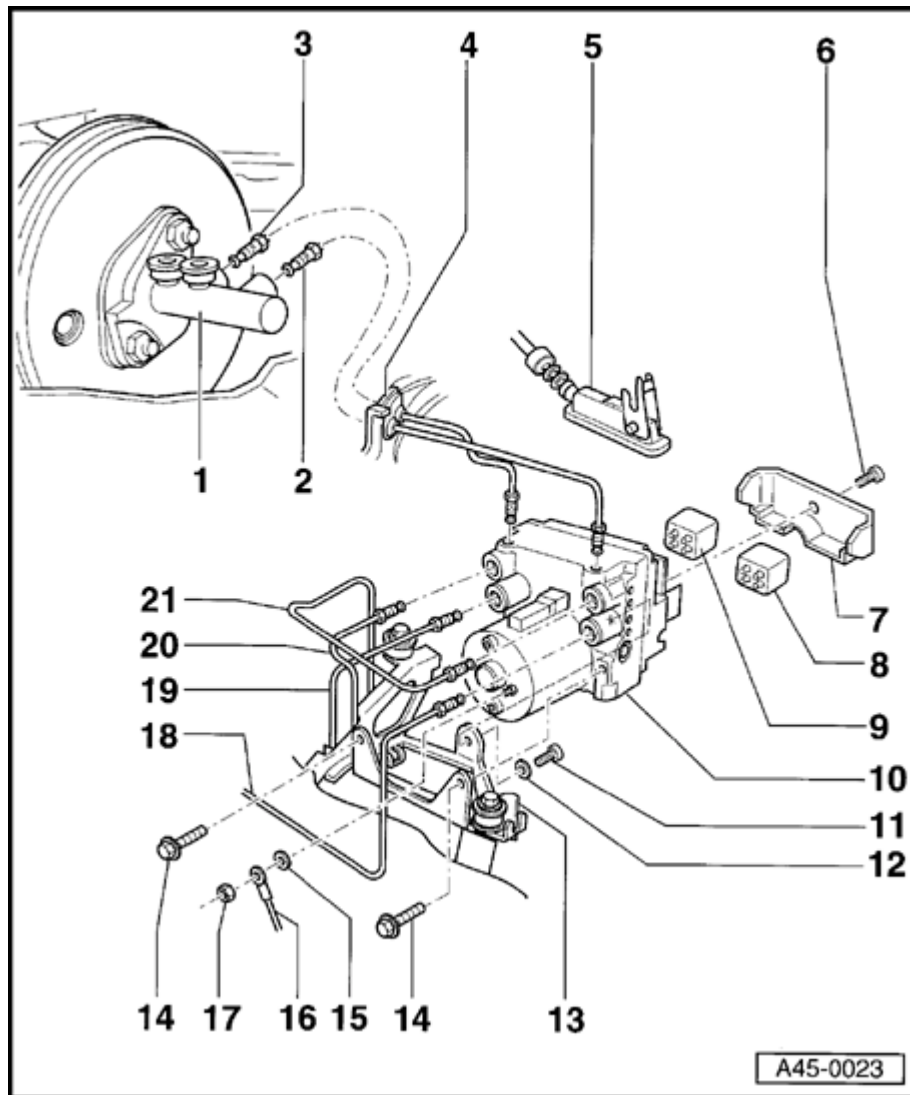


Anti-lock Brake System (ABS), Bosch 5.0

CAUTION!

- ◆ *The anti-lock brake system is basically maintenance-free.*
- ◆ *Specialist knowledge is required for performing any work on this system.*
- ◆ *Failure to observe the instructions presented in this Repair Manual may result in damage to the system and to loss of vehicle safety.*



ABS hydraulic unit and brake lines

The tightening torque for all brake lines on the Audi A4 is 15 Nm (11 ft lb).

1 - Brake master cylinder with brake servo unit

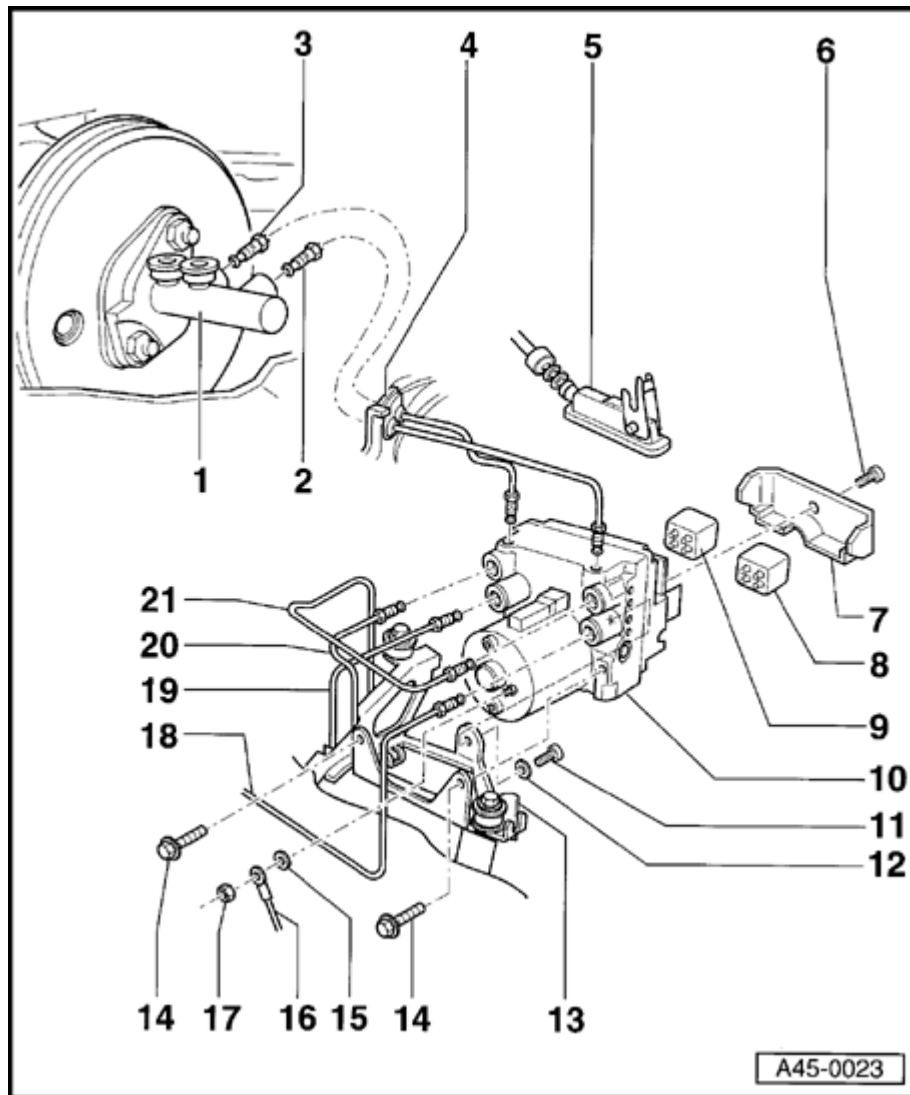
- ◆ Brake master cylinder is shown without brake fluid reservoir

2 - Brake line

- ◆ Brake master cylinder/secondary piston circuit to hydraulic unit
- ◆ Bolted connection at brake master cylinder: M12x1
- ◆ Bolted connection at ABS hydraulic unit: M12x1

3 - Brake line

- ◆ Brake master cylinder/primary piston circuit to hydraulic unit
- ◆ Bolted connection at brake master cylinder: M12x1
- ◆ Bolted connection at ABS hydraulic unit: M12x1

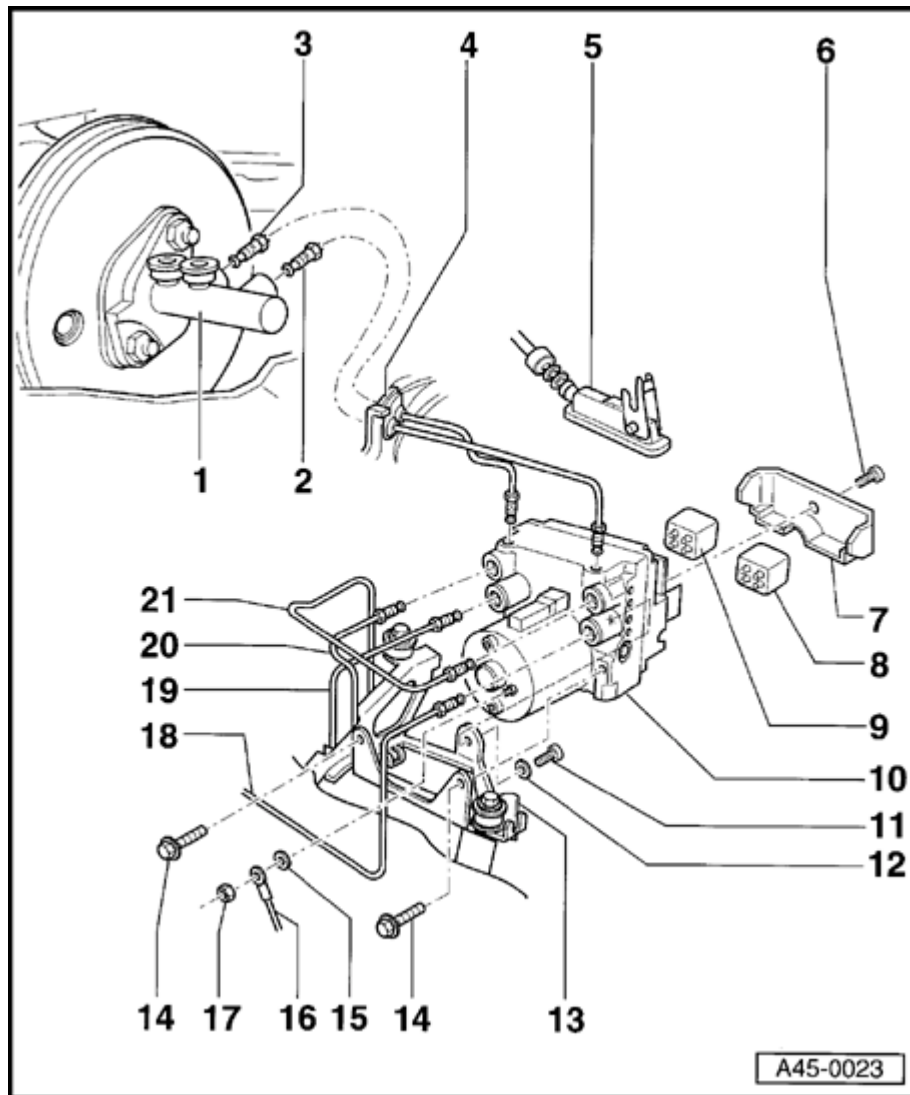
**4 - Rubber grommet****5 - ABS wiring harness connector**

- ◆ Release and remove
- ◆ The connector is part of the ABS wiring harness. Be aware of different versions for FWD and AWD models
- ◆ Make sure connector is in the correct position and properly locked

6 - Screw

- ◆ 5 Nm (44 in lb)

7 - Cover panel**8 - ABS solenoid valve relay****9 - ABS return flow pump relay**



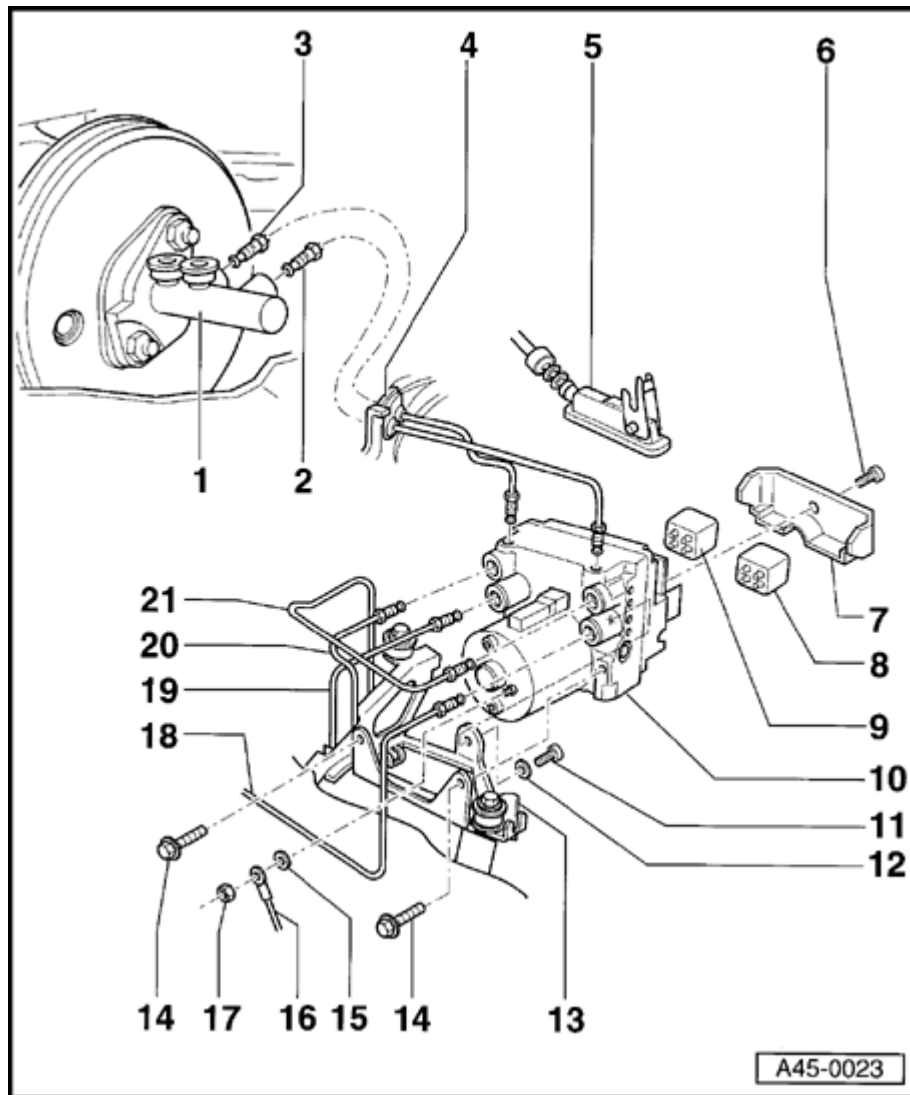
10 - ABS hydraulic unit

CAUTION!

Apart from replacing the two relays, repair work on the ABS hydraulic unit is not permitted. Do not loosen bolted connections.

Be aware of different versions:

- ◆ ABS FWD models
- ◆ ABS/EDL FWD models, ABS/EDL/ASR FWD models ⇒ [Fig. 1](#)
- ◆ ABS/EDL AWD models ➤ 05.95 ⇒ [Fig. 2](#)
- ◆ ABS/EDL AWD models 05.95 ➤ ⇒ [Fig. 3](#)
- ◆ Replace complete ABS hydraulic unit, if necessary.
- ◆ The ABS hydraulic unit is supplied as a replacement part that is pre-bled.

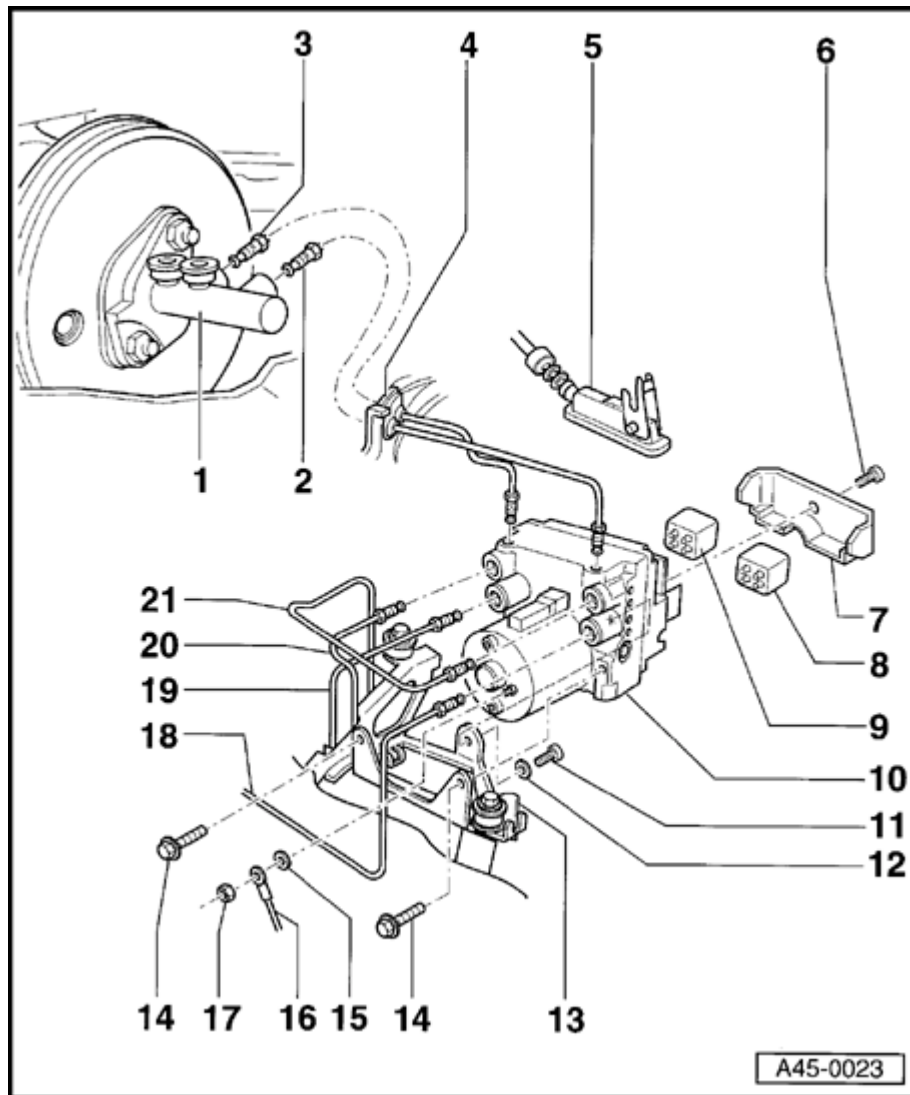


Removing and installing:

- Disconnect battery Ground (GND) strap.
- Seal brake lines and connections immediately with dummy plugs.
- Bolt new hydraulic control unit to bracket, item 13 . Remove dummy plugs from brake line connections. Brake lines should be connected in accordance with designations on hydraulic control unit.
- ◆ Brake line tightening torque: 15 Nm (11 ft lb)
- Bleed brake system ⇒ [page 47-23](#) .
- Carry out high- and low-pressure test ⇒ [page 45-5](#) .
- Carry out On board Diagnostic (OBD) ⇒ Repair Manual, ABS/EDL/ASR On Board Diagnostic (OBD), Repair Group 01.

11 - Screw

- ◆ 15 Nm (11 ft lb)



12 - Washer

13 - Bracket for ABS hydraulic unit

◆ Removing and installing ⇒ [page 45-15](#)

14 - Bolt and washer assembly

◆ 8 Nm (71 in lb)

15 - Serrated washer

16 - Ground (GND) cable

◆ Ensure good contact

17 - Hex nut

◆ 10 Nm (7 ft lb)

18 - Brake line

◆ ABS hydraulic unit to right-front brake caliper

19 - Brake line

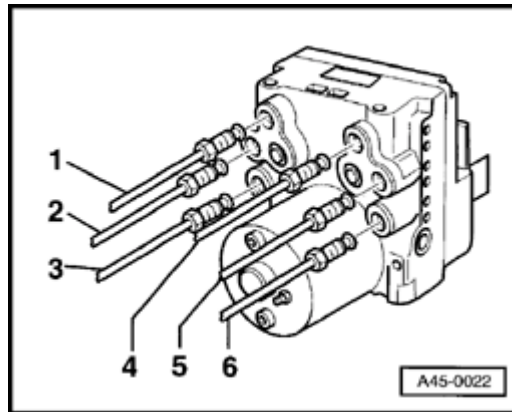
◆ ABS hydraulic unit to left-front brake caliper

20 - Brake line

◆ ABS hydraulic unit to right-rear brake caliper

21 - Brake line

◆ ABS hydraulic unit to left-rear brake caliper



A

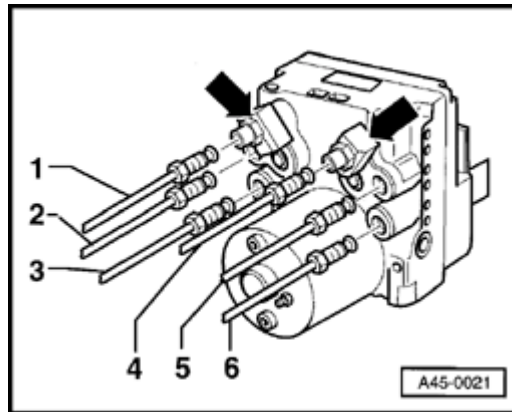
Fig. 1 Brake line connections at the hydraulic unit for ABS/EDL, front wheel drive and ABS/EDL/ASR front wheel drive

- 1 - Hydraulic unit to brake master cylinder (primary piston circuit)
- 2 - Hydraulic unit to right-rear brake caliper
- 3 - Hydraulic unit to left-front brake caliper
- 4 - Hydraulic unit to brake master cylinder (secondary piston circuit)
- 5 - Hydraulic unit to left-rear brake caliper
- 6 - Hydraulic unit to right-front brake caliper

Brake line connections: 15 Nm (11 ft lb)

Note:

- ◆ *Pressure dampers are not installed on models with all wheel drive and EDL suction control (from 05.95) ⇒ [Fig. 2](#) .*
- ◆ *EDL suction control minimizes control noises.*
- ◆ *The working range of the pressure limiting valve in the hydraulic unit is raised from 90 ± 25 bar (1323 ± 368 psi) to 170 ± 25 bar (2499 ± 368 psi).*



A

Fig. 2 Brake line connections at the hydraulic unit, all wheel drive and ABS/EDL pressure control (➤05.95)

- ◆ Two pressure dampers are threaded into the hydraulic unit (arrows) on models with all wheel drive and EDL pressure control (they smooth out pressure peaks in the brake lines and minimize control noises).
- ◆ Counter-hold at the hex on the pressure damper when loosening the brake line.

1 - Hydraulic unit to brake master cylinder (primary piston circuit)

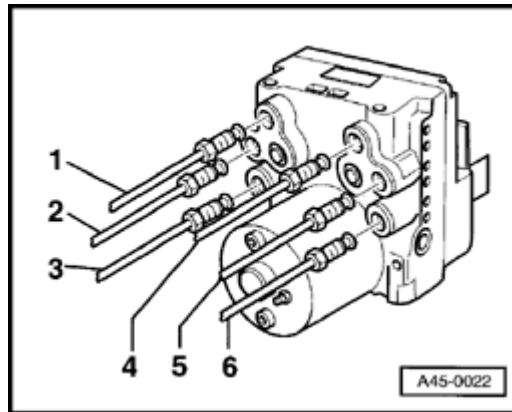
2 - Hydraulic unit to right-rear brake caliper

3 - Hydraulic unit to left-front brake caliper

4 - Hydraulic unit to brake master cylinder (secondary piston circuit)

5 - Hydraulic unit to left-rear brake caliper

6 - Hydraulic unit to right-front brake caliper



A

Fig. 3 Brake line connections at the hydraulic unit for ABS/EDL, all-wheel-drive models, suction control (05.95 ➤)

EDL suction control was introduced on models with all wheel drive from 05.95. This system reduces the control noises during an EDL control cycle.

The pressure dampers threaded into the hydraulic unit (⇒ [Fig. 2](#) arrows) previously used to reduce working noises have been discontinued. The working range of the pressure limiting valve in the hydraulic unit is raised from 90 ± 25 bar (1323 ± 368 psi) to 170 ± 25 bar (2499 ± 368 psi).

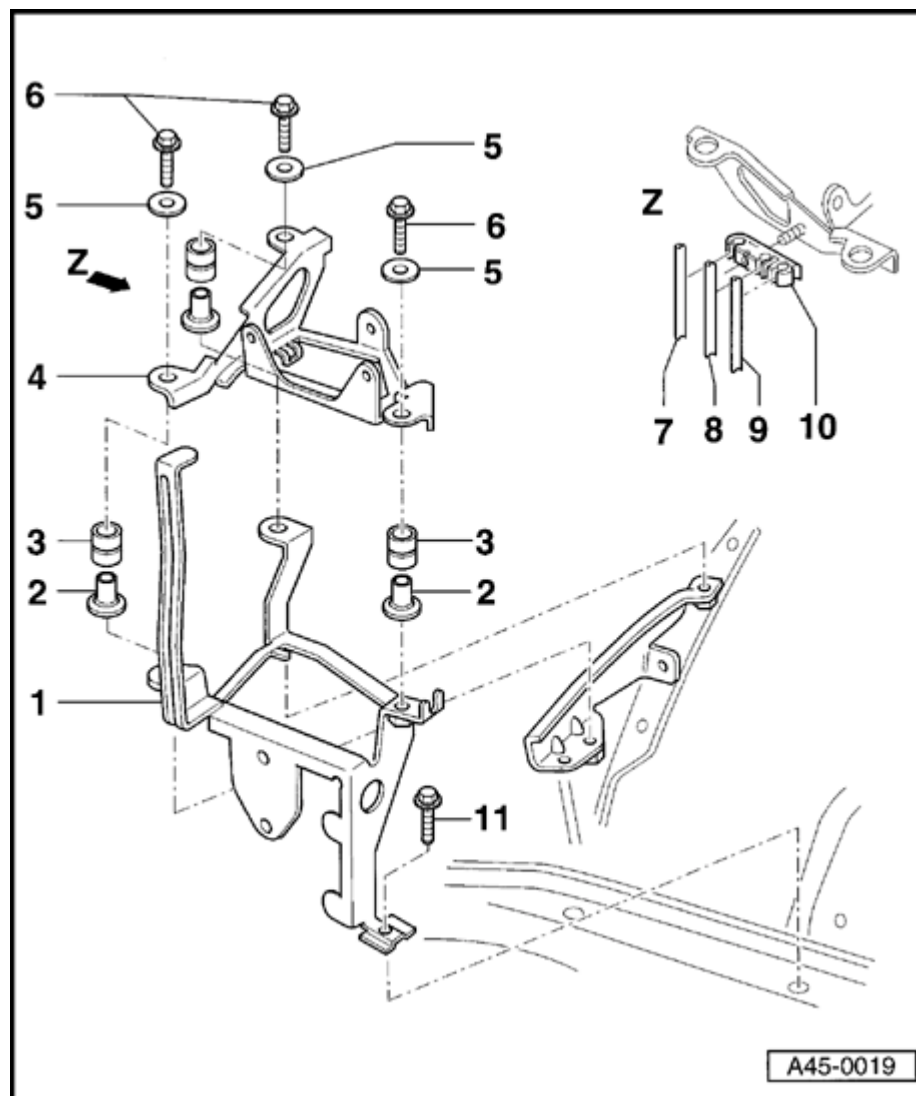
Connector coding eliminates the risk of incorrectly connecting the hydraulic unit.

1 - Brake line tightening torque: 15 Nm (11 ft lb)

Pressure damper discontinued. The brake line is now the same length as for FWD.

4 - Brake line tightening torque: 15 Nm (11 ft lb)

Pressure damper discontinued. The brake line is now the same length as for FWD.

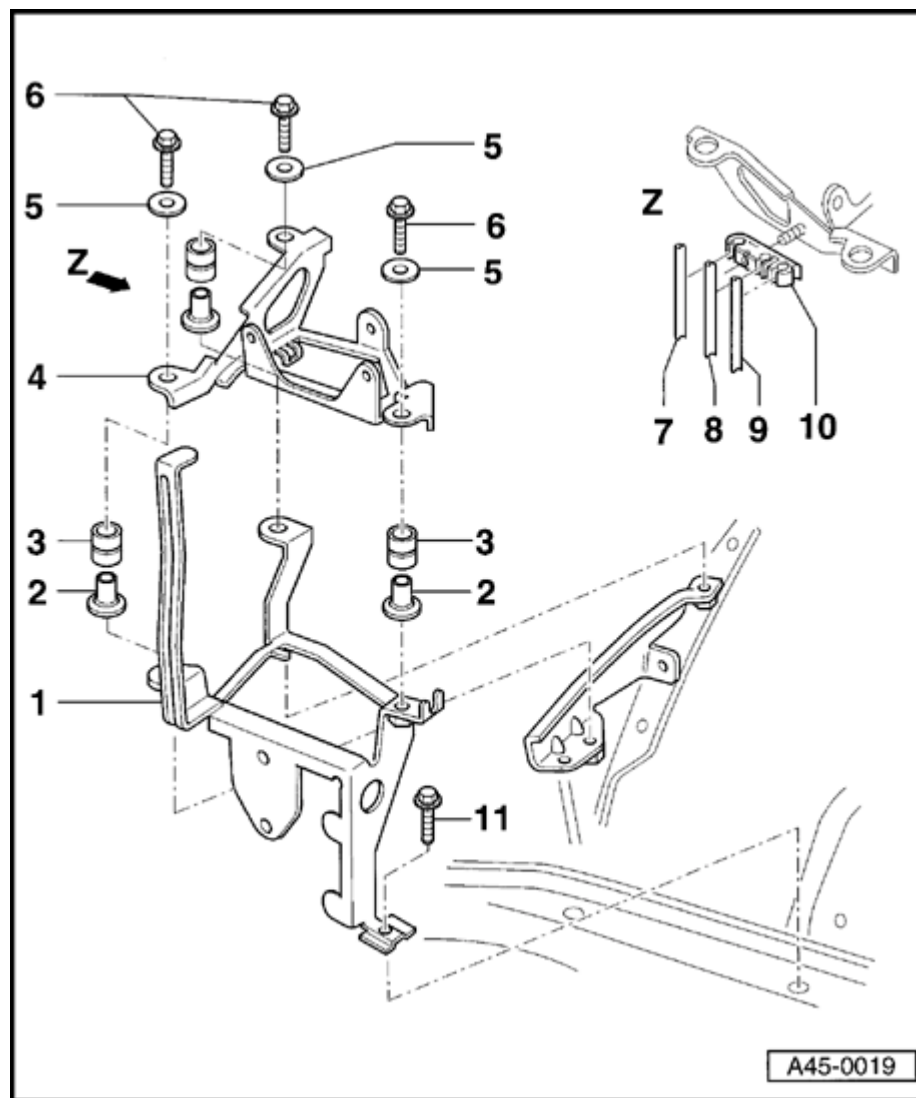


ABS hydraulic unit mounting bracket, removing and installing

- 1 - Angle bracket
- 2 - Bearing bushing
- 3 - Buffer
- 4 - Mounting bracket for ABS hydraulic unit
- 5 - Washer
- 6 - Bolt and washer assembly

◆ 10 Nm (7 ft lb)

45-16

**7 - Brake line**

- ◆ ABS hydraulic unit to left-rear brake caliper

8 - Brake line

- ◆ ABS hydraulic unit to right-rear brake caliper

9 - Brake line

- ◆ ABS hydraulic unit to left-front brake caliper

10 - Fixture**11 - Bolt and washer assembly**

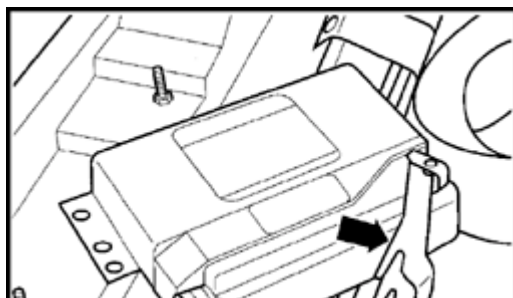
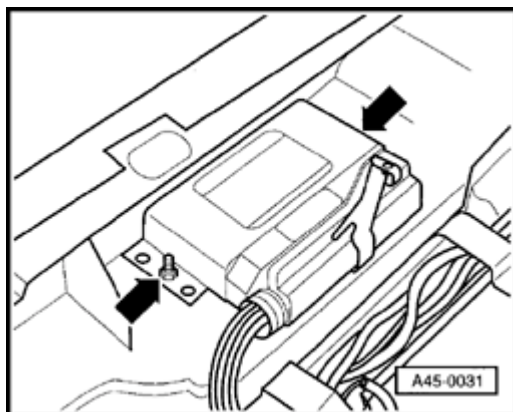
- ◆ 10 Nm (7 ft lb)

ABS control module (ABS/EDL or ASR), removing and installing

Location:

Under rear seat, left side

- Switch ignition off when removing and installing.
- Lift rear seat out of its fixtures.
- A** - Remove both securing bolts (arrows).



- A** - Release harness connector (arrow) and separate from ABS control module -J104-.
- Install in reverse order of removal.