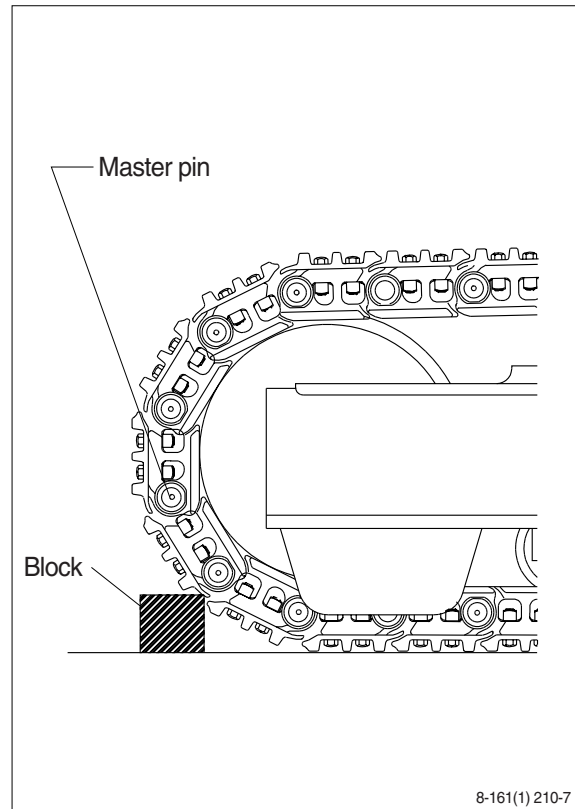


## GROUP 10 UNDERCARRIAGE

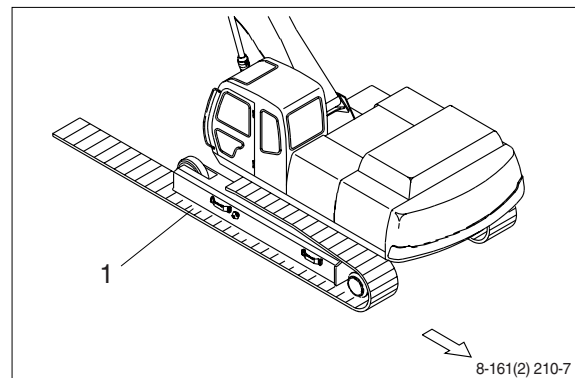
### 1. TRACK LINK

#### 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.

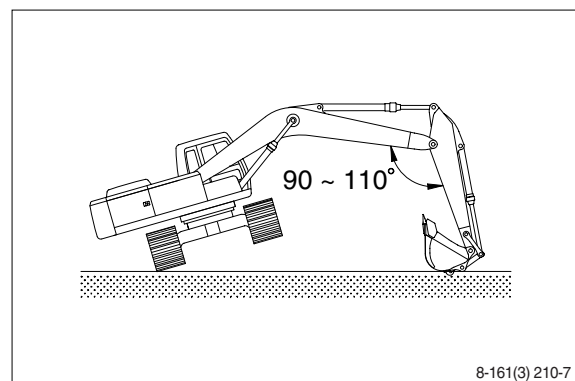


- (4) Move the machine slowly in reverse, and lay out track link assembly (1).
  - ※ Jack up the machine and put wooden block under the machine.
  - ※ Don't get close to the sprocket side as the track shoe plate may fall down on your feet.



#### 2) INSTALL

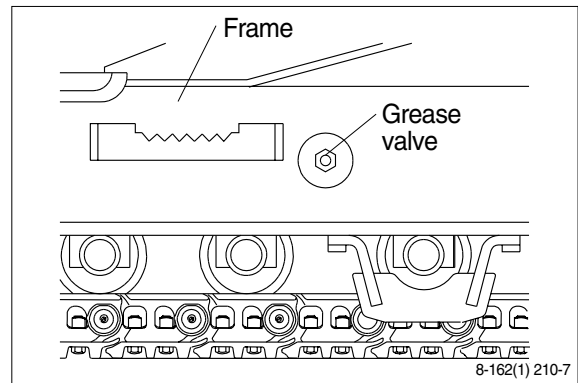
- (1) Carry out installation in the reverse order to removal.
  - ※ Adjust the tension of the track link.



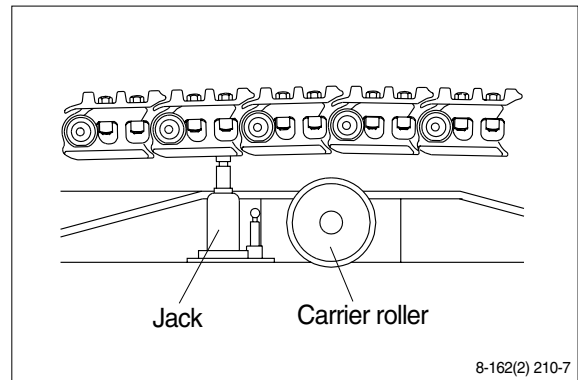
## 2. CARRIER ROLLER

### 1) REMOVAL

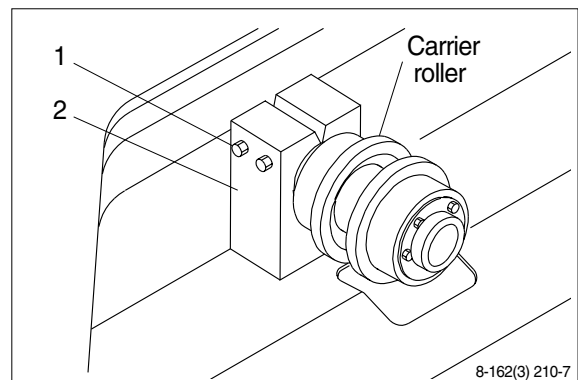
- (1) Loosen tension of the track link.



- (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 : 48kg(88lb)



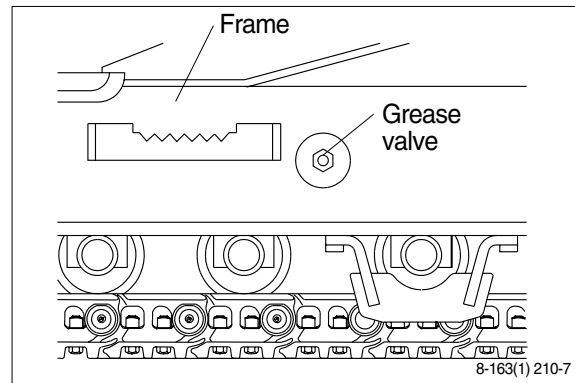
### 2) INSTALL

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

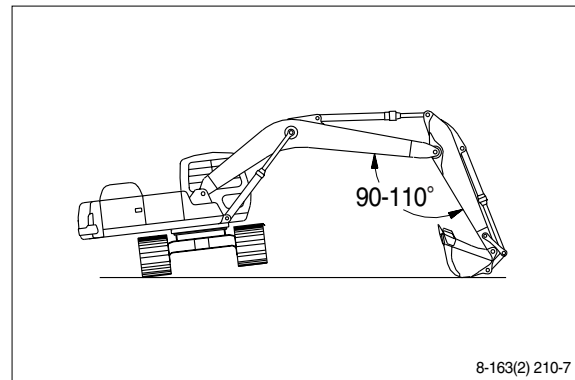
### 3. TRACK ROLLER

#### 1) REMOVAL

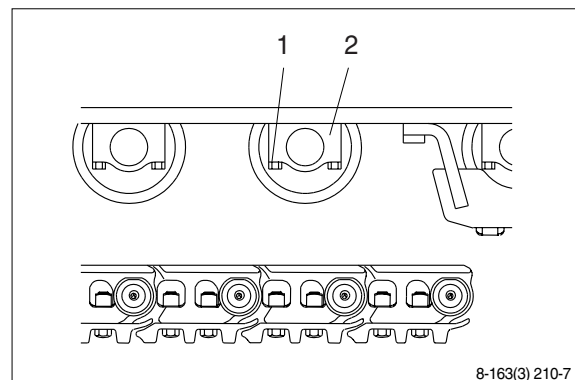
- (1) Loosen tension of the track link.



- (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 : 54kg(119lb)



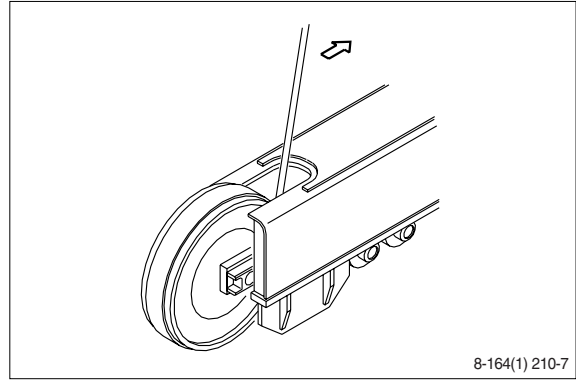
#### 2) INSTALL

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

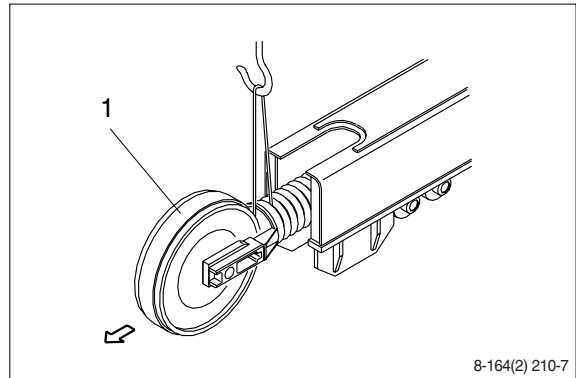
## 4. IDLER AND RECOIL SPRING

### 1) REMOVAL

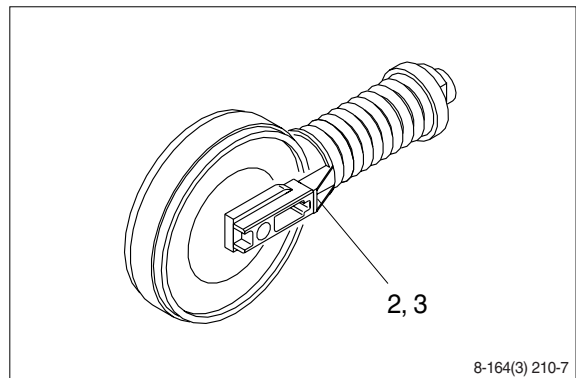
- (1) Remove the track link.  
For detail, see **removal of track link**.



- (2) Sling the recoil spring(1) and pull out idler and recoil spring assembly from track frame, using a pry.  
· Weight : 457kg(1010lb)

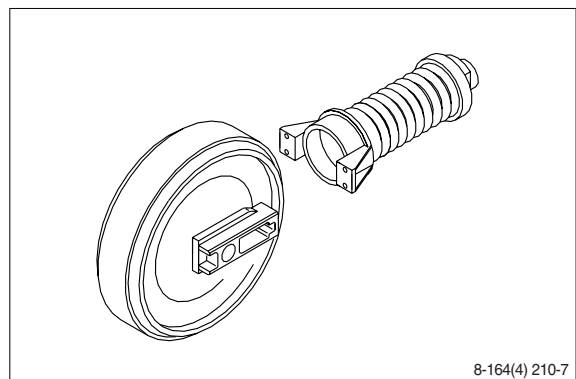


- (3) Remove the bolts(2), washers(3) and separate idler from recoil spring.



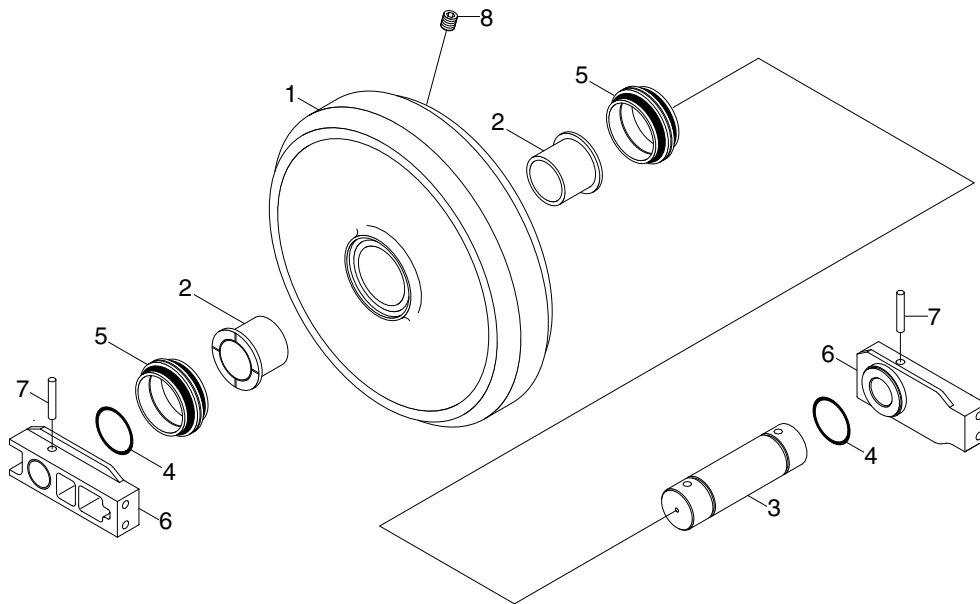
### 2) INSTALL

- (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

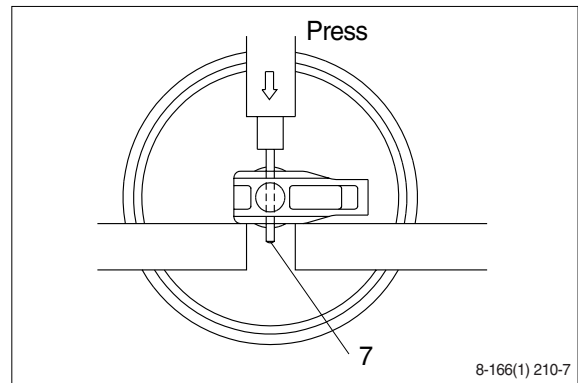


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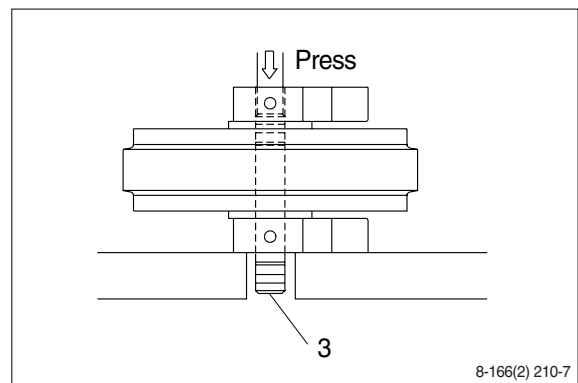
- |   |         |   |               |   |            |
|---|---------|---|---------------|---|------------|
| 1 | Shell   | 4 | O-ring        | 7 | Spring pin |
| 2 | Bushing | 5 | Seal assembly | 8 | Plug       |
| 3 | Shaft   | 6 | Bracket       |   |            |

## (2) Disassembly

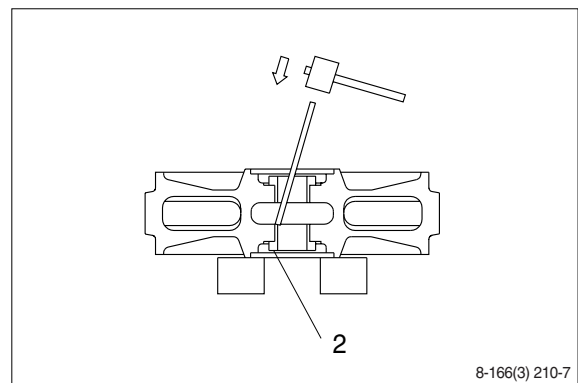
- ① Remove plug and drain oil.
- ② Draw out the spring pin(7), using a press.



- ③ Pull out the shaft(2) 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 idler, using a special tool.
- ※ Only remove bushing if replacement is necessity.

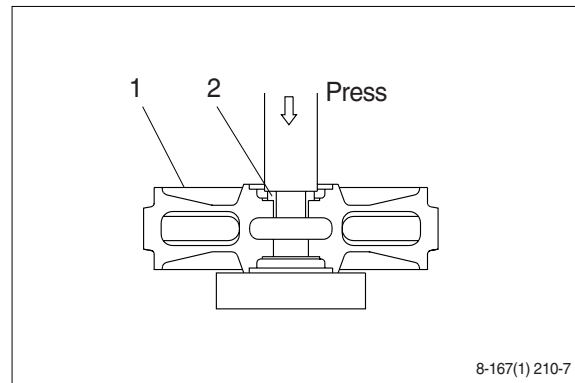


### (3) Assembly

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

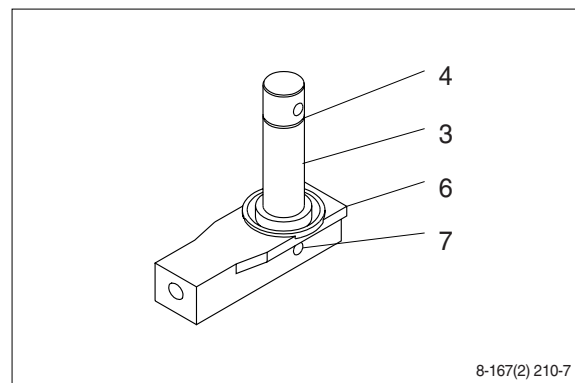
- ① Cool up bushing(2) fully by some dry ice and press it into shell(1).

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

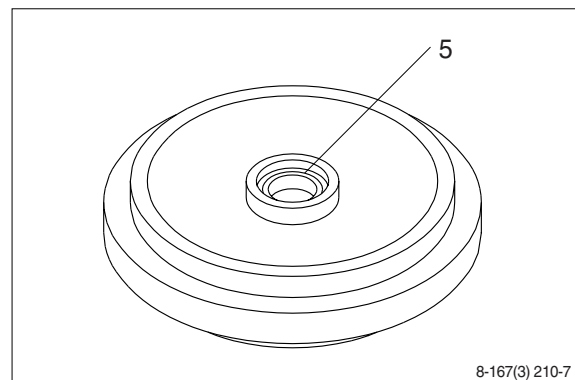


- ② Coat O-ring(4) with grease thinly, and install it to shaft(3).

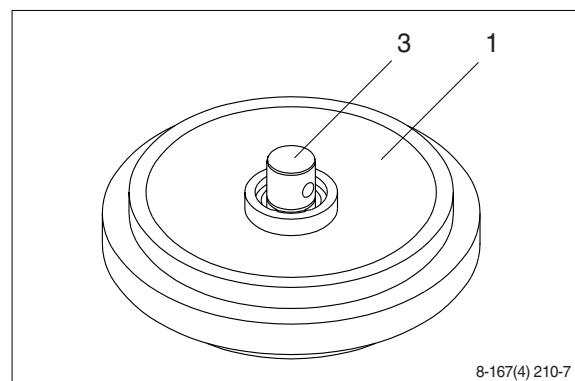
- ③ Insert shaft(3) into bracket(6) and drive in the spring pin(7).



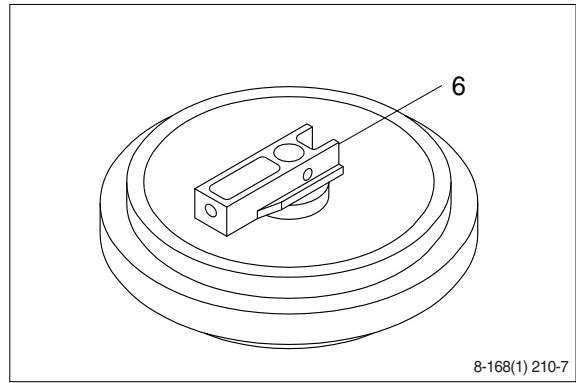
- ④ Install seal(5) to shell(1) and bracket(6).



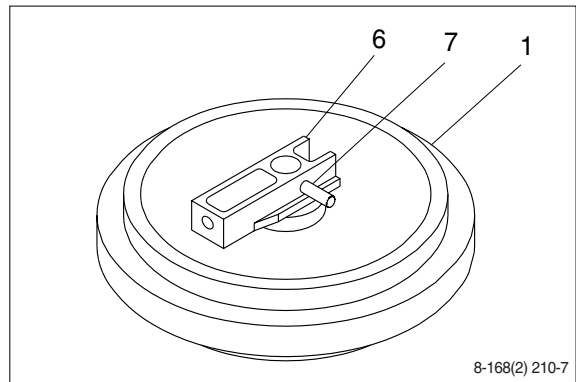
- ⑤ Install shaft(3) to shell(1).



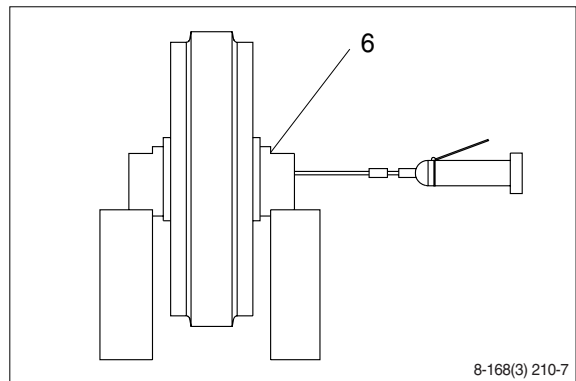
- ⑥ Install bracket(6) attached with seal(5).



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



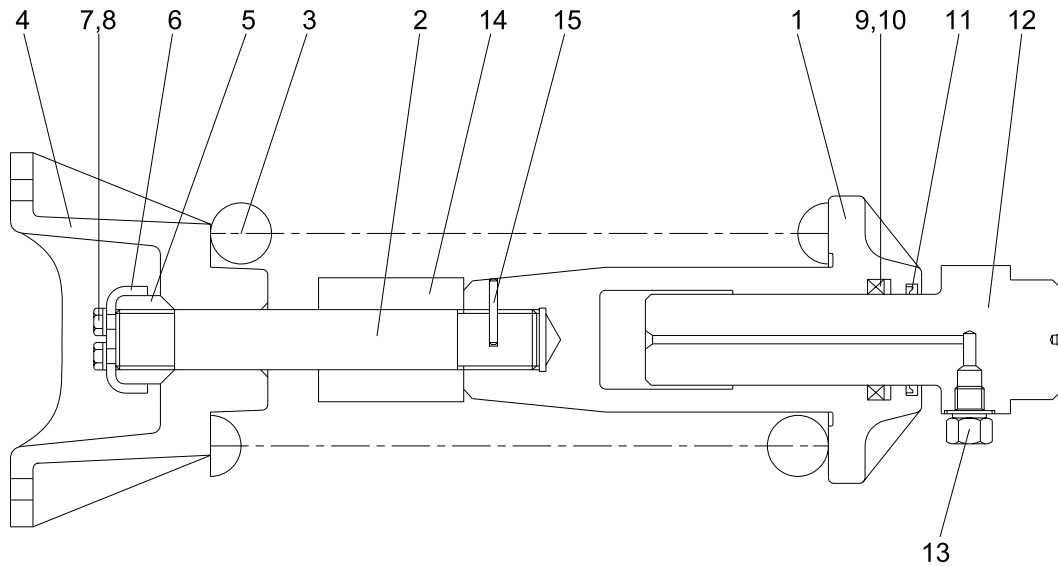
- ⑧ Lay bracket(6) on its side.  
Supply engine oil to the specified level,  
and tighten plug.





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

##### (1) Structure



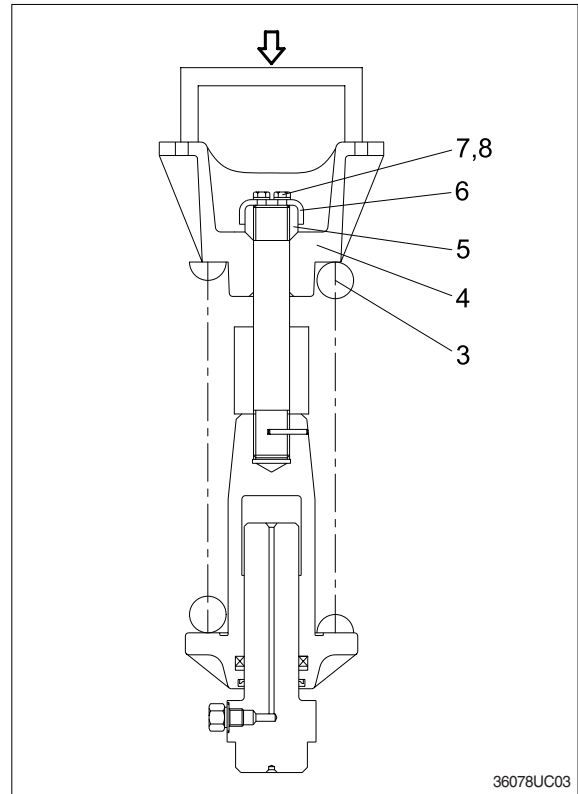
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- |   |          |    |               |    |              |
|---|----------|----|---------------|----|--------------|
| 1 | Body     | 6  | Lock plate    | 11 | Dust seal    |
| 2 | Tie bar  | 7  | Bolt          | 12 | Rod assembly |
| 3 | Spring   | 8  | Spring washer | 13 | Grease valve |
| 4 | Bracket  | 9  | Rod seal      | 14 | Stopper tube |
| 5 | Lock nut | 10 | Back up ring  | 15 | Spring pin   |

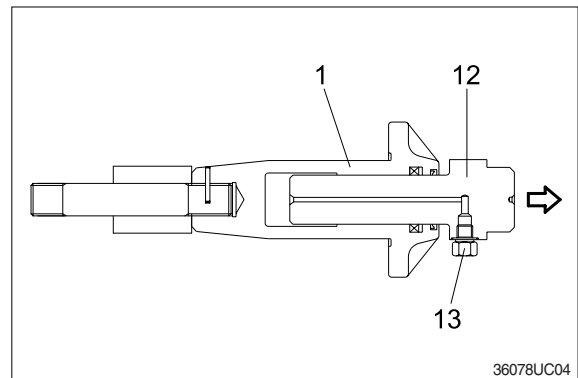
## (2) Disassembly

- 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 : 19012kg(41826lb)
- ② Remove bolt(7), spring washer(8) and lock plate(6).
- ③ Remove lock nut(5).

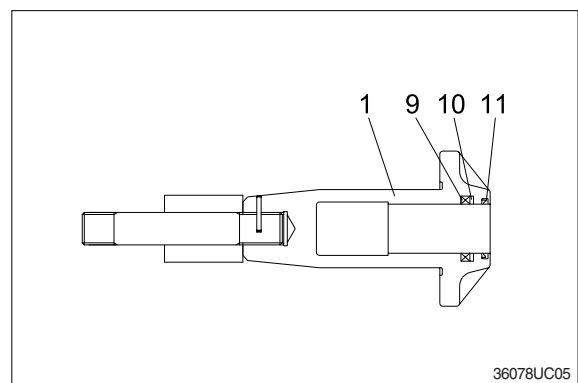
Take enough notice so that the press which pushes down the spring, should not be slipped out in its operation.
- ④ Lighten the press load slowly and remove bracket(4) and spring(3).



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



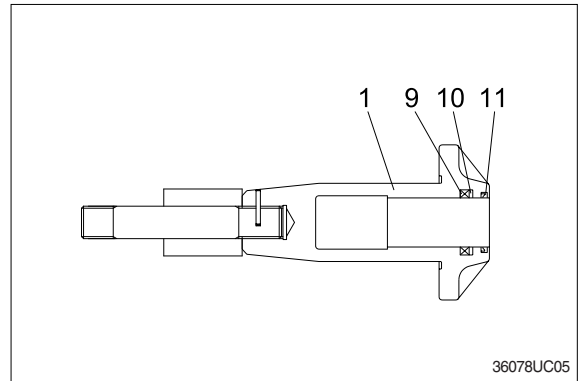
- ⑦ Remove rod seal(9), back up ring(10) and dust seal(11).



### (3) Assembly

- ① 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.

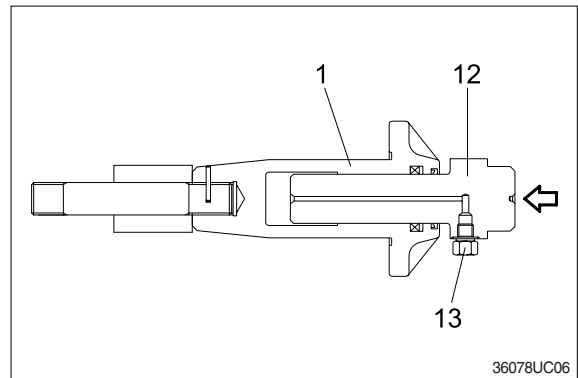


- ② Pour grease into body(1), then push in rod(12) by hand.

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 :  $13.0 \pm 1.0 \text{ kgf} \cdot \text{m}$   
( $94 \pm 7.2 \text{ lbf} \cdot \text{ft}$ )

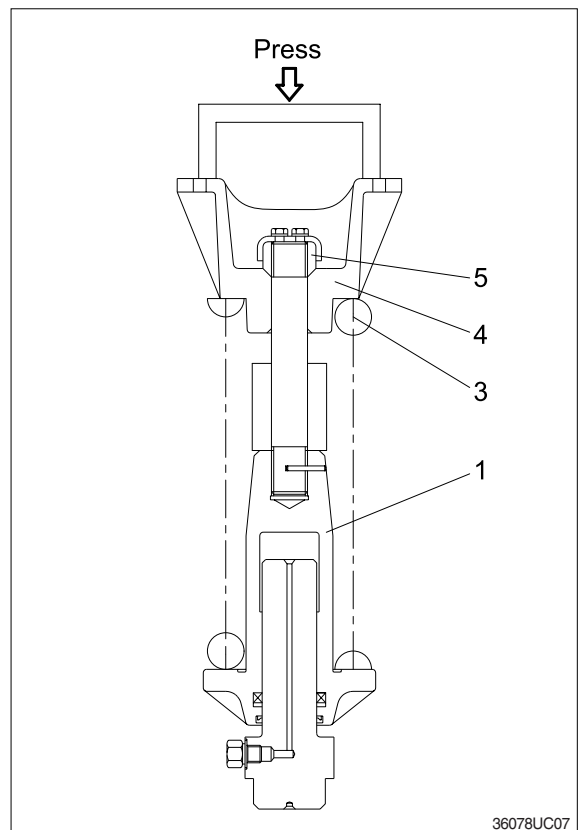


- ④ Install spring(3) and bracket(4) to body (1).

- 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).

