

Subsequent Installation of ATE Power Brake T 50

Job No.

42—15

(Optional Extra SA 10143)

A. Installation

1. Disconnect the battery cable at the negative terminal.
2. Unscrew the flash signal mechanism (22) (see Fig. 42—14/1) from the bracket (do not disconnect the cables).
3. Unscrew the fuse box without disconnecting the cables.
4. Disconnect the oil pressure hose, the capillary tube of the radiator thermometer, and the ignition adjustment control cable at the engine.

Unscrew the hexagon nut (24) from the threaded union (23) of the oil pressure gage line, holding the line steady with an SW 14 wrench (see Fig. 42—14/1).

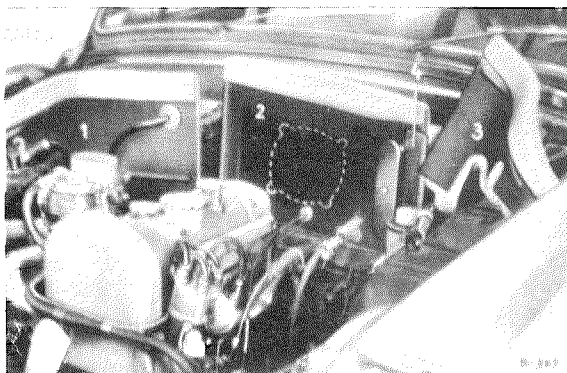


Fig. 42—15/1

- 1 Right engine compartment panel
- 2 Center engine compartment panel with bracket for ATE Power Brake T 50
- 3 Left engine compartment panel
- 4 Bracket for fuse box

5. Use a hammer to tap out of the center part (2) of the engine compartment panel in the cowl of the vehicle, the section which is provided for the installation of the power brake and whose outlines are stamped into the panel; carefully smooth the edges of the aperture.

To do this, unscrew the left engine compartment panel (3) and lift it slightly. Then unscrew the center panel (2) and remove it (Fig. 42—15/1).

(For details see Job No. 68—3, Removal and Installation of Engine Compartment Panels.)

Note: On recent models, the center panel is no longer provided with a cut-out stamping for the ATE Power Brake.

On these vehicles the center panel must be replaced by a panel with cut-out. For this reason, the parts required for the installation of the power brake now include a center panel with cut-out.

6. In this case, the rubber grommets through which pass the oil pressure gage line, the capillary tube of the radiator thermometer, and the ignition adjustment control cable must be removed from the old panel and installed in the new panel. Pull the capillary tube and the ignition adjustment control cable through the rubber grommets. Install the center panel, at the same time inserting the threaded union (23) of the oil pressure gage line into the bracket (25) at the center panel. Screw the hexagon nut (24) and lock washer onto the threaded union (23), holding the union steady with an SW 14 wrench (see Fig. 42—14/1).

7. Screw on the fuse box and the flash signal mechanism.
8. Cut off the bolt designated c) down to the nut, clean the cut surface and paint it black (see Fig. 42—15/3).
9. Unscrew the oil filler plug (14) (see Fig. 42—14/1). Hold the power brake in its built-in position and fill it with approx. 25 ccm spindle oil (shock-absorber oil Donax A 1).

Note: The power brake must always be held in its built-in position, since otherwise the lubricating oil might get into the control valve via the control tube and might destroy the rubber cups.

10. Insert the power brake into the center panel (18) from the front, at the same time pushing the engine as far to the right as its rubber mountings permit. Then slide the fixing clamp (16) over the vacuum power cylinder (15), install washer and lock washer, screw on the hexagon nut (16) and tighten (see Fig. 42—14/1).
11. Unscrew the air cleaner, the exhaust manifold, and the intake manifold together with carburetor from the engine and tap an $M 14 \times 1.5$ thread for the screwed union in the cast lug of the intake manifold perpendicular to the lug surface (Fig. 42—15/2). Coat the screwed union with sealing com-

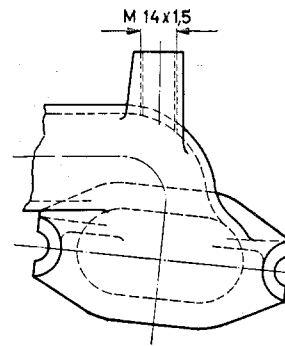


Fig. 42—15/2

pound and screw in. Then reinstall the exhaust manifold, the intake manifold together with the carburetor, and the air cleaner.

Note: This operation is only necessary on the first series of vehicles; on recent vehicles the intake manifold lug has already been tapped and the opening is closed with a dummy plug.

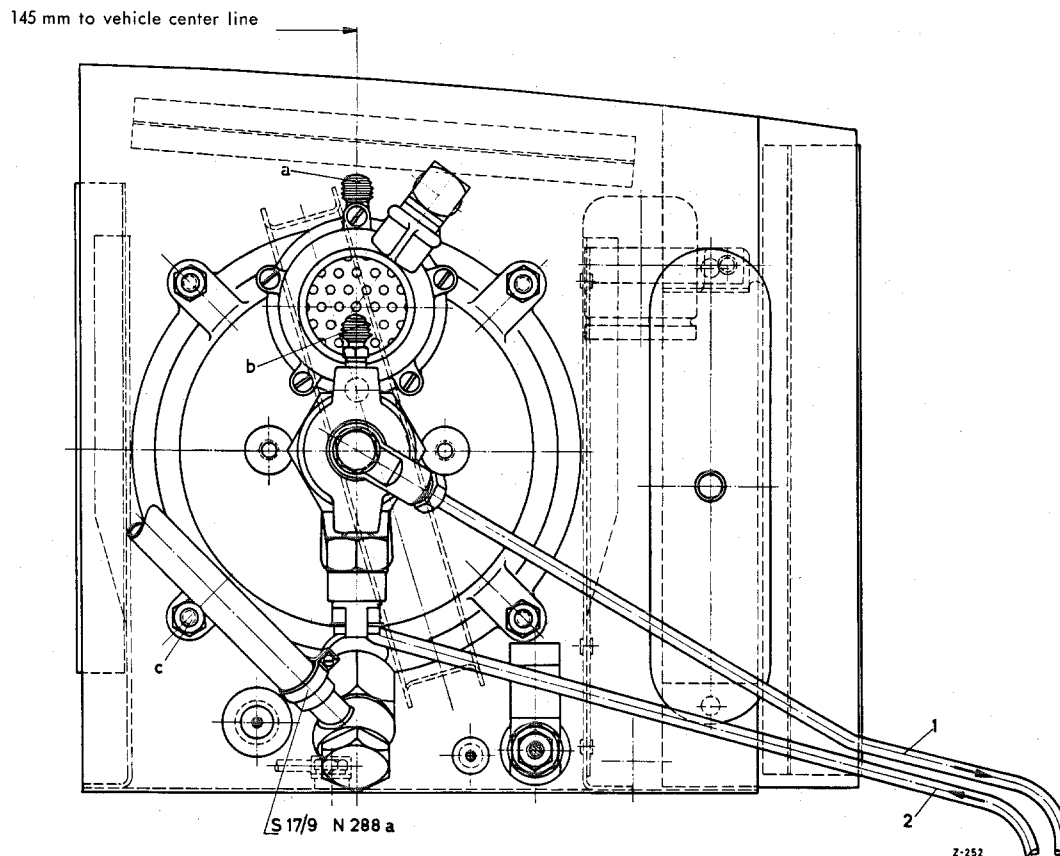


Fig. 42—15/3

- 1 Brake line from ATE Power Brake to distributor fitting (wheel cylinders)
- 2 Brake line from brake master cylinder to ATE Power Brake
- 3 Hose clip
- a Upper bleed screw
- b Lower bleed screw
- c Bolt

12. Attach the vacuum hose to the screwed union at the intake manifold and to the annular nipple of the power brake with two Hose Clips S 17/9 N 288 a.
For Neoprene vacuum hoses use Hose Clips S 18/9 N 288 a.

Note: The annular nipple is closed with a rubber plug to prevent the entrance of dirt. Remove the rubber plug before installing the vacuum hose.

Use only copper sealing rings A 22 × 27 DIN 7603 at the hollow screw (10) of the ATE Power Brake (see Fig. 42 — 14/1).

When tightening or retightening the hollow screw (10), always hold the check valve tube connection (13) steady with an SW 32 wrench in order to prevent damage to the thread in the power brake.

13. Attach the vacuum hose to the right engine compartment panel by means of a Pipe Clip A 17 N 285 b (approx. 140 mm from the upper edge and approx. 80 mm from the vertical edge).

Note: Install the vacuum hose high enough above the cylinder head cover for the latter to be easily detachable.

14. Remove the old 1" ϕ brake master cylinder and install a new 1 1/16" ϕ brake master cylinder.

Note: Recent models of the ATE Power Brake are provided with a mounting thread for the stop light switch (21) (see Fig. 42 — 14/1).

On these power brakes, the stop light switch should no longer be screwed into the brake master cylinder but into the mounting thread of the power brake. In that case, the thread in the brake master cylinder should be closed by a plug (12), Part No. 000 428 01 32 (see Fig. 42 — 15/4).

This change has been made in order to accelerate the response of the stop light switch which is now at the high pressure side. In future the brake master cylinder will no longer be provided with an opening for the stop light switch.

15. Connect the brake line (2) from the brake master cylinder to the power brake, and the brake line (4) from the fluid reservoir to the brake master cylinder (see Figs. 42 — 15/4 and 42 — 14/1).

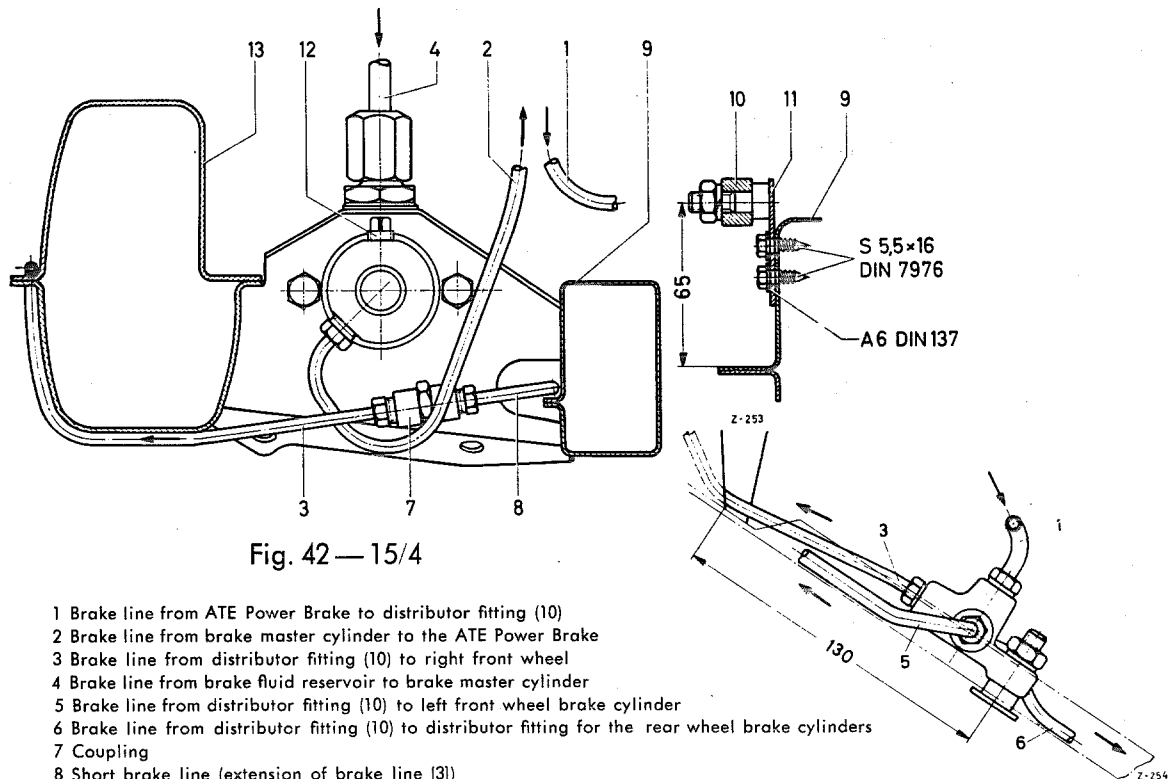


Fig. 42 — 15/4

- 1 Brake line from ATE Power Brake to distributor fitting (10)
- 2 Brake line from brake master cylinder to the ATE Power Brake
- 3 Brake line from distributor fitting (10) to right front wheel
- 4 Brake line from brake fluid reservoir to brake master cylinder
- 5 Brake line from distributor fitting (10) to left front wheel brake cylinder
- 6 Brake line from distributor fitting (10) to distributor fitting for the rear wheel brake cylinders
- 7 Coupling
- 8 Short brake line (extension of brake line [3])
- 9 Side member support
- 10 Distributor for lines to the brake wheel cylinders and the power brake
- 11 Bracket with fixing bolt
- 12 Plug Part No. 000 428 01 32
- 13 Forked bracket

16. Screw the bracket (11) for the distributor fitting (10) for the brake lines leading to the brake wheel cylinders to the left side member support (9), using two Tapping Screws S 5.5 × 16 DIN 7976 and two Lock Washers A6 DIN 137 (rough-bore to 3.7 mm) (Fig. 42 — 15/4).
17. Remove the old brake line from the brake master cylinder to the rear distributor fitting (8) and the brake line to the left front wheel, and install the new brake lines (see Fig. 42 — 15/5).
18. Screw the short brake line (8) and the coupling (7) to the brake line (3) for the right front wheel and tighten up (Fig. 42 — 15/4).
19. Connect the brake lines to the left and right front wheel and the brake line to the rear wheels at the front distributor fitting (10).
20. Then connect the brake line (1) from the power brake to the distributor fitting (10) (Fig. 42 — 15/4).
21. Connect the oil pressure hose, the capillary tube of the radiator thermometer, and the ignition adjustment control cable at the engine side (see Job No. 30 — 8, Paragraphs 11 — 13).

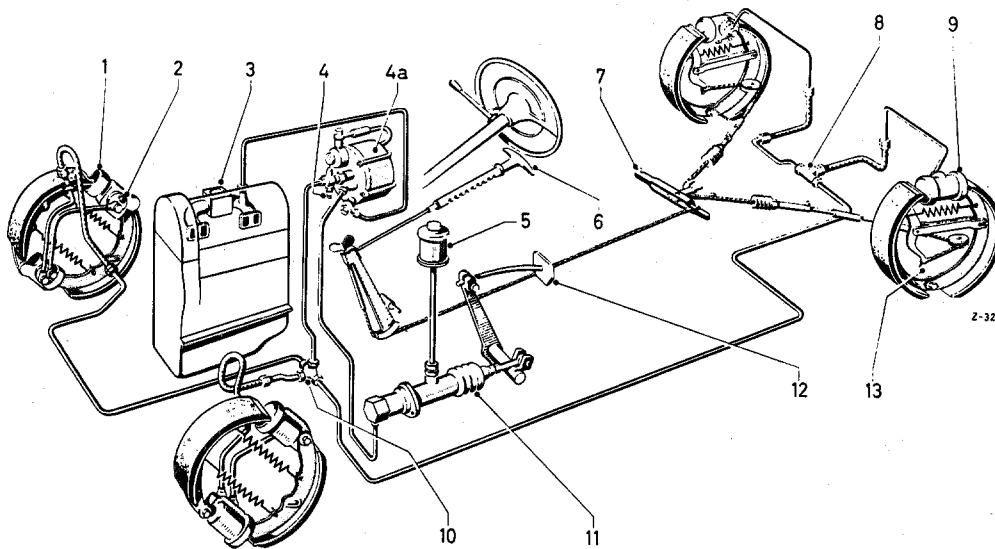


Fig. 42 — 15/5

- | | |
|------------------------|------------------------------|
| 1 Brake wheel cylinder | 7 Equalizer |
| 2 Bleed screw | 8 Rear distributor fitting |
| 3 Intake manifold | 9 Brake wheel cylinder |
| 4 Stop light switch | 10 Front distributor fitting |
| 4a ATE Power Brake | 11 Brake master cylinder |
| 5 Fluid reservoir | 12 Brake pedal |
| 6 Hand brake | 13 Brake lever |

22. Fill in brake fluid and bleed the brake system (see Job No. 42 — 1).
23. Check the power brake and the lines for leakage (see Job No. 42 — 14, Paragraph 11).
24. The standard brake linings (Textar composite) remain in the vehicle.
On Model 190 it is not necessary to replace the standard Turbo brake drums by Alfin brake drums.

B. Maintenance of ATE Power Brake T 50

The air cleaner element in the end plate of the ATE Power Brake T 50 should be replaced every 16 000 km. The air cleaner element can be taken out after removing the exterior snap ring (8) and the hair retainer (Fig. 42 — 15/6).

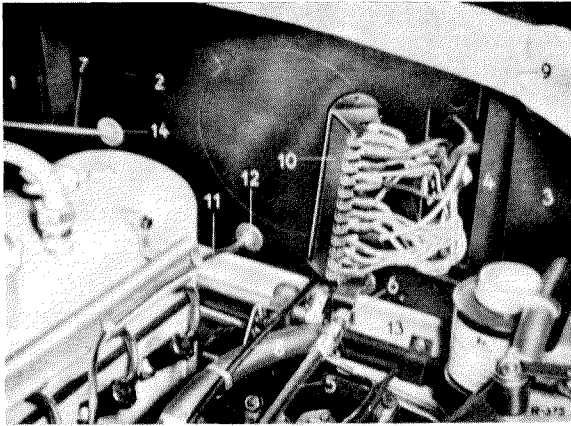


Fig. 42 — 15/6

- 1 Vacuum hose from engine intake manifold to power brake
- 2 Brake line from brake master cylinder to power brake
- 3 Brake line from power brake to distributor fitting
- 4 Upper bleed screw
- 5 Lower bleed screw
- 6 Fluid reservoir
- 7 Filler plug
- 8 Snap ring, hair retainer, and air cleaner element
- 9 Threaded union of control pipe

When the vehicle is being driven in very dusty country, it is advisable to check the cleaner element more often. The element must not be clogged or dirty, since otherwise the response of the brake is retarded.

The cleaner element must not be washed in gasoline, kerosene, or trichloroethylene, since there is a danger that small particles of the washing fluid may be carried into the power unit by the air and may destroy the rubber parts and cups.

In an emergency the cleaner element can be washed with alcohol. In that case it should be thoroughly cleaned with compressed air and **allowed to dry completely** before it is reinstalled.

Do not oil the air cleaner element!