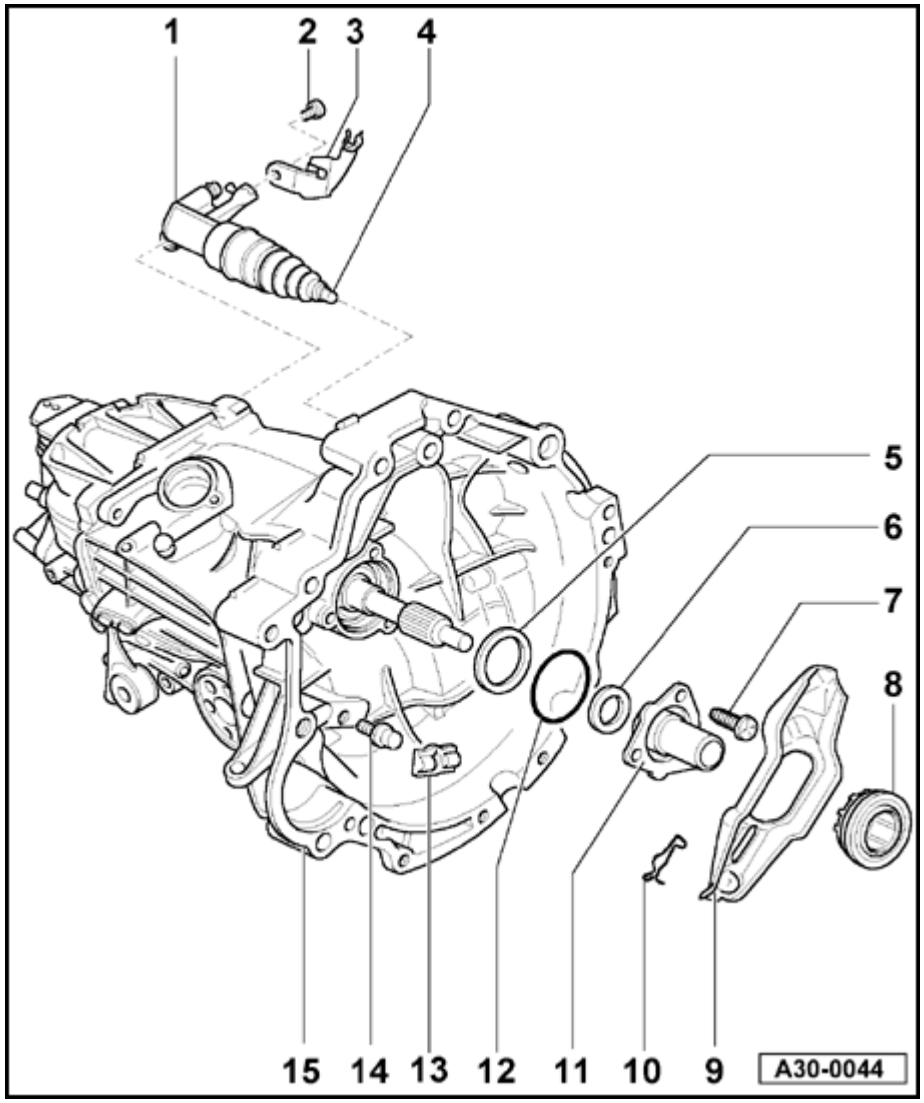
30-17



Clutch release mechanism, servicing

1 - Clutch slave cylinder

- Do not press clutch pedal after clutch slave cylinder has been removed
- Installing ⇒ Fig. 1
- Tension clutch slave cylinder enough so that mounting bolts can be easily installed

2 - Bolt

Hex bolt:

- Before installing, coat with D 185 400 A2 locking fluid
- Tightening torque: 25 Nm (18 ft lb)

Socket-head bolt:

- Always replace
- Self-locking
- Tightening torque: 20 Nm (15 ft lb)

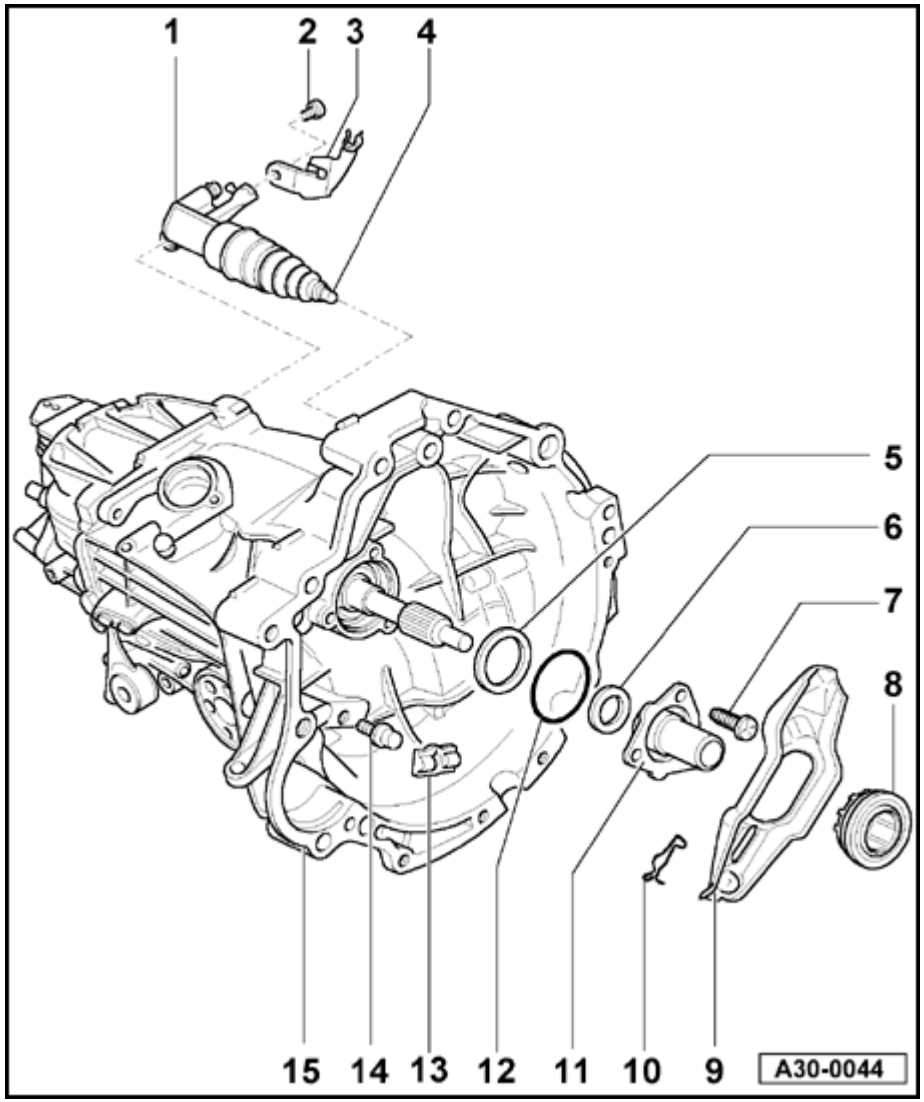
3 - Bracket for hose/line assembly

- Attach to clutch slave cylinder
- Not always present

4 - Plunger

- Lubricate end of plunger with copper grease, e.g. 381 351 TE

30-18



5 - Spring washer

- Small diameter facing guide sleeve (convex side)

6 - Input shaft seal

- Use VW681 extractor lever to remove from guide sleeve
- Use VW192 arbor to drive in to stop

7 - Torx® bolt

- Always replace
- 35 Nm (26 ft lb)
- Self-locking

8 - Throwout bearing

- Do not rinse out bearing, wipe clean only
- Replace noisy bearings

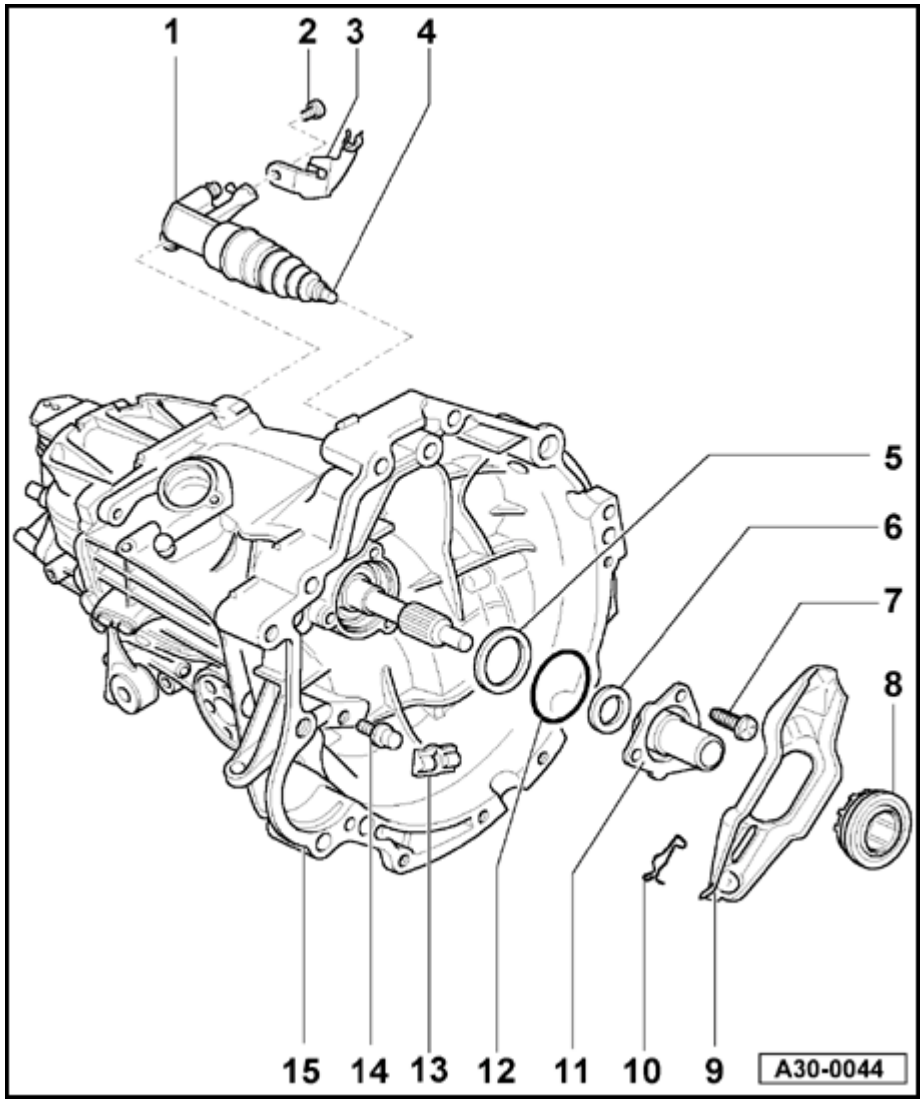
9 - Clutch release lever

- Before installing, coat contact surface of clutch slave cylinder plunger with layer of copper grease, e.g. Z 381 351 TE

10 - Retaining spring

- Secure to clutch release lever

30-19



11 - Guide sleeve

- Before removing and installing, cover input shaft splines with shrink-tube to protect seal

12 - O-ring

- Always replace

13 - Intermediate piece

14 - Ball pivot pin

- 25 Nm (18 ft lb)
- Lubricate with MoS2 grease

15 - Transmission

30-20

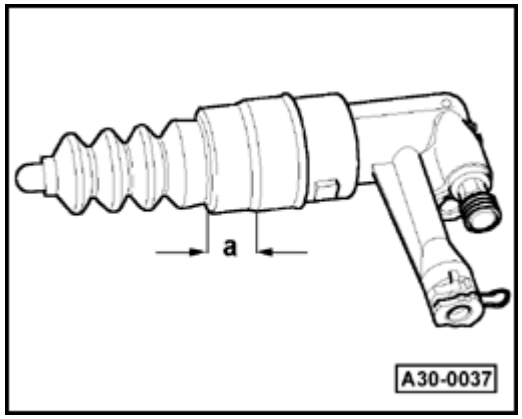
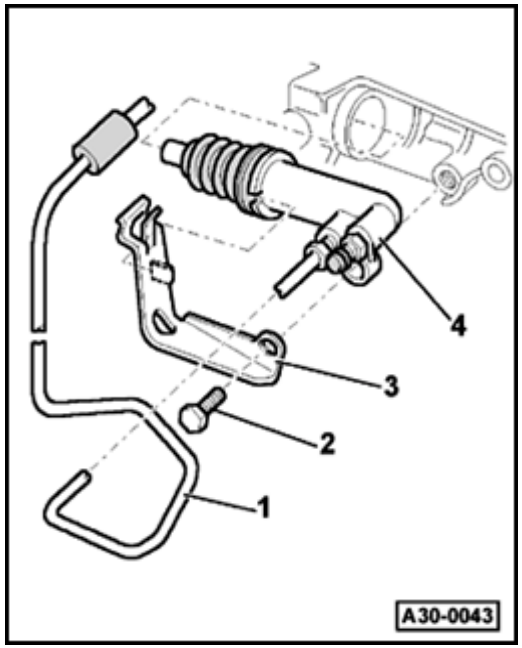


Fig. 1 Installing clutch slave cylinder

- Before installing, coat contact surface of clutch release lever plunger with thin layer of copper grease, e.g. Z 381 351 TE.
- Before installing clutch slave cylinder in transmission, coat boot area -a- with G 052 150 A2 lithium grease.
- Guide clutch slave cylinder into bore of transmission housing without large sideways deviation from direction of motion of plunger.



- Attach bracket -3- for pressure line -1-.

Notes:

- *If clutch slave cylinder -4- is inserted crooked, there is a possibility that the plunger will be inserted past the clutch release lever.*
- *Pre-load the clutch slave cylinder enough so that the mounting bolt can be easily installed.*

- Install mounting bolt -2-.
- Install hex bolt with D 185 400 A2 locking fluid and tighten to 25 Nm (18 ft lb).

  If socket-head bolt is used, it is self-locking: always replace and tighten to 20 Nm (15 ft lb).

30-21

Clutch, servicing

Special tools and equipment

- 3067 flywheel retainer
- 3176 centering mandrel

Notes:

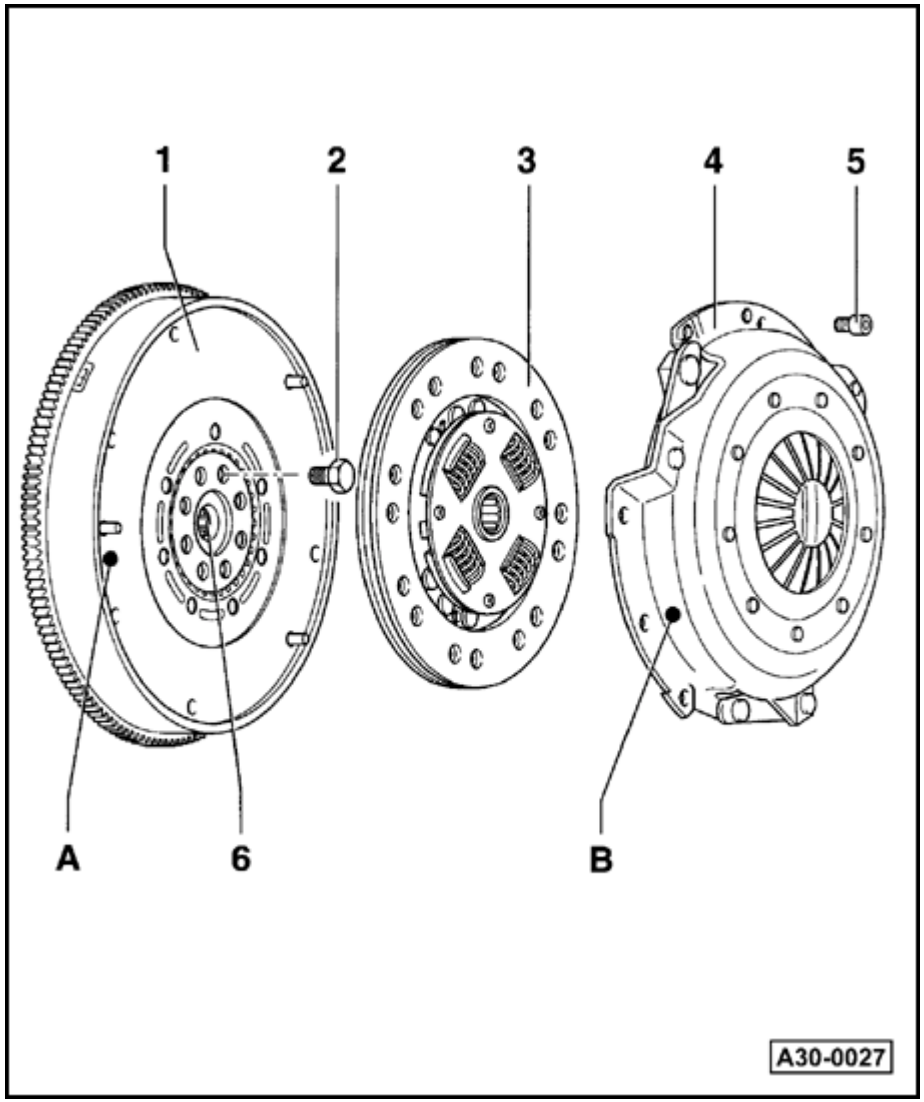
- *Observe general repair instructions ⇒ Page 00-10 .*
- *Replace clutch plates and pressure plates which have damaged or loose rivets.*
- *Select the correct clutch plate and pressure plate according to the engine code ⇒ parts catalog.*
- *Clean input shaft splines and (in the case of used clutch plates) the hub splines. Remove corrosion and apply only a very thin coating of lubricant G 000 100 to the splines. Then move clutch plate back and forth on input shaft until hub moves freely on shaft. Excess grease must be removed.*

  Pressure plates have an anti-corrosion coating

- *and are greased. Only the contact surface may be cleaned, otherwise the service life of the clutch will be considerably reduced.*

- *If the clutch has been burned out, thoroughly clean the bellhousing, flywheel and parts of the engine facing the transmission to reduce the smell of burnt clutch.*

30-22



- Remove transmission to work on clutch ⇒ Page 34-18 .

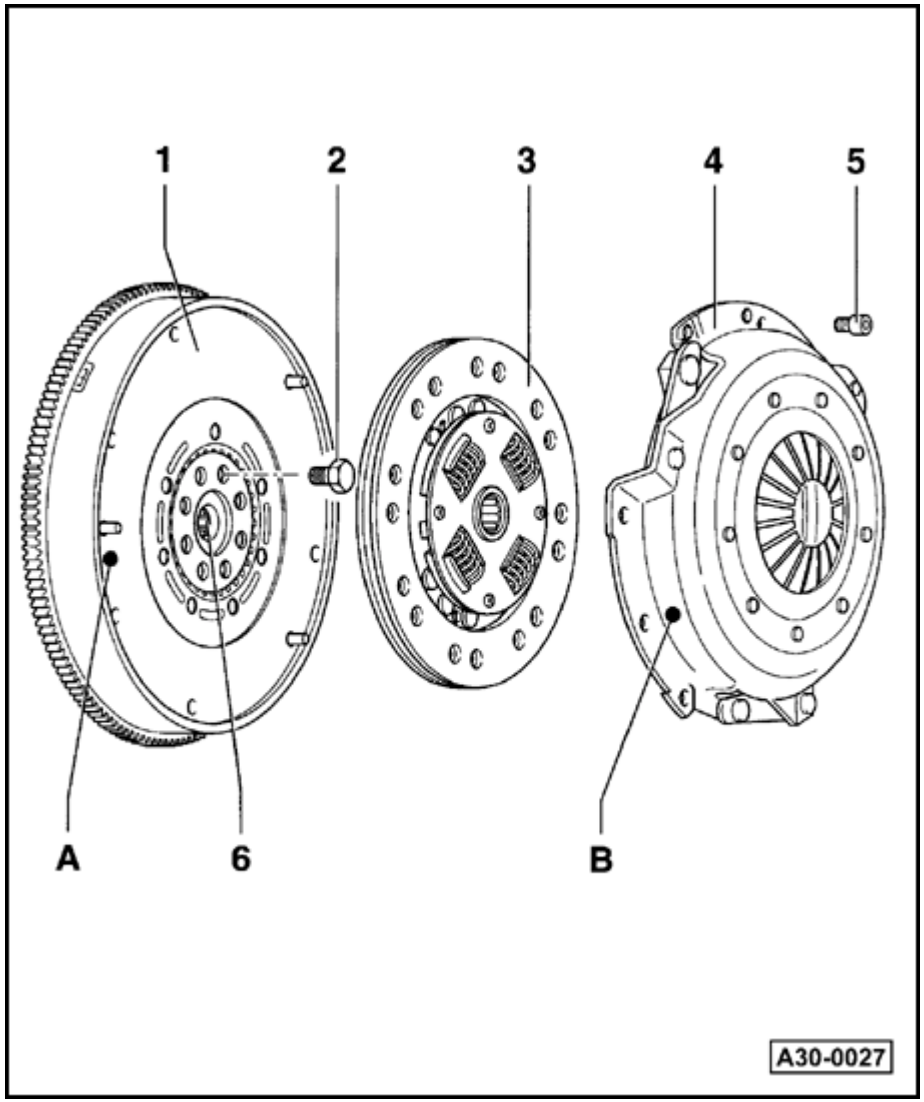
A - Color marking on dual-mass flywheel

- White color marking -A- on dual-mass flywheel must line up with white color marking -B- on pressure plate (if present)

B - Color marking on pressure plate

- White color marking -A- on dual-mass flywheel must line up with white color marking -B- on pressure plate (if present)

30-23



1 - Dual-mass flywheel

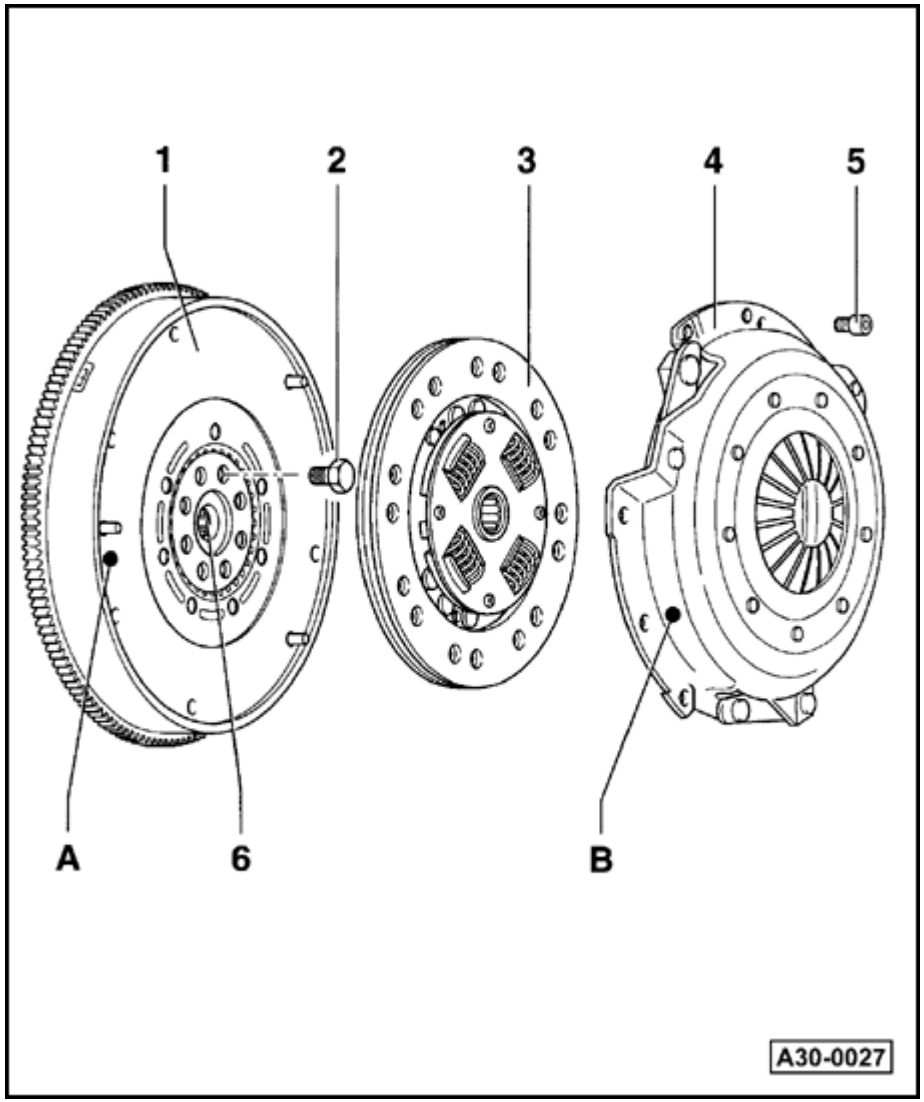
- Make sure centering pins are in place and seated correctly
- Contact surface for clutch lining must be free of dirt, oil and grease
- Removing and installing:

⇒ *Repair Manual, Engine Mechanical, Repair Group 13*

2 - Bolt

- Always replace
- With dual-mass flywheel: 60 Nm (44 ft lb) + 1/2 turn (180°)
- Without dual-mass flywheel: 60 Nm (44 ft lb) + 1/4-turn (90°)

30-24



3 - Clutch plate

- Installation position: Spring pack (coil springs) facing pressure plate. Clutch lining must make full contact with flywheel. Marking "Getriebeseite" (if provided) faces pressure plate
- Do not lubricate
- Clutch plate diameter ⇒ Page 00-3
- Centering ⇒ Fig. 1
- Lightly lubricate splines

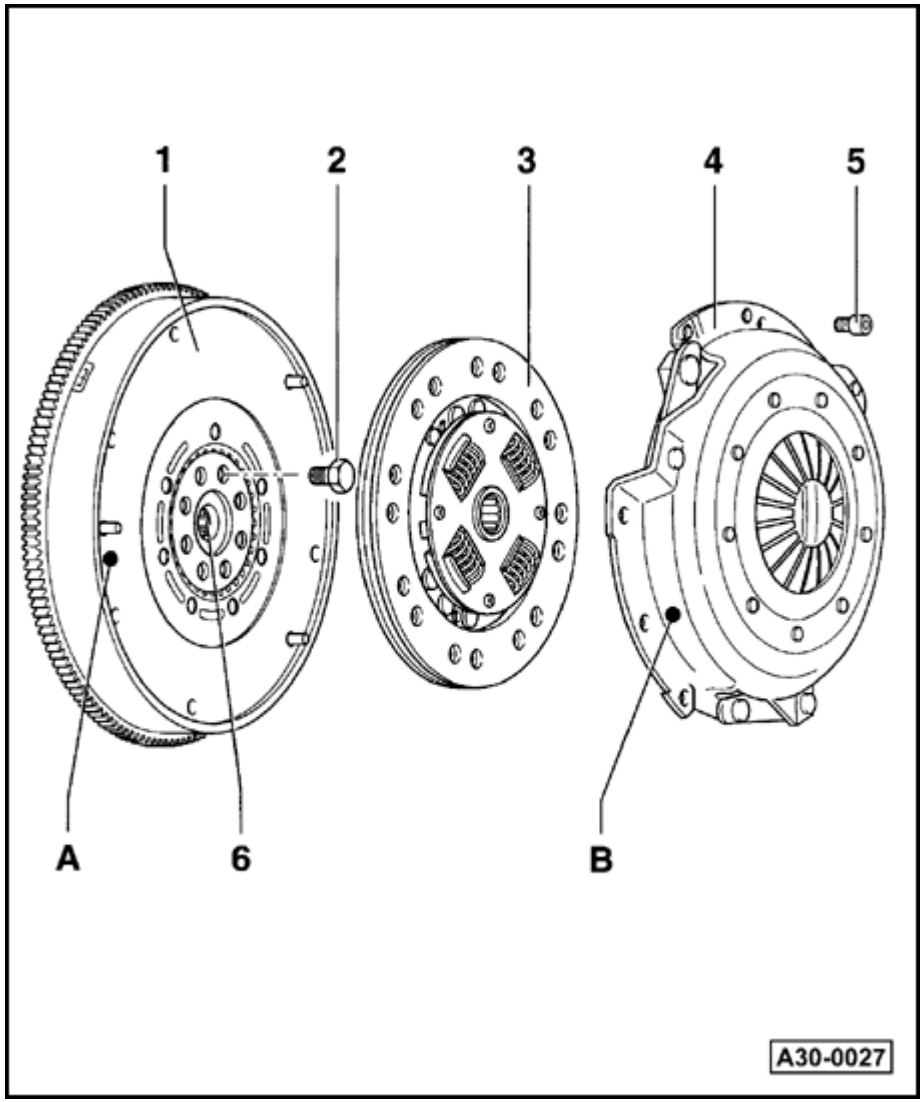
4 - Pressure plate

- Removing and installing ⇒ Fig. 1
- Checking ends of diaphragm spring ⇒ Fig. 2
- Checking spring connection and rivets ⇒ Fig. 3

5 - Bolt

- 25 Nm (18 ft lb)
- Loosen and tighten in stages and in diagonal sequence

30-25



6 - Needle roller bearing

- Removing and installing

⇒ *Repair Manual, Engine Mechanical, Repair Group 13*

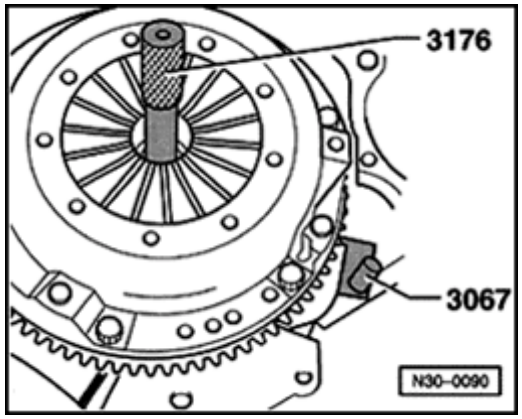


Fig. 1 Centering clutch plate and removing and installing pressure plate

Special tools and equipment

- 3067 flywheel retainer
- 3176 centering mandrel

Position of clutch plate: spring pack (coil springs) or marking "Getriebeseite" facing pressure plate and transmission.

- When installing on 2.8 Liter 5V 142 kW engine (or 2.8 Liter 128 kW engine if installed), make sure white color marking on dual-mass flywheel lines up with white color marking on pressure plate when assembling.

Clutch lining and contact surface of pressure plate must make full contact with flywheel before bolts are inserted.

- Loosen and tighten bolts in stages and in diagonal sequence.

  Final tightening torque: 22 Nm (16 ft lb).

- Reverse position of 3067 flywheel retainer when removing.
- Use 3176 centering mandrel to center clutch plate.

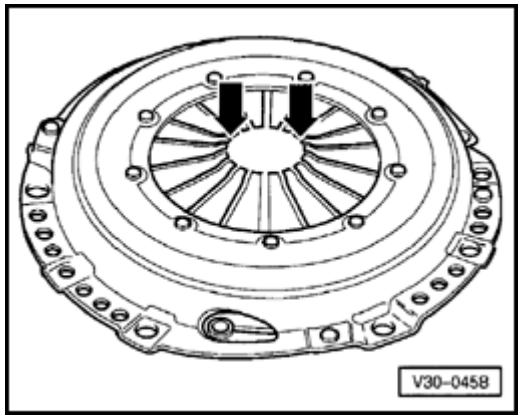


Fig. 2 Checking ends of the diaphragm spring

Wear up to half the thickness of the diaphragm spring is permitted.

Note:

For repairs, it is essential to match the clutch pressure plate and the clutch disc according to the engine code letters using the parts catalog microfiche.

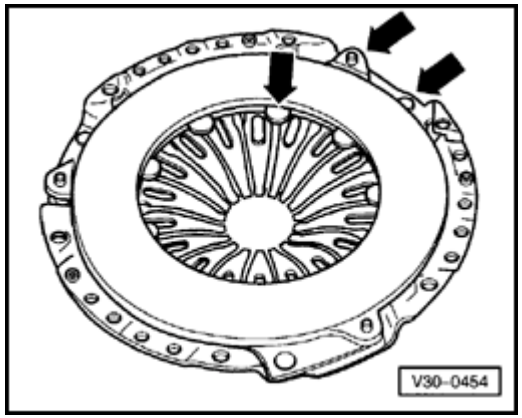


Fig. 3 Checking spring connection and rivets

- Check spring connection between pressure plate and cover for cracks and make sure rivets are seated tightly.
- Replace clutches with damaged springs or loose rivets (arrows).