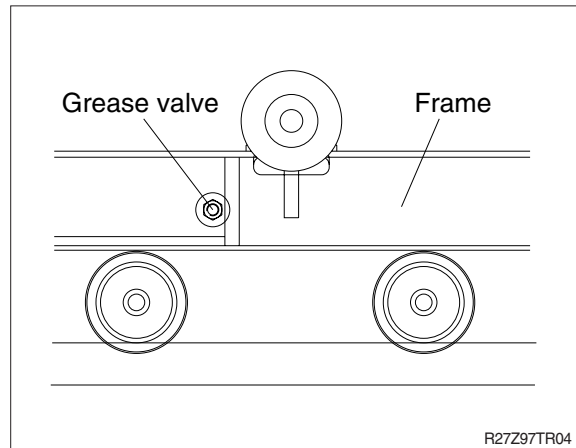


GROUP 10 UNDERCARRIAGE

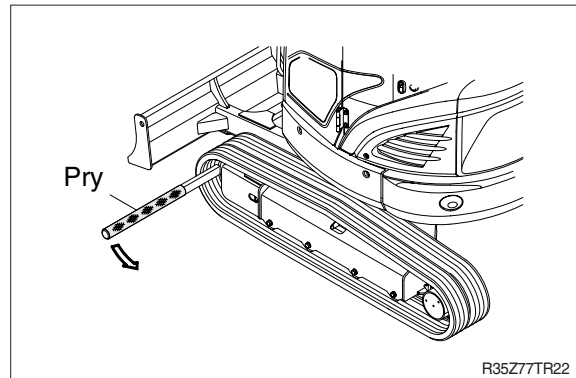
1. RUBBER TRACK

1) REMOVAL

- (1) Loosen tension of the rubber track.
 - ※ If track tension is not relieved when the grease valve is loosened, move the machine backwards and forwards.

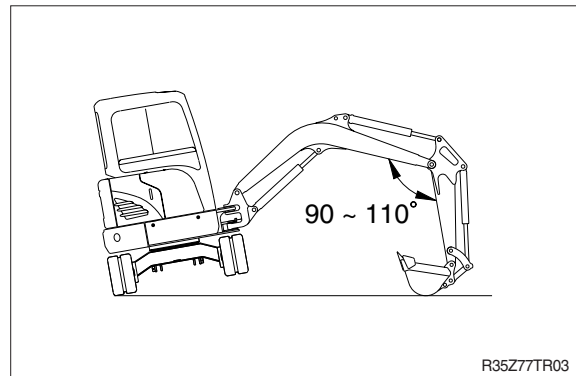


- (2) Remove the rubber track from lower frame using pry.



2) INSTALL

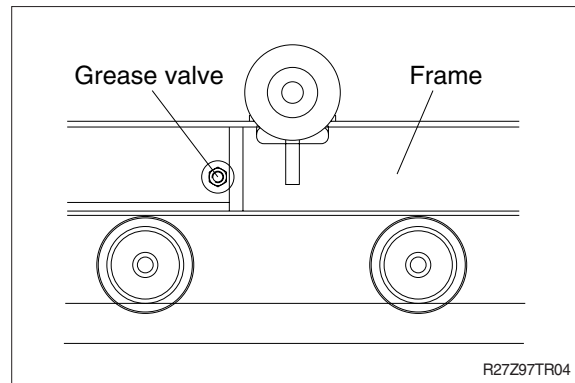
- (1) Carry out installation in the reverse order to removal.
 - ※ Adjust the tension of the rubber track.



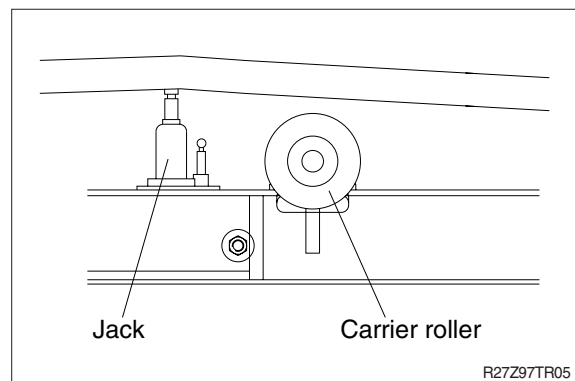
2. CARRIER ROLLER

1) REMOVAL

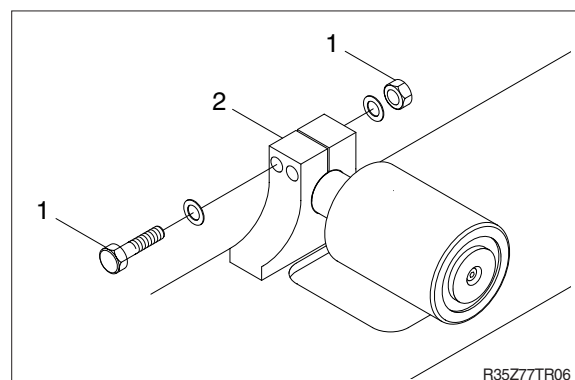
- (1) Loosen tension of the rubber track.



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



- (3) Loosen the bolt and nut (1).
 - Tightening torque : $12.3 \pm 1.2 \text{ kgf} \cdot \text{m}$
($89 \pm 8.68 \text{ lbf} \cdot \text{ft}$)
- (4) Open bracket (2) with a screwdriver, push out from inside, and remove carrier roller assembly.
 - Weight : 3 kg (7 lb)



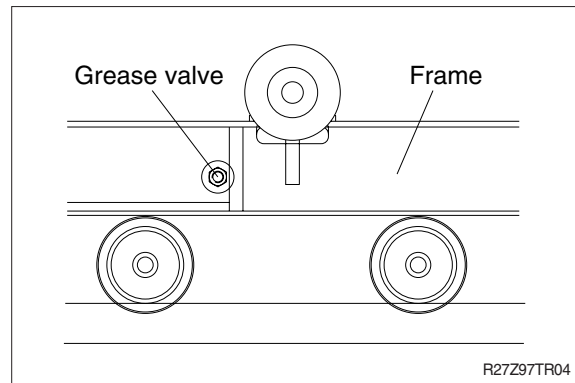
2) INSTALL

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

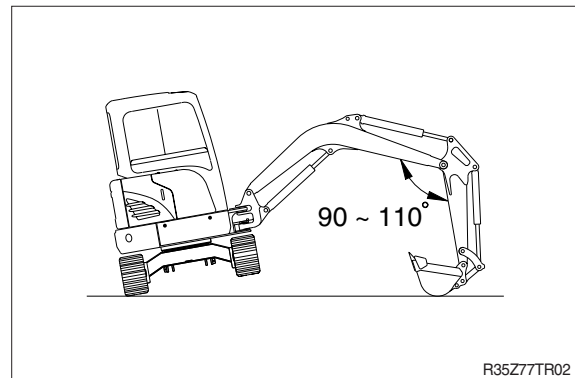
3. TRACK ROLLER

1) REMOVAL

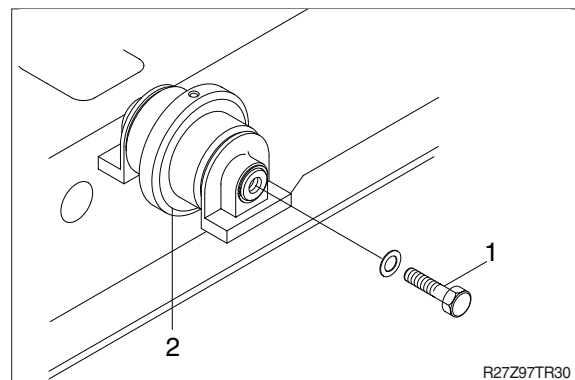
- (1) Loosen tension of the rubber track.



- (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 : 6 kg (13 lb)
 - Tightening torque : 29.7 ± 3.0 kgf · m
(215 ± 21.7 lbf · ft)



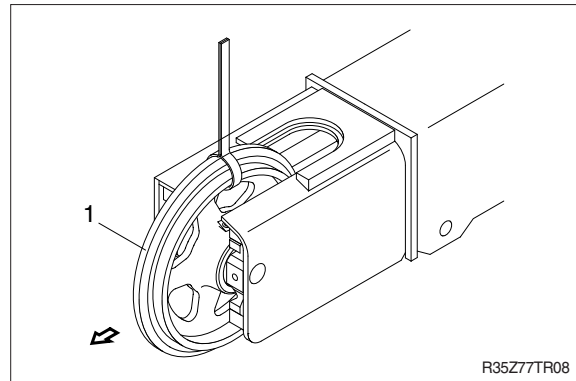
2) INSTALL

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

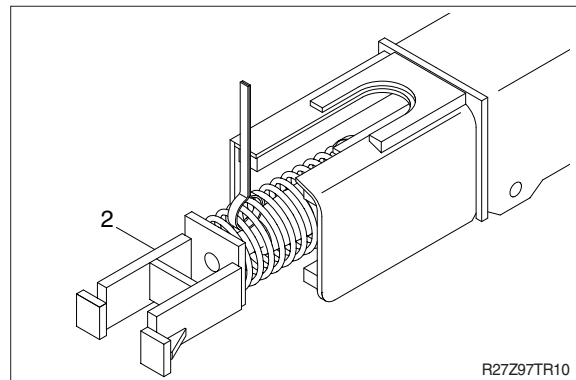
4. IDLER AND RECOIL SPRING

1) REMOVAL

- (1) Remove the track link.
For detail, see removal of track link.
- (2) Sling the idler (1) and pull out idler and recoil spring assembly from track frame, using a pry.
 - Weight : 15 kg (33 lb)

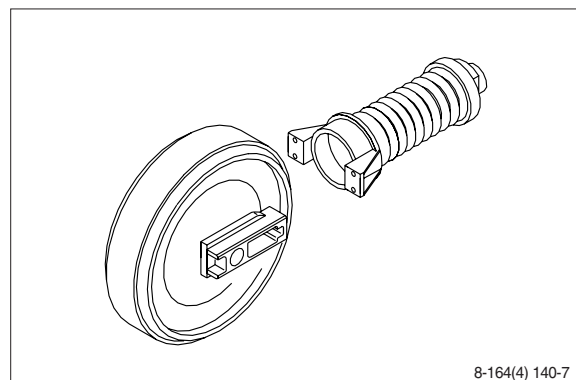


- (3) Pull out yoke and spring weld assembly from track frame, using a pry.
 - Weight : 11 kg (24 lb)



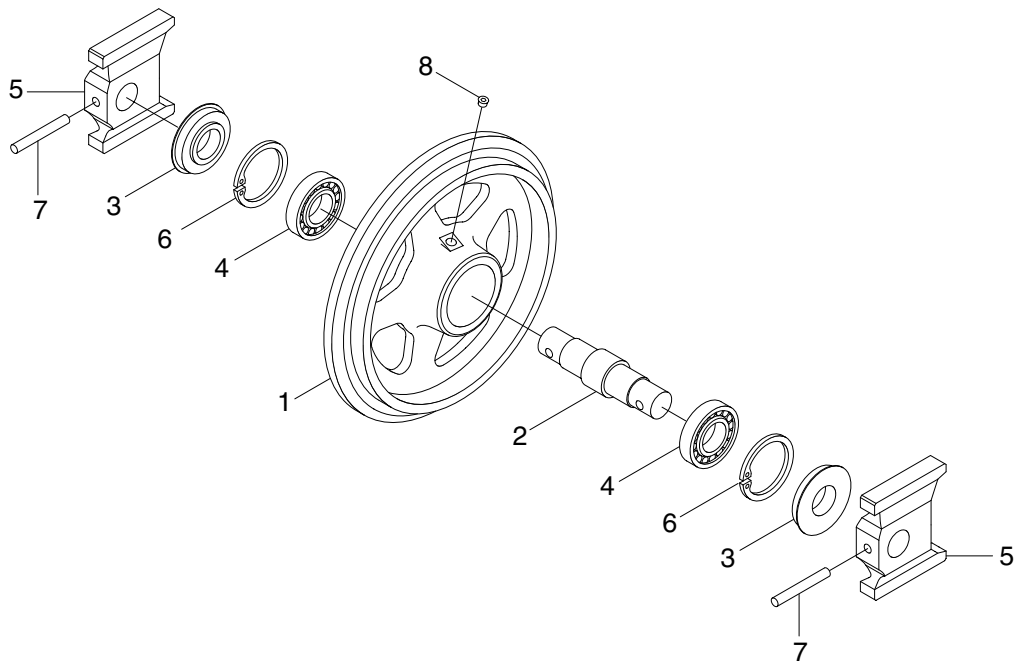
2) INSTALL

- (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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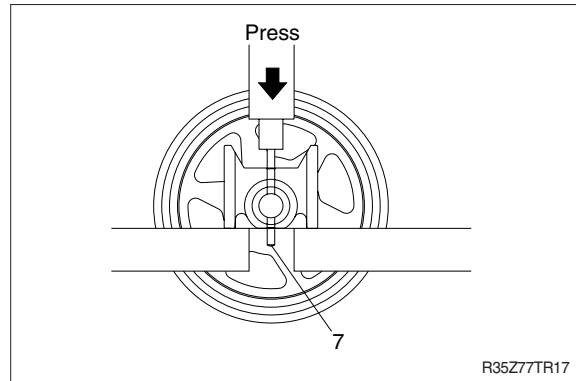
1 Shell
2 Shaft
3 Seal assembly

4 Ball bearing
5 Bracket
6 Snap ring

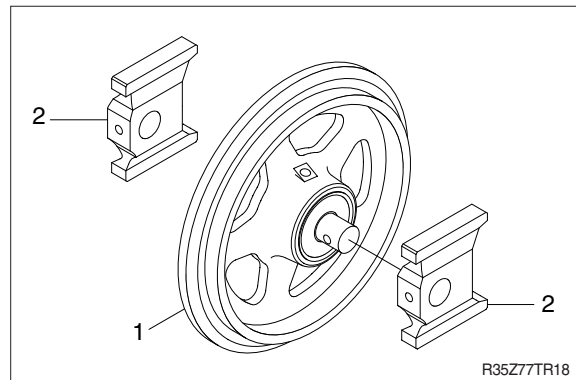
7 Spring pin
8 Plug

(2) Disassembly

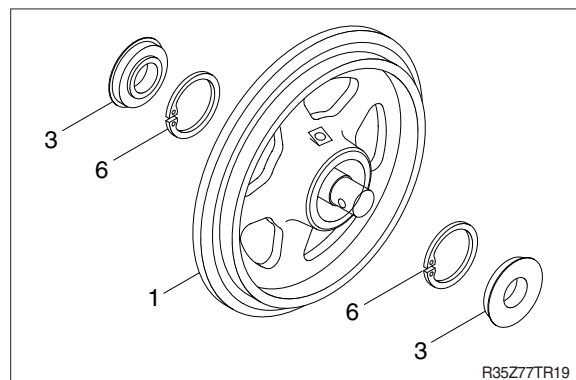
- ① Remove plug and drain oil.
- ② Draw out the spring pin (7), using a press.



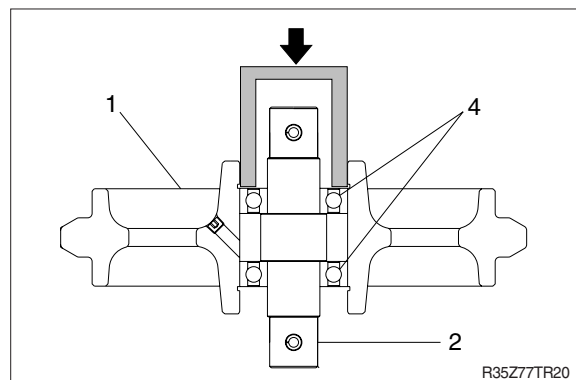
- ③ Remove brackets (2) from shaft.



- ④ Remove seal assembly (3) from shell (1) by pry.
- ※ Do not reuse seal assembly after removal.
- ⑤ Remove snap ring (6) from shell (1)

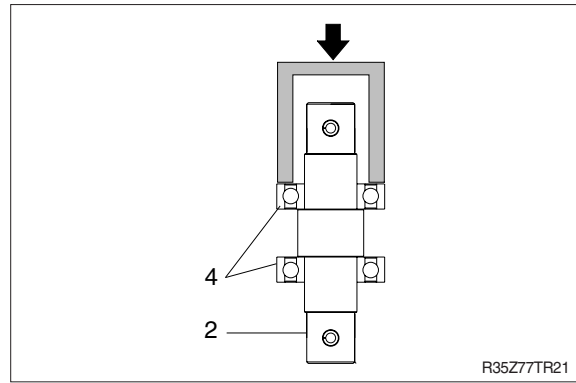


- ⑥ Draw out the ball bearing (4) with shaft (2) using press.
- ⑦ Remove the ball bearing (4) from shaft, using a special tool.
- ※ Only remove ball bearing if replacement is necessary.

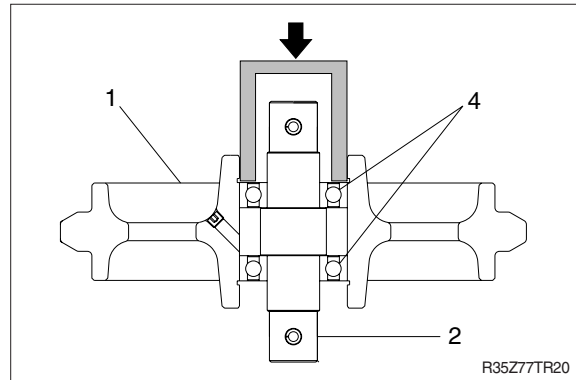


(3) Assembly

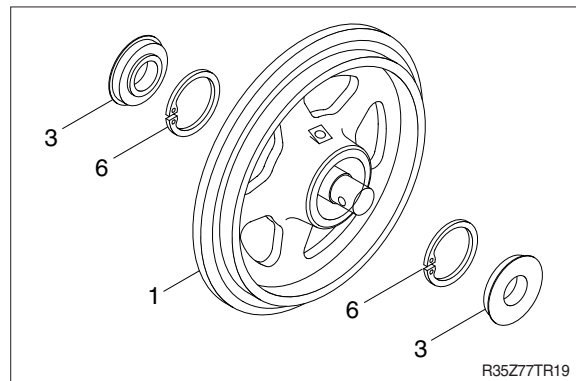
- ※ Before assembly, clean the parts.
- ※ Coat the sliding surfaces of all parts with oil.
- ① Do not press it at the normal temperature, assemble ball bearing (4) to shaft by press.



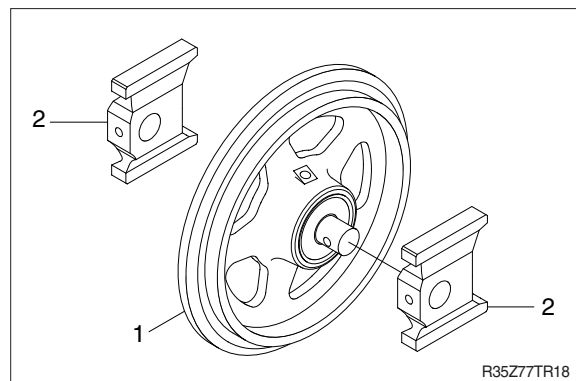
- ② Insert shaft (2) with ball bearing (4) assembly to shell (1).



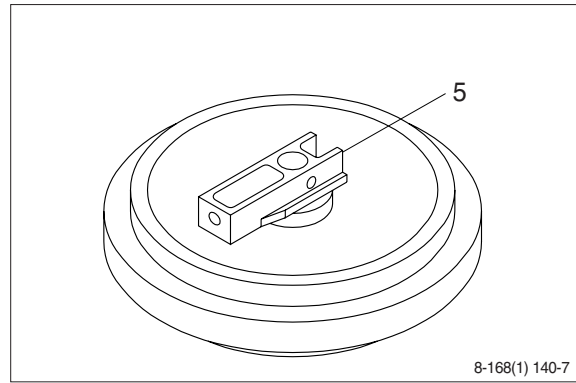
- ③ Assemble snap ring (6) and seal assembly (3).



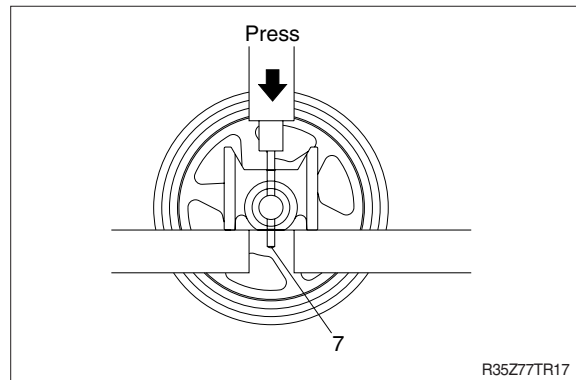
- ④ Assemble bracket (2) to shell (1).



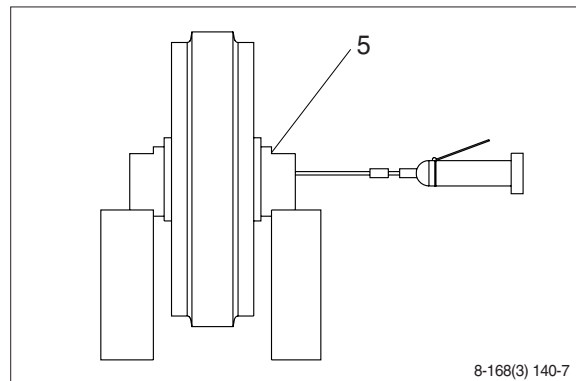
- ⑤ Install bracket (5) attached with seal (3).



- ⑥ Knock in the spring pin (7) with a hammer.

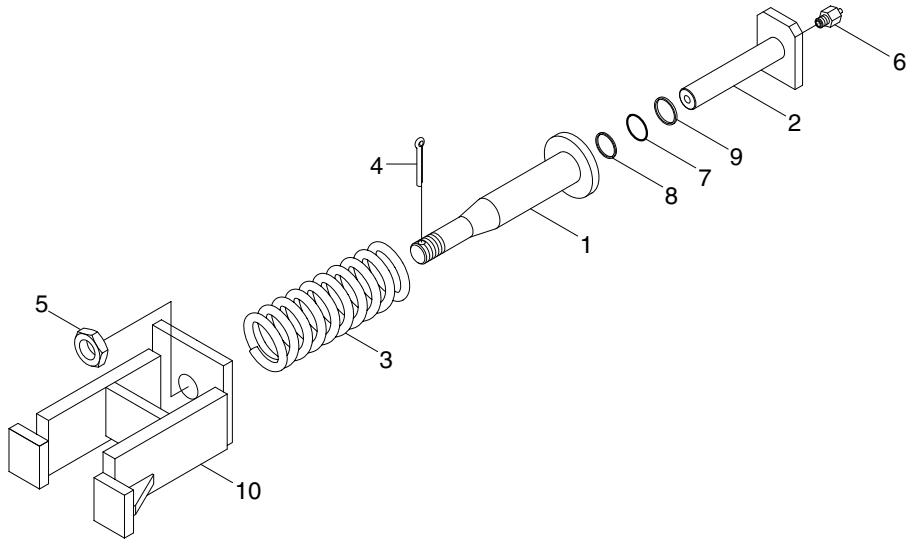


- ⑦ Lay bracket (5) on its side.
Supply engine oil to the specified level,
and tighten plug.



4) DISASSEMBLY AND ASSEMBLY OF RECOIL SPRING

(1) Structure

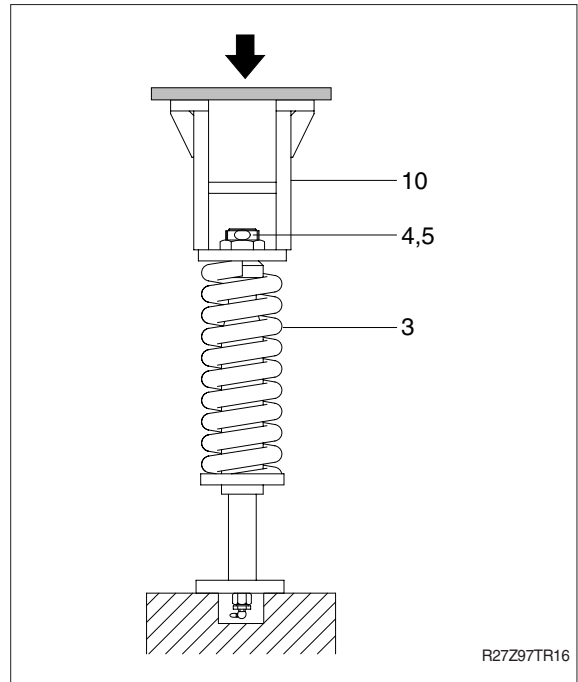


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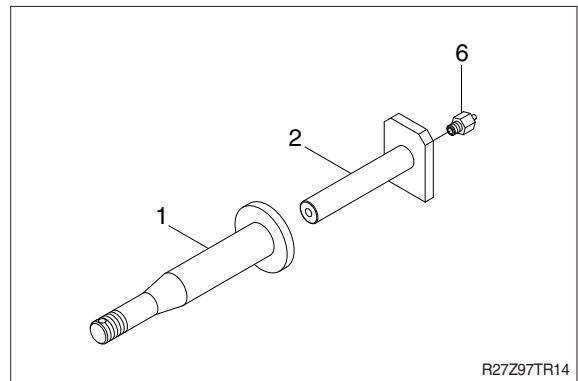
- | | | | | | |
|---|-----------|---|--------------|----|---------|
| 1 | Body | 5 | Nut | 9 | Packing |
| 2 | Rod | 6 | Valve assy | 10 | Yoke |
| 3 | Spring | 7 | O-ring | | |
| 4 | Split pin | 8 | Back-up ring | | |

(2) Disassembly

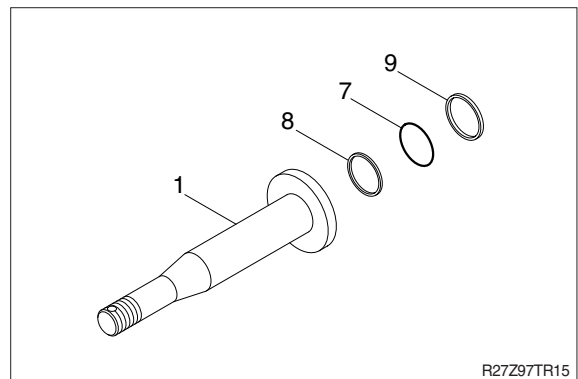
- ① Apply pressure on yoke (10) with a press.
The spring is under a large installed load. This is dangerous, so be sure to set properly.
 - Spring set load : 1700 kg (3750 lb)
- ※ Remove split pin (4) and nut (5).
- ② Take enough notice so that the press which pushes down the spring, should not be slipped out in its operation.
- ③ Lighten the press load slowly and remove yoke (10) and spring (3).



- ⑤ Remove rod (2) from body (1).
- ⑥ Remove grease valve (6) from rod (2).

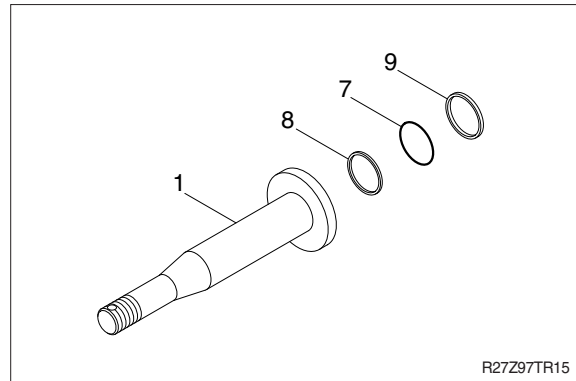


- ⑦ Remove packing (9), back-up ring (8) and O-ring (7) from body (1).



(3) Assembly

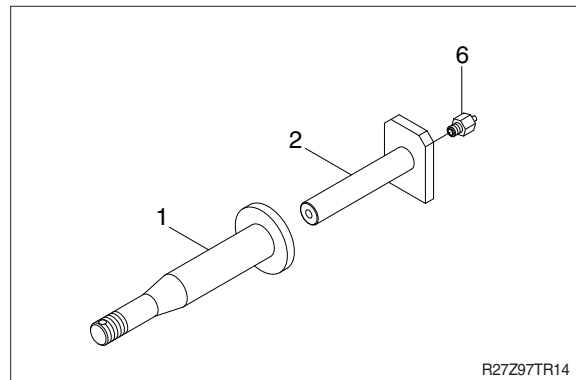
- ① Install O-ring (7), back-up ring (8), and packing (9) body (1).



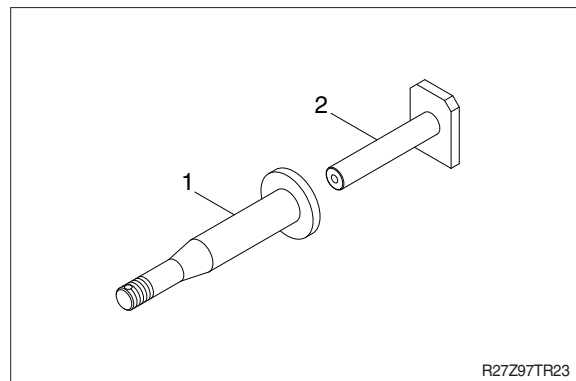
- ② Pour grease into body (1), then push in rod (2) by hand.
After take grease out of grease valve mounting hole, let air out.

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

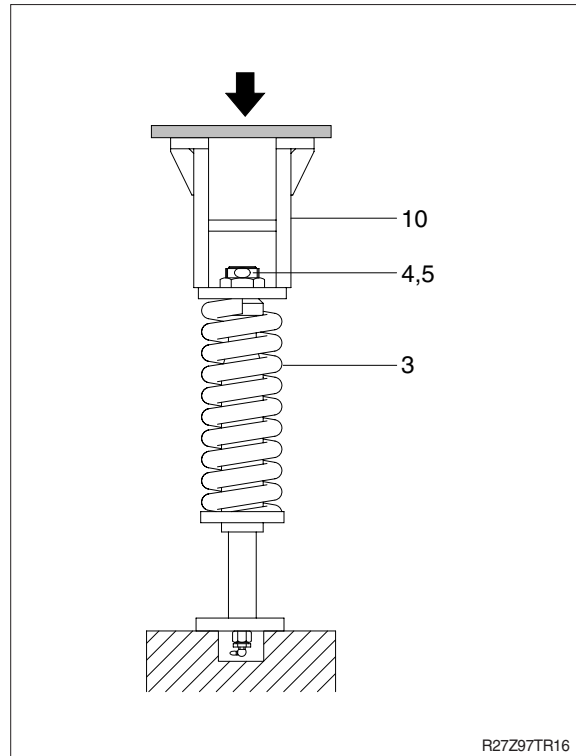
- ③ Fit grease valve (6) to rod (2).
 - Tightening torque : $10 \pm 0.5 \text{ kgf} \cdot \text{m}$
($72.4 \pm 3.6 \text{ lbf} \cdot \text{ft}$)



- ④ Install rod (2) to body (1).



- ⑤ Install spring (3) and yoke (10) to body (1).
- ⑥ Apply pressure to spring (3) with a press and tighten nut (5).
- ※ During the operation, pay attention specially to prevent the press from slipping out.
- ⑦ Tighten nut (5) and insert split pin (4).



- ⑧ Lighten the press load and confirm the set length of spring (3).
 - Spring length : 230 mm (9.1")

