

# Removal and Installation of Exhaust System

Job No.

49 — 1

The exhaust system consists of three main parts:

- a) The exhaust pipe, front section
- b) The pre-silencer with exhaust pipe, rear section
- c) The main silencer

On vehicles designed for tropical use, the pre-silencer is not fitted.

Between the exhaust pipe front section and the pre-silencer, there is a sleeve union. The remainder of the system is welded. The pre-silencer is supplied as a spare part with or without the exhaust pipe to the main silencer and the main silencer is supplied together with the end of the exhaust pipe. If repairs have to be carried out, the pre-silencer or the main silencer should be sawn off at the exhaust pipe and the new part butt-welded on.

## Removal:

1. Separate the exhaust pipe from the exhaust manifold by unscrewing the 3 hexagon screws.

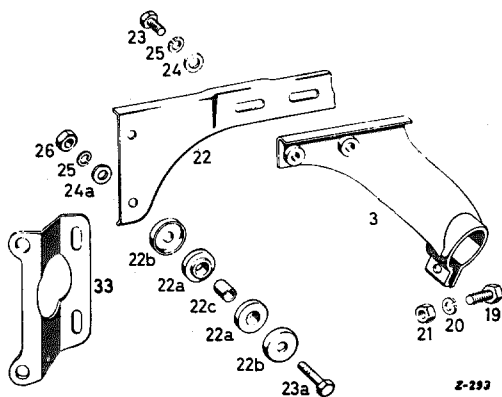


Fig. 49 — 1/1

- |                   |                    |
|-------------------|--------------------|
| 3 Bracket         | 22c Sleeve         |
| 19 Hexagon screw  | 23 Hexagon screw   |
| 20 Lock washer    | 23a Hexagon screw  |
| 21 Hexagon nut    | 24 Washer          |
| 22 Support        | 25 Lock washer     |
| 22a Rubber washer | 26 Hexagon nut     |
| 22b Cup washer    | 33 Attaching plate |

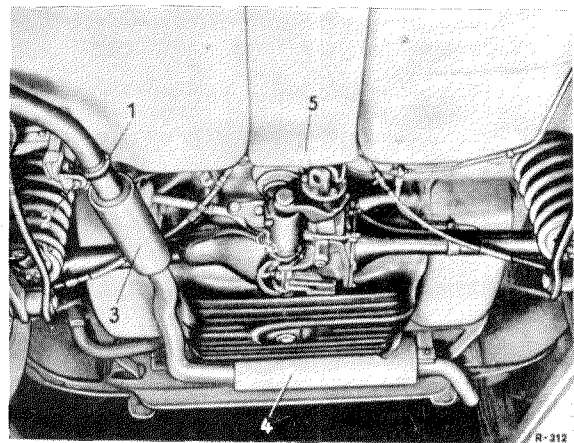


Fig. 49 — 1/2

- 1 Pipe clip
- 2 Hexagon screw
- 3 Pre-silencer
- 4 Main silencer
- 5 Check bore

2. Slacken the hexagon screw (19) and unscrew the two hexagon screws (23) with lock washers and washers from the bracket (3) (Fig. 49 — 1/1).
3. Unscrew the hexagon screw (2) at the angle bracket of the exhaust pipe center suspension (Fig. 49 — 1/2).
4. Unscrew the two hexagon nuts (55) of the fixing screws (52) and detach the main silencer (6) from the mounting (Fig. 49 — 1/3).

5. Then pull out the complete exhaust assembly downward and toward the rear.
6. Check the rubber damper pads of the exhaust suspension and if necessary, replace them.

## Installation:

7. Slide in the complete exhaust assembly, resting the front part of the exhaust pipe on the fork support of the chassis base panel.

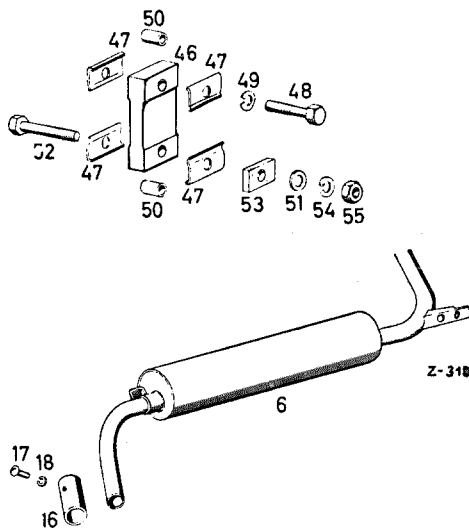


Fig. 49 — 1/3

6 Main silencer	49 Lock washer
16 Exhaust union sleeve	50 Spacer sleeve
17 Button-head tapping screw	51 Washer
18 Lock washer	52 Hexagon screw
46 Rubber damper pad	53 Insulating washer
47 Clamping plate	54 Lock washer
48 Hexagon screw	55 Hexagon nut

8. Raise the main silencer (6) and suspend it by the two hexagon screws (52) at the rubber damper pads (46) (see Fig. 49 — 1/3). Between the rubber damper pads (46) and the main silencer, install the insulating washers (53). After putting on the washers (51) and the lock washers (54), screw on the hexagon nuts (55) about 2 — 3 turns.
9. Fix the pipe clip (1) to the angle bracket of the center exhaust suspension with the hexagon screw (2), but do not tighten up the hexagon screw (2) yet (see Fig. 49 — 1/2).
10. Put a new sealing ring in the front exhaust pipe and screw the flange to the exhaust manifold, using 3 hexagon screws and special nuts M 8 AGGN 14441. Screw up the screws evenly but do not tighten them yet.
11. Check the suspension of the exhaust system. The exhaust system must not be under tension at any point when it is fitted since this leads to rumbling noises in the assembly. The rubber damper pads must be vertical.
12. Check that the system has sufficient freedom of movement at the following points:

- a) at the front at the right fork support of the chassis base panel;
  - b) at the right axle tube;
  - c) at the spare wheel well;
  - d) at the fuel tank;
  - e) at the recess in the bodywork center section for the rear part of the exhaust pipe.
- If the exhaust pipe strikes the metalwork at any point of its normal swing travel, the suspension must be adjusted until sufficient freedom of movement is obtained.

13. After alignment of the exhaust system, tighten up the 3 hexagon screws at the flange of the exhaust manifold, the two hexagon screws (55) for fixing the main silencer at the rear rubber damper pads (46) (see Fig. 49 — 1/3) and the hexagon screw (2) (see Fig. 49 — 1/2) at the angle bracket of the center rubber damper pad.

14. Move the bracket (3) (see Fig. 49 — 1/1) to the point where it lies against the support (22) and screw the two parts together with the hexagon screws (23) with washer and lock washer.

The bracket (3) must not be pulled up to the support (22) with the screws (23).

If it is necessary to correct the height of the assembly, loosen the support (22) at the attaching plate (33) and move it as required.

15. Then tighten up the hexagon screw (19) (see Fig. 49 — 1/1).
16. When installing a new main silencer, fit the union sleeve (16) (see Fig. 49 — 1/3).
17. Make a test run to warm up the engine and check the exhaust system for leakage.
18. Give a final tightening to the 3 hexagon screws at the flange of the exhaust manifold.

**Note:** Water drain holes have been bored in the pre-silencer and in the main silencer so that any condensation water which forms can drain away. These bores must be regularly cleaned out in the course of normal servicing in order to prevent premature corrosion of the silencers.