

Installing gearbox on vehicles with 4-cylinder or 6-cylinder engine

Installation is carried out in reverse sequence; note the following:

- Use a thread tap to remove any remaining locking fluid from all threaded holes which will accommodate self-locking bolts.
- Always renew self-locking bolts and nuts.
- 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 grease for clutch plate splines -G 000 100- to the splines. Do not grease the guide sleeve.

It should be possible to push the clutch plate back and forth slightly on the input shaft.

- Check clutch release bearing for wear and renew if necessary → [Item](#).
- If plastic ring -arrows- has come loose, service release bearing as required → [Fig.](#).



Note

The release bearing must be renewed if the groove worn on the plastic ring is deeper than 0.8 mm.

- Check that dowel sleeves for centralising engine/gearbox are in the cylinder block, install if necessary.
- Place intermediate plate on dowel sleeves at engine flange.
- Before installing gearbox, tie electrical wires and brackets off to one side so that they are not trapped between the engine and the gearbox.

Lightly lubricate surface where plunger and clutch release lever make contact -arrow B- using copper grease (commercially available).

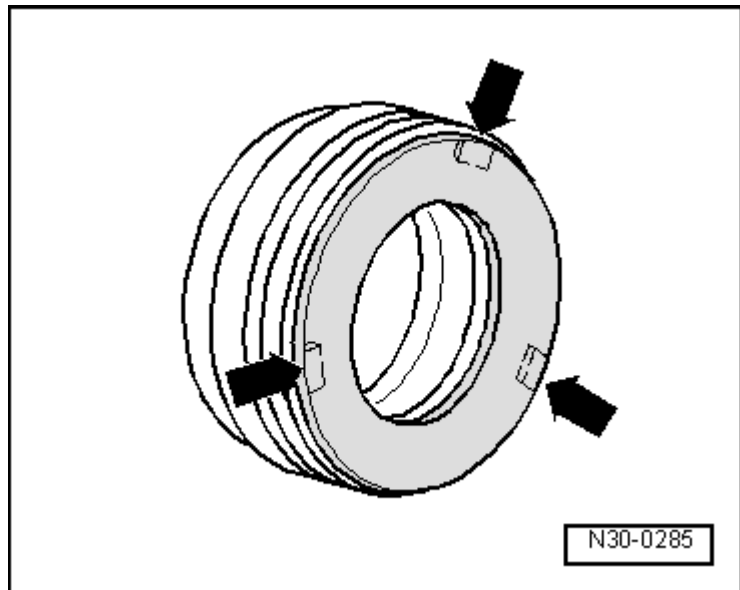
- Raise gearbox far enough to be able to install clutch slave cylinder with bracket for pipe/hose assembly.

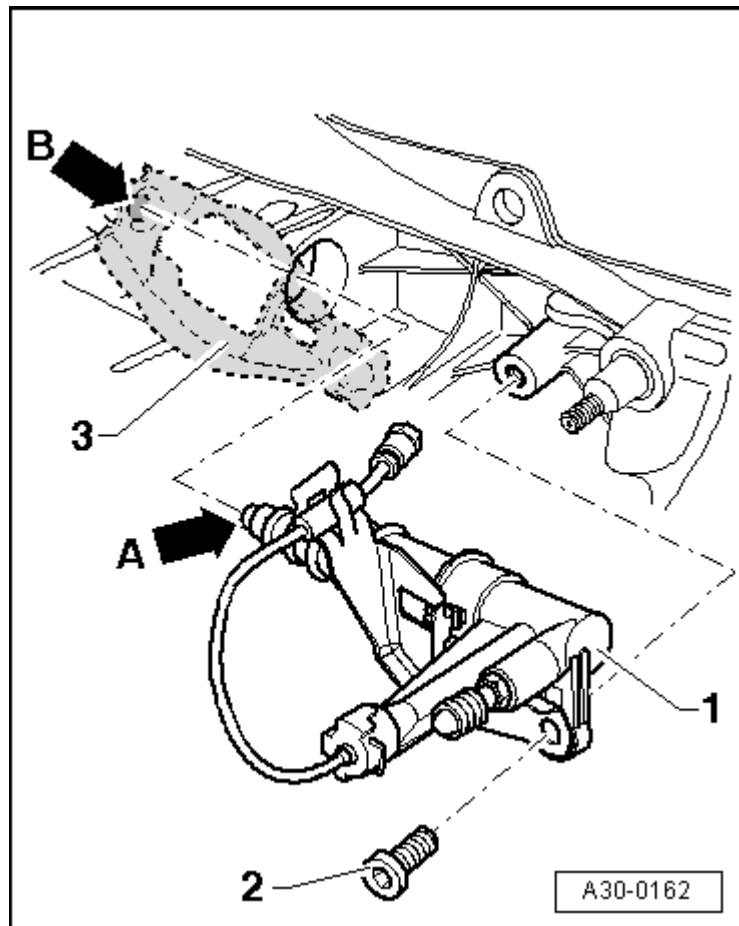
Guide slave cylinder -1- into opening in gearbox housing, keeping it as straight as possible (without tilting plunger -arrow A-) and insert in recess -arrow B- on clutch release lever -3-.



Note

If the slave cylinder -1- is inserted at an angle, there is a danger that the plunger -arrow A- will be guided past the clutch release lever -3-.





- Secure clutch slave cylinder with new bolt -arrow-. Tightening torque
→ [Item](#)



Caution

- t Press the clutch pedal carefully after installing the gearbox.

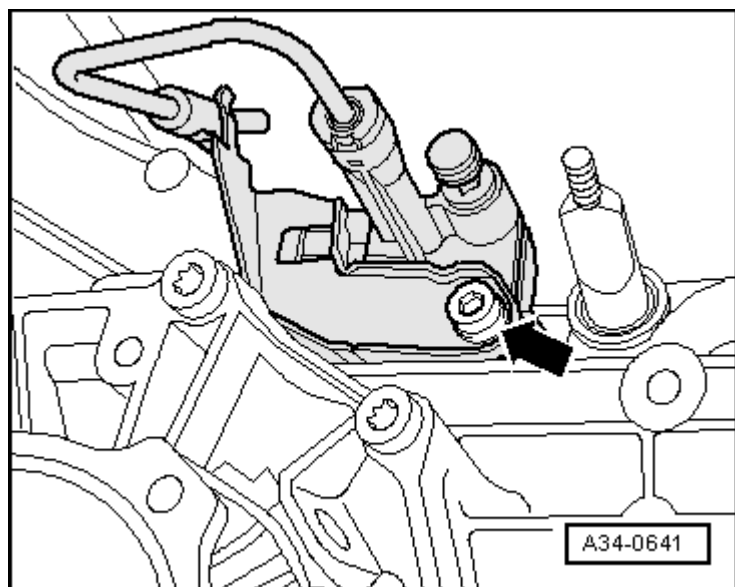
- t If you feel an unusually strong point of resistance when depressing the clutch pedal, you must not press it down further.

- t The plunger of the slave cylinder is likely to have been guided past the clutch release lever.

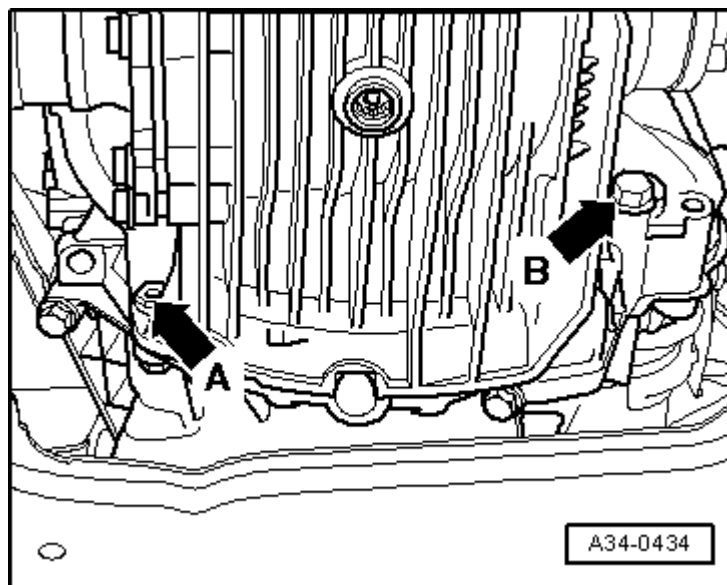
- t The slave cylinder would then be destroyed once pedal force exceeds approx. 300 N.

- t For comparison: normal pedal force is approx. 115 N.

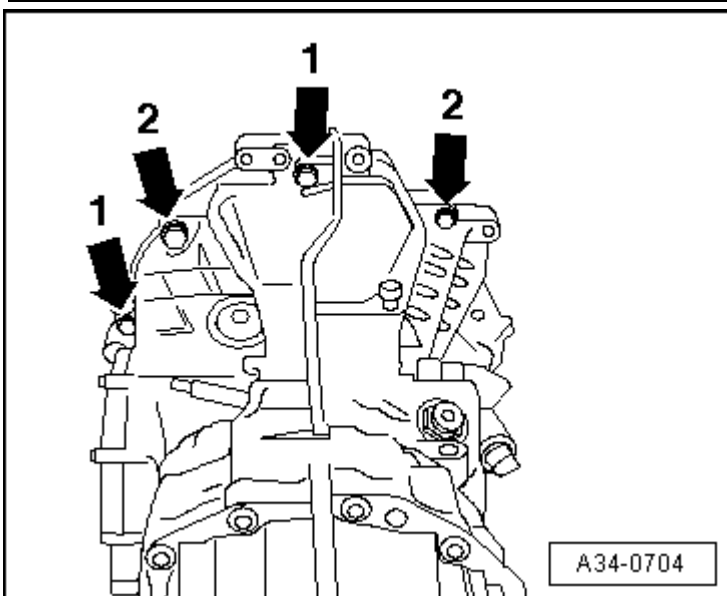
- Insert gearbox, making sure there is sufficient clearance to drive shafts.
- Install engine/gearbox securing bolts -arrow A- and -arrow B-.



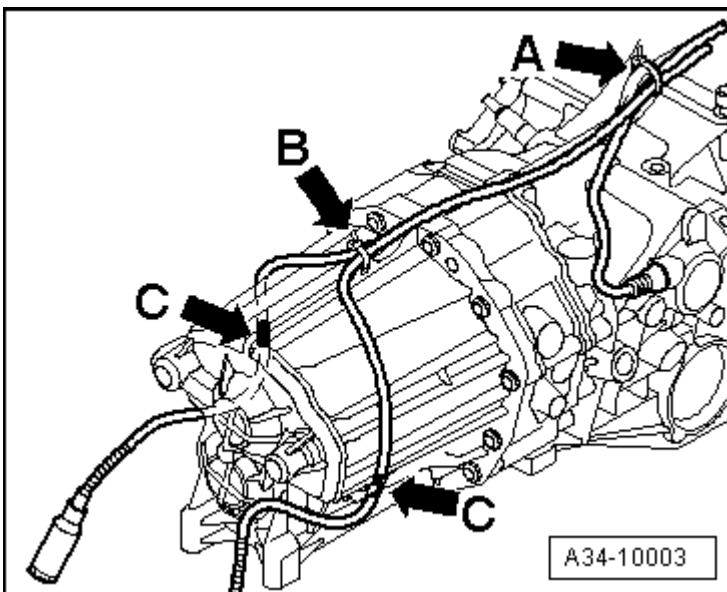
- Install starter → [Electrical system; Rep. gr.27.](#)



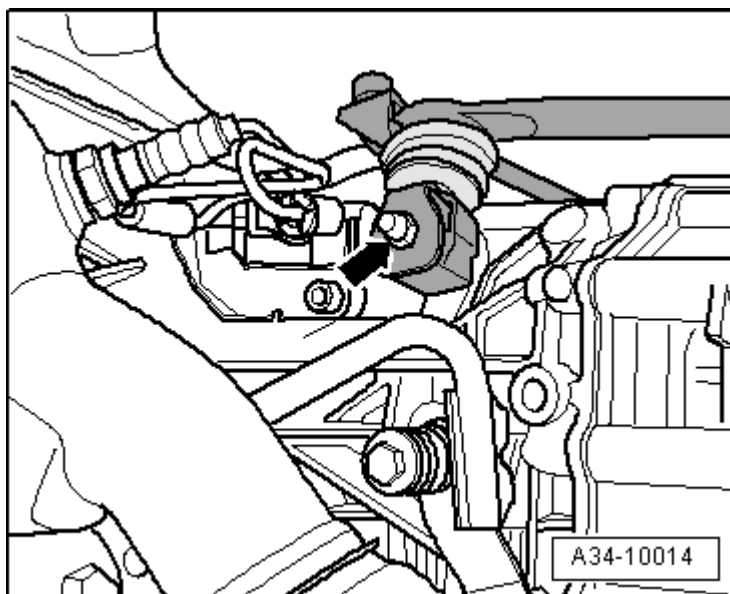
- Carefully lower gearbox a short distance using engine and gearbox jack -V.A.G 1383 A-.
- If possible, tighten upper engine/gearbox securing bolts -arrows 1- and -arrows 2-.



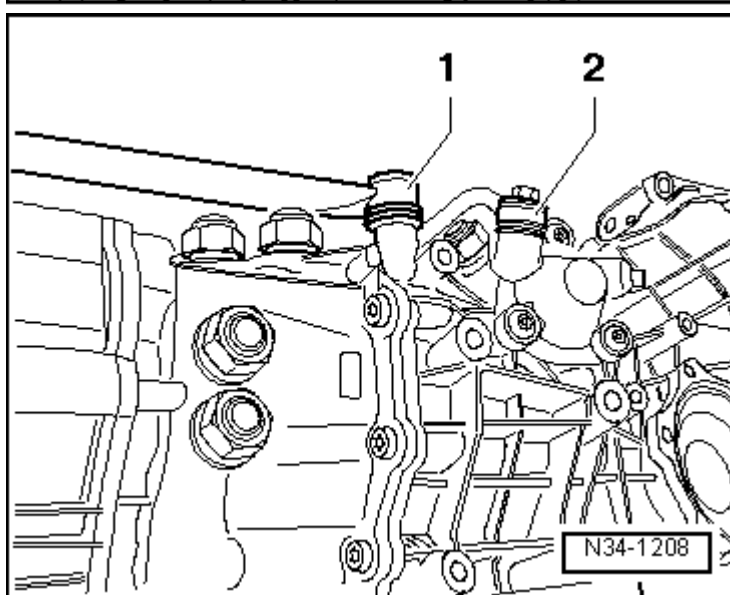
- If fitted, secure all electrical wiring to gearbox again -arrows A ... C-.



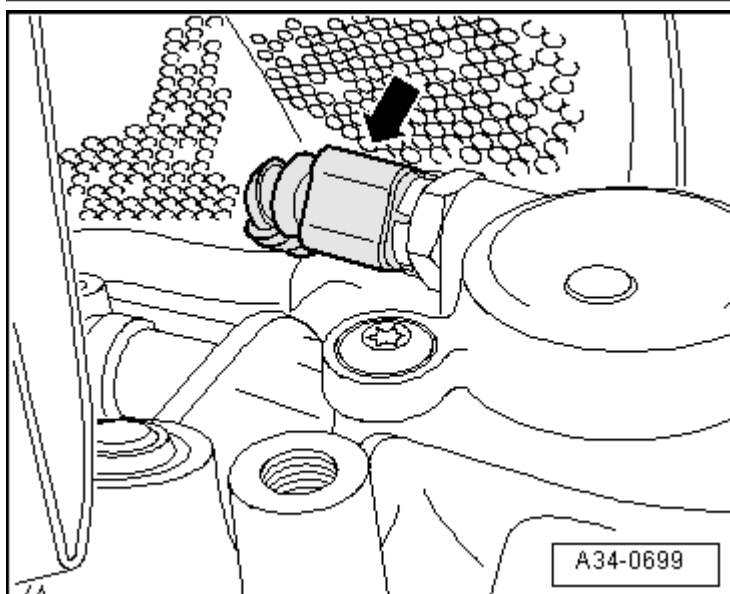
- Install gearbox selector lever and tighten nut -arrow-. Tightening torque → [Item](#)



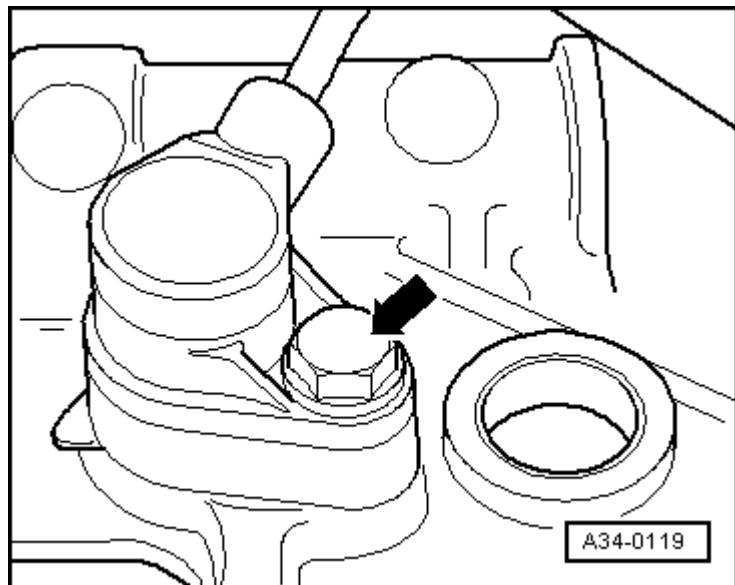
- Install push rod -1-; to do so, tighten hexagon socket head bolt. Tightening torque → [Item](#)
- Secure connecting rod -2- for selector rod. Tightening torque → [Item](#)



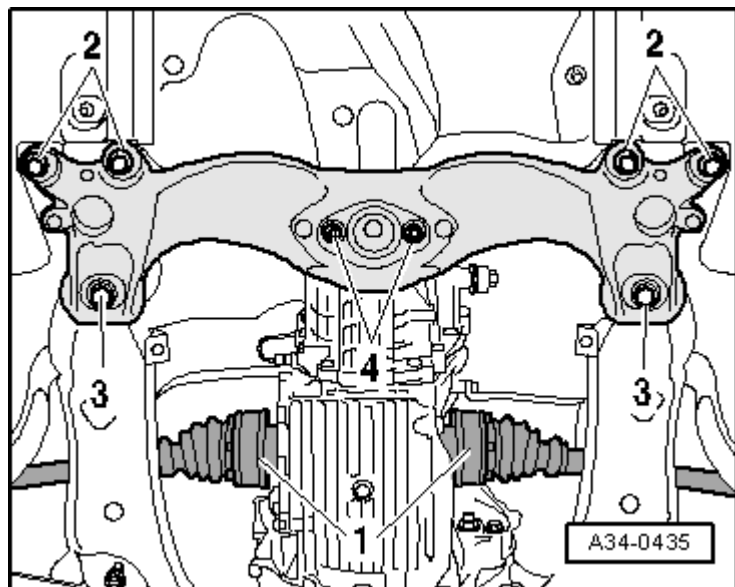
- Plug in connector -arrow- for reversing light switch -F4- on right side of gearbox.



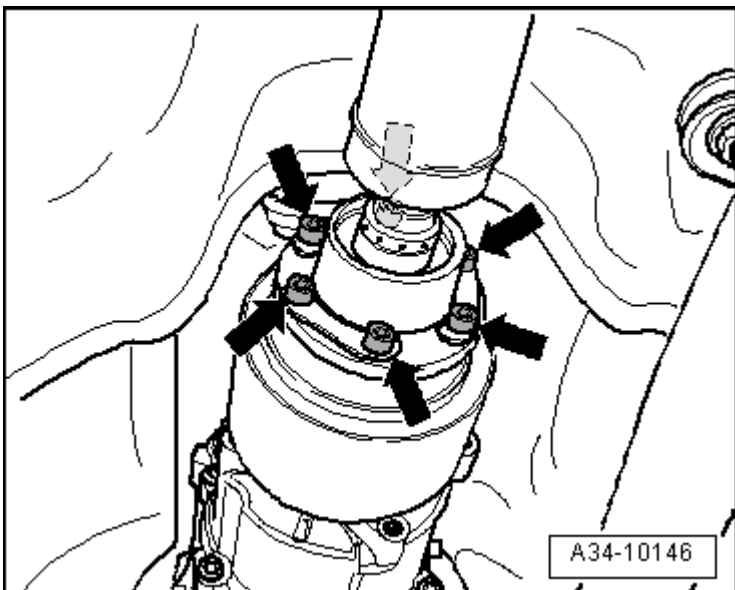
- If fitted, install engine speed sender - G28- on left side of gearbox.



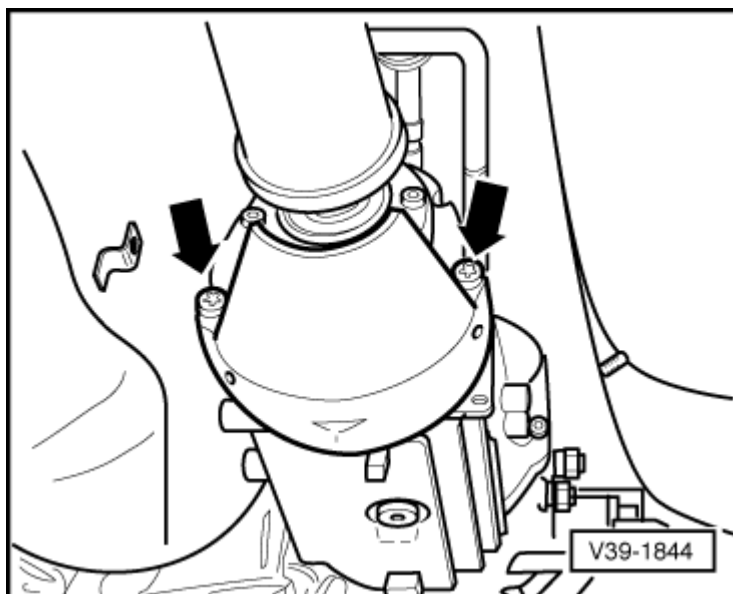
- Lift gearbox again using engine and gearbox jack -V.A.G 1383 A-.
- Attach tunnel cross member to body with new bolts -2- and -3- (tighten hand-tight only).
- Bolt tunnel cross member onto gearbox mounting -4- → [Chapter](#).
- Carefully lower engine and gearbox jack -V.A.G 1383 A- and move it aside.
- Bolt drive shafts -1- to flange shafts → [Running gear, front-wheel drive and four-wheel drive; Rep. gr.40](#).



- It is important to clean the threaded holes for the propshaft bolts to remove any remaining locking fluid. The residue can be removed using a tap.
- Bolt propshaft onto gearbox -arrows- → [Rear final drive 01R; Rep. gr.39](#).



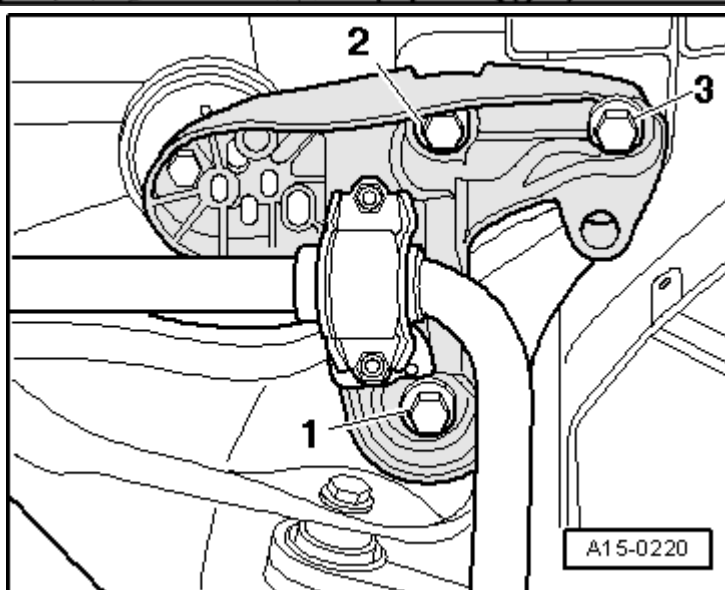
- If fitted, install heat shield for propshaft -arrows-.



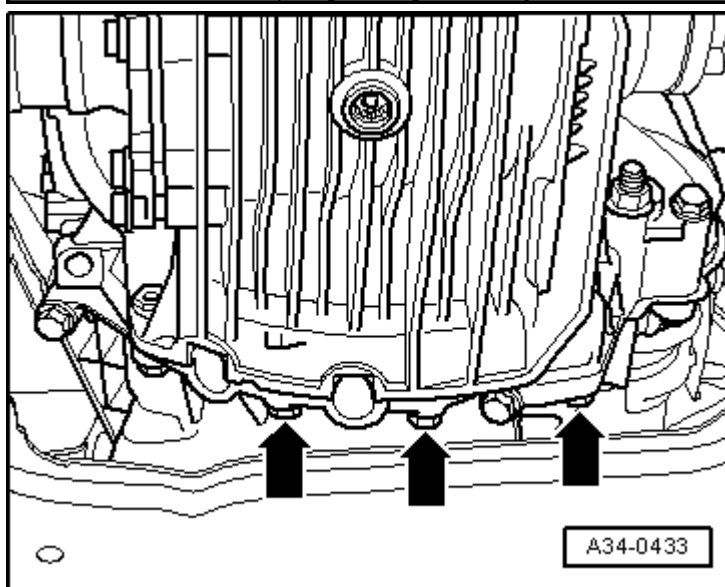
Vehicles with 6-cylinder petrol engine:

Weight of engine is partly taken up
1 with support bracket -10 - 222 A-
→ [Anchor](#).

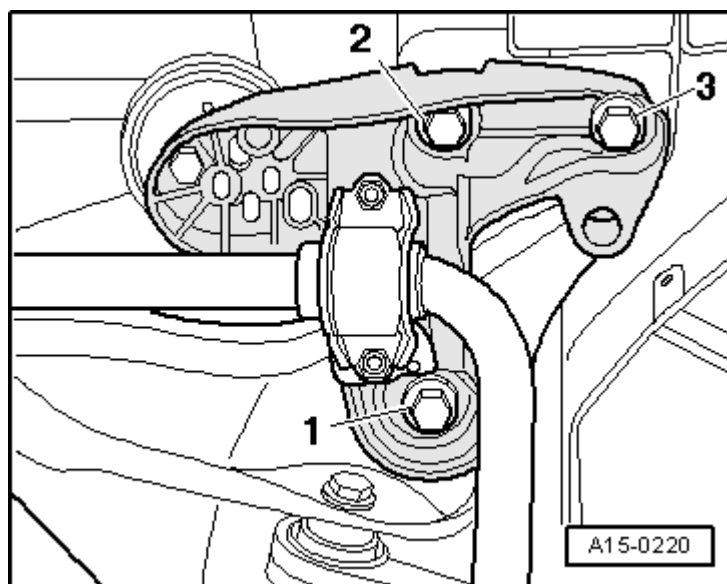
- First remove front bolts -2- and -3-
on subframe (left and right). Then
remove bolts -1-.
- Lower subframe at the front.



- Tighten three bottom engine/gearbox
securing bolts -arrows-.



- Renew the front subframe bolts -1-, -
2- and -3- on both sides of the
vehicle.



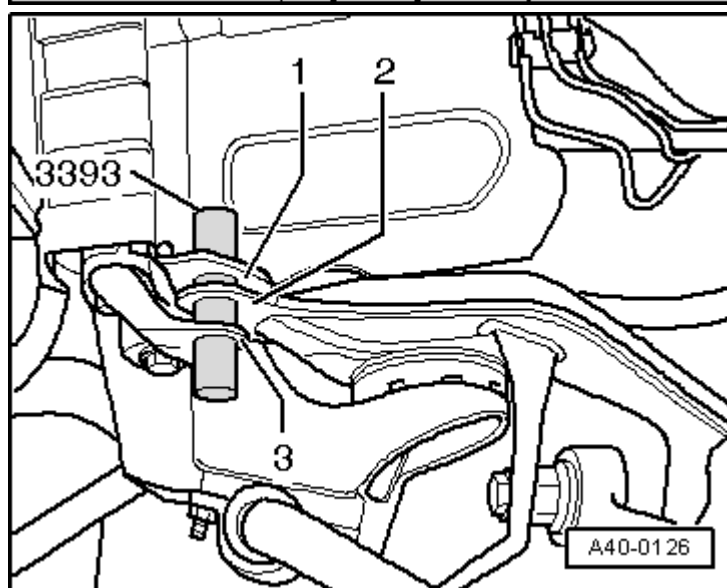
Before tightening the subframe mountings, the subframe must be aligned with the body using locating pins -3393-.

Hole -1-, hole -2- in subframe and 1 hole -3- in aluminium bracket must be in alignment on both sides.

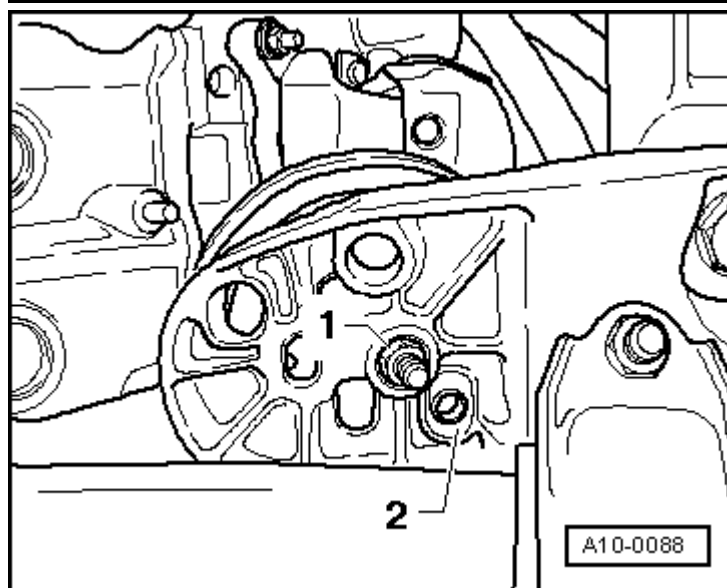


Note

This alignment can only replace a subsequent wheel alignment if holes -1- and -2- coincided before the repair work was carried out.

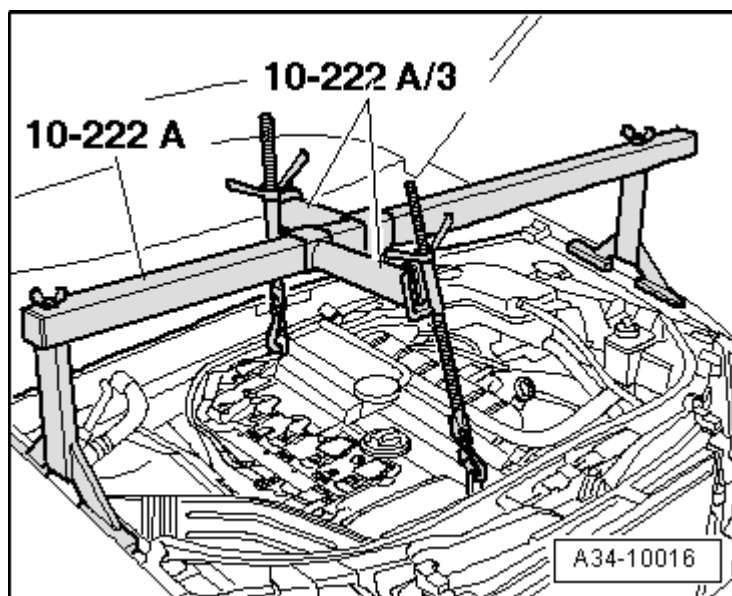


- Tighten nuts -1- for engine mountings → [Rep. gr.10](#).

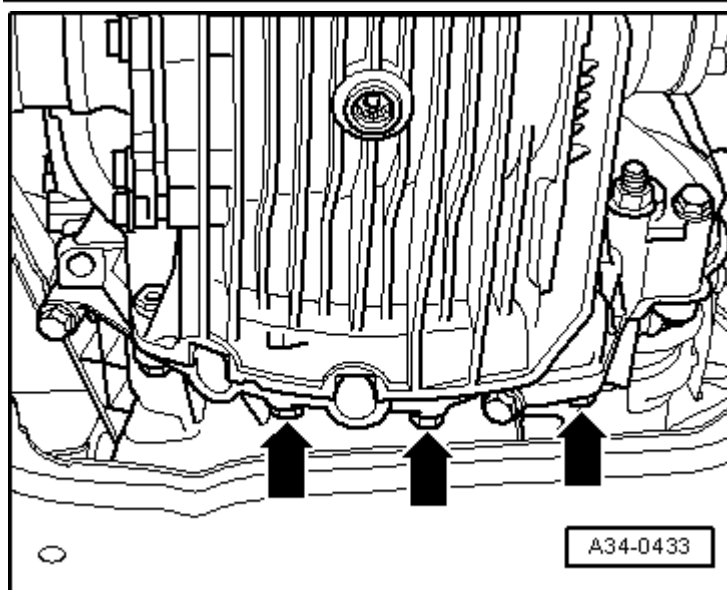


Cabriolet vehicles with 4-cylinder engine:

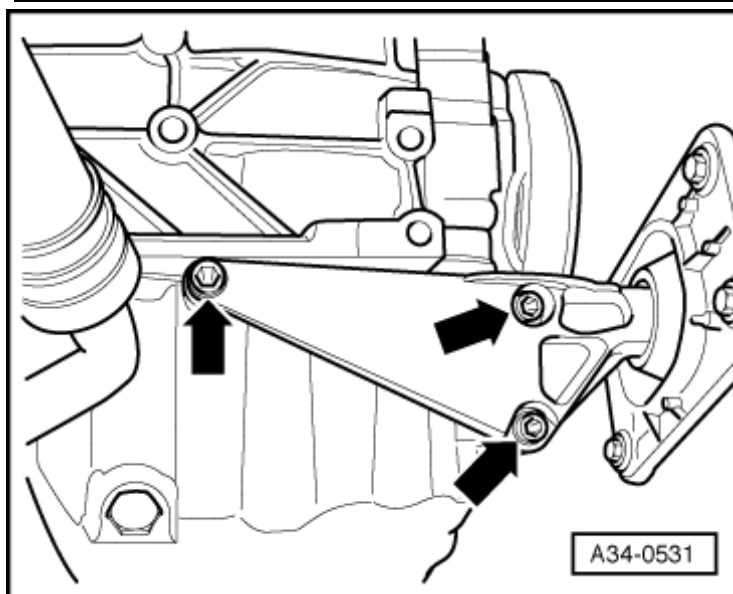
- Lift engine slightly using spindles.



- Tighten the bottom engine/gearbox securing bolts -arrows-.
- Lower engine back down.



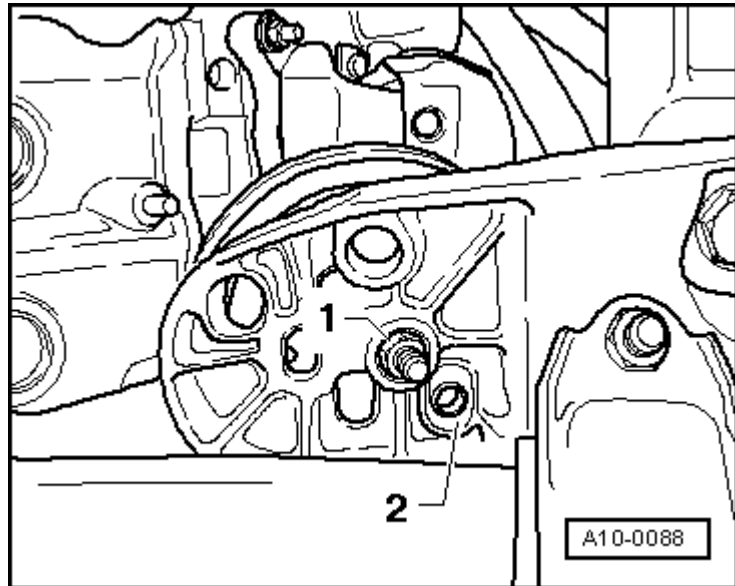
- Secure torque reaction support -arrows-.



- Tighten nuts -1- for engine mountings → [Rep. gr.10](#).

Continued for all vehicles:

- Secure subframe → [Running gear, front-wheel drive and four-wheel drive; Rep. gr.40.](#)
- Secure tunnel cross member → [Chapter.](#)
- Install exhaust system so it is free of stress → [Engine, mechanics; Rep. gr.26.](#)
- Check selector mechanism setting and adjust if necessary → [Chapter.](#)
- Check gear oil level in gearbox → [Chapter.](#)
- Follow steps required after connecting battery → [Electrical system; Rep. gr.27.](#)



- If necessary, check wheel alignment → [Running gear, front-wheel drive and four-wheel drive; Rep. gr.44.](#)

A wheel alignment check is not necessary if the alignment of the subframe in relation to the body was checked using locating pins -3393- prior to dismantling and assembly of the subframe (before tightening bolts).

A wheel alignment check must, however, be carried out if the alignment of the subframe relative to the body was not checked or if it was not possible to fully insert the two locating pins -3393- into the holes.

Tightening torques



Note

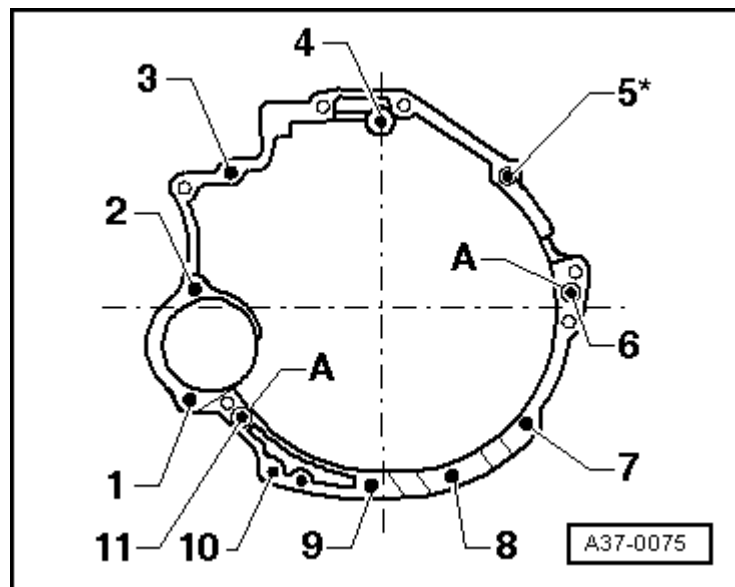
Tightening torques apply only to lightly greased, oiled, phosphated or black-finished nuts and bolts.

Additional lubricant such as engine or gear oil may be used, but do not use graphite lubricant.

Do not use parts which have been degreased.

Tolerance for tightening torques is $\pm 15\%$.

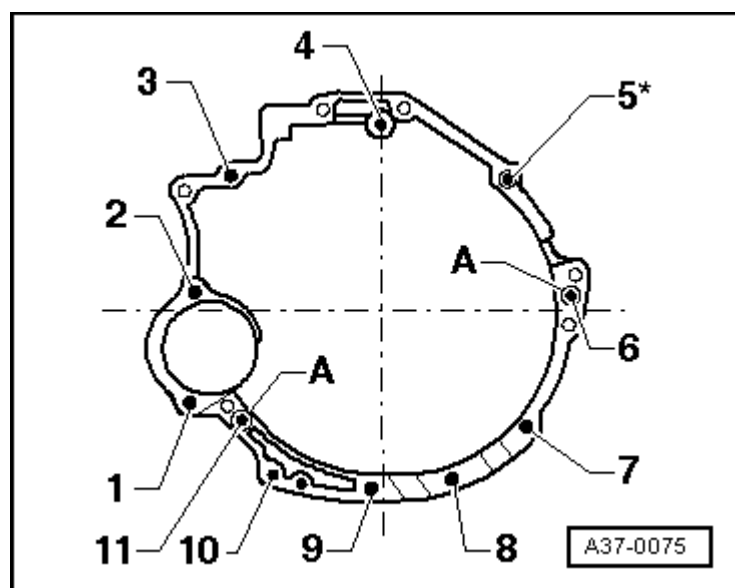
Engine/gearbox attachment (1.8 ltr. petrol engine)



| Item | Bolt | Nm |
|------------------|--------------------------------|----|
| 1 ¹⁾ | M12 x 75 | 65 |
| 2 ¹⁾ | M12 x 90 | 65 |
| 3 ²⁾ | M12 x 75 | 65 |
| 4, 6 | M12 x 90 | 65 |
| 5 ²⁾ | M12 x 110 | 65 |
| 7 ³⁾ | M10 x 50 | 45 |
| 8, 9, 10 | M10 x 45 | 45 |
| 11 ⁴⁾ | M12 x 110 | 65 |
| A | Dowel sleeves for centralising | |

¹⁾ Secures starter to gearbox
²⁾ With bracket for wiring harness
³⁾ Hammer head bolt with nut
⁴⁾ With nut

Engine/gearbox attachment (2.0 liter petrol engine)



| Item | Bolt | Nm |
|-----------------|----------|----|
| 1 ¹⁾ | M12 x 75 | 65 |

| | | |
|------------------|--------------------------------|----|
| 2 ¹⁾ | M12 x 90 | 65 |
| 3 ²⁾ | M12 x 75 | 65 |
| 4, 6 | M12 x 90 | 65 |
| 5 ²⁾ | M12 x 110 | 65 |
| 7 ³⁾ | M10 x 50 | 45 |
| 8, 9, 10 | M10 x 45 | 45 |
| 11 ⁴⁾ | M12 x 110 | 65 |
| A | Dowel sleeves for centralising | |

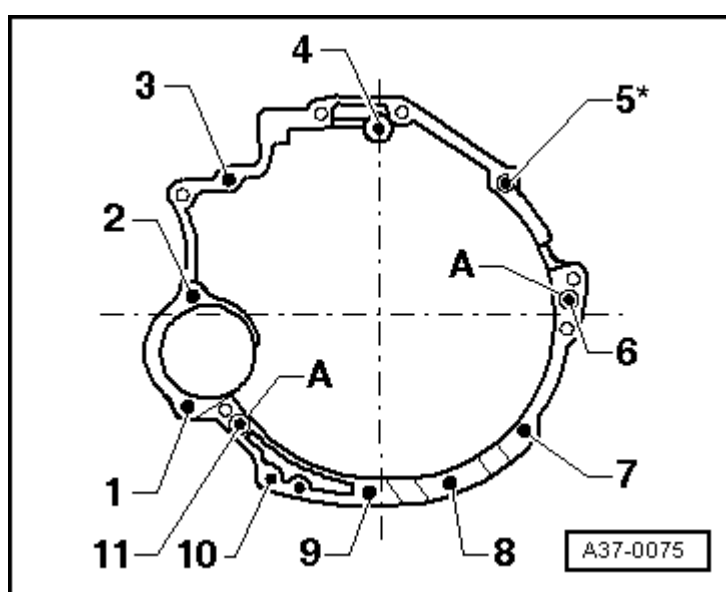
¹⁾ Secures starter to gearbox

²⁾ With bracket for wiring harness

³⁾ Hammer head bolt with nut

⁴⁾ With nut

Engine/gearbox attachment (1.9 ltr.
TDI engine)



| Item | Bolt | Nm |
|------------------|--------------------------------|----|
| 1 ¹⁾ | M12 x 80 | 65 |
| 2 ¹⁾ | M12 x 95 | 65 |
| 3 ²⁾ | M12 x 80 | 65 |
| 4, 6 | M12 x 95 | 65 |
| 5 ²⁾ | M12 x 110 | 65 |
| 7 ³⁾ | M10 x 50 | 45 |
| 8, 9, 10 | M10 x 45 | 45 |
| 11 ⁴⁾ | M12 x 110 | 65 |
| A | Dowel sleeves for centralising | |

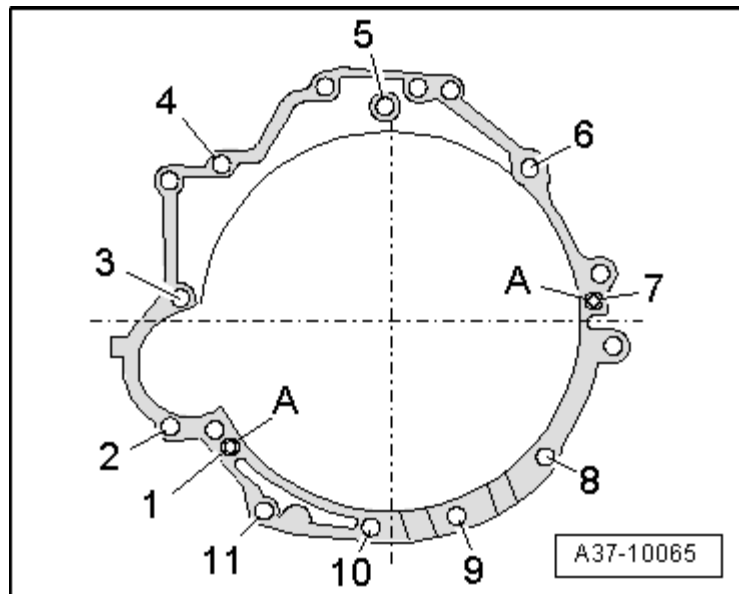
¹⁾ Secures starter to gearbox

²⁾ With bracket for wiring harness

³⁾ Hammer head bolt with nut

⁴⁾ With nut

Engine/gearbox attachment (2.0 ltr.
TDI engine)



| Item | Bolt | Nm |
|-----------------|--------------------------------|----|
| 1 ¹⁾ | M12 x 105 | 65 |
| 2 ²⁾ | M12 x 80 | 65 |
| 3 ²⁾ | M12 x 90 | 65 |
| 4 ³⁾ | M12 x 80 | 65 |
| 5, 7 | M12 x 95 | 65 |
| 6 ³⁾ | M12 x 105 | 65 |
| 8 ⁴⁾ | M10 x 50 | 45 |
| 9, 10, 11 | M10 x 45 | 45 |
| A | Dowel sleeves for centralising | |

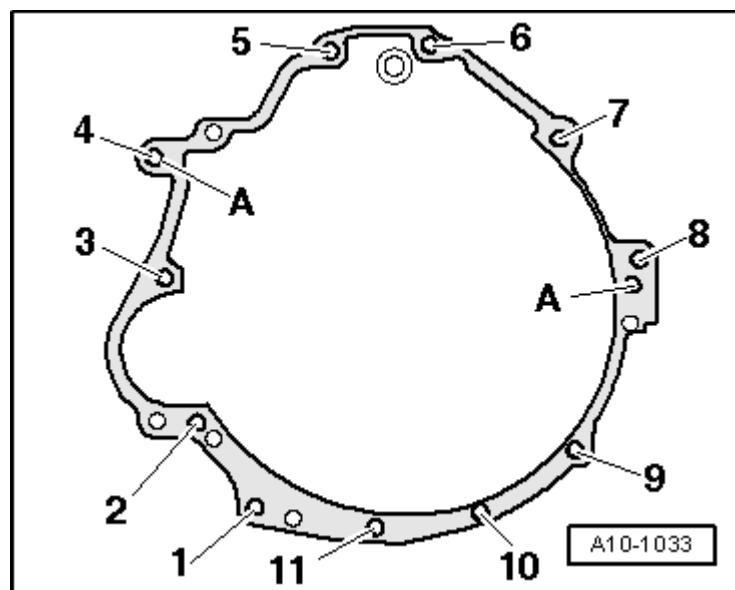
¹⁾ With nut

²⁾ Secures starter to gearbox

³⁾ With bracket for wiring harness

⁴⁾ Hammer head bolt with nut

Engine/gearbox attachment (6-cylinder
3.0 ltr. petrol engine)



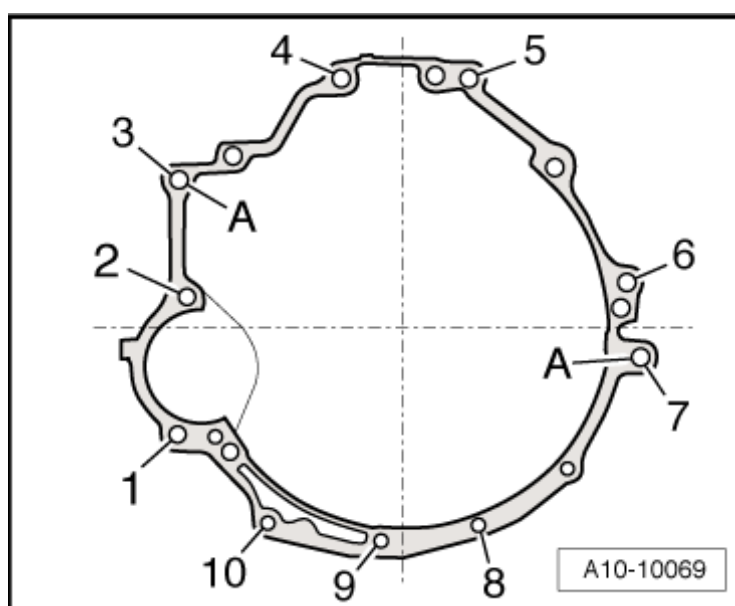
| Item | Bolt | Nm |
|-----------|----------|----|
| 1, 10, 11 | M10 x 60 | 45 |

| | | |
|-----------------|--------------------------------|----|
| 2 ¹⁾ | M10 x 150 | 65 |
| 3 ¹⁾ | M12 x 130 | 65 |
| 4 | M12 x 85 | 65 |
| 5, 6 | M12 x 90 | 65 |
| 7 | M10 x 100 | 45 |
| 8 | M12 x 95 | 65 |
| 9 ²⁾ | M10 x 60 | 45 |
| A | Dowel sleeves for centralising | |

¹⁾ Secures starter to gearbox

²⁾ Hammer head bolt with nut

Engine/gearbox attachment (6-cylinder 3.2 ltr. FSI engine)



| Item | Bolt | Nm |
|-----------------|--------------------------------|----|
| 1 ¹⁾ | M12 x 140 | 65 |
| 2 ¹⁾ | M12 x 155 | 65 |
| 3 | M12 x 110 | 65 |
| 4 | M12 x 115 | 65 |
| 5 | M12 x 110 | 65 |
| 6 | M12 x 125 | 65 |
| 7 ²⁾ | M10 x 160 | 65 |
| 8, 9, 10 | M10 x 80 | 45 |
| A | Dowel sleeves for centralising | |

¹⁾ Secures starter to gearbox

²⁾ With nut

| Component | Nm |
|--|------------------------|
| Gearbox mounting to gearbox | 23 |
| Heat shields above drive shafts to gearbox | 23 |
| Heat shield for propshaft to gearbox cover | 25 |
| Engine mounting to engine support | 23 |
| Torque reaction support to engine (Cabriolet only) | 30 + 90° ¹⁾ |
| Bracket for noise insulation to subframe | 10 |

¹⁾ Renew bolt