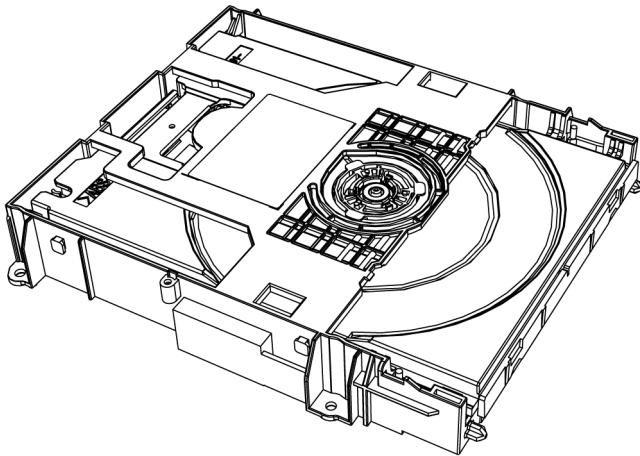


# Service Manual

Mechanism Unit

Model No. BRS14P



## ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

## IMPORTANT SAFETY NOTICE

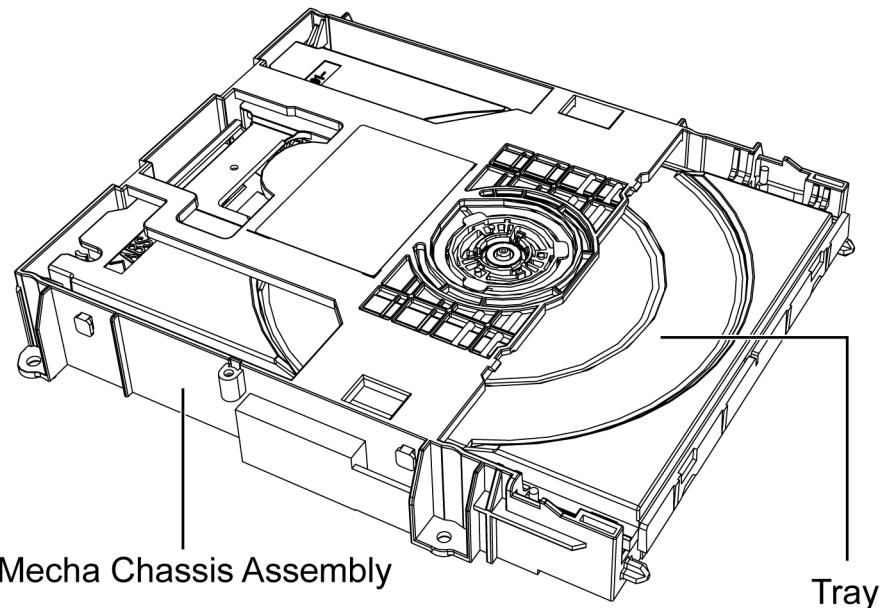
There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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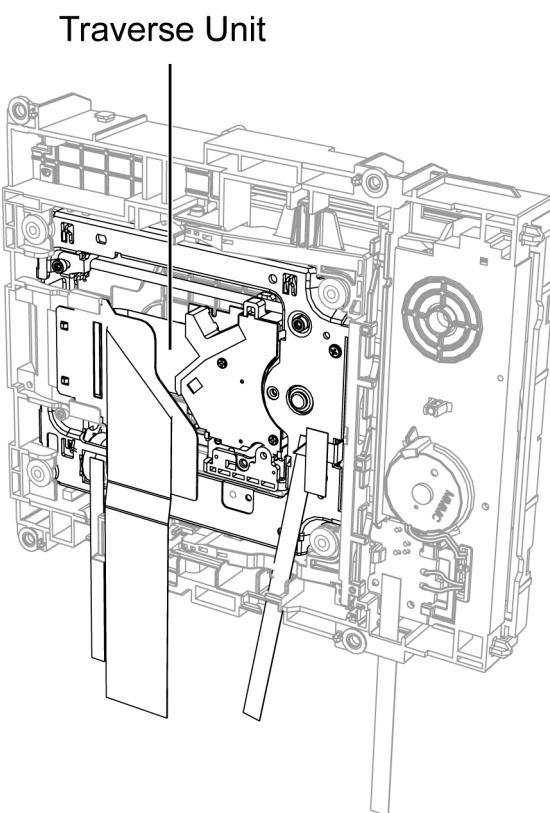
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# 1 Mechanism Overview (BRS14P)

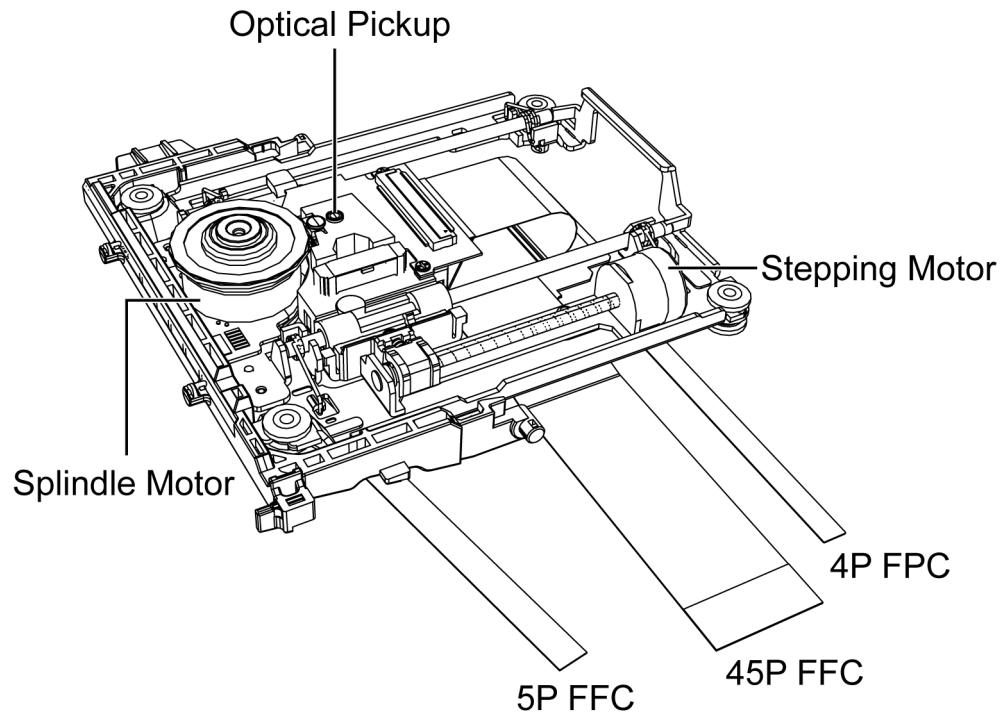
## 1.1. Mecha Chassis Assembly / Tray



## 1.2. Traverse Unit



### 1.2.1. Optical Pickup / Spindle Motor / Stepping Motor



## 2 Warning

### 2.1. Prevention of Electro Static Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equiped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equiped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder remover device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**Caution :**

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

## 2.2. Precaution of Laser Diode

### CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

### Caution:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wavelength: 790 nm (CD) / 660 nm (DVD) / 405 nm (BD)

Maximum output radiation power from pickup: 100  $\mu$ W/VDE

Laser radiation from the pickup unit is safety level, but be sure the followings:

1. Do not disassemble the pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

### ACHTUNG :

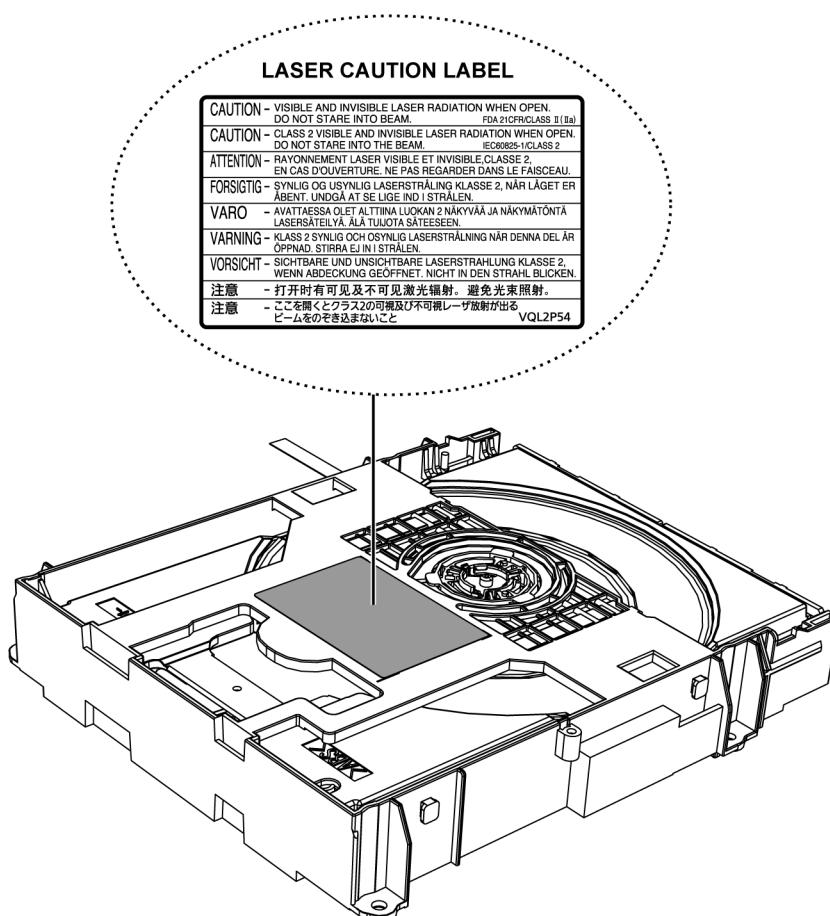
Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheitadgestrahlt.

Wellenlänge : 790 nm (CD) / 660 nm (DVD) / 405 nm (BD)

Maximale Strahlungsleistung der Lasereinheit :100  $\mu$ W/VDE

Die Strahlung an der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstehen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.



(Inside product on Mechanism Unit)

## 2.3. Service caution based on Legal restrictions

### 2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

#### Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder.  
(See right figure)

PbF

#### Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.  
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at  $350\pm30$  degrees C ( $662\pm86$ °F).

#### Recommended Lead Free Solder (Service Parts Route.)

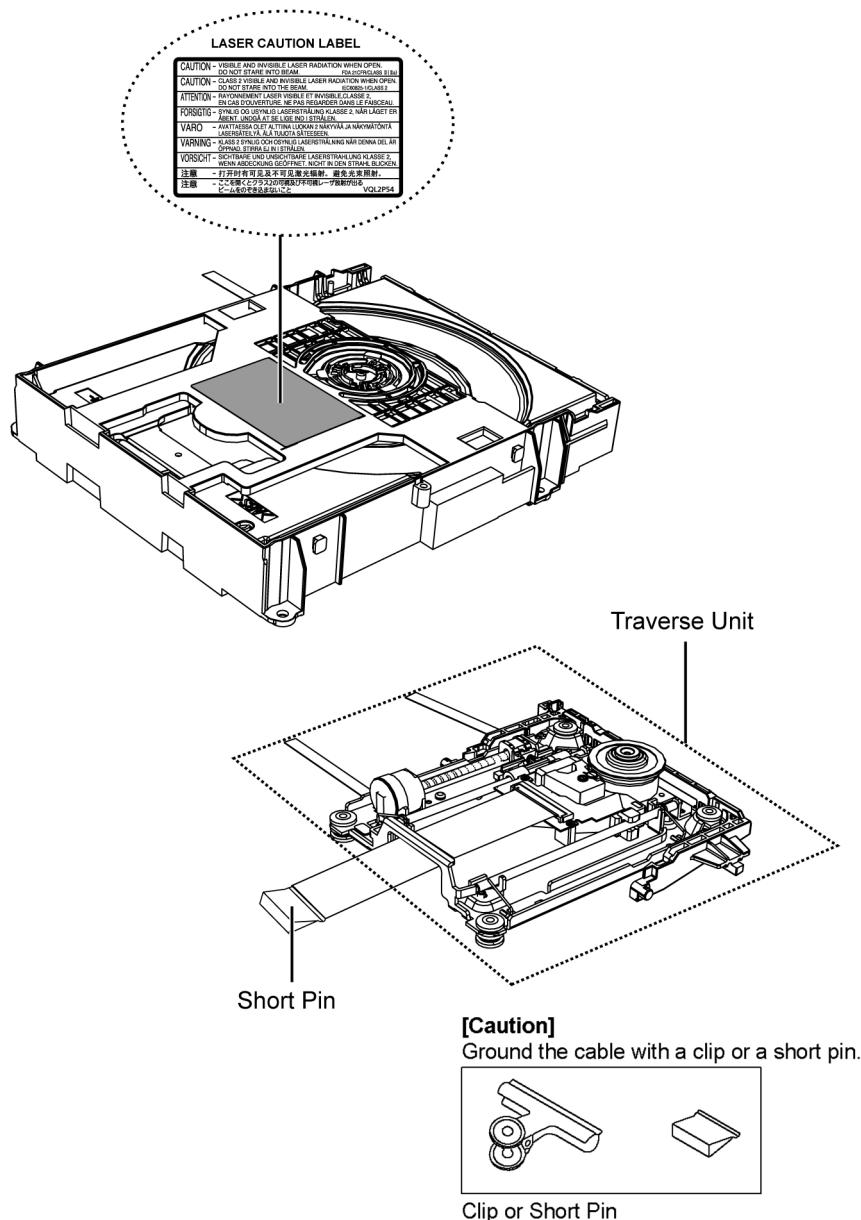
- The following 3 types of lead free solder are available through the service parts route.  
RFKZ03D01K-----(0.3mm 100g Reel)  
RFKZ06D01K-----(0.6mm 100g Reel)  
RFKZ10D01K-----(1.0mm 100g Reel)

#### Note

\* Ingredient: Tin (Sn), 96.5%, Silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

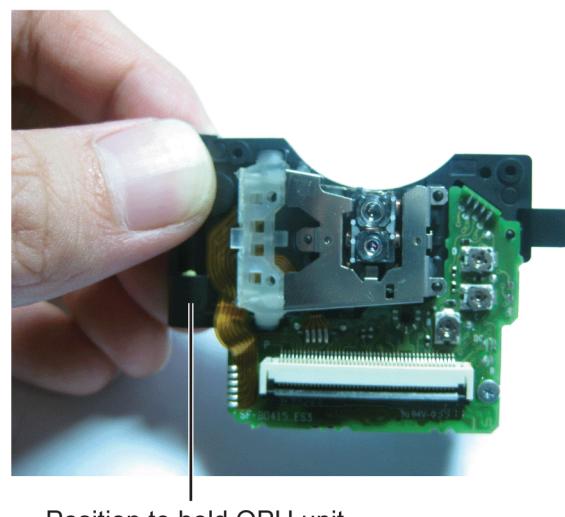
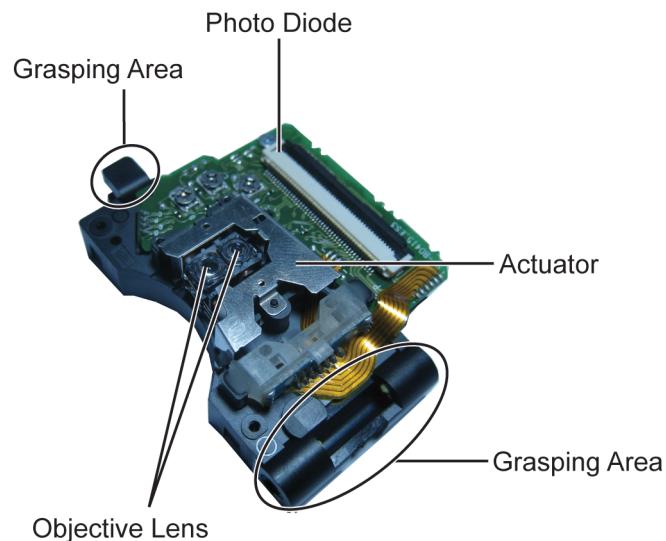
## 2.4. Handling Precaution for Traverse Unit

The laser diode in the optical pickup unit may break down due to static electricity of clothes or human body. Special care must be taken avoid caution to electrostatic breakdown when servicing and handling the laser diode in the traverse unit.



## 2.4.1. Cautions to Be Taken in Handling the Optical Pickup Unit

1. Never look at the laser light beam directly or directly the laser light beam at exposed skin, the laser light beam has the potential to cause serious eye and skin damage.
2. Do not drop or otherwise subject the OPU to physical shocks.
3. Never touch the objective lens, actuator, photo diode, laser diode when handling the OPU.
4. Do not leave unpack OPU in hot, high humid or dusty place.
5. Ensure that the work benches, tools, jigs, measuring instruments and soldering irons (including ceramics) on the production line and in the inspection department are ground, and the personnel wear wrist straps.
6. Keep the power source of the OPU protected from internal and external sources of electrical noise.
7. Do not handle OPU carelessly due to actuator and photo diode may deteriorate.
8. When applying the grease to main shaft and sub shaft, ensure no grease contact with the critical area of the OPU.
9. Remove the solder at the short land area (laser diode terminal between LD and GND) promptly.
10. When removing the OPU from the tray, ensure to grasp the OPU at the areas indicated in Diagram A. Never touch the objective lens, actuator, photo diode and laser diodes. Touching them may impair their performance.



Position to hold OPU unit

## 2.4.2. Grounding for electrostatic breakdown prevention

Some devices such as the CD player use the optical pickup (laser diode) and the optical pickup will be damaged by static electricity in the working environment. Proceed servicing works under the working environment where grounding works is completed.

### 2.4.2.1. Worktable grounding

1. Put a conductive material (sheet) or iron sheet on the area where the optical pickup is placed, and ground the sheet.

### 2.4.2.2. Human body grounding

1. Use the anti-static wrist strap to discharge the static electricity from your body (Figure 2).

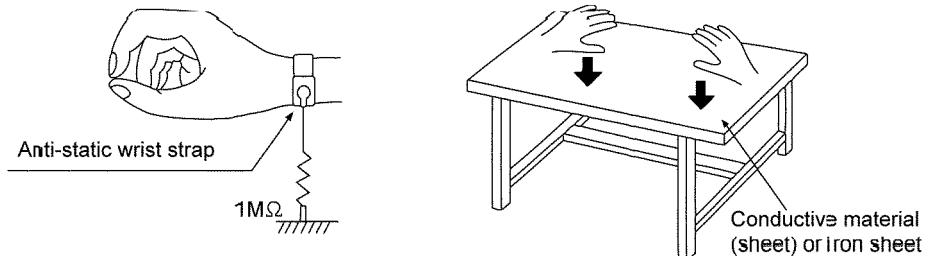
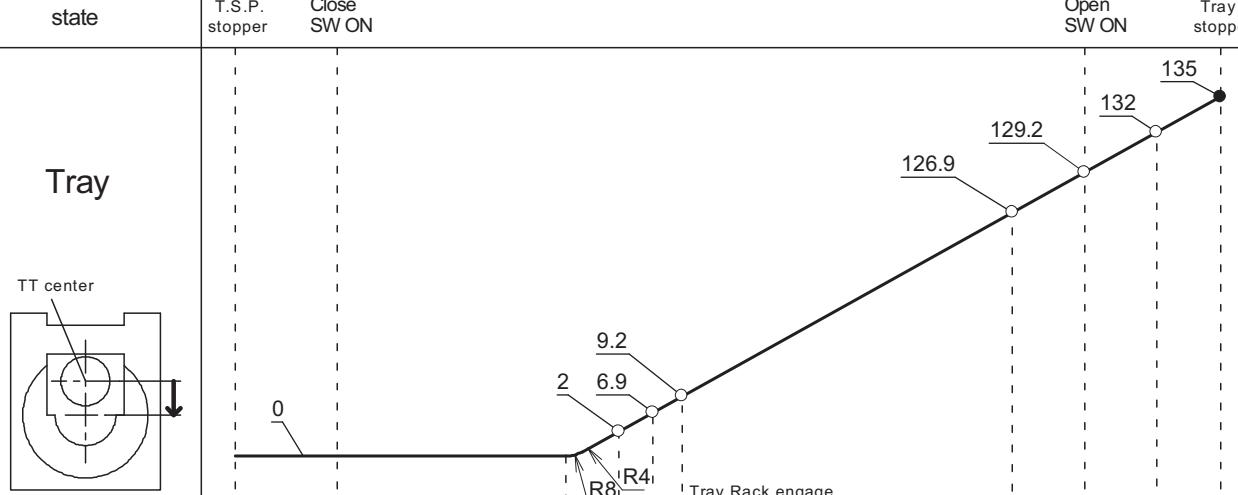
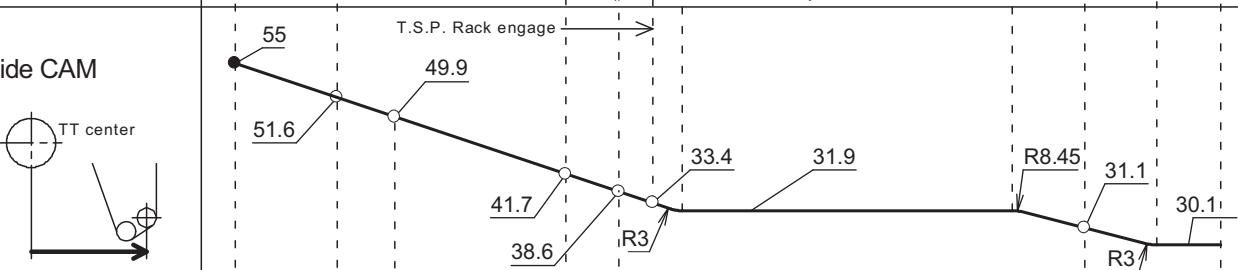
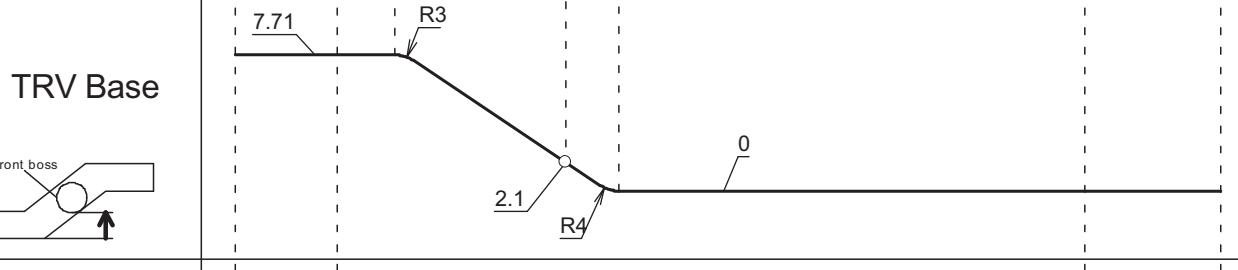
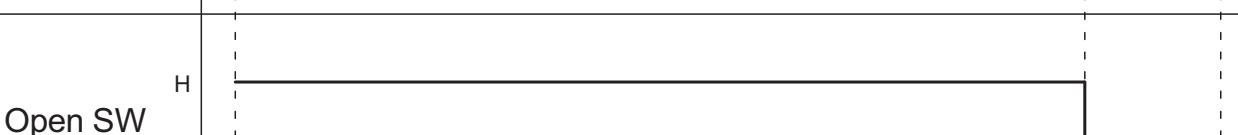
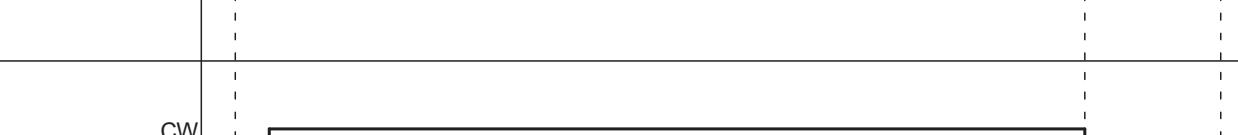
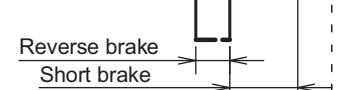


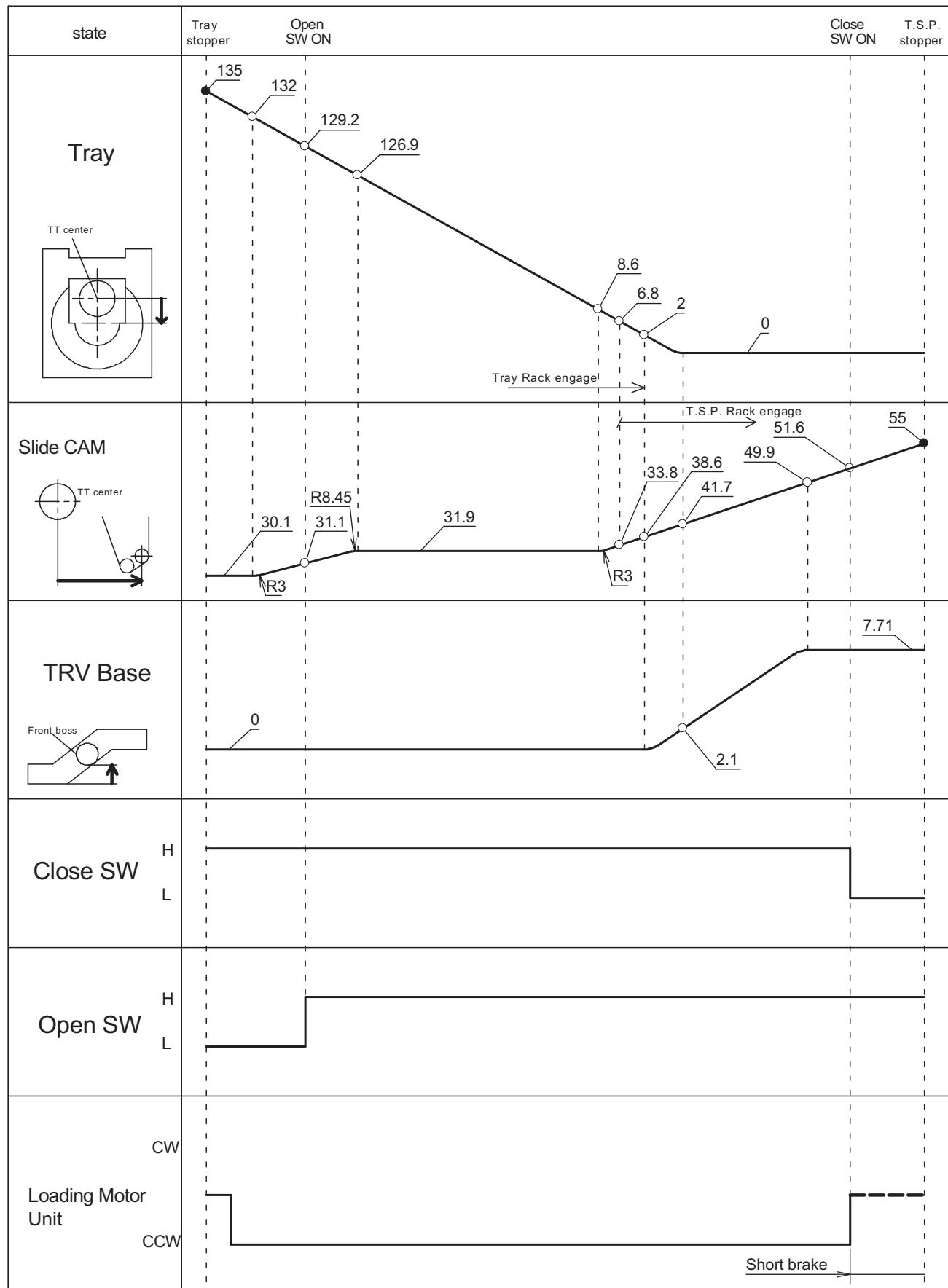
Figure 2

### 3 Mechanism Operation

#### 3.1. Close/Open Operation

state	T.S.P. stopper	Close SW ON	Open SW ON	Tray stopper
Tray		 <p>TT center</p> <p>0</p> <p>2</p> <p>6.9</p> <p>9.2</p> <p>126.9</p> <p>129.2</p> <p>132</p> <p>135</p> <p>R8</p> <p>Tray Rack engage</p>		
Slide CAM		 <p>TT center</p> <p>55</p> <p>51.6</p> <p>49.9</p> <p>41.7</p> <p>38.6</p> <p>33.4</p> <p>31.9</p> <p>31.1</p> <p>30.1</p> <p>R3</p> <p>T.S.P. Rack engage</p>		
TRV Base		 <p>Front boss</p> <p>7.71</p> <p>R3</p> <p>2.1</p> <p>R4</p> <p>0</p>		
Close SW	H	 <p>L</p> <p>H</p>		
Open SW	H		 <p>L</p> <p>H</p>	
Loading Motor Unit	CW	 <p>CCW</p> <p>CW</p>	 <p>Reverse brake</p> <p>Short brake</p>	

### 3.2. Open/Close Operation



### 3.3. Initialization

During the power-up of main unit the state of switches is sensed by the micro-p IC and the traverse motor is adjusted accordingly.  
Note : Refer to Table 1 for the initialization process.

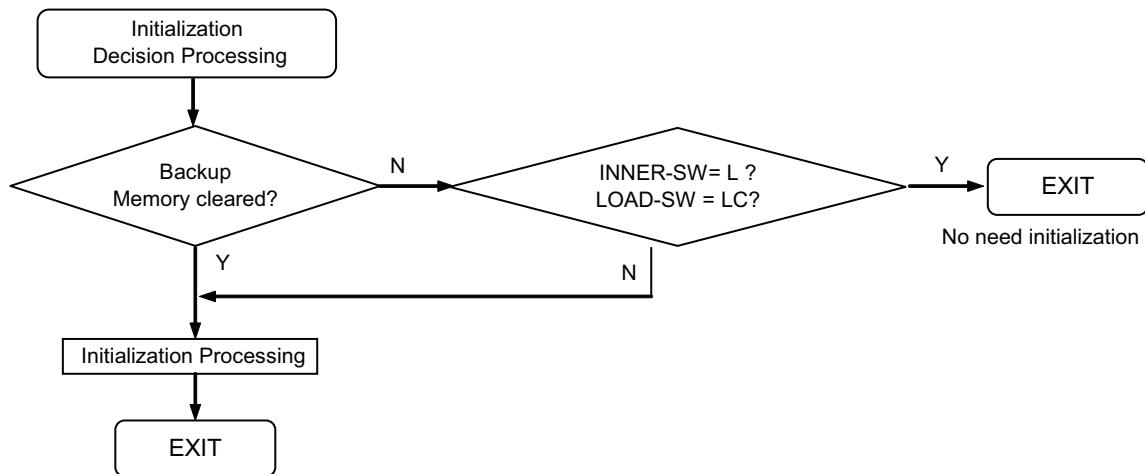
Condition for Initialization Processing:

	LOAD-SW	LD-MOTOR	INNER-SW	TRV-MOTOR
Condition 1	LC	-	H	CCW
	LO	CCW	H	CCW
Condition 2	LC	-	L	CW
	LO	CCW	L	CW

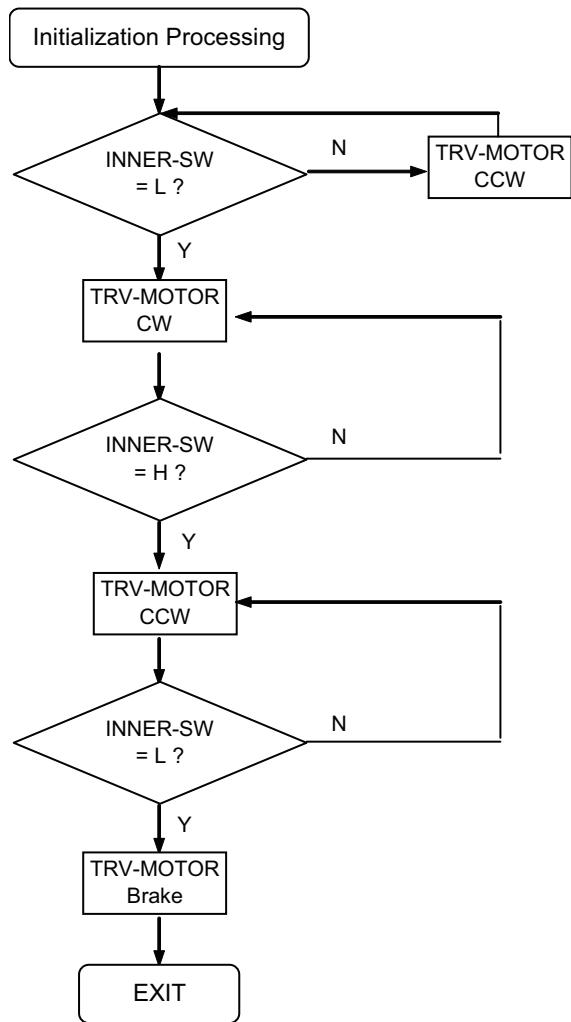
Main Consideration

Table 1

#### 3.3.1. When there is no Initialization



### 3.3.2. When there is Initialization



### 3.4. Fail Safe Mode

\* Fail safe is a function for recovery of tray movement if mechanism cannot carry out tray open or close within a specified time. Below are the fail safe specification at each position. Refer to table 2.

**Fail Safe specification**

state	Close position	move to Open position→	Open position	move to Close position→	Close position
Fail Safe	Locked at Motor CCW condition ( in the case motor can turn CW)			Motor CCW for 5sec (Time out) ↓ Motor CW to Open position	
	Locked at Motor CCW condition ( in the case motor can not turn CW)			Motor CCW for 5sec (TO) ↓ Motor CW for 5sec (TO) ↓ Loop ↓ ERROR stop (at 4th TO)	
	Locked at Motor CW condition ( in the case motor can turn CCW)		Motor CW for 5sec (Time out) ↓ Motor CCW to Close position		
	Locked at Motor CW condition ( in the case motor can not turn CCW)		Motor CW for 5sec (TO) ↓ Motor CCW for 5sec (TO) ↓ Loop ↓ ERROR stop (at 4th TO)		

**Table 2**

## 4 Disassembly and Assembly Instructions

### Caution Note:

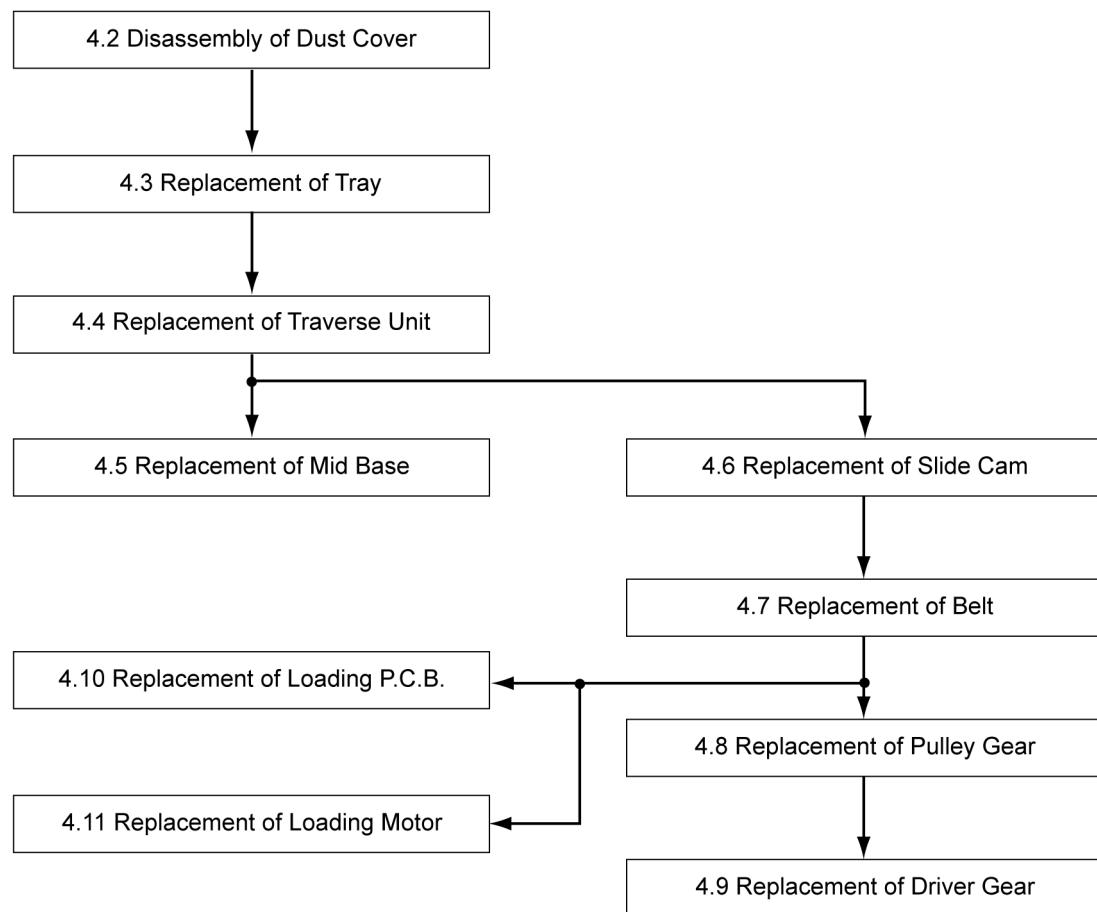
- This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of “Main components and P.C.B Locations” as described in the service manual)
- Before carrying out the disassembly process, please ensure all the safety precautions & procedures are followed.
- During the disassembly and/or assembly process, please handle with care as there may be chassis components with sharp edges.
- During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.
- During replacement of component parts, please refer to the section of “Replacement Parts List” as described in the service manual.
- Select items from the following indexes when disassembly or replacement are required.

- Disassembly of Dust Cover
- Replacement of Tray
- Replacement of Traverse Unit
- Replacement of Mid Base
- Replacement of Slide Cam
- Replacement of Belt
- Replacement of Pulley Gear
- Replacement of Drive Gear
- Replacement of Loading P.C.B.
- Replacement of Loading Motor Unit

## 4.1. Flow Chart

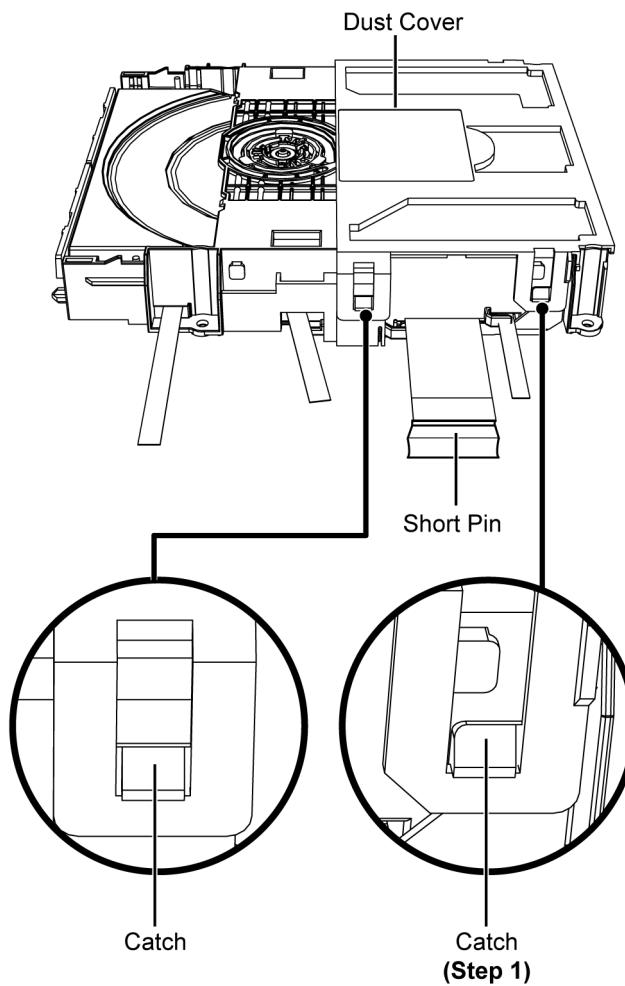
Below describes the disassembly flow for the mechanism.



## 4.2. Disassembly of Dust Cover

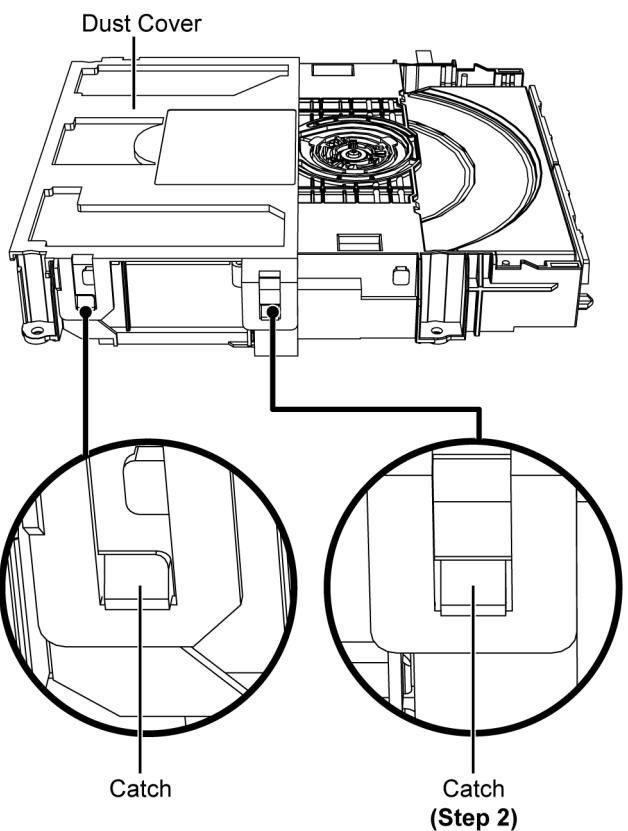
Step 1 : Release 2 catches.

Caution : During assembling, ensure the Top Dust Cover is fully catched.

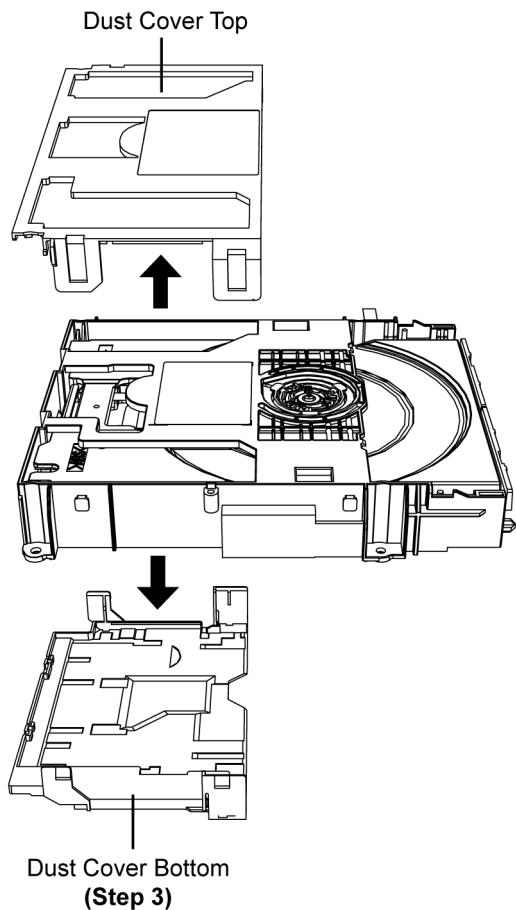


Step 2 : Release 2 catches.

Caution : During assembling, ensure the Top Dust Cover is fully catched.



**Step 3 : Remove Dust Cover Top & Bottom.**

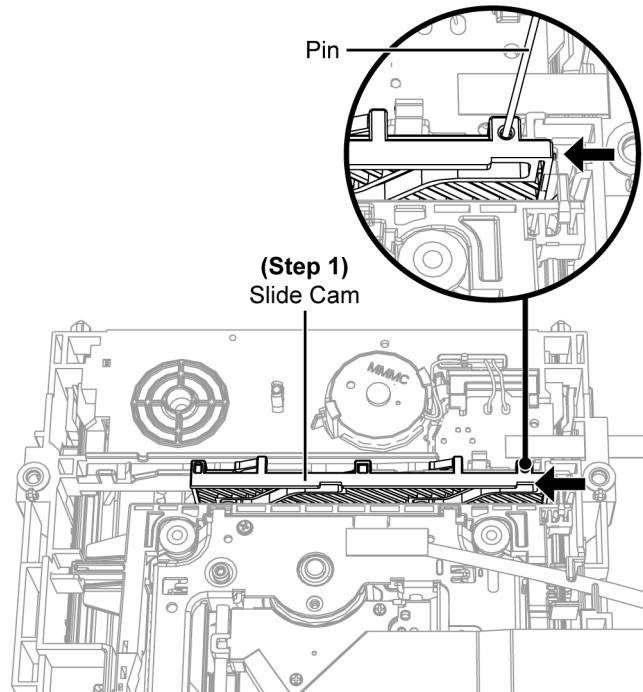


## 4.3. Replacement of Tray

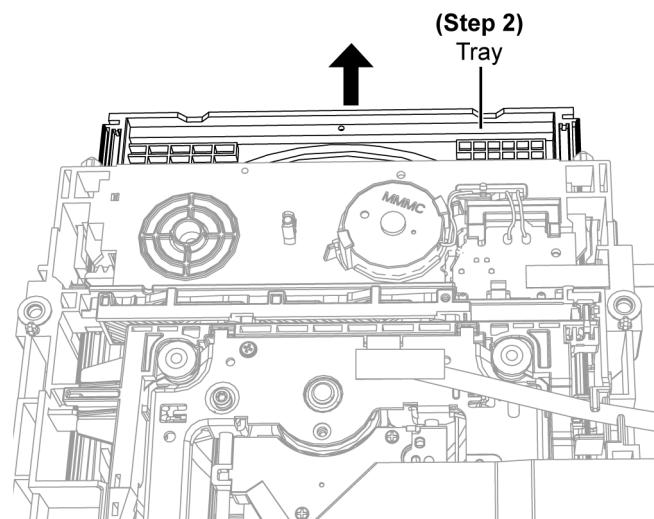
Refer to "Disassembly of Dust Cover".

### 4.3.1. Disassembly of Tray

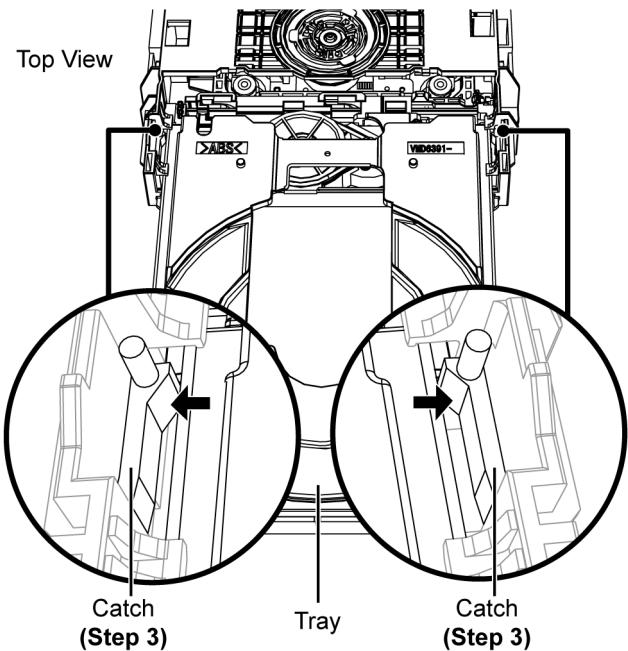
**Step 1 : Use a pin to push the Slide Cam until it come to a stop. The Tray will open automatically.**



**Step 2 : Gently push out the tray until it is open fully.**

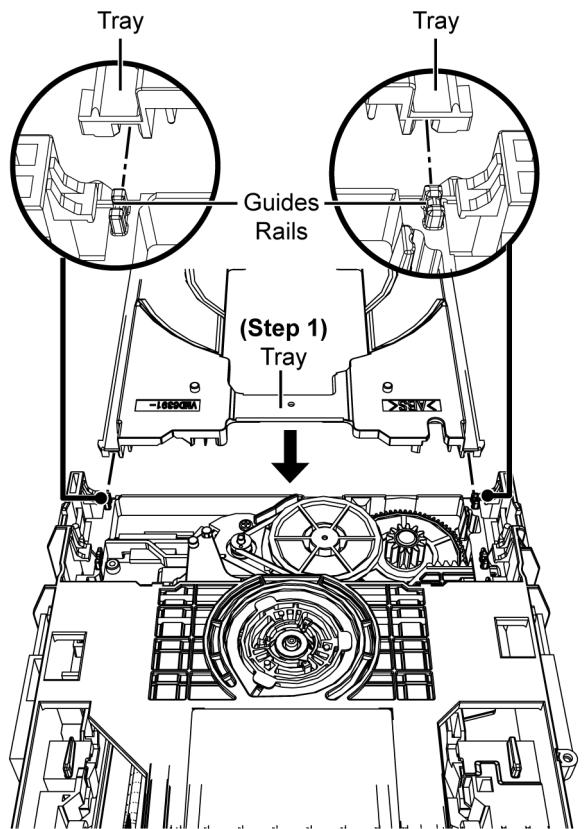


**Step 3 :** Press the catches inwards & remove the tray.

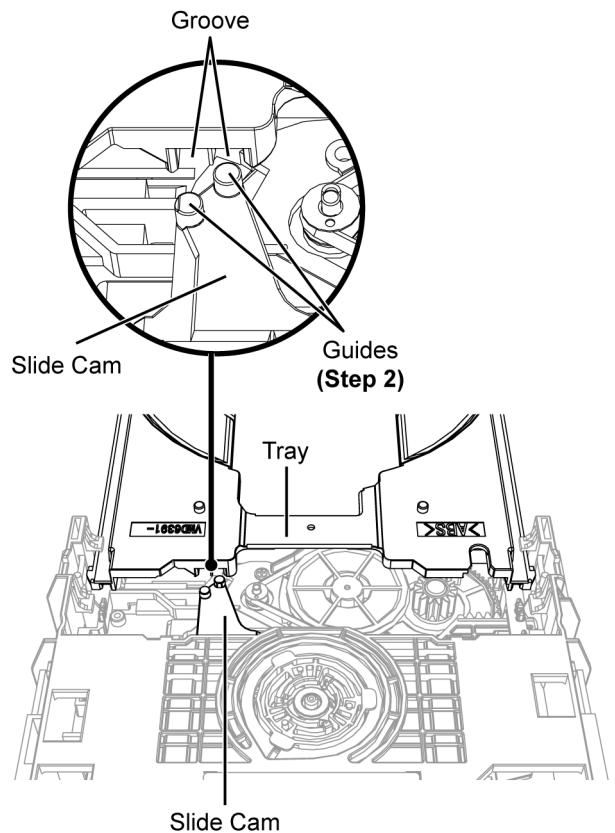


#### 4.3.2. Assembly of Tray

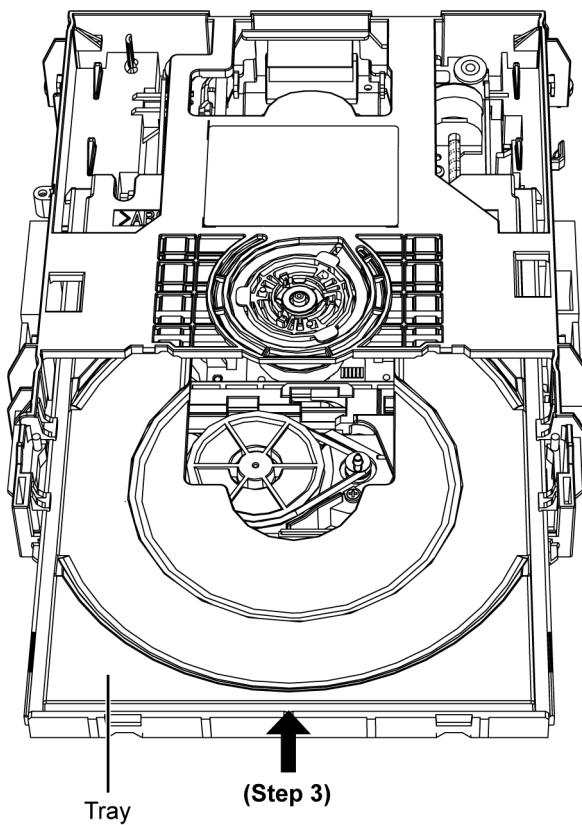
**Step 1 :** Insert the Tray into the guide rails as picture shown.



**Step 2 :** Align the guides of the Slide Cam with the groove of the tray.



**Step 3 :** Gently push in the tray until it is fully closed.  
**Caution :** Do not use strong force during pushing of the tray.  
**Repeat Step 1 to Step 2, when the tray cannot be push forwards or when it is jammed.**



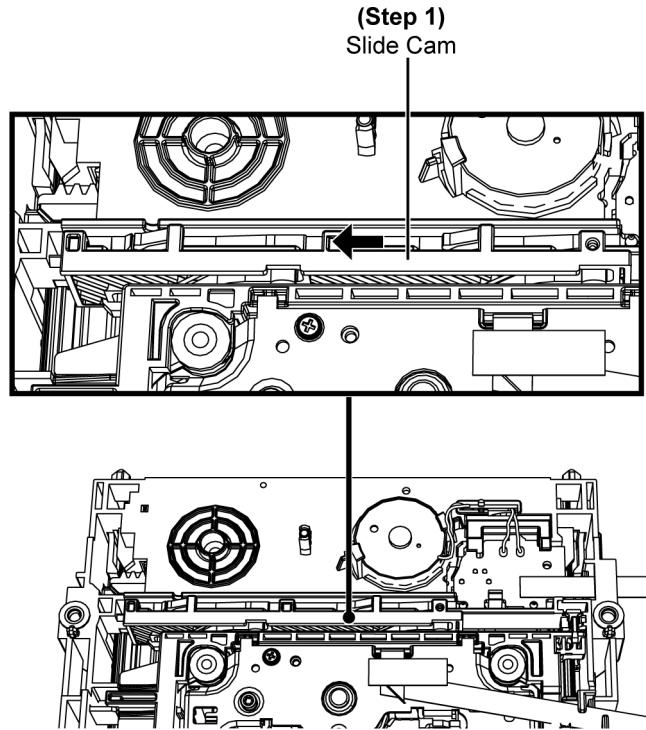
## 4.4. Replacement of Traverse Unit

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

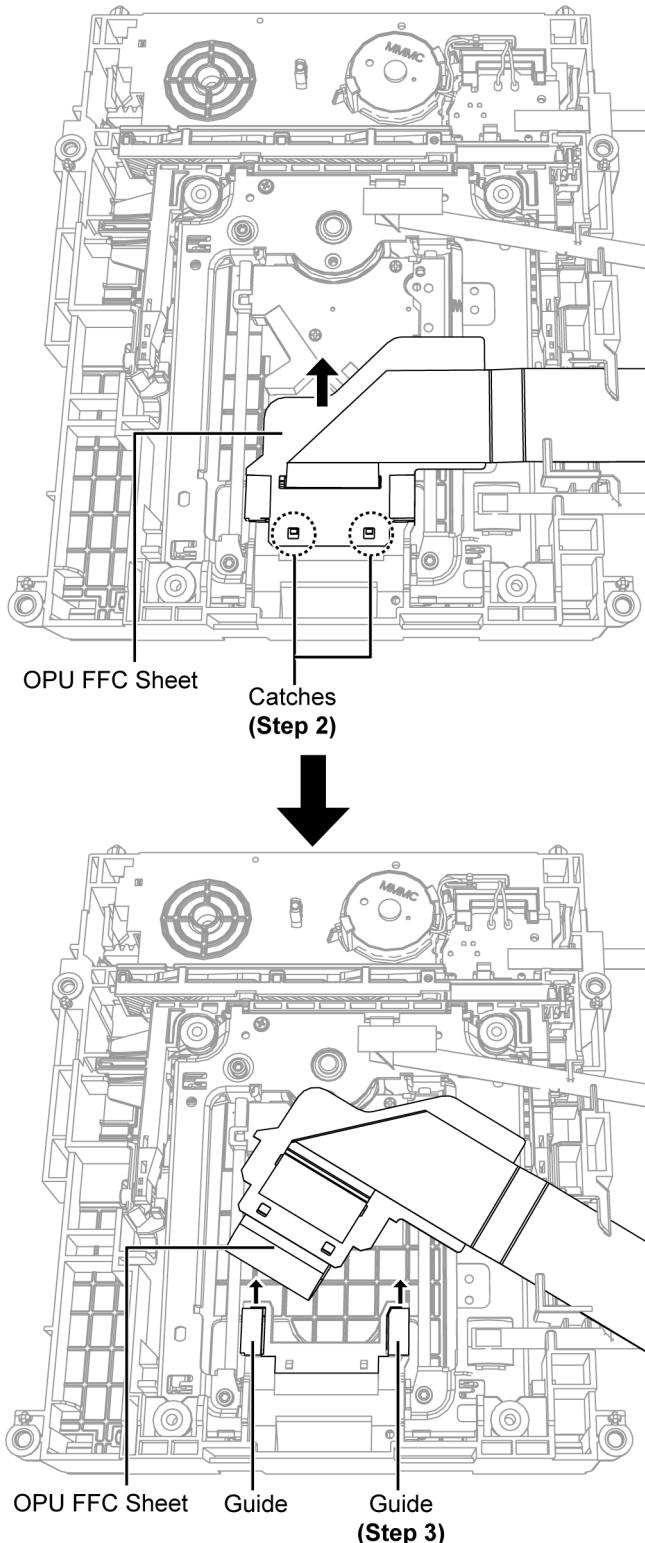
### 4.4.1. Disassembly of Traverse Unit

**Step 1 :** Slide the Slide Cam until it come to a stop.

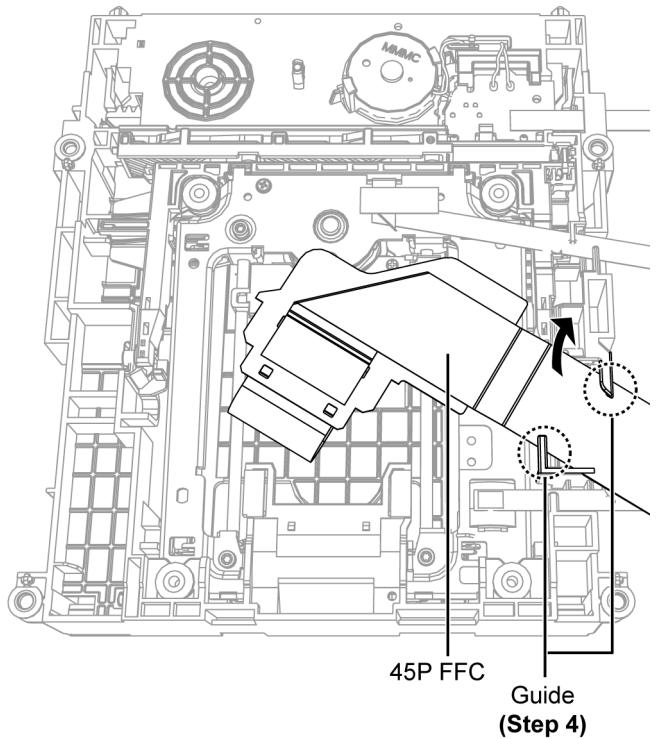


**Step 2 :** Lift up the OPU FFC Sheet from the Catches.

**Step 3 :** Push the OPU FFC Sheet from the guides.



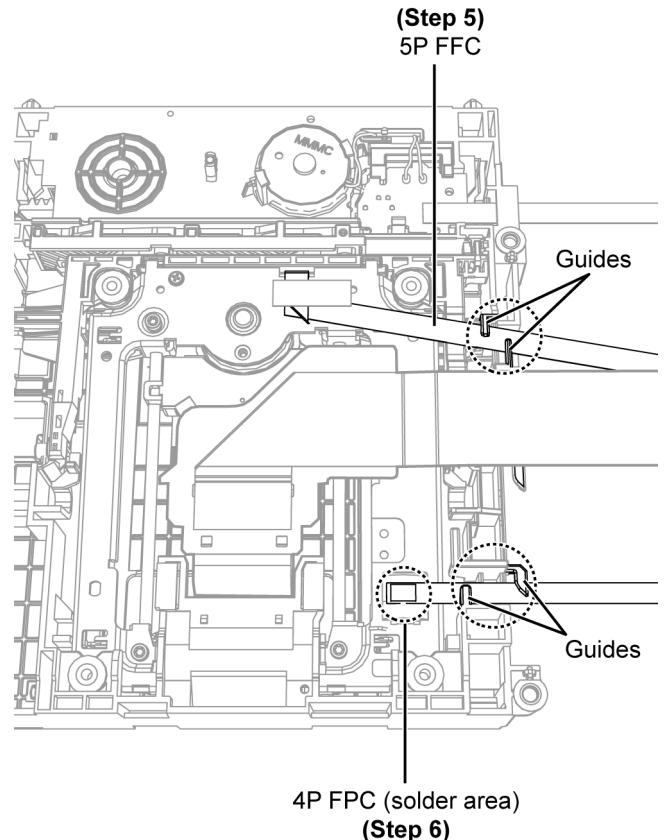
**Step 4 :** Release 45P FFC from the Guide.



**Step 5 :** Release 5P FFC.

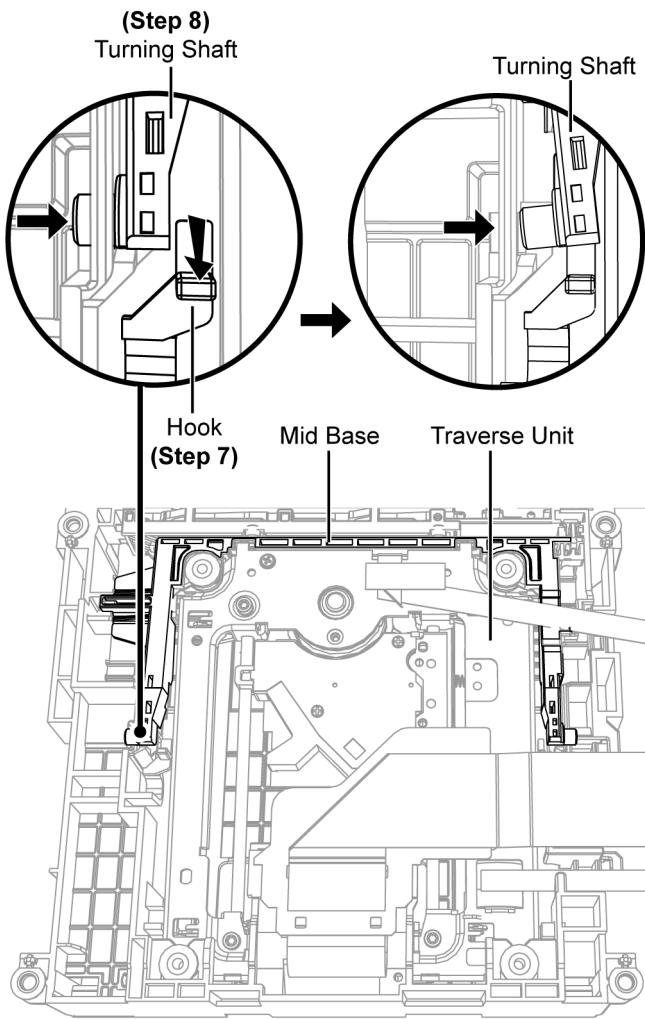
**Caution :** Avoid using strong force, to prevent damage on the FPC.

**Step 6 :** Release 4P FPC.



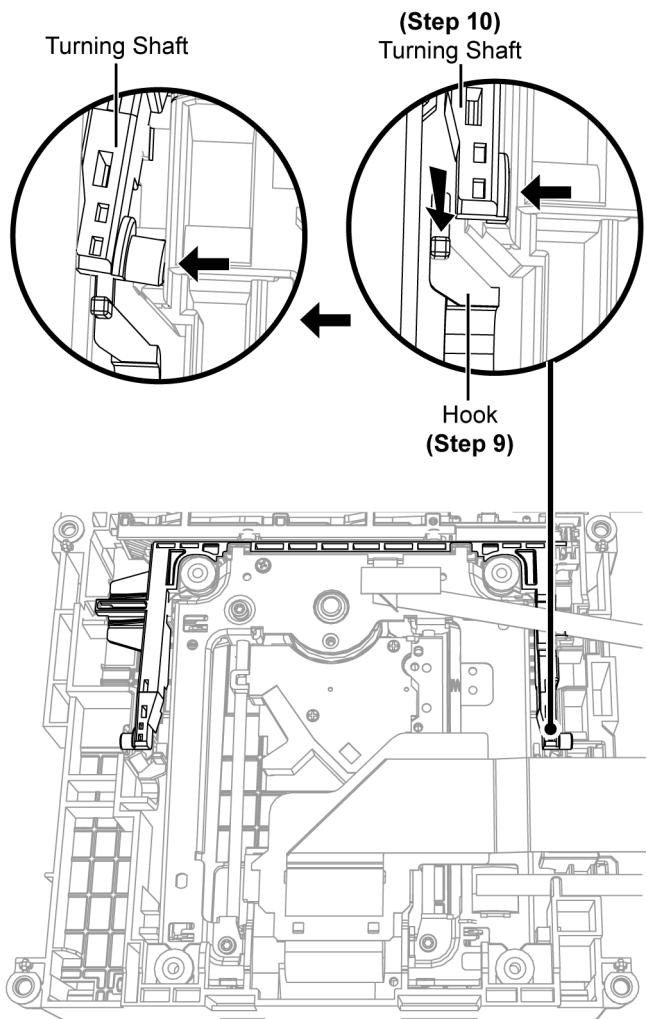
**Step 7 :** Press down the hook downwards.

**Step 8 :** Lift up the Turning Shaft of the Mid Base Unit as shown.

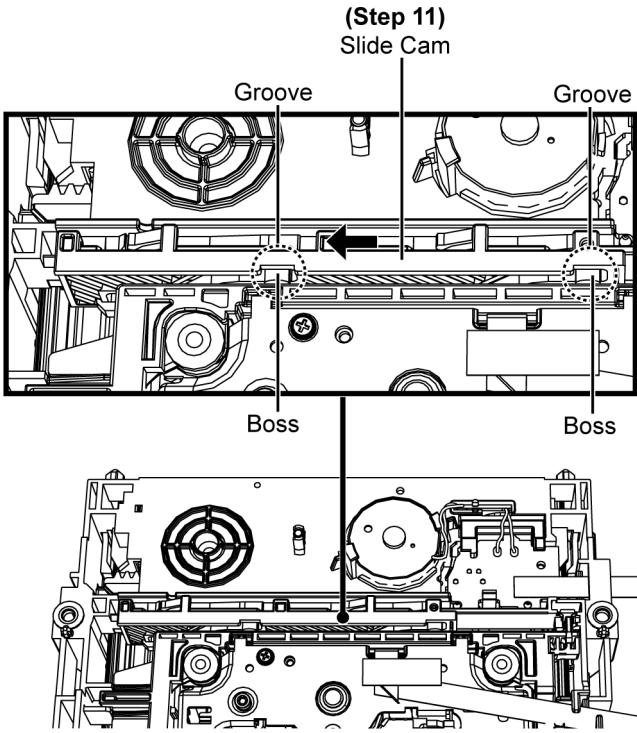


**Step 9 :** Press down the hook downwards.

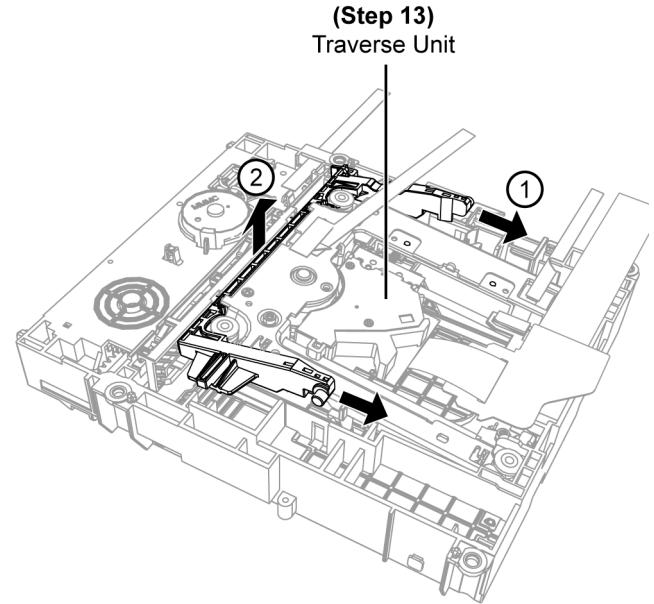
**Step 10 :** Release the Turning Shaft of the Mid Base Unit as shown.



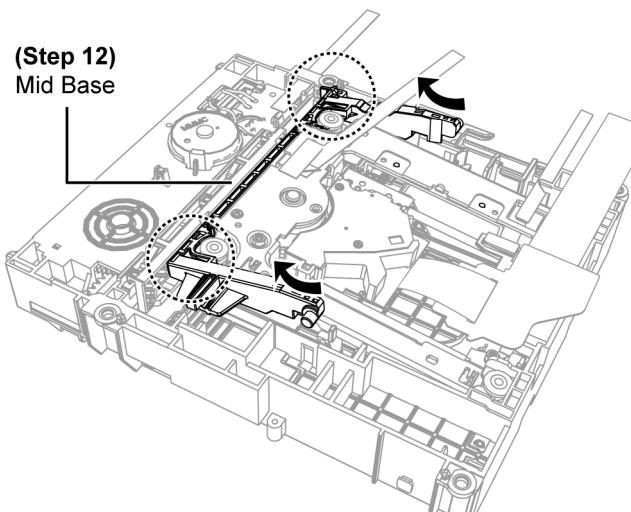
**Step 11 :** Align the bosses of the Mid Base Unit with the grooves of the Slide Cam.



**Step 13 :** Hold the arms of Mid Base, slightly pull backward and lift up the Traverse unit as shown.



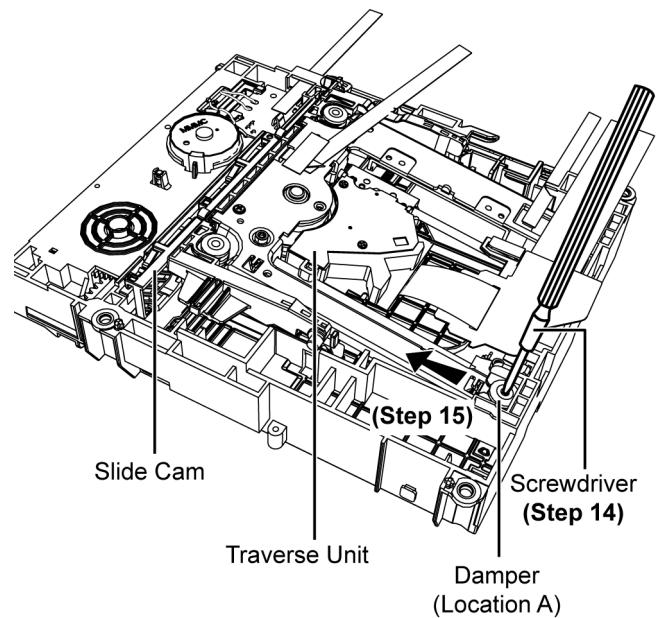
**Step 12 :** Slightly tilt and lift up the arm of Mid Base at location as shown.



**Step 14 :** While holding the Traverse unit, insert the Screwdriver at the Damper (Location A).

**Step 15 :** Push out the Traverse unit as shown.

**Caution :** During disassembling, ensure the Traverse unit do not hit to the Slide Cam.

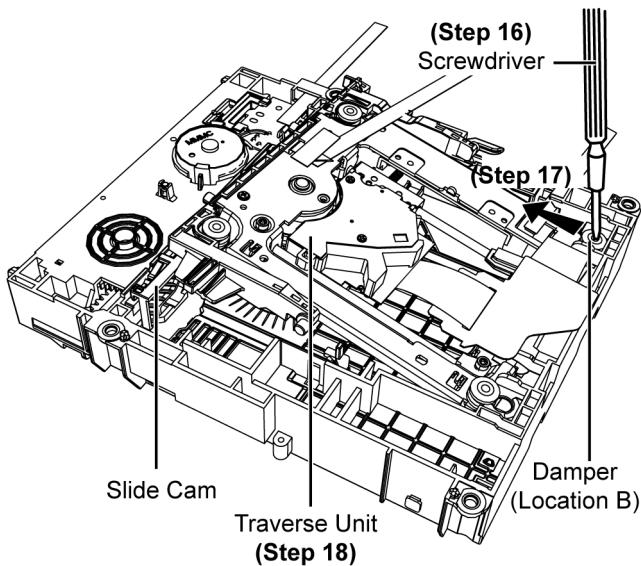


**Step 16 :** Insert the Screwdriver at the Damper (Location B).

**Step 17 :** Push up the Traverse unit as shown.

**Step 18 :** Remove the Traverse unit.

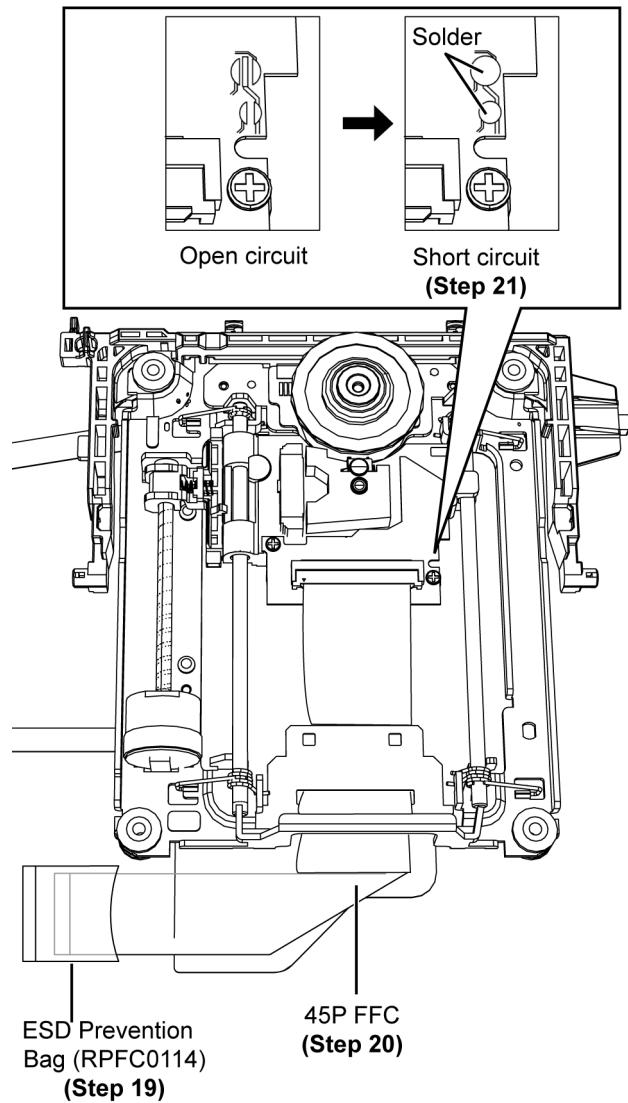
**Caution :** During disassembling, ensure the Traverse unit do not hit to the Slide Cam.



**Step 19 :** Before removing the optical pick-up unit, please apply an ESD Prevention Bag (RPFC0114) to the OPU FFC.

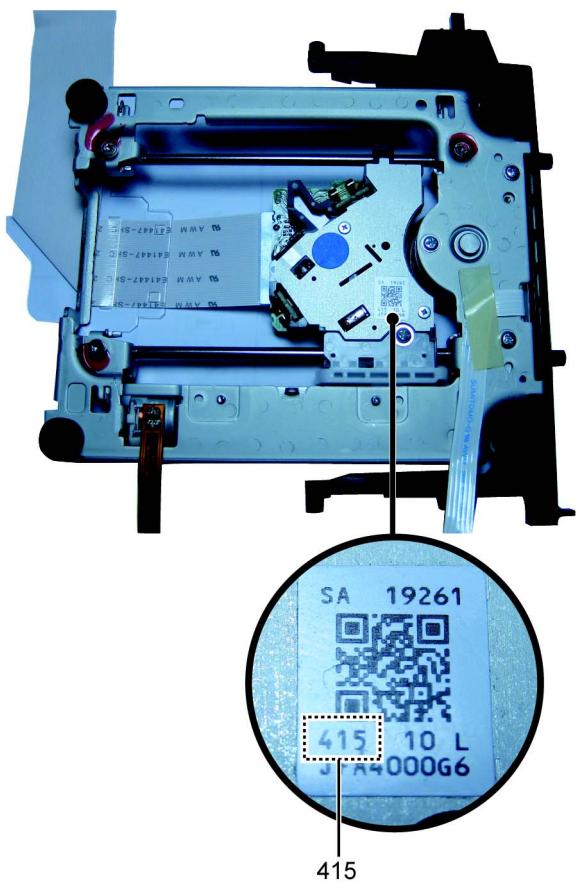
**Step 20 :** Weld the short-circuit solder.

**Step 21 :** Detach 45P FFC.



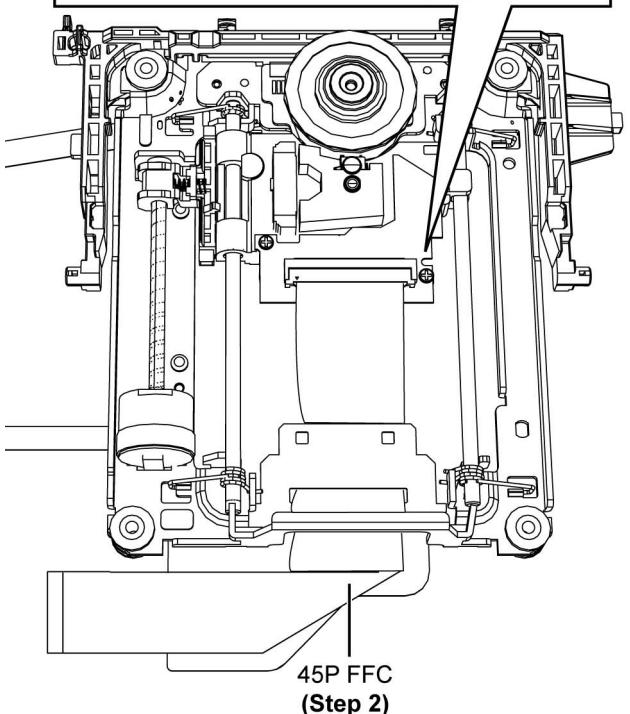
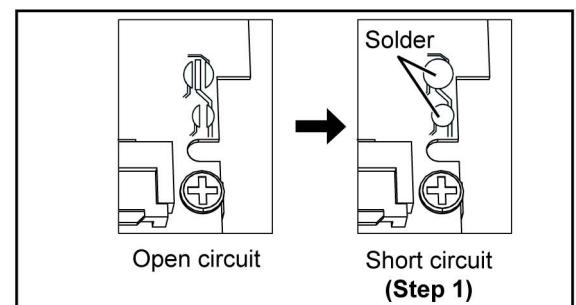
#### 4.4.2. Assembly of Traverse Unit

Note : Before installing, please check the Traverse unit is indicated with the safety mark "415" as shown.



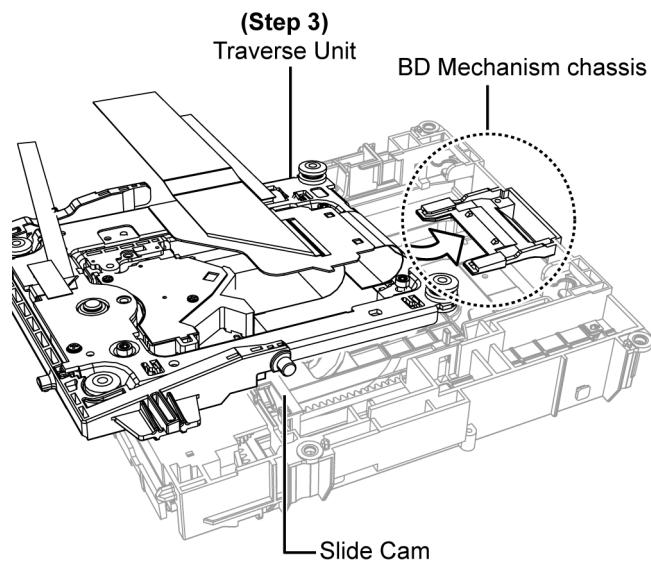
**Step 1 :** Desolder the solder point to open circuit.

**Step 2 :** Connect OPU FFC and remove ESD Prevention Bag (RPFC0114) from the 45P FFC.



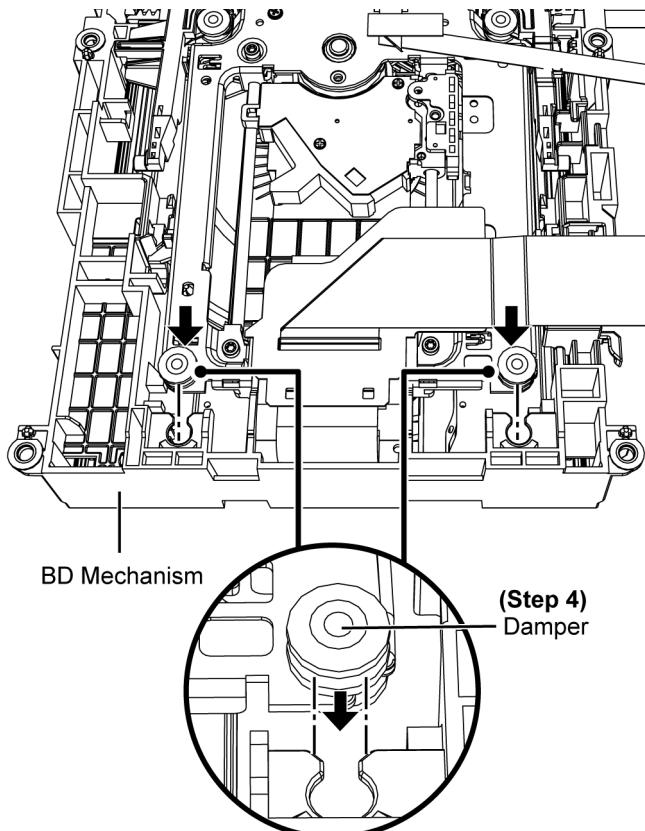
**Step 3 :** Insert the Traverse Unit underneath of the BD Mechanism chassis.

**Caution :** During assembling, ensure the Traverse unit do not hit to the Slide Cam.



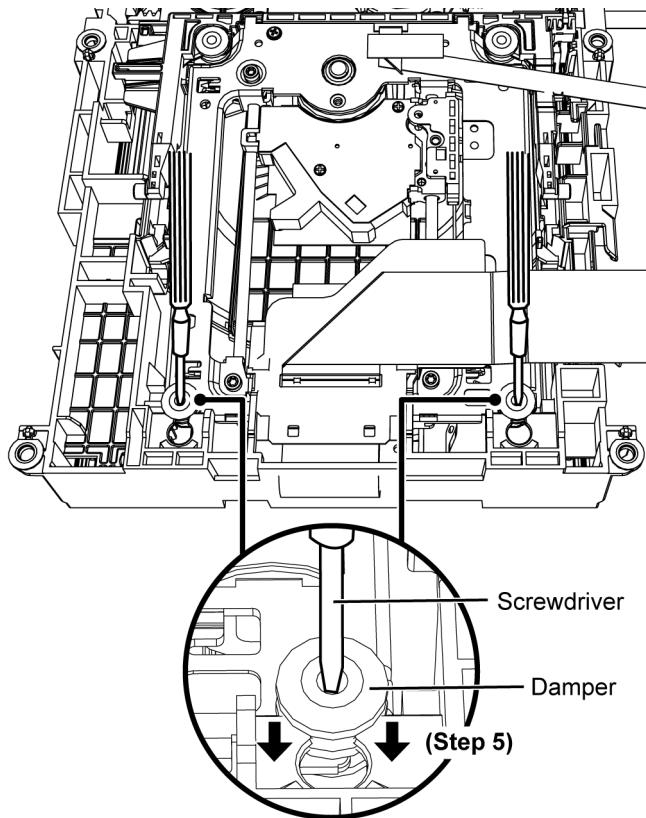
**Step 4 :** Align the Traverse Unit with the BD Mechanism as shown.

**Caution :** During assembling, ensure the Traverse unit do not hit to the Slide Cam.

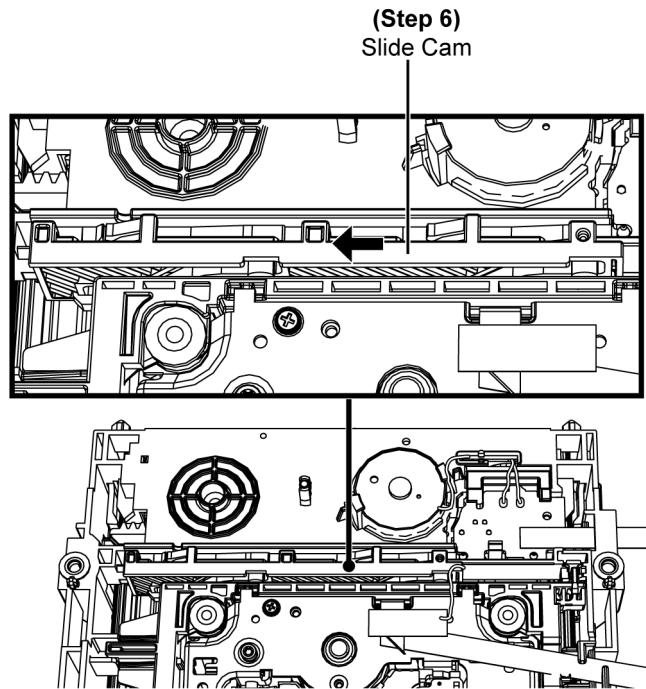


**Step 5 :** Insert the Screwdriver to the Damper and push to fix Damper with Traverse Unit onto the BD Drive as shown.

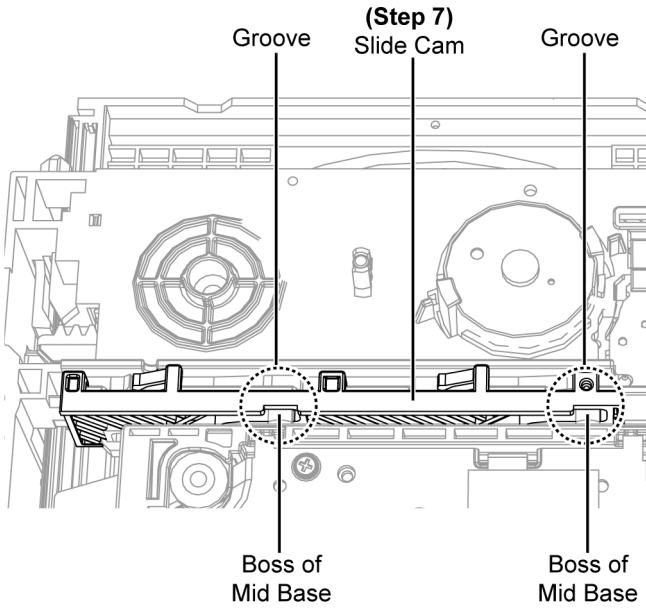
**Caution :** During assembling, ensure the Traverse unit do not hit to the Slide Cam and ensure Traverse Unit is seated properly.



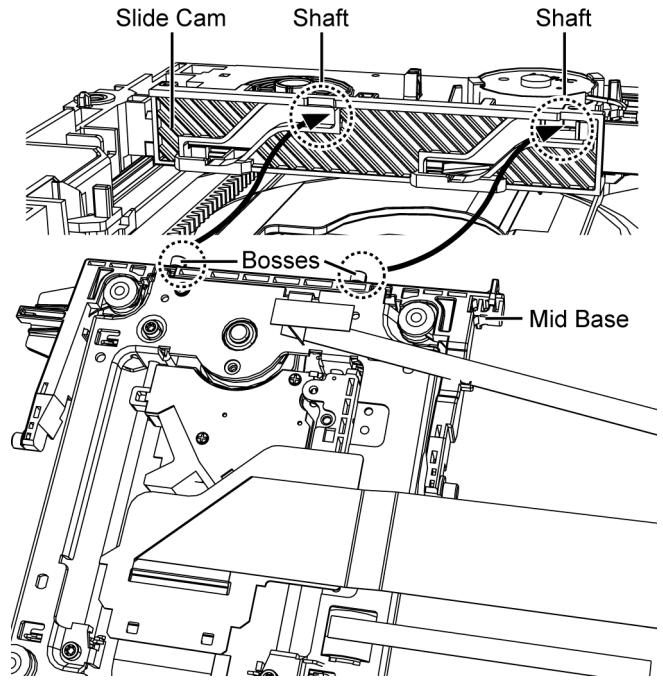
**Step 6 :** Push the Slide Cam sideways.



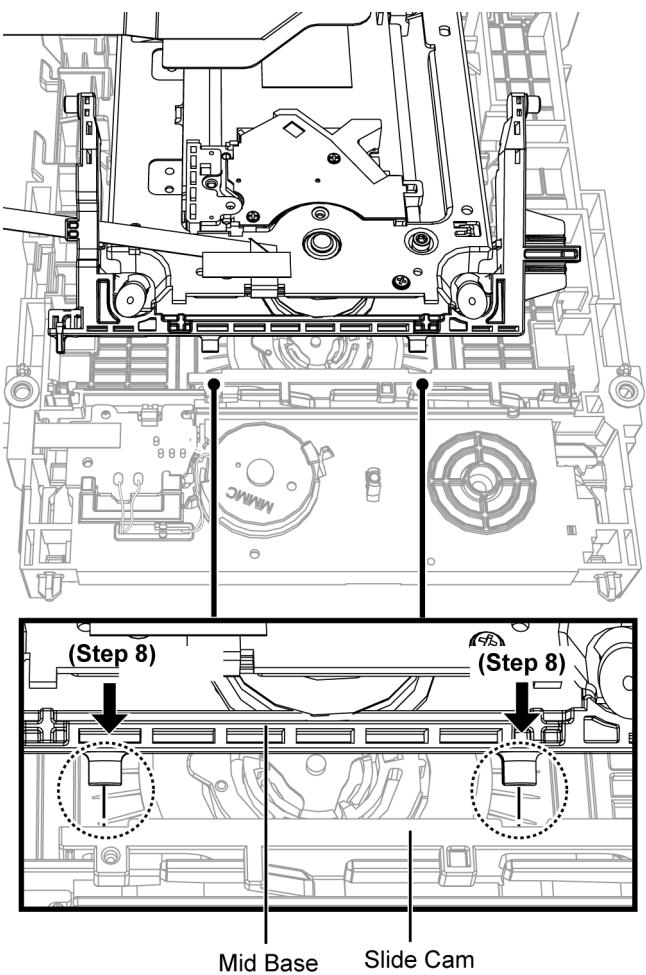
**Step 7 :** Align the grooves of the Slide Cam with the bosses of the Mid Base.



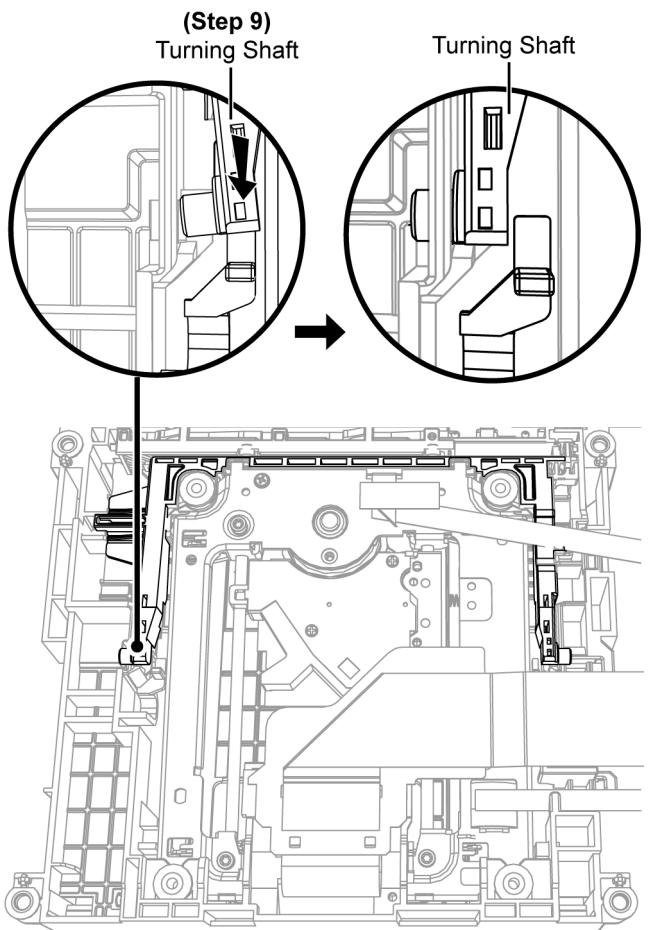
**Caution :** Ensure the Mid Base bosses is seated properly onto the shaft of the Slide Cam.



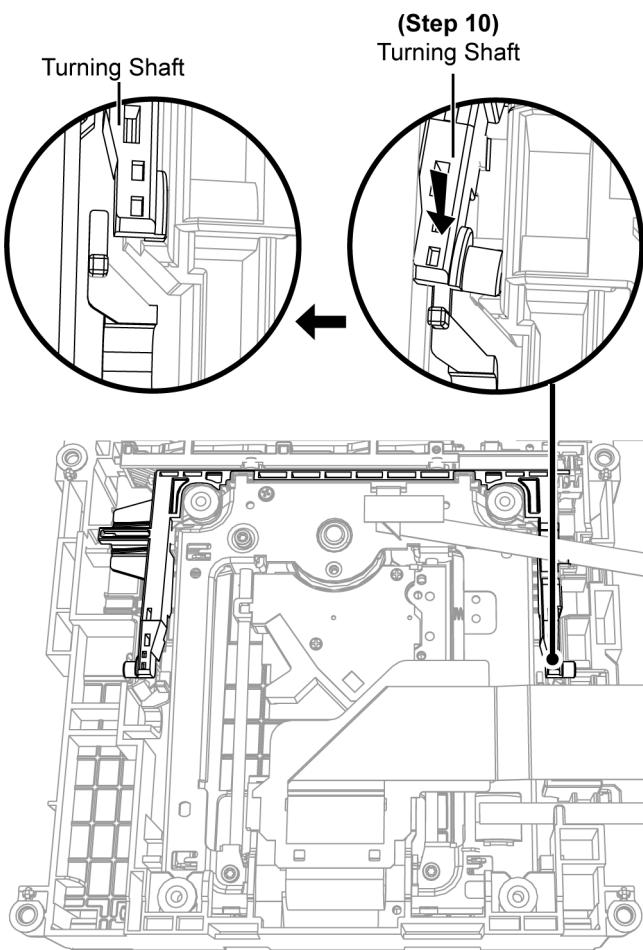
**Step 8 :** Hold the Slide Cam, slightly pull backward the Mid Base and insert it into the grooves of the Slide Cam.



**Step 9 :** Push and press the turning shaft of Mid Base. A "click" sound is heard when it is fully insert.

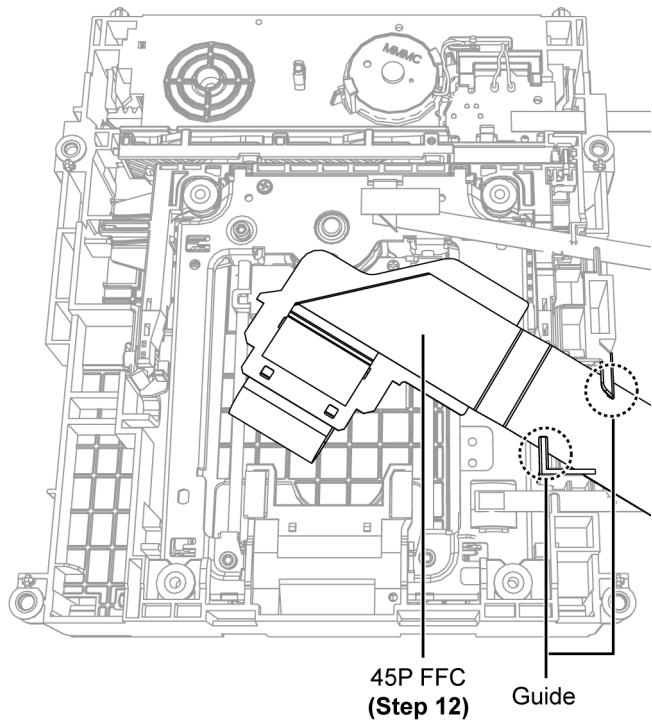


**Step 10 :** Push and press the turning shaft of Mid Base. A "click" sound is heard when it is fully insert.

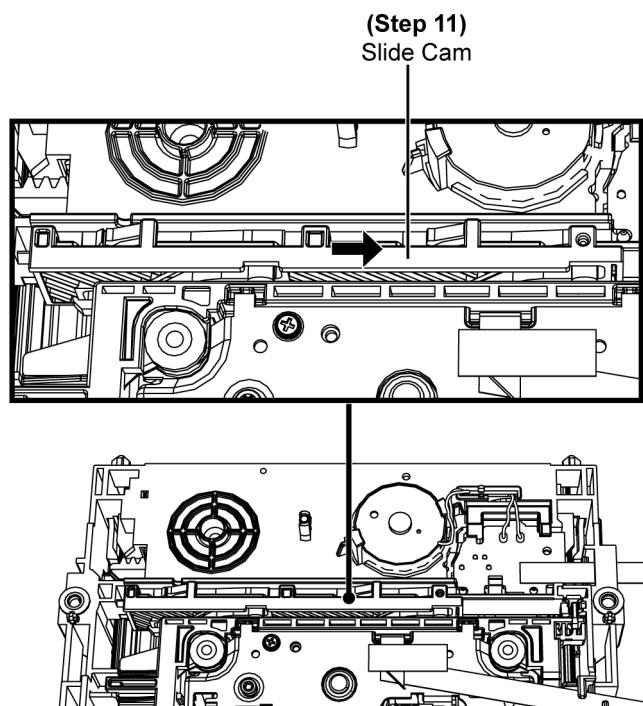


**Step 12 :** Insert the 45P FFC into the guides.

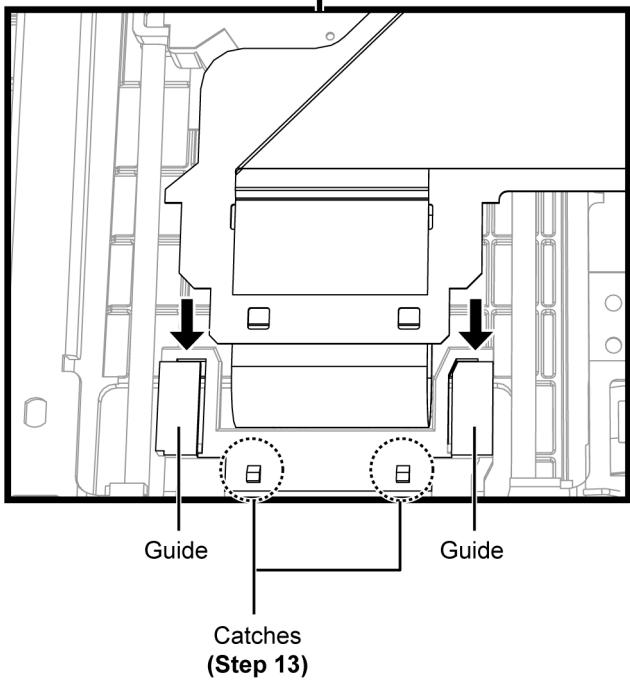
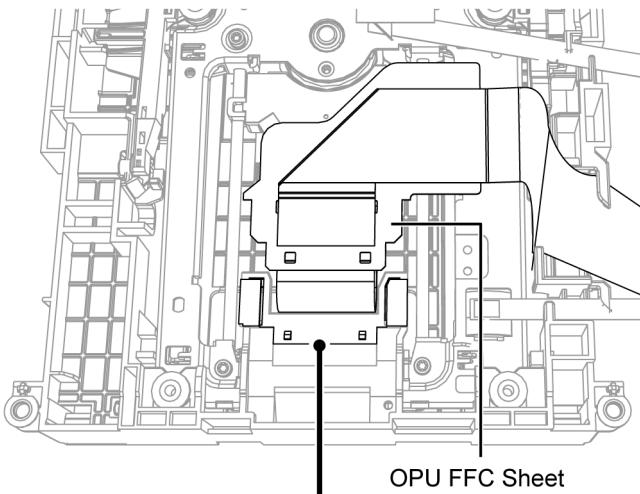
**Caution :** Do not exert strong force during inserting the 45P FFC into the guides as it may damage or broken.



**Step 11 :** Slide the Slide Cam until it comes to a stop.



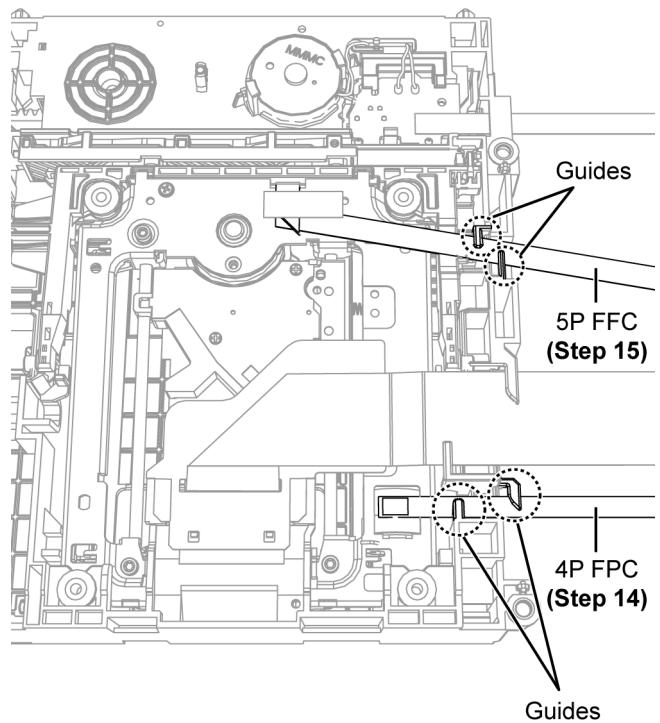
**Step 13 :** Insert the OPU FFC Sheet into the Guide as show. A "click" sound is heard when the OPU FFC is fully catched.



**Step 14 :** Insert 4P FPC into the guides.

**Step 15 :** Insert 5P FFC into the guides.

**Caution :** Do not exert strong force when inserting the FFC into the guides as it may damage or broken.

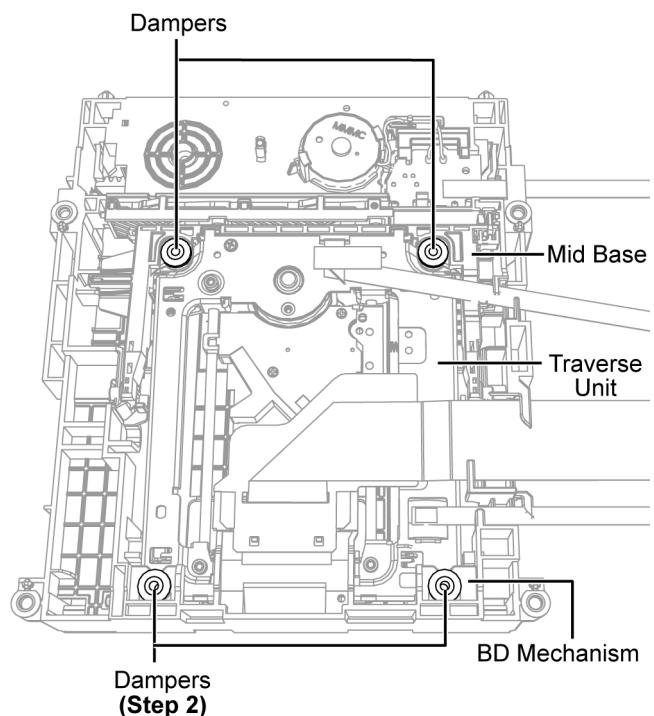
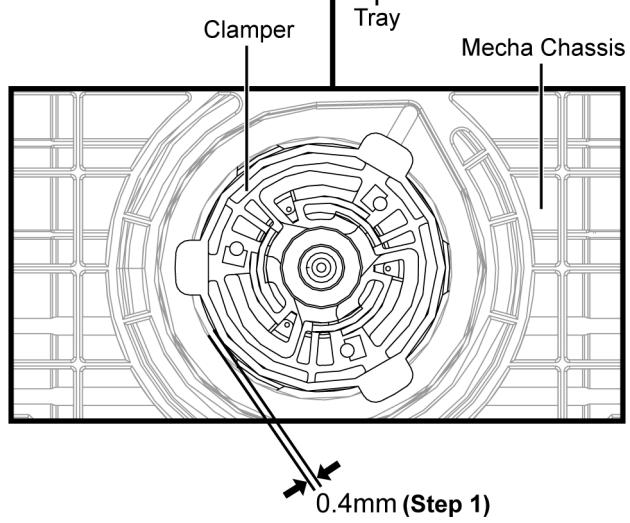
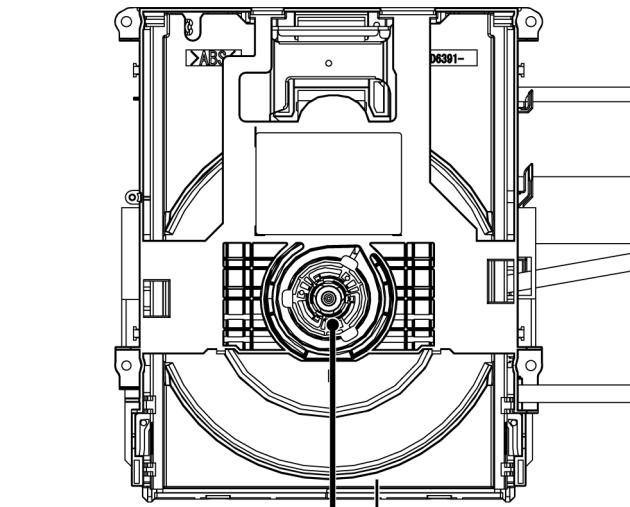


#### 4.4.3. Checking point after replacement of Traverse Unit

**Step 1** : When Traverse unit in up position. Ensure the gap between Clamper and Mecha Chassis should more that 0.4mm to prevent rubbing.

**Step 2** : If the gap is less that 0.4mm condition, then proceed below checking points of Dampers.

1. Damper at Mid Base
2. Damper at BD Mechanism
3. Damper at Traverse Unit



## 4.5. Replacement of Mid Base

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

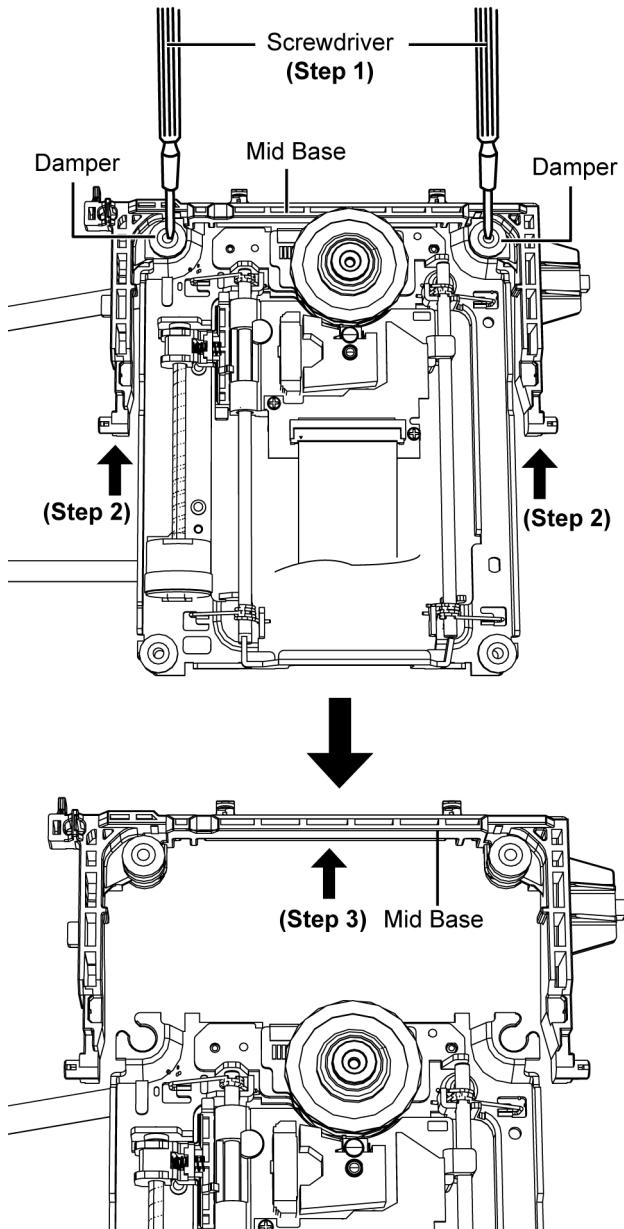
Refer to "Disassembly of Traverse Unit".

### 4.5.1. Disassembly of Mid Base

**Step 1** : Insert the Screwdriver to the Damper as shown.

**Step 2** : Push up the Mid Base while screwdriver are inserted as shown.

**Step 3** : Remove Mid Base as shown.

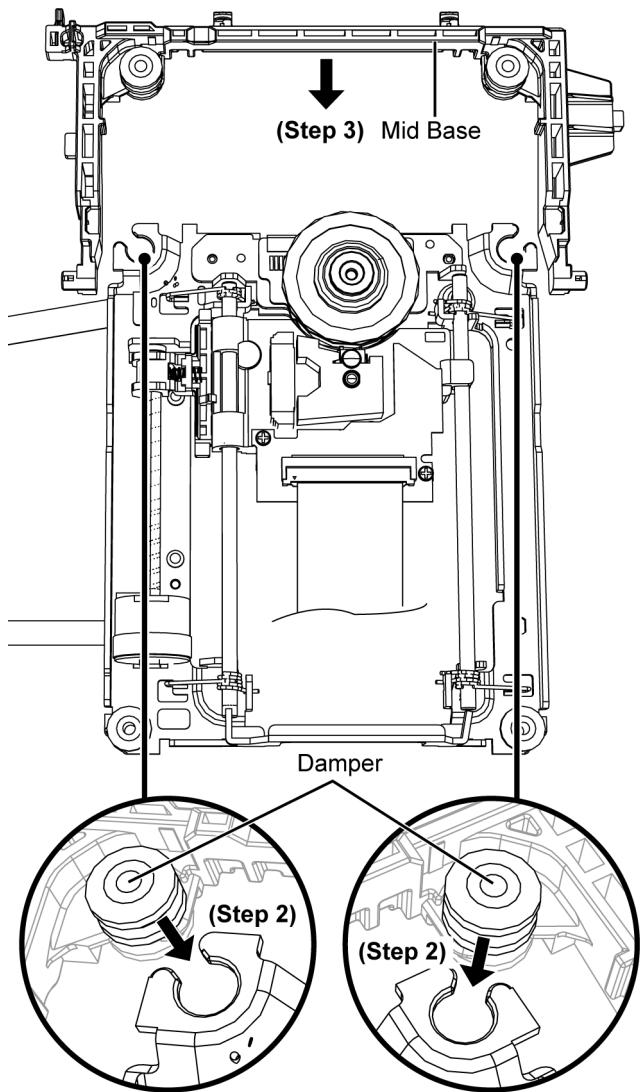


### 4.5.2. Assembly of Mid Base

**Step 1** : Align the Mid Base parallel with Traverse unit.

**Step 2** : Push to fix Mid Base into the Damper as shown.

**Caution** : Ensure the Mid Base is seated properly into the traverse unit.



## 4.6. Replacement of Slide Cam

Refer to "Disassembly of Dust Cover".

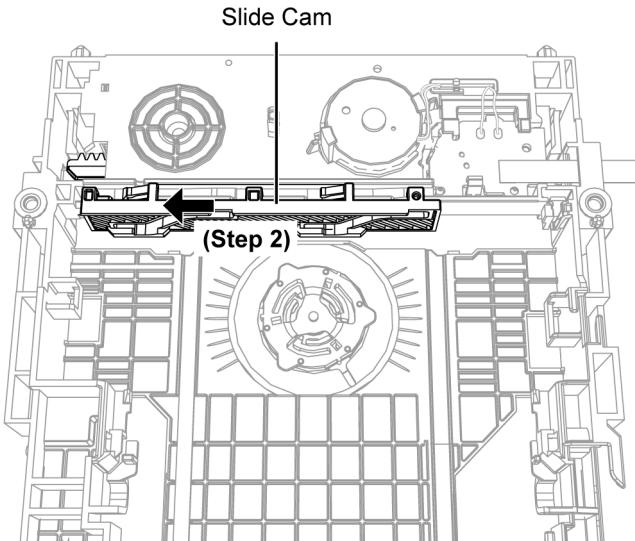
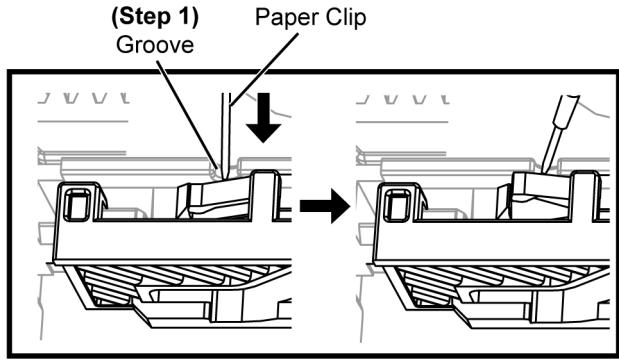
Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

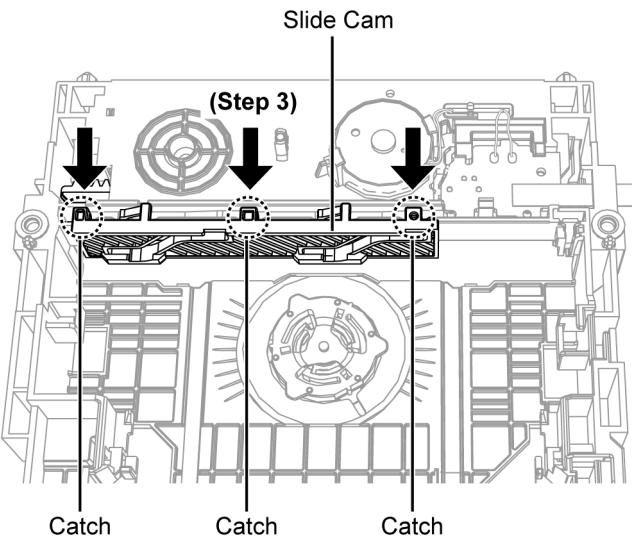
### 4.6.1. Disassembly of Slide Cam

**Step 1** : Insert the Paper clip into the Groove, press and release the guide as shown

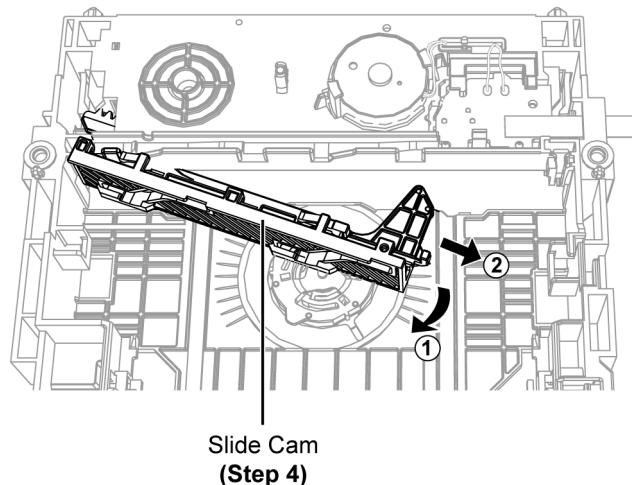
**Step 2** : Slide the Slide Cam to the end.



**Step 3** : Pull forward catches as shown to release the Slide Cam.

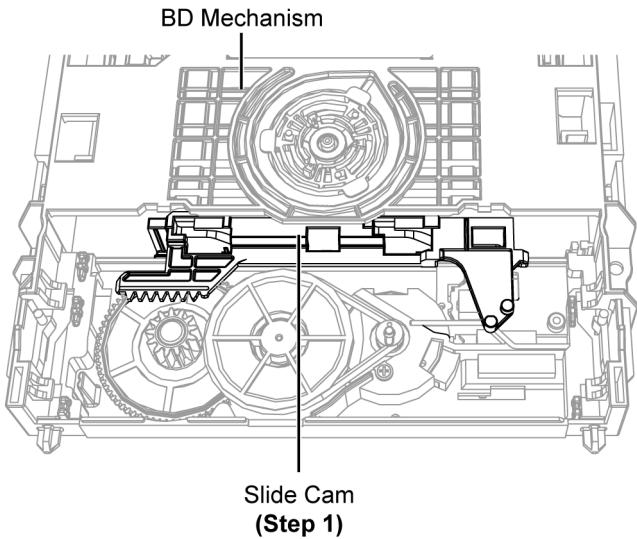


**Step 4** : Remove the Slide Cam in order of sequences (1) to (2) as shown.



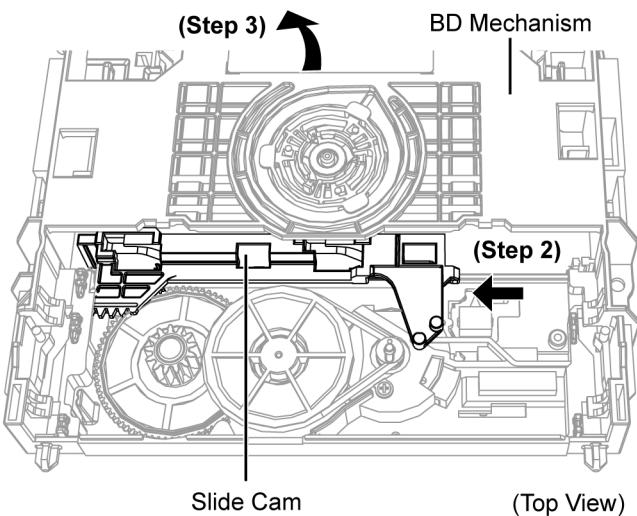
#### 4.6.2. Assembly of Slide Cam

**Step 1 :** Place the Slide Cam into the BD Mechanism as shown.

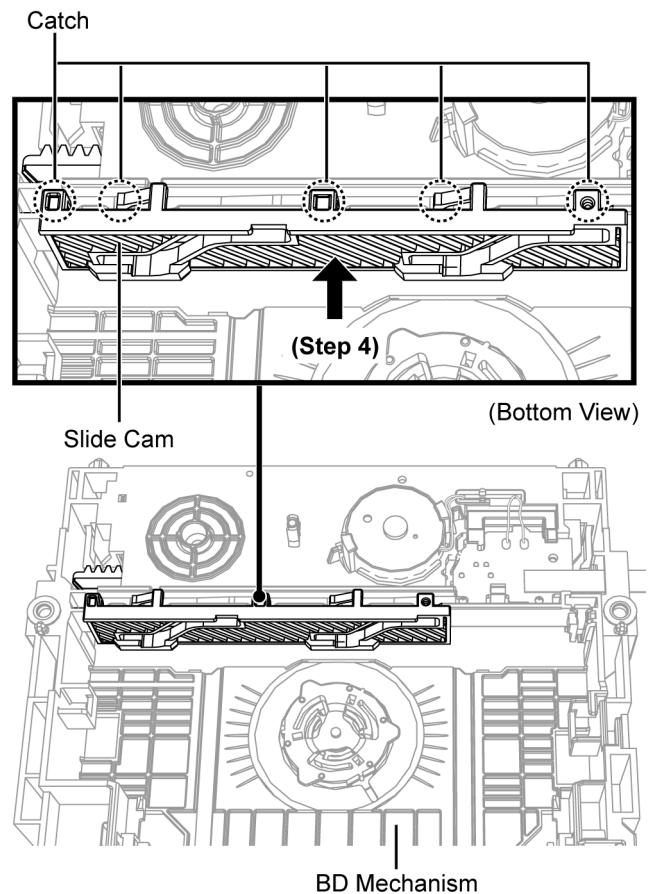


**Step 2 :** Slide the Slide Cam to the end as shown.

**Step 3 :** Upset the BD Mechanism.



**Step 4 :** Press the Slide Cam and make sure it is fully caught onto the BD Mechanism.



## 4.7. Replacement of Belt

Refer to "Disassembly of Dust Cover".

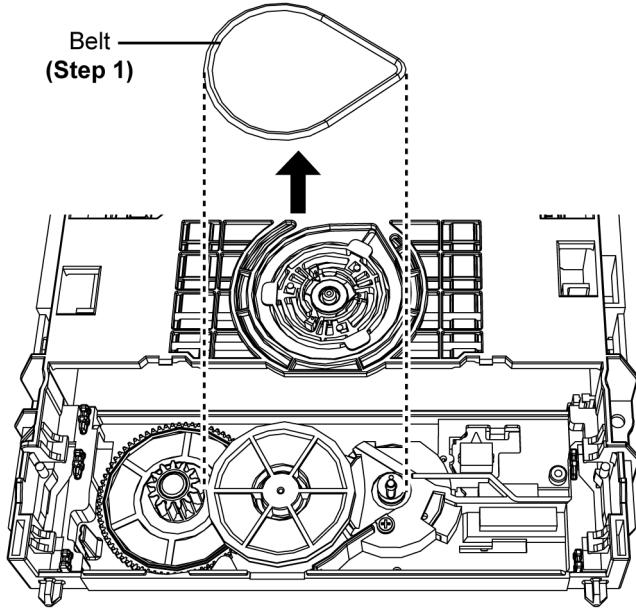
Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

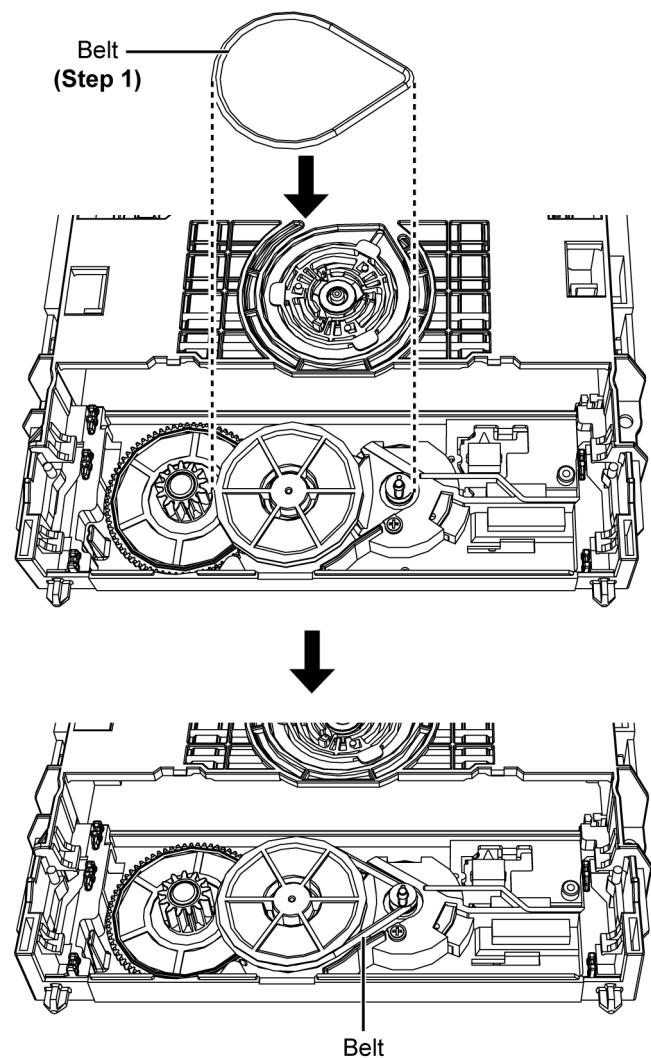
### 4.7.1. Disassembly of Belt

**Step 1** : Remove the Belt as shown.



### 4.7.2. Assembly of Belt

**Step 1** : Install the Belt.



## 4.8. Replacement of Pulley Gear

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

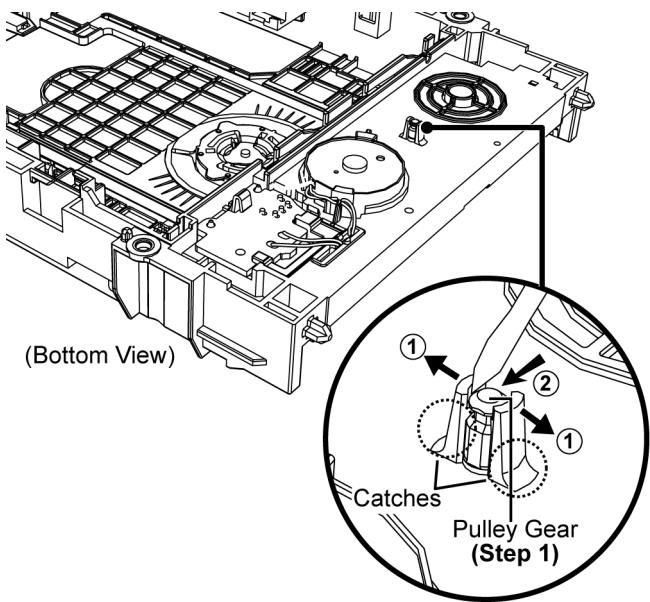
Refer to "Disassembly of Slide Cam".

Refer to "Disassembly of Belt".

### 4.8.1. Disassembly of Pulley Gear

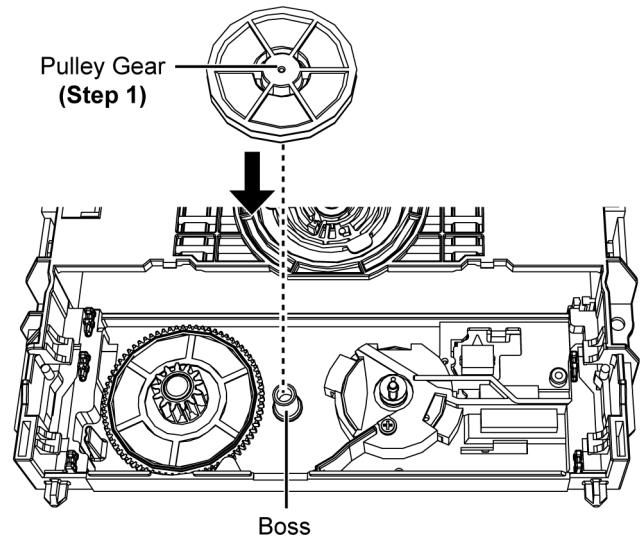
**Step 1** : Use a screwdriver to release the catches and push down the Pulley Gear in order of sequences (1) to (2).

**Caution : Do not use strong force during release catches, to prevent the catch broken.**

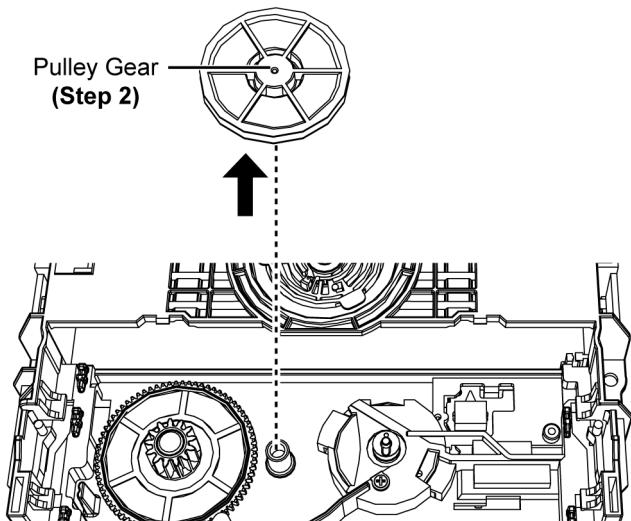


### 4.8.2. Assembly of Pulley Gear

**Step 1** : Align the center of the Pulley Gear vertically and fix it into the boss. A "click" sound is heard.



**Step 2** : Remove the Pulley Gear.



## 4.9. Replacement of Drive Gear

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

Refer to "Disassembly of Traverse Unit".

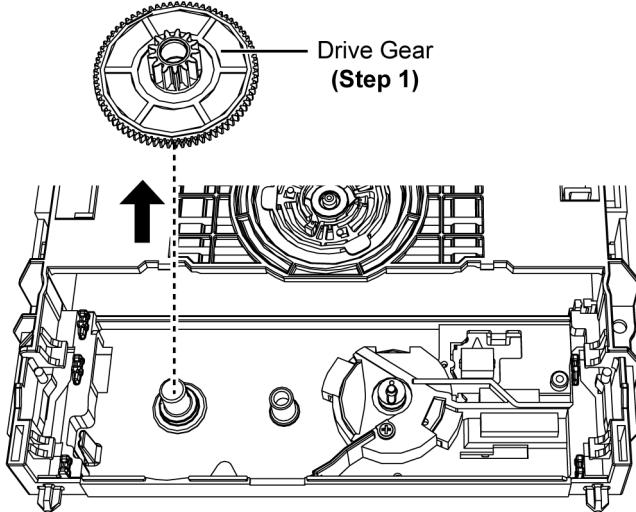
Refer to "Disassembly of Slide Cam".

Refer to "Disassembly of Belt".

Refer to "Disassembly of Pulley Gear".

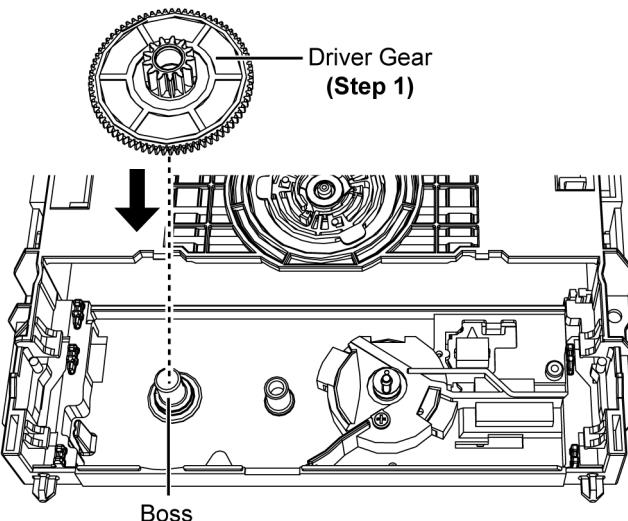
### 4.9.1. Disassembly of Drive Gear

Step 1 : Remove the Drive Gear.



### 4.9.2. Assembly of Drive Gear

Step 1 : Fix the Drive Gear into the boss as shown.



#### **4.10. Replacement of Loading P.C.B.**

Refer to “Disassembly of Dust Cover”.

Refer to “Disassembly of Tray”.

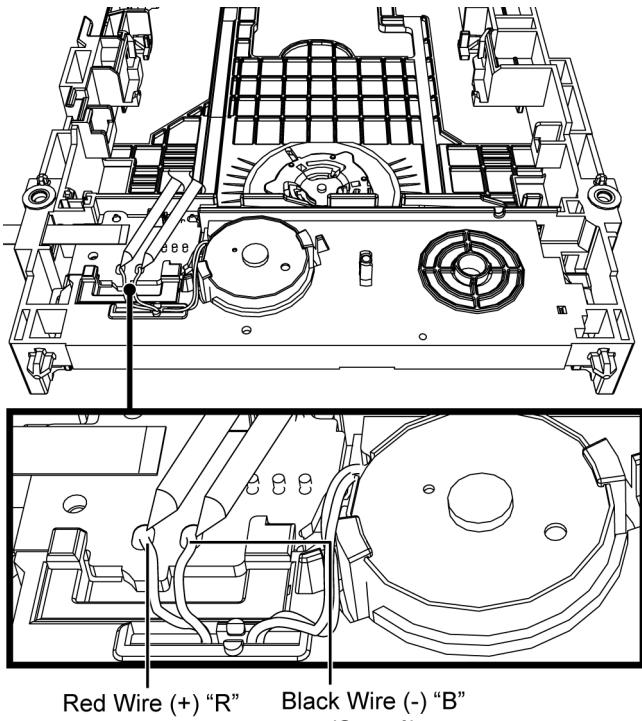
Refer to “Disassembly of Traverse Unit”.

Refer to "Disassembly of Slide Cam".

Refer to "Disassembly of Belt".

#### 4.10.1. Disassembly of Loading P.C.B.

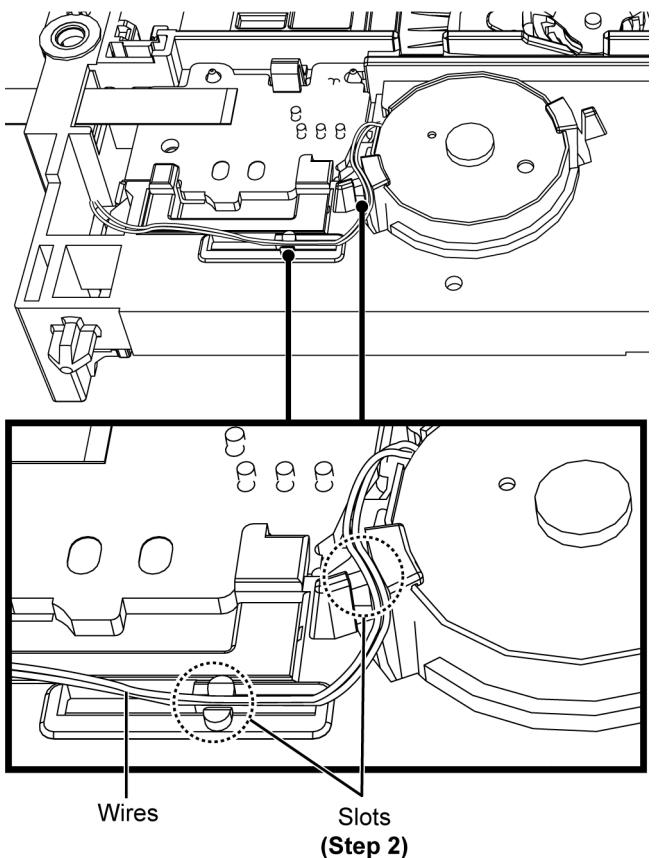
**Step 1 :** Desolder pins of the Red Wires (+) "R" & Black Wires (-) "B" on the solder side of Loading P.C.B..



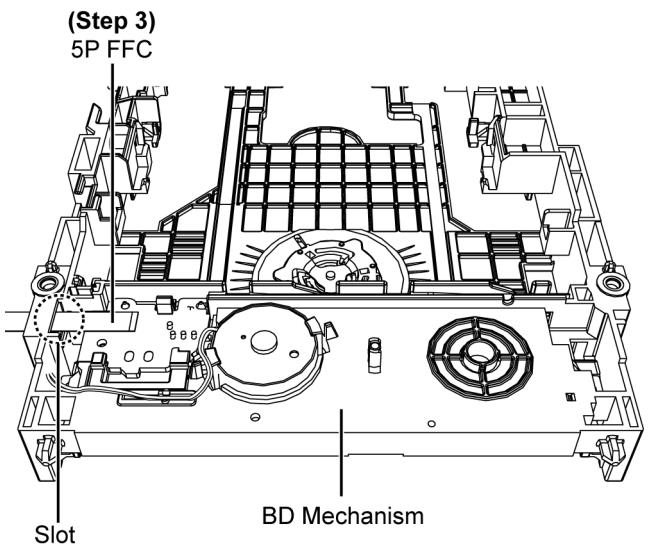
Red Wire (+) "R"  
**(Step 1)**

Black Wire (-) "B"  
**(Step 1)**

**Step 2 :** Release the Red and Black Wires from the slots.

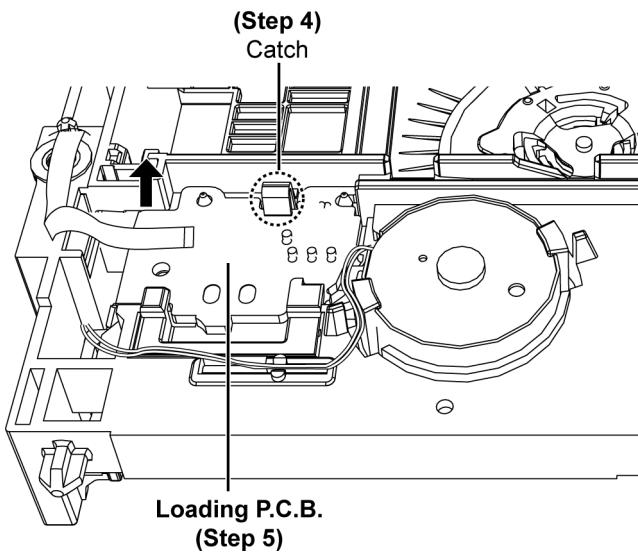


**Step 3 :** Release the 5P FFC from the slot of BD Mechanism.



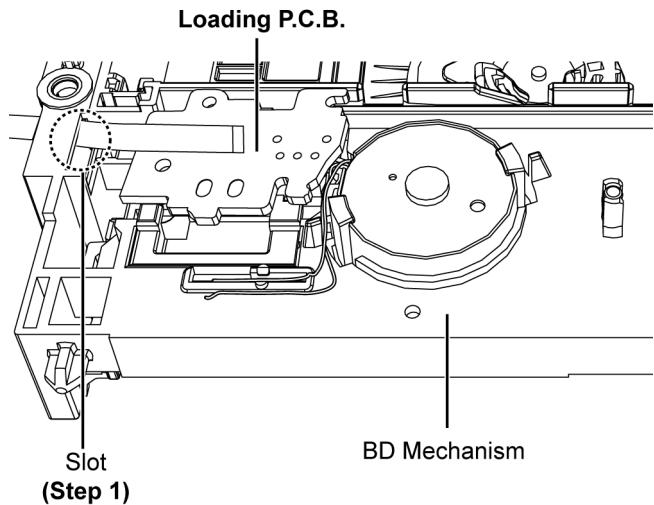
**Step 4 :** Release the catch.

**Step 5 :** Lift up and remove the Loading P.C.B..



#### 4.10.2. Assembly of Loading P.C.B.

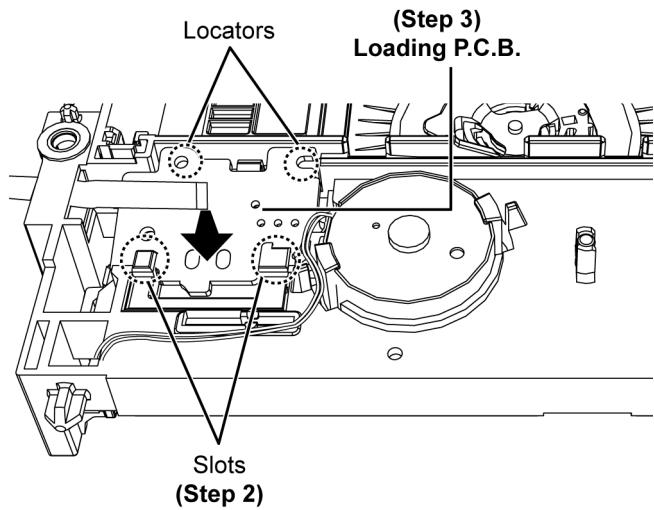
**Step 1 :** Insert the 5P FFC through the slot of BD Mechanism.



**Step 2 :** Insert the Loading P.C.B. into slots.

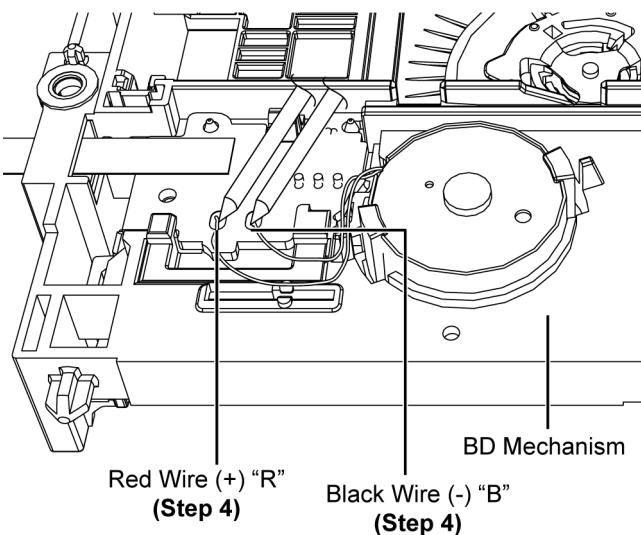
**Caution :** Ensure that the Loading P.C.B. is properly seated onto the 2 locators.

**Step 3 :** Press down the Loading P.C.B.. A "Click" sound is heard when the Loading P.C.B. is fully catched.

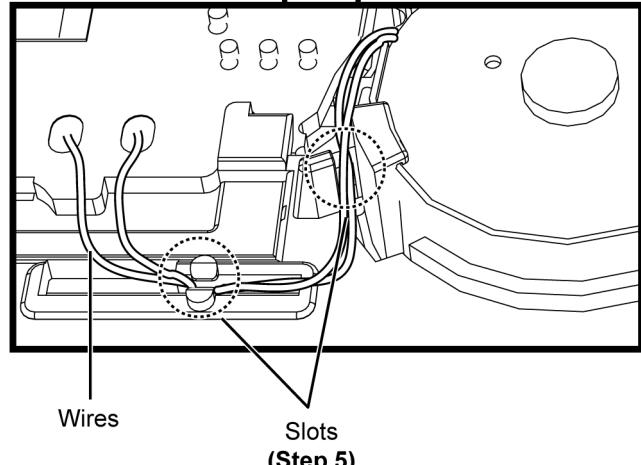
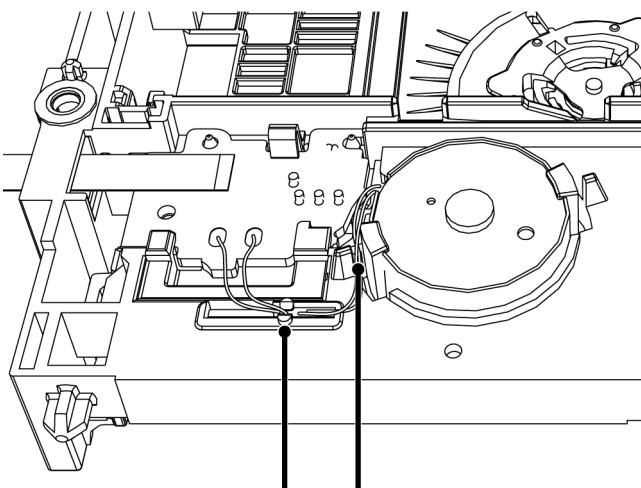


**Step 4 :** Solder pins of the Red Wires (+) "R" & Black Wires (-) "B" on the Loading P.C.B..

**Caution :** Soldering temperature  $350^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , soldering time is 3 sec.



**Step 5 :** Dressed the wires into the slots as shown.



## 4.11. Replacement of Loading Motor Unit

Refer to "Disassembly of Dust Cover".

Refer to "Disassembly of Tray".

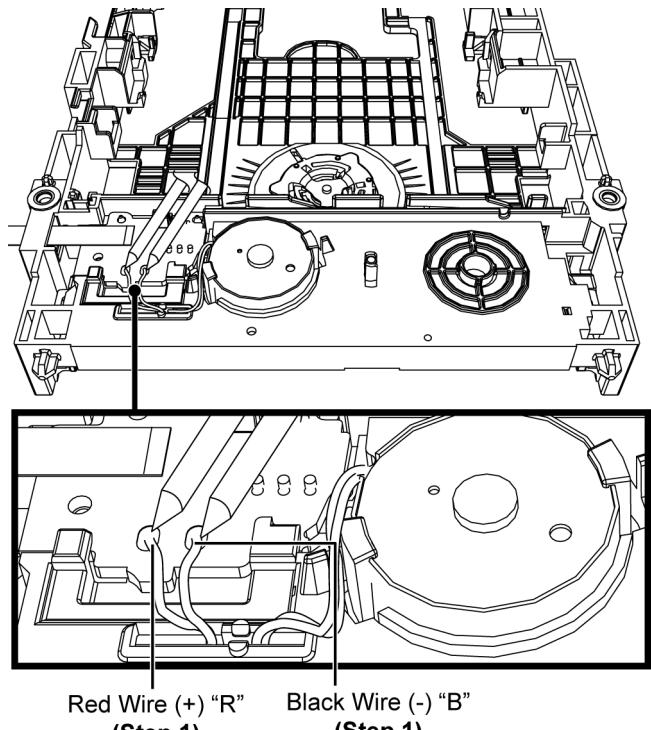
Refer to "Disassembly of Traverse Unit".

Refer to "Disassembly of Slide Cam".

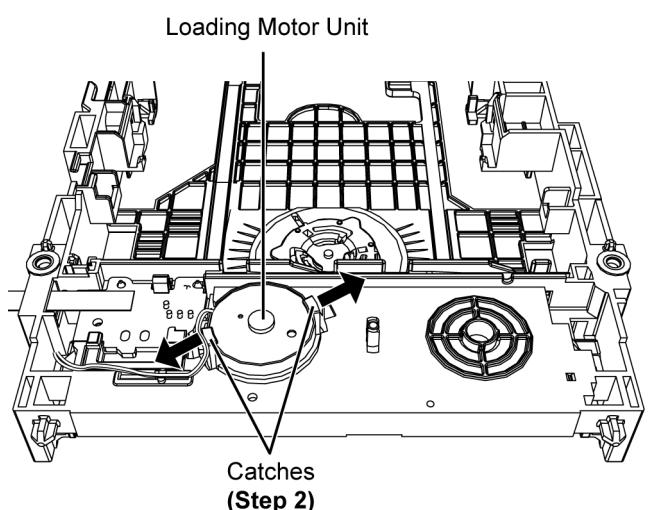
Refer to "Disassembly of Belt".

### 4.11.1. Disassembly of Loading Motor Unit

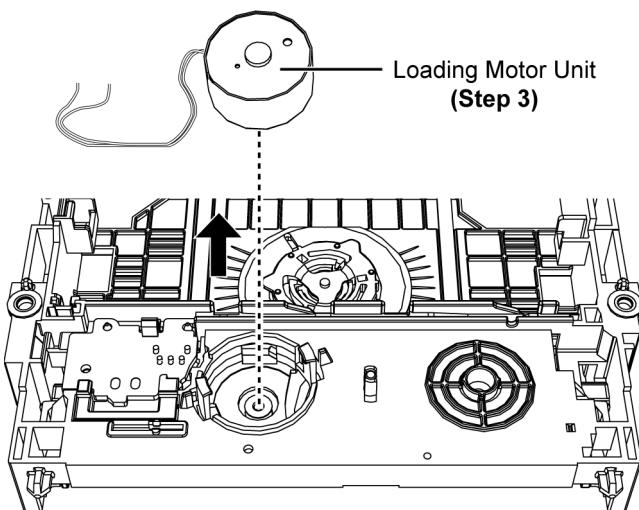
**Step 1 :** Desolder pins of the Red Wires (+) "R" & Black Wires (-) "B" on the solder side of Loading P.C.B..



**Step 2 :** Release catches as shown.

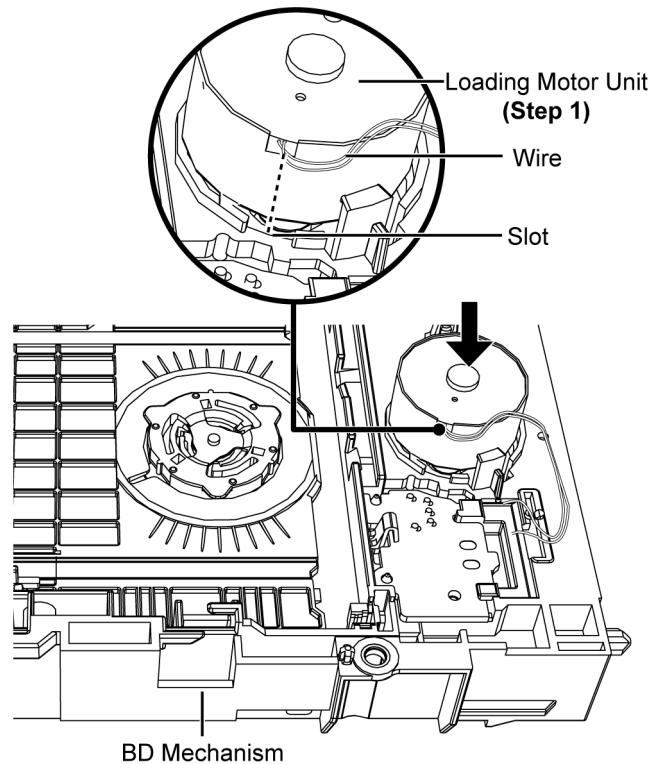


**Step 3 :** Remove the Loading Motor Unit as shown.

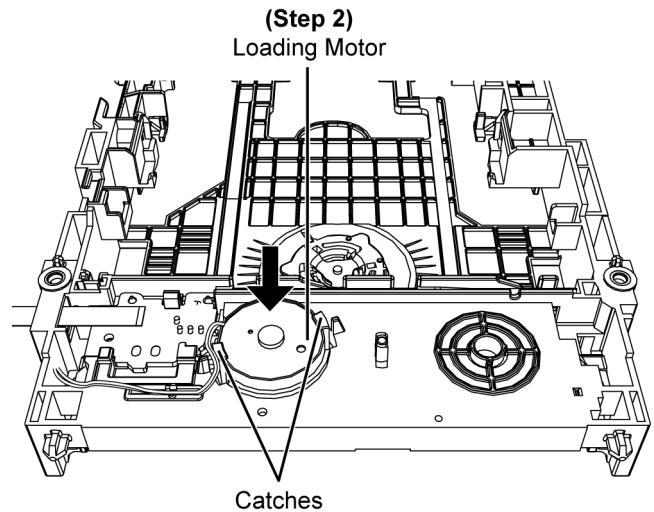


#### 4.11.2. Assembly of Loading Motor Unit

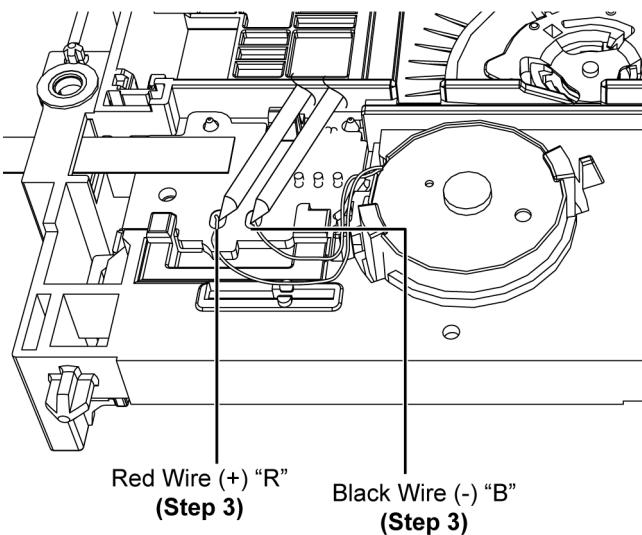
**Step 1 :** Align and insert the Loading Motor Unit with the slot on the BD Mechanism.



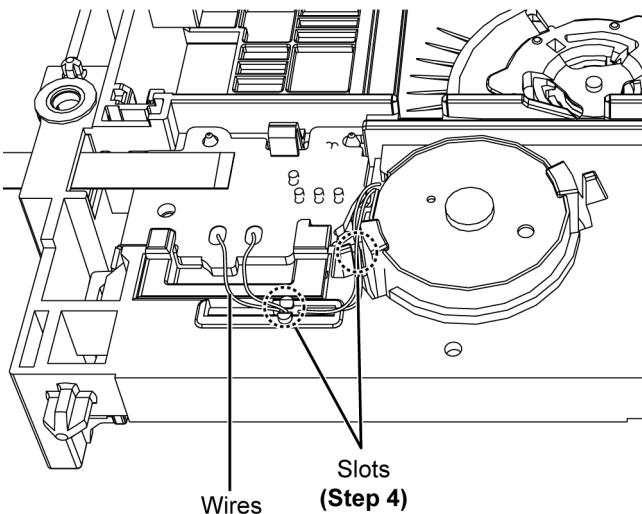
**Step 2 :** Press the Loading Motor Unit as shown, ensure. A "click" sound is heard when the Loading Motor Unit is fully caught.



**Step 3 :** Solder pins of the Red Wires (+) "R" & Black Wires (-) "B" on the Loading P.C.B..



**Step 4 :** Dressed the wire as shown.

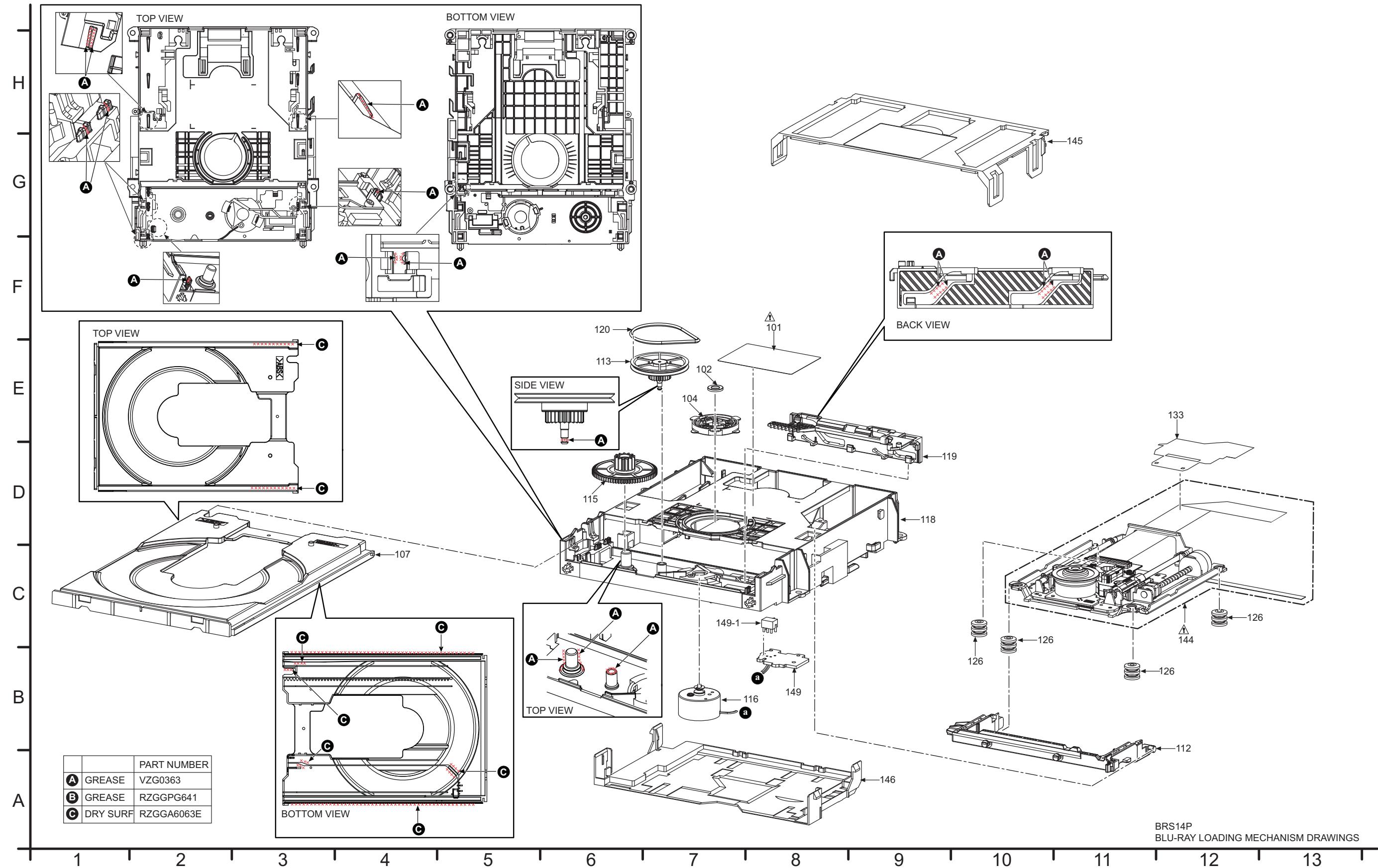




## 5 Exploded View and Replacement Parts List

## 5.1. Exploded View and Mechanical replacement Parts List

### 5.1.1. Cabinet Parts Location





## 5.1.2. Mechanical Replacement Parts List

### Important Safety Notice

*Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.*

#### RTL (Retention Time Limited)

**Note:** The marking (RTL) indicates that the Retention Time is Limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

**Note:**

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- All parts mentioned are supplied by PAVCSG unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by PAVC-SPG.

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			BD MECHANISM (VXY2141)		
	101	VQL2P54	LASER CAUTION LABEL	1	
	102	VMA0V86	YOKE	1	
	104	VMD6392	CLAMPER	1	
	107	VMD6391	TRAY	1	
	112	VMD6494	MID BASE	1	
	113	RDG0651-1	PULLEY GEAR	1	
	115	RDG0650	DRIVE GEAR	1	
	116	RXQ2076	LOADING MOTOR UNIT	1	
	118	VMD6389-1	MECHA CHASSIS	1	
	119	VMD6390	SLIDE CAM	1	
	120	VMG1720	BELT	1	
	126	RMG0852-K	DAMPER	4	
	133	VWJ2222-1	PICK FFC	1	
	144	VXA9006	BRS14P TRV UNIT	1	JIGS & ADJ
	145	RMQ1954	DUST COVER TOP	1	
	146	RMQ1955	DUST COVER BOT- TOM	1	
	149	RFKB4709A	LOADING PCB	1	
	149-1	K0L1CB000004	SW PUSH	1	

IPSG1201