



*Flexible stop method*  
*Mounting attachment with slide*  
*stop mechanism*

*FCA-CC010-※B(-S)*

**INSTRUCTION MANUAL**

MINEBEA Co., Ltd.  
Measuring Components Business Unit

EN294-1364-A

## Forward

Thank you very much for your purchasing Minebea's Mounting attachment with slide stop mechanism FCA-CC010-\*B(-S). This manual explains operating method and important notices in the case of using FCA-CC010-\*B(-S).

Since misoperation might cause unexpected faulty condition, be sure to read this manual before use for the purpose of using this machine properly and safely.

Moreover, the end user should keep the manual at hand after reading it over.

## Marks and arrangements used in this manual

The following marks are attached to the explanation on the matters that indicate “Don’t do this.,” “Take care.” and “For reference.”

Be sure to read these marks where these marks are attached.



### Warning

This is the warning that may cause injury or even to death to the operator.  
Never do these things described here.



### Notice

This is the description when the operator might suffer harm during misoperation, and when only the material damage might be occurred.



Caution during operation and working.  
Be sure to read the item to prevent from malfunction.

## For safe operation

Be sure to read this manual before use.

### 1. Installation place

#### Notice

Use the instrument where the temperature and humidity specify within the range as follows:

- Environmental temperature :  $-10\text{ }^{\circ}\text{C}$  to  $50\text{ }^{\circ}\text{C}$
- Environmental humidity : 85 %RH or less (Excludes frozen.)

#### Warning

Never install the instrument on the places such as follows: It may cause unexpected faulty in the instrument.

##### ① Location where installation is not allowed.

- Don't locate the instrument in direct and/or high temperature area.
- Avoid the location where corrosive gas and salty atmosphere may exist a lot.
- Don't install the instrument where there is rapid change of temperature and humidity.
- Don't install the instrument near the devices that become magnetized or generate an electromagnetic field.
- Avoid the location where influence of radioactivity or radiation may effect.
- Avoid the location where chemical reaction may take place such as in a laboratory or like that.

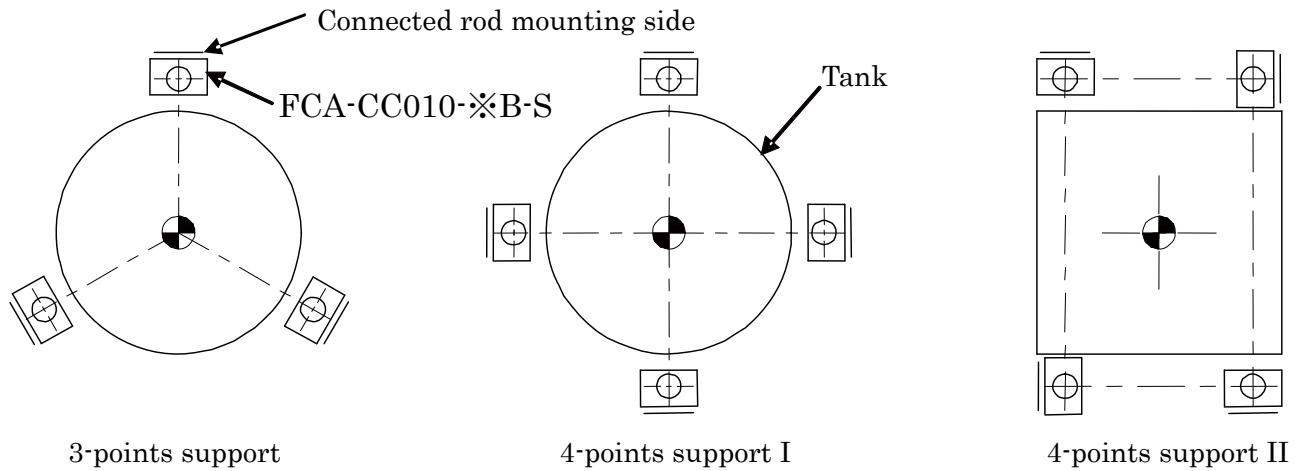
##### ② When installing the instrument

#### Notice

When installing the instrument, be sure to follow the following items.

- To ensure the applied load fully, make design the strength of bracket and trestle where the mounting attachment with slide stop mechanism shall be installed.
- The bracket and trestle to install the mounting attachment with slide stop mechanism will be very important section to support load, so execution of works should be made carefully.
- The bracket and trestle to install the mounting attachment with slide stop mechanism should be constructed to be vertical to the direction of loading.  
(For the horizontality of the trestle shall be within  $1/2''$  for the general application, and if you want to require high accuracy, make it within  $1/4''$  .)
- When you want to hold the tank for the purpose of level adjustment on the tank or exchanging load cells, occupy a space for jacking up between the bracket and the trestle of the tank.
- When installing the mounting attachment with slide stop mechanism in a pit, you should consider a measure such as a drain not to stagnate water.
- Please protect cover so that neither direct sunshine, nor wind, nor rain may strike directly to the mounting attachment with slide stop mechanism in outdoor. The cover might be detached when maintaining it, and please make the cover a structure that can be detached
- We recommend that the height of installation of the mounting attachment with slide stop mechanism should be located near the center of gravity of the tank
- Set the coupling rod facing to outer side.(Refer to the below figure.)

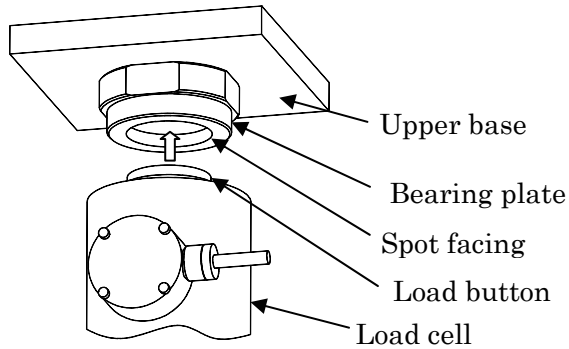
- When installing the mounting attachment with slide stop mechanism, take care fully, because it is constructed with the design of thermal expansion of a tank fully. The followings are the examples of directions of installation.



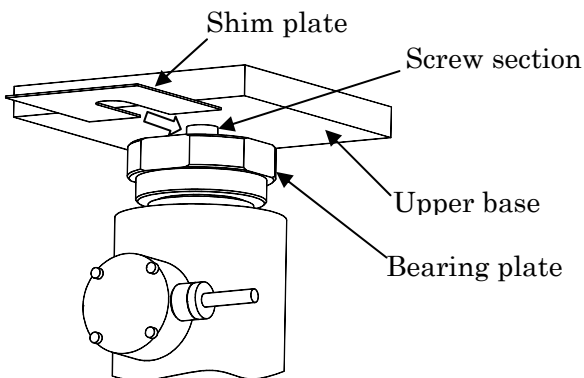
- In the case of installation, fasten the bolts tightly with looseness considered.
- Never weld the mounting attachment with slide stop mechanism to the construction (beam, bracket and so on) directly.
- It is not recommendable to weld in the condition of installing the load cell on the mounting attachment with slide stops mechanism as much as possible. If you really want to execute to weld, be sure to prepare for the earth wire near the welding point not to pass the welding current to the load cell. Moreover, remove the load cell cable from the amplifier for safety.
- Never cut off the load cell cable. If you cut off, there may have the possibility of deviation of calibration value.
- In the case of application of "4 points support II", there may have the case that side lock plate located at the side of the tank can't be removed. In such a case, remove the side lock plate at the side of the tank previously, or occupy a space between the tank so that you can remove it.

- Locate the load cell vertical position against the installation surface of mounting attachment with slide stop mechanism.
- A spot facing hole has prepared so that the load button of load cell can enter the bearing plate.

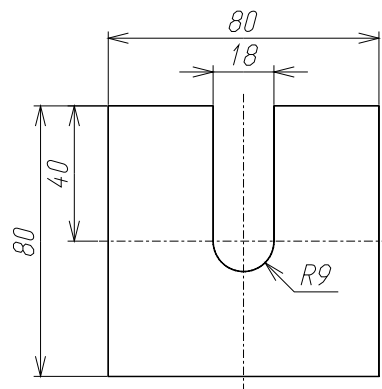
Be sure to insert the load button of load cell.



- The construction of bearing plate is the one to screw into the upper base. This is because the shim (prepared articles by customer) for level adjustment will be inserted between the upper plate and the bearing plate. Use the bearing plate with screwed condition fully. Never use it with the condition of having a space between the bearing plate and the upper base, or never use it with the bearing plate instead of a jack.



- Reference figure of shim



- As for the lower base, install it with the attached washer together.

### ③ When delivering the instrument

#### Notice

When you deliver the instrument, take care of the following items.

- When you deliver the instrument, check that there will be no looseness at the fixing bolt on the side lock plate.  
If not, there may have the possibility of disassemble of the instrument or falling down the accessories might occur.
- Since the instrument is heavy enough, take care not to make burden on your body. So try to use a cart or other tools when you carry the instrument.
- Take care fully not to get hurt by falling down the instrument.
- Never carry the instrument by holding the cable of load cell.  
There may have the possibility of cutting off the wire or dropping the instrument.

#### Notice

When you use the instrument, care should be taken fully on the following items.

## 2. Notice in case of application

- The dummy pipe is used for taking up space for load cell when the mounting attachment with slide stop mechanism is installed. So, after installation, be sure to exchange the genuine load cell.
- Don't apply the load on the load cell more than the rated capacity of load cell.  
$$\text{Rated capacity} > \text{Tare weight} + \text{Weight of measuring object}$$
- Don't apply impact load to the load cell.
- Don't throw something to the cable, nor pull it by force nor bend it.
- Never try to remodel, repair or take apart the mounting attachment with slide stop mechanism and load cell.
- Keep the manual for the instrument and some parts that have removed.  
They will be required in the case of maintenance.

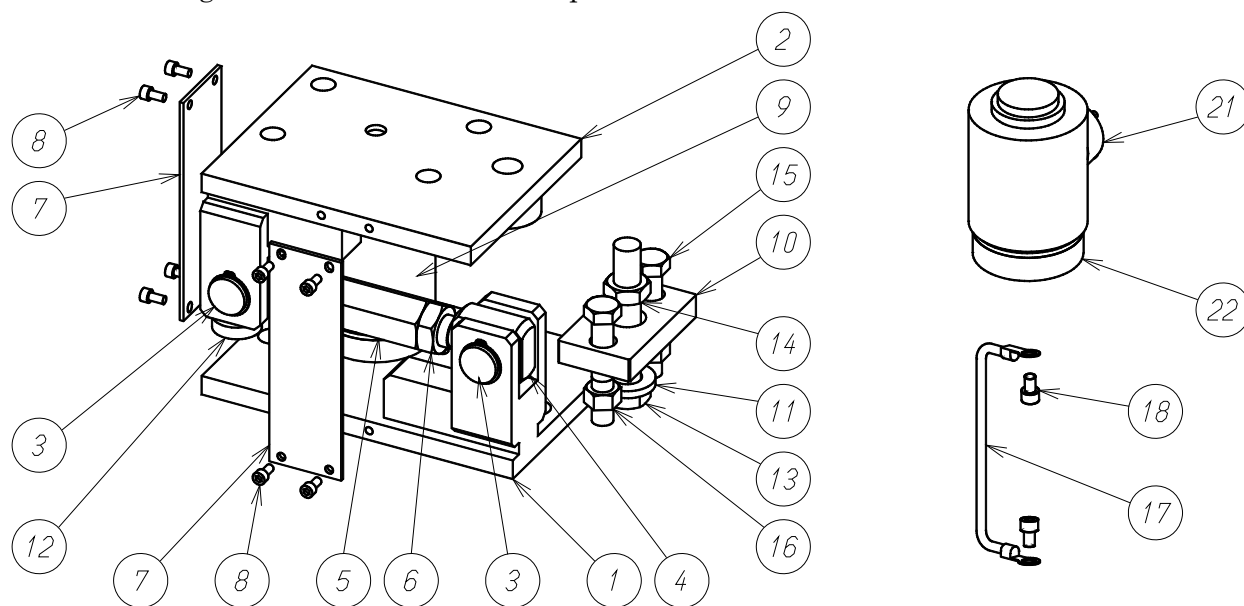


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# 1. Name of each part

## 1-1. Mounting attachment with slide stop mechanism and load cell



No.	Number	Pieces
1	Lower base	1
2	Upper base	1
3	Hinge pin	2
4	Rod end	2
5	Joint (Widths across flats for FCA-CC010-3B(-S) : 34 mm, for FCA-CC010-6B(-S) : 36 mm, for FCA-CC010-12B(-S) : 46 mm)	1
6	Lock nut for rod end (Widths across flats for FCA-CC010-3B(-S) : 34 mm, for FCA-CC010-6B(-S) : 36 mm, for FCA-CC010-12B(-S) : 46 mm)	2
7	Side lock plate	2
8	Side lock plate fixing bolt (M6)	8
9	Dummy pipe	1
10	Stopper plate	1
11	Collar	1
12	Washer	6
13	Lift-off protection bolt A (Widths across flats for FCA-CC010-3B(-S) : 30 mm, for FCA-CC010-6B(-S) : 36 mm, for FCA-CC010-12B(-S) : 46 mm)	1
14	Lift-off protection bolt lock nut A (Widths across flats for FCA-CC010-3B(-S) : 30 mm, for FCA-CC010-6B(-S) : 36 mm, for FCA-CC010-12B(-S) : 46 mm)	1
15	Lift-off protection bolt B (Widths across flats for FCA-CC010-3B(-S) : 18 mm, for FCA-CC010-6B(-S) : 30 mm, for FCA-CC010-12B(-S) : 30 mm)	2
16	Lift-off protection bolt lock B (Widths across flats for FCA-CC010-3B(-S) : 18 mm, for FCA-CC010-6B(-S) : 30 mm, for FCA-CC010-12B(-S) : 30 mm)	2
17	Earth cable	1
18	Bolt for mounting earth cable	2
	From below : sold separately	
21	Load cell(CC010)	1
22	Under plate (accessories for CC010)	1

## 2. Example of installation procedures

### 2-1. Installation of the mounting attachment with slide stop mechanism

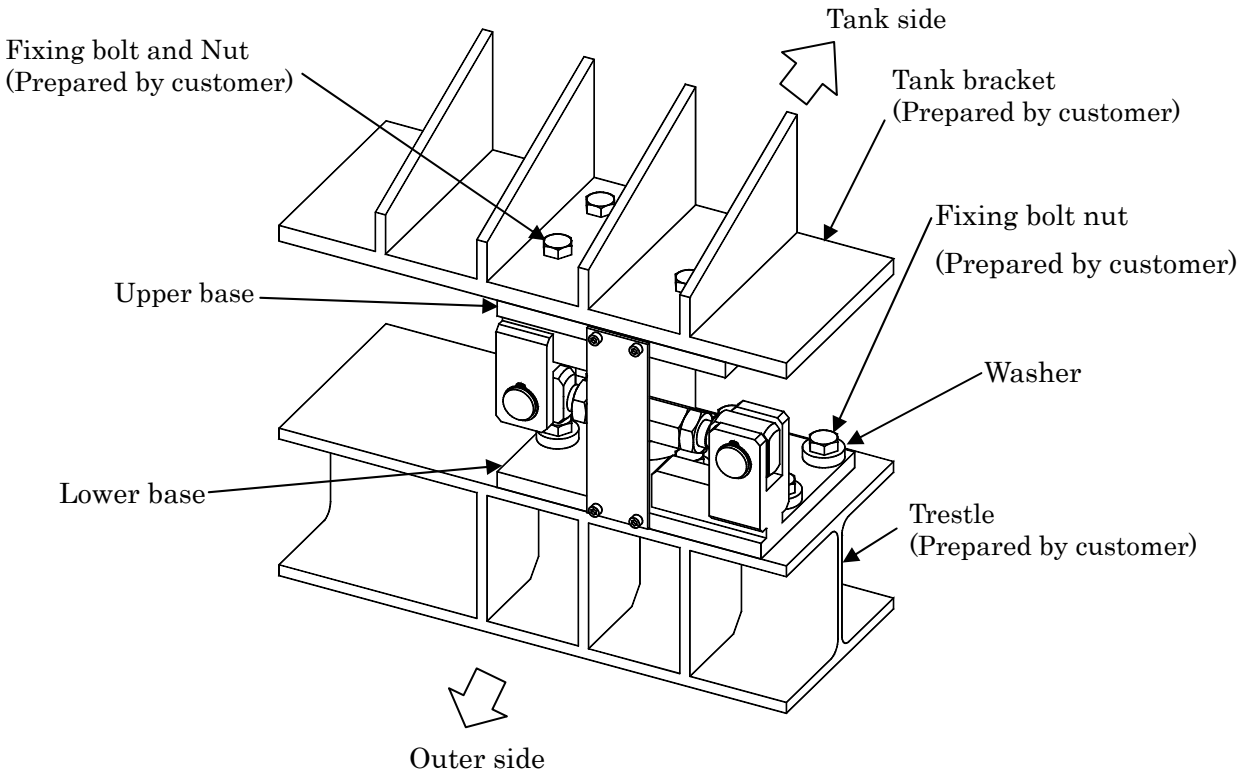


Fig. 2

- ① Fix the lower base to the trestle temporarily  
At the same time, fix it by using the attached washer.
- ② Lower the tank.  
(Lower the tank slowly so that the holes of bracket adjust to the installation holes on the upper base of the mounting attachment with slide stop mechanism.)

#### Notice

Make it slowly not to apply any impact.

#### Notice

Take care fully not to catch your finger(s) or hand(s).

- ③ Fix the upper base to the bracket.
- ④ Fix the lower base to the bracket.

#### List of fixing bolts and nuts

P/N	Recommended installation screw	No. of required quantities per one set
FCA-CC010-3B(-S)	M12	10 pieces
FCA-CC010-6B(-S)	M16	10 pieces
FCA-CC010-12B(-S)	M20	12 pieces

## 2-2. Installation of load cell

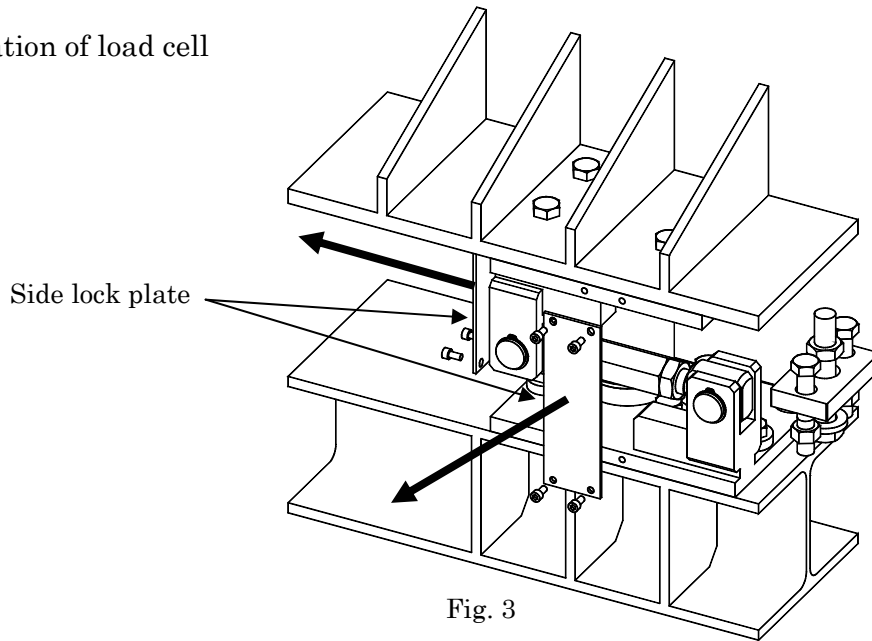


Fig. 3

- ① Remove the side lock plates (2 points).

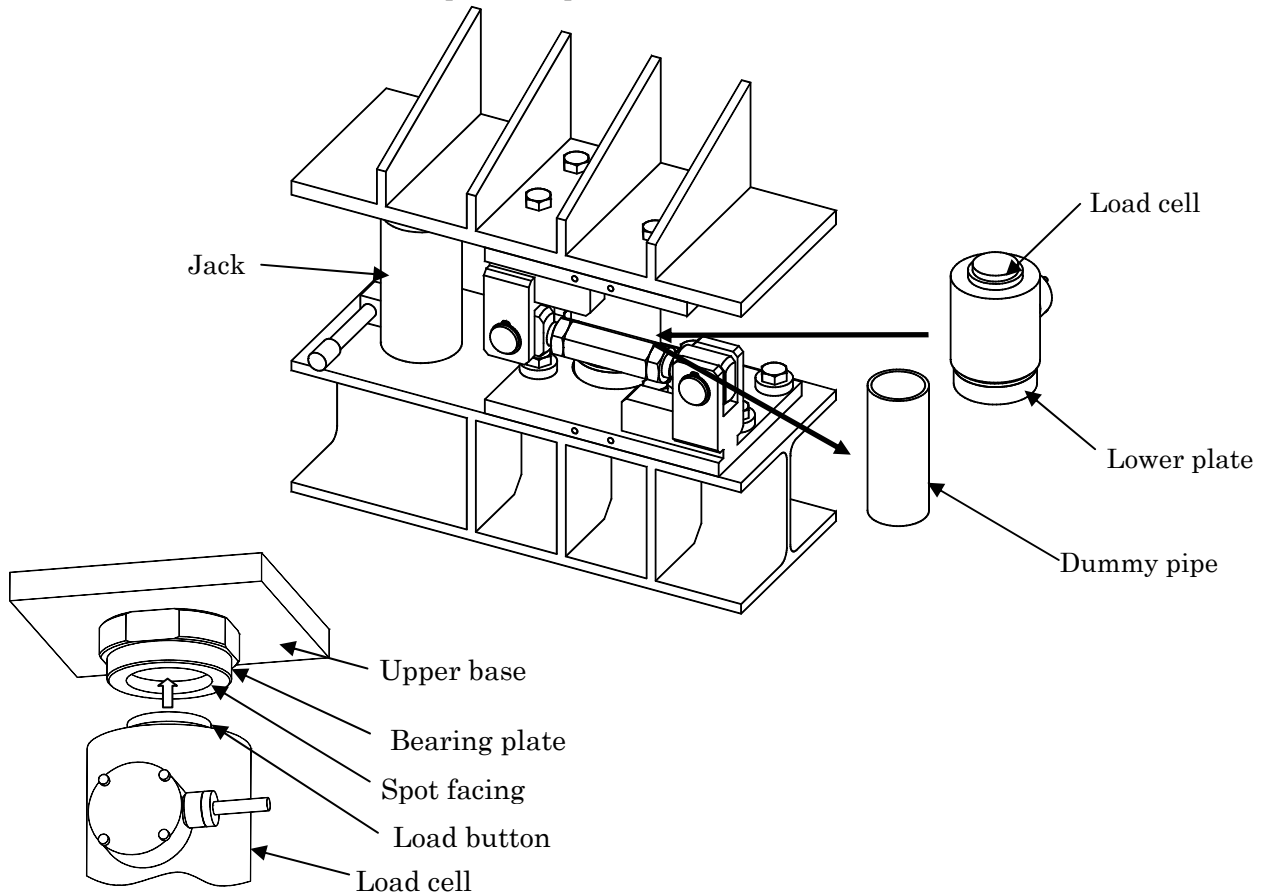


Fig. 4

- ② Remove the dummy pipe with the jack by holding up the tank about 6 mm.
- ③ Install the load cell with the lower plate together to the position where the dummy pipe was existed.  
At the same time, be sure to insert the load button of load cell into the spot facing of the bearing plate.

④ Lower the tank slowly.


At this moment, check that the load cell stands vertically.

If not vertical, lift and adjust the tank again for the load cell to stand vertically.

 **Notice**

Make it slowly not to apply any impact.

There may have the case of possibility of destruction due to overload on the load cell.

 **Notice**

Take care fully not to catch your finger(s) or hand(s).

2-3. Installation of Lift-off protection metals

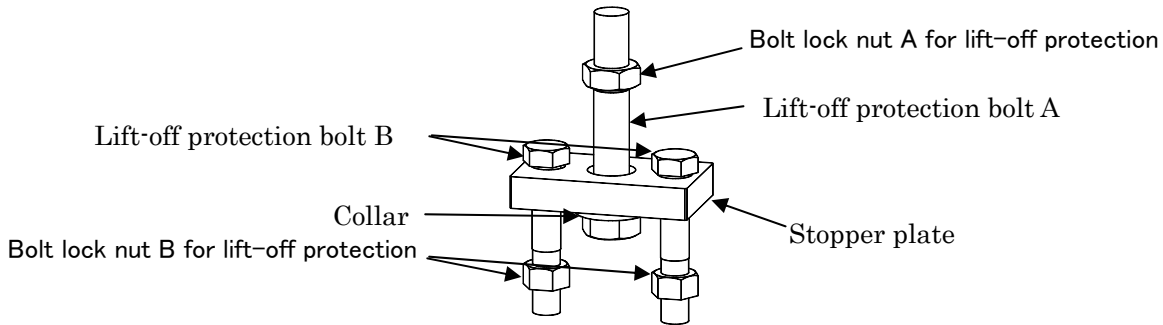


Fig. 5

① Install the Lift-off protection metals attached to the same condition as shown in Fig. 5.

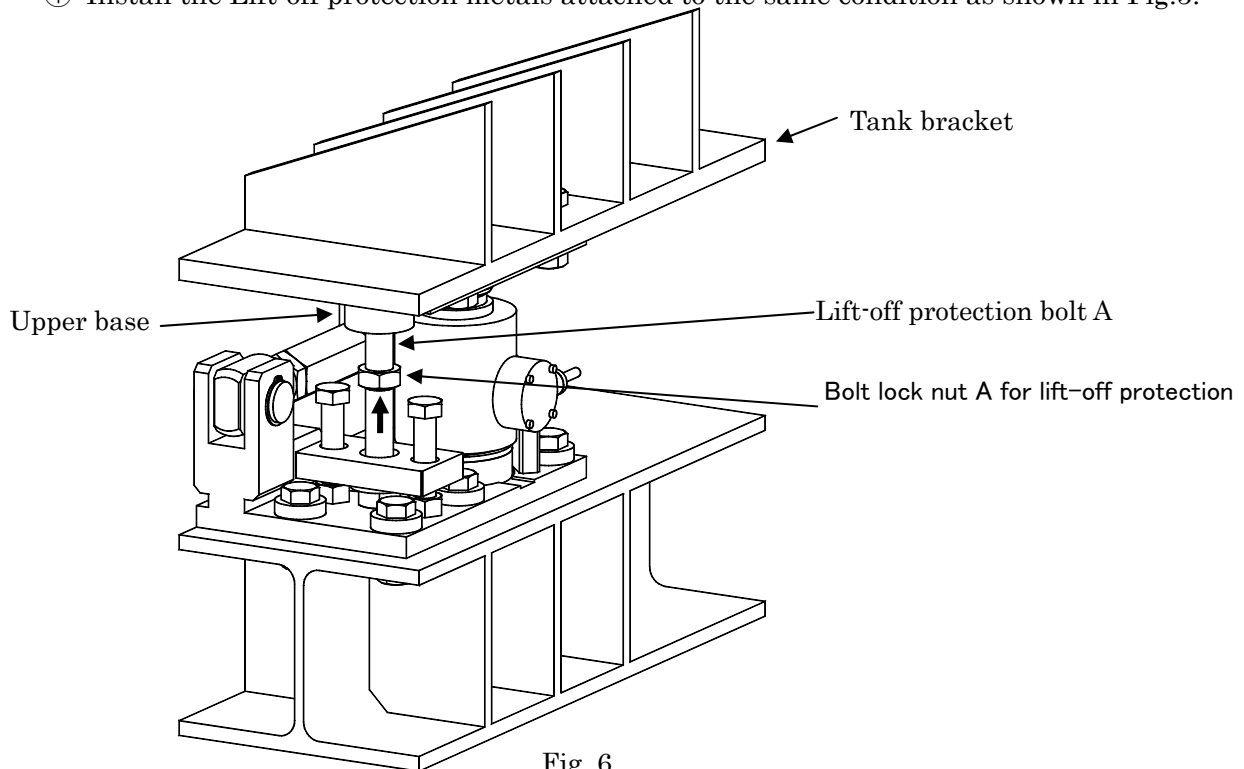
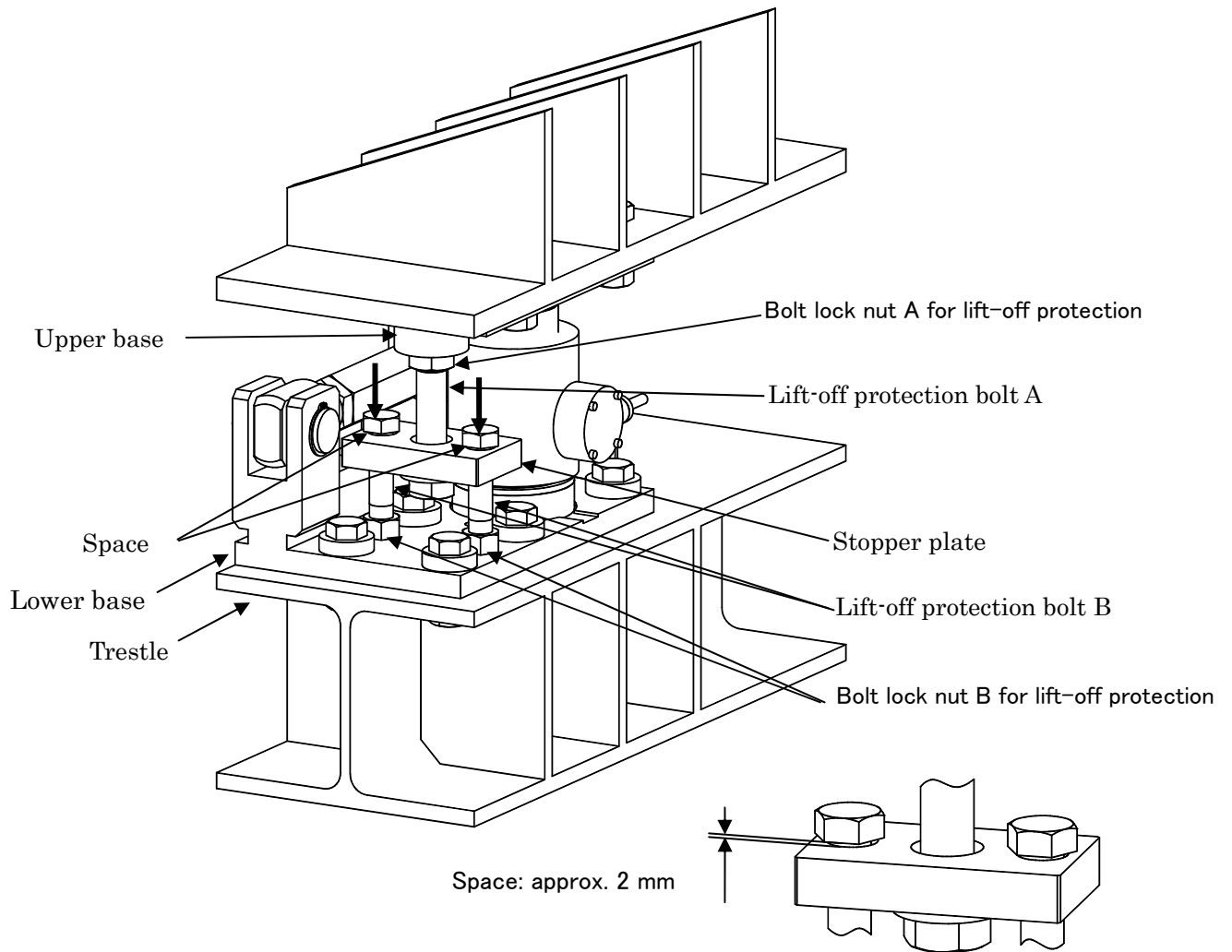


Fig. 6

② Screw in the lift-off protection bolt A (2 pieces) to the lower base



“Enlarged fig. of lift-off protection metals”

Fig. 7

- ③Screw in the 2 pieces of bolts B for lift-off protection.  
At the same time, make the bolts screwed in so that the tip of the bolts will touch to the trestle.
- ④Lock the bolt with the lift-off protection bolt lock nut B.
- ⑤Screw the lift-off protection bolt A in the upper base.  
At the same time, make the space between the stopper plate and the lift-off protection bolt B with the thickness about 2 mm.
- ⑥ Lock the bolt with lift-off protection bolt lock nut A.

## 2-4. Adjustment of slide stop mounting attachment

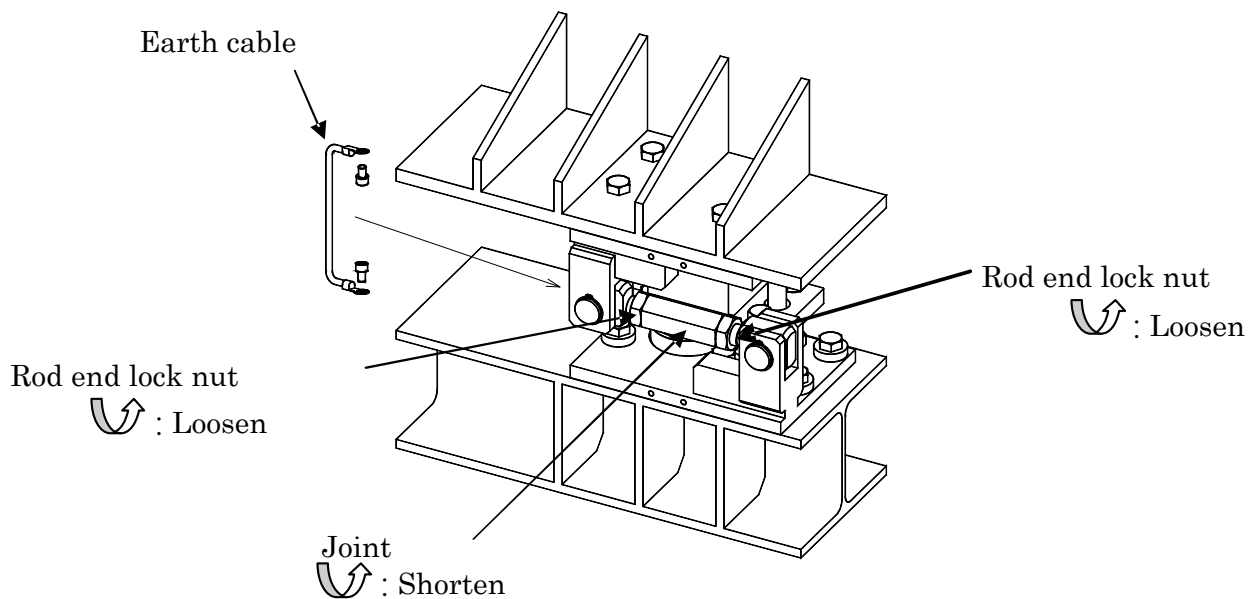


Fig. 8

- ① Touch the joint section (slide stop metal fittings) by hand and check that it moves with a rattling noise.
- ② In the case that the joint section doesn't move, it's in the condition that the side stop mechanism is pulled and suffered with stress. In due course, loosen the rod end lock nut and turn the joint to make the rod end section moved with a rattling noise.
- ③ Loosen the rod end nut with the same condition as it is. Then it'll become a free condition for load.
- ④ Install the earth cable between the upper base and lower base after completing the all check.

### 3. Specifications

#### 3-1. FCA-CC010-3B(-S)

Allowable horizontal load		±29.42 kN {±3 tf}
Allowable horizontal moving length		±8 mm
Allowable hoisting load		39.23 kN {4 tf}
Material	Spec. for steel	Equivalent to SS400.
	Spec. for stainless(-S)	Equivalent to SUS304.
Weight		Approx. 17 kg

#### 3-2. FCA-CC010-6B(-S)

Allowable horizontal load		±58.84 kN {±6 tf}
Allowable horizontal moving length		±8 mm
Allowable hoisting load		78.46 kN {8 tf}
Material	Spec. for steel	Equivalent to SS400.
	Spec. for stainless(-S)	Equivalent to SUS304.
Weight		Approx. 21 kg

#### 3-3. FCA-CC010-12B(-S)

Allowable horizontal load		±117.7 kN {±12 tf}
Allowable horizontal moving length		±8 mm
Allowable hoisting load		117.7 kN {12 tf}
Material	Spec. for steel	Equivalent to SS400.
	Spec. for stainless(-S)	Equivalent to SUS304.
Weight		Approx. 34 kg

#### 3-4. Accessories

Instruction manual	1 piece
Side lock plate	2 pieces (Shipped it while mounted in the device.)
Hexagon socket head cap screws (M6×L12)	8 pieces (bolt for mounting the side lock plate.)
Dummy pipe	1 piece (Shipped it while mounted in the device.)
Lift-off protection metals	1 set (Shipped as an accessory of the device)
Earth cable	1 piece (with 2 pieces of bolt)

## **4. Warranty**

### **4-1. Warranty**

The instrument is covered by a warranty for a period of one year from the date of delivery. When you want to repair the instrument or request after-service, contact Minebea's sales office or sales agency from which you have purchased.

### **4-2. Repair**

Before asking repairs, please make checks once again that the installation, setting and adjustment for the instrument has finished precisely.

After that still there may be found some defects in the instrument, please contact Minebea's sales office or sales agency from which you purchased.