

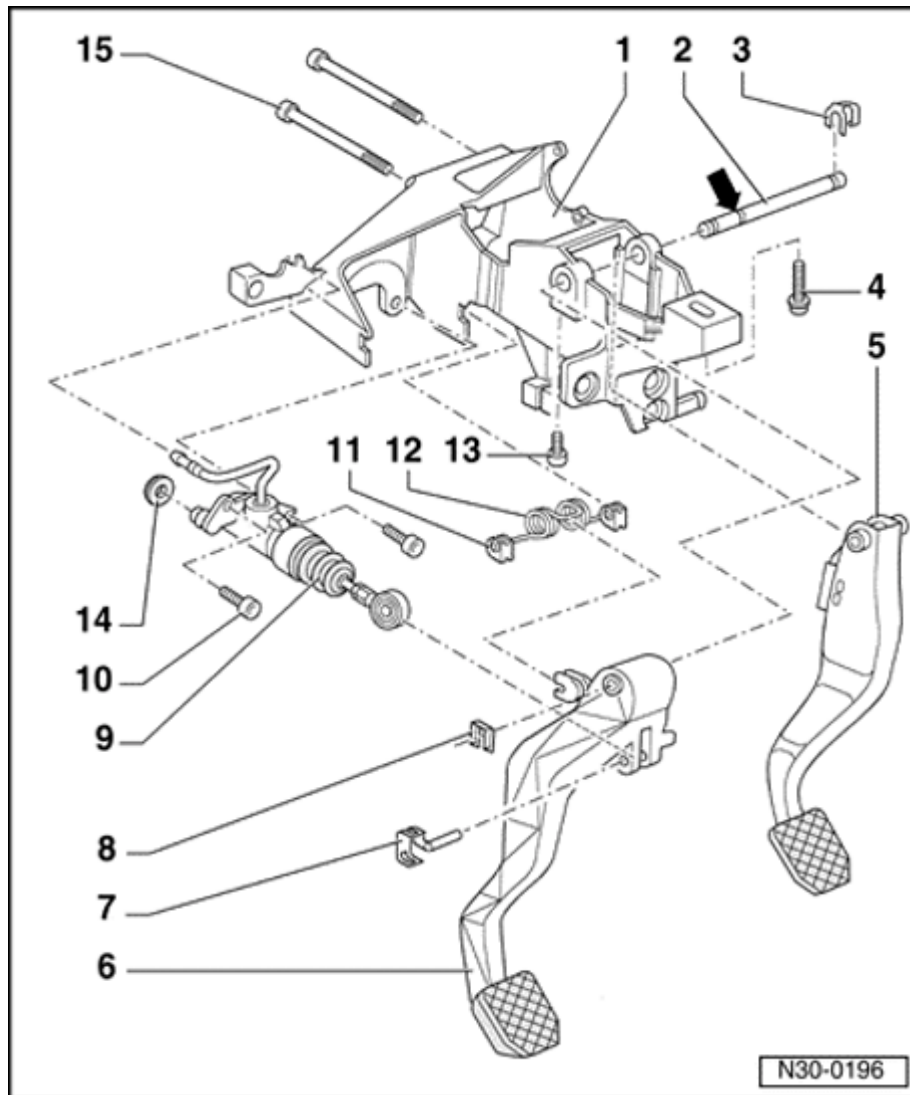
Clutch mechanism, servicing

Notes:

- ◆ *Determine the correct coding for the anti-theft radio (if equipped).*
- ◆ *Switch the ignition off and disconnect battery Ground (GND) strap.*
- ◆ *Lubricate all bearings and contact surfaces with G 052 142 A 2 polycarbamide grease.*
- ◆ *Before working on the pedal cluster, remove the driver's side storage compartment*

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

- ◆ *Make sure that no brake fluid escapes into the plenum chamber or onto the transmission below. If this does happen, clean the affected areas thoroughly.*
- ◆ *When working in the floor area, cover the carpet with a cloth to protect against any leaking brake fluid.*



Clutch pedal and clutch control overview

1 - Mounting bracket

- ◆ Removing and installing ⇒ Repair Manual, Brake System, Repair Group 46

2 - Pivot pin

- ◆ For clutch and brake pedals
- ◆ Installation position: groove (arrow) facing clutch pedal

3 - Locking clip

4 - Socket-head bolt

- ◆ 25 Nm (18 ft lb)

5 - Brake pedal

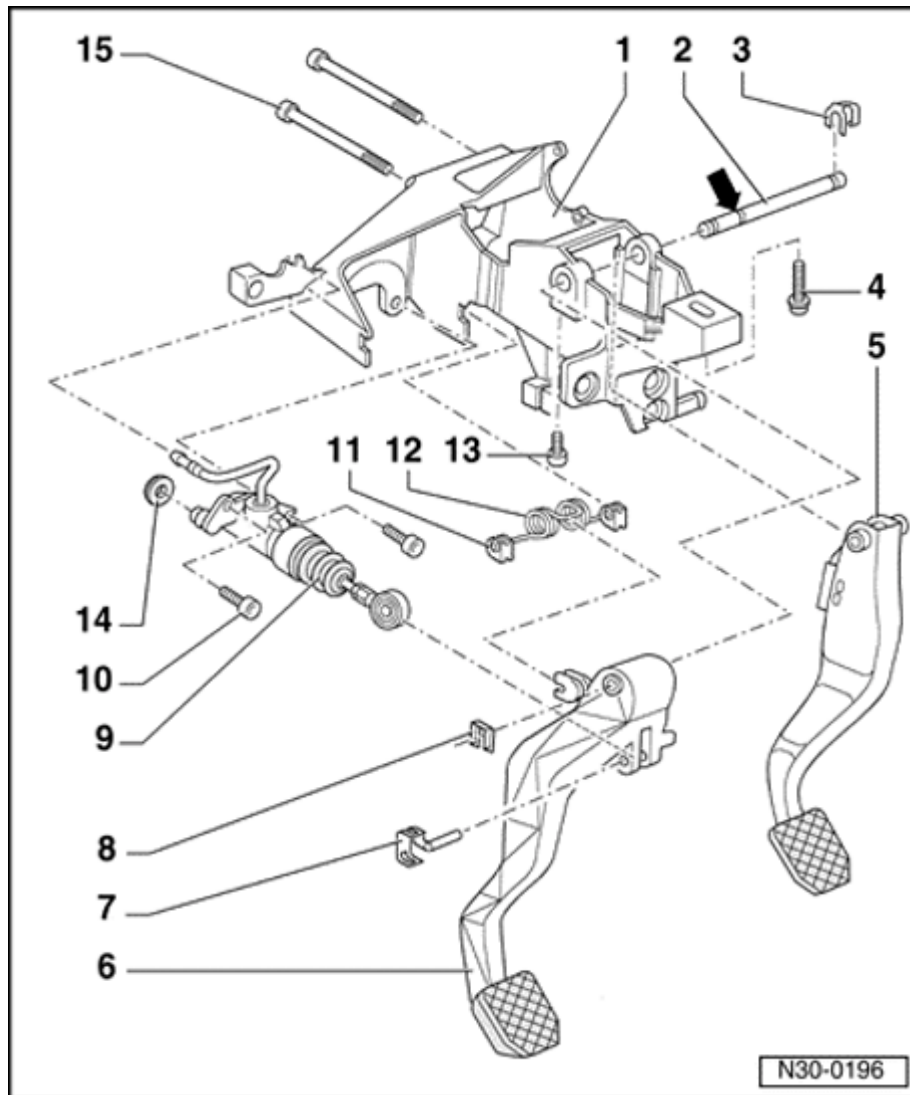
6 - Clutch pedal

- ◆ Removing and installing ⇒ [Page 30-4](#)

7 - Pin and locking plate

- ◆ Clip onto clutch pedal

8 - Locking clip



9 - Clutch master cylinder

- ◆ Removing and installing ⇒ [Page 30-11](#)
- ◆ Do not operate after clutch pedal has been removed

10 - Socket-head bolt

- ◆ 20 Nm (15 ft lb)

11 - Mount

- ◆ Insert in mounting bracket with over-center spring

12 - Over-center spring

- ◆ Application ⇒ parts catalog
- ◆ Remove and install together with clutch pedal ⇒ [Page 30-4](#)

13 - Socket-head bolt

- ◆ 5 Nm (44 in. lb)
- ◆ Secures pivot pin for clutch and brake pedal

14 - Seal

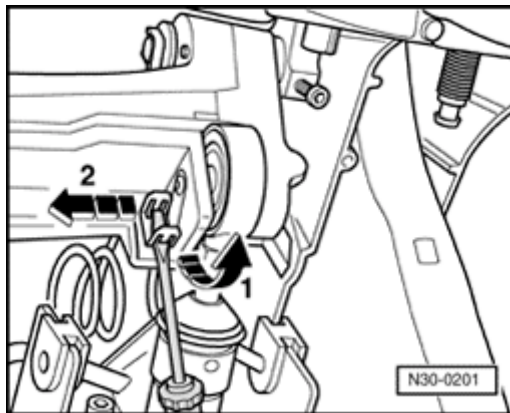
15 - Torx[®] bolt

- ◆ 25 Nm (18 ft lb)
- ◆ Also secures brake master cylinder to brake servo

Clutch pedal and over-center spring, removing and installing

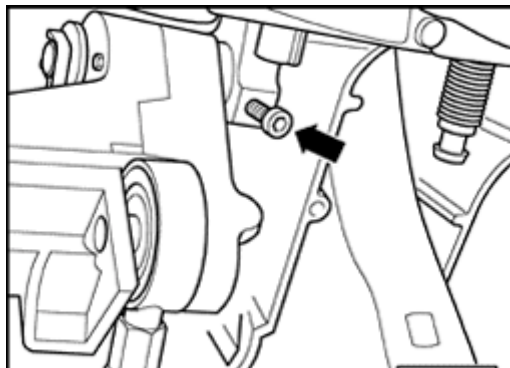
Removing

- Remove driver's side storage compartment ⇒ Repair Manual, Body Interior, Repair Group 68.
- If installed, remove switch above clutch pedal.



A

- Unclip pin and locking plate using screwdriver (arrow -1-), remove pin and locking plate (arrow -2-), and detach clutch pedal from clutch master cylinder.
- Press locking clip for clutch pedal off pivot pin using screwdriver.

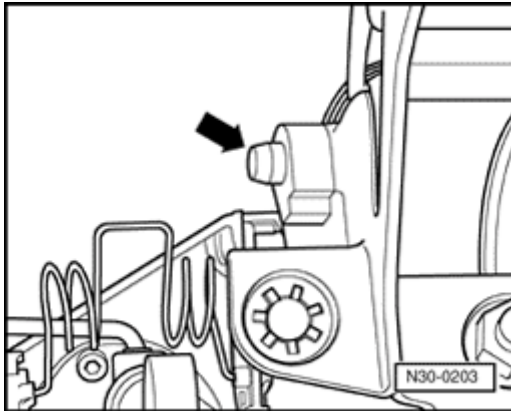


A

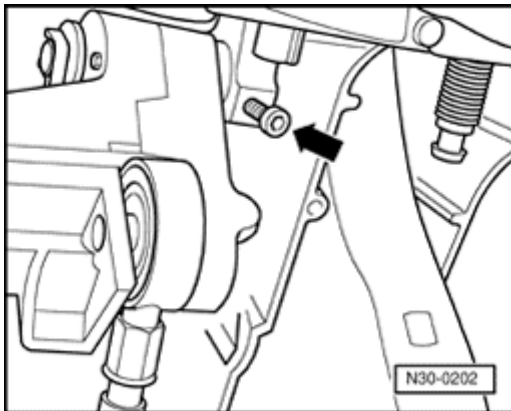
- Remove bolt (arrow).
- Press clutch and brake pedal pivot pin out toward right, until clutch pedal can be removed.
- If necessary, press locking clip for brake pedal off pivot pin using screwdriver.
- Remove clutch pedal and over-center spring.

Installing

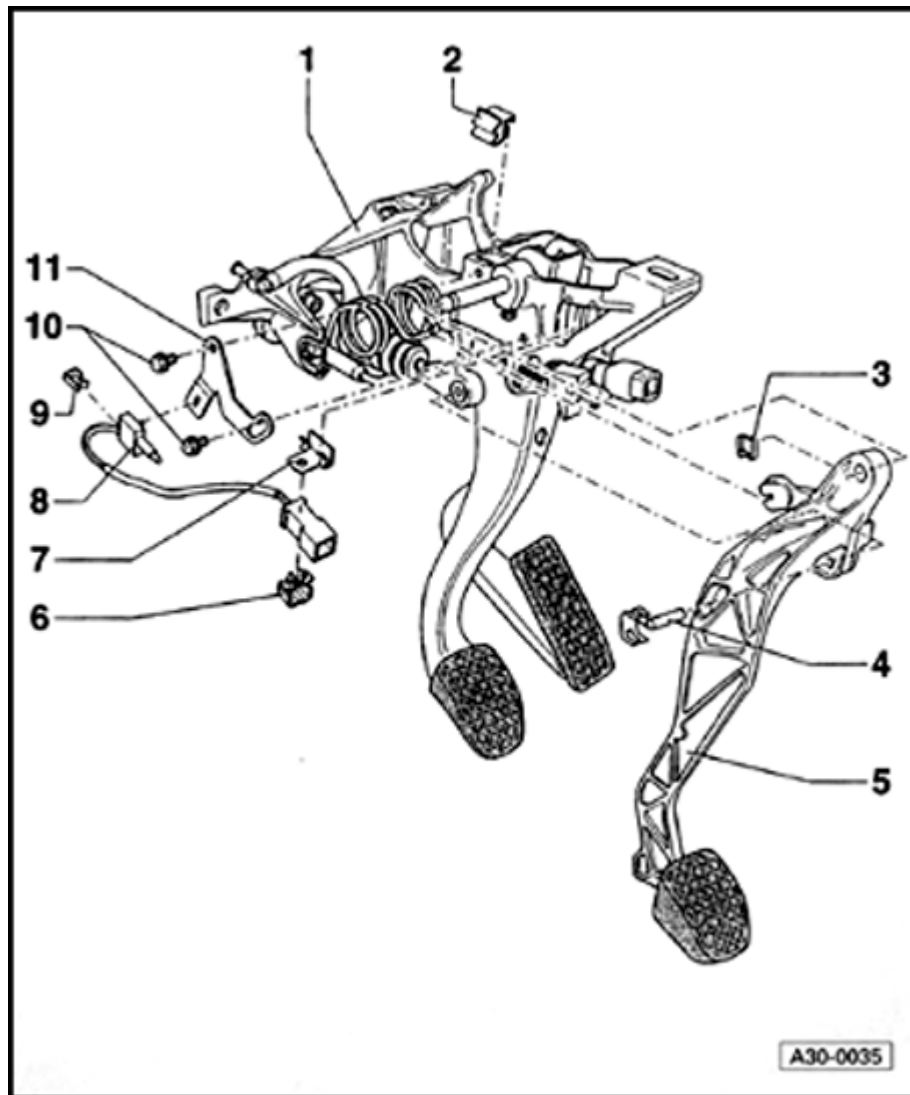
Installation is the reverse of removal, note the following:

**A**

- Align pivot pin so that it protrudes out of mounting bracket on clutch pedal side (arrow).
- Hook clutch pedal into over-center spring, then install onto pivot pin.
- Connect clutch pedal to master cylinder. Clip locking pin onto clutch pedal.

**A**

- Do not tighten bolt (arrow) until both securing clips have been installed on pivot pin.



Clutch Pedal Position (CPP) switch -F194-, removing and installing

Note:

The Clutch Pedal Position Switch (CCP) -F194- allows the engine to be started only with the clutch pedal depressed. Introduction 05.97 ➤.

1 - Mounting bracket

- ◆ Before removing, remove steering column from steering gear ⇒ Repair Manual, Suspension, Wheels, Steering, Repair Group 48

2 - Cable bracket

3 - Locking clip

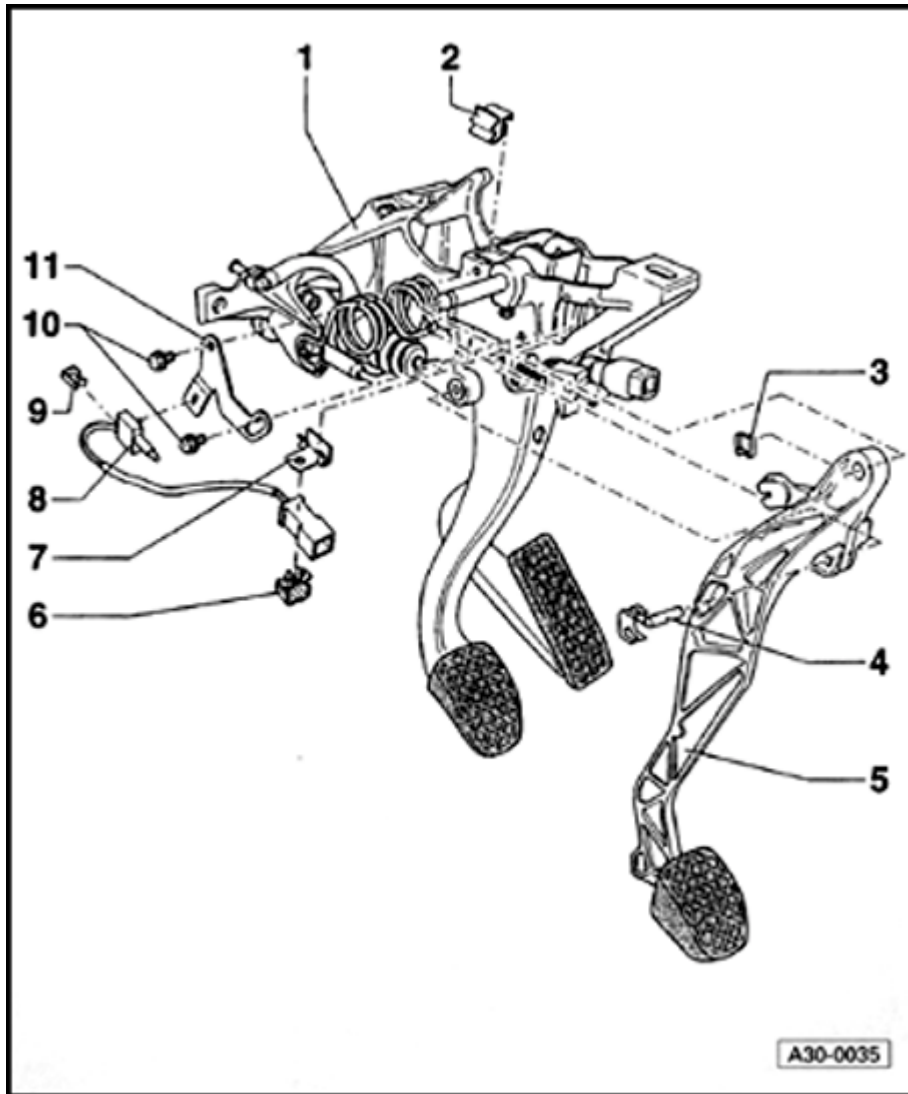
4 - 5Pin and locking plate

- ◆ Latched in clutch pedal

6 - Clutch pedal

- ◆ Removing and installing ⇒ [Page 30-4](#)

7 - Clip



8 - Bracket for harness connector

9 - Clutch Pedal Position (CPP) switch -F194-

◆ Adjusting ⇒ [Page 30-8](#)

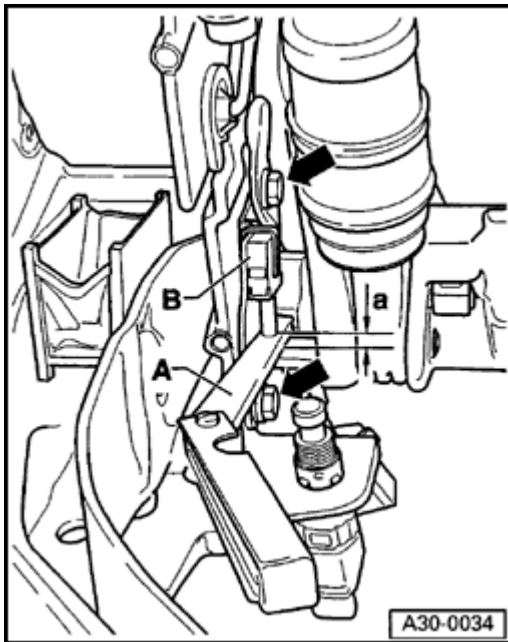
10 - Clip

11 - Screw and washer assembly

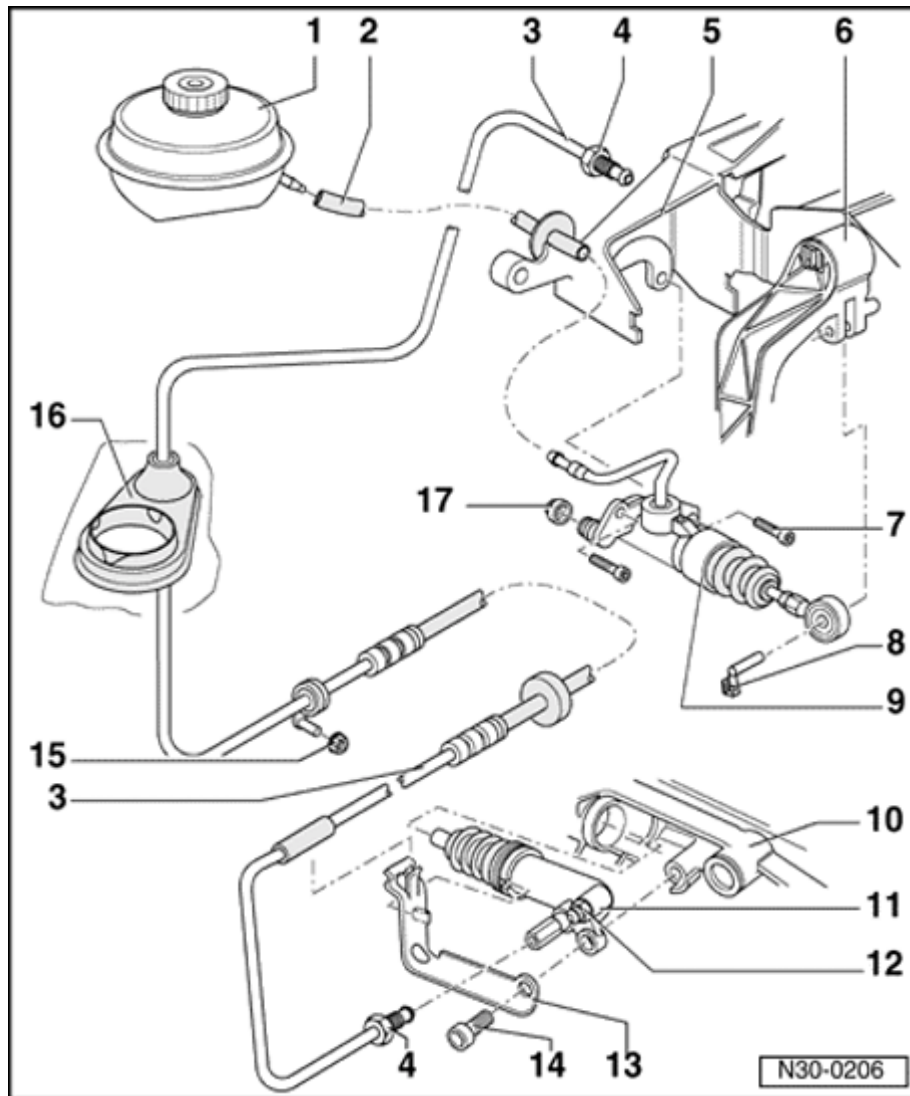
◆ 8 Nm (71 in. lb)

12 - Mounting plate

Clutch Pedal Position (CPP) switch - F194-, adjusting

**A**

- Loosen two bolts slightly (arrows).
- Have second technician fully depress clutch pedal up to stop.
- Place feeler gauge -A- with specific dimension -a- 3.2 mm +/- 0.2 mm (0.126 in. +/- 0.008 in.) between operating surface of clutch pedal and switch cam.
- Move switch -B- toward gauge -A- until stop, and tighten two mounting bolts (arrows) to 8 Nm (71 in. lb).



Clutch hydraulic system, servicing

1 - Brake fluid reservoir

2 - Supply hose

◆ For clutch master cylinder

3 - Hose/line assembly

◆ With threaded connections on clutch master cylinder and clutch slave cylinder

4 - Line fitting nut

◆ 15 Nm (11 ft lb)

5 - Mounting bracket

6 - Clutch pedal

◆ Removing and installing ⇒ [Page 30-4](#)

7 - Socket-head bolt

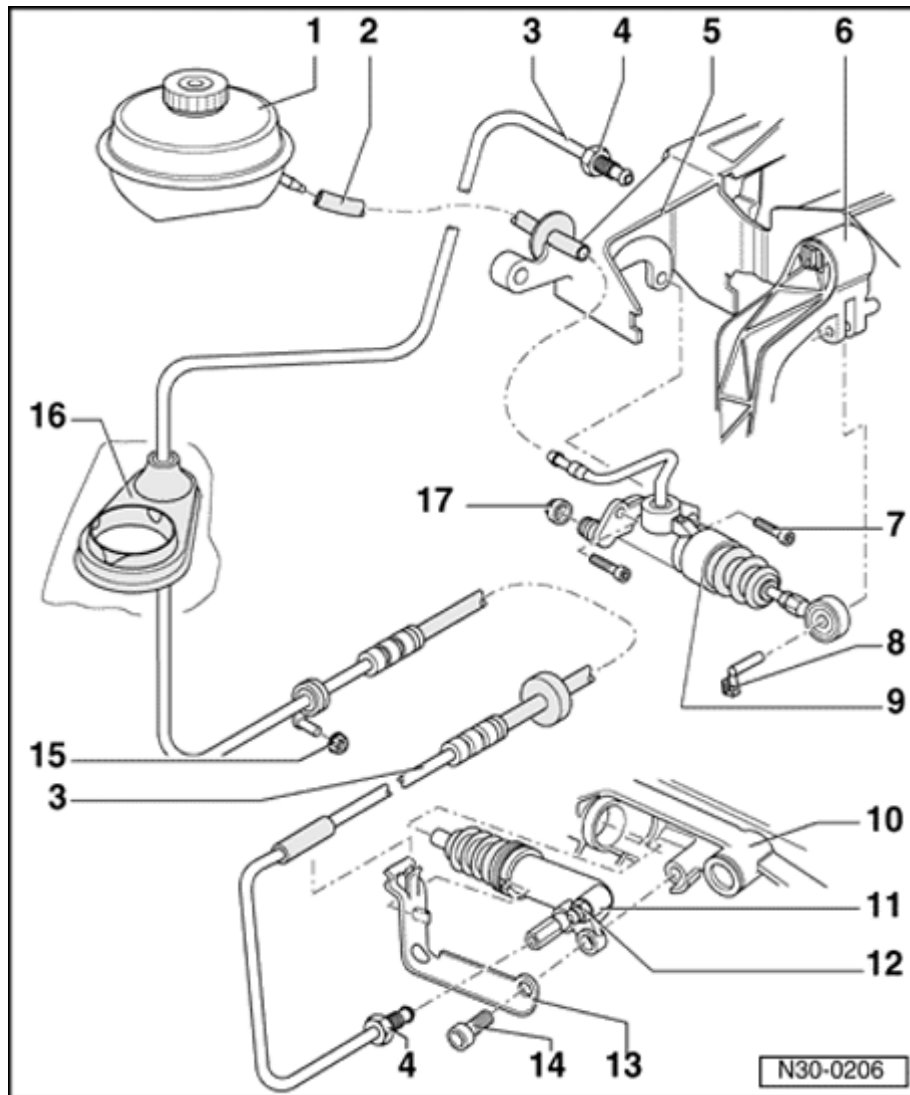
◆ 20 Nm (15 ft lb)

8 - Pin and locking plate

9 - Clutch master cylinder

◆ Removing and installing ⇒ [Page 30-11](#)

10 - Transmission



11 - Clutch slave cylinder

- ◆ Installing ⇒ [Page 30-20](#)
- ◆ After working on hydraulic clutch mechanism, bleed clutch slave cylinder ⇒ [Page 30-15](#)
- ◆ Do not press clutch pedal after clutch slave cylinder has been removed

12 - Bleeder valve

- ◆ 4.5 Nm (40 in. lb)
- ◆ Observe all CAUTIONS, WARNINGS, Notes and procedures when bleeding ⇒ [Page 30-15](#)

13 - Bracket

- ◆ Mounted to transmission

14 - Bolt

- ◆ 25 Nm (18 ft lb)

15 - Nut

- ◆ 2 Nm (18 in. lb)

16 - Seal

17 - Seal

- ◆ Must not be removed

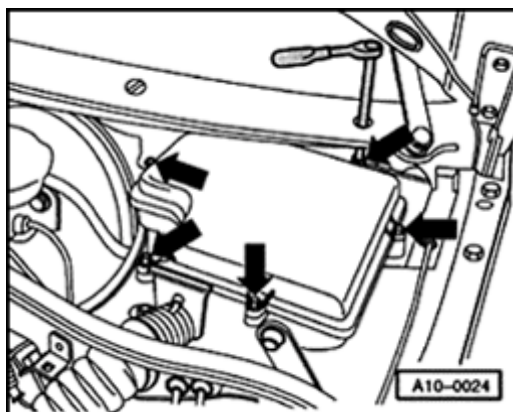
Clutch master cylinder, removing and installing

Special tools and equipment

3094 hose clamp

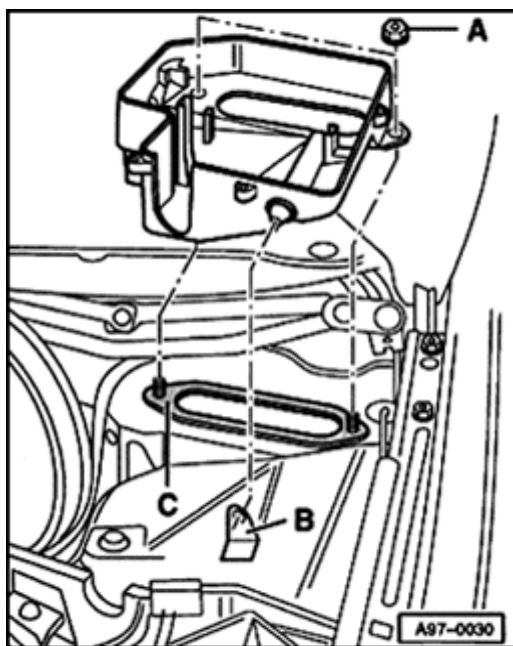
Removing

To remove E-box from plenum chamber:



A

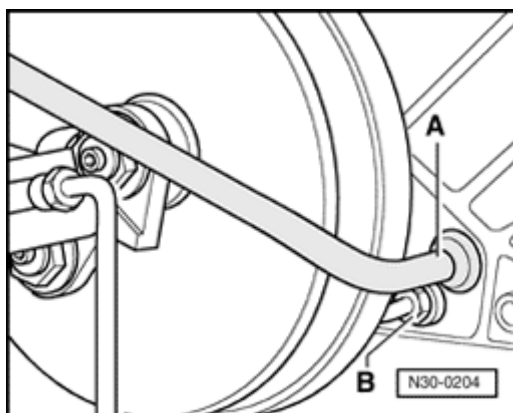
- Remove bolts (arrows) and remove cover.
- Remove Engine Control Module (ECM); if necessary, remove 8-pin relay support ⇒ Repair Manual, Electrical Equipment, Repair Group 97.
- Disconnect harness connectors at connector station.
- Remove engine wiring harness together with rubber grommet from opening in E-box.



- A**
- Remove both nuts -A-.
 - Lift E-box out at rear of threaded bolt and remove from mounting point - B-.

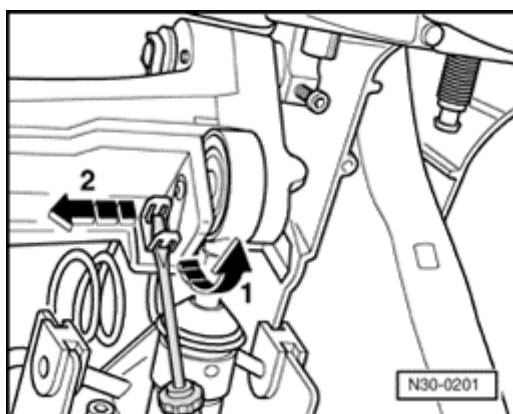
Notes:

- ◆ *When carrying out the following steps, make sure that no brake fluid escapes into the plenum chamber or onto the transmission below. If this does occur, clean thoroughly.*
- ◆ *When working in the floor area cover the carpet with a cloth to protect against any leaking brake fluid.*



- A**
- Clamp supply hose -A- from brake fluid reservoir using 3094 hose clamp. Pull hose off clutch master cylinder and plug hose.
 - Disconnect line -B- from clutch master cylinder and seal.

- Remove driver's side storage compartment ⇒ Repair Manual, Body Interior, Repair Group 68.
- Remove clutch pedal position switch if installed ⇒ [Page 30-6](#) .

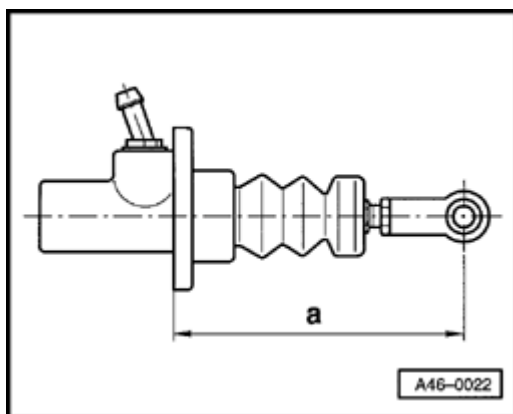


A

- Unclip pin using screwdriver (arrow -1-), pull out pin (arrow -2-), and detach clutch pedal from clutch master cylinder.
- Unbolt clutch master cylinder from passenger compartment.

Installing

Installation is the reverse of removal, note the following:

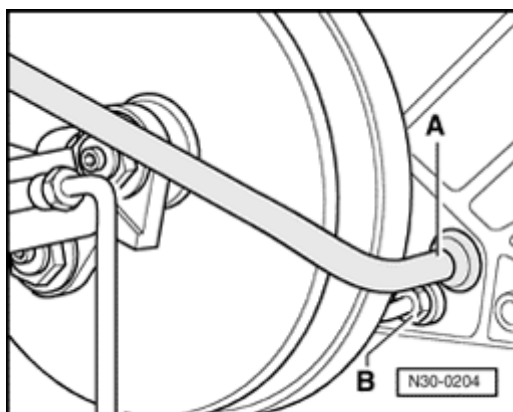


A

- When replacing clutch master cylinder, check dimension -a- on ball head and adjust if necessary.

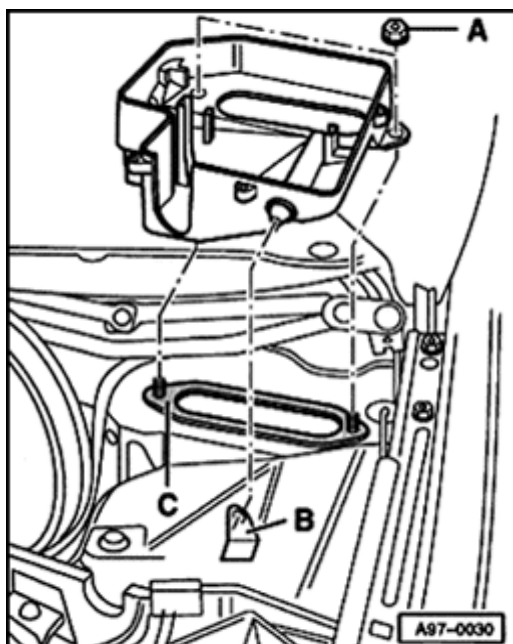
Dimension -a- = 165 ± 0.5 mm (6.496 ± 0.020 in.)

- Connect clutch master cylinder to clutch pedal.
Secure pin and locking plate on clutch pedal.



- A**
 - Tighten line fitting -B- to clutch master cylinder to 15 Nm (11 ft lb).
 - Slide hose -A- onto brake fluid reservoir up to stop.
 - Bleed hydraulic clutch system after installing clutch master cylinder ⇒ [Page 30-15](#) .

To install E-box in plenum chamber:



- A**
 - Always replace seal -C-.
 - Make sure seal is positioned properly, and does not cover opening or stepped metal edge.
 - Install E-box into mounting point -B-.
 - Tighten nuts -A- to 4 Nm (35 in. lb).
 - Install cap and hand tighten in diagonal sequence to 4 Nm (35 in. lb) ⇒ imprint on E-box cover.

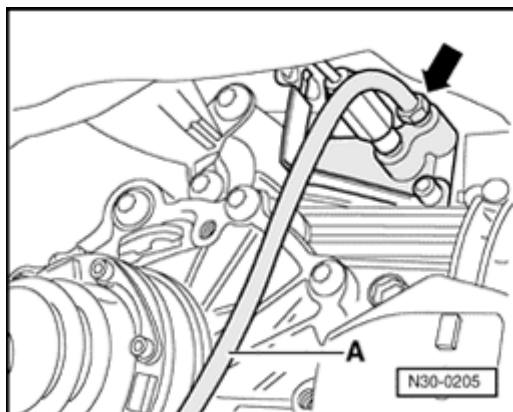
Clutch system, bleeding

Special tools and equipment

- ◆ VAG1238B brake filling and bleeding appliance
or
- ◆ VAG1869 brake filling and bleeding appliance

Notes:

- ◆ *When carrying out the following steps, make sure that no brake fluid escapes onto the transmission.*
 - ◆ *The clutch system must be bled after carrying out work on the hydraulic clutch mechanism.*
 - ◆ *Top off brake fluid reservoir to "MAX." mark with brake fluid before bleeding clutch system.*
- Pull clutch pedal back to rest position.
 - Connect VAG1238B brake filling and bleeding appliance or VAG1869 but do not switch on.

**A**

- Connect bleeder hose -A- to clutch slave cylinder (arrow) and open bleeder valve.
- Connect bleeder hose with pressure hose to collector bottle.
- Switch on bleeding appliance and let approx. 100 cm³ (approx. 3.4 fl. oz) brake fluid flow into suitable collection reservoir.

Work pressure: 2.5 bar (36 psi)

Note:

While bleeding, make sure bleeder hose remains correctly routed.

- Close bleeder valve.
Tightening torque: 4.5 Nm (40 in. lb).
- Depress clutch pedal several times after completion of bleeding process.
- Bleed system again if necessary.