

Removal and Installation of Clutch Pedal Shaft

Job No.

29-5

A. 1st Version

1. Remove the transmission (see Job No. 26-1).
2. Press the snap ring out of the clutch pedal shaft (2) (see Fig. 29-1/1).
3. Loosen the hexagon screw on the relay lever (3) and remove the relay lever (see Fig. 29-1/1).
4. Remove the clutch pedal shaft toward the middle of the car.
5. Installation is the reverse of the removal procedure. Please note that the distance "b" should be 32 ± 4 mm when the clutch pedal is in contact position (Fig. 29-1/1).

B. 2nd and 3rd Versions with End Plate

Models 180, 180 D, 190 SL, and 220 a

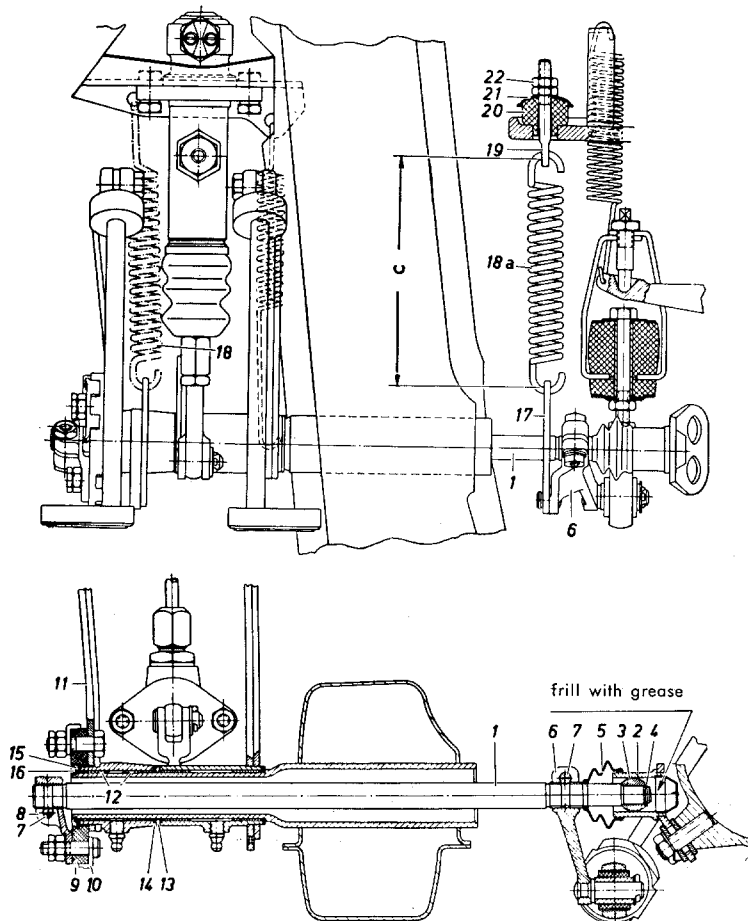


Fig. 29-5/1

- 1 Clutch pedal shaft
- 2 End plate with bushing
- 3 Ball
- 4 Snap ring
- 5 Cuff
- 6 Relay lever
- 7 Clamping screw
- 8 Flange
- 9 Jointing disk
- 10 Pressure plate with screw, hexagon nut and pal nut
- 11 Clutch pedal
- 12 Bushing
- 13 Stay rod
- 14 Spring washer
- 15 Washer
- 16 Snap ring
- 17 Shackle
- 18 1st version compensating spring
- 18a 2nd version compensating spring
- 19 Pull rod
- 20 Rubber buffer
- 21 Cup washer
- 22 Nuts
- c = Adjusting dimension for compensating spring

Removal:

1. In the case of the 2nd version detach the compensating spring (18) at the clutch pedal and at the attaching plate for the brake master cylinder. In Fig. 29-5/1 this

version is represented by dotted lines. In the case of the 3rd version loosen the nuts (22) of the pull rod (19) for the compensating spring (18a) and detach the compensating spring at the shackle (17) of the relay lever (6) (Fig. 29-5/1).

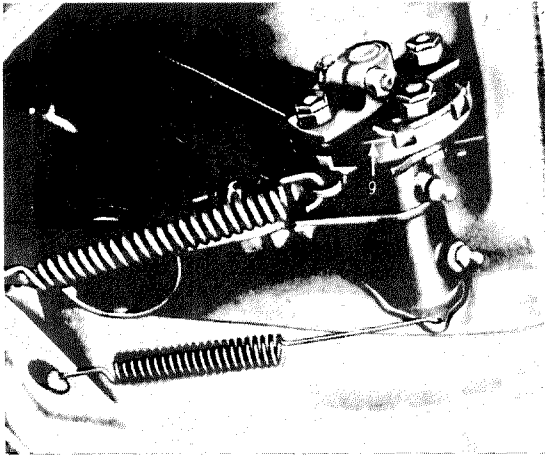


Fig. 29-5/2

8 Flange
9 Jointing disk

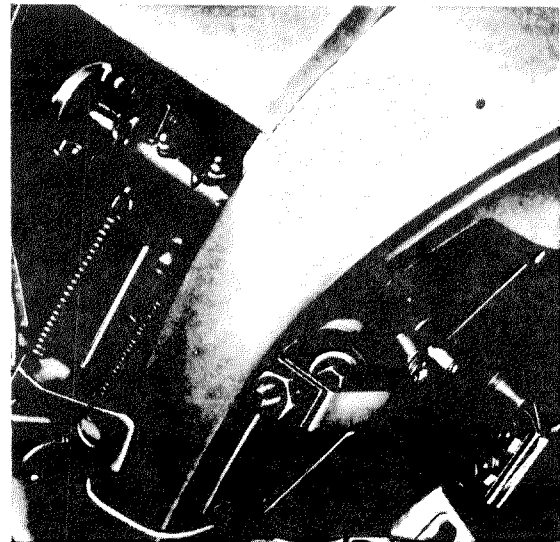


Fig. 29-5/3

2. Detach the return spring for the clutch throw-out fork and the shackle of the clutch actuating mechanism after loosening the threaded bolt.
3. Unscrew the two hexagon and locking nuts attaching the flange (8) to the jointing disk (9) (Fig. 29-5/2).
4. Remove the rubber cuff (5) from the end plate (2) and pull the pedal shaft (1) out of the end plate toward the outside (see Fig. 29-5/1 and Fig. 29-5/3).
5. If the ball (3) on the pedal shaft (1) is worn, it should be replaced. To do this, remove the snap ring (4) and then remove the ball (Fig. 29-5/1). If the bore in the end plate (2) is worn, the end plate should be replaced.

$$\text{Ball diameter} = \frac{19.980}{19.947} \text{ mm}$$

$$\text{Bore in end plate} = \frac{20.000}{20.021} \text{ mm}$$

6. Remove the transmission (see Job No. 26-1).
7. Unscrew the protective plate for the pedal system.

8. Then unscrew the clamping screw (7) on the flange (8) (see Fig. 29-5/1) and remove the pedal shaft toward the inside.

9. Check all parts and if necessary replace.

Installation:

10. Install the clutch pedal shaft from the inside on the splines of the flange (8) and tighten the flange with the clamping screw (7) (Fig. 29-5/1).
11. Install the protective plate for the pedal system.
12. Slide the relay lever (3) on the splines of the pedal shaft and check the position of the relay lever. The distance from center bolt of the relay lever to center clutch pedal shaft should be "b" = 32 ± 4 mm in the case of Models 180, 180 D, and 190 SL and "b" = 29 ± 4 mm in the case of Model 220 a. The clutch pedal (1) should always rest against the rubber stop. The distance "b" can be varied by changing the position of the relay lever (3) on the splines of the clutch pedal shaft (see Fig. 29-5/4).

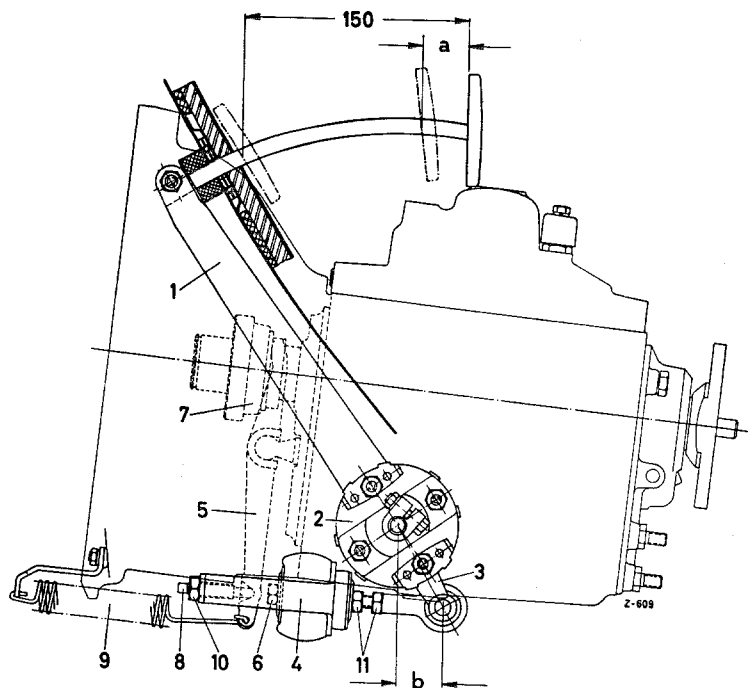


Fig. 29-5/4

- 1 Clutch pedal lever and pedal
- 2 Jointing disk
- 3 Relay lever with bolt
- 4 Shackle with pull rod and pull rod end
- 5 Clutch throw-out fork
- 6 Pull rod
- 7 Clutch throw-out bearing and throw-out unit
- 8 Threaded bolt
- 9 Return spring
- 10 Hexagon nut for threaded bolt
- 11 Hexagon nut for pull rod

a = Clutch pedal free play
b = Adjusting dimension for relay lever

13. Clamp the relay lever (6) on the clutch pedal shaft (1) by means of the clamping screw (7) (see Fig. 29-5/1).
14. Install the rubber cuff (5) and the ball (3) of the clutch pedal shaft and install the snap ring (4) (see Fig. 29-5/1).
15. Install the transmission (see Job No. 26-1).
16. Fill the bore in the end plate with grease. Install the pedal shaft in the bore of the

end plate, attach the flange (8) to the jointing disk (9) and slide the rubber cuff (5) onto the end plate (2) (Fig. 29-5/1).

17. Install the clutch linkage. Attach the compensating spring (18) on the 2nd version and (18a) on the 3rd version and the return spring for the throw-out fork (Fig. 29-5/1). The distance between center pedal shaft downward to center compensating spring should be 4 mm in the case of the 3rd version shaft when the clutch is engaged (see Fig. 29-5/5).

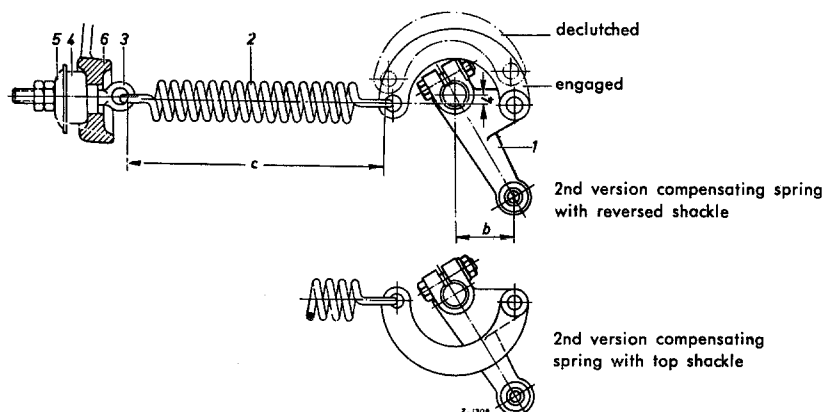


Fig. 29-5/5

- 1 Relay lever with shackle
- 2 Compensating spring
- 3 Pull rod
- 4 Rubber buffer

- 5 Cup washer
- 6 Clutch housing
- b = Adjusting dimension for relay lever
- c = Adjusting dimension for compensating spring

The distance can be varied by changing the position of the end plate in relation to the transmission (see Fig. 29-5/1).

If the distance is too large the clutch pedal will be difficult to operate because the pull of the compensating spring increases.

With the inside type of compensating spring the installed length "c" should be 137 mm in the case of Models 180, 180 D, and 190 SL and 155 mm in the case of Model 220 a.

18. Adjust the clutch pedal free play (see Fig. Job No. 29-3).

C. 4th Version with Swivel Support

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

On these models the removal and installation procedures for the clutch pedal shaft are the same as on Model 190.