

Removal and Installation of Brake Pedal

Job No.

29-10

I. Models 180, 180 a, 180 b, 180 D, 180 Db, 190 D, 190 Db, 190 SL, and 220 a as well as 219, 220 S, and 220 SE with Mechanical Clutch

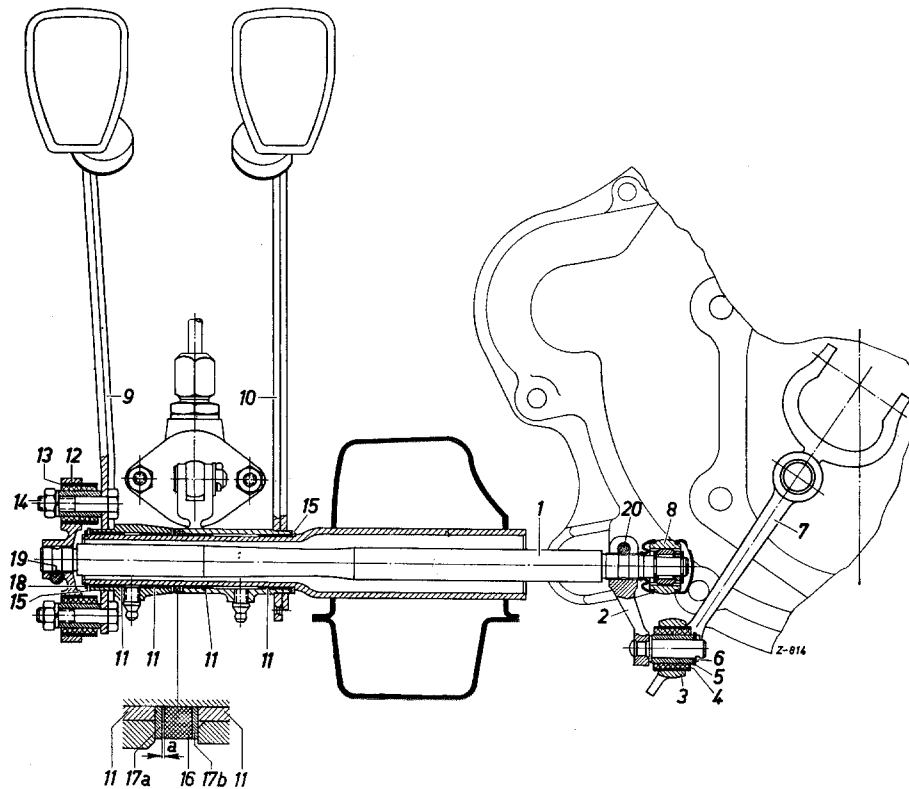


Fig. 29-10/1

- | | |
|-------------------|---------------------|
| 1 Pedal shaft | 12 Flange |
| 2 Lever with bolt | 13 Silentbloc |
| 3 Pull rod end | 14 Hexagon screw |
| 4 Silentbloc | 15 Washer |
| 5 Washer | 16 Vulkollan washer |
| 6 Cotter pin | 17a Shim |
| 7 Throw-out fork | 17b Spacer washer |
| 8 Swivel support | 18 Snap ring |
| 9 Clutch pedal | 19 Clamping screw |
| 10 Brake pedal | 20 Clamping screw |
| 11 Bushing | |

a = End play of pedals on mounting tube 0.1—0.2 mm

Removal:

1. Unscrew the protective plate for the pedal system.
2. Remove the hexagon screws for the shackles at the clutch and brake pedals and remove both shackles. Remember the washer and the sealing ring.
3. On the 2nd and 3rd versions with end plate detach the return spring for the clutch

throw-out fork and the compensating spring (18) or (18 a). Unscrew the jointing disk (9) with flange (8) from the clutch pedal (see Figs. 29-5/1 and 29-5/2).

- 3 a. In the case of the 4th version with swivel support unscrew the two hexagon nuts (14) on the flange (12) of the clutch pedal (9) and remove together with the lock washers (see Fig. 29-10/1).

4. Mark the relative position of the flange (12) and the pedal shaft (1). Unscrew the clamping screw (19) on the flange and press the flange off the clutch pedal shaft.
5. Remove the snap ring (18) and washer (15) from the mounting tube and pull off the clutch pedal.
6. Remove the washers (17) and (16) from the mounting tube (Fig. 29-10/1).
7. Detach the return spring at the brake pedal. Pull the cotter pin out of the collar pin and press out the collar pin. On cars provided with a stay rod (13) between the mounting tube and the retaining plate of the brake master cylinder, remove the stay rod (see Fig. 29-5/1).
8. Remove the brake pedal from the mounting tube.
9. Check the bearing bushings (11) in the brake pedal for wear. Worn bushings must be replaced. The bushings are pressed into the brake pedal bore with an oversize of 0.02 to 0.06 mm.

After new bushings have been pressed in, the bore must be reamed to the finished size. Internal diameter of bearing bushings after reaming (finished size):
27.040–27.073 mm.

Installation:

10. Install the brake pedal on the mounting tube; do not forget the rear washer (15) (see Fig. 29-10/1).

Note: In the case of the 1st version brake pedal the boss with the actuating lever was fastened to the brake pedal at an angle of 50°. In order to increase the efficiency of the brake the 2nd version boss is brazed at an angle of 42°. If the 1st version

brake pedal is replaced by the 2nd version a shorter push rod for the brake master cylinder must be installed.

11. Re-attach the push rod of the brake master cylinder to the brake pedal. Attach the return spring to the brake pedal.

Note: In the case of cars provided with a stay rod reinstall the stay rod.

12. On cars not provided with a stay rod slide a spacer washer (17b), the Vulkollan washer (16) and a shim (17a) together with the clutch pedal onto the mounting tube instead of the washer and the spring washer. Install the washer (15) and install the snap ring (18) in the groove of the mounting tube (see Fig. 29-10/1).

13. Check the end play of the clutch pedal on the mounting tube; it should be 0.1–0.2 mm. If necessary, adjust the end play by installing shims of the necessary size (see also Job No. 29-1, Section D).

Note: In the case of cars provided with a stay rod, the end play of the clutch lever must be adjusted by means of spring washers which are available in two sizes (see Job No. 29-4, para 8).

14. Install the flange on the pedal shaft and fasten by means of the hexagon screw; check with the markings made on removal.

15. Screw the flange to the clutch pedal.

- 15 a. In the case of the 2nd and 3rd versions with end plate screw the jointing disk (9) with flange (8) to the clutch pedal and attach the compensating spring (18) or (18a) (see Fig. 29-5/1) as well as the return spring for the clutch throw-out fork.

16. Insert the two shackles into the clutch and brake pedals and screw down. Between the pedals and the toeboard there is a

washer and a rubber washer on each shackle.

17. Check the free play of the brake and clutch pedals and, if necessary, correct (see Job No. 29-3 and Job No. 42-3).

18. Grease the brake and clutch pedals.

19. Install the protective plate for the pedal system.

II. Models 219, 220 S, and 220 SE with Hydraulic Automatic Clutch

Cars with hydraulic automatic clutch have no clutch pedal system.

a) 1st Version Brake Pedal

The 1st version brake pedal was a double lever construction consisting of two levers on one boss and a pedal with two shackles.

The removal and installation as well as the mounting of the brake pedal on the mounting tube are essentially the same as in the case of cars with a mechanical clutch. However, spacer sleeves are installed on either side of the lever boss in order to compensate for the difference in boss length as compared with standard levers. The end play is adjusted by means of spring washers or, if a Vulkollan washer is installed, by means of shims.

b) 2nd Version Brake Pedal

The 2nd version brake pedal, its removal and installation and its mounting is the same as in the case of cars with a mechanical clutch. The clutch pedal is replaced by a spacer sleeve.

The end play is adjusted by means of spring washers or, if a Vulkollan washer is installed, by means of shims.

On older cars the 2nd version brake pedal can be installed subsequently. The bore in the dashboard should be closed by a rubber disk Part No. 000 987 32 41.