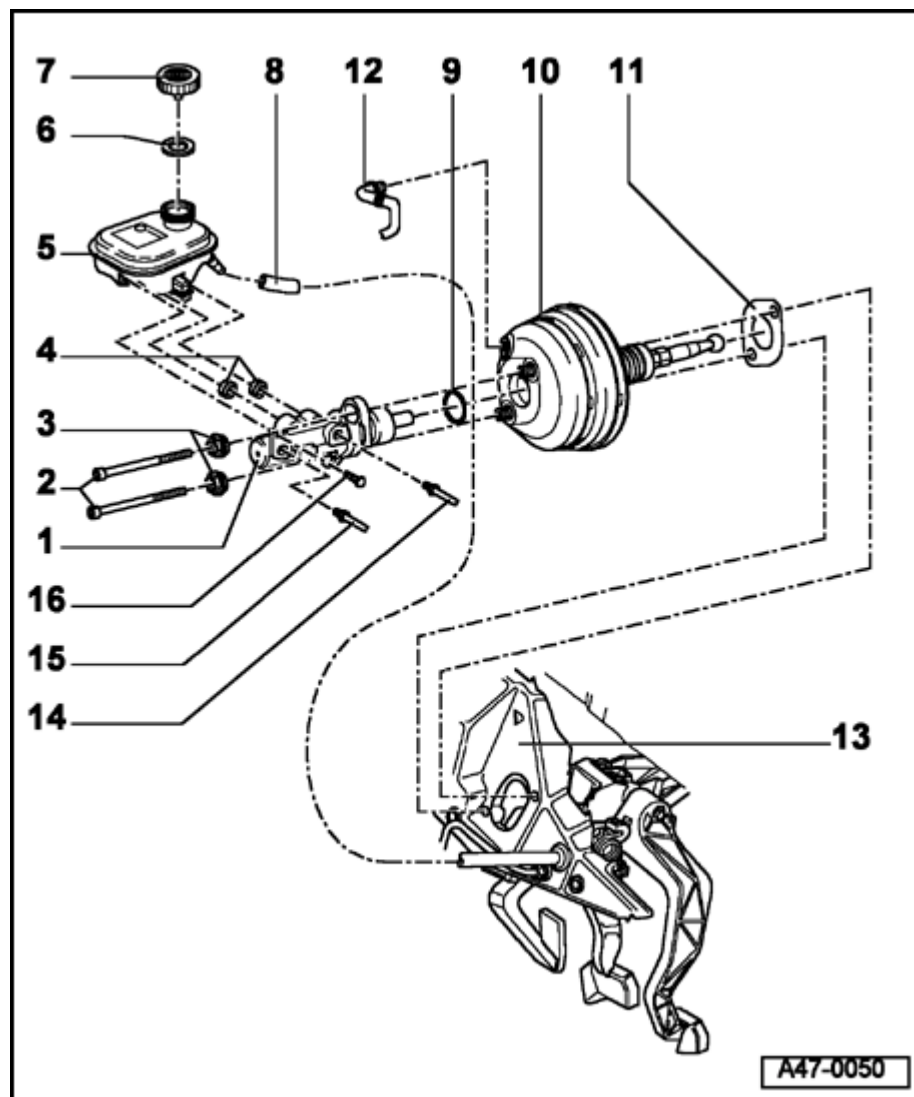


47-41



Brake master cylinder with 25.4 mm (0.999 in.) diameter piston and brake servo, component summary

Note:

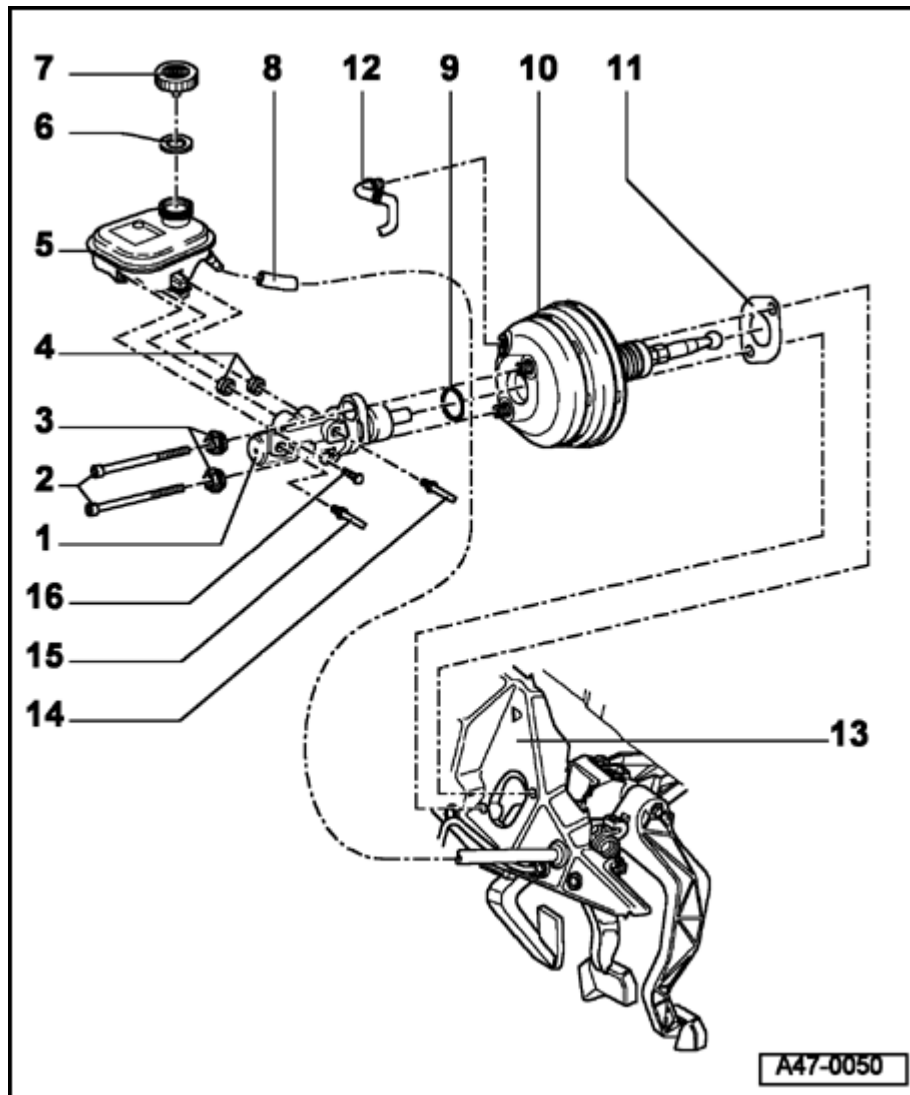
- ◆ Brake master cylinders can no longer be disassembled, i.e. there is no provision for servicing.
- ◆ Use only fresh brake fluid. Pay attention to information on the brake fluid reservoir.
- ◆ Brake line connections to master cylinder, Bosch 5.0 ABS system (⇒ [page 45-6](#)), Bosch 5.3 system (⇒ [page 45-18](#)).

1 - Brake master cylinder

- ◆ Diameter: 25.4 mm (0.999 in.)
- ◆ Cannot be repaired. If malfunctioning, replace as complete unit only.
- ◆ Must be removed and installed together with the brake servo
- ◆ Removing and installing ⇒ [page 47-46](#)

2 - T45 Torx®

- ◆ 25 Nm (18 ft lb)



3 - Flange nut

- ◆ Always replace
- ◆ 50 Nm (37 ft lb)

4 - Sealing plug

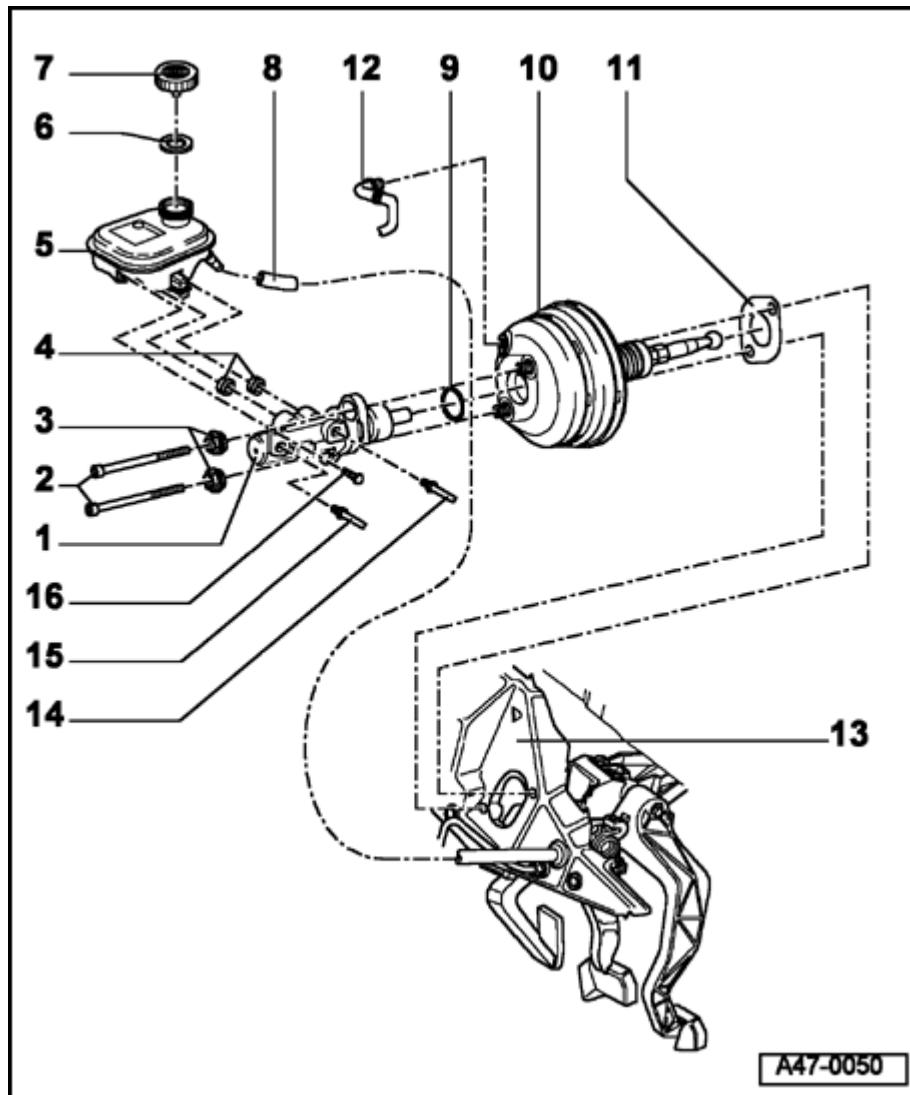
- ◆ Moisten with brake fluid and insert into brake master cylinder
- ◆ Press brake fluid reservoir into sealing plugs

5 - Brake fluid reservoir with brake fluid level warning switch

Functional check:

- Remove brake fluid reservoir cap and with the ignition switched on push on strainer in reservoir.
- The warning light in the instrument panel insert comes on and an audible warning signal sounds.
- ◆ Removing and installing ⇒ [page 47-46](#)
- ◆ Fluid couplings are on the side of the reservoir
- ◆ Pay attention to information found on the label on the reservoir before adding fluid

6 - Seal

**7 - Brake fluid reservoir cap****8 - Fluid supply hose**

- ◆ From brake fluid reservoir to clutch master cylinder

9 - Seal

- ◆ Install in groove in brake master cylinder
- ◆ Replace after removing brake master cylinder

10 - Brake servo

- ◆ Removing and installing ⇒ [page 47-46](#)
- ◆ Adjusting ball head ⇒ [Fig. 1](#)

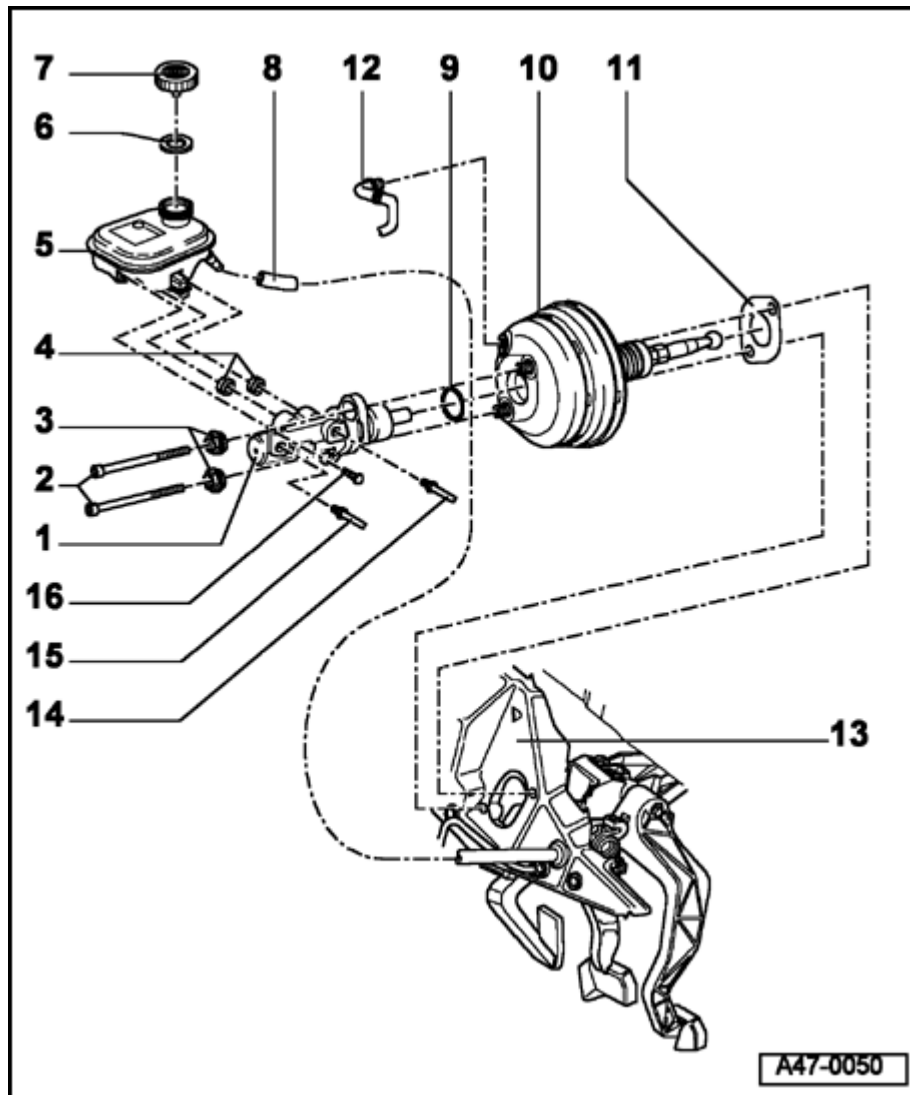
Functional check:

- With engine switched off, depress brake pedal firmly several times (to deplete vacuum in brake servo).
- Depress and hold brake pedal with average foot pressure and start engine. If servo unit is working properly, pedal will be felt to give slightly under foot (servo assistance becomes effective).

If malfunctioning:

- Replace as complete unit only.

47-44

**11 - Gasket**

- ◆ Brake servo supplied with gasket glued on
- ◆ Replace only if damaged

12 - Vacuum hose

- Install into brake servo
- ◆ On gasoline engines vacuum is supplied from intake manifold

13 - Bulkhead**14 - Brake line**

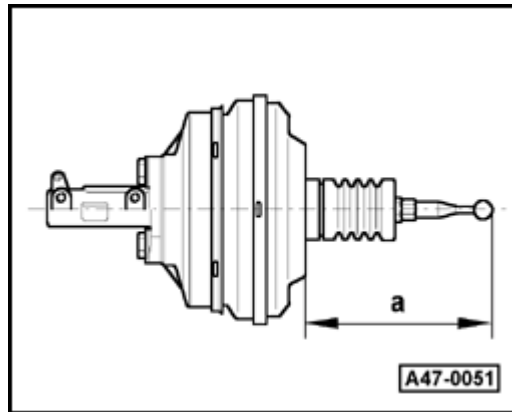
- ◆ 15 Nm (11 ft lb)
- ◆ Brake master cylinder/primary piston circuit to hydraulic control unit

15 - Brake line

- ◆ 15 Nm (11 ft lb)
- ◆ Brake master cylinder/secondary piston circuit to hydraulic control unit

16 - Bolt

- ◆ Screw in as far as stop
- ◆ Attaches brake fluid reservoir



A

Fig. 1 Adjusting ball head

$a = 159 \text{ mm} \pm 0.5 \text{ mm} (6.26 \text{ in.} \pm 0.02 \text{ in.})$

Note:

- ◆ *The ball head must be positioned at right angles to the mounting surface of the brake servo unit when measuring.*
- ◆ *Measure up to end of ball head with no gasket installed.*

Brake master cylinder with 25.4 mm (0.999 in.) diameter piston and brake servo, removing and installing as a unit

Special tools and equipment

- ◆ Repair Manual, Body-Exterior
- ◆ Repair Manual, Body-Interior
- ◆ Sealing plugs from repair kit, Part No. 1H0 698 311A
- ◆ T10006 Brake pedal release tool

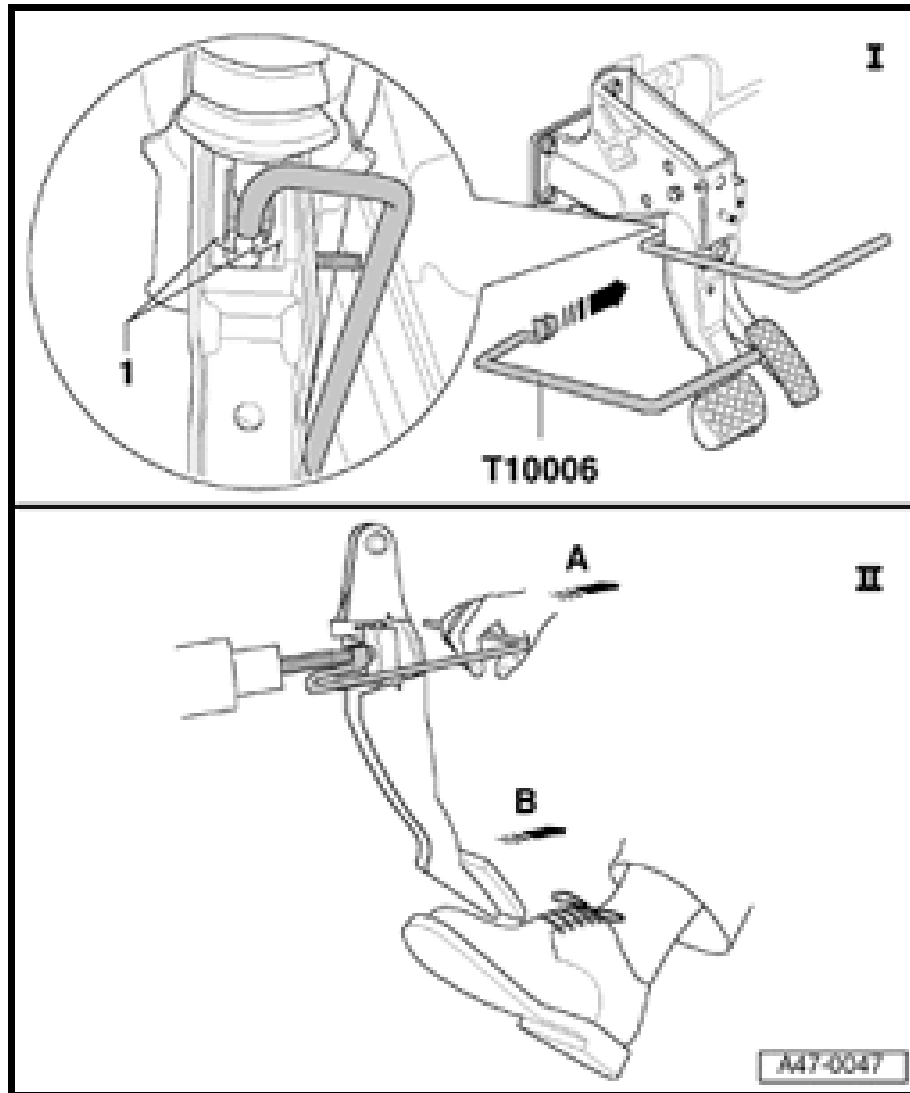
CAUTION!

Part numbers are listed here for reference only. Always check with your Parts department for the latest information.

Removing

- Remove driver's side storage compartment.

⇒ [Repair Manual, Body-Interior, Repair Group 68](#)



Releasing brake pedal

- Remove brake light switch.

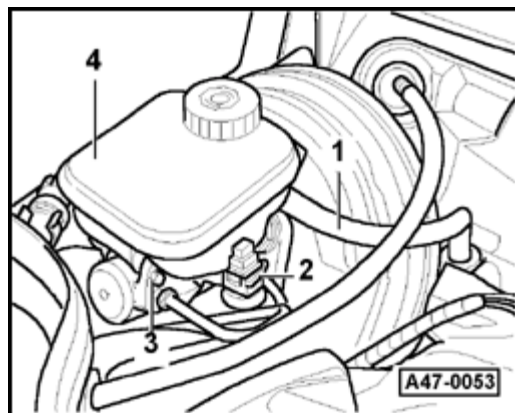
1 - Inserting T10006 brake pedal release tool

- ◆ Insert the tool from below

2 - Release procedures

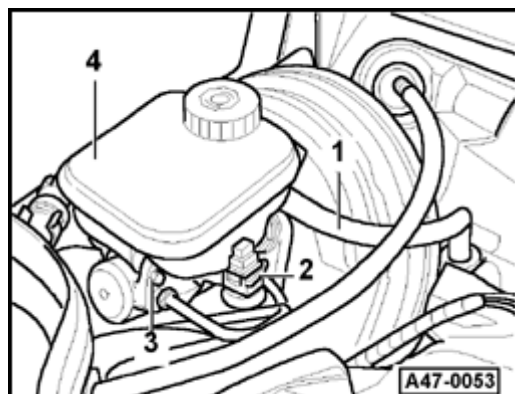
- Tightly hold brake pedal.
- Lift catches off ball head using a slight pull on tool (arrow -A-).
- Tension tool so catches do not re-engage ball head.
- Pull brake pedal from ball head (arrow -B-).

- Attach bleeder hose and bleeder bottle to left-front brake caliper bleeder screw and open bleeder screw.
- Operate brake pedal to pump out as much brake fluid as possible.
- Close left-front bleeder screw.



A

- Remove bolt -3- attaching brake fluid reservoir -4-.
- Disconnect harness connector -2- to brake fluid level warning switch.



A

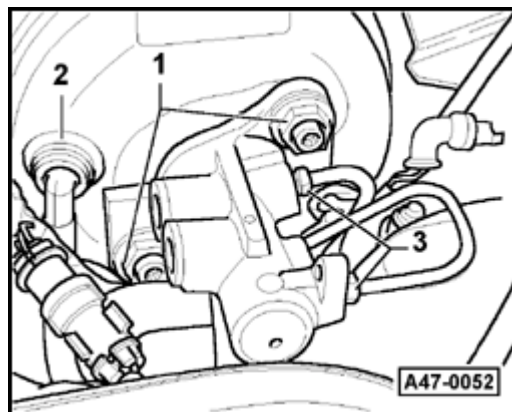
- On vehicles with manual transmissions, disconnect clutch master cylinder supply hose -1- and seal with plug.

Note:

- ◆ Cover plenum to catch any spilled brake fluid.
- ◆ The brake fluid reservoir is attached to the master cylinder on the bottom side.

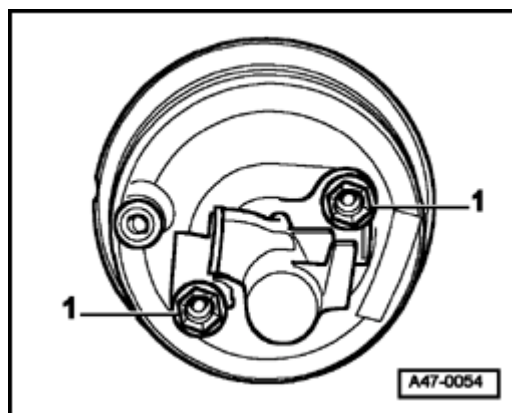
CAUTION!

Brake fluid must not be allowed to come into contact with paintwork because of its caustic effect.



A

- Remove brake fluid reservoir by pressing locking catch down and pulling reservoir out of sealing plugs.
- Disconnect brake lines -3- on brake master cylinder and seal brake lines and threaded holes using plugs from repair kit.
- Disconnect vacuum hose -2- from brake servo.
- Remove T45 Torx[®] bolts -1- from brake servo.
- Remove brake servo together with brake master cylinder as a unit.



A

- Remove nuts -1- attaching brake master cylinder to brake servo.
- Carefully separate brake master cylinder from brake servo.

Note:

Pay particular attention to the following when installing:

- ◆ *Clean any spilled brake fluid from the plenum before installing brake servo and master cylinder.*
- ◆ *When bolting the brake master cylinder to the brake servo make sure pushrod is correctly located in the master cylinder.*

Installing

Note the following points:

- Adjust brake light switch ⇒ [page 46-50](#) .
- Adjust vent valve for cruise control system ⇒ [page 46-54](#) .

Bleeding clutch hydraulics

- Connect US1116 brake bleeder but do not switch on yet.
- Open bleeder screw on clutch slave cylinder.
- Attach collector bottle hose.
- Switch on bleeder unit and allow approx. 100 cc (6 oz.) of brake fluid to flow out of clutch slave cylinder.
- Close bleeder screw.
- Bleed brake system ⇒ [page 47-23](#) .