

**Haynes**
shows you how

BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

5 Clutch master cylinder - removal, inspection and installation

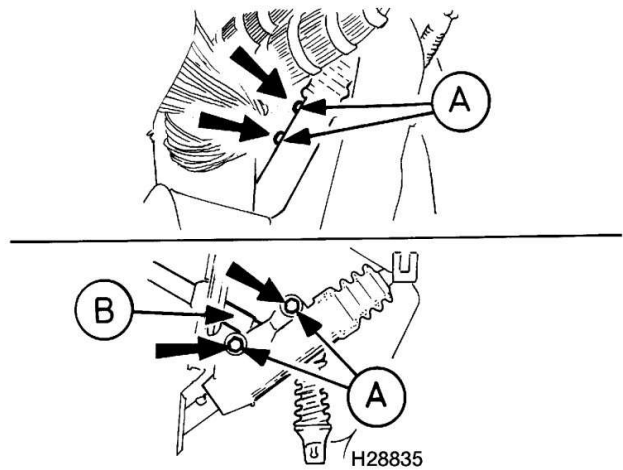
Warning:

Brake fluid is poisonous; wash it off immediately and thoroughly in the case of skin contact, and seek immediate medical advice if any fluid is swallowed or gets into the eyes. Certain types of brake fluid are flammable, and may ignite when allowed into contact with hot components; when servicing any hydraulic system, it is safest to assume that the fluid is flammable, and to take precautions against the risk of fire as though it is gasoline that is being handled. Brake fluid is also an effective paint stripper, and will attack plastics; if any is spilled, it should be washed off immediately, using large quantities of fresh water. Finally, it is hygroscopic (it absorbs moisture from the air) - old fluid may be contaminated and unfit for further use. When topping-up or replacing the fluid, always use the recommended type, and ensure that it comes from a freshly opened container.

Removal

- 1 Remove the brake fluid reservoir cap, and siphon out sufficient brake fluid so that the fluid level is below the level of the reservoir fluid hose connection to the clutch master cylinder (the brake fluid reservoir feeds both the brake and clutch hydraulic systems). **Do not** empty the reservoir, as this will draw air into the brake hydraulic circuits.
- 2 Disconnect the clutch master cylinder hose from the brake fluid reservoir. Be prepared for fluid spillage, and plug the open end of the hose to prevent dirt entry.
- 3 Working inside the vehicle, remove the securing screws, and remove the driver's side lower dash trim panel.
- 4 Where applicable, disconnect the clutch pedal return spring, using a suitable pair of pliers, to enable the clutch master cylinder pushrod-to-pedal clevis pin to be removed.
- 5 Pry off the clip securing the master cylinder pushrod-to-pedal clevis pin, then withdraw the clevis pin.
- 6 Unscrew the two bolts and nut securing the master cylinder to the pedal bracket in the footwell, noting that the bolts also secure the brake light mounting bracket (see illustration) . Release the master cylinder from the bracket, and ease the fluid hose through the firewall grommet, taking care not to strain the pipe.

5.6 Clutch master cylinder securing bolts (A) and fluid hose (B)



Inspection

7 Inspect the master cylinder for fluid leaks and damage, and replace if necessary. No spare parts are available for the master cylinder, and if faulty, the complete unit must be replaced.

Installation

Note:

A new master cylinder self-locking securing nut should be used on installation.

8 Installation is a reversal of removal, bearing in mind the following points.

A. Take care not to strain the master cylinder fluid pipe during installation.

B. Use a new master cylinder self-locking securing nut.

C. On completion, top-up the level in the brake fluid reservoir, then bleed the clutch hydraulic system (see [Section 6](#)).