

# Hardware training for Sanmina P6

---

June 29<sup>th</sup> 2022

**saki**

The Future in Focus /

SAKI CORPORATION  
Training section

Joel Meza / David Ruiz

# Draining water from de air filter

## 1.3 Draining Water from the Air Filter

Supplied air may contain water.

Check the bowl regularly. If water is exist in the bowl, shut the supplied air and push the drain cock to drain the water from the bowl.

If necessary, put a cloth to the drain cock to prevent water to flow into the machine.

### CAUTION

If water flows out of the bowl, it may cause serious damages on the air cylinder, solenoid valve, or compressed air devices.

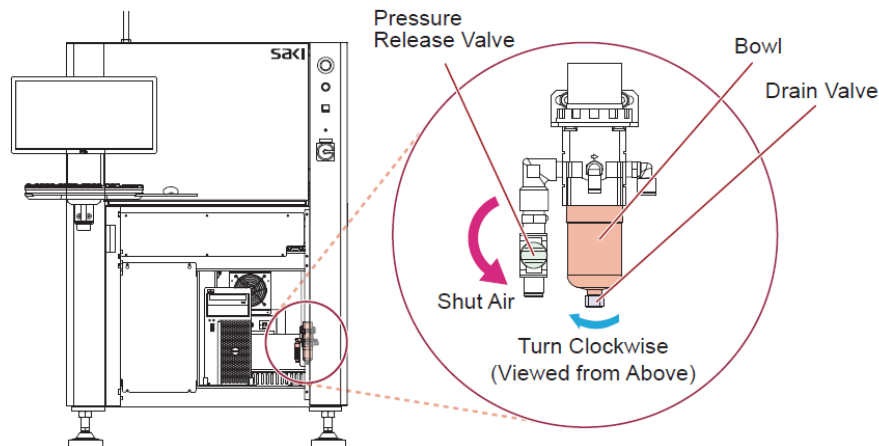


Figure 1-5 Draining Water from the Air Filter

## 1.5 Cleaning Optical System

Parts requiring the regular cleaning are four types; telecentric lens, projector lens, side camera lens, and diffusers .

### WARNING

Regarding the cleaning optical system, if the cleaning procedure is not operated in an appropriate way, it could cause troubles such as image misalignment. If a regular maintenance is required, please contact Saki Corporation. If you require to do the maintenance on your own, we provide specialized jigs (tools) and fare-paying training. Please contact Saki Corporation for details.

Frequency	Item	Description
Every 6 months	Telecentric Lens	Wipe off any dirt gently with a dry and soft cloth or paper. If it is very dirty, dampen a soft dry cloth or paper with a glass cleaner or ethanol and wipe it. (*1)
	Projector Lens	
	Side Camera Lens	
	Diffuser	

Table 1-1 Cleaning Method

### CAUTION

Above are standard maintenance intervals. Maintenance intervals may differ depending on the usage environment of the machine. Before starting the maintenance, make sure that the machine is turned off.

(\*1) Do not use other chemicals.

# Cleaning the diffusers

Step1: Open the upper front door and remove the upper rear side cover by reference to **1.2.2 How to Remove or Open External Covers.**

Step2: Loosen the eight M4 truss screws (four on each side) and remove the optical unit cover shown below.

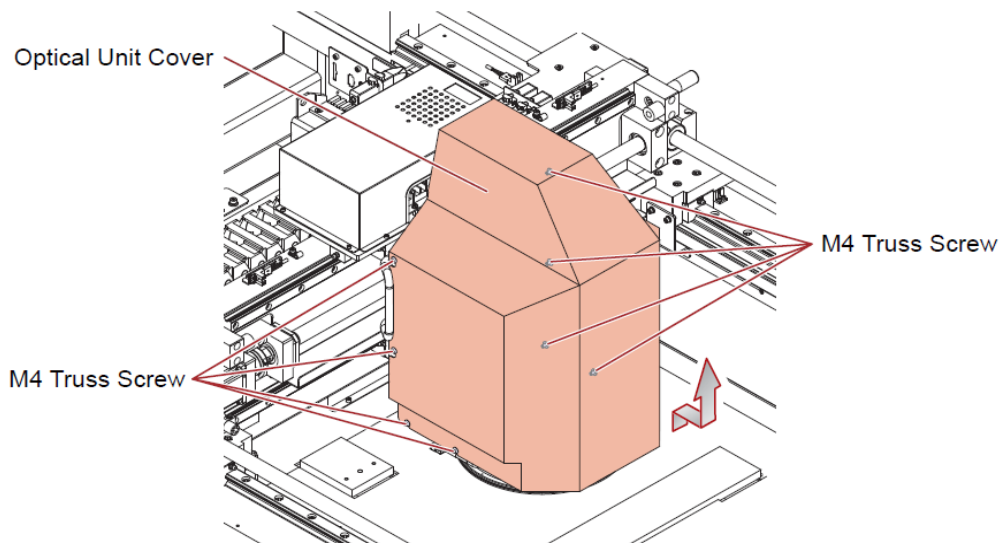


Figure 1-10 Remove the Optical Unit Cover

# Cleaning the Diffusers

Step3: Disconnect the connector of the optical unit.

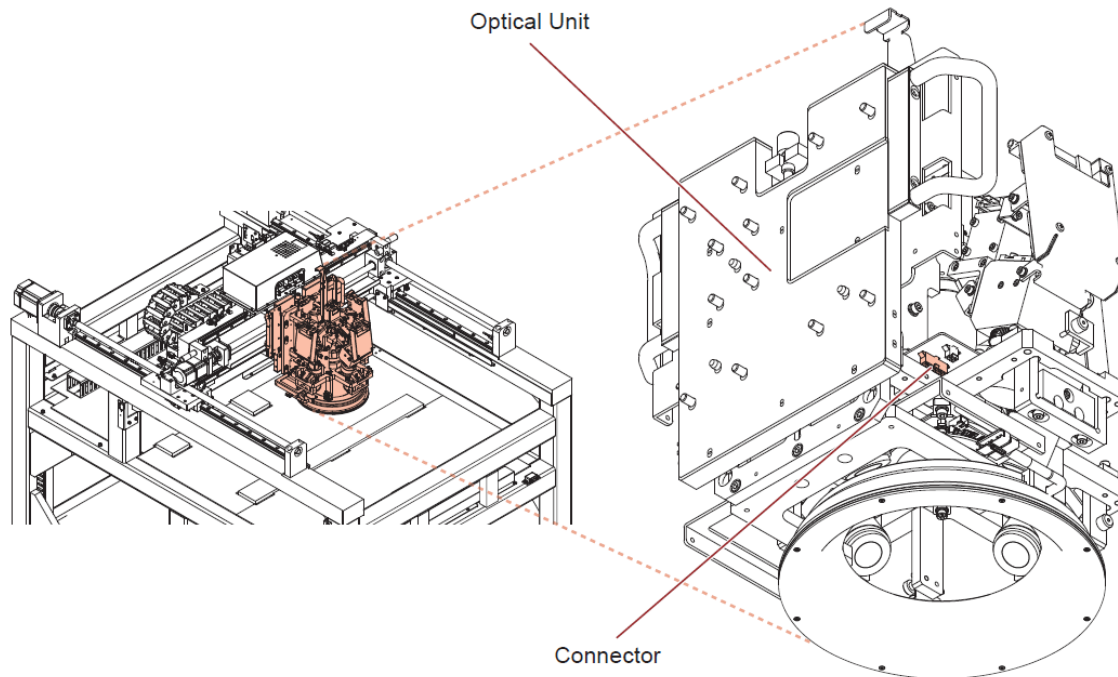


Figure 1-11 Disconnect the Connectors

# Cleaning the Diffusers

Step4: Remove the two ① M4 cap screws (one on each side) from the optical unit.

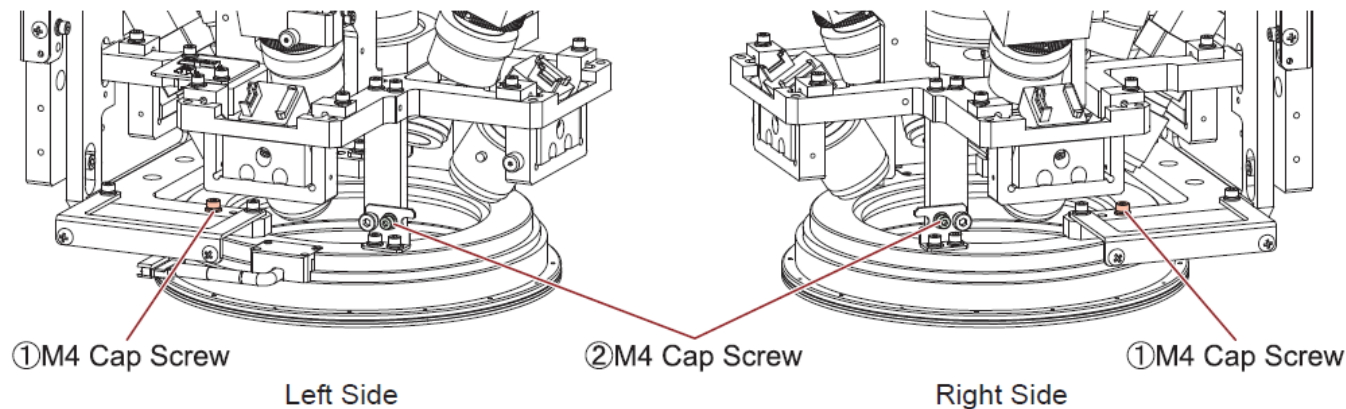


Figure 1-12 Detaching the LED Lighting Unit 1

Step5: Loosen the two ② M4 cap screws (one on each side) from the optical unit and detach the LED lighting unit as shown in the figure below.

# Cleaning the Diffusers

**WARNING** Detaching the LED lighting unit could cause troubles such as image distortion. If a regular maintenance is required, please contact Saki Corporation.

**CAUTION** When detaching the LED lighting unit, be careful not to touch the LEDs.

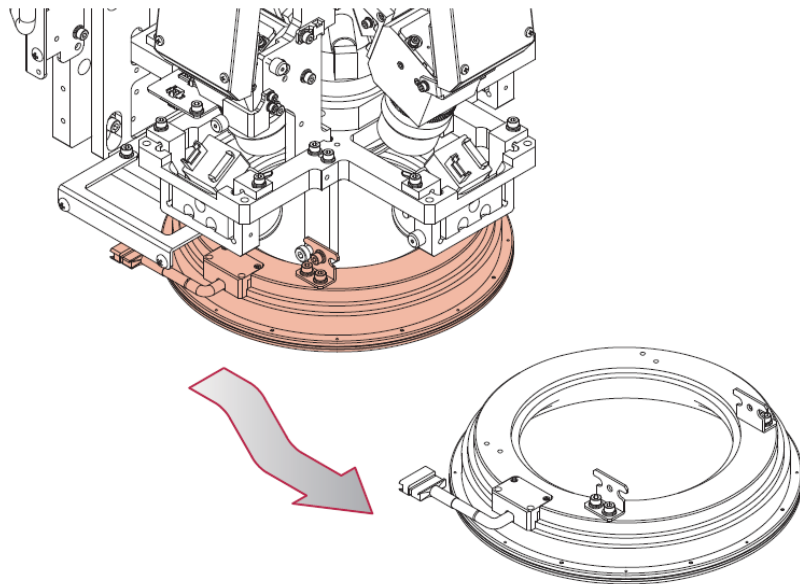


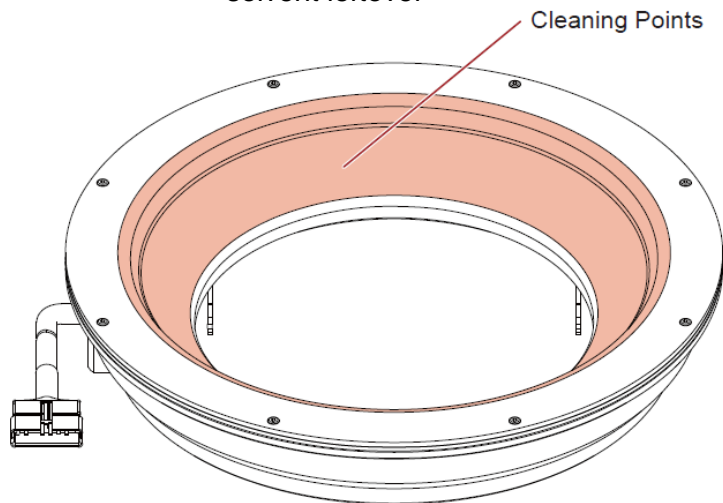
Figure 1-13 Detaching the LED Lighting Unit 2

# Cleaning the Diffusers

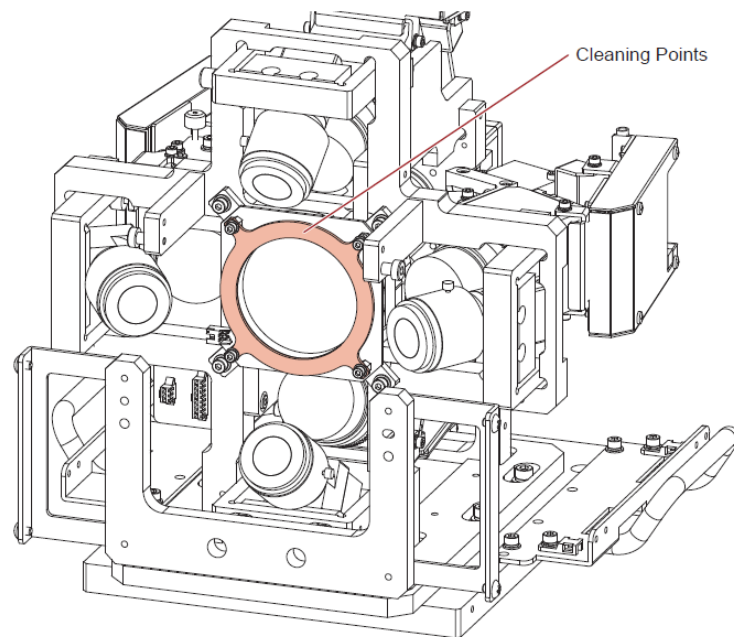
Step6: Soak a lint-free wiper in ethanol or glass cleaner to wipe off the diffuser.

## CAUTION

Wiping with a dry wiper is recommended for reducing solvent leftover



Side-Low LED Lighting Unit



Optical Unit

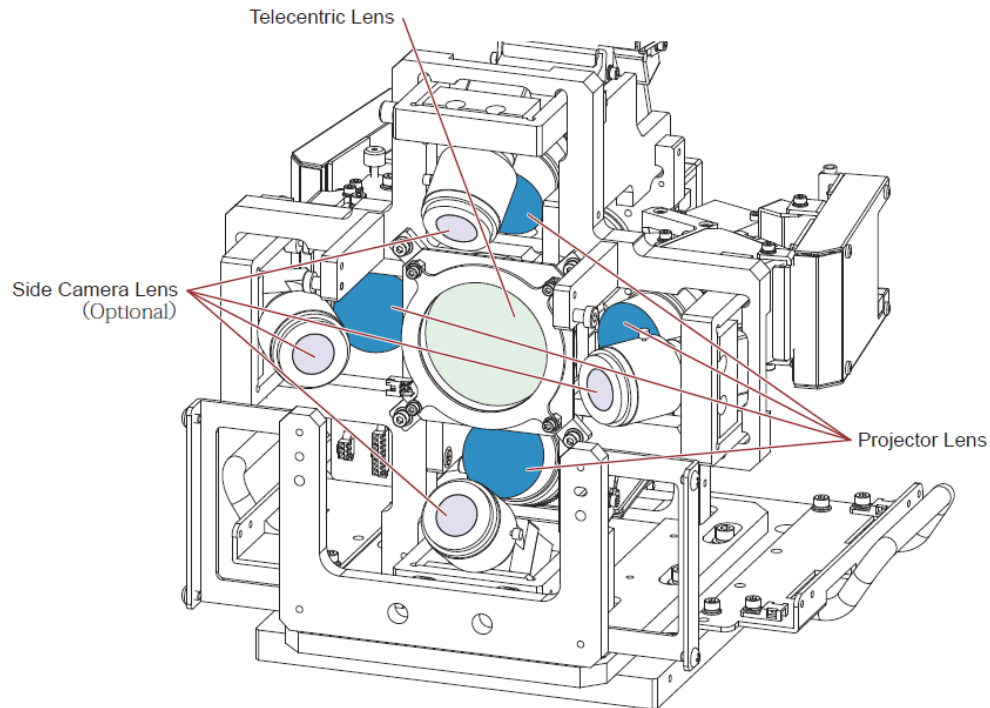
Figure 1-14 Cleaning the Diffusers

Step7: After cleaning is completed, reassemble the parts in the opposite procedure.



# Cleaning Telecentric, projectors and side camera lens

Soak a cotton swab in ethanol or glass cleaner to wipe the lenses. Regarding the cleaning optical system, if the cleaning procedure is not operated in an appropriate way, it could cause troubles such as image misalignment. If a regular maintenance is required, please contact Saki Corporation. Wiping with a dry wiper is recommended for reducing solvent leftover.



# Greasing -up schedule

Periodically replenish the grease with a frequency below.

Frequency	Item	Settings
Every 3 months	Linear guide (XY stage) Ball screw (XY stage)	Apply fresh grease with a grease gun from the grease nipples. Wipe off any excess grease with a dry and soft cloth or paper.
Every 6 months	Linear Guide (Conveyor) Ball screw (Conveyor)	With a dry soft cloth or paper, wipe off any old grease or stains. Apply fresh grease. Wipe off any excess grease with a dry and soft cloth or paper.

Table 1-3 Greasing-up

**CAUTION**

When greasing up, make sure not to allow foreign objects to be mixed in.

**CAUTION**

If the grease contacts with skin, wash it thoroughly with water and soapy water.

If it contacts with eyes, wash it with water for at least fifteen minutes and seek medical assistance.

If inhaled, move to fresh air and keep at rest in a position comfortable for breathing.

**NOTE**

Above are standard maintenance intervals. Maintenance intervals may differ depending on the usage environment of the machine.

# Greasing –up the linear guides of the conveyor & ball screws

Step1: With a dry soft cloth or paper, wipe off any old grease or stains.

Step2: Apply fresh grease. Wipe off any excess grease with a dry and soft cloth or paper

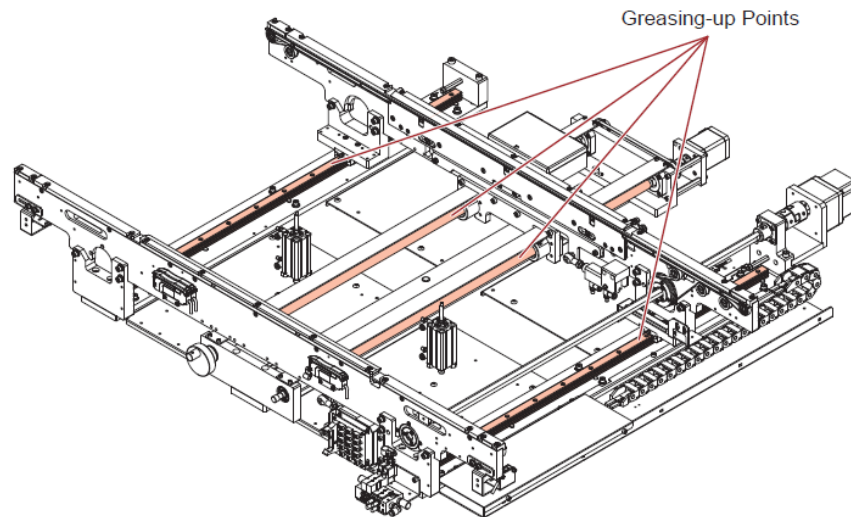


Figure 1-30 Grease-up the Linear Guides of the Conveyor and Ball Screws

Supplier	Type	Flammable Attribution	Exchange Volume (Standard Value)
KYODO YUSHI CO., LTD	MULTEMP LRL No.3	Extremely Low Risk	2 cc per one cleaning point

Table 1-4 Applied Grease

# Greasing –up the linear guides of the XY stage

Make sure to shut off the power and Inject the grease by using a grease gun

Step1: Open the upper front door.

Step2: Move the XY stage with a handle to grease injection easy position.

**CAUTION:** Move the XY stage by not using handle, it may cause damaging the machine or malfunctioning.

Step3: With a dry soft cloth or paper, wipe off any old grease or stains.

Step4: Inject new grease into the grease nipples with a grease gun.

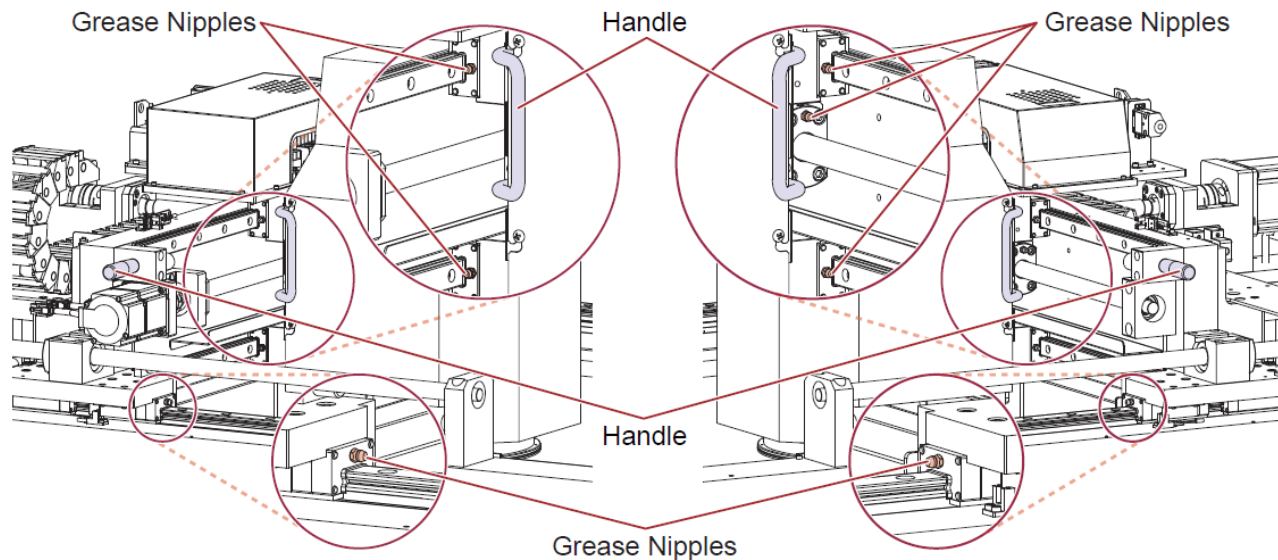


Figure 1-31 Grease-up the Linear Guides of the XY Stage (Front Side)

# Greasing –up the linear guides of the XY stage

Step5: Apply fresh grease. Wipe off any excess grease with a dry and soft cloth or paper.

Step6: Close the upper front door

Step7: Run Break in XY stage

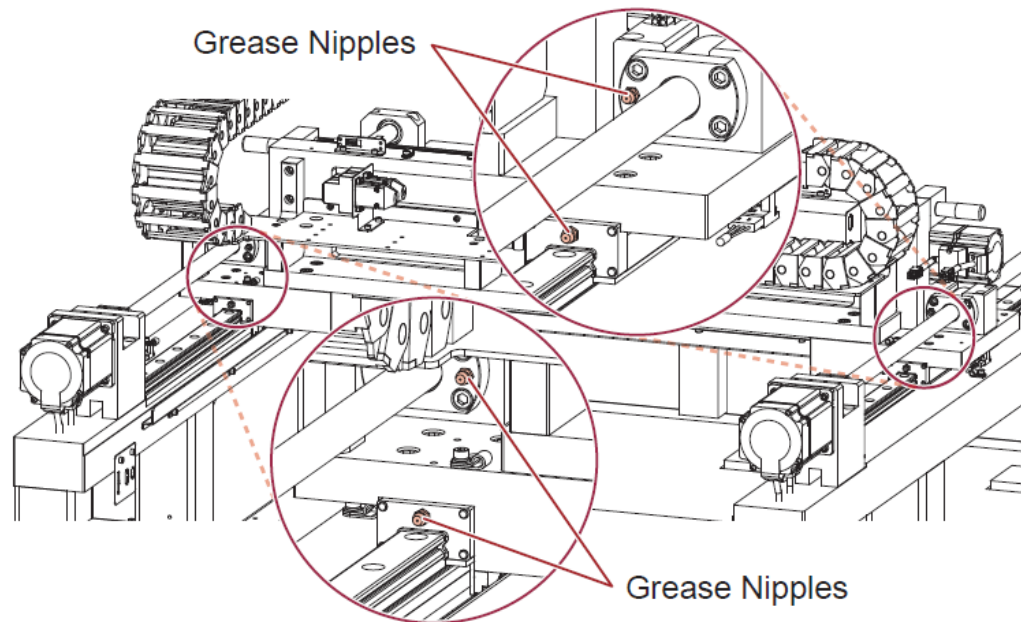
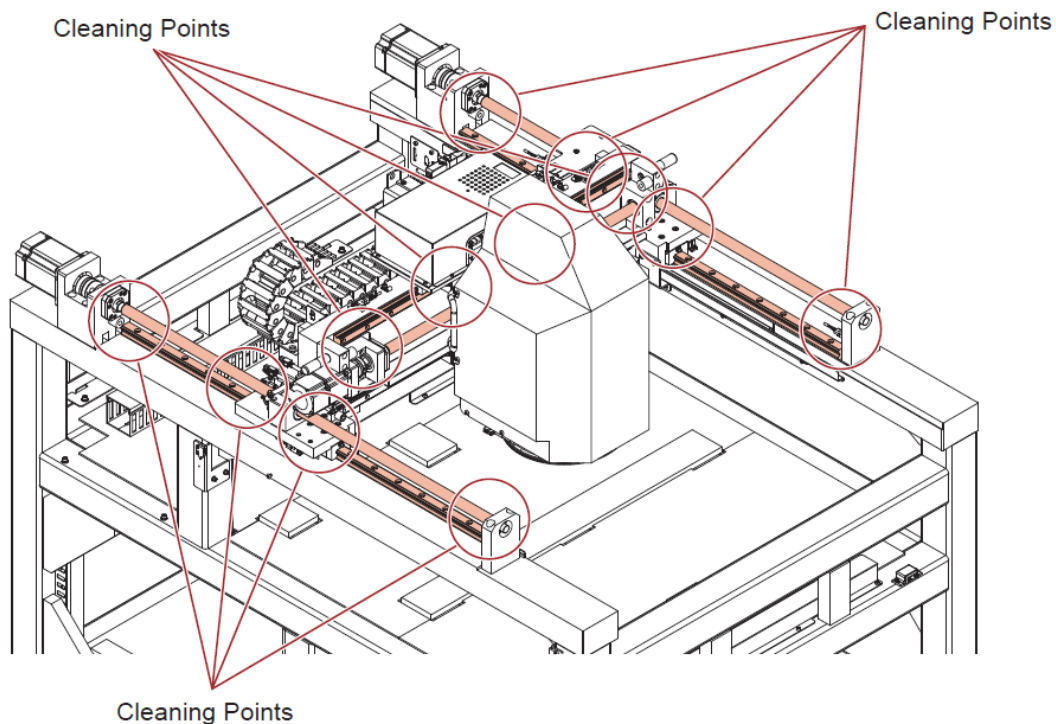


Figure 1-32 Grease-up the Linear Guides of the XY Stage (Rear Side)

# Greasing –up the linear guides of the XY stage

Step8: Open the upper front door. With a dry soft cloth or paper, wipe off the grease stuck to Cleaning Points shown in below.

Step9: Close the upper front door.



# Sensors types (Dog sensors)

Dog sensors do not need adjustments. They have already been adjusted to the appropriate positions at the time of shipment.

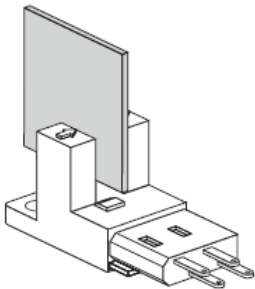
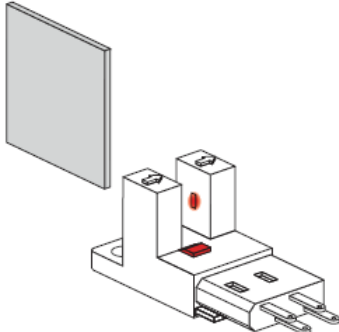
		ON	OFF
Type A	Adjust Origin or Limit Position		

Table 2-4 Dog Sensor Type A

# Sensors types (Inlet/Outlet sensor)

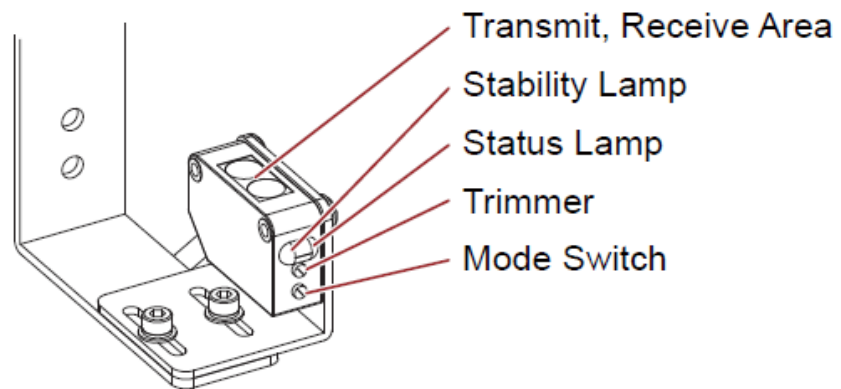


Figure 2-4 PCB Inlet/Outlet Sensor



# Sensors types (Fiberoptics sensor amplifier)

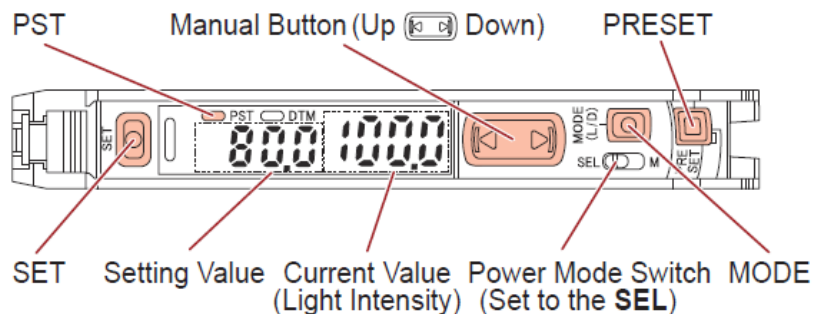


Figure 2-5 Fiberoptic Sensor Amplifier

Function Name	Setting
D/L	D-on
Power Mode	Ultra
Sensitivity Setting Method	Std
Detection Mode	Std
Timer Function	OFF
APC Function	OFF
Eco Function	OFF

Table 2-5 Fiberoptic Sensor Amplifier  
Setting

# Parts replacement period

Used Point	Item	Number of Inspections	Replacement Indication (Year)
Conveyor-related	Conveyor Belt [SJMC6B055] BF-3Di-L1	3 million times	3
	Conveyor Belt [SJMC6B057] BF-3Di-Z1		
	Cylinder	5 million times	5
	Conveyor pulley		
Lighting-related	Camera Link Cable		5
	USB Cable for Side Camera (Optional)		
	LED Lighting	4 million times	4
	Gray Chart		1
PC-related	Hard Disk Drive		3
	PC Power Supply		5
DC Power Supply	DC12V Power Supply		
	DC24V Power Supply		

## CAUTION:

The time for the replacement depends on conditions and environments for use of the BF series. We recommend to replace the units early within the time for the replacement in order to prevent damages or troubles of the units.

The recommended time for the replacement is for reference only, and it is not a guarantee of parts life-spans.

# Replacement of the gray chart

Replacement period is approx.  
1 year

Note:

Make sure not to touch the  
Gray chart surface when  
replacing.

The gray side of the Gray chart  
should face upward

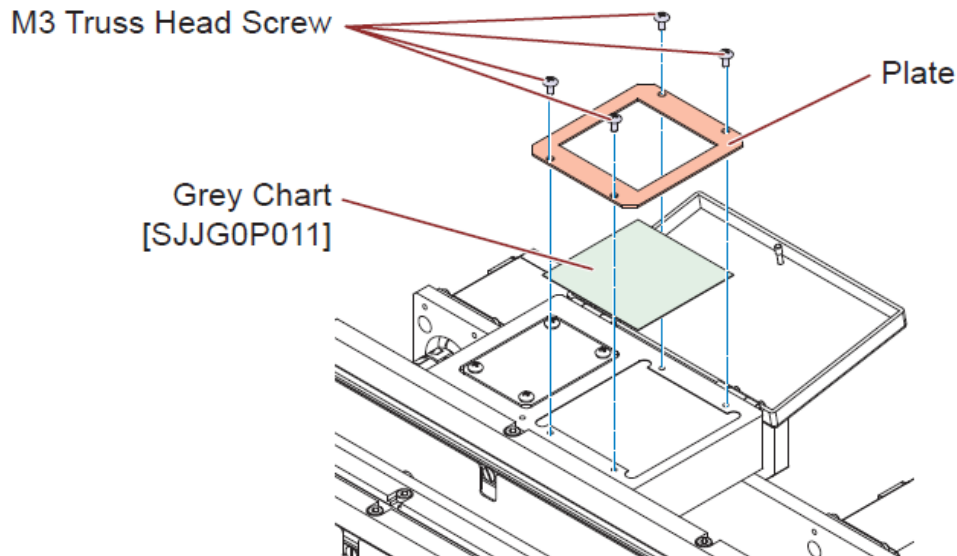


Figure 2-7 Replacement of the Gray chart