Removal and Installation of Tie-Rods

Job No. 33–6

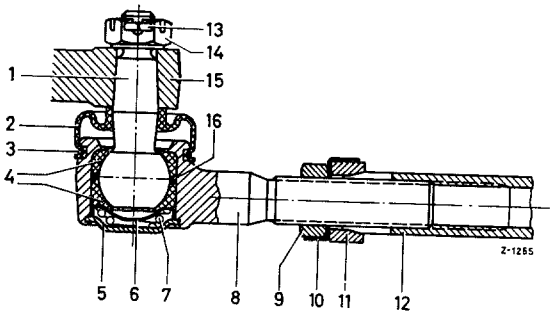
On Models 180 to 220 SE the removal and installation procedures for the tie-rods are the same as on Model 190.

Center and Outer Tie-Rods with Self-Lubricating Ball Joints

On recent cars of Models 180 a, 180 b, 180 D, 180 Db, 190, 190 b, 190 D, 190 Db, 190 SL, 219, 220 S, and 220 SE, outer and center tie-rods with self-lubricating ball joints have been installed.

These ball joints are no longer provided with a pinion rim grease fitting. The ball studs (1) are carried in two Vulkollan bearing shells (4).

Fig. 33-6/1



1 Ball stud
2 Rubber cuff
3 Locking ring
4 Bearing shell
5 Cover cap
6 Spring retainer
7 Pressure spring
8 Ball head
9 Hexagon nut
10 Locking plate
11 Clamping ring
12 Tie-rod tube
13 Cotter pin
14 Castle nut
15 Steering knuckle arm or steering gear arm or steering relay arm
16 Spacer ring

The self-lubricating ball joints can also be installed subsequently in all sub-frame models. If this is done, all tie-rods together with the ball joints must be replaced because the new self-lubricating ball joints do not fit on the old tie-rod tubes.

If the self-lubricating ball joints are found to be defective, replace the tie-rod ends or the whole center tie-rod.

When the tie-rods are removed, the Puller 186 589 10 33 may damage the rubber cuffs (2). It is advisable, therefore, always to use new rubber cuffs (2) on the individual ball joints when the tie-rods are being reinstalled. Furthermore the space between the cuff and the joint should be filled with anti-friction bearing grease. The left-hand thread on the hexagon nut (9) is marked by grooves (Fig. 33–6/1).

Survey of Tie-Rods

Model	Tie-rod		Length mm
	with grease fittings on the ball joints Part No.	with self-lubricating ball joints Part No.	
180, 180 a, 180 b 180 D, 180 Db	120 330 06 03	120 330 09 03	457 ± 10
190, 190 b, 190 D, 190 Db, 190 SL	121 330 03 03 (left) 121 330 02 03 (right)		
220 a, 219 220 S, 220 SE	180 330 07 03 (left) 180 330 08 03 (right)	180 330 11 03	477 ± 10