

**Data**

Part No.	Steering Version	Steering Worm		Transmission Ratio in Center Position	Total Transmission Ratio in Center Position
		Direction of Threads	Pitch		
107 460 13 01	Lefthand steering	Righthand threads	10.5	13.92	15.59
107 460 14 01	Righthand steering	Lefthand threads			

<sup>1)</sup> This steering is identified on steering case next to closing cover for control valve with code No. „4“ (reaction piston 11 mm dia.)

**Oil Grades/Filling Capacity and Oil Level Control**

Approved oil grades or transmission fluids	refer to pertinent instructions refer to pertinent instructions	page 236.1, 236.2 page 237
Capacity	approx. 1.5 lits.	
Oil level control	With the engine running, the oil level in the supply tank should be at the punched-in mark (approx. 12 mm below rim of tank). For filling up, use only absolutely clean oil, since even minute particles of dirt might cause trouble in hydraulic system.	

<b>Tightening Torques</b>	Nm	(kpm)
Locking bolts for attaching steering to side member of frame	60	(6)
Pitman arm to pitman shaft	160–200	(16–20)
Hex. socket bolts to steering coupling	25	(2.5)
Castle nut to track rod and drag link	35	(3.5)

**Special Tools**

Pulling fixture for track rod	136 589 12 33 00
Puller for track rod and drag link	111 589 08 33 00
Pulling fixture for pitman arm	100 589 04 33 00
Center position check bolt	116 589 06 21 00
Assembly pin (Fig. 7)	self-made

# 46.1 Removal and Installation of Power Steering

## Removal

**1** Drain oil from supply tank (2) of power steering pump with syringe (Fig. 1).

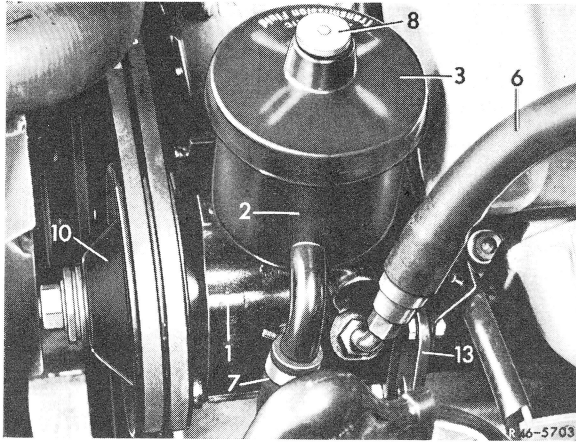


Fig. 1

- |                                |               |
|--------------------------------|---------------|
| 1 High-pressure oil pump       | 7 Return hose |
| 2 Supply tank                  | 8 Knurled nut |
| 3 Closing cover                | 10 Pulley     |
| 4 High-pressure expanding hose | 13 Carrier    |

**2** Loosen high-pressure expanding hose (10) and connecting pipe for return hose (11) on steering, while counterholding connecting pieces on steering (Fig. 2).

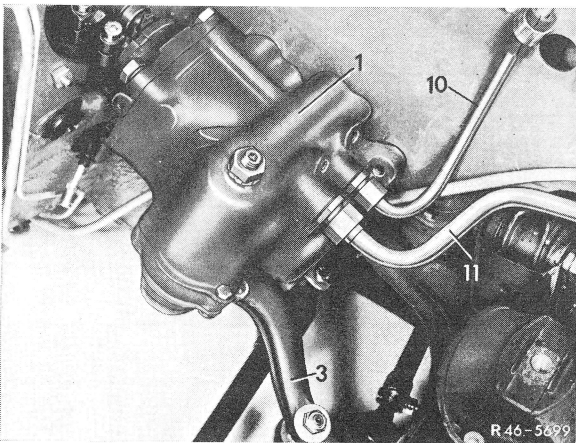


Fig. 2

- |              |                                  |
|--------------|----------------------------------|
| 1 Steering   | 10 High-pressure expanding hose  |
| 3 Pitman arm | 11 Connecting pipe (return hose) |

**3** Close oil hoses and connections on steering with blind plugs.

**4** Unscrew lower hex. socket screw (13) from steering coupling (12) (Fig. 9).

**5** Remove rear exhaust system, then remove lefthand exhaust pipe on manifold.

**6** Remove steering spindle (46.1—630, Item 2 to 5). However, pull steering spindle upwards only until the steering coupling no longer enters the steering worm.

**7** Loosen drag link and track rod from pitman arm (46.1—540 and 46.1—550).

**Note:** If the steering is exchanged and the pitman arm is not replaced, the drag link and track rod may remain on pitman arm, but the pitman arm must be pulled from pitman shaft (46.1—510).

**8** Unscrew locking screws (7) for attaching steering to side member of frame floor. Then remove steering in downward direction (Fig. 3).

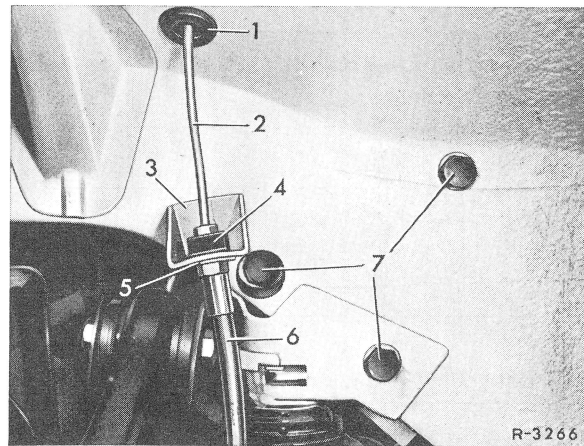


Fig. 3

- |                         |                  |
|-------------------------|------------------|
| 1 Rubber sleeve         | 5 Locking plate  |
| 2 Brake line            | 6 Brake hose     |
| 3 Holder on side member | 7 Locking screws |
| 4 Brake hose holder     |                  |

**9** Drain oil from steering case after removing steering.

## Installation

**10** Check steering coupling for wear and recondition (46.1—410).

**11** Attach steering coupling to steering spindle. Tighten hex. socket screw to 25 Nm (2.5 kpm) — reference value.

**12** Attach pitman arm, if previously removed, to pitman shaft, watching out for marks. Renew self-locking hex. nut. Tightening torque, 160 – 200 Nm (16–20 kpm) (Fig. 4 and 46.1–510).

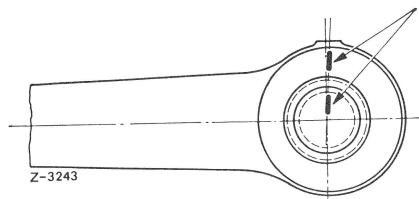


Fig. 4

**13** Move steering into center position, while unscrewing closing plug from steering case and turning steering worm (3) until center in working piston (5) is accurately underneath tapped hole, then screw in center position control bolt (65).

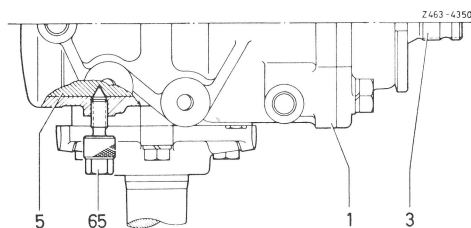


Fig. 5

- |                 |                                 |
|-----------------|---------------------------------|
| 1 Steering case | 5 Working piston                |
| 3 Steering worm | 65 Center position control bolt |

**14** Attach steering with **three new** locking bolts (2) to side member (3) of frame. Tightening torque 60 Nm (6 kpm) (Fig. 6).

**Caution!** Be sure to replace locking bolts.

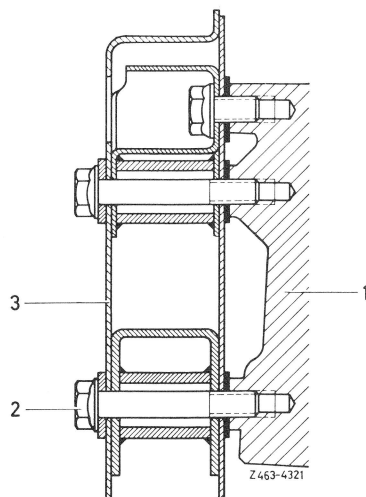


Fig. 6

- |                 |
|-----------------|
| 1 Steering      |
| 2 Locking bolts |
| 3 Side member   |

**15** Install steering spindle, making sure that mark on steering spindle faces upwards and is introduced into steering worm together with steering coupling (46.1–630).

**16** Check longitudinal adjustment of steering spindle through bore in jacket tube (5). For this purpose, insert assembly pin (25) into check bore of steering spindle (Fig. 7).

**Caution!** Steering spindle should not be displaced axially when introduced into steering coupling.

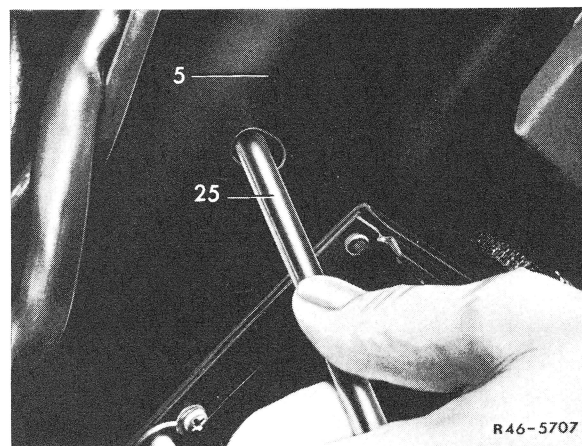


Fig. 7

- |               |                 |
|---------------|-----------------|
| 5 Jacket tube | 25 Assembly pin |
|---------------|-----------------|

**Note:** Assembly pin is self-made according to dimensions shown in Fig. 8.

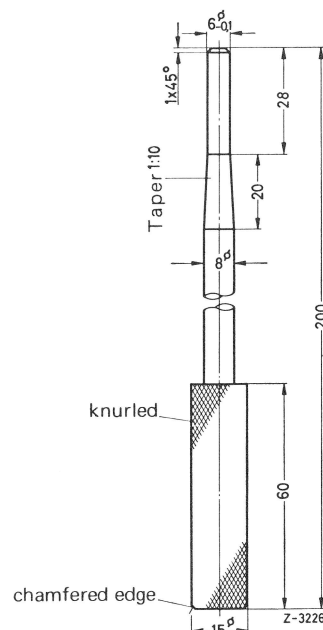


Fig. 8

Assembly pin

# 46.1 Removal and Installation of Power Steering

**17** Unscrew center position control bolt, screw closing plug into steering case using a new copper sealing ring. Remove assembly pin (25) from steering spindle (Fig. 7). Screw hex. socket bolt (13) into lower flange of steering coupling (12) and tighten. Tightening torque 25 Nm (2.5 kpm) – reference value (Fig. 9).

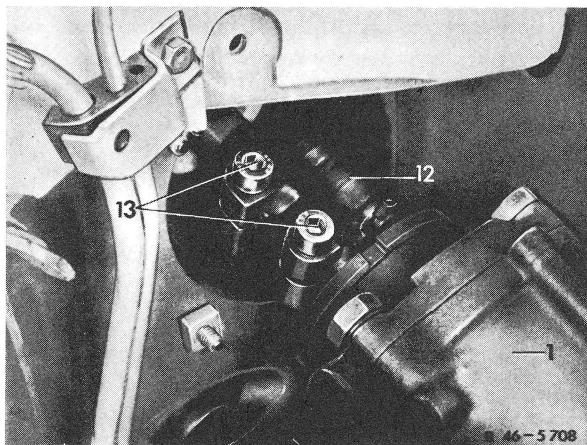


Fig. 9

- 1 Steering
- 12 Steering coupling
- 13 Hex. socket bolt

**18** Attach track rod and drag link to pitman arm. Tightening torque 35 Nm (3.5 kpm).

**19** Remove blind plugs. Connect high-pressure expanding hose and connecting pipe for return hose.

**Note:** Watch out for perfect installation of hose. Even minor chafing marks may result in oil losses within a short period and thereby in a loss of hydraulic support.

**20** Fill supply tank of power steering pump with specified oil grade.

**21** Run engine and turn steering several times to the left and right while adding oil.

**Note:** Steering is self-venting.

**22** Turn steering completely to the left and right while checking whether steering knuckle arm (8) rests each time against stop (16) of lower control arm (Fig. 10).

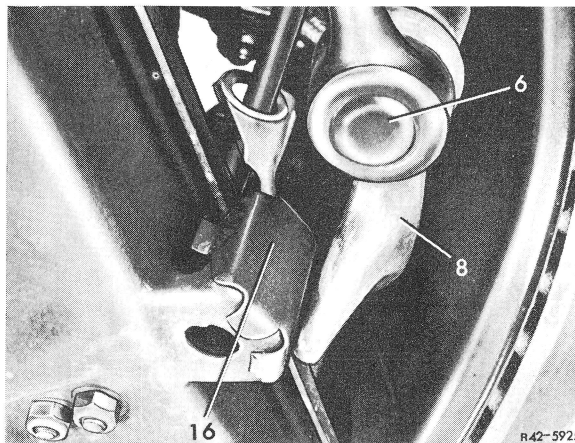


Fig. 10

- 6 Track rod
- 8 Steering knuckle arm
- 16 Stop on control arm

**23** Check wheel adjusting values on front axle („Axles” 40.1–320).