

Removal and Installation of Tie-Rods

Job-No.

33 — 6

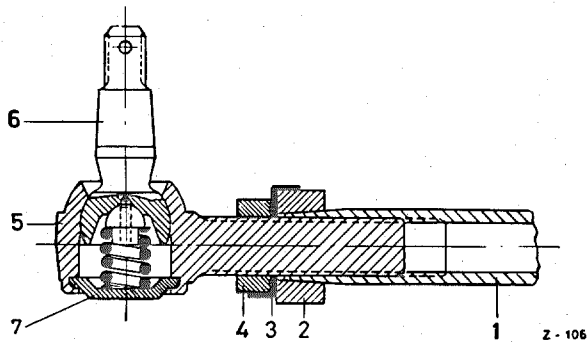


Fig. 33—6/1

- | | |
|-----------------|-------------|
| 1 Tie-rod tube | 5 Ball head |
| 2 Clamping ring | 6 Ball stud |
| 3 Locking plate | 7 Plug |
| 4 Hexagon nut | |

Removal:

1. Pull the cotteners out of the ball studs and unscrew the castle nuts.
2. Press off the ball heads with Bell-shaped Puller 186 589 10 33 (Fig. 33—6/2).

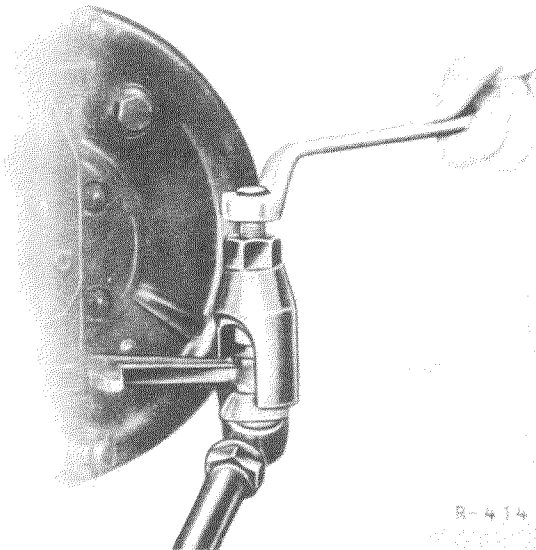


Fig. 33—6/2

3. Take off the seal covers (8) and the rubber cuffs (9) (see Fig. 33—6/3).

4. Check the ball heads and at the same time, check the pressure spring by pressing down the ball stud.

Note: The ball heads cannot be repaired because the plug (7) is machine-rolled into the ball head. If there is any defect, the whole ball head assembly must be replaced (see Fig. 33—6/1).

5. Unscrew the ball heads out of the tie-rod tube. Take off the locking plate (3) and the clamping ring (2) (see Fig. 33—6/1).

6. Check the tie-rod tube for distortion. **Bent tie-rod tubes must not be straightened. They must be replaced.**

Installation:

7. Slide **new locking plates** (3) and the clamping rings (2) onto the ball heads. Then screw the ball heads into the tie-rod tubes.

The length of the tie-rods from ball head center to ball head center is approx. 457 mm.

8. Put the seal covers (8) and the rubber cuffs (9) on the ball heads (see Fig. 33—6/3).

9. Fit the tie-rods in such a way that the ball heads with left-hand threads are on the left side.

In addition, the straight pinion rim grease fitting must always be at the outside facing the wheel.

Note: The end of a tie-rod with a left-hand thread can be recognized by a milled ring-marking on the tube.

The seating of the ball stud must be free from oil and grease.

10. Tighten up and cotter the castle nuts.

11. Adjust the toe-in (see Job No. 40—3). Then tighten up the hexagon nuts (4) and tap over the locking plates (3) (see Fig. 33—6/1).

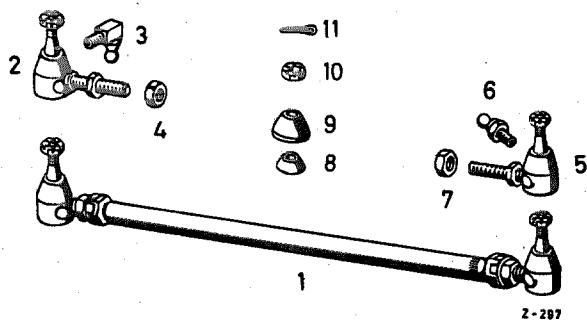


Fig. 33—6/3

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|--------------------------------------|--------------------|
| 1 Tie-rod assembly | 8 Seal cover |
| 2 Ball head (right-hand thread) | 9 Rubber cuff |
| 3 Off-set pinion rim grease fitting | 10 Castle nut |
| 4 Hexagon nut (right-hand thread) | 11 Cotter pin 2×25 |
| 6 Straight pinion rim grease fitting | |
| 7 Hexagon nut (left-hand thread) | |

Note: When tightening the nuts (4) of the tie-rods, care must be taken to ensure that the ball heads lie against the ball studs in the direction in which the nuts turn.

This must be done in order to ensure that the tie-rod can have full freedom of movement when the car is driven.

If the tie-rod is wrongly fitted there is a danger that the tie-rod may be bent when the car is driven.

After fitting, turn the tie-rod in order to check that the two tie-rod ends are free to move over the whole of their travel.

12. Grease the tie-rod ends.