

Removal and Installation of Rear Suspension

Job No.

24-1

A. Rubber Mountings with Three-Point Engine Suspension

Removal and installation procedures for the rear rubber mountings on Models 180, 180 a, 180 b, 180 D, 180 Db, 190 D, 190 Db, 190 SL 1st version, 220 a, and 219 are as follows:

Removal:

1. Slightly lift the transmission with the car jack.
2. Unscrew the hexagon nuts fastening the engine mounting to the transmission housing rear cover.
3. Also unscrew the hexagon nuts attaching the rubber mounting to the chassis base panel, slightly lower the engine by means of the car jack and remove the rubber mounting from the transmission case cover (Fig. 24-1/1).

Installation:

4. Before reinstalling the rubber mounting carefully check the sheet-metal parts of the mountings for cracks. Cracked mountings must always be replaced.

5. Attach the rubber mounting (2) together with the screening plate (1) to the transmission. The hexagon nuts (8) are installed together with lock washers (7) (Fig. 24-1/2).
6. Lift the transmission by means of the car jack until the engine mounting rests against the chassis base panel. Insert the two hexagon screws (3) and install the nuts (6) by hand.

When inserting the hexagon screws make sure that the correct number and type of spacer washers are installed. The middle washer (5) between chassis base panel and rubber mounting determines the installation height of the rubber mounting and the alignment of the propeller shaft with the engine (Fig. 24-1/2).

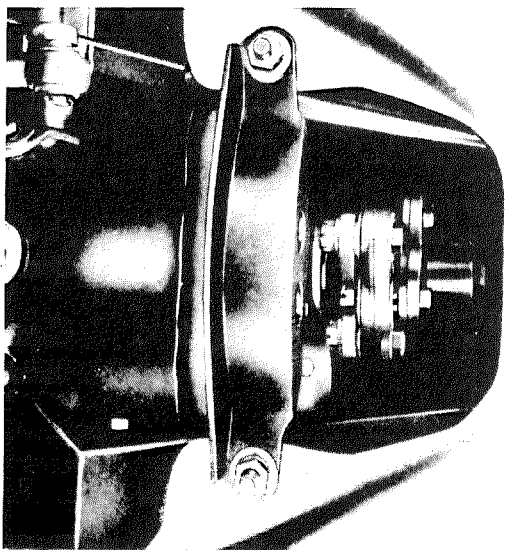


Fig. 24-1/1

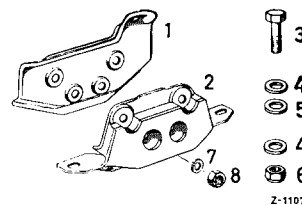


Fig. 24-1/2

- 1 Screening plate
- 2 Rear rubber mounting
- 3 Hexagon screw M 10 × 45 for Model 190 SL
M 10 × 35 for Models 180, 180 a, 180 b, 180 D,
180 Db, 190 D, 220 a, and 219
- 4 Washer 3 mm thick
- 5 Washer 10 mm thick for Model 190 SL
3 mm thick for Models 180, 180 a, 180 D, 190 D,
220 a, and 219
- 6 Self-locking hexagon nut
- 7 Lock washer
- 8 Hexagon nut

On Models 180, 180 D, 220 a, and 219, 3 spacer washers of equal thickness (3 mm) should be installed on each side in the following way:

- 1 washer (4) between screw and chassis base panel
- 1 washer (5) between chassis base panel and rubber mounting
- 1 washer (4) between rubber mounting and hexagon nut.

On Model 190 SL 3 washers are used on either side, but on this model washer (5) is 10 mm thick instead of 3 mm (see Fig. 24-1/2).

Models 180 b, 180 Db, 190 D, 190 Db have a perforated insert (5) as a standard part (Fig. 24-1/3).

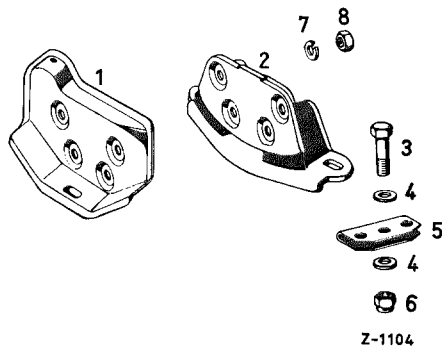


Fig. 24-1/3

- 1 Screening plate
- 2 Rear rubber mounting
- 3 Hexagon screw M 10 × 35
- 4 Washer 3 mm thick
- 5 Perforated insert
- 6 Self-locking hexagon nut
- 7 Lock washer
- 8 Hexagon nut

Model 180 D has three washers (5) on either side (see Fig. 24-1/2).

Model 180 a has only two washers with or without perforated inserts on either side, unless on export cars a reinforced rubber mounting with additional supporting plate has been installed **without** perforated insert. In this case a third washer, i.e. a center washer (5) must be installed between chassis base panel and rubber mounting. The washer (5) is not required if a perforated insert is installed (see Fig. 24-1/2).

It is advisable to install a perforated insert in Models 180 a and 180 D when the opportunity arises. In that case washer (5) is no longer required (see Fig. 24-1/2).

Note: Previously the nuts for the hexagon screws attaching the engine mounting to the chassis base panel on Models 180, 180 D, and 220 a were locked by lock nuts. On recent cars two self-locking hexagon nuts are used in place of the four hexagon nuts. When the transmission or a rubber mounting is installed in older cars of Models 180, 180 D or 220 a only self-locking nuts should be used.

- 7. Lower the transmission and allow the engine to settle in the rubber mountings until it rests easily on the mountings. Only then should the nuts be tightened on the hexagon screws.

B. Installation of Stop Piece in Rear Rubber Mounting

Model 219 has an additional stop piece (1) in the rear rubber mounting in order to limit the vertical movement of the engine (Fig. 24-1/4). This stop piece can also be installed subsequently in cars of Model 220 a if complaints are received about a rattling of the gear shift lever and in particular cases about the 3rd and 4th gear slipping out as a result of vertical and horizontal engine movements.

Other remedies for similar complaints are described in Job No. 26-3.

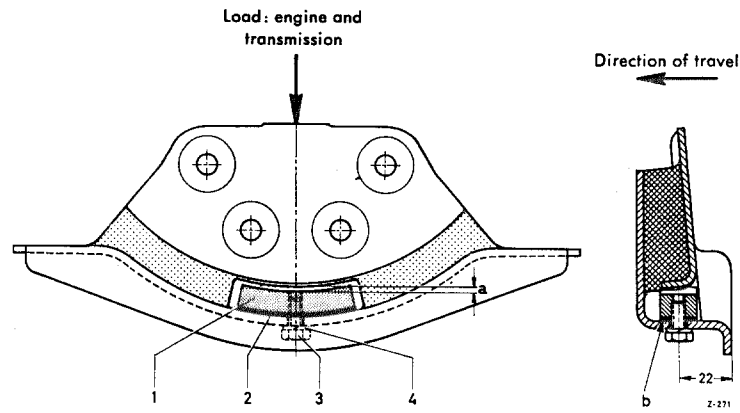


Fig. 24-1/4

- | | |
|-------------------------------------------------------|-----------------|
| a Distance = 1-2 mm | 1 Stop piece |
| b Supporting surface for stop piece for spacer washer | 2 Spacer washer |
| | 3 Hexagon screw |
| | 4 Lock washer |

Subsequent installation of stop piece:

1. Mark out the bore for the hexagon fixing screw for the stop piece as shown in Fig. 24-1/4 and drill with a 6.4 mm ϕ drill.
2. Remove the rubber coating at the supporting surface for the stop piece in order to obtain a better seat.
3. Screw down the stop piece (1) using as many spacer washers (2) as are necessary to produce a distance $d = 1$ to 2 mm between stop piece and rubber mounting **with the engine installed in the vehicle**.

tween stop piece and rubber mounting **with the engine installed in the vehicle**. This distance is necessary in order to prevent an increase in the noise transmitted to the interior of the car. If the rubber mounting should settle down after a certain mileage the prescribed distance of 1 to 2 mm can be obtained by removing spacer washers.

Note: Make sure that the thin rubber coating on top of the recess is not removed, since otherwise the bare metallic part will knock against the stop piece when the engine mounting is depressed and produce a knocking noise.

C. Left or Right Rubber Mounting with Four-Point Engine Suspension

On all models with four-point engine suspension removal and installation of the rear rubber mountings are the same as described for Model 190.

Model 190 SL

The installation procedure for shorter engine supports (3rd version) and harder rubber mountings (70° Shore) is the same as described for Model 190.

Part number of the shorter engine supports for Model 190 SL:

shorter engine support left 121 223 27 04
 right 121 223 28 04.

The 1st version engine supports had a lower fixing eye (6 mm high) and the rubber mountings were attached by means of hexagon socket screws M 12 × 30 DIN 912-8 G. In the case of 2nd version engine supports the height of the fixing eye was increased to 22.5 mm and hexagon screws with welded-on washers were used as fixing screws, the washer serving as a limit stop (Fig. 24-1/5). However, if longer engine supports with high eyes (22.5 mm) are installed **subsequently**, hexagon socket screws M 12 × 40 DIN 912-8 G must be used, since the sub-frames were not provided with the necessary recess for the hexagon screw (4) before the limit stop mentioned above was introduced (see Fig. 24-1/5).

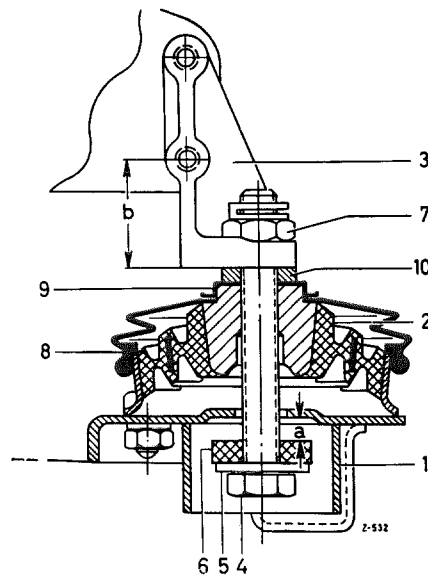


Fig. 24-1/5

- 1 Front axle support
- 2 Rubber mounting
- 3 Rear engine support
- 4 Hexagon bolt with washer (5)
- 5 Washer
- 6 Rubber spacer 7 mm thick
- 7 Hexagon nut (self-locking)
- 8 Bellows
- 9 Sheet-metal cover
- 10 Washer 5 mm thick, Part No. 186 990 16 40
- a = 5 mm
- b = 22.5 mm (2nd version)
- b = 17.5 mm (3rd version)