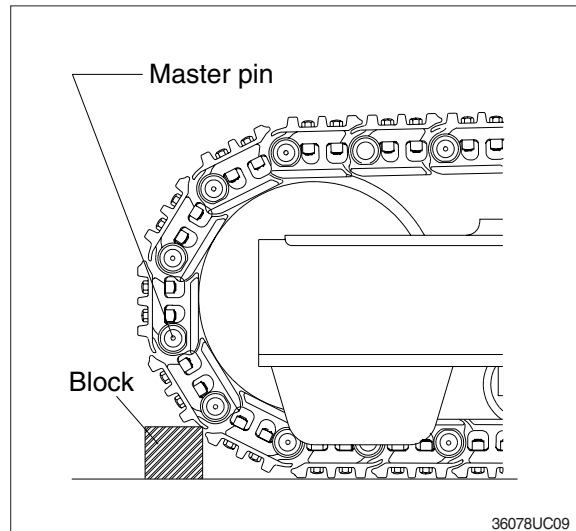


## GROUP 10 UNDERCARRIAGE

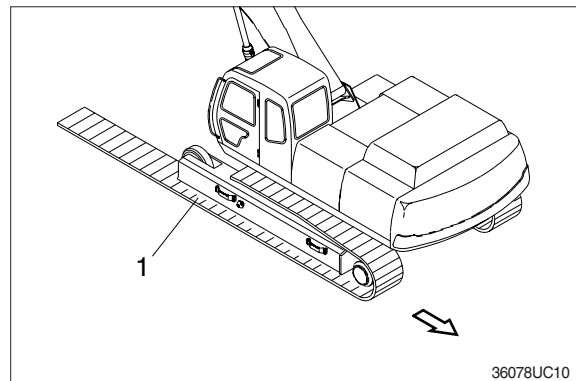
### 1. TRACK LINK

#### 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.

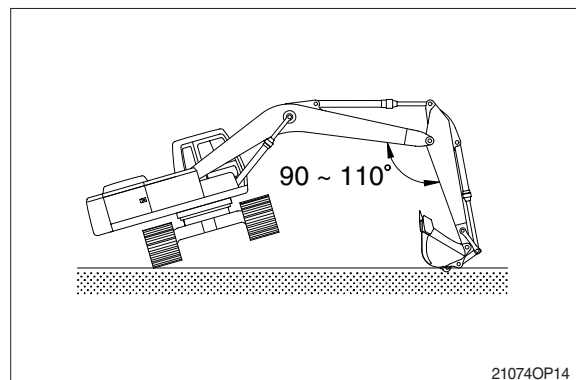


- (4) Move the machine slowly in reverse, and lay out track link assembly (1).
  - ※ Jack up the machine and put wooden block under the machine.
  - ※ Don't get close to the sprocket side as the track shoe plate may fall down on your feet.



#### 2) INSTALL

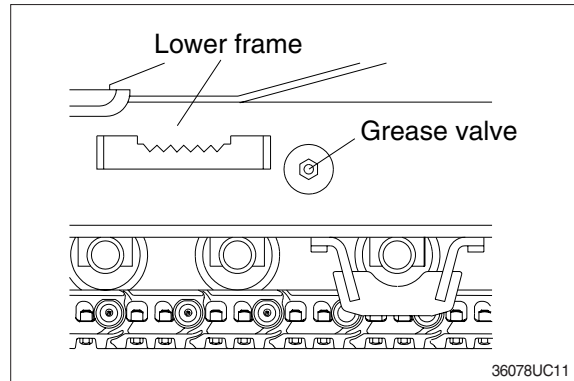
- (1) Carry out installation in the reverse order to removal.
  - ※ Adjust the tension of the track link.



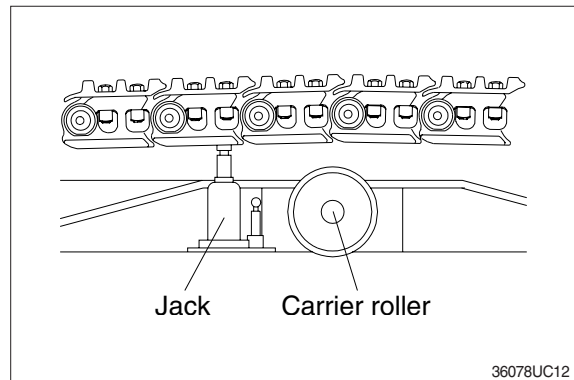
## 2. CARRIER ROLLER

### 1) REMOVAL

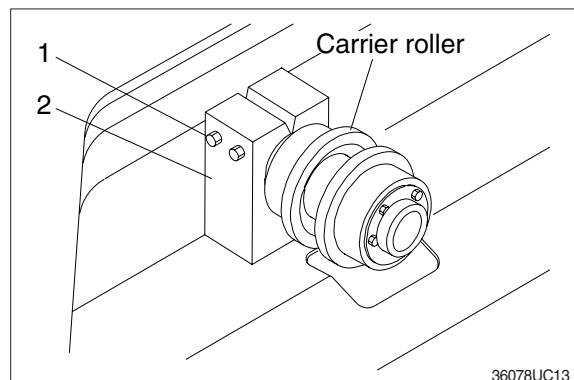
- (1) Loosen tension of the track link.



- (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 : 40 kg (88 lb)



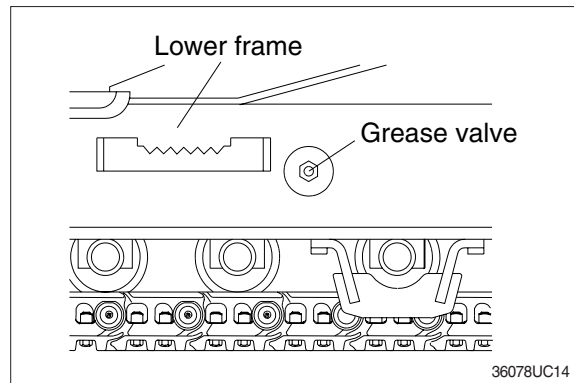
### 2) INSTALL

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

### 3. TRACK ROLLER

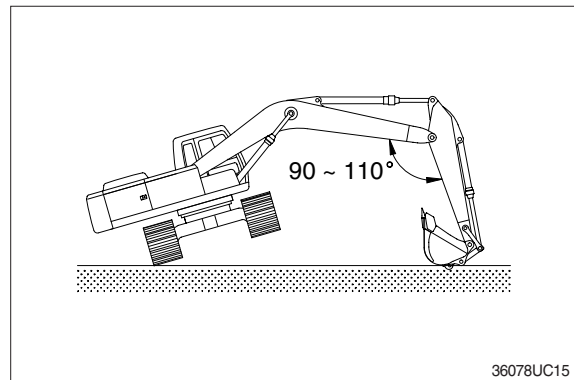
#### 1) REMOVAL

- (1) Loosen tension of the track link.



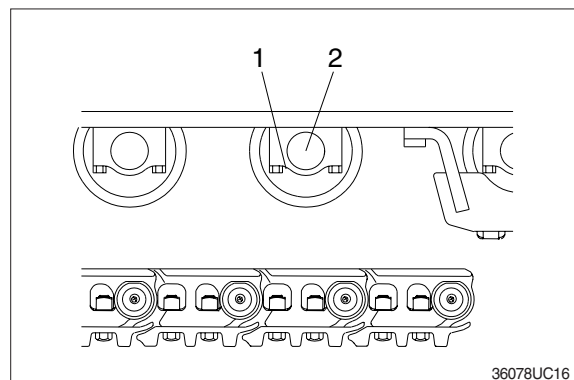
- (2) Using the work equipment, push up track frame on side which is to be removed.

※ After jack up the machine, set a block under the unit.



- (3) Remove the mounting bolts (1) and draw out the track roller (2).

· Weight : 80 kg (176.4 lb)



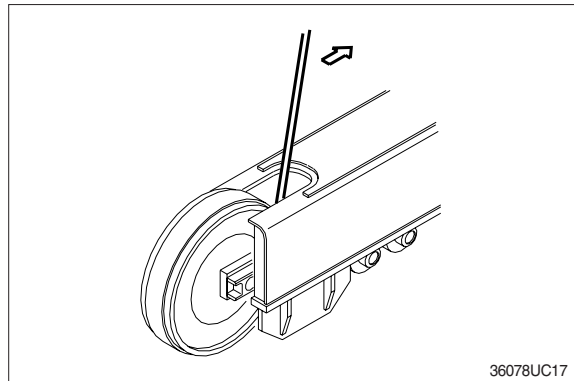
#### 2) INSTALL

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

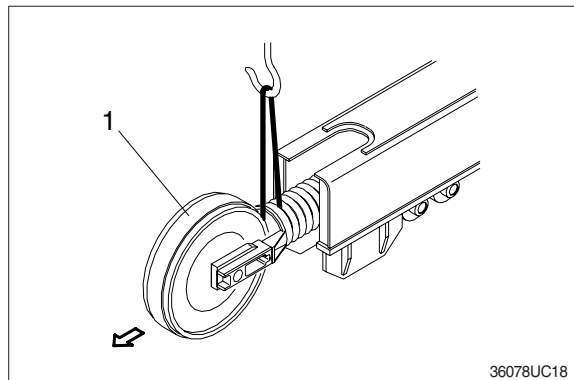
## 4. IDLER AND RECOIL SPRING

### 1) REMOVAL

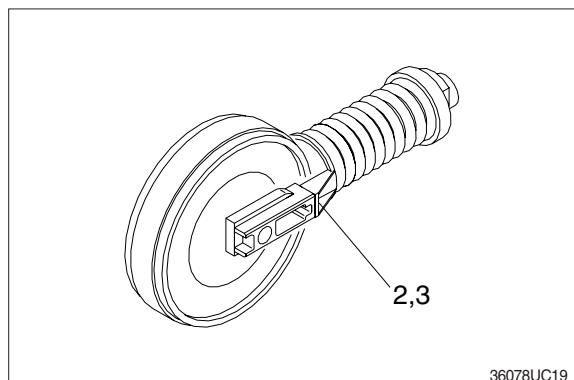
- (1) Remove the track link.  
For detail, see removal of track link.



- (2) Sling the recoil spring (1) and pull out idler and recoil spring assembly from track frame, using a pry.  
· Weight : 420 kg (930 lb)

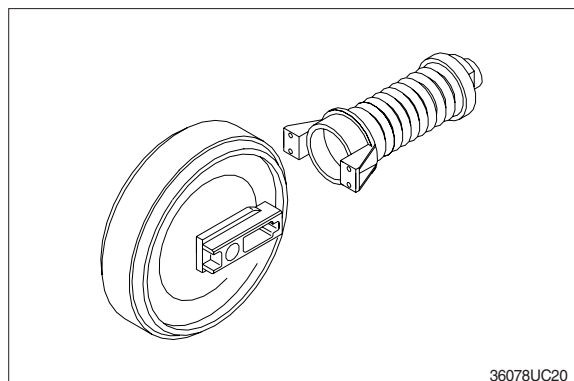


- (3) Remove the bolts (2), washers (3) and separate idler from recoil spring.



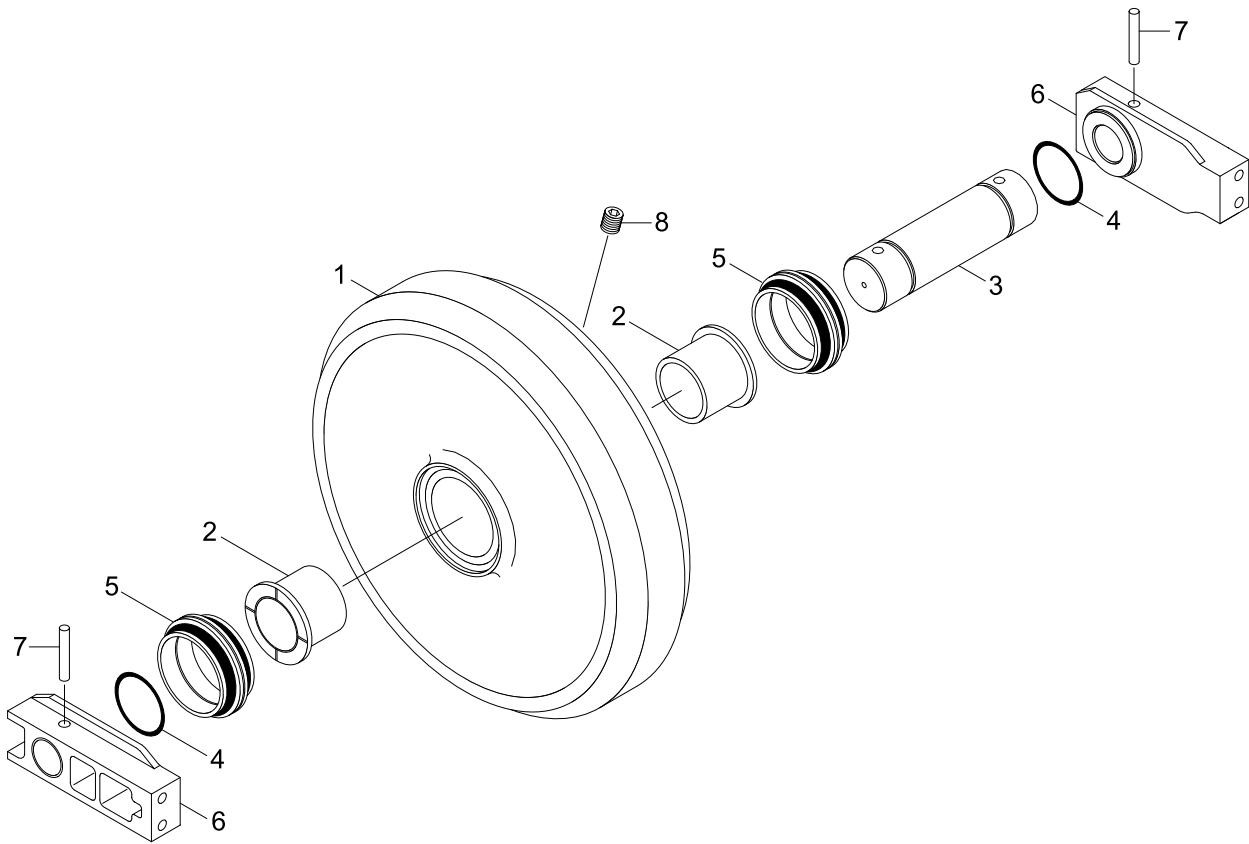
### 2) INSTALL

- (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

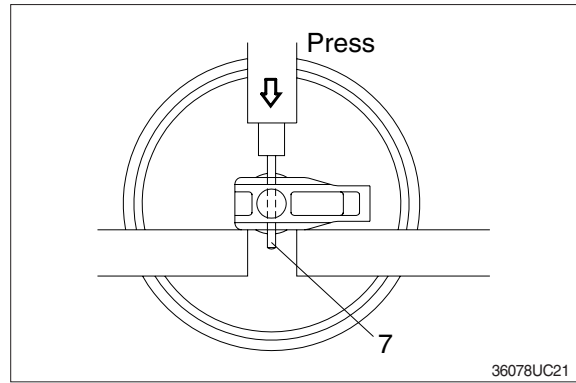


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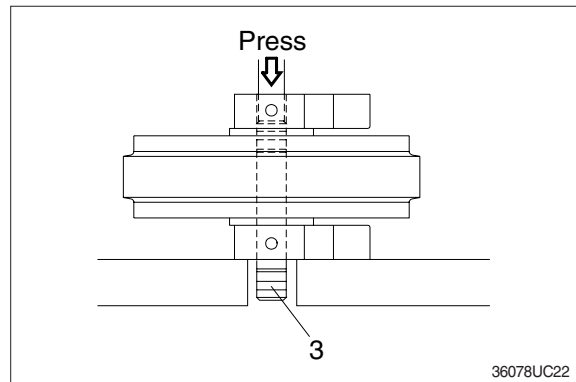
- |   |         |   |               |   |            |
|---|---------|---|---------------|---|------------|
| 1 | Shell   | 4 | O-ring        | 7 | Spring pin |
| 2 | Bushing | 5 | Seal assembly | 8 | Plug       |
| 3 | Shaft   | 6 | Bracket       |   |            |

**(2) Disassembly**

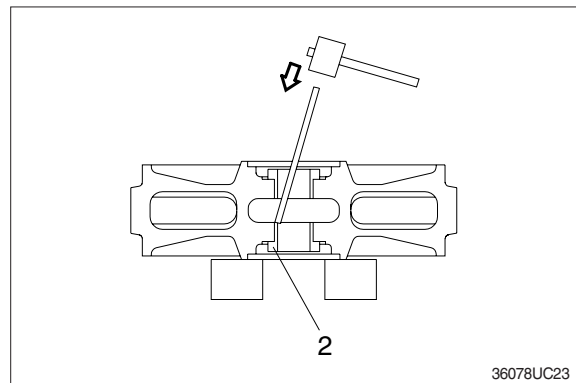
- ① Remove plug and drain oil.
- ② Draw out the spring pin (7), using a press.



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



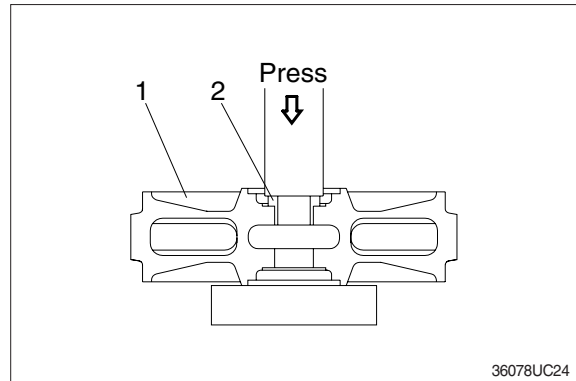
- ⑥ Remove the bushing (2) from shell, using a special tool.
- ※ Only remove bushing if replacement is necessary.



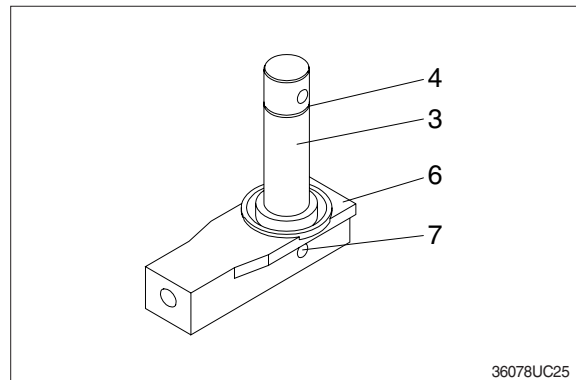
### (3) Assembly

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

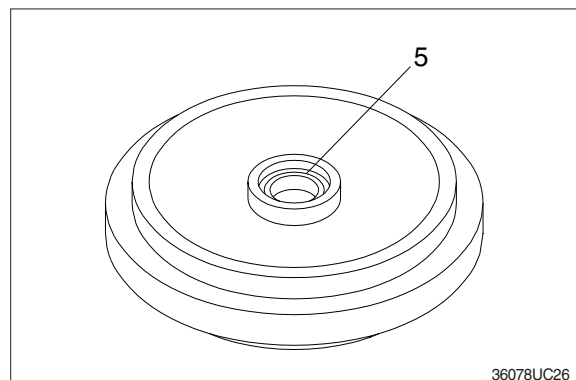
- ① Cool up bushing (2) fully by some dry ice and press it into shell (1).  
Do not press it at the normal temperature, or not knock in with a hammer even after the cooling.



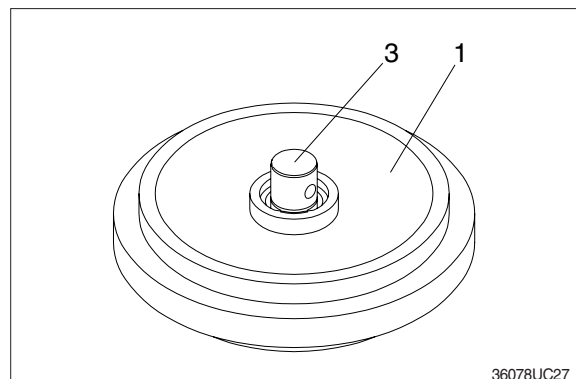
- ② Coat O-ring (4) with grease thinly, and install it to shaft (3).
- ③ Insert shaft (3) into bracket (6) and drive in the spring pin (7).



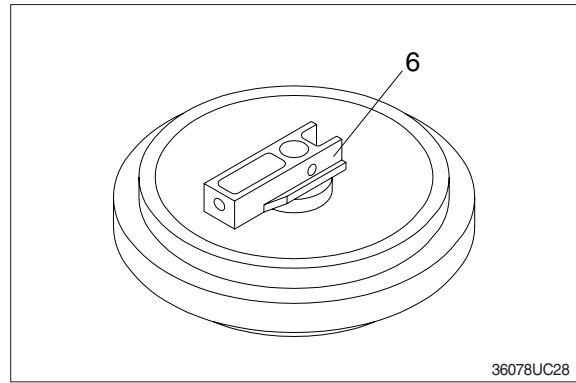
- ④ Install seal (5) to shell (1) and bracket (6).



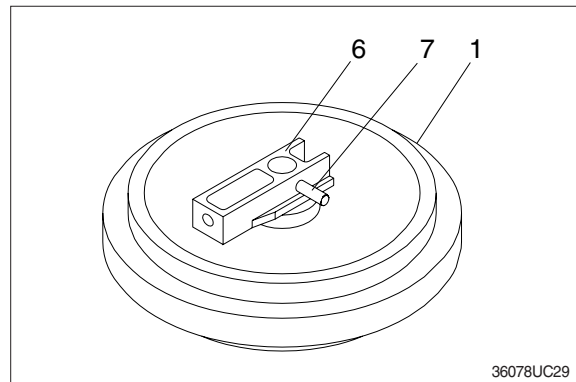
- ⑤ Install shaft (3) to shell (1).



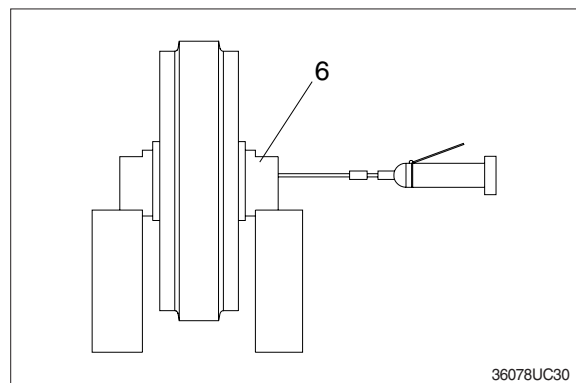
- ⑥ Install bracket (6) attached with seal (5).



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

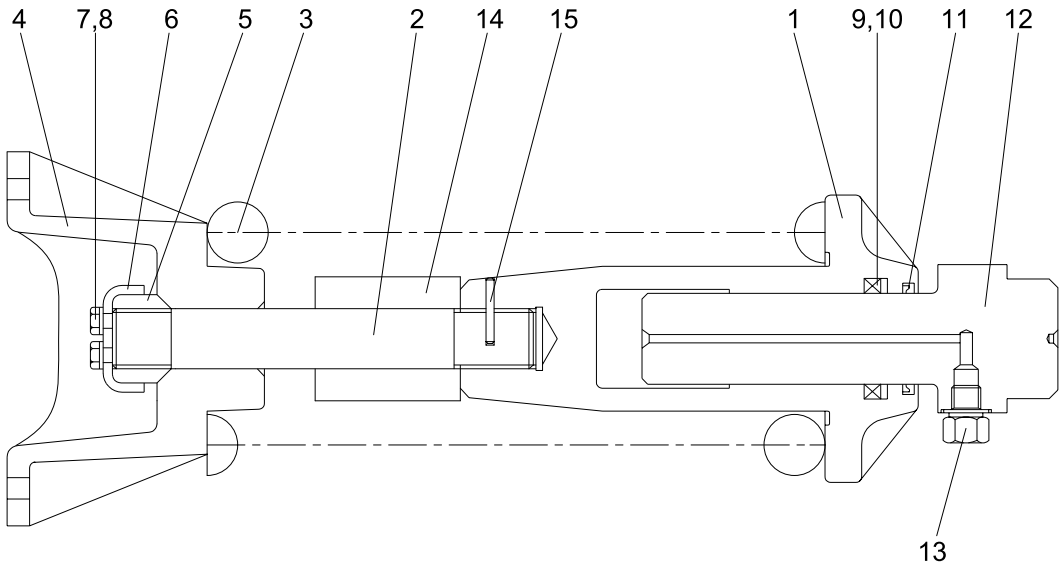


- ⑧ Lay bracket (6) on its side.  
Supply engine oil to the specified level,  
and tighten plug.



4) DISASSEMBLY AND ASSEMBLY OF RECOIL SPRING

(1) Structure



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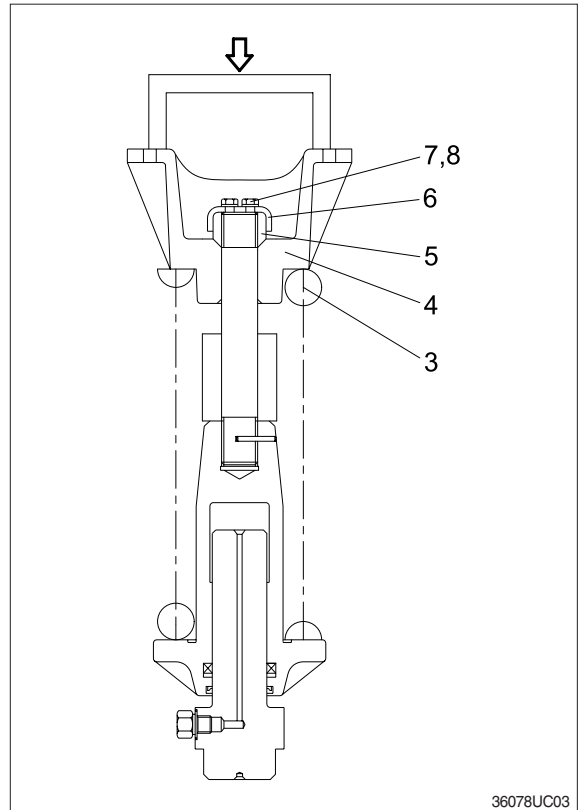
- |   |          |    |               |    |              |
|---|----------|----|---------------|----|--------------|
| 1 | Body     | 6  | Lock plate    | 11 | Dust seal    |
| 2 | Tie bar  | 7  | Hexagon bolt  | 12 | Rod          |
| 3 | Spring   | 8  | Spring washer | 13 | Grease valve |
| 4 | Bracket  | 9  | Rod packing   | 14 | Tube stopper |
| 5 | Lock nut | 10 | Back up ring  | 15 | Spring pin   |

## (2) Disassembly

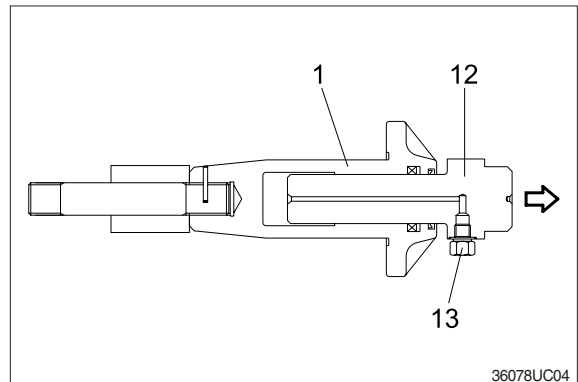
- ① Apply pressure on spring (3) with a press.
  - ※ The spring is under a large installed load. This is dangerous, so be sure to set properly.
  - Spring set load :  $21100 \pm 1688$  kg  
( $46517 \pm 3721$  lb)

- ② Remove bolt (7), spring washer (8) and lock plate (6).
- ③ Remove lock nut (5).

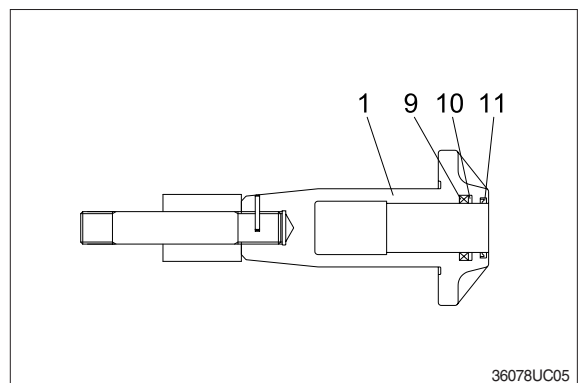
Take enough notice so that the press which pushes down the spring, should not be slipped out in its operation.
- ④ Lighten the press load slowly and remove bracket (4) and spring (3).



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



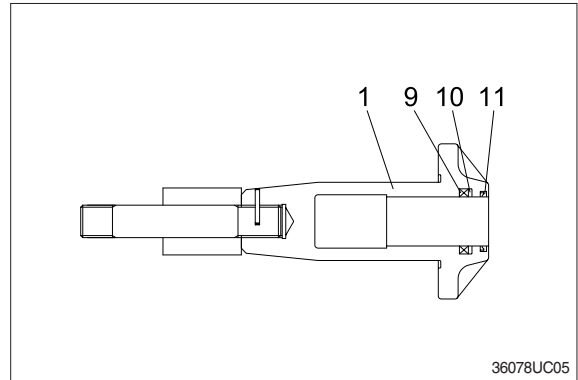
- ⑦ Remove rod packing (9), back up ring (10) and dust seal (11).



### (3) Assembly

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

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



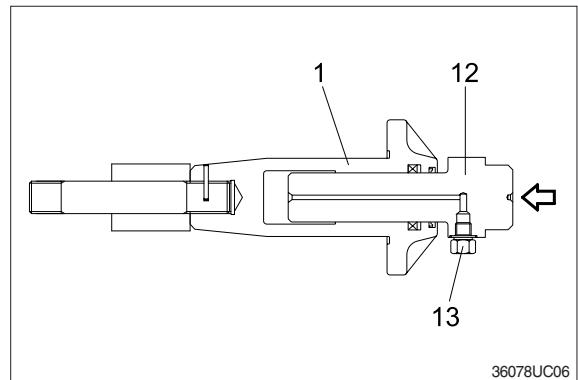
② Pour grease into body (1), then push in rod (12) by hand.

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 :  $10 \pm 1$  kgf · m  
( $72.3 \pm 7.2$  lbf · ft)

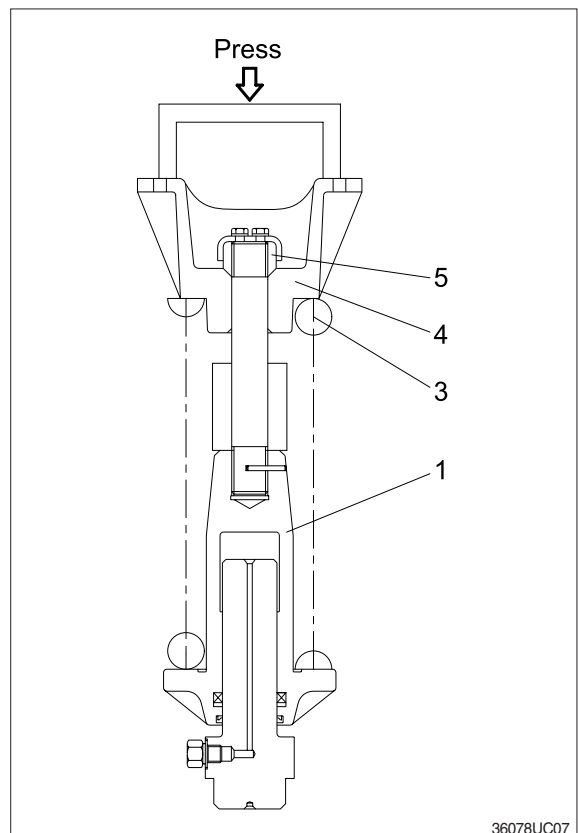


④ Install spring (3) and bracket (4) to body (1).

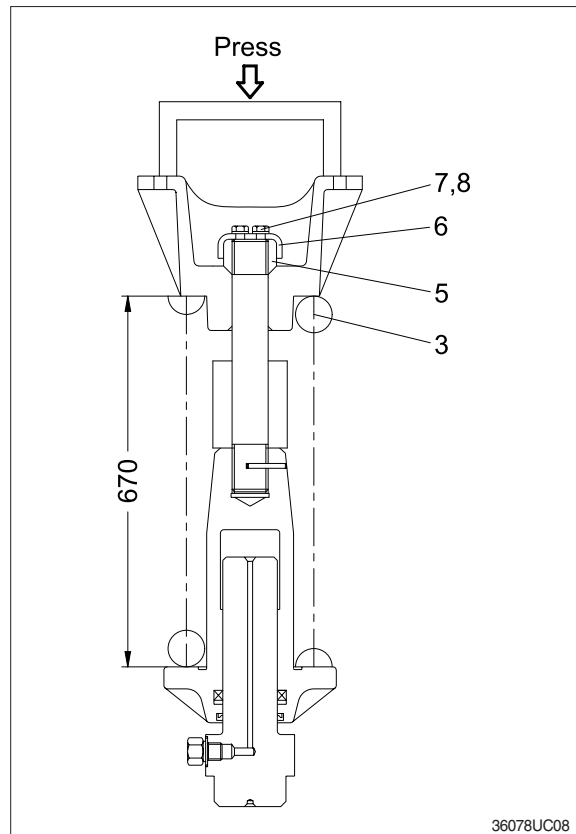
⑤ Apply pressure to spring (3) with a press and tighten lock nut (5).

※ 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).



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