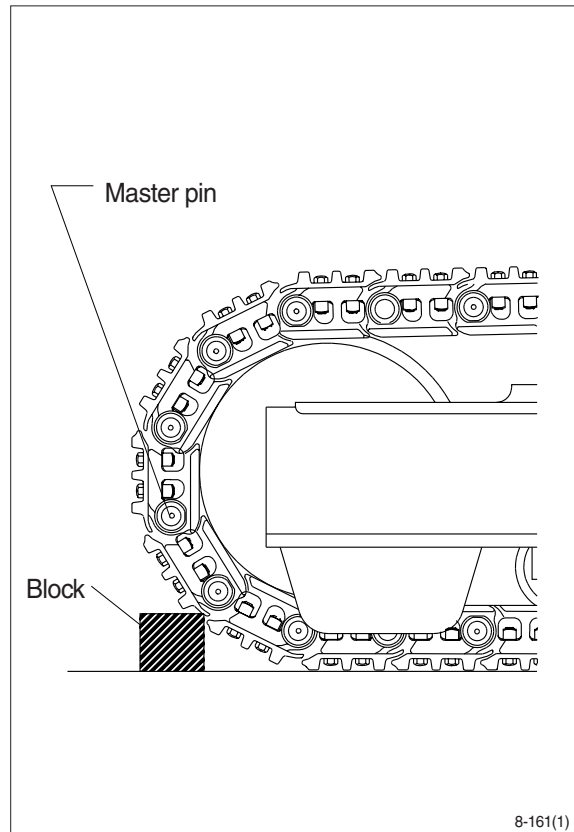


## GROUP 10 UNDERCARRIAGE

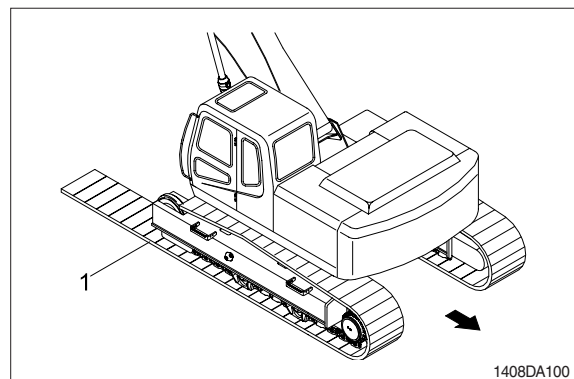
### 1. TRACK LINK

#### 1) REMOVAL

- (1) Move track link until master pin is over front idler in the position put wooden block as shown.
- (2) Loosen tension of the track link.
  - ※ If track tension is not relieved when the grease valve is loosened, move the machine backwards and forwards.
- (3) Push out master pin by using a suitable tool.

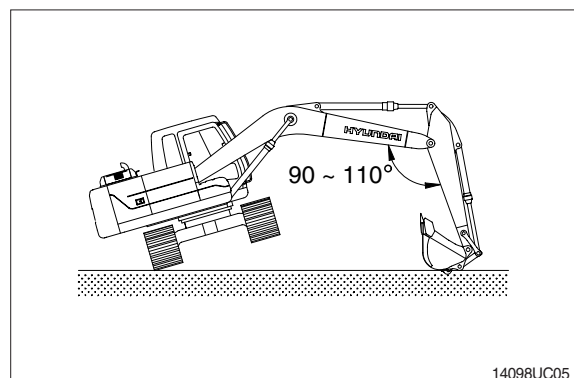


- (4) Move the machine slowly in reverse, and lay out track link assembly (1).
  - ※ Jack up the machine and put wooden block under the machine.
  - ※ Don't get close to the sprocket side as the track shoe plate may fall down on your feet.



#### 2) INSTALL

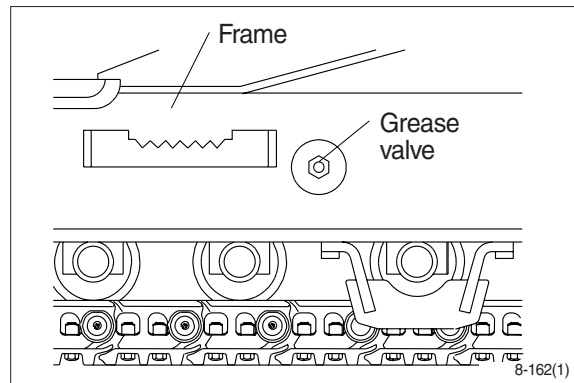
- (1) Carry out installation in the reverse order to removal.
  - ※ Adjust the tension of the track link.



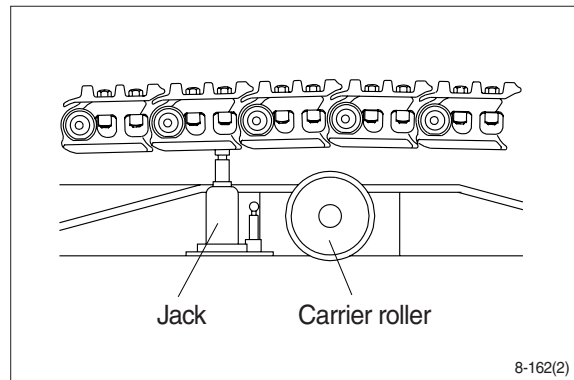
## 2. CARRIER ROLLER

### 1) REMOVAL

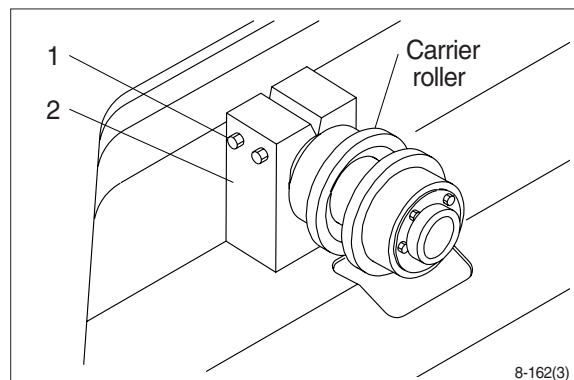
- (1) Loosen tension of the track link.



- (2) Jack up the track link height enough to permit carrier roller removal.



- (3) Loosen the lock nut (1).
- (4) Open bracket(2) with a screwdriver, push out from inside, and remove carrier roller assembly.
  - Weight : 21 kg (46 lb)



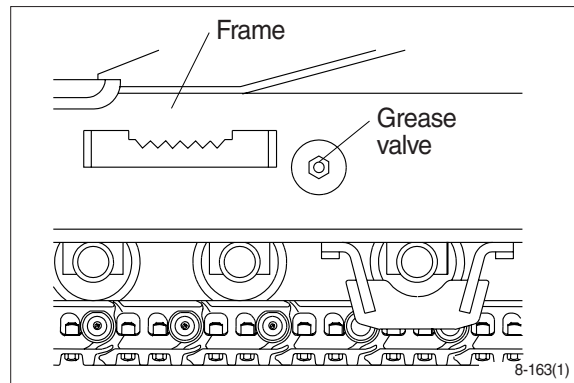
### 2) INSTALL

- (1) Carry out installation in the reverse order to removal.

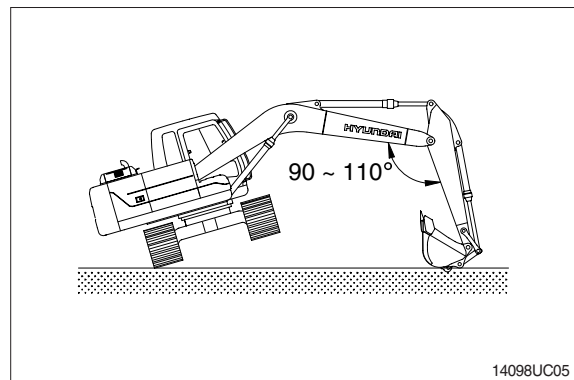
### 3. TRACK ROLLER

#### 1) REMOVAL

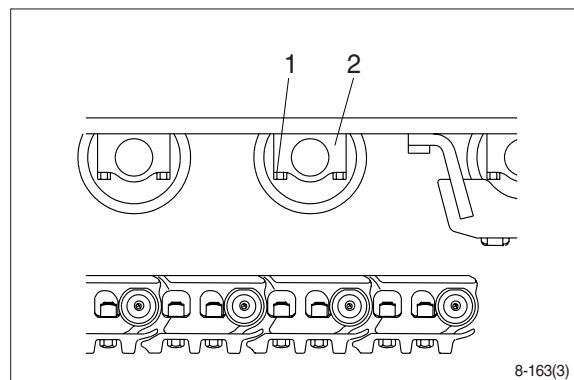
- (1) Loosen tension of the track link.



- (2) Using the work equipment, push up track frame on side which is to be removed.  
※ After jack up the machine, set a block under the unit.



- (3) Remove the mounting bolt (1) and draw out the track roller (2).  
· Weight : 38.3 kg (84.4 lb)



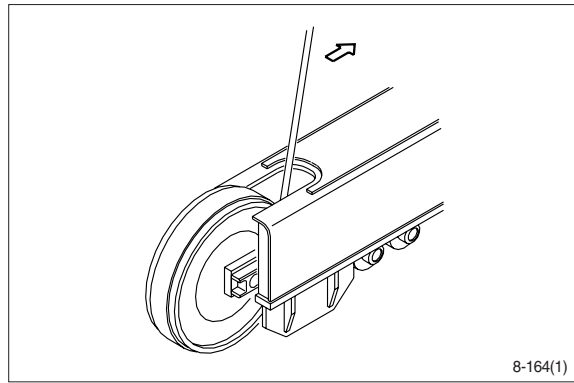
#### 2) INSTALL

- (1) Carry out installation in the reverse order to removal.

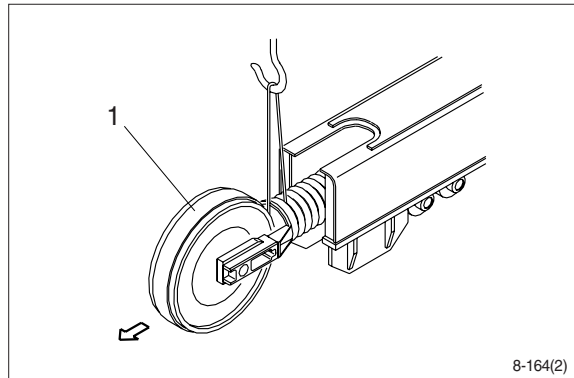
## 4. IDLER AND RECOIL SPRING

### 1) REMOVAL

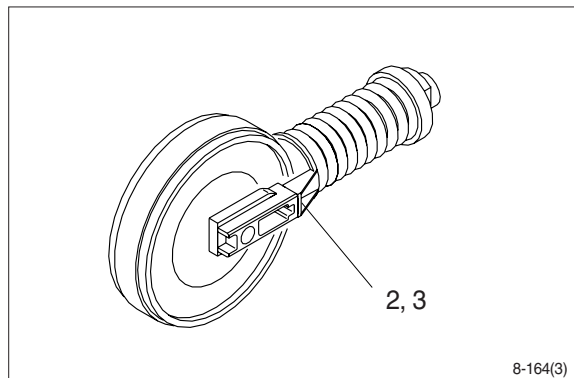
- (1) Remove the track link.  
For detail, see removal of track link.



- (2) Sling the recoil spring (1) and pull out idler and recoil spring assembly from track frame, using a pry.
  - Weight : 192 kg (423 lb)

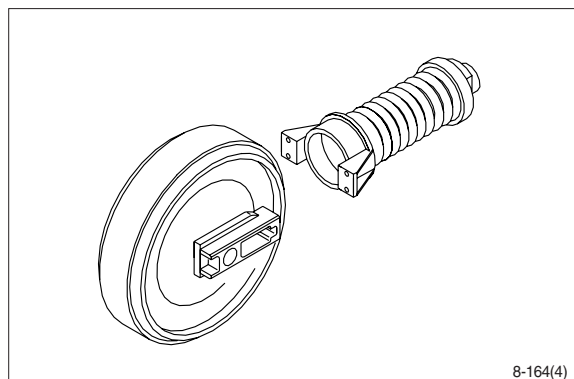


- (3) Remove the bolts (2), washers (3) and separate idler from recoil spring.



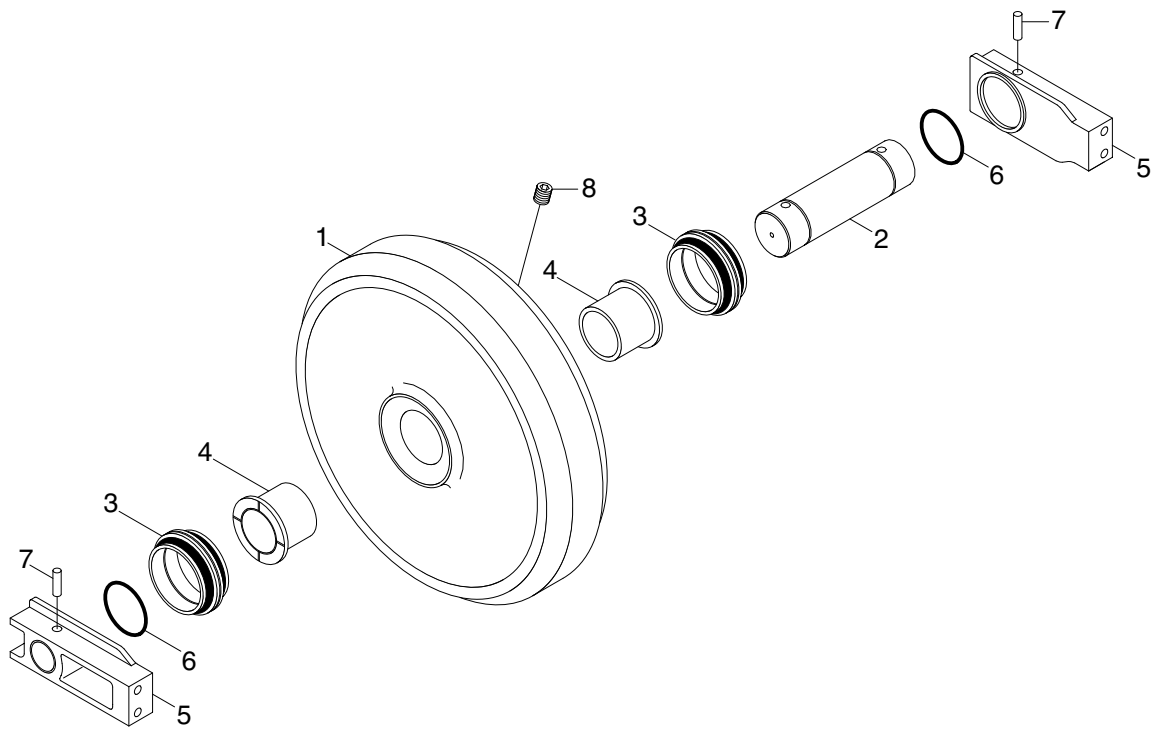
### 2) INSTALL

- (1) Carry out installation in the reverse order to removal.
  - ※ Make sure that the boss on the end face of the recoil cylinder rod is in the hole of the track frame.



### 3) DISASSEMBLY AND ASSEMBLY OF IDLER

#### (1) Structure



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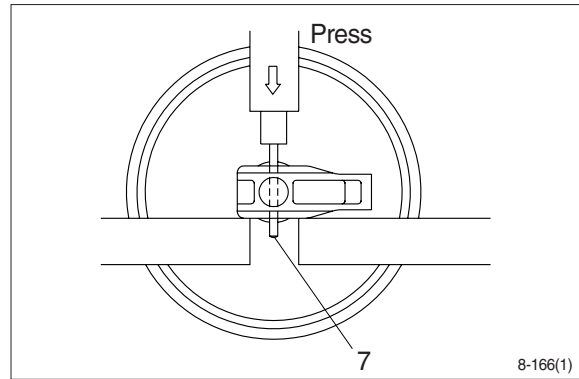
- 1 Shell
- 2 Shaft
- 3 Seal assembly

- 4 Bushing
- 5 Bracket
- 6 O-ring

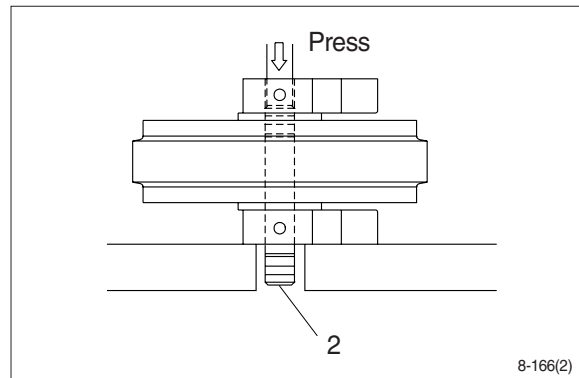
- 7 Spring pin
- 8 Plug

**(2) Disassembly**

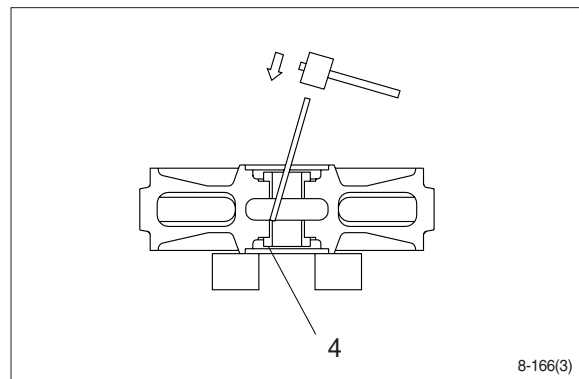
- ① Remove plug and drain oil.
- ② Draw out the spring pin (7), using a press.



- ③ Pull out the shaft (2) with a press.
- ④ Remove seal (3) from idler (1) and bracket (5).
- ⑤ Remove O-ring (6) from shaft.



- ⑥ Remove the bushing (4) from idler, using a special tool.  
Only remove bushing if replacement is necessary.

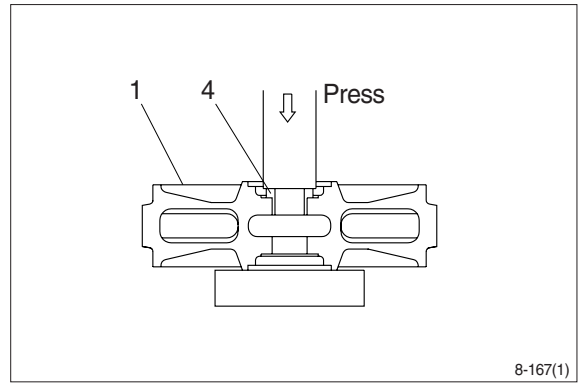


### (3) Assembly

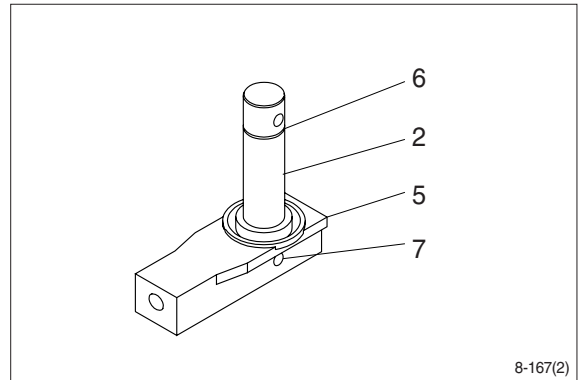
- ※ Before assembly, clean the parts.
- ※ Coat the sliding surfaces of all parts with oil.

- ① Cool up bushing (4) fully by some dry ice and press it into shell (1).

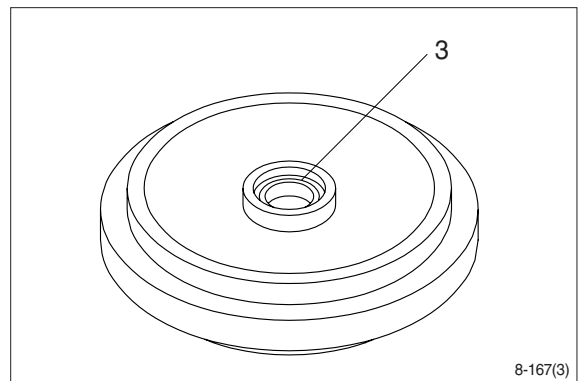
Do not press it at the normal temperature, or not knock in with a hammer even after the cooling.



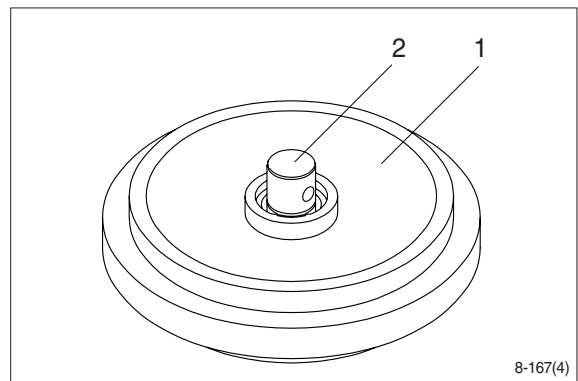
- ② Coat O-ring (6) with grease thinly, and install it to shaft (2).
- ③ Insert shaft (2) into bracket (5) and drive in the spring pin (7).



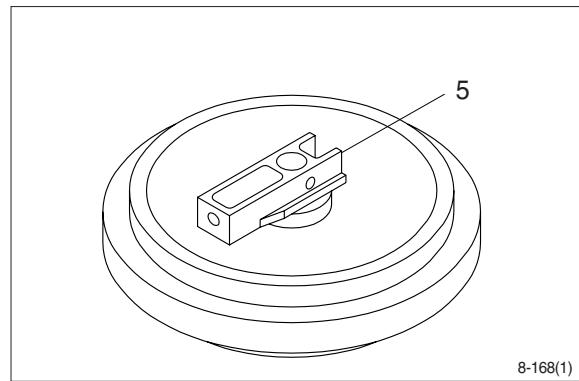
- ④ Install seal (3) to shell (1) and bracket (5).



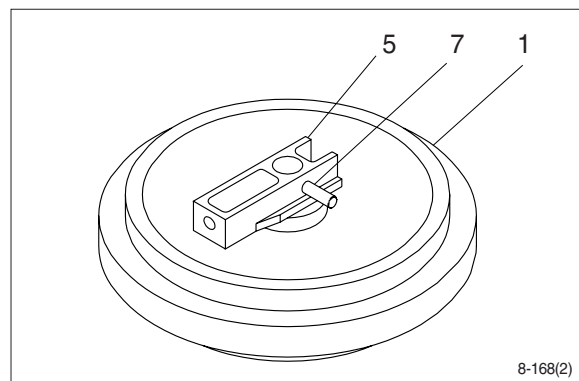
- ⑤ Install shaft (2) to shell (1).



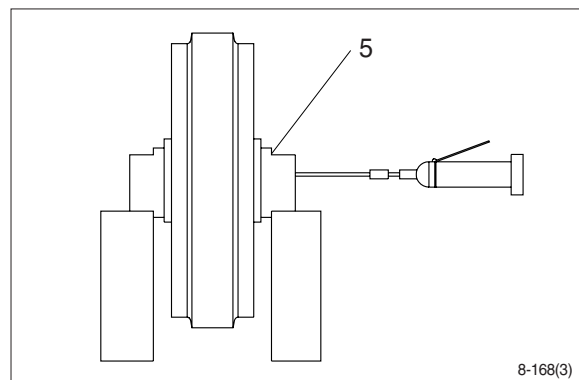
⑥ Install bracket (5) attached with seal (3).



⑦ Knock in the spring pin (7) with a hammer.

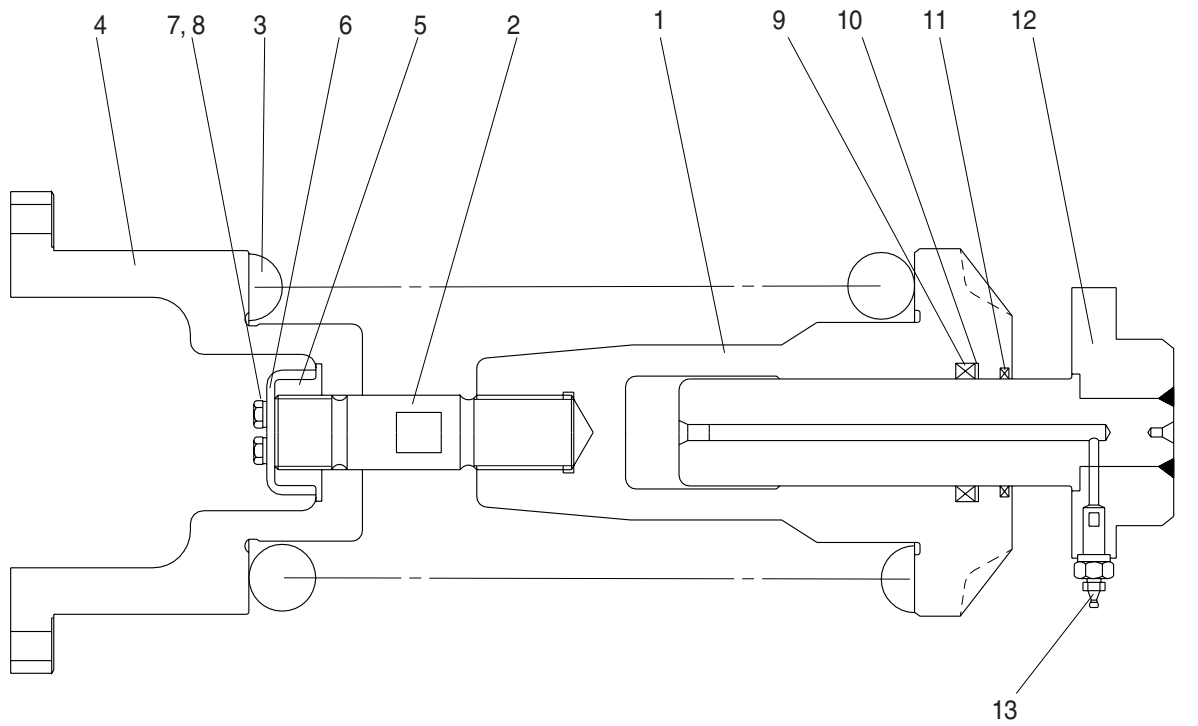


⑧ Lay bracket (5) on its side.  
Supply engine oil to the specified level,  
and tighten plug.



#### 4) DISASSEMBLY AND ASSEMBLY OF RECOIL SPRING

##### (1) Structure



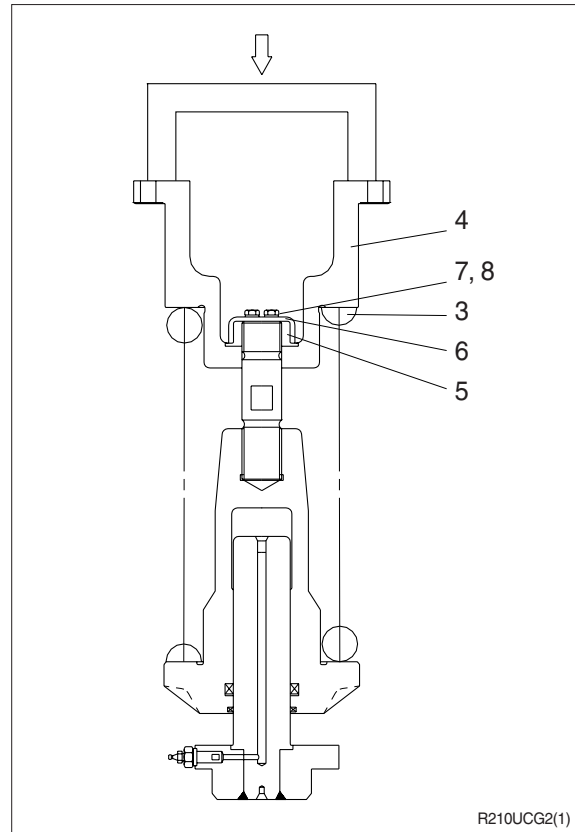
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- |   |          |    |               |    |              |
|---|----------|----|---------------|----|--------------|
| 1 | Body     | 6  | Lock plate    | 11 | Dust seal    |
| 2 | Tie bar  | 7  | Bolt          | 12 | Rod assembly |
| 3 | Spring   | 8  | Spring washer | 13 | Grease valve |
| 4 | Bracket  | 9  | Rod seal      |    |              |
| 5 | Lock nut | 10 | Back up ring  |    |              |

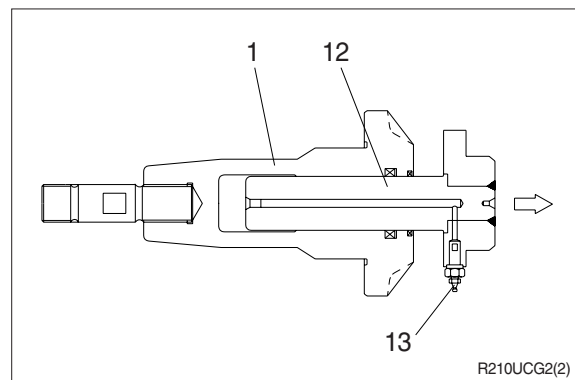
## (2) Disassembly

- ① Apply pressure on spring (3) with a press.
  - ※ The spring is under a large installed load. This is dangerous, so be sure to set properly.
    - Spring set load : 11132 kg (24542 lb)
- ② Remove bolt (7), spring washer (8) and lock plate (6).
- ③ Remove lock nut (5).

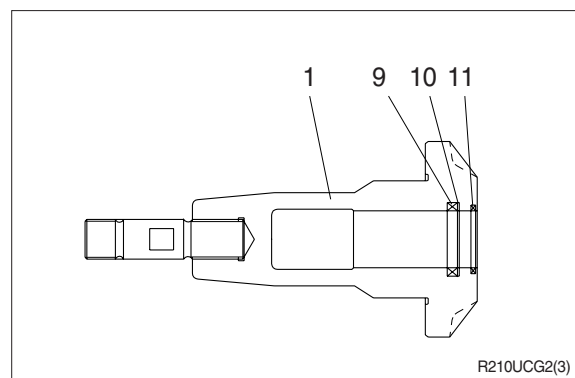
Take enough notice so that the press which pushes down the spring, should not be slipped out in its operation.
- ④ Lighten the press load slowly and remove bracket (4) and spring (3).



- ⑤ Remove rod (12) from body (1).
- ⑥ Remove grease valve (13) from rod (12).



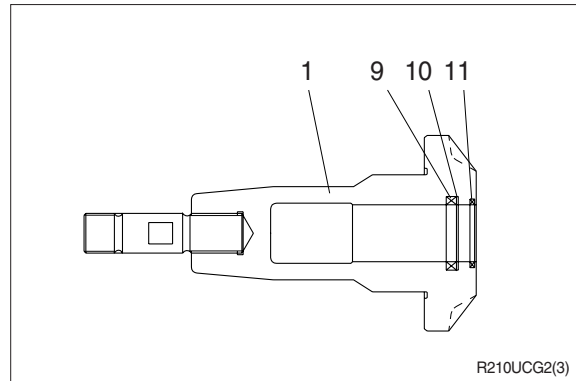
- ⑦ Remove rod seal (9), back up ring (10) and dust seal (11).



### (3) Assembly

Install dust seal (11), back up ring (10) and rod seal (9) to body (1).

- ※ When installing dust seal (11) and rod seal (9), take full care so as not to damage the lip.



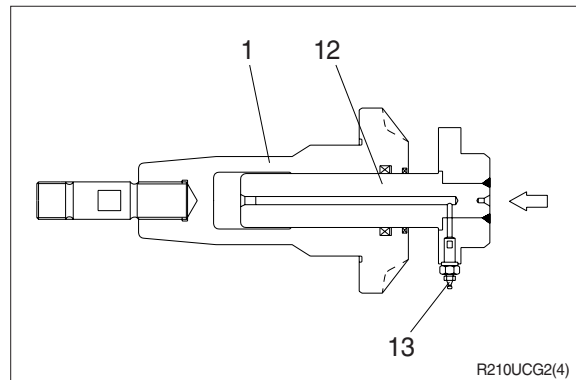
- ② Pour grease into body (1), then push in rod (12) by hand.

After take grease out of grease valve mounting hole, let air out.

- ※ If air letting is not sufficient, it may be difficult to adjust the tension of crawler.

- ③ Fit grease valve (13) to rod (12).

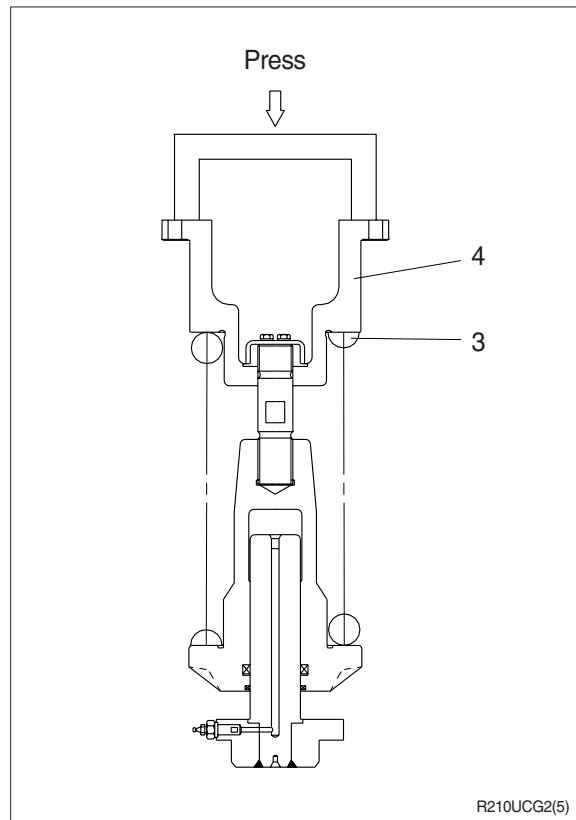
- Tightening torque :  $5 \pm 0.5 \text{ kgf} \cdot \text{m}$   
( $36.2 \pm 3.6 \text{ lbf} \cdot \text{ft}$ )



- ④ Install spring (3) and bracket (4) to body (1).

- ⑤ Apply pressure to spring (3) with a press and tighten lock nut (5).

- ※ Apply sealant before assembling.
- ※ During the operation, pay attention specially to prevent the press from slipping out.



- ⑥ Lighten the press load and confirm the set length of spring (3).
- ⑦ After the setting of spring (3), install lock plate (6), spring washer (8) and bolt (7).

