

Data

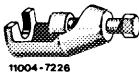

Part No.	Steering version		Steering worm		Ratio in center position i	Total ratio in center position i
			Threads	Pitch		
114 460 10 01	lefthand steering	righthand		15	14.24	15.66
114 460 11 01	righthand steering	lefthand				

Oil grades/filling capacity and oil level checkup

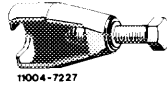
ATF or transmission oil	refer to Specifications for service products page 236.1, 236.2 refer to Specifications for service products page 237
Filling capacity	approx. 1.5 liter
Oil level checkup	With the oil at operating temperature (approx. 80 °C), the oil level in supply tank should reach up to punched-in mark (approx. 20 mm below edge of tank). With the engine cold and at ambient temperature, oil level 6–8 mm below mark. For filling up, use perfectly clean oil only, since even the smallest particle of dirt may cause trouble in hydraulic system.

Tightening torques	Nm	(kpm)
Locking screws for fastening steering to side member of frame	70–80	(7–8)
Pitman arm on pitman shaft	140–180	(14–18)
Hex socket screws to steering coupling	25	(2.5)
Castle nut to track rod and drag link	35	(3.5)
High-pressure expanding hose to steering	25–30	(2.5–3)
Return tube to steering	35–40	(3.5–4)

Special tools

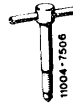
Puller for ball joints of track rod on pitman arm, intermediate steering arm and steering knuckle arm		136 589 12 33 00 or 186 589 10 33 00
Puller for ball joints of drag link on pitman arm and intermediate steering arm		115 589 08 33 00

Puller for pitman arm



100 589 04 33 00

Check screw for center position
of steering



112 589 02 23 00

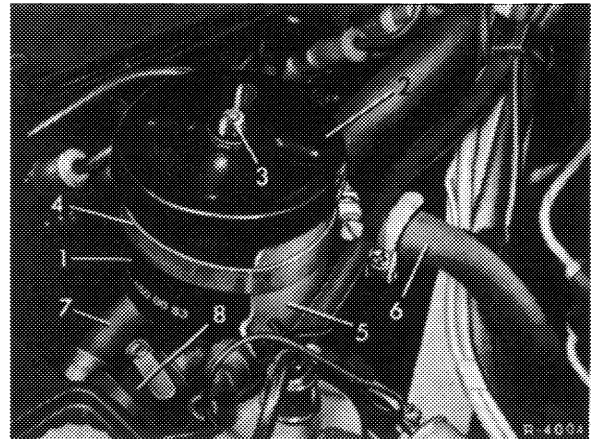
Self-made tool

Assembly pin

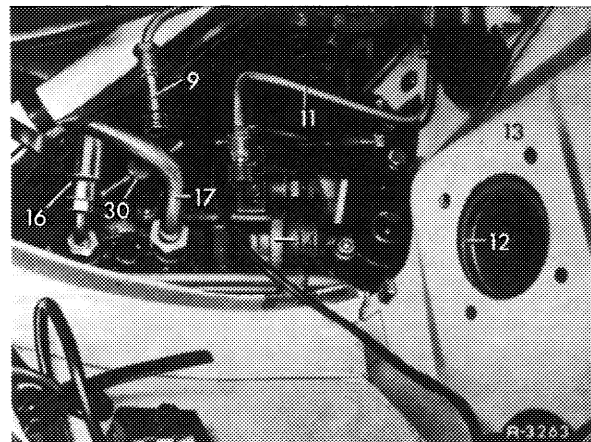
refer to illustration
item 14

Removal

1 Drain oil from supply tank (1) of powersteering pump with syringe, while removing upper stabilizing plate from tank, if required.

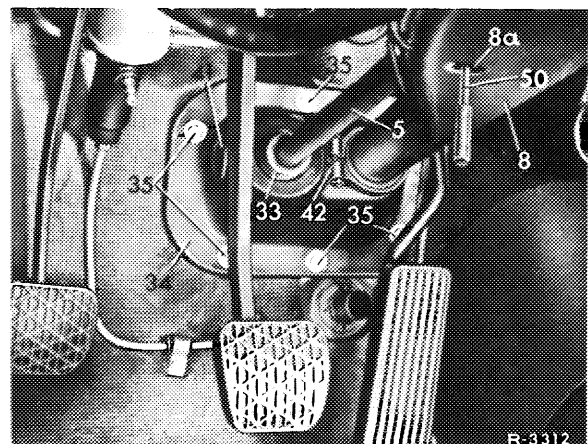


2 Loosen high-pressure expanding hose (16) and connecting pipe for return line (17) on steering, while applying counterhold to connections on steering.



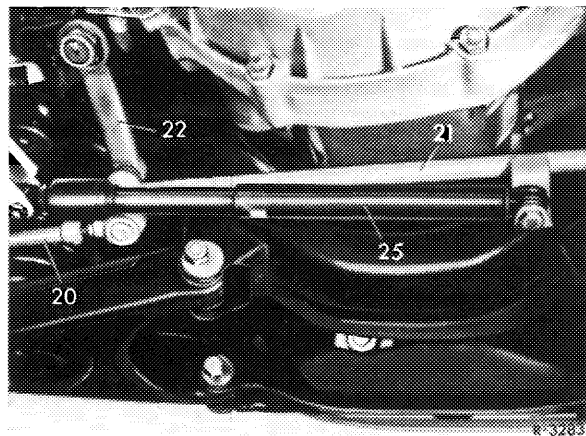
3 Close oil hoses and connections on steering with blind plugs.

4 Remove rubber grommet (41) from cover plate (34) and turn steering wheel until hex. socket screw of universal joint can be screwed out through bore in cover plate.

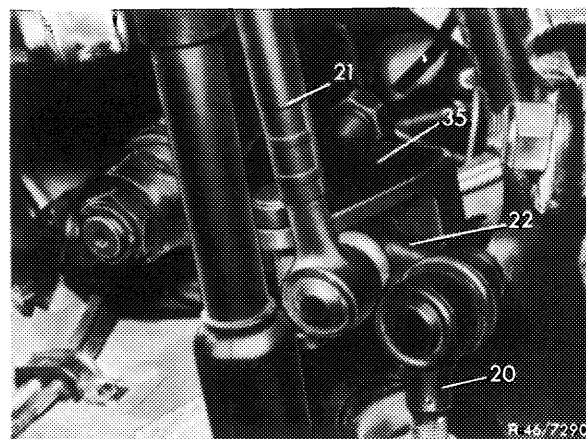


5 Uncotter castle nut of drag link and track rod and unscrew castle nut.

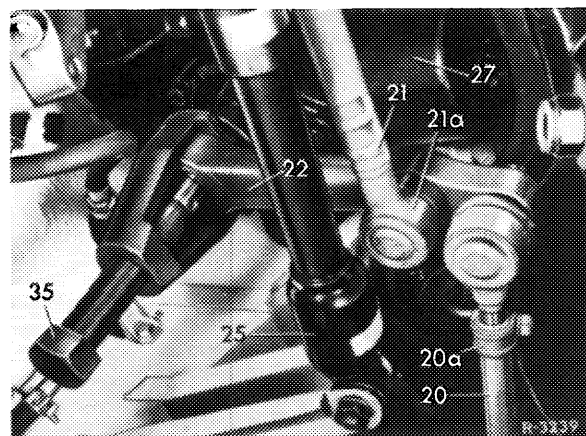
Note: If the steering is exchanged and the pitman arm has not been replaced, the drag link and track rod need not be released on pitman arm.



6 Force drag link and track rod from pitman arm by means of puller.



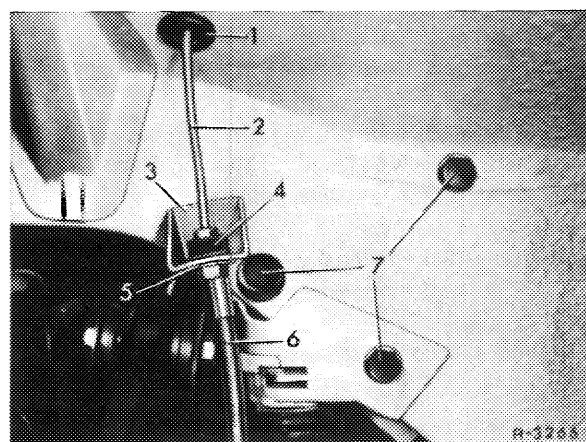
7 Uncotter castle nut on pitman shaft and unscrew. Pull pitman arm from pitman shaft by means of puller.



8 Screw locking screws (7) for attaching steering to side member of frame floor. Then force steering from steering shaft including steering coupling and remove steering in downward direction.

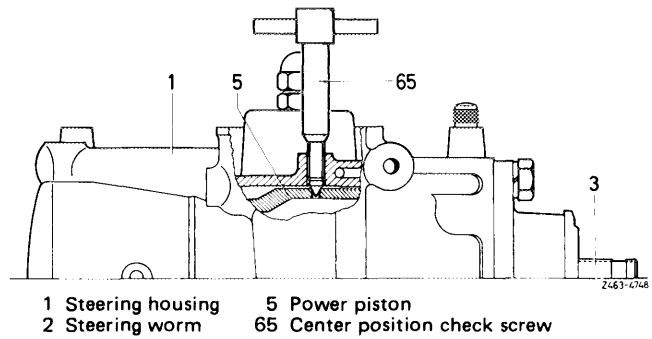
9 Upon removal of steering, drain oil from steering housing.

10 Remove universal joint from steering worm.

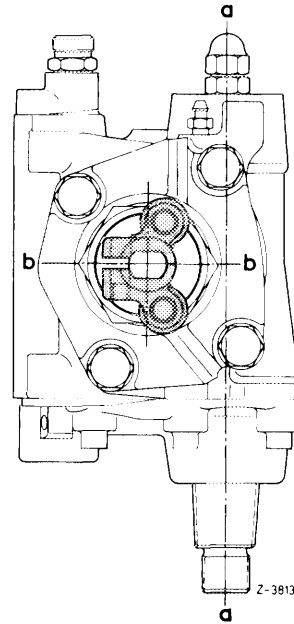


Installation

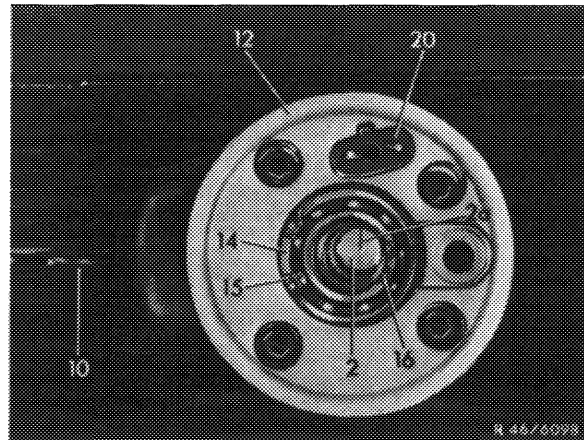
11 Move steering into center position. For this purpose, unscrew closing plug from steering housing, turn steering worm (3) until center in power piston (5) is accurately under threaded bore, then screw-in center position check screw (65).



12 Attach universal joint to steering worm so that with the steering in vertical position the two surfaces in universal joint are accurately horizontal or are forming a righthand angle in relation to pitman shaft.



13 Turn steering shaft (2) in such a manner that the marking line (2a) points accurately upwards.

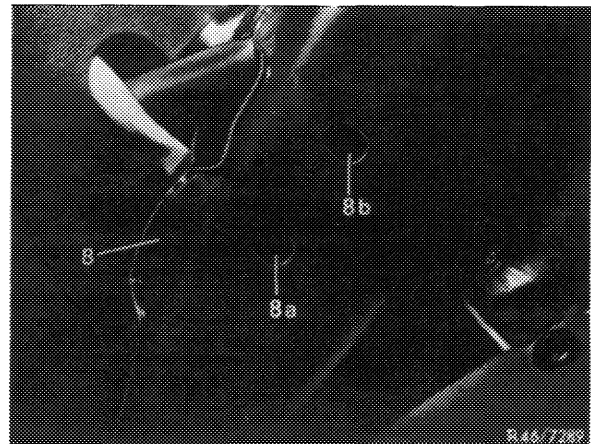


14 Insert assembly pin into bore of steering shaft; this will prevent that the steering shaft will be displaced axially when the steering is installed.

Note: The jacket tube of the 1st version has only one bore for checking length of steering shaft. The 2nd version is provided with 2 bores.

Lower bore (8a) = manual steering L 1 Z
and = powersteering LS 75

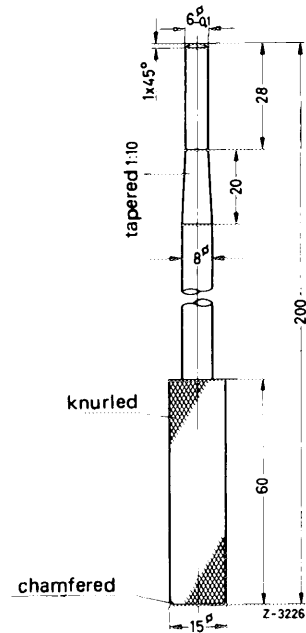
Upper bore (8b) = powersteering LS 90



Attention!

The steering shaft must be held in place with assembly pin, since otherwise the shaft may be displaced axially when installing the steering.

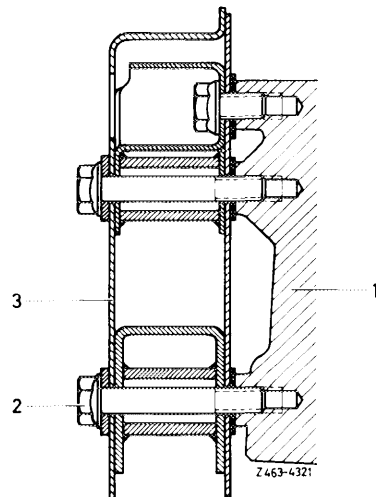
Note: Make assembly pin yourself according to specified dimensions.



15 Attach steering with **three new** locking screws (2) to side member of frame floor. Tightening torque 70–80 Nm (7–8 kpm). Simultaneously introduce universal joint into flats of steering shaft.

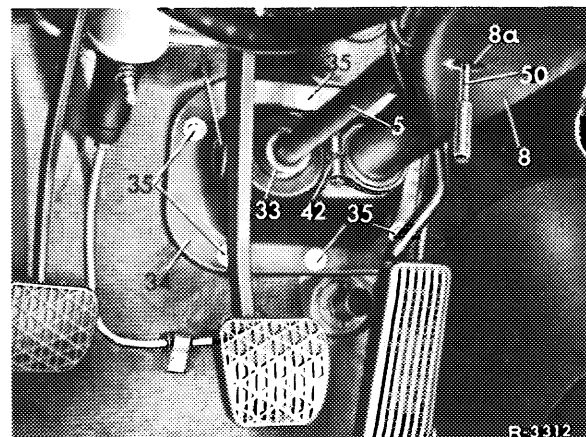
Attention!

Be sure to replace locking screws.

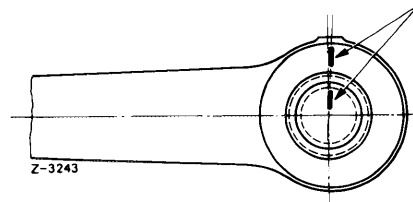


16 Unscrew center-position check screw. Screw closing plug into steering housing. Remove assembly pin (50) from steering shaft.

17 Attach universal joint to steering shaft. Tighten hex socket screw through bore (41) in cover plate (34). Tightening torque 25 Nm (2.5 kpm) – reference value.

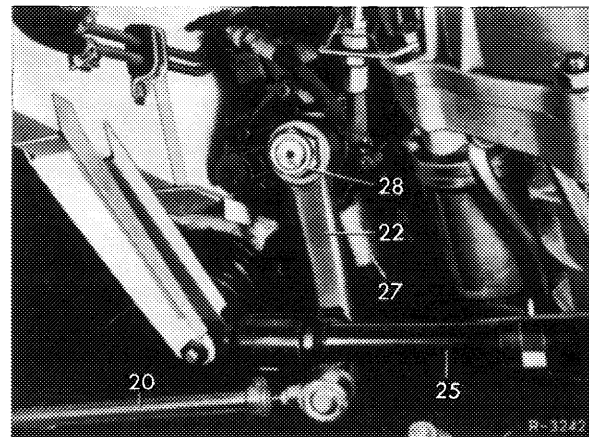


18 Slip pitman arm on splining of pitman shaft while paying attention to markings (arrow) on arm and pitman shaft.



19 Attach pitman arm to pitman shaft by means of castle nut. Tighten castle nut at 140–180 Nm (14–18 kpm) and cotter.

20 Check rubber sleeve on joint of track rod (20). If the sleeve is damaged, check joint for wear and replace, if required (46–540). Attach track rod to pitman arm. Tightening torque of castle nut 35 Nm (3.5 kpm) – reference value. Cotter castle nut.

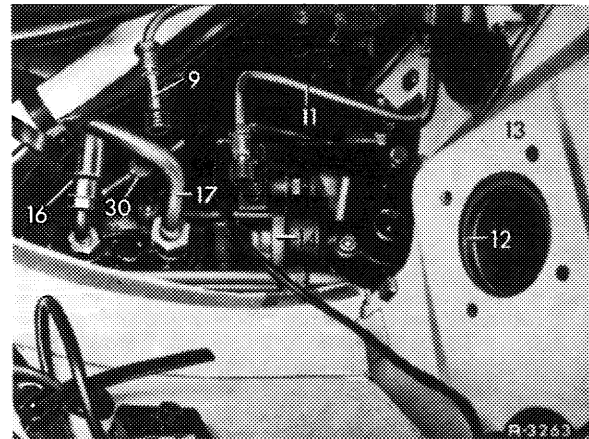


21 Place sealing ring on plastic cover on ball pin of drag link and attach drag link to pitman arm. Tightening torque of castle nut 35 Nm (3.5 kpm) – reference value. Cotter castle nut.

22 Remove blind plug. Connect high-pressure expanding hose (16) and connecting pipe (17) for return flow hose.

Attention!

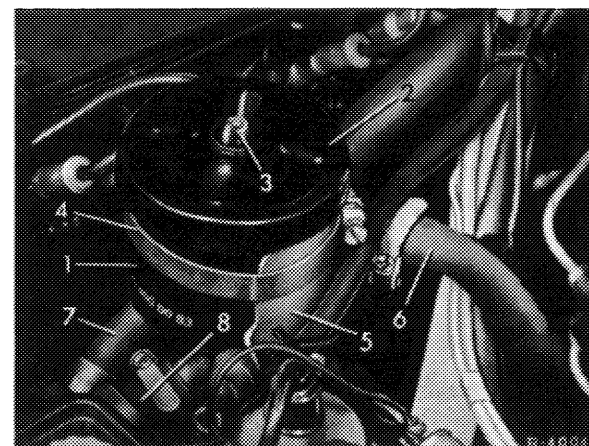
Make sure of perfect installation of hose. Even minor chafing marks may quickly result in oil losses and thereby in failure of the hydraulic support.



23 Fill supply tank of power steering pump with specified oil grade (refer to specifications for service products).

24 Run engine and turn steering several times to the left and right, then add oil.

25 Bleed steering.



26 Turn steering completely to the left and right and check whether steering knuckle arm (8) rests against stop (16) of lower control arm each time.

Note: The steering lock should be restricted at steering knuckle arm. If not, the fault may be caused by a wrongly mounted pitman arm or a one-sided setting of toe-in. For this reason, it is important to set the track from the center position of the steering in such a manner that the toe-in is uniformly distributed to the lefthand and righthand wheel.

27 Check wheel adjustment values on front axle.

