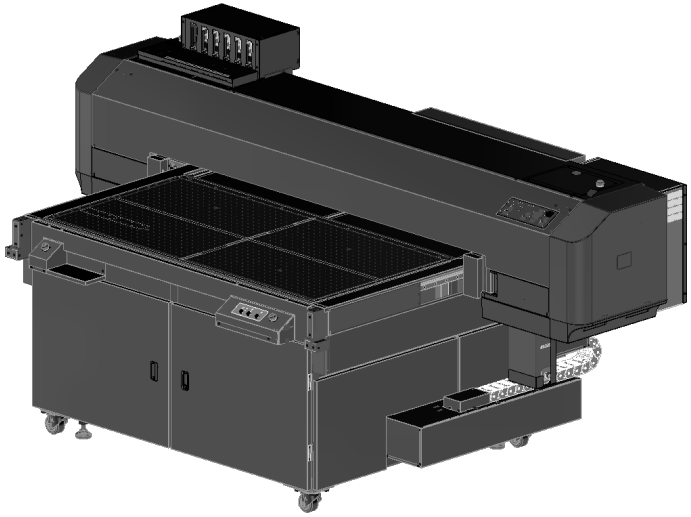
MUTOH

MAINTENANCE MANUAL
(Notes on installation)

XPJ-1462UF



XPJ1462UFE-M-EX-00

CONFIDENTIAL

TOC

1. Introduction

NOTE

- Applicable model : XPJ-1462UF
- Applicable manual : XPJ1462UFE-M-01 or later
- Applicable Firmware : Ver.1.01 or later.
- Date of enactment :September 15, 2023.

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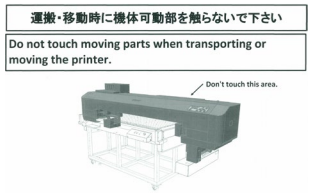
2. Notes on installation

CAUTION

- Do not touch moving parts (gantry) when transporting or moving the printer.
  There is a risk of misalignment.



NOTE

- If gantry is touched, check for accuracy and operation problems.
  *When installing XPJ-1462UF, it is recommended to check mechanical accuracy.
  - Confirmation procedure 1 : Y-rail height inspection
    Using jig, verify if distance between print head and table is within specification.
    =>3. Y-rail height adjustment
  - Confirmation procedure 2 : UV-LED height inspection
    Using jig, verify if distance between UV-LED and table is within specification.
    =>4. UV-LED height adjustment
  - Confirmation procedure 3 : Y-rail levelness inspection
    Using jig, verify that height on left and right sides of Y-rail is level.
    =>5. Y-rail horizontal adjustment
  - Confirmation procedure 4 : Media height detector inspection
    Using jig and tools, verify position of media height detector.
    =>6. Laser sensor adjutment
  - Confirmation procedure 5 : Gantry movement inspection
    Using printer control panel, move gantry to see if it moves properly.
    =>7. Check gantry operation

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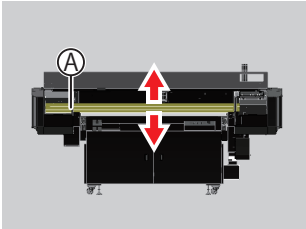
3. Y-rail height adjustment

A : Y-rail

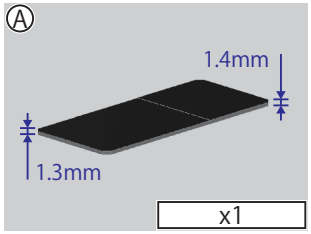


● Tools, Jigs, and Maintenance Part(s)

Part(s) No.	Name	Reference
DG-46922	PG Adjustment Jig(1.3-1.4)	

NOTE

DG-46922
PG Adjustment Jig (1.3-1.4)
Ⓐ Adjustment jig



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3.1. Y-rail height adjustment(check)

● Procedure

1 Select check menu.
- [Check1:Adj.Mecha] -> [Mecha5:Adj. UV Lamp] -> [Start Adj.->Enter]

2 Move gantry.
- [Start Adj.->Enter] -> [Wait for a while] -> [Adjust End->Enter]

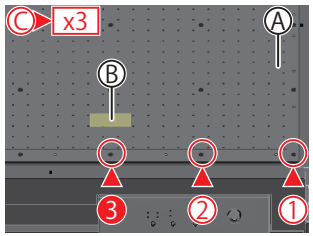
3 Place jig.
4 Check head height.(print head 1)
5 Remove jig.
6 Exit check menu.
- [Adjust End->Enter] -> [Mecha5:Adj. UV Lamp]

● Procedure(details)

1	Select check menu. - Starts self-diagnosis function mode. - Select check menu. - [Check1:Adj.Mecha] ->[Mecha5:Adj. UV Lamp] ->[Start Adj.->Enter]
2	Move gantry. - [Start Adj.->Enter] - Press "Enter" key. ->[Wait for a while] - Gantry automatically moves to adjustment position. - Carriage automatically caps out. - [Adjust End->Enter]

3 Place jig.
- Place jig on table.

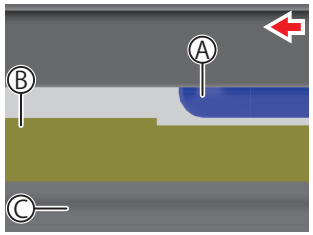
A : Table
B : Jig
C : Screw

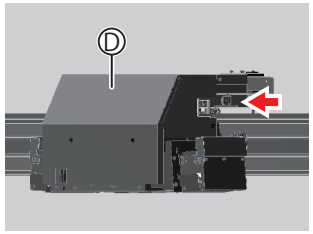


NOTE
- Place jig at third screw point from right side.
- Place jig in same point each time.

4 Check head height.(print head 1)
- Check if head goes through 1.3mm, and stop at 1.4mm step of jig.
- If value is out of specified value, perform Y-rail height adjustment.
  =>3.2. Y-rail height adjustment(adjustment)

A : Print head 1
B : Jig
C : Table
D : Carriage





NOTE
- Move carriage slowly。

5 Remove jig.

6 Exit check menu.
- [Adjust End->Enter]
- Press "Enter" key.
  - Carriage automatically caps in.
- [Mecha5:Adj. UV Lamp]

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3.2. Y-rail height adjustment(adjustment)

● Procedure

1 Select adjustment menu.
- [Check1:Adj.Mecha] -> [Mecha1:Adj.PG] -> [PG1:Adjust Height] -> [Start Adj.->Enter]

2 Move gantry.
- [Start Adj.->Enter] -> [Wait for a while] -> [Adj. Height:*.**mm]

3 Adjust Y-rail height.
- [Adj. Height:*.**mm]

4 Exit adjustment menu.
- [Adj. Height:*.**mm] -> [Wait for a while] -> [PG OK? No/Yes]- > [PG1:Adjust Height]

5 Check head height.(print head 1)

● Procedure(details)

1 Select adjustment menu.
- Starts self-diagnosis function mode.
- Select adjustment menu.
  - [Check1:Adj.Mecha]
    ->[Mecha1:Adj.PG]
    ->[PG1:Adjust Height]
    ->[Start Adj.->Enter]

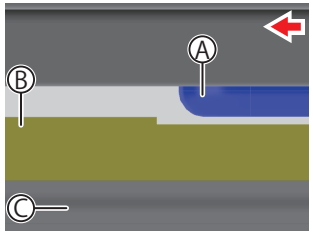
2 Move gantry.
- [Start Adj.->Enter]
- Press "Enter" key.
  ->[Wait for a while]
  - Gantry automatically moves to adjustment position.
- [Adj. Height:*.**mm]

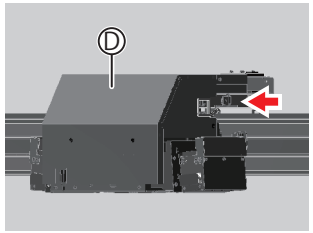
3 Adjust Y-rail height.
- If value is outside specified value, enter value in [Adj. Height:*.**mm].
- Press "Enter" key.

NOTE
- If 1.3mm step does not go through: add +0.05 mm
- If 1.4mm step does not stop: add -0.05 mm

4 Exit adjustment menu.
- [Adj. Height:*.**mm]
  ->[Wait for a while]
  - Gantry automatically moves to origin position.
- [PG OK? No/Yes]
  - Select "Yes".
- [PG1:Adjust Height]

5 Check head height.(print head 1)
=>3.1. Y-rail height adjustment(check)
- Check if head goes through 1.3mm, and stop at 1.4mm step of jig.
- If value is out of specified value, perform Y-rail height adjustment.
  =>Repeat steps 1~5.





A : Print head 1
B : Jig
C : Table
D : Carriage

NOTE
- Move carriage slowly.

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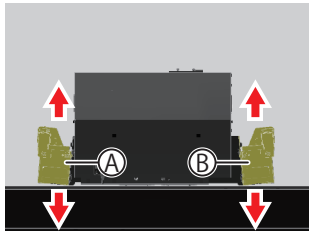
4. UV-LED height adjustment

A : UV-LED(left side)
B : UV-LED(right side)

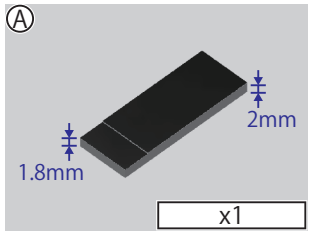


● Tools, Jigs, and Maintenance Part(s)

Part(s) No.	Name	Reference
DH-41689	UV Lamp Height Calibration Jig	
Generic item	Phillips screwdriver No.2	
Generic item	Ratchet screwdriver	- for adjustment

NOTE

DH-41689
UV Lamp Height Calibration Jig
Ⓐ Jig



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4.1. UV-LED height adjustment(check)

● Procedure

1 Select check menu.
- [Check1:Adj.Mecha] -> [Mecha5:Adj. UV Lamp] -> [Start Adj.->Enter]

2 Move gantry.
- [Start Adj.->Enter] -> [Wait for a while] -> [Adjust End->Enter]

3 Place jig.
4 Check UV-LED height.(left side)
5 Check UV-LED height.(right side)
6 Remove jig.
7 Exit check menu.
- [Adjust End->Enter] -> [Mecha5:Adj. UV Lamp

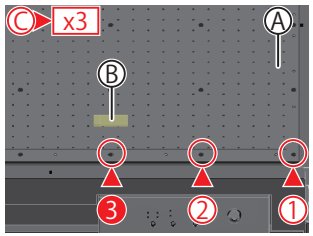
● Procedure(details)

1	Select check menu. - Starts self-diagnosis function mode. - Select check menu. - [Check1:Adj.Mecha] ->[Mecha5:Adj. UV Lamp] ->[Start Adj.->Enter]
2	Move gantry. - [Start Adj.->Enter] - Press "Enter" key. ->[Wait for a while] - Gantry automatically moves to adjustment position. - Carriage automatically caps out. - [Adjust End->Enter]

3 Place jig.
- Place jig on table.

A : Table
B : Jig
C : Screw

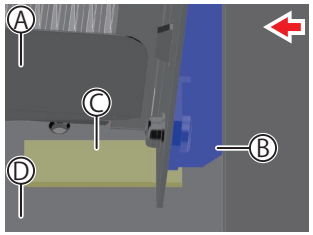
NOTE
- Place jig at third screw point from right side.
- Place jig in same point each time.

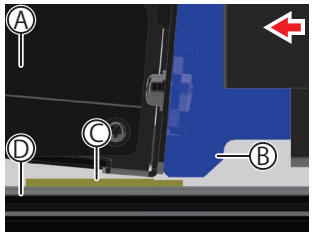


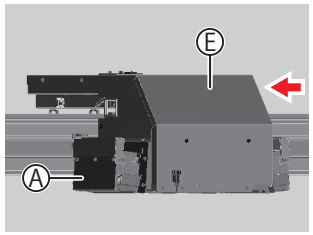
4 Check UV-LED height.(left side)
- Check if head goes through 1.8mm, and stop at 2mm step of jig.
- If value is out of specified value, perform UV-LED height adjustment.
  =>4.2. UV-LED height adjustment(adustment)

A : UV-LED(left side)
B : UV-LED base plate(left side)
C : Jig
D : Table
E : Carriage

NOTE
- Move carriage slowly.



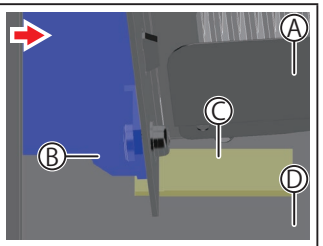


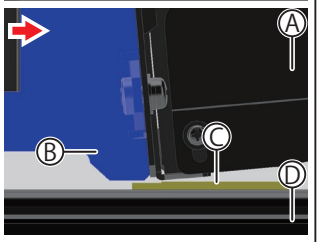


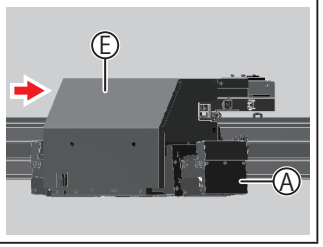
5 Check UV-LED height.(right side)
- Check if head goes through 1.8mm, and stop at 2mm step of jig.
- If value is out of specified value, perform UV-LED height adjustment.
  =>4.2. UV-LED height adjustment(adustment)

A : UV-LED(right side)
B : UV-LED base plate(right side)
C : Jig
D : Table
E : Carriage

NOTE
- Move carriage slowly.







6 Remove jig.

7 Exit check menu.
- [Adjust End->Enter]
- Press "Enter" key.
  - Carriage automatically caps in.
- [Mecha5:Adj. UV Lamp]

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4.2. UV-LED height adjustment(adustment)

NOTE

- Adjustment method is same for both right and left sides.
  (This procedure is height adjustment procedure for UV-LED (left side).)

CAUTION

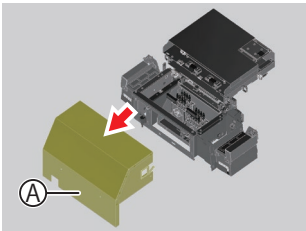
- This procedure is for adjusting height of UV-LED with power on.
  Do not disconnect UV-LED cable.

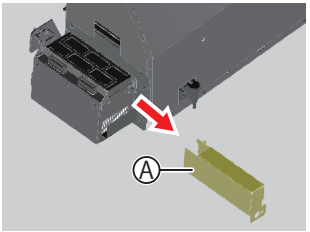
● Procedure

1 Select check menu.
 - [Check1:Adj.Mecha] -> [Mecha5:Adj. UV Lamp] -> [Start Adj.->Enter]
2 Move gantry.
 - [Start Adj.->Enter] -> [Wait for a while] -> [Adjust End->Enter]
3 Remove CR cover.
 - Round head screw with split washer(polished)_M3x6(black)(x4)
4 Remove Connector cover L.
 - Round head screw with split washer_M3x6(x2)
5 Remove UV-LED Assy(left side).
 - Round head screw with split washer_M3x6(x3)
6 Loosen screw(s).
 - Round head screw with split washer_M3x8(x4)
7 Adjust UV-LED height.(front side)
8 Adjust UV-LED height.(rear side)
9 Tighten the screw(s).
 - Round head screw with split washer_M3x8(x4)
10 Install UV-LED Assy(left side).
 - Round head screw with split washer_M3x6(x3)
11 Check UV-LED height.
12 Reverse the above procedure to reinstall the parts.
13 Exit check menu.

● Procedure(details)

1	Select check menu. - Starts self-diagnosis function mode. - Select check menu. - [Check1:Adj.Mecha] ->[Mecha5:Adj. UV Lamp] ->[Start Adj.->Enter]
2	Move gantry. - [Start Adj.->Enter] - Press "Enter" key. ->[Wait for a while] - Gantry automatically moves to adjustment position. - Carriage automatically caps out. - [Adjust End->Enter]
3	Remove CR cover. 1. Open clamp. (Right side) 2. Open clamp. (left side) 3. Remove screw(s). - Round head screw with split washer(polished)_ M3x6(black)(x3) 4. Remove CR cover. A : CR cover
4	Remove Connector cover L. 1. Remove screw(s). - Round head screw with split washer_M3x6(x2) 2. Remove Connector cover L. A : Connector cover L

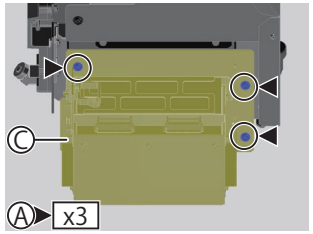


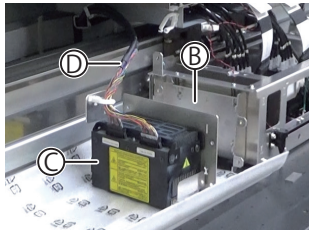


5 Remove UV-LED Assy(left side).

1. Remove UV-LED Assy.
   - Round head screw with split washer_M3x6(x3)
2. Remove UV-LED Assy(left side).
3. Place UV-LED Assy (left side) on table.

A : Round head screw with split washer_M3x6(x3)
B : Lamp base
C : UV-LED Assy(left side)
D : UV-LED cable



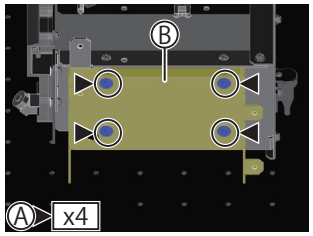


CAUTION

- Do not disconnect UV-LED cable..

6 Loosen screw(s).

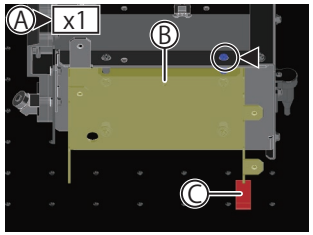
A : Round head screw with split washer_M3x8(x4)
B : UV-LED base plate(left side)



7 Adjust UV-LED height.(front side)

- Place jig under UV-LED base plate.
- Turn adjustment screw so that UV-LED base plate touches jig (2 mm).

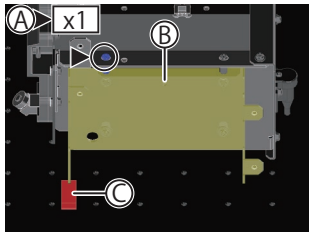
A : Adjustment screw(Pan head small screw_M3x25)(x1)
B : UV-LED base plate(left side)
C : Jig



8 Adjust UV-LED height.(rear side)

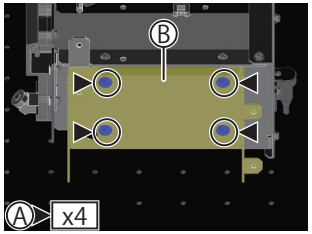
- Place jig under UV-LED base plate.
- Turn adjustment screw so that UV-LED base plate touches jig (2 mm).

A : Adjustment screw(Pan head small screw_M3x25)(x1)
B : UV-LED base plate(left side)
C : Jig



9 Tighten the screw(s).

A : Round head screw with split washer_M3x8(x4)
B : UV-LED base plate(left side)



10 Install UV-LED Assy(left side).
=> Refer to step.5.

11 Check UV-LED height.
=>4.1. UV-LED height adjustment(check)

12 Reverse the above procedure to reinstall the parts.

13 Exit check menu.

- [Adjust End->Enter]
- Press "Enter" key.
  - Carriage automatically caps in.
- [Mecha5:Adj. UV Lamp]

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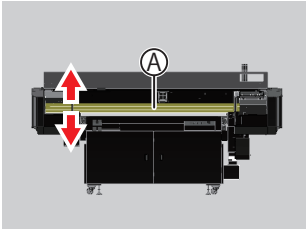
5. Y-rail horizontal adjustment

A : Y-rail

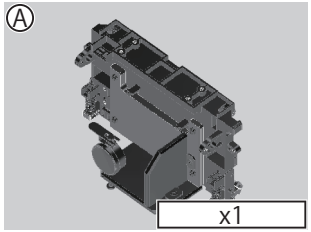


● Tools, Jigs, and Maintenance Part(s)

Part(s) No.	Name	Reference
DH-41896	Table Measurement Jig	

NOTE

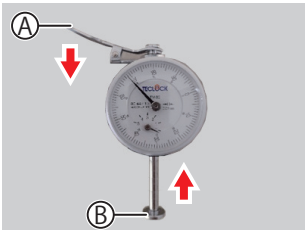
DH-41896
Table Measurement Jig
Ⓐ Jig



NOTE

- Push down lift lever will raise contact point.

A : Lift lever
B : Contact point



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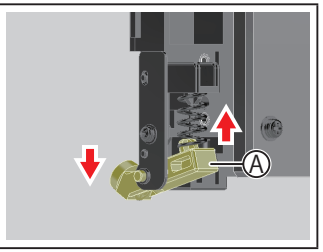
5.1. Install jig

● Procedure

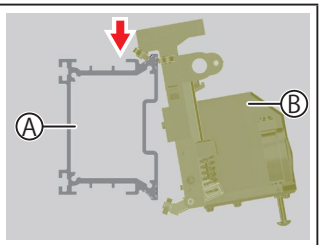
1 Lower bearing. (x2)
2 Install jig to Y-rail.
3 Raise bearing.(x2)

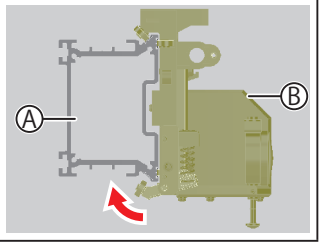
● Procedure(details)

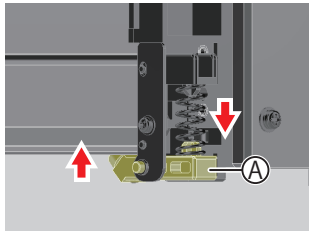
1 Lower bearing. (x2)
A : Bearing



2 Install jig to Y-rail.
A : Y-rail
B : Jig

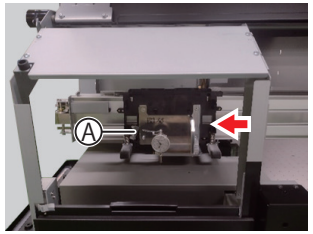




3	Raise bearing.(x2) A : Bearing	

CAUTION

- When gantry operates, move jig to counter origin side.
  A:Jig



TIP

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5.2. Y-rail horizontal adjustment(check)

● Procedure

1 Select adjustment menu.
- [Check1:Adj.Mecha] -> [Mecha1:Adj.PG] -> [PG1:Adjust Height] -> [Start Adj.->Enter]

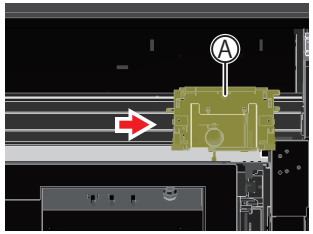
2 Move gantry.
- [Start Adj.->Enter] -> [Wait for a while] -> [Adj. Height:*.**mm]

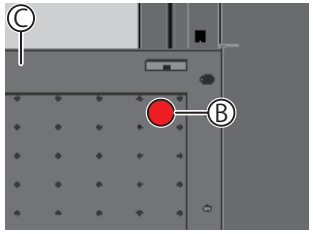
3 Install jig.
4 Move jig.(measuring point on origin side)
5 Set scale.(measuring point on origin side)
6 Move jig.(measuring point on counter origin side)
7 Check scale.(measuring point on counter origin side)
8 Move jig.(counter origin side)
9 Exit adjustment menu.
- [Adj. Height:*.**mm] -> [Wait for a while] -> [PG OK? No/Yes] -> [PG1:Adjust Height]

● Procedure(details)

1	Select adjustment menu. - Starts self-diagnosis function mode. - Select adjustment menu. - [Check1:Adj.Mecha] ->[Mecha1:Adj.PG] ->[PG1:Adjust Height] ->[Start Adj.->Enter]
2	Move gantry. - [Start Adj.->Enter] - Press "Enter" key. ->[Wait for a while] - Gantry automatically moves to adjustment position. - [Adj. Height:*.**mm]
3	Install jig. =>5.1. Install jig

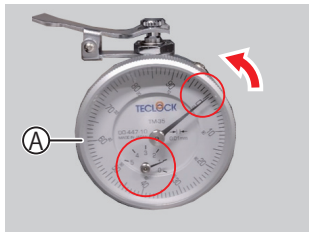
4 Move jig.(measuring point on origin side)
A : Jig
B : Measuring point
C : Table



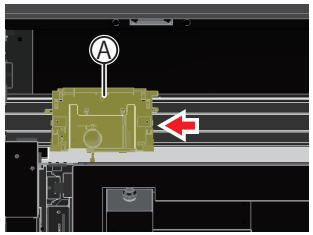


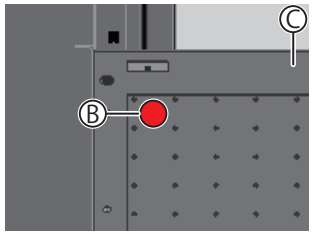
5 Set scale.(measuring point on origin side)
- Rotate scale to "0".
- Check short hand value.

A : Dial gauge



6 Move jig.(measuring point on counter origin side)
A : Jig
B : Measuring point
C : Table

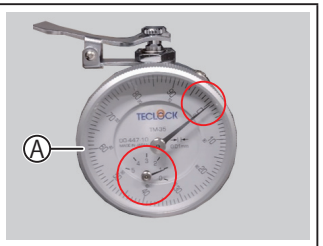




7 Check scale.(measuring point on counter origin side)
- Check that scale is within specified value.
- If value is out of specified value, perform Y-rail horizontal adjustment.
  =>5.3. Y-rail horizontal adjustment(adjustment)

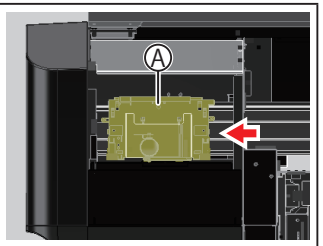
A : Dial gauge

NOTE
- Specified value : ± 0.05mm



8 - Move jig.(counter origin side)
A : Jig

CAUTION
- When finishing adjustment menu, gantry moves automatically and jig is moved out of the way.
- If no adjustment is to be made, remove jig.



9 Exit adjustment menu.
- [Adj. Height:*.**mm]
  ->[Wait for a while]
  - Gantry automatically moves to origin position.
- [PG OK? No/Yes]
  - Select "Yes".
- [PG1:Adjust Height]

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5.3. Y-rail horizontal adjustment(adjustment)

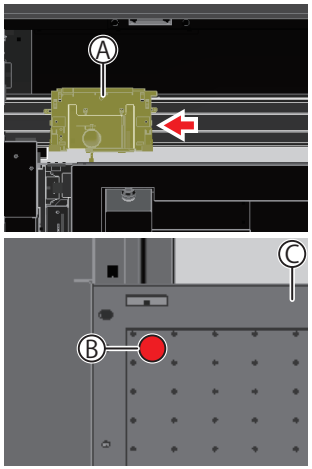
● Procedure

1 Perform steps 1~5 of "5.2. Y-rail horizontal adjustment(check)".
2 Move jig.(measuring point on counter origin side)
3 Check scale.(measuring point on counter origin side)
4 Adjust Y-rail horizontal.(measuring point on counter origin side)
- [Adj. Tilt:*.**mm]
5 Repeat steps 3~4.(measuring point on counter origin side)
6 Move jig.(measuring point on origin side)
7 Check scale.(measuring point on origin side)
8 Adjust Y-rail horizontal.(measuring point on origin side)
- [Adj. Height:*.**mm]
9 Repeat steps 7~8.(measuring point on origin side)
10 Repeat steps 2~9.
11 Remove jig.
12 Exit adjustment menu.
- [Adj. Height:*.**mm] -> [Wait for a while] -> [PG OK? No/Yes] -> [PG1:Adjust Height]

● Procedure(details)

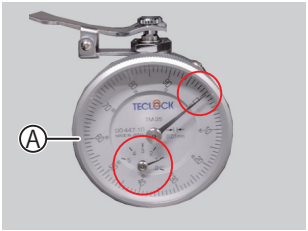
1 Perform steps 1~5 of "5.2. Y-rail horizontal adjustment(check)".
1 Select adjustment menu.
- [Check1:Adj.Mecha]
-> [Mecha1:PAdj.PG]
-> [PG1:Adjust Height]
-> [Start Adj.->Enter]
2 Move gantry.
- [Start Adj.->Enter]
-> [Wait for a while]
-> [Adj. Height:*.**mm]
3 Install jig.
4 Move jig.(measuring point on origin side)
5 Set scale.(measuring point on origin side)

2 Move jig.(measuring point on counter origin side)
A : Jig
B : Measuring point
C : Table



3 Check scale.(measuring point on counter origin side)
- Check that scale is within specified value.
- If value is out of specified value, perform Y-rail horizontal adjustment.(counter origin side)

A : Dial gauge



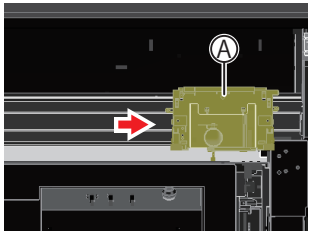
NOTE
- Specified value : ± 0.05mm

4 Adjust Y-rail horizontal.(measuring point on counter origin side)
- If value is outside specified value, add dial gauge value in [Adj. Tilt:*.**mm].
- Press "Enter" key.

5 Repeat steps 3~4.(measuring point on counter origin side)
- [PG OK? No]
- Select "No".
  -> [Adj. Tilt:*.**mm]
- After confirming that the scale is within specified value, proceed to step 6.

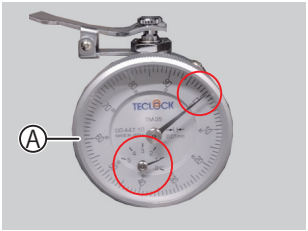
6 Move jig.(measuring point on origin side)

A : Jig
B : Measuring point
C : Table



7 Check scale.(measuring point on origin side)
- Check that scale is within specified value.
- If value is out of specified value, perform Y-rail horizontal adjustment.(origin side)

A : Dial gauge



NOTE
- Specified value : ± 0.05mm

8 Adjust Y-rail horizontal.(measuring point on counter origin side)
- If value is outside specified value, add dial gauge value in [Adj. Height:*.**mm].
- Press "Enter" key.

9 Repeat steps 7~8.(measuring point on origin side)
- [PG OK? No]
- Select "No".
  -> [Adj. Height:*.**mm]
- After confirming that the scale is within specified value, proceed to step 10.

10 Repeat steps 2~9.
- [PG OK? No]
- Select "No".
  -> [Adj. Tilt:*.**mm]/[Adj. Height:*.**mm]
- After confirming that the scale is within specified value, proceed to step 11.

11 Remove jig.

12 Exit adjustment menu.
- [Adj. Height:*.**mm]
  ->[Wait for a while]
  - Gantry automatically moves to origin position.
- [PG OK? No/Yes]
- Select "Yes".
- [Wait for a while]
  -> [PG1:Adjust Height]

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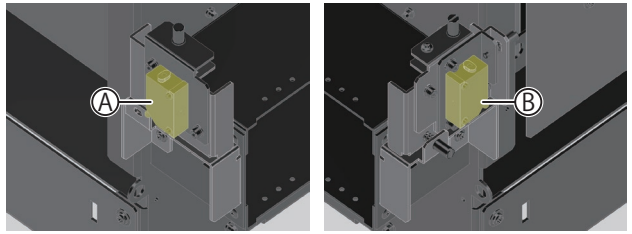
6. Laser sensor adjutment

A : Laser sensor (left side)
B : Laser sensor (right side)



● Tools, Jigs, and Maintenance Part(s)

Part(s) No.	Name	Reference
DH-41690	Laser Sensor Adjustment Jig	
Generic item	Phillips screwdriver No.2	
Generic item	Hex wrench (2.5mm)	
Generic item	Flat head screwdriver	- Tip thickness: less than 1mm - Outer diameter : less than 6mm

WARNING

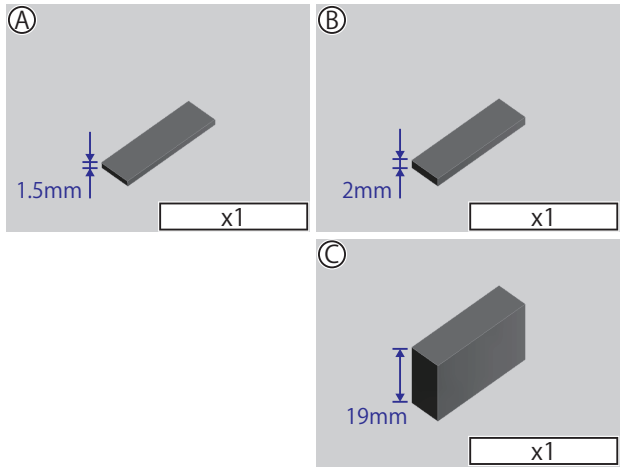
- This system (including the housing and safety device) is a Class 1 laser product.
  Use of controls or adjustments or performance of procedures other than those specified herein may result in radiation exposure.

CAUTION

- Precautions when using the laser sensor
  - Do not look into the laser beam.
  - Do not look into the laser beam with optical instruments.
    Doing so may cause eye damage.

NOTE

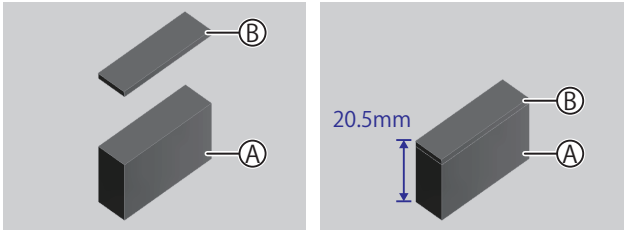
DH-41690
Laser Sensor Adjustment Jig
Ⓐ Block gauge (1.5mm)
Ⓑ Block gauge (2mm)
Ⓒ Block gauge (19mm)



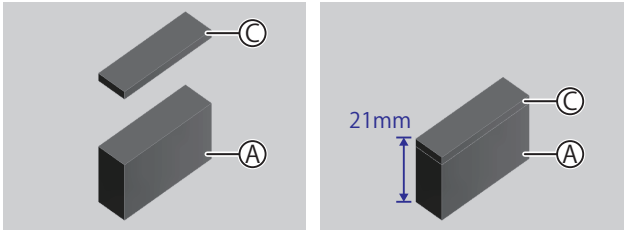
NOTE

- When adjusting laser sensor, use two block gauges at a time.

- Block gauge (20.5mm) required:
  Block gauge (19mm) and block gauge (1.5mm) are used.
  A : Block gauge(19mm)
  B : Block gauge(1.5mm)



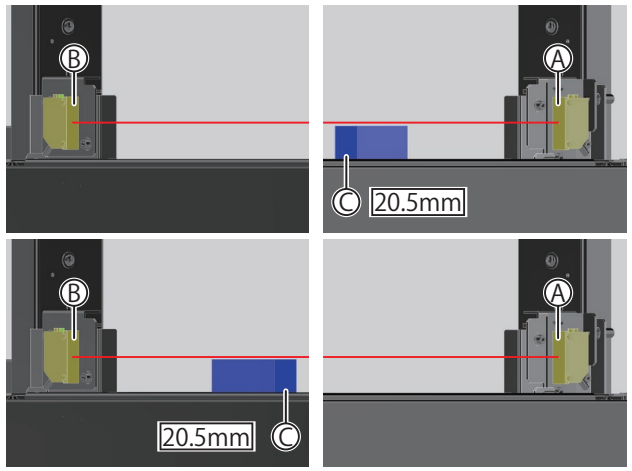
- Block gauge (21mm) required:
  Block gauge (19mm) and block gauge (2mm) are used.
  A : Block gauge(19mm)
  C : Block gauge(2mm)



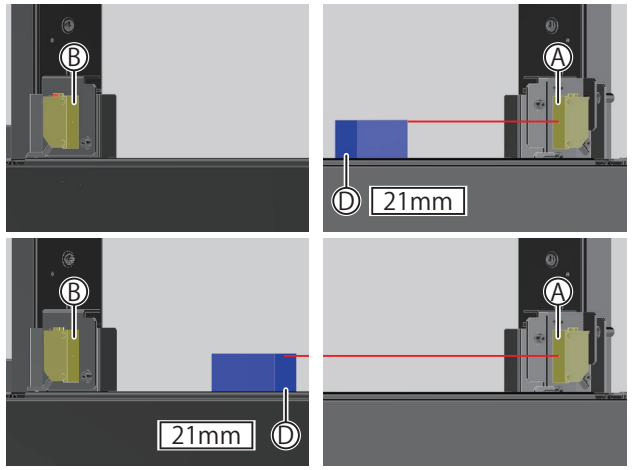
NOTE

- The outline of this adjustment is described below.
  1 Select adjustment menu.
  Gantry automatically moves to adjustment position.
  2 Place block gauge on table.
  3 Check mounting position on laser sensor.

When using block gauge (20.5mm):
-> Laser beam passes through.
* Laser sensor (left side):
LED (green) : light on
LED (red) : Light off
A : Laser sensor (right side)
B : Laser sensor (left side)
C : Block gauge (20.5mm)



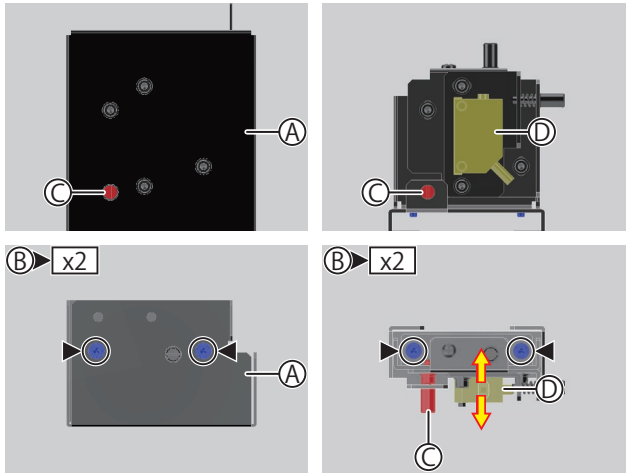
When using block gauge (21mm) :
-> Laser beam is blocked..
* Laser sensor (left side) :
LED (green) : light on
LED (red) : Light on
A : Laser sensor (right side)
B : Laser sensor (left side)
D : Block gauge (21mm)



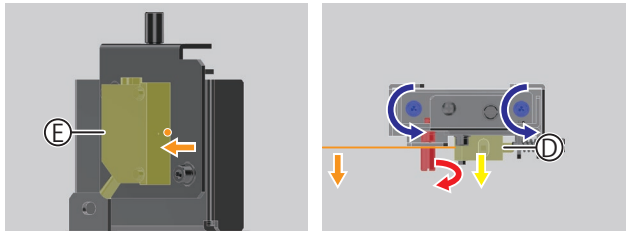
NOTE

- Adjustment of right side laser sensor mounting position (front-rear)
  Adjustment procedure is explained below.

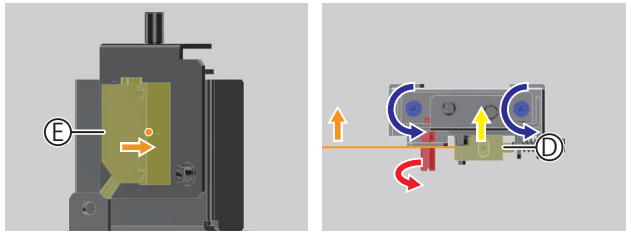
A : Laser sensor cover R
B : Hex socket screw with split washer_M3x6 (x2)
C : Adjustment knob
D : Laser sensor(right side)
E : Laser sensor(left side)



To move laser sensor to front side:
1 Loosen screws about half way. (x2)
2 Turn adjustment knob to the right side.
3 Tighten screws. (x2)



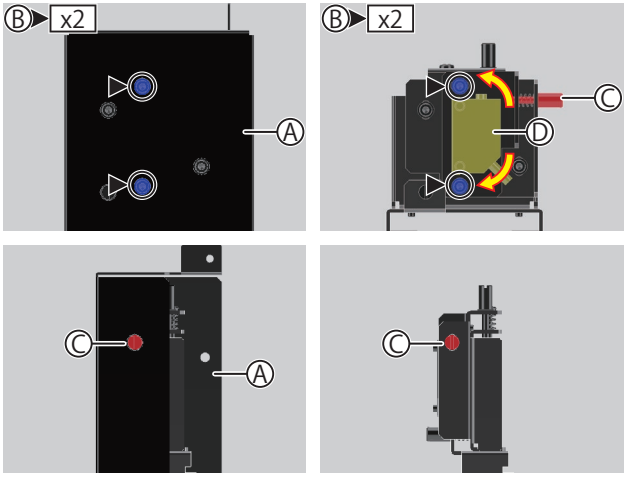
To move laser sensor to rear side:
1 Loosen screws about half way. (x2)
2 Turn adjustment knob to the left side.
3 Tighten screws. (x2)



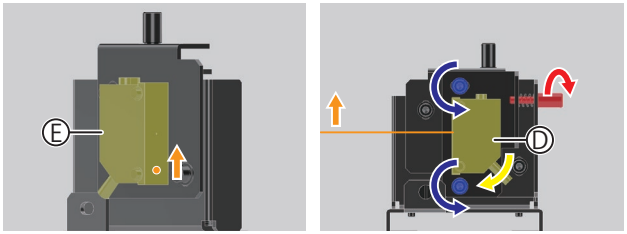
NOTE

- Adjustment of right side laser sensor mounting position (slant)
  Adjustment procedure is explained below.

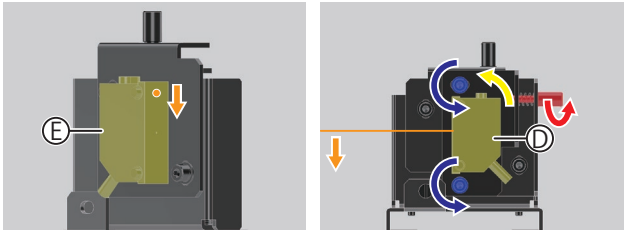
A : Laser sensor cover R
B : Hex socket screw with split washer_M3x6 (x2)
C : Adjustment knob
D : Laser sensor(right side)
E : Laser sensor(left side)



To tilt laser sensor upward:
1 Loosen screws about half way. (x2)
2 Turn adjustment knob to the right side.
3 Tighten screws. (x2)



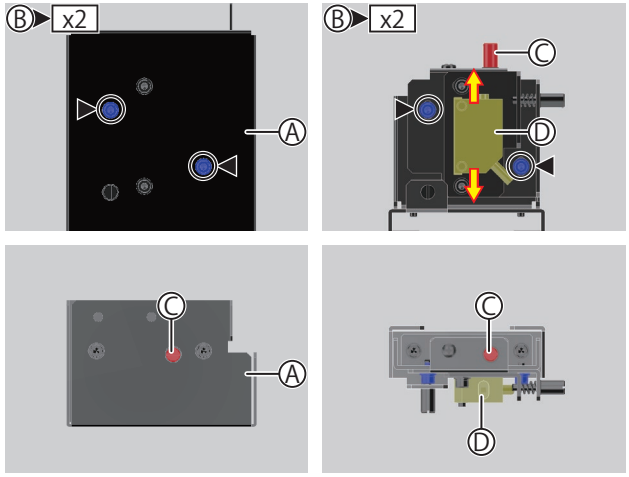
To tilt laser sensor downward:
1 Loosen screws about half way. (x2)
2 Turn adjustment knob to the left side.
3 Tighten screws. (x2)



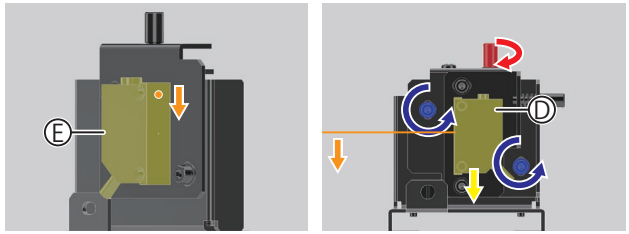
NOTE

- Adjustment of right side laser sensor mounting position (up-down)
  Adjustment procedure is explained below.

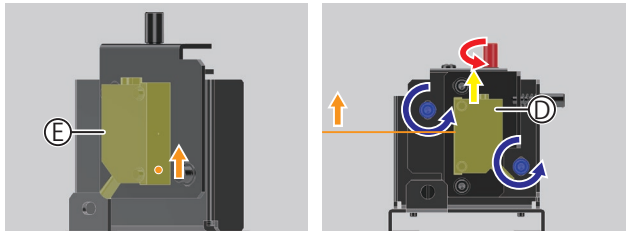
A : Laser sensor cover R
B : Hex socket screw with split washer_M3x6 (x2)
C : Adjustment knob
D : Laser sensor(right side)
E : Laser sensor(left side)



To move laser sensor to lower side:
1 Loosen screws about 1 way. (x2)
2 Turn adjustment knob to the right side.
3 Tighten screws. (x2)



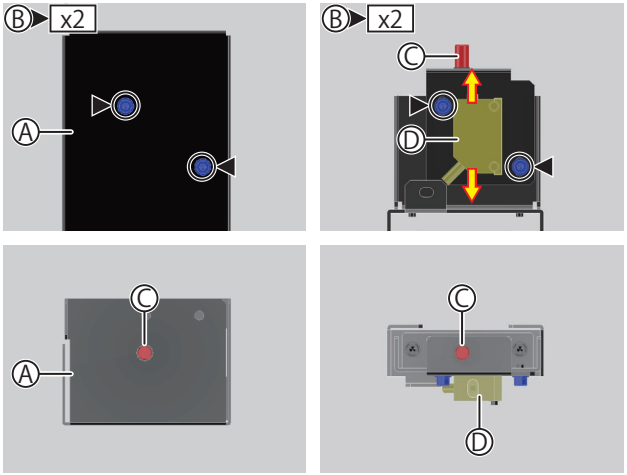
To move laser sensor to upper side:
1 Loosen screws about 1 way. (x2)
2 Turn adjustment knob to the left side.
3 Tighten screws. (x2)



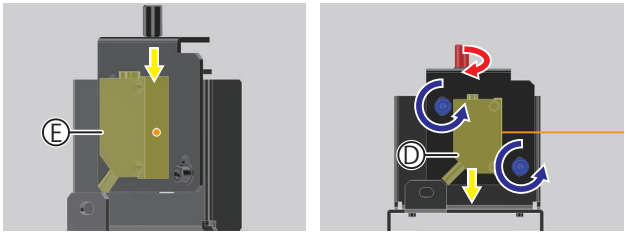
NOTE

- Adjustment of left side laser sensor mounting position (up/down
  Adjustment procedure is explained below.

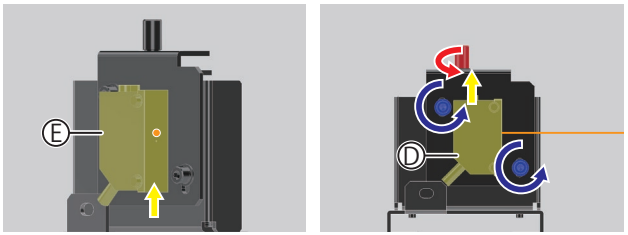
A : Laser sensor cover L
B : Hex socket screw with split washer_M3x6 (x2)
C : Adjustment knob
D : Laser sensor(left side)



To move laser sensor to lower side:
1 Loosen screws about 1 way.(x2)
2 Turn adjustment knob to the right side.
3 Tighten screws. (x2)



To move laser sensor to upper side:
1 Loosen screws about 1 way.(x2)
2 Turn adjustment knob to the left side.
3 Tighten screws. (x2)



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6.1. Laser sensor adjustment(check)

NOTE

- It can be checked without removing laser sensor cover.
  LED of laser sensor is checked through gap in laser sensor cover.

● Procedure

1 Select check menu.
  - [Check1:Adj.Mecha] -> [Mecha3:Adj. Laser] -> [Start Adj.->Enter]
2 Move gantry.
  - [Start Adj.->Enter] -> [Wait for a while] -> [Adjust End->Enter]
3 Check mounting position of laser sensor. (left side/blockade)
4 Check mounting position of laser sensor. (left side/pass through)
5 Check mounting position of laser sensor. (right side/blockade)
6 Check mounting position of laser sensor. (right side/pass through)
7 Check mounting position of laser sensor. (firmware)
  - [Adjust End->Enter] -> [Remove JIG->Enter] -> [Confirming]
8 Display sensor position.
  - [Sensor Pos:*.**mm]
9 Exit check menu.
  - [Sensor Pos:*.**mm]->[Wait for a while]->[Mecha3:Adj. Laser]

● Procedure(details)

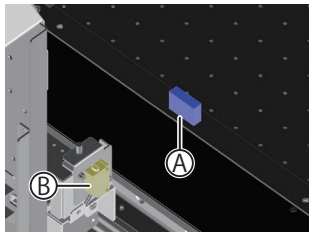
1	Select check menu. - Starts self-diagnosis function mode. - Select check menu. - [Check1:Adj.Mecha] -> [Mecha3:Adj. Laser] -> [Start Adj.->Enter]

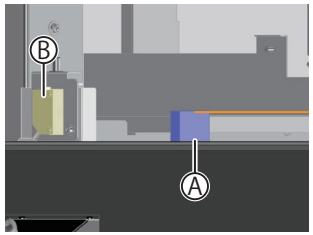
2 Move gantry.
- [Start Adj.->Enter]
- Press "Enter" key.
- [Wait for a while]
  - Gantry automatically moves to adjustment position.
- [Adjust End->Enter]

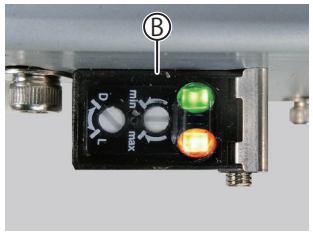
3 Check mounting position of laser sensor. (left side/ blockade)
- Place block gauge(21mm) on left side of table.
- Check that laser beam is blocked.
- If laser beam passes through, perform laser sensor adjustment.
  =>6.2. Laser sensor adjustment(adjustment)

A : Block gaauge(21mm)
B : Laser sensor(left side)

NOTE
- When using block gauge(21mm) :
  -> Laser beam is blocked.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light on



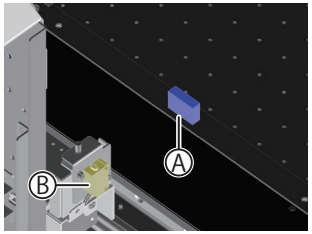


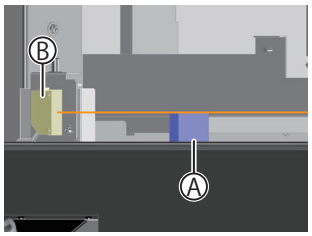


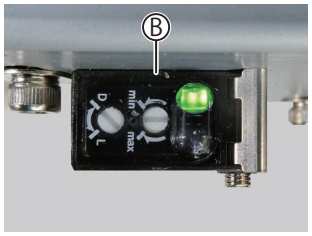
4 Check mounting position of laser sensor. (left side/pass through)
- Place block gauge(20.5mm) on left side of table.
- Check that laser beam passes through.
- If laser beam is blocked, perform laser sensor adjustment.
  =>6.2. Laser sensor adjustment(adjustment)

A : Block gaauge(20.5mm)
B : Laser sensor(left side)

NOTE
- When using block gauge(20.5mm) :
  -> Laser beam passes thorugh.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light off







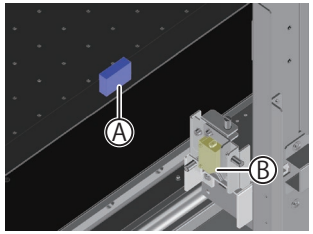
5 Check mounting position of laser sensor. (right side/ blockade)

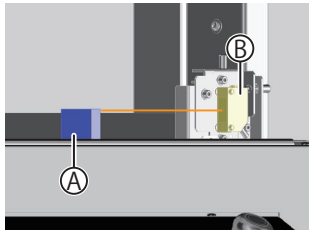
- Place block gauge(21mm) on left side of table.
- Check that laser beam is blocked.
- If laser beam passes through, perform laser sensor adjustment.
  =>**6.2. Laser sensor adjustment(adjustment)**

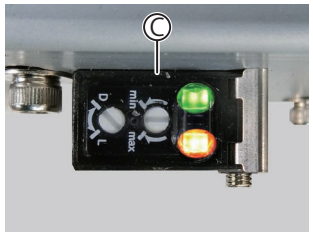
A : Block gaauge(21mm)
B : Laser sensor(right side)
C : Laser sensor(left side)

NOTE

- When using block gauge(21mm) :
  -> Laser beam is blocked.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light on







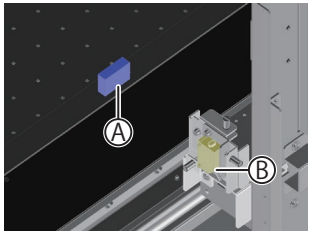
6 Check mounting position of laser sensor. (right side/ pass through)

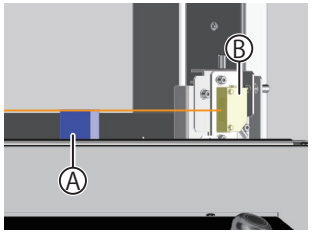
- Place block gauge(20.5mm) on left side of table.
- Check that laser beam passes through.
- If laser beam is blocked, perform laser sensor adjustment.
  =>**6.2. Laser sensor adjustment(adjustment)**

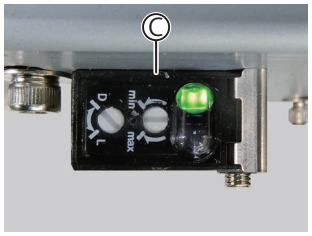
A : Block gaauge(20.5mm)
B : Laser sensor(right side)
C : Laser sensor(left side)

NOTE

- When using block gauge(20.5mm) :
  -> Laser beam passes thorugh.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light off







7 Check mounting position of laser sensor. (firmware)

- [Adjust End->Enter]
- Press "Enter" key.
- [Remove JIG->Enter]
- Press "Enter" key.
- [Confirming]
  - Firmware checks the mounting position of the laser sensor.
- If [Adjust Fail] is displayed, perform laser sensor adjustment.
  =>**6.2. Laser sensor adjustment(adjustment)**

8 Display sensor position.
- [Sensor Pos:*.**mm]
- If value is out of specified value, perform laser sensor adjustment.
  =>6.2. Laser sensor adjustment(adjustment)

NOTE
- Specified value : 0.5mm~1.0mm

9 Exit check menu.
- [Sensor Pos:*.**mm]
- Press "Enter" key.
- [Wait for a while]
  -> [Mecha3:Adj. Laser]

TIP
index=> TOC

6.2. Laser sensor adjustment(adjustment)

● Procedure

1 Select check menu.
- [Check1:Adj.Mecha] -> [Mecha3:Adj. Laser] -> [Start Adj.->Enter]

2 Move gantry.
- [Start Adj.->Enter] -> [Wait for a while] -> [Adjust End->Enter]

3 Open front cover.
4 Adjust mounting position of laser sensor. (right side/front-rear)
5 Adjust mounting position of laser sensor. (right side/slant)
6 Adjust mounting position of laser sensor. (left side/blockade)
7 Adjust mounting position of laser sensor. (left side/pass through)
8 Adjust mounting position of laser sensor. (right side/blockade)
9 Adjust mounting position of laser sensor. (right side/pass through)
10 Check mounting position of laser sensor.
11 Check mounting position of laser sensor. (firmware)
- [Adjust End->Enter] -> [Remove JIG->Enter] -> [Confirming]

12 Display sensor position.
- [Sensor Pos:*.**mm]

13 Exit check menu.
- [Sensor Pos:*.**mm]->[Wait for a while]->[Mecha3:Adj. Laser]

● Procedure(details)

1 Select check menu.
- Starts self-diagnosis function mode.
- Select check menu.
  - [Check1:Adj.Mecha]
    -> [Mecha3:Adj. Laser]
    -> [Start Adj.->Enter]

2 Move gantry.
- [Start Adj.->Enter]
- Press "Enter" key.
- [Wait for a while]
  - Gantry automatically moves to adjustment position.
- [Adjust End->Enter]

3 Open front cover.

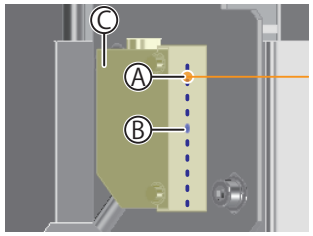
NOTE

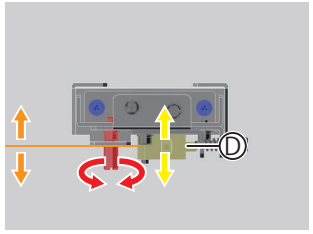
=> Operation manual

4 Adjust mounting position of laser sensor. (right side/ front-rear)
- Adjust front-rear position of laser sensor(right side).
- Adjust laser so that it hits vertical position of hole in laser sensor(left side).

A : Laser
B : Hole in laser sensor(left side)
C : Laser sensor(left side)
D : Laser sensor(right side)

NOTE
- Adjustment procedure
  - Adjustment of right side laser sensor mounting position (front-rear)

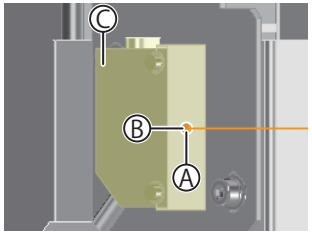


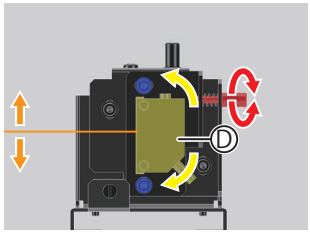


5 Adjust mounting position of laser sensor. (slant)
- Adjust slant position of laser sensor(right side).
- Adjust laser so that it hits hole in laser sensor(left side).

A : Laser
B : Hole in laser sensor(left side)
C : Laser sensor(left side)
D : Laser sensor(right side)

NOTE
- Adjustment procedure
  - Adjustment of right side laser sensor mounting position (slant)





6 Adjust mounting position of laser sensor. (left side/ blockade)

- Place block gauge(21mm) on left side of table.
- Adjust up-down position of left side laser sensor.
- Adjust laser so that it shuts off block gauge (21mm).

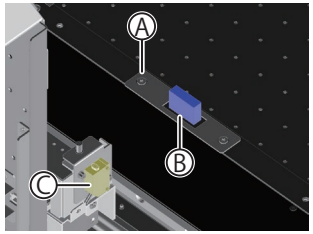
A : Jig 2
B : Block gauge(21mm)
C : Laser sensor(left side)

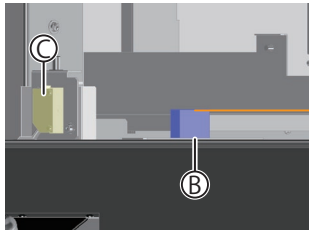
NOTE

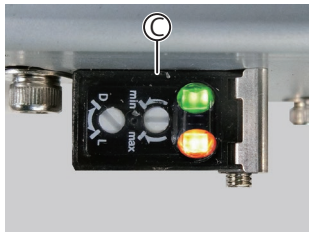
- Adjustment procedure
  - Adjustment of leff side laser sensor mounting position (up-down)

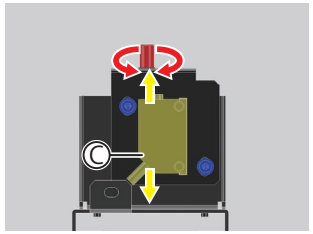
NOTE

- When using block gauge(21mm) :
  -> Laser beam is blocked.
  * Laser sensor (left side) :
  LED (green) : light on / LED (red) : Light on









7 Adjust mounting position of laser sensor. (left side/pass through)

- Place block gauge (20.5 mm) on left side of table.
- Adjust up-down position of left side laser sensor.
- Adjust laser so that it passes through block gauge (20.5 mm).

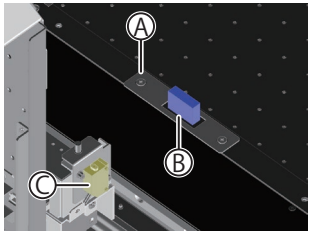
A : Jig 2
B : Block gauge(20.5mm)
C : Laser sensor(left side)

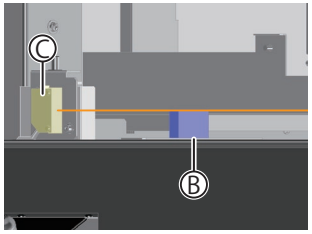
NOTE

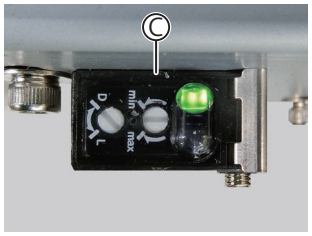
- Adjustment procedure
  - Adjustment of leff side laser sensor mounting position (up-down)

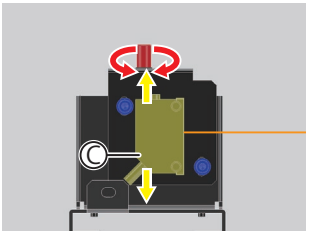
NOTE

- When using block gauge(20.5mm) :
  -> Laser beam passes thorugh.
  * Laser sensor (left side) :
  LED (green) : light on / LED (red) : Light off





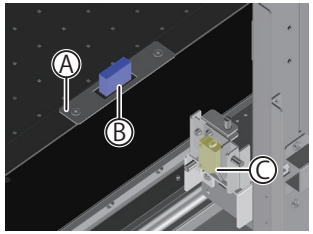




8 Adjust mounting position of laser sensor. (right side/ blockade)

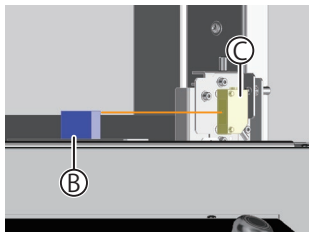
- Place block gauge(21mm) on right side of table.
- Adjust up-down position of right side laser sensor.
- Adjust laser so that it shuts off block gauge (21 mm).

A : Jig 2
B : Block gauge(21mm)
C : Laser sensor(right side)
D : Laser sensor(left side)



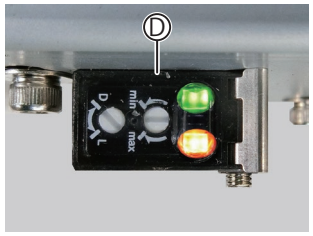
NOTE

- Adjustment procedure
  - Adjustment of right side laser sensor mounting position (up-down)



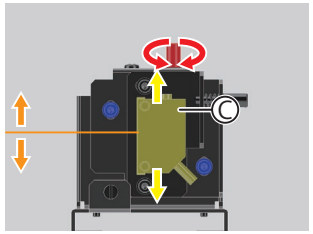
NOTE

- If laser cannot be blocked by adjusting right side laser sensor mounting position (up-down), also adjust right side laser sensor mounting position (slant).



NOTE

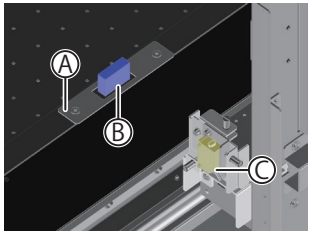
- When using block gauge(21mm) :
  -> Laser beam is blocked.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light on



9 Adjust mounting position of laser sensor. (right side/ pass through)

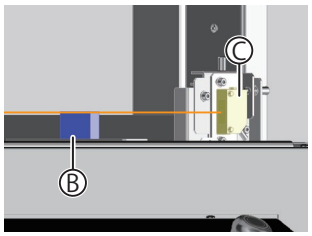
- Place block gauge(20.5mm) on right side of table.
- Adjust slant and up-down position of right side laser sensor.
- Adjust laser so that it passes through block gauge(20.5mm).

A : Jig 2
B : block gauge(20.5mm)
C : Laser sensor(right side)
D : Laser sensor(left side)



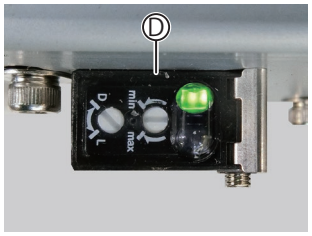
NOTE

- Adjustment procedure
  - Adjustment of right side laser sensor mounting position (up-down)



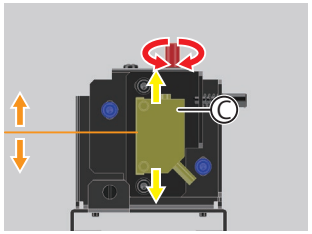
NOTE

- If laser cannot be pass through by adjusting right side laser sensor mounting position (up-down), also adjust right side laser sensor mounting position (slant).



NOTE

- When using block gauge(20.5mm) :
  -> Laser beam passes thorugh.
  * Laser sensor (left side) :
    LED (green) : light on / LED (red) : Light off



10 Check mounting position of laser sensor
=>6.1. Laser sensor adjustment(check)
- If value is out of specified value, perform laser sensor adjustment.
  >Refer to step.3~9.

NOTE
- Specified value :
  - When using block gauge(21mm) :
    -> Laser beam is blocked.
    * Laser sensor (left side) :
      LED (green) : light on / LED (red) : Light on
  - When using block gauge(20.5mm) :
    -> Laser beam passes thorugh.
    * Laser sensor (left side) :
      LED (green) : light on / LED (red) : Light off

11 Check mounting position of laser sensor. (firmware)
- [Adjust End->Enter]
- Press "Enter" key.
- [Remove JIG->Enter]
- Press "Enter" key.
- [Confirming]
  - Firmware checks the mounting position of the laser sensor.
- If [Adjust Fail] is displayed, perform laser sensor adjustment.
  =>Refer to step.3~9.

12 Display sensor position.
- [Sensor Pos:*.**mm]
- If value is out of specified value, perform laser sensor adjustment.
  >Refer to step.3~9.

NOTE
- Specified value : 0.5mm~1.0mm

13 Exit check menu.
- [Sensor Pos:*.**mm]
- Press "Enter" key.
- [Wait for a while]
  -> [Mecha3:Adj. Laser]

TIP

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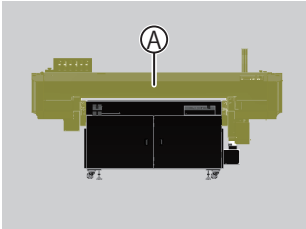
7. Check gantry operation

A : Gantry

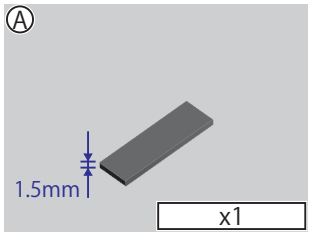


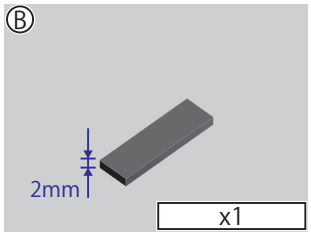
● Tools, Jigs, and Maintenance Part(s)

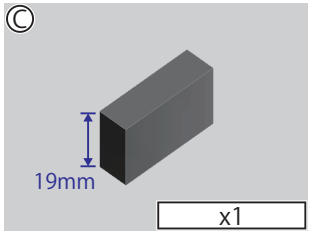
Part(s) No.	Name	Reference
DH-41690	Laser Sensor Adjustment Jig	
Generic item	Phillips screwdriver No.2	
Generic item	Hex wrench (2.5mm)	
Generic item	Flat head screwdriver	- Tip thickness: less than 1mm - Outer diameter : less than 6mm

NOTE

DH-41690
Laser Sensor Adjustment Jig
Ⓐ Block gauge (1.5mm)
Ⓑ Block gauge (2mm)
Ⓒ Block gauge (19mm)







TIP

index=> TOC

7.1. Check gantry operation(check)

● Procedure

1 Select check menu.
- [Check18:Gantry Move]

2 Remove media.
- [Media Remove->Enter] -> [Wait for a while]

3 Check gantry operation.(Front/High)
- [Pos.3:Front/High] -> [Moving]

4 Check gantry operation.(Rear/Low)
- [Pos.1:Rear/Low] -> [Moving]

5 Exit check menu.
- [Pos.1:Rear/Low] -> [Wait for a while] -> [Check18:Gantry Move]

● Procedure(details)

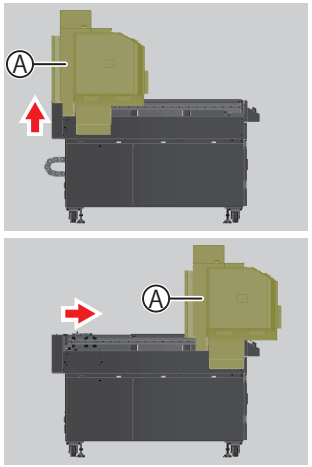
1 Select check menu.
- Starts self-diagnosis function mode.
- Select check menu
  [Check18:Gantry Move]

2 Remove media.
- [Media Remove->Enter]
- Press "Enter" key.
- [Wait for a while]
  - Gantry automatically moves to origin position.

NOTE
- Origin position(PF) : rear side[Rear]
- Origin position(PG) : lower side[Low]

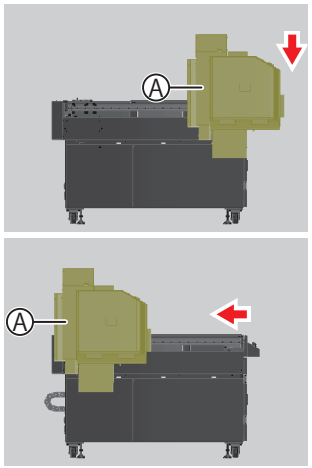
3 heck gantry operation.(Front/High)
- Select [Pos.3:Front/High].
- Press "Enter" key.
- [Moving]
  - Gantry automatically moves to front/upper side.
- Check that gantry does not stop operating.
- If gantry stop operating, perform laser sensor adjustment.
  =>7.2. Check gantry operation(adjustment)

A : Gantry



4 Check gantry operation.(Rear/Low)
- Select [Pos.1:Rear/Low].
- Press "Enter" key.
- [Moving]
  - Gantry automatically moves to rear/lower side.
- Check that gantry does not stop operating.
- If gantry stop operating, perform laser sensor adjustment.
  =>7.2. Check gantry operation(adjustment)

A : Gantry



5 Exit check menu.
- [Pos.1:Rear/Low]
- Press "Cancel" key.
- [Wait for a while]
  - Gantry automatically moves to origin position.
- [Check18:Gantry Move]

TIP

index=> TOC

7.2. Check gantry operation(adjustment)

NOTE

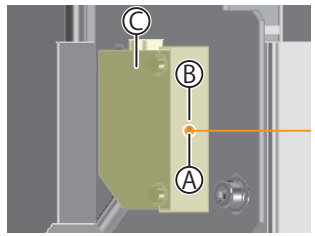
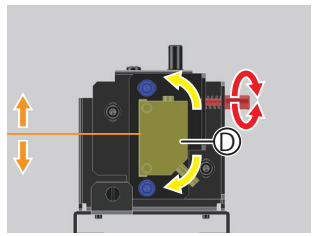
- Gantry operation check (adjustment) is continued at location where gantry operation has stopped.

● Procedure

1 Adjust mounting position of laser sensor. (right side/slant)
- [Media Remove->Enter]

2 Check gantry operation.

● Procedure(details)

1	Adjust mounting position of laser sensor. (right side/slant) - Adjust slant position of laser sensor(right side). - Adjust laser so that it hits hole in laser sensor(left side). A : Laser B : Hole in laser sensor(left side) C : Laser sensor(left side) D : Laser sensor(right side) NOTE - Adjustment procedure - Adjustment of right side laser sensor mounting position (slant) =>**6. Laser sensor adjutment**	 
2	Check gantry operation. =>**7.1. Check gantry operation(check)** - Check that gantry does not stop operating. - If gantry stop operating, perform laser sensor adjustment. =>Refer to step.1.	

TIP

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Appendix.1. Self-diagnosis

Self-diagnostic mode menu used in this manual is described below.

NOTE

- Applicable Firmware : Ver.1.01 or later.(No.SS620B)

TIP

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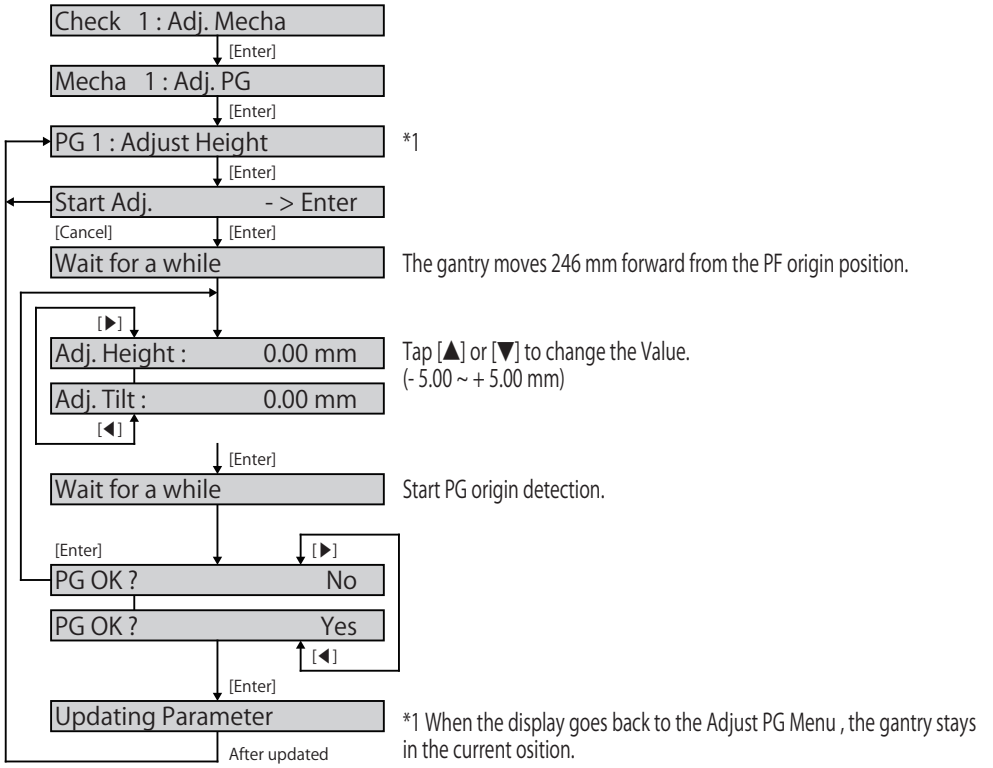
Appendix.1.1. PG height adjustment

● Operation panel



TIP

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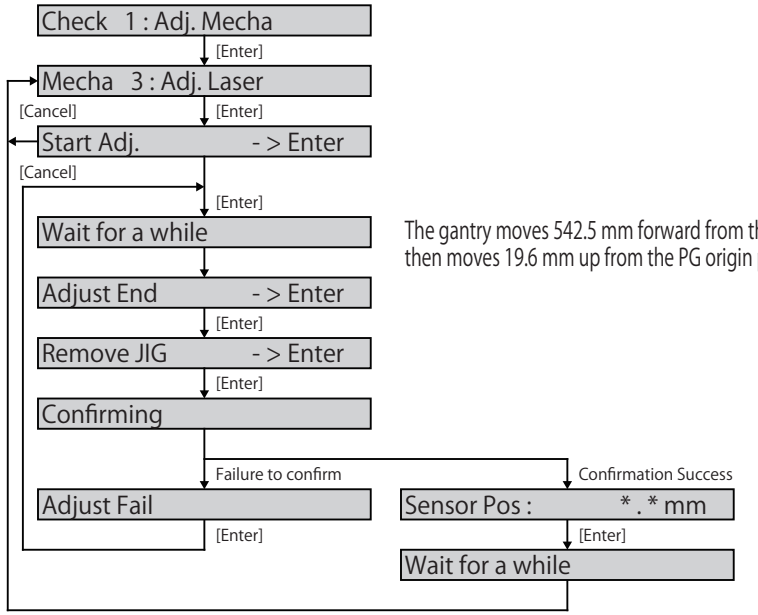
Appendix.1.2. Laser sensor adjustment

● Operation panel



The gantry moves 542.5 mm forward from the PF o rigin position and then moves 19.6 mm up from the PG origin position.

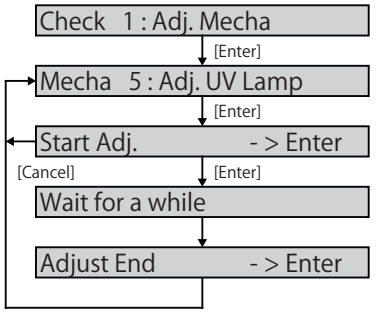
*1 When the display goes back to the Adjust PG Menu , the gantry stays in the current position.
*2 The message is displayed in two lines.

TIP

index=> TOC

Appendix.1.3. UV-LED mounting position adjustment

● Operation panel



*1

The gantry moves 754 mm forward from the PF origin position.

The carriage goes back to the capping station to cap the print head and the adjustment ends.

*1 When the display goes back to the Mechanical Adjustment Menu , the gantry stays in the current position.

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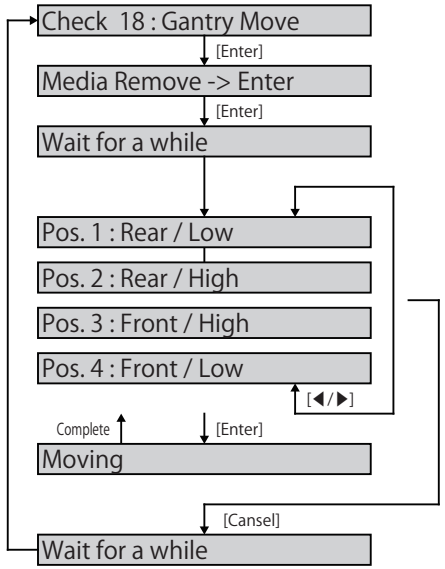
Appendix.1.4. Gantry move

● Operation panel



TIP

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