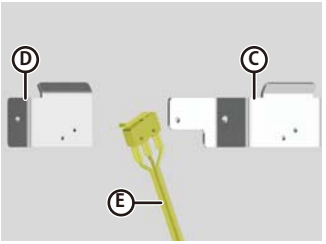
C: switch mount plate guide_R1

D: switch mount plate guide_R2

E: switch







4 Replace the switch.

5 Reverse the above procedure to reinstall the parts.

6 Adjust the switch position.
=> **4.7 Cover switch adjustment (front cover)**

TIP

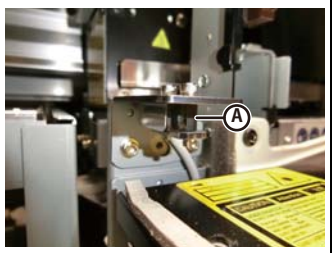
Section top
=> **3.3 Frame**

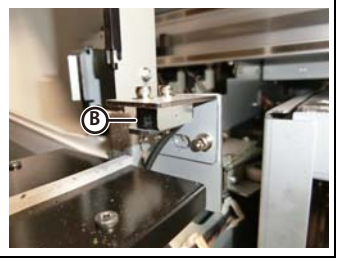
CONFIDENTIAL

3.3.8 Laser Sensor

A : Leaser sensor (left-side)

B: Leaser sensor (right-side)





● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40041	Laser Sensor 2 Assy	8.3_ 0117 Frame - Details 01
DH-40047	Laser Sensor Adjusting Jig	-
-	Phillips screwdriver No.2	-
-	Hex wrench (2.5mm)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “laser sensor”.

A : Leaser sensor (emitter)

B: Leaser sensor (receiver)





⚠CAUTION

Precautions when handling the laser sensor

- Do not look directly into the laser light.
- Do not look directly into the laser light with optical instruments. May cause eye damage.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- maintenance cover
- front cover
- top cover
- rear cover
- base rear cover

2 Remove cable.

3 Remove leaser sensor (emitter)
- Hexagon Socket Round Head Screw (polished)_M3x16 (x4)

4 Remove leaser sensor (receiver)
- Hexagon Socket Round Head Screw (polished)_M3x16 (x4)

5 Replace the leaser sensor(s).

6 Reverse the above procedure to reinstall the parts.

7 Adjust the position of leaser sensor(s).
=> **4.11 Position Adjustment (Laser Sensor)**

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- rear cover
=> **3.2.6 Rear Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.8 Top Cover**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

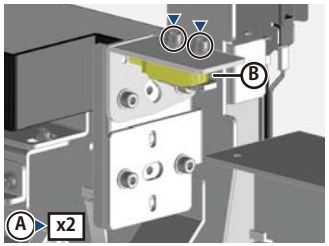
NOTE

connecting destination:
laser sensor (emitter): Main board -J43
laser sensor (receiver): Main board -J42

3 Remove laser sensor (emitter).

A : hex socket screw with split washer (polished)_M3x16 Ni-3 (x2)

B: laser sensor (emitter)



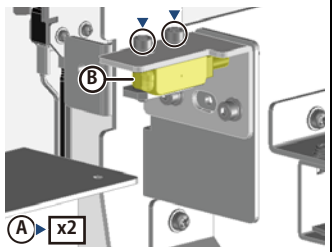
continue

CONFIDENTIAL

4 Remove laser sensor (receiver).

A : hex socket screw with split washer (polished)_M3x16 Ni-3 (x2)

B: laser sensor (receiver)



5 Replace the laser sensor(s).

NOTE

- Mount the laser sensor (emitter) on the right side.
  Cable color of the laser sensor (emitter) is white.
- Mount the laser sensor (receiver) on the left side.
  Cable color of the laser sensor (receiver) is black.

6 Reverse the above procedure to reinstall the parts.

7 Adjust the laser sensors position.
=> **4.11 Position Adjustment (Laser Sensor)**

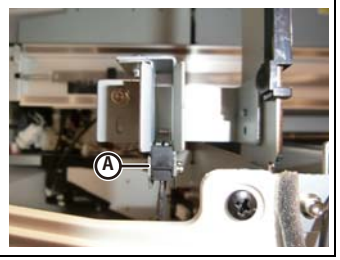
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.9 Maintenance Cover Switch (left-side)

A : maintenance cover switch (left-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42956	Cover Switch Assy	**8.3_ 0117 Frame - Details 01**
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “switch”.



● Procedure

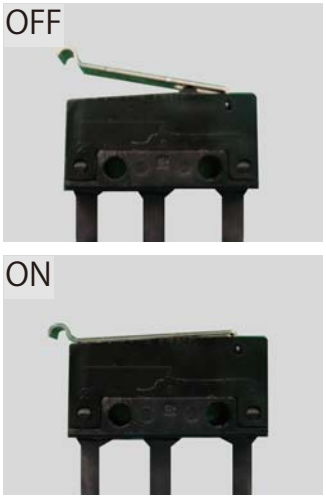
1 Remove cable.
2 Remove switch unit.
- tapping screws tight cup M3x6 (x2)
3 Remove switch.
- tapping screws tight cup M3x6 (x1)
- round head screw with split washer (polished)_M2x12 Ni-3 (x2)
4 Replace the switch.
5 Reverse the above procedure to reinstall the parts.
6 Check the operation of maintenance cover sensor.

CONFIDENTIAL

● Procedure (Details)

TIP

maintenance cover states are as per right figures.



1 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

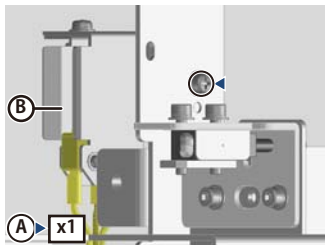
NOTE

connecting destination:
maintenance cover cable

2 Remove switch unit.

A : round head screw with split washer_M3x6 (x1)

B: switch unit



3 Remove switch.

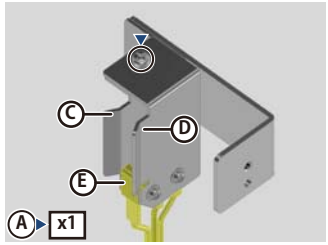
A : round head screw with split washer_M3x6 (x1)

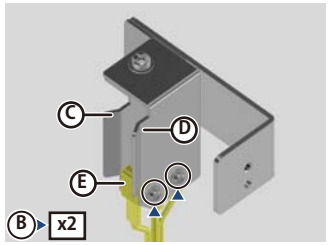
B: round head screw with split washer (polished)_M2x12 Ni-3 (x2)

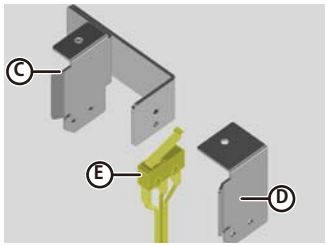
C: sensor mount plate unit

D: switch mount plate_B

E: switch







4 Replace the switch.

5 Reverse the above procedure to reinstall the parts.

6 Check the sensor operation.
=> **4.8 Cover Switch Adjustment (Maintenance Cover)**

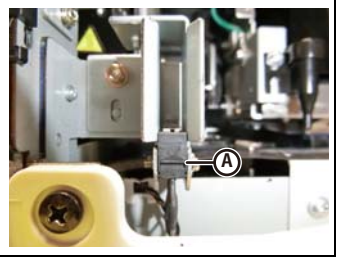
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.10 Maintenance Cover Switch (right-side)

A : Maintenance Cover switch (right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42956	Cover Switch Assy	**8.3_ 0117 Frame - Details 01**
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “switch”.



● Procedure

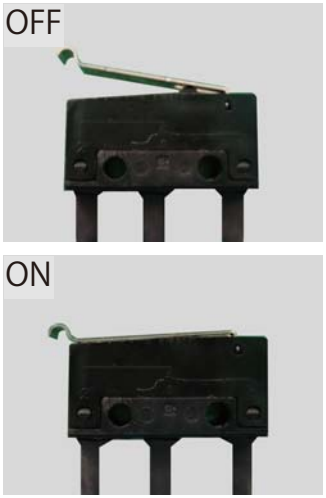
1 Remove cable.
2 Remove switch unit.
- tapping screws tight cup M3x6 (x2)
3 Remove switch.
- tapping screws tight cup M3x6 (x1)
- round head screw with split washer (polished)_M2x12 Ni-3 (x2)
4 Replace the switch.
5 Reverse the above procedure to reinstall the parts.
6 Check the operation of maintenance cover sensor.

CONFIDENTIAL

● Procedure (Details)

TIP

maintenance cover states are as per right figures.



1 Remove cover(s).
- side cover_R
 => **3.2.4 Side Cover R**
- pump cover
 => **3.12.2 Pump Cover-Remove / Assemble**

2 Remove cable(s).
 => **8.2 Electric Diagram / Tube Diagram**

NOTE

connecting destination:
maintenance cover cable

3 Remove switch.

A : round head screw with split washer_M3x6 (x1)

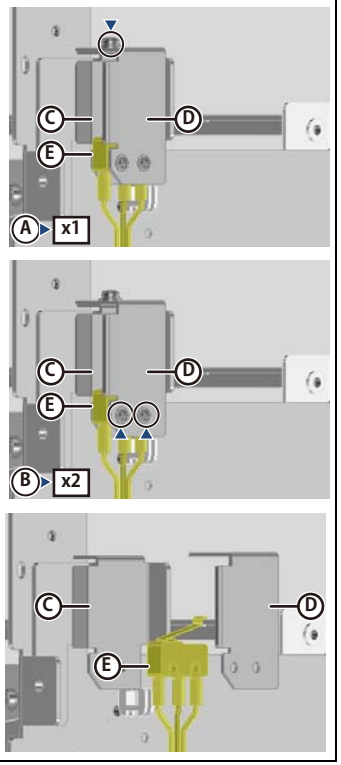
B: round head screw with split washer (polished)_M2x12 Ni-3 (x2)

C: sensor mount plate unit

D: switch mount plate_A

E: switch mount plate_B

F: switch



4 Replace the switch.

5 Reverse the above procedure to reinstall the parts.

6 Check the sensor operation.
 => **4.8 Cover Switch Adjustment (Maintenance Cover)**

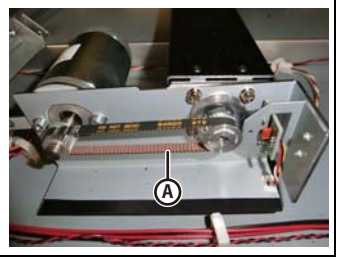
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.11 PF Belt

A : PF Belt



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44775	PF Belt Assy	8.3_ 0115 Frame - PF
-	Phillips screwdriver No.2	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “PF belt”.



● Procedure

1. Remove cover(s).
   - rear cover
2. Loosen the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)
3. Remove PF belt.
4. Replace the PF belt.
5. Adjust the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

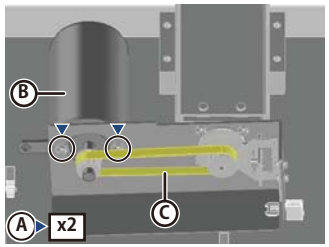
1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**

2 Loosen tension of PF belt.
- Loosen screw which fixes the PF motor.

A : round head screw with split washer_M4x10 (x2)

B: PF motor

C: PF belt



NOTE

Loosen the screws so that the tension of the PF belt loosens.

3 Remove PF belt.

4 Replace the PF belt.

5 Adjust the PF motor position.
=> **4.10 Position adjustment (PF motor)**

6 Reverse the above procedure to reinstall the parts.

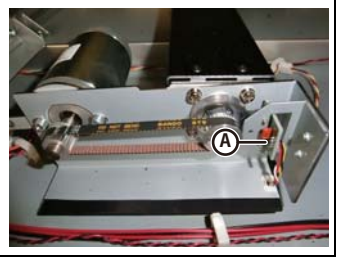
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.12 PF Encoder

A : PF Encoder



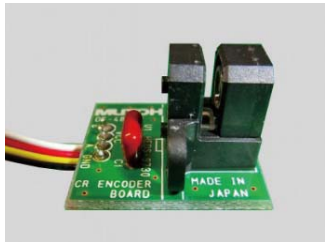
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-46427	CR Encoder Assy	8.3_ 0115 Frame - PF
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “PF encoder”.



● Procedure

1. Remove cover(s).
   - Rear cover
2. Remove cable.
3. Remove PF encoder unit.
   - round head screw with split washer_M3x6 (x2)
4. Remove PF encoder.
5. Replace the PF encoder.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

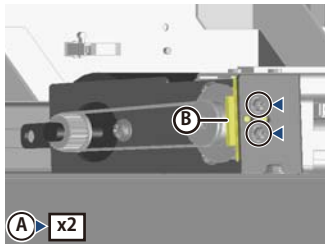
NOTE

connecting destination:
PF encoder cable

3 Remove PF encoder unit.

A : round head screw with split washer_M3x6 (x2)

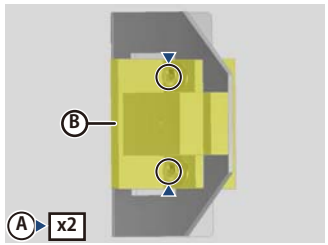
B: PF encoder unit



4 Remove PF encoder.

A : cup screw_M2x6 (x2)

B: PF encoder



5 Replace the PF encoder.

6 Reverse the above procedure to reinstall the parts.

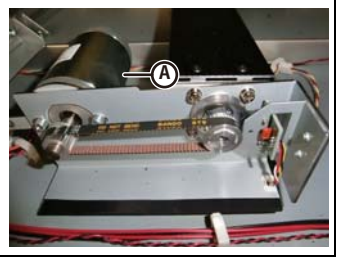
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.13 PF Motor

A : PF Motor



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49020	PF Motor Assy	8.3_ 0115 Frame - PF
-	Phillips screwdriver No.2	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “PF motor”.



● Procedure

1. Remove cover(s).
   - rear cover
2. Remove cable.
3. Remove PF motor.
   - round head screw with split washer_M4x10 (x2)
4. Replace the PF motor.
5. Adjust the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)
6. Reverse the above procedure to reinstall the parts.
7. Reset the counter.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

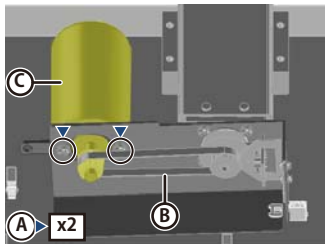
connecting destination:
PF motor cable

3 Remove PF motor.

A : round head screw with split washer (polished)_M4x10 (x2)

B: PF belt

C: PF motor



4 Replace the PF motor.

5 Adjust the PF motor position.
=> **4.10 Position adjustment (PF motor)**

6 Reverse the above procedure to reinstall the parts.

7 Reset counter.
=> **5.12.1 Parameter 1: Initialization**

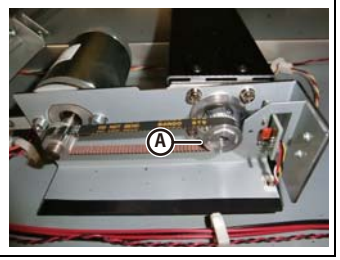
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.14 PF Pulley

A : PF Pulley



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44772	PF Pulley Assy	8.3_ 0115 Frame - PF
-	Phillips screwdriver No.2	-
-	Hex wrench (2mm)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “pulley”.





● Procedure

1. Remove cover(s).
   - rear cover
2. Remove PF encoder.
3. Loosen the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)
4. Remove PF belt.
5. Remove pulley unit.
   - set screw (cup point)_M4x3 (2)
6. Replace the pulley.
7. Reverse the above procedure to reinstall the parts.
8. Adjust the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**

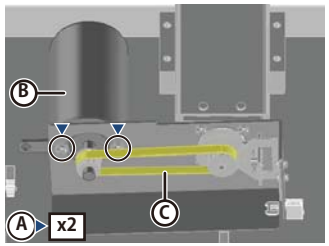
2 Remove PF encoder.
=> **3.3.12 PF Encoder**

3 Loosen tension of PF belt.
- Loosen screw which fixes the PF motor.

A : round head screw with split washer_M4x10 (x2)

B: PF motor

C: PF belt



NOTE

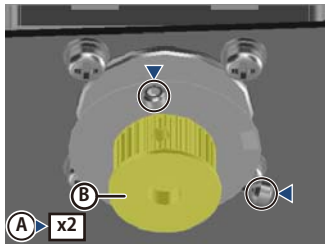
Loosen the screws so that the tension of the PF belt loosens.

4 Remove PF belt.
=> **3.3.11 PF Belt**

5 Remove PF pulley unit.

A : set screw (cup point)_M4x3 (x2)

B: PF pulley unit

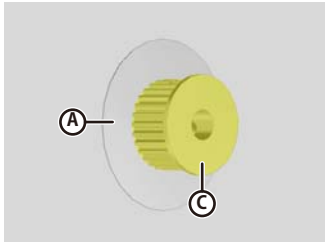


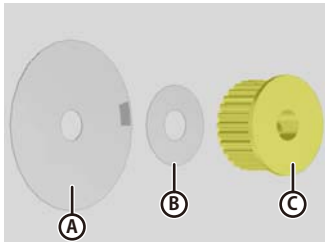
6 Remove PF pulley.
- Remove PF scale from PF pulley.

A : PF scale

B: seal

C: PF pulley





7 Replace the PF pulley.

8 Reverse the above procedure to reinstall the parts.

9 Adjust the PF motor position.
=> **4.10 Position adjustment (PF motor)**

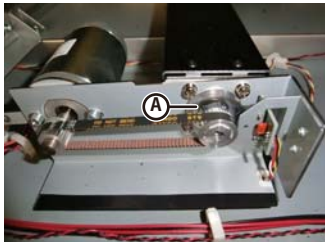
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.3.15 PF Scale

A : PF Scale



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44773	PF Scale Assy	8.3_ 0115 Frame - PF
DG-45219	PF Seal Assy	8.3_ 0115 Frame - PF
-	Phillips screwdriver No.2	-
-	Hex wrench(2mm)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “PF scale”.





● Procedure

1. Remove cover(s).
   - rear cover
2. Remove PF encoder.
   - round head screw with split washer_M3x6 (x2)
3. Loosen the tension of PF belt.
   - round head screw with split washer_M4x10 (x2)
4. Remove PF belt.
5. Remove PF pulley unit.
   - set screw (cup point)_M4x3 (2)
6. Remove PF scale.
7. Replace the PF scale.
8. Reverse the above procedure to reinstall the parts.
9. Adjust the tension of PF belt.
   - round head screw with split washer_M4x10 (x2

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**

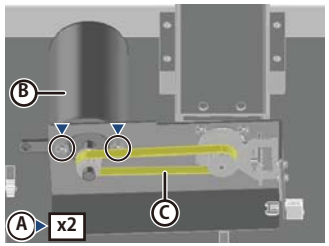
2 Remove PF encoder.
=> **3.3.12 PF Encoder**

3 Loosen tension of PF belt.
- Loosen screw which fixes the PF motor.

A : round head screw with split washer_M4x10 (x2)

B: PF motor

C: PF belt



NOTE

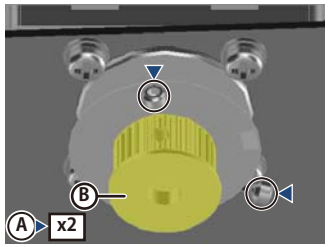
Loosen the screws so that the tension of the PF belt loosens.

4 Remove PF belt.
=> **3.3.11 PF Belt**

5 Remove PF pulley unit.

A : set screw (cup point)_M4x3 (x2)

B: PF pulley unit

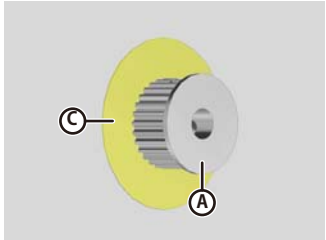


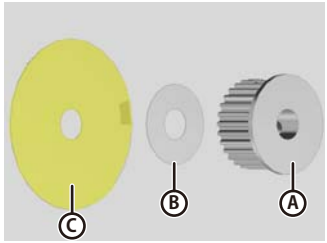
6 Remove PF scale.
- Remove PF scale from PF pulley.

A : PF pulley

B: seal

C: PF scale





7 Replace the PF scale.

8 Reverse the above procedure to reinstall the parts.

9 Adjust the PF motor position.
=> **4.10 Position adjustment (PF motor)**

TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.4 Table

3.4.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0200 Table - Overview**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Z motor	**3.4.3 Z motor**
2	Shaft	**3.4.4 Shaft**

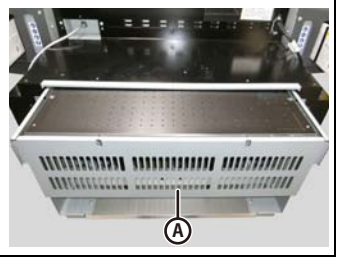
The following table lists the other procedure.

No.	Name	Reference
1	Rear plate	**3.4.2 Rear plate - Remove / Assemble**

CONFIDENTIAL

3.4.2 Rear plate - Remove / Assemble

A : rear plate



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - rear cover
2. Move the table.
3. Remove screw(s).
   - round top screw with split washer_M3x6 (x4)
4. Remove the rear plate.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (details)

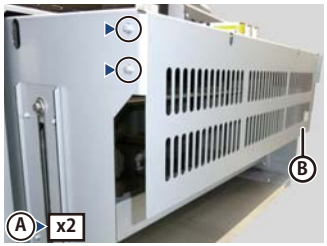
1 Remove cover(s).
- rear cover
=> 3.2.6 Rear Cover

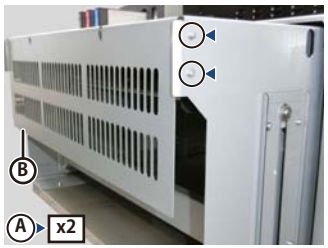
2 Move the table.
- Move table to rear side.

3 Remove screw(s).

A : round top screw with split washer_M3x6 (x4)

B : rear plate





4 Remove the rear plate.

5 Reverse the above procedure to reinstall the parts.

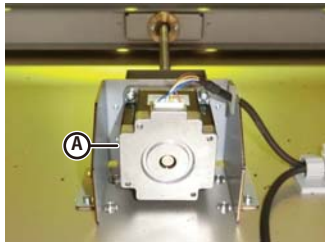
TIP

Section top
=> 3.4 Table

CONFIDENTIAL

3.4.3 Z motor

A : Z motor



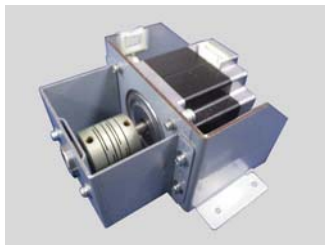
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-48124	Z motor Assy	8.3_ 0203 Table - Z Motor
-	Phillips screwdriver No.2	-
-	hex wrench (1.5mm)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “ Z motor ”



● Procedure

1. Remove cover(s).
   - rear cover
   - rear plate
2. Remove cable(s).
3. Loosen screw(s).
   - hex socket screw_M4x4 (x2)
4. Remove Z motor.
   —round top screw with split washer_M3x6 (x4)
5. Replace Z motor.
6. Reverse the above procedure to reinstall the parts.
7. Check the operation of table.
8. Initialize the coubter.

CONFIDENTIAL

● Procedure (details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**
- rear plate
=> **3.4.2 Rear plate - Remove / Assemble**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

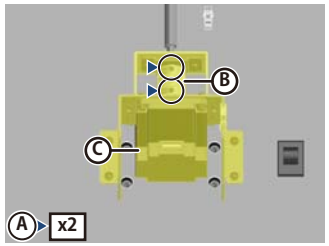
connecting destination:
LED CONT board- J12

3 Loosen screw(s).

A : hex socket screw_M4x4 (x2)

B : coupling

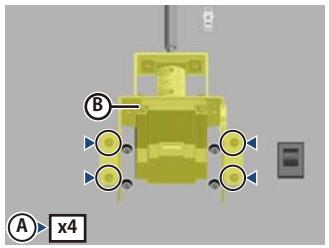
C : Z motor



4 Remove Z motor.

A : round top screw with split washer_M3x6 (x4)

B : Z motor



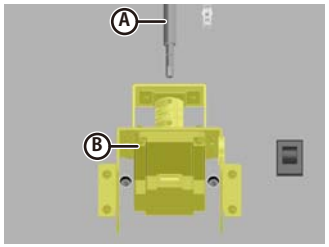
5 Replace Z motor.
- Separate Z motor and shaft.

A : shaft

B : Z motor

NOTE

If it is difficult to separate Z motor from shaft, loosen screw further.



6 Reverse the above procedure to reinstall the parts.

7 Check the operation of table.
=> **4.2 Adjustment Item**

8 Initialize the coubter.
=> **5.12.1 Parameter 1: Initialization**

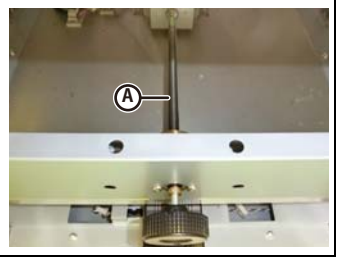
NOTE

Section top
=> **3.4 Table**

CONFIDENTIAL

3.4.4 Shaft

A : shaft



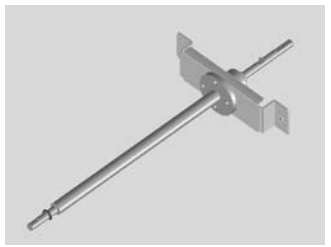
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40042	Screw Shaft Assy	8.3_ 0203 Table - Z Motor
-	Phillips screwdriver No.2	-
-	hex wrench (1.5mm)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “shaft”



● Procedure

1. Remove cover(s).
   - rear cover
   - rear plate
2. Remove the handle.
   - hex socket screw_M3x3 (x1)
3. Remove the shaft collar.
   - hex socket screw_M3x3 (x1)
4. Remove Z motor.
   —round top screw with split washer_M3x6 (x4)
5. Remove the shaft.
   - round top screw with split washer_M3x6 (x2)
6. Replace the shaft.
7. Reverse the above procedure to reinstall the parts.
8. Check the operation of table.

CONFIDENTIAL

● Procedure (details)

1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**
- rear plate
=> **3.4.2 Rear plate - Remove / Assemble**

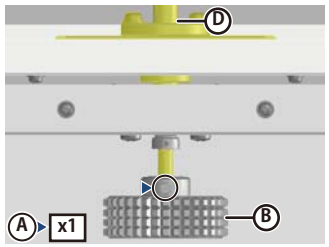
2 Remove the handle.

A : hex socket screw_M3x3 (x1)

B : handle

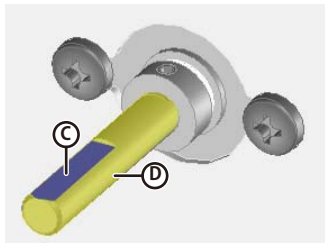
C : D-cut face

D : shaft



NOTE

When assembling, fix the setscrew on the D-cut face.



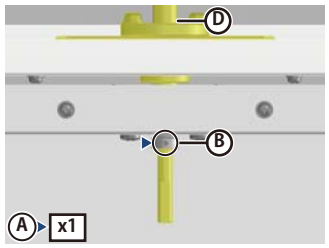
3 Remove the shaft collar.

A : hex socket screw_M3x3 (x1)

B : shaft collar

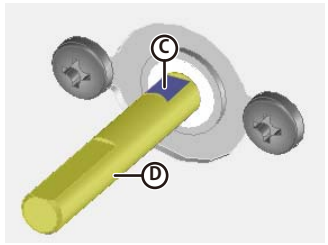
C : D-cut face

D : shaft



NOTE

When assembling, fix the setscrew on the D-cut face.



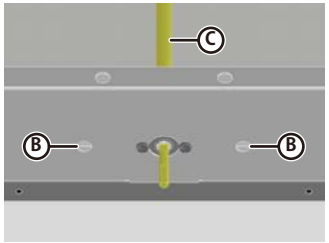
4 Remove Z motor.
=> **3.4.3 Z motor**

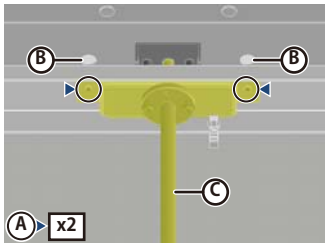
5 Remove the shaft.

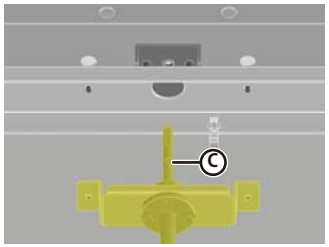
A : round top screw with split washer_M3x6 (x2)

B : screwdriver insertion hole

C : shaft







6 Replace the shaft.

7 Reverse the above procedure to reinstall the parts.

8 Check the operation of table.
=> **4.2 Adjustment Item**

CONFIDENTIAL

NOTE

Section top
=> 3.4 Table

CONFIDENTIAL

3.5 Cover

3.5.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0300 Cover - Overview**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
		-

CONFIDENTIAL

3.6 Board Box

3.6.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0401 Board Box - Overview 01**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	AC Inlet	**3.6.5 AC Inlet**
2	Cooling Fan	**3.6.6 Cooling Fan**
3	Junction Board (left-side)	**3.6.7 Junction Board (left-side)**
4	Junction Board (right-side)	**3.6.8 Junction Board (right-side)**
5	Main Board	**3.6.9 Main Board**
6	Power Supply Board	**3.6.10 Power Supply Board**
7	Terminal Block	**3.6.11 Terminal Block**
8	Power Supply Board (UV-LED)	**3.6.12 Power Supply Board (UV-LED)**
9	LED_CONT board	**3.6.13 LED_CONT Board**

The following table lists the other procedure.

No.	Name	Reference
1	LAN Cover	**3.6.2 LAN Cover-Remove / Assemble**
2	Power Cover	**3.6.3 Power Cover-Remove / Assemble**
3	UV CONT Cover	**3.6.4 UV CONT Cover-Remove / Assemble**

CONFIDENTIAL

3.6.2 LAN Cover-Remove / Assemble

A : LAN cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - maintenance cover
   - front cover
   - base rear cover
   - top cover
2. Remove panel FFC.
3. Remove screw(s).
   - tapping screw_M3x6s tight bind (x2)
4. Remove LAN cover.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.8 Top Cover**

NOTE

Precautions when replacing the maintenance cover
After installing the cover, check the operation of cover sensor.

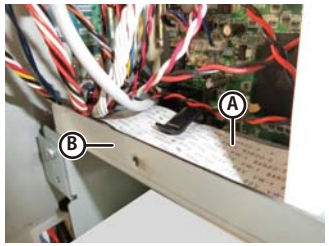
NOTE

Precautions when replacing the front cover
After installing the cover, check the operation of cover sensor.

2 Remove panel FFC.

A : panel FFC

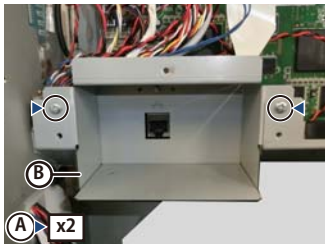
B: LAN cover



3 Remove screw(s).

A : tapping screw_M3x6s tight bind (x2)

B: LAN cover



4 Remove LAN cover.

5 Reverse the above procedure to reinstall the parts.

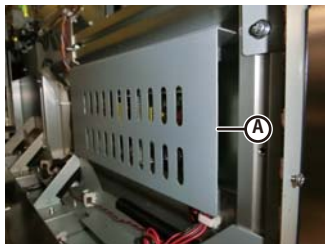
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.3 Power Cover-Remove / Assemble

A : Power Cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - base rear cover
2. Remove screw(s).
   - round head screw with split washer_M3x6 (x8)
3. Remove power cover.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

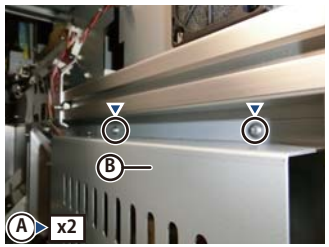
● Procedure (Details)

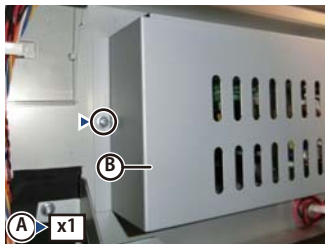
1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**

2 Remove screw(s).

A : round head screw with split washer_M3x6 (x8)

B: power cover





3 Remove power cover.

4 Reverse the above procedure to reinstall the parts.

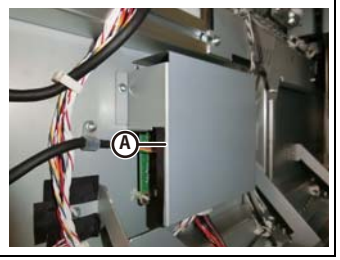
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.4 UV CONT Cover-Remove / Assemble

A : UV CONT Cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - rear cover
   - base rear cover
2. Remove screw(s).
   - round head screw with split washer_M3x6 (x3)
3. Remove UV CONT cover.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

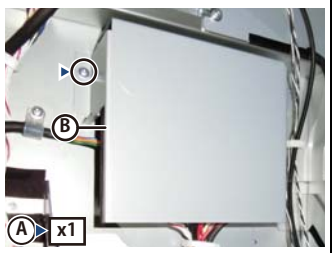
● Procedure (Details)

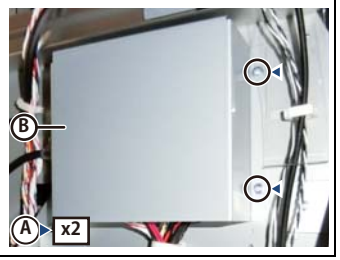
1 Remove cover(s).
- rear cover
=> **3.2.6 Rear Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**

2 Remove screw(s).

A : round head screw with split washer_M3x6 (x3)

B: UV CONT Cover





3 Remove UV CONT cover.

4 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.5 AC Inlet

A : AC Inlet



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-46952	AC Inlet Assy	**8.3_ 0407 Board Box - Main / PS**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “AC inlet”.



● Procedure

1. Remove cover(s).
   - maintenance cover
   - front cover
   - base rear cover
   - top cover
2. Remove cable(s).
3. Remove AC inlet.
   - flat head small screw_M3x6 (x2)
4. Replace the AC inlet.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.8 Top Cover**

NOTE

Precautions when replacing the maintenance cover
After installing the cover, check the operation of cover sensor.

NOTE

Precautions when replacing the front cover
After installing the cover, check the operation of cover sensor.

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

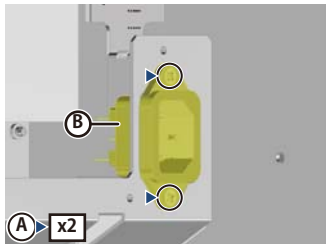
NOTE

Remove all the cables.

3 remove AC inlet.

A : flat head small screw_M3x6 Zn-CM2 (x2)

B: AC inlet



4 Replace the AC inlet.

5 Reverse the above procedure to reinstall the parts.

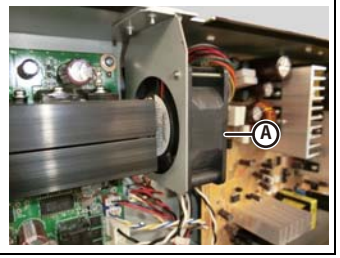
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.6 Cooling Fan

A : Cooling Fan



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-45354	Cooling Fan Assy	**8.3_ 0407 Board Box - Main / PS**
-	Phillips screwdriver No.2	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “fan”.



● Procedure

1. Remove cover(s).
   - maintenance cover
   - front cover
   - base rear cover
   - top cover
2. Remove cable.
3. Remove fan unit.
   -s tight cup tapping screw_M3x6 (x2)
4. Remove fan.
   - round head screw with split washer (polished)_M3x30 (x2)
5. Replace the fan.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.8 Top Cover**

NOTE

Precautions when replacing the maintenance cover
After installing the cover, check the operation of cover sensor.

NOTE

Precautions when replacing the front cover
After installing the cover, check the operation of cover sensor.

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

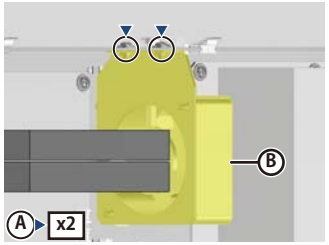
NOTE

connecting destination:
Main board -J30

3 Remove fan unit.

A : s tight cup tapping screw_M3x6 (x2)

B: fan unit

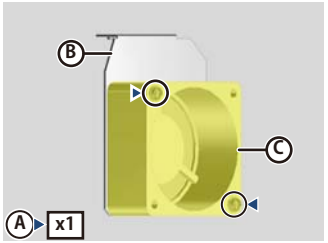


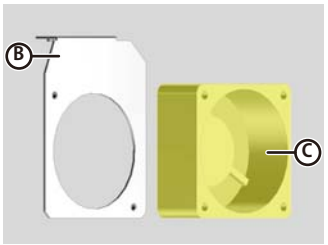
4 Remove fan.

A : round head screw with split washer (polished)_M3x30 (x2)

B: fan bracket

C: fan





5 Replace the fan.

6 Reverse the above procedure to reinstall the parts.

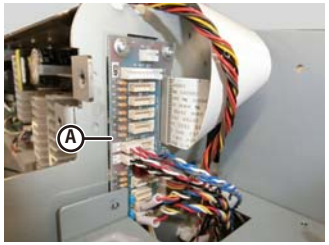
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.7 Junction Board (left-side)

A : Junction board (left-side)



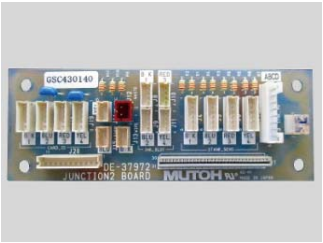
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-43396	Junction 2 Board	**8.3_ 0403 Board Box - Junction / Terminal**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “Junction board”.



CAUTION

Precautions when replacing the board

- When handling the board, do not touch the elements on the board with bare hands. The element may be destroyed by static electricity.

CAUTION

Precautions when replacing FFC

- Before replacing 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.
- Before plugging FFC, check FFC terminal (to see corner of terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to connector.
  Never insert or remove it diagonally to or from the connector.
  If plugged/unplugged obliquely, it may damage, shunt, or disconnect terminals inside connector, and may damage elements on board.
- Plug in FFC all way.
  After plugging, check if FFC and connector terminal are aligned and that FFC is not plugged obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover L

2 Remove cable.

3 Remove Junction board.
-s tight cup tapping screw_M3x6 (x2)

4 Replace the Junction board.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
- side cover L
=> **3.2.5 Side Cover L**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

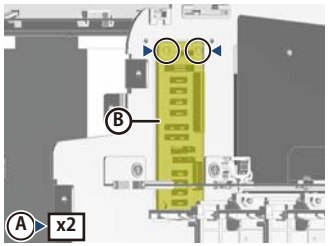
NOTE

Remove all the cables.

3 remove junction board.

A : s tight cup tapping screw_M3x6 (x2)

B: junction board.



4 Replace the junction board.

5 Reverse the above procedure to reinstall the parts.

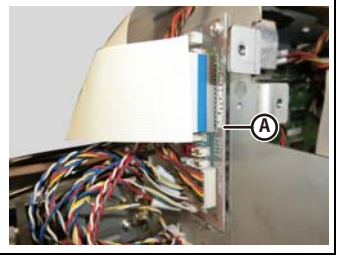
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.8 Junction Board (right-side)

A : Junction board (right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-43396	Junction 2 Board	**8.3_ 0403 Board Box - Junction / Terminal**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “Junction board”.



CAUTION

Precautions when replacing the board

- When handling the board, do not touch the elements on the board with bare hands. The element may be destroyed by static electricity.

CAUTION

Precautions when replacing FFC

- Before replacing 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.
- Before plugging FFC, check FFC terminal (to see corner of terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to connector.
  Never insert or remove it diagonally to or from the connector.
  If plugged/unplugged obliquely, it may damage, shunt, or disconnect terminals inside connector, and may damage elements on board.
- Plug in FFC all way.
  After plugging, check if FFC and connector terminal are aligned and that FFC is not plugged obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover R

2 Remove cable.

3 Remove Junction board.
-s tight cup tapping screw_M3x6

4 Replace the Junction board.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
- side cover R
=> **3.2.4 Side Cover R**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

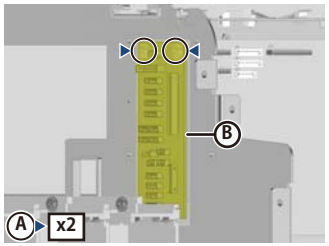
NOTE

Remove all the cables.

3 remove junction board.

A : s tight cup tapping screw_M3x6 (x2)

B: junction board.



4 Replace the junction board.

5 Reverse the above procedure to reinstall the parts.

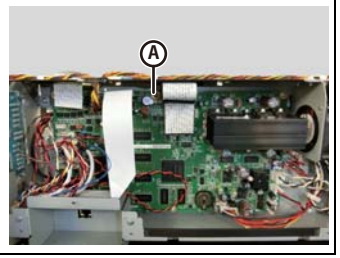
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.9 Main Board

A : Main board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40017	MAIN Board	8.3_ 0407 Board Box - Main / PS
-	Phillips screwdriver No.2	-
-	MSA (MUTOH Service Assistance)	Ver.5.0.2 or later

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “main board”.



CAUTION

Precautions when replacing the board

- When handling the board, do not touch the elements on the board with bare hands.
  The element may be destroyed by static electricity.

CAUTION

Precautions when replacing FFC

- Before replacing 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.
- Before plugging FFC, check FFC terminal (to see corner of terminal is not crooked and reinforcement is not peeled off).
- When plugging/unplugging FFC, do it vertically to connector.
  Never insert or remove it diagonally to or from the connector.
  If plugged/unplugged obliquely, it may damage, shunt, or disconnect terminals inside connector, and may damage elements on board.
- Plug in FFC all way.
  After plugging, check if FFC and connector terminal are aligned and that FFC is not plugged obliquely.

CAUTION



The symbol on the left means "Please see the manual".
Read information below.

If the printer uses a lithium battery, use the designated battery only.
The use of other battery type may cause explosion.
Dispose used battery in accordance with relevant laws and regulations.

CONFIDENTIAL

● Procedure

1 Follow the instructions in the board replacement wizard (MSA).
2 Remove cover(s).
- maintenance cover
- front cover
- base rear cover
- top cover
- LAN cover
3 Remove cable.
4 Remove main board.
- cup screw_M3x6 Zn-cm2 (x6)
5 Replace the main board.
6 Reverse the above procedure to reinstall the parts.
7 Follow the instructions in the board replacement wizard (MSA).
8 Specify the settings.

● Procedure (Details)

1 Follow the board replacement wizard. (MSA)

2 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.8 Top Cover**
- LANcover
=> **3.6.2 LAN Cover-Remove / Assemble**

NOTE

Precautions when replacing the maintenance cover
After installing the cover, check the operation of cover sensor.

NOTE

Precautions when replacing the front cover
After installing the cover, check the operation of cover sensor.

3 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Remove all the cables.

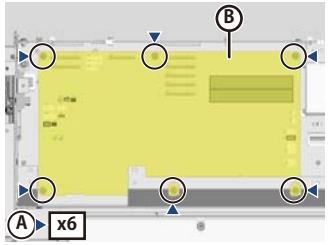
continue

CONFIDENTIAL

4 Remove main board.

A : cup screw_ M3x6 (x6)

B: main board



5 Replace the main board.

6 Reverse the above procedure to reinstall the parts.

7 Follow the board replacement wizard. (MSA)

8 Perform necessary adjustment.
=> **4.2 Adjustment Item**

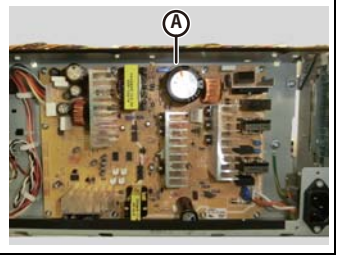
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.10 Power Supply Board

A : power supply board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-46873	Power Supply Board Assy	**8.3_ 0407 Board Box - Main / PS**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “power supply board”.



CAUTION

Precautions when replacing the power board

- When replacing the power board, remove the power cable and leave it for 5 minutes or more to completely discharge the residual electric charge of the electrolytic capacitor before starting work.
  There is a risk of electric shock if the board is handled before the electric capacitor discharges.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- maintenance cover
- front cover
- base rear cover
- top cover

2 Remove cable.

3 Remove power supply board.
- cup screw_M3x6 Zn-cm2 (x9)

4 Replace the power supply board.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> 3.2.2 Maintenance Cover
- front cover
=> 3.2.3 Front Cover
- base rear cover
=> 3.2.7 Base Rear Cover
- top cover
=> 3.2.8 Top Cover

NOTE

Precautions when replacing the maintenance cover
After installing the cover, check the operation of cover sensor.

NOTE

Precautions when replacing the front cover
After installing the cover, check the operation of cover sensor.

2 Remove cable(s).
=> 8.2 Electric Diagram / Tube Diagram

NOTE

Remove all the cables.

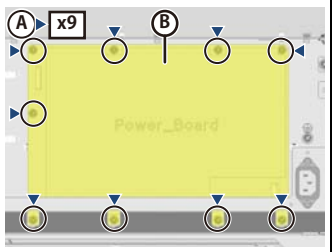
continue

CONFIDENTIAL

3 Remove power supply board.

A : cup screw_ M3x6 Zn-CM2 (x9)

B: power supply board



4 Replace the board.

5 Reverse the above procedure to reinstall the parts.

TIP

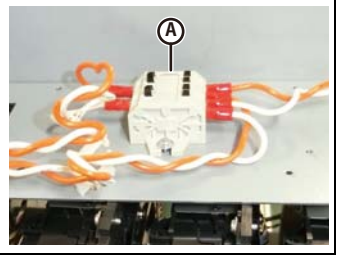
Section top

=> 3.6 Board Box

CONFIDENTIAL

3.6.11 Terminal Block

A : Terminal Block



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44799	Terminal Block	**8.3_ 0403 Board Box - Junction / Terminal**
-	Phillips screwdriver No.2	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “terminal block”.



● Procedure

1. Remove cover(s).
   - side cover L
2. Remove cable.
3. Remove terminal block.
   -s tight cup tapping screw_M3x6(x2)
4. Replace the terminal block.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- side cover L
=> **3.2.5 Side Cover L**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

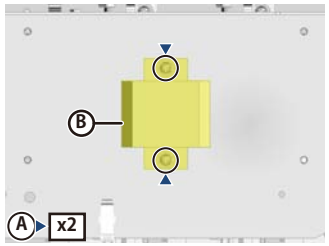
NOTE

Remove all the cables.

3 remove terminal block.

A : s tight cup tapping screw_M3x6 (x2)

B: terminal block



4 Replace the terminal block.

5 Reverse the above procedure to reinstall the parts.

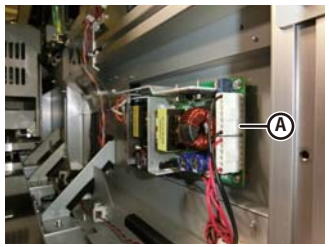
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.12 Power Supply Board (UV-LED)

A : power supply board (UV-LED)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40016	Switching Power Supply Board	**8.3_ 0405 Board Box - LED Cont**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “power supply board”.



⚠CAUTION

Precautions when replacing the power board

- When replacing the power board, remove the power cable and leave it for 5 minutes or more to completely discharge the residual electric charge of the electrolytic capacitor before starting work.
  There is a risk of electric shock if the board is handled before the electric capacitor discharges.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- rear cover
- base rear cover
- power cover

2 Remove cable.

3 Remove power supply board.
- cup screw_M3x6 (x4)

4 Replace the power supply board.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
-rear cover
=> **3.2.6 Rear Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- power cover
=> **3.6.3 Power Cover-Remove / Assemble**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

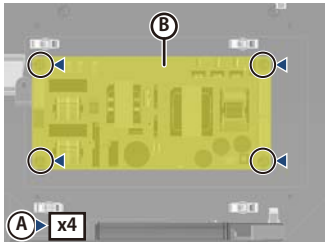
NOTE

Remove all the cables.

3 Remove power supply board.

A : cup screw_ M3x6 (x4)

B: power supply board



4 Replace the board.

5 Reverse the above procedure to reinstall the parts.

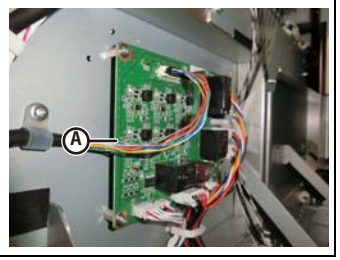
TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.6.13 LED_CONT Board

A : LED_CONT board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40048	LED_CONT Board	**8.3_ 0405 Board Box - LED Cont**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “LED_CONT board”.



● Procedure

1. Remove cover(s).
   - rear cover
   - base rear cover
   - UV_CONT cover
2. Remove cable.
3. Remove LED_CONT board.
   - cup screw_M3x6 (x4)
4. Replace the LED_CONT board.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
-rear cover
=> **3.2.6 Rear Cover**
- base rear cover
=> **3.2.7 Base Rear Cover**
- UV_CONT cover
=> **3.6.4 UV CONT Cover-Remove / Assemble**

2 Remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

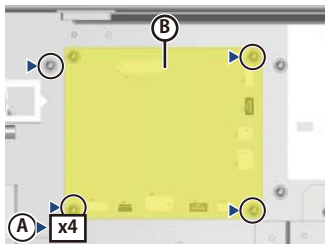
NOTE

Remove all the cables.

3 Remove LED_CONT board.

A : cup screw_ M3x6 (x4)

B: LED_CONT board



4 Replace the LED_CONT board.

5 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> **3.6 Board Box**

CONFIDENTIAL

3.7 CR

3.7.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0501 CR - Overview**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Cursor Roller Arm (Left-side)	**3.7.7 Cursor roller arm (left-side)**
2	Cursor Roller Arm (Right-side)	**3.7.8 Cursor Roller Arm (Right-side)**
3	CR Board	**3.7.9 CR Board**
4	CR Encoder	**3.7.10 CR encoder**
5	Cursor Assy	**3.7.11 Cursor Assy**
6	LED Pointer	**3.7.12 LED Pointer**
7	Mini Latch	**3.7.13 Mini Latch**
8	Print Head	**3.7.14 Print Head**
9	UV-LED	**3.7.15 UV-LED**
10	Valve Head	**3.7.16 Valve head**

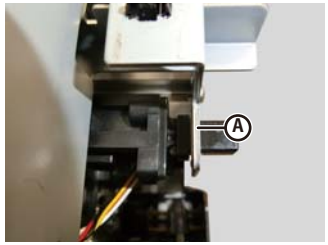
The following table lists the other procedure.

No.	Name	Reference
1	Release of Carriage Lock	**3.7.2 Manual Release of Carriage Lock**
2	Valve Head Cleaning	**3.7.3 Valve Head Cleaning**
3	Carriage Cover	**3.7.4 Carriage Cover-Remove / Assemble**
4	CR Board Cover	**3.7.5 CR Board Cover-Remove / Assemble**
5	CR Board Base	**3.7.6 CR Board Base-Remove / Assemble**

CONFIDENTIAL

3.7.2 Manual Release of Carriage Lock

A : Carriage Lock



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	-	-

● Procedure

1 Push the carriage by hand.

CONFIDENTIAL

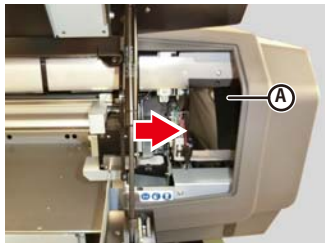
● Procedure (Details)

NOTE

- If the Carriage Lock is released with the software, the carriage moves to the origin position after the power is off.
- This section describes how to release the Carriage Lock manually with the power off.

1 Push the carriage by hand.

A : Carriage



NOTE

- Push in the direction of the arrow, and release the lock.
- To lock the carriage again, push and release the carriage in the direction of the arrow.

TIP

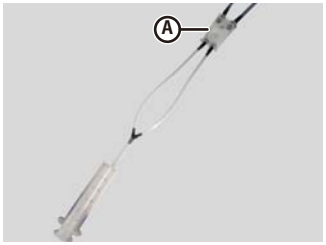
Section top

=> 3.7 CR

CONFIDENTIAL

3.7.3 Valve Head Cleaning

A : Valve Head



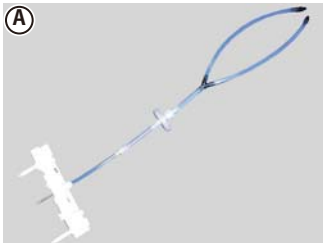
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-41787	Valve Head Cleaning Kit (VJ Ink)	-
-	Dedicated Cleaning Fluid	

TIP

A : Valve Head Cleaning Kit 1

B: Valve Head Cleaning Kit 2





CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CAUTION

Precautions when using cleaning liquid

- Do not let the cleaning solution get into your eyes.
- If the cleaning solution gets into your eyes, immediately wash your eyes with running water for at least 15 minutes and seek medical attention.

CAUTION

Precautions when replacing the valve head

- Fill the new valve head with cleaning solution.
  If ink is charged without being filled with cleaning liquid, the valve head or print head may be damaged.
- The valve head is shipped with an aqueous cleaning liquid in it for inspection and quality maintenance.
  For this reason, it is necessary to clean with a special cleaning liquid before replacement.
- Do not press the transparent film on the side of the valve head with your hand.
  The cleaning liquid filled inside the valve head is pushed out to the tube.
- Do not scratch the transparent film on the side of the valve head.

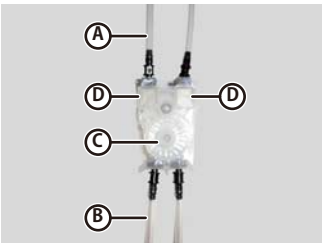
CONFIDENTIAL

● Procedure

1 Attach the valve head.
2 Attach the cleaning cartridge.
3 Clean the valve head.
4 Spread the dedicated cleaner evenly.
5 Draw all cleaner into the syringe.
6 Remove valve head.

● Procedure (Details)

1 Attach the valve head.
- Attach the new valve head to the valve head cleaning jig.
- Check if the filter (silver part) side is connected to the valve head cleaning kit 1.



A : Valve Head Cleaning Kit 1

B: Valve Head Cleaning Kit 2

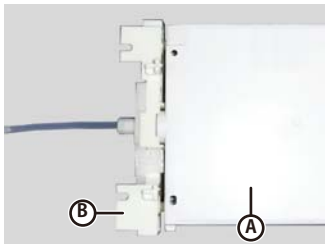
C: Valve Head

D: Silver portion

NOTE

Attach the valve head cleaning jig to the new valve head. At this time, connect the valve head filter (silver portion) side to the valve head cleaning jig 1 side.

2 Attach the cleaning cartridge.
- Attach the dedicated cleaning cartridge to the valve head cleaning kit 1.



A : Cleaning Liquid Cartridge

B: Valve Head Cleaning Kit 1

NOTE

Attach the dedicated cleaning liquid cartridge to the tip of the valve head cleaning jig 1.

continue

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3 Clean the valve head.
- Draw 3cc of cleaner into the syringe.

NOTE

The amount does not include air.
Check if the amount of cleaning liquid is 3cc.

4 Spread the dedicated cleaner evenly.

NOTE

Turn the valve head upside down to spread the cleaner evenly inside the valve head.

5 専用洗浄液を吸い出します。
Draw all cleaner into the syringe.
- Remove cleaning cartridge from the jig.
- Draw the syringe, and remove all cleaner inside the valve head.

NOTE

This step is just to prevent the leakage.
You do not need to drain all liquid completely.

6 Remove valve head.
- Remove valve head from the jig.

⚠ CAUTION

- When removing the tube, cover the tip with a poly-knit wiper so that the cleaner does not spill out.
- Use a clean polyknit wiper
  Since foreign substance on the polyknit wiper may damage the print head.

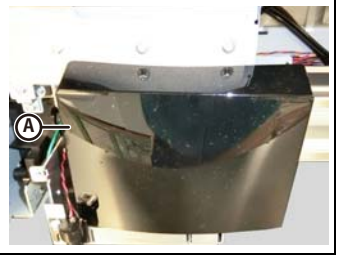
TIP

Section top
=> 3.7 CR

CONFIDENTIAL

3.7.4 Carriage Cover-Remove / Assemble

A : carriage cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1 Move the carriage.
2 Remove screw(s).
- round head screw with split washer_M3x6 (x2)
3 Remove carriage cover.
4 Reverse the above procedure to reinstall the parts.

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● Procedure (Details)

⚠CAUTION

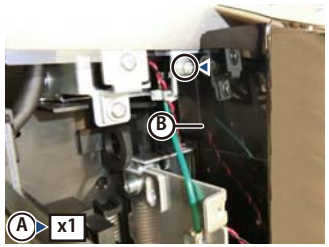
Prolonged exposure to sunlight or strong fluorescent light may cause the UV ink curing on the nozzle surface.
Do not leave the print head without the carriagecover for a long period of time.
Just put the carriage cover over the print head during prolonged maintenance.

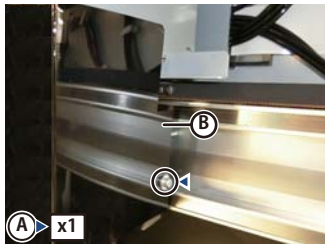
1 Move the carriage.
=> 3.7.2 Manual Release of Carriage Lock

2 Remove screw(s).

A : round head screw with split washer_M3x6 (x2)

B: carriage cover





3 Remove carriage cover.

4 Reverse the above procedure to reinstall the parts.

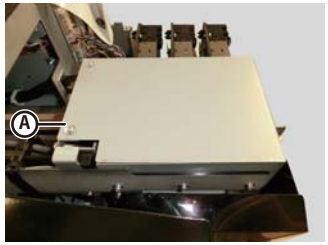
TIP

Section top
=> 3.7 CR

CONFIDENTIAL

3.7.5 CR Board Cover-Remove / Assemble

A : CR board cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - waste fluid bottle cover
   - side cover R
2. Remove screw(s).
   -s tight cup tapping screw_M3x6 (x6)
3. Remove CR board cover.
4. Reverse the above procedure to reinstall the parts.

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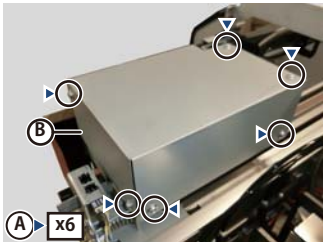
● Procedure (Details)

1 Remove cover(s).
- waste fluid bottle cover
=> **3.2.1 Waste Fluid Bottle Cover**
- side cover R
=> **3.2.3 Front Cover**

2 Remove screw(s).

A : s tight cup tapping screw_M3x6 (x6)

B: CR board cover



3 Remove CR board cover.

4 Reverse the above procedure to reinstall the parts.

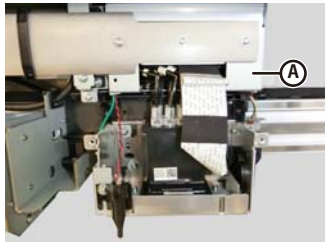
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.6 CR Board Base-Remove / Assemble

A : CR board base



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-
-	Air Cap	-
-	Aluminum zipper bag (UV opaque)	-

● Procedure

1 Discharge ink.
2 Remove cover(s).
- maintenance cover
- front cover
- side cover R
- side cover L
- base rear cover
- top cover
- carriage cover
- CR board cover

3 Move the carriage.
4 Remove CR board.
5 Remove cable.
6 Remove head FFC.
7 Remove valve head connector.
8 Remove screw(s).
- round head screw with split washer_M3x6 (x3)

9 Remove CR board base.
10 Reverse the above procedure to reinstall the parts.
11 Charge ink.

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● Procedure (Details)

1 Discharge ink.
=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).
- maintenance cover
 => **3.2.2 Maintenance Cover**
- front cover
 => **3.2.3 Front Cover**
- side cover R
 => **3.2.4 Side Cover R**
- side cover L
 => **3.2.5 Side Cover L**
- base rear cover
 => **3.2.7 Base Rear Cover**
- top cover
 => **3.2.7 Base Rear Cover**
- carriage cover
 => **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
 => **3.7.5 CR Board Cover-Remove / Assemble**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

3 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

4 Remove CR board.
=> **3.7.9 CR Board**

5 remove cable(s).

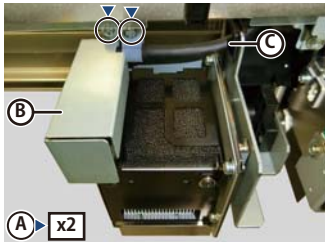
A : round head screw with split washer_M3x8 (x2)

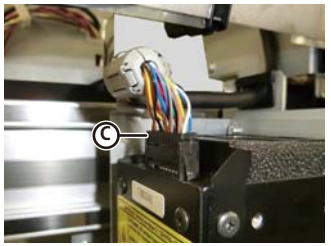
B: cable cover

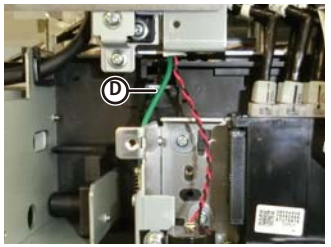
C: UV-LED cable

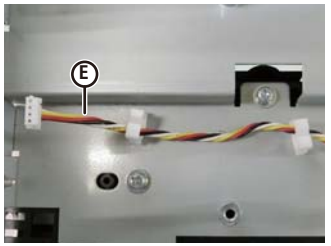
D: FG cable

E: CR encoder









6 Remove head-FFC.
=> **3.16.3 Head-FFC**

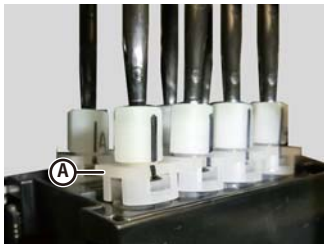
continue

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7 Remove head connector.
- Turn head connector by 45 degree clockwise.

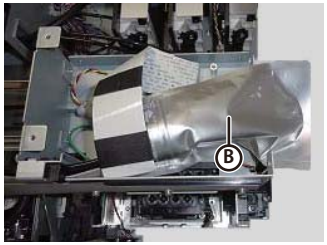
A : valve head connector

B: aluminum pack



NOTE

Mark all the valve head connector.

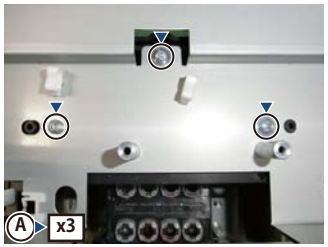


CAUTION

Store removed valve head connector(s) in the UV shield aluminum or equivalent pack.

8 Remove screw(s).

A : round head screw with split washer_M3x6 (x3)



9 Remove CR board base.
- Remove CR board base from the cursor.

CAUTION

- Remove CR board base together with steel bare and other units.
- Store on the air cap.
  Do not apply pressure on steel bare and /or other parts.



10 Reverse the above procedure to reinstall the parts.

11 Charge ink.
=> 5.8 Check 2: Ink Charge

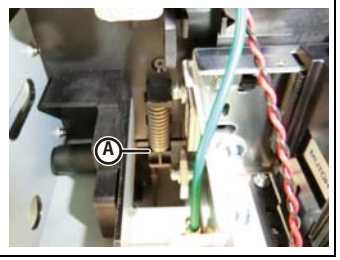
TIP

Section top
=> 3.7 CR

CONFIDENTIAL

3.7.7 Cursor roller arm (left-side)

A : Cursor roller arm (left-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49065	Roller Arm Assy	8.3_ 0100 Carriage
DH-40022	UV LED Adjustment Jig	For UV-LED
-	Phillips screwdriver No.2	-
-	Slotted screwdriver	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “roller arm”.



● Procedure

1. Remove cover(s).
   - carriage cover
   - CR board cover
2. Move the carriage.
3. Remove UV-LED.
4. Remove lamp plate.
5. Remove roller arm.
6. Replace the roller arm.
7. Reverse the above procedure to reinstall the parts.

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● Procedure (Details)

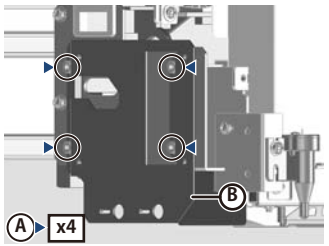
1 Remove cover(s).
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**

2 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

3 Remove UV-LED mount plate.

A : hex socket screw with split washer _M3x6 (x4)

B: mount plate

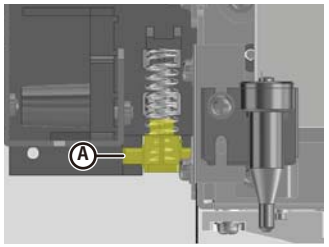


4 Remove roller arm.

A : roller arm

⚠CAUTION

- Spring is strong.
- Avoid damaging roller arm and/or Y rail.



5 Replace the roller arm.

6 Reverse the above procedure to reinstall the parts.

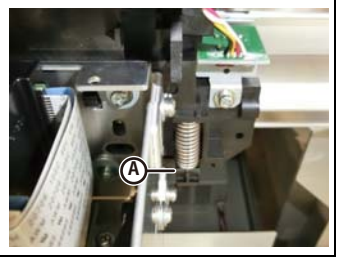
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.8 Cursor Roller Arm (Right-side)

A : Cursor Roller Arm (Right-side)



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49065	Roller Arm Assy	**8.3_ 0100 Carriage**
-	Phillips screwdriver No.2	-
-	Slotted screwdriver	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “roller arm”.



● Procedure

1 Remove cover(s).
- carriage cover

2 Move the carriage.

3 Remove roller arm.

4 Replace the roller arm.

5 Reverse the above procedure to reinstall the parts.

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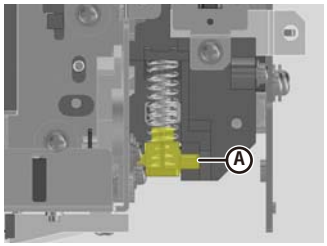
● Procedure (Details)

1 Remove cover(s).
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**

2 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

3 Remove roller arm.

A : roller arm



⚠CAUTION

- Spring is strong.
- Avoid damaging roller arm and/or Y rail.

4 Replace the roller arm.

5 Reverse the above procedure to reinstall the parts.

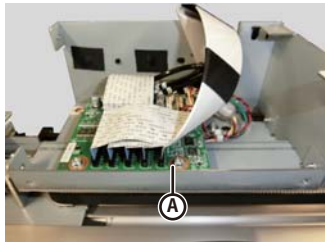
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.9 CR Board

A : CR board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42959	CR Board Assy	8.3_ 0506 CR - Board
	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “CR board”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

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● Procedure

1 Remove cover(s).
- side cover R
- CR board cover

2 Remove cable.

3 Remove CR board.
- Cup Screw_M3x6 (x4)

4 Replace the CR board.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
- side cover R
=> **3.2.4 Side Cover R**
- CR board cover
=> **3.7.5 CR Board Cover-Remove / Assemble**

2 remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

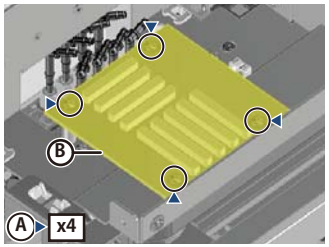
NOTE

remove all the cables.

3 REMOVE CR board.

A : cup screw_M3x6 (x4)

B: CR board



4 Remove CR board.

5 Reverse the above procedure to reinstall the parts.

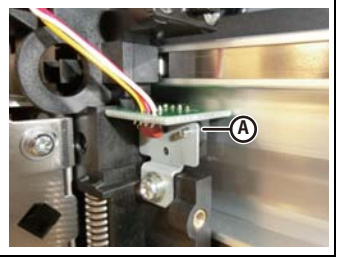
TIP

Section top
=> **3.7 CR**

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3.7.10 CR encoder

A : CR encoder



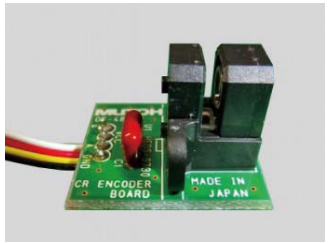
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-42947	CR Encoder Assy	8.3_ 0503 CR - Cursor
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “CR encoder”.



● Procedure

1. Remove cover(s).
   - side cover R
   - carriage cover
   - CR board cover
2. Move the carriage.
3. Remove CR board.
4. Remove cable.
5. Remove CR encoder unit.
   - round head screw with split washer_M3x8 (x1)
6. Remove CR encoder.
   - round head screw with split washer (Small)_M2x6 (x2)
7. Replace the CR encoder.
8. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- side cover R
 => **3.2.4 Side Cover R**
- carriage cover
 => **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
 => **3.7.5 CR Board Cover-Remove / Assemble**

2 Move the carriage.
 => **3.7.2 Manual Release of Carriage Lock**

3 Remove CR board.
 => **3.7.9 CR Board**

4 remove cable(s).
 => **8.2 Electric Diagram / Tube Diagram**

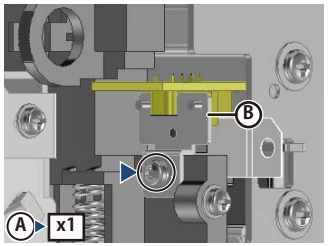
NOTE

Access point:
CR board-J17

5 Remove CR encoder unit.

A : round head screw with split washer_M3x8 (x1)

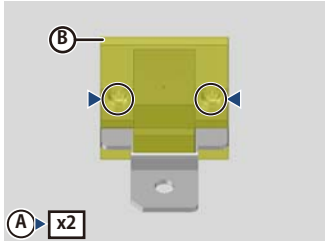
B: CR encoder unit



6 Remove CR encoder.

A : round head screw with split washer_(small) M2x6 (x2)

B: CR encoder



7 Replace CR encoder.

NOTE

T-fence must be located in the middle of the sensor slit.

8 Reverse the above procedure to reinstall the parts.

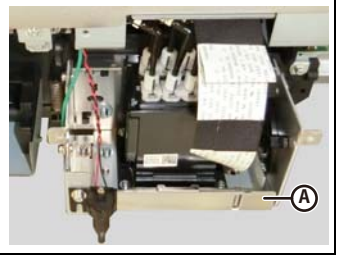
TIP

Section top
=> **3.7 CR**

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3.7.11 Cursor Assy

A : Cursor Assy



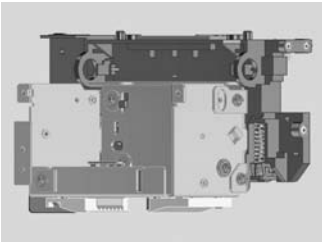
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44771	Carriage Assy	8.3_ 0100 Carriage 8.3_ 0200 Head Cap
DH-40022	UV LED Adjustment Jig	For UV
DG-43193	PG Adjusting Jig (1.1/1.3)	-
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-
-	Hex wrench (2.5mm)	-
-	Air Cap	-
-	Aluminum zipper bag (UV opaque)	-
-	Stainless Steel Plate	-
-	Poly-knit	-
-	Dedicated Cleaning Fluid	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “cursor Assy”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

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● Procedure

1 Discharge ink.
2 Remove cover(s).
- maintenance cover
- front cover
- side cover R
- side cover L
- base rear cover
- top cover
- carriage cover
- CR board cover
3 Move the carriage.
4 Remove CR board.
5 Remove UV-LED.
6 Remove lamp plate.
- hex socket screw with split washer_M3x6 (x4)
7 Remove LED pointer.
8 Remove CR board base.
9 Remove print head.
10 Remove CR belt.
11 Remove cursor Assy.
12 Replace the cursor Assy.
13 Reverse the above procedure to reinstall the parts.
14 Charge ink.
15 Perform the adjustment of each parts.

● Procedure (Details)

1 Discharge ink.
=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- side cover R
=> **3.2.4 Side Cover R**
- side cover L
=> **3.2.5 Side Cover L**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.7 Base Rear Cover**
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
=> **3.7.5 CR Board Cover-Remove / Assemble**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

continue

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3 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

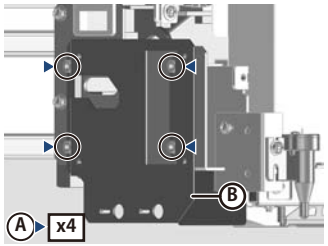
4 Remove CR board.
=> **3.7.9 CR Board**

5 Remove UV-LED.
=> **3.7.15 UV-LED**

6 Remove UV-LED mount plate.

A : hex socket screw with split washer _M3x6 (x4)

B: mount plate



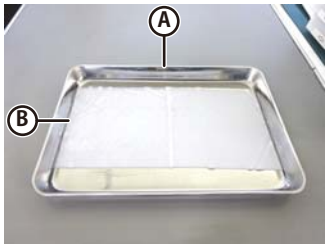
7 Remove LED pointer.
=> **3.7.12 LED Pointer**

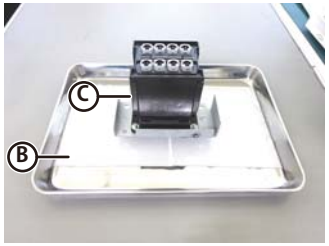
8 Remove CR board base.
=> **3.7.6 CR Board Base-Remove / Assemble**

9 Remove print head.

=> **3.7.14 Print Head**

- Spread the polyknit wiper on the stainless tray.
- Pour cleaning fluid on it to soak. (Apply dedicated cleaning fluid for the ink)
- Rest the print head of which the nozzle face down.





A: stainless tray

B: polyknit wiper

C: print head

CAUTION

- Exposed in sunlight and/or strong fluorescent light may harden UV ink or mixture in the print head.
- Do not leave print head for a long time (1 or more days) with the cover removed.
- If the operation is expected to take a long time, cover with carriage cover.
  (Cleaning fluid alone does not harden.)

10 Remove CR belt.

=> **3.8.2 CR belt**

continue

CONFIDENTIAL

11 Remove cursor Assy.

- Pinch roller arm and carriage arm to squeeze the spring. (Do it on both right and left side simultaneously.)
- Remove both roller arms from Y rail.
- remove cursor from Y rail.

NOTE

- Do not damage T fence.
- Cursor arm spring is strong.

Do not collide roller with Y rail.

12 Replace cursor Assy.

13 Reverse the above procedure to reinstall the parts.

14 Charge ink.

=> **5.8 Check 2: Ink Charge**

15 Perform necessary adjustment.

=> **4.2 Adjustment Item**

TIP

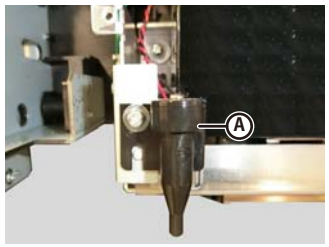
Section top

=> **3.7 CR**

CONFIDENTIAL

3.7.12 LED Pointer

A : LED Pointer



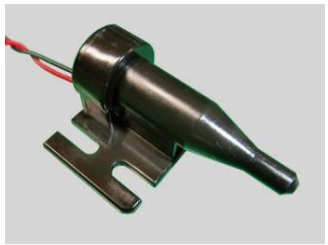
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44903	LED Pointer Assy	**8.3_ 0504 CR - Headbase**
-	Phillips screwdriver No.2	-

T I P

This subsection describes how to replace the above maintenance parts.

Here referred to as “LED pointer”.



● Procedure

1. Remove cover(s).
   - side cover R
   - carriage cover
   - CR board cover
2. Move the carriage.
3. Remove cable.
4. Remove LED pointer.
   - round head screw with split washer_M3x6 (x1)
5. Replace the LED pointer.
6. Reverse the above procedure to reinstall the parts.
7. Perform the adjustment of LED pointer.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- side cover R
 => **3.2.4 Side Cover R**
- carriage cover
 => **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
 => **3.7.5 CR Board Cover-Remove / Assemble**

2 Move the carriage.
 => **3.7.2 Manual Release of Carriage Lock**

3 Remove cable(s).
 => **8.2 Electric Diagram / Tube Diagram**

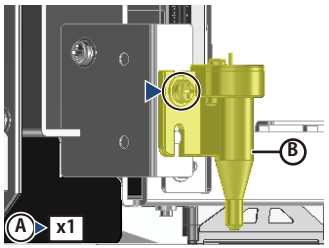
NOTE

Access point:
CR board-J13

4 Remove LED pointer.

A : round head screw with split washer_M3x6 (x1)

B: LED pointer



5 Replace LED pointer.

6 Reverse the above procedure to reinstall the parts.

7 Adjust LED pointer.
 => **5.9.5 Adjustment 5: LED Pointer**

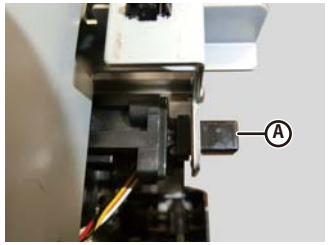
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.13 Mini Latch

A : Mini Latch



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44689	Mini Latch S Assy	8.3_ 0503 CR - Cursor
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “mini latch”.





● Procedure

1. Remove cover(s).
   - side cover R
2. Move the carriage.
3. Remove screw(s).
   - flat head small screw_M2.5x4 (x2)
4. Remove mini latch.
5. Replace the mini latch.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

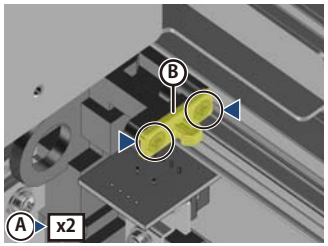
1 Remove cover(s).
- side cover R
=> **3.2.4 Side Cover R**

2 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

3 Remove screw(s).

A : flat head small screw_M2.5x4 Ni-3 (x2)

B: mini latch



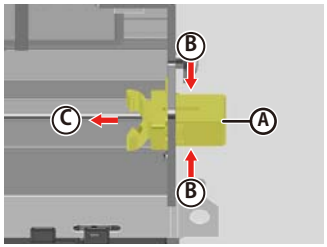
4 Remove mini latch.

- Apply pressure on mini latch (insert) nail.
- Remove mini latch (insert).

A: mini latch (insert)

B: nail

C: removal direction



5 Replace the mini latch.

6 Reverse the above procedure to reinstall the parts.

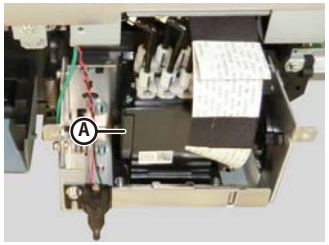
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.14 Print Head

A : Print Heady



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-49990	Print Head Assy_I9472(Set)	8.3_ 0505 CR - Prin Head
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-
-	Slotted screwdriver	-
-	Needle-Nose Pliers	-
-	Air Cap	-
-	Waste clothes	-

TIP

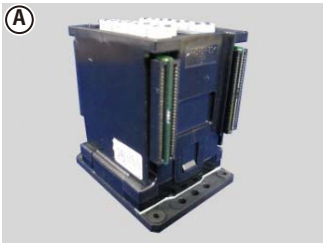
This subsection describes how to replace the above maintenance parts.

Here referred to as “print head”

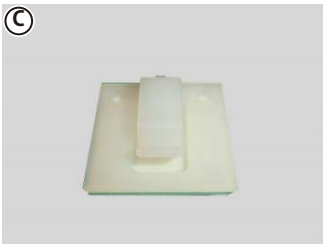
A : Print Head

B: Aluminum zipper bag (UV opaque)

C: Clamp







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⚠ CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

⚠ CAUTION

Precautions when replacing the print head (UV ink)

- Exposed in sunlight and/or strong fluorescent light may harden print head.
  Do not leave print head for a long time (1 or more days) with the cover removed.
  If the operation is expected to take a long time, cover with carriage cover.
  (This prevents hardening effectively.)
- Do not touch print nozzle surface. Keep print head from dust.
- Print head is adjusted. Do not disassemble print head.
- Do not touch head circuit board and/or cable/FFC.
- Do not touch cable/FFC when remove/reassemble the head cover.

⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

⚠ CAUTION

Precautions when replacing the valve head

- Fill the new valve head with cleaning solution.
  If ink is charged without being filled with cleaning liquid, the valve head or print head may be damaged.
- The valve head is shipped with an aqueous cleaning liquid in it for inspection and quality maintenance.
  For this reason, it is necessary to clean with a special cleaning liquid before replacement.
- Do not press the transparent film on the side of the valve head with your hand.
  The cleaning liquid filled inside the valve head is pushed out to the tube.
- Do not scratch the transparent film on the side of the valve head.

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● Procedure

1 Discharge ink.
2 Remove cover(s).
- maintenance cover
- front cover
- side cover R
- base rear cover
- top cover
- carriage cover
- CR board cover
3 Move the carriage.
4 Remove valve head connector.
5 Remove LED pointer.
Loosen pressure spring
- round head screw with split washer_M3x6 (x1)
6 Remove print head unit.
- round head screw with split washer_M3x6 (x4)
7 Remove head-FFC.
8 Remove print head.
- round head screw with split washer_M2.5x8 (x4)
9 Replace the print head.
10 Replace head rank seal.
11 Remove valve head.
12 Dip new valve head in cleaning fluid for curing.
13 Reverse the above procedure to reinstall the parts.
14 Reverse the above procedure to reinstall the parts.
15 Charge ink.
16 Perform necessary adjustment.

● Procedure (Details)

1 Discharge ink.
=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- side cover R
=> **3.2.4 Side Cover R**
- side cover L
=> **3.2.5 Side Cover L**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.7 Base Rear Cover**
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
=> **3.7.5 CR Board Cover-Remove / Assemble**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

continue

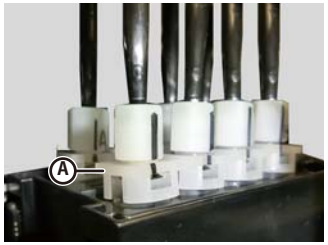
CONFIDENTIAL

3 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

4 Remove head connector.
- Turn head connector by 45 degree clockwise.

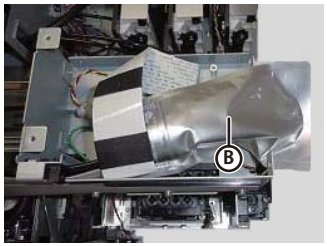
A : valve head connector

B: aluminum pack



NOTE

Mark all the valve head connector.



CAUTION

Store removed valve head connector(s) in the UV shield aluminum or equivalent pack.

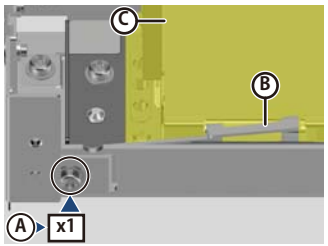
5 Remove LED pointer.
=> **3.7.12 LED Pointer**

6 Loosen head pressure spring.

A: round head screw with split washer_ M3x6 (x1)

B: head pressure spring

C: print head

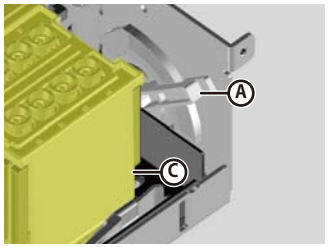


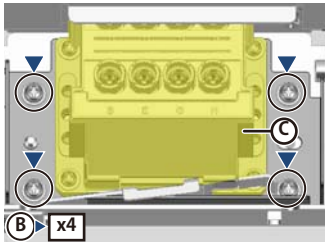
7 Remove print head unit.
- Raise notch to the top.
- Remove screw(s) to release the head base. (x4)
- Remove head and the head base altogether.

A: adjustment notch

B: round head screw with split washer_ M3x6 (x4)

C: print head unit

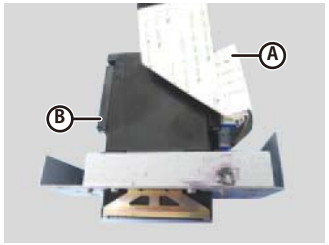




8 Remove head-FFC.
=> **3.16.3 Head-FFC**

A : head-FFC (x4)

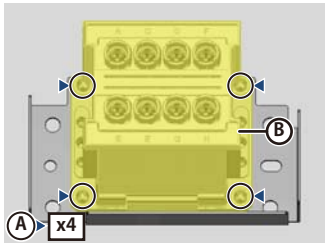
B: print head unit



9 Remove print head.

A : round head screw with split washer_M2.5x8 (x4)

B: print head



10 Replace the print head.

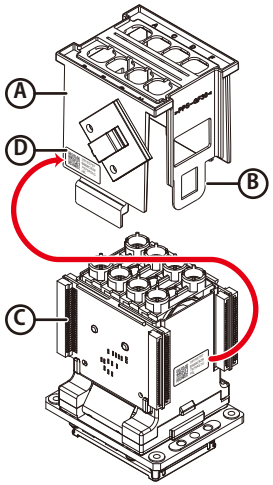
continue

CONFIDENTIAL

11 Change the head rank seal.

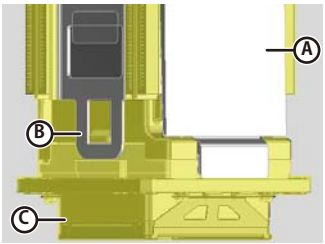
- Remove head cover. (Pull it up vertically.)
- Adhere new seal on the head cover.

A: head cover
B: nail
C: print head
D: head rank seal



NOTE

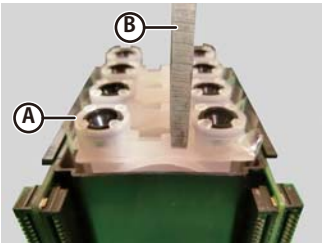
- If it is difficult to remove the head cover, release protrusion of the head from the cover first, then pull up the cover.
- Remove new seal from the head and adhere on the head cover.





12 Remove valve head.

A: valve head
B: hose nose pliers



CAUTION

Pull out the valve head with hose nose pliers.
Do not scratch or damage the transparent film of valve head.

13 Fill new valve head with cleaning fluid to cure.

=> **3.7.3 Valve Head Cleaning**

14 Reverse the above procedure to reinstall the parts.

15 Charge ink.

=> **5.8 Check 2: Ink Charge**

16 Perform necessary adjustment.

=> **4.2 Adjustment Item**

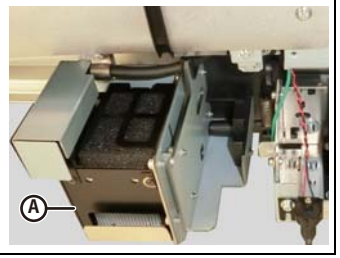
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.15 UV-LED

A : UV-LED



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40000	UV-LED Lamp Assy	8.3_ 0507 CR - UV LED
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “UV-LED”.



CAUTION

The UV lamp emit UV light or other harmful light.
Turn OFF the power before replacing the UV-LED.

● Procedure

1. Move the carriage.
2. Remove cable.
   - round head screw with split washer_M3x8 (x2)
3. Remove UV-LED.
   - round head screw with split washer_M3x6 (x4)
4. Replace the UV-LED.
5. Reverse the above procedure to reinstall the parts.

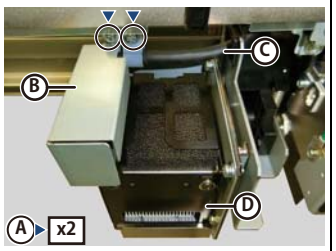
CONFIDENTIAL

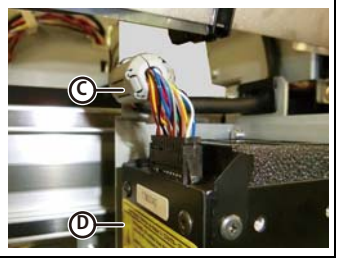
● Procedure (Details)

1 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

2 remove cable(s).
=> **8.2 Electric Diagram / Tube Diagram**

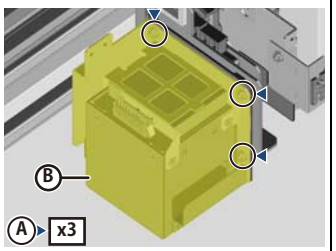
A : round head screw with split washer_M3x8 (x2)
B: cable cover
C: UV-LED cable
D: UV-LED





3 Remove UV-LED.

A : round head screw with split washer_M3x6 (x3)
B: UV-LED



4 Replace UV-LED.

5 Reverse the above procedure to reinstall the parts.

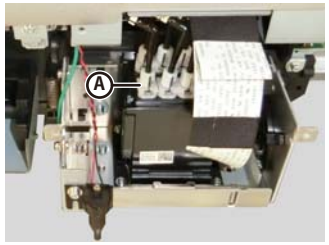
TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.7.16 Valve head

A : Valve head



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-41543	Valve Head Assy	**8.3_ 0505 CR - Prin Head**
-	Phillips screwdriver No.2	-
-	Phillips screwdriver No.1	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “valve head”

A : Valve Head

B: Valve Head Connector

C: Joint Screw

D: O Ring









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CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CAUTION

Precautions when replacing the print head (UV ink)

- Exposed in sunlight and/or strong fluorescent light may harden print head.
  Do not leave print head for a long time (1 or more days) with the cover removed.
  If the operation is expected to take a long time, cover with carriage cover.
  (This prevents hardening effectively.)
- Do not touch print nozzle surface. Keep print head from dust.
- Print head is adjusted. Do not disassemble print head.
- Do not touch head circuit board and/or cable/FFC.
- Do not touch cable/FFC when remove/reassemble the head cover.

CAUTION

Precautions when replacing the valve head

- Fill the new valve head with cleaning solution.
  If ink is charged without being filled with cleaning liquid, the valve head or print head may be damaged.
- The valve head is shipped with an aqueous cleaning liquid in it for inspection and quality maintenance.
  For this reason, it is necessary to clean with a special cleaning liquid before replacement.
- Do not press the transparent film on the side of the valve head with your hand.
  The cleaning liquid filled inside the valve head is pushed out to the tube.
- Do not scratch the transparent film on the side of the valve head.

● Procedure

1 Discharge ink.
2 Remove cover(s).
  - maintenance cover
  - front cover
  - side cover R
  - base rear cover
  - top cover
  - carriage cover
  - CR board cover
3 Move the carriage.
4 Remove valve head connector.
5 Replace the valve head connector.
6 Remove print head.
7 Remove valve head.
8 Replace the valve head.
9 Reverse the above procedure to reinstall the parts.
10 Charge ink.
11 Perform necessary adjustment.

CONFIDENTIAL

● Procedure (Details)

1 Discharge ink.
=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).
- maintenance cover
=> **3.2.2 Maintenance Cover**
- front cover
=> **3.2.3 Front Cover**
- side cover R
=> **3.2.4 Side Cover R**
- side cover L
=> **3.2.5 Side Cover L**
- base rear cover
=> **3.2.7 Base Rear Cover**
- top cover
=> **3.2.7 Base Rear Cover**
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
=> **3.7.5 CR Board Cover-Remove / Assemble**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

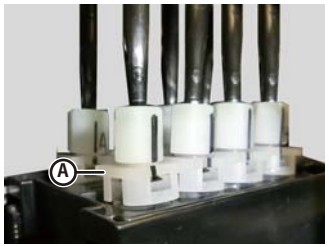
Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

3 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

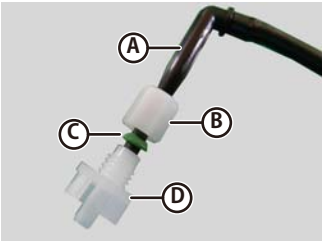
4 Remove head connector.
- Turn head connector by 45 degree clockwise.

A : valve head connector

B: aluminum pack



5 Replace the connector valve head.
- Remove fitting screw, O-ring, and connector valve head from the fitting.
- Attach new O-ring near the tip of fitting.
- Push in O-ring with new connector valve head.
- Connect the fitting screw and the connector valve head.

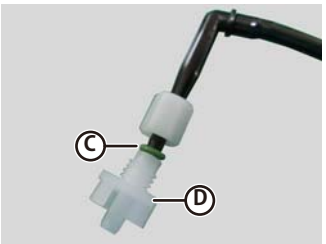


A: fitting

B: fitting screw

C: O-ring

D: connector valve head



NOTE

- Do not recycle the O-ring. Use new ones.
- Dip O-ring in the dedicated cleaning fluid before assembly.

NOTE

Mark all the valve head connector.

continue

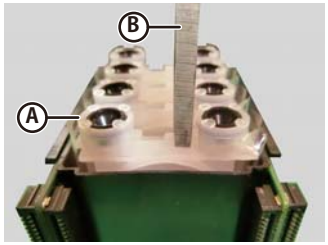
CONFIDENTIAL

6 Remove print head.
=> **3.7.14 Print Head**

7 Remove the valve head.

A: valve head

B: hose nose pliers



CAUTION

- Pull out the valve head with hose nose pliers.
- Do not scratch or damage the transparent film of valve head.

8 Replace the valve head.

CAUTION

Fill the new valve head with cleaning solution.
=> **3.7.3 Valve Head Cleaning**

9 Reverse the above procedure to reinstall the parts.

10 Charge ink.
=> **5.8 Check 2: Ink Charge**

11 Perform necessary adjustment.
=> **4.2 Adjustment Item**

TIP

Section top
=> **3.7 CR**

CONFIDENTIAL

3.8 Y-Rail

3.8.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0601 Y Rail - Overview 01**

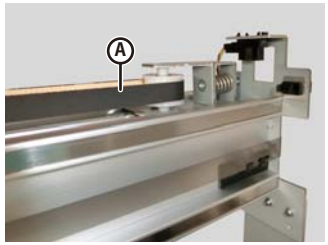
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	CR Belt	**3.8.2 CR belt**
2	CR Motor	**3.8.3 CR motor**
3	CR Origin Sensor	**3.8.4 CR origin sensor**
4	CR Speed Reduction Pulley	**3.8.5 CR Return Pulley**
5	T-Fence	**3.8.6 T-fence**
6	T-Fence Guide	**3.8.7 T-fence guide**
7	T-Fence Spring	**3.8.8 T-fence spring**

CONFIDENTIAL

3.8.2 CR belt

A : CR belt



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49044	CR Belt A1 Assy	8.3_ 0606 Y Rail - R / L
-	Phillips screwdriver No.2	-
-	Thread Locker	-
-	Air Cap	-
-	Aluminum zipper bag (UV opaque)	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “CR belt”.



● Procedure

1. Remove cover(s).
   - side cover R
   - side cover L
   - front cover
   - base rear cover
   - top cover
2. Move the carriage.
3. Remove CR board base.
4. Loosen the tension of CR belt.
   - Round Head Small Screw_M4x30 (x1)
5. Remove CR belt.
6. Replace the CR belt.
7. Adjust the tension of CR belt.
   - Round Head Small Screw_M4x30 (x1)
8. Check the carriage operation.
9. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
 => **3.2.2 Maintenance Cover**
- front cover
 => **3.2.3 Front Cover**
- side cover R
 => **3.2.4 Side Cover R**
- side cover L
 => **3.2.5 Side Cover L**
- base rear cover
 => **3.2.7 Base Rear Cover**
- top cover
 => **3.2.8 Top Cover**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

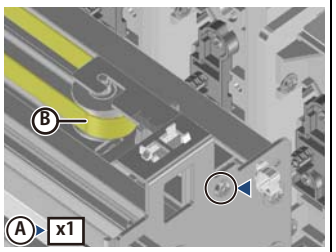
3 Remove the CR board base.

=> **3.7.6 CR Board Base-Remove / Assemble**

4 Loosen the tension of CR belt.

A: round head small screw_M4x30 (x1)

B: CR belt.



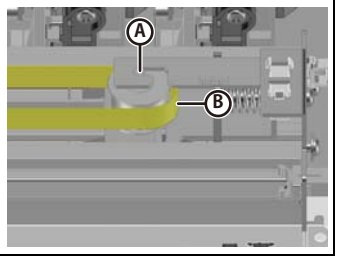
NOTE

Precautions when loosening the CR belt tension
- CR belt tension adjustment screw is fixed with thread locker.

5 Remove the CR belt.

A: CR belt.

B: CR return pulley



6 Replace the CR belt.

7 Adjust the tension of CR belt.

=> **4.9 Tension Adjustment (CR Belt)**

8 Check the carriage operation.

NOTE

Move the carriage by hand to check sliding.

9 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

TIP

Section top
=> 3.5 Cover

CONFIDENTIAL

3.8.3 CR motor

A : CR motor



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44693	CR Motor Assy	8.3_ 0606 Y Rail - R / L
-	Phillips screwdriver No.2	-
-	Thread Locker	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “CR motor”.



● Procedure

1. Remove cover(s).
   - side cover R
   - side cover L
2. Move the carriage.
3. Remove cable.
4. Loosen the tension of CR belt.
   - Round Head Small Screw_M4x30 (x1)
5. Remove CR motor.
   - Cup Screw_M4x8 (x4)
6. Replace the CR motor.
7. Adjust the tension of CR belt.
8. Check the carriage movement.
9. Reverse the above procedure to reinstall the parts.
10. Initialize history.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- side cover L

=> **3.2.5 Side Cover L**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Remove cable(s).

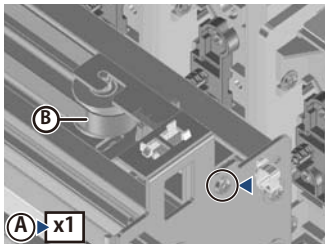
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
CR motor cable

4 Loosen the tension of CR belt.

A: round head small screw_M4x30 (x1)
B: CR belt

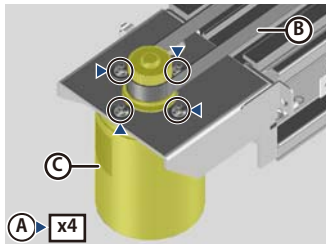


NOTE

Precautions when loosening the CR belt tension
- CR belt tension adjustment screw is fixed with thread locker.

5 Remove the CR motor.

A: cup screw_M4x8 (x4)
B: CR belt
C: CR motor



6 Replace the CR motor.

7 Adjust the tension of CR belt.

=> **4.9 Tension Adjustment (CR Belt)**

8 Check the carriage operation.

NOTE

Move the carriage by hand to check sliding.

9 Reverse the above procedure to reinstall the parts.

10 Initialize the counter.

=> **5.12.1 Parameter 1: Initialization**

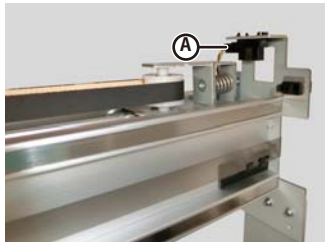
TIP

Section top
=> **3.5 Cover**

CONFIDENTIAL

3.8.4 CR origin sensor

A : CR origin sensor



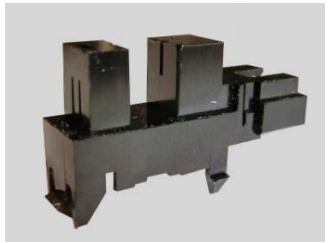
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49471	CR HP Sensor. Lever Sensor	8.3_ 0606 Y Rail - R / L
-	Phillips screwdriver No.2	-
-	Thread Locker	For sensor

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “PF sensor”.



● Procedure

1 Remove cover(s).
- side cover R
2 Move the carriage.
3 Remove cable.
4 Remove sensor.
5 Replace the sensor.
6 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 remove cable(s).

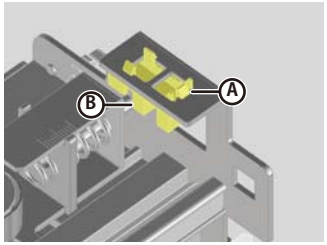
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
CR origin sensor cable

4 Remove the sensor.

A : thread locker
B: sensor



NOTE

Sensor is fixed with thread locker.

5 Replace the sensor.

NOTE

Fix sensor with thread locker.

6 Reverse the above procedure to reinstall the parts.

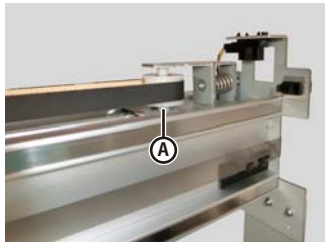
TIP

Section top
=> **3.3 Frame**

CONFIDENTIAL

3.8.5 CR Return Pulley

A : CR Return Pulley



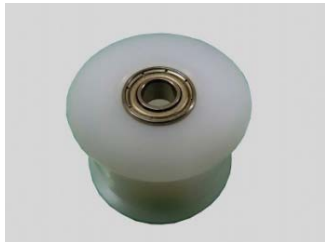
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49047	CR Return Pulley Assy	**8.3_ 0606 Y Rail - R / L**
-	Phillips screwdriver No.2	-
-	Thread Locker	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “pulley”.



● Procedure

1. Remove cover(s).
   - side cover R
2. Move the carriage.
3. Loosen the tension of CR belt.
   - Round Head Small Screw_M4x30 (x1)
4. Remove pulley unit.
5. Remove pulley.
6. Replace the pulley.
7. Adjust the tension of CR belt.
8. Check the carriage movement.
9. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

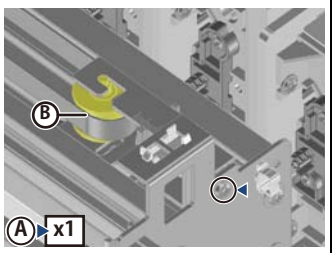
2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Loosen the tension of CR belt.

A: round head small screw_M4x30 (x1)

B: CR belt



NOTE

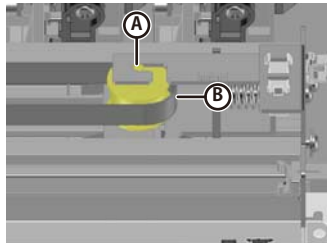
Precautions when loosening the CR belt tension

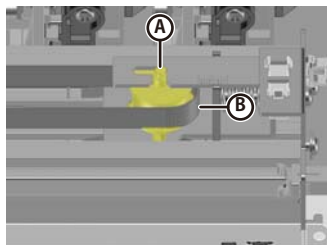
- CR belt tension adjustment screw is fixed with thread locker.

4 Remove the pulley unit.

A : pulley unit

B: CR belt





5 Remove the pulley.

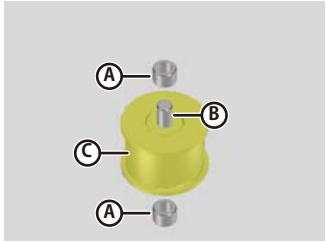
NOTE

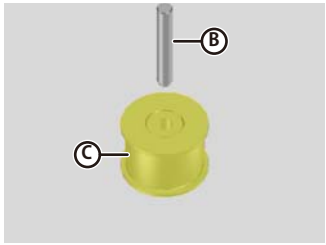
- Remove bearing holder.
- Remove pulley shaft.

A: bearing holder

B: pulley shaft

C: pulley

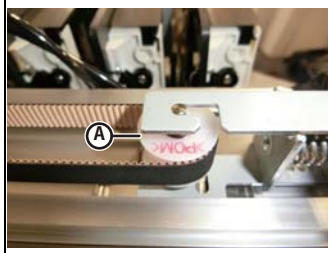




6 Replace the pulley.

NOTE

- Reassemble the pulley shaft.
- Reassemble the bearing holder.
  - Material notation (<POM>) must come to the top.
  - The narrower axis of the shaft must be located in the lower side.



7 Adjust the tension of CR belt.

=> **4.9 Tension Adjustment (CR Belt)**

continue

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8 Check the carriage operation.

NOTE

Move the carriage by hand to check sliding.

9 Reverse the above procedure to reinstall the parts.

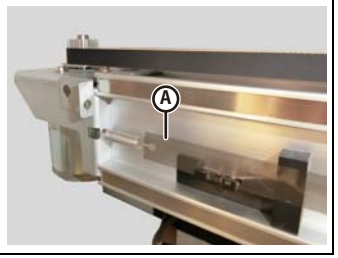
TIP

Section top
=> **3.5 Cover**

CONFIDENTIAL

3.8.6 T-fence

A : T-fence



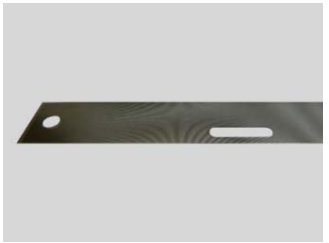
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49024	T Fence A1 Assy	**8.3_ 0604 Y Rail - T Fence**
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “T-fence”.



● Procedure

1. Remove cover(s).
   - side cover R
   - side cover L
2. Move the carriage.
3. Remove T-fence spring.
4. Remove T-fence.
5. Replace the T-fence.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- side cover L

=> **3.2.5 Side Cover L**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

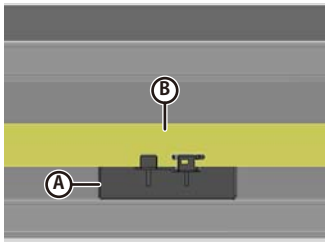
3 Remove T-fence spring.

=> **3.8.8 T-fence spring**

4 Remove T-fence.

A: T-fence

B: fence guide



NOTE

- Do not pull fence guide with a force, since it is easy to break.
- Do not damage/scratch T-fence.

5 Replace T-fence.

NOTE

- Fold T fence at 9mm from the tip.
- Do not fold the other end.
- Remove seal attached on T Fence.
- Attach T-fence in the hook on the right side.

6 Reverse the above procedure to reinstall the parts.

TIP

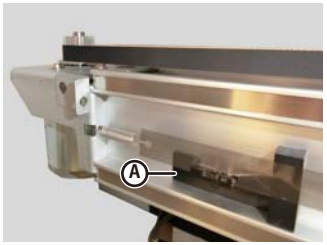
Section top

=> **3.5 Cover**

CONFIDENTIAL

3.8.7 T-fence guide

A : T-fence guide



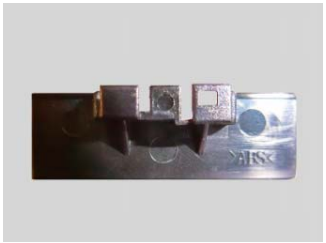
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49027	Fence Guide Assy	8.3_ 0604 Y Rail - T Fence
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “T-fence guide”.



● Procedure

1 Remove cover(s).
- side cover R
- side cover L

2 Move the carriage.
3 Remove T-fence spring.
4 Remove T-fence.
5 Remove T-fence guide.
6 Replace the T-fence guide.
7 Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- side cover L

=> **3.2.5 Side Cover L**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Remove T-fence spring.

=> **3.8.8 T-fence spring**

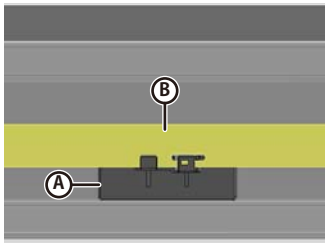
4 Remove T-fence.

=> **3.8.6 T-fence**

5 Remove T-fence guide.

A: T-fence guide

B: T-fence



6 Replace T-fence guide.

NOTE

- Attach T-fence guide with dual-sided adhesive tape.
  Adhere the tape on T-fence guide.
  Remove the seal.
  Adhere the T-fence guide.
- Attach in the right location.

7 Reverse the above procedure to reinstall the parts.

TIP

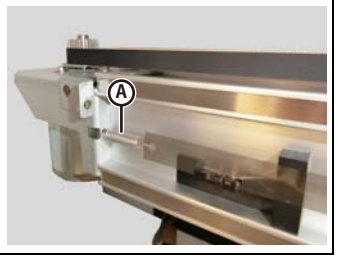
Section top

=> **3.5 Cover**

CONFIDENTIAL

3.8.8 T-fence spring

A : T-fence spring



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44690	T-Fence Spring_Assy	**8.3_ 0604 Y Rail - T Fence**
-	Phillips screwdriver No.2	-
-	Needle-Nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “T-fence spring”.



● Procedure

1. Remove cover(s).
   - side cover R
   - side cover L
2. Move the carriage.
3. Remove T-fence spring.
4. Replace the T-fence spring.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover L

=> **3.2.5 Side Cover L**

2 Move the carriage.

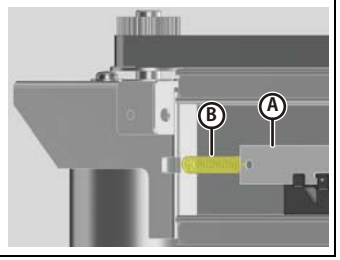
=> **3.7.2 Manual Release of Carriage Lock**

3 Remove T-fence spring.

A : T-fence

B: T-fence spring

C: needle nose plier



4 Replace T-fence spring.

5 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.5 Cover**

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3.9 Cable Guide

3.9.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0701 Cable Guide - Overview**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference

CONFIDENTIAL

3.10 IH-R

3.10.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0801 IH R - Overview**

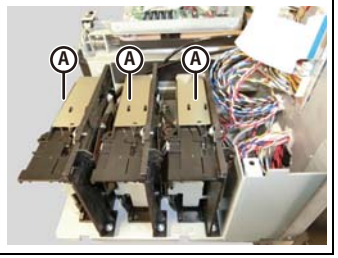
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Cartridge holder	**3.10.2 Cartridge holder**
2	Holder pressure spring	**3.10.3 Holder pressure spring**
3	Ink ID board	**3.10.4 Ink ID board**

CONFIDENTIAL

3.10.2 Cartridge holder

A : cartridge holder



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40002	I/C Holder Assy 1	**8.3_ 0500 I/C Holder 01**
DH-40003	I/C Holder Assy 2	**8.3_ 0501 I/C Holder 02**
DH-40004	I/C Holder Assy 3	**8.3_ 0502 I/C Holder 03**
-	Phillips screwdriver No.2	-
-	Dedicated Cleaning Fluid	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “cartridge holder”

A : I/C Holder Assy 1

B: I/C Holder Assy 2

C: I/C Holder Assy 3







⚠CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Discharge ink.
2 Remove cover(s).
- side cover R
3 Move the carriage.
4 Remove cable.
5 Remove tube guide.
6 Remove tube(s).
7 Remove cartridge holder.
-s tight cup tapping screw_M3x12 (x2)
8 Replace the cartridge holder.
9 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

3 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

4 Remove cable(s).

- Remove target cable(s) (x2x2) from JUNCTION board

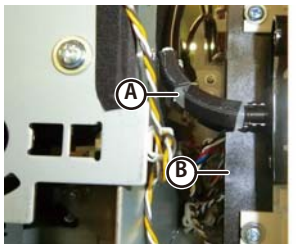
=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
Slot.1: JUNCTION board-J8/J16
Slot.2: JUNCTION board-J9/J17
Slot.3: JUNCTION board-J10/J18

5 Slide the tube guide.

A: tube guide
B: cartridge holder



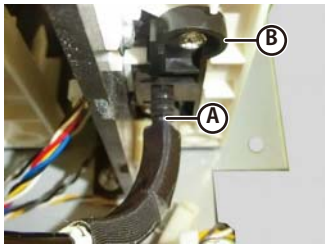
continue

CONFIDENTIAL

6 Remove the tube.

A: tube

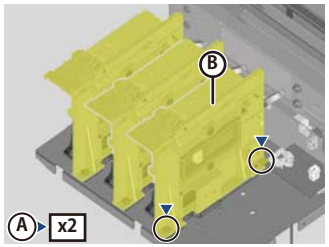
B: cartridge holder



7 Remove cartridge holder.

A: S tight cup tapping screw_M3x12 (x2)

B: cartridge holder

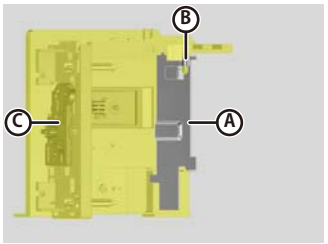


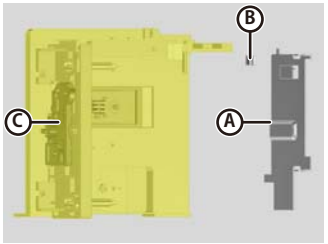
8 Replace the cartridge holder.

A: IH lid

B: spring

C: cartridge holder





9 Reverse the above procedure to reinstall the parts.

NOTE

- Do not recycle the O-ring. Use new ones.
- Dip O-ring in the dedicated cleaning fluid before assembly.

TIP

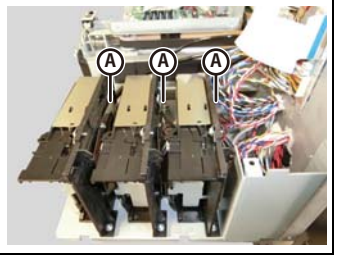
Section top

=> 3.10 IH-R

CONFIDENTIAL

3.10.3 Holder pressure spring

A : holder pressure spring



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-43967	Pressure Roller Holder Spring	8.3_ 0802 IH R - Breakdown
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “spring plate”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

● Procedure

1. Discharge ink.
2. Remove cover(s).
   - side cover R
3. Move the carriage.
4. Remove cartridge holder.
5. Remove spring plate.
   - P Tight Cup Screw_M3x6 (x2)
6. Replace the spring plate.
7. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

3 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

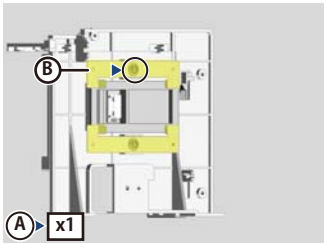
4 Remove cartridge holder.

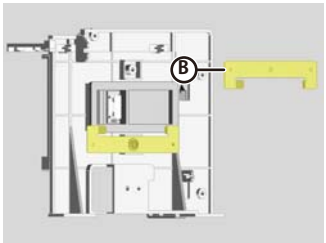
=> **3.10.2 Cartridge holder**

5 Remove spring plate.

A: P tight cup tapping screw_M3x6 ni-3 (x1)

B: spring plate (x1)





6 Replace spring plate.

7 Reverse the above procedure to reinstall the parts.

TIP

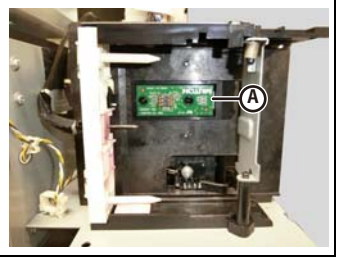
Section top

=> **3.10 IH-R**

CONFIDENTIAL

3.10.4 Ink ID board

A : Ink ID board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40005	Ink ID board	8.3_ 0802 IH R - Breakdown
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “ink ID board”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

● Procedure

1. Discharge ink.
2. Remove cover(s).
   - side cover R
3. Move the carriage.
4. Remove cartridge holder.
5. Remove spring plate.
6. Remove cable.
7. Replace the ink ID board.
8. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

3 Move the carriage.

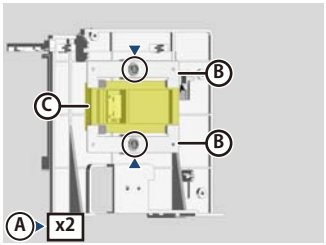
=> **3.7.2 Manual Release of Carriage Lock**

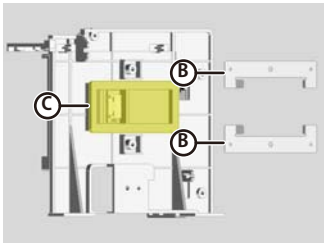
4 Remove cartridge holder.

=> **3.10.2 Cartridge holder**

5 Remove spring plate.

A: P tight cup tapping screw_M3x6 ni-3 (x2)
B: spring plate (x2)
C: ink ID board

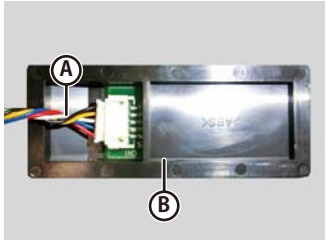




6 Remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

A: cable
B: ink ID board



7 Replace the ink ID board.

8 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> **3.10 IH-R**

CONFIDENTIAL

3.11 IH-L

3.11.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0901 IH L - Overview**

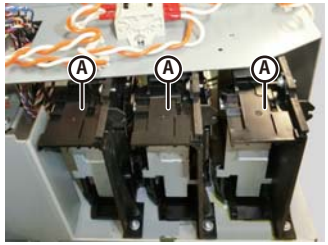
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Cartridge holder	**3.11.2 Cartridge holder**
2	Holder pressure spring	**3.11.3 Holder pressure spring**
3	Ink ID board	**3.11.4 Ink ID board**
4	Circulation pump	**3.11.5 Circulation pump**

CONFIDENTIAL

3.11.2 Cartridge holder

A : cartridge holder



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40002	I/C Holder Assy 1	**8.3_ 0500 I/C Holder 01**
DH-40003	I/C Holder Assy 2	**8.3_ 0501 I/C Holder 02**
DH-40004	I/C Holder Assy 3	**8.3_ 0502 I/C Holder 03**
-	Phillips screwdriver No.2	-
-	Dedicated cleaning fluid	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “cartridge holder”

A : I/C Holder Assy 1

B: I/C Holder Assy 2

C: I/C Holder Assy 3







CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Discharge ink.
2 Remove cover(s).
- side cover L
3 Remove terminal block.
4 Remove holder guide plate.
5 Remove cable.
6 Remove tube guide.
7 Remove tube(s).
8 Remove cartridge holder.
-s tight cup tapping screw_M3x12 (x2)
9 Replace the cartridge holder.
10 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).

- side cover L

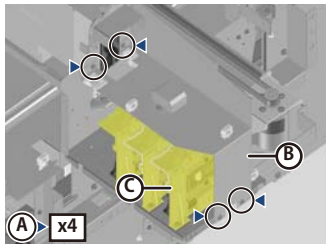
=> **3.2.5 Side Cover L**

3 Remove terminal block.

=> **3.6.11 Terminal Block**

4 Remove the holder guide.

A: S tight cup tapping screw_M3x6 (x4)
B: holder guide
C: cartridge holder



5 Remove cable(s).

- Remove target cable(s) (x2x2) from JUNCTION board

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

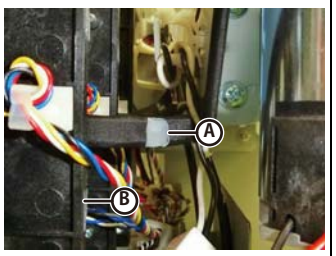
Access point:
Slot.4: JUNCTION board-J10/J18
Slot.5: JUNCTION board-J9/J17
Slot.6: JUNCTION board-J8/J16

continue

CONFIDENTIAL

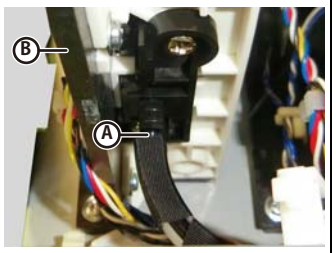
6 Slide the tube guide.

A: tube guide
B: cartridge holder



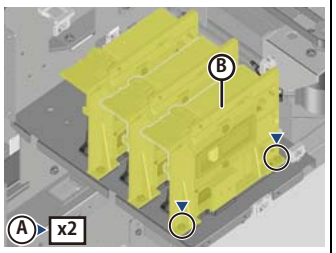
7 Remove the tube.

A: tube
B: cartridge holder



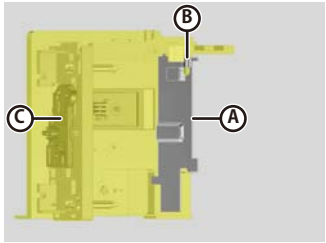
8 Remove cartridge holder.

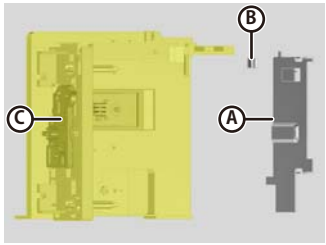
A: S tight cup tapping screw_M3x12 (x2)
B: cartridge holder



9 Replace cartridge holder.

A: IH lid
B: spring
C: cartridge holder
D:





10 Reverse the above procedure to reinstall the parts.

NOTE

- Do not recycle the O-ring. Use new ones.
- Dip O-ring in the dedicated cleaning fluid before assembly.

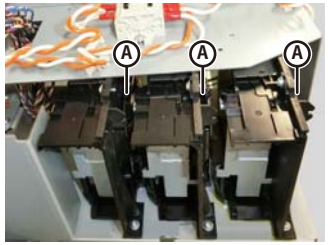
TIP

Section top
=> 3.11 IH-L

CONFIDENTIAL

3.11.3 Holder pressure spring

A : holder pressure spring



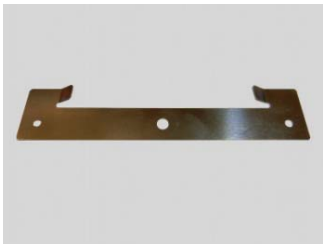
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-43967	Pressure Roller Holder Spring	8.3_ 0902 IH L - Upper
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “spring plate”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

● Procedure

1. Discharge ink.
2. Remove cover(s).
   - side cover L
3. Remove cartridge holder.
4. Remove spring plate.
   - P Tight Cup Screw_M3x6 (x2)
5. Replace the spring plate.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).

- side cover L

=> **3.2.5 Side Cover L**

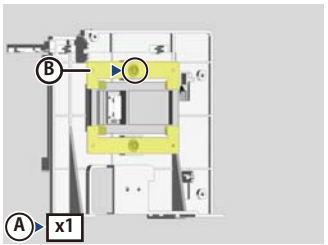
3 Remove the cartridge holder.

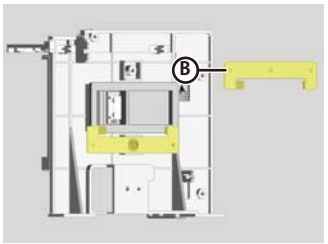
=> **3.10.2 Cartridge holder**

4 Remove the spring plate.

A: P tight cup tapping screw_M3x6 ni-3 (x1)

B: spring plate (x1)





5 Replace the spring plate.

6 Reverse the above procedure to reinstall the parts.

TIP

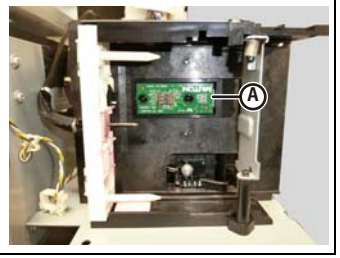
Section top

=> **3.10 IH-R**

CONFIDENTIAL

3.11.4 Ink ID board

A : ink ID board



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40005	Ink ID Board	8.3_ 0902 IH L - Upper
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “ink ID board”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

● Procedure

1. Discharge ink.
2. Remove cover(s).
   - side cover L
3. Remove cartridge holder.
4. Remove spring plate.
5. Remove cable.
6. Replace the ink ID board.
7. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

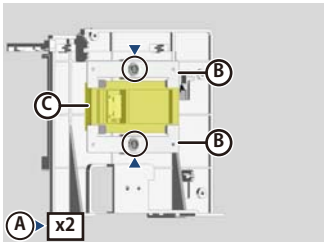
2 Remove cover(s).

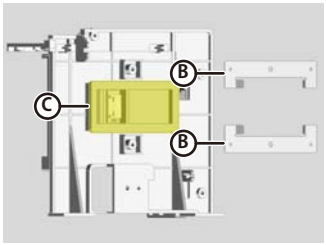
- side cover L

=> **3.2.5 Side Cover L**

3 Remove the spring plate.

A: P tight cup tapping screw_M3x6 ni-3 (x2)
B: spring plate (x2)
C: ink ID board

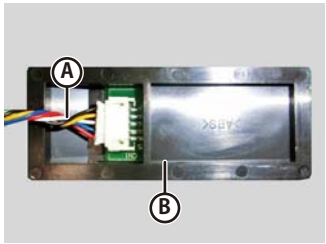




4 Remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

A: cable
B: ink ID board



5 Replace the ink ID board.

6 Reverse the above procedure to reinstall the parts.

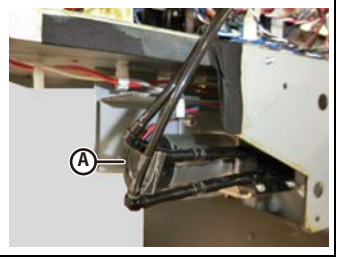
TIP

Section top
=> **3.10 IH-R**

CONFIDENTIAL

3.11.5 Circulation pump

A : circulation pump



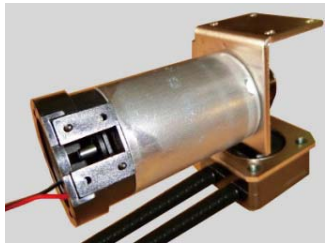
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40001	DC Pump Assy	**8.3_ 0400 DC Pump**
-	Phillips screwdriver No.2	-
-	tweezers	-
-	tube cutter	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “pump”.



⚠CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Discharge ink.
2 Remove cover(s).
- side cover L
3 Remove circulation tube cover.
- tapping screw_M3x6 S tight cup
4 Remove cable.
5 Remove tube(s).
6 Remove pump unit.
- round head screw with split washer_M4x16 (x3)
7 Remove pump.
- round head screw with split washer_M3x6 (x2)
8 Replace the pump.
9 Attach the new pump.
10 Reverse the above procedure to reinstall the parts.
11 Reset the lifetime counter.

● Procedure (Details)

1 Discharge ink.

=> **5.9.11 Adjustment 11: Ink Discharge**

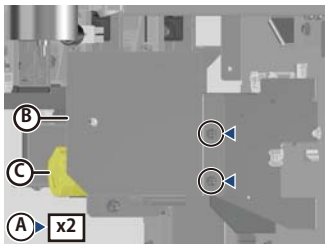
2 Remove cover(s).

- side cover L

=> **3.2.5 Side Cover L**

3 Remove circulation tube cover.

A: S tight cup tapping screw_M3x6 (x2)
B: circulation tube cover
C: pump unit



4 Remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
relay cable (MIST fan cable Assy)

continue

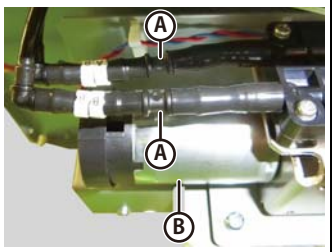
CONFIDENTIAL

5 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**

A: I-fitting

B: pump unit



NOTE

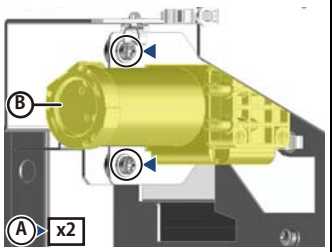
Precautions when removing the tube

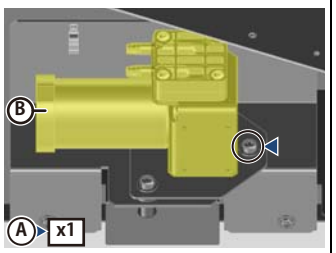
- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

6 Remove pump unit.

A : round head screw with split washer_M4x16 (x3)

B: pump unit

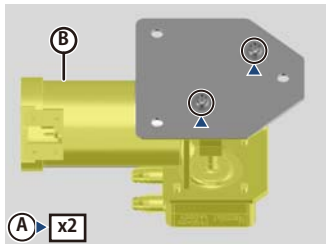




7 Remove the pump.

A: round head screw with split washer_M3x6 (x2)

B: pump



8 Replace the pump.

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Cut the pump tube in proper length.

9 Reverse the above procedure to reinstall the parts.

10 Initialize the counter.

=> **5.4 Reset Waste Ink Counter**

TIP

Section top

=> **3.11 IH-L**

CONFIDENTIAL

3.12 Maintenance

3.12.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 1001 Maintenance - Overview**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Cap Head	**3.12.3 Cap Head**
2	Waste Fluid Pump	**3.12.4 Waste Fluid Pump**
3	Wiper Solenoid	**3.12.5 Wiper Solenoid**
4	Wiper Unit	**3.12.6 Wiper Unit**

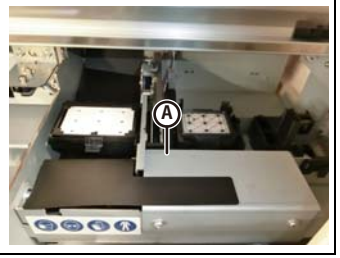
The following table lists the other procedure.

No.	Name	Reference
1	Pump Cover	**3.12.2 Pump Cover-Remove / Assemble**

CONFIDENTIAL

3.12.2 Pump Cover-Remove / Assemble

A : Pump Cover



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips screwdriver No.2	-

● Procedure

1. Remove cover(s).
   - side cover R
2. Move the carriage.
3. Remove screw(s).
   - S Tight Bind tapping Screw_M3x6
4. Remove pump cover.
5. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

⚠CAUTION

UV ink may cause strong irritation to your skin.
Wear butyl rubber glovesand protective goggles to prevent skin contact.

NOTE

Place the waste clothes or waste media under the printer as ink may drop.

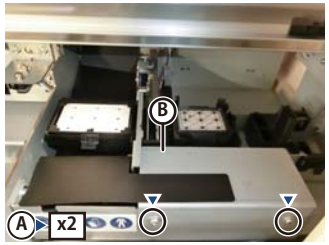
1 Remove cover(s).
- side cover R
=> **3.2.4 Side Cover R**

2 Move the carriage.
=> **3.7.2 Manual Release of Carriage Lock**

3 Remove screw(s).

A : S Tight Bind tapping Screw_M3x6

B: Pump Cover



4 Remove pump cover.

5 Reverse the above procedure to reinstall the parts.

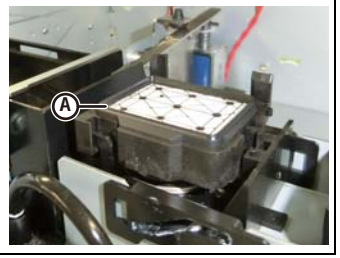
TIP

Section top
=> **3.10 IH-R**

CONFIDENTIAL

3.12.3 Cap Head

A : Cap Head



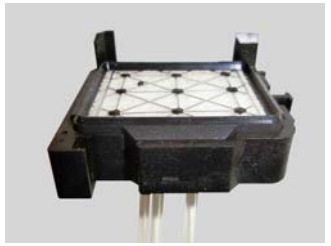
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-48134	Head Cap Assy	8.3_ 0200 Head Cap
	Phillips screwdriver No.2	-
	Tweezers	-
	Tube Cutter	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “cap”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover R
- Pump Cover

2 Move the carriage.

3 Remove tube(s).

4 Remove cap.

5 Replace the cap.

6 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- pump cover

=> **3.12.2 Pump Cover-Remove / Assemble**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**

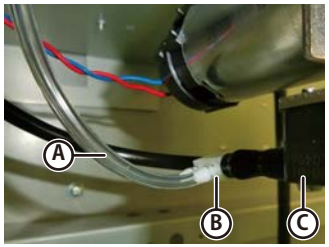
A : tube (x2)

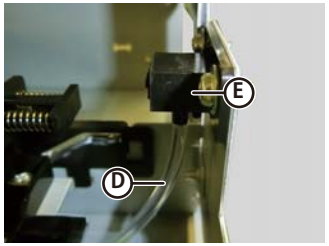
B: F-fitting

C: waste fluid pump

D: tube

E: valve holder





NOTE

Precautions when removing the tube

- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

continue

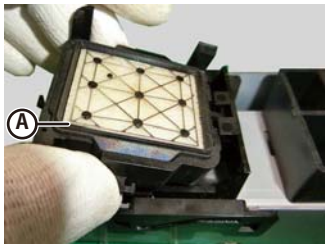
CONFIDENTIAL

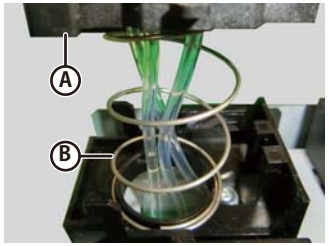
4 Remove the cap

- Remove the cap while press it down.
- Remove cap spring from the cap.

A: cap

B: cap spring





5 Replace the cap.

6 Reverse the above procedure to reinstall the parts.

TIP

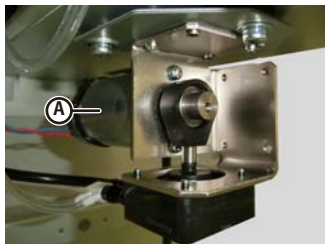
Section top

=> 3.10 IH-R

CONFIDENTIAL

3.12.4 Waste Fluid Pump

A : Waste Fluid Pump



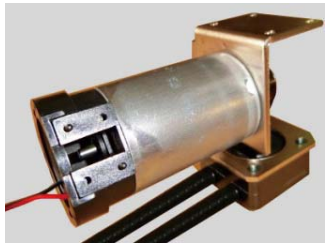
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40001	DC Pump Assy	**8.3_ 0400 DC Pump**
	Phillips screwdriver No.2	-
	Tweezers	-
	Tube Cutter	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “pump”.



⚠CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover R
- Pump Cover

2 Move the carriage.

3 Remove cable(s).

4 Remove tube(s).

5 Remove pump unit.
- round head screw with split washer_M3x6 (x2)

6 Remove pump.
- round head screw with split washer_M4x16 (x3)

7 Replace the pump.

8 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- pump cover

=> **3.12.2 Pump Cover-Remove / Assemble**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
relay cable (vacuum fan relay 2)

continue

CONFIDENTIAL

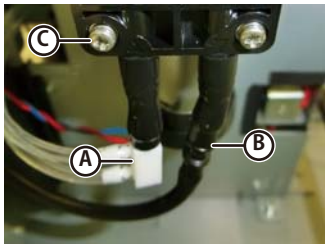
4 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**

A: F-fitting

B: I-fitting

C: pump unit



NOTE

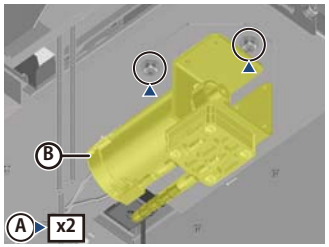
When removing tube, there remains ink inside of the tube.

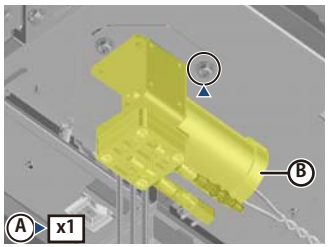
Lay waste cloth or waste media on floor to prevent contamination by splattered ink.

5 Remove pump unit.

A: round head screw with split washer_M4x16 (x3)

B: pump unit

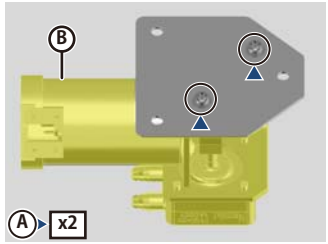




6 Remove pump.

A: round head screw with split washer_M3x6 (x2)

B: pump



7 Replace the pump.

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Cut the tube in proper length.

8 Reverse the above procedure to reinstall the parts.

TIP

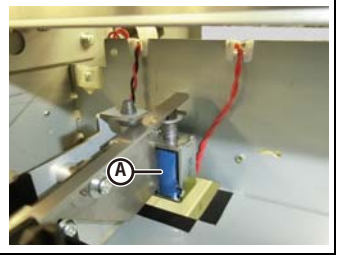
Section top

=> **3.10 IH-R**

CONFIDENTIAL

3.12.5 Wiper Solenoid

A : Wiper Solenoid



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-41090	Wiper Solenoid SDC630KG	**8.3_ 1004 Maintenance - Upper Details**
-	Phillips screwdriver No.2	-
-	Needle-nose Pliers	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “solenoid”.



⚠ CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover R
- Pump Cover

2 Move the carriage.

3 Remove cable.

4 Remove tube(s).

5 Remove wiper unit.
-s tight cup tapping screw_M3x6 (x2)

6 Remove solenoid.
- round head screw with split washer_M3x5 (x2)

7 Replace the solenoid.

8 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- pump cover

=> **3.12.2 Pump Cover-Remove / Assemble**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

Access point:
relay cable (wiper SOLcable Assy)

continue

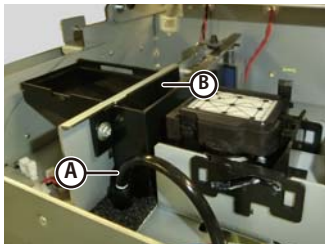
CONFIDENTIAL

4 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**

A: tube

B: wiper unit



NOTE

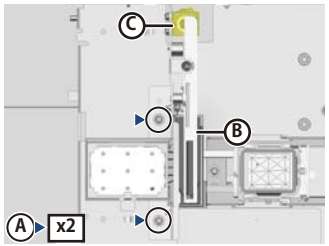
When removing tube, there remains ink inside of the tube.
Lay waste cloth or waste media on floor to prevent contamination by splattered ink.

5 Remove wiper unit.

A: S tight cup tapping screw_M3x6 tight cup(x2)

B: wiper unit

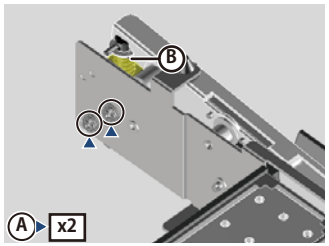
C: solenoid



6 Remove solenoid.

A: round head screw with split washer_M3x5 (x2)

B: wiper unit



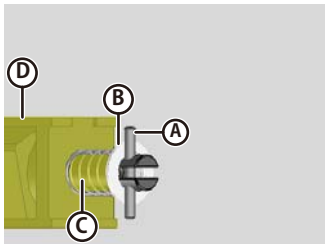
7 Replace the solenoid.

A: spring pin

B: washer

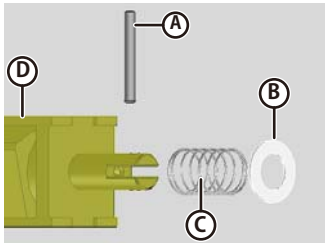
C: spring

D: solenoid



NOTE

Spring pin, washer, and spring are subject to reuse. Do not lose.



8 Reverse the above procedure to reinstall the parts.

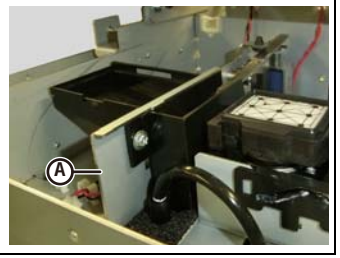
TIP

Section top
=> **3.10 IH-R**

CONFIDENTIAL

3.12.6 Wiper Unit

A : Wiper Unit



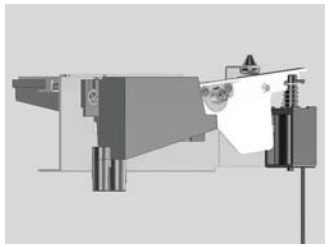
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-49070	Replaceable Wiper Assy(26UF)	8.3_ 0300 Wiper
	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “wiper unit”.



CAUTION

The printer uses UV ink.

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber glovesand protective goggles to prevent skin contact.
- There is a possibility that the ink would be cured by fluorescent lamps.
  Work in an environment where there is as little UV light as possible.

● Procedure

1. Remove cover(s).
   - side cover R
   - Pump Cover
2. Move the carriage.
3. Remove cable.
4. Remove wiper unit.
   -s tight cup tapping screw_M3x6 (x2)
5. Replace the wiper unit.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- pump cover

=> **3.12.2 Pump Cover-Remove / Assemble**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Remove cable(s).

=> **8.2 Electric Diagram / Tube Diagram**

NOTE

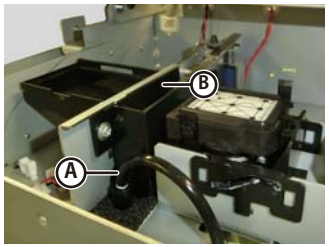
Access point:
relay cable (wiper SOLcable Assy)

4 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**

A : tube

B: wiper unit



NOTE

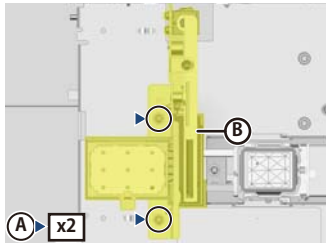
Precautions when removing the tube

- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

5 Remove wiper unit.

A: S tight cup tapping screw_M3x6 tight cup (x2)

B: wiper unit



6 Replace the wiper unit.

7 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> **3.10 IH-R**

CONFIDENTIAL

3.13 Panel

3.13.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 1101 Panel**

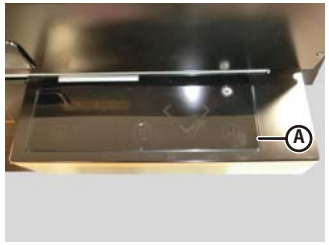
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Panel Unit	**3.13.2 Panel Unit**

CONFIDENTIAL

3.13.2 Panel Unit

A : panel unit



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-49289	Panel Unit Assy	8.3_ 1101 Panel

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “panel unit”.



CAUTION

Precautions when replacing board

- When handling the board, do not touch the elements on the board with bare hands. There is a risk that the element will be destroyed by static electricity.

CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- panel cover

2 Remove panel unit.

3 Remove panel-FFC.

4 Replace the panel unit.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

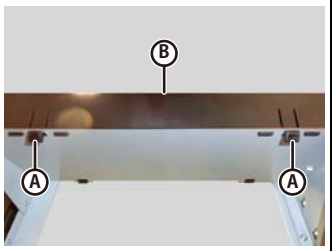
1 Remove cover(s).

- panel cover

=> 3.2.12 Panel Cover

2 Remove panel unit.

- Apply pressure on the front nail(s). (x2)
- Lift in the front.
- Pull out.

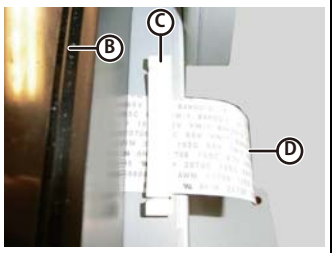


A: latch (x2)

B: panel unit

C: clamp

D: panel-FFC

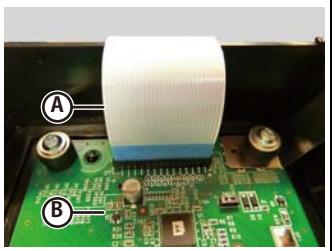


NOTE

Before removing the panel unit, release panel-FFC from the clamp(s).
Otherwise panel-FFC may be damaged.

3 Remove cable(s).

=> 8.2 Electric Diagram / Tube Diagram



A: panel-FFC

B: panel unit

NOTE

Access point:
panel-FFC

continue

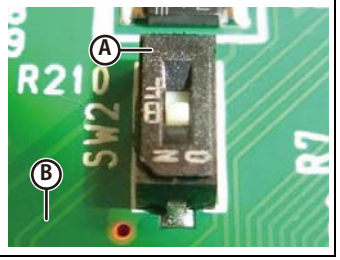
CONFIDENTIAL

4 Replace the panel unit.

- Turn on SW2.

A: SW2

B: panel unit



5 Reverse the above procedure to reinstall the parts.

⚠CAUTION

Check again if SW2 is ON before reassembling the panel unit.

TIP

Section top

=> **3.13 Panel**

CONFIDENTIAL

3.14 Accessories

3.14.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 1201 Accessories**

This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Waste Fluid Bottle	**3.14.2 Waste Fluid Bottle**
2	Wiper	**3.14.3 Wiper**

CONFIDENTIAL

3.14.2 Waste Fluid Bottle

A : waste fluid bottle



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40006	Waste Fluid Bottle Assy	**8.3_ 0600 Waste Fluid Bottle**

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “waste fluid bottle”.



CAUTION

Precautions when replacing board

- When handling the board, do not touch the elements on the board with bare hands. There is a risk that the element will be destroyed by static electricity.

CONFIDENTIAL

● Procedure

1 Drain the waste fluid.
2 Remove cover(s).
- waste fluid bottle cover
3 Remove tube(s).
4 Remove waste fluid bottle.
5 Replace the waste fluid bottle.
6 Reverse the above procedure to reinstall the parts.
7 Reset the waste ink counter.

● Procedure (Details)

1 Drain the waste fluid.

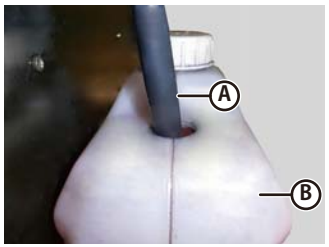
=> Operation manual

2 Remove cover(s).

- waste fluid bottle cover

=> 3.2.1 Waste Fluid Bottle Cover

3 Remove the tube.



A: tube

B: waste fluid bottle

NOTE

Precautions when removing the tube

- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

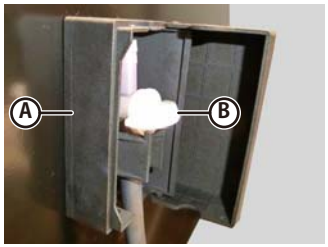
continue

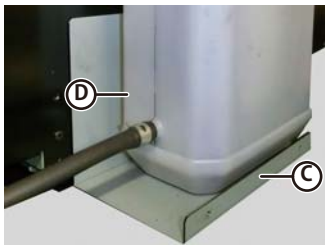
CONFIDENTIAL

4 Remove waste fluid bottle.

- Release open/close cock from the clamp.

-Remove waste fluid bottle from waste fluid tank support plate.





A: open/close cock clamp

B: open/close cock

C: waste fluid tank support plate

D: waste fluid bottle

NOTE

Precautions when removing the tube

- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

5 Replace the waste fluid bottle.

6 Reverse the above procedure to reinstall the parts.

7 Initialize the counter.

=> **5.12.1 Parameter 1: Initialization**

TIP

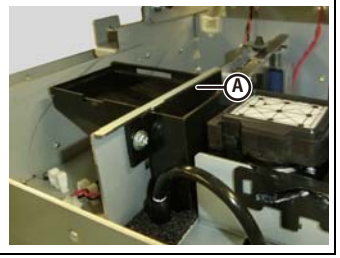
Section top

=> **3.14 Accessories**

CONFIDENTIAL

3.14.3 Wiper

A : Wiper



● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-41001	VJ16 Wiper Assy	**8.3_ 1004 Maintenance - Upper Details**

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “wiper”.



CAUTION

Precautions when replacing board

- When handling the board, do not touch the elements on the board with bare hands. There is a risk that the element will be destroyed by static electricity.

● Procedure

1. Move the carriage.
2. Remove wiper.
3. Replace the wiper.
4. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

2 Remove the wiper Assy.

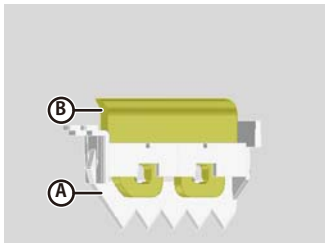
=> Operation manual

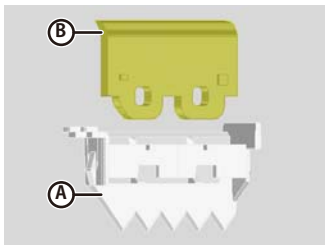
3 Remove wiper.

=>Remove wiper from wiper holder.

A: wiper holder

B: wiper





4 Replace the wiper.

- Attach wiper in wiper holder.

A: wiper holder

B: wiper

NOTE

Precautions when replacing wiper

- Do not touch wiper with bare finger.
- Keep wiper clean from dirt, dust, oil, etc.
- Wiper has orientation. Install wiper in the right direction.

5 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.14 Accessories**

CONFIDENTIAL

3.15 Periodic Replacement Parts

3.15.1 Maintenance Part(s)

TIP

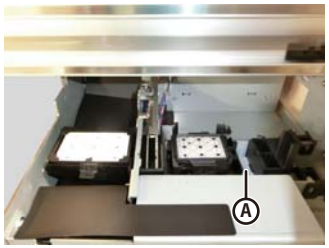
Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_8.5 Periodic Replace Parts**

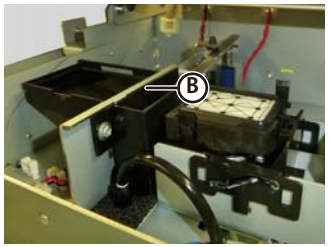
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

No.	Name	Reference
1	Maintenance Unit	**3.15.2 Maintenance Unit**
2	Wiper	Operation manual

TIP

A : Maintenance Unit
B: Wiper Unit

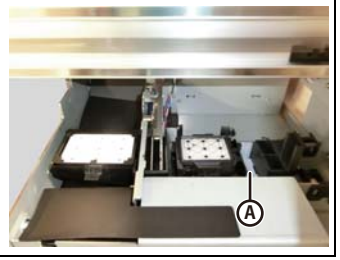




CONFIDENTIAL

3.15.2 Maintenance Unit

A : Maintenance Unit



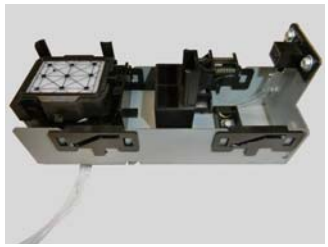
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40023	XPJ-461UF Periodic Maintenance Kit	**8.3_ 0100 Maintenance Unit**

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “maintenance unit”.



CAUTION

Precautions when replacing board

- When handling the board, do not touch the elements on the board with bare hands. There is a risk that the element will be destroyed by static electricity.

● Procedure

1. Remove cover(s).
   - side cover R
   - Pump Cover
2. Move the carriage.
3. Remove tube(s).
4. Remove maintenance unit.
   -s tight cup tapping screw_M3x6(x2)
5. Replace the maintenance unit.
6. Reverse the above procedure to reinstall the parts.

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- side cover R

=> **3.2.4 Side Cover R**

- pump cover

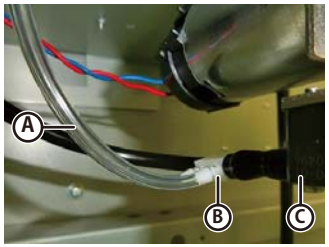
=> **3.12.2 Pump Cover-Remove / Assemble**

2 Move the carriage.

=> **3.7.2 Manual Release of Carriage Lock**

3 Remove tube(s).

=> **8.2 Electric Diagram / Tube Diagram**



A : tube

B: wiper unit

C: waste fluid pump

NOTE

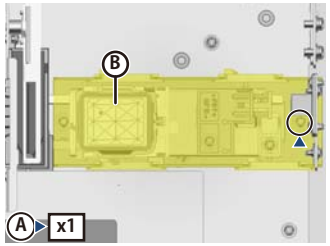
Precautions when removing the tube

- Ink remains in the tube.
  Place a waste cloth or waste media that can be dirty so that it does not drip from the tube outlet to the outside of the product.

4 Remove the maintenance unit.

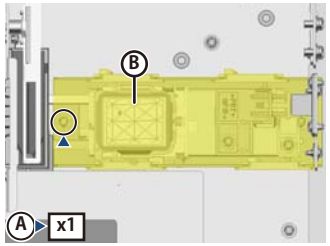
A: S tight cup tapping screw_M3x6 tight cup (x2)

B: maintenance unit



NOTE

When removing screw in the left, bring the slide base to the right.



5 Replace the maintenance unit.

6 Reverse the above procedure to reinstall the parts.

TIP

Section top

=> **3.15 Periodic Replacement Parts**

CONFIDENTIAL

3.16 FFC

3.16.1 Maintenance Part(s)

TIP

Chapter TOC
=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**
Exploded View
=>**8.3_ 0100 Electric Diagram**

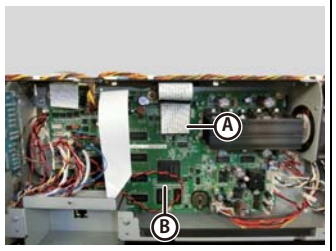
This section describes how to replace the maintenance parts.
The following table lists the maintenance parts.

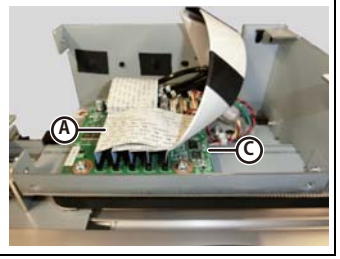
No.	Name	Reference
1	CR-FFC	**3.16.2 CR-FFC**
2	Head-FFC	**3.16.3 Head-FFC**
3	JUNC-FFC (Left-side)	**3.16.4 JUNC-FFC (left-side)**
4	JUNC-FFC (Right-side)	**3.16.5 JUNC-FFC (right-side)**
5	Panel-FFC	**3.16.6 Panel-FFC**

CONFIDENTIAL

3.16.2 CR-FFC

A : CR-FFC
B: Main Board
C: CR Board





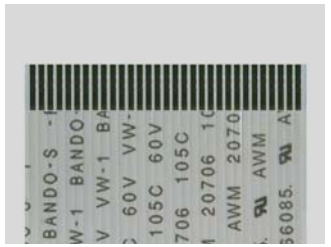
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44703	CR_FFC_Assy	**8.3_ 0100 Electric Diagram**
-	Phillips screwdriver No.2	-
-	Slotted screwdriver	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “CR-FFC”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- maintenance cover
- front cover
- base rear cover
- top cover
- CR Board Cover

2 Move the carriage.

3 Remove steel bear.
- round head screw with split washer_M3x6 (x3)

4 Remove CR-FFC fixing plate
- tapping screw_M3x8 P tightcup (x1)
- tapping screw_M3x6 S tightcup (x1)

5 Remove CR-FFC from CR board.

6 Remove CR-FFC from CR board base.

7 Attach steal bear.
- round head screw with split washer_M3x6 (x3)

8 Remove CR-FFC from bear attachment.

9 Remove CR-FFC from fixing plate.
- tapping screw_M3x14 S tightcup (x2)

10 Remove CR-FFC from Main board.

11 Replace the CR-FFC.

12 Reverse the above procedure to reinstall the parts.

13 Check the carriage operation.

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
 => **3.2.2 Maintenance Cover**
- front cover
 => **3.2.3 Front Cover**
- base rear cover
 => **3.2.7 Base Rear Cover**
- top cover
 => **3.2.7 Base Rear Cover**
- CR board cover
 => **3.7.5 CR Board Cover-Remove / Assemble**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

2 Move the carriage.

 => **3.7.2 Manual Release of Carriage Lock**

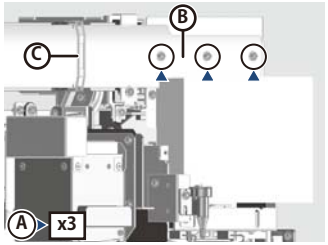
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CONFIDENTIAL

3 Remove steel bare.

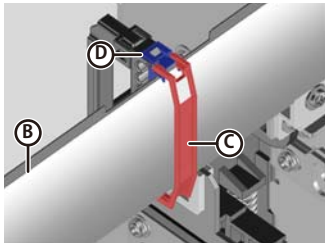
- Release from the clamp most near the carriage.
- Remove steel bare.

A : round head screw with split washer_M3x8 (x3)
B: steel bare
C: clamp bare
D: clamp_FFC



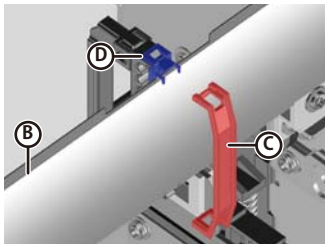
NOTE

Release hook of the clamp with the screwdriver (precision).



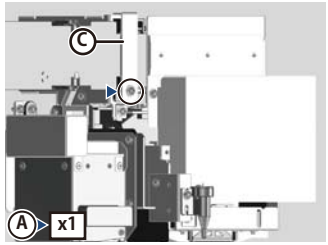
⚠CAUTION

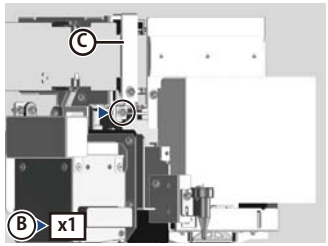
Hold steel bare with the hand.
Steel bare may jump and get hurt.



4 Remove CR-FFC fixing plate.

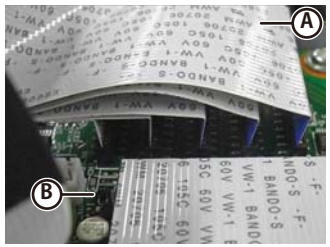
A: P tight cup tapping screw_M3x8 tight cup (x1)
B: S tight cup tapping screw M3x6 tight cup (x1)
C: CR-FFC fixing plate





5 Remove CR-FFC (from CR board)

A: CR-FFC (x5)
B: CR board



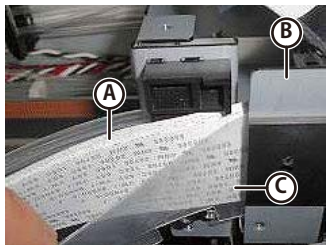
NOTE

Access point:
CR board-J1,J2,J3,J4,J5

6 Remove CR-FFC. (from CR board base)

- Remove the tube guide film from CR board base.
- Remove CR-FFC from CR board base.

A: CR-FFC (x5)
B: CR board base
C: tube guide film

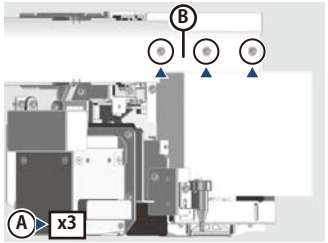


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CONFIDENTIAL

7 Reassemble the steel bare.

A: round head screw with split washer_ M3x8 (x3)
B: steel bare



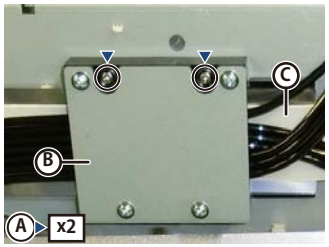
8 Remove CR-FFC (friom steel bare)

- Remove clamp_bare.
- Remove CR-FFC from clamp-FFC.

9 Remove CR-FFC (friom steel bare)

- Remove clamp_bare.
- Remove CR-FFC from clamp-FFC.

A : taping screw M3x14 S tight cup (x2)
B: bare fixing plate
C: CR-FFC (x5)

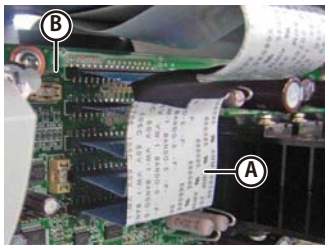


10 Remove CR-FFC (from MAIN board)

A : CR-FFC (x5)
B: MAIN board

NOTE

Access point:
MAIN board - J7,J8,J9,J10,J11



11 Replace the CR-FFC.

12 Reverse the above procedure to reinstall the parts.

13 Check the carriage operation.

NOTE

Move the carriage by hand to check sliding.

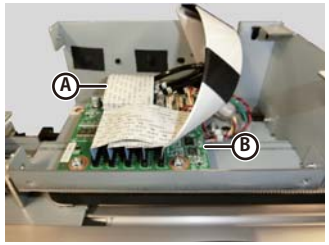
TIP

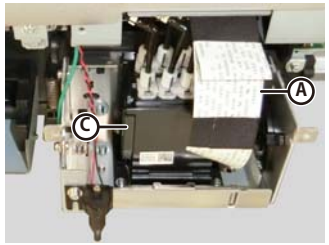
Section top
=> 3.16 FFC

CONFIDENTIAL

3.16.3 Head-FFC

A : Head-FFC
B: CR Board
C: Print Head





● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44687	Head FFC Assy	8.3_ 0100 Electric Diagram
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “Head-FFC”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

CONFIDENTIAL

● Procedure

1 Discharge ink.
2 Remove cover(s).
- side cover R
- carriage cover
- CR Board Cover
3 Remove head-FFC from CR board.
4 Remove print head.
5 Remove head-FFCfrom print head.
6 Replace the Head-FFC.
7 Reverse the above procedure to reinstall the parts.
8 Charge ink.
9 Perform necessary adjustment.

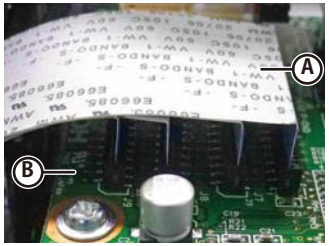
● Procedure (Details)

1 Discharge ink.
=> **5.9.11 Adjustment 11: Ink Discharge**

2 Remove cover(s).
- side cover R
=> **3.2.4 Side Cover R**
- carriage cover
=> **3.7.4 Carriage Cover-Remove / Assemble**
- CR board cover
=> **3.7.5 CR Board Cover-Remove / Assemble**

3 Remove head-FFC (from CR board)

A: Head FFC (x4)
B: CR board



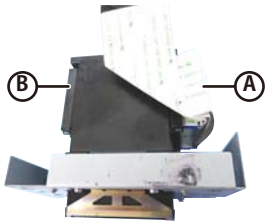
NOTE

Access point:
CR board-J6,J7,J8,J9

4 Remove print head.
=> **3.7.14 Print Head**

5 Remove head-FFC (from CR board)

A: Head FFC(x4)
B: print head



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6 Replace the head-FFC.

7 Reverse the above procedure to reinstall the parts.

8 Charge ink.

=> **5.8 Check 2: Ink Charge**

9 Perform necessary adjustment.

=> **4.2 Adjustment Item**

TIP

Section top
=> **3.16 FFC**

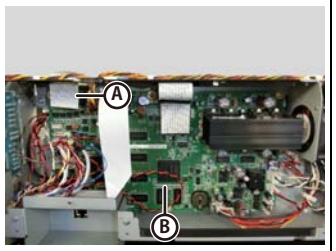
CONFIDENTIAL

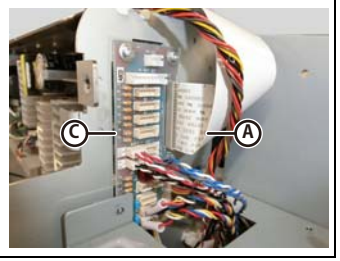
3.16.4 JUNC-FFC (left-side)

A : JUNC-FFC (left-side)

B: Main Board

C: junction board (left-side)





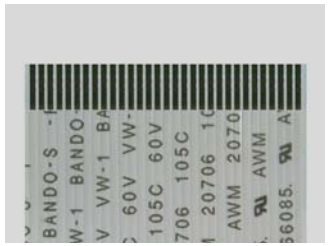
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-44716	JUNC_FFC_Assy	8.3_ 0100 Electric Diagram
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “JUNC-FFC”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

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● Procedure

1 Remove cover(s).
- side cover L
- front cover
- base rear cover
- top cover

2 Remove JUNC-FFC from Junction board.

3 Remove JUNC-FFCfrom board box.

4 Remove JUNC-FFC from Main board (J20).

5 Replace the JUNC-FFC.

6 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).
- maintenance cover
=> 3.2.2 Maintenance Cover
- front cover
=> 3.2.3 Front Cover
- side cover L
=> 3.2.5 Side Cover L
- base rear cover
=> 3.2.7 Base Rear Cover
- top cover
=> 3.2.7 Base Rear Cover

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

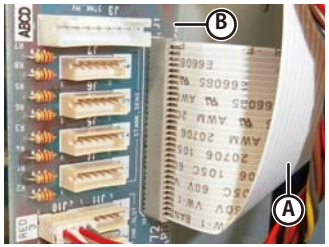
continue

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2 Remove JUNC-FFC. (from JUNCTION board)

A: JUNC-FFC

B: JUNCTION board (left side)



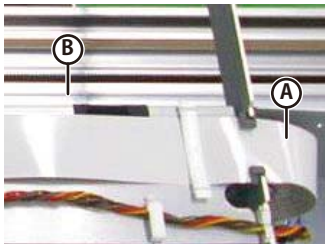
NOTE

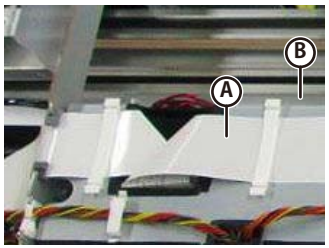
Access point:
JUNCTION board - J1

3 Release JUNC-FFC (from board box)

A: JUNC-FFC

B: board box

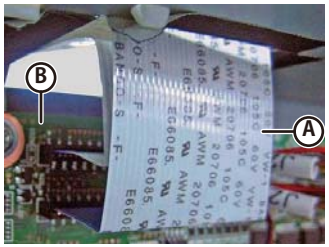




4 Release JUNC-FFC. (from MAIN board)

A: JUNC-FFC

B: MAIN board



NOTE

Access point:
MAIN board - J20

5 Replace the JUNC-FFC.

6 Reverse the above procedure to reinstall the parts.

TIP

Section top
=> 3.16 FFC

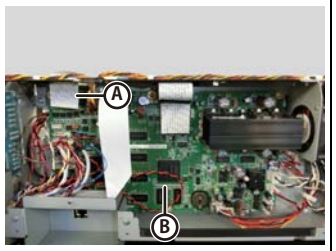
CONFIDENTIAL

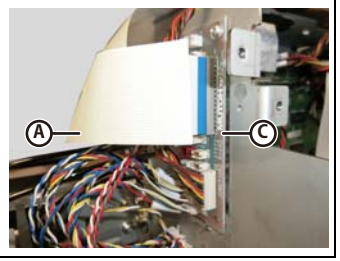
3.16.5 JUNC-FFC (right-side)

A : JUNC-FFC (right-side)

B: Main Board

C: junction board (right-side)





● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DF-49017	Head Cable Assy	8.3_ 0100 Electric Diagram
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “JUNC-FFC”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- side cover R
- front cover
- base rear cover
- top cover

2 Remove JUNC-FFC from Junction board.

3 Remove JUNC-FFCfrom board box.

4 Remove JUNC-FFC from Main board (J19).

5 Replace the JUNC-FFC.

6 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).

- maintenance cover

=> **3.2.2 Maintenance Cover**

- front cover

=> **3.2.3 Front Cover**

- side cover R

=> **3.2.4 Side Cover R**

- base rear cover

=> **3.2.7 Base Rear Cover**

- top cover

=> **3.2.7 Base Rear Cover**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

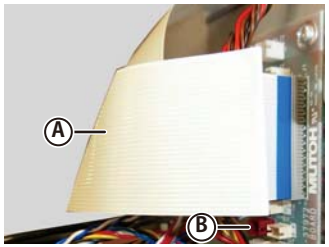
continue

CONFIDENTIAL

2 Remove JUNC-FFC. (from JUNCTION board)

A: JUNC-FFC

B: JUNCTION board (right side)



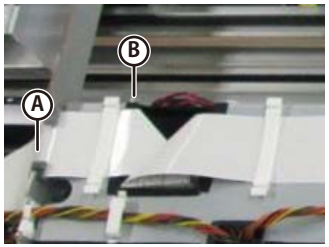
NOTE

Access point:
JUNCTION board - J1

3 Remove JUNC-FFC (from board box)

A: JUNC-FFC

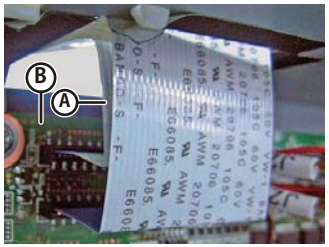
B: board box



4 Release JUNC-FFC. (from MAIN board)

A: JUNC-FFC

B: MAIN board



NOTE

Access point:
MAIN board - J19

5 Replace the JUNC-FFC.

6 Reverse the above procedure to reinstall the parts.

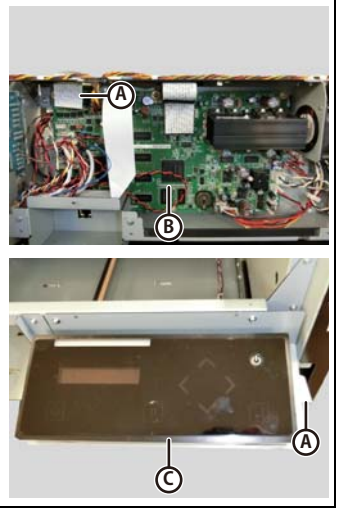
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=> 3.16 FFC

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3.16.6 Panel-FFC

A : Panel FFC
B: Main Board
C: Panel Unit



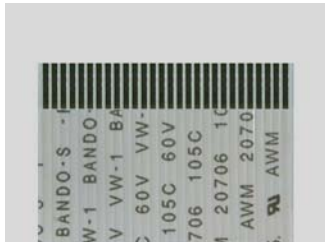
● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40045	Panel FFC	**8.3_ 0100 Electric Diagram**
-	Phillips screwdriver No.2	-

TIP

This subsection describes how to replace the above maintenance parts.

Here referred to as “panel-FFC”.



⚠ CAUTION

Precautions for FFC installation / removal

- When replacing the board or connecting/disconnecting the FFC, disconnect the power cable and leave it for a while before starting work.
  Working while power cable plugged in, there is a risk of damage to the board due to residual charge and electric shock to the operator.
- Before inserting the FFC, check the condition of the FFC terminal (the terminal angle is not bent, the reinforcing plate is not removed).
- Insert and remove the FFC vertically with respect to the connector.
  Do not insert or remove the FCC diagonally to or from the connector.
- If you insert or remove the FCC at an angle, the terminals in the connector may be damaged, short-circuited or broken, and the elements on the board may be damaged.
- Insert the FFC all the way into the connector.
  After inserting, check that the FFC and connector terminals are not laterally displaced and that they are not inserted obliquely.

CONFIDENTIAL

● Procedure

1 Remove cover(s).
- maintenance cover
- front cover
- side cover R
- base rear cover
- top cover
- cover F
- panel cover

2 Remove panel-FFC from Main board.
3 Remove panel-FFC from LAN Cover.
4 Remove panel-FFC from frame.
5 Remove panel-FFCfrom panel unit.
6 Replace the panel-FFC.
7 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Remove cover(s).

- maintenance cover

=> **3.2.2 Maintenance Cover**

- front cover

=> **3.2.3 Front Cover**

- side cover R

=> **3.2.4 Side Cover R**

- base rear cover

=> **3.2.7 Base Rear Cover**

- top cover

=> **3.2.8 Top Cover**

- cover F

=> **3.2.11 Cover F**

- panel cover

=> **3.2.12 Panel Cover**

NOTE

Precautions for removing/attaching the front cover
After installing the front cover, check the operation of the front cover sensor.

NOTE

Precautions for removing/attaching the maintenance cover
After installing the maintenance cover, check the operation of the maintenance cover sensor.

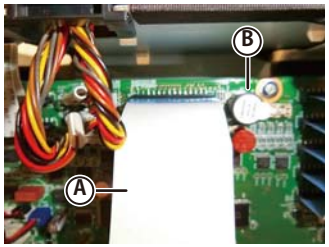
continue

CONFIDENTIAL

2 Remove panel-FFC (from MAIN board)

A: panel-FFC

B: MAIN board



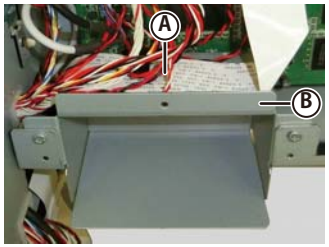
NOTE

Access point:
MAIN board - J33

3 Remove panel-FFC. (from LAN cover)

A: panel-FFC

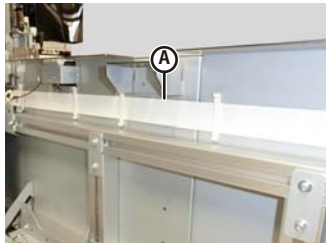
B: LAN cover



4 Remove panel-FFC (from the frame)

A : panel-FFC







continue

CONFIDENTIAL

5 Remove panel-FFC. (from panel unit)

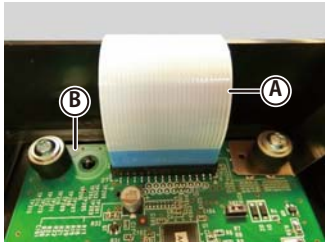
- Remove panel unit.

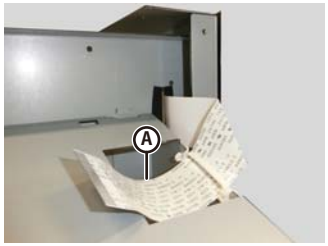
=> **3.13.2 Panel Unit**

- Remove panel-FFC.

A: panel-FFC

B: panel unit





NOTE

Access point:
panel unit - J1

6 Replace the panel-FFC.

7 Reverse the above procedure to reinstall the parts.

TIP

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=> **3.16 FFC**

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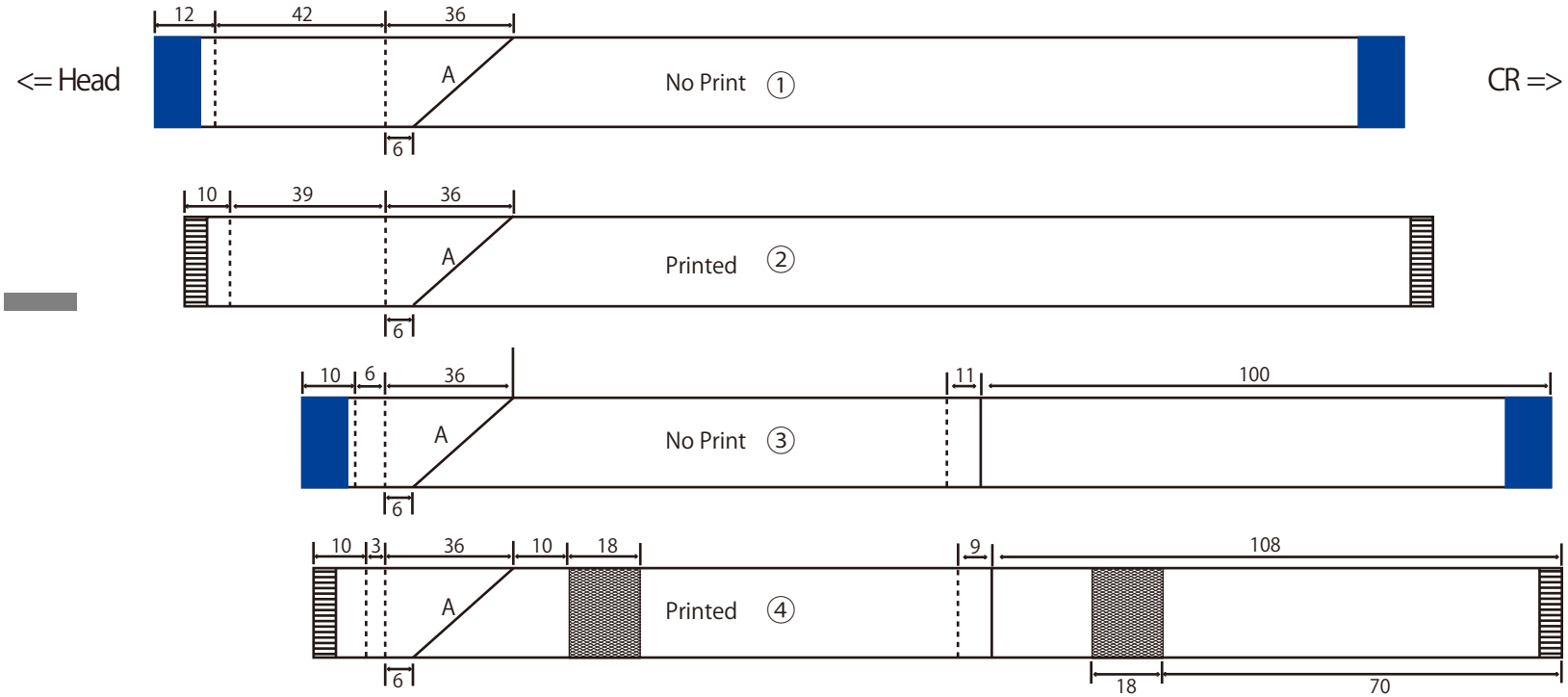
3.16.7 FFC Folding Instruction

TIP

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=> **3 Parts Replacement**
Index by Section
=> **3.1 Introduction**

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0100 Head FFC
XPJ-661UF 2020-07-17

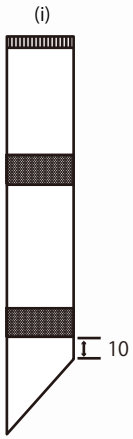


(i) Pile up FFC in ① - ② - ③ - ④ order.
(ii) Align 4 FFC at A line.
(iii) Bundle 4 FFC with acetate tape at

<Legend>
Unit: mm
Mountain Fold
Valley Fold
Acetate Tape

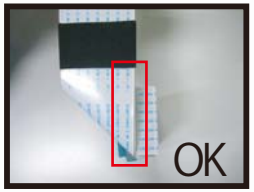
Taping Instruction

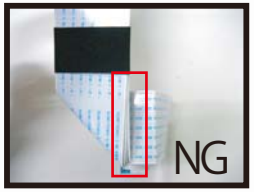
(i) Piled FFCs.
(ii) Apply acetate tape in
(iii) Round x1.5



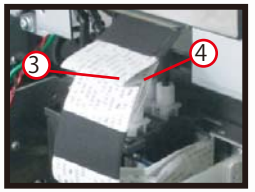
注記

Check if all the FFC are aligned.

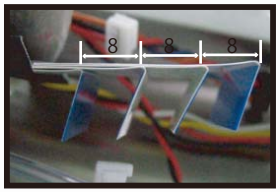




③ and ④ must be bent in a pile at below position.



8mm interval between FFC on top of CR board.

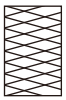


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0200 CR FFC
XPJ-661UF 2020-07-17

(i) Pile up all the FFC in J1-J2-J3-J4-J5 order. (Printed side must face down.)

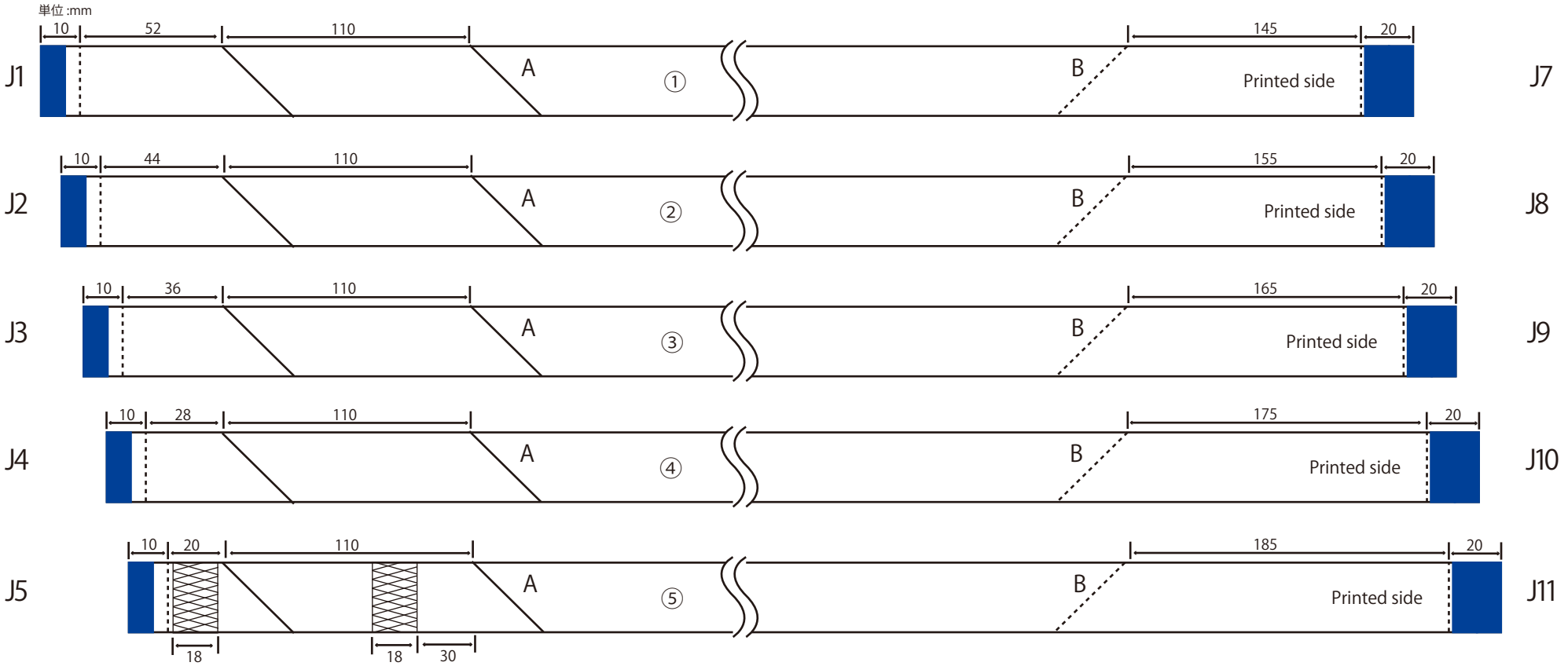
(ii) Align 5 FFCs at B.

(iii) Bundle 5 FFCs with acetate tape in  (x1.5 - x2 round)

<Legend>
Unit: mm
Mountain Fold
Valley Fold
Acetate Tape
10mm width reinforce plate
20mm width reinforce plate

<= CR board

MAIN board =>



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0300 Panel FFC
XPJ-661UF 2020-07-17

(1) Panel FFC (1560±20mm)

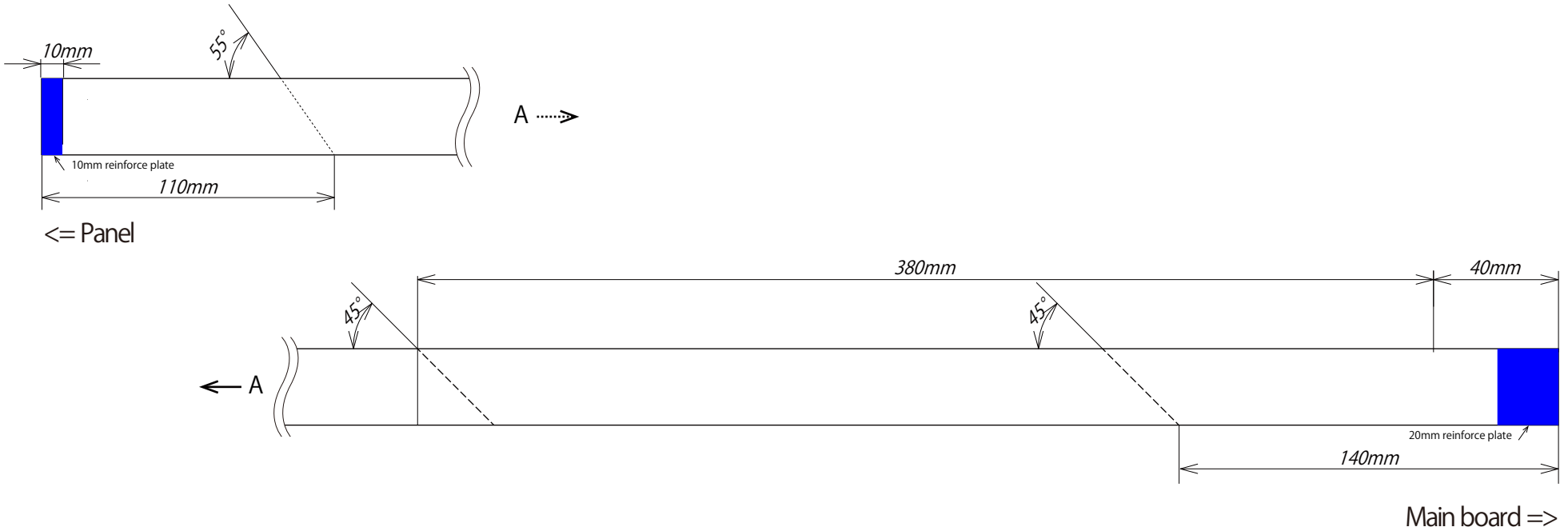
(2) <Legend>

Unit: mm

Mountain Fold

Valley Fold

Acetate Tape



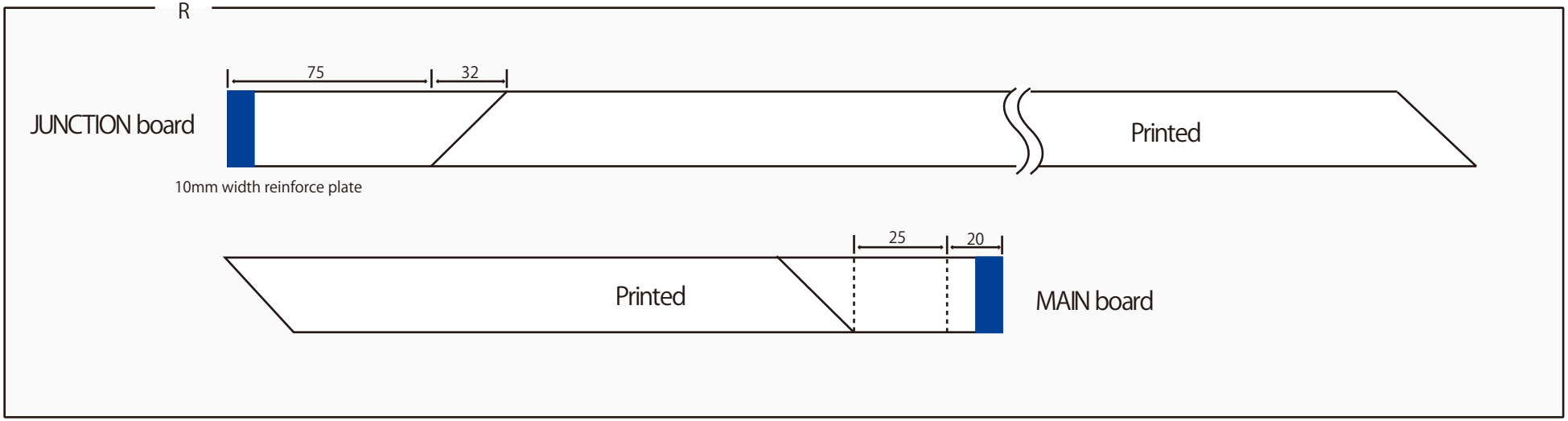
CONFIDENTIAL

0400 JUNC FFC
XPJ-661UF 2020-07-17

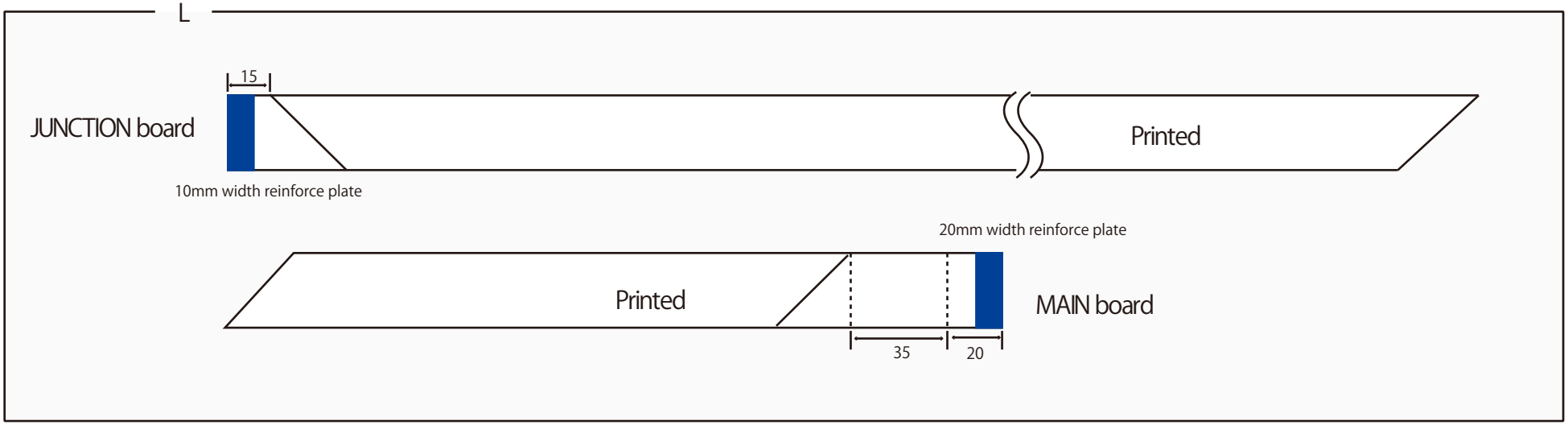
Maintenance Parts: Panel FFC (1510±20mm)

<Legend>
Unit: mm
Mountain Fold
Valley Fold
Acetate Tape

R



L



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4.1 Introduction

This chapter provides information on necessary adjustment items and procedure.

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4.2 Adjustment Item

This section describes the adjustment items required in part replacement procedures.

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=> IH-R
=> IH-L
=> Maintenance
=> Panel
=> Accessories
=> Periodic Replacement Parts
=> FFC

CONFIDENTIAL

Cover-Remove / Assemble

Parts Replaced	Order	Adjustment Item	Reference
Maintenance Cover	1	Maintenance Cover Switch Adjustment	4.8 Cover Switch Adjustment (Maintenance Cover)
Front Cover	1	Front Cover Switch Adjustment	4.7 Cover switch adjustment (front cover)
Side Cover R	1	Laser Sensor Adjustment	4.11 Position Adjustment (Laser Sensor)
Side Cover L	1	Laser Sensor Adjustment	4.11 Position Adjustment (Laser Sensor)

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

Frame

Parts Replaced	Order	Adjustment Item	Reference
Front Cover Switch (Left-Side)	1	Front Cover Switch Adjustment	4.7 Cover switch adjustment (front cover)
Front Cover Switch (Right-Side)	1	Front Cover Switch Adjustment	4.7 Cover switch adjustment (front cover)
Laser Sensor	1	Laser Sensor Adjustment	4.11 Position Adjustment (Laser Sensor)
Maintenance Cover Switch (Left-Side)	1	Maintenance Cover Switch Adjustment	4.8 Cover Switch Adjustment (Maintenance Cover)
Maintenance Cover Switch (Right-Side)	1	Maintenance Cover Switch Adjustment	4.8 Cover Switch Adjustment (Maintenance Cover)
PF Belt	1	PF Motor Position Adjustment	4.10 Position adjustment (PF motor)
	2	PF Motor Endurance	5.14.2 Endurance 2: PF Motor
PF Encoder	1	PF Encoder Test	5.7.5 Test 5: Encoder
	2	PF Motor Endurance	5.14.2 Endurance 2: PF Motor
PF Motor	1	PF Motor Position Adjustment	4.10 Position adjustment (PF motor)
	2	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization
	3	PF Motor Endurance	5.14.2 Endurance 2: PF Motor
PF Pulley	1	PF Motor Position Adjustment	4.10 Position adjustment (PF motor)
	2	PF Motor Endurance	5.14.2 Endurance 2: PF Motor
PF Scale	1	PF Motor Position Adjustment	4.10 Position adjustment (PF motor)
	2	PF Motor Endurance	5.14.2 Endurance 2: PF Motor

Table

Parts Replaced	Order	Adjustment Item	Reference
Z motor	1	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization
	2	Z Motor Endurance	5.14.3 Endurance 3: PG Motor
Shaft	1	Z Motor Endurance	5.14.3 Endurance 3: PG Motor

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

Cover

Parts Replaced	Order	Adjustment Item	Reference
-	-	-	-

Board Box

Parts Replaced	Order	Adjustment Item	Reference
MAIN Board	1	It varies by the condition of MAIN board	-
	2	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

CR

Parts Replaced	Order	Adjustment Item	Reference
Cursor Roller Arm (Left-side)	1	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
Cursor Roller Arm (Right-side)	1	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
CR Board	1	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
CR Encoder	1	CR Encoder Test	5.7.5 Test 5: Encoder
	2	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
	3	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
Cursor Assy	1	Head Height Adjustment	4.6 Height adjustment (print head)
	2	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
	3	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
	4	Head Adjustment (Slant)	4.3.1 Head slant adjustment_check
	5	Head Adjustment (Uni-D)	4.4.1 Uni-D adjustment_check
	6	Head Adjustment (Bi-D)	4.5 Head adjustment_Bi-D
	7	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
	8	LED Pointer Adjustment	5.9.5 Adjustment 5: LED Pointer

CR

Parts Replaced	Order	Adjustment Item	Reference
Print Head	1	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
	2	Head Adjustment (Slant)	4.3.1 Head slant adjustment_check
	3	Head Adjustment (Uni-D)	4.4.1 Uni-D adjustment_check
	4	Head Adjustment (Bi-D)	4.5 Head adjustment_Bi-D
	5	LED Pointer Adjustment	5.9.5 Adjustment 5: LED Pointer
	6	Daily Maintenance Log Check	5.7.7 Test 7: History
UV-LED	1	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization
Valve Head	1	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
	2	Head Adjustment (Slant)	4.3.1 Head slant adjustment_check
	3	Head Adjustment (Uni-D)	4.4.1 Uni-D adjustment_check
	4	Head Adjustment (Bi-D)	4.5 Head adjustment_Bi-D
	5	LED Pointer Adjustment	5.9.5 Adjustment 5: LED Pointer

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

Y-Rail

Parts Replaced	Order	Adjustment Item	Reference
CR Belt	1	CR Belt Adjustment	
	2	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
	3	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
CR Motor	1	CR Belt Adjustment	
	2	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization
	3	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
	4	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
CR Speed Reduction Pulley	1	CR Belt Adjustment	
	2	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
	3	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
T-Fence	1	CR Encoder Test	5.7.5 Test 5: Encoder
	2	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
T-Fence Guide	1	CR Encoder Test	5.7.5 Test 5: Encoder
	2	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment
T-Fence Spring	1	CR Encoder Test	5.7.5 Test 5: Encoder
	2	Side Margin Adjustment	5.9.4 Adjustment 4: Margin Adjustment

Cable Guide

Parts Replaced	Order	Adjustment Item	Reference
-	-	-	-

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

IH-R

Parts Replaced	Order	Adjustment Item	Reference
-	-	-	-

IH-L

Parts Replaced	Order	Adjustment Item	Reference
Circulation Pump	1	C-pump Endurance	5.14.5 Endurance 5: Circulation Pump
	2	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

Maintenance

Parts Replaced	Order	Adjustment Item	Reference
Waste Fluid Pump	1	Lifetime Counter Reset	5.12.1 Parameter 1: Initialization
Wiper Solenoid	1	Wiper Endurance	5.14.7 Endurance 7: Wiper
Wiper Unit	1	Wiper Endurance	5.14.7 Endurance 7: Wiper

Panel

Parts Replaced	Order	Adjustment Item	Reference
-	-	-	-

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

Accessories

Parts Replaced	Order	Adjustment Item	Reference
Waste Fluid Bottle	1	Waste Ink Counter Reset	5.12.1 Parameter 1: Initialization

Periodic Replacement Parts

Parts Replaced	Order	Adjustment Item	Reference
-	-	-	-

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

FFC

Parts Replaced	Order	Adjustment Item	Reference
CR-FFC	1	CR Motor Endurance	5.14.1 Endurance 1: CR Motor
	2	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
Head-FFC	1	Nozzle Check	5.9.1 Adjustment 1: Head Nozzle Check
	2	Head Adjustment (Slant)	4.3.1 Head slant adjustment_check
	3	Head Adjustment (Uni-D)	4.4.1 Uni-D adjustment_check
	4	Head Adjustment (Bi-D)	4.5 Head adjustment_Bi-D
	5	LED Pointer Adjustment	5.9.5 Adjustment 5: LED Pointer

TIP

Section Top
=> 4.2 Adjustment Item

CONFIDENTIAL

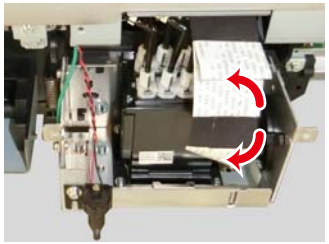
4.3 Head adjustment_slant

Adjust the slant of print head.

Slant is the clockwise/counter-clockwise inclination when viewed from above.

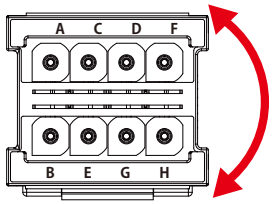
- Repeat check and the adjustment until result is OK.

=> **4.3.1 Head slant adjustment_check**
=> **4.3.2 Head slant adjustment_adjust**



NOTE

- 4-color pattern is presented here.
  Adjustment procedure in 4-color and in 6-color are the same.
- In this adjustment procedure, adjust the slant of the head in the direction of the arrow.
- The name of each head nozzle is as shown in the figure



CAUTION

Precautions when using UV ink

- UV ink is very irritating to the skin.
  Wear vinyl gloves to prevent ink from getting on your skin when working.
- Fluorescent lamps may cure the UV ink.
- Avoid such environment where UV light (ultraviolet light) enter as much as possible.

CAUTION

Precautions when replacing the print head (UV ink)

- If the print head is exposed to sunlight or strong fluorescent light for a long time, the head may be cured.
  Do not leave the carriage cover removed for a long time.
  If the work will take a long time, put the carriage cover on.
  (The head can be hardened just by putting it on.)
- Do not touch the nozzle surface of the head nor dust.
- The head is adjusted. Do not disassemble.
- Do not touch the head circuit board and tape wire already installed in the head.
  Also, do not touch the area around the tape wire when the head cover is attached.

TIP

Chapter TOC

=> **4 Adjustment**

CONFIDENTIAL

4.3.1 Head slant adjustment_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Loupe	Recommend: 25x Loupe
	Penlight	
	Media for the adjustment	

● Procedure

1 Activate the self diagnosis mode.

2 Set the media.

3 Print adjustment pattern.

- [Check 3: Adjustment] - [Adjustment 2: Head slant check] - [Head slant: slant 1]

4 Check the adjustment pattern.

CONFIDENTIAL

● Procedure (details)

1 Activate the self diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Set the media.

=> **5.2 Media Loading Status Switching**

3 Print adjustment pattern.

=> **5.8.2 Adjustment 2: Head Slant Check**

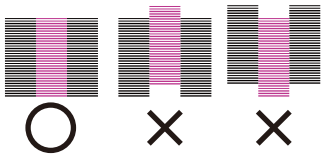
4 Check the adjustment pattern.

- Check the position of black and other color.

○ : No adjustment needed.

×: Adjustment needed.

=> **4.3.2 Head slant adjustment_adjust**



TIP

Section top

=> **4.3 Head adjustment_slant**

CONFIDENTIAL

4.3.2 Head slant adjustment_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	Phillips Screwdriver No.2	

● Procedure

1 Remove cover(s).
- Side cover R
- Carriage cover

2 Move the carriage.

3 Loosen screw(s).
- round head screw with split washer_M3x6 (x4)

4 Adjust head slant.

5 Tighten screw(s).
- round head screw with split washer_M3x6 (x4)

6 Move the carriage.

7 Reassemble the cover(s).
- Carriage cover

8 Check the result.

9 Reassemble the cover(s).
- Side cover R

CONFIDENTIAL

● Procedure (details)

1 remove cover(s).

- Side cover R

=> **3.2.3 Side cover R**

- Carriage cover

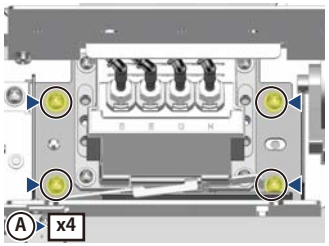
=> **3.6.4 Carriage cover-Remove / Assemble**

2 Move the carriage.

=> **3.6.2 Manual release of carriage lock**

3 Loosen screw(s).

A: round head screw with split washer_M3x6 (x4)



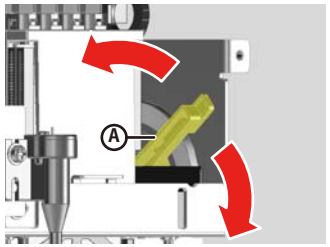
NOTE

- Do not touch terminal(s) with wrench/screwdriver. This may cause damage.
- Loosen/tighten each screw in the same amount, in order to keep accuracy.

4 Adjust head slant.

- Move the lever.

A: notch



NOTE

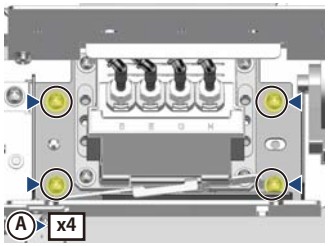
- Click sound => one (1) notch
- One (1) notch = half dot up/down

NOTE

How to use lever
=> **4.3.1 Head slant adjustment_check**

5 Tighten screw(s).

A: round head screw with split washer_M3x6 (x4)



NOTE

- Do not touch terminal(s) with wrench/screwdriver. This may cause damage.
- Loosen/tighten each screw in the same amount, in order to keep accuracy.

6 Move the carriage.

- Cap-in.

=> **3.6.2 Manual release of carriage lock**

Continue

CONFIDENTIAL

7 Reassemble the cover(s).

- Carriage cover

=> **3.6.4 Carriage cover-Remove / Assemble**

8 Check the result.

=> **4.3.1 Head slant adjustment_check**

9 Reassemble the cover(s).

- Side cover R

=> **3.2.3 Side cover R**

TIP

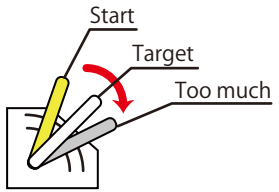
Section top

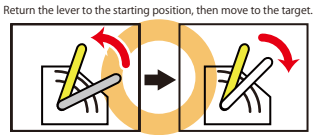
=> **4.3 Head adjustment_slant**

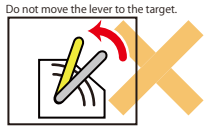
CONFIDENTIAL

4.3.3 Head slant adjustment_how to use lever

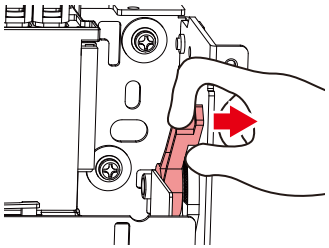
● If lever position passes the target, move lever to the start position, then to the target.

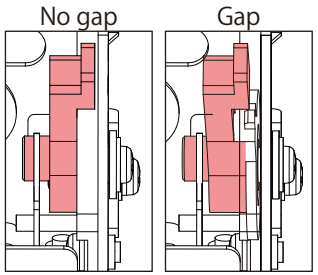




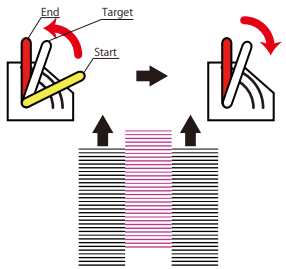


● Lever must be in contact with plate. Press lever to the plate while shifting.
Gap between lever and plate may cause innacurate adjustment.

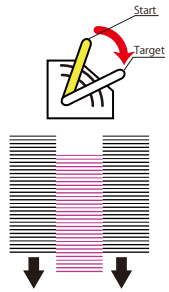




● Move lever to the end, then to the target.
=> Dot goes up.



● Move lever to the target.
=> Dot goes down.



TIP

Section top
=> **4.3 Head adjustment_slant**

CONFIDENTIAL

4.4 Head adjustment_Uni-D

Adjust the line gap in a head.
Adjust drawing position by entering value (parameter) in touch panel.
- Repeat check and the adjustment until result is OK.
=> **4.4.1 Uni-D adjustment_check**
=> **4.4.2 Uni-D adjustment_adjust**

TIP

- 4-color pattern is presented here.
  Adjustment procedure in 4-color and in 6-color are the same.
- Uni-D (Uni-Direction) indicates Uni-Directional printing.
- The basis nozzle line of the head is E line.
- Adjust all the combination listed below when the print head is replaced.

Name	Contents
UniD 320 VSD2	Uni-D adjustment in 320cps, VSD2
UniD 320 VSD3	Uni-D adjustment in 320cps, VSD3
UniD 320 VSD4	Uni-D adjustment in 320cps, VSD4

TIP

Chapter TOC
=> **4 Adjustment**

CONFIDENTIAL

4.4.1 Uni-D adjustment_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Loupe	Recommend: 25x Loupe
	Penlight	
	Media for the adjustment	width: 210mm x length: 210mm

● Procedure

1 Start in Self-diagnosis mode.

2 Set the media.

3 Print the adjustment pattern.

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]-[Low*:UniD***]-[UniD ***:Print]

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Set the media.

=> **5.2 Media Loading Status Switching**

3 Print the adjustment pattern.

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]
- [Low1: UniD 320 VSD2]-[UniD 320 VSD2: Print]
- [Low2: UniD 320 VSD3]-[UniD 320 VSD3: Print]
- [Low3: UniD 320 VSD4]-[UniD 320 VSD4: Print]

=> **5.8.3 Adjustment 3: UniD/BiD, Low Adjustment**

4 Check the pattern.

- Check if there is any lateral displacement between the upper and lower line.

OK: Positions are aligned

(OK ≦ half dot)

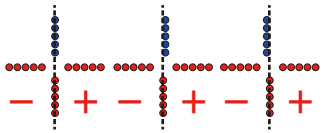
No adjustment needed.

NG: Displacement is greater than one-half dot

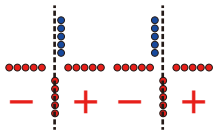
Adjustment needed.

=> **4.4.2 Uni-D adjustment_adjust**

OK



NG



T I P

Section top

=> **4.4 Head adjustment_Uni-D**

CONFIDENTIAL

4.4.2 Uni-D adjustment_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference

● Procedure

1 Start in Self-diagnosis mode.

2 Change parameter(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]-[Low*:UniD***]-[UniD ***:Setup]

3 Check the pattern.

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Change parameter(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]
- [Low1: UniD 320 VSD2]-[UniD 320 VSD2: Print]
- [Low2: UniD 320 VSD3]-[UniD 320 VSD3: Print]
- [Low3: UniD 320 VSD4]-[UniD 320 VSD4: Print]

=> **5.8.3 Adjustment 3: UniD/BiD, Low Adjustment**

NOTE

- A - H (total 7) are available for parameter change. (Excluding E: basis line)
- Dot movement differs according to media and waveform. Explanation here is based on MF-3G media.

3 Repeat the check procedure.

=> **4.4.1 Uni-D adjustment_check**

TIP

Section top
=> **4.4 Head adjustment_Uni-D**

CONFIDENTIAL

4.5 Head adjustment_Bi-D

- Align dot placement for Bi-directional printing.
- Print 1:
  Check the misalignment only with the base lines printed from one nozzle.
- Print 2:
  Check the misalignment between the base line and lines printed from all the other nozzle.

- Enter the value (parameter) on the panel, and adjust the printing position.

NOTE

- 4-color pattern is presented here.
  Adjustment procedure in 4-color and in 6-color are the same.
- Bi-D (Bi-direction) indicates bi-directional printing.
- The basis nozzle line of the head is E line.
- Adjust all the combination listed below when the print head is replaced.

Name	Contents
BiD 320 VSD2	Bi-D adjustment in 320cps, VSD2
BiD 320 VSD3	Bi-D adjustment in 320cps, VSD3
BiD 320 VSD4	Bi-D adjustment in 320cps, VSD4

TIP

Chapter TOC
=> **4 Adjustment**

CONFIDENTIAL

4.5.1 Bi-D adjustment_check (print 1)

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Loupe	Recommend: 25x Loupe
	Penlight	
	Media for the adjustment	width: 210mm x length: 210mm

● Procedure

1 Start in Self-diagnosis mode.

2 Set the media.

3 Print pattern(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]-[Low*:BiD***]-[BiD ***:Print1]

4 Check the pattern.

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Set the media.

=> **5.2 Media Loading Status Switching**

3 Print pattern(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]
- [Low4: BiD 320 VSD2]-[BiD 320 VSD2: Print1]
- [Low5: BiD 320 VSD3]-[BiD 320 VSD3: Print1]
- [Low6: BiD 320 VSD4]-[BiD 320 VSD4: Print1]

=> **5.8.3 Adjustment 3: UniD/BiD, Low Adjustment**

4 Check the pattern.

- Check if there is any lateral displacement between the upper and lower line.

OK: Positions are aligned

(OK ≦ half dot)

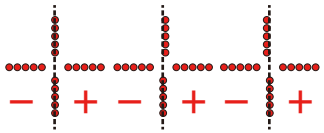
No adjustment needed.

NG: Displacement is greater than one-half dot

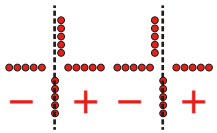
Adjustment needed.

=> **4.5.3 Bi-D adjustment_adjust**

OK



NG



TIP

Section top

=> **4.5 Head adjustment_Bi-D**

CONFIDENTIAL

4.5.2 Bi-D adjustment_check (print 2)

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Loupe	Recommend: 25x Loupe
	Penlight	
	Media for the adjustment	width: 210mm x length: 210mm

● Procedure

1 Start in Self-diagnosis mode.

2 Set the media.

3 Print pattern(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]-[Low*:BiD***]-[BiD ***:Print2]

4 Check the pattern.

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Set the media.

=> **5.2 Media Loading Status Switching**

3 Print pattern(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]
- [Low4: BiD 320 VSD2]-[BiD 320 VSD2: Print2]
- [Low5: BiD 320 VSD3]-[BiD 320 VSD3: Print2]
- [Low6: BiD 320 VSD4]-[BiD 320 VSD4: Print2]

=> **5.8.3 Adjustment 3: UniD/BiD, Low Adjustment**

4 Check the pattern.

- Check if there is any lateral displacement between the upper and lower line.

OK: Positions are aligned

(OK ≦ half dot)

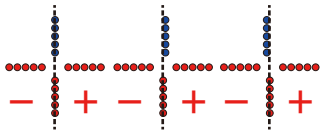
No adjustment needed.

NG: Displacement is greater than one-half dot

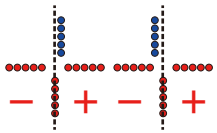
Adjustment needed.

=> **4.5.3 Bi-D adjustment_adjust**

OK



NG



TIP

Section top

=> **4.5 Head adjustment_Bi-D**

CONFIDENTIAL

4.5.3 Bi-D adjustment_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	-	-

● Procedure

1 Start in Self-diagnosis mode.

2 Change parameter(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]-[Low*:BiD***]-[BiD ***: Setup]

3 Check the pattern.

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Change parameter(s).

- [Check3: Adjustment]-[Adjustment 3:Uni/Bi Low]
- [Low4: BiD 320 VSD2]-[BiD 320 VSD2: Setup]
- [Low5: BiD 320 VSD3]-[BiD 320 VSD3: Setup]
- [Low6: BiD 320 VSD4]-[BiD 320 VSD4: Setup]

=> **5.8.3 Adjustment 3: UniD/BiD, Low Adjustment**

NOTE

- Only one value may be entered in Bi-D adjustment.
- Dot movement differs according to media and waveform. Explanation here is based on MF-3G media.

3 Repeat the check procedure.

=> **4.5.1 Bi-D adjustment_check (print 1)**

=> **4.5.2 Bi-D adjustment_check (print 2)**

TIP

Section top

=> **4.5 Head adjustment_Bi-D**

CONFIDENTIAL

4.6 Height adjustment (print head)

Check and adjust the gap between the print head and table.
- Repeat check and the adjustment until result is OK.

=> 4.6.1 Height adjustment (print head)_check
=> 4.6.2 Height adjustment (print head)_adjust

⚠CAUTION

Precautions when replacing the print head (UV ink)

- Exposed in sunlight and/or strong fluorescent light may harden print head.
  Do not leave print head for a long time (1 or more days) with the cover removed.
  If the operation is expected to take a long time, cover with carriage cover.
  (This prevents hardening effectively.)
- Do not touch print nozzle surface. Keep print head from dust.
- Print head is adjusted. Do not disassemble print head.
- Do not touch head circuit board and/or cable/FFC.
- Do not touch cable/FFC when remove/reassemble the head cover.

TIP

Chapter TOC

=> 4 Adjustment

CONFIDENTIAL

4.6.1 Height adjustment (print head)_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DG-43193	PG Adjusting Jig (1.1/1.3)	-
-	Media height guide	=> Operation manual

● Procedure

1 Set table height.

2 Move the carriage.

3 Check the head height.

CONFIDENTIAL

● step（詳細）

1 Set the table height.

- Tap menu key.
- After mechanism initialization is finished, select [Check9: Media Feed]
- Hold [▼] key to feed table to the front.

NOTE

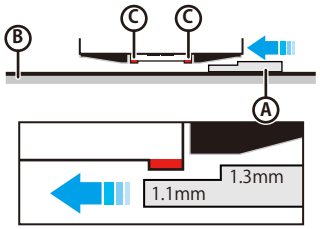
Move the table tp the position where jig can be set.

2 Move the carriage.

=> **3.6.2 Manual release of carriage lock**

3 Check the head height.

- Place PG adjusting jig (1.1/1.3) on the table.
- Check if the head clears 1.1mm step, but the jig stops at 1.3mm step.
- Do the same from the other side (counter-origin side).



A: PG adjusting jig (1.1/1.3)

B: table

C: step

NOTE

- Slide the jig on the table.
- Check from the both side.
- Check the head height by whether the jig goes through protruding portions on both sides

NOTE

If the jig stops at 1.1 mm step, or pass through 1.3 mm step, go to

=> **4.6.2 Height adjustment (print head)_adjust**

TIP

Section top

=> **4.6 Height adjustment (print head)**

CONFIDENTIAL

4.6.2 Height adjustment (print head)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips Screwdriver No.2	-

● Procedure

1 Remove cover(s).
- Side cover R
- Carriage cover

2 Move the carriage.

3 Loosen screw(s).
- Round Head Screw with Split Washer (Polished)_M3x10 (x4)

4 Adjust the head height.

5 Tighten screw(s).
- Round Head Screw with Split Washer (Polished)_M3x10 (x4)

6 Move the carriage.

7 Reassemble cover(s).
- Carriage cover

8 Check the head height.

9 Reassemble cover(s).
- Side cover R

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- Side cover R

=> **3.2.3 Side cover R**

- Carriage cover

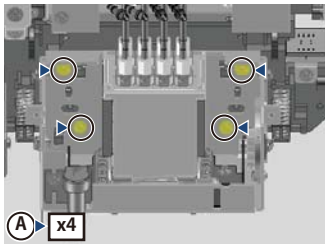
=> **3.6.4 Carriage cover-Remove / Assemble**

2 Move the carriage.

=> **3.6.2 Manual release of carriage lock**

3 Loosen screw(s).

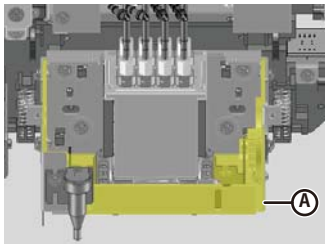
A: Round Head Screw with Split Washer (Polished)_M3x10 (x4)



4 Adjust the head height.

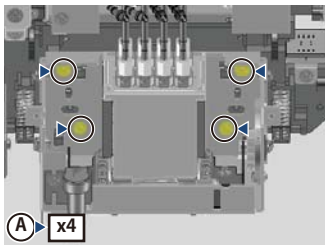
- Move head base up/down.

A: head base



5 Tighten screw(s).

A: Round Head Screw with Split Washer (Polished)_M3x10 (x4)



6 Move the carriage.

- Cap-in.

=> **3.6.2 Manual release of carriage lock**

7 Reassemble cover(s).

- Carriage cover

=> **3.6.4 Carriage cover-Remove / Assemble**

8 Check the head height.

=> **4.6.1 Height adjustment (print head)_check**

9 Reassemble cover(s).

- Side cover R

=> **3.2.3 Side cover R**

TIP

Section top

=> **4.6 Height adjustment (print head)**

CONFIDENTIAL

4.7 Cover switch adjustment (front cover)

Adjust the position of front cover flag plate.
- Repeat check and the adjustment until result is OK.

=> 4.7.1 Cover switch adjustment (front cover)_check
=> 4.7.2 Cover switch adjustment (front cover)_adjust

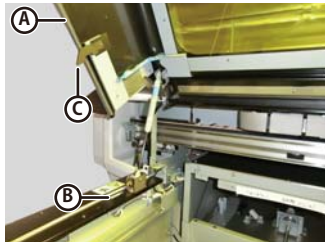
A: Front Cover

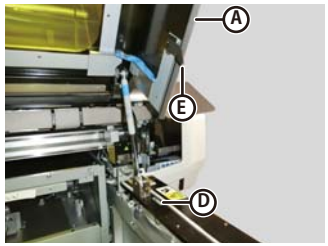
B: Front Cover Switch (Left-Side)

C: Flag Plate (Left-Side)

D: Front Cover Switch (Right-Side)

E: Flag Plate (Right-Side)





TIP

Chapter TOC
=> 4 Adjustment

CONFIDENTIAL

4.7.1 Cover switch adjustment (front cover)_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference

● Procedure

1 Start in Self-diagnosis mode.

2 Check the status of the cover switch (when front cover is physically open.)

- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/[Sen. 4: Cover R ***]

3 Check the status of the cover switch (when front cover is physically close.)

- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/[Sen. 4: Cover R ***]

CONFIDENTIAL

● Procedure (Details)

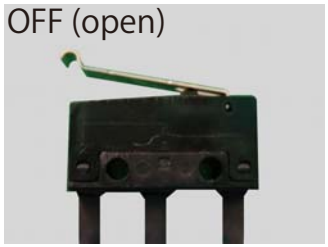
1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Check the status of the cover switch (when front cover is physically open.)

- Open the front cover.
- Check the cover status on the panel.
- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/ [Sen. 4: Cover R ***]

=> **5.6.4 Test 4: Sensor**



NOTE

- [Sen. 3:Cover open]
  : go to next step.
- [Sen. 3:Cover close]
  : Check front cover switch.
  => **3.3.7 Front cover switch (left side)**
  => **3.3.8 Front cover switch (right side)**

3 Check the status of the cover switch (when front cover is physically close.)

- Close the front cover.
- Check the cover status on the panel.
- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/ [Sen. 4: Cover R ***]

=> **5.6.4 Test 4: Sensor**



NOTE

- [Sen. 3: Cover close]
  : go to next step.
- [Sen. 3: Cover open]
  : Adjust
  => **4.7.2 Cover switch adjustment (front cover)_adjust**

NOTE

Panel shows "close" when both left and right cover switches are ON.

TIP

Section top

=> **4.7 Cover switch adjustment (front cover)**

CONFIDENTIAL

4.7.2 Cover switch adjustment (front cover)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips Screwdriver No.2	-

● Procedure

1 Start in Self-diagnosis mode.

2 Select the menu.

- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/[Sen. 4: Cover R ***]

3 Loosen screw(s).

- Binding Head Screw_M3x5_ Ni-3bk (x4)

4 Adjust the position of flag plate.

5 Tighten screw(s).

- Binding Head Screw_M3x5_ Ni-3bk (x4)

6 Check the status of the cover switch

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

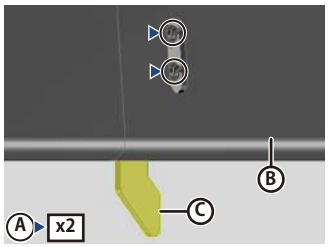
2 Select the menu.

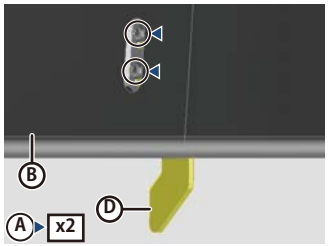
- [Check 1:Test]-[Test 4:Sensor]-[Sen. 3:Cover ***]

=> **5.6.4 Test 4: Sensor**

3 Loosen screw(s).

A: binding head screw_M3x5_Ni-3bk (x4)
B: front cover
C: flag plate (right)
D: flag plate (left)





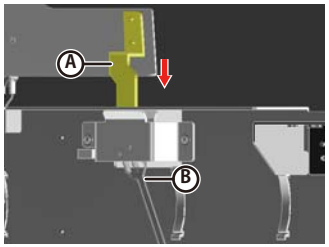
4 Adjust the position of flag plate.

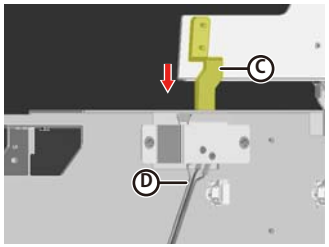
- Move the flag plate until cover switch is ON.
- Do the same in the other side.
- Check if panel shows “close.”

A: flag plate (right)
B: front cover switch (right)
C: flag plate (left)
D: front cover switch (left)

NOTE

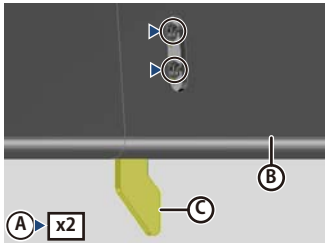
Panel shows "close" when both left and right cover switches are ON.

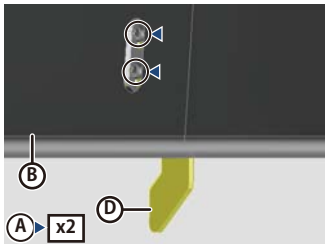




5 Tighten screw(s).

A: binding head screw_M3x5_Ni-3bk (x4)
B: front cover
C: flag plate (right)
D: flag plate (left)





6 Check the status of the cover switch.

=> **4.7.1 Cover switch adjustment (front cover)_check**

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TIP

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=> 4.7 Cover switch adjustment (front cover)

CONFIDENTIAL

4.8 Cover Switch Adjustment (Maintenance Cover)

Adjust the position of the maintenance cover.
- Repeat check and the adjustment until result is OK.

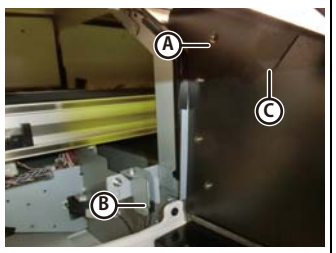
A: Maintenance Cover

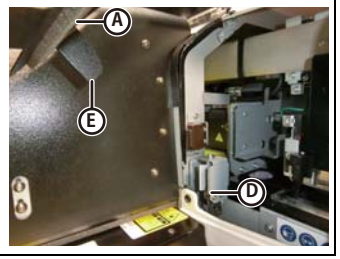
B: Maintenance Cover Switch (Left-Side)

C: Flag Plate (Left-Side)

D: Maintenance Cover Switch (Right-Side)

E: Flag Plate (Right-Side)





TIP

Chapter TOC

=> **4 Adjustment**

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4.8.1 Cover Switch Adjustment (Maintenance Cover)_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips Screwdriver No.2	-

● Procedure

1 Start in Self-diagnosis mode.

2 Select the menu.

- [Check 1:Test]-[Test 4:Sensor]-[Sen. 5:M.Cover L] / [Sen. 6:M.Cover R]

3 Check the status of the cover switch (when maintenance cover is physically close.)

- [Check 1:Test]-[Test 4:Sensor]-[Sen. 5:M.Cover L] / [Sen. 6:M.Cover R]

CONFIDENTIAL

● Procedure (Details)

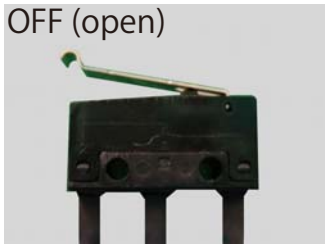
1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Check the status of the cover switch (when maintenance cover is physically open.)

- Open the maintenance cover.
- Check the cover status on the panel.
- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/ [Sen. 4: Cover R ***]

=> **5.6.4 Test 4: Sensor**



NOTE

- [Sen. 3:Cover open]
  : go to next step.
- [Sen. 3:Cover close]
  : Check maintenance cover switch.
  => **3.3.9 Maintenance Cover Switch (left-side)**
  => **3.3.10 Maintenance Cover Switch (right-side)**

3 Check the status of the cover switch (when maintenance cover is physically close.)

- Close the maintenance cover.
- Check the cover status on the panel.
- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/ [Sen. 4: Cover R ***]

=> **5.6.4 Test 4: Sensor**



NOTE

- [Sen. 3: Cover close]
  : go to next step.
- [Sen. 3: Cover open]
  : Adjust
  => **4.8.2 Cover Switch Adjustment (Maintenance Cover)_adjust**

NOTE

Panel shows "close" when both left and right cover switches are ON.

TIP

Section top

=> **4.8 Cover Switch Adjustment (Maintenance Cover)**

CONFIDENTIAL

4.8.2 Cover Switch Adjustment (Maintenance Cover)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
-	hex wrench (2.5mm)	-

● Procedure

1 Start in Self-diagnosis mode.

2 Select the menu.

- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/[Sen. 4: Cover R ***]

3 Loosen screw(s).

- hex socket screw with split washer_M3x6 (x2)

4 Adjust the position of flag plate.

5 Tighten screw(s).

- hex socket screw with split washer_M3x6 (x2)

6 Check the status of the cover switch

CONFIDENTIAL

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

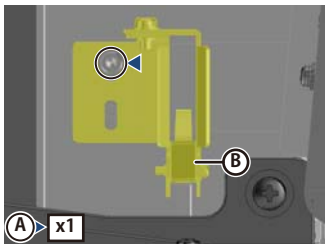
2 Select the menu.

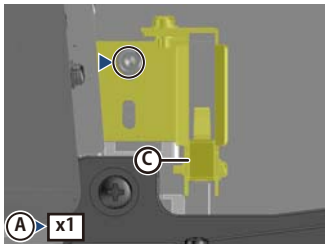
- [Check 1: Test]-[Test 4: Sensor]-[Sen. 3: Cover L ***]/[Sen. 4: Cover R ***]

=> **5.6.4 Test 4: Sensor**

3 Loosen screw(s).

A: hex socket screw with split washer_M3x6 (x2)
B: maintenance cover unit switch (right)
C: maintenance cover unit switch (left)





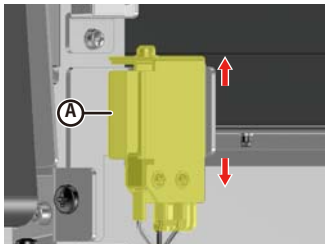
4 Adjust the position of maintenance cover switch.

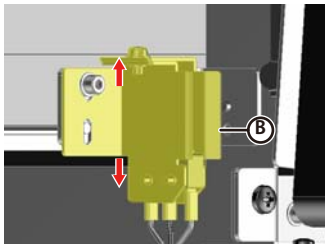
- Move the maintenance cover switch until switch is ON.
- Do the same in the other side.
- Check if panel shows “close.”

A: maintenance cover switch (right)
B: maintenance cover switch (left)

NOTE

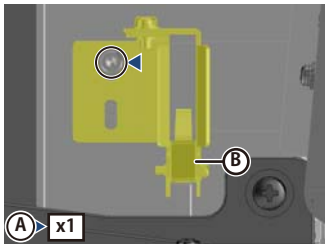
Panel shows "close" when both left and right cover switches are ON.

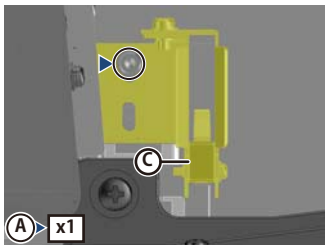




5 Tighten screw(s).

A: hex socket screw with split washer_M3x6 (x2)
B: maintenance cover unit switch (right)
C: maintenance cover unit switch (left)





6 Check the status of the cover switch.

=> **4.8.1 Cover Switch Adjustment (Maintenance Cover)_check**

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=> 4.8 Cover Switch Adjustment (Maintenance Cover)

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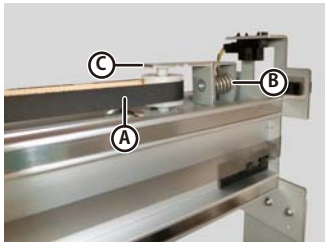
4.9 Tension Adjustment (CR Belt)

Adjust the tension of CR belt.
=> **4.9.1 Tension adjustment (CR Belt)_adjust**

A: CR belt

B: adjustment screw

C: return pulley base



TIP

Chapter TOC
=> **4 Adjustment**

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4.9.1 Tension adjustment (CR Belt)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips Screwdriver No.2	-
	Thread Locker	

● Procedure

1 Remove cover(s).
- Side cover R

2 Move the carriage.

3 Adjust the tension of CR belt.
- Round Head Small Screw_M4x30(x1)

4 Apply the screw lock.

5 Move the carriage.

6 Reassemble cover(s).
- Side cover R

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- Side cover R

=> **3.2.3 Side cover R**

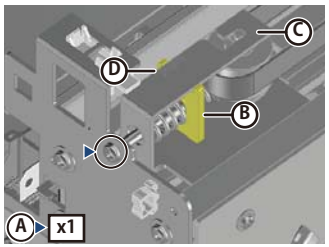
2 Move the carriage.

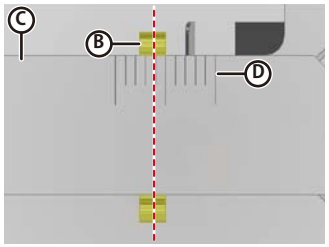
=> **3.6.2 Manual release of carriage lock**

3 Adjust the tension of CR belt.

- Tighten adjustment screw until left edge of alignment pin meets the center of the scale.

A: adjustment screw - round head small screw_M4x30(x1)
B: alignment pin
C: return pulley base
D: scale



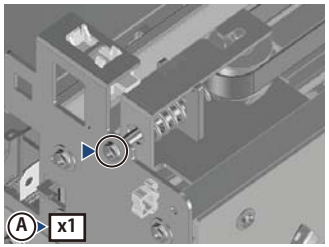


NOTE

Left edge of the pin must meet the center of the scale.

4 Appl y thread locker.

A: adjustment screw - round head small screw_M4x30(x1)



5 Move the carriage.

- Cap-in

=> **3.6.2 Manual release of carriage lock**

6 Reassemble cover(s).

- Side cover R

=> **3.2.3 Side cover R**

TIP

Section top
=> **4.9 Tension Adjustment (CR Belt)**

CONFIDENTIAL

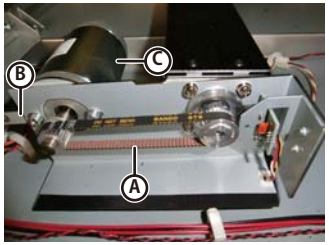
4.10 Position adjustment (PF motor)

Adjust the mounting position of PF motor.
=> 4.10.1 Position adjustment (PF motor)_adjust

A: PF deceleration belt

B: motor spacer

C: PF motor



TIP

Chapter TOC
=> 4 Adjustment

CONFIDENTIAL

4.10.1 Position adjustment (PF motor)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
	Phillips Screwdriver No.2	-
	Tension Gauge	-

● Procedure

1 Remove the cover(s).

- Rear Cover

2 Loosen the screw(s).

- Round Head Screw with Split Washer_M4x10 (x2)

3 Adjust the tension of PF belt.

4 Tighten the screw(s).

- Round Head Screw with Split Washer_M4x10 (x2)

5 Reassemble cover(s).

- Rear Cover

CONFIDENTIAL

● Procedure (Details)

1 Remove cover(s).

- rear cover

=> **3.2.6 Rear Cover**

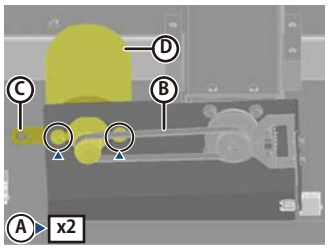
2 Loosen screw(s).

A: round head screw with split washer (polished)_M4x10 (x2)

B: PF deceleration belt

C : motor spacer

D: PF motor



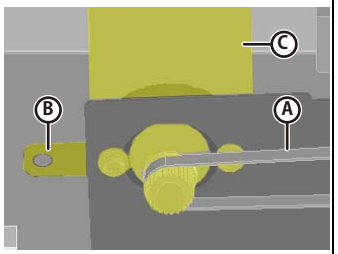
3 Adjust the tension of PF deceleration belt.

- Attach the tension gauge in motor spacer.
- Pull the tension gauge horizontally so as to match the set value.

A: PF deceleration belt

B: motor spacer

C: PF motor



NOTE

Set value for PF deceleration belt:
212gf ± 21gf (21N± 2N)

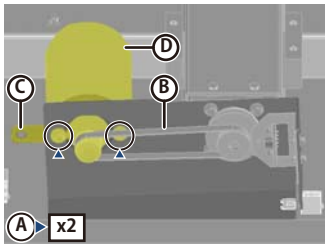
4 Tighten screw(s).

A: round head screw with split washer (polished)_M4x10 (x2)

B: PF deceleration belt

C : motor spacer

D: PF motor



5 Reassemble cover(s).

- rear cover

=> **3.2.6 Rear Cover**

TIP

Section top
=> **4.10 Position adjustment (PF motor)**

CONFIDENTIAL

4.11 Position Adjustment (Laser Sensor)

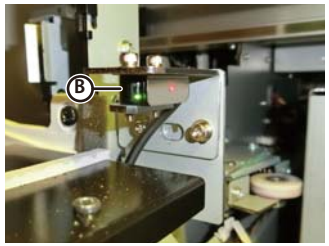
Adjust the mounting position of laser sensor.
- Repeat check and the adjustment until result is OK.

=> **4.11.1 Position adjustment (laser sensor)_jig mount/ remove**
=> **4.11.2 Position adjustment (laser sensor)_check**
=> **4.11.3 Position adjustment (laser sensor)_adjust**



A: laser sensor (right)

B: laser sensor (left)



CAUTION

Precautions when handling the laser sensor
- Do not look directly into the laser light.
- Do not look directly into the laser light with optical instruments.
  May cause eye damage.

TIP

Chapter TOC
=> **4 Adjustment**

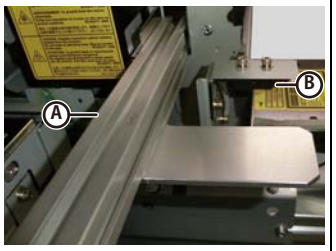
CONFIDENTIAL

4.11.1 Position adjustment (laser sensor)_jig mount/remove

A: laser sensor adjustment jig

B: laser sensor (right)

C: laser sensor (left)





● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40047	Laser Sensor Adjustment Jig	

NOTE

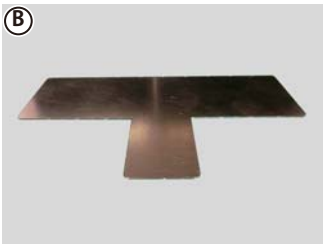
Below listed are laser sensor adjustment jig and other components.

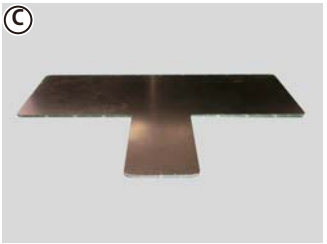
A: laser sensor adjustment jig

B: block gauge [0.5mm]

C: block gauge [1.0mm]







CONFIDENTIAL

● Procedure

1 Start in Self-diagnosis mode.

2 Lower the table.

3 Mount the jig.

4 Fix the jig.

5 Reverse the above procedure to reinstall the parts.

● Procedure (Details)

1 Start in Self-diagnosis mode.

=> **5.1.2 Turning on the printer**

2 Lower the table.

- [Check 3: Adjustment]

NOTE

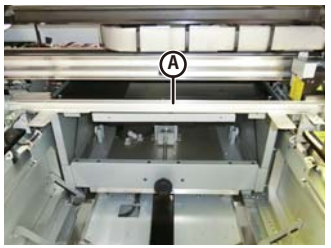
This process is for mechanism initialization.

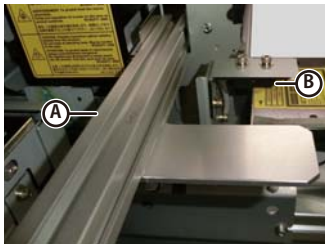
3 Mount laser sensor adjustment jig.

A: laser sensor adjustment jig

B: laser sensor (right)

C: laser sensor (left)







CONFIDENTIAL

4 Mount and fix the laser sensor adjustment jig

- Turn lever to fix.

A: fix lever

B: Mount and fix the laser sensor adjustment jig (left)





5 Reverse the above procedure to reinstall the part(s).

TIP

Section top

=> **4.11 Position Adjustment (Laser Sensor)**

CONFIDENTIAL

4.11.2 Position adjustment (laser sensor)_check

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40047	Laser Sensor Adjustment Jig	

● Procedure

1. Adjust the body level horizontally.
2. Start in Self-diagnosis mode.
3. Check the mounting position of the laser sensor.
4. Mount the laser sensor adjustment jig.
5. Check position of the sensor with the block gauge [0.5mm] (left)
6. Check position of the sensor with the block gauge [1.0mm] (left)
7. If result is okay, remove the jig.

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● Procedure (Details)

1 Adjust the body level horizontally.

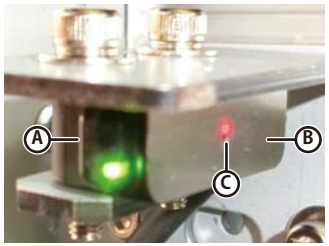
=> Startup guide

2 Start in Self-diagnosis mode.

=> **5.2.2 Turning on the printer**

3 Check the mounting position of the laser sensor.

- Check if the laser is in the hole on the laser sensor (left side).



A: laser sensor (left)

B: sensor slit (left)

C: hole of laser sensor (left)

NOTE

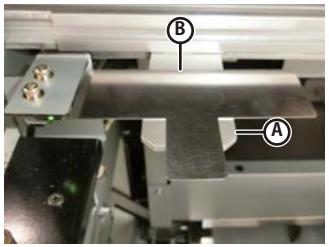
- The laser light hits the hole of laser sensor (left).
  : Proceed to step 4.
- Otherwise
  : Proceed to adjustment.
  => **4.11.3 Position adjustment (laser sensor)_adjust**

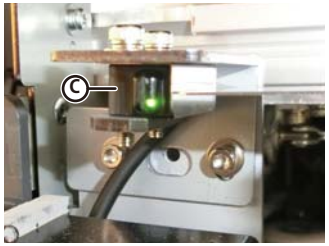
4 Mount and fix the laser sensor adjustment jig.

=> **4.11.1 Position adjustment (laser sensor)_jig mount/remove**

5 Check position of the sensor (left) with the block gauge [0.5mm]

- Attach adjustment plate [0.5mm] to the jig.
- Check LED status of the laser sensor (left).





A: laser sensor adjustment jig (left)

B: block gauge [0.5mm] (left)

C: laser sensor (left)

NOTE

B and C must be in contact.

NOTE

- LED (green) lights on /LED (orange) lights off
  : Proceed to step 6.
- Otherwise
  : Proceed to adjustment.
  => **4.11.3 Position adjustment (laser sensor)_adjust**

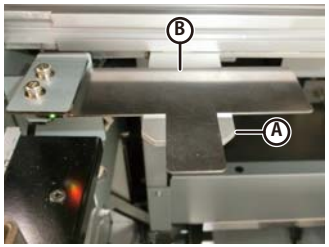
NOTE

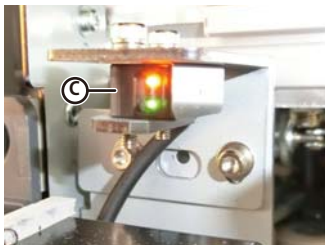
LED (green) lights on /LED (orange) lights off
: Good reception

CONFIDENTIAL

6 Check position of the sensor (left) with the block gauge [1.0mm]

- Attach adjustment plate [1.0mm] to the jig.
- Check LED status of the laser sensor (left).





A: laser sensor adjustment jig (left)
B: block gauge [1.0mm] (left)
C: laser sensor (left)

NOTE

B and C must be in contact.

NOTE

- LED (green) lights on /LED (orange) lights on
  : Proceed to step 7.
- Otherwise
  : Proceed to adjustment.
  => **4.11.3 Position adjustment (laser sensor)_adjust**

NOTE

LED (green) lights on / LED (orange) lights on
: reception is blocked.

7 If result is okay, remove the laser sensor adjustment jig.

=> **4.11.1 Position adjustment (laser sensor)_jig mount/remove**

TIP

Section top
=> **4.11 Position Adjustment (Laser Sensor)**

CONFIDENTIAL

4.11.3 Position adjustment (laser sensor)_adjust

● Tools, Jigs, and Maintenance Part(s)

Mainte. Part(s) No.	Name	Reference
DH-40047	Laser Sensor Adjustment Jig Assy	-
DH-40339	DH-40339	-
-	hex wrench (2.5mm)	-
-	flathead screwdriver (precision)	-

NOTE

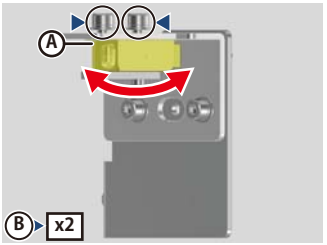
Below jig is referred hereby to as “adjustment screwdriver”

DH-40339: Eccentric Adjustment Jig(6-3)



NOTE

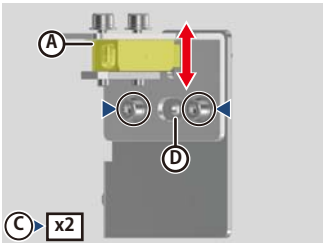
The adjustment method of the laser sensor (left) is as shown in the figure.



- When adjusting back and forth
  - Loosen screw(s).
  - Adjust the position of the sensor (left)

A: laser sensor (left)

B: hex socket screw with split washer (polished)_M3x16 Ni-3 (x2)



- When adjusting the height
  - Loosen screw(s).
  - Use adjustment screwdriver.

A: laser sensor (left)
C: hex socket screw with split washer (polished)_M3x6 Ni-3 (x2)

D: hole for adjustment screwdriver.

CONFIDENTIAL

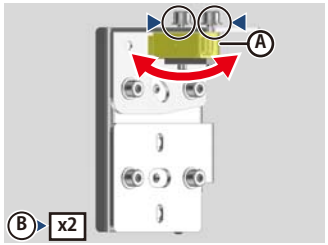
NOTE

The adjustment method of the laser sensor (right) is as shown in the figure.

- When adjusting back and forth
  - Loosen screw(s).
  - Adjust the position of the sensor (right)

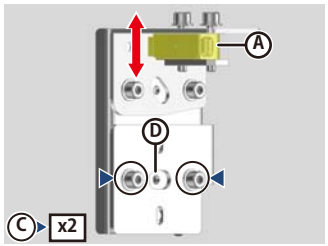
A: laser sensor (right)

B: hex socket screw with split washer (polished)_M3x16 Ni-3 (x2)



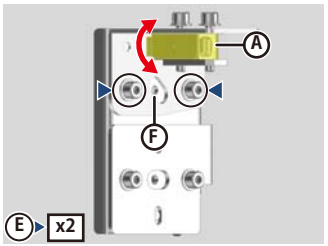
- When adjusting the height
  - Loosen screw(s).
  - Use adjustment screwdriver.

A: laser sensor (right)
C: hex socket screw with split washer (polished)_M3x6 Ni-3 (x2)
D: hole for adjustment screwdriver.



- When adjusting the slant
  - Loosen screw(s).
  - Use adjustment screwdriver.

A: laser sensor (right)
E: hex socket screw with split washer (polished)_M3x6 Ni-3 (x2)
F: hole for adjustment screwdriver.



● Procedure

1 Adjust the body level horizontally.

2 Start in Self-diagnosis mode.

3 Set sensitivity volume of the laser sensor to MIN.

4 Adjust the position of the laser sensor.

- hex socket screw with split washer (polished)_M3x16 Ni-3 (x2)

5 Mount the laser sensor adjustment jig.

6 Check position of the sensor with the block gauge [0.5mm] (right)

7 Check position of the sensor with the block gauge [0.5mm] (left)

8 Check position of the sensor with the block gauge [1.0mm] (right)

9 Check position of the sensor with the block gauge [1.0mm] (left)

10 Check the result.

11 Adjust the sensitivity volume of the laser sensor.

12 Check the result.o

13 If result is okay, remove the jig.

CONFIDENTIAL

● Procedure (Details)

1 Adjust the body level horizontally.

=> Startup guide

2 Start in Self-diagnosis mode.

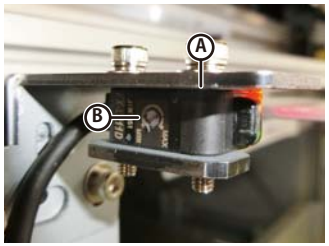
=> **5.2.2 Turning on the printer**

3 Set sensitivity volume of the laser sensor to MIN.

- Set sensitivity volume of the laser sensor (left) to MIN.

A: laser sensor (left)

B: sensitivity volume



4 Check the laser sensors position

- Loosen screw(s). (right x2 / left x2)
- Adjust the position (back and forth) so that the laser beam hits the sensor hole (left)
- Adjust the position (back and forth) so that the LED (green) lights of the sensor (left) is on.
- Tighten screw(s). (right x2 / left x2)

A: hex socket screw with split washer (polished)_ M3x16 Ni-3 (x4)

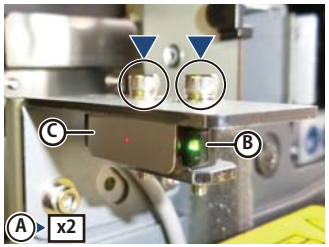
B: laser sensor (right)

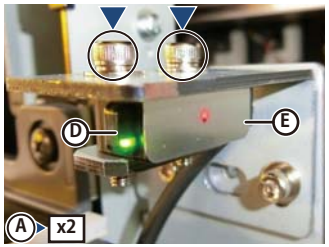
C: sensor slit (right)

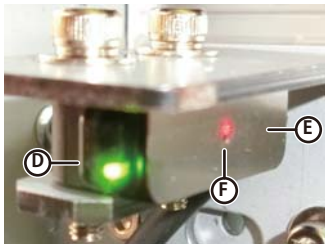
D: laser sensor (left)

E: sensor slit (left)

F: hole of laser sensor (left)







NOTE

If LED (green) does not turn on after the adjustment, raise sensitivity volume, then repeat the adjustment procedure again.

5 Mount the laser sensor adjustment jig.

=> **4.11.1 Position adjustment (laser sensor)_jig mount/remove**

continue

CONFIDENTIAL

6 Check position of the sensor with the block gauge [0.5mm] (right)

A: laser sensor adjustment jig (right)

B: block gauge [0.5mm](right)

C: laser sensor (left)

D: LED (green)

E: LED (orange)

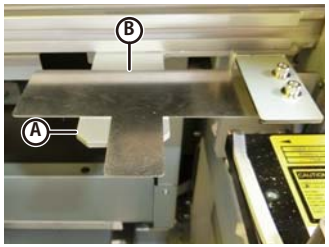
F: hex socket screw with split washer_M3x6 Ni-3 (x2)

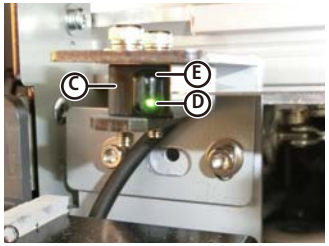
G: laser sensor (right)

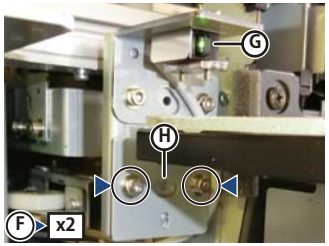
H: hole for adjustment screwdriver

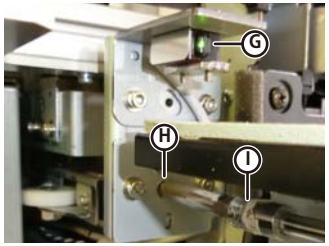
I: adjustment screwdriver

[How to ckeck]
- Attach the block gauge [0.5mm] in the adjustment jig.
- Check LED status in the laser sensor (left).









NOTE

- LED (green) lights on /LED (orange) lights off
  : No adjustment needed.
  Remove block gauge [0.5mm]
- Otherwise
  : Proceed to adjustment.

[How to adjust]
- Adjust the position up/down until LED (green) of the laser sensor (left) is ON.

  - Loosen screw(s).
  - Adjust the position up/down with adjustment screwdriver.
  - Tighten screw(s).

NOTE

- Check the position again after adjustment.
- If LED (green) of the laser sensor (left) would not turn ON after position of the sensor (right) was adjusted,adjust the position of sensor (left).(step 7)
- Remove block gauge [0.5mm].

continue

CONFIDENTIAL

7 Check position of the sensor with the block gauge [0.5mm] (left)

A: laser sensor adjustment jig (left)

B: block gauge [0.5mm](left)

C: laser sensor (left)

D: LED (green)

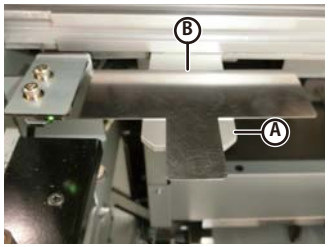
E: LED (orange)

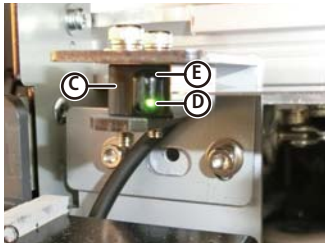
F: hex socket screw with split washer_M3x6 Ni-3 (x2)

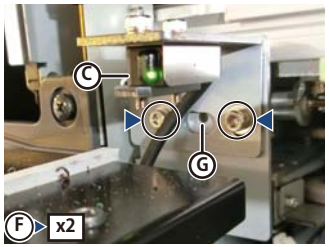
G: hole for adjustment screwdriver

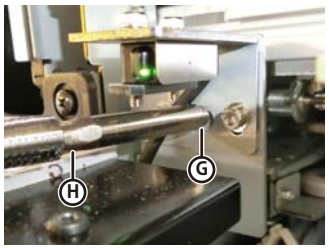
H: adjustment screwdriver

[How to ckeck]
- Attach the block gauge [0.5mm] in the adjustment jig.
- Check LED status in the laser sensor (left).









NOTE

- LED (green) lights on /LED (orange) lights off
  : No adjustment needed.
  Remove block gauge [0.5mm].
- Otherwise
  : Proceed to adjustment.

[How to adjust]
- Adjust the position up/down until LED (green) of the laser sensor (left) is ON.

  - Loosen screw(s).
  - Adjust the position up/down with adjustment screwdriver.
  - Tighten screw(s).

NOTE

- Check the position again after adjustment.
- If LED (green) of the laser sensor (left) would not turn ON after position of the sensor (left) was adjusted, adjust the position of sensor (right) (step 6)
- Remove block gauge [0.5mm].

continue

CONFIDENTIAL

8 Check position of the sensor with the block gauge [1.0mm] (right)

A: laser sensor adjustment jig (right)

B: block gauge [1.0mm](right)

C: laser sensor (left)

D: LED (green)

E: LED (orange)

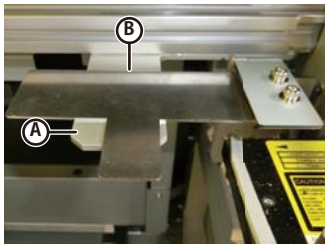
F: hex socket screw with split washer_M3x6 Ni-3 (x2)

G: laser sensor (right)

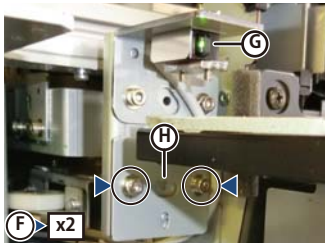
H: hole for adjustment screwdriver

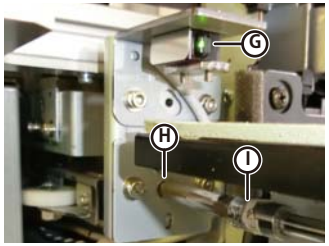
I: adjustment screwdriver

[How to ckeck]
- Attach the block gauge [1.0mm] in the adjustment jig.
- Check LED status in the laser sensor (left).









NOTE

- Both LED (green / orange) light on
  : No adjustment needed.
  Remove block gauge [1.0mm].
- Otherwise
  : Proceed to adjustment.

[How to adjust]
- Adjust the position up/down until borh LED (green / orange) of the laser sensor (left) are ON.

  - Loosen screw(s).
  - Adjust the position up/down with adjustment screwdriver.
  - Tighten screw(s).

NOTE

- Check the position again after adjustment.
- If both LED (green / orange) of the laser sensor (left) would not turn ON after position of the sensor (right) was adjusted, adjust the position of sensor (left). (step 9)
- Remove block gauge [1.0mm].

continue

CONFIDENTIAL

9 Check position of the sensor with the block gauge [1.0mm] (left)

A: laser sensor adjustment jig (left)

B: block gauge [1.0mm](left)

C: laser sensor (left)

D: LED (green)

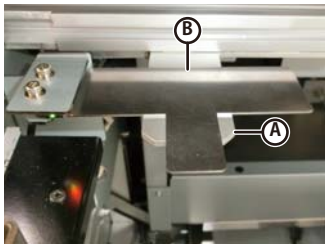
E: LED (orange)

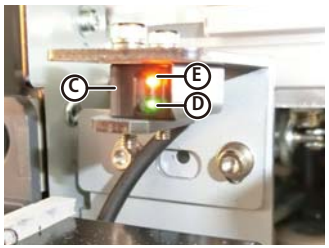
F: hex socket screw with split washer_M3x6 Ni-3 (x2)

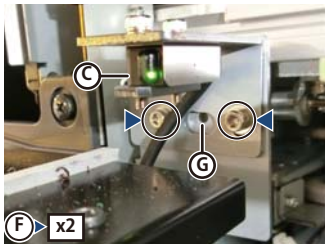
G: hole for adjustment screwdriver

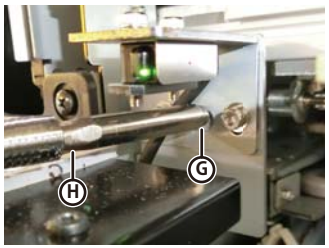
H: adjustment screwdriver

[How to ckeck]
- Attach the block gauge [1.0mm] in the adjustment jig.
- Check LED status in the laser sensor (left).









NOTE

- Both LED (green / orange) light on
  : No adjustment needed.
  Remove block gauge [1.0mm].
- Otherwise
  : Proceed to adjustment.

[How to adjust]
- Adjust the position up/down until borh LED (green / orange) of the laser sensor (left) are ON.

  - Loosen screw(s).
  - Adjust the position up/down with adjustment screwdriver.
  - Tighten screw(s).

NOTE

- Check the position again after adjustment.
- If LED (green) of the laser sensor (left) would not turn ON after position of the sensor (left) was adjusted, adjust the position of sensor (right). (step 8)
- Remove block gauge [1.0mm].

10 Check the result.

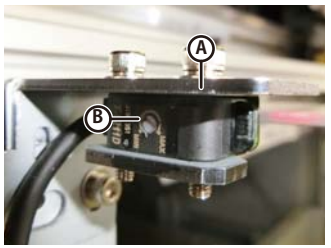
=> **4.11.2 Position adjustment (laser sensor)_check**

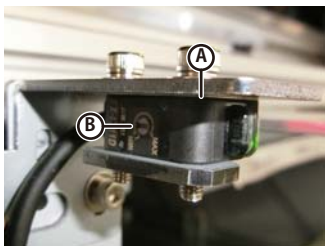
11 Adjust the sensitivity volume of sensor.

- Raise the sensitivity volume of sensor (left) to MAX.
- Lower the sensitivity volume of sensor (left) to horizontal position. (see lower right)

A: laser sensor (left)

B: sensitivity volume





continue

CONFIDENTIAL

12 Check the result.

=> **4.11.2 Position adjustment (laser sensor)_check**

13 If result is good, remove laser sensor adjustment jig.

=> **4.11.1 Position adjustment (laser sensor)_jig mount/remove**

TIP

Section top

=> **4.11 Position Adjustment (Laser Sensor)**

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5.1 Outline

This specification describes the self-diagnosis function on XPJ-661UF.
The self-diagnosis function mainly aims to perform mechanical adjustment and parameter determination.
It is included in the printer firmware, and can be activated by tapping designated keys on the touch panel.
The supported F/W versions for this specification:

Model Name	F/W Version
XPJ-661UF	V.1.00

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5.2 Key Operation

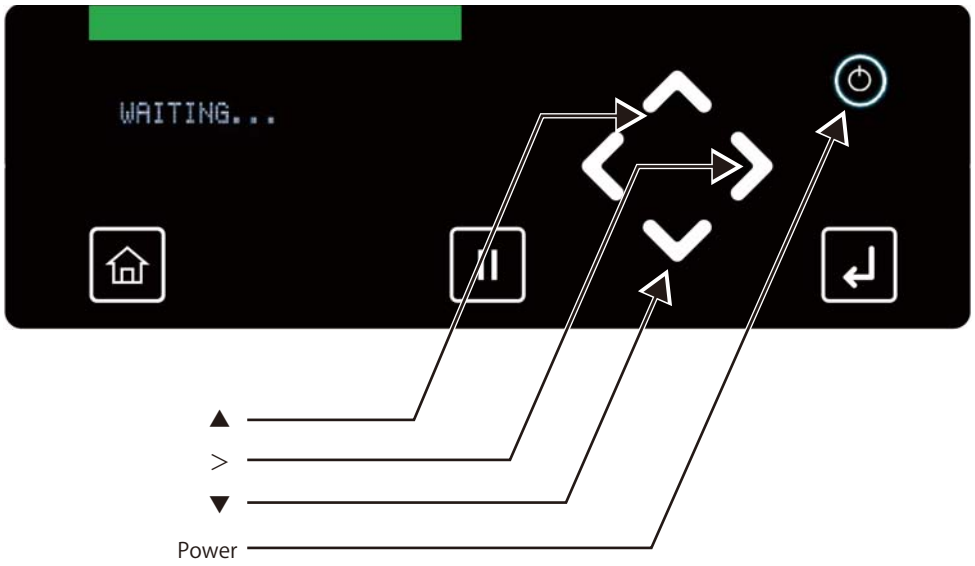
5.2.1 Turning on the main power

Turn on the main power of the printer as follows:

Step 1. Connect the AC power cord to the printer.

Step 2. Plug the power cord into the wall outlet

*In the main power ON state, the power LED on the panel lights up.



5.2.2 Turning on the printer

Follow the steps below to start the printer in self-diagnosis mode.

Step 1. Touch the power key and hold.

Step 2. While holding the power key, wait until LED on the panel turns on, then touch [▲] + [>] + [▼] keys.

Step 3. Release power key.

Step 4. When the Test menu appears on the panel, release [▲] + [>] + [▼] keys.

5.2.3 Turning off the printer

To exit the self-diagnosis mode,

Step 1. Press the Power button.

Step 2. When the message “Power Off” appears on the panel, release the button.

*If the main power is still ON (the printer’s power cord is plugged in) after shutdown, the power LED lights up.

5.2.4 Panel Key

The function of panel keys varies between user mode and self-diagnosis mode as shown in the table below.

Key	User Mode	Self-Diagnosis Mode	
	Names	Names	Functions
	Cancel	Cancel	Tap to go back to theupper-level menu.
	>	Next menu.	Tap to scroll down themenu.
	<	Previous menu	Tap to scroll up themenu.
	▲/ Set Media	Setting value +	Tap to increase the value.
	▼/ Remove Media	Setting value-	Tap to decrease thevalue.
	Enter	Enter	Tap to confirm the setting value.
	Home	Home	Tap to switch the media loading status.
	Power	Power	Press the button to power on/off the printer.

TIP

=>Outline

CONFIDENTIAL

5.3 Media Loading Status Switching

Since XPJ-661UF does not automatically detect media loaded on the table, use the Home key to switch the media loading status (Ready/ No media).

5.3.1 Key Operation Restriction

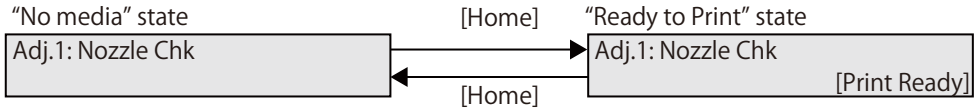
Key operation is not available during mechanical initialization.
Once the mechanical initialization is complete, the key operation is available under the following menu:

- Top menu in Self-Diagnosis Mode
- Adjustment Menu
- Test Printing Menu

5.3.2 Key Operation and Function

When the printer is powered on, the media loading status is set to “No media”.
Then the status can be switched between “Ready to Print” and “No media” by tapping the Home key.

In the “Ready to Print” state, the message “Print Ready” appears in the 2nd line of the screen.



Switch the status by tapping the Home key

5.3.3 Obstacle Detection

When the Home key is tapped in “No media” status, the printer will perform obstacle detection on the table.
If any obstacle is detected, the table will stop at the detected point and then the red Status LED turns on.
If it happens;

1. Tap the Home key.
2. The printer performs media ejecting process and the Status LED turns off.
3. Remove the obstacle or adjust the table height.
4. Load the media again and tap the Home key
5. The printer performs obstacle detection again.
6. If no obstacle is detected, the status will be switched to “Ready to Print”.

5.3.4 Media Automatic Ejection

In User Mode, the printing always starts from the origin position, but in Self-Diagnosis Mode, the next printing will continue from the point where the previous printing was finished. When the table moving distance reaches the media length specified in Media Initialization (=> **Media Initialization**), the printing will be canceled.
Once canceled, the printing was canceled, the printer will automatically perform media ejecting processing and then the status will be switched to “No media”.

TIP

Chapter TOC=>**Self-Diagnosis Function**

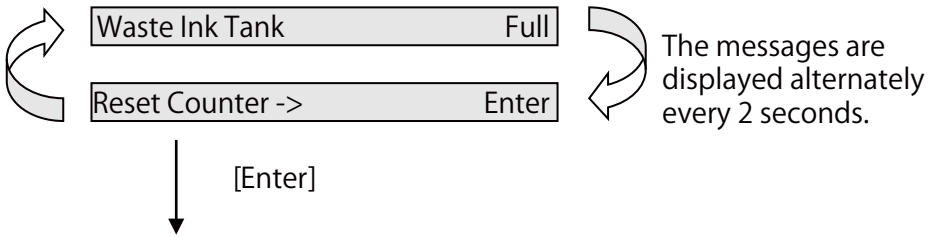
CONFIDENTIAL

5.4 Reset Waste Ink Counter

When the waste ink collected from the printer reaches the upper limit of the waste ink tank, the message
“WasteInkTank Full” will be displayed on the panel and the printer will stop operating to prevent overflowing.
To resume the printer, empty the tank and then tap the Enter key to reset the waste ink counter.

NOTE

Empty the tank before tapping the Enter key. Even if the waste ink still remains in the tank, the counter can be reset once you tap the key.



TIP

Chapter TOC=>**Self-Diagnosis Function**

CONFIDENTIAL

5.5 Error Message Display

Following error messages will appear on the panel when any of such error occurs during ink sequences (ink charging, discharging, cleaning or longstore) or pattern printing.

Cover is opened	Cover Open
Maintenance Cover is opened	Maint. Cover Open
Cartridges in all slots are missing.	[ALL] No Cartridge
Cartridgeinthe Slot 1is missing.	[1] No Cartridge
All cartridges are empty.	[ALL] Ink End
The Cartridge1 is empty.	[1] Ink End
S/C read error	[ALL] S/C Read Err
S/C color error	[ALL] S/C Col. Err
S/C ink error	[2] S/C Ink Err
S/C code error	[3] S/C Code Err
S/C is broken (unrecoverable error)	[4] Broken Chip
No ink credits remain on the printer	Smart/C Empty
Obstacle is detected	Obstacle Detected

TIP

Chapter TOC=>Self-Diagnosis Function

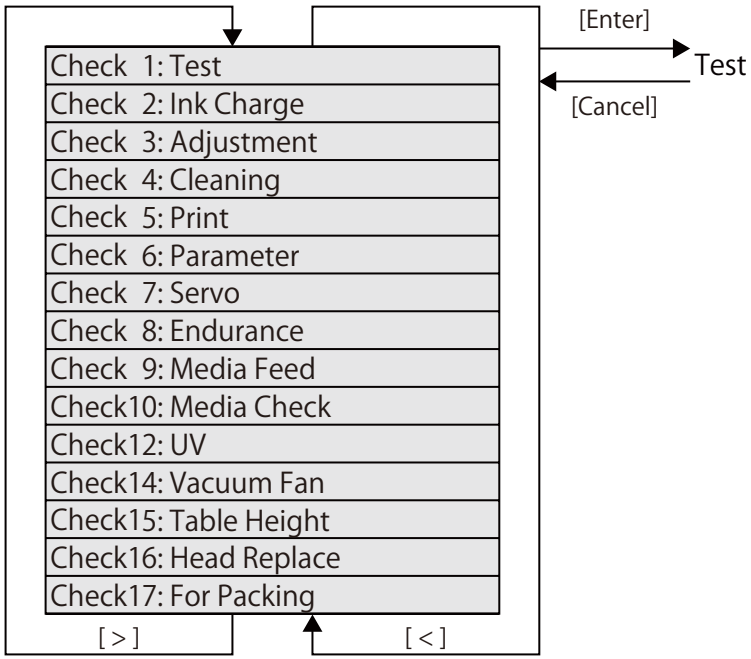
CONFIDENTIAL

5.6 Self-Diagnosis Function - Hierarchy #1

Hierarchy #1	Hierarchy #2
Check 1: Test	Test 1: RAM Capacity Test 2: Version Test 3: Panel Test 4: Sensor Test 5: Encoder Test 6: Fan Test 7: History Test 8: Head Waveform Test 9: Time Check
Check 2: Ink Charge	
Check 3: Adjustment	Adjustment 1: Head Nozzle Check Adjustment 2: Head Slant Check Adjustment 3: UniD/BiD, Low Adjustment Adjustment 4: Margin Adjustment Adjustment 5: LED Pointer Adjustment 6: Test Printing Adjustment 7: Longstore Adjustment 8: Software Counter Initialization Adjustment 9: Send Pitch Check Adjustment 10: Fill Pattern Check Adjustment 11: Ink Discharge
Check 4: Cleaning	
Check 5: Print	Print 1: Adjustment ALL Print 2: Parameter ALL Print 3: Error history Print 4: S/C Log Print 5: Life Information
Check 6: Parameter	Parameter 1: Initialization Parameter 2: Update
Check 7: Servo	
Check 8: Endurance	Endurance 1: CR Motor Endurance 2: PF Motor Endurance 4: Pump Endurance 5: Circulation Pump Endurance 6: Head Lock Endurance 7: Wiper Endurance 8: General Endurance Endurance 9: Endurance Check
Media Feed	
Media Initialization	
Check 12: UV Lamp ON/OFF Check	
Vacuum Fan	
Table Height	
Check 16: Head Replace	
Appendix A. Uni/Bi Type B Print Pattern	

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Operation Panel (Self-Diagnosis Menu)



TIP

=>Self-Diagnosis Function

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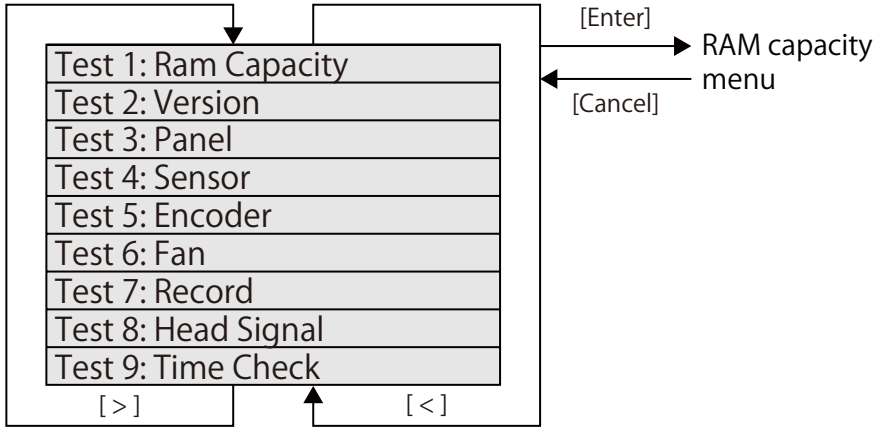
5.7 Check 1: Test

Run the main board Test to check through the following items.

Hierarchy #2	Hierarchy #3	Hierarchy #4	Hierarchy #5
Test 1: RAM Capacity			
Test 2: Version			
Test 3: Panel			
Test 4: Sensor	Sensor 13: Wiper Solenoid Check		
	Sensor 14: LED Pointer Check		
Test 5: Encoder			
Test 6: Fan			
Test 7: History	History 1: Maintenance History	Shot Count : Enter	
	History 2: System Error		
	History 3: Error Initialization		
	History 4: Print Information	Print 1: Number of Prints	
		Print 2: Printed Area	
		Print 3: Effect	
		Print 4: Ink Type	
		Print 5: Table Height	
		Print 6: Data Width	
		Print 7: Data Length	
		Print 8: Rotaty Unit	Rotary 1: Number of Prints by Print Mode
			Rotary 2: Printed Area by Print Mode
			Rotary 3: Number of Pages Printed per Media Diameter
			Rotary 4: Printed Area per Media Diameter
	History 5: Operation Time		
	History 6: S/C Log		
	History 7: S/C Log Initialization		
	History 8: Power Off		
	History 9: Ink Conversion Log		
Test 8: Head Waveform			
Test 9: Time Check			

CONFIDENTIAL

Operation Panel (Board Check Menu)



TIP

=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.7.1 Test 1: RAM Capacity

Check the RAM capacity on the main board.

Operation Panel

Ram Capacity: 256MB

Tap [Enter] or [Cancel] to go to "Board Check Menu".

TIP

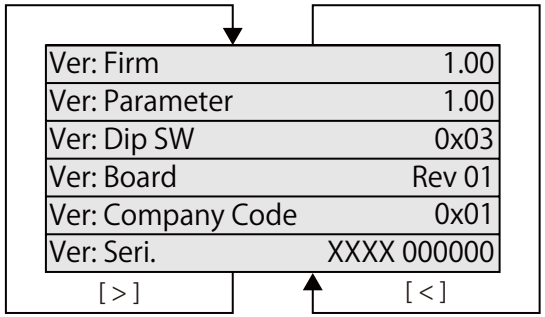
=>Check 1: Test

CONFIDENTIAL

5.7.2 Test 2: Version

Displays the version of firmware (program, backup parameter), setting of dip switches (ON: 0, OFF: 1, Switch No 1: LSB, 2: MSB), revision of main board, company code, and serial number.
The version of firmware (program, backup parameter) is displayed in [XX.XX] form, the revision of main board is displayed in [XX] form, and the setting of dip switches and the company code are displayed in two-digit number in hexadecimal notation.

Operation Panel



Serial number*
JM2U000000

Tap [Enter] or [Cancel] to go to “Board Check Menu”.
*If no serial number is provided, the following message is displayed.



TIP

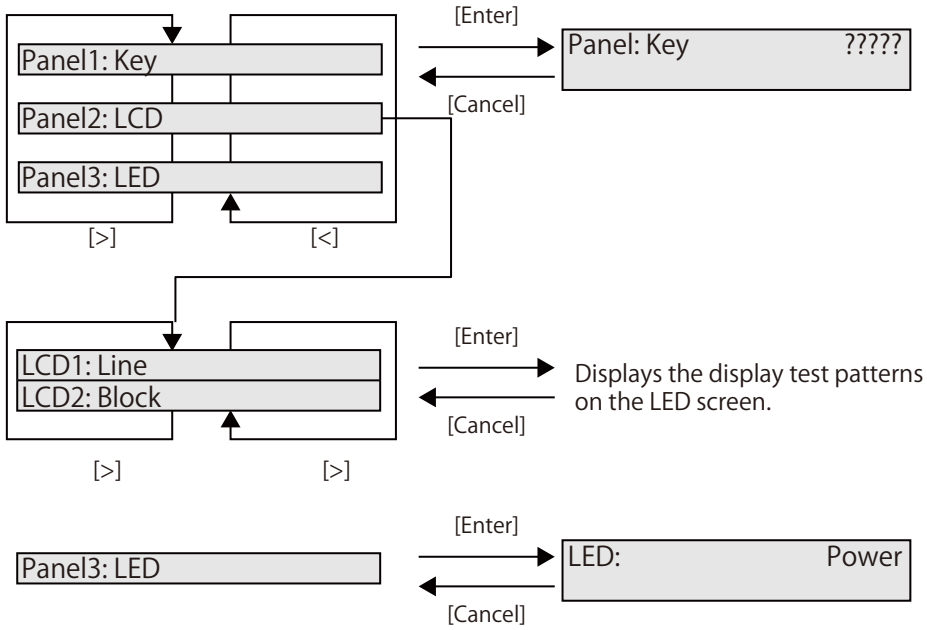
=>Check 1: Test

CONFIDENTIAL

5.7.3 Test 3: Panel

Test the keys, OLED display, and LED lights on the touch panel to make sure it works properly.

Operation Panel



Tap [Cancel] to go back to “Board Check Menu”.

T I P

=>Check 1: Test

CONFIDENTIAL

5.7.3.1 Panel 1: Key

The name of the key tapped is displayed on the panel. To exit the panel key check, tap [Cancel] twice.

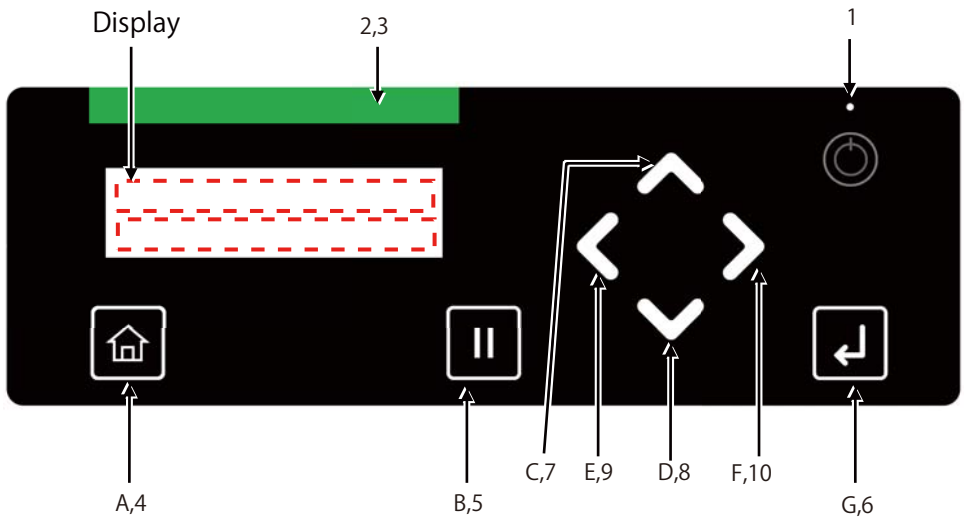
TIP

=>Test 3: Panel

CONFIDENTIAL

5.7.3.2 Panel 2: LCD

The LED lights turn on sequentially, and the name of LED being lighted is displayed on the OLED screen.



LED lighting sequence

1. Power LED
2. Status LED (Red)
3. Status LED (Green)
4. Home LED
5. Cancel LED
6. Enter LED
7. Plus LED
8. Minus LED
9. P revious LED
10. Next LED

Key Names

A Home
B Cancel
C Plus
D Minus
E P revious
F Next
G Enter

TIP

=>Test 3: Panel

CONFIDENTIAL

5.7.3.3 Panel 3: LED

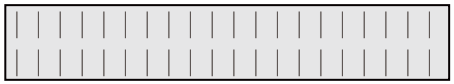
The display test (LCD check) lights up the relevant pixels on the OLED according to the menu selected.

When “LCD1:Line” is selected, 14 different patterns are displayed on the OLED screen alternately every second.
To pause the display, tap Enter while running this testing.
To resume, tap Enter again.
To return to the Board Check menu, tap Cancel while pausing or running this testing.

Each character contains 5 pixels in column x 8 pixels in row.
This menu displays each pattern in the following order:
1)Display the vertical line patterns per column from right to left.
2)Display the horizontal line patterns per row from top to bottom.
3)Display the block pattern.

Examples of patterns:

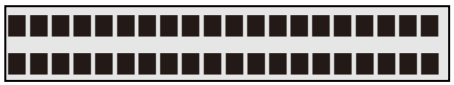
1: Vertical line pattern



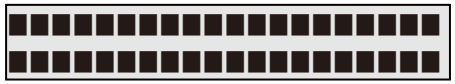
2: Horizontal line pattern



3: Block pattern



When “LCD2: Block” is selected, the following block pattern is displayed per character every 0.5 second from right to left.



TIP

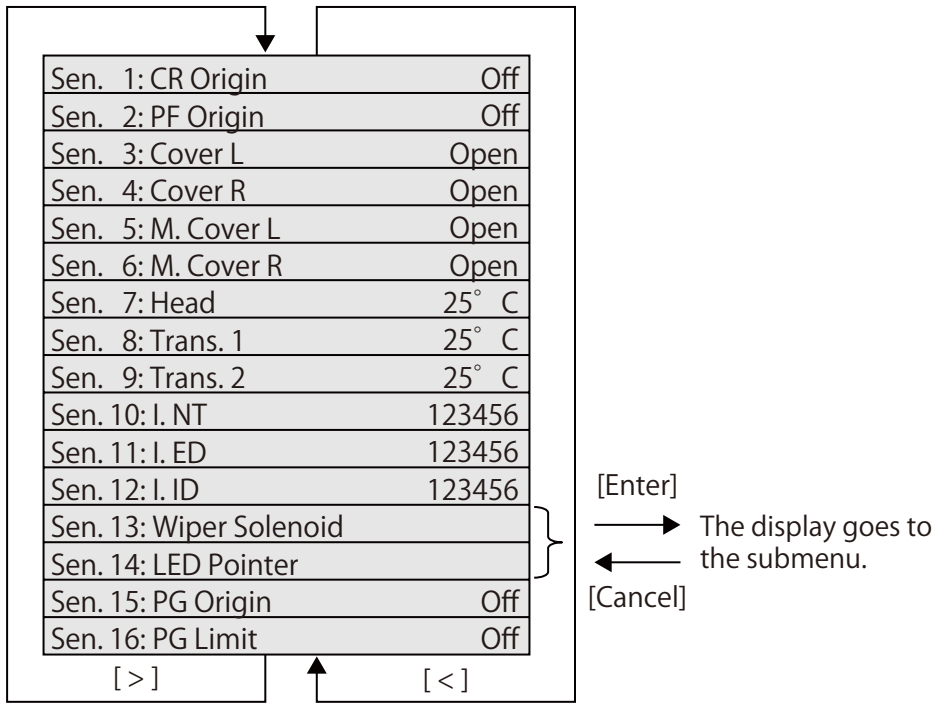
=>Test 3: Panel

CONFIDENTIAL

5.7.4 Test 4: Sensor

Check the Wiper solenoid and LED pointer.
Displays the sensor status of the CR origin, PF origin, PG origin, PG limit, cover L and R, maintenance cover L and R, table up/down handle cover, head thermistor, head transistor thermistors 1 and 2, ink cartridge insertion (6 slots), ink end (6 slots), ink ID reading (6 slots), and optional vacuum table.
Check the Wiper solenoid and LED pointer.

Operation Panel (Sensor Check Menu)



"Sen.15: PG Origin" is displayed on the menu only when Table U/D is set to Auto.
See =>**Update 10: Table U/D** for details.
Tap [Enter] on “Wiper Solenoid Check” and “LED Pointer” to go to its submenu.
Tap [Enter] or [Cancel] on the other menus to go back to “Board Check Menu”.

If more than one covers are opened, the printer detects the cover open for a cover that has higher priority as shown below.

When a user opens Front Cover L, Maintenance Cover R, or Maintenance Cover L while Front Cover R is opened, the printer detects that Front Cover R is opened.

Priority

Higher Priority ↕ Lower Priority	Front cover R
	Front cover L
	Maintenance cover R
	Maintenance cover L

TIP

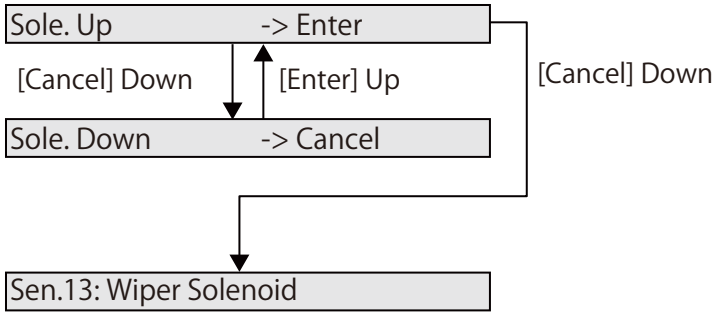
=>**Check 1: Test**

CONFIDENTIAL

5.7.4.1 Sensor 13: Wiper Solenoid Check

Test the wiper solenoid to make sure it moves up or down properly.

Operation Panel



Tap [Cancel] to go back to [Sensor Check Menu]

T I P

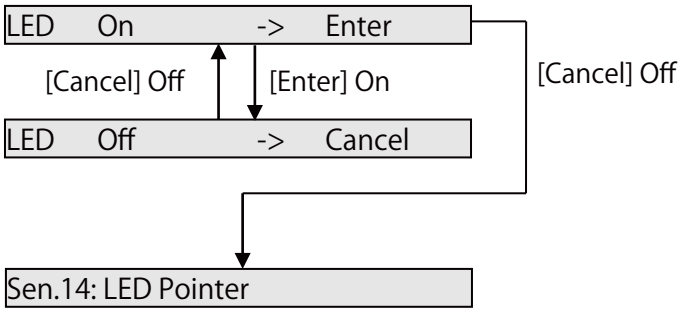
=>Test 4: Sensor

CONFIDENTIAL

5.7.4.2 Sensor 14: LED Pointer Check

Test the LED pointer to make sure it turns on or off properly.

Operation Panel



Tap [Cancel] to go back to [Sensor Check Menu]

T I P

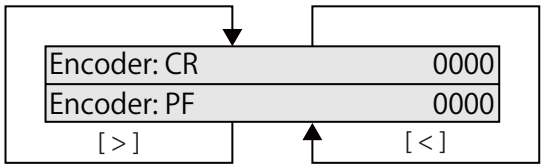
=>Test 4: Sensor

CONFIDENTIAL

5.7.5 Test 5: Encoder

Displays encoder values of CR (Carriage) and PF (Media feed).

Operation Panel



The encoder pulse numbers are displayed.
Tap [Enter] or [Cancel] to go back to “Board Check Menu”.

TIP

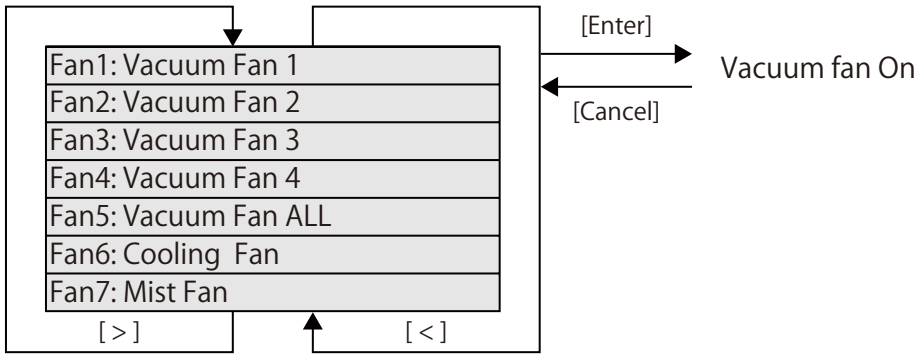
=>**Check 1: Test**

CONFIDENTIAL

5.7.6 Test 6: Fan

Test the on/off function of the fans on the printer to make sure it works properly.
Vacuum fanTurn On
Cooling fanTurn Off
Mist fanTurn On

Operation Panel (Fan Operation Check Menu)



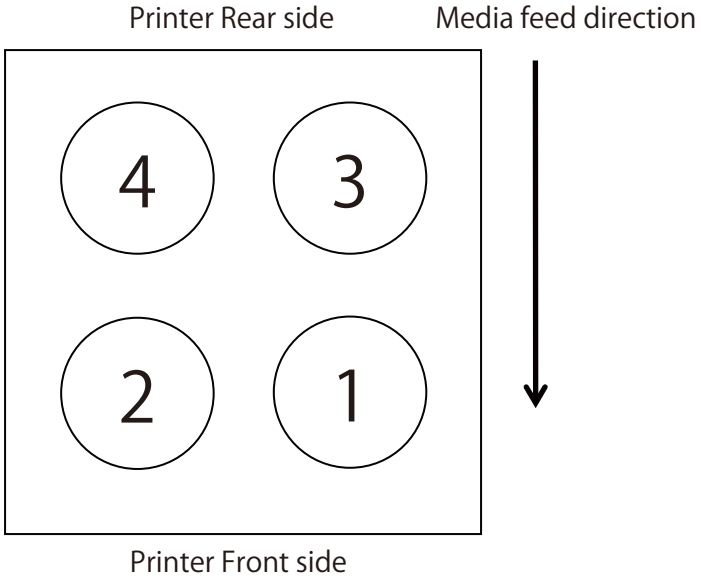
Tap [Enter] on"Fan*: Vacuum Fan" to turn on the vacuum fan.
Tap [Enter] on"Fan*: Cooling Fan" to turn off the cooling fan.
Tap [Enter] on"Fan*: Mist Fan" to turn on the mist fan.

[Cancel] End

Tap [Cancel] on"Fan*: Vacuum Fan" to turn off the vacuum fan
Tap [Cancel] on"Fan*: Cooling Fan" to turn on the cooling fan
Tap [Cancel] on "Fan*: Mist Fan" to turn off the mist fan

and the display goes back to the "Fan Operation Check"menu.

Vacuum Fan Position



TIP

=>Check 1: Test

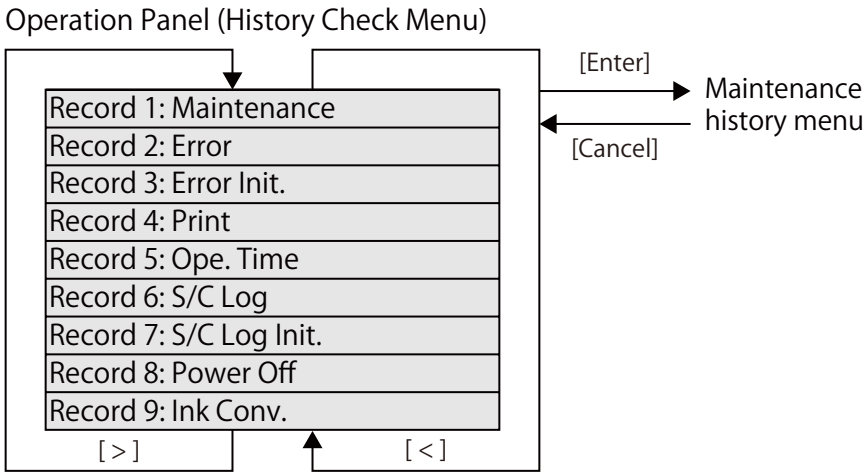
CONFIDENTIAL

5.7.7 Test 7: History

This menu allows you to check the printer logs and usage, or initialize log as follows:
- Checks maintenance history (wiper, CR motor, PF motor, PG motor, number of prints, cleaning, ink consumption, number of dot fired, pump, circulation pump, number of solenoid drive, UV lamp, Waste ink, CR maintenance, CR UnlockPos).
- Checks system error history.
- Checks print information (number of prints and printed area per print mode. number of prints per effect, ink type, table height setting, data width and data length).
- Checks operation time (each operation mode)
- Checks S/C log, power off log
- Checks Ink conversion log.
- Initializes system error history and S/C log.

Hierarchy #2	Hierarchy #3	Hierarchy #4	Hierarchy #5
Test 7: History	History 1: Maintenance History	Shot Count : Enter	
	History 2: System Error		
	History 3: Error Initialization		
	History 4: Print Information	Print 1: Number of Prints	
		Print 2: Printed Area	
		Print 3: Effect	
		Print 4: Ink Type	
		Print 5: Table Height	
		Print 6: Data Width	
		Print 7: Data Length	
		Print 8: Rotaty Unit	Rotary 1: Number of Prints by Print Mode
			Rotary 2: Printed Area by Print Mode
			Rotary 3: Number of Pages Printed per Media Diameter
			Rotary 4: Printed Area per Media Diameter
	History 5: Operation Time		
	History 6: S/C Log		
	History 7: S/C Log Initialization		
	History 8: Power Off		
	History 9: Ink Conversion Log		

CONFIDENTIAL



Find link in the following page.

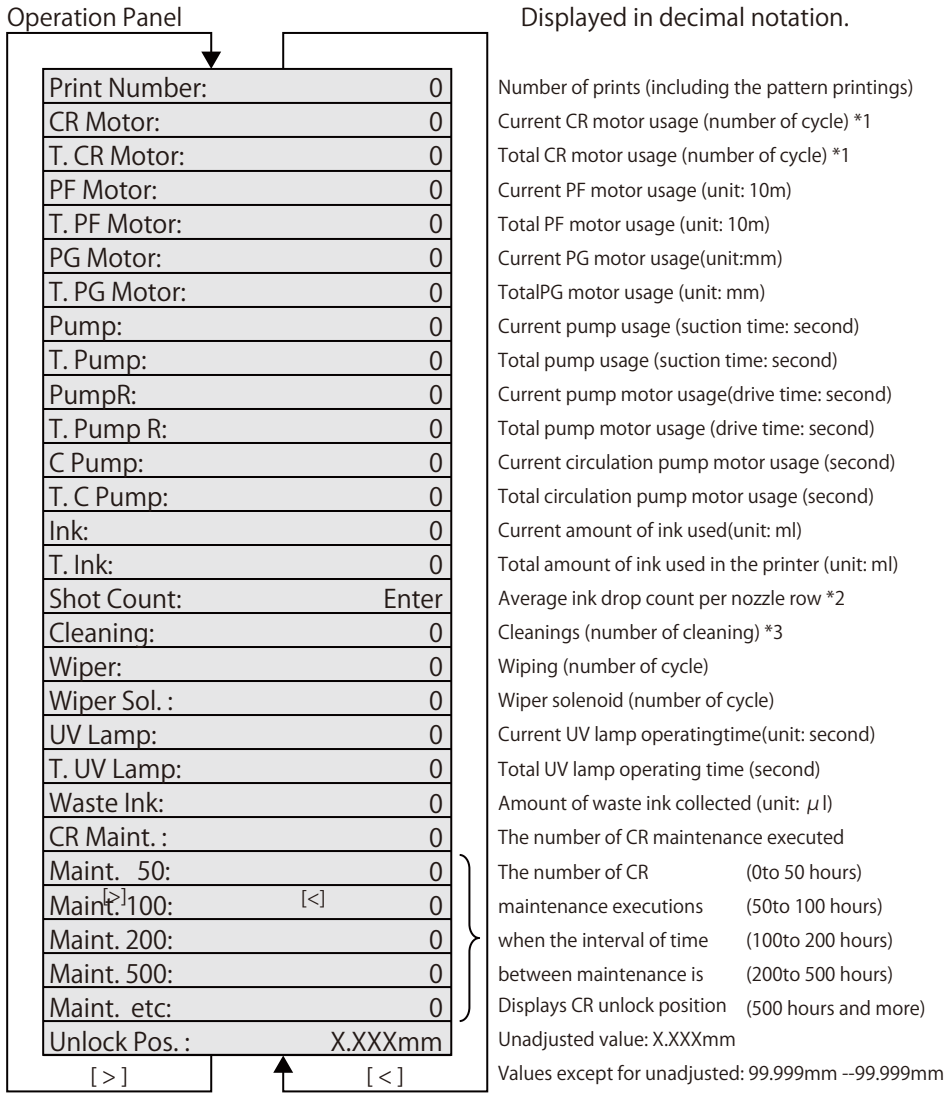
TIP

=>Check 1: Test

CONFIDENTIAL

5.7.7.1 History 1: Maintenance History

Displays the following printer and component usage.(Displayed in decimal notation)



"PG Motor" and "T. PG Motor" are displayed in this menu only when the Table U/D is set to "Auto".
See "**Update 10: Table U/D**" for more details on the table U/D operation settings.

*1. One cycle of CR motor usage is counted when CR makes one-way movement from origin side to non-origin side or from non-origin side to origin side.
*2. For the Shot Count menu flow, see "**Shot Count : Enter**".

*3. The cleaning history includes all the cleaning modes, initial charge and little charge.

TIP

=>**Test 7: History**

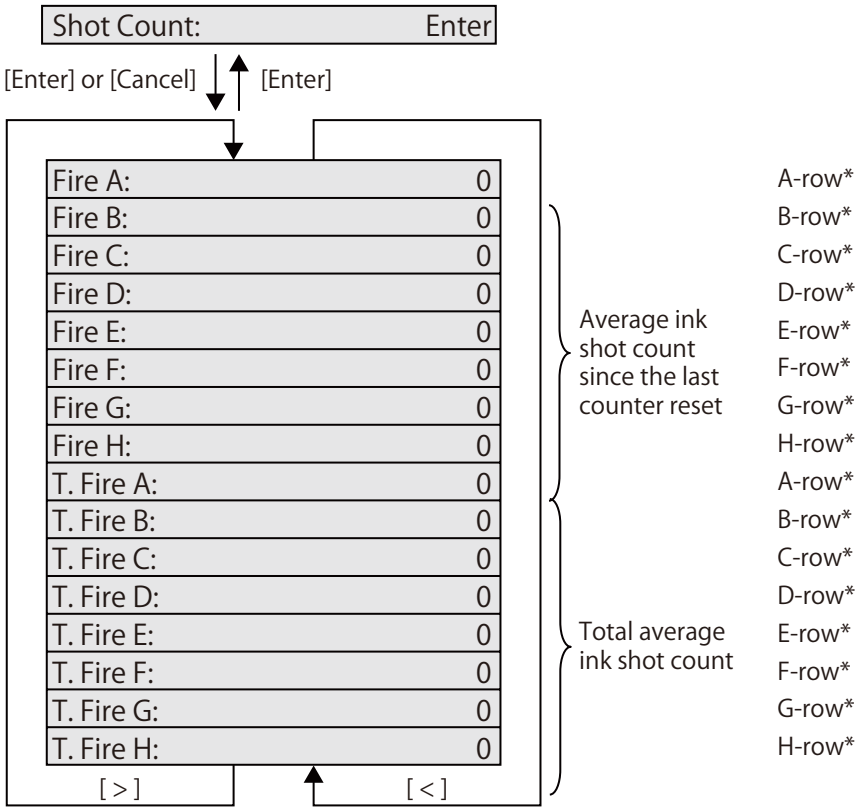
CONFIDENTIAL

5.7.7.1.(1) Shot Count : Enter

Check the average ink shot count per nozzle row.

Operation Panel

Displayed in decimal notation.



* Each average is calculated by the cumulative total divided by 180 (unit: Mega dot).

TIP

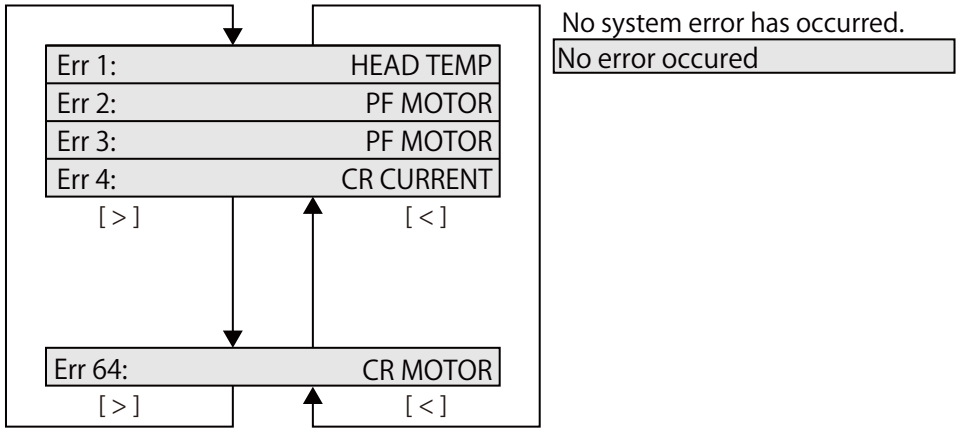
=>History 1: Maintenance History

CONFIDENTIAL

5.7.7.2 History 2: System Error

Check the system error history. CPU error is excluded.
Up to 64 error history is displayed.

Operation Panel



No system error has occurred.
No error occured

Tap [Enter] or [Cancel] to go back to [History Check Menu]

Print error history => **Print 3: Error history**

TIP

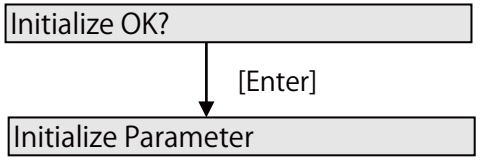
=>**Test 7: History**

CONFIDENTIAL

5.7.7.3 History 3: Error Initialization

Initialize the system error history.

Operation Panel



If you tap[Enter] on “Record 3: Error Init.”, “Initialize OK?” will be displayed.
If you tap[Enter] then,
“Initialize Parameter” will be displayed to initialize the system error records.
If you tap[Cancel] on “Initialize OK?”,
“Untouched Param” will be displayed to cancel the initialization.
Then the display goesback to “History Check Menu”.

TIP

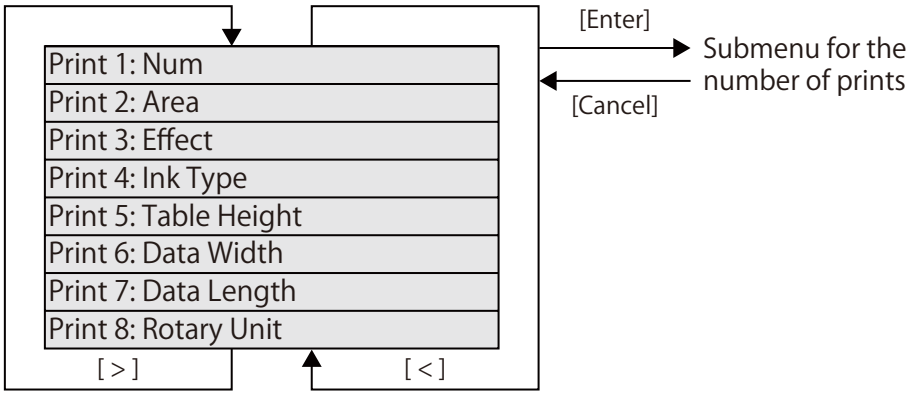
=>Test 7: History

CONFIDENTIAL

5.7.7.4 History 4: Print Information

Check the print information (number of prints and printed area by print mode. number of prints by effect setting, ink type, table height setting, data width and data length, number of prints and printed area in Rotary Mode). The pattern printings are excluded from the count.

Operation Panel (Print Information Menu)



Tap [Cancel] to go back to “History Check Menu”.

T I P

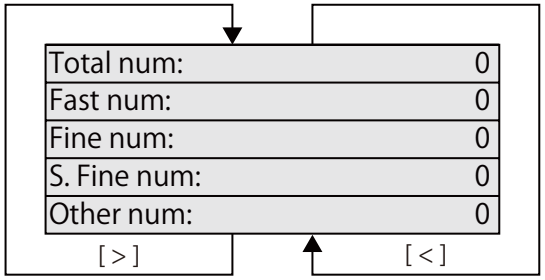
=>Test 7: History

CONFIDENTIAL

5.7.7.4.(1) Print 1: Number of Prints

Check the number of prints by print mode. Internal pattern printings are excluded.

Operation Panel



Displayedindecimal notation.

All print modes
Fast mode
Fine mode
Super Fine mode
Other print mode

Tap [Enter] or [Cancel] to go back to “Print Information Menu”.

TIP

=>**History 4: Print Information**

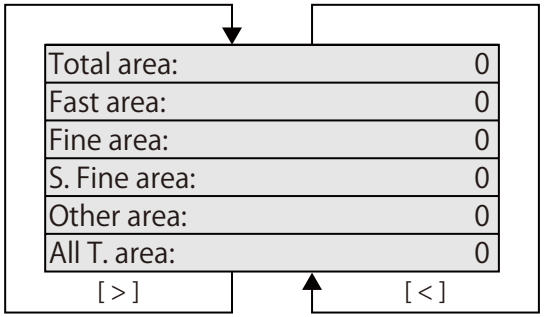
CONFIDENTIAL

5.7.7.4.(2) Print 2: Printed Area

Check the total printed area by print mode and accumulated total printed area in all print modes (unit: m2). Internal pattern printings are excluded.

Operation Panel

Displayed in decimal notation.



All print modes
Fast mode
Fine mode
Super Fine mode
Other print mode
Totalprint area in the printer

Tap [Enter] or [Cancel] to go back to “Print Information Menu”.

T I P

=>**History 4: Print Information**

CONFIDENTIAL

5.7.7.4.(3) Print 3: Effect

Check the number of prints by effect setting. Internal pattern printings are excluded.

TIP

=>History 4: Print Information

Operation Panel

Displayed in decimal notation

None 1:	0
None 2:	0
None 3:	0
Wave 1:	0
Wave 2:	0
Wave 3:	0
Fog 1:	0
Fog 2:	0
Fog 3:	0
Fuzz 1:	0
Fuzz 2:	0
Fuzz 3:	0
Wow 1:	0
Wow 2:	0
Wow 3:	0
Fine & Wave 1:	0
Fine & Wave 2:	0
Fine & Wave 3:	0
Fine & Fuzz 1:	0
Fine & Fuzz 2:	0
Fine & Fuzz 3:	0
Fine & Fuzz 4:	0
Fine & Fuzz 5:	0
Fine & Fuzz 6:	0
Fine & Fog 1:	0
Fine & Fog 2:	0
Fine & Fog 3:	0
A-S. F & W:	0
B-S. F & W:	0
i-Weave UV 1:	0
i-Weave UV 2:	0
i-Weave UV 3:	0

[>] [<]

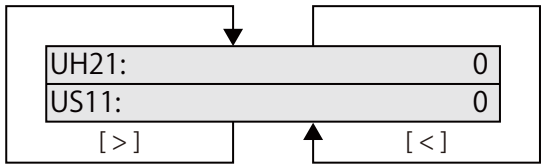
Tap [Enter] or [Cancel] to go back to “Print Information Menu”.

CONFIDENTIAL

5.7.7.4.(4) Print 4: Ink Type

Check the number of prints by ink type.

Operation Panel displayed in decimal notation



Tap [Enter] or [Cancel] to go back to “Print Information Menu”.

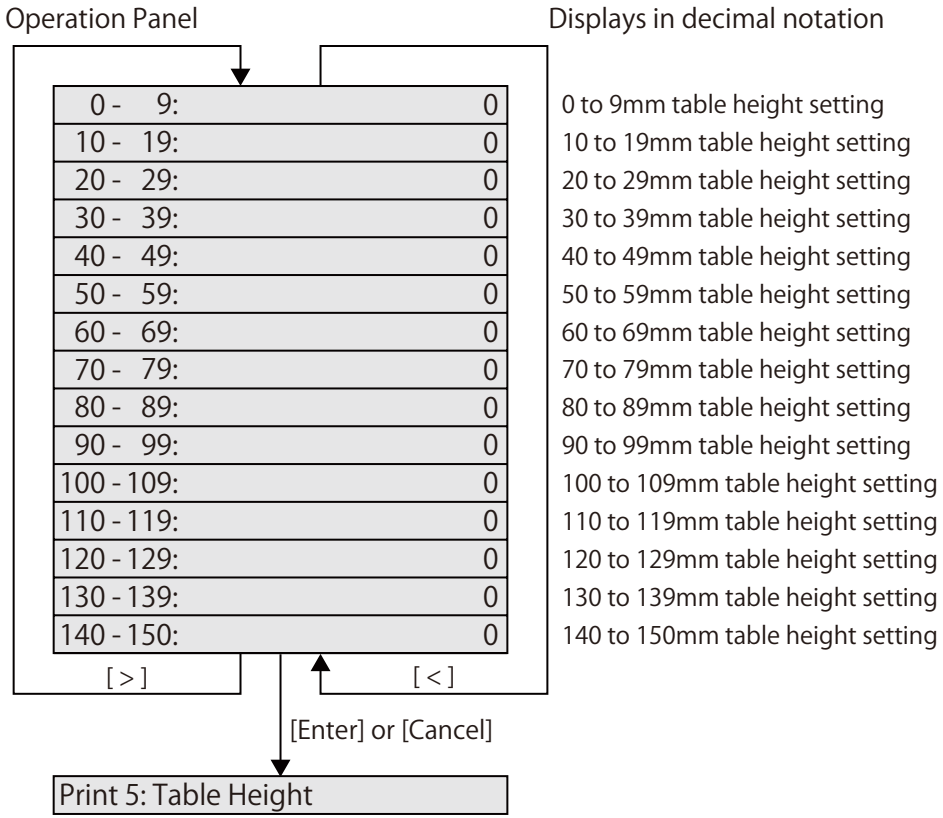
TIP

=>History 4: Print Information

CONFIDENTIAL

5.7.7.4.(5) Print 5: Table Height

Checks the number of prints by table height setting (at approx. 10-mm intervals).



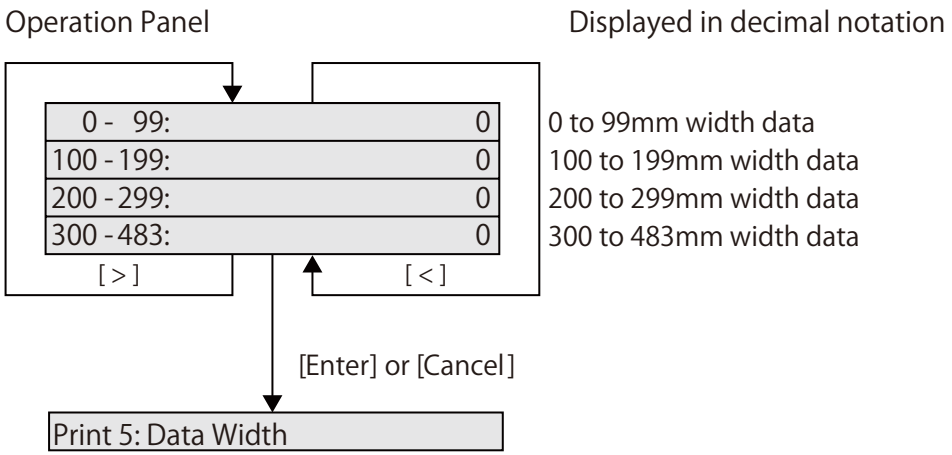
TIP

=>**History 4: Print Information**

CONFIDENTIAL

5.7.7.4.(6) Print 6: Data Width

Check the number of prints by data width.



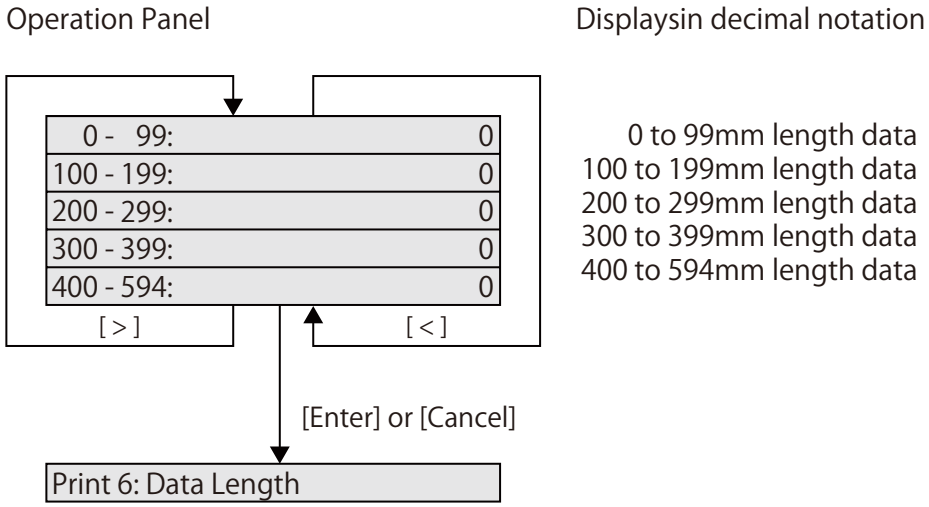
T I P

=>**History 4: Print Information**

CONFIDENTIAL

5.7.7.4.(7) Print 7: Data Length

Check the number of prints by data length.



T I P

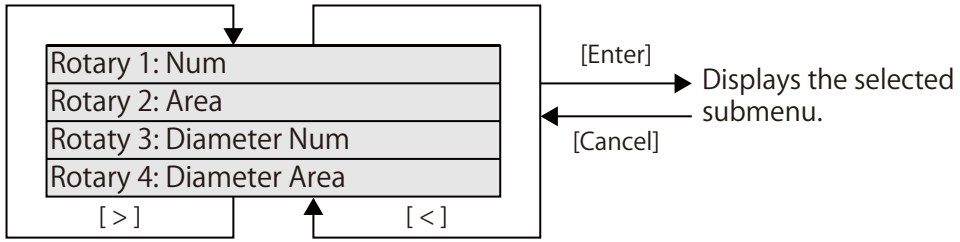
=>**History 4: Print Information**

CONFIDENTIAL

5.7.7.4.(8) Print 8: Rotaty Unit

Checks the number of pages printed and printed area per print mode and media diameter in Rotary Mode.

Operation Panel (Rotary Unit Print Information Menu)



Hierarchy #4	Hierarchy #5
Print 8: Rotaty Unit	**Rotary 1: Number of Prints by Print Mode** **Rotary 2: Printed Area by Print Mode** **Rotary 3: Number of Pages Printed per Media Diameter** **Rotary 4: Printed Area per Media Diameter**

T I P

=>**History 4: Print Information**

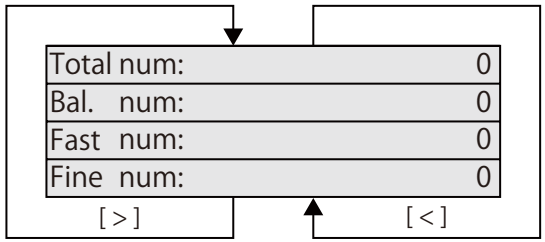
CONFIDENTIAL

5.7.7.4.(8-a) Rotary 1: Number of Prints by Print Mode

Checks the number of pages printed per print mode in Rotary Mode. Internal pattern prints are not included.

Operation Panel

Displays in decimal notation



In total
In Balanced print mode
In Fast print mode
In Fine print mode

Tap [Enter] or [Cancel] to go back to [Rotary Unit Print Information Menu]

TIP

=>**Print 8: Rotaty Unit**

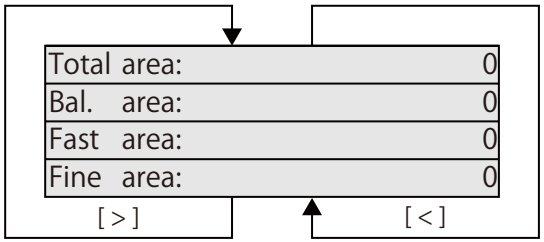
CONFIDENTIAL

5.7.7.4.(8-b) Rotary 2: Printed Area by Print Mode

Checks the total printed area per print mode in Rotary Mode. Internal pattern prints are not included.

Operation Panel

Displays in decimal notation



In total (m2)
In Balanced print mode (m2)
In Fast print mode (m2)
In Fine print mode (m2)

Tap [Enter] or [Cancel] to go back to [Rotary Unit Print Information Menu]

T I P

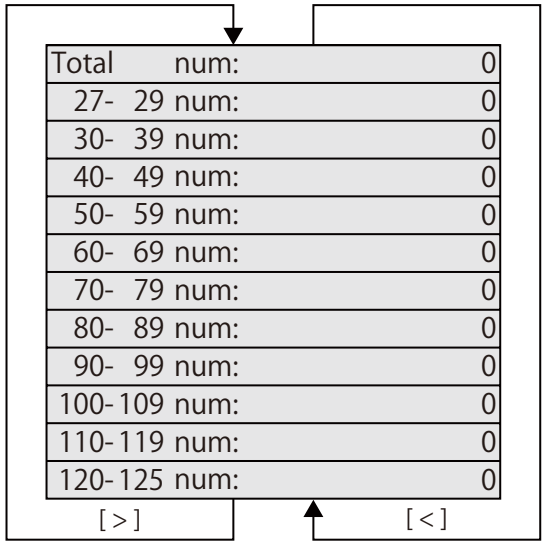
=>**Print 8: Rotaty Unit**

CONFIDENTIAL

5.7.7.4.(8-c) Rotary 3: Number of Pages Printed per Media Diameter

Checks the number of pages printed per media diameter (at 10-mm intervals) when using Rotary Mode. Internal pattern prints are not included.

Operation Panel



Displays in decimal notation

In total
27 to 29mm diameter media
30 to 39mm diameter media
40 to 49mm diameter media
50 to 59mmdiameter media
60 to 69mm diameter media
70 to 79mm diameter media
80 to 89mm diameter media
90 to 99mm diameter media
100 to 109mm diameter media
110 to 119mm diameter media
120 to 125mm diameter media

Tap [Enter] or [Cancel] to go back to [Rotary Unit Print Information Menu]

TIP

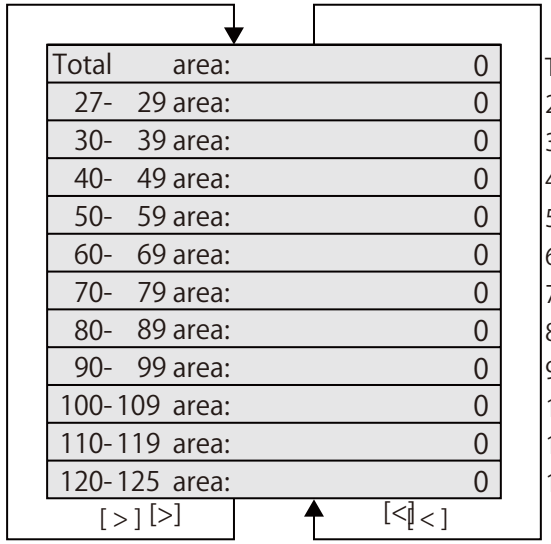
=>Print 8: Rotaty Unit

CONFIDENTIAL

5.7.7.4.(8-d) Rotary 4: Printed Area per Media Diameter

Checks the total printed area per media diameter (at 10-mm intervals) when using Rotary Unit. Internal pattern prints are not included.

Operation Panel



Displays in decimal notation

Total printed area (m2)
27 to 29mm diameter media (m2)
30 to39mm diameter media (m2)
40 to 49mm diameter media (m2)
50 to 59mm diameter media (m2)
60 to 69mm diameter media (m2)
70 to 79mm diameter media (m2)
80 to 89mm diameter media (m2)
90 to 99mm diameter media (m2)
100 to 109mm diameter media (m2)
110 to 119mm diameter media (m2)
120 to 125mm diameter media (m2)

Tap [Enter] or [Cancel] to go back to [Rotary Unit Print Information Menu]

T I P

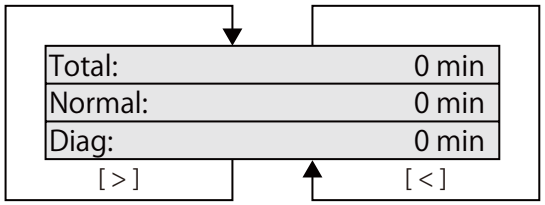
=>**Print 8: Rotaty Unit**

CONFIDENTIAL

5.7.7.5 History 5: Operation Time

Check the cumulative operating time by operation mode.

Operation Panel



Displayedin decimal notation

all operation modes
User mode
Self-diagnosis mode

Tap [Enter] or [Cancel] to go back to [History Check Menu]

T I P

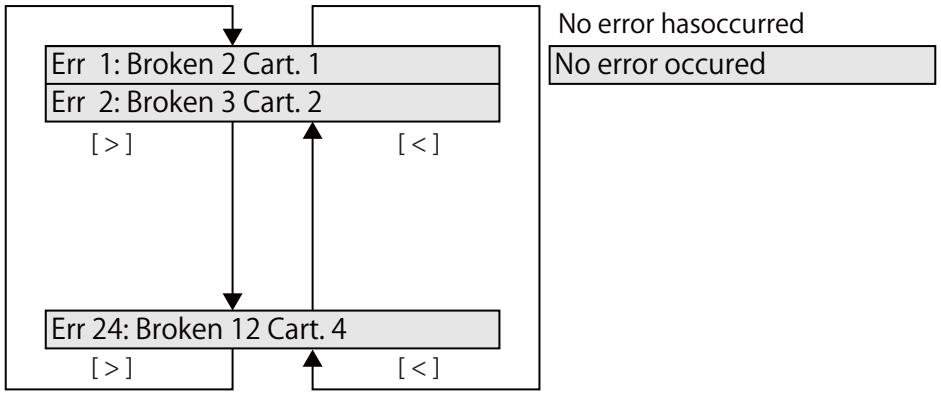
=>**Test 7: History**

CONFIDENTIAL

5.7.7.6 History 6: S/C Log

Check the smart chip log. Up to 24 records can be stored.

Operation Panel



Tap [Enter] or [Cancel] to go back to [History Check Menu]

T I P

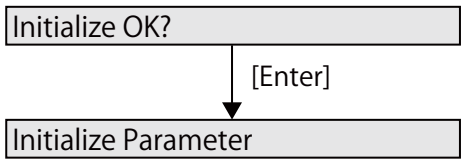
=>**Test 7: History**

CONFIDENTIAL

5.7.7.7 History 7: S/C Log Initialization

Initialize the smart chip log.

Operation Panel



If you tap [Enter] on [Record 7: S/C LogInit.], [Initialize OK?] will be displayed.
If you tap [Enter] then, [Initialize Parameter] will be displayed to reset the smart chip log.
If you tap [Cancel] on [Initialize OK?], [Untouched Param] will be displayed
to cancel the initialization.
Then the displaygoesback to [History Check Menu].

TIP

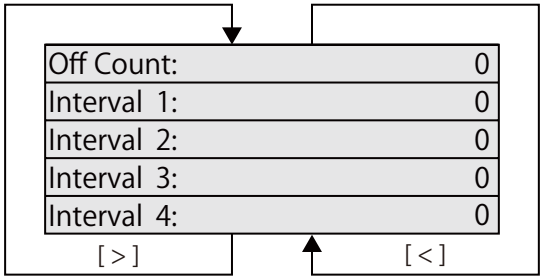
=>Test 7: History

CONFIDENTIAL

5.7.7.8 History 8: Power Off

Check the power off log.

Operation Panel



Displayedin decimal notation.

Number of times that the printer is powered off.

Time interval between power OFF and ON
(0 to 5 min)
(5 min to 1h)
(1h to 24h)
(over 24h)

Tap [Enter] or [Cancel] to go back to [History Check Menu]

T I P

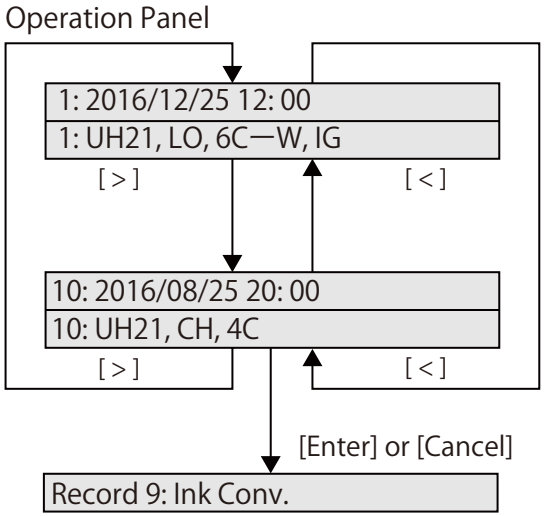
=>Test 7: History

CONFIDENTIAL

5.7.7.9 History 9: Ink Conversion Log

Check the ink conversion log. Up to 10 log records will be displayed.

Operation Panel



The most recent log up to 10 log will be displayed. If no record is stored, the message [No Data] will appear.
The record is composed of two messages:

[First Message]

Date and Time	Date and time that the head cleaning or ink charging was performed.

[Second Message]

Ink Type	UH21: UH21ink US11: US11 ink [----]: Non-Mutoh ink
Operation	CH: Ink charge LO: Head cleaning
Ink Color	4C: 4 colors 6C: 6 colors
White Ink	-W: White ink No characters: Color ink
Ignore	IG: Ignore No characters: S/C card

TIP

=>Test 7: History

CONFIDENTIAL

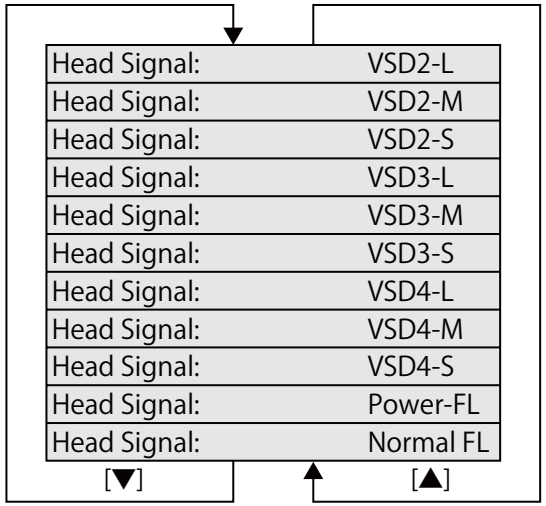
5.7.8 Test 8: Head Waveform

Check the head-driving waveforms.

TIP

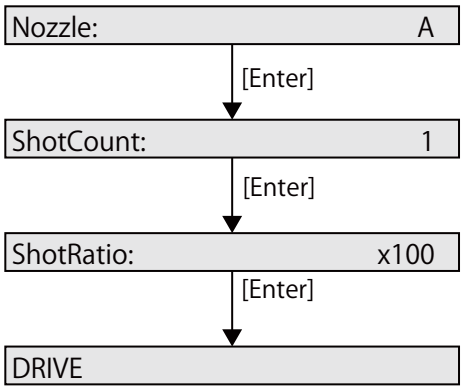
=>Check 1: Test

Operation Panel



* Use the [▲] or [▼] key to go to the next item.

After selecting the waveform, the display goes to the following menu.



Use the [▲] or [▼] key to change the setting.
(Select from A to H, or All).

Use the [▲] or [▼] key to change the value.
(Select from 1 to 655)

Use the [▲] or [▼] key to change the value.

Select the number that the shot count selected in the previousmenu is repeated.

x1
x100
x10000
x1000000

When you tap the Cancel key or this operation is completed, the display goes back to [Board Check Menu]

* While the message [DRIVE] is displayed on the panel, the Cancel key is disabled.

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5.7.9 Test 9: Time Check

Check the calendar on the main board. The calendar is managed by Real Time Clock (RTC).
MSA and the application for the manufacturing process are used for RTC setting.

Operation Panel



Tap [Enter] or [Cancel] to go back to “Board Check Menu ”.

TIP

=>Check 1: Test

CONFIDENTIAL

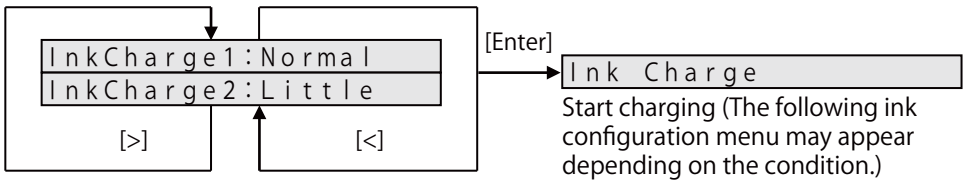
5.8 Check 2: Ink Charge

This menu allows you to perform ink charging.
The ink charge menu includes the following items.

Charge Items

Item	Content
Initial Charge	Execute the initial ink charging.
Little Charge	Execute asmall amount of ink charging.

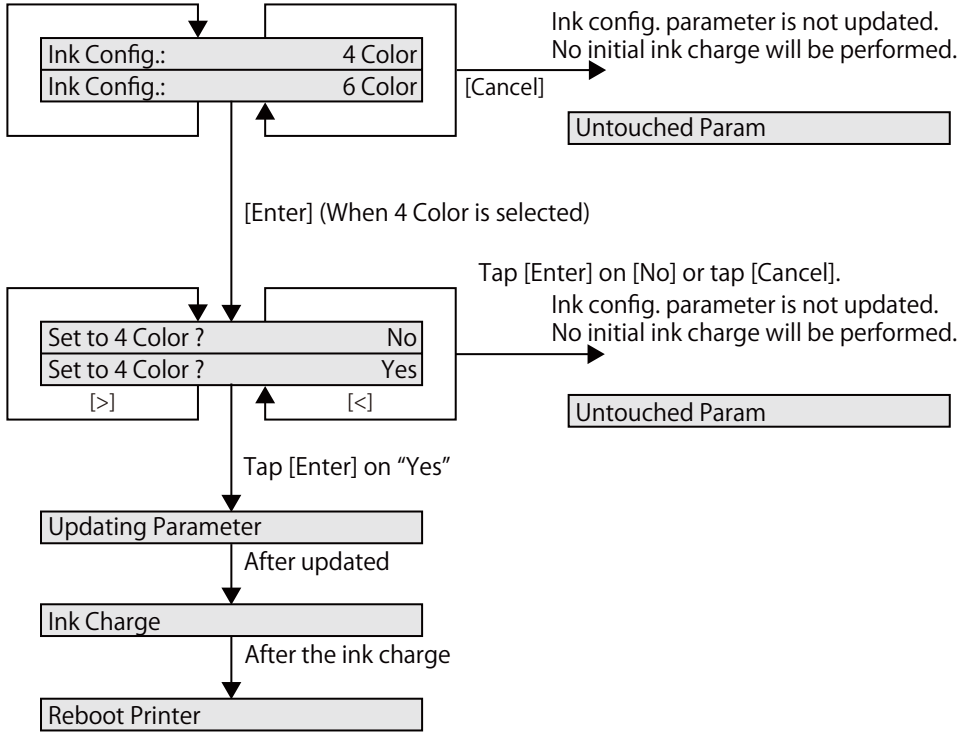
Operation Panel (Ink Charge Menu)



Start charging (The following ink configuration menu may appear depending on the condition.)

The Normal menu performs initial ink charging.
The Little menu fills a small amount of ink into the printer.
Once ink charging is complete, the display goes back to “Ink Charge Menu”.

In the initial charging, the following menu appears to specify ink configuration if ink has not been charged in the printer and the ink configuration parameter has not been specified yet. After the ink configuration parameter is updated, the initial ink charging will automatically start.
When the ink configuration setting has been changed, a reboot request message will appear after ink charging (to change the memory setting).



To reboot the printer, see “Turning on the printer”.

=>Turning on the printer

TIP

=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.9 Check 3: Adjustment

Perform the mechanical adjustment (head slant) and firmware parameter adjustment. The adjustment items are shown in Table 4-1. In a manufacturing process, every item (except for the send pitch check, fill pattern check and ink discharge) is adjusted. When the head is replaced, the head cleaning (turn the power off to replace the head after the cleaning is completed), head nozzle check, UniD adjustment, BiD adjustment, margin adjustment and test pattern printing are performed. If the dot placement becomes less precise after the head replacement, BiD adjustment should be performed.

Adjustment Items

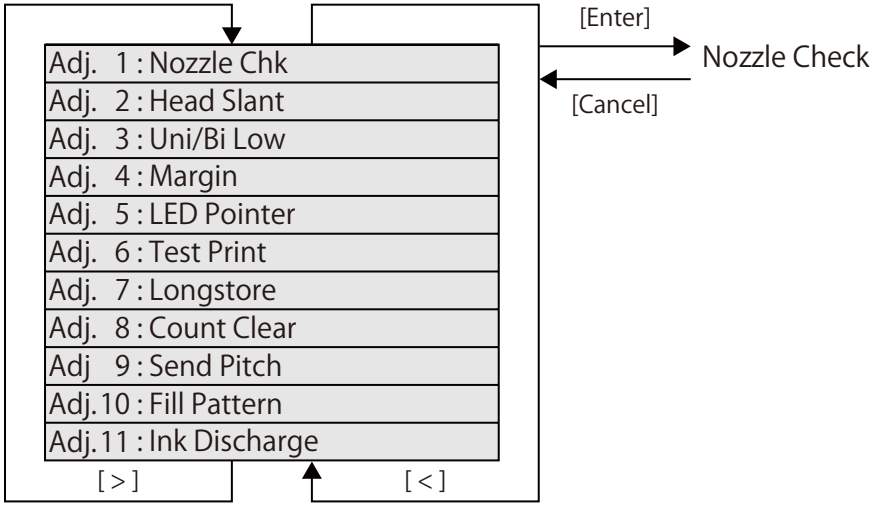
Item	Content
Head Nozzle Check	Run a nozzle check print to check for nozzle condition.
Head Slant Check	Perform a print to check the head slant (relative to CR moving axis/table) (mechanical adjustment)
UniD/BiD Adjustment Low	Perform a print with the head height Low, and calibrate dot placement between heads / nozzle rows (Uni-D), dot placement in bi-directional printing (Bi-D). UniD 320 VSD2: 320cps VSD2 UniD 320 VSD3: 320cps VSD3 UniD 320 VSD4: 320cps VSD4 BiD 320 VSD2: 320cps VSD2 BiD 320 VSD3: 320cps VSD3 BiD ALL: all Bi-D items
Margin Adjustment	Adjust top and side margins
LED Pointer Adjustment	Adjust the LED pointer position
Test Pattern Printing	Print the adjustment patterns, adjustment parameters, system error history, smart chip log and maintenance log.
Longstore	Clean the ink line tube and head with cleaningliquid
Counter Clear	Clear various software counters
Send Pitch Check	Check the distance to feedmediabetween print head passes.
Fill PatternCheck	Check the fill pattern printing (ink color, nozzle row, and print direction can be selected)
Ink Discharge	Remove ink cartridges and discharge inks.

Hierarchy #2	Hierarchy #3
Adjustment 1: Head Nozzle Check	
Adjustment 2: Head Slant Check	**Head Slant: Head Slant 1**
	Head Slant: Head Slant 2
Adjustment 3: UniD/BiD, Low Adjustment	**Print (Print 1, Print 2, Print 3)**
	Setup (UniD)
	Setup (BiD)
	Setup (BiD ALL)
	Print Pattern (Print)
	Print Patten (Print 1)
	Print Pattern (Print 2)
	Print Pattern (Print 3)
Adjustment 4: Margin Adjustment	
Adjustment 5: LED Pointer	
Adjustment 6: Test Printing	
Adjustment 7: Longstore	
Adjustment 8: Software Counter Initialization	
Adjustment 9: Send Pitch Check	
Adjustment 10: Fill Pattern Check	
Adjustment 11: Ink Discharge	

See next page for panel chart.

CONFIDENTIAL

Operation Panel (Adjustment Menu)



TIP

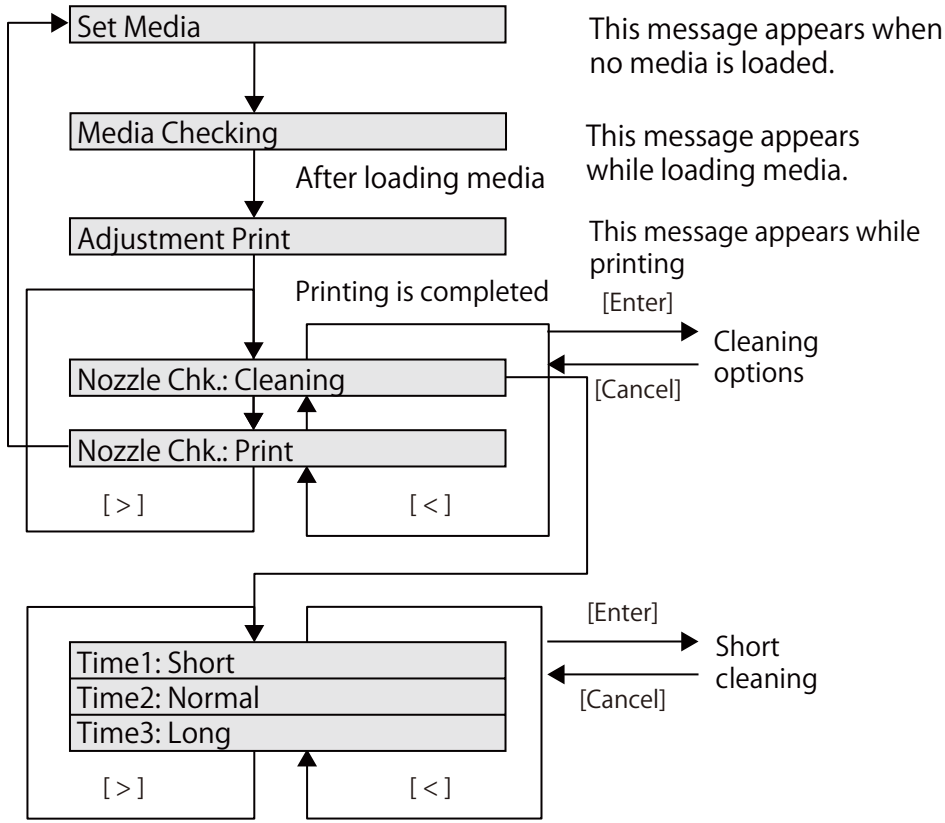
=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.9.1 Adjustment 1: Head Nozzle Check

Once ink charging is complete, use this menu to run the nozzle check print to check that all nozzles fire ink properly. If any nozzles are missing, go to 'NozzleChk: Cleaning' to perform cleaning. If no media or ink cartridge is loaded, the printer request to load it. Once installed, it prints the nozzle check pattern.
Note: The printer requests to load media or ink cartridge when needed.

Operation Panel



Choose the cleaning mode, then tap [Enter]. The message below will appear.

Cleaning

Oncethe cleaning is complete,
the printer automatically prints the nozzle check pattern.

Tap [Cancel] to go to "Adjustment Menu".

See next page for Head nozzle check pattern

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Head Nozzle Check Pattern

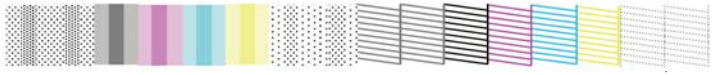
Items to check	Ink firing performance (missing, partially missing, misaligned, satellite) Timing fence Nozzle alignment in vertical direction Nozzle alignment in horizontal direction
Print mode	1 pass, UniD CR: 360 dpi, PF: 360 dpi 320CPS, VSD3, Large
Pattern	The color on the pattern varies by ink configuration on the printer.

<4-color configuration>



Nozzle	H	G+H	G	F	E+F	E	D	C+D	C	B	A+B	A	H	G	F	E	D	C	B	A
Color	K	K	K	M	M	M	C	C	C	Y	Y	Y	K	K	M	M	C	C	Y	Y

<6-color configuration>



Nozzle	H	G	F	E	D	C	B	A	H	G	F	E	D	C	B	A
Color	Va	Va	K	M	C	Y	Wh	Wh	Va	Va	K	M	C	Y	Wh	Wh

TIP

=>**Check 3: Adjustment**

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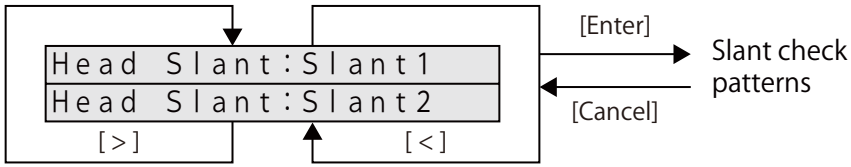
5.9.2 Adjustment 2: Head Slant Check

The I9472 print head consists of 8 nozzle rows per head. Use this menu to print the adjustment pattern to check the dot placement alignment, If misalignment is found, calibrate the print head angle and twist.

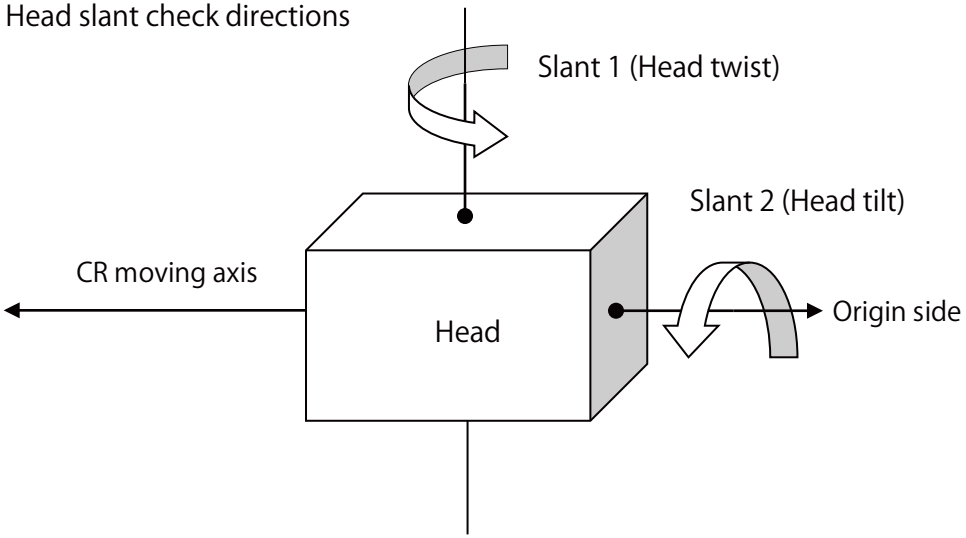
Head Slant Items

Item	Content
Slant 1	Head slant check (check head twist)
Slant 2	Head slant check (check head tilt)

Operation Panel (Head Slant Check Menu)



Head slant check directions



Hierarchy #3	
Head Slant: Head Slant 1	1. Head twist adjustment pattern 2. Head tilt adjustment pattern 3.Pattern Details (Head tilt adjustment pattern)
Head Slant: Head Slant 2	Pattern 1 Pattern 2

TIP

=>**Check 3: Adjustment**

CONFIDENTIAL

5.9.2.1 Head Slant: Head Slant 1

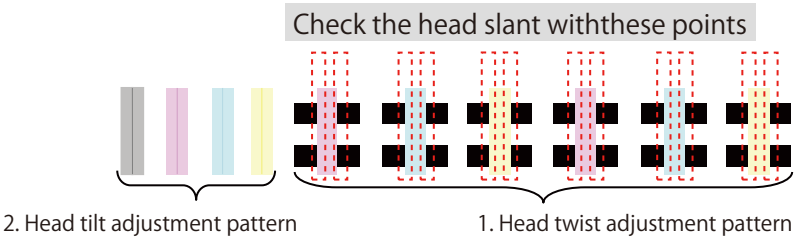
Operation Panel

Adjustment Print

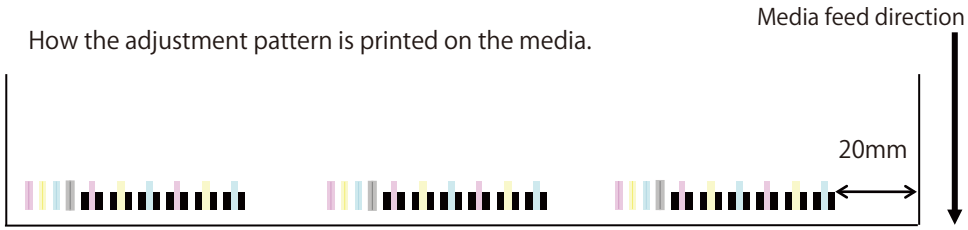
When printing is canceled or completed, the menu goes back to “Head Slant Check Menu”.

Item to check	Head slant 1 (head twist, head tilt)
Print mode	1 pass, UniD/BiD CR: 360 dpi, PF: 360 dpi
Slant 1	320cps, VSD2, Small
Slant 2	320cps, VSD2, Small
Pattern	The color on the pattern varies by ink configuration on the printer.

Slant check pattern for 4-color configuration



How the adjustment pattern is printed on the media.



1. Head twist adjustment pattern

4-color config.:
A sample is printed in the CW direction from the media origin side in the combination of nozzle G and A, G and C, G and E, H and B, H and D and H and F.

6-color config.:
A sample is printed in the CW direction from the media origin side in the combination of nozzle E and A, E and C, F and B, F and D.

2. Head tilt adjustment pattern

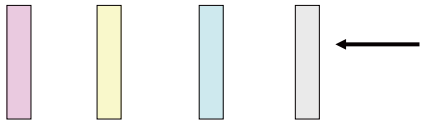
4/6-color config.:
A sample is printed in the CW and CCW directions from the media origin side in the order of nozzle A, C, E and G.

*Note: The patterns 1 and 2 are printed on the full width of the media (up to 3 places).

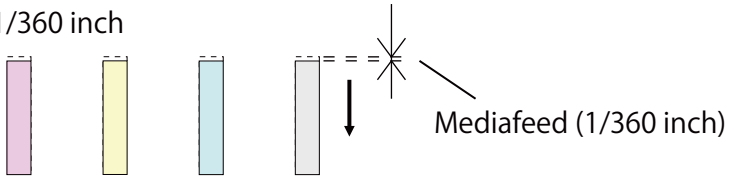
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3.Pattern Details (Head tilt adjustment pattern)

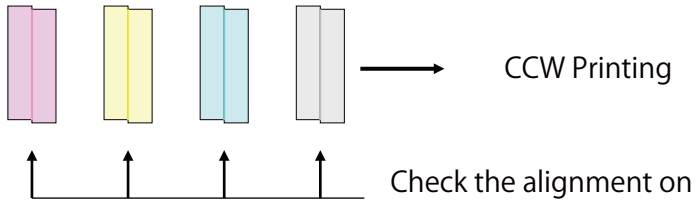
i) Printblock patterns in the CW direction with nozzle A, C, Eand G.



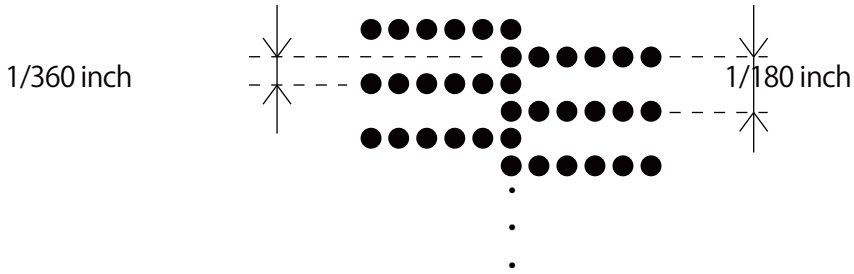
ii) Feed media by 1/360 inch



iii) Print block patterns in the CCW direction with nozzle A, C, E and G so as to superpose the patterns printed in i) by the width of one dot.

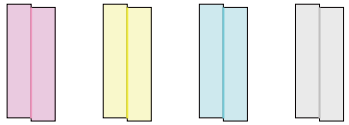


Enlarged connected point (Black block pattern)

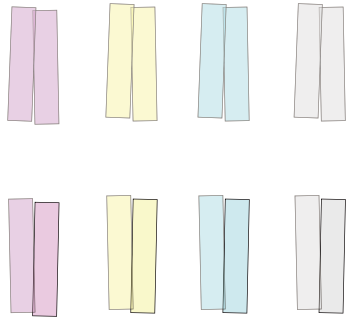


Adjusting Method:
Calibrate the head tilt to align the connected point of two blocks

Good



Poor



TIP

=>**Adjustment 2: Head Slant Check**

CONFIDENTIAL

5.9.2.2 Head Slant: Head Slant 2

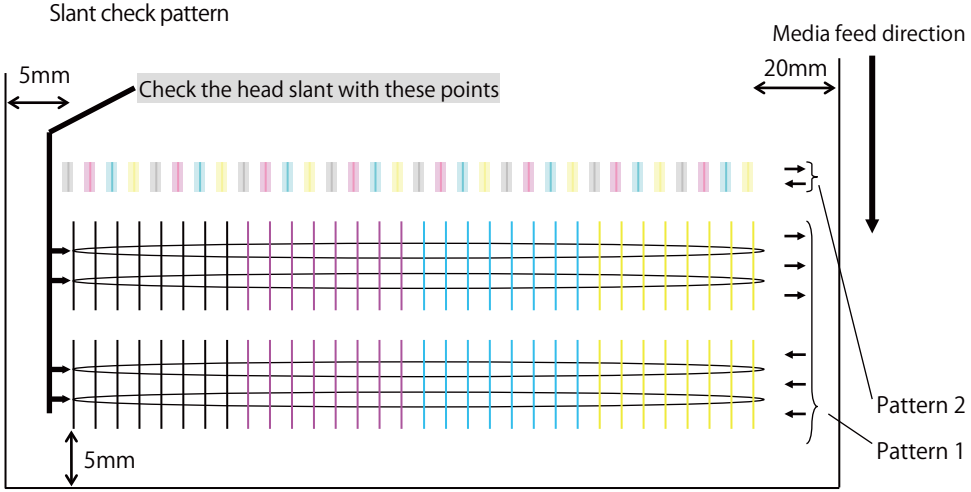
Operation Panel

Adjustment Print

When printing is completed, the menu goes back to "Head Slant Check Menu".

Item to check	Head Slant 2 (head tilt)
Print mode	1 pass, UniD/BiD CR: 360 dpi, PF: 360 dpi
Block adjustment pattern	320cps, VSD2, Small
Vertical lines adjustment pattern	320cps, VSD4, Large
Pattern	The color on the pattern varies by ink configuration on the printer.

Slant check pattern



Pattern 1

4/6-color config.:
Pattern 1 is printed from the origin side of the media in order from the nozzle A to H rows.

Pattern 2

4-color config.:
Pattern 2 is printed in CW/CCW directions from the origin side of the media in order of the nozzle A, C, E and G.

6-color config.:
Pattern 2 is printed in CW/CCW directions from the origin side of the media in order from the nozzle A to H rows.

See the previous page for more details on patterns 2.

*Note: Above patterns are an example of printing in 4-color config.
In 6-color config., the patterns will be printed according to the ink color of nozzles.

TIP

=>**Adjustment 2: Head Slant Check**

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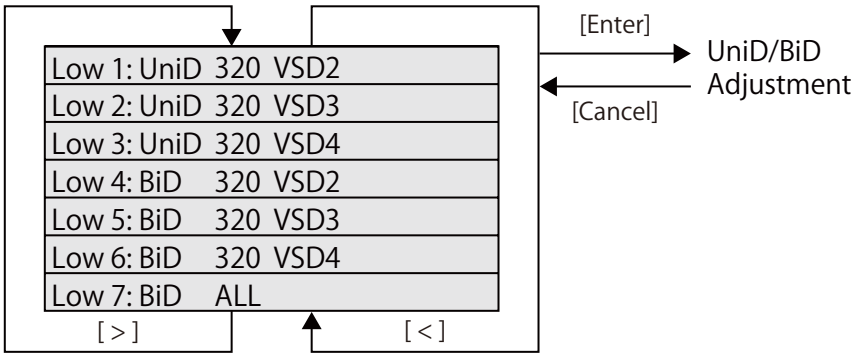
5.9.3 Adjustment 3: UniD/BiD, Low Adjustment

This menu is used to align dot placement for Uni-directional or Bi-directional printing.
For the UniD adjustment, after the pattern is printed in CW direction, check the result and enter the value to align dot placement of each nozzle row.
For the BiD adjustment, after pattern is printed in both CW/CCW direction, check the result and enter the value to align dot placement between the CW and CCW direction. Due to the characteristics of IA5540 head, only one BiD adjustment entry is available. The pattern printing is performed by E row only (Magenta, odd-numbered nozzle). The same parameter value will be applied to all nozzle rows.

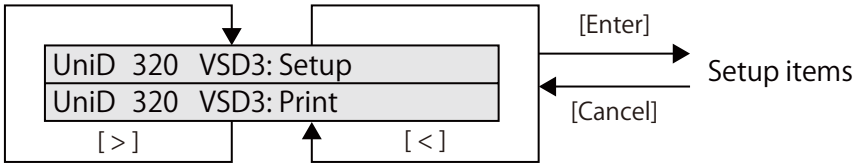
UniD/BiD Adjustment Type

Item	Content
UniD 320 VSD2	UniD adjustment for 320cps, VSD2
UniD 320 VSD3	UniD adjustment for 320cps, VSD3
UniD 320 VSD4	UniD adjustment for 320cps, VSD4
BiD 320 VSD2	BiD adjustment for 320cps, VSD2
BiD 320 VSD3	BiD adjustment for 320cps, VSD3
BiD 320 VSD4	BiD adjustment for 320cps, VSD4
BiD ALL	All adjustment for BiD

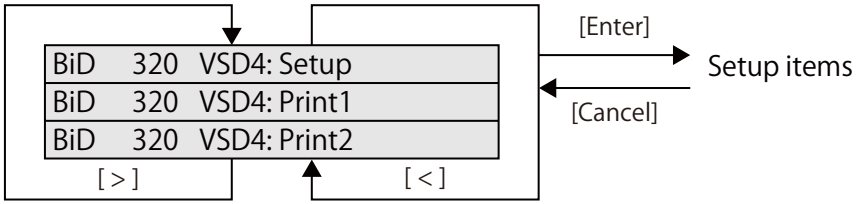
Operation Panel (UniD/BiD Adjustment Menu)



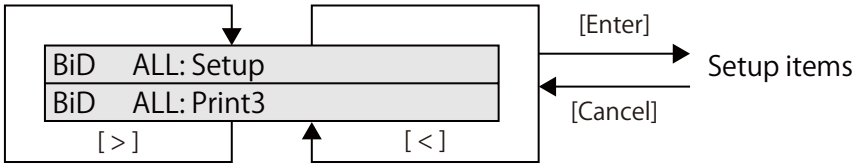
[Enter] (When UniD 320 VSD3 is selected)



[Enter] (When BiD 320 VSD4 is selected)



[Enter] (When BiD ALL is selected)



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UniD/BiD Adjustment Detail

UniD/BiD Adjustment Menu

Item	Content
Setup	Specify the parameter onthe selecteditem from above table.
Print (Only if UniD is selected)	Print the patterns of the selected itemfrom above table with the current parametersettings.
Print1 (Only if BiD is selected)	Print the patterns of the selected item from above table with the current parameter setting and the patterns adding ±2, 4, 6 and 8 to the current parameter setting. (Single vertical line is sequentially printed ineach parameter.) Check the current misalignment between the CW and CCW.
Print2 (Only if BiD is selected)	Print the patterns of the selected item from above table with the current parameter settings.
Print3 (Only if BiD ALL is selected)	Print all Bi Dpatterns with the current parameter settings.

Hierarchy #4	Hierarchy #5
Setup	**Setup (UniD)** **Setup (BiD)** **Setup (BiD ALL)**
Print	**Print (Print 1, Print 2, Print 3)** **Print Pattern (Print)**
Print1	**Print (Print 1, Print 2, Print 3)** **Print Patten (Print 1)**
Print2	**Print (Print 1, Print 2, Print 3)** **Print Pattern (Print 2)**
Print3	**Print (Print 1, Print 2, Print 3)** **Print Pattern (Print 3)**

TIP

=>**Adjustment 3: UniD/BiD, Low Adjustment**

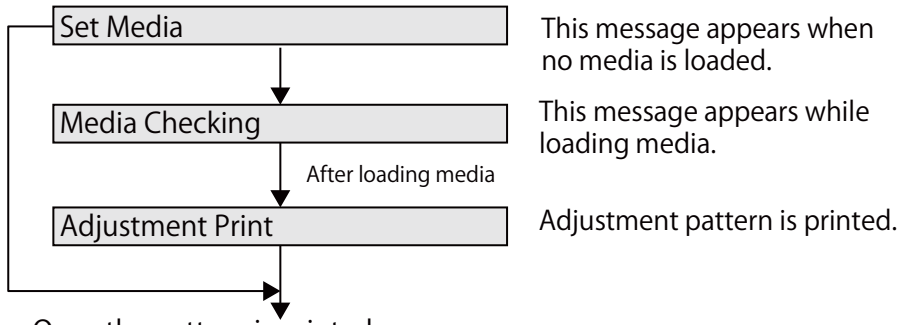
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5.9.3.1 Print (Print 1, Print 2, Print 3)

* The panel display is common for UniD and BiD.

Operation Panel

Tap [Cancel] to go back to "UniD/BiD Adjustment Menu".

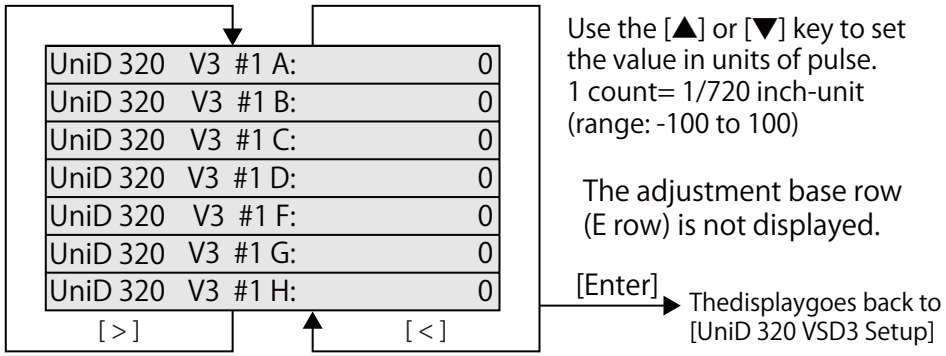


Once the pattern is printed,
the display goes back to "UniD/BiD Adjustment Menu".

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5.9.3.2 Setup (UniD)

Operation Panel (UniD320 VSD3)



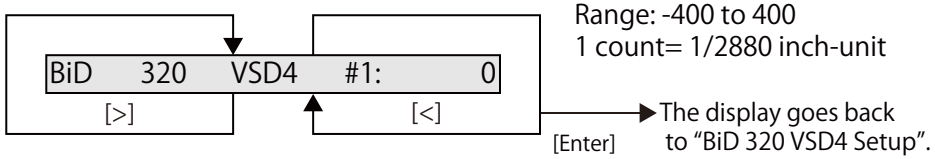
TIP

=>UniD/BiD Adjustment Detail

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5.9.3.3 Setup (BiD)

Operation Panel (BiD320 VSD4)



Use the [▲] or [▼]keyto set the value in units of pulse
Range: -400 to 400
1 count= 1/2880 inch-unit

Tap [Enter] to update the parameter.

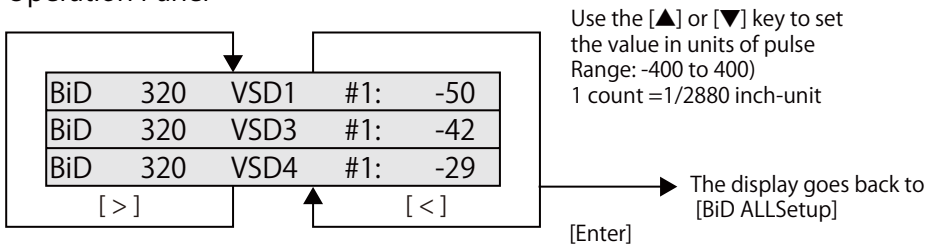
TIP

=>**UniD/BiD Adjustment Detail**

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5.9.3.4 Setup (BiD ALL)

Operation Panel



Tap [Enter] to update the parameter.

TIP

=>**UniD/BiD Adjustment Detail**

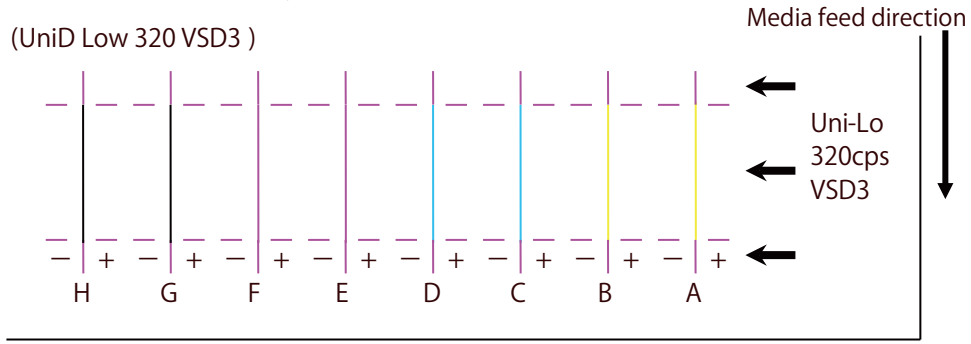
CONFIDENTIAL

5.9.3.5 Print Pattern (Print)

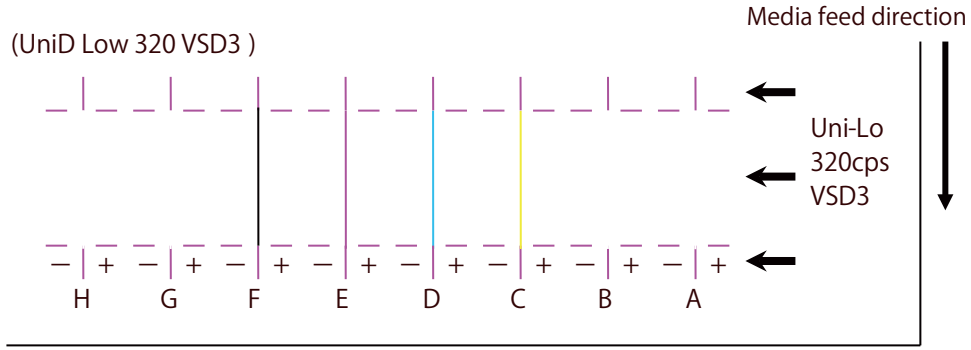
* If “Type B” is selected from Parameter > Uni/Bi Pattern, the block and line pattern will be printed. See **Update 11: Uni/Bi Pattern** for details on the Type B print pattern.
* To change the print pattern, see **Appendix A. Uni/Bi Type B Print Pattern**.

Item to adjust	Uni-direction printing
Print mode	UniD, Selected print speed and dot family, Medium dot
Pattern	See below for the details.

The base line is printed by the nozzle E row (Magenta) for 4-color configuration.



The base line is printed by the nozzle E row (Magenta) for 6-color configuration.



<Print Information>
Depending on the selected pattern, the following information will be printed next to the pattern.
Menu Name:Pattern Information (Direction / Head Height / CR Speed / Head Waveform)

UniD320 VSD2: Uni-Lo 320cps VSD2
UniD320 VSD3: Uni-Lo 320cps VSD3
UniD320 VSD4: Uni-Lo 320cps VSD4

TIP

=>**UniD/BiD Adjustment Detail**

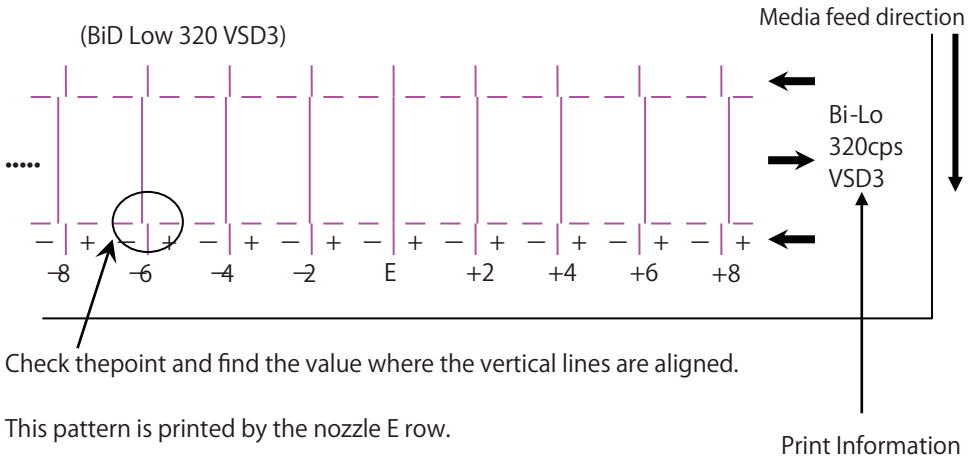
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5.9.3.6 Print Patten (Print 1)

Item to adjust Bi-direction printing

Print mode BiD, Selected print speed and dot family, Medium dot

The base line is printed bythe nozzle E row (Magenta).



<Print Information>
Depending on the selected pattern, the following information will be printed next to the pattern.
Menu Name:Pattern Information (Direction / Head Height / CR Speed / Head Waveform)

BiD320 VSD2: Bi-Lo 320cps VSD2
BiD320 VSD3: Bi-Lo 320cps VSD3
BiD320 VSD4: Bi-Lo 320cps VSD4

TIP

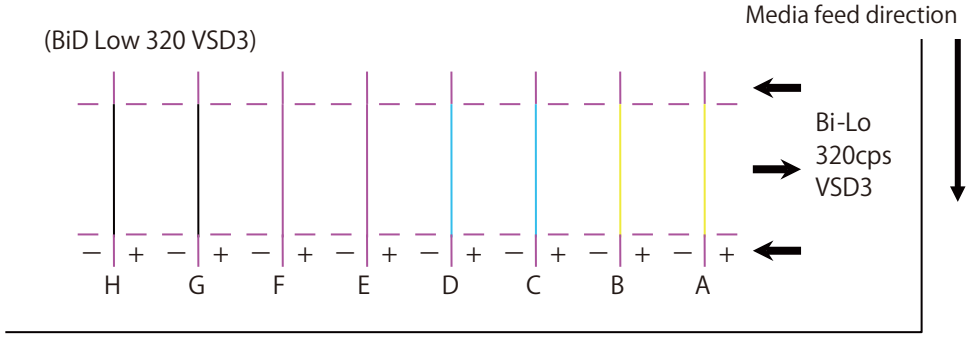
=>UniD/BiD Adjustment Detail

CONFIDENTIAL

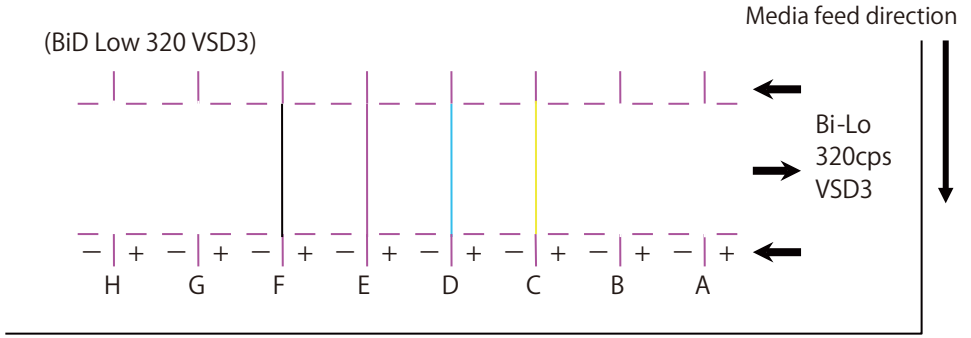
5.9.3.7 Print Pattern (Print 2)

Item to adjust Bi-direction printing
Print mode BiD, Print speed and dot family according to the selected item, Medium dot
Pattern See below for the details.

The base line is printed bythe nozzle E row (Magenta) for 4-color configuration.



The base line is printed bythe nozzle E row (Magenta) for 6-color configuration.



<Print Information>
Depending on the selected pattern, the following information will be printed next to the pattern.
Menu Name:Pattern Information (Direction / Head Height / CR Speed / Head Waveform)

BiD320 VSD2: Bi-Lo 320cps VSD2
BiD320 VSD3: Bi-Lo 320cps VSD3
BiD320 VSD4: Bi-Lo 320cps VSD4

TIP

=>UniD/BiD Adjustment Detail

CONFIDENTIAL

5.9.3.8 Print Pattern (Print 3)

Item to adjust Bi-direction printing
Print mode BiD, Print speed and dot family according to the selected item, Medium dot

Print the Bi-D adjustment pattern of Print 2 in all possible combination of print speed and waveform for the selected head height in one page.
See **Print Pattern (Print 2)** for more details on the adjustment pattern.

Print item list:

<Print Information>
The following information will be printed next to the pattern.
Menu Name:Pattern Information (Direction / Head Height / CR Speed / Head Waveform)

BiD320 VSD2: Bi-Lo 320cps VSD2
BiD320 VSD3: Bi-Lo 320cps VSD3
BiD320 VSD4: Bi-Lo 320cps VSD4

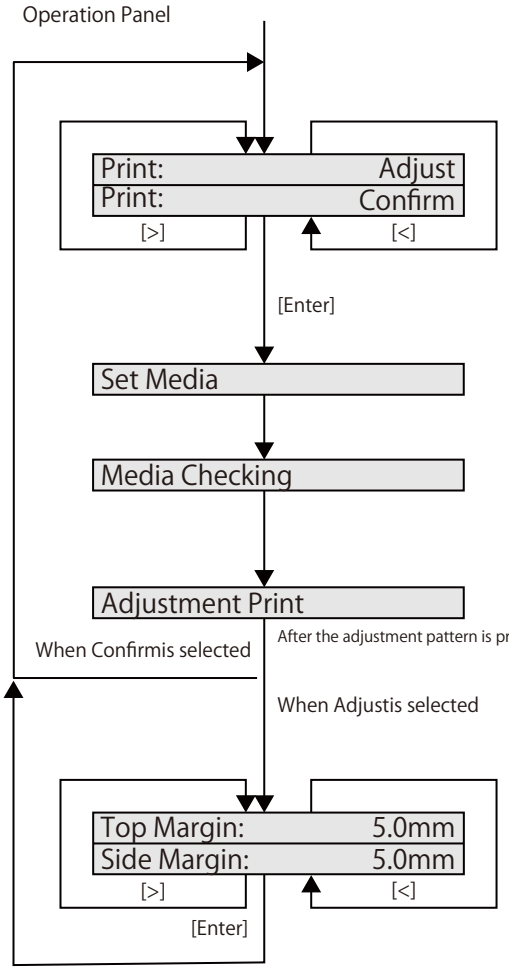
TIP

=>**UniD/BiD Adjustment Detail**

CONFIDENTIAL

5.9.4 Adjustment 4: Margin Adjustment

Use this function to calibrate the print start position from the guide lines.
Even if the lower right corner of paper is aligned with the guide lines, the printer may not precisely leave the margin in top, side or bottom. Use this function to calibrate the print start position.



Adjust
Reset the currentmargin adjustment parameter and print the margin adjustment pattern. Then measure the top and side margins on the print and enter the actual measured top and side margins.

Confirm
Print the margin adjustment pattern using the current margin adjustment parameter (*unable to enter value).

This message appears when no media is loaded.

This message appears while loading media.

This message appears while printing the adjustment pattern.

Usethe[▲] or [▼]key to enter the actual measured value in 0.1mm increments.
Top margin: 0.0 to 10.0 mm
Side margin: 0.0 to 10.0 mm

Tap[Cancel]to go back to the previous menu.

Tap [Enter]on “Side Margin: xxmm”tosave the values and go back to “Adj.4: Margin” menu.

*In factory default, top and side marginsareset to 5.0mmeach.
*Tap[Cancel]to go back to “AdjustmentMenu”.

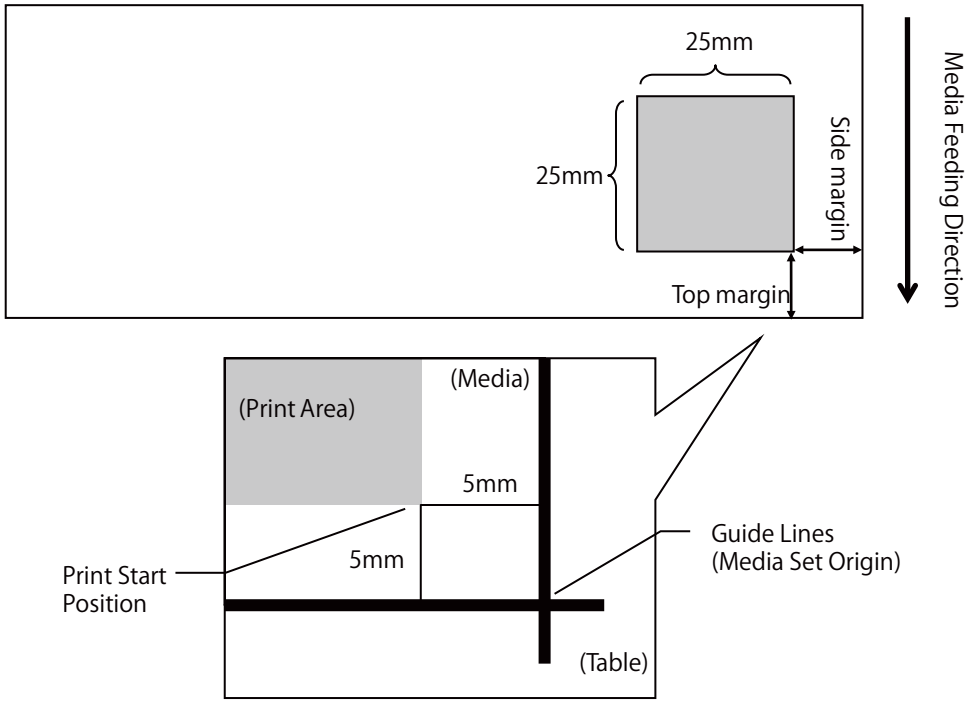
See next page for Margin Adjustment Patter

CONFIDENTIAL

5.9.4.1 Margin Adjustment Pattern

Adjustment item Top margin (print start position in PF direction)
Side margin (print start position in CR direction)

Printing condition Black 1 pass, UniD 360dpi, 320cps, VSD4, Large
When Confirm is selected,
the pattern will be printed with Magenta.

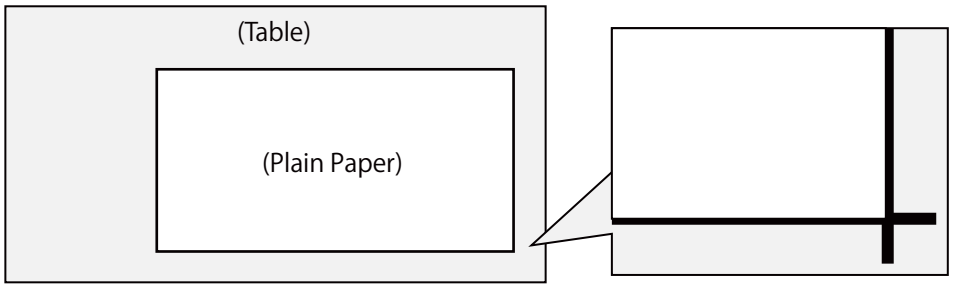


*Measure the top and side margins on the printed patternas shown above,
and then enter the measured value respectively.

See next page for Media Loading Position

CONFIDENTIAL

5.9.4.2 Media Loading Position



Align the lower right corner of paper with the intersection point of guide lines in the center.

T I P

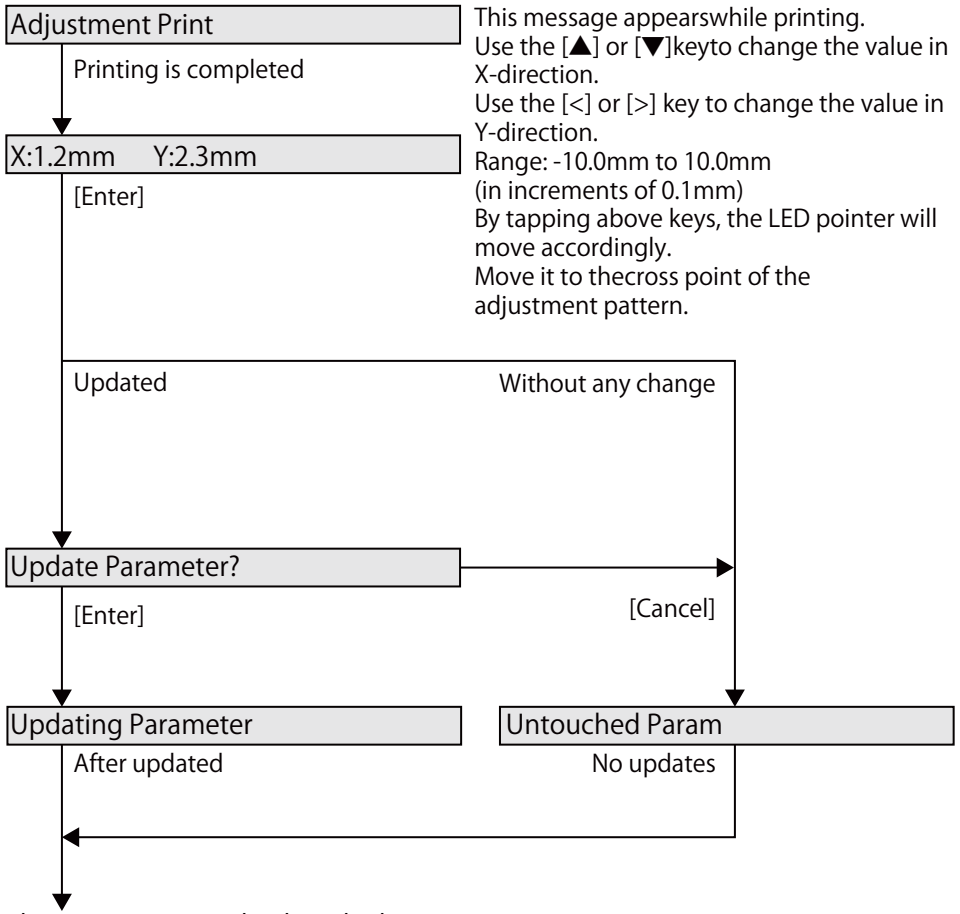
=>**Check 3: Adjustment**

CONFIDENTIAL

5.9.5 Adjustment 5: LED Pointer

Calibrate the position of LED Pointer.

Operation Panel



The carriage moves back to the homeposition.
Exit the menu
The displaygoes backto [Adjustment Menu]

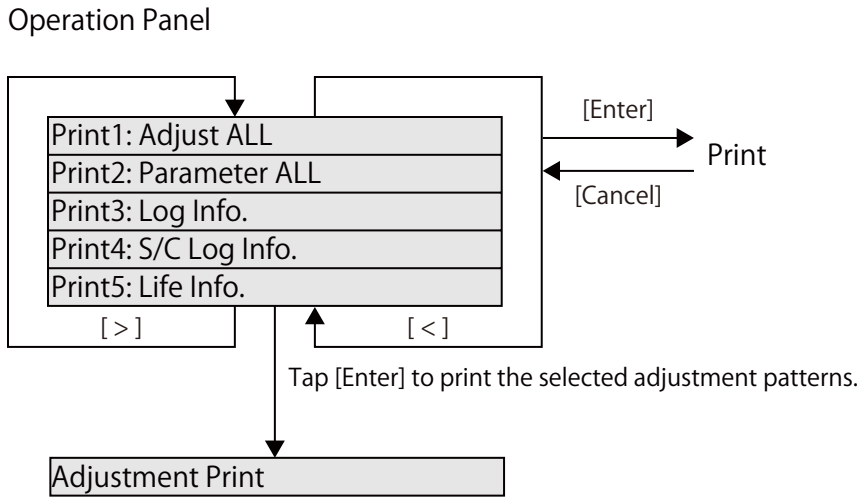
TIP

=>Check 3: Adjustment

CONFIDENTIAL

5.9.6 Adjustment 6: Test Printing

Run the selected test printing for check.



* See [Test Printing] for more details =>**Check 5: Print**

Onceprinting is complete, the displaygoes back to [Adjustment Menu] =>**Check 3: Adjustment**

T I P

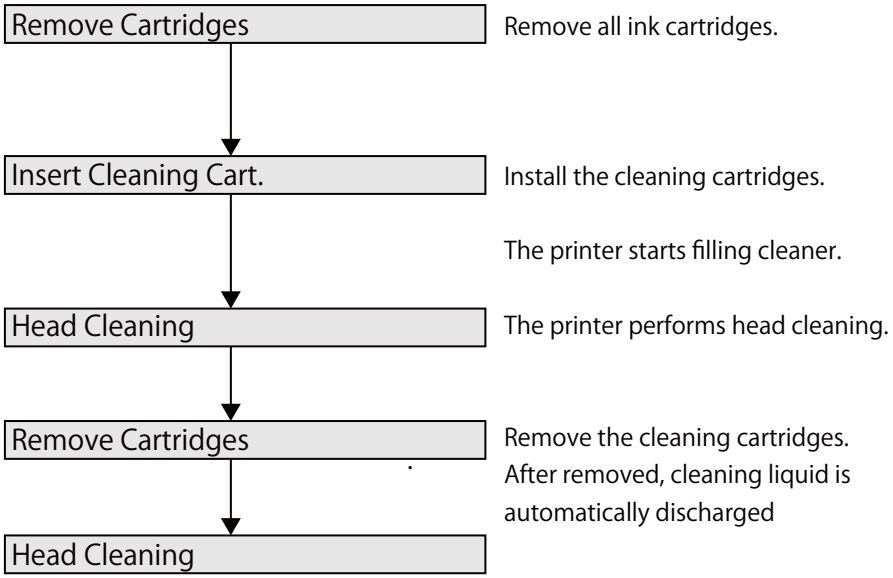
=>**Check 3: Adjustment**

CONFIDENTIAL

5.9.7 Adjustment 7: Longstore

Use this menu to clean the print head and ink lines before the print head replacement or at the end of the production.
Once the Longstore is complete, the ink configuration setting is reset to default (Auto)
=>**Update 8: Ink Configuration**

Operation Panel



Once cleaning is complete, the displaygoes backto [Adjustment Menu]

T I P

=>**Check 3: Adjustment**

CONFIDENTIAL

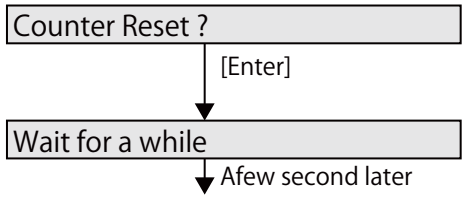
5.9.8 Adjustment 8: Software Counter Initialization

Reset the following software counter.
Make sure to perform this menu before shipping this product.

Counters to be initialized

Counter	Initial Value
Cumulative printing timer	0
Ink consumption (per cartridge)	0
The amount of ink in the cap	0
Waste ink amount counter	0
User charge flag	0
Not-filled flag	1
User initial start-up flag	1
User type initial selection flag	0xFFFFFFFF
Count to indicate replacement of 1L adapter plug	0
Debug Bit	0
Dot Control	OFF
UV Lamp	On
UV Lamp lighting direction	AUTO
UV Lamp Illuminance	100
The number of power-off	0
Time interval between power OFF and ON	0
Daily log(printer on-off state)	0x110101...
Daily log (daily maintenance)	0x110000...
Daily log (print head temperature)	0x110101...

Operation Panel



Tap [Enter] to reset the counter.
Tap[Cancel] to cancel the initialization.

When initialization is completed, the display goes back to "Adjustment Menu."

TIP

=>Check 3: Adjustment

CONFIDENTIAL

5.9.9 Adjustment 9: Send Pitch Check

Check if there is any error in the feeding amount per swath.

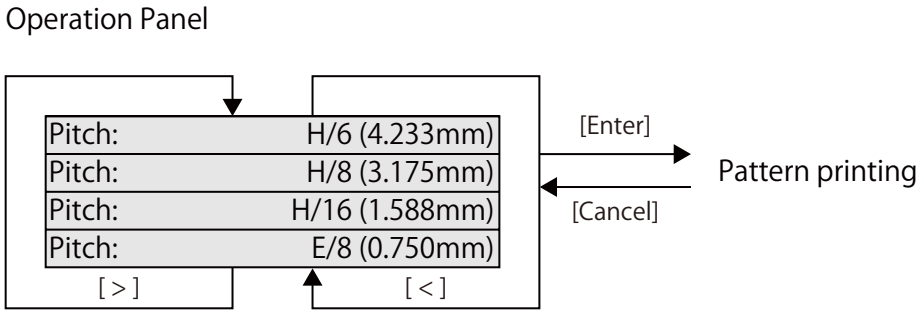
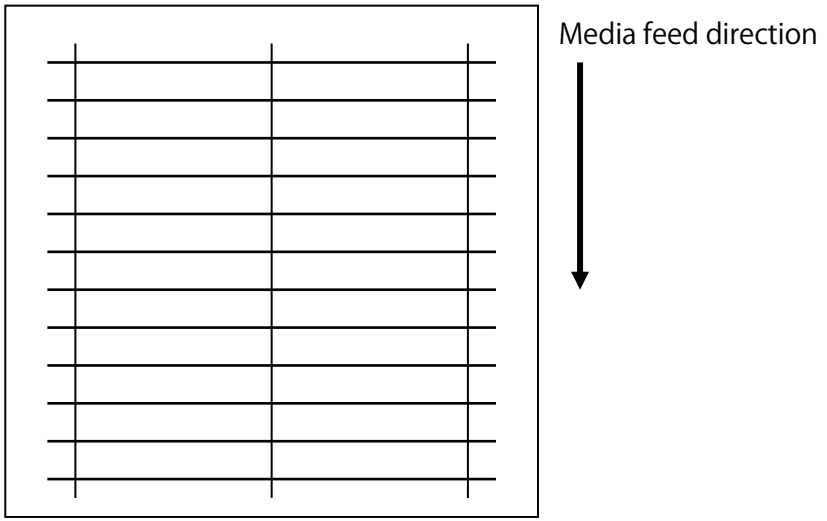


Table feed amount of H/6 (4.233mm) = table moving distance for one-sixth (1/6) of the print head length.
Print head length 25.4 mm / 6 = 4.233 mm

Table feed amount of E/8 (0.750mm) = table moving distance for one-eighth (1/8) of encoder diameter.
Encoder diameter 6 mm / 8 = 0.750 mm

Adjustment pattern
Item to adjust: distance to feed the media per swath
Print mode: 320 cps, VSD4, Large



The printer prints this patternfor approximately 590mm.
When printing is completed, the display goes back to “Adjustment Menu”.

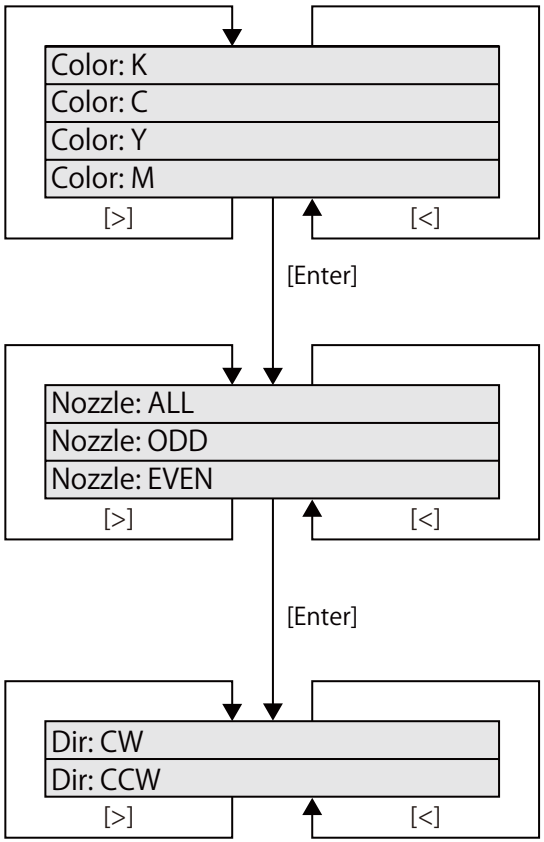
TIP

=>Check 3: Adjustment

CONFIDENTIAL

5.9.10 Adjustment 10: Fill Pattern Check

Check the accuracy of fill pattern printing.

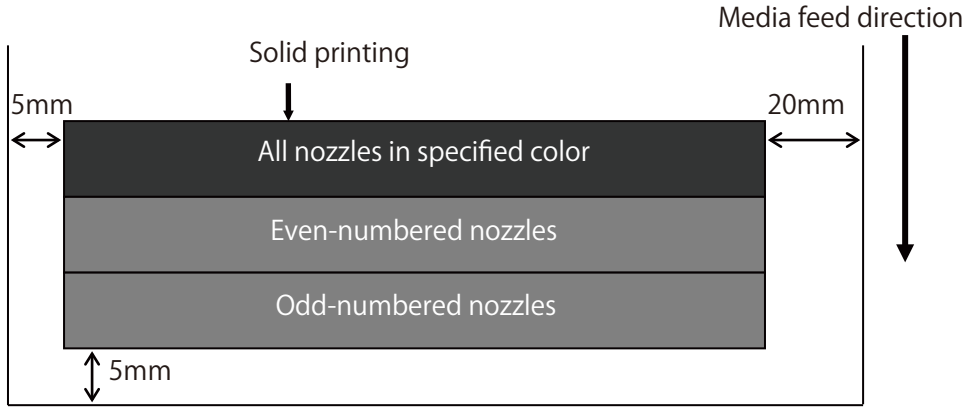


Select a color to check

Select nozzlesto fire ink
ALL: All nozzles
ODD: Odd-numbered nozzles
EVEN: Even-numbered nozzles

Select a scanning direction
CW : Print in CWscanning
CCW: Print in CCWscanning
Press [Enter] to print patterns

Print Pattern
Item to adjust: Fill pattern printing
Print mode: 320cps, VSD4, Large



When you tap[Cancel] or printing is done, the display goes back to "Adjustment Menu".

TIP

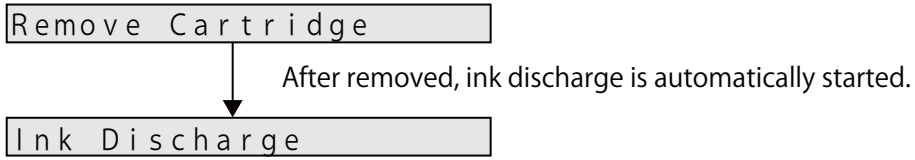
=>Check 3: Adjustment

CONFIDENTIAL

5.9.11 Adjustment 11: Ink Discharge

Discharges the ink from the ink tubes and the print head during maintenance.

Operation Panel



Oncethe ink discharge is complete, the display goes back to "Adjustment Menu".

TIP

=>Check 3: Adjustment

CONFIDENTIAL

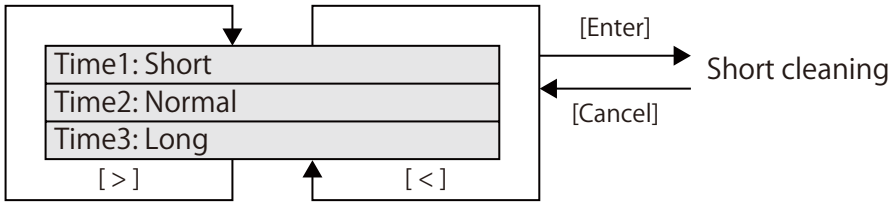
5.10 Check 4: Cleaning

Choose the cleaning mode and perform head cleaning.

Cleaning Items

Item	Content
Short	Short cleaning
Normal	Normal cleaning
Long	Long cleaning

Operation Panel



Cleaning

Once the cleaning is complete, the display goesto the selected cleaning menu.
e.g.) After short cleaning is performed, the display goes back to the following menu.

Time1: Short

TIP

=>Self-Diagnosis Function - Hierarchy #1

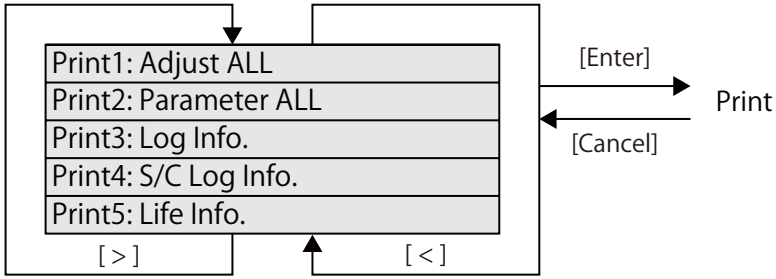
CONFIDENTIAL

5.11 Check 5: Print

Performs the test printing.

Hierarchy #2	Hierarchy #3
Print 1: Adjustment ALL	-
Print 2: Parameter ALL	-
Print 3: Error history	-
Print 4: S/C Log	-
Print 5: Life Information	-

Operation Panel (Test Printing Menu)



T I P

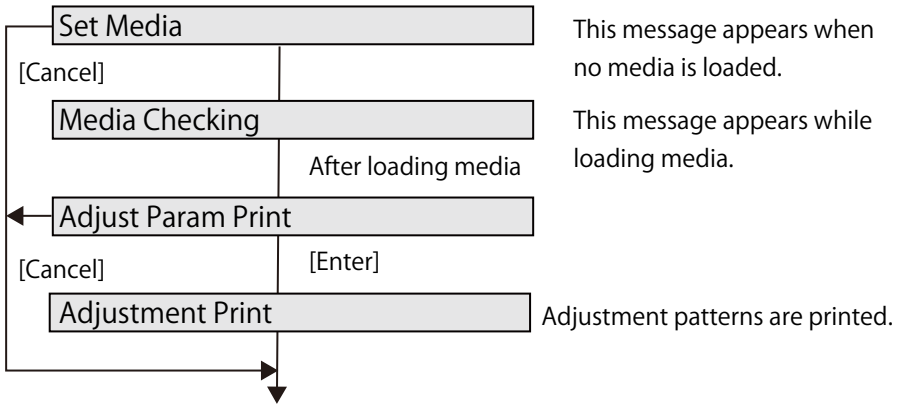
=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.11.1 Print 1: Adjustment ALL

Print adjustment patterns

Operation Panel



Once printingis complete, the display goes back to [Test Printing Menu]

The items to be printed:
1. Model Name/ Serial Number/ Date and time
2. Nozzle Check (nozzle alignment with normal pattern, horizontal direction pattern, vertical direction pattern in CW, vertical direction pattern in CCW)
3. Slant - twist
4. Slant - tilt
5. UniD 320 VSD2 Low
6. UniD 320 VSD3 Low
7. UniD 320 VSD4 Low
8. BiD 320 VSD2 Low
9. BiD 320 VSD3 Low
10. BiD 320 VSD4 Low

TIP

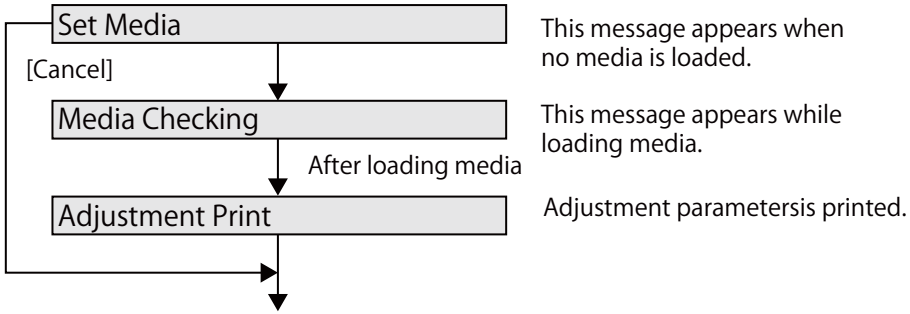
=>Check 5: Print

CONFIDENTIAL

5.11.2 Print 2: Parameter ALL

Print adjustment parameters

Operation Panel



Once printingis complete, the display goes back to [Test Printing Menu]

The adjustment parameters to be printed

Head Rank
Uni-D adjustment value
Bi-D adjustment value
Margin adjustment value
LED Pointer adjustment value(X/Y)
Company Code
Periodic Cleaning
Table up/down operation (Auto)
Table Lift Speed
Servo Parameter

T I P

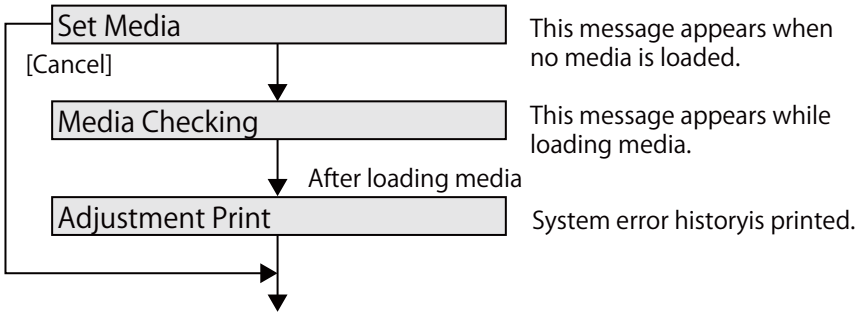
=>Check 5: Print

CONFIDENTIAL

5.11.3 Print 3: Error history

Print system error historyL

Operation Panel



Once printingis complete, the display goes back to [Test Printing Menu]

T I P

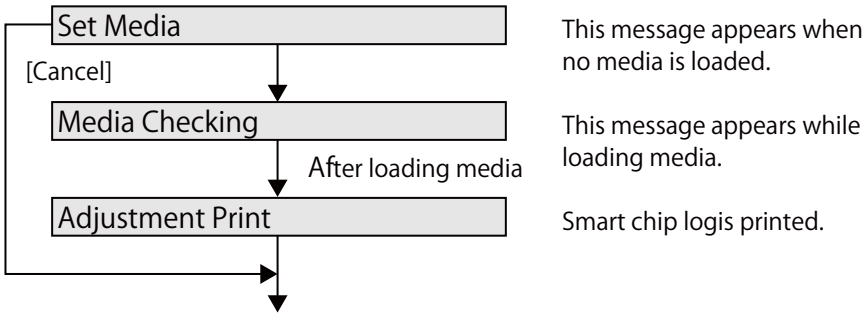
=>**Check 5: Print**

CONFIDENTIAL

5.11.4 Print 4: S/C Log

Print smart chip log

Operation Panel



Once printingis complete, the display goes back to [Test Printing Menu]

T I P

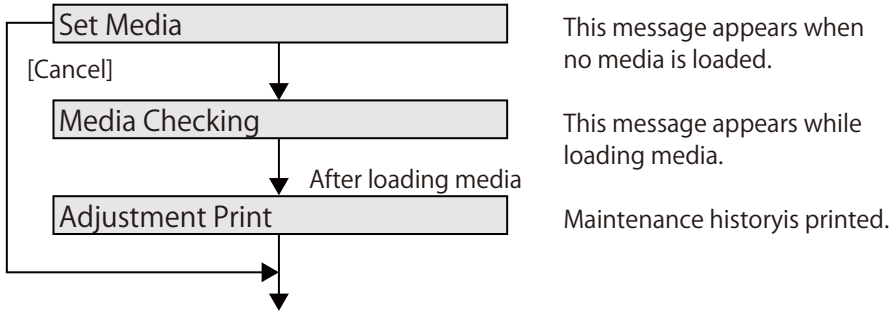
=>Check 5: Print

CONFIDENTIAL

5.11.5 Print 5: Life Information

Print maintenance history

Operation Panel



The count values listed in [Maintenance History] will be printed.
Once printingis complete, the display goes back to [Test Printing Menu]

=> **History 1: Maintenance History**

T I P

=>**Check 5: Print**

CONFIDENTIAL

5.12 Check 6: Parameter

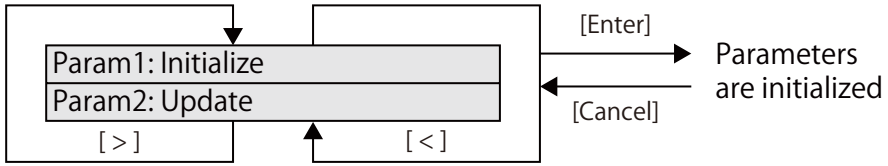
This menu is to initialize or change adjustment parameters.
To backup and restore the parameters, start the printer in “Board Manager Mode” via LAN using a PC with MSA installed.
See “Operation Manual of MUTOH Service Assistance” for more details on the board manager mode.

Parameter Items

Item	Content
Initialization	Initialize theadjustment parameters
Update	Enter the adjustment parameters

Hierarchy #2	Hierarchy #3	
Parameter 1: Initialization	Init. 1: Uni/BiLow	
	Init. 3: Servo	
Parameter 2: Update	Update 1: Uni/BiLow	
	Update 2: Margin Parameter	
	Update 3: LED Pointer	
	Update 4: Charge Flag	
	Update 5: Debug Bit	
	Update 6: Dot Control	
	Update 7: Ink Type	
	Update 8: Ink Configuration	
	Update 9: Periodic CL	
	Update 10: Table U/D	
	Update 11: Uni/Bi Pattern	
	Update 12: UV Lamp	UV Lamp 1: UV Lamp Lighting Direction
		UV Lamp 2: UV Lamp / Illuminance
	Update 13: UV System	
	Update 14: Lift Speed	

Operation Panel (Parameter Menu)



TIP

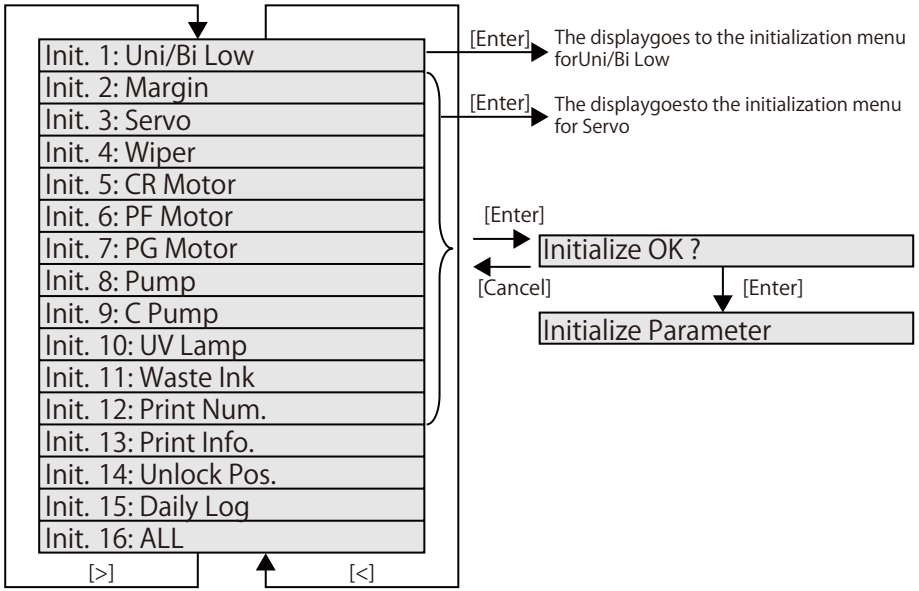
=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.12.1 Parameter 1: Initialization

Initialize the adjustment parameters.
- UniD/BiD, margin, and servo parameters
- History of the wiper, CR motor, PF motor, PG motor, pump, circulation pump 1 / 2, UV-Lamp, waste ink, Number of Print, Print Information and CR UnlockPos.
- All items (except servo parameter)
- Daily log

Operation Panel



If you tap [Enter], “Initialize OK?” will be displayed on the panel. Tap [Enter] to start initialization.
If you tap [Cancel], “Untouched Param” will be displayed and the initialization will be canceled.
Then the display goes back to “Parameter Menu”.

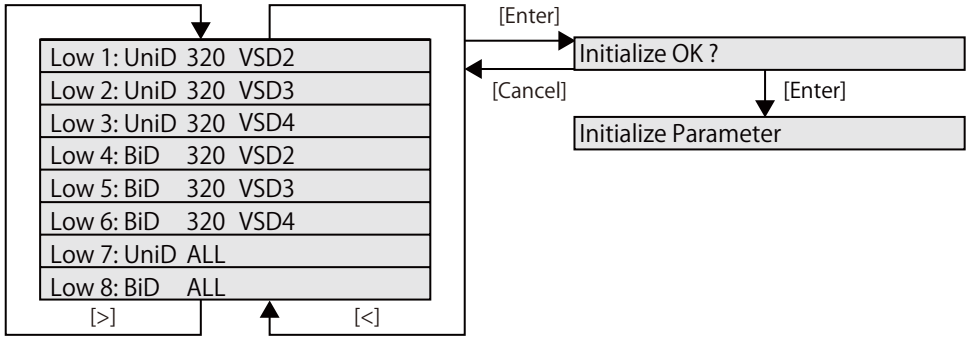
TIP

=>**Check 6: Parameter**

CONFIDENTIAL

5.12.1.1 Init. 1: Uni/BiLow

Operation Panel



If you tap [Enter], “Initialize OK?” will be displayed on the panel. Tap [Enter] to start initialization.
If you tap [Cancel], “Untouched Param” will be displayed and the initialization will be canceled.
Then the display goes back to “Parameter Menu”.

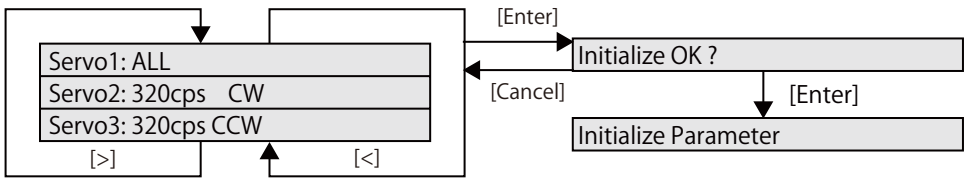
TIP

=>**Parameter 1: Initialization**

CONFIDENTIAL

5.12.1.2 Init. 3: Servo

Operation Panel



If you tap [Enter], “Initialize OK?” will be displayed on the panel. Tap [Enter] to start initialization.
If you tap [Cancel], “Untouched Param” will be displayed and the initialization will be canceled.
Then the display goes to “Parameter Menu”.

TIP

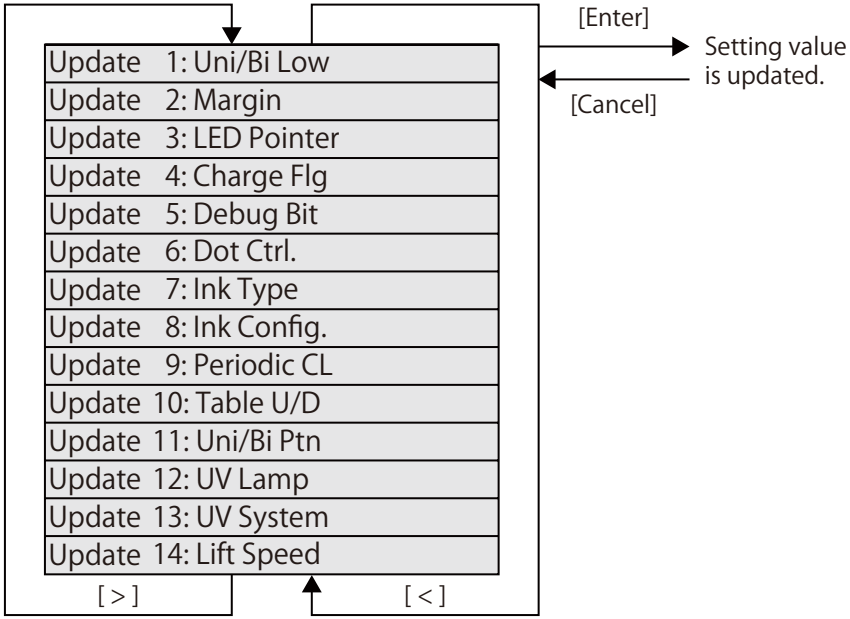
=>**Parameter 1: Initialization**

CONFIDENTIAL

5.12.2 Parameter 2: Update

Update the adjustment parameters.
UniD/BiD (Low only), Margin ,LED Pointer, Ink Charge Flag, Debug Bit,
Dot Control, Ink Type, Ink Configuration, Periodic Cleaning Operation,
Table up/down operation (Auto), UniD/BiD Pattern, UV Lamp, UV System, Lift Speed.

Operation Panel (Parameter Update Menu)



Tap [Enter] to enter adjustment parameters.
Tap [Cancel] to go back to [Parameter Menu]

T I P

=>Check 6: Parameter

CONFIDENTIAL

5.12.2.1 Update 1: Uni/BiLow

TIP

=>Parameter 2: Update

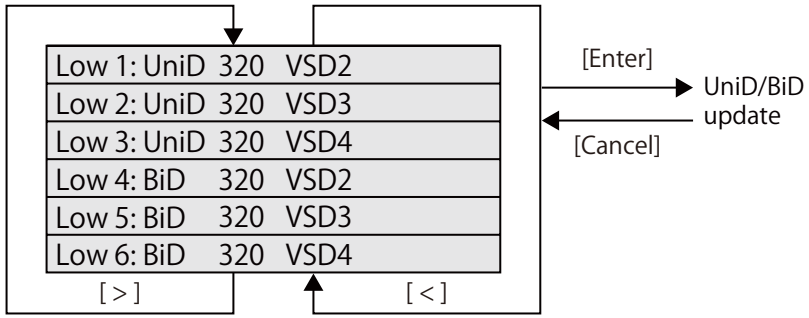
CONFIDENTIAL

5.12.2.1.(1) Update the UniD/BiD adjustment parameters (PG Low).

UniD/BiD Update Items

Item	Content
UniD 320 VSD2	UniD adjustment for320cps, VSD2
UniD 320 VSD3	UniD adjustment for320cps, VSD3
UniD 320 VSD4	UniD adjustment for320cps, VSD4
BiD 320 VSD2	BiD adjustment for320cps, VSD2
BiD 320 VSD3	BiD adjustment for320cps, VSD3
BiD 320 VSD4	BiD adjustment for320cps, VSD4

Operation Panel (UniD/BiD Adjustment Parameter Menu)



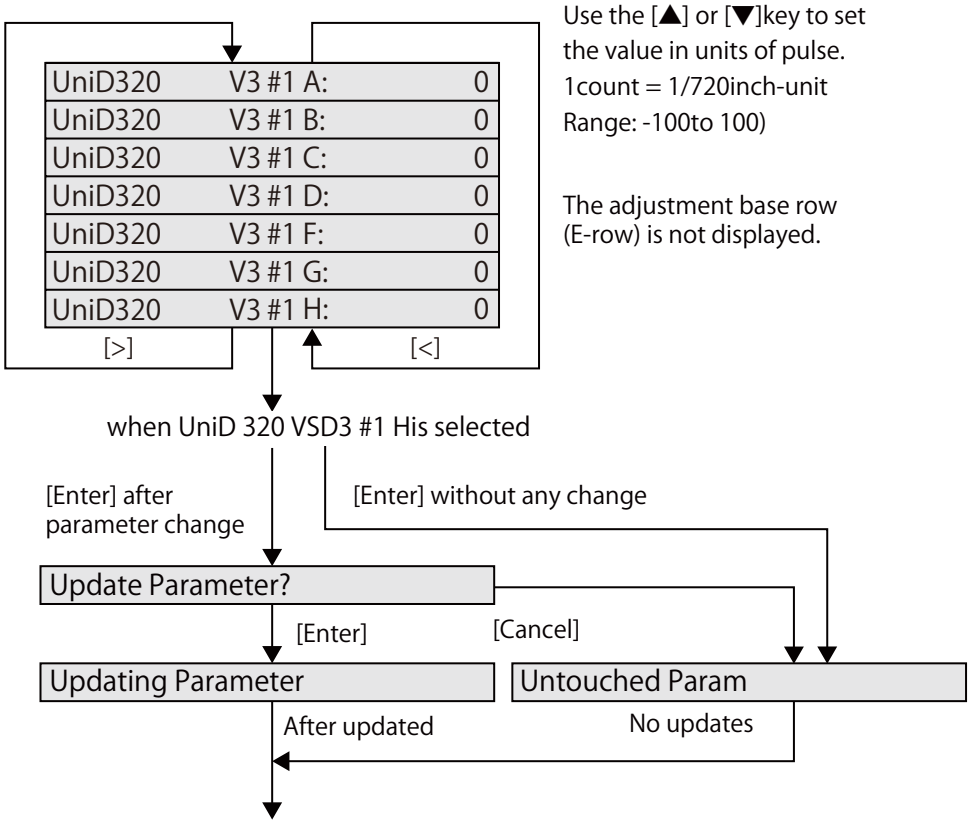
T I P

=>Update 1: Uni/BiLow

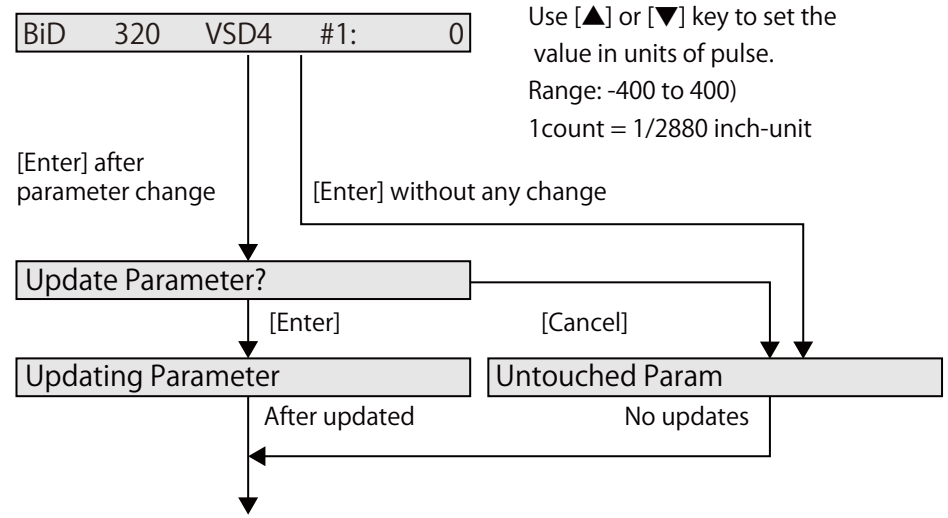
CONFIDENTIAL

5.12.2.1.(2) Update the Uni-D adjustment parameter to align dot placement of uni-directional printing.

Operation Panel (UniD320 VSD3)



Operation Panel (BiD 320 VSD4)



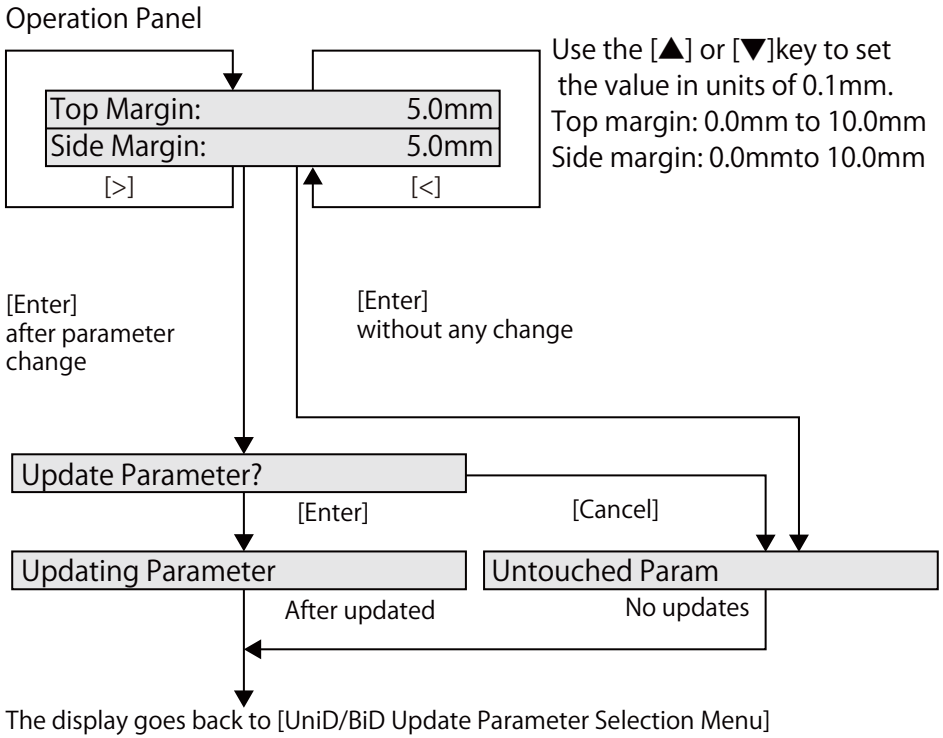
TIP

=>Update 1: Uni/BiLow

CONFIDENTIAL

5.12.2.2 Update 2: Margin Parameter

This menu is used to update mechanical position parameters (top and side margins).



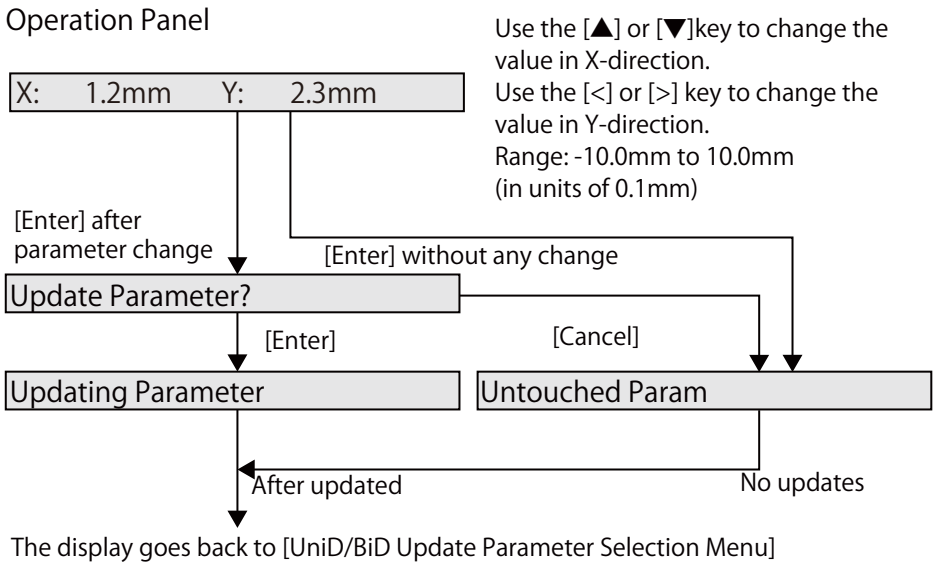
TIP

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.3 Update 3: LED Pointer

Update the LED pointer parameter.



TIP

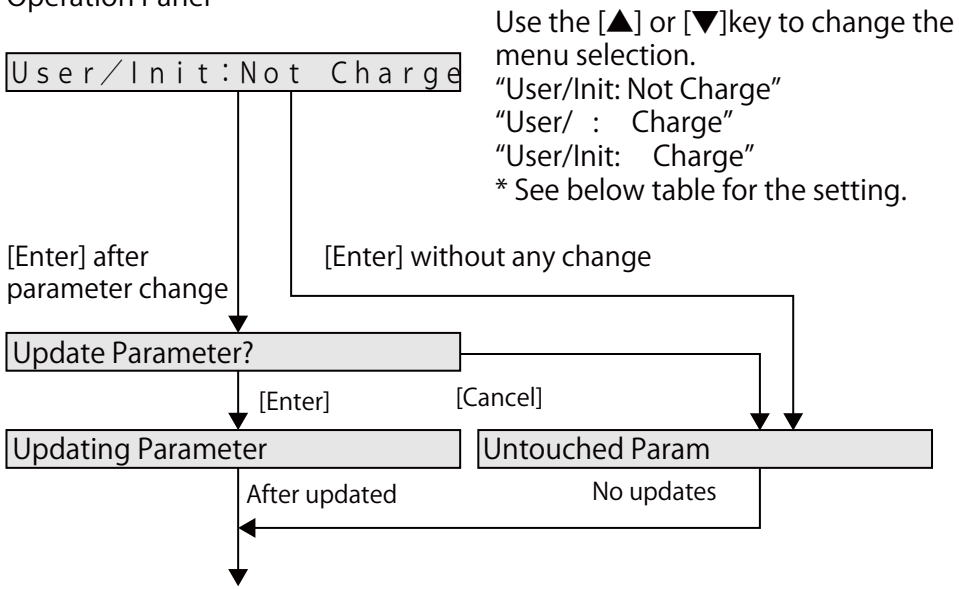
=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.4 Update 4: Charge Flag

Update the charge flag parameter.

Operation Panel



The display goes back to "Parameter Update Menu".

Initial Charge/Initial Cleaning Settings

Selection item	Initial cleaning	Initial charge
User/Init : Not charge	Not completed	Not completed
User/ : charge	Completed	Not completed
User/Init : charge	Completed	Completed

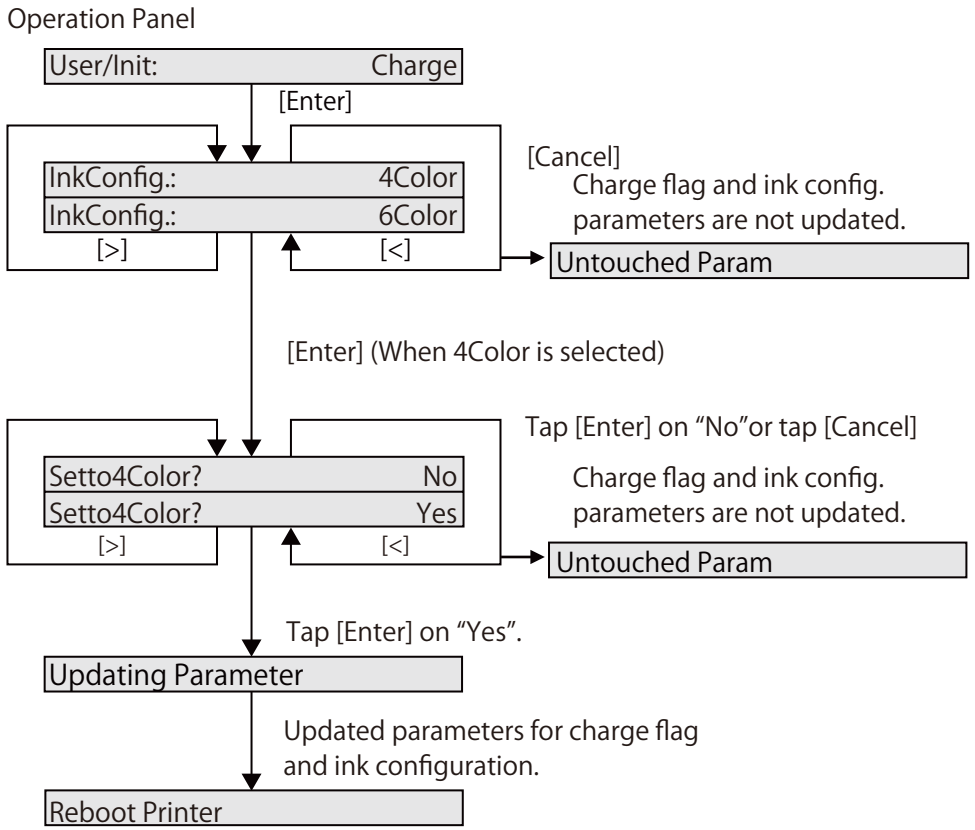
TIP

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.4.(1) Ink configuration setting menu

When “User/Init: Charge” is selected, the following menu appears to specify ink configuration if ink has not been charged in the printer and the ink configuration parameter has not been specified yet.
When the ink configuration setting has been changed, a reboot request message will appear (to change the memory setting).



To reboot the printer, see Turning on the printer.

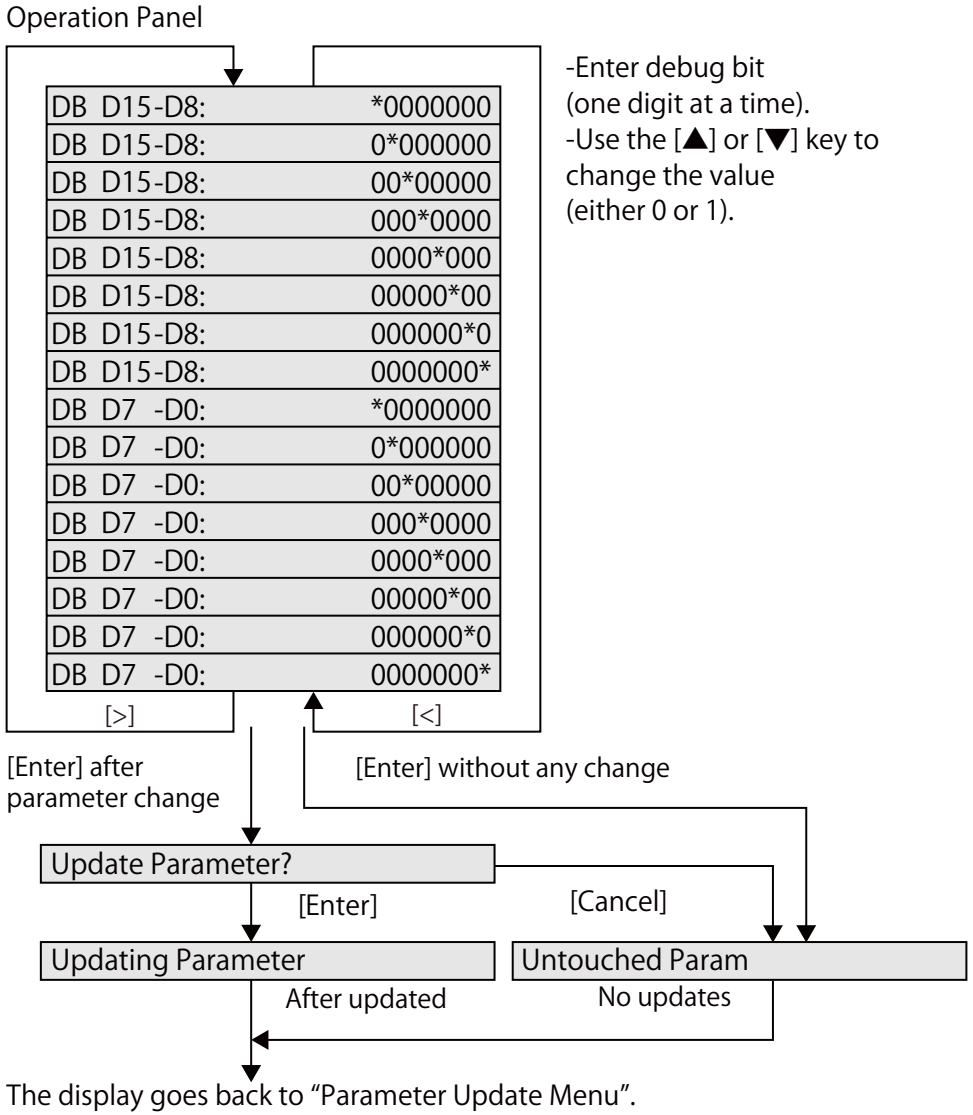
TIP

=>**Update 4: Charge Flag**

CONFIDENTIAL

5.12.2.5 Update 5: Debug Bit

Change the debug bits. This is a debug menu.
* The default values are set to 0. Before shipping this product, make sure to set the all values to 0.



TIP

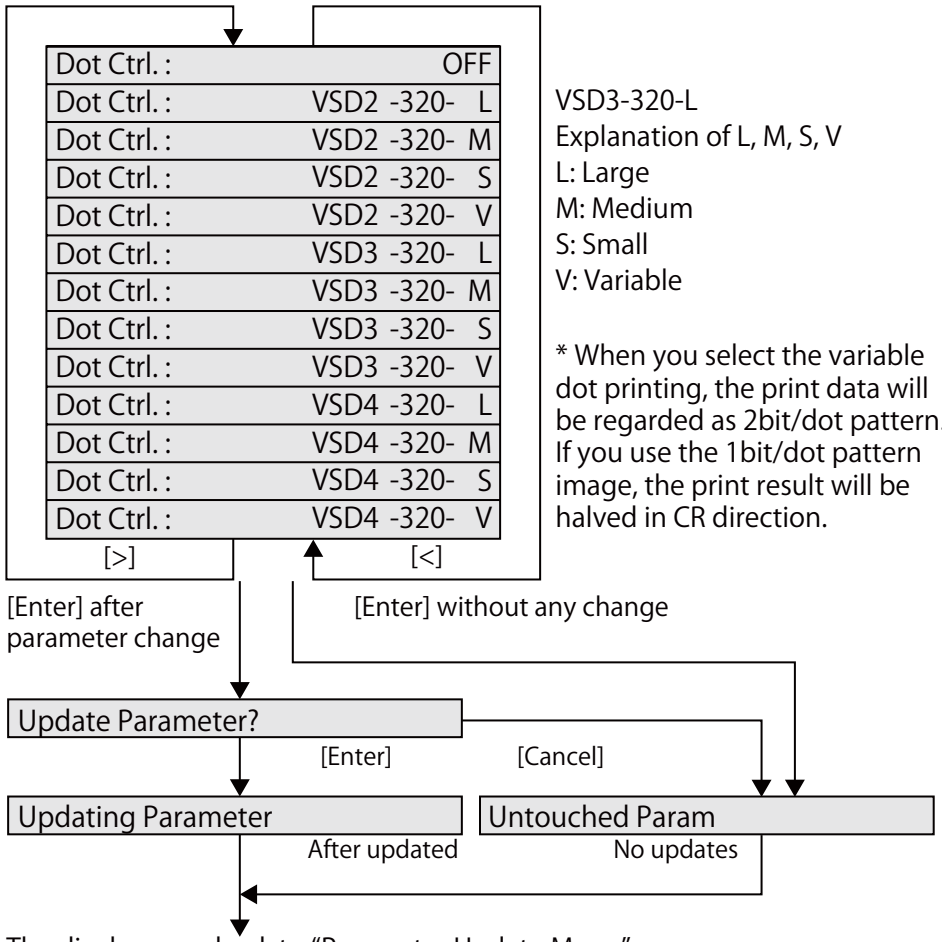
=>Parameter 2: Update

CONFIDENTIAL

5.12.2.6 Update 6: Dot Control

This menu is used for the dot control setting. This is a debug menu.
Specify the dot family and dot size for printing.
If it is set to OFF, dot control is automatically determined in accordance with the printing data.

Operation Panel



VSD3-320-L
Explanation of L, M, S, V
L: Large
M: Medium
S: Small
V: Variable

* When you select the variable dot printing, the print data will be regarded as 2bit/dot pattern. If you use the 1bit/dot pattern image, the print result will be halved in CR direction.

TIP

=>Parameter 2: Update

CONFIDENTIAL

5.12.2.7 Update 7: Ink Type

Check the current ink type setting.
You cannot change the ink type from this menu.

Operation Panel

InkType:	UH21
InkType:	US11

The display goes back to [Parameter Update Menu]

TIP

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.8 Update 8: Ink Configuration

Check the current ink configuration.
If the ink configuration parameter has not been specified yet, “Auto” is displayed.
You cannot change the ink configuration from this menu.
After the Longstore is performed (see 4.7 Longstore), the ink configuration setting is reset to default (Auto).

Operation Panel

Ink Config. :	Auto
Ink Config. :	4 Color
Ink Config. :	6 Color

The display goes back to [Parameter Update Menu]

TIP

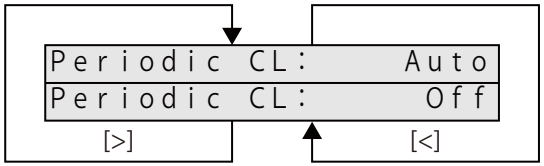
=>**Parameter 2: Update**

CONFIDENTIAL

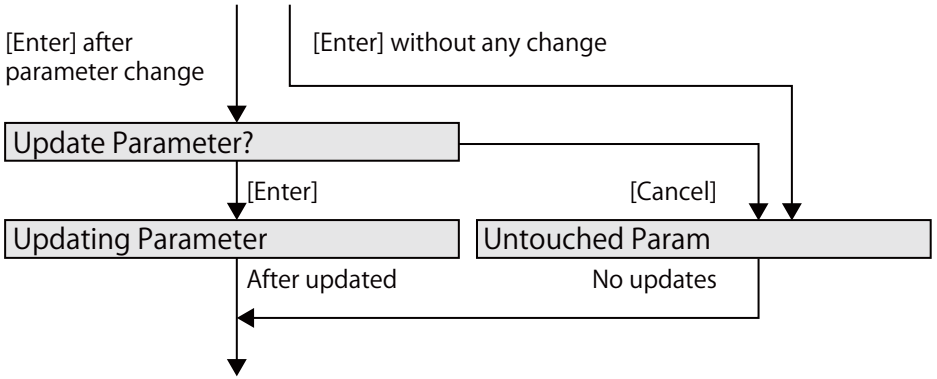
5.12.2.9 Update 9: Periodic CL

This menu is to enable or disable the auto cleaning as specified by the print head specification.
The periodic cleanings are performed by following print head specifications in any settings from the panel menu on the user modes.
The default setting is set to “Auto” to perform the periodic cleanings automatically.
When set “Off”, the following auto cleaning is disabled;
-the cleaning performed by each counter at the beginning of a printing
-the cleaning performed if the carriage is not in its home position when powering on the printer

Operation Panel



Auto: Enable the auto cleaning as specified by the print head specification.
Off: Disable the auto cleaning
*The default setting is set to “Auto”.



The display goes back to “Parameter Update Menu”.

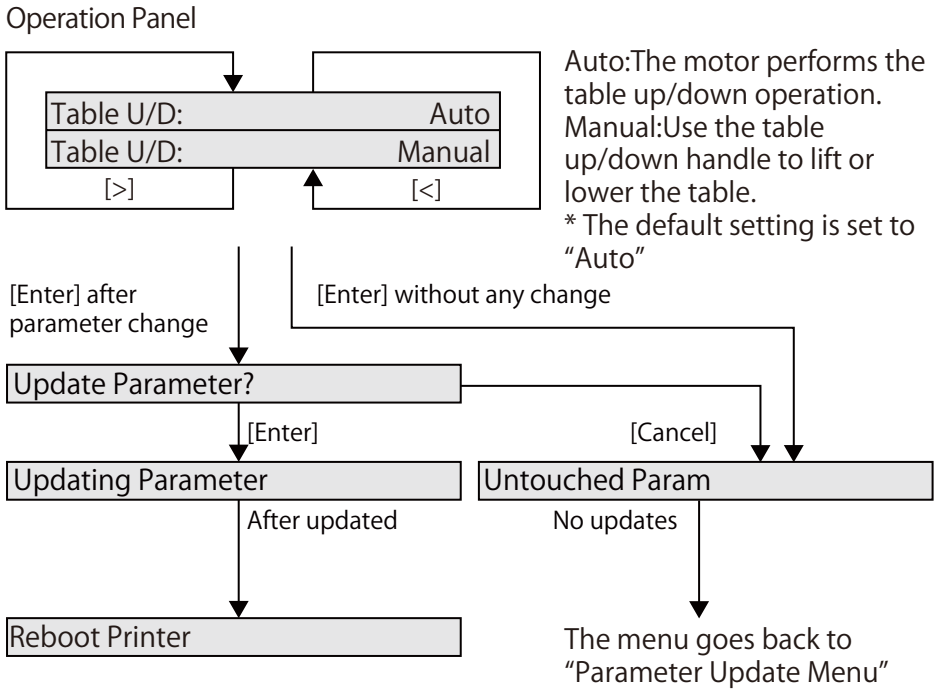
TIP

=>Parameter 2: Update

CONFIDENTIAL

5.12.2.10 Update 10: Table U/D

Choose the automatic or manual table up/down operation.
For the automatic operation, the motor performs the table up/down operation.
For the manual operation, users uses the table up/down handle to lift or lower the table.



Following menu will be available depending on the table up/down operation setting.
In "Auto" setting:
Test 4: Sensor PG Origin
Test 7: History PG Motor / T. PG Motor
Parameter 1: Initialization PG Motor
Endurance 3: PG Motor

TIP

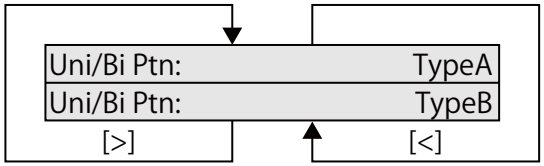
=>**Parameter 2: Update**

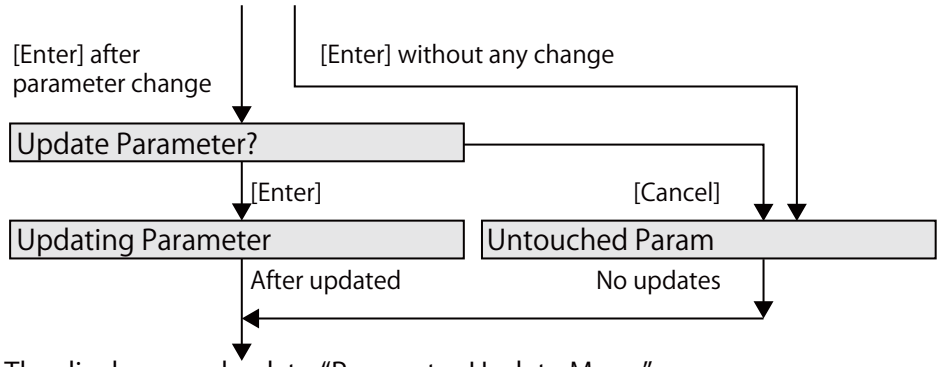
CONFIDENTIAL

5.12.2.11 Update 11: Uni/Bi Pattern

Select the Uni-D and Bi-D adjustment pattern in self-diagnosis mode.
The patterns for UniD/ BiD/ BiD ALL/ Adjust ALL will be printed with this setting.
The default setting is set to “Type A”.
When “Uni/Bi Ptn: Type A” is selected, the line pattern will be printed.
When “Uni/Bi Ptn: Type B” is selected, the line and block pattern will be printed.

Operation Panel





The display goes back to “Parameter Update Menu”.

TIP

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.11.(1)Adjustment pattern types:



* See**Appendix A. Uni/Bi Type B Print Pattern** for more details on Type B print pattern.

TIP

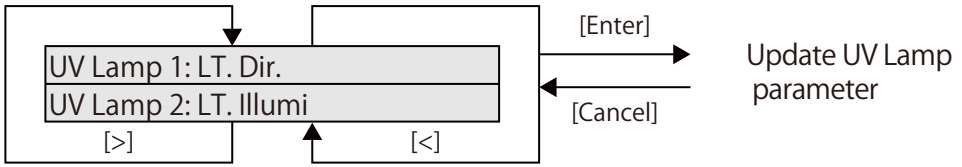
=>**Update 11: Uni/Bi Pattern**

CONFIDENTIAL

5.12.2.12 Update 12: UV Lamp

Specify the lighting direction and outut power of the UV Lamp to cure the ink while printing.

Operation Panel (UV Lamp Menu)



Tap [Cancel] to go back to [Parameter Update Menu]

T I P

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.12.(1)UV Lamp 1: UV Lamp Lighting Direction

UTo set the lighting direction, following “AUTO” and “MANUAL” settings can be selected.

AUTO
Lighting direction is specified by the print data setting (*UC command).
If the data does not contain the UV lighting setting (*UC command), lighting direction will bespecified as follows (Duty 100%):
-In Uni-D printing, the lamp emits the LED lights in both CW/CCW directions (*1).
-In Bi-D printing, the lamp emits the LED lights in CW(*1) direction.
-Regardless of Uni-D/Bi-D printing, if the total pass of the printing is 4 pass or less, UV lamp emits the LED lights in both CW/CCW(*1) directions.

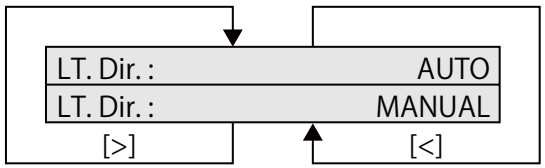
MANUAL
The lamp emits the LED lights according to
“Parameter” > “Update” > “UV Lamp” setting.

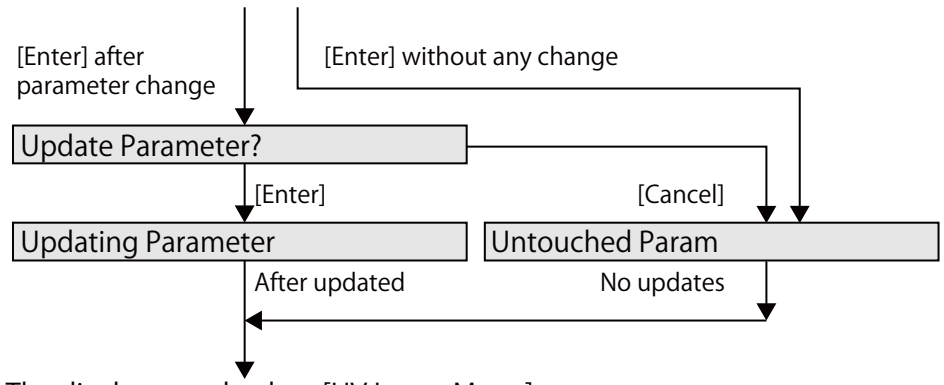
*1 (Looking from the front of the printer)
CW direction :printing direction when the head moves from right to left.
CCW direction :printing direction when the head moves from left to right.

TIP

=>Update 12: UV Lamp

Operation Panel



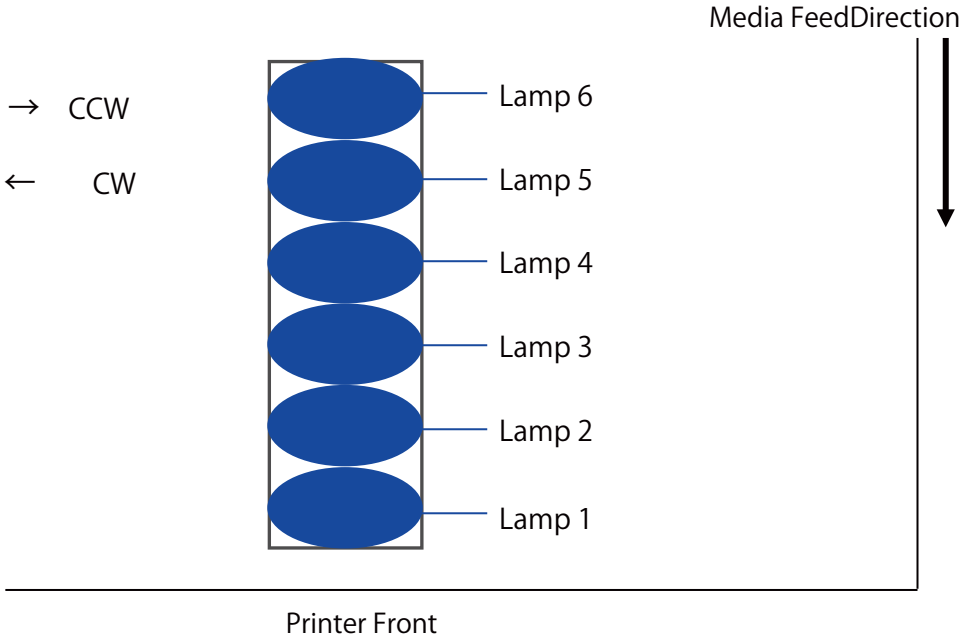


CONFIDENTIAL

5.12.2.12.(2)UV Lamp 2: UV Lamp / Illuminance

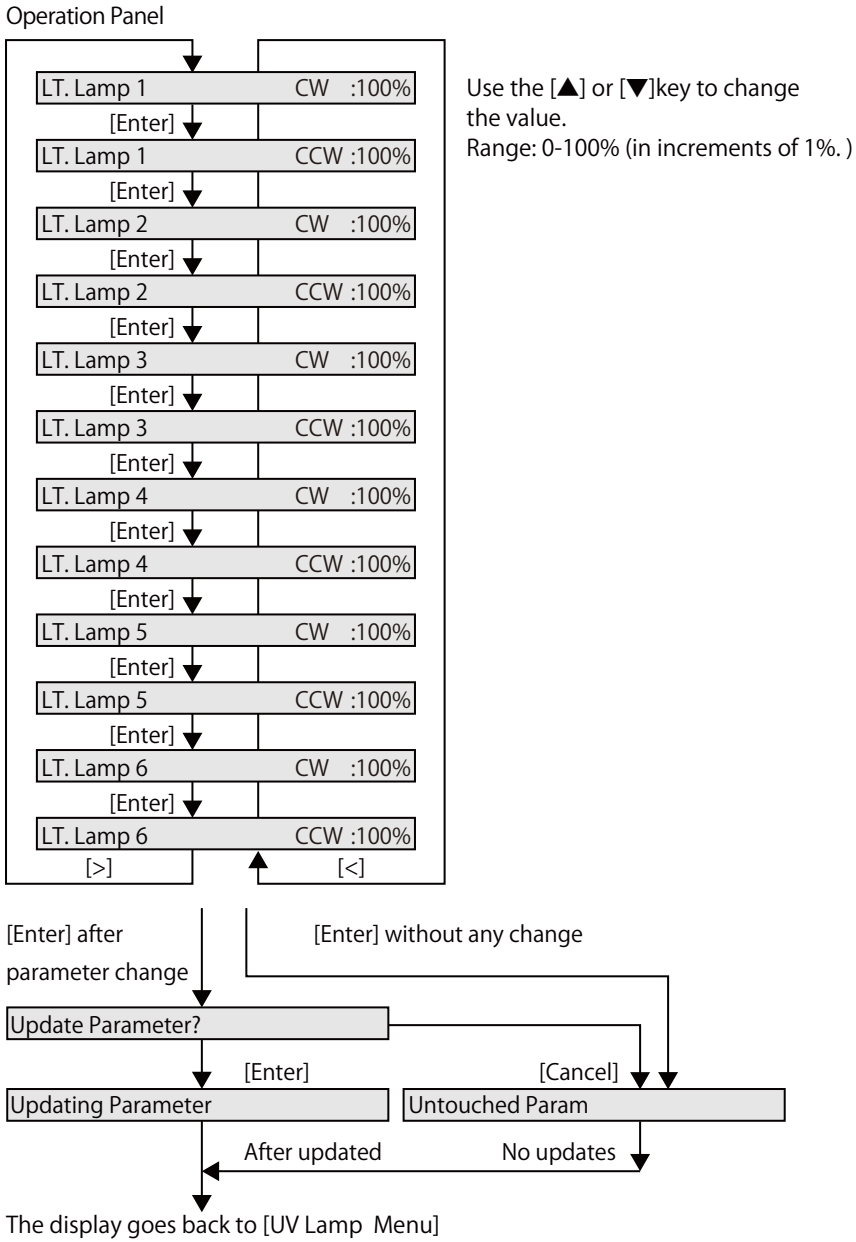
Specify the UV lamp output power per block per printing direction.

(Looking from the front of the printer)
Lamps 1 to 6The UV lamp is divided into 6 blocks.
The block in the very front is called Lamp 1,
2nd block from the front is called Lamp 2…
and the last block is called Lamp 6. (see the illustration below).
CW Printing direction when the head moves from right to left
CCW Printing direction when he head moves from left to right



TIP

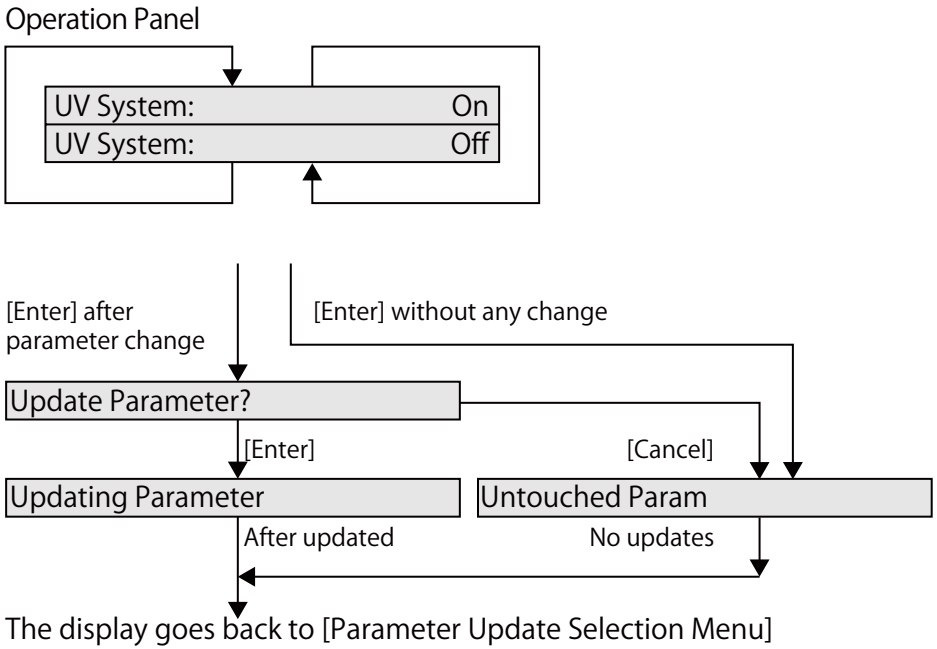
=>Update 12: UV Lamp



CONFIDENTIAL

5.12.2.13 Update 13: UV System

Enable or disable the UV Lamp system for ink curing.
“On” setting:UV Lamp will be turned on
“Off” setting:UV Lamp will not be turned on.



TIP

=>**Parameter 2: Update**

CONFIDENTIAL

5.12.2.14 Update 14: Lift Speed

The table lifting speed can be changed from this menu. This is a debug menu.
The actual table lifting speed varies depending on the PG motor drive mode.
See Table. Lifting speed by PG motor drive mode for details.

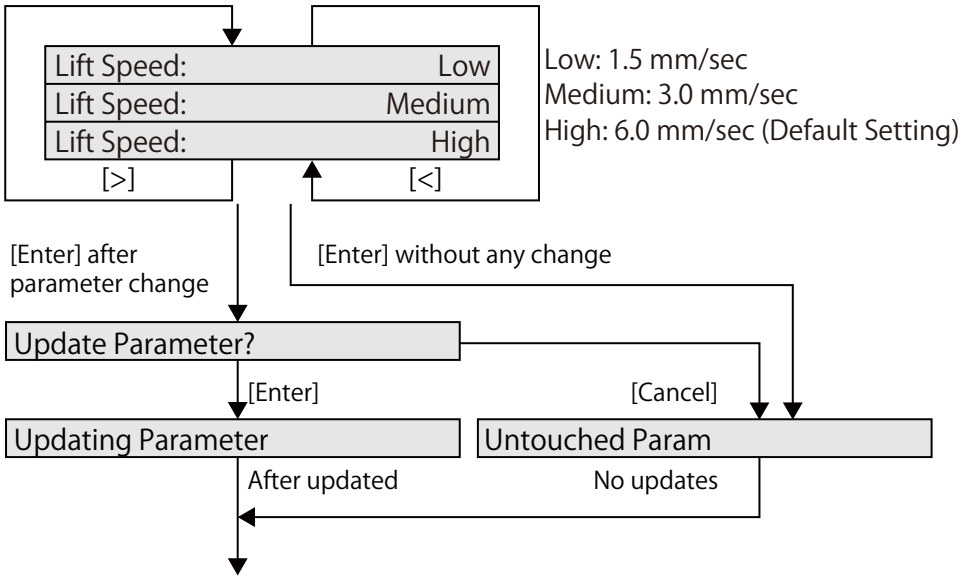


Table. Lifting speed by PG motor drive mode

Lifting speed setting \ PG motor drive mode	High	Low
High (default setting)	6.0 mm/sec	3.0 mm/sec
Medium	3.0 mm/sec	3.0 mm/sec
Low	1.5 mm/sec	1.5 mm/sec

TIP

=>Parameter 2: Update

CONFIDENTIAL

5.13 Check 7: Servo

Change the servo parameter setting.
Note: Do not fundamentally change the parameters because this is a menu for verifying the unit's problem (noise and/or vibration) or printing improvement (measures against vertical banding).

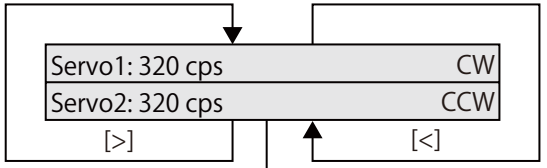
Servo Setting Items

Item	Content
320cps CW	Servo setting for CW direction (310cps and 320cps)
320cps CCW	Servo setting for CCW direction (310cps and 320cps)

Servo Adjustment Items

Item	Content
Proportional gain	Proportional gain setting
Integral gain	Integral gain setting
Low-pass filter	Low-pass filter setting
PWM scale	PWM scale setting
ωC	ωC setting

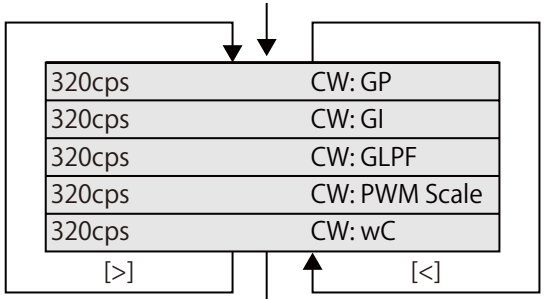
Operation Panel (Servo Setting Menu)



Tap [Cancel] to go back to "Self-Diagnosis Menu".

[Enter] (When 320cps CW is selected)

Operation Panel (Servo Adjustment Menu)



Tap [Cancel] to go back to "Servo Setting Menu".

[Enter] (When proportional gain (GP) is selected.)

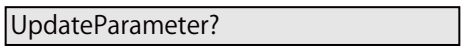


Use the [▲] or [▼]key to change the value (count units).

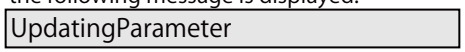
* The minimum value, maximum value, and count value for each setting item are shown below.

	Minimum Value	Maximum Value	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

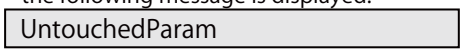
The following message is displayed if a change is made.



If you tap [Enter], the following message is displayed.



If you tap [Cancel], the following message is displayed.



The menu goes back to [Servo Adjustment Menu]

CONFIDENTIAL

Servo Setting Item Initial Value

Item	GP	GI	GLPF	PWM	ωC
320cps CW	0 x 4800	0 x 0080	228	13	45
320cps CCW	0 x 4800	0 x 0080	228	13	45

T I P

=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.14 Check 8: Endurance

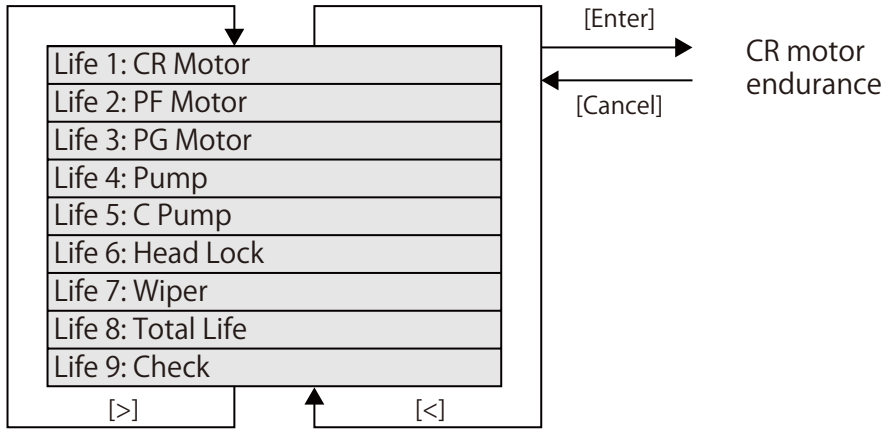
Performs the mechanical and head endurance test.

Endurance Test Items

Item	Content
CR motor	CarriageScanning
PF motor	PF motor driving
PGmotor	Table Up/Down operation
Pump	Pump driving
Circulation Pump	Circulation Pump driving
Head lock	Head Lock -Lock /Unlock Operation
Wiper	Wiper On/Off operation
Total durability	Perform the endurance test of CR motor and PF motor at once
Check	Check the number of endurance tests performed

Hierarchy #2	Hierarchy #3
Endurance 1: CR Motor	-
Endurance 2: PF Motor	-
Endurance 3: PG Motor	
Endurance 4: Pump	-
Endurance 5: Circulation Pump	-
Endurance 6: Head Lock	-
Endurance 7: Wiper	-
Endurance 8: General Endurance	-
Endurance 9: Endurance Check	-

Operation Panel (Endurance Test Menu)



“PG Motor” is displayed in this menu only when "Table U/D" is set to “Auto”.
See **Update 10: Table U/D** for more details on table up/down operation setting.

T I P

=>**Self-Diagnosis Function - Hierarchy #1**

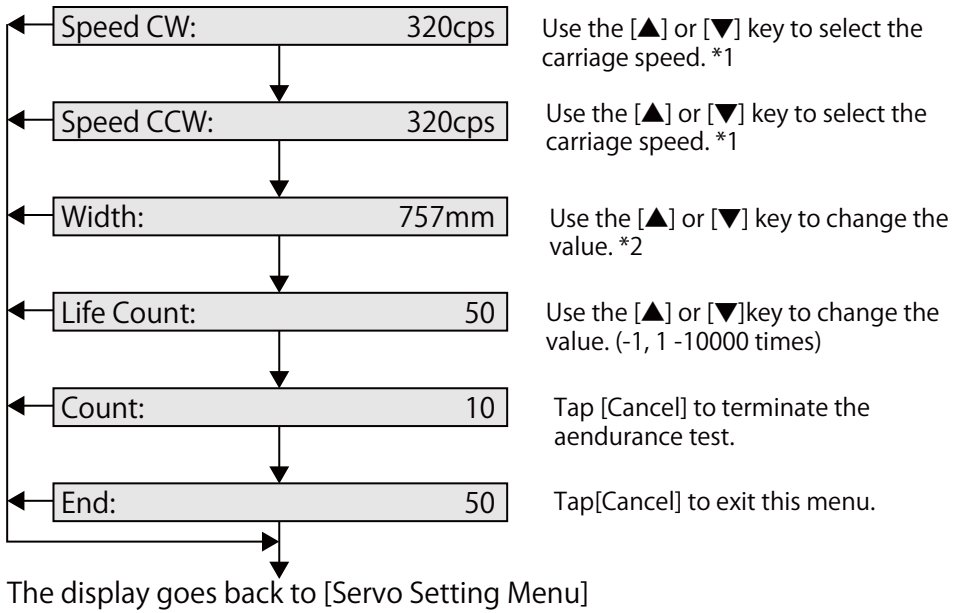
CONFIDENTIAL

5.14.1 Endurance 1: CR Motor

Performs the CR motor endurance test. The carriage is scanned a specified travel distance at a specified speed for a specified number of times. If “Life Count” is set to -1, this test is repeated until [Cancel] is tapped. The maximum count number is 99,999,999 (8 digits). If it exceeds the maximum, the count will be reset to 0.

*Note: This endurance test can be also performed with media loaded.

Operation Panel



* 1. Selectable speed:
310cps, 320cps, 420cps
* 2. Range of the carriage travel distance
400mm to 757mm

TIP

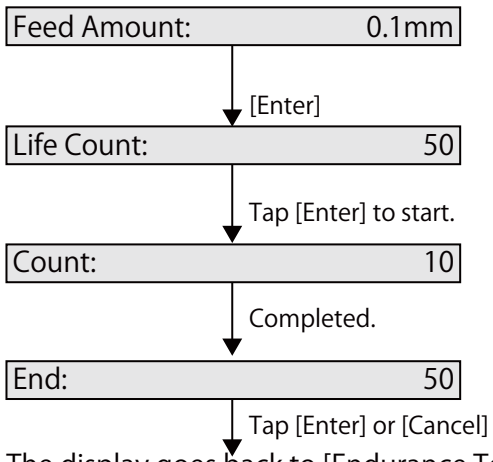
=>Check 8: Endurance

CONFIDENTIAL

5.14.2 Endurance 2: PF Motor

Performs the PF motor endurance test. The PF motor runs a specified number of times. If “Life Count” is set to -1, this test If the number of times is set to -1, the operation is repeated until [Cancel] is tapped. The maximum count number is 99,999,999 (8 digits).
If exceeded, the count will be reset to 0.

Operation Panel



Enter the media feed distance.

Use [▲] or [▼]key to change the value. (range: 0.1mm to 100.0mm)

Use [▲] or [▼]key to change the value. (- 1, 1 - 10000 times)

Tap [Cancel] to terminate the endurance test.
Tap[Cancel] to exit this menu.

The display goes back to [Endurance Test Menu]

Table has the maximum travel range. When the table moves to its limit, it will automatically move back to the start position and will continue the endurance test.
If the table reaches its limit of travel in the middle of the media feeding, it will count as one operation.

TIP

=>Check 8: Endurance

CONFIDENTIAL

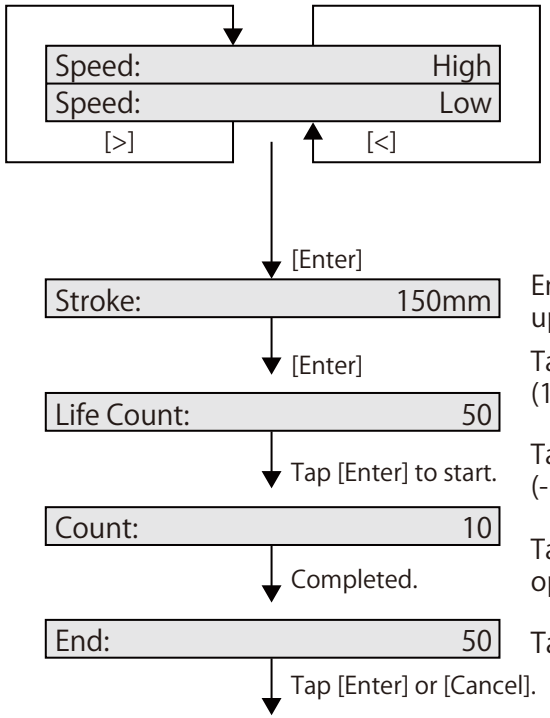
5.14.3 Endurance 3: PG Motor

Performs the PG motor endurance test. The PG motor runs a specified number of times. If “Life Count” is set to -1, this test is repeated until [Cancel] is pressed. The maximum count number is 99,999,999 (8 digits). If it exceeds the maximum, the count will be reset to 0.

TIP

=>Check 8: Endurance

Operation Panel



Choose the table up/down speed by Tapping the [<] or [>].
High: 6mm/sec.
Low: 3mm/sec.

*Note:
The table lifting speed used for this endurance test varies depending on the parameter specified from the menu “Select Lift Speed.

Enter the stroke length for table up/down operation.

Tap[▲] or [▼] to change the value. (10 -150 mm)

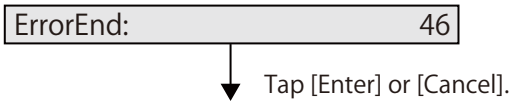
Tap[▲] or [▼]to change the value. (-1, 1 -10000 times)

Tap[Cancel] to terminate the operation.

Tap [Cancel] to exit this menu.

The menu goes backto “Endurance Test Menu”.

If any error is detected during this endurance test, the following message will appear.
The count number will stop when the error occurs and will be shown in the message.

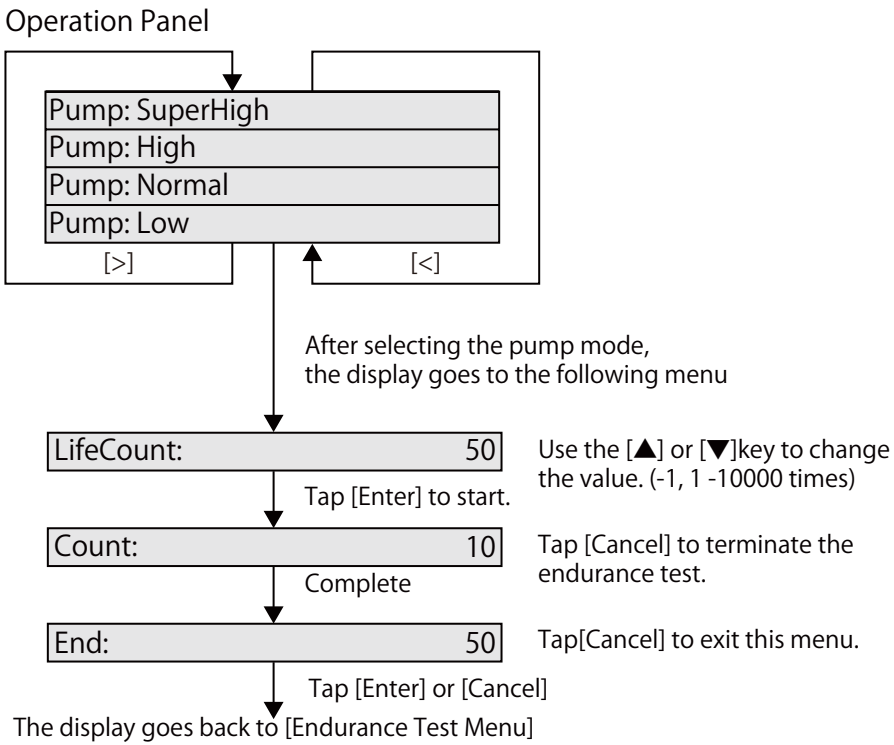


The menu goes backto [Endurance Test Menu]

CONFIDENTIAL

5.14.4 Endurance 4: Pump

Performs the pump endurance test. The pump runs a specified number of times. If “Life Count” is set to -1, this test is repeated until [Cancel] is tapped.
The maximum count number is 99,999,999 (8 digits).



The operation sequence:
1.The pump endurance operation starts.
2.The pump rotates at the specified speed.
  Speed Mode options:Suction time:
  Super High (Ultra high speed):10.0 seconds
  High (High speed):10.0 seconds
  Normal (Normal speed):10.0 seconds
  Low (Low speed):10.0 seconds
3.After finishing step 2, the counter counts up the number.
  Return to step 2.
Repeat the procedure until it reaches a set number.

4.When it reaches a set number, the pump endurance test is completed.

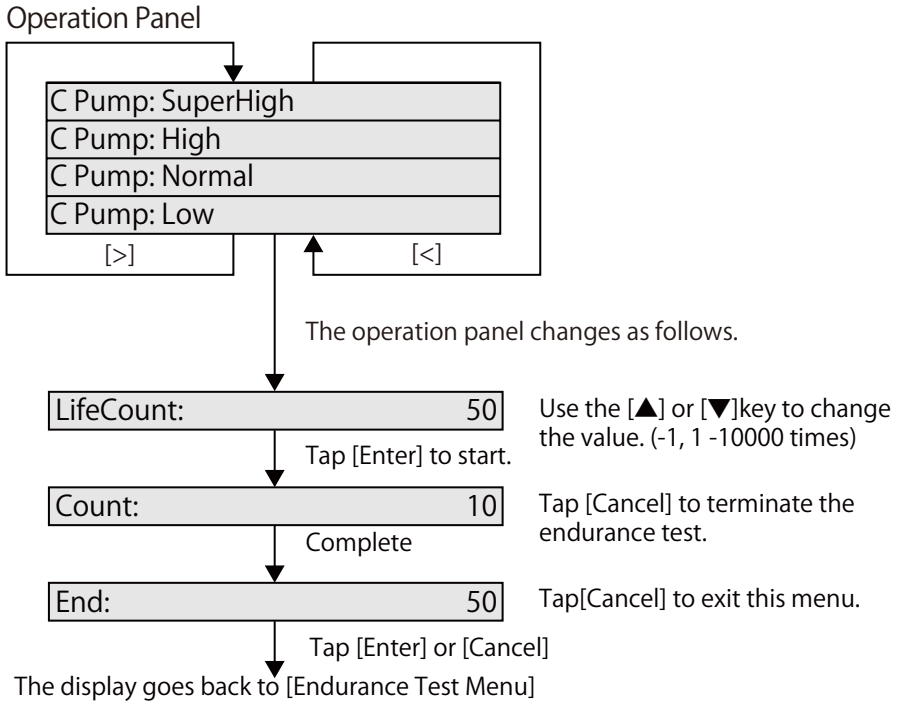
TIP

=>Check 8: Endurance

CONFIDENTIAL

5.14.5 Endurance 5: Circulation Pump

Performs the circulation pump endurance test. The circulation pump runs a specified number of times. If “Life Count” is set to -1, this test is repeated until [Cancel] is tapped.
The maximum count number is 99,999,999 (8 digits).



The current operation sequence:
1. The circulation pump endurance operation starts.
2. The circulation pump rotates at specified speed

Speed Mode options:Suction Time:
Super High (Ultra high speed):10.0 seconds
High (High speed):10.0 seconds
Normal (Normal speed):10.0 seconds
Low (Low speed):10.0 seconds

3. The operation stops for 60.0 seconds.
4. After finishing step 3, the counter counts up the number.
Return to step 2.
Repeat the procedure until it reaches a set number.

5. When it reaches a set number, the circulation pump endurance test is completed.

TIP

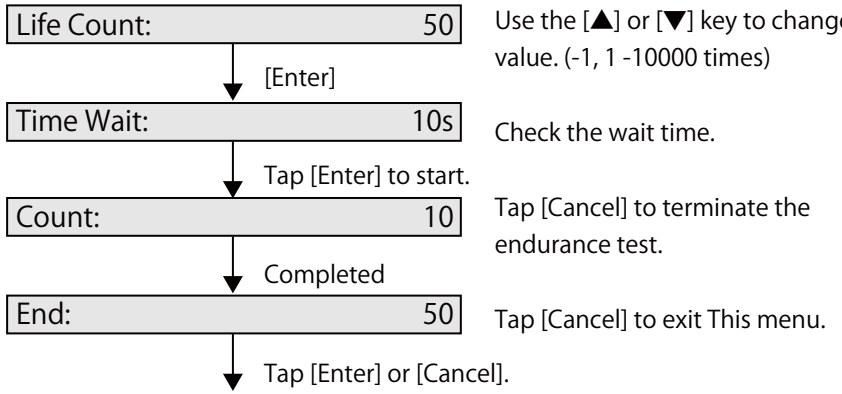
=>Check 8: Endurance

CONFIDENTIAL

5.14.6 Endurance 6: Head Lock

Performs the head lock endurance test. Lock/unlock operation of the head lock is performed a specified number of times. If the specified number of times is set to -1, the operation is repeated until [Cancel] is tapped. The maximum count number is 99,999,999 (8 digits).

Operation Panel



Use the [▲] or [▼] key to change the value. (-1, 1 -10000 times)

Check the wait time.

Tap [Cancel] to terminate the endurance test.

Tap [Cancel] to exit This menu.

The display goes back to [Endurance Test Menu]

T I P

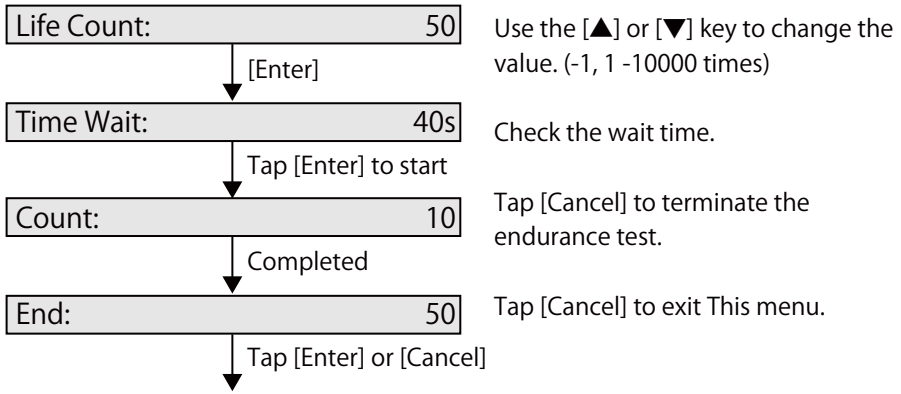
=>Check 8: Endurance

CONFIDENTIAL

5.14.7 Endurance 7: Wiper

Performs the wiper endurance test.
Perform the ON / OFF operation of the wiper solenoid for the specified number of time.
If “Life Count” is set to -1, this test is repeated until [Cancel] is tapped.
The maximum count number is 99,999,999 (8 digits).

Operation Panel



The display goes back to [Endurance Test Menu]

TIP

=>Check 8: Endurance

CONFIDENTIAL

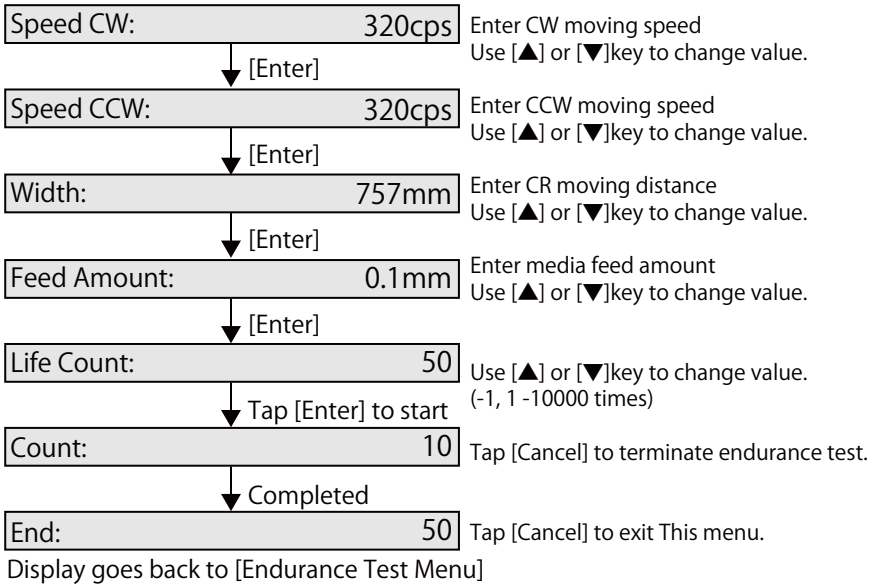
5.14.8 Endurance 8: General Endurance

Simultaneously performs the endurance test of the CR and PF. If the specified number of times is set to -1, the operation is repeated until [Cancel] is tapped. The maximum count number is 99,999,999 (8 digits).

The number of reciprocations of the carriage: Once
The number of times that the table is fed: Once

In this menu, the above operations are counted as one set of operation. As a count, the above set of operation is displayed.

Operation Panel



Display goes back to [Endurance Test Menu]

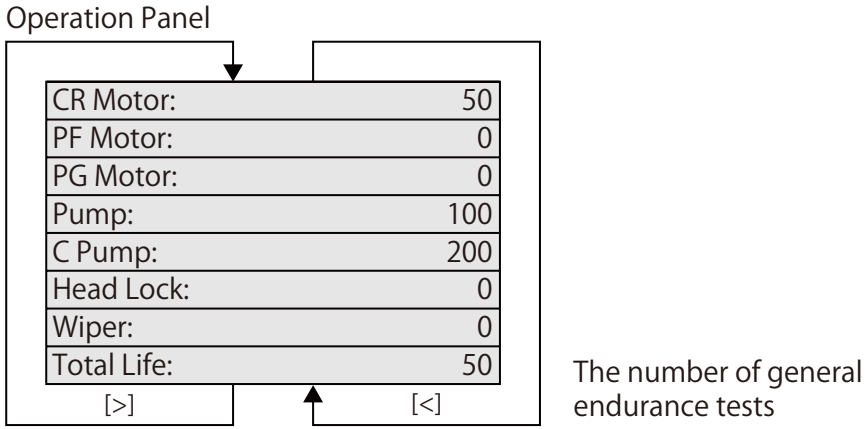
T I P

=>Check 8: Endurance

CONFIDENTIAL

5.14.9 Endurance 9: Endurance Check

Check the number of times that the endurance test is performed. Even if system error occurs, you can check the number of endurance tests performed before the occurrence of the error because the number is stored in the NVRAM.



TIP

=>Check 8: Endurance

CONFIDENTIAL

5.15 Media Feed

5.15.1 Check 9: Media Feed

Feed the media loaded on the table.
If no media is loaded, this operation will not be performed.

Operation Panel

Front: −	Back: +

To move the table forward / backward, keep holding down [▲] or [▼] key

TIP

=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.16 Media Initialization

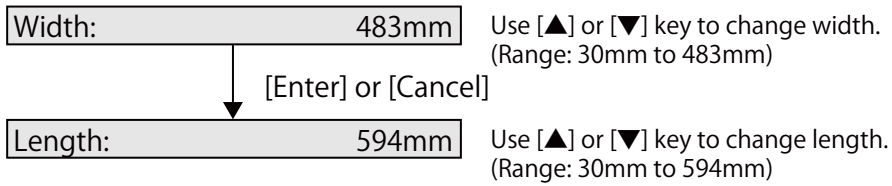
5.16.1 Check 10: Media Initialization

Specify the media initialization method in Self-Diagnosis Mode.
Enter the media width and length.
When you enter the Self-Diagnosis Mode, the media initialization method or media width/length set in User Mode is reflected in Self-Diagnosis Mode.
Media width and length entered in User Mode will be displayed first.

Media Initialization Method

Item	Content
Width	Enter media width.
Length	Enter media length.

Operation Panel



Tap [Enter] or [Cancel] in the Length setting menu
to go back to [Self-Diagnosis Menu]

TIP

=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

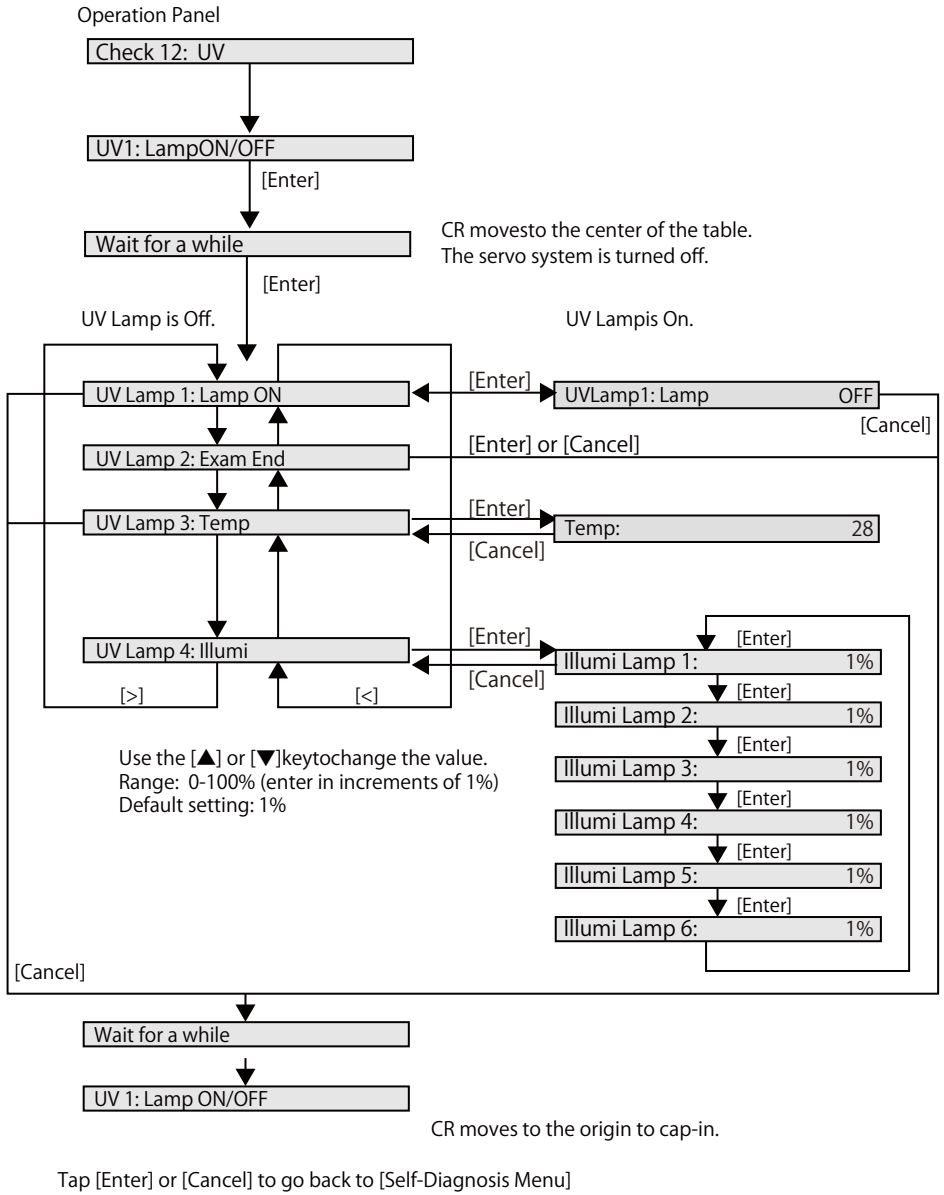
5.17 Check 12: UV Lamp ON/OFF Check

5.17.1 Check 12: UV Lamp ON/OFF Check

Test the UV Lamp to make sure it turns on and off properly.

T I P

=>Self-Diagnosis Function - Hierarchy #1



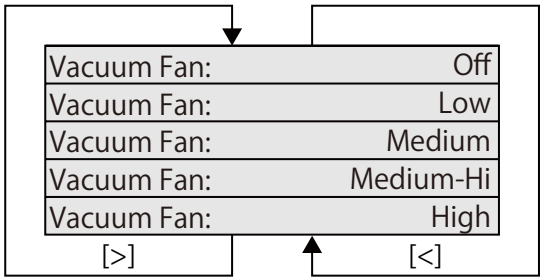
CONFIDENTIAL

5.18 Vacuum Fan

5.18.1 Check 14: Vacuum Fan

Specify the vacuum fan duty control. When the printer is turned on, vacuum fan is always set to Medium.
This setting is not stored in NVRAM. Every time when the printer is booted, it is initialized to Medium.

Operation Panel



Tap [Enter] to change this setting and go back to [Self-Diagnosis Menu]
Tap [Cancel] to cancel any change of this setting and go back to [Self-Diagnosis Menu]

TIP

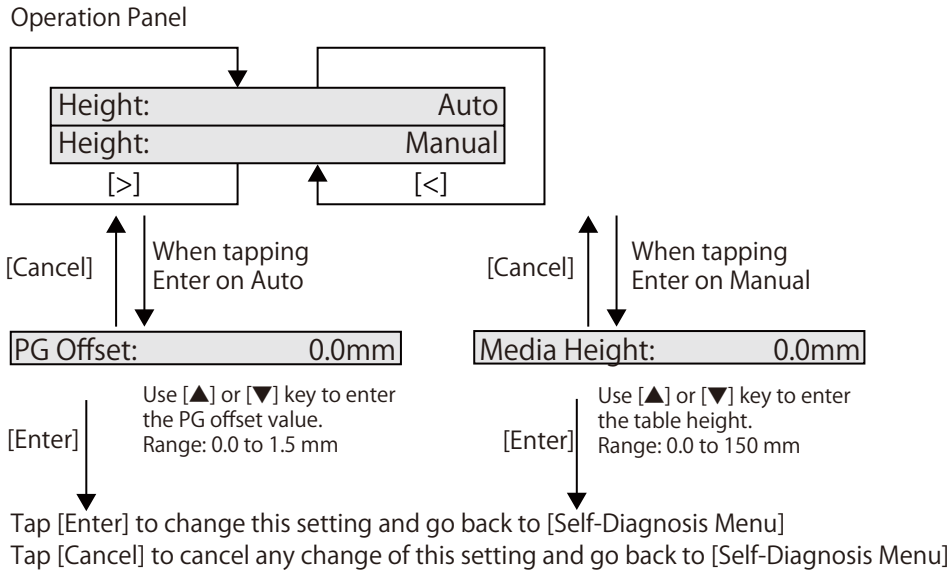
=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.19 Table Height

5.19.1 Check 15: Table Height

Select the method to determine the table height setting.
When booted with Self-diagnosis Mode, the table height specified in User Mode is displayed in this menu.
The changes made in this menu will not be applied to User Mode.



T I P

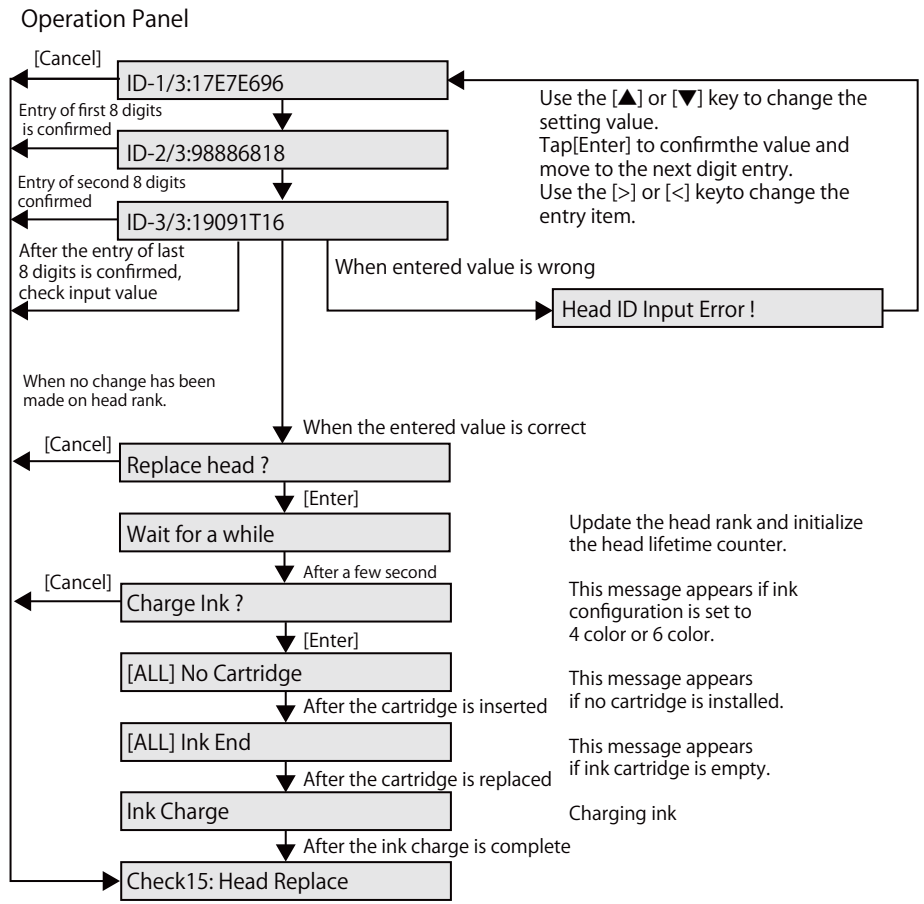
=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.20 Check 16: Head Replace

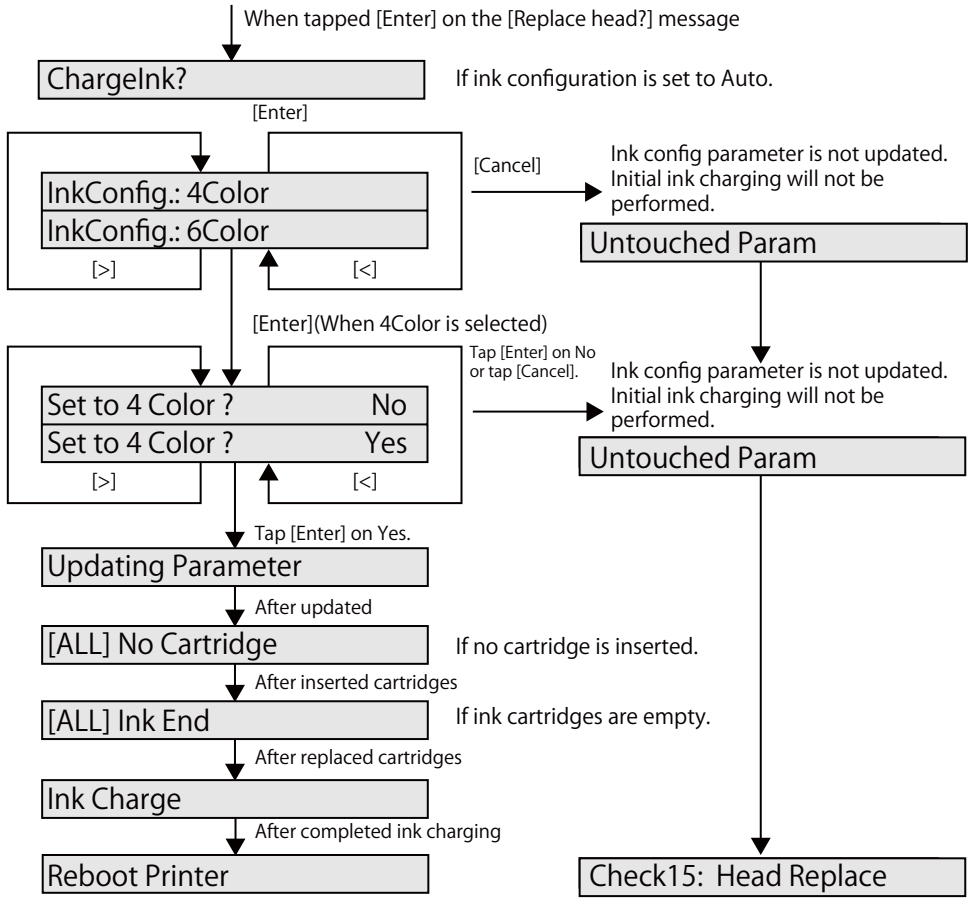
5.20.1 Check 16: Head Replace

Enter the head rank of the new head. This head rank determines the drive voltage and compensate temperature. Refer tothe specification of I9472 Head for more details..
After entering the head rank, the head lifetime counter is automatically initialized and the menu moves to ink charging process.



If the head rank has not been changed, the head lifetime counterwill not be initialized.

In the initial charge, following menu appears to specify ink configuration if ink has not been charged in the printer and the ink configuration parameter has not been specified yet.
After the ink configuration parameter has been updated, the initial ink charging will automatically start.
When the ink configuration setting has been changed, a reboot request message will appear after ink charging (to change the memory setting).



To reboot the printer, see “Turning on the printer”

TIP

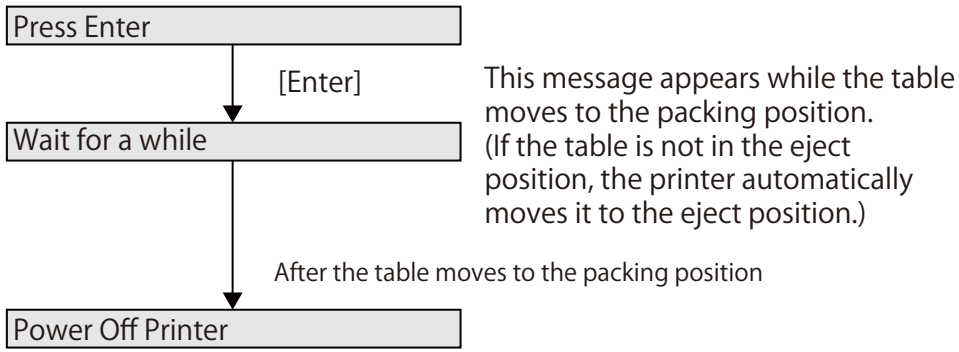
=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.21 Packing

5.21.1 Check 17: For Packing

Prior to packing the printer, use this menu to automatically move the table to the packing position to secure the table with shipping brackets.
Once the table moves to the bottom position, "Power Off Printer" will appear on the operation panel to allow operators only to turn off the printer.



When tapping [Cancel]on [Press Enter] message,
the menu goes to Self-Diagnosis Menu without performing this operation.

T I P

=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.22 Adjustment print setting

5.22.1 Setting Values for Adjustment Printing

The following settings are used to print an adjustment pattern in self-diagnosis mode.

Setting items in the user mode	Setting values in the self-diagnosis
Effect	[None] for internal pattern.
Spitting	On
Side margin	5 mm

For other settings, the user mode settings will be applied to self-diagnosis mode.

TIP

=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.23 Parameter Initial Values

5.23.1 Parameter Initial Values 1

Item		Initial Value	Setting Range	Count
UniD (same speed and waveform)		0	-100~100	1
BiD	320 VSD2	-44	-400~400	1
	320 VSD3	-39		
	320 VSD4	-37		
Margin	Top margin	5.0mm	0.0~10.0	0.1
	Side margin	5.0mm	0.0~10.0	0.1
LED Pointer (CR/PF)		0.0mm	-10.0~10.0	0.1
Charge flag		uncompleted initial wash / unfilled ink	uncompleted initial wash/ unfilled ink completed initial wash/ unfilled ink, completed initial wash/ filled ink	N/A
Periodic CL		Auto	Auto / Off	N/A
Table U/D		Auto	Auto / Manual	N/A
Uni / Bi Pattern		Type A	TypeA / TypeB	N/A
UV Lamp LT Dir.		AUTO	AUTO/MANUAL	N/A
UV Lamp LT Illumi		100%	0~100%	1
UV System		On	On / Off	N/A
Lift Speed		High	High/Medium/Low	N/A

5.23.2 Parameter Initial Values 2

Item	Initial Value	Setting Range	Count
Servo proportional gain (GP) 320CW、320CCW	0x4800	0x2000~0x7800	0x200
Servo integral gain (GI) 320CW、320CCW	0x0080	0x0002~0x0800	1
Servo low-pass filter (GLPF) 320CW、320CCW	228	0~255	1
Servo PWM scale 320CW、320CCW	13	10~15	1
Servo ωC 320CW、320CCW	45	30~60	5

TIP

=>**Self-Diagnosis Function - Hierarchy #1**

CONFIDENTIAL

5.24 Required Media Size

The table below shows the media size required for each internal pattern printing.
To avoid unwanted paper waste, prepare the proper size of media. If using smaller size media, the pattern cannot be fully printed (some part of the pattern might be missing), causing unwanted paper waste.

5.24.1 Check : Adjustment

Internal Test Print Pattern Type	Required Media Width	Required Media Length
Nozzle Check	425mm	210mm
Slant:Slant1	210mm	210mm
Slant:Slant2	280mm	210mm
UniD	210mm	210mm
(TypeA)	210mm	210mm
BiD Print1	210mm	210mm
(TypeA)	210mm	210mm
BiD Print2	210mm	210mm
(TypeA)	210mm	210mm
BiD Print3	210mm	210mm
(TypeA)	210mm	210mm
UniD	40mm	40mm
(TypeB)	210mm	210mm
BiD Print1	210mm	594mm
(TypeB)	210mm	210mm

5.24.2 Check : Adjustment : Print, Check : Print

Internal Test Print Pattern Type	Required Media Width	Required Media Length
Adjust ALL	425mm	257mm
Parameter ALL	210mm	210mm
Log Info.	210mm	210mm
S/C Log Info.	280mm	160mm
Life Information	210mm	210mm

TIP

=>Self-Diagnosis Function - Hierarchy #1

CONFIDENTIAL

5.25 Appendix A. Uni/Bi Type B Print Pattern

TIP

=>Self-Diagnosis Function

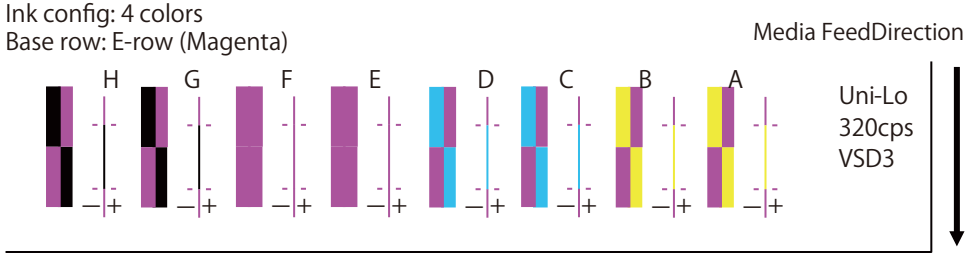
5.25.1 A-1. Print Pattern by Ink Configuration

In UniD/BiD adjustment, the ink color on the Type B pattern varies by ink configuration on the printer.
Here is examples of patterns for each combination and adjustment base row.
From the next page, we will explain each pattern when printing on 4-color ink configuration.

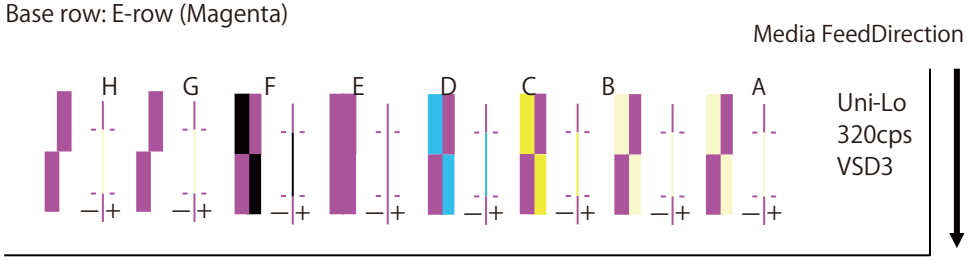
CONFIDENTIAL

5.25.1.1 Print pattern example: UniD Low 320 VSD3

Ink config: 4 colors
Base row: E-row (Magenta)



Ink config: 6 colors
Base row: E-row (Magenta)



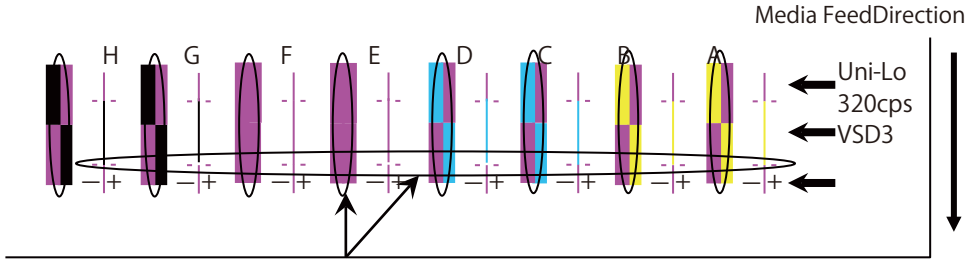
T I P

=>A-1. Print Pattern by Ink Configuration

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5.25.2 A-2. UniD / Print

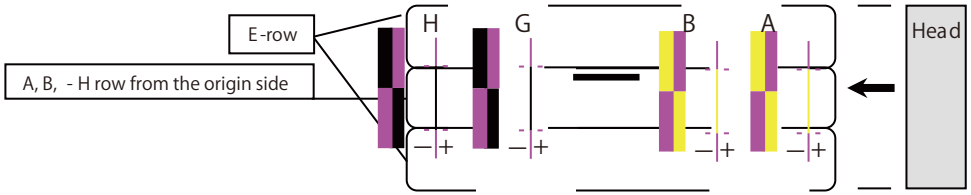
Print Pattern



Adjust the setting so that the line pattern is perfectly aligned and there is not gap or overlap on the block pattern.

UniD Print Pattern – Details of Printing Method

1. Print: 1st Pass



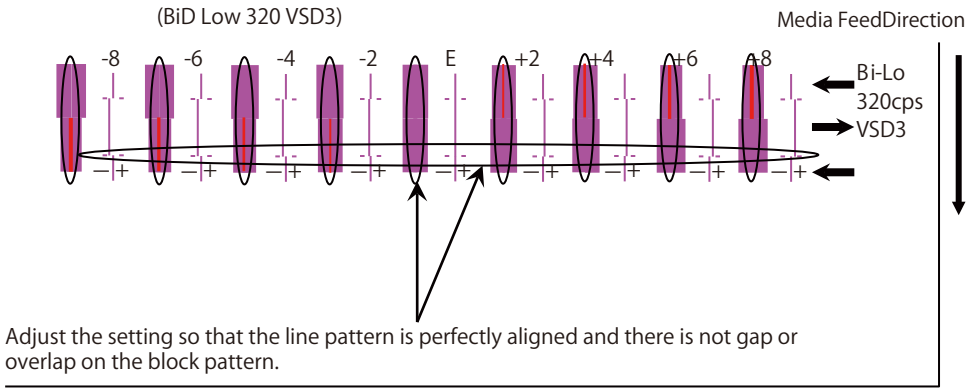
TIP

=>Appendix A. Uni/Bi Type B Print Pattern

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5.25.3 A-3. BiD / Print1

Print Pattern



Adjust the setting so that the line pattern is perfectly aligned and there is not gap or overlap on the block pattern.

T I P

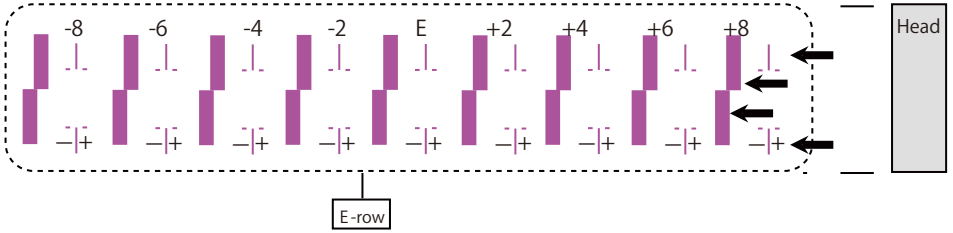
=>Appendix A. Uni/Bi Type B Print Pattern

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5.25.3.1 BiD Print 1 Print Pattern - Printing Method

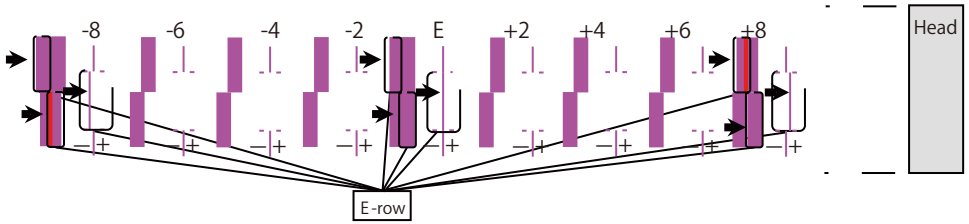
BiD Print 1 Print Pattern -Printing Method

1. Print: 1stPass (CW Print)

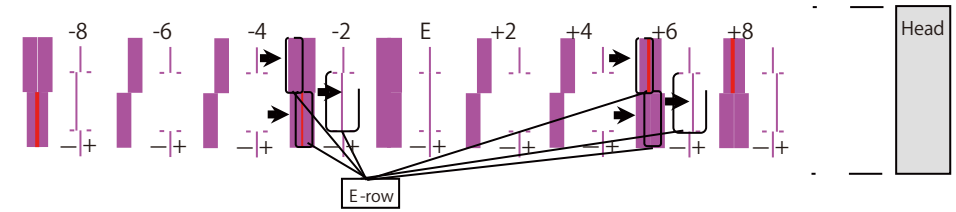


2. Print: 2ndPass -5thPass (CCW Print)

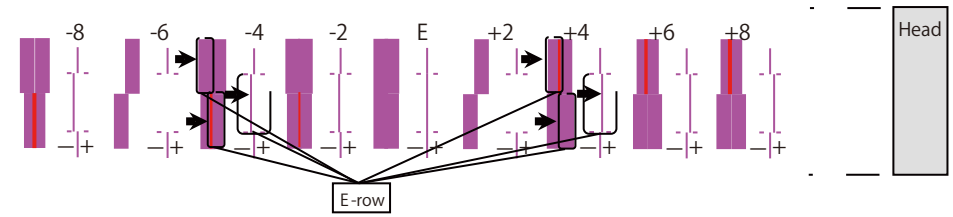
2ndPass(Print +8, 0, -8)



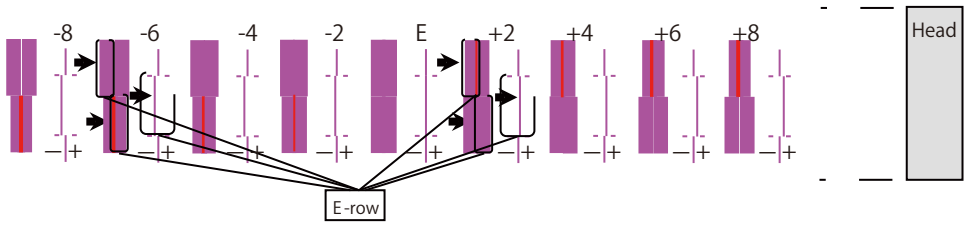
3rd Pass(Print +6, -2)



4thPass(Print +4, -4)



5thPass(Print +2, -6)



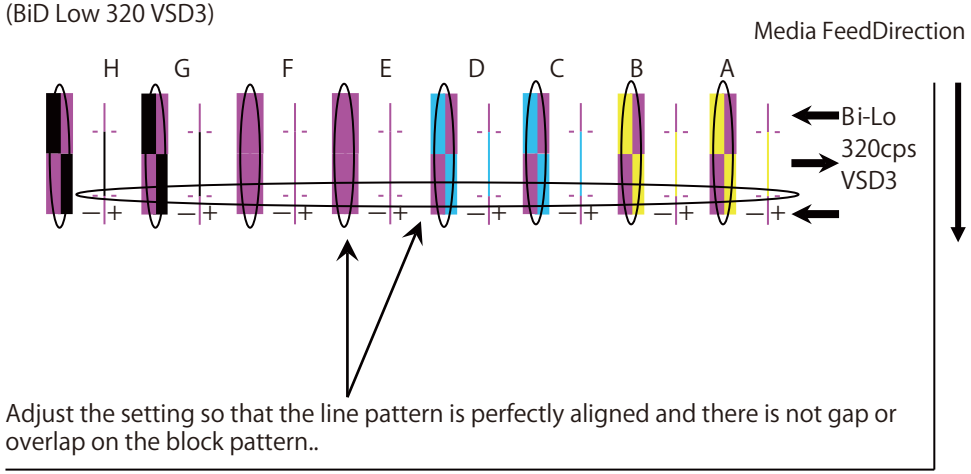
TIP

=>A-3. BiD / Print1

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5.25.4 A-4. BiD / Print2

Print Pattern
(BiD Low 320 VSD3)



Adjust the setting so that the line pattern is perfectly aligned and there is not gap or overlap on the block pattern..

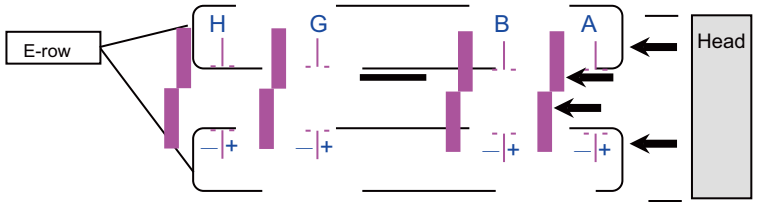
TIP

=>Appendix A. Uni/Bi Type B Print Pattern

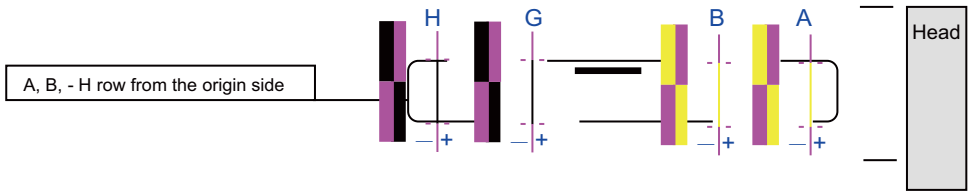
CONFIDENTIAL

5.25.4.1 BiD Print 2 Print Pattern - Printing Method

1. Print: 1stPass (CW Print)



2. Print: 2ndPass (CCWPrint)



T I P

=>**A-4. BiD / Print2**

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6 Maintenance Mode 2

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6.1 Introduction

NOTE

Maintenance 2 functions are integrated in Self Diagnosis
=> **5 Self-Diagnosis Function**.

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7 Maintenance

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7.6 Transportation of Product 471

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7.1 Introduction

This chapter provides information about the periodical services, part life, lubrication/bonding, and transport.

⚠WARNING

Before starting part(s) replacement, always perform following operations.

- Turn OFF power.
- Remove Power plug from outlet.
  Otherwise, you may suffer electric shock or system circuit may be damaged.
- Remove any Cable s connected to the printer.
  Otherwise, the printer may be damaged.

⚠CAUTION

- Components in printer can be disassembled only if instructed so in this manual.
  Frame components and/or other components that are notinstructed are not disassemble .
  The printer has been assembled in MUTOH factory with extremely high precision up to 1/100mm.
  If disassembled inappropriately, normal functionality may not be restored.
- Check if 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.

⚠CAUTION

- UV ink may cause strong irritation to your skin.
  Wear butyl rubber gloves and protective goggles to prevent skin contact.
- The printer uses UV ink.
  There is a possibility that the ink would be cured by strong light from fluorescent lamps or sunlight.
  Do not leave for a long time (1 or more days) with the cover removed.

TIP

Chapter TOC

=> 7.1 Introduction

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7.2 Periodical Services

This section describes the periodical services required for this printer.

The following periodic maintenance is conducted to ensure the consistent print quality.

- Replace a periodic maintenance parts.
- Check if the printer works properly.

NOTE

=> Operation Manual

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7.2.1 Periodic Replacement Parts

The parts in the following table require replacement once per year.

Maintenance part(s) numbers	Maintenance part name	Remark
DH-40023	XPJ-461UF Periodic Maintenance Kit	**Ch8 Exp view _8.5 Periodic Replace Parts**

TIP

Chapter TOC
=> **7.1 Introduction**

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7.2.2 Parts Which Require Inspection / Replacement

Part	Timing	Check point	Action
Daily maintenance check point by the user (Platen, pressure roller, wiper, outer surface of the print head)	Several times per year	• No ink adhesion • No foreign objects • No damage • Daily maintenance is properly performed or not	If the stain is left, tell the user to clean it periodically according to the user manual. (If leaving it for long time, the replacement frequency will increase.)
Timing fence (CR encoder detection slit plate)	Several times per year	• No media dust accumulation • No foreign objects • No damage	• Perform the cleaning. • If damaged, replace the parts.
Roller strip	Several times per year	• No ink adhesion • No foreign objects • No damage • Lubricant application	• Perform the cleaning. • Apply the lubricant if necessary. => **7.5 Lubrication/Bonding**
Table surface	Several times per year	• No media dust accumulation • No foreign objects • No damage	• Perform the cleaning. • If ink adhered, remove it with a dampened cloth, and then wipe the area with a clean dry cloth.

TIP

Chapter TOC

=> **7.1 Introduction**

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7.3 Part Life Information

This section describes the lifecycle of maintenance parts.
To check the life of maintenance parts, check the maintenance counter in Self-diagnosis mode.
The parts life information for this printer is shown in the table below.

Part	Replacement Cycle	Panel Message Cycle	Panel Message	How to Restore	Replacement Parts	Action
Wiper	6 months	-	-	-	Wiper (Periodic Replacement Kit)	Clean around the wiper.
Cap unit	12 months	-	-	-	Cap (Periodic Replacement Kit)	Clean around the cap.
Circulation Pump	-	93.1hours	Life Times [Pump] OK->Enter	Counter Clear	Circulation Pump	Check the damage on peripheral parts. Clean around the circulation pump.
Waste Fluid Pump	-	93.1 hours	Life Times [C Pump] OK->Enter	Counter Clear	Waste Fluid Pump	Check the damage on peripheral parts. Clean around the waste ink pump.
CR Motor	-	4,370,000 shuttles	Life Times [CR Motor] OK->Enter	Counter Clear	CR Motor	Check the damage on ink tubes. Check the damage on CR FFC.
PF Motor	-	176700m	Life Times [PF Motor] OK->Enter	Counter Clear	PF Motor	Check the damage on peripheral parts.
UV-LED	-	14,250hours	Life Times [UV Lamp] OK->Enter	Counter Clear	UV-LED	Check the damage on peripheral parts.
Print Head	-	6 billion Dot [600,000,000 Dot]	-	-	Print Head	Check the damage on peripheral parts. Clean around the head.

TIP

Chapter TOC
=> 7.1 Introduction

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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

No.	Part(s) No.	Name	Reference
1	Generic product	Phillips Screwdriver No.2	-
2	Generic product	Phillips Screwdriver No.2	Shaft length: 250mm or longer (For print head)
3	Generic product	Phillips Screwdriver No.2	Shaft length: 50mm or shorter
4	Generic product	Phillips Screwdriver No.1	Screw size: M2.5 or smaller
5	Generic product	Slotted Screwdriver	-
6	Generic product	Screwdriver (Precision)	-
7	Generic product	Ratchet Screwdriver	-
8	Generic product	Nose Pliers	-
9	Generic product	Tweezers	-
10	Generic product	Hex wrench (2.5mm)	-
11	Generic product	Hex wrench (2.5mm)	Shaft length: 150mm or longer Type: Other than L-shaped (For screw fixing the head base)
12	Generic product	Hex wrench (1.5mm)	-
13	Generic product	Penlight	-
14	Generic product	Loupe (x10)	For print head adjustment
15	Generic product	Hex Spanner (14mm)	-
16	Generic product	Hex Spanner (3mm)	-
17	Generic product	Magic Marker	-
18	Generic product	Tube Cutter	-
19	Generic product	Plastic Bag	-
20	Generic product	Waste Clothes	-
21	Generic product	Thread Lock	-

TIP

Chapter TOC

=> 7.1 Introduction

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(2) Tools for Adjustment

No.	Part(s) No.	Name	Reference
1	Generic product	Network Interface Cable	-
2	Network Software	Mutoh Service Assistance (MSA)	Ver.5.0.1 or later
3	Generic product	Tension gauge	Max.: 40N
4	Generic product	Tension gauge	Max.: 2N
5	Generic product	Level	For checking installation environment
6	-	Dedicated paper	For adjusting printing accuracy
7	DG-41787	Valve Head Cleaning Kit (VJ Ink)	For cleaning valve head
8	DG-43193	PG Adjusting Jig (1.1/1.3)	For adjusting head height (1.1mm/1.3mm)
9	DG-45465	Jig Cartridge Assy	For replacing head
10	DG-47405	Head Cleaner Jig (5540)	For cleaning head
11	DH-40022	UV LED Adjustment Jig	For adjusting UV-LED
12	Generic product	Network Interface Cable	-

TIP

Chapter TOC

=> 7.1 Introduction

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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.
- Do not lubricate too much on single part.

Parts name		Location	Manufacturer	Model Name
CR drive section	Y rail	Apply to the hole securing Y drive base.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
		Apply to the hole securing the return pulley bracket.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
	Pressure cam	Apply to the cam part.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
	Drive pulley	Apply to the drive pulley.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
	Roller strip	Apply to the front surface of roller strip.	NIPPON OIL CORPORATION	SUPERMULPASS32 (Super multi dia tetrat)
	CR driven pulley adjusting screw	After adjusting the steel belt, apply the screw lock.	Three Bond Co., Ltd.	1401
Cursor section	Rack	Apply to the gear.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
Head base section	Head mounting plate	Apply to the screw hole securing shoulder screw.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
	Head base push spring	Apply to the spring and washer.	Dow Corning Toray Co., Ltd.	MOLYKOTE(R)EM-60LGREASE
Others	Screw	Apply to where the screw lock is applied.	Three Bond Co., Ltd.	1401
	Edges tend to be sharp	Attach acetate tapes to the tape wires or harnesses to prevent sharp edge.	Not specified	-

TIP

Chapter TOC

=> 7.1 Introduction

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7.6 Transportation of Product

- When transporting the printer, in order to protect it from vibration or impact, it needs to be packed in the same state as when purchased using the cushion foam and packing material.
- Regardless of whether the printer is packed or unpacked, do not tilt the printer more than 30-degree angle. It will cause misalignment in each adjusted part.

NOTE

=> Installation Manual

(1) Printer Installation Requirement

- Required installation space: D 1800mm x W 1400mm
- Allowable table levelness: Less than 15mm
- Recommended table load capacity: 150kg minimum

(2) When Moving Printer

When moving the printer to change the installation site by users, follow these steps.

- Check that the printer is turned off.
  (Check if the head is in the capping station)
- Empty the waste ink tank and hook the waste ink drain tube.
- Remove all cables from the printer including power cord and LAN cable.

For moving that may cause vibration to the printer,

- Perform “Ink Discharge”.
- Secure the print head and table with the shipping brackets.
- Tape the covers that can open by moving

TIP

Chapter TOC

=> 7.1 Introduction

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8.1 Maintenance Part(s) List

TIP

As of August 21, 2020 (No.00694SP01)

CAUTION

The changes made to the maintenance parts list are shown below.
When ordering the service parts, apply the modified service part(s).
[Change]

- DG-44771: Carriage Assy
  => DH-40225: Carriage Assy(UF)
- DH-40092: LED_CONT Cable Assy
  => DG-44796: LED_CONT Cable Assy

[Addition]

- DH-40048: LED_CONT Board Assy

Part(s) No.	Maintenance Part(s) Name	Reference
DF-46671	O Ring M6	-
DG-41543	Valve Head Assy	-
DG-41915	Connector_Valve_Head Assy	-
DF-49018	Head FG_Assy	-
DF-49471	CR HP Sensor. Lever Sensor	-
DG-49990	Print Head Assy_I9472(Set)	-
DG-42947	CR Encoder Assy	-
DG-42959	CR Board Assy	-
DF-49065	Roller Arm Assy	-
DG-44687	Head FFC Assy	-
DG-44689	Mini Latch S Assy	-
DG-44903	LED Pointer Assy	-
DH-40000	UV-LED Lamp Assy	-
DF-49027	Fence Guide Assy	-
DF-49047	CR Return Pulley Assy	-
DF-49044	CR Belt A1 Assy	-
DF-49024	T Fence A1 Assy	-
DF-48991	CR Motor Relay A1_Assy	-
DG-44690	T Fence Spring Assy	-
DG-44691	CR Origin Sensor Cable Assy	-
DG-44693	CR Motor Assy	-
DF-49020	PF Motor Assy	-
DG-44772	PF Pulley Assy	-
DG-44773	PF Scale Assy	-
DG-45219	PF Seal Assy	-
DG-44775	PF Belt Assy	-
DG-46427	CR Encoder Assy	-
DG-48112	PF Motor Cable Assy	-
DG-48113	PF Motor Relay Cable Assy	-
DG-48114	PF Encoder Relay Cable Assy	-
DG-48115	TF Origin Sensor Cable Assy	-
DH-40040	MIST Fan Cable	-
DG-44782	Resin Filter Kit	-
DH-40225	Carriage Assy(UF)	-

CONFIDENTIAL

Part(s) No.	Maintenance Part(s) Name	Reference
DH-40041	Laser Sensor 2 Assy	-
DG-48118	Leveling Adjuster Assy	-
DG-42988	Adsorption Fan Assy	-
DG-48119	Vacuum Fan Cable 1 Assy	-
DG-48120	Vacuum Fan Cable 2 Assy	-
DG-48121	Vacuum Fan Cable 3 Assy	-
DG-48122	TZ Origin Sensor Cable 1 Assy	-
DG-48123	TZ Origin Sensor Cable 2 Assy	-
DG-48124	Z Motor Assy	-
DG-48125	Z Motor Relay Cable Assy	-
DG-48126	Z Motor Cable Assy	-
DH-40042	Screw Shaft Assy	-
DG-48681	VJ five-layer black tube 3-4(1m)	-
DG-48682	VJ five-layer black tube 3-4(2m)	-
DG-44741	Clamp_FFC32_Assy	-
DG-44742	Clamp Tube Assy	-
DG-44743	Clamp Bare64 Assy	-
DG-44703	CR FFC Assy	-
DG-44704	Steel Bare Assy	-
DG-44705	Tube Guide Film Assy	-
DG-44787	Clamp Retainer_P	-
DF-43967	Pressure Roller Holder Spring	-
DH-40005	Ink ID Board	-
DH-40002	I/C Holder Assy 1	-

Part(s) No.	Maintenance Part(s) Name	Reference
DH-40003	I/C Holder Assy 2	-
DH-40004	I/C Holder Assy 3	-
DH-40001	DC Pump Assy	-
DG-46873	Power Supply Board Assy	-
DG-43741	FG Cable Assy	-
DG-45354	Cooling Fan Assy	-
DG-42993	MAIN DC Cable Assy	-
DG-46952	AC Inlet Assy	-
DG-43396	Junction 2 Board	-
DF-49017	Head Cable Assy	-
DH-40017	MAIN Board	-
DG-44716	JUNC FFC Assy	-
DG-44717	JUNC ID Cable Assy	-
DG-44718	JUNC ID Cable2 Assy	-
DH-40016	Switching Power Supply Board	-
DH-40048	LED_CONT Board	-
DG-44792	AC Cable Assy	-
DH-40043	Terminal Base-LED PS Cable	-
DG-48130	RC Cable Assy	-
DH-40083	LED_DC Cable	-
DG-44797	LED_TH Cable Assy	-
DH-40019	LED_HEAD Cable	-
DG-44799	Terminal Block	-
DG-44806	Terminal Block-Power Cable Assy	-

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Part(s) No.	Maintenance Part(s) Name	Reference
DG-48134	Head Cap Assy	-
DG-41090	Wiper Solenoid SDC630KG	-
DF-48995	Vacuum FAN Relay 2 Assy	-
DG-44723	Wiper SOL Cable Assy	-
DH-40006	Waste Fluid Bottle Assy	-
DG-49070	Replaceable Wiper Assy(26UF)	-
DG-42956	Cover Switch Assy	-
DG-49289	Panel Unit Assy	-
DH-40045	Panel FFC	-
DG-48136	Maintenance Cover Cable Assy	-
DH-40046	Front Cover Cable	-
DG-41787	Valve Head Cleaning Kit (VJ Ink)	-
DH-40023	XPJ-461UF Periodic Maintenance Kit	-
DG-43193	PG Adjusting Jig (1.1/1.3)	-
DH-40022	UV LED Adjustment Jig	-
DG-45465	Jig Cartridge Assy	-
DH-40047	Laser Sensor Adjusting Jig	-
DG-48385	VJ626UF UV Lamp maintenance kit	-
DG-47405	Head Cleaner Jig (5540)	-
DG-41001	VJ16 Wiper Assy	-
DG-44796	LED_CONT Cable Assy	-
DH-40014	Sensor Relay Cable	-
DH-40339	Eccentric Screwdriver 6-3	-

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DF-46671

O Ring M6



DG-41543

Valve Head Assy









DG-41915

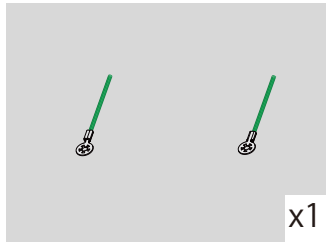
Connector_Valve_Head Assy





DF-49018

Head FG_Assy



DF-49471

CR HP Sensor. Lever Sensor



DG-49990

Print Head Assy_I9472(Set)



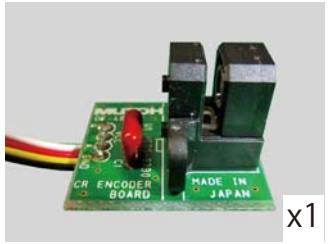




CONFIDENTIAL

DG-42947

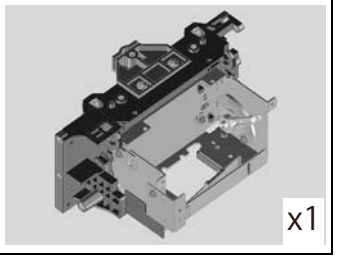
CR Encoder Assy



x1

DH-40225

Carriage Assy(UF)



x1

DG-42959

CR Board Assy



x1

DG-44689

Mini Latch S Assy



x1



x1

DF-49065

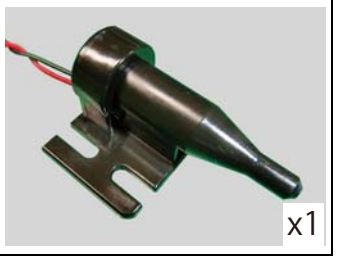
Roller Arm Assy



x1

DG-44903

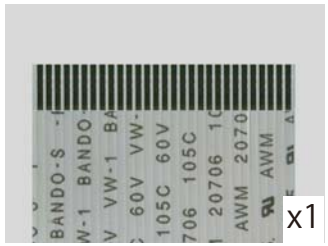
LED Pointer Assy



x1

DG-44687

Head FFC Assy



x1

DH-40000

UV-LED Lamp Assy

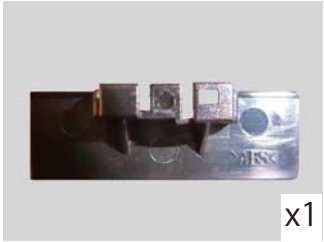


x1

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DF-49027

Fence Guide Assy



x1

DF-49047

CR Return Pulley Assy



x1

DF-49044

CR Belt A1 Assy



x1

DF-49024

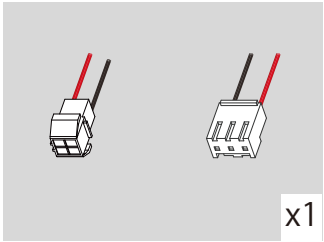
T Fence A1 Assy



x1

DF-48991

CR Motor Relay A1_Assy



x1

DG-44690

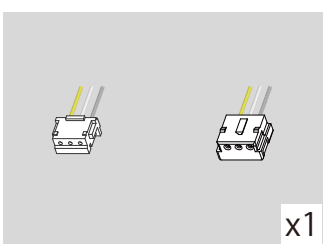
T Fence Spring Assy



x1

DG-44691

CR Origin Sensor Cable Assy



x1

DG-44693

CR Motor Assy



x1

CONFIDENTIAL

DF-49020

PF Motor Assy



DG-44772

PF Pulley Assy





DG-44773

PF Scale Assy





DG-45219

PF Seal Assy



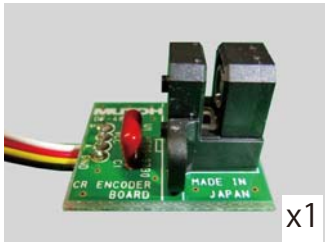
DG-44775

PF Belt Assy



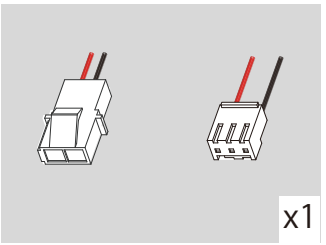
DG-46427

CR Encoder Assy



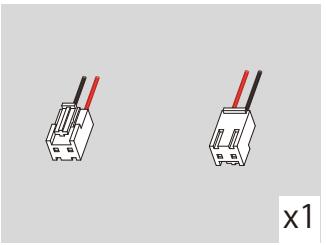
DG-48112

PF Motor Cable Assy



DG-48113

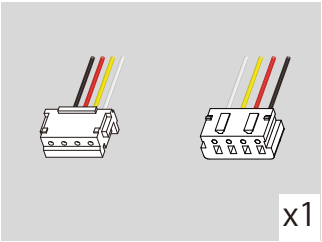
PF Motor Relay Cable Assy



CONFIDENTIAL

DG-48114

PF Encoder Relay Cable Assy



DH-40041

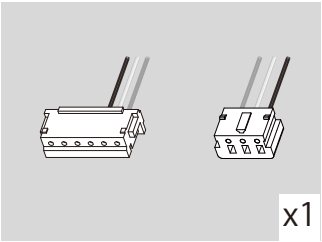
Laser Sensor 2 Assy





DG-48115

TF Origin Sensor Cable Assy



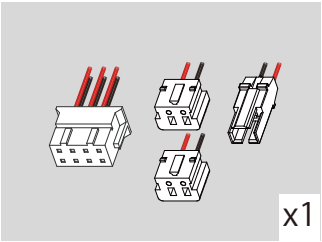
DG-48118

Leveling Adjuster Assy



DH-40040

MIST Fan Cable



DG-42988

Adsorption Fan Assy



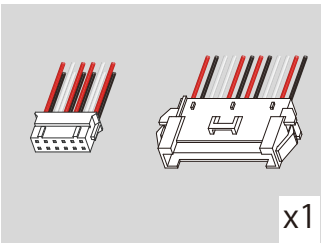
DG-44782

Resin Filter Kit



DG-48119

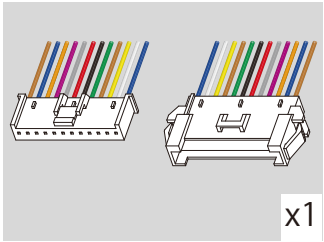
Vacuum Fan Cable 1 Assy



CONFIDENTIAL

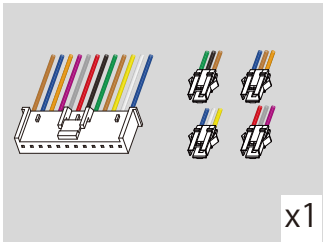
DG-48120

Vacuum Fan Cable 2 Assy



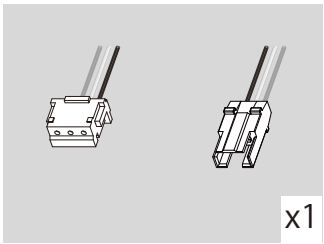
DG-48121

Vacuum Fan Cable 3 Assy



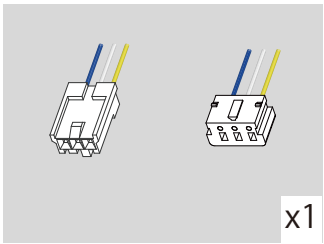
DG-48122

TZ Origin Sensor Cable 1 Assy



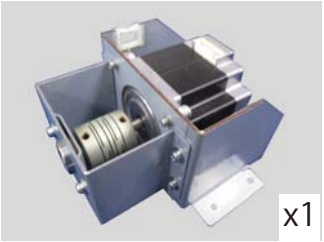
DG-48123

TZ Origin Sensor Cable 2 Assy



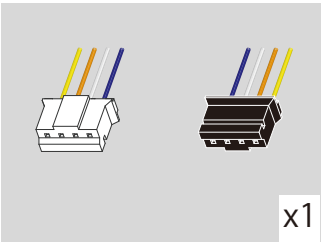
DG-48124

Z Motor Assy



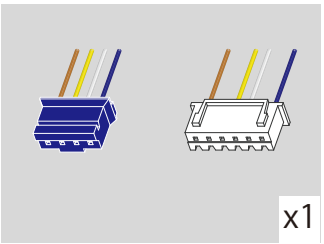
DG-48125

Z Motor Relay Cable Assy



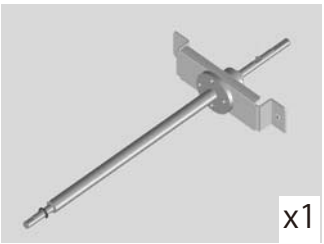
DG-48126

Z Motor Cable Assy



DH-40042

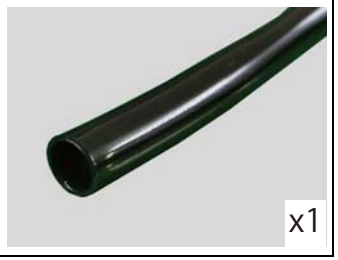
Screw Shaft Assy



CONFIDENTIAL

DG-48681

VJ five-layer black tube 3-4(1m)



DG-48682

VJ five-layer black tube 3-4(2m)



DG-44741

Clamp_FFC32_Assy



DG-44742

Clamp Tube Assy



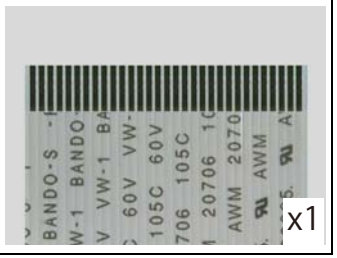
DG-44743

Clamp Bare64 Assy



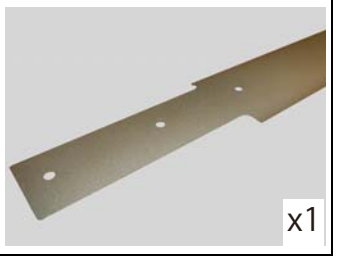
DG-44703

CR FFC Assy



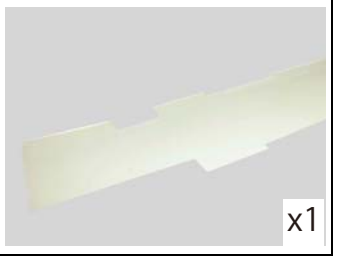
DG-44704

Steel Bare Assy



DG-44705

Tube Guide Film Assy



CONFIDENTIAL

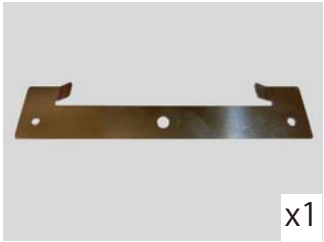
DG-44787

Clamp Retainer_P



DF-43967

Pressure Roller Holder Spring



DH-40005

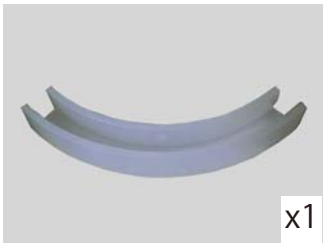
Ink ID Board



DH-40002

I/C Holder Assy 1

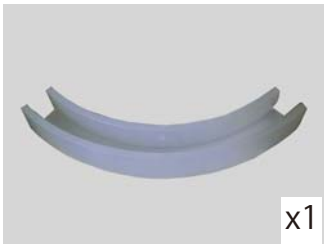




DH-40003

I/C Holder Assy 2

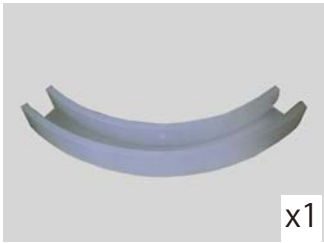




DH-40004

I/C Holder Assy 3





DH-40001

DC Pump Assy



DG-46873

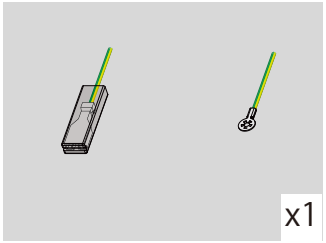
Power Supply Board Assy



CONFIDENTIAL

DG-43741

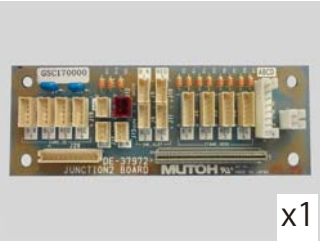
FG Cable Assy



x1

DG-43396

Junction 2 Board



x1

DG-45354

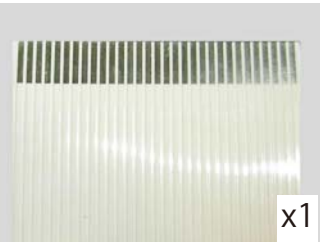
Cooling Fan Assy



x1

DF-49017

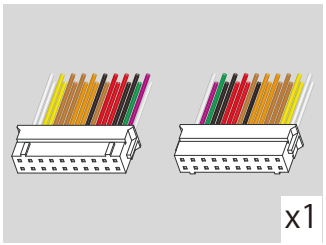
Head Cable Assy



x1

DG-42993

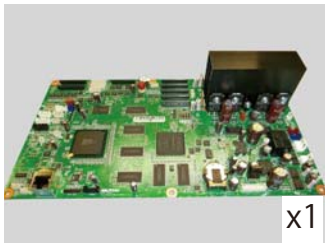
MAIN DC Cable Assy



x1

DH-40017

MAIN Board



x1

DG-46952

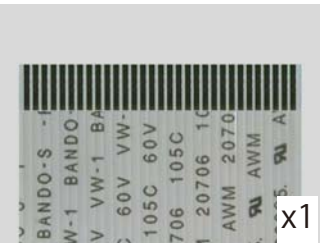
AC Inlet Assy



x1

DG-44716

JUNC FFC Assy

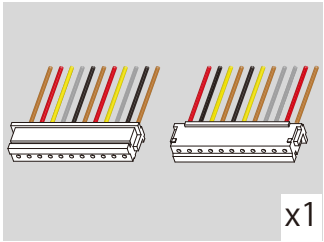


x1

CONFIDENTIAL

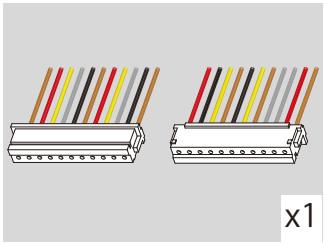
DG-44717

JUNC ID Cable Assy



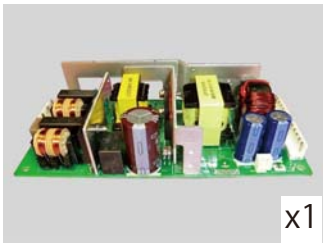
DG-44718

JUNC ID Cable2 Assy



DH-40016

Switching Power Supply Board



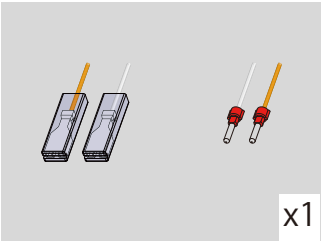
DH-40048

LED_CONT Board



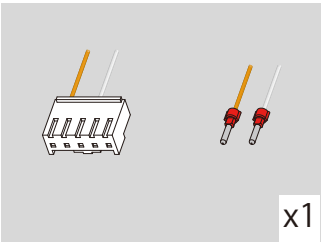
DG-44792

AC Cable Assy



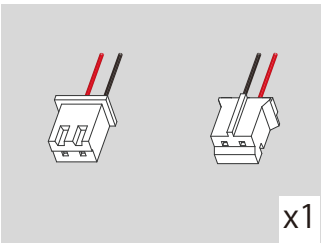
DH-40043

Terminal Base-LED PS Cable



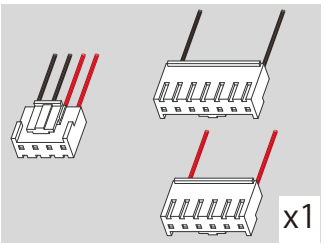
DG-48130

RC Cable Assy



DH-40083

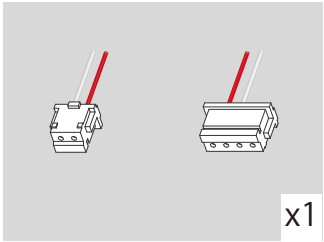
LED_DC Cable



CONFIDENTIAL

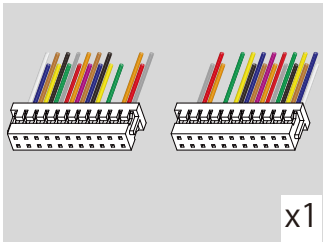
DG-44797

LED_TH Cable Assy



DH-40019

LED_HEAD Cable



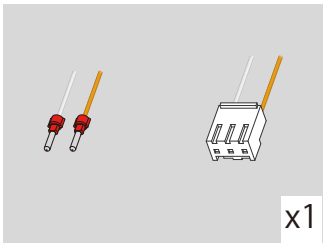
DG-44799

Terminal Block



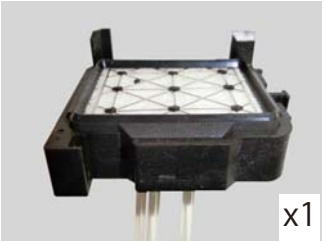
DG-44806

Terminal Block-Power Cable Assy



DG-48134

Head Cap Assy



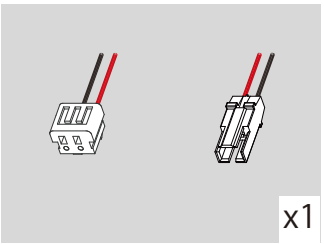
DG-41090

Wiper Solenoid SDC630KG



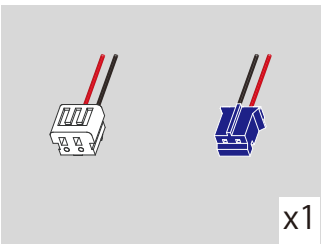
DF-48995Y

Vacuum FAN Relay 2 Assy



DG-44723

Wiper SOL Cable Assy



CONFIDENTIAL

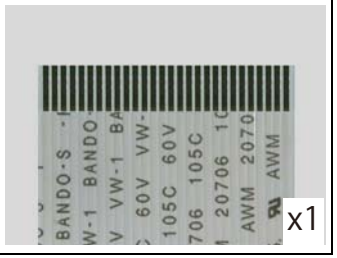
DH-40006

Waste Fluid Bottle Assy



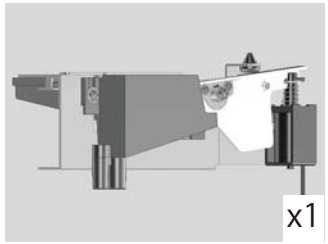
DH-40045

Panel FFC



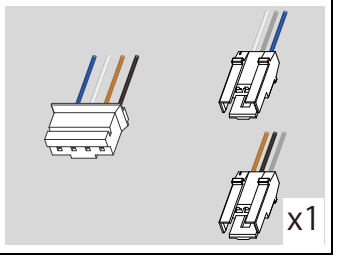
DG-49070

Replaceable Wiper Assy(26UF)



DG-48136

Maintenance Cover Cable Assy



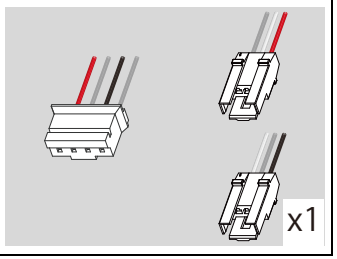
DG-42956

Cover Switch Assy



DH-40046

Front Cover Cable



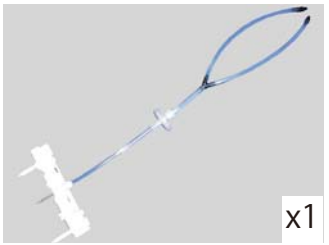
DG-49289

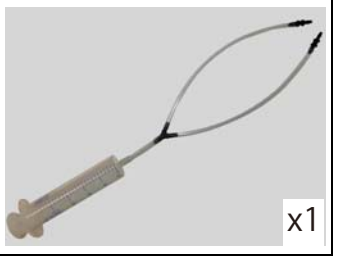
Panel Unit Assy



DG-41787

Valve Head Cleaning Kit
(VJ Ink)

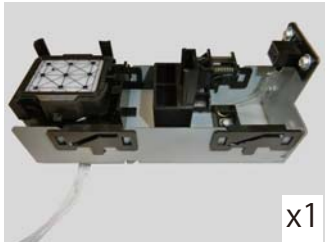


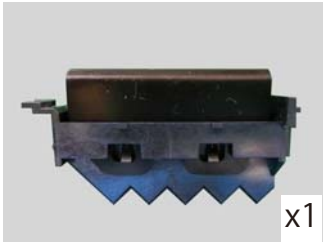


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DH-40023

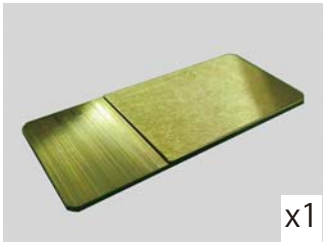
XPJ-461UF Periodic Maintenance Kit


x1


x1

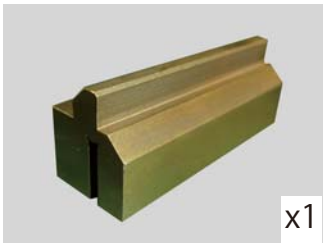
DG-43193

PG Adjusting Jig (1.1/1.3)


x1

DH-40022

UV LED Adjustment Jig


x1

DG-45465

Jig Cartridge Assy

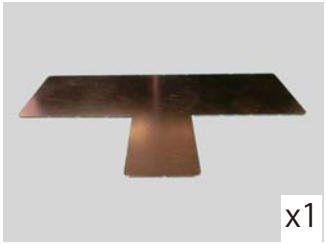
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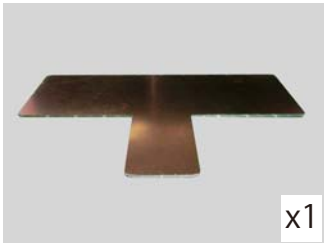
x1

DH-40047

Laser Sensor Adjusting Jig


x1

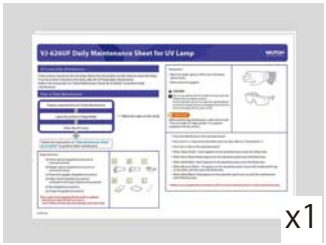

x1


x1

DG-48385

VJ626UF UV Lamp maintenance kit


x1


x1

DG-47405

Head Cleaner Jig (5540)

No picture

x1

CONFIDENTIAL

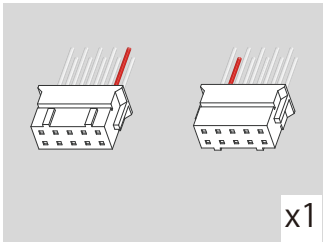
DG-41001

VJ16 Wiper Assy



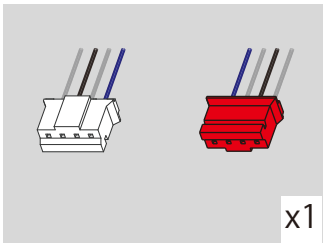
DG-44796

LED_CONT Cable Assy



DH-40014

Sensor Relay Cable



DH-40339

Eccentric screwdriver 6-3



TIP

Chapter TOC => 8 Exploded View

CONFIDENTIAL

8.2 Electric Diagram / Tube Diagram

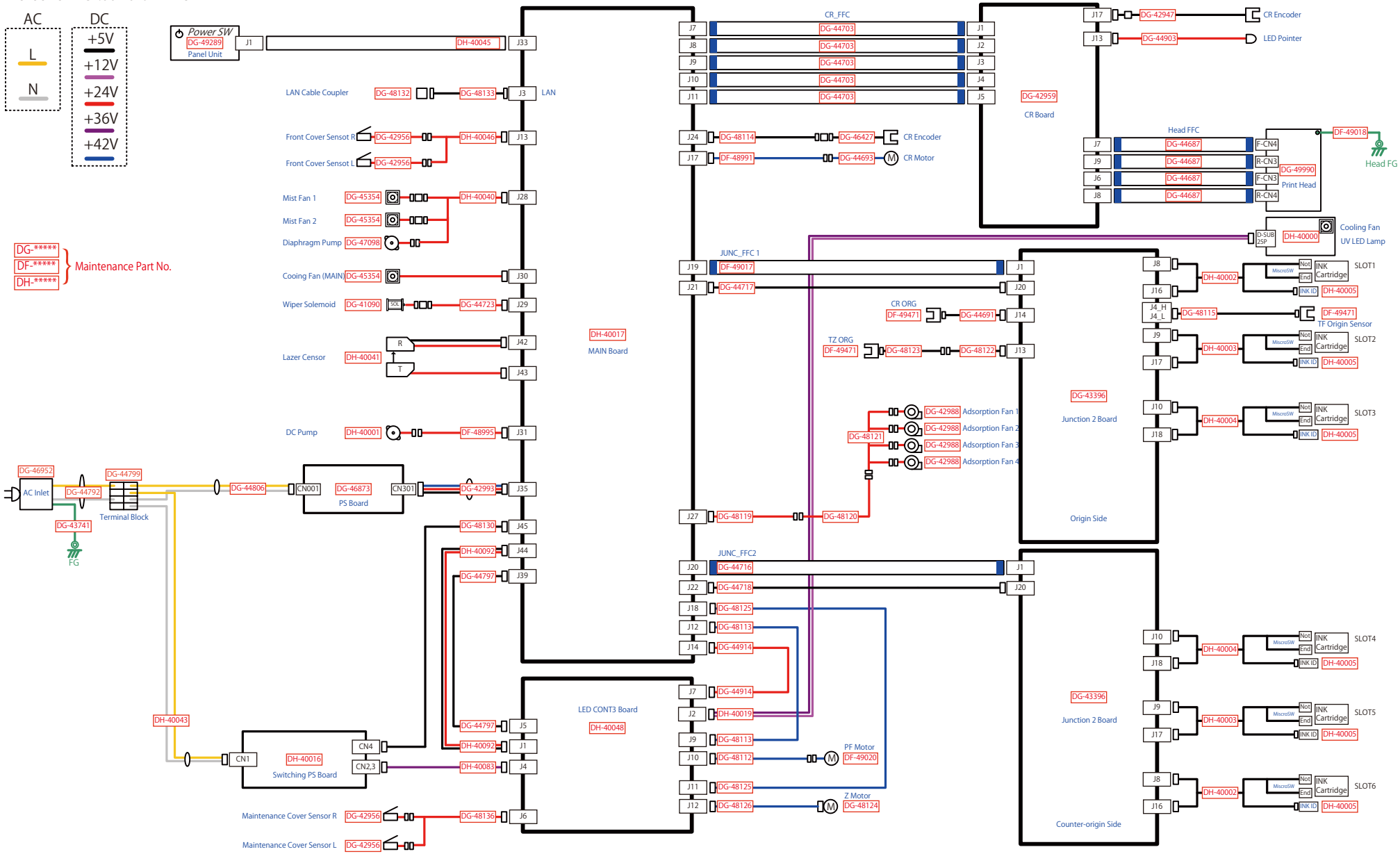
TIP

Chapter TOC=> 8 Exploded View

CONFIDENTIAL

0100 Electric Diagram

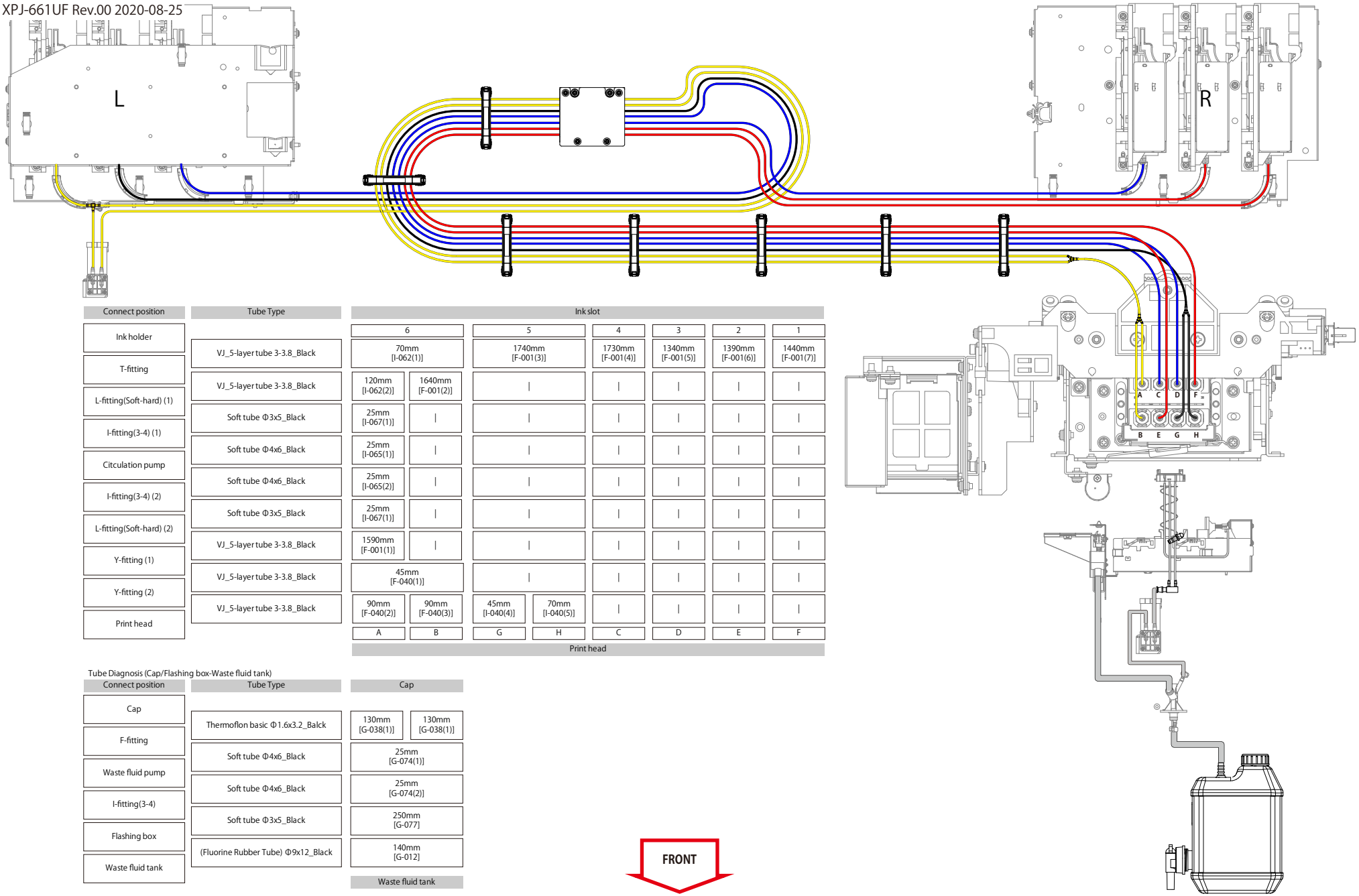
XPJ-661UF Rev.00 2019-12-25



CONFIDENTIAL

0200 Tube Diagram - 4 colors

XPJ-661UF Rev.00 2020-08-25



Connect position	Tube Type	Ink slot							
		6		5		4	3	2	1
Ink holder	VJ_5-layer tube 3-3.8_Black	70mm [I-062(1)]		1740mm [F-001(3)]		1730mm [F-001(4)]	1340mm [F-001(5)]	1390mm [F-001(6)]	1440mm [F-001(7)]
T-fitting	VJ_5-layer tube 3-3.8_Black	120mm [I-062(2)]	1640mm [F-001(2)]	|		|	|	|	|
L-fitting(Soft-hard) (1)	Soft tube Φ3x5_Black	25mm [I-067(1)]	|	|		|	|	|	|
I-fitting(3-4) (1)	Soft tube Φ4x6_Black	25mm [I-065(1)]	|	|		|	|	|	|
Citculation pump	Soft tube Φ4x6_Black	25mm [I-065(2)]	|	|		|	|	|	|
I-fitting(3-4) (2)	Soft tube Φ3x5_Black	25mm [I-067(1)]	|	|		|	|	|	|
L-fitting(Soft-hard) (2)	VJ_5-layer tube 3-3.8_Black	1590mm [F-001(1)]	|	|		|	|	|	|
Y-fitting (1)	VJ_5-layer tube 3-3.8_Black	45mm [F-040(1)]		|		|	|	|	|
Y-fitting (2)	VJ_5-layer tube 3-3.8_Black	90mm [F-040(2)]	90mm [F-040(3)]	45mm [I-040(4)]	70mm [I-040(5)]	|	|	|	|
Print head		A	B	G	H	C	D	E	F
		Print head							

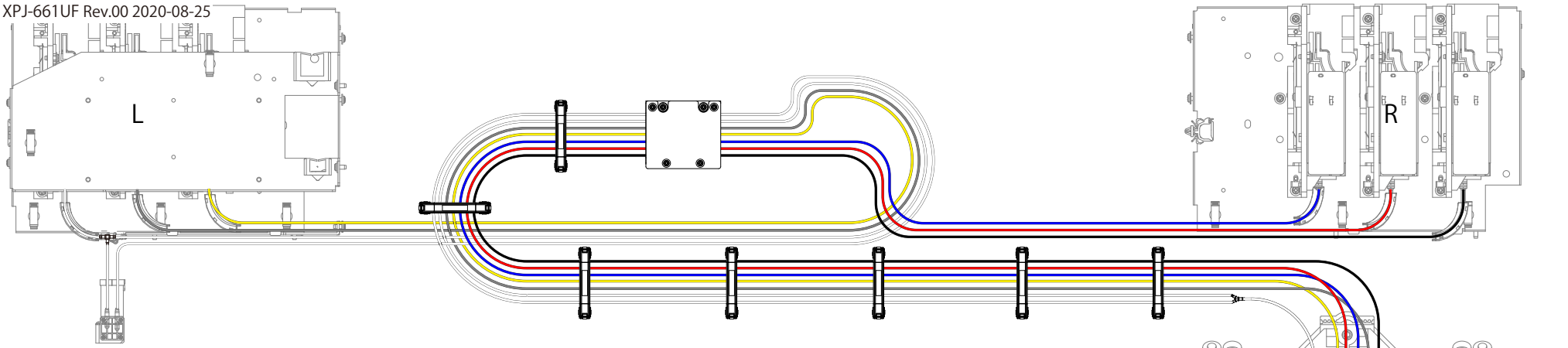
Tube Diagnosis (Cap/Flashing box-Waste fluid tank)

Connect position	Tube Type	Cap	
Cap	Thermoflon basic Φ1.6x3.2_Balck	130mm [G-038(1)]	130mm [G-038(1)]
F-fitting	Soft tube Φ4x6_Black	25mm [G-074(1)]	
Waste fluid pump	Soft tube Φ4x6_Black	25mm [G-074(2)]	
I-fitting(3-4)	Soft tube Φ3x5_Black	250mm [G-077]	
Flashing box	(Fluorine Rubber Tube) Φ9x12_Black	140mm [G-012]	
Waste fluid tank		Waste fluid tank	

CONFIDENTIAL

0201 Tube Diagram- 6 colors

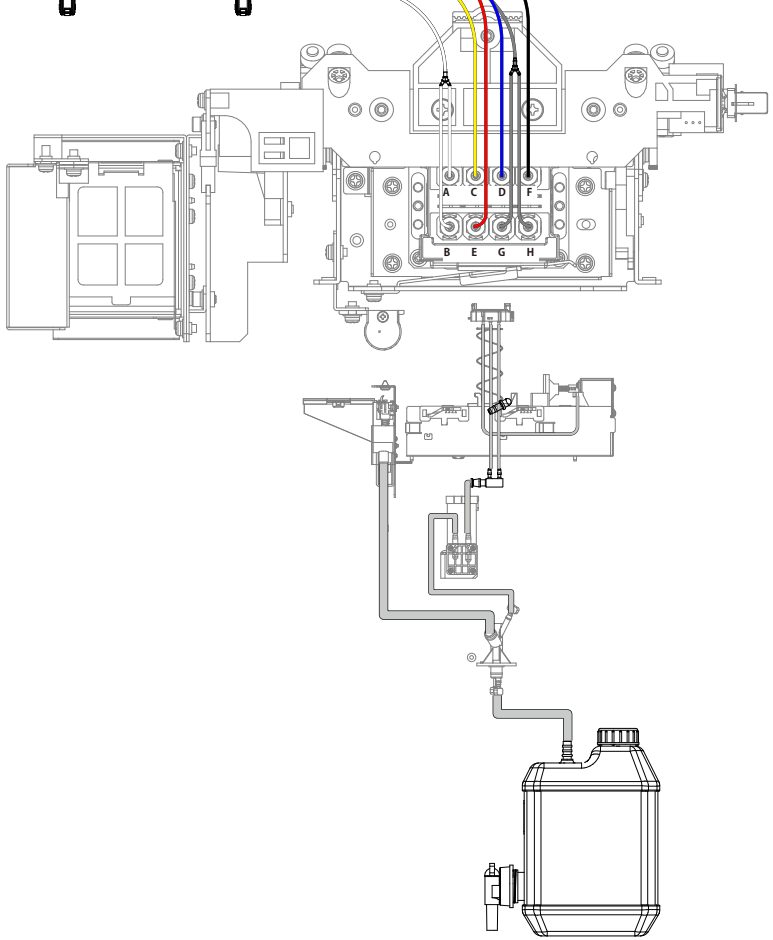
XPJ-661UF Rev.00 2020-08-25



Connect position	Tube Type	Ink slot											
		6		5		4	3	2	1				
Ink holder	VJ_5-layer tube 3-3.8_Black	70mm [I-062(1)]		1740mm [F-001(3)]		1730mm [F-001(4)]	1340mm [F-001(5)]	1390mm [F-001(6)]	1440mm [F-001(7)]				
T-fitting	VJ_5-layer tube 3-3.8_Black	120mm [I-062(2)]	1640mm [F-001(2)]	|		|	|	|	|				
L-fitting(Soft-hard) (1)	Soft tube Φ3x5_Black	25mm [I-067(1)]	|	|		|	|	|	|				
I-fitting(3-4) (1)	Soft tube Φ4x6_Black	25mm [I-065(1)]	|	|		|	|	|	|				
Citculation pump	Soft tube Φ4x6_Black	25mm [I-065(2)]	|	|		|	|	|	|				
I-fitting(3-4) (2)	Soft tube Φ3x5_Black	25mm [I-067(1)]	|	|		|	|	|	|				
L-fitting(Soft-hard) (2)	VJ_5-layer tube 3-3.8_Black	1590mm [F-001(1)]	|	|		|	|	|	|				
Y-fitting (1)	VJ_5-layer tube 3-3.8_Black	45mm [F-040(1)]		|		|	|	|	|				
Y-fitting (2)	VJ_5-layer tube 3-3.8_Black	90mm [F-040(2)]	90mm [F-040(3)]	45mm [I-040(4)]	70mm [I-040(5)]	|	|	|	|				
Print head		A	B	G	H	C	D	E	F				
		Print head											

Tube Diagnosis (Cap/Flashing box-Waste fluid tank)

Connect position	Tube Type	Cap	
Cap	Thermoflon basic Φ1.6x3.2_Balck	130mm [G-038(1)]	130mm [G-038(1)]
F-fitting	Soft tube Φ4x6_Black	25mm [G-074(1)]	
Waste fluid pump	Soft tube Φ4x6_Black	25mm [G-074(2)]	
I-fitting(3-4)	Soft tube Φ3x5_Black	250mm [G-077]	
Flashing box	(Fluorine Rubber Tube) Φ9x12_Black	140mm [G-012]	
Waste fluid tank		Waste fluid tank	



FRONT

CONFIDENTIAL

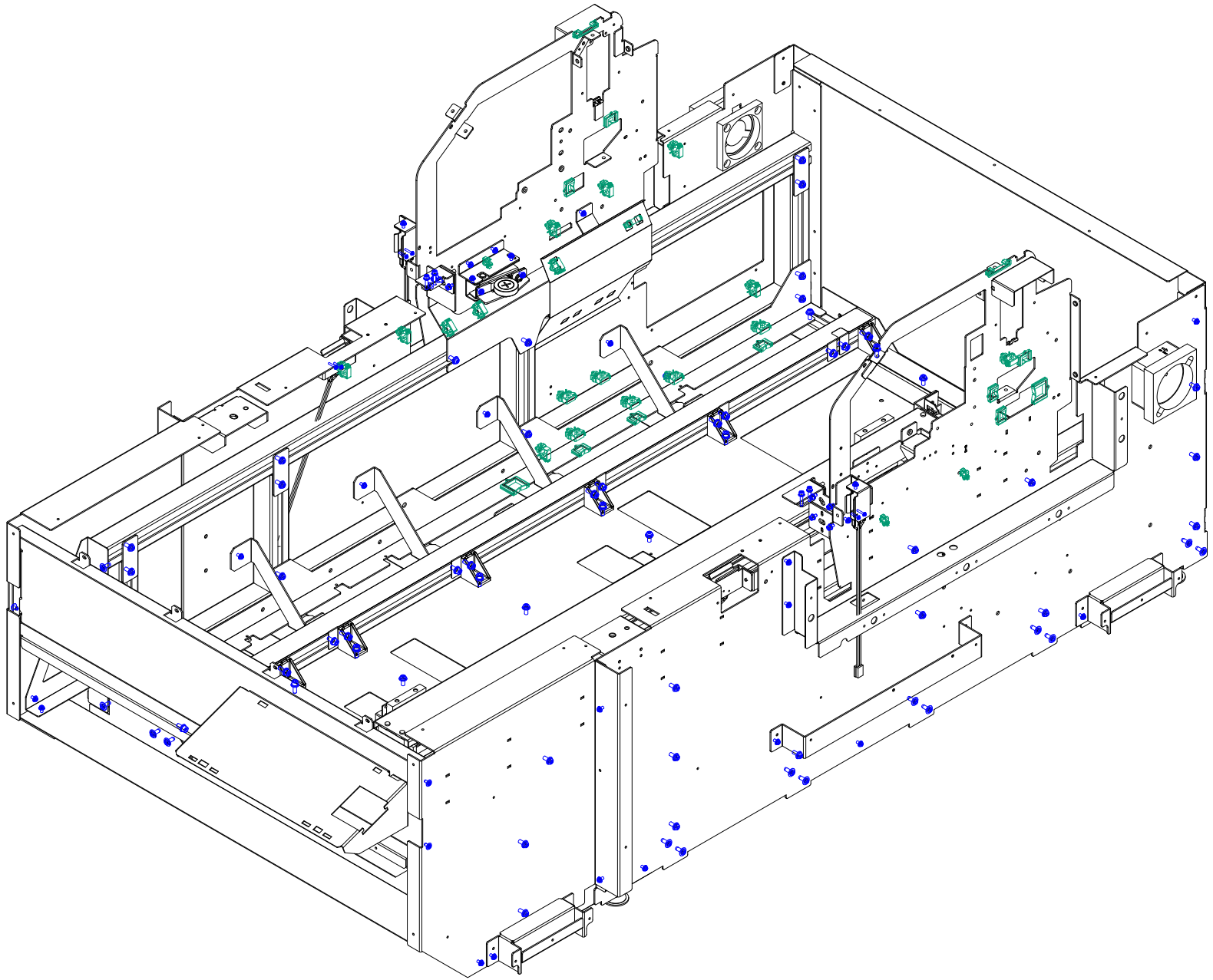
8.3 Exploded View

TIP

Chapter TOC=> 8 Exploded View

CONFIDENTIAL

0100 Frame Overview
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)

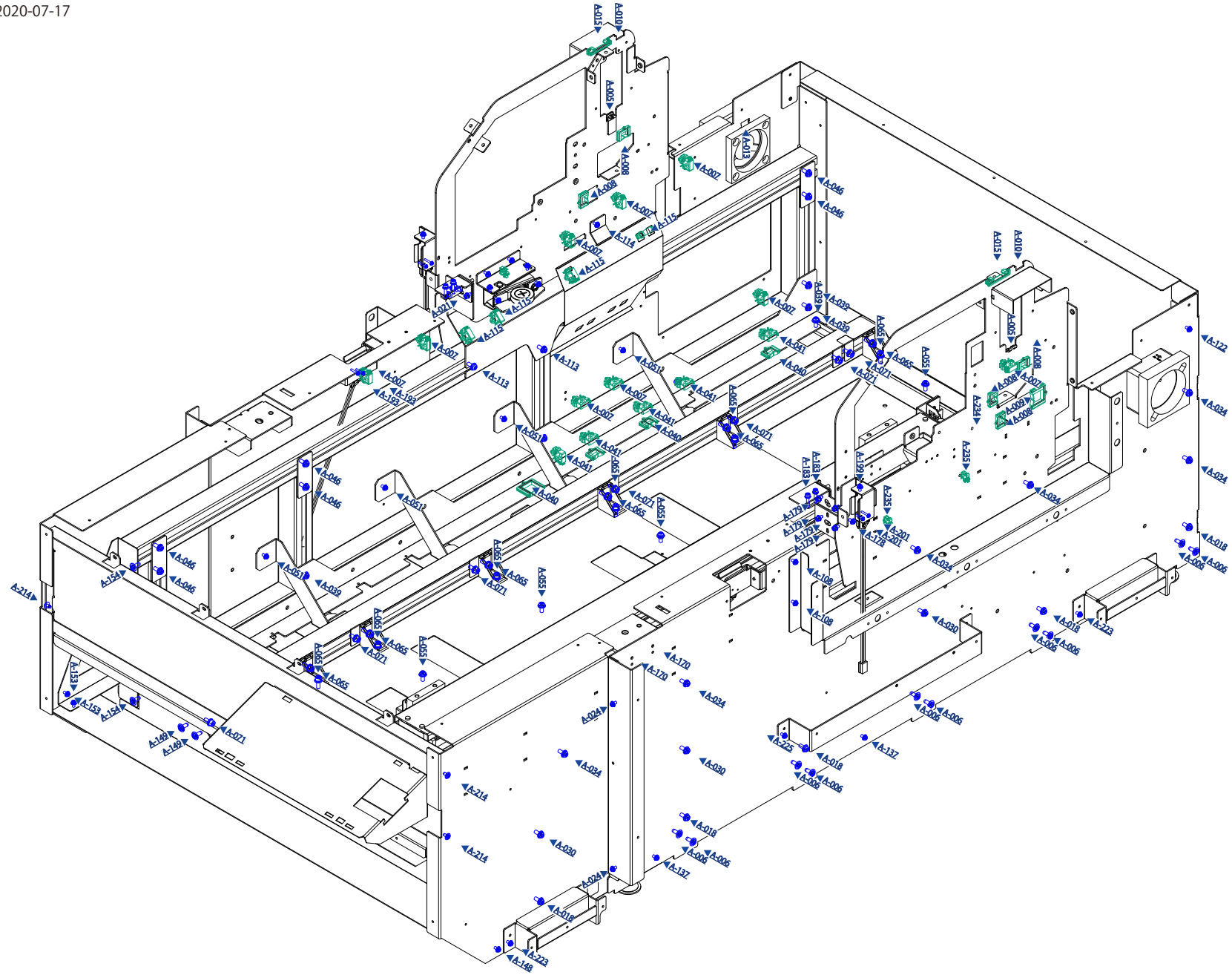


CONFIDENTIAL

0101 Frame - R view

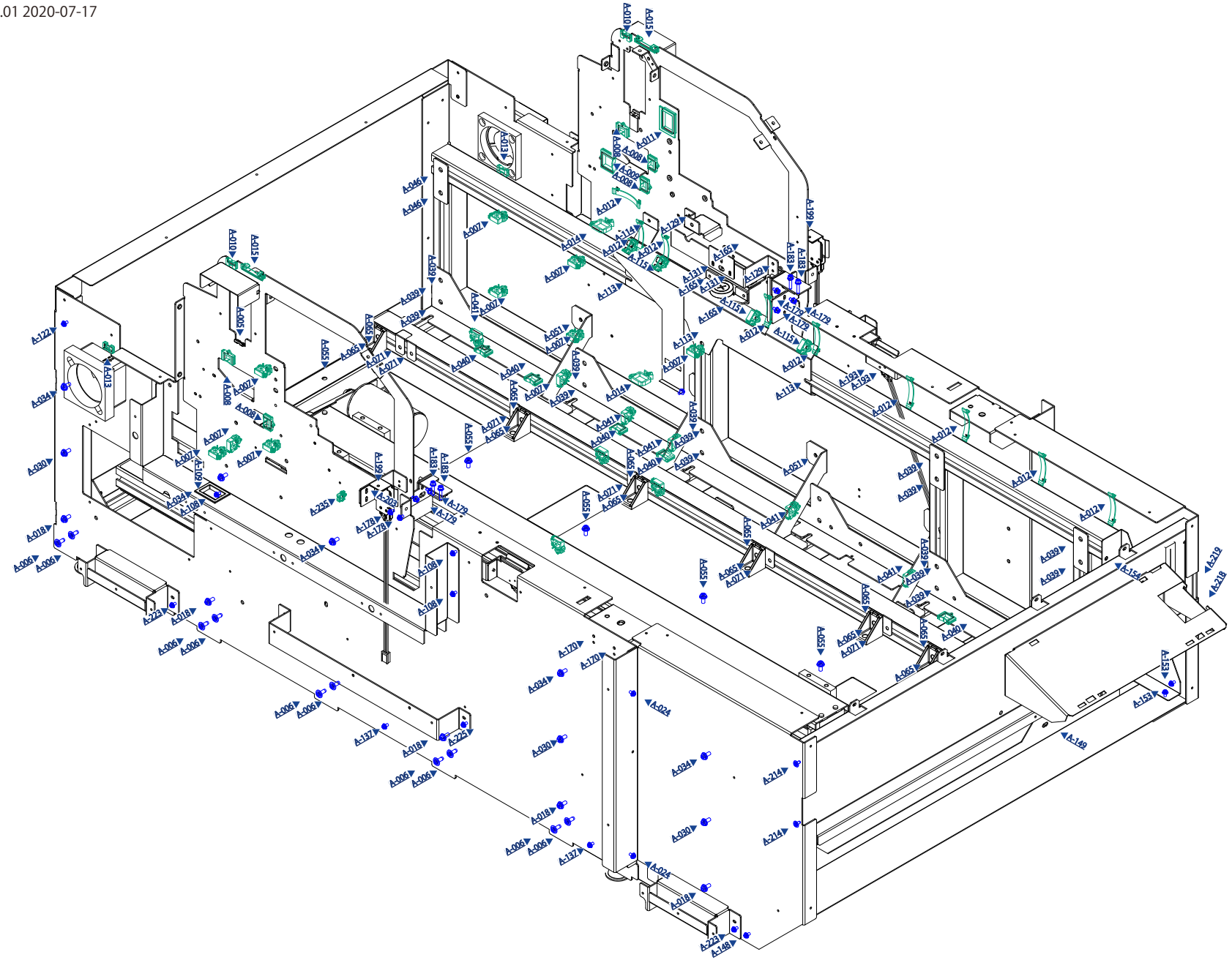
XPJ-661UF Rev.01 2020-07-17

(No. 1451904)



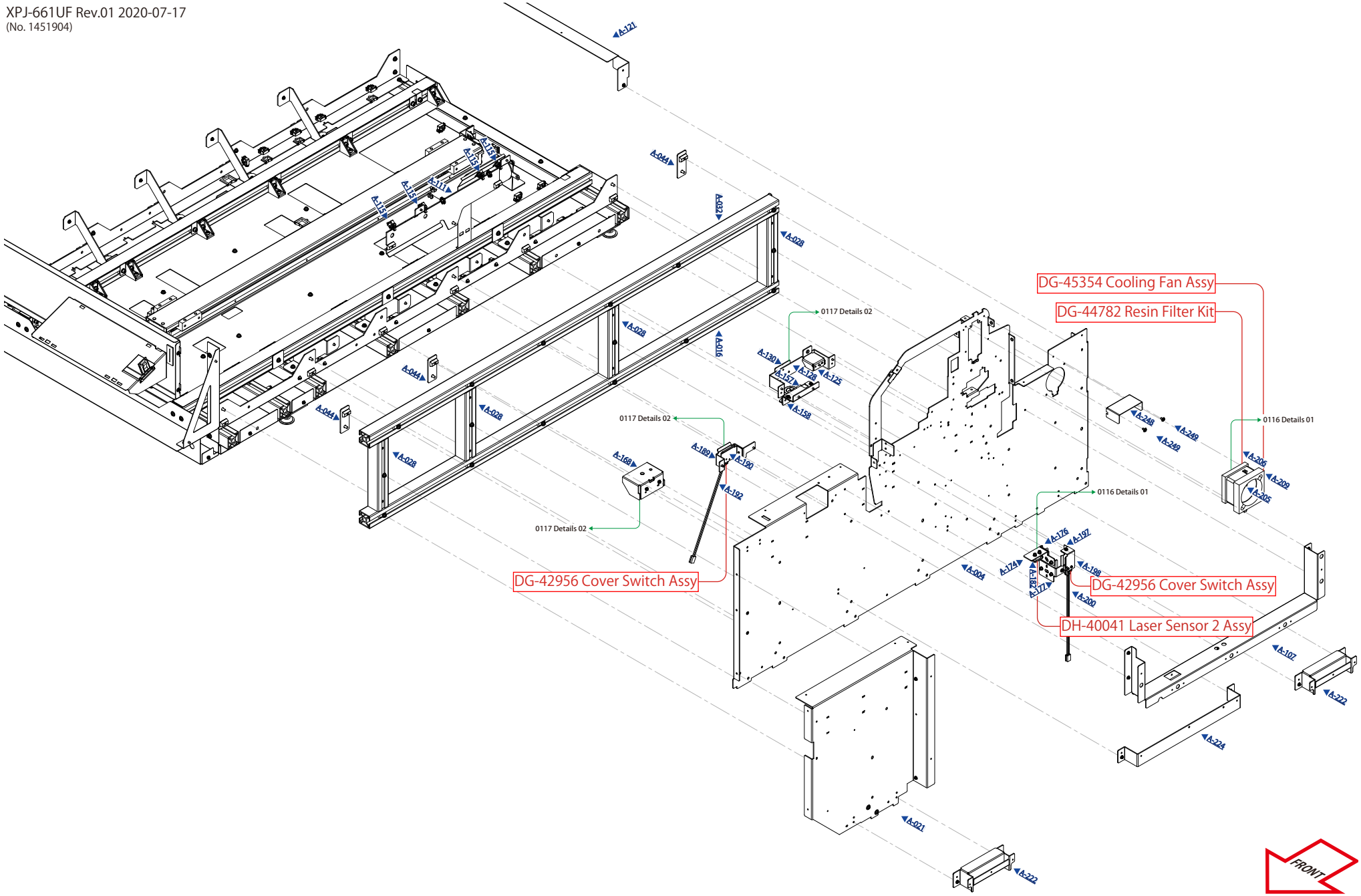
CONFIDENTIAL

0102 Frame - L view
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



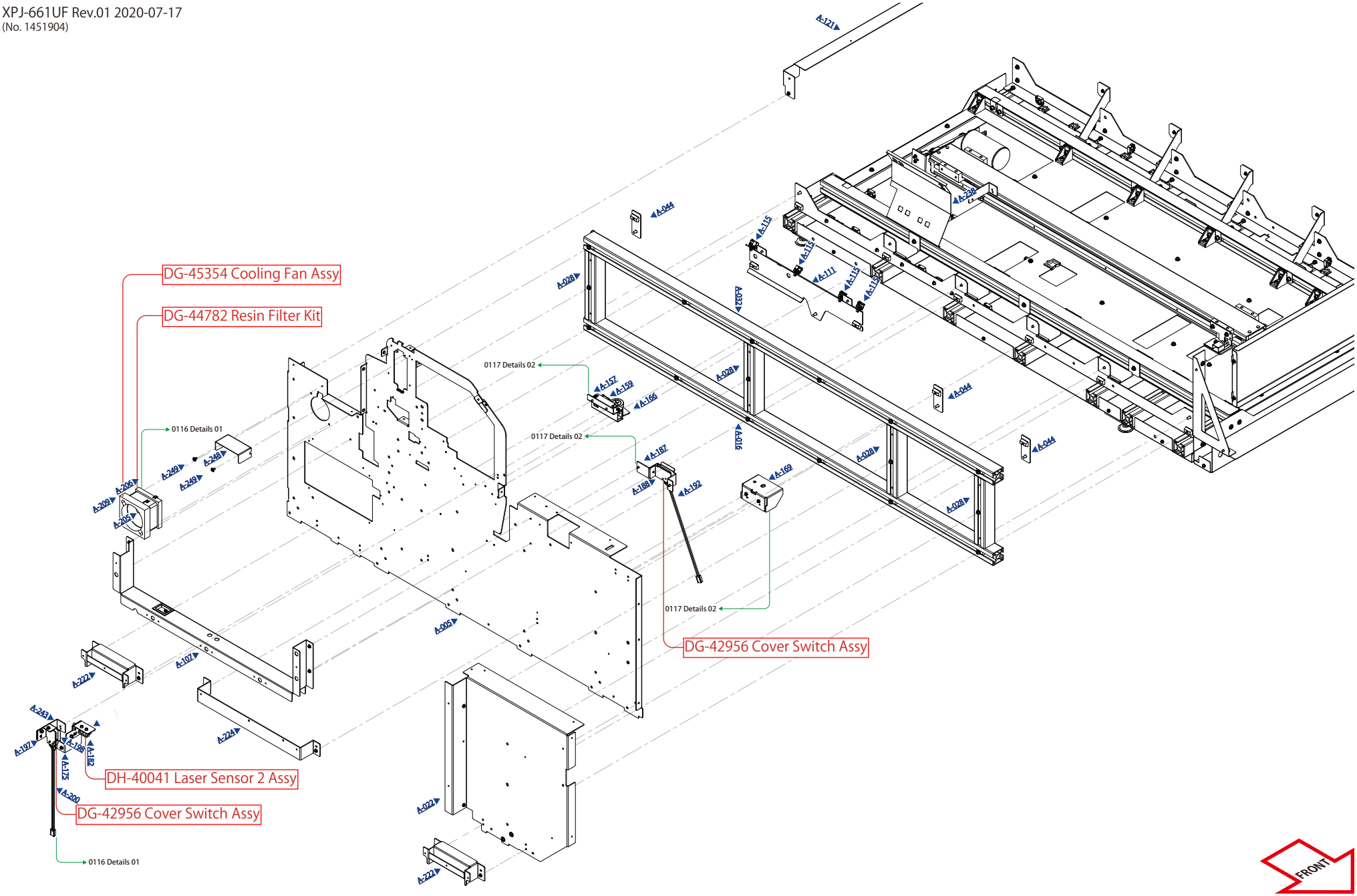
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0103 Frame - R Parts
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



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0104 Frame - L Parts
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



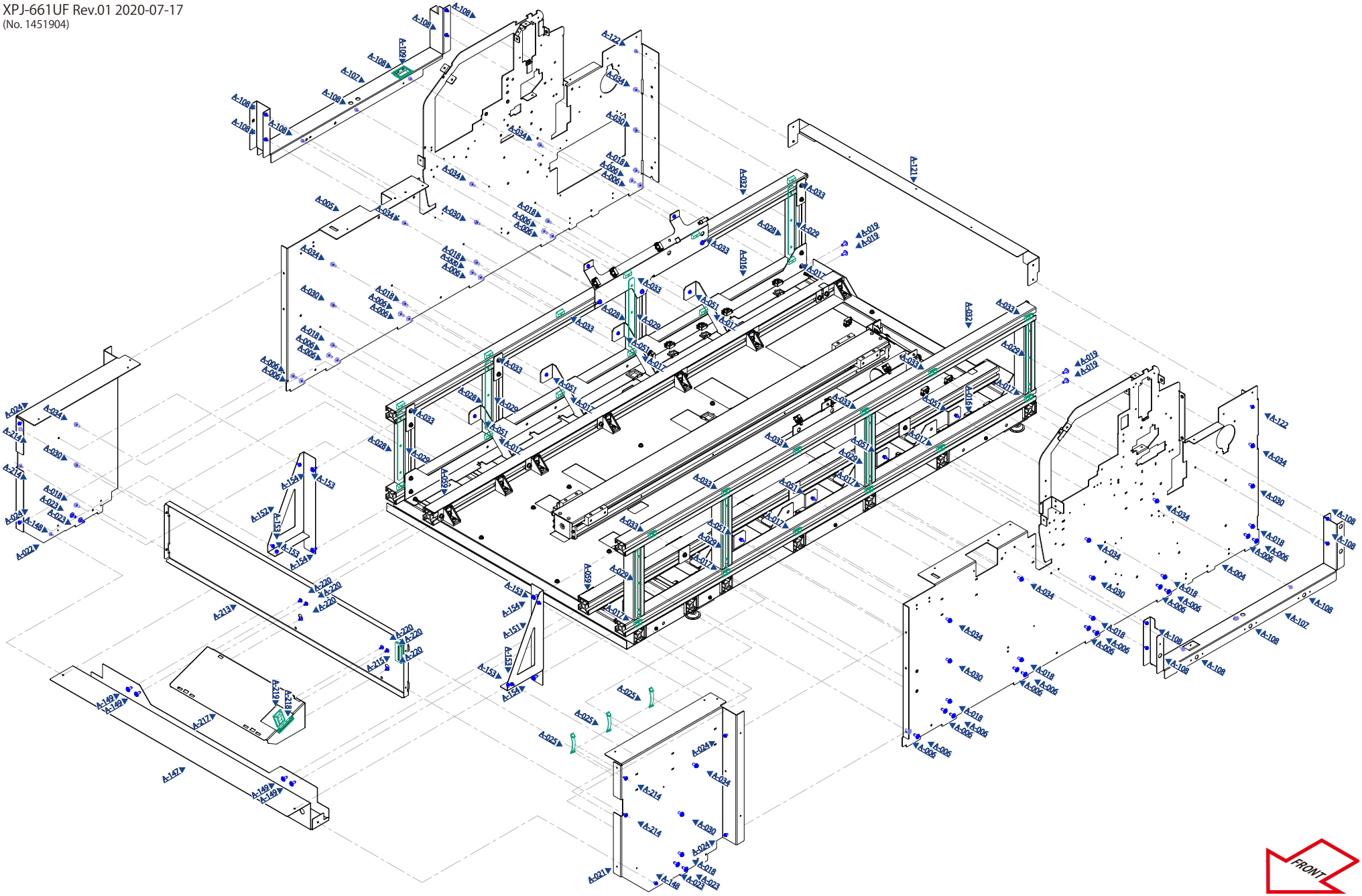
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CONFIDENTIAL

0105 Frame - Front / Side

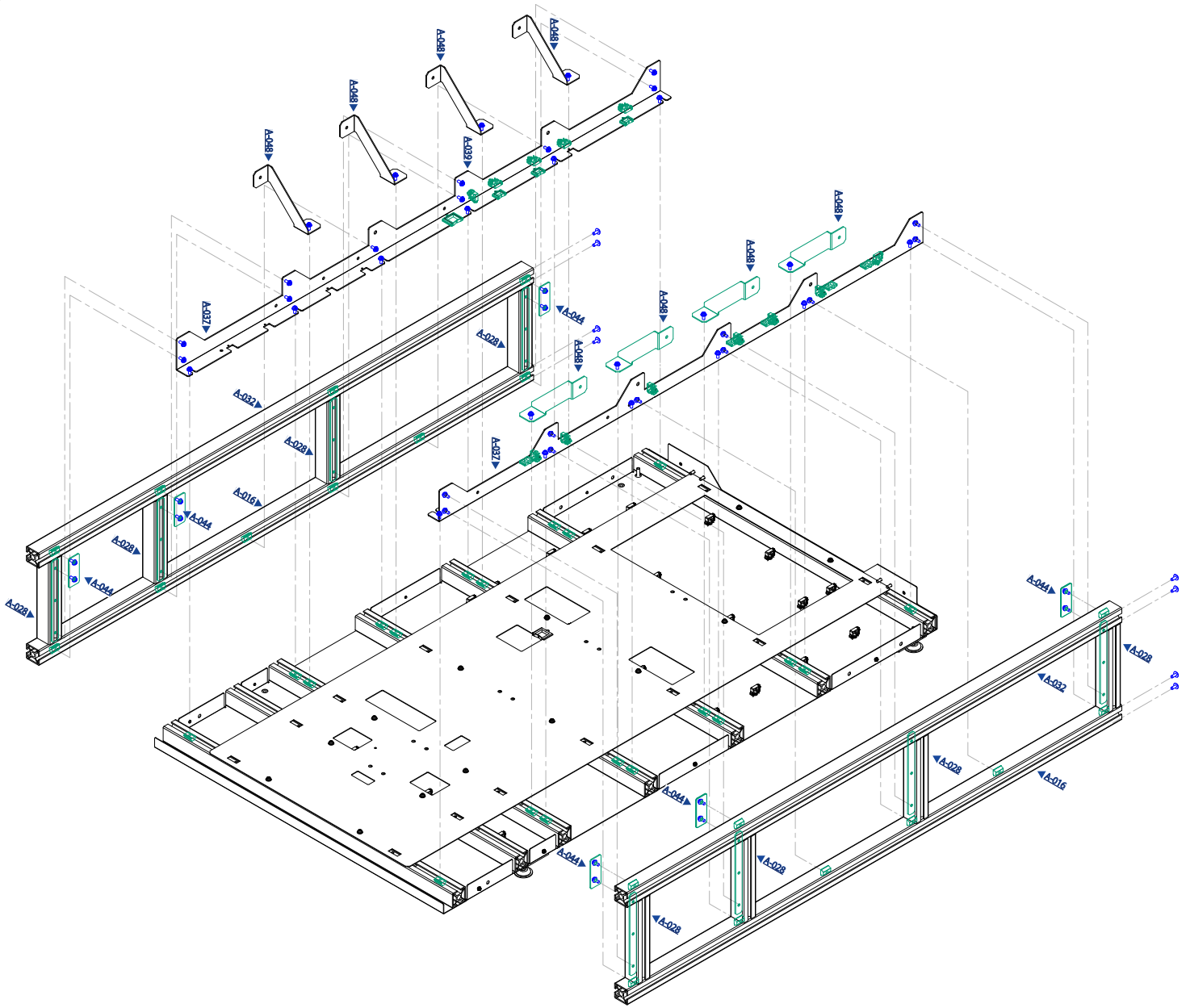
XPJ-661UF Rev.01 2020-07-17

(No. 1451904)



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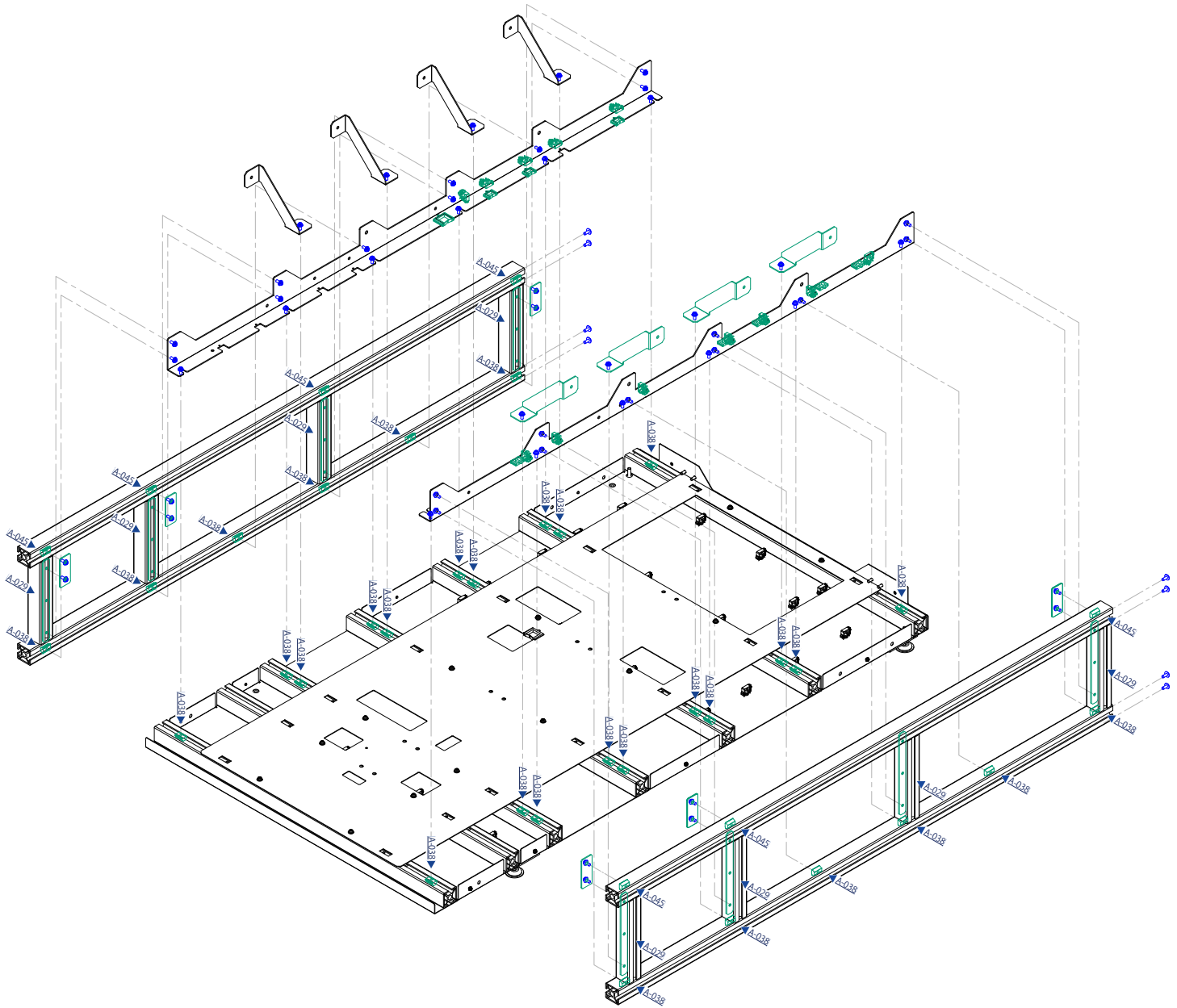
0106 Frame - Base 01
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



FRONT

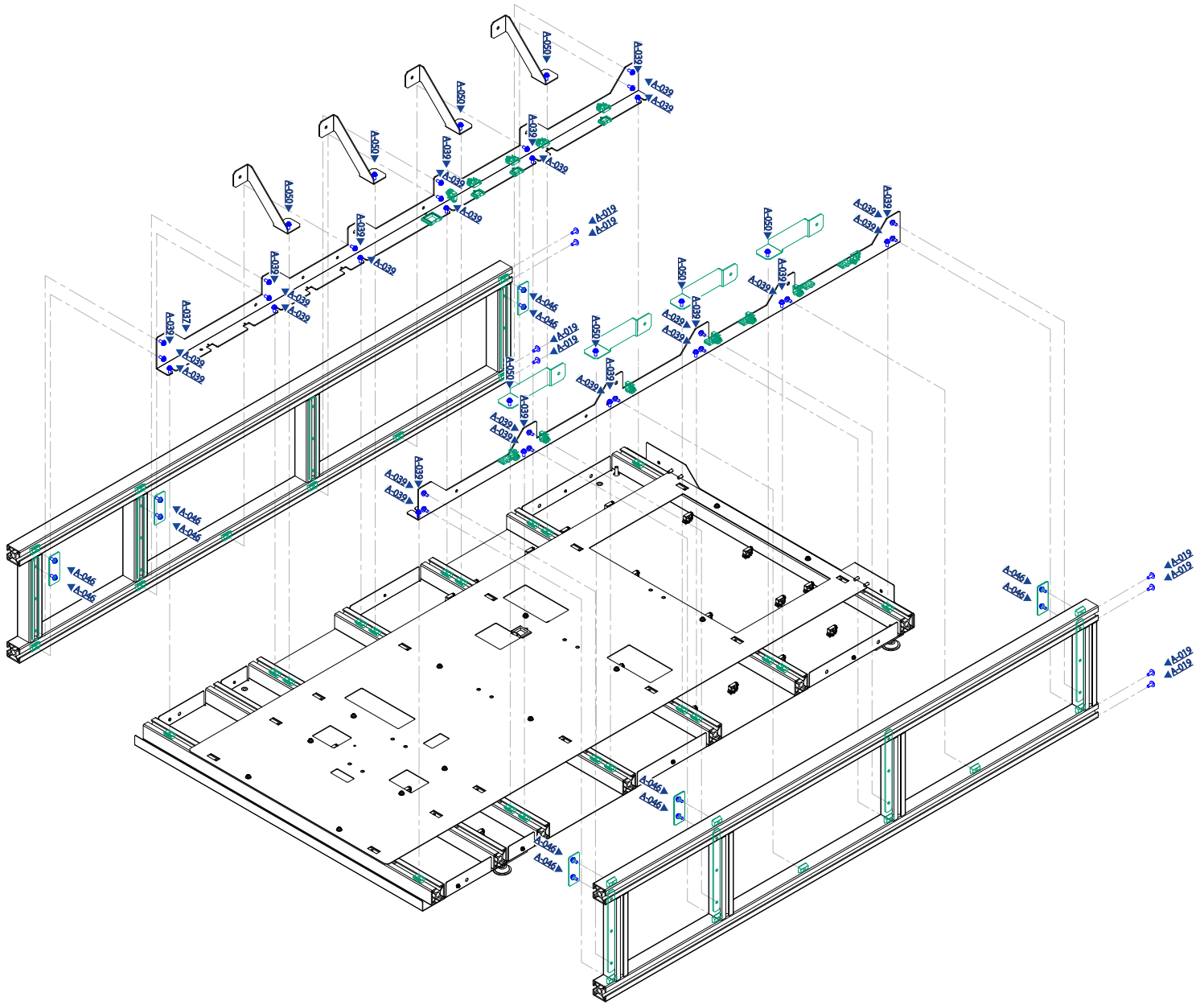
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0107 Frame - Base 01 Nut
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



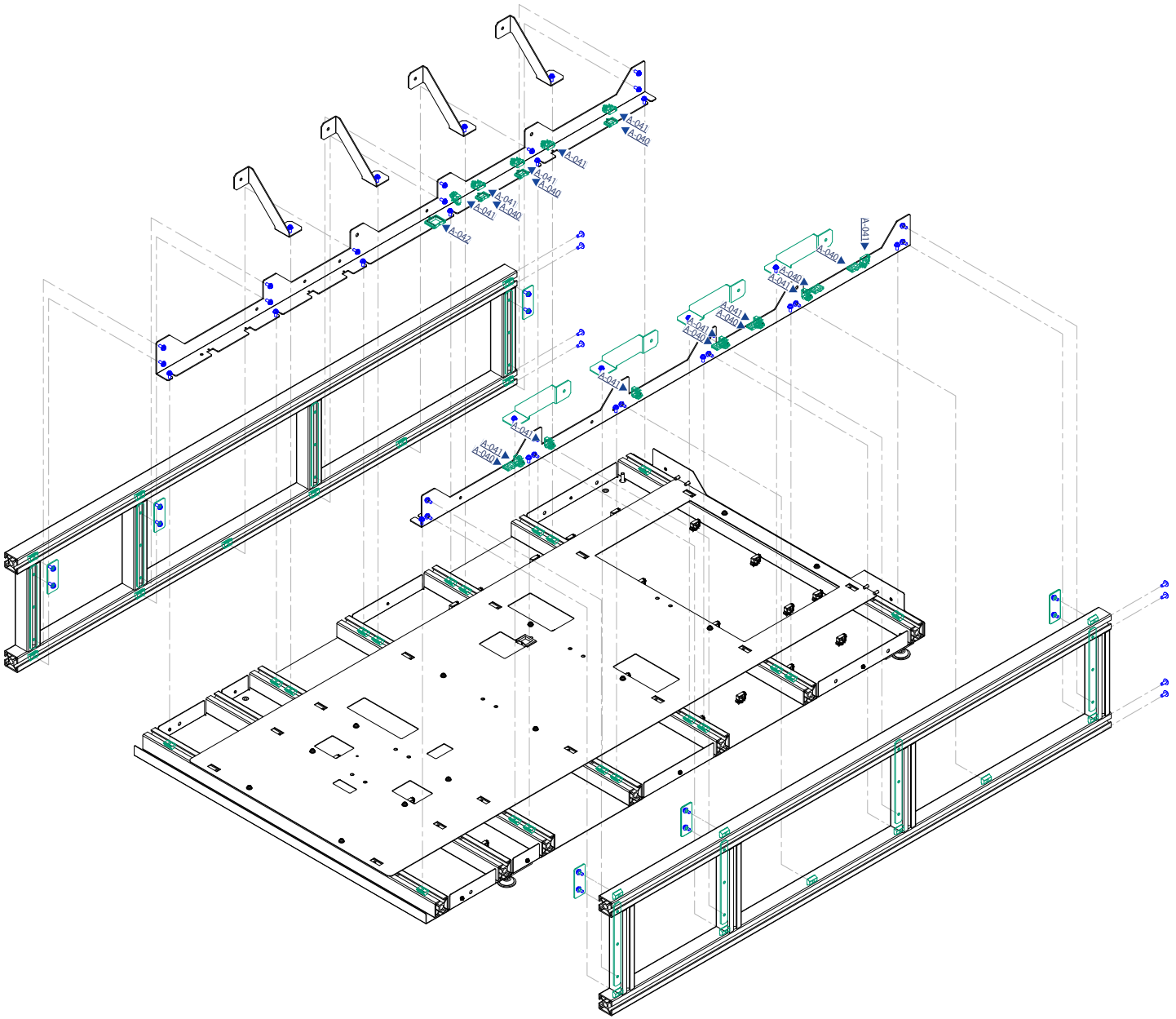
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0108 Frame - Base 01 Screw
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



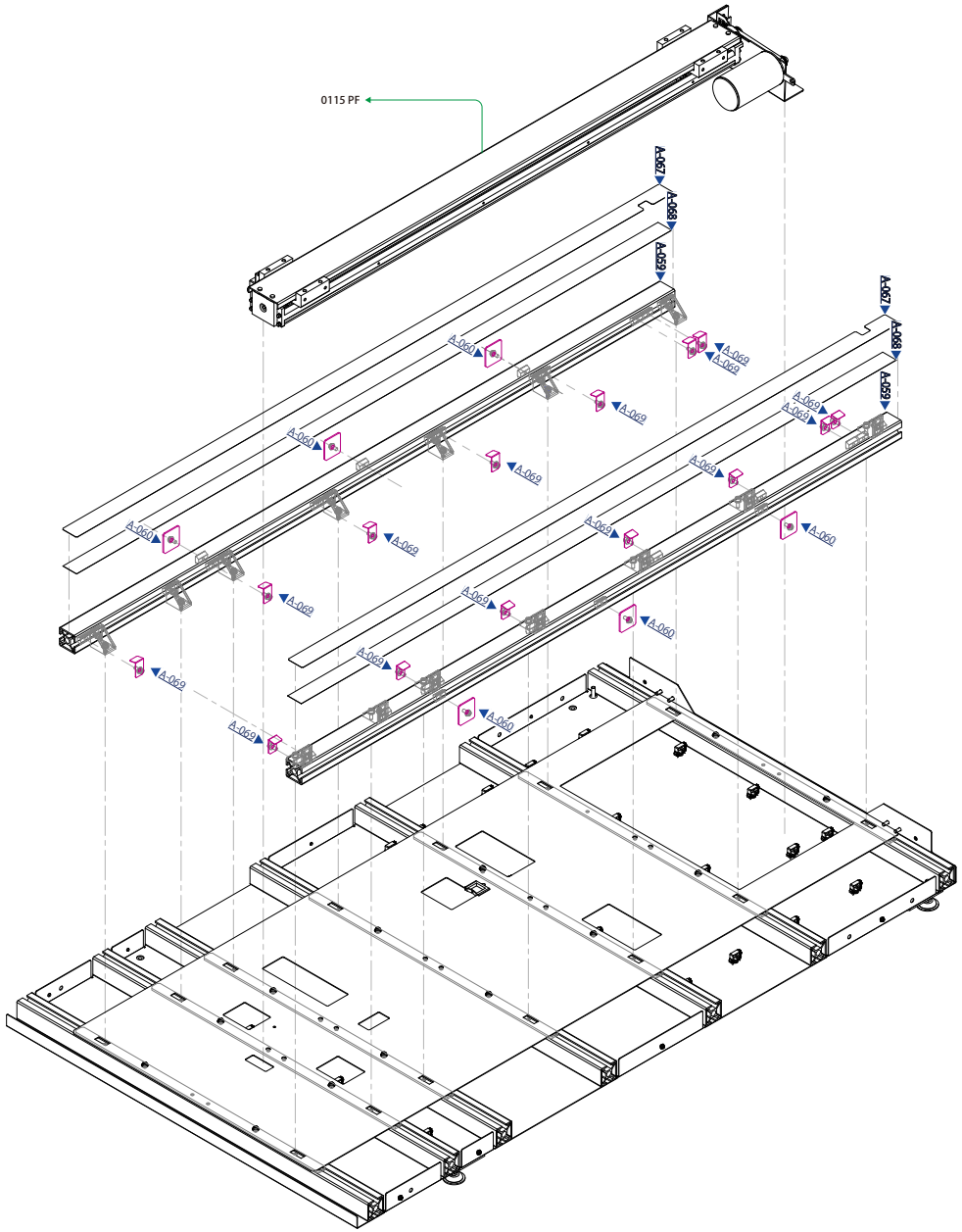
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0109 Frame - Base 01 Clamp
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



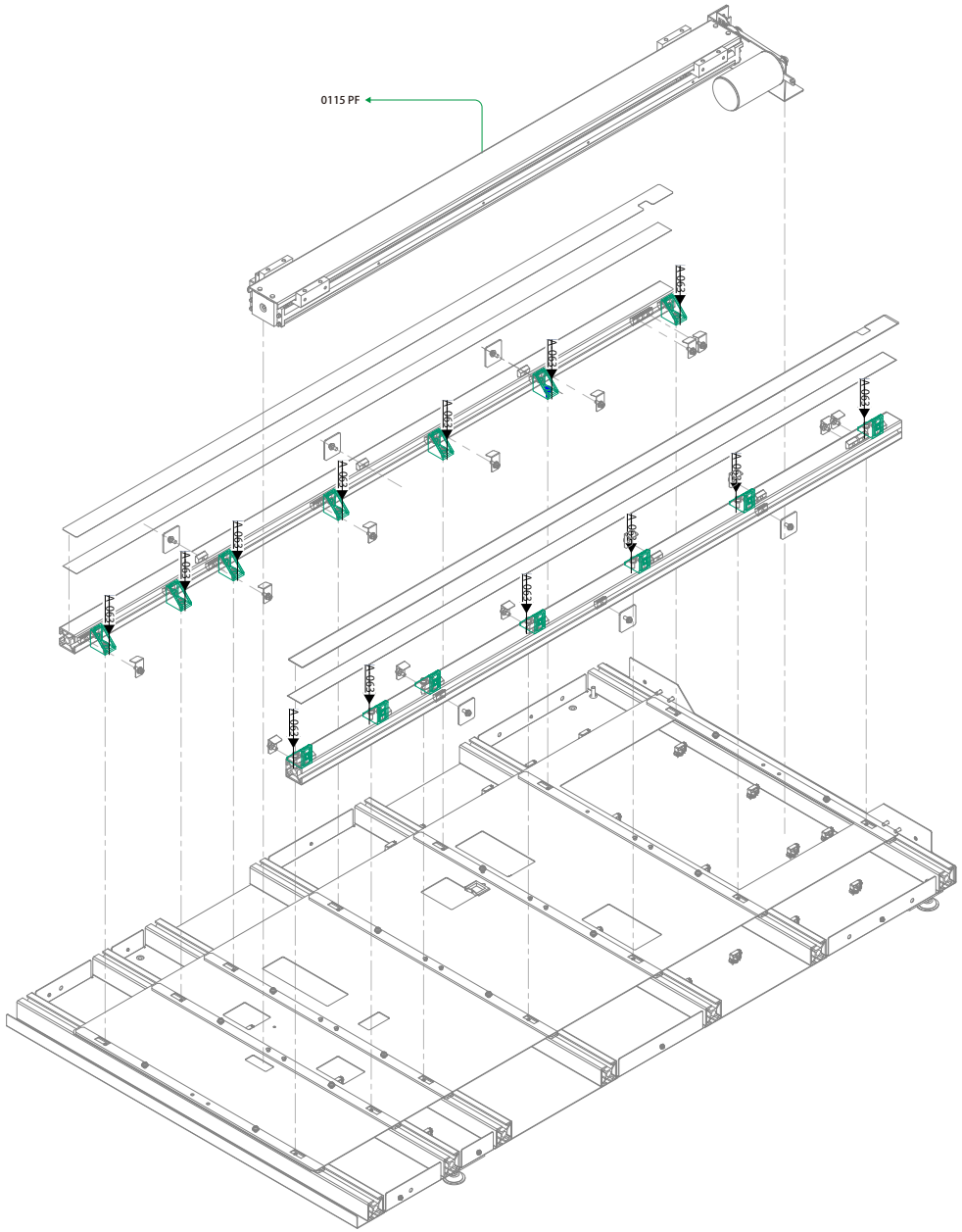
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0110 Frame - Base 02
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



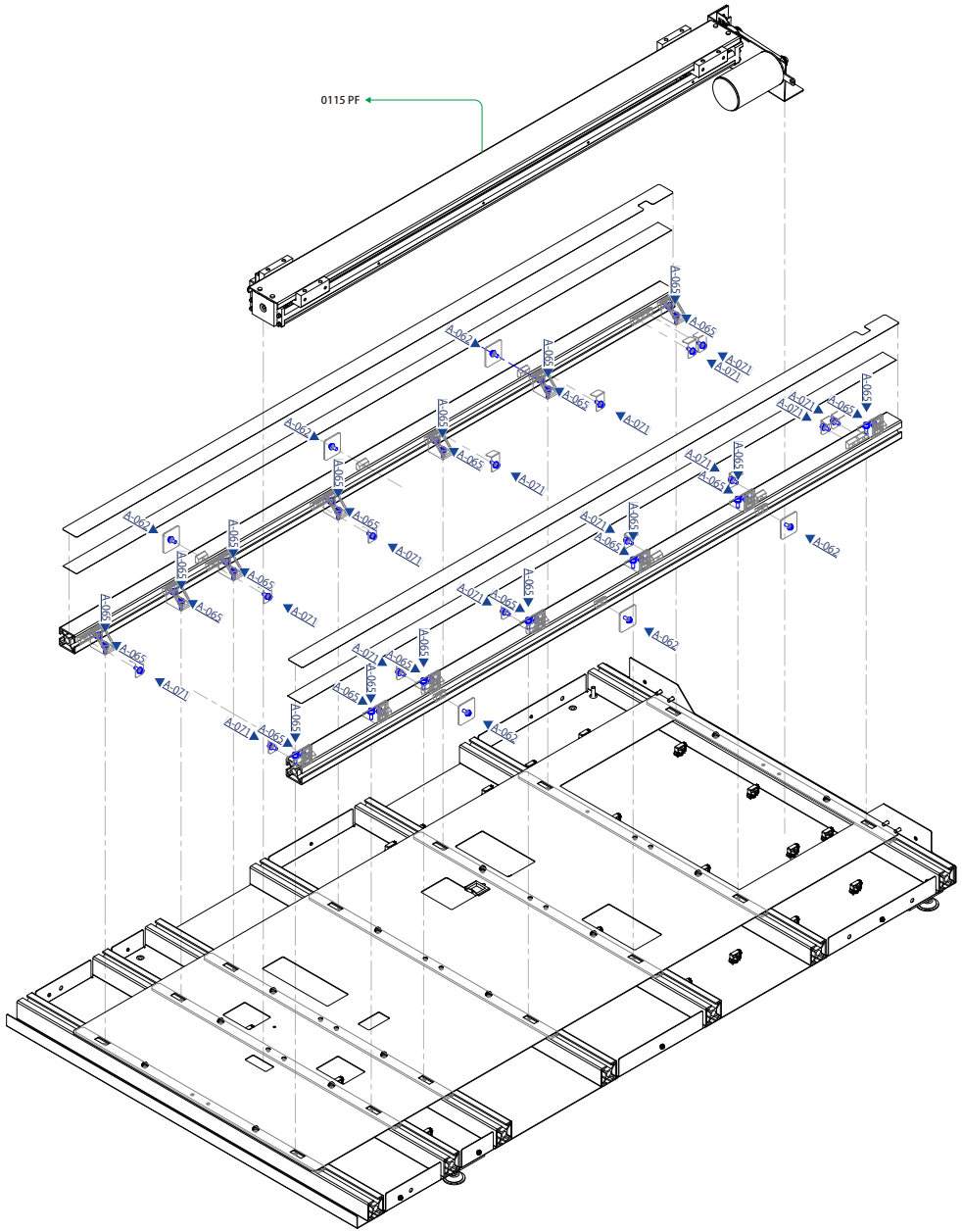
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0111 Frame - Base 02 Bracket
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



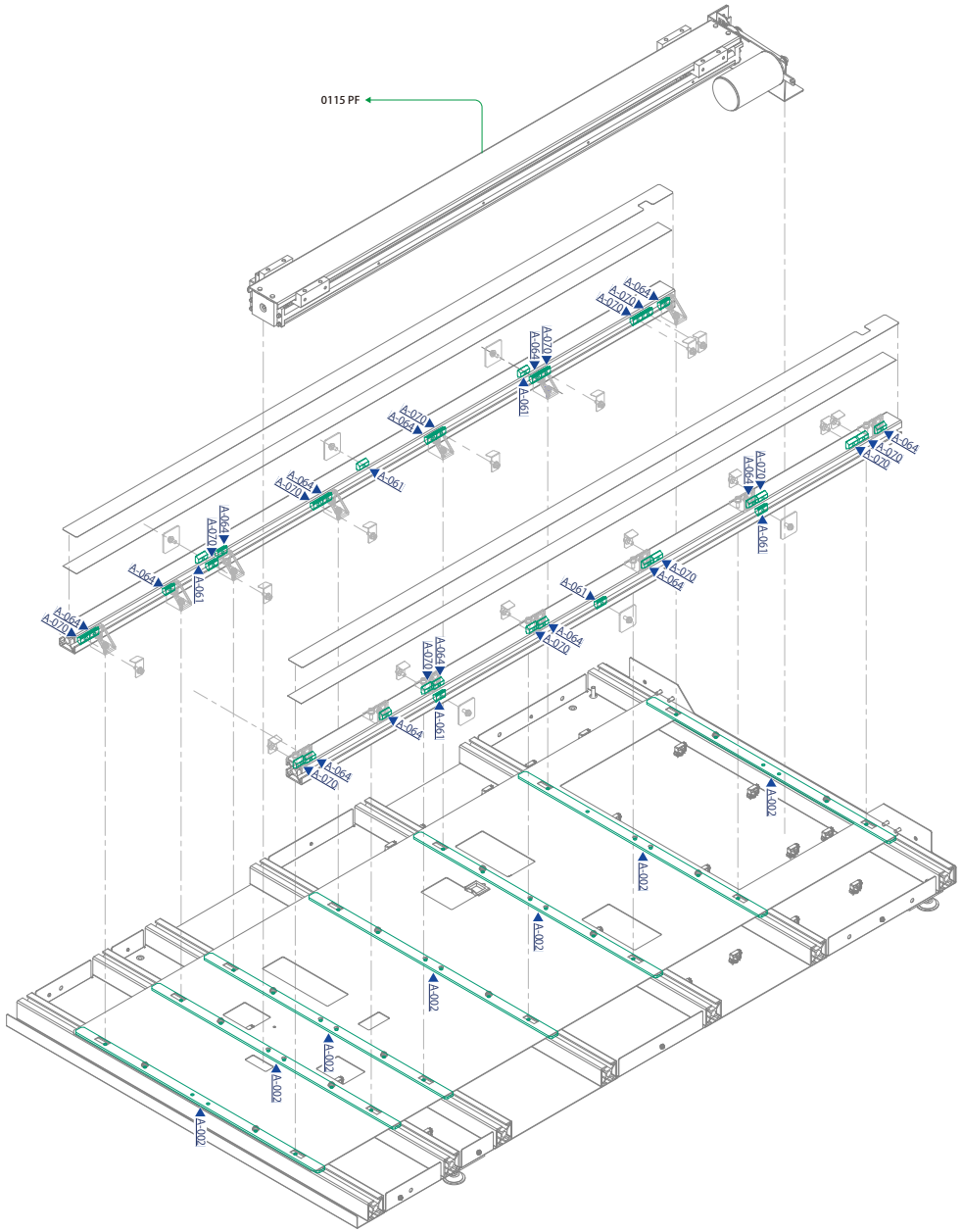
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0112 Frame - Base 02 Screw
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



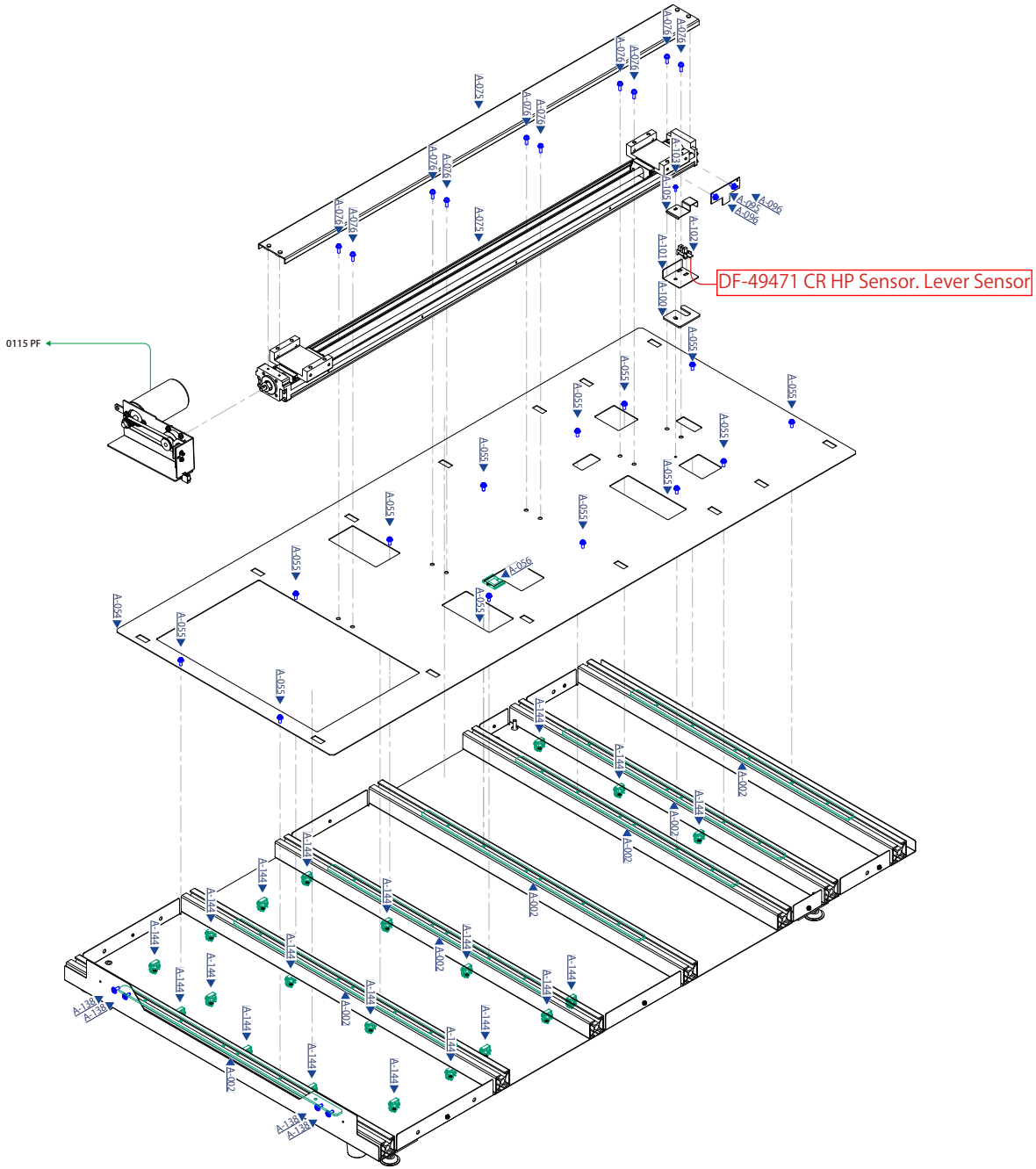
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0113 Frame - Base 02 Nut
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



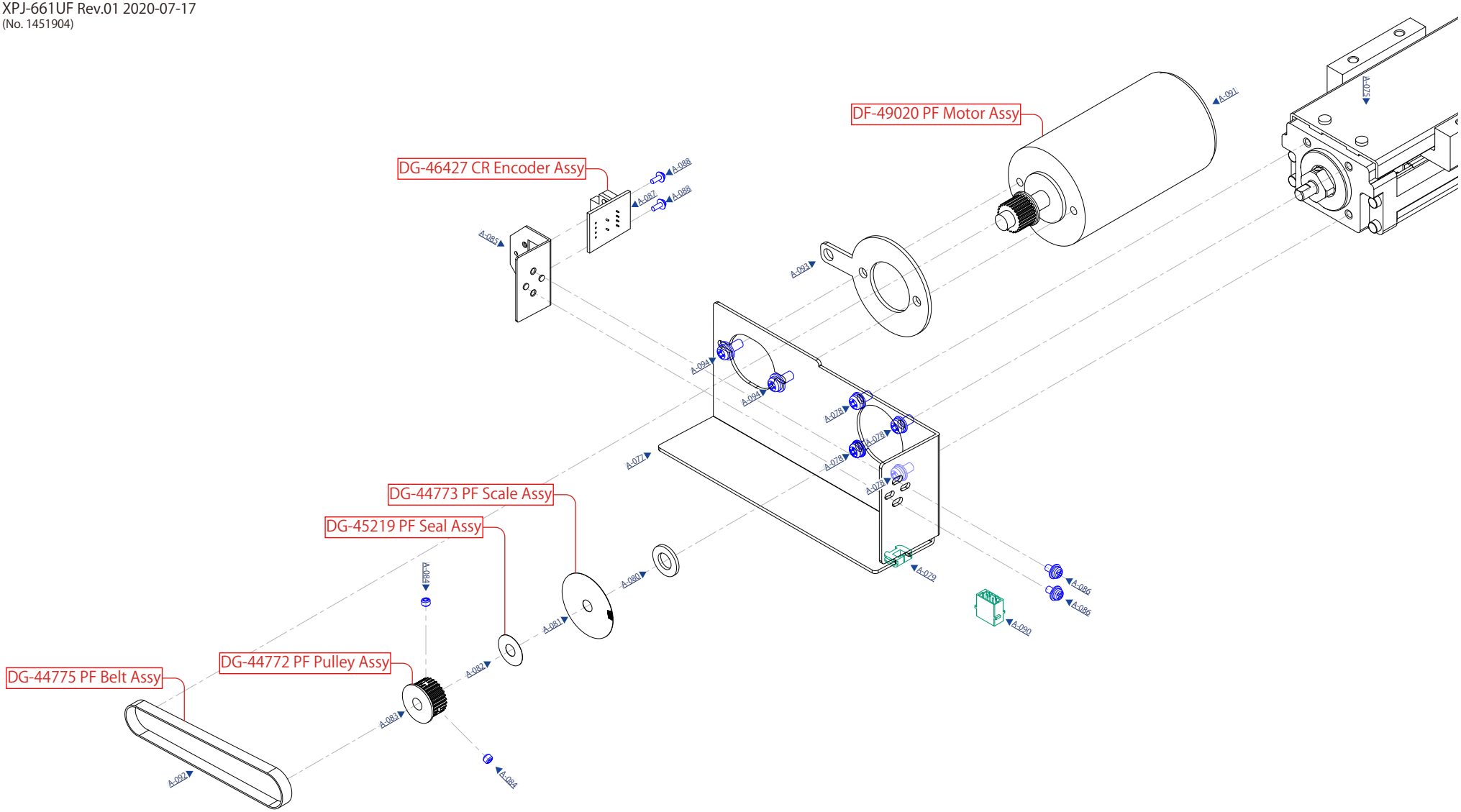
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0114 Frame - Actuator
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



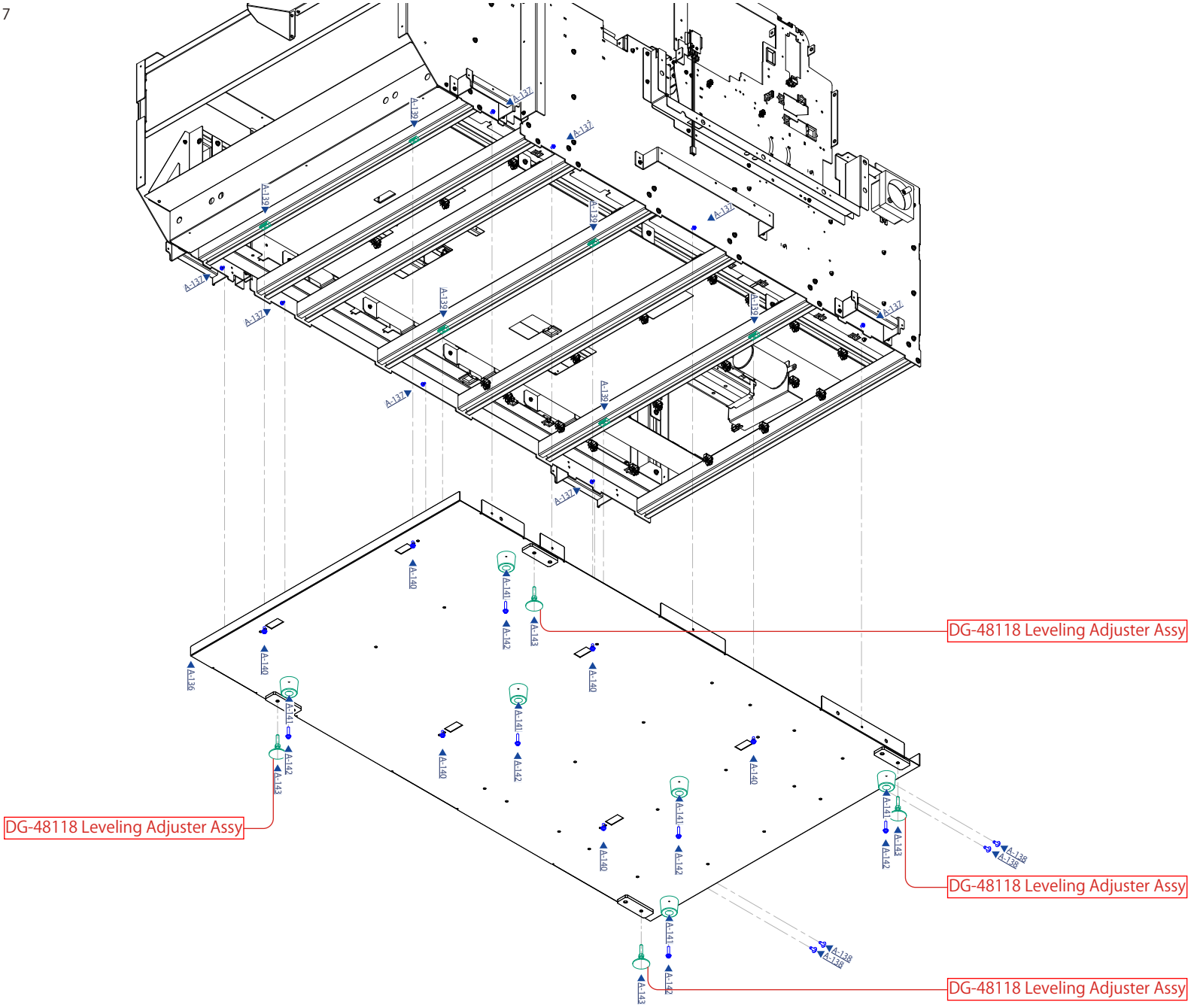
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0115 Frame - PF
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



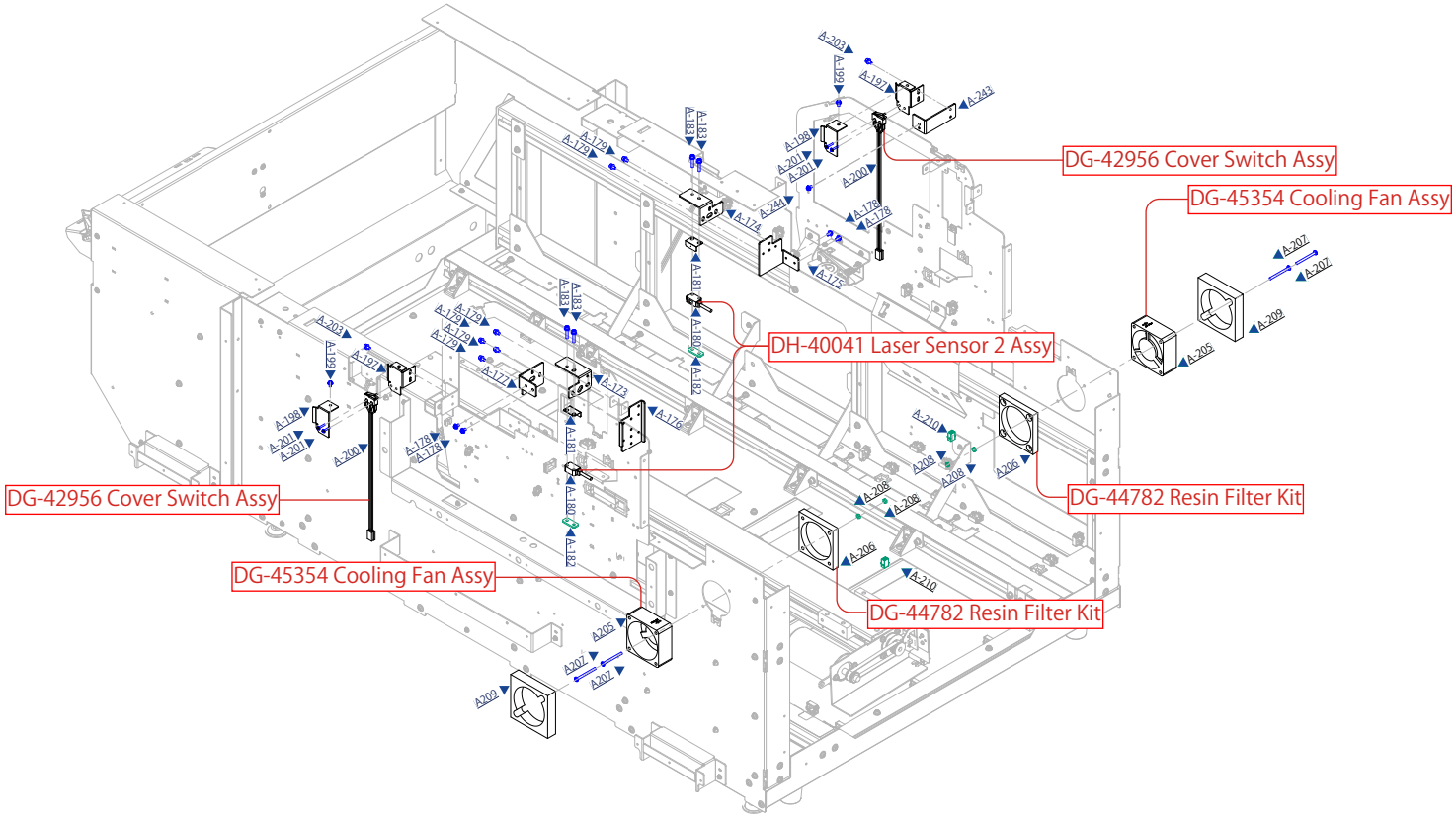
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0116 Frame - Base 03
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)



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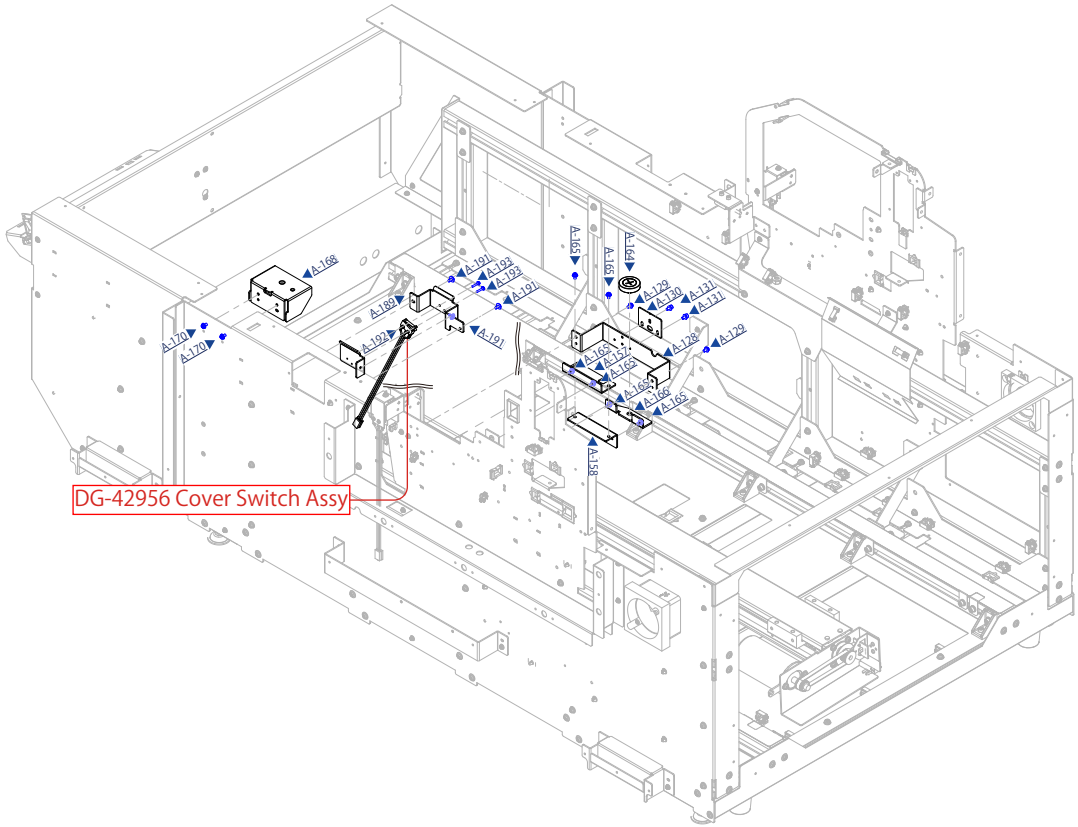
0117 Frame - Details 01
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)

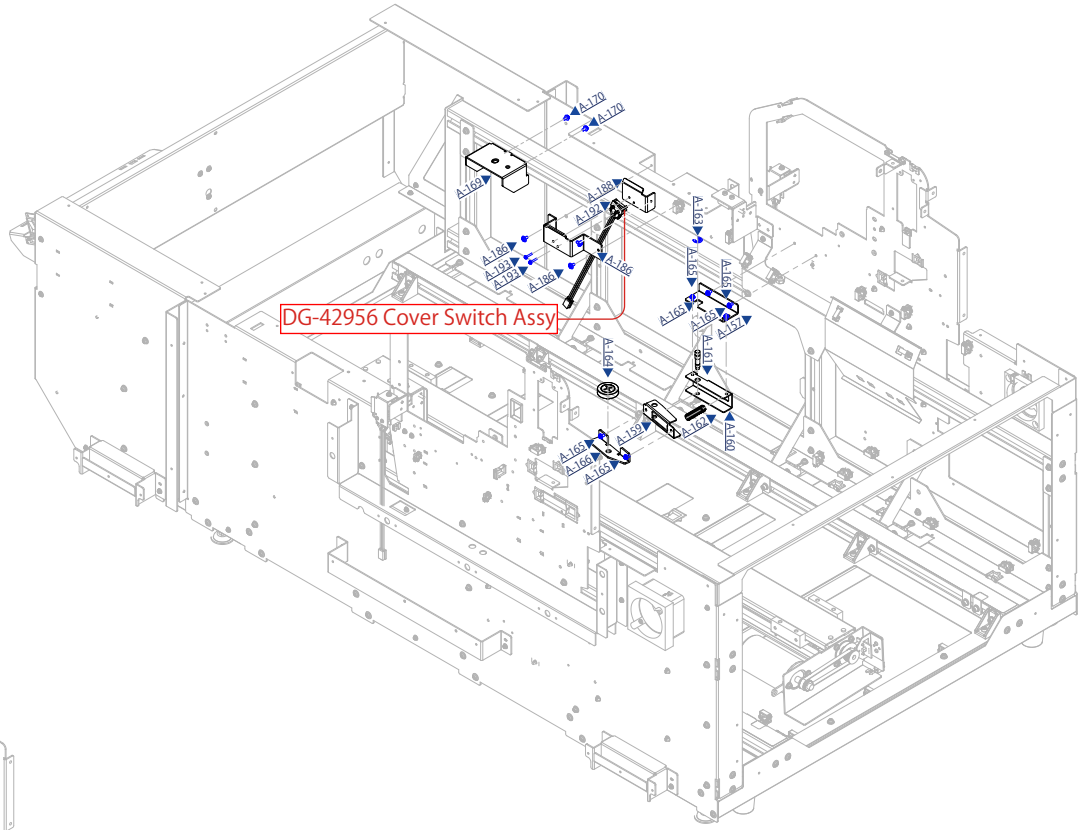


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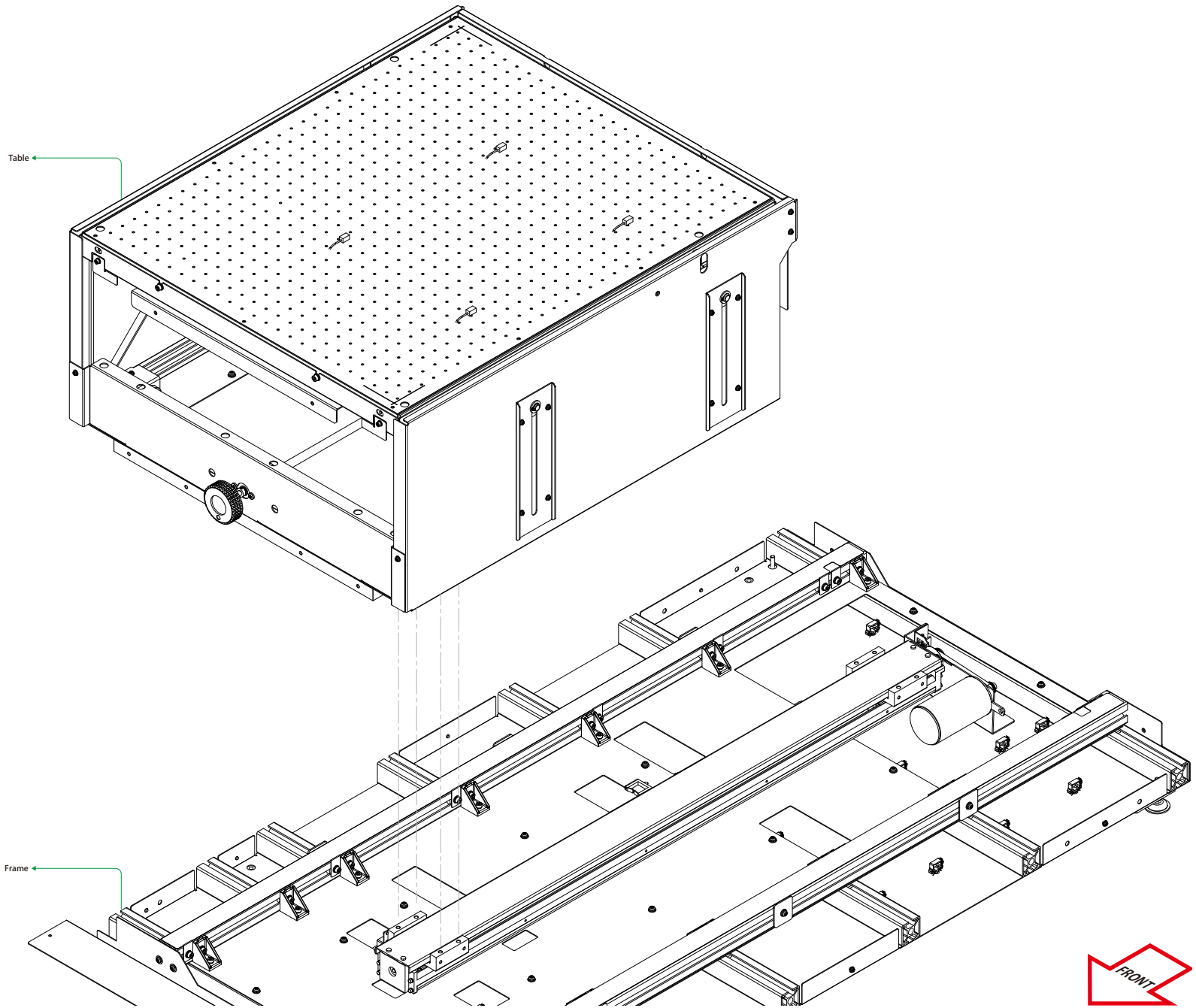
0118 Frame - Details 02
XPJ-661UF Rev.01 2020-07-17
(No. 1451904)





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0200 Table - Overview
XPJ-661UF Rev.01 2020-07-17
(No. 1455701)

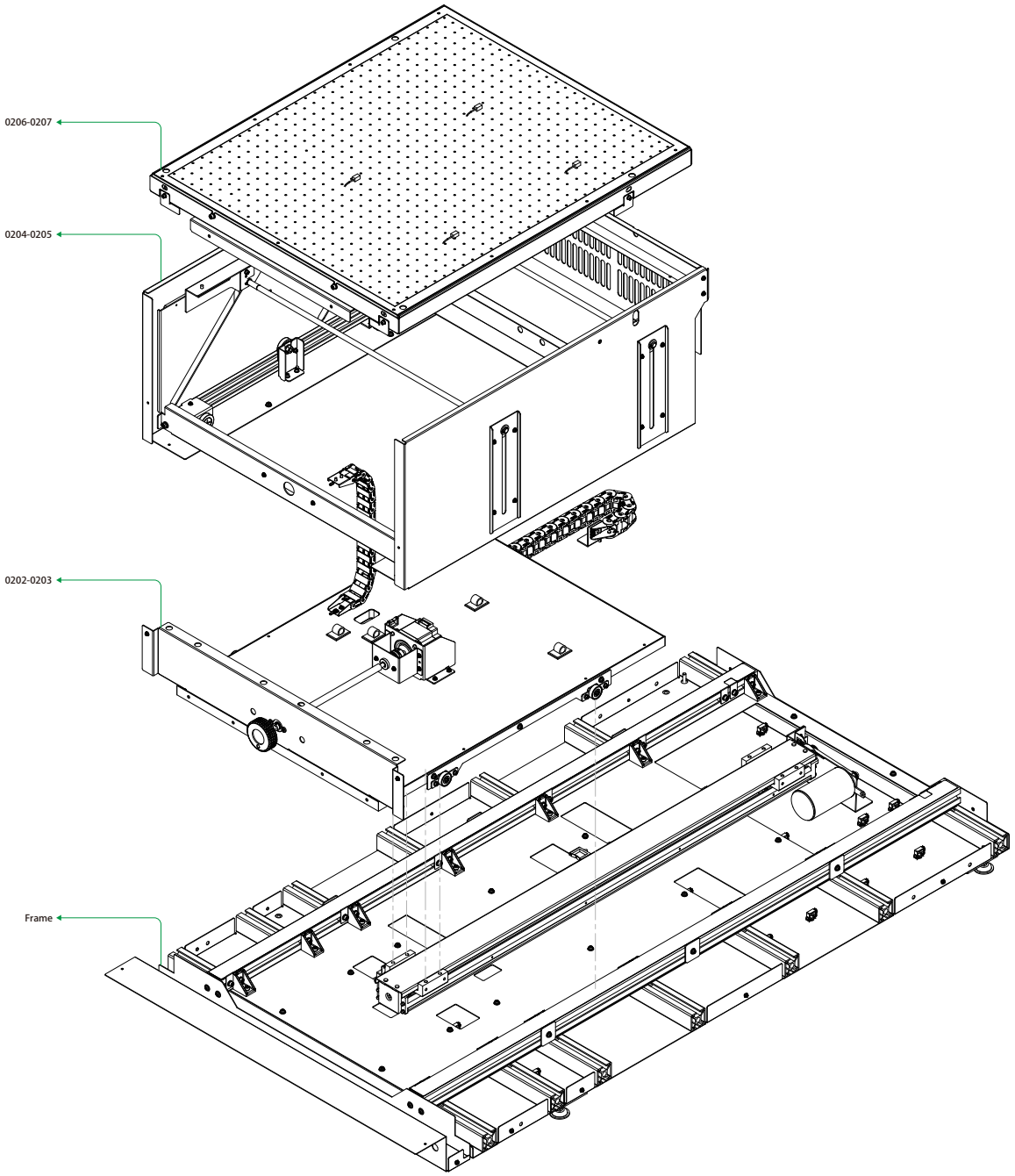


CONFIDENTIAL

0201 Table - Breakdown

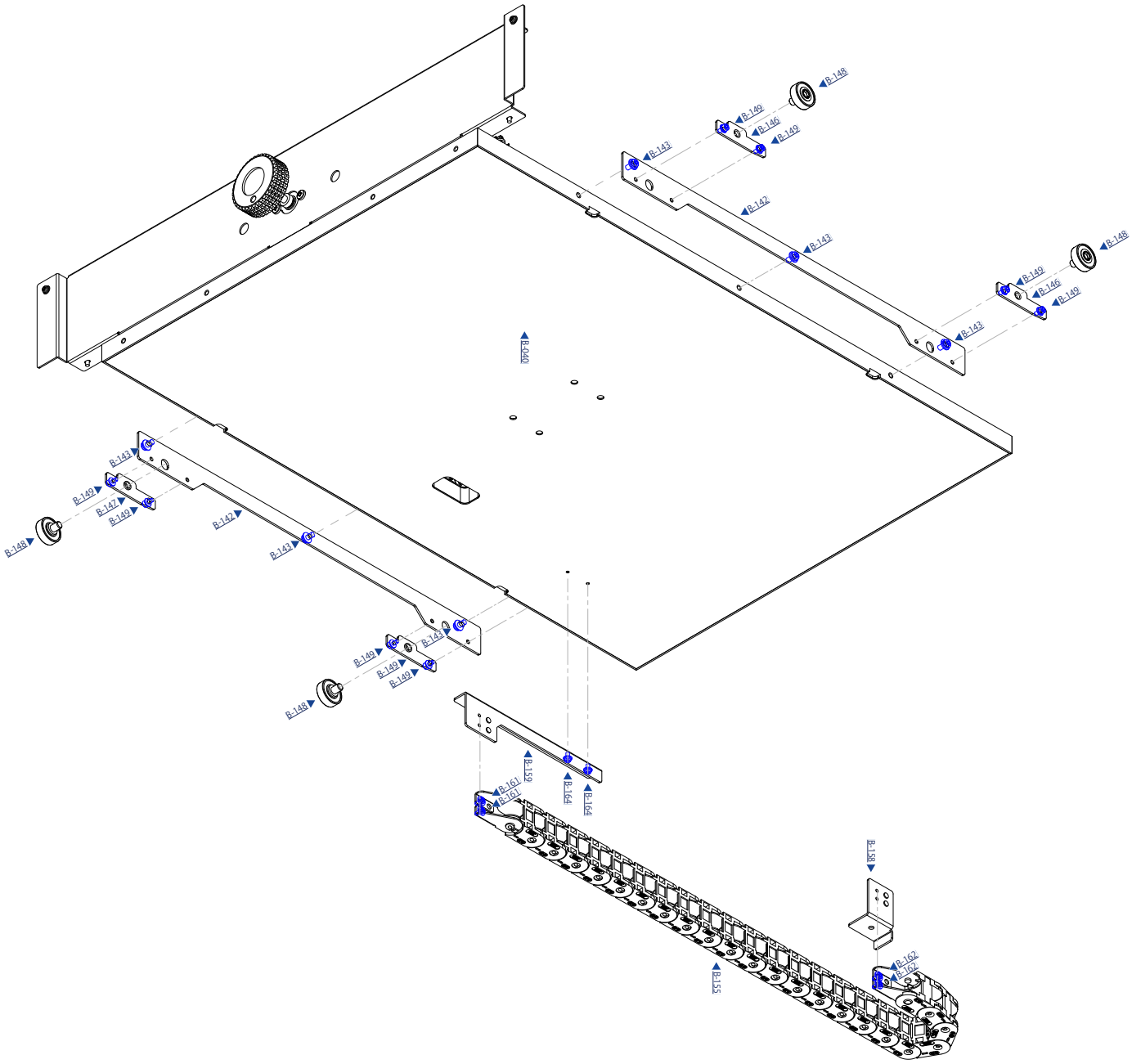
XPJ-661UF Rev.01 2020-07-17

(No. 1455701)



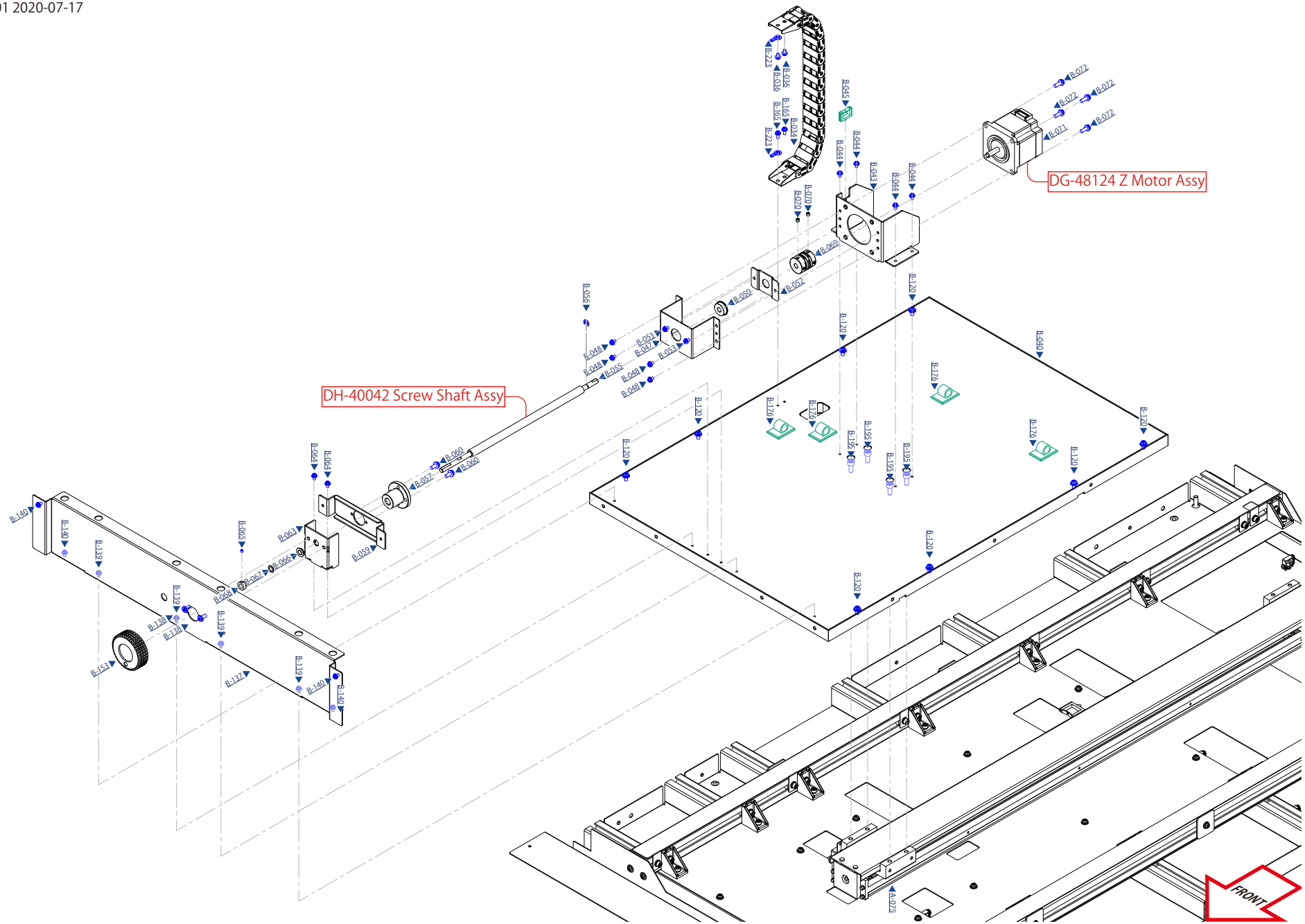
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0202 Table - Bottom
XPJ-661UF Rev.01 2020-07-17
(No. 1455701)



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0203 Table - Z Motor
XPJ-661UF Rev.01 2020-07-17
(No. 1455701)

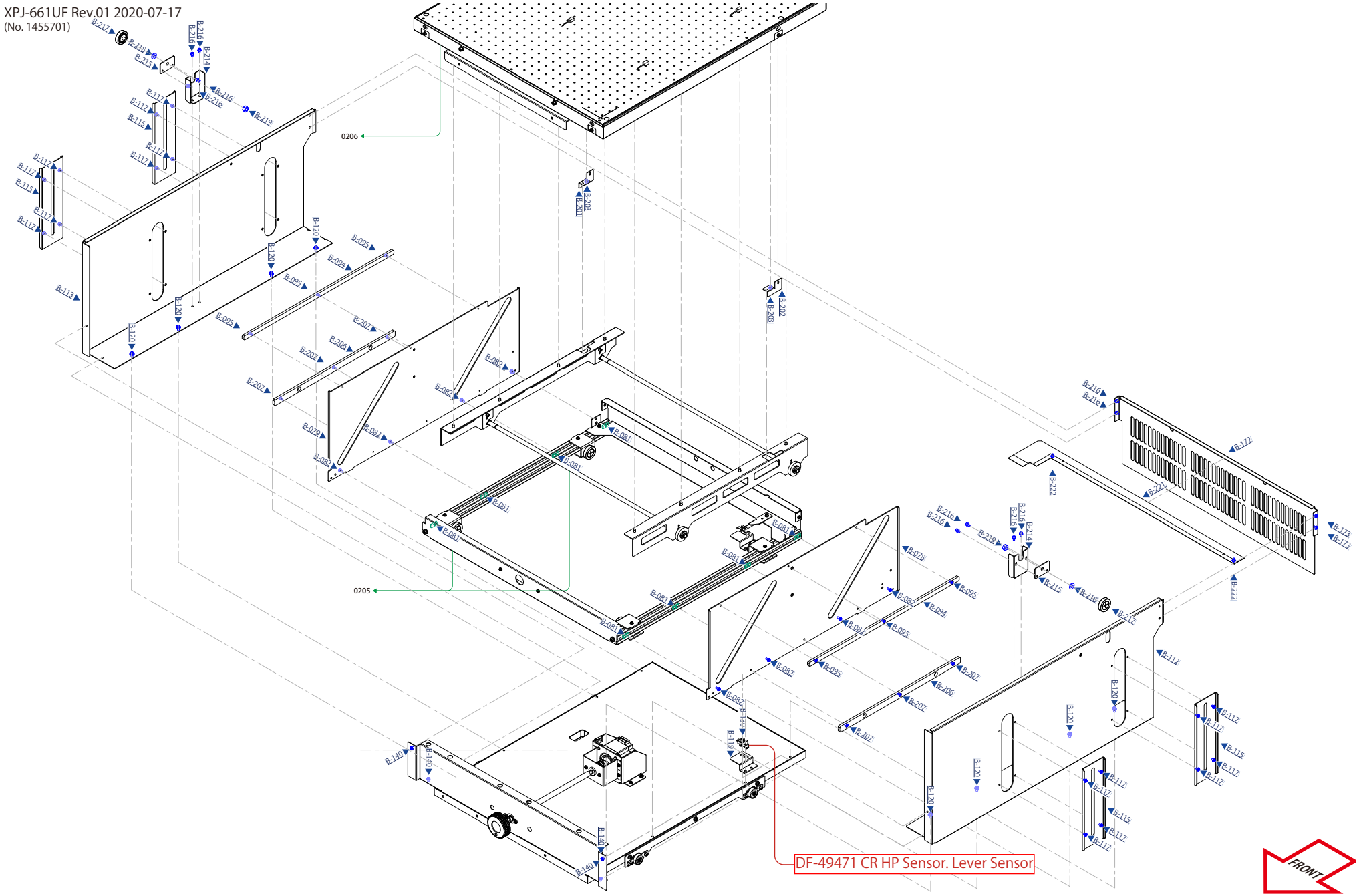


CONFIDENTIAL

0204 Table - UD 01

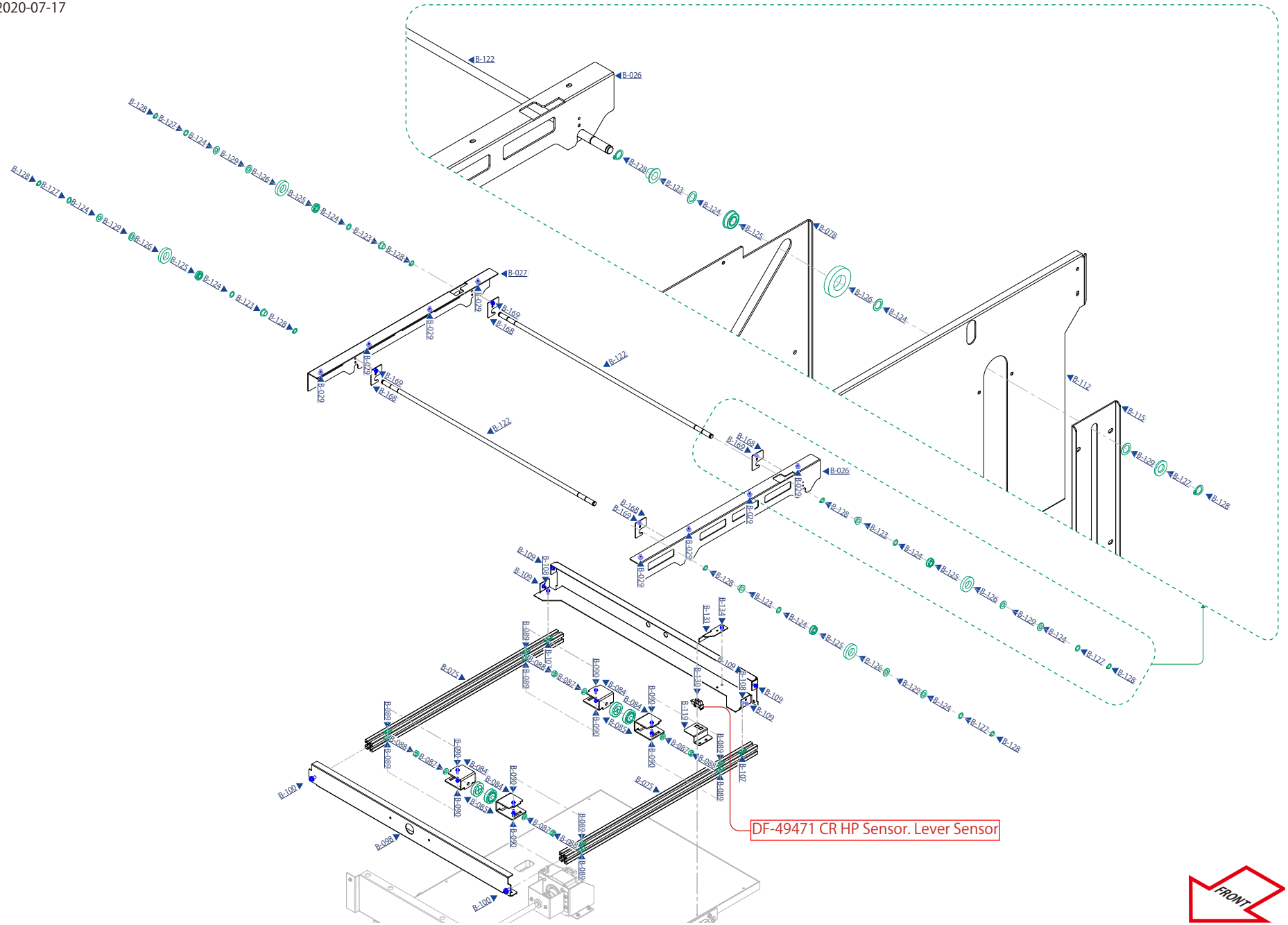
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(No. 1455701)



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0205 Table - UD 02
XPJ-661UF Rev.01 2020-07-17
(No. 1455701)

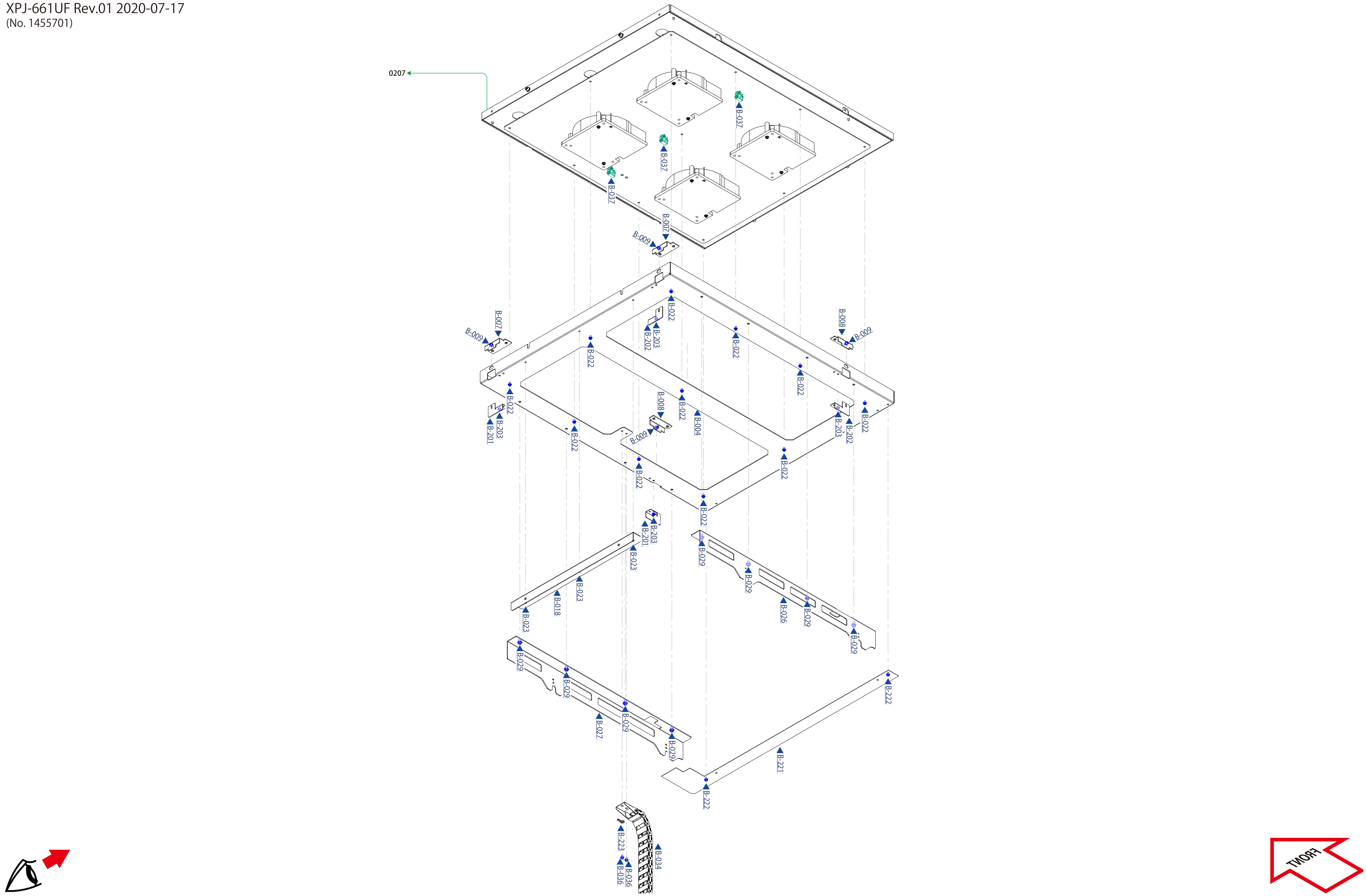


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0206 Table - Top 01

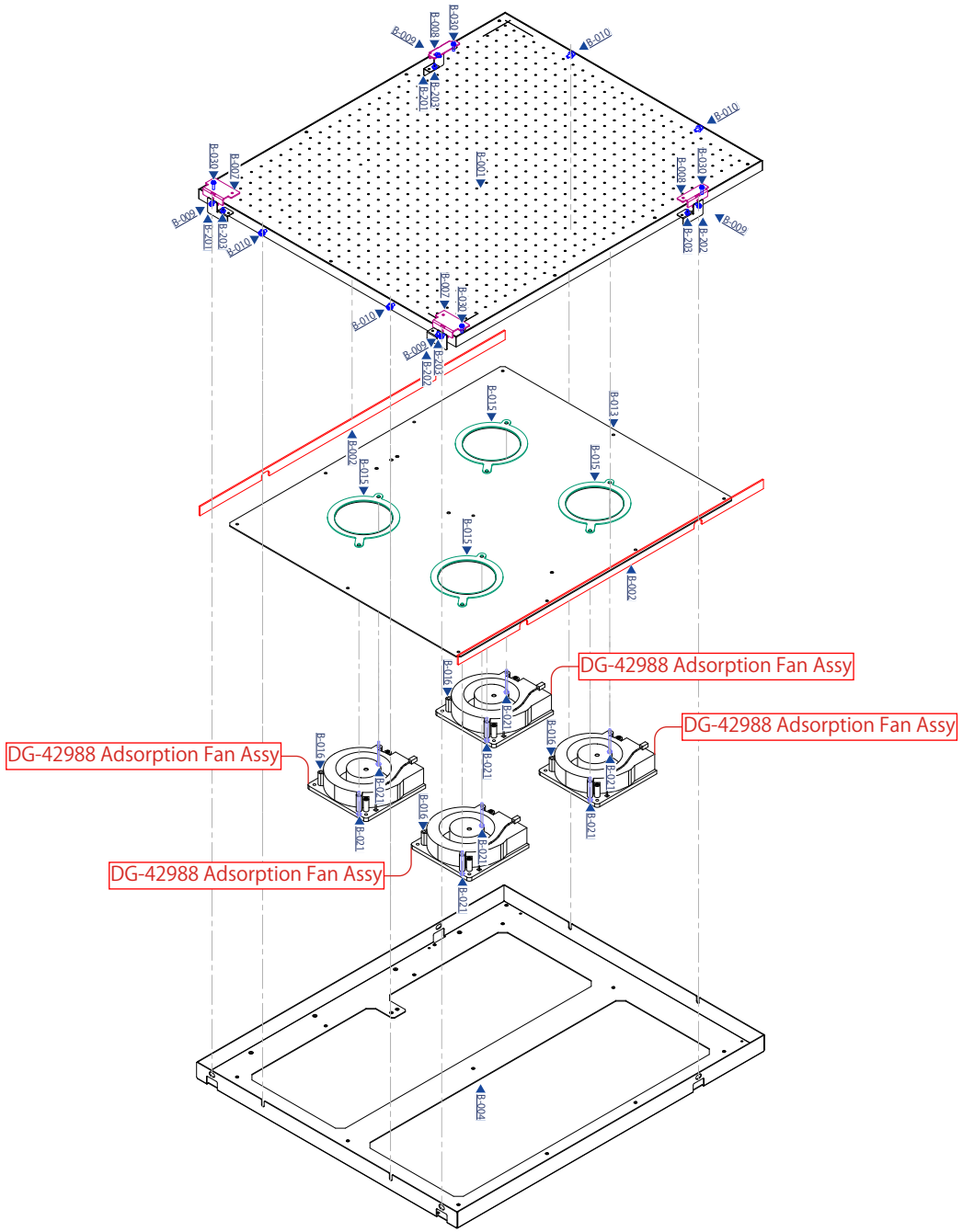
XPJ-661UF Rev.01 2020-07-17

(No. 1455701)



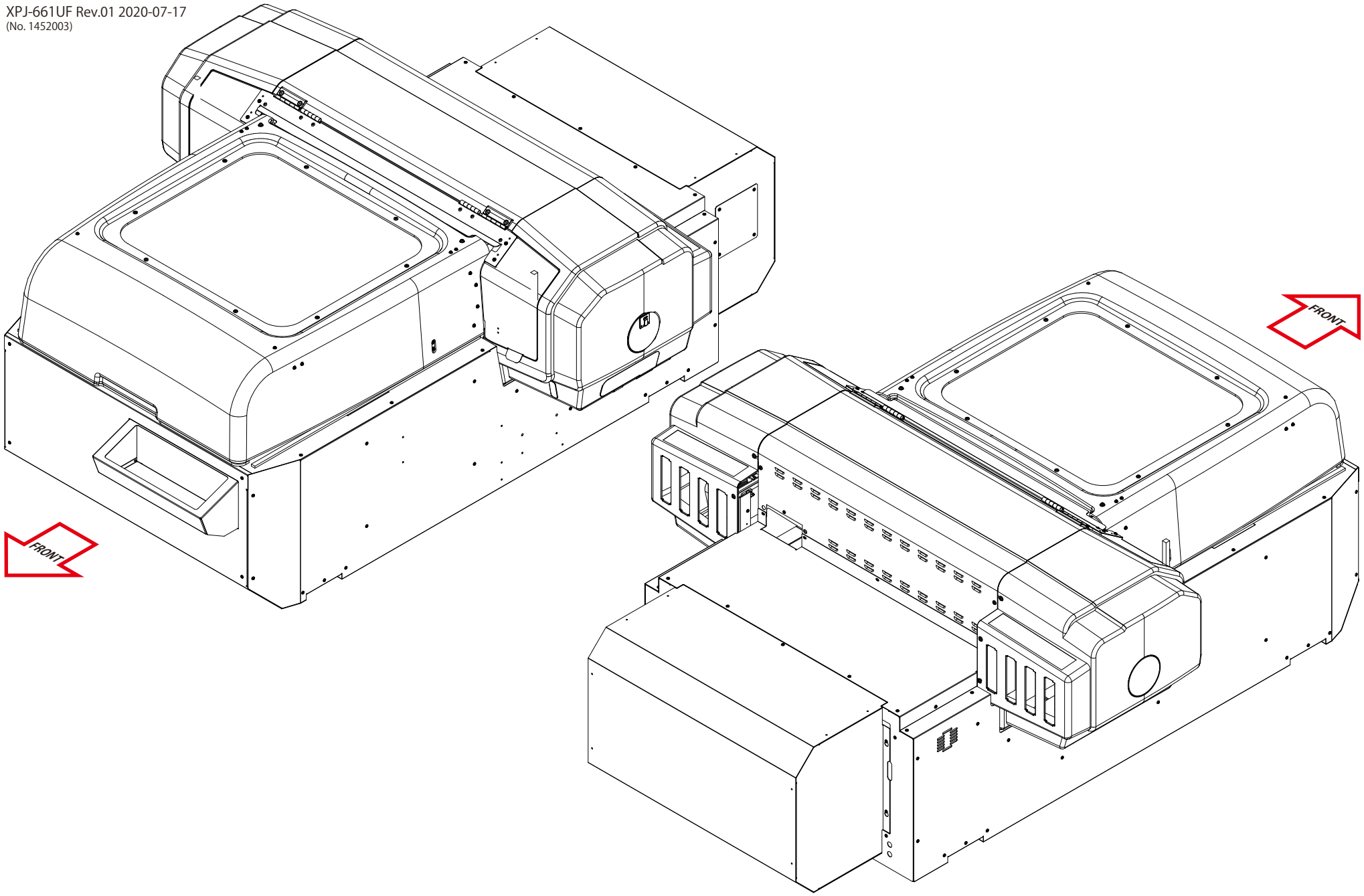
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0207 Table -Table Vacuum Fan
XPJ-661UF Rev.01 2020-07-17
(No. 1455701)



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0300 Cover - Overview
XPJ-661UF Rev.01 2020-07-17
(No. 1452003)

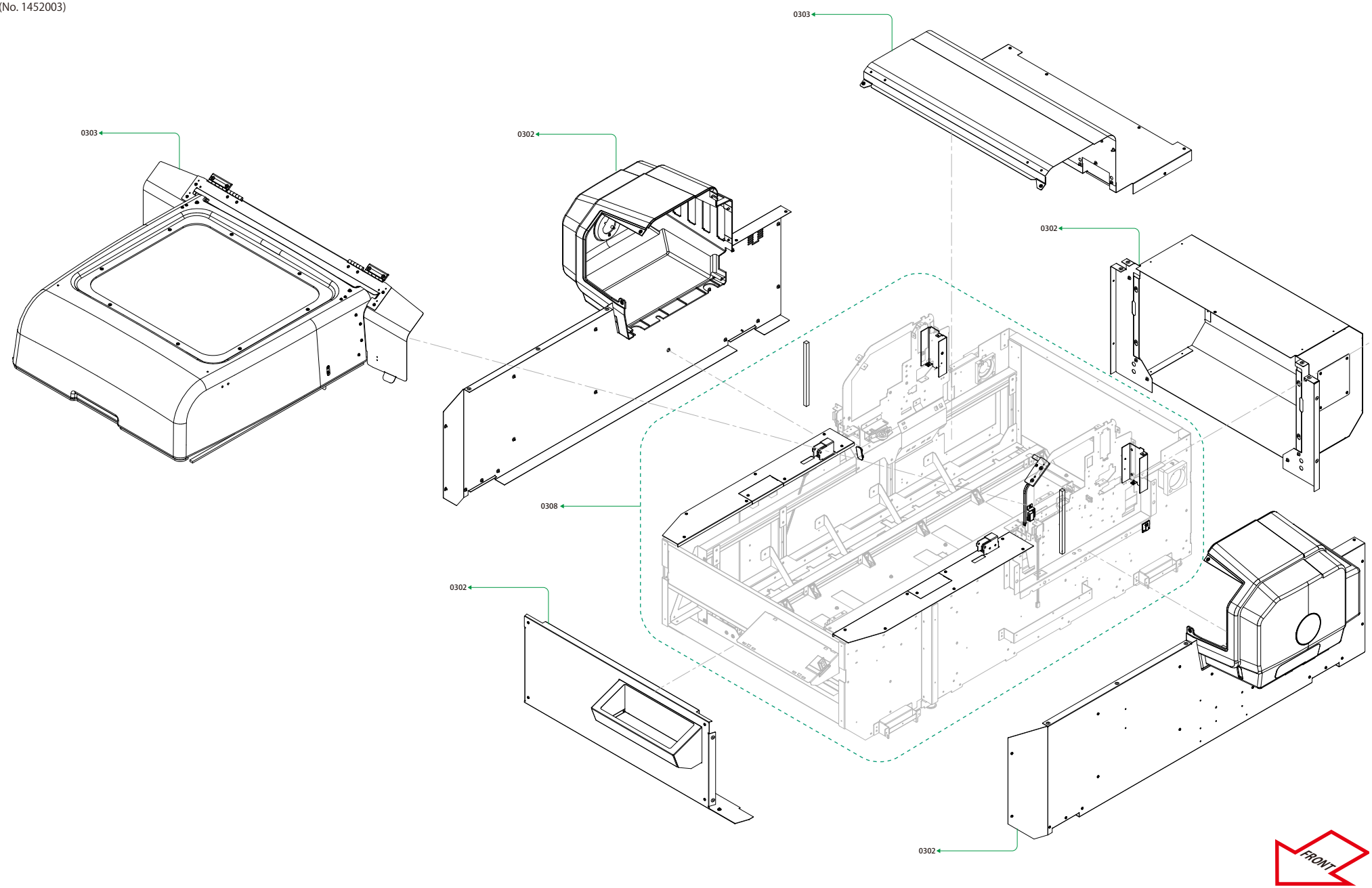


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0301 Cover - Breakdown

XPJ-661UF Rev.01 2020-07-17

(No. 1452003)

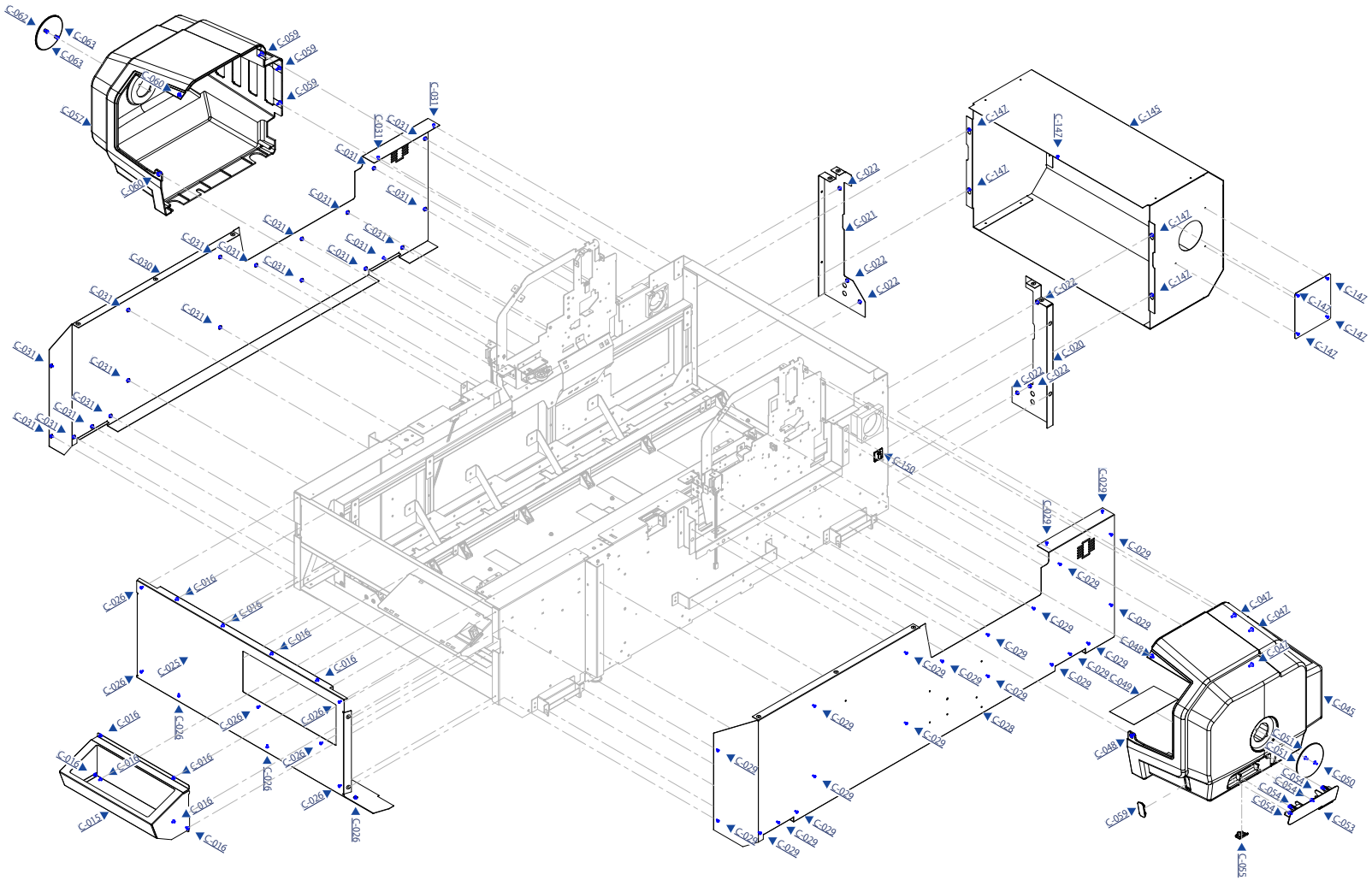


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0302 Cover - Front / Side / Rear

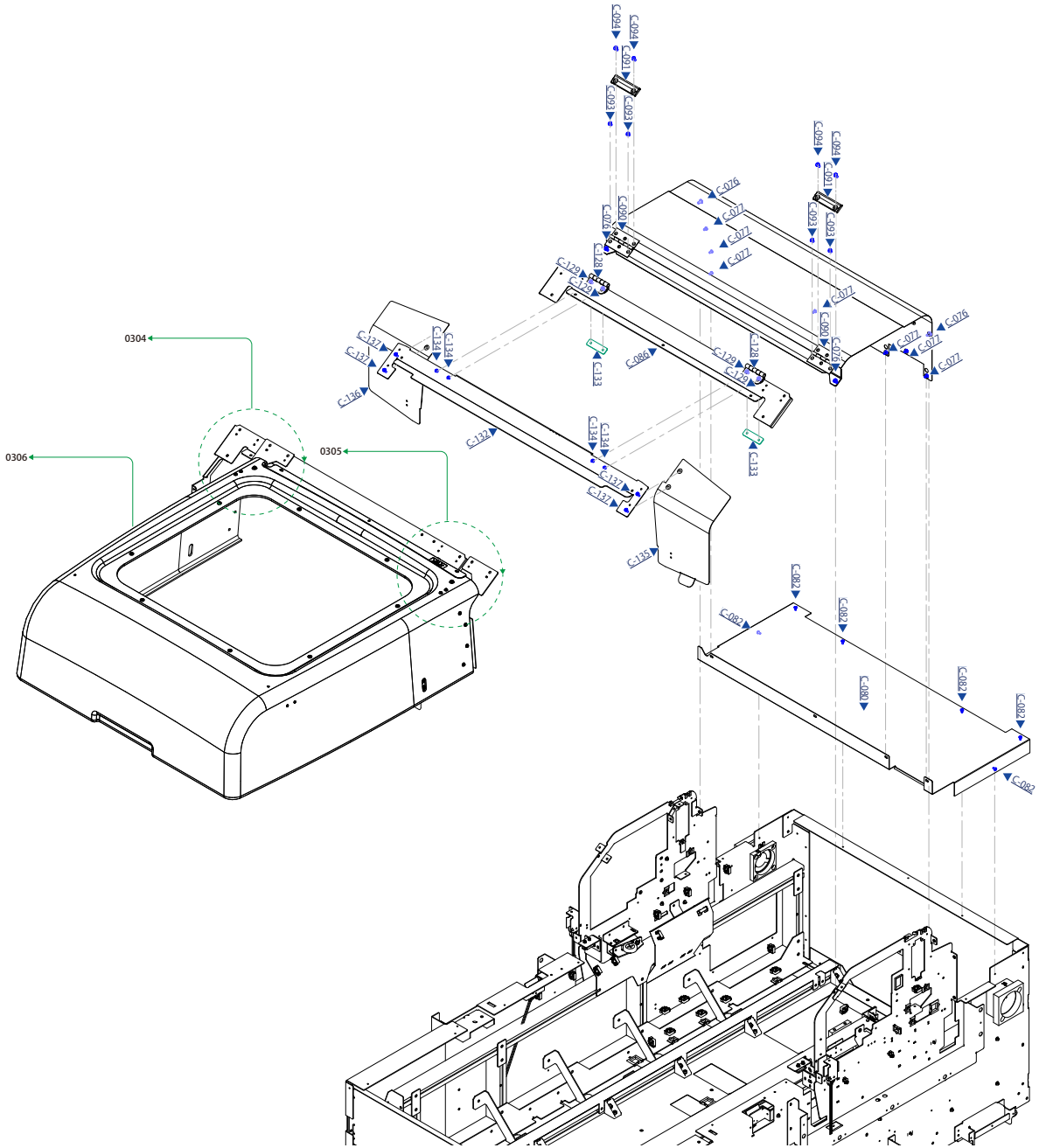
XPJ-661UF Rev.01 2020-07-17

(No. 1452003)



CONFIDENTIAL

0303 Cover - Top 01
XPJ-661UF Rev.01 2020-07-17
(No. 1452003)

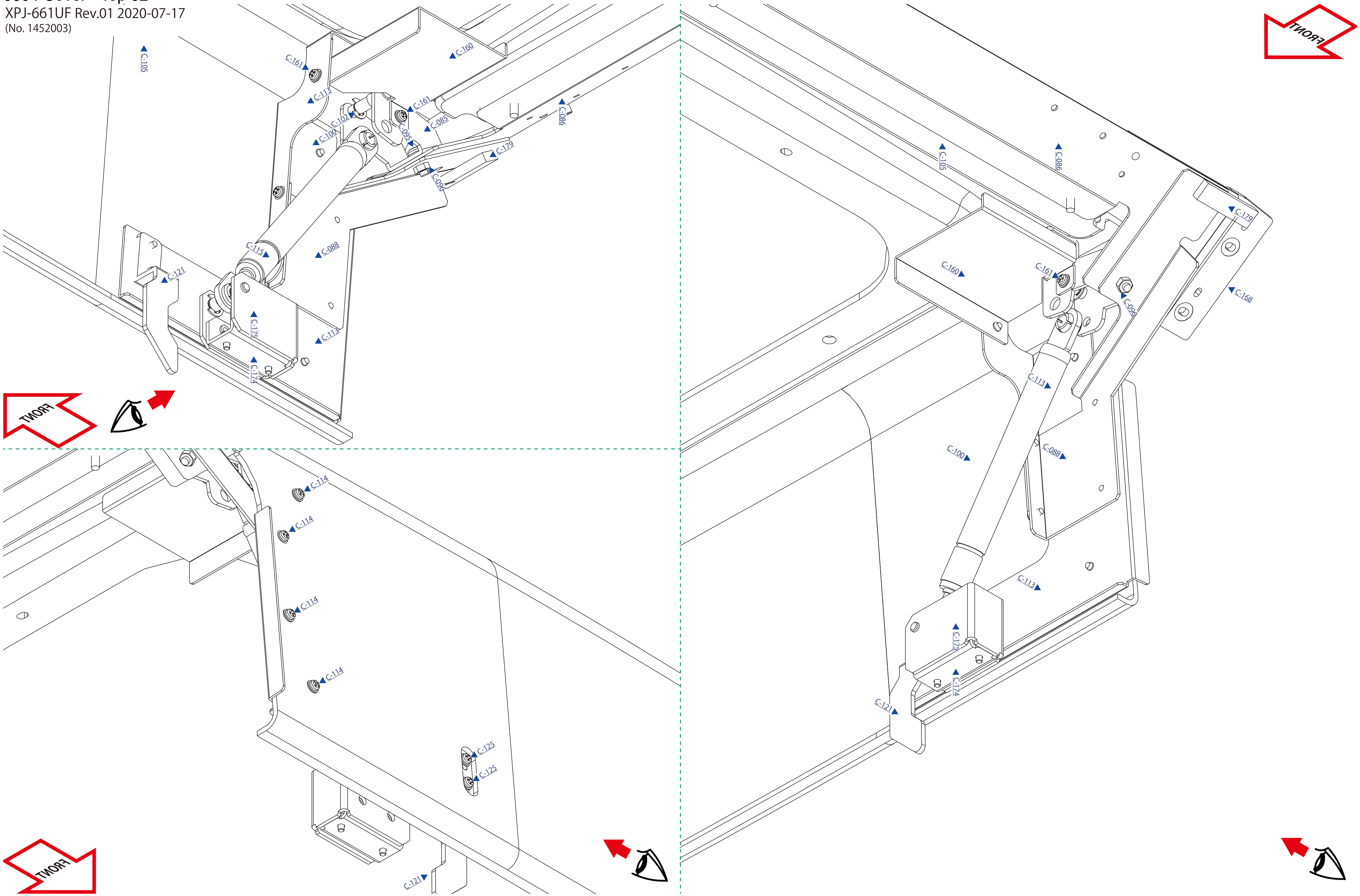


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0304 Cover - Top 02

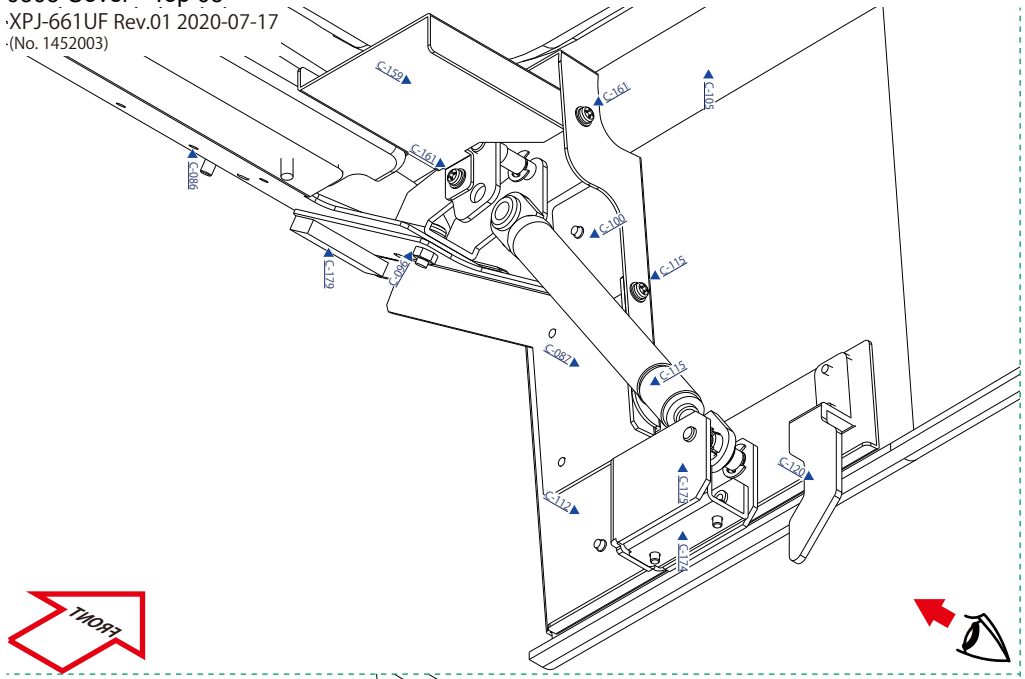
XPJ-661UF Rev.01 2020-07-17

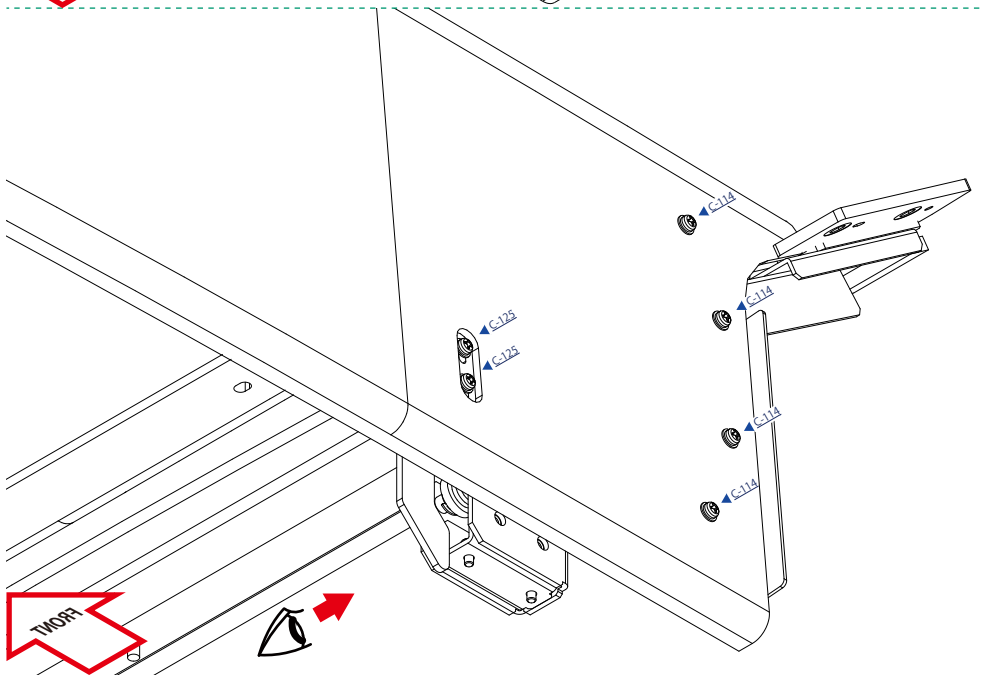
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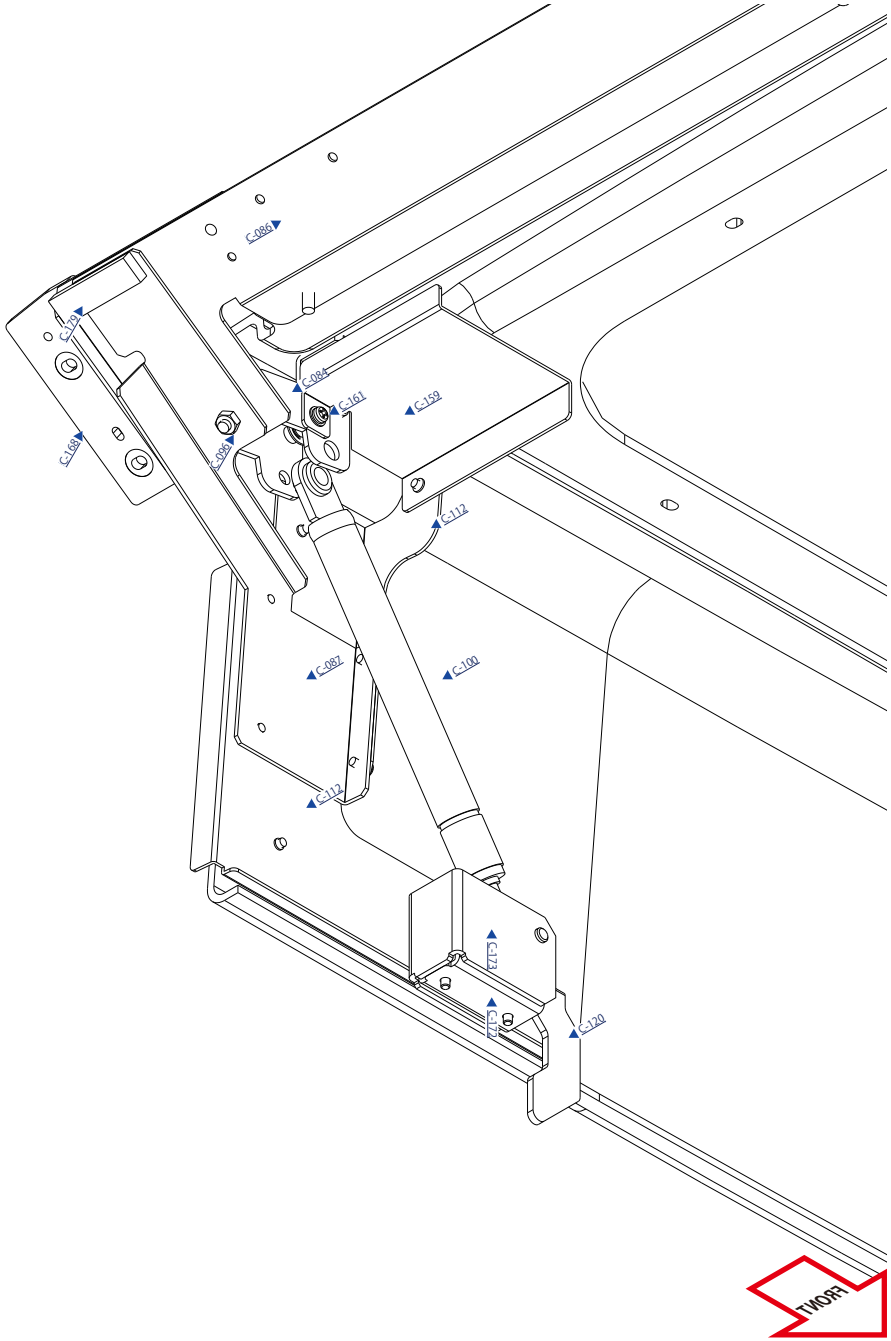


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0305 Cover - Top 03
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·(No. 1452003)

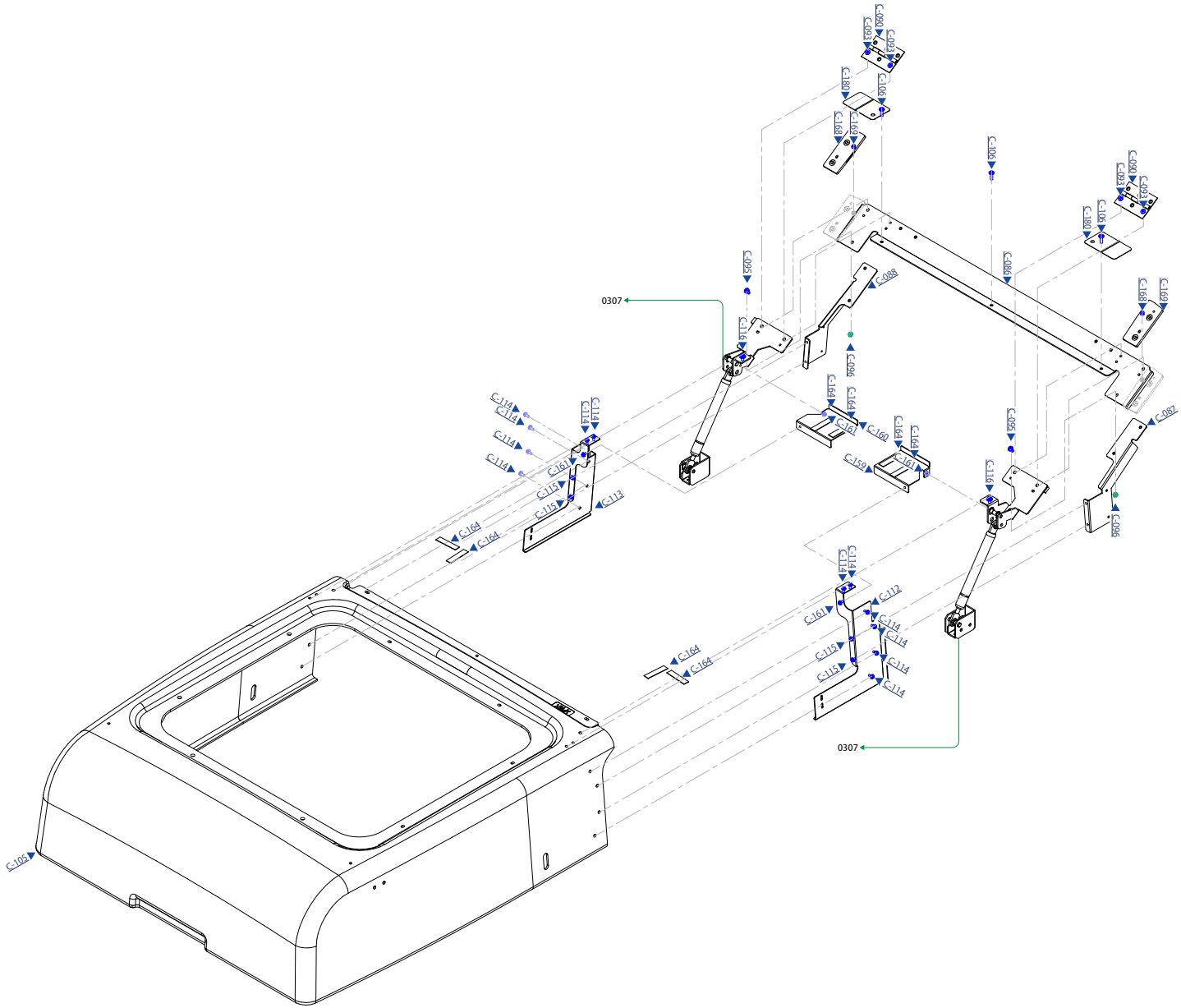






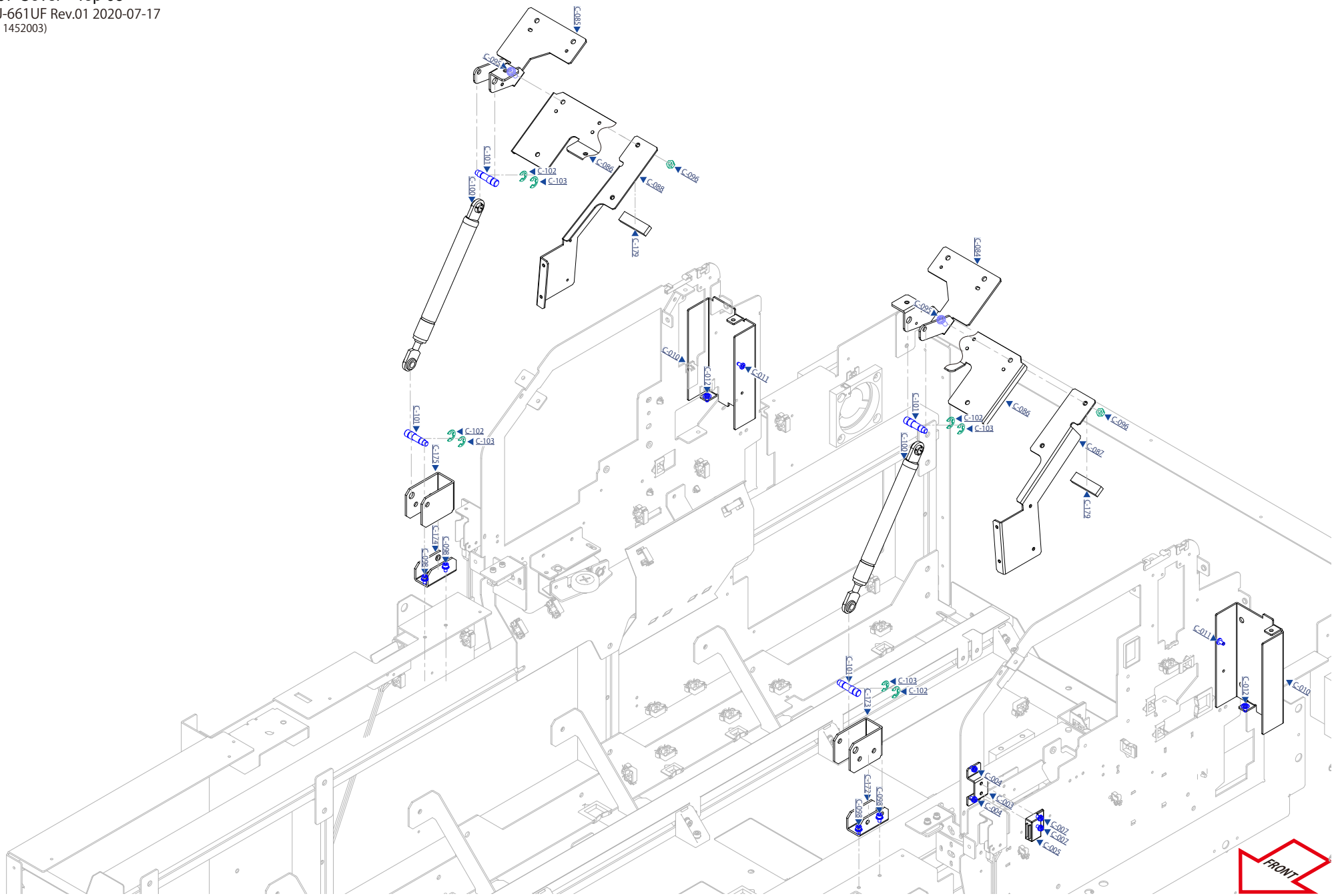
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0306 Cover - Top 04
XPJ-661UF Rev.01 2020-07-17
(No. 1452003)



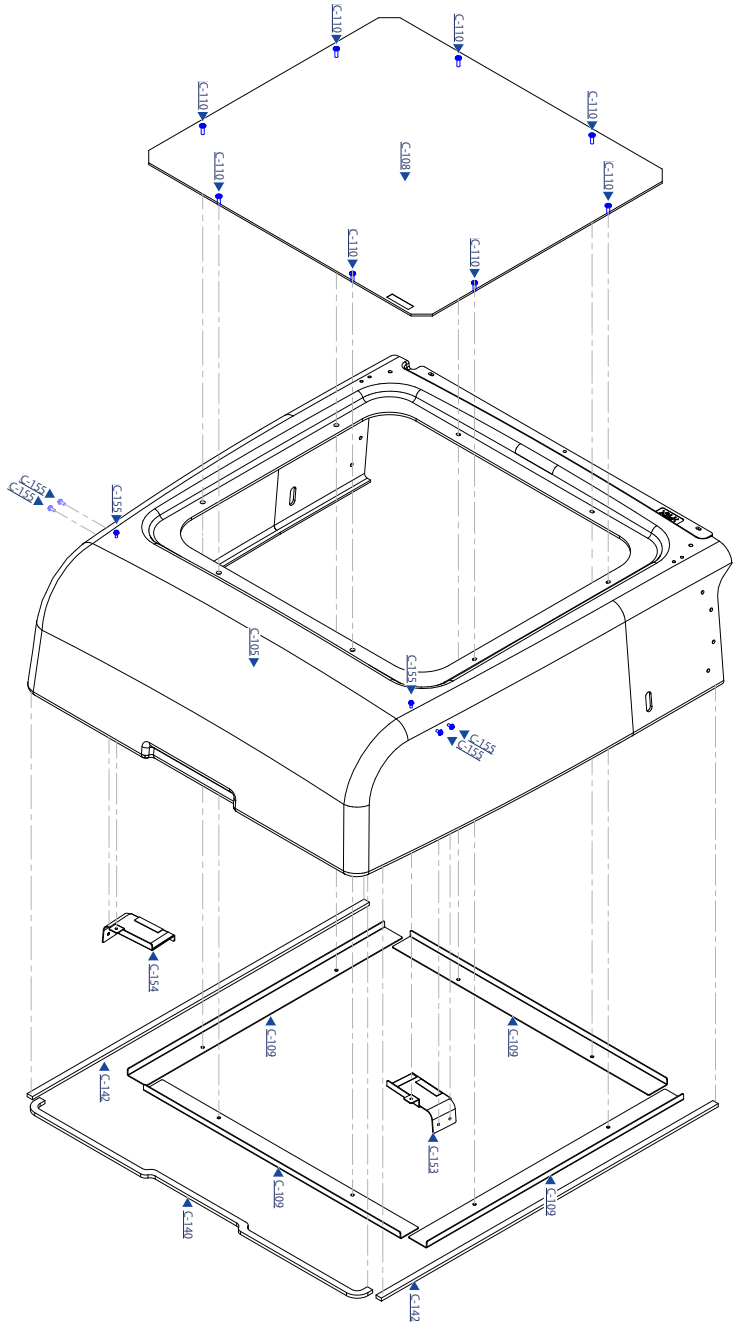
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0307 Cover - Top 05
XPJ-661UF Rev.01 2020-07-17
(No. 1452003)



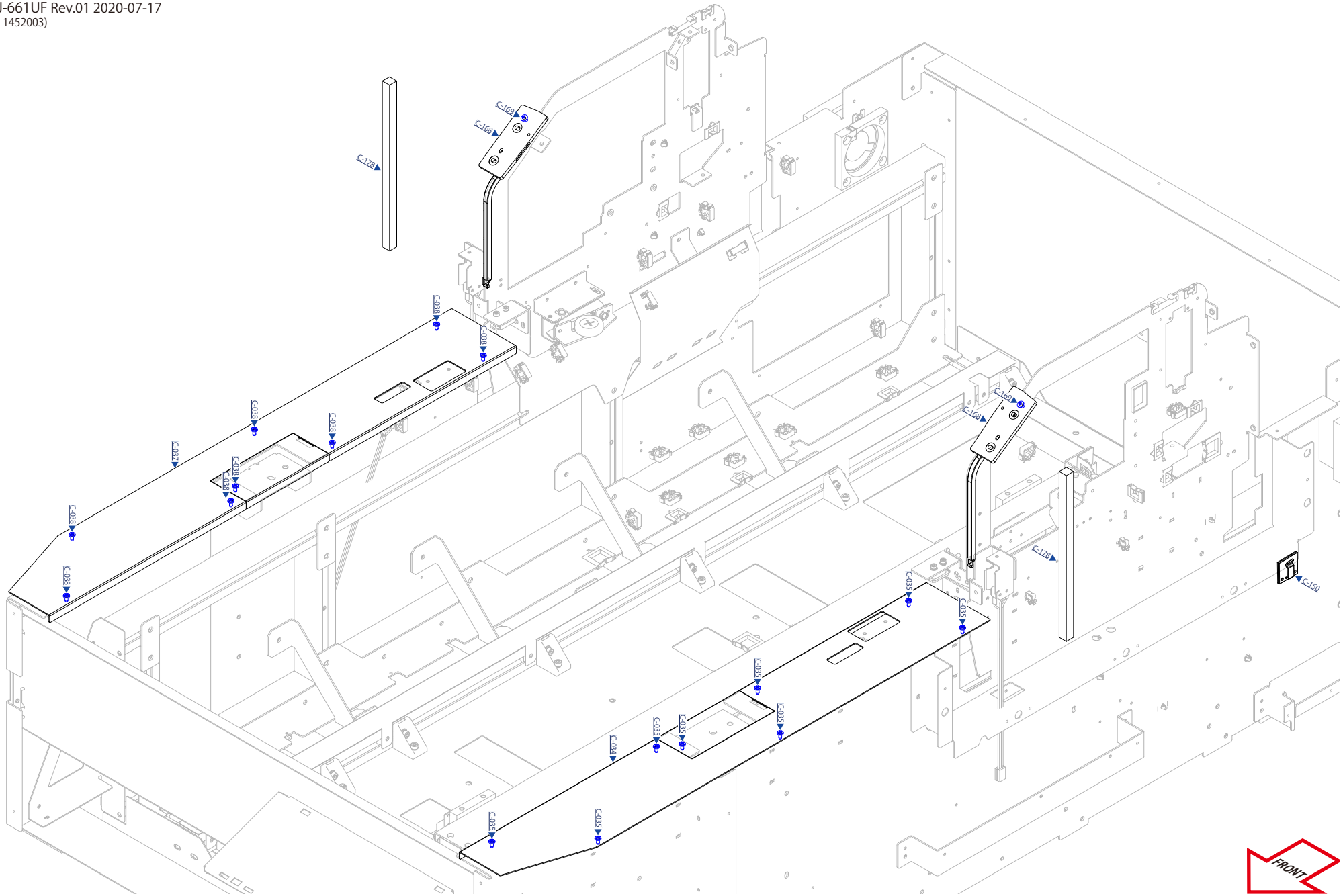
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0308 Cover - Top 06
XPJ-661UF Rev.01 2020-07-17
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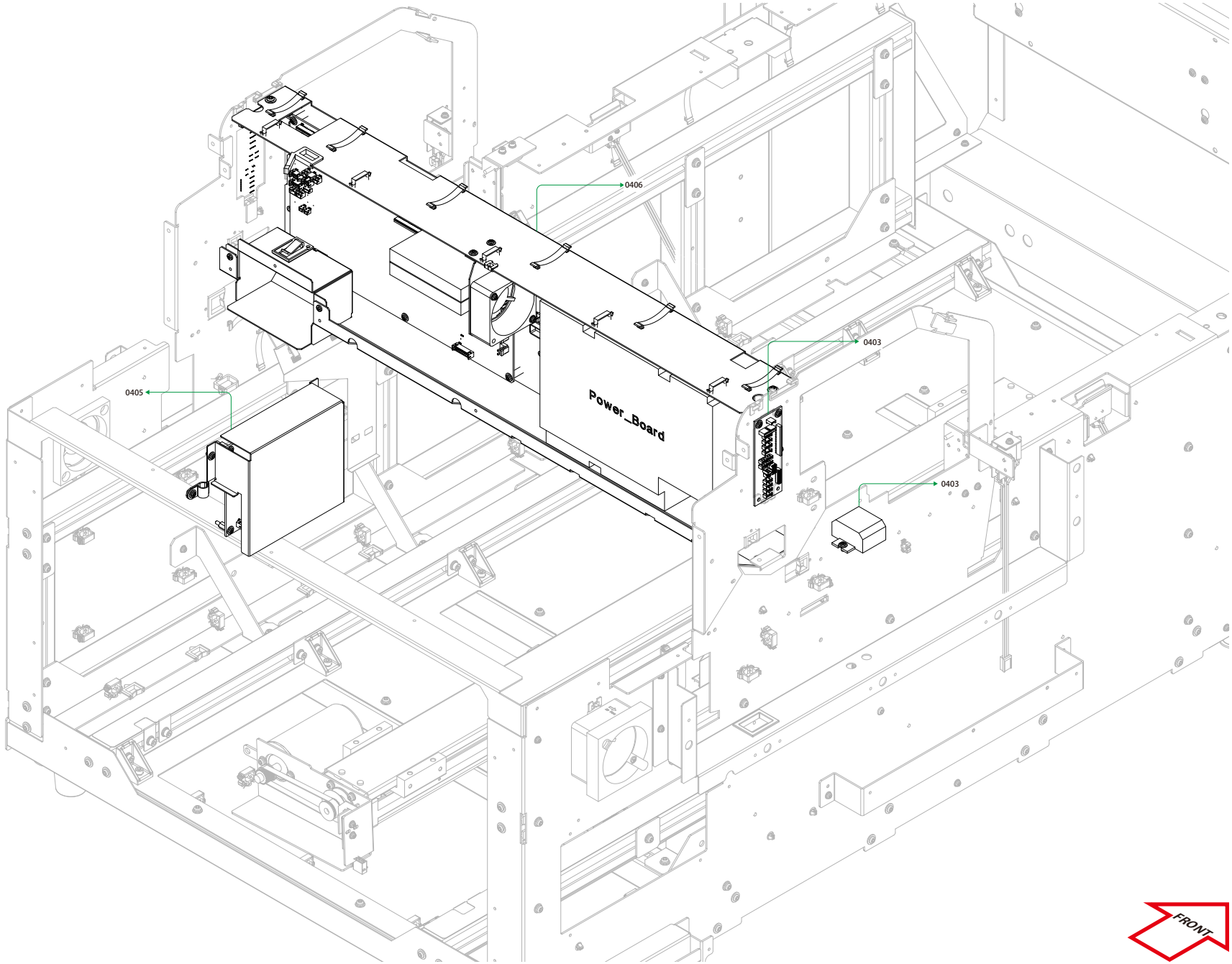
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0309 Cover - Top 07
XPJ-661UF Rev.01 2020-07-17
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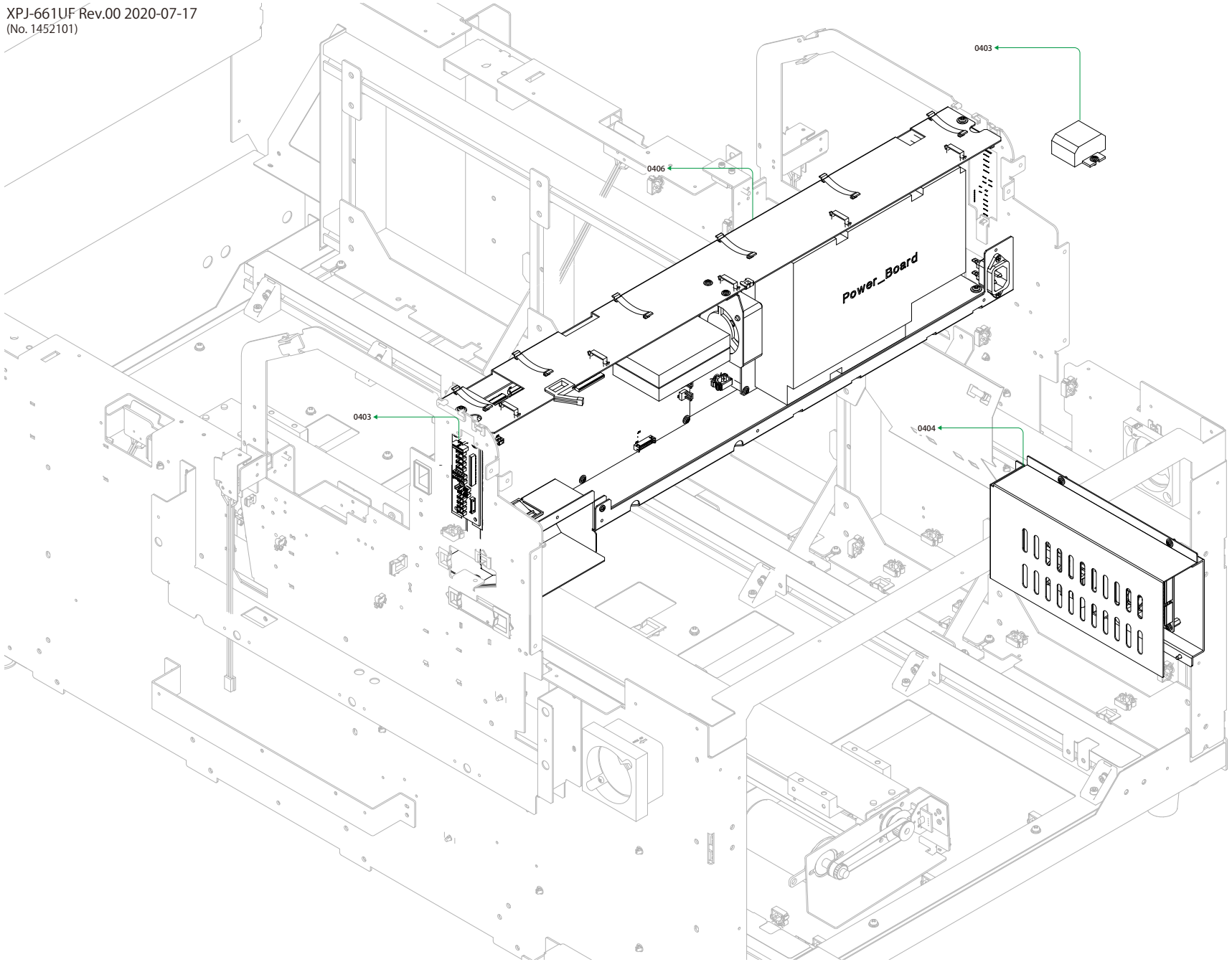
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0401 Board Box - Overview 01
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



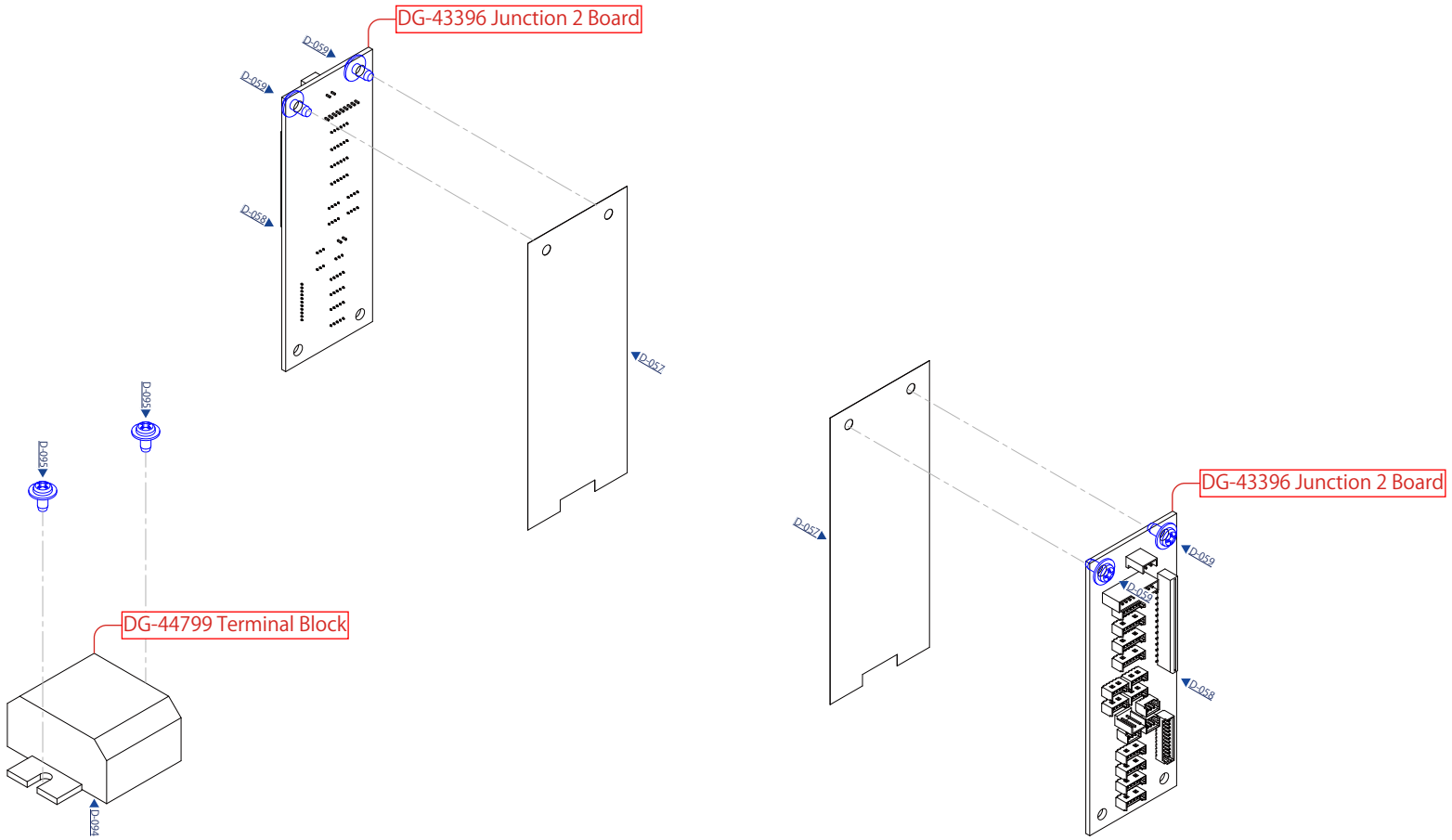
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0402 Board Box - Overview 02
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



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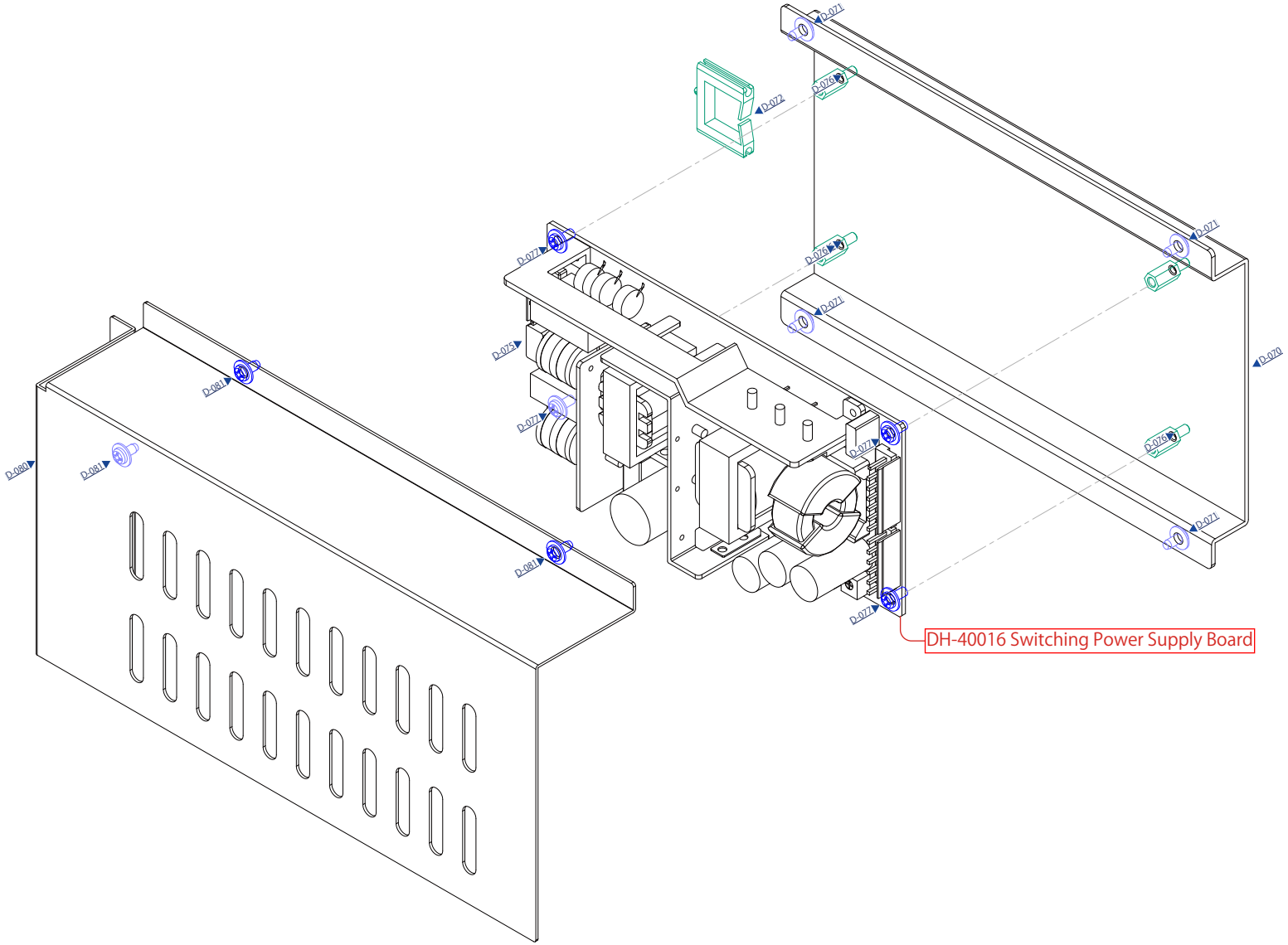
0403 Board Box - Junction / Terminal
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



FRONT

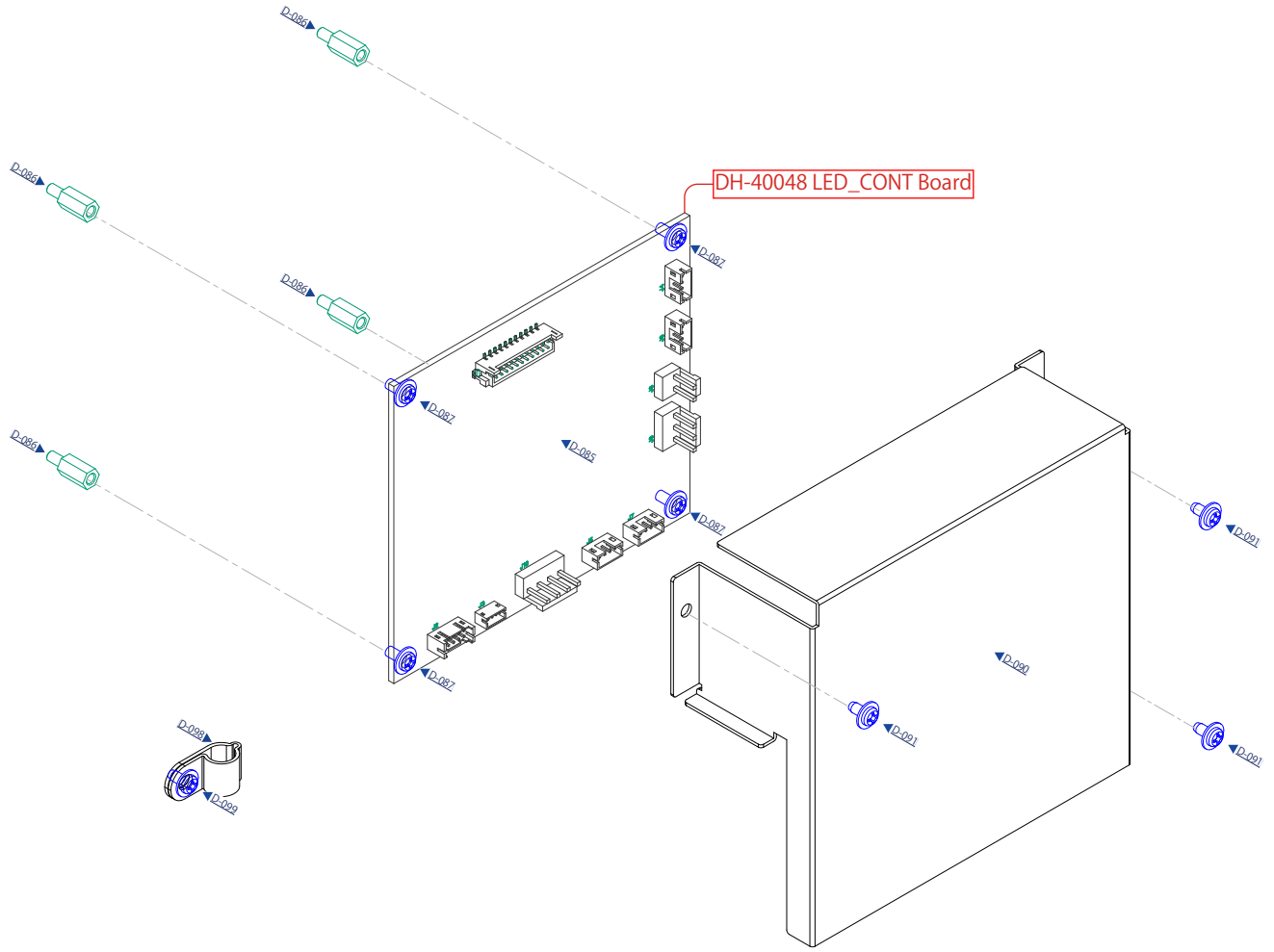
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0404 Board Box - PS
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



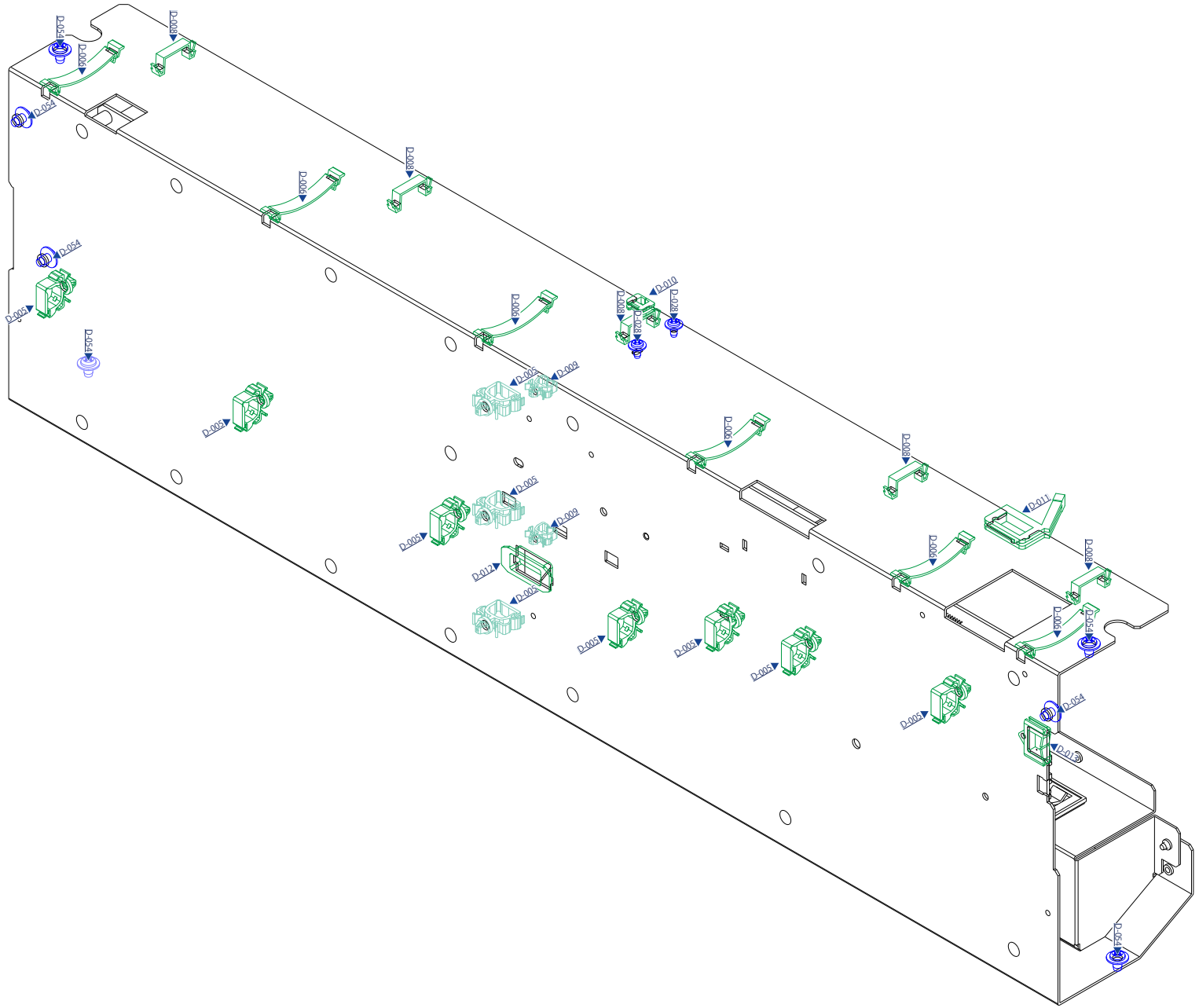
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0405 Board Box - LED Cont
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



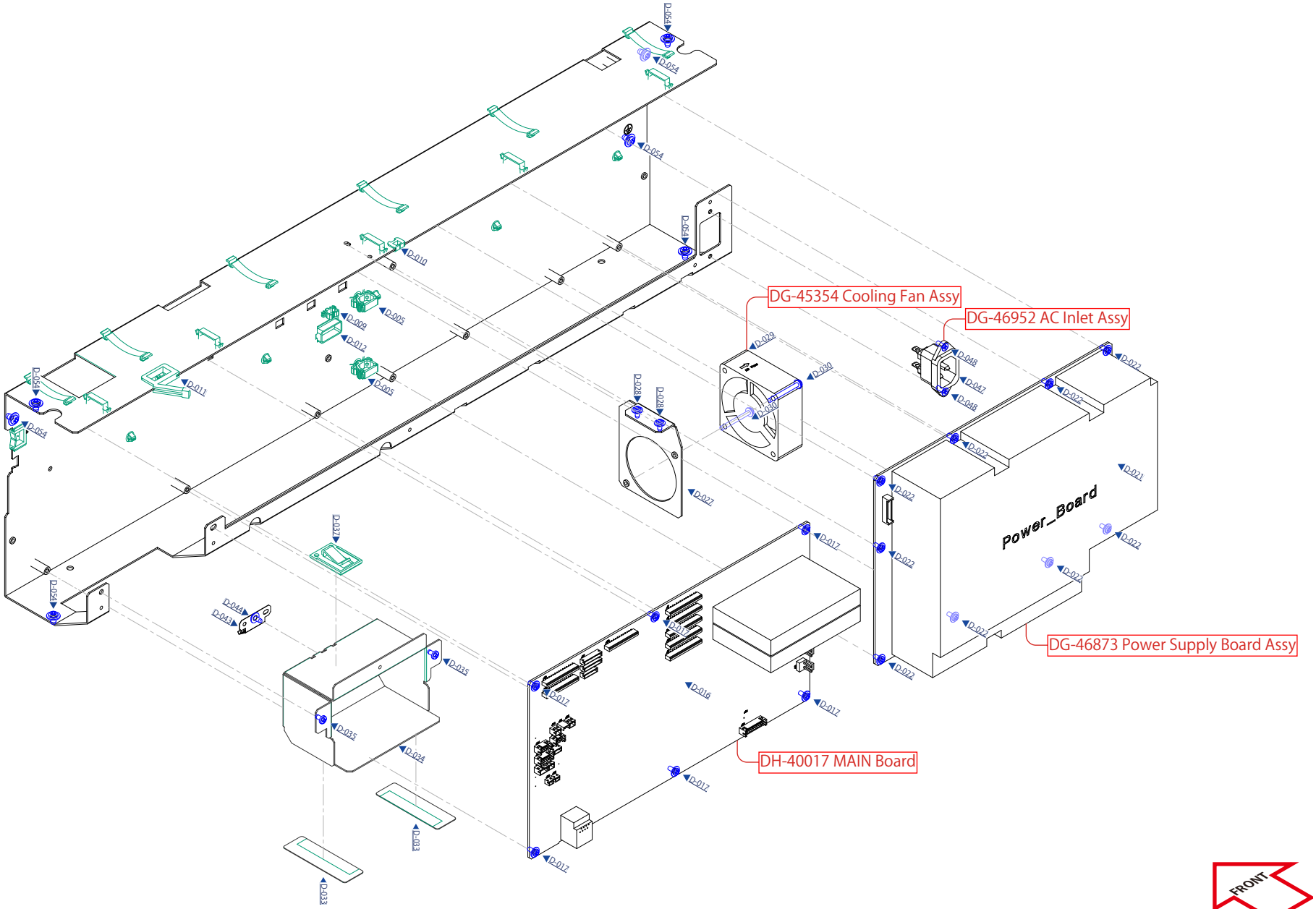
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0406 Board Box - Clamp
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



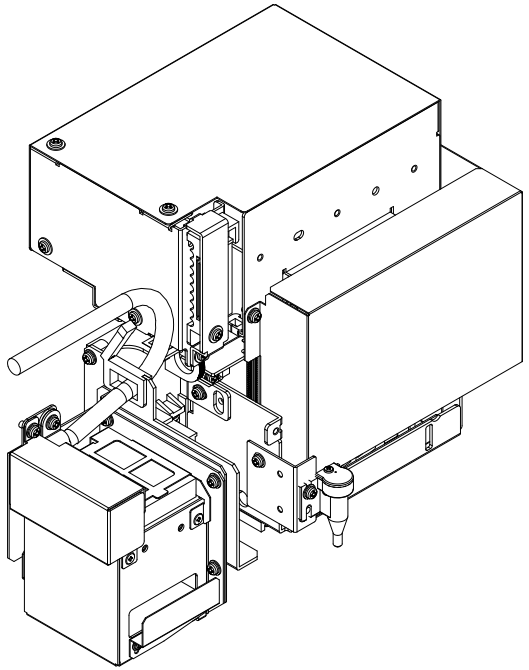
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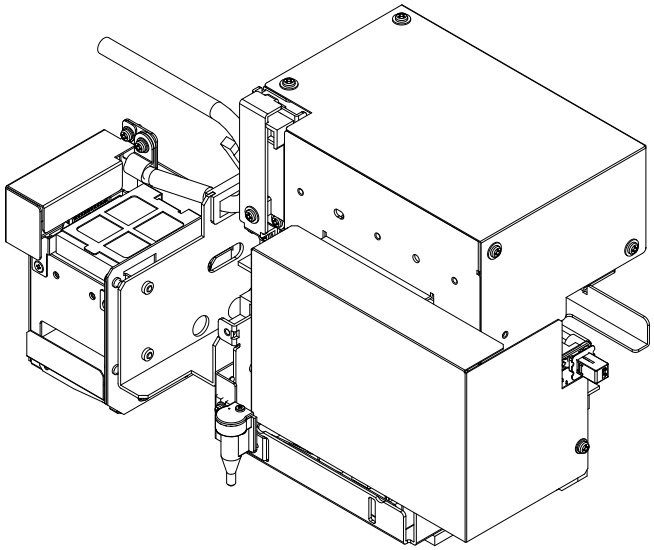
0407 Board Box - Main / PS
XPJ-661UF Rev.00 2020-07-17
(No. 1452101)



CONFIDENTIAL

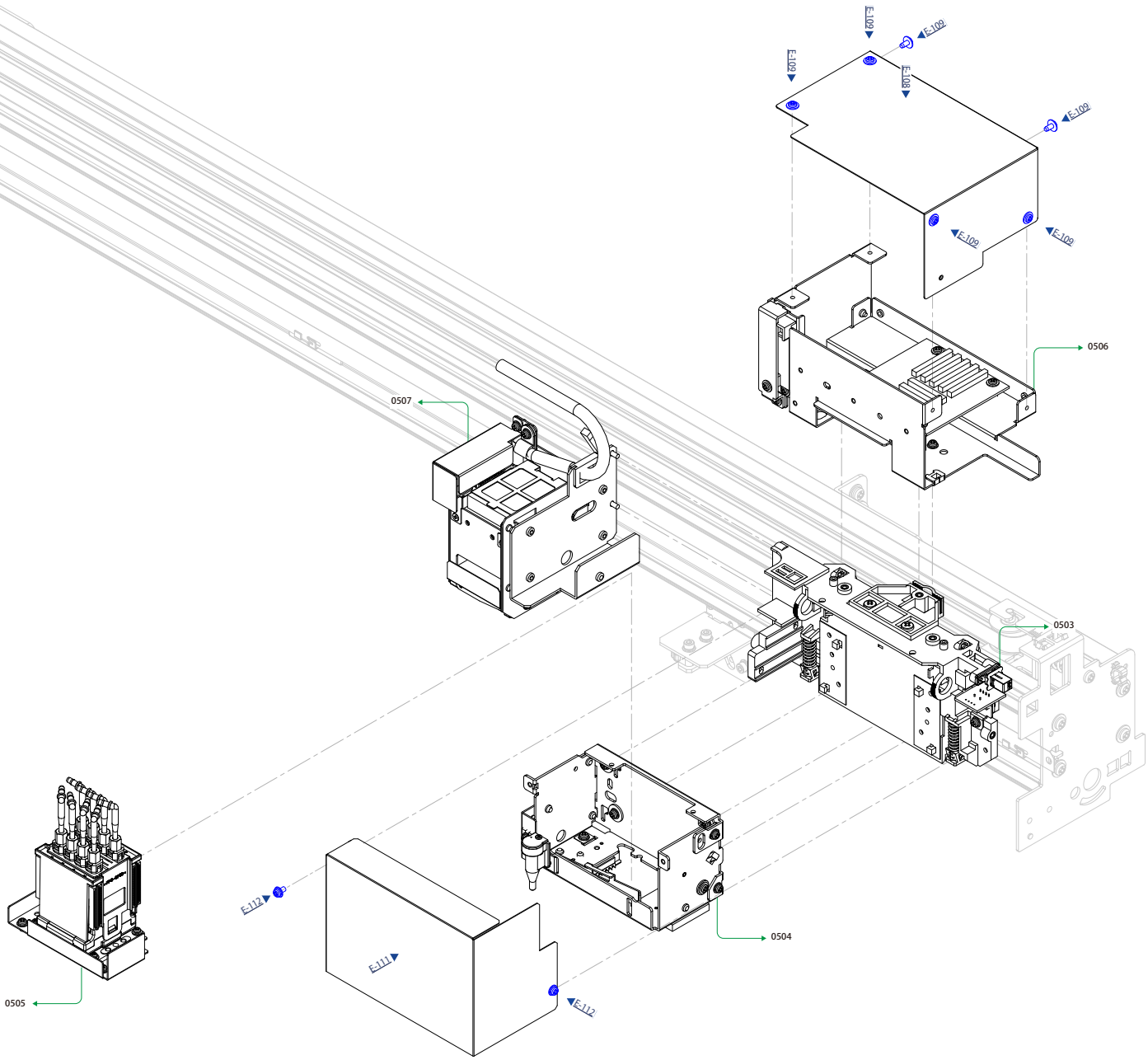
0501 CR - Overview
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)





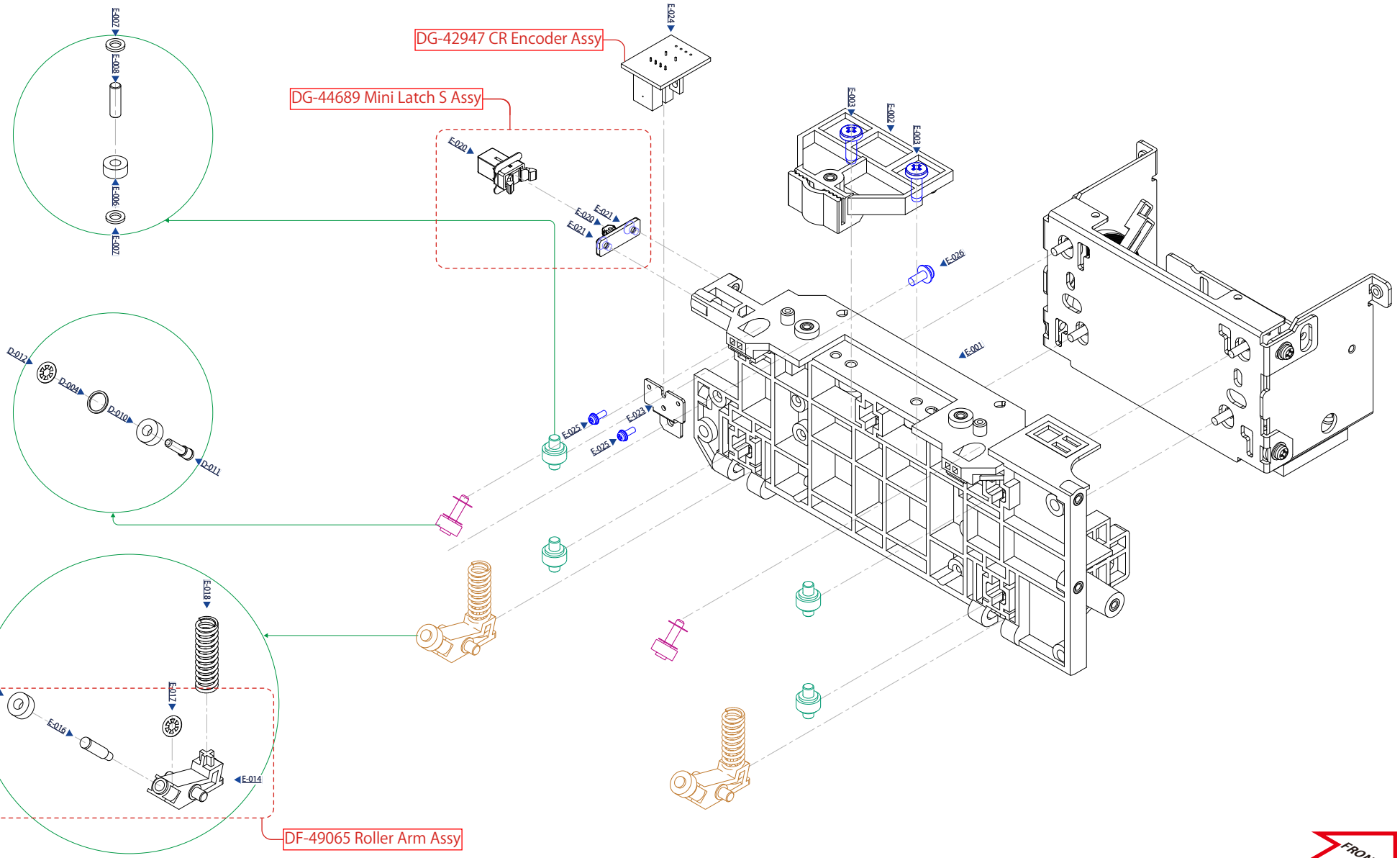
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0502 CR - Breakdown
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)



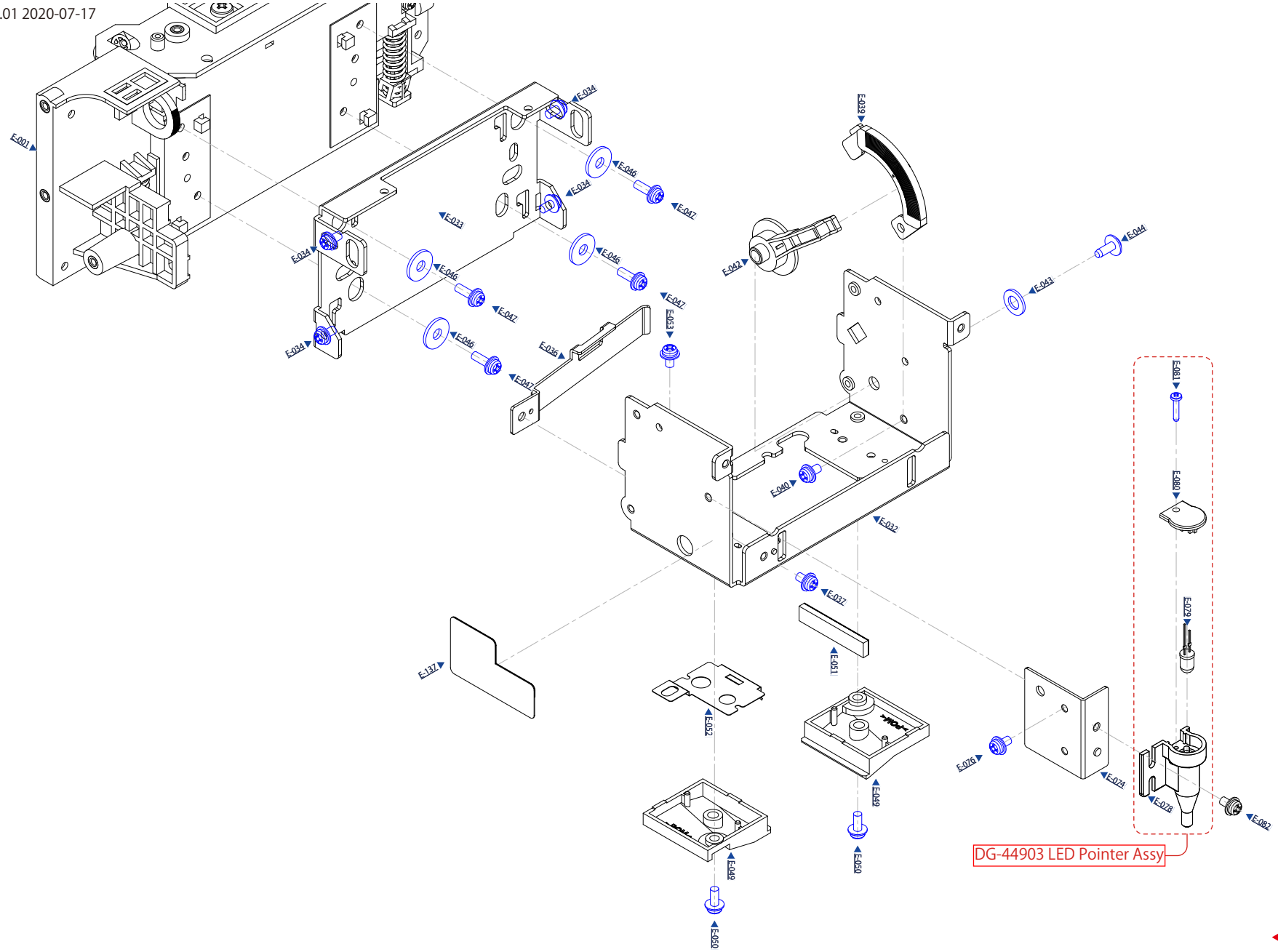
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0503 CR - Cursor
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)



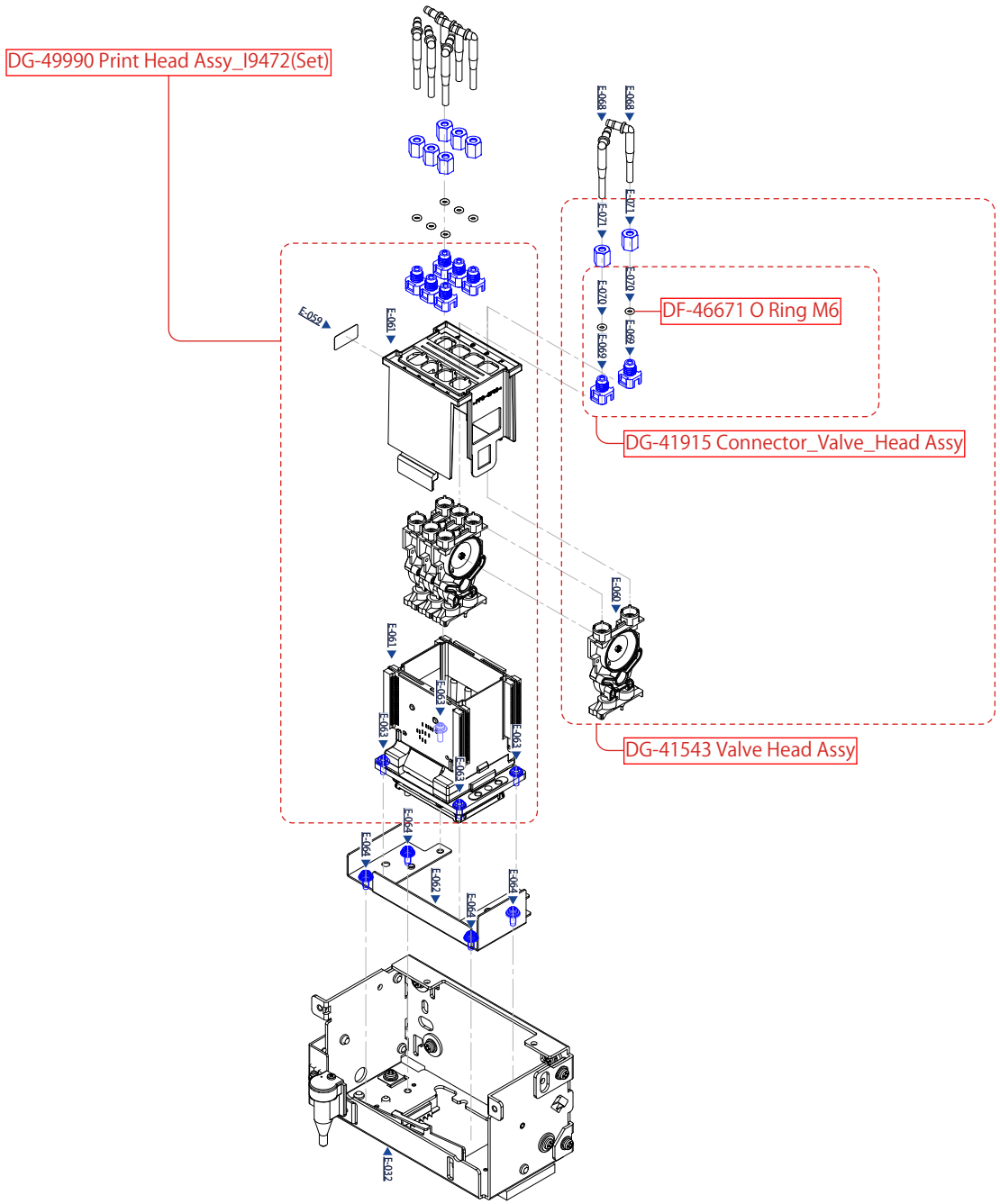
CONFIDENTIAL

0504 CR - Headbase
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)



CONFIDENTIAL

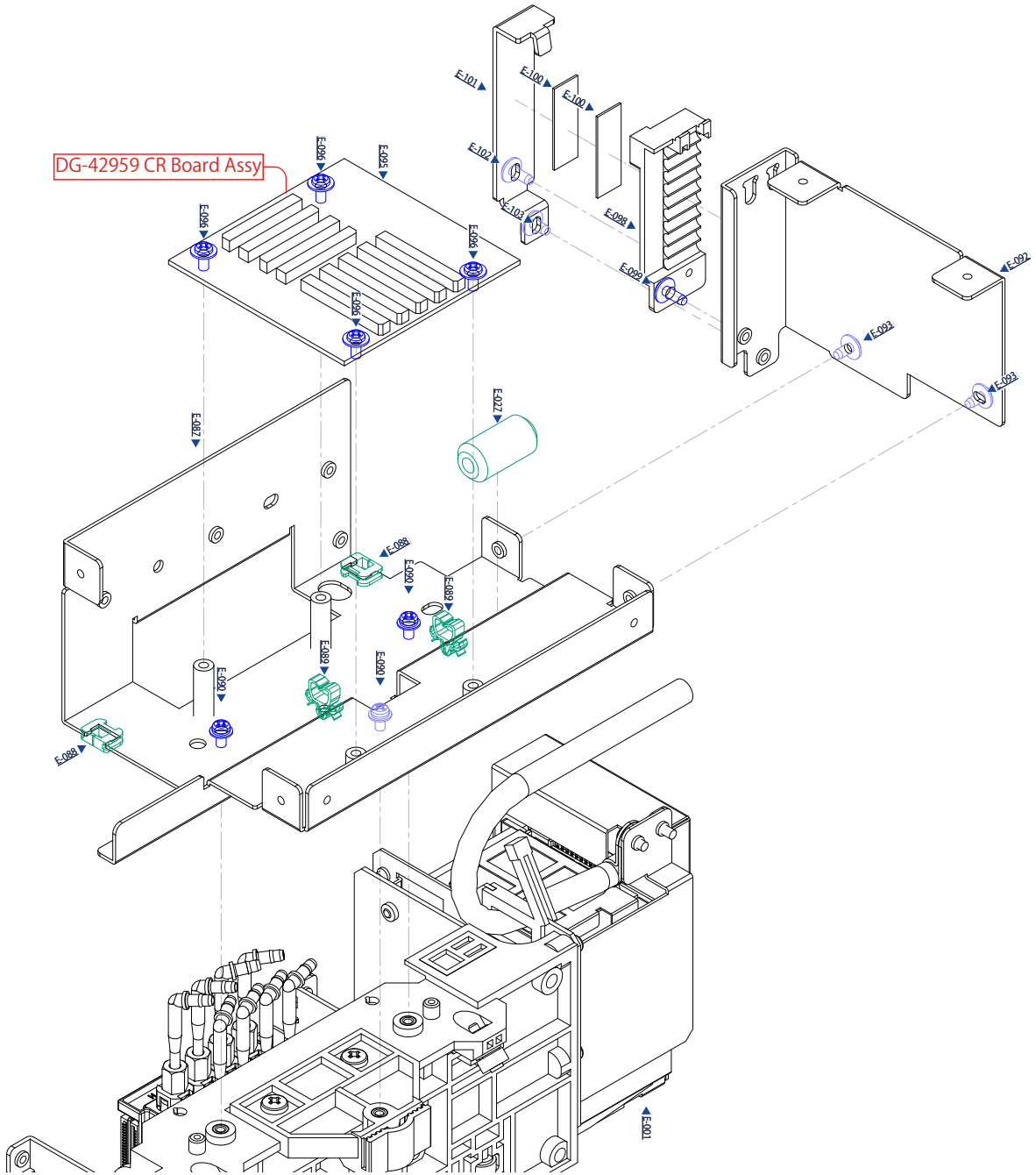
0505 CR - Prin Head
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)



FRONT

CONFIDENTIAL

0506 CR - Board
XPJ-661UF Rev.01 2020-07-17
(No. 1448303)



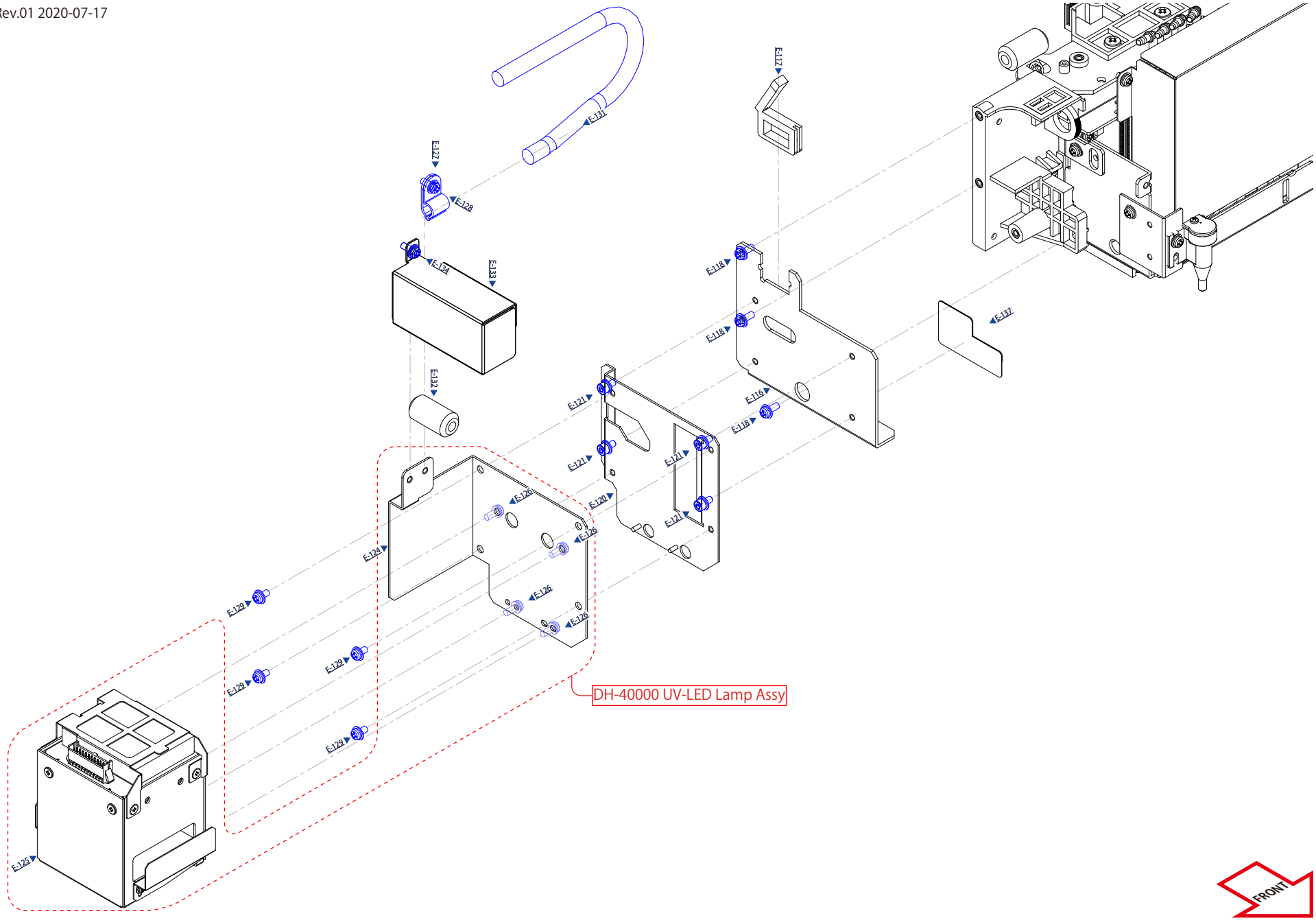
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CONFIDENTIAL

0507 CR - UV LED

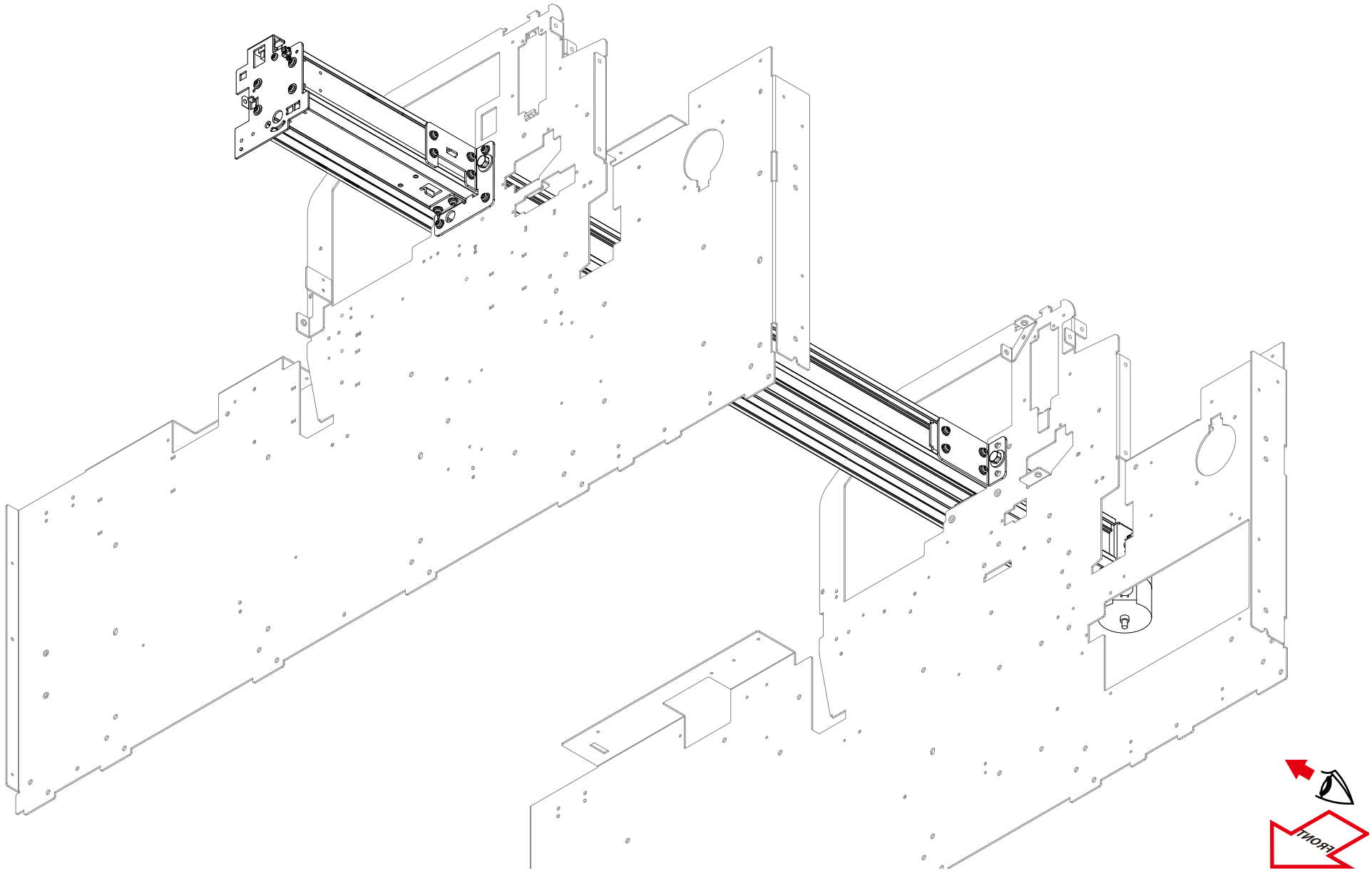
XPJ-661UF Rev.01 2020-07-17

(No. 1448303)



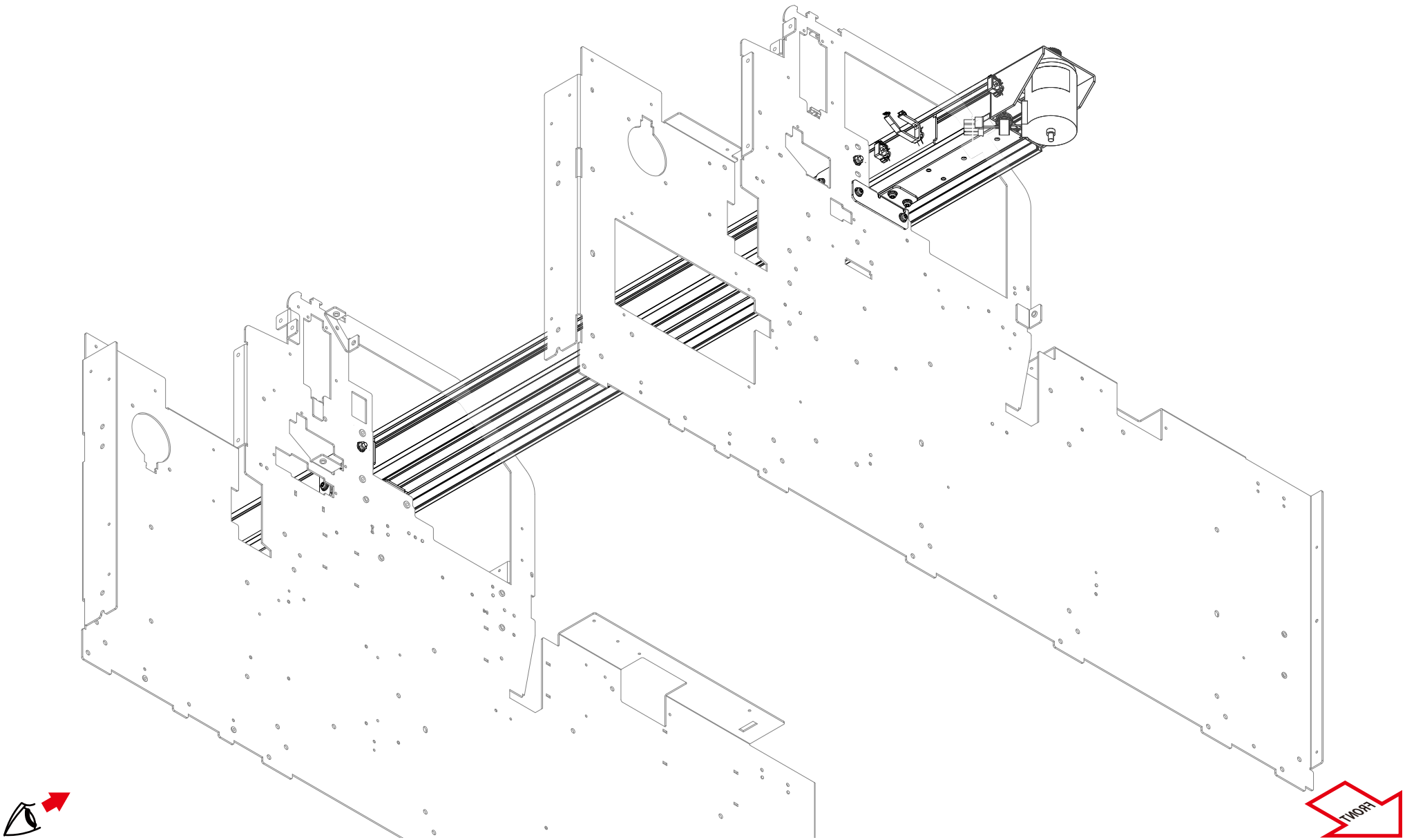
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0601 Y Rail - Overview 01
XPJ-661UF Rev.00 2020-07-17
(No. 1390202)



CONFIDENTIAL

0602 Y Rail - Overview 02
XPJ-661UF Rev.00 2020-07-17
(No. 1390202)

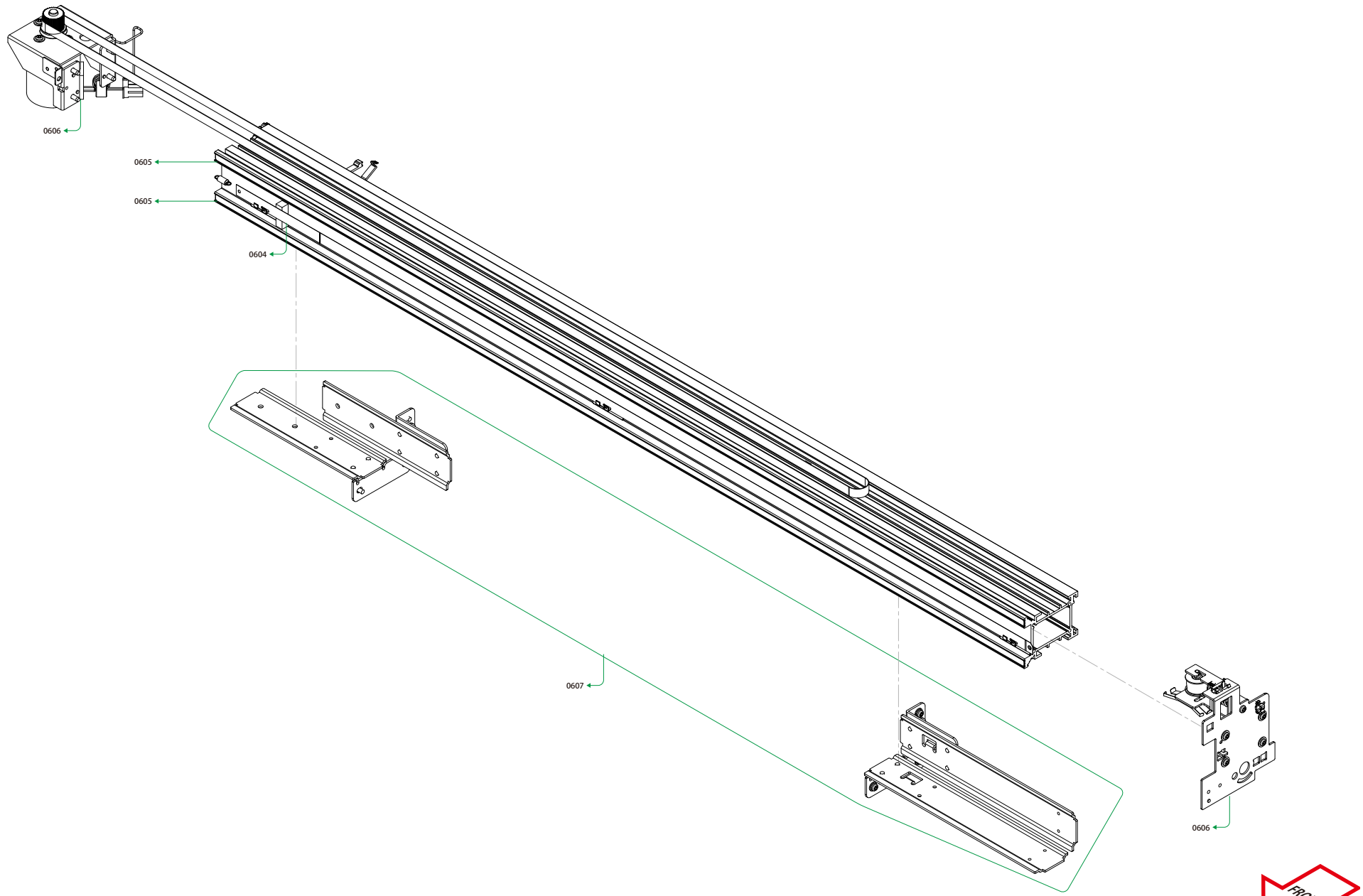


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0603 Y Rail - Breakdown

XPJ-661UF Rev.00 2020-07-17

(No. 1390202)

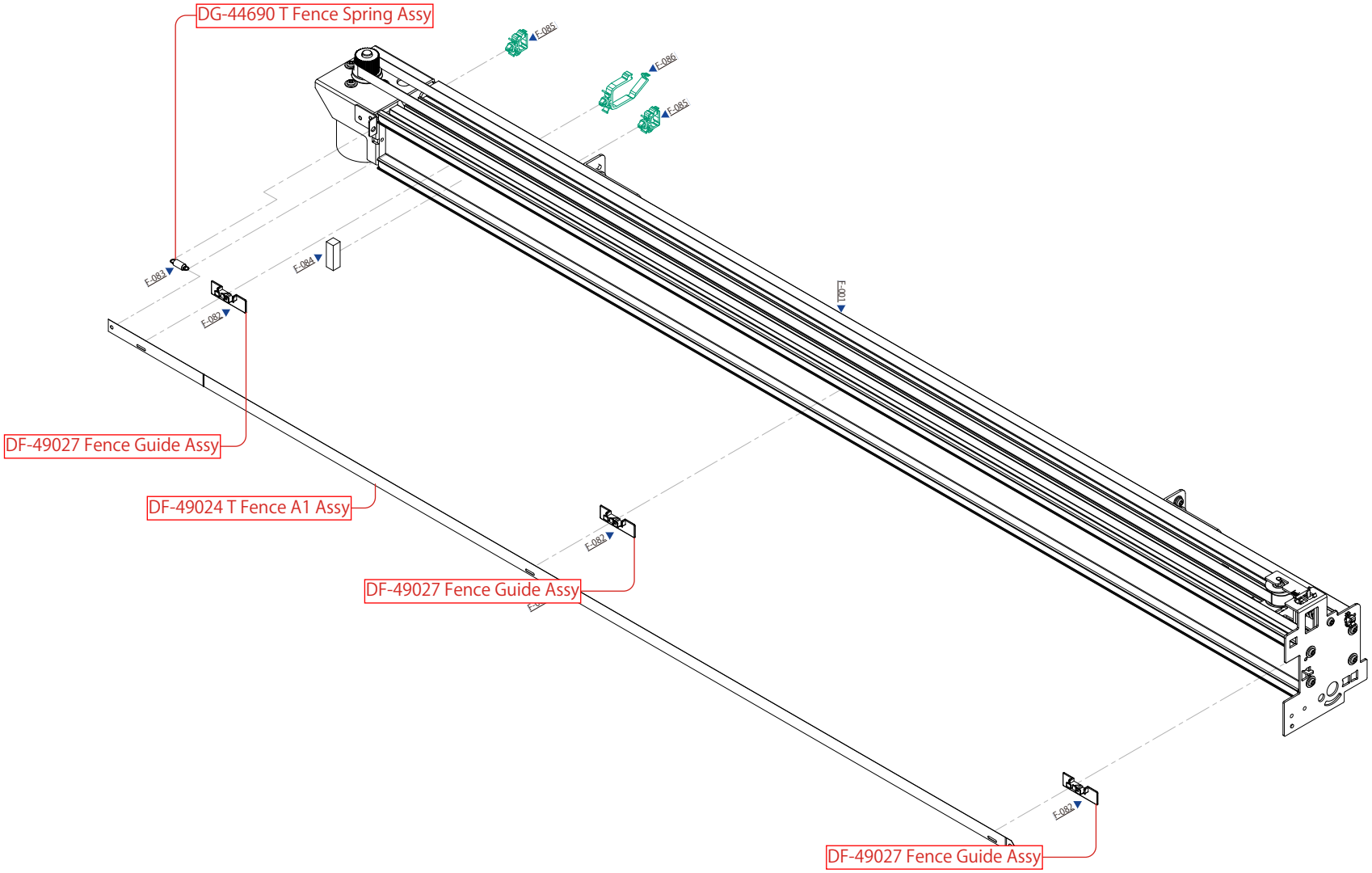


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0604 Y Rail - T Fence

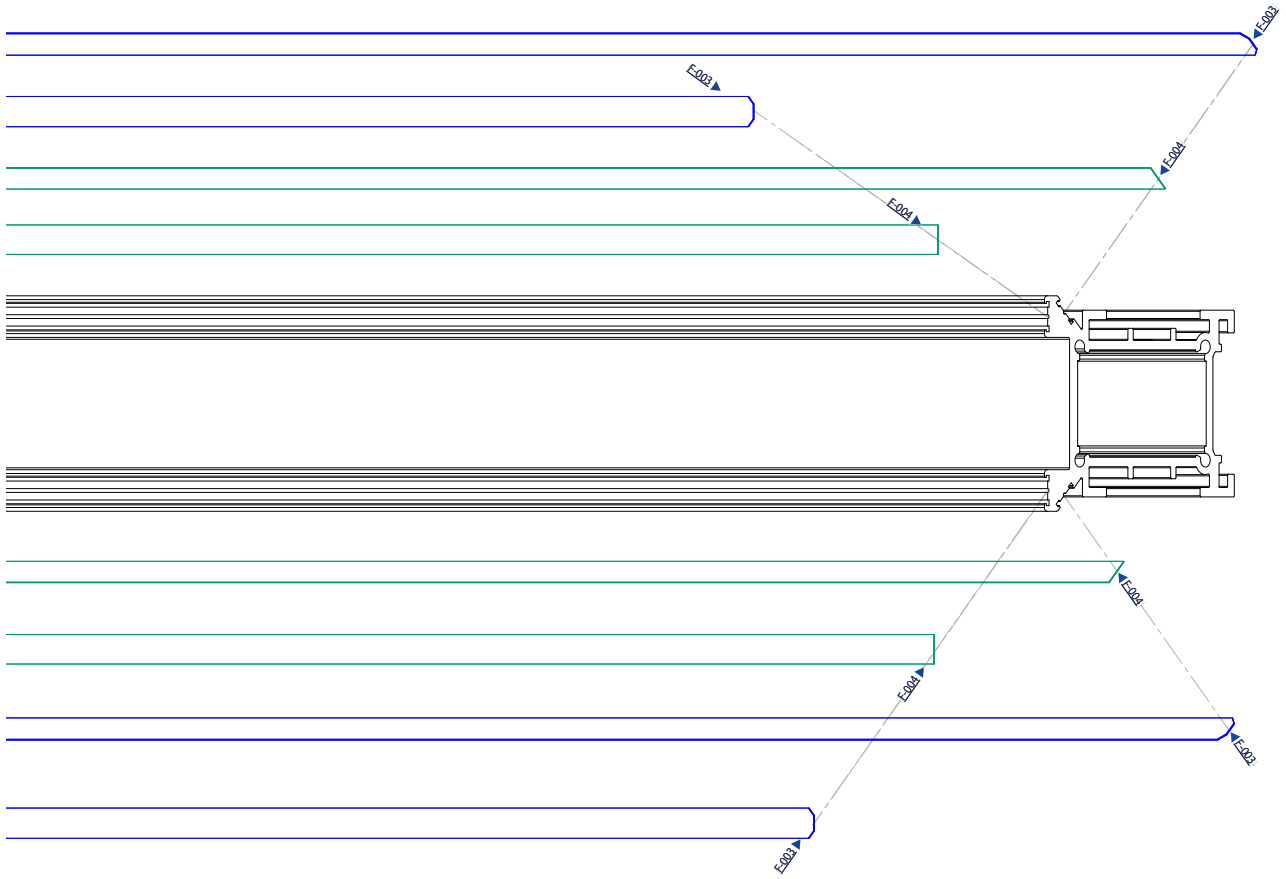
XPJ-661UF Rev.00 2020-07-17

(No. 1390202)



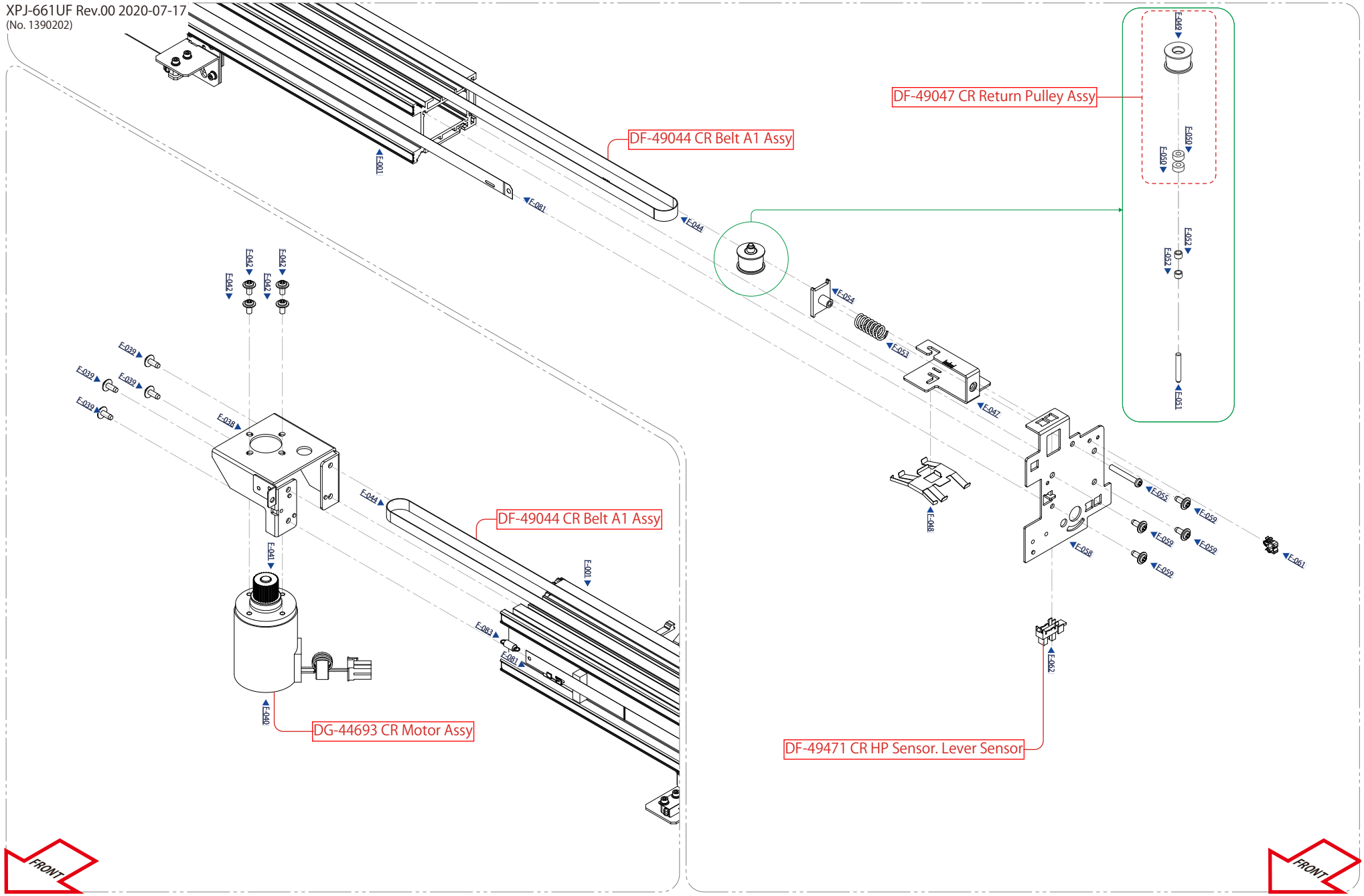
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0605 Y Rail - Roller
XPJ-661UF Rev.00 2020-07-17
(No. 1390202)



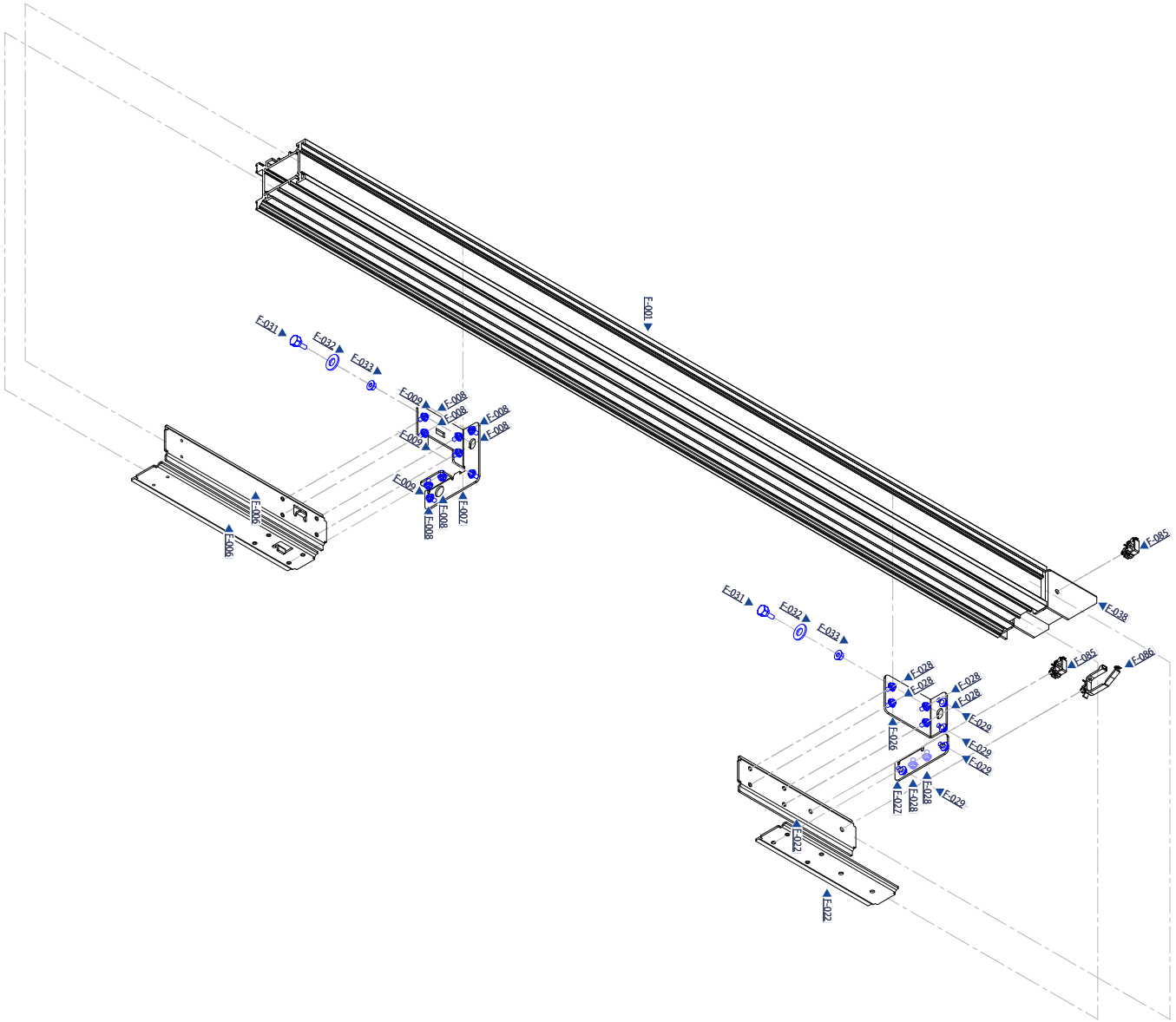
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0606 Y Rail - R / L
XPJ-661UF Rev.00 2020-07-17
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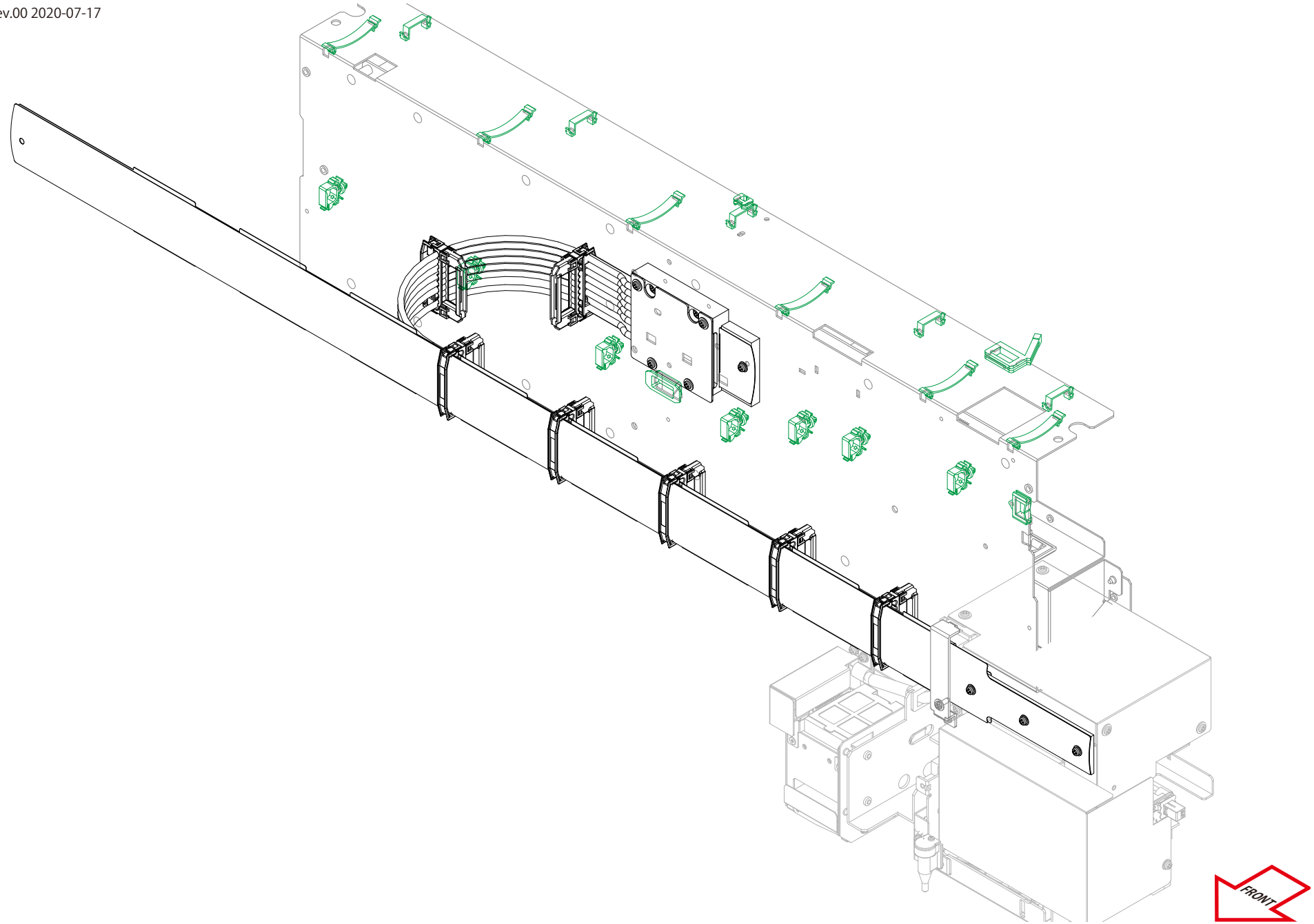
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0607 Y Rail - Fixing
XPJ-661UF Rev.00 2020-07-17
(No. 1390202)



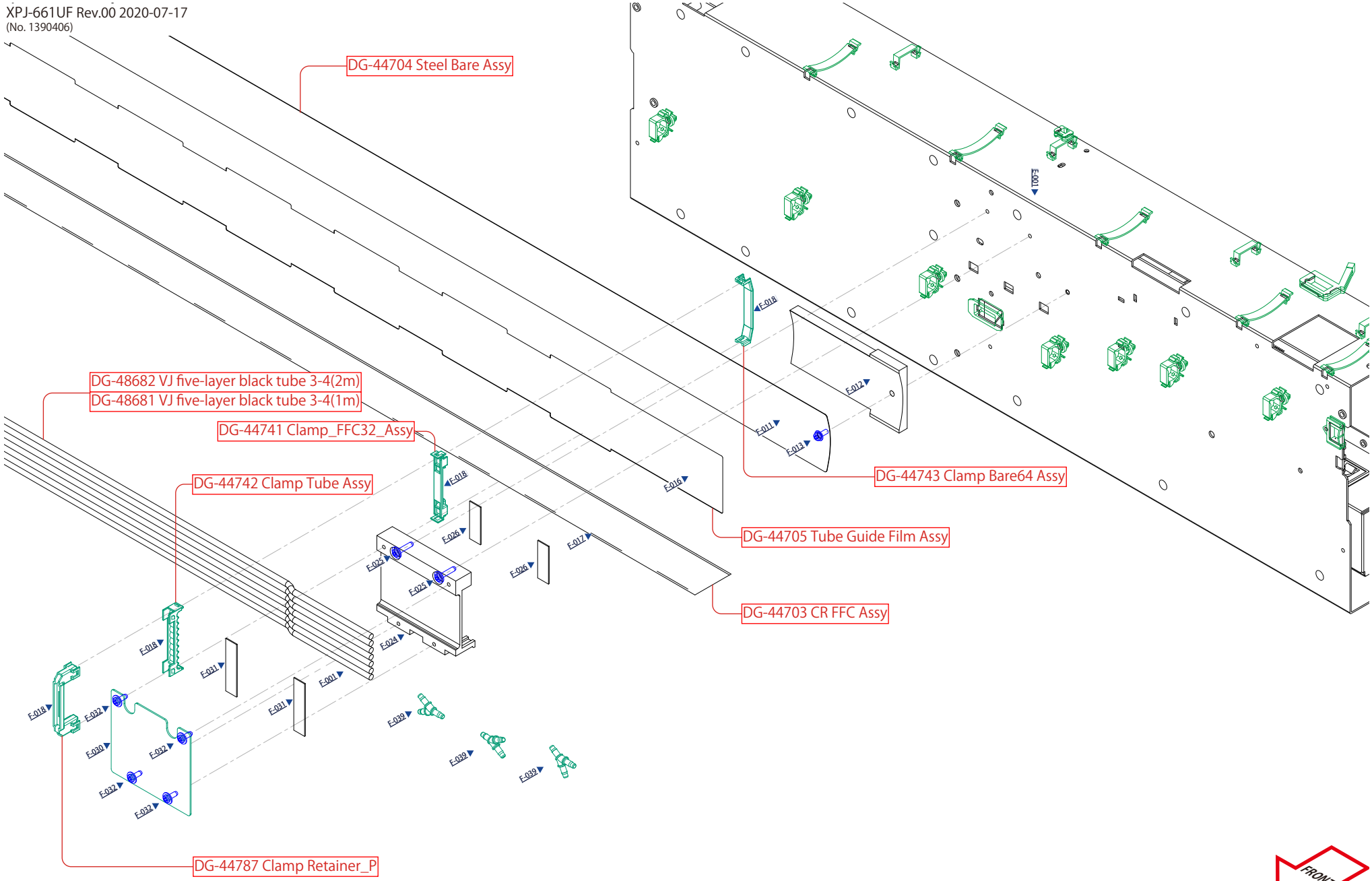
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0701 Cable Guide - Overview
XPJ-661UF Rev.00 2020-07-17
(No. 1390406)



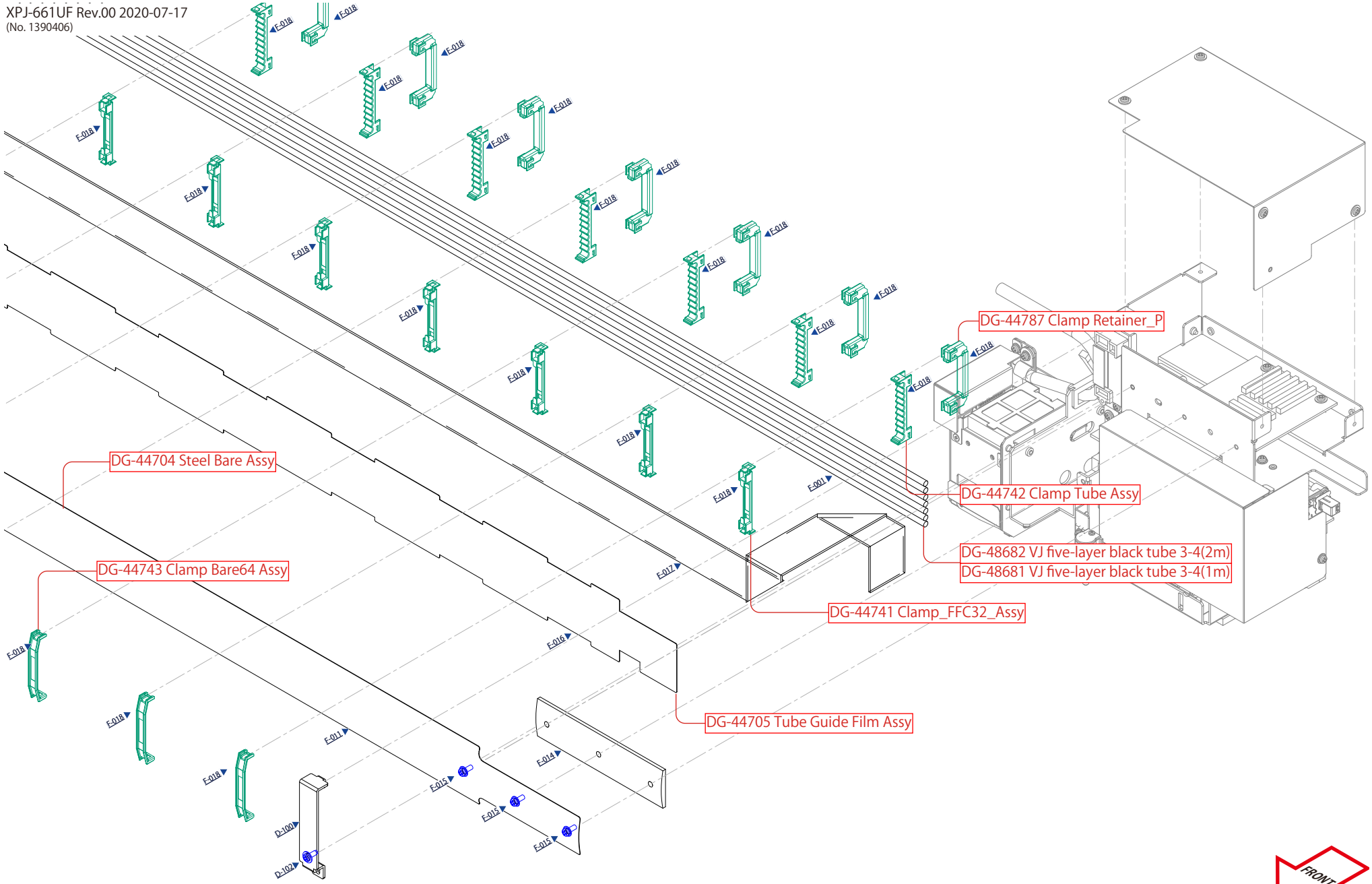
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0702 Cable Guide - Board Box Side
XPJ-661UF Rev.00 2020-07-17
(No. 1390406)



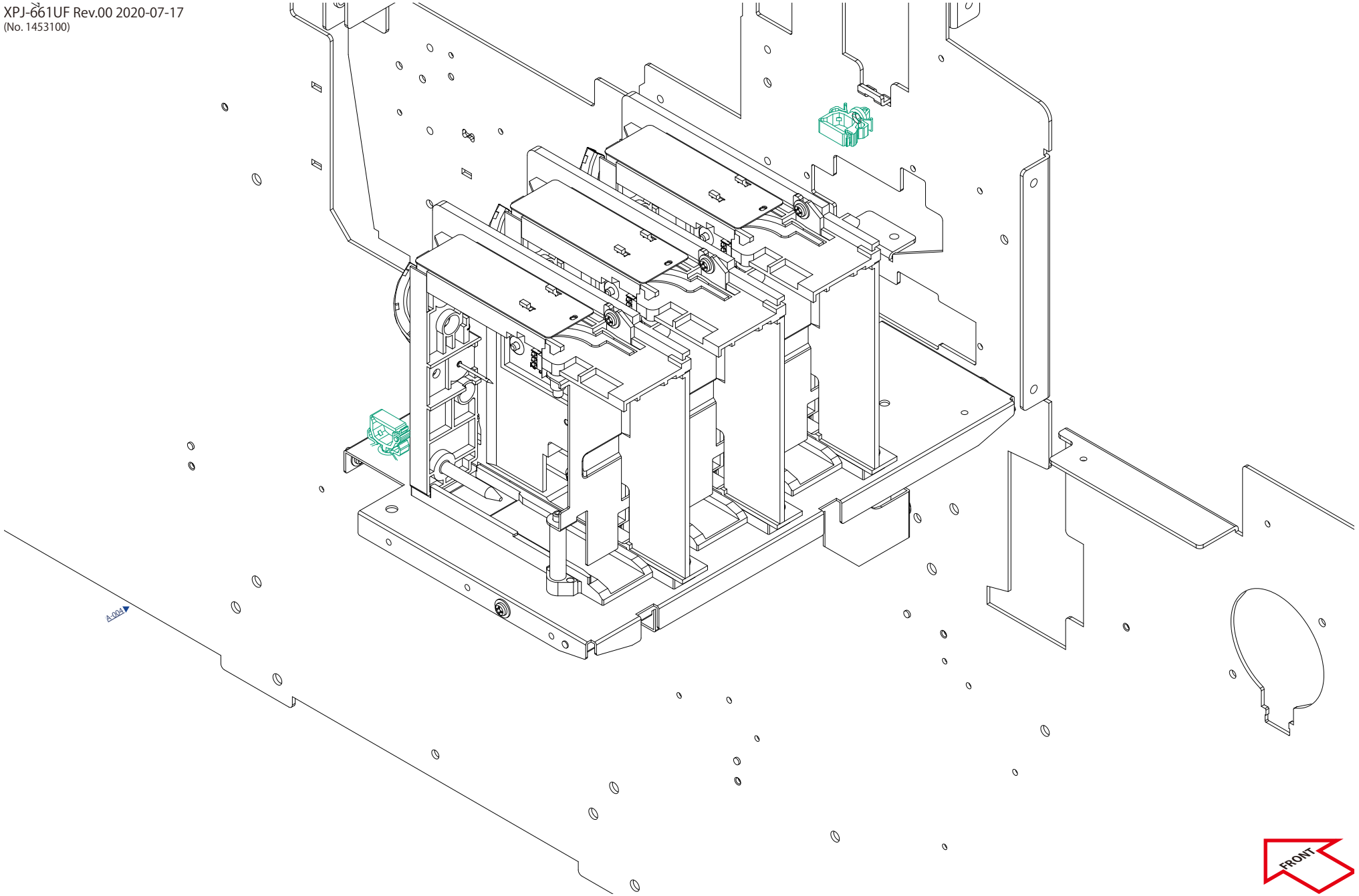
CONFIDENTIAL

0703 Cable Guide - CR Side
XPJ-661UF Rev.00 2020-07-17
(No. 1390406)



CONFIDENTIAL

0801 IH R - Overview
XPJ-661UF Rev.00 2020-07-17
(No. 1453100)

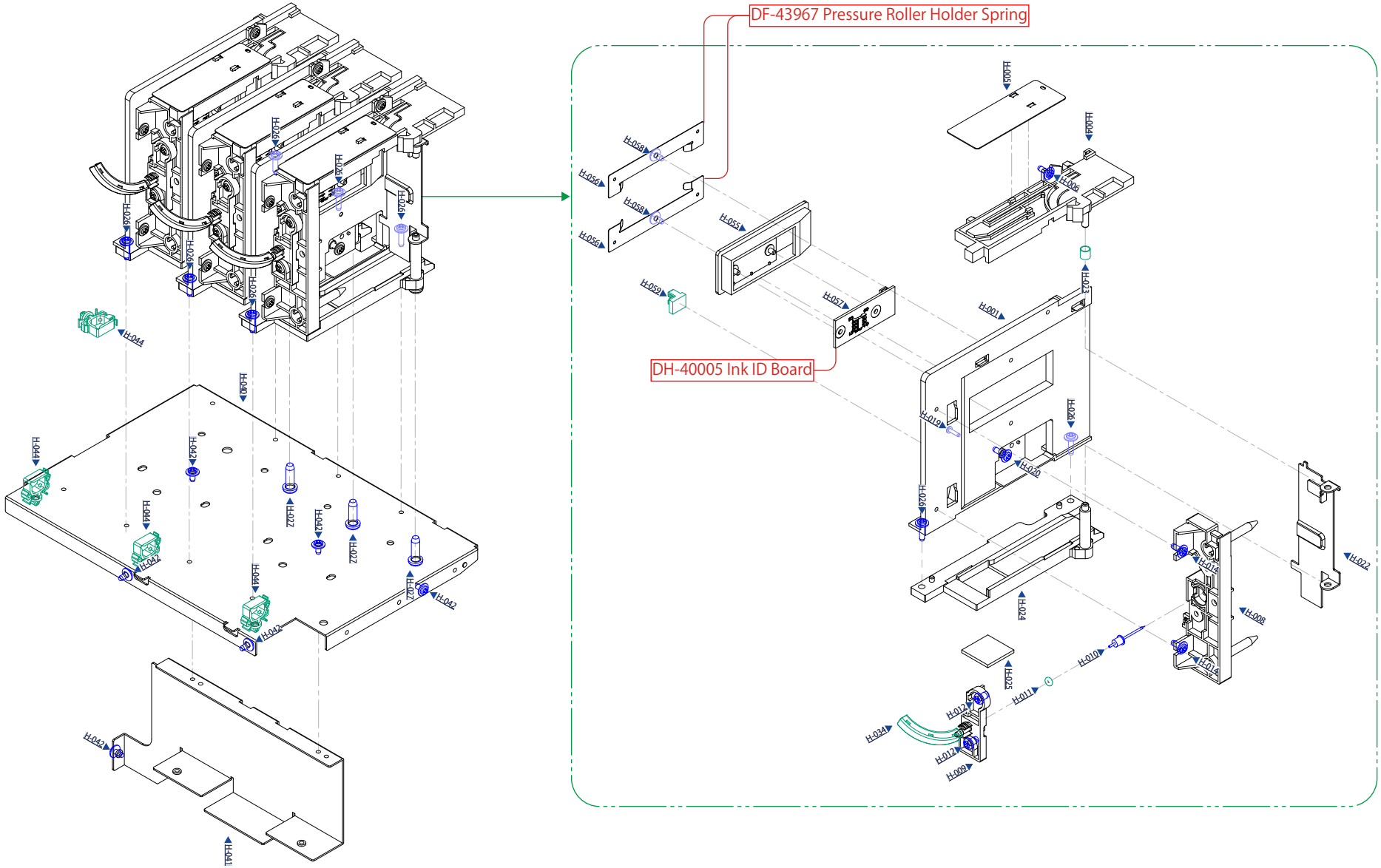


CONFIDENTIAL

0802 IH R - Breakdown

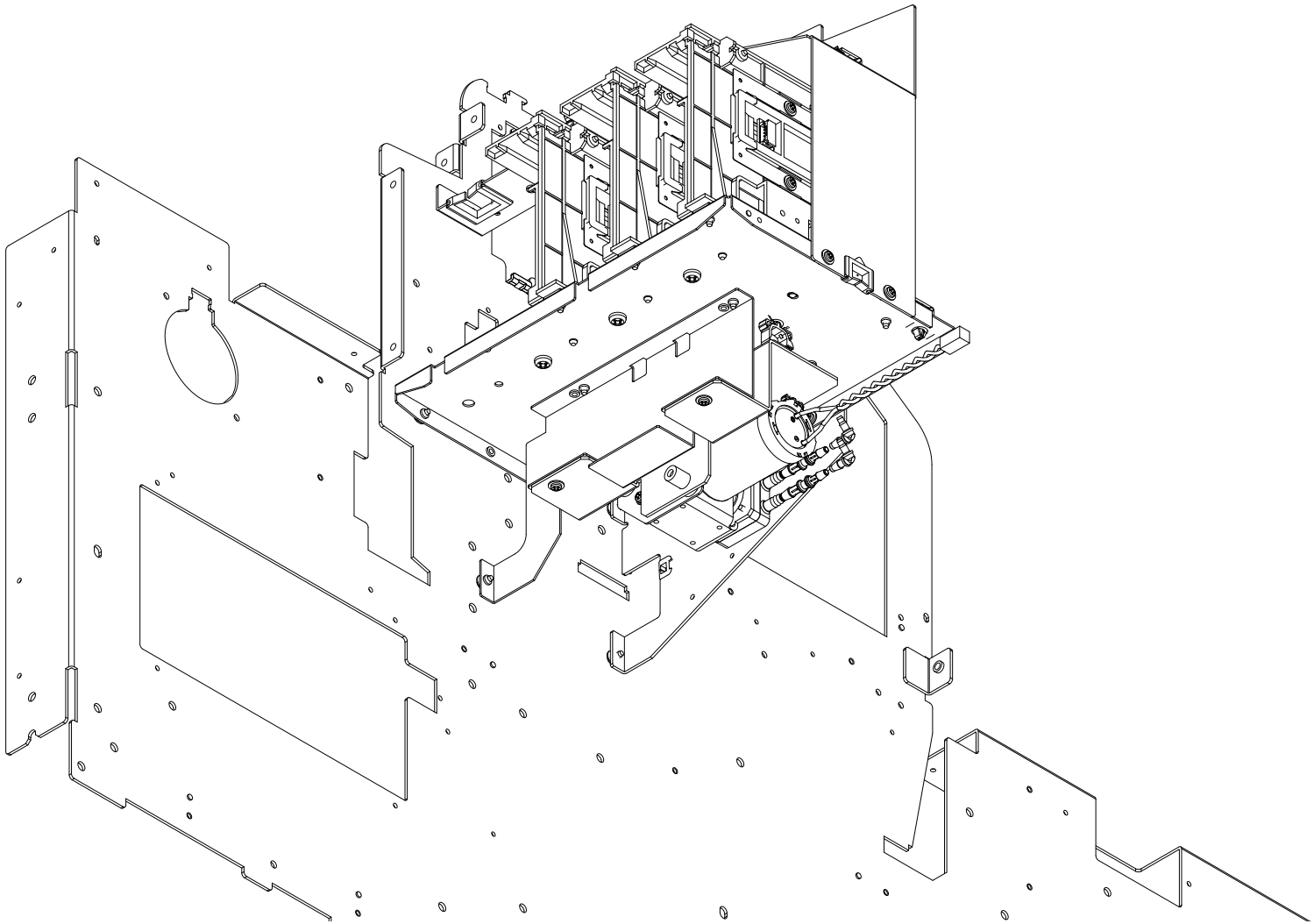
XPJ-661UF Rev.00 2020-07-17

(No. 1453100)



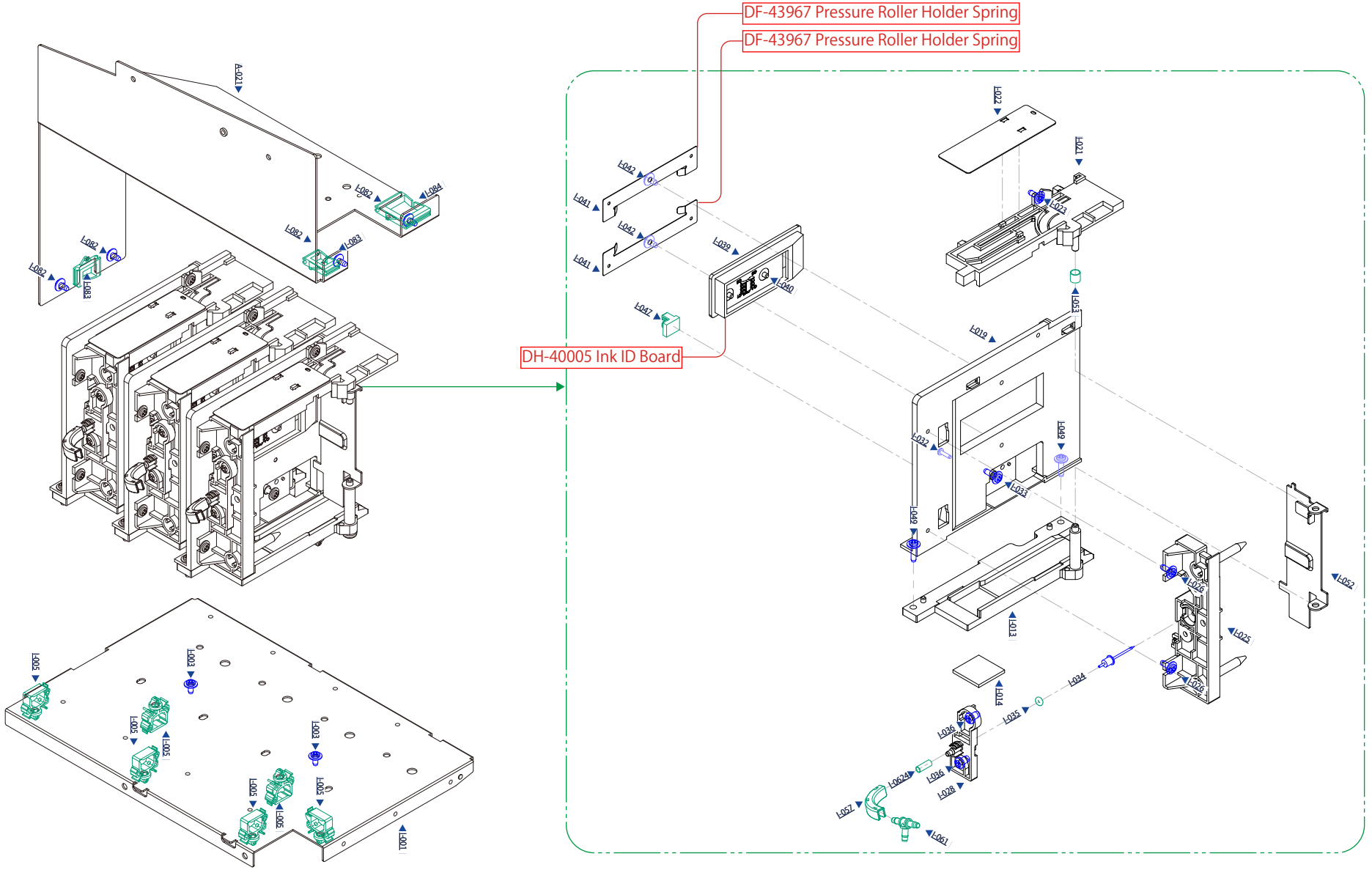
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0901 IH L - Overview
XPJ-661UF Rev.00 2020-07-17
(No. 1448602)



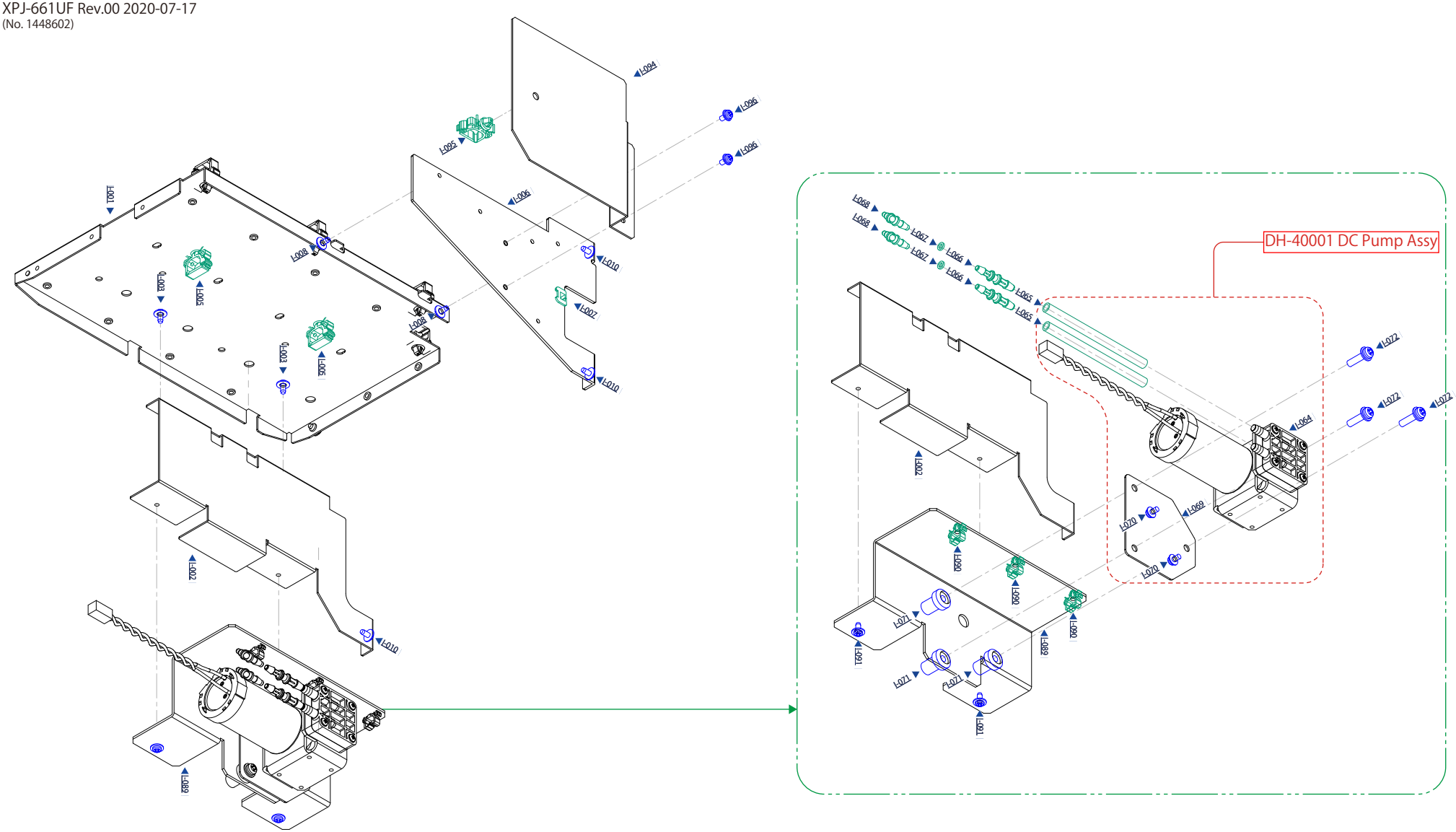
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0902 IH L - Upper
XPJ-661UF Rev.00 2020-07-17
(No. 1448602)



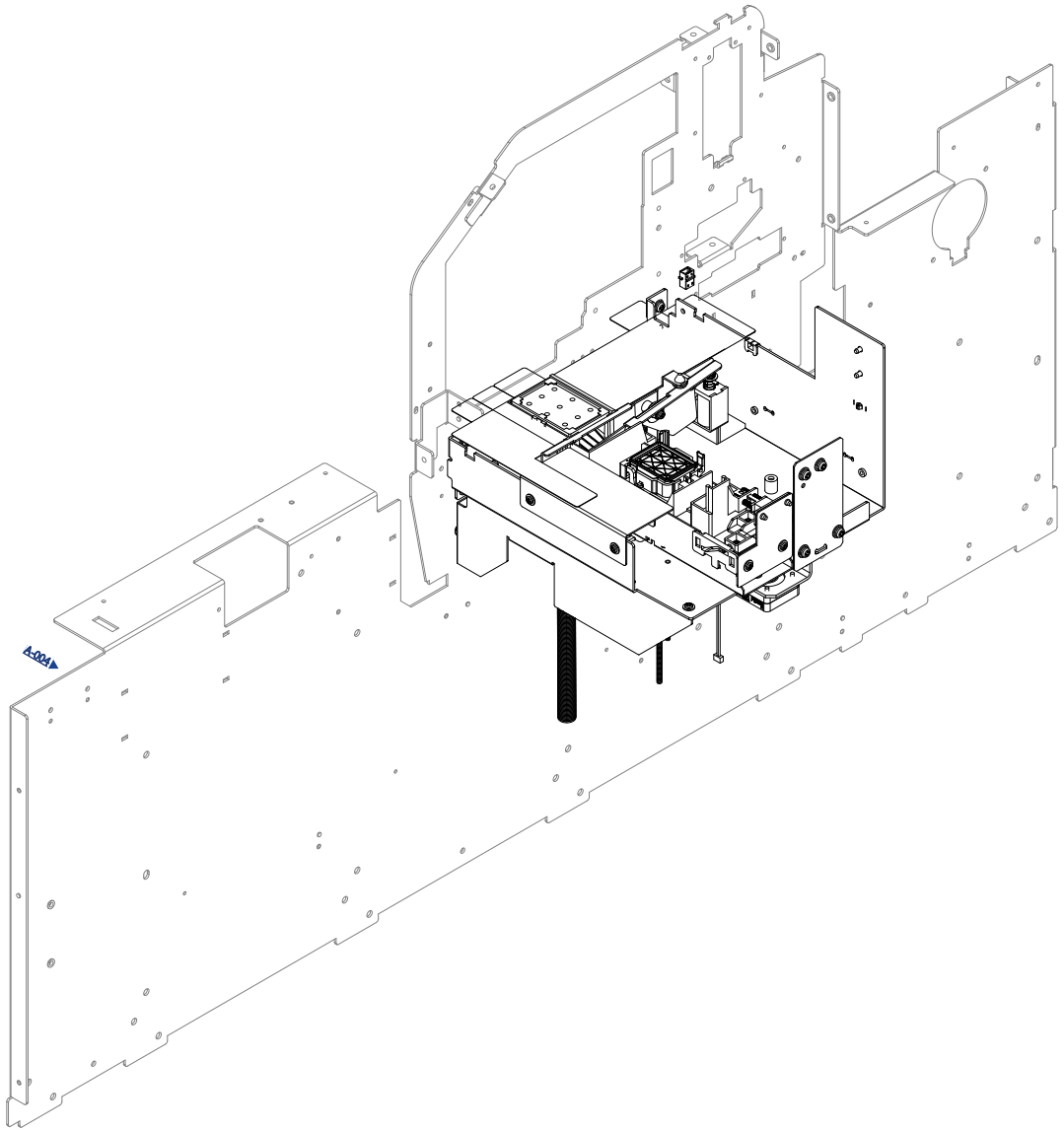
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0903 IH L - Lower
XPJ-661UF Rev.00 2020-07-17
(No. 1448602)



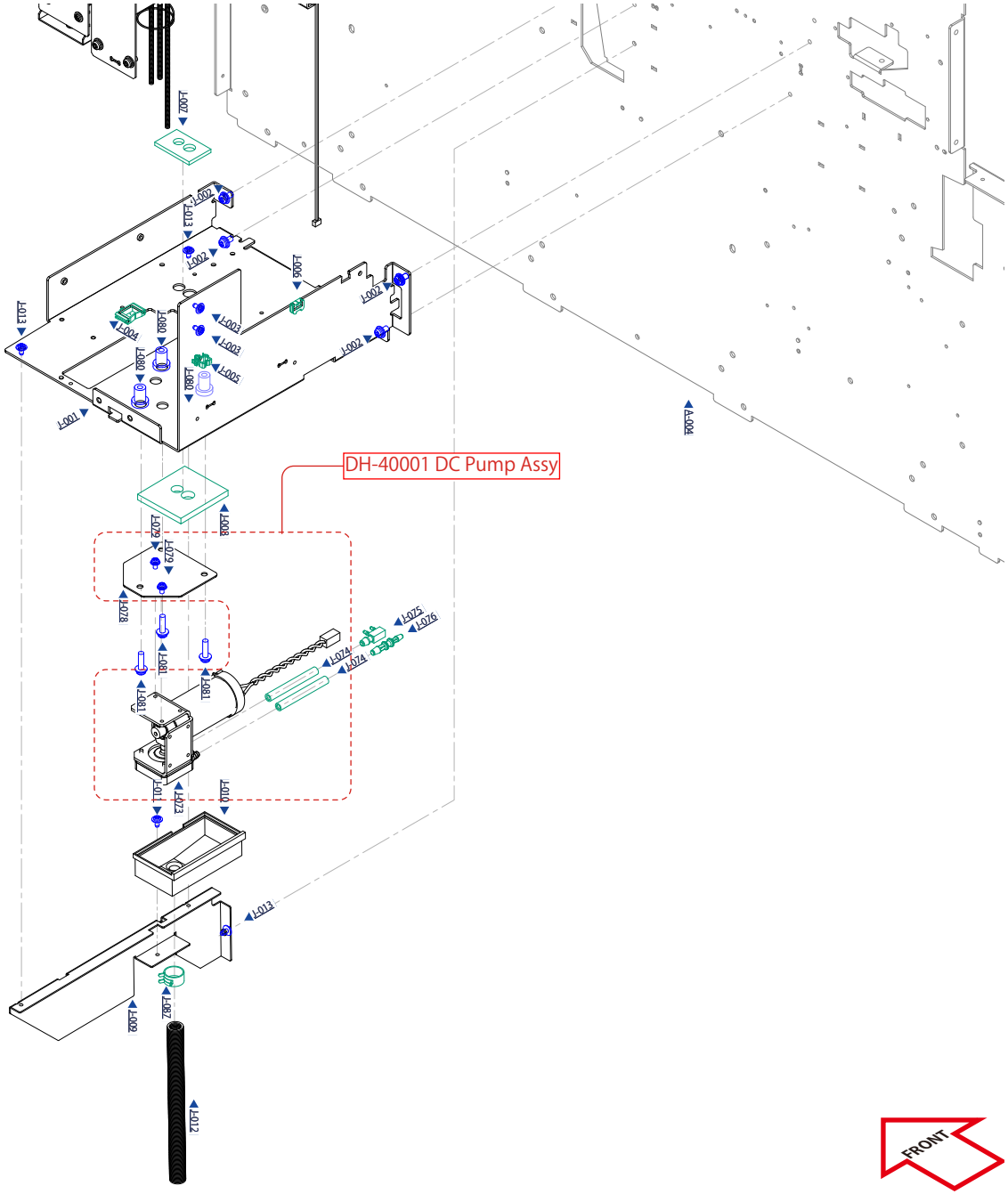
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1001 Maintenance - Overview
XPJ-661UF Rev.00 2020-07-17
(No. 1448503)



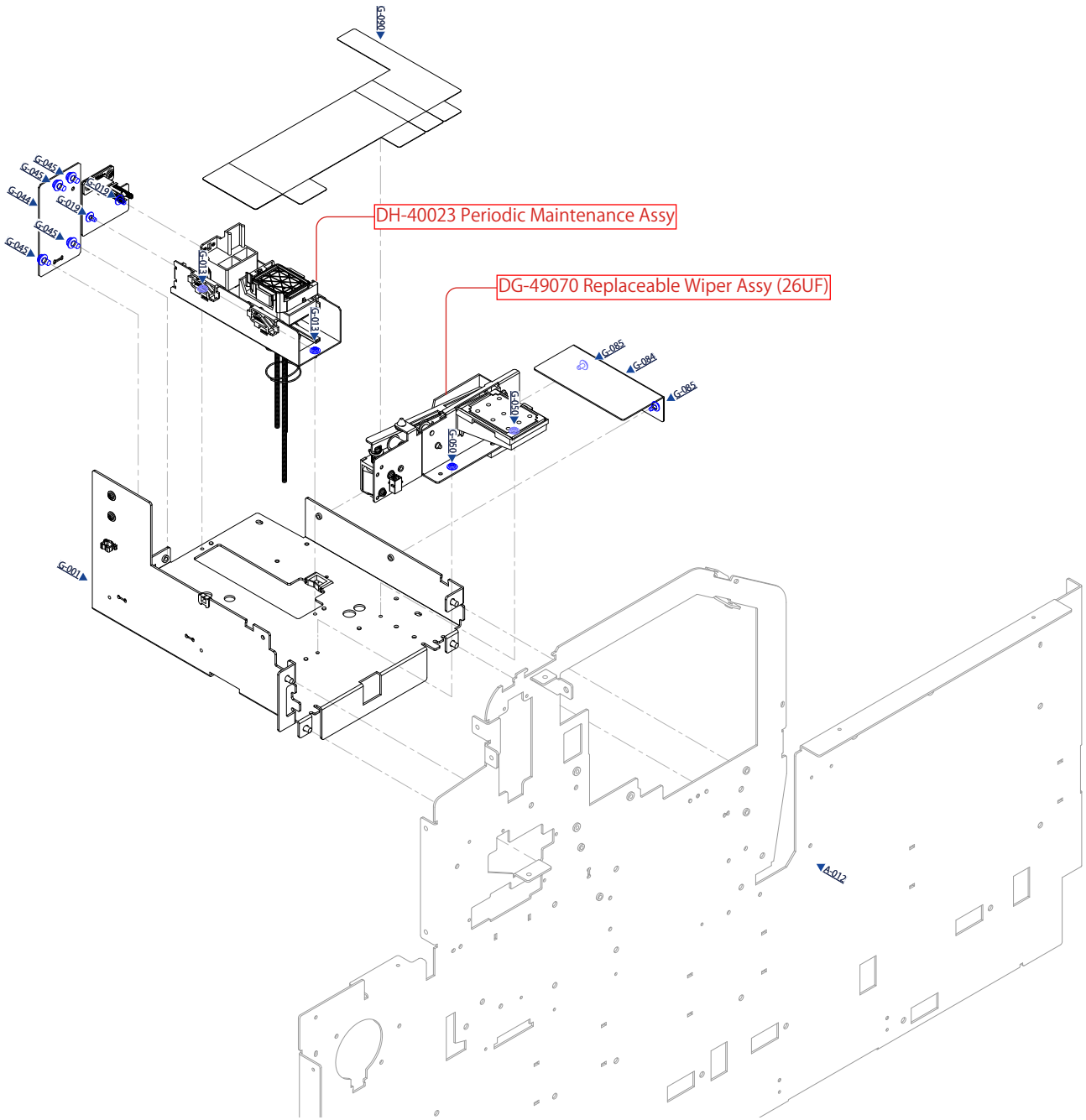
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1002 Maintenance - Lower
XPJ-661UF Rev.00 2020-07-17
(No. 1448503)



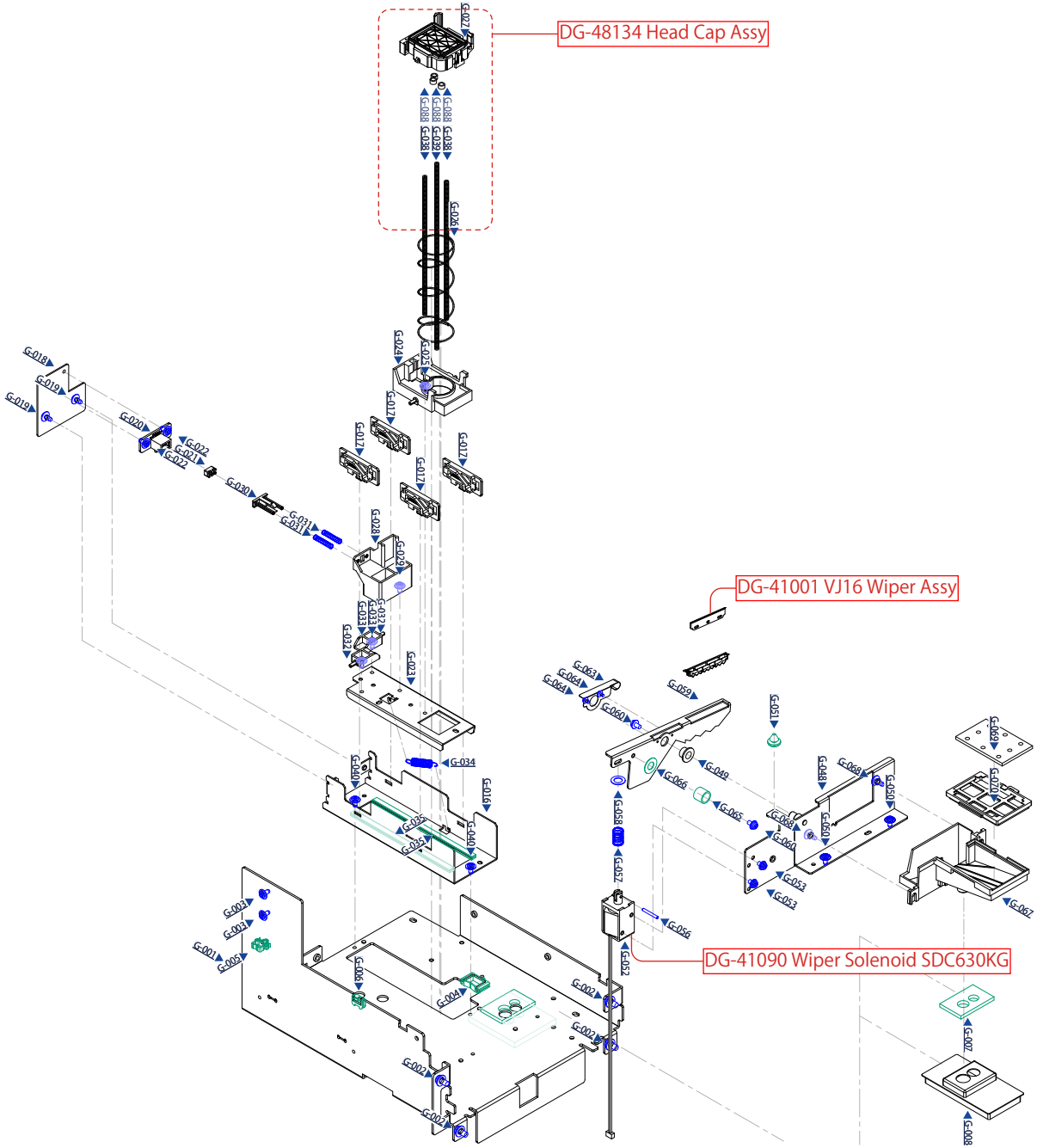
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1003 Maintenance - Upper
XPJ-661UF Rev.00 2020-07-17
(No. 1448503)



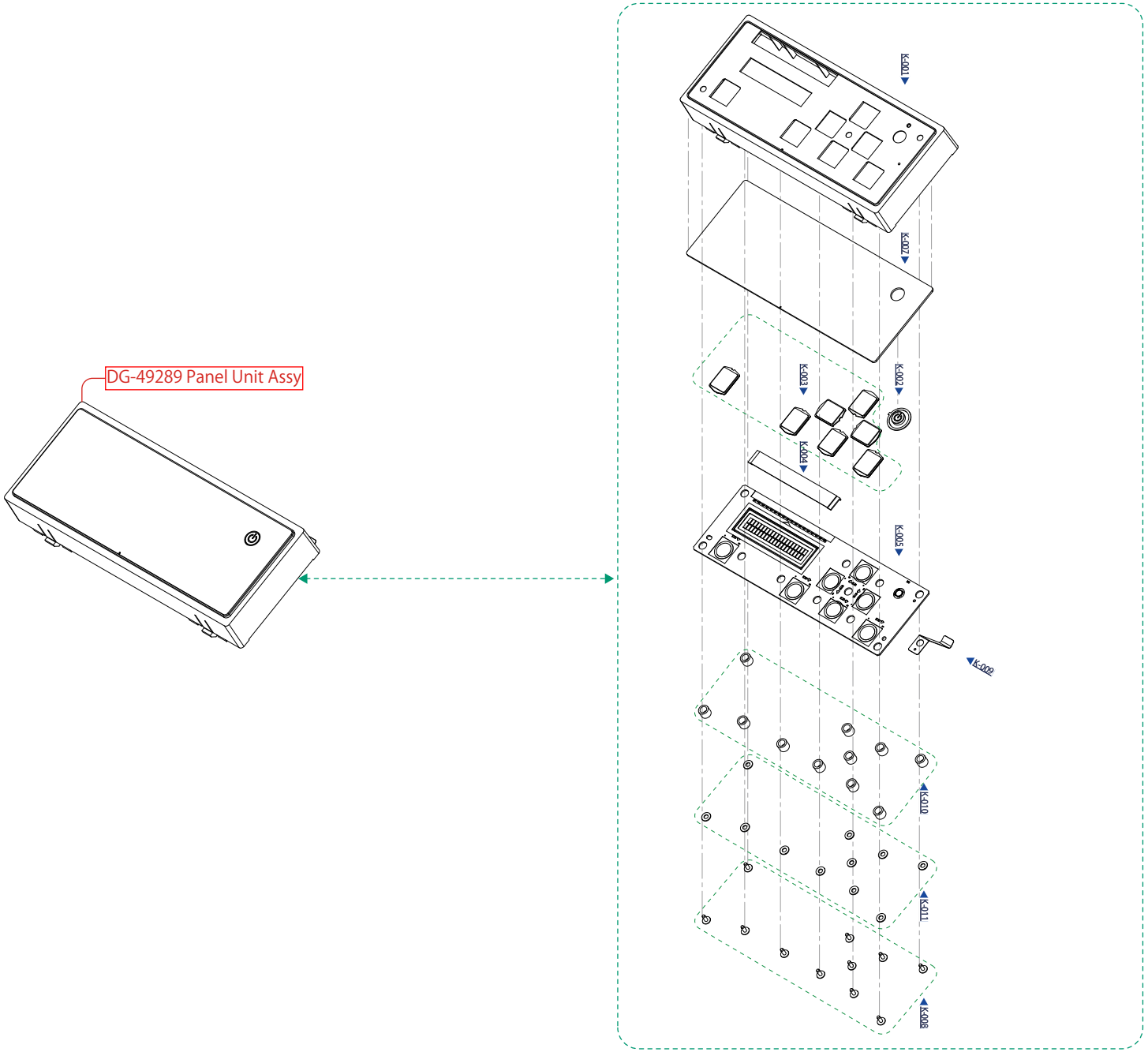
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1004 Maintenance - Upper Details
XPJ-661UF Rev.00 2020-07-17
(No. 1448503)



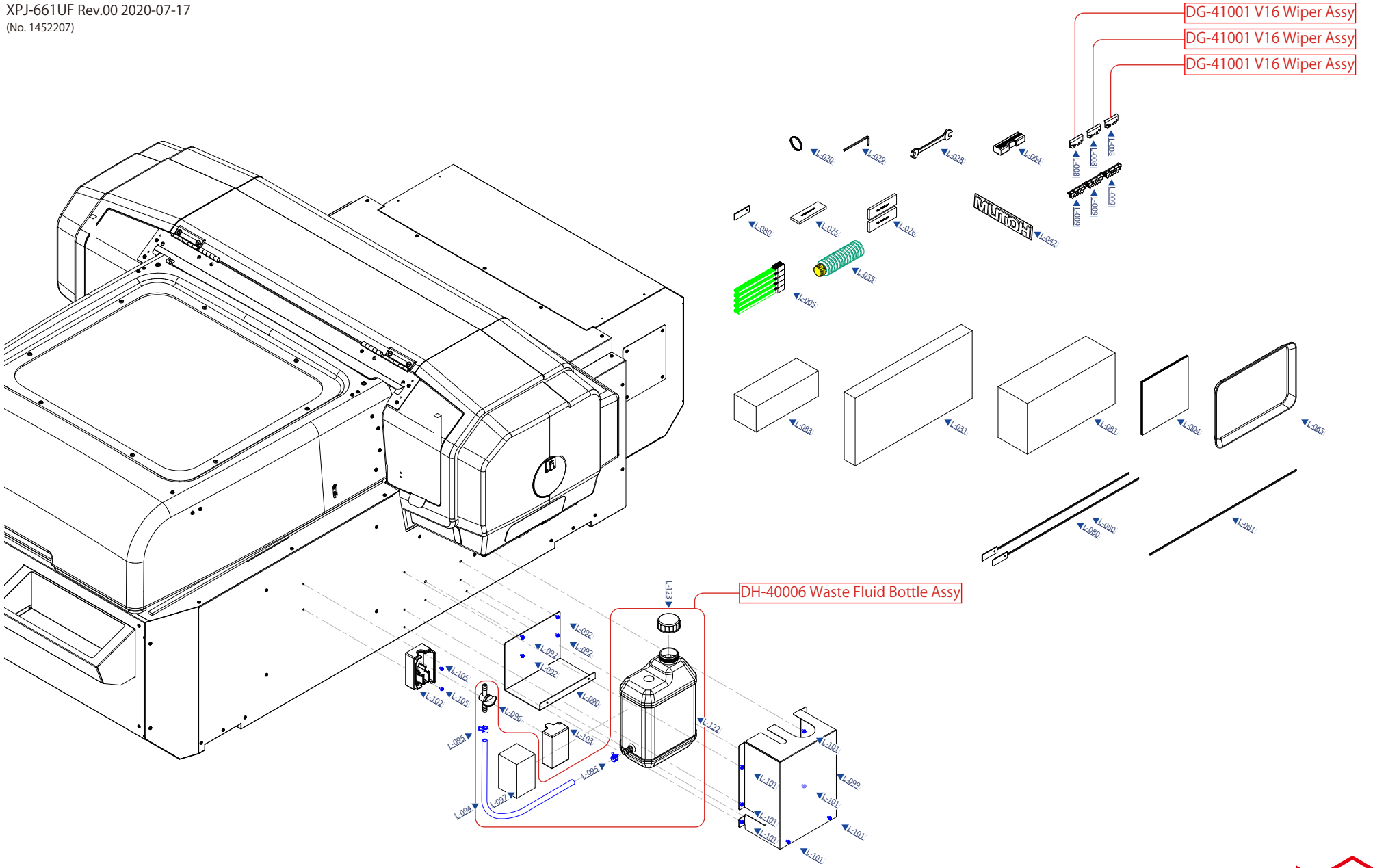
CONFIDENTIAL

1101 Panel
XPJ-661UF Rev.00 2020-07-17
(No. 1451700)



CONFIDENTIAL

1201 Accessories
XPJ-661UF Rev.00 2020-07-17
(No. 1452207)



CONFIDENTIAL

8.4 Exploded View - Maintenance Parts

TIP

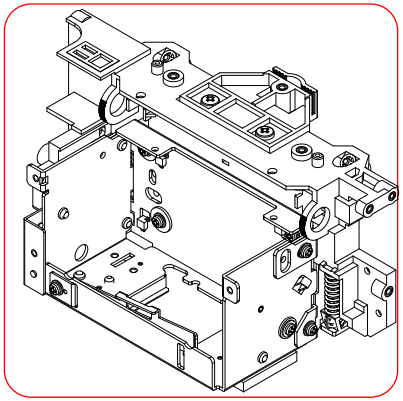
Chapter TOC=> **8 Exploded View**

CONFIDENTIAL

0100 Carriage

XPJ-661UF Rev.00 2020-07-17

DH-40225 Carriage Assy

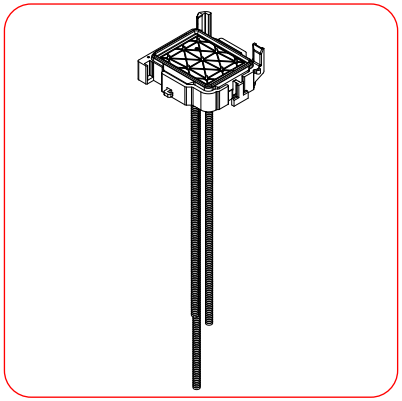


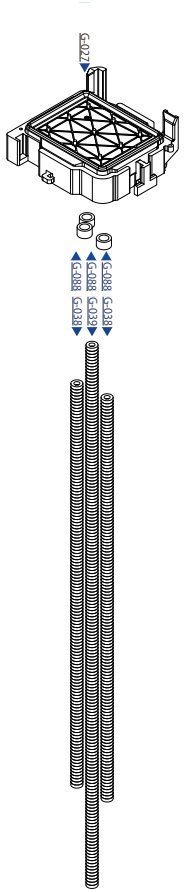
CONFIDENTIAL

0200 Head Cap

XPJ-661UF Rev.00 2020-07-17

DG-48134 Head Cap Assy





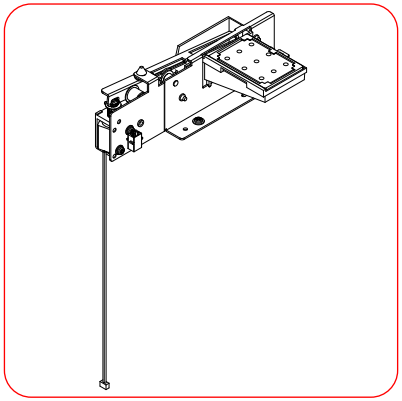
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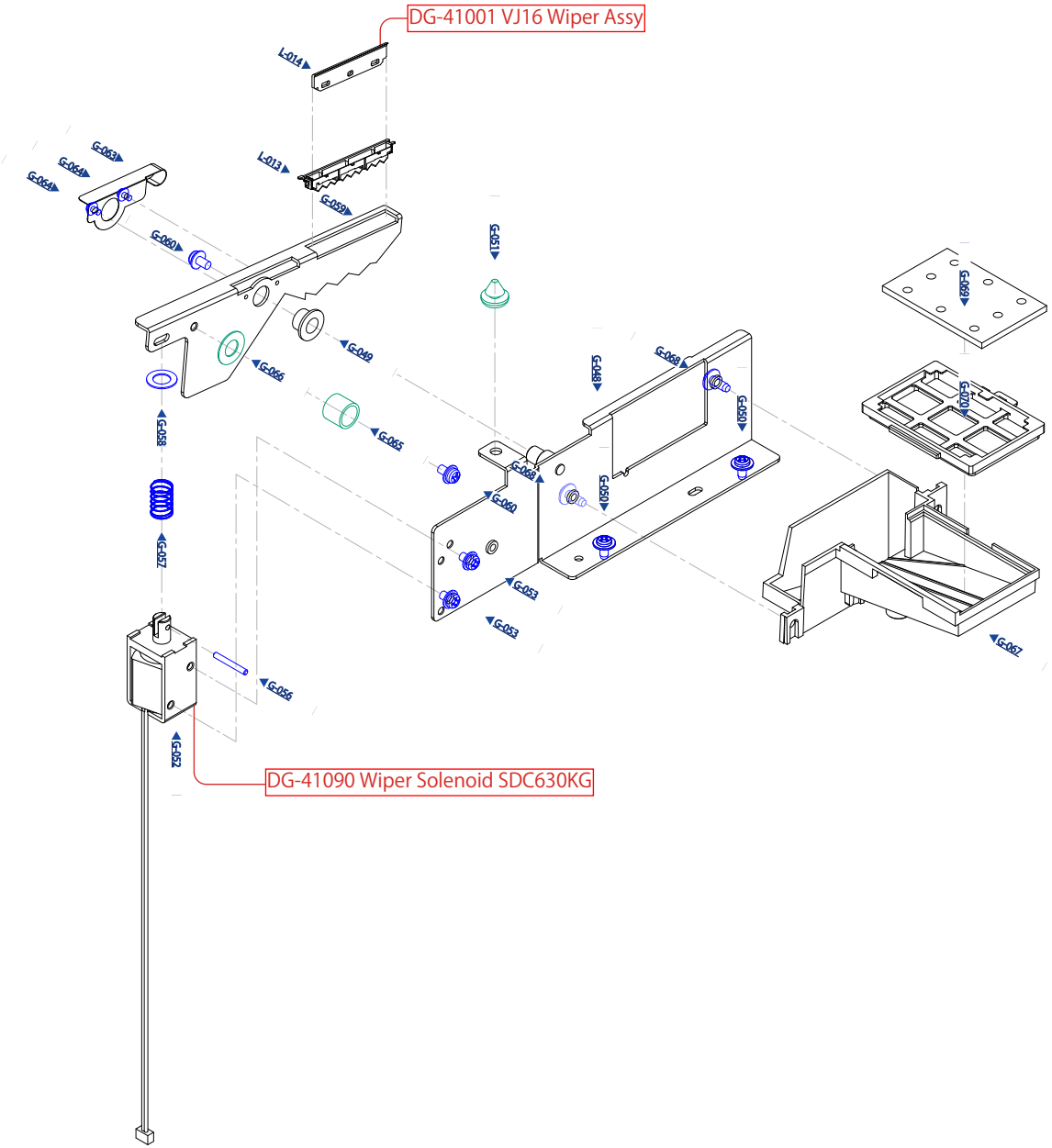
CONFIDENTIAL

0300 Wiper

XPJ-661UF Rev.00 2020-07-17

DG-49070 Replaceable Wiper Assy(26UF)





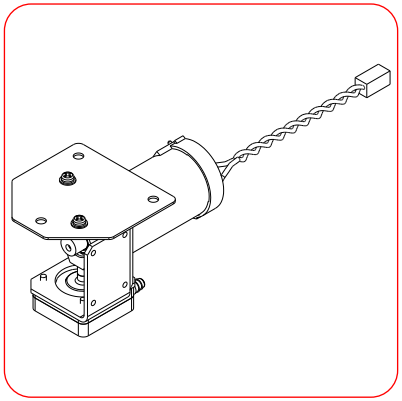
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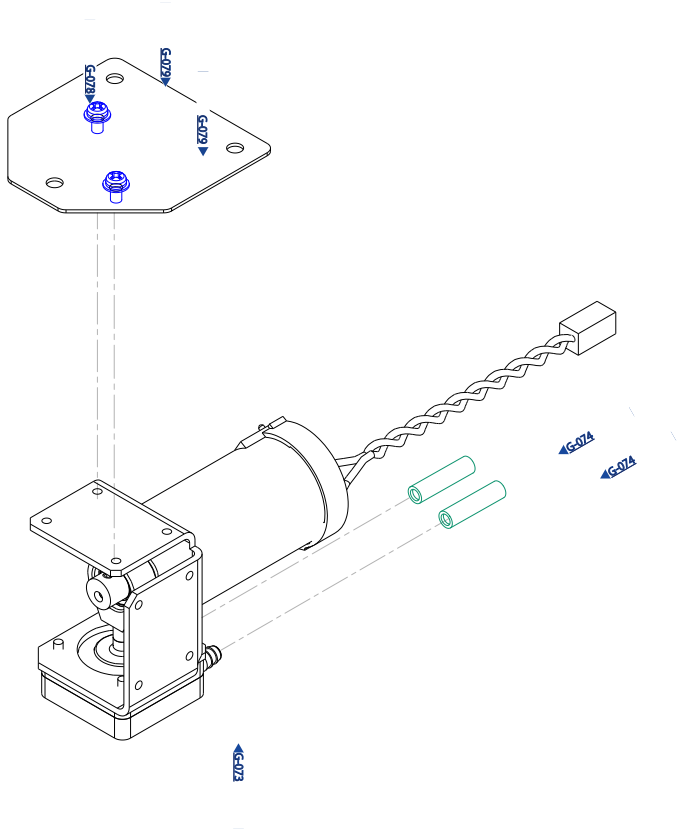
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0400 DC Pump

XPJ-661UF Rev.00 2020-07-17

DH-40001 DC Pump Assy



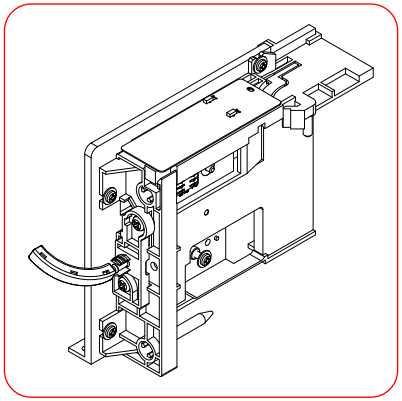


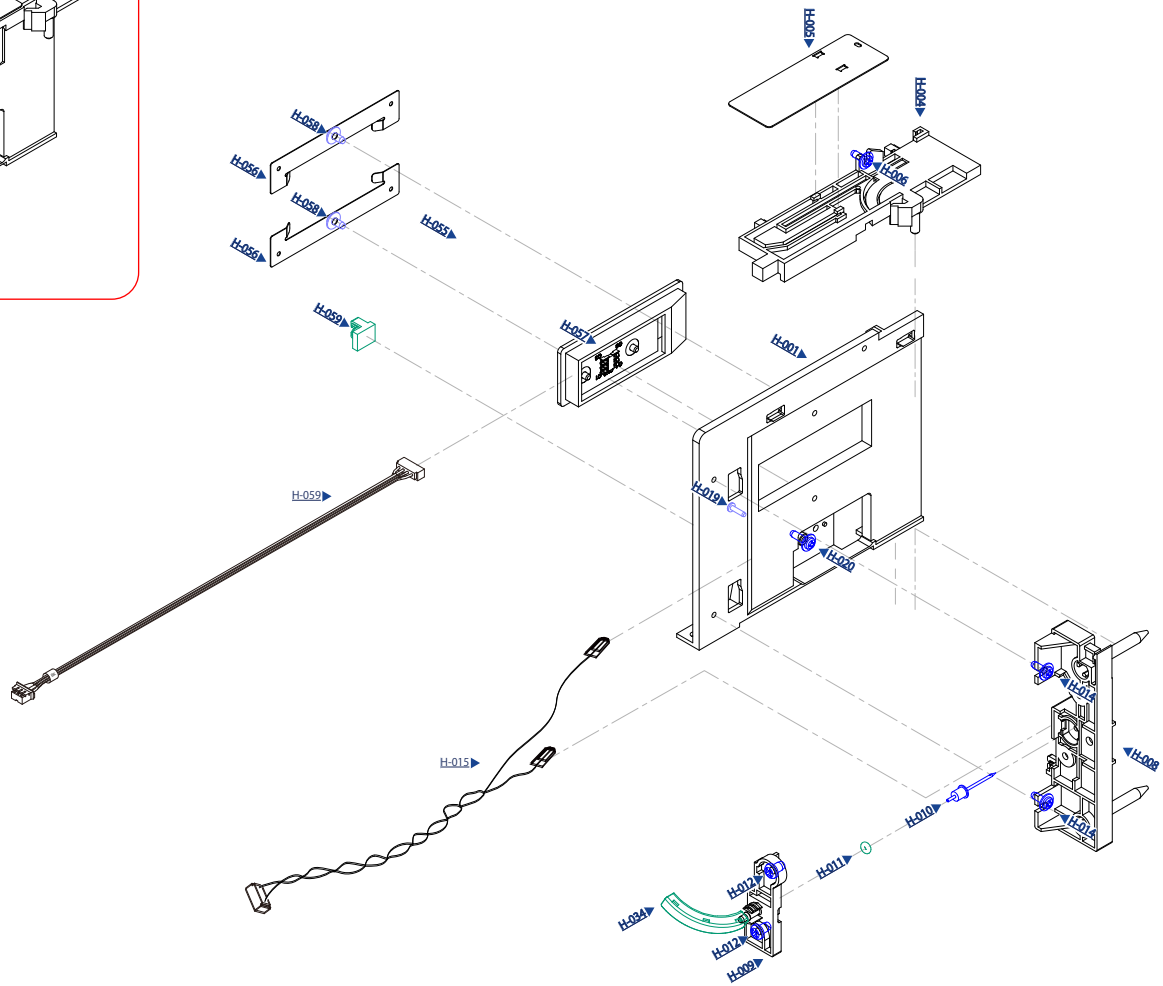
CONFIDENTIAL

0500 I/C Holder 01

XPJ-661UF Rev.00 2020-07-17

DH-40002 I/C Holder Assy 1

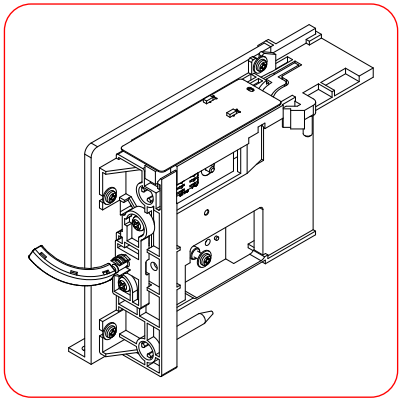


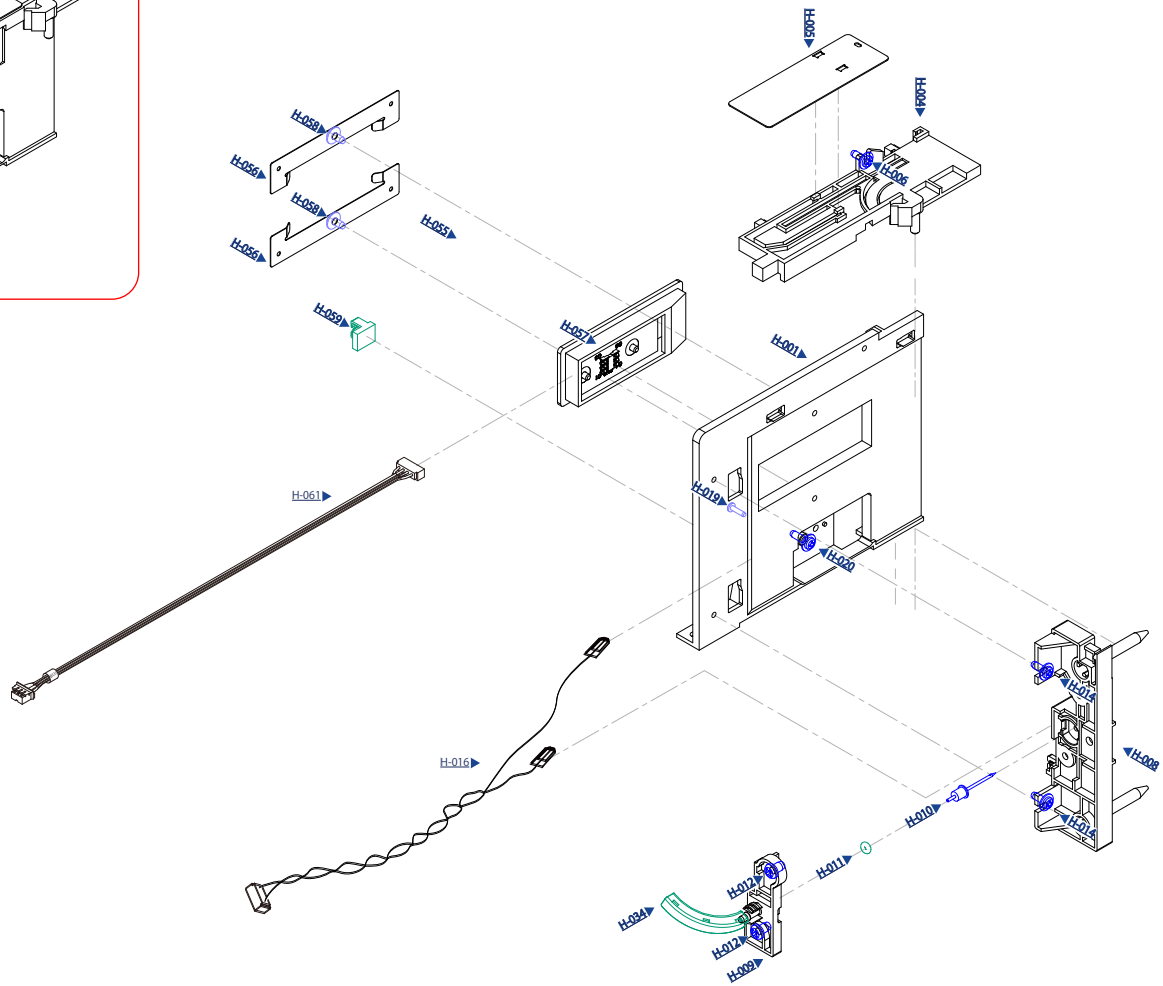


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CONFIDENTIAL

0501 I/C Holder 02
XPJ-661UF Rev.00 2020-07-17
DH-40003 I/C Holder Assy 2

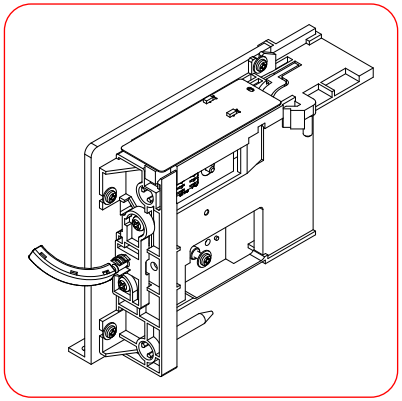


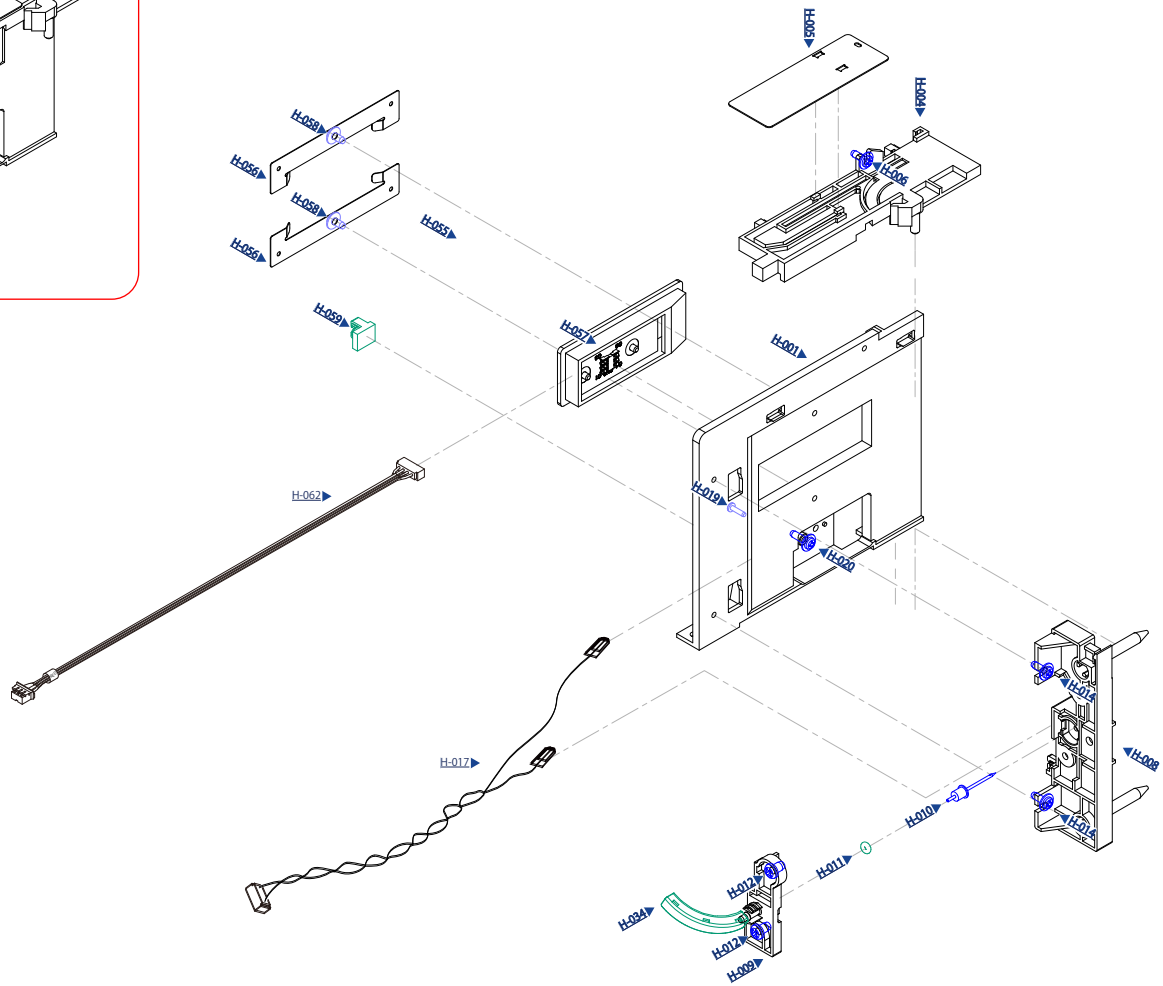


FRONT

CONFIDENTIAL

0502 I/C Holder 03
XPJ-661UF Rev.00 2020-07-17
DH-40004 I/C Holder Assy 3



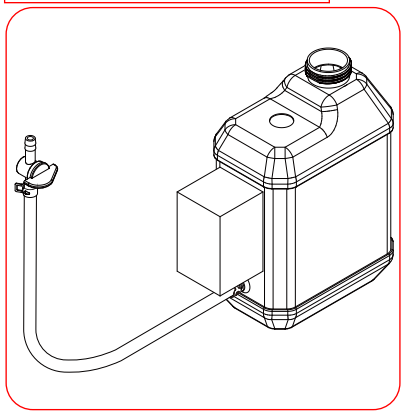


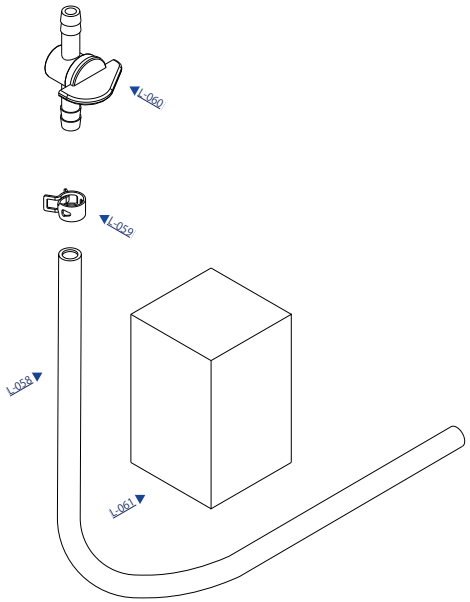
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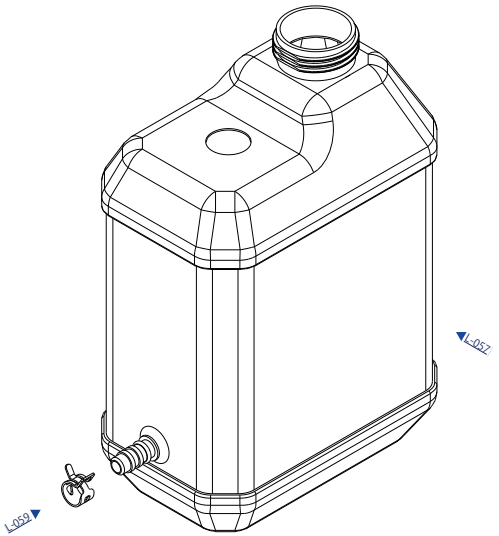
0600 Waste Fluid Bottle

XPJ-661UF Rev.00 2020-07-17

DH-40006 Waste Fluid Bottle Assy









CONFIDENTIAL

8.5 Periodic Replace Parts

TIP

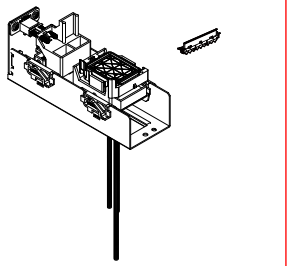
Chapter TOC=> **8 Exploded View**

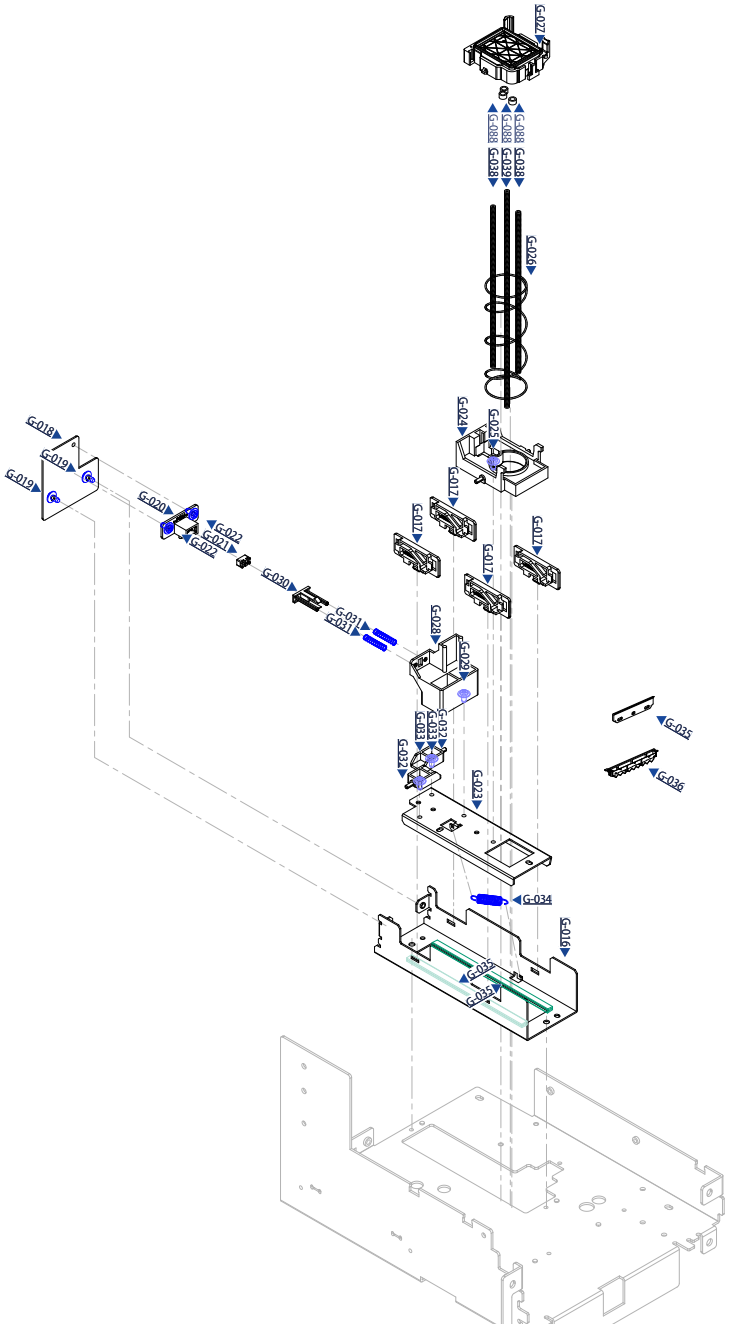
CONFIDENTIAL

0100 Maintenance Unit

XPJ-661UF Rev.00 2020-07-17

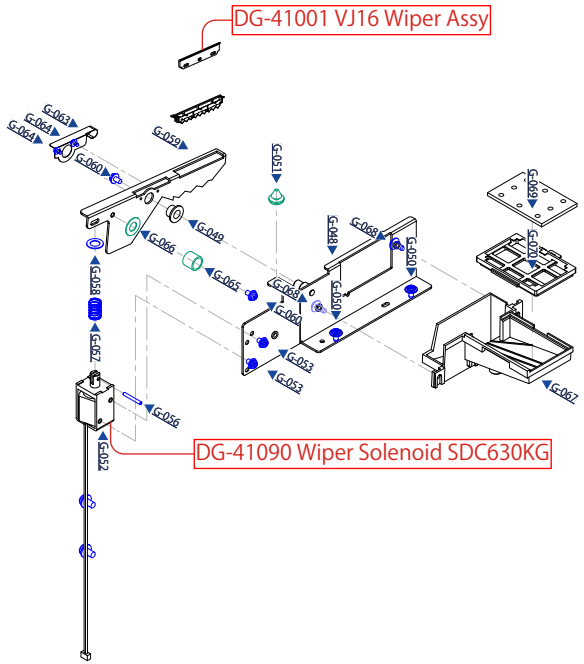
DH-40023 Periodic Maintenance Assy





CONFIDENTIAL

0200 Wiper Unit
XPJ-661UF Rev.00 2020-07-17
DG-49070 Wiper Assy (26UF)



CONFIDENTIAL