

Only approved brake fluids or alcohol may be used for flushing out the brake system. **Gasoline, solvents, or mineral oils should under no circumstances be used**, since these agents swell the rubber cups and thus make the whole brake system inoperative in a very short time. Before making a complete change of brake fluid always clean the whole line system by means of completely dry, filtered compressed air.

Alcohol should only be used as a flushing fluid in exceptional cases, since it is impossible to remove all traces of alcohol from the hydraulic system. When brake fluid is added, the two liquids mix and the mixture is liable to produce gas bubbles if it is heated up beyond a certain point.

## B. Bleeding the Brake System without Special Equipment

1. Remove the filler plug (7) of the fluid reservoir and, if necessary, fill up to the prescribed minimum level (1—2 cm below top edge) Fig. 42 — 1/1).

**Note:** During the bleeding operation keep a constant check on the fluid level in the reservoir and make sure that it never falls below a depth of 1 cm, since otherwise air will be drawn into the hydraulic system.

2. Bleed the system in the following order:
  - a) upper bleed screw (5) at the ATE power brake T 50 (Fig. 42 — 1/4);
  - b) lower bleed screw (4) at the ATE power brake T 50;
  - c) rear wheel brake cylinder right;
  - d) rear wheel brake cylinder left;
  - e) front wheel brake cylinder right;
  - f) front wheel brake cylinder left;
  - g) upper bleed screw (5) at the ATE power brake T 50;
  - h) lower bleed screw (4) at the ATE power brake T 50;
  - i) brake master cylinder (if provided with bleed screw).
3. To start the bleeding operation remove the rubber protective cap of the bleed screw and fit the bleeder hose over the bleed screw nipple (Fig. 42 — 1/5).

**Note:** Fig. 42 — 1/5 shows the bleeding operation at the right front wheel.

On the front wheels both brake wheel cylinders are bled through the bleed screw fitted to the upper brake wheel cylinder.

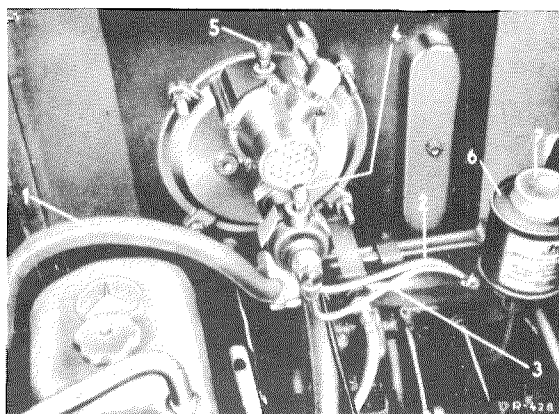


Fig. 42 — 1/4

- 1 Vacuum tube from engine intake manifold to power brake
- 2 Brake line from master brake cylinder to power brake
- 3 Brake line from power brake to distributor fitting
- 4 Slave cylinder bleed screw
- 5 Control valve bleed screw
- 6 Fluid reservoir
- 7 Filler plug

Immerse the free end of the bleeder hose in a clean glass container partly filled with brake fluid until the end of the bleeder hose is below the fluid level (Fig. 42 — 1/5).

5. Back out the bleed screw about one turn to the left, using box wrench SW 11.
6. Get a second mechanic to depress the brake pedal full stroke and allow it to return

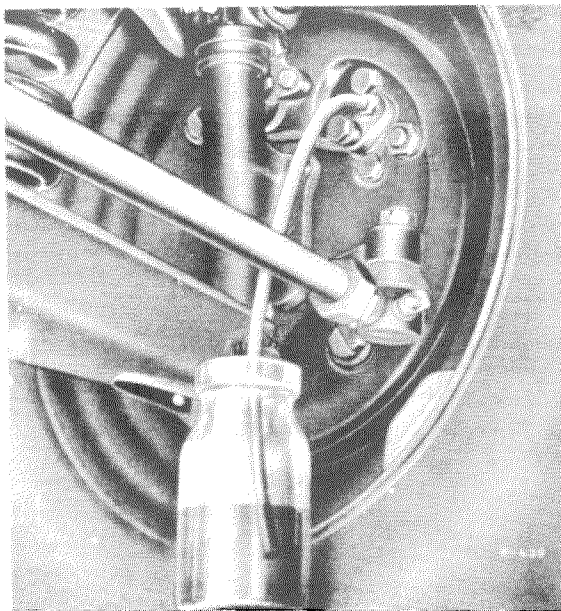


Fig. 42 — 1/5

slowly until the brake fluid in the glass container is free from air bubbles.

During this bleeding operation the fluid reservoir must always contain a sufficient amount of brake fluid, since otherwise air will be drawn into the system (see Note paragraph 1).

7. Then retighten bleed screw using Box Wrench SW 11 or ATE bleeder wrench A 2273.

**Note:** While the bleeding screw is being tightened the brake pedal must be depressed full stroke and held in this position.

8. Remove the bleeder hose and fit the dust cap on the bleed screw.

9. Bleed at the other points in the same way.

10. After bleeding the system fill the fluid reservoir up to the prescribed level and close by means of the filler plug.

**Note:** Make sure that the breather port in the filler plug is not plugged.

11. Check the hydraulic system for leaks. For this purpose depress the brake pedal as far as possible for about two minutes and then check the whole system for leaks.

**Note:** If available, use ATE Pedal Jack AW 35644 (see Fig. 42 — 1/8).

12. Check whether the system is correctly bled by depressing the brake pedal several times.

**Note:** If despite careful bleeding and a leak-proof hydraulic system the brake pedal is still soft and spongy, the cause may be an air bubble under the stop light switch. This air bubble can be removed in the following way:

Screw out the stop light switch until it is loose in the bore of the brake master cylinder. Then pump the brake pedal until some brake fluid emerges at the switch mounting thread and retighten the stop light switch. This procedure is not necessary if the brake master cylinder is provided with a bleed screw.