

Removal and Installation of Rear axle

Job No.

35-1

On Models 180 to 220 SE the removal and installation procedures for the single-jointed rear axle are essentially the same as on Model 190. The following points need attention:

a) Rear Axle Suspension

On Models 180 a, 180 b, 180 Db, 190, 190 b, 190 D, 190 Db, 190 SL, 219, 220 S, and 220 SE a steel bushing has been vulcanised into the upper rubber mountings for the rear axle suspension on the chassis base panel. Previous cars of Models 220 a and 180, 180 D, and 190 SL 1st version were provided with rubber mountings without steel bushings. There is a difference in the pivot diameter on the rear axle support between rubber mountings with steel bushings and those without steel bushings (see table below).

Model	Diameter of pivot on support mm	Upper rubber mounting Part No.	Remarks
180, 180 D, 190 SL 220 a	30.000 29.987	180 351 08 86 (without steel bushing)	1 st version on Models 180, 180 D, and 190 SL
180, 180 D 190 SL, 219, 220 S, 220 SE	25.980 25.959	180 351 10 86 (with steel bushing)	2 nd version on Models 180, 180 D, and 190 SL
180 a, 180 b, 180 D, 180 Db, 190, 190 b		121 351 01 86 (with steel bushing)	3 rd version on Model 180 D
190 D, 190 Db		121 351 00 48 (with steel bushing)	

The part number is indicated at the top of the rubber mounting. The lower Rubber Ring 180 351 05 86 for the support of the rear axle is the same on all models with the exception of Models 190 D and 190 Db. On these models Rubber Ring 121 351 02 48 is installed. After installing the rear axle on Model 190 D the lower rubber ring should be loose enough to be moved by hand.

The lower rubber ring and the upper rubber mounting should be rubbed with talc before they are installed. When installing the upper rubber mounting, pay attention to the arrow at the top of the mounting and the inscription "Fahrtrichtung" (direction of travel).

b) Front Mounting of Torque Arms

On Models 180 to 220 SE the step bearings on the chassis base panel for the front mounting of the torque arms are of the same height.

On these models dimension "a" from the lower edge to the upper edge of the step bearing is 42 mm; however, on older cars of Models 180, 180 D, and 220 a, step bearings were installed with a dimension "a" = 36 mm.

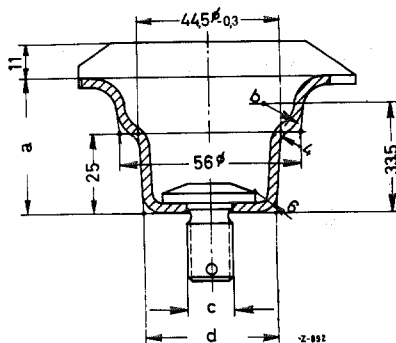


Fig. 35-1/3

Survey of Step Bearings

Version	Part No.	a	b mm	c mm	d mm	Sheet-metal gage mm
1 st version	120 350 04 33	36 ± 0.5	6	M 12 \times 1.5	$40 \phi + 0.5$	2.5
2 nd version	180 350 01 33	42 ± 0.5	6	M 12 \times 1.5	$40 \phi + 0.5$	$2.5 + 0.25$
3 rd version	180 350 03 33	42 ± 0.5	10	M 14 \times 1.5	$40 \phi + 0.5$	2.75
4 th version	180 350 03 33	42 ± 0.5	10	M 14 \times 1.5	$41.5 \phi + 0.5$	3

In the case of step bearings with the dimension "a" = 36 mm the metal cap (1) Part No. 180 358 0059 should be installed on the lower section of the cup in order to prevent the torque arms from striking against the chassis base panel when the springs are fully depressed. When the metal cap is installed, the torque arm is moved to a slightly lower position, so that it cannot strike against the chassis base panel. Only 30 mm cups (2) Part No. 180 352 0067 can be used together with the metal cap (fig. 35-1/4).

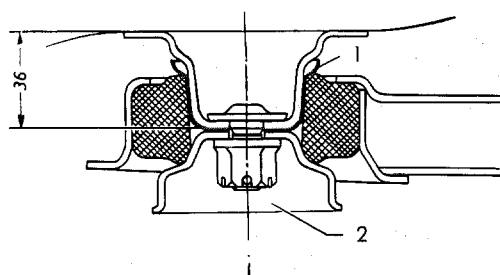


Fig. 35-1/4

1 Metal cap
2 Cup

Note: Modify the holding cradles for the step bearings on the chassis base panel gage in accordance with the present type of step bearings (4th version, see table).

When repairs are carried out, for instance when the step bearings are cracked, always replace the lower sections of the step bearings on both sides. The procedures are the same as described for Model 190, but note the following differences:

1. When the step bearing lower section 120 350 06 33 is installed, the step bearing can be replaced quickly and **without using the chassis base panel gage**.

2. It is vitally important to finish and clean the welding seam very carefully in order to obtain a smooth curve from the step bearing to the welding seam. Projecting welding beads may damage the rubber mounting.
3. When installing the torque arms, use a cup 25 mm high Part No. 120 352 0567 for the step bearing 42 mm high with thread M 12×1.5 and a cup 25 mm high Part No. 180 352 01 67 for the step bearing with thread M 14×1.5.
4. Since the rubber mountings for the front torque arm suspension are of necessity subject to wear, they must be checked very carefully and if necessary replaced when the rear axle is being removed. The rubber mountings should be replaced after a maximum of 100 000 km.

New Rubber Mountings

On recent cars of Models 180 b, 180 Db, 190 b, and 190 Db rubber mountings with a lip have been installed (Fig. 35-1/5).

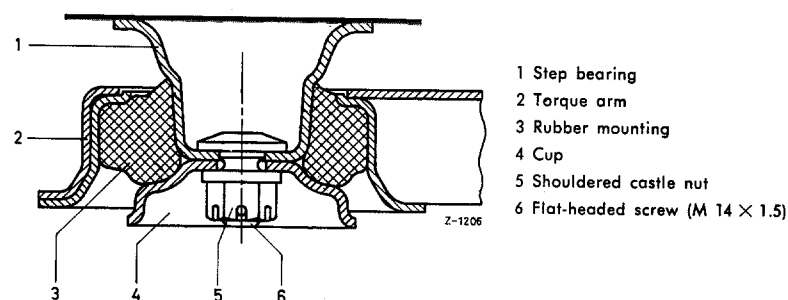


Fig. 35-1/5

When installing the rubber mountings make sure that the lip always points upward. The lower surface is marked "unten" (this side down).

Rubber mounting Part No.	Rubber hardness ° Shore	Height mm
111 352 00 65	55 ± 3	35

Only rubber mountings of the new shape are being supplied as replacement parts.

c) Rear Axle Suspension on Models 190 D and 190 Db

In order to reduce chassis noises on the rear axle suspension on Models 190 D and 190 Db the upper rubber mountings and the lower rubber rings have a lower Shore hardness than those on the other models. In a few isolated cases knocking noises have been heard when the car is being driven away at high speed since the support of the rear axle suspension strikes against the chassis base panel. To prevent these noises on the rear axle support a rubber ring (6) Part No. 121 351 02 86 has been installed as a standard part on recent cars of Model 190 Db (see Fig. 35-1/6).

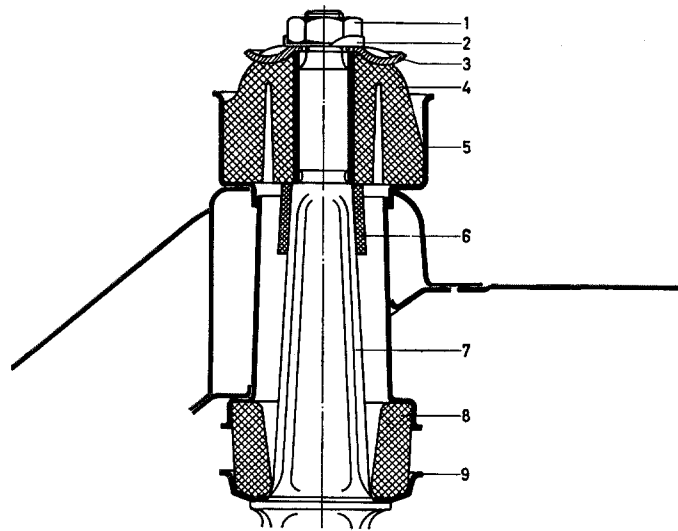


Fig. 35-1/6

- 1 Hexagon nut
- 2 Locking plate
- 3 Tension disk
- 4 Upper rubber mounting
- 5 Chassis base panel
- 6 Rubber ring
- 7 Support
- 8 Lower rubber ring
- 9 Cup

The rubber ring reduces the free motion torque of the support on the chassis base panel to such an extent that the knocking noise is eliminated.

The rubber ring has been installed as a standard part on Model 190 Db as from Chassis End No. 009431.