

Transmission, removing and installing

Special tools and equipment

- ◆ 3282 transmission support
- ◆ 3282/10 adjustment plate
- ◆ 3337 ring spanner 7-piece set
- ◆ VAG1383A engine/transmission hoist

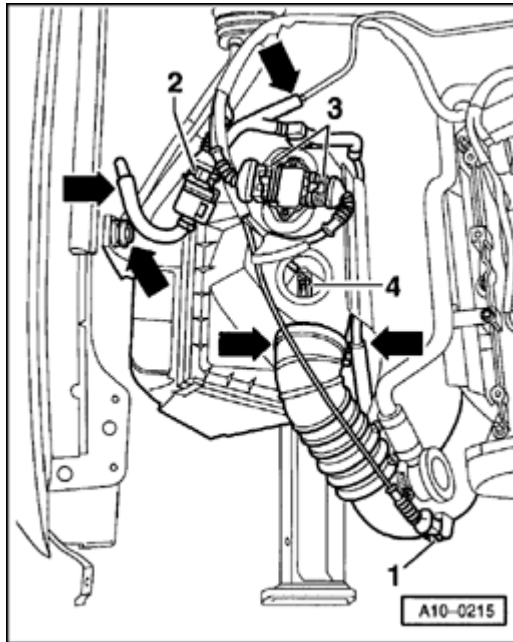
Removing

CAUTION!

Before disconnecting the battery:

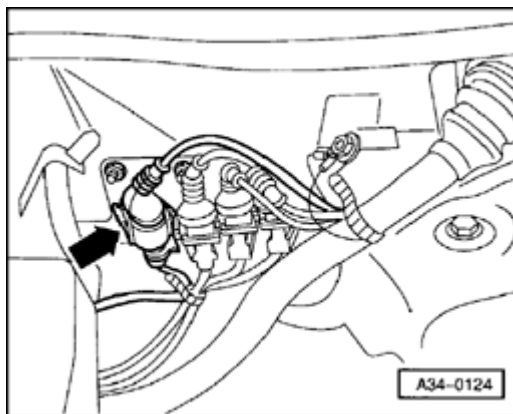
- ◆ ***Determine the correct coding for the anti-theft radio.***
 - ◆ ***Switch the ignition off (also applies when connecting the battery). Failure to do so may damage the Engine Control Module (ECM).***
- Disconnect battery

- Remove driveshaft ⇒ [Page 39-71](#) .

4-cylinder engine

A

- Disconnect wires/and harness connectors as follows:
 - 1 - At solenoid valve for wastegate bypass regulator valve -N75-
 - 2 - At Evaporative Emission (EVAP) canister purge regulator valve -N80-
 - 3 - At power output stage -N122-
 - 4 - At Mass Air Flow (MAF) sensor -G70-
- Disconnect hoses and remove air cleaner housing (arrows).
- Remove coolant expansion tank and lay to one side.



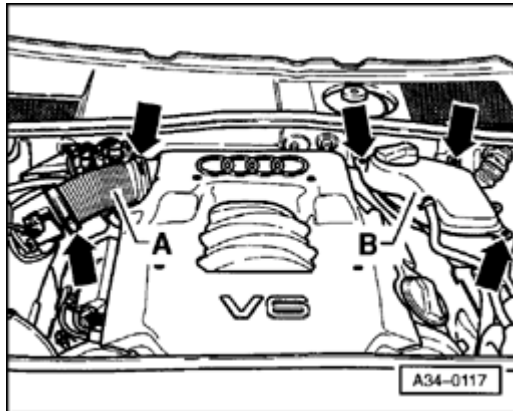
A

- Remove harness connector for Heated Oxygen Sensor (HO2S) (arrow) and move wiring clear.
- Remove nuts securing turbocharger to front exhaust pipe.

⇒ Repair Manual, Engine Mechanical, Repair Group 26

Note:

Do not bend flex pipe on front exhaust pipe more than 10° .



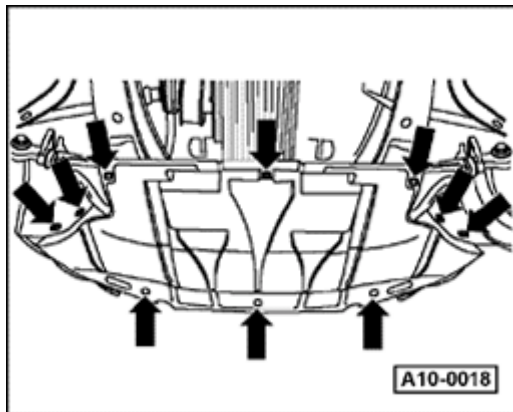
6-cylinder engine

A

- Remove intake air duct -A- (arrows)
- Unbolt coolant expansion tank -B- (arrows) and lay to one side.
- Remove Heated Oxygen Sensors (HO2S) on left and right exhaust pipes using 3337 ring spanner 7-piece set and move clear to side.

All models

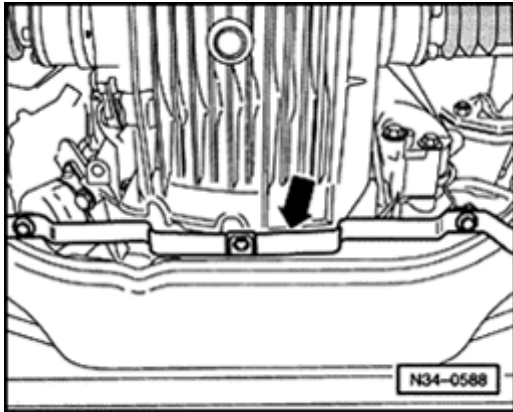
- Remove engine/transmission mounting bolts accessible from above.



A

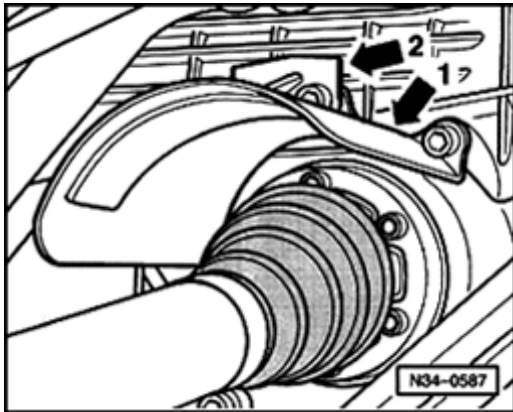
- Remove noise insulation panel (arrows).

34-21



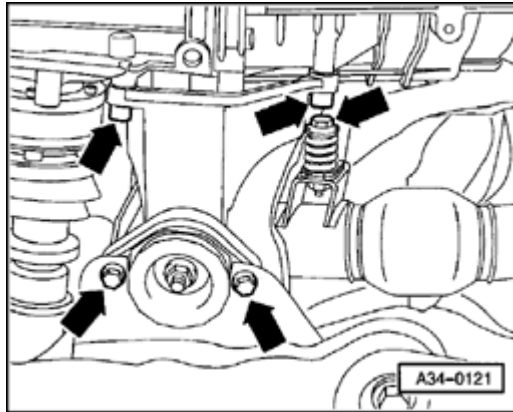
- A** - Remove bracket for noise insulation panel (arrow).

4-cylinder engine



- A** - Remove heat shield (arrows -1- and -2-) above right drive axle.

34-22

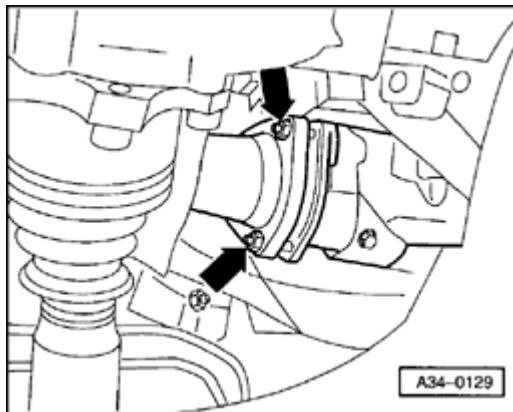


A

- Unbolt right transmission support together with bonded rubber mount (arrows).
- Loosen clamping sleeves of exhaust system and slide toward Three Way Catalytic Converter (TWC).
- Remove Three Way Catalytic Converter (TWC) together with exhaust pipe from below.

6-cylinder engine

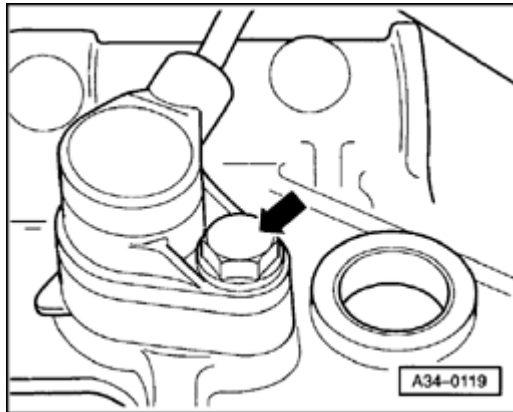
- Remove heat shields above left and right drive axles.



A

- Unbolt front exhaust pipes together with Three Way Catalytic Converters (TWCs) from left and right exhaust manifolds (3 nuts on each side) (arrows).

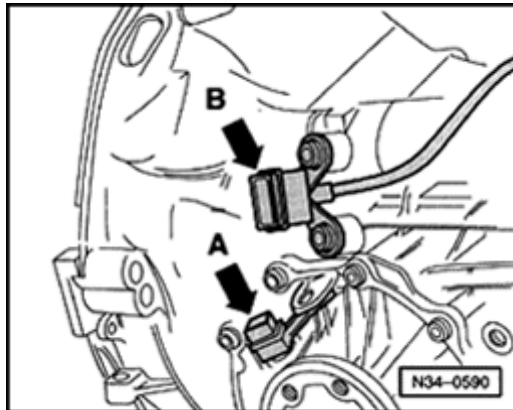
⇒ Repair Manual, Engine Mechanical, Repair Group 26

**All models**

- A**
- Remove engine speed (RPM) sensor -G28- on left of transmission (arrow) and move clear to side.
 - Disconnect drive axles from flange shafts and rest them on suspension links.

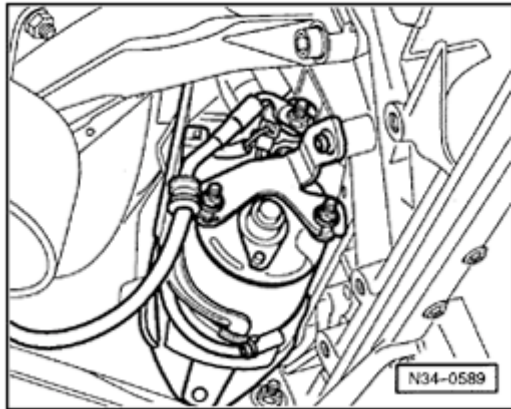
Note:

Take care not to damage protective coating on drive axles.



- A**
- Disconnect harness connector off Vehicle Speed Sensor -VSS- (arrow -A-).
 - Disconnect back-up light connector (multi-function sensor) (arrow -B-).
 - Disconnect all other electrical connections and ground wires from transmission and from engine/transmission mounting bolts.

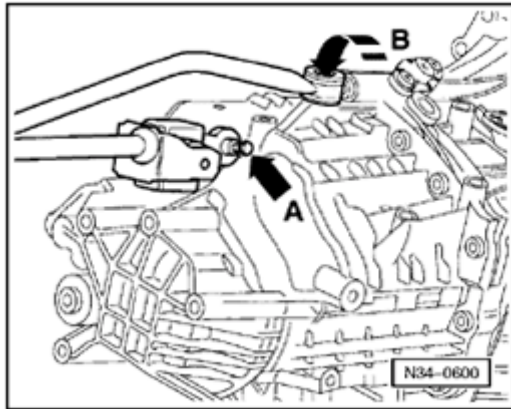
34-24



- A**
- Remove starter from engine/transmission and secure if necessary ⇒ [Repair Manual, Electrical Equipment, Repair Group 27](#)

Notes:

Starter cables do not have to be disconnected.

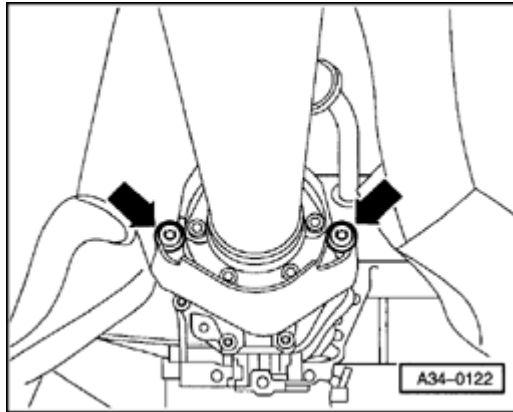


- A**
- Disconnect shift rod (arrow -A-).
 - Remove socket-head bolt from pivot rod (arrow -B-).

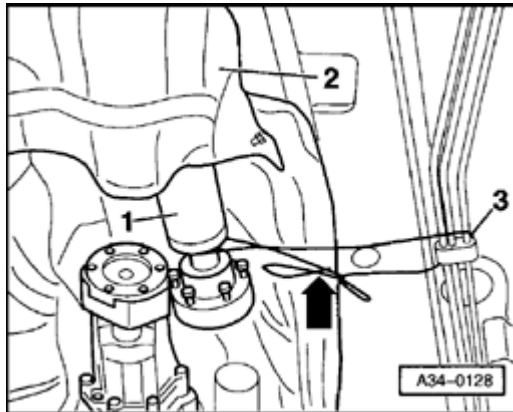
Note:

Illustration shows manual transmission 012.

34-25

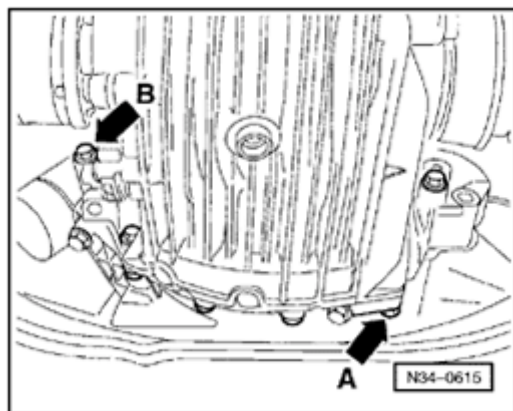


- A**
- Remove heat shield for driveshaft from Torsen differential cover (arrows).

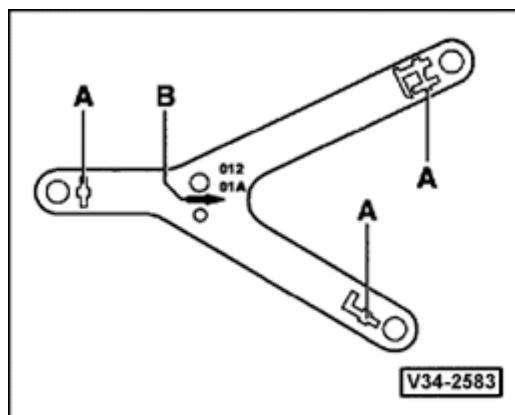


- A**
- Remove driveshaft -1- from transmission and rest it on heat shield -2-.
 - Secure driveshaft to fuel line bracket -3- using wire (arrow).

34-26



- A**
- Remove bottom engine/transmission mounting bolts, except for bolts indicated by arrows -A- and -B-.

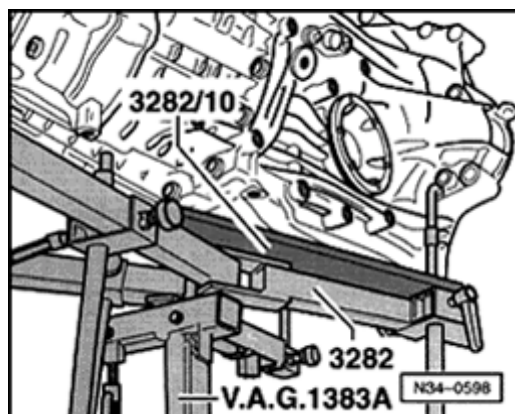


- A**
- Set up 3282 transmission support for removing manual transmission 01A (all-wheel-drive) using 3282/10 adjustment plate and place on VAG1383A transmission jack.

A - Attachments

Notes:

- ◆ Attachments -A- are shown in schematic form, arrow -B- points in the direction of travel.
- ◆ 3282/10 adjustment plate only fits in one position.

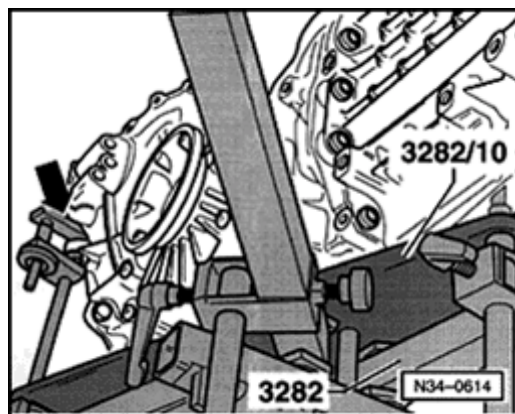


- A**
- Roll VAG1383A transmission jack with 3282 transmission support under transmission and support transmission.

Note

If 3282 transmission support is not available, transmission can be removed and installed using VAG1383A transmission jack and VAG1359/2 universal mount.

- Support transmission using VAG1383A transmission jack.

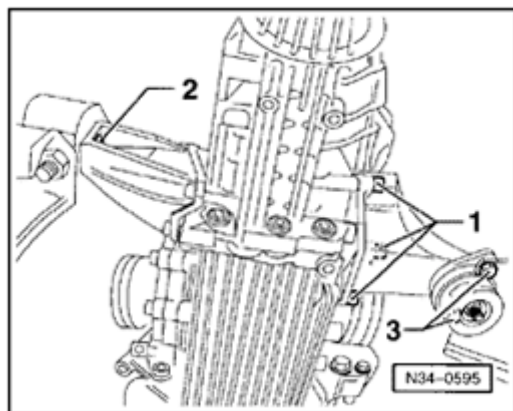


- A**
- Align adjustment plate parallel to transmission and lock safety support (arrow) on transmission.

4-cylinder engine

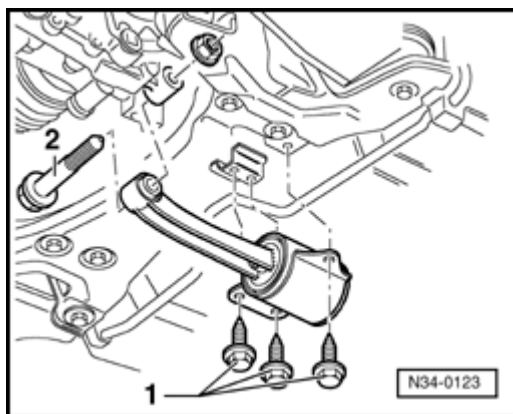
A

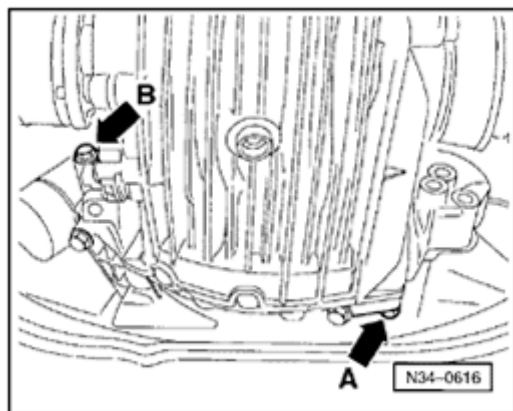
- Remove left transmission support from bonded rubber mount -2-.

**6-cylinder engine**

A

- Remove left and right transmission supports complete with bonded rubber mounts from transmission and subframe -1- and -2-.





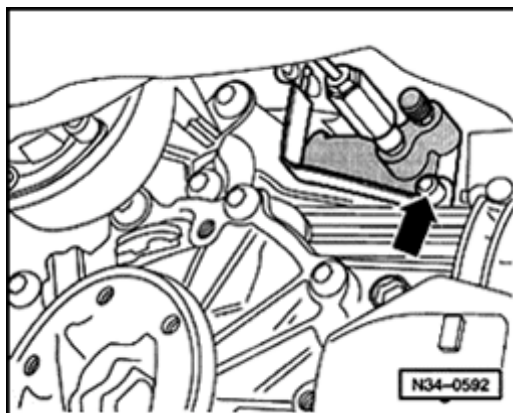
A

All models

- Remove remaining engine/transmission mounting bolts (arrows -A- and -B-).
- Press transmission off dowel sleeves and lower carefully using VAG1383A transmission jack just far enough for access to slave cylinder.

CAUTION!

When lowering the transmission, make sure the hydraulic line/hose to clutch slave cylinder is not damaged.



A

- Remove clutch slave cylinder (arrow) and secure with wire, do not disconnect line.

CAUTION!

After removing the clutch slave cylinder, do not operate the clutch pedal.

Make sure there is sufficient clearance of the flange shafts when lowering the transmission.

- Lower transmission completely.

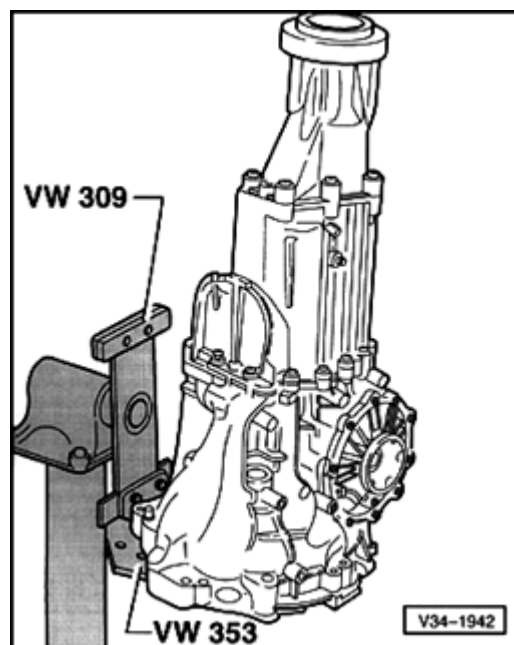
Note:

Make sure drive axles have sufficient clearance when lowering transmission.

Securing transmission to assembly stand

Special tools and equipment

- ◆ VW309 holding plate
- ◆ VW353 transmission support



A

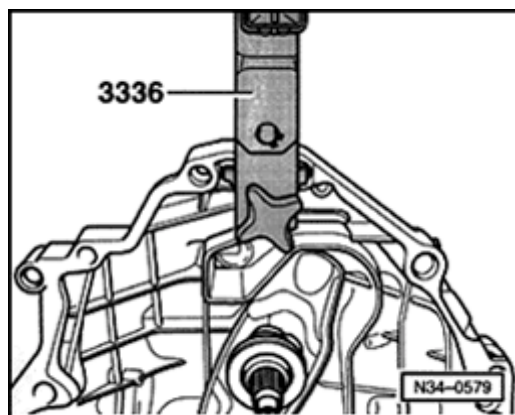
- Secure transmission to assembly stand using VW353 transmission support and VW309 holding plate when working on transmission.

Transporting the transmission

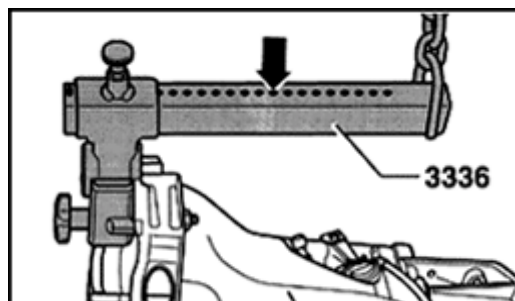
Special tools and equipment

- ◆ 3282 transmission support
- ◆ 3336 transmission support jig

The transmission support jig can be used when transporting the transmission and for setting up 3282 transmission support.

**A**

- Bolt 3336 transmission support jig to transmission housing.

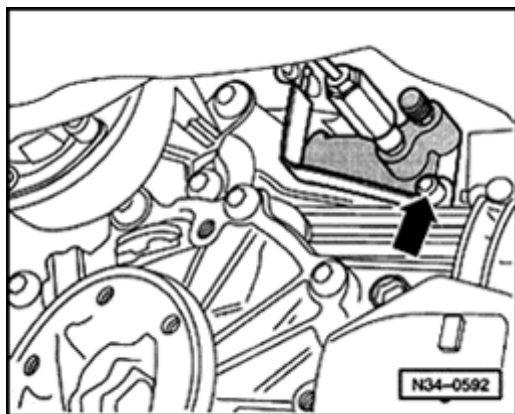
**A**

- Adjust support jig on sliding piece using locking pin.
Number of holes visible (arrow): 17
- Lift transmission using workshop crane and 3336 transmission support jig.

Installing

Install in reverse order of removal, note the following:

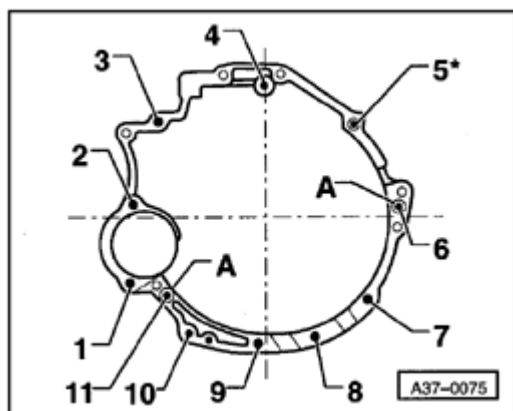
- Clean input shaft splines and (in case of used clutch plates) hub splines. Remove corrosion and apply only very thin coating of lubricant G 000 100 on splines. Do not grease guide sleeve.
- Check clutch release bearing for wear, replace if necessary.
- Coat contact surface of clutch slave cylinder pivot rod with thin layer of copper grease, e.g. 381 351 TE.
- Threaded holes for mounting clutch slave cylinder to transmission and shift lever to shift rod must be cleaned of locking compound residue using thread tap before installation .
- Make sure dowel sleeves for aligning engine/transmission are installed in cylinder block, install if necessary.
- Always replace self locking nuts.



A

- Lift up transmission until clutch slave cylinder with mounting bracket for line/hose can be installed (arrow).
- Install intermediate plate (if applicable) between transmission and engine onto appropriate engine dowel sleeves.
- Make sure intermediate plate is correctly positioned on engine.
- Install lower engine/transmission and starter mounting bolts, and install starter ⇒ [Repair Manual, Electrical Equipment, Repair Group 27](#)
- Before installing, use tap to clean threads in flange shaft for driveshaft on transmission to remove traces of locking compound.
- Replace gaskets on drive axles and on front of driveshaft ⇒ [Page 39-69](#) .
- Install driveshaft ⇒ [Page 39-71](#) .
- Check adjustment of shift rod and pivot rod, re-adjust if necessary ⇒ [Page 34-12](#) .

- Align exhaust system free of stress.
- ⇒ Repair Manual, Engine Mechanical, Repair Group 26
- Check transmission oil level ⇒ [Page 34-38](#) .
 - - After connecting battery, enter anti-theft code for radio
 - ⇒ [Repair Manual, Electrical Equipment, Repair Group 91](#)
 - Run power windows fully up by pressing switches.
 - Operate all power window switches again and hold for at least one second in "close" position to activate automatic one-touch function.
 - Set clock to correct time.

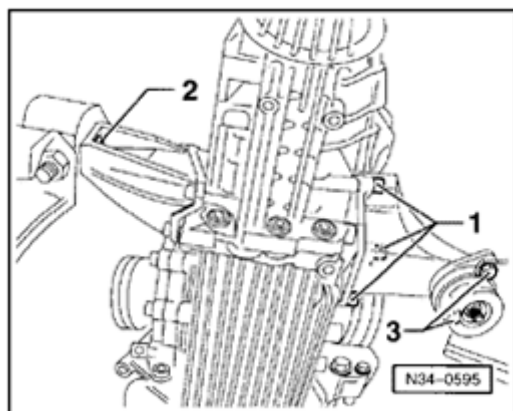


Tightening torques

A Transmission to engine (4-cylinder)

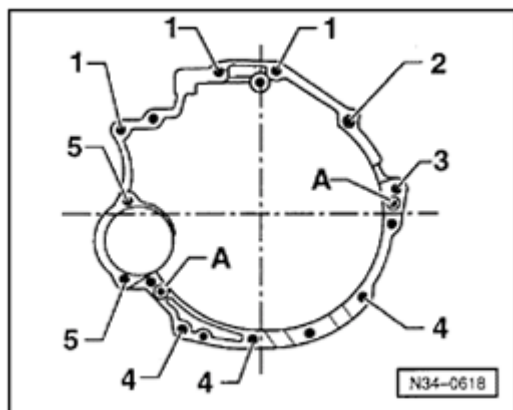
Item No.	Bolt	Tightening torque
1, 3, 4	M12 x 67	65 Nm (48 ft lb)
2, 6	M12 x 90	65 Nm (48 ft lb)
5, 11	M12 x 110	65 Nm (48 ft lb)
7 - 10	M10 x 45	45 Nm (33 ft lb)

A: Dowel sleeves



A Transmission/engine assembly mount (4-cylinder)

Item No.	Bolt	Qty.	Tightening torque
1	M10 x 30	3	40 Nm (30 ft lb)
2	M10 x 35	1	50 Nm (37 ft lb)
3	M8 x 20	2	23 Nm (17 ft lb)

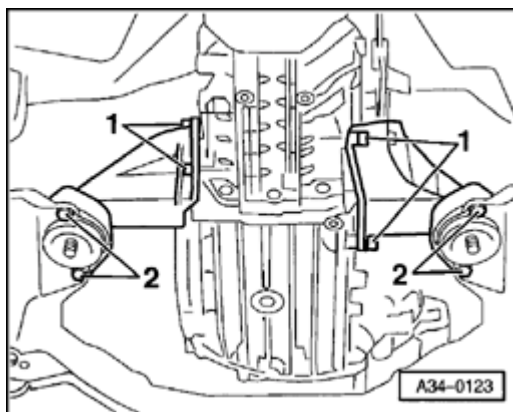


A Transmission to engine (6-cylinder)

Item No.	Bolt	Qty.	Tightening torque
1	M12 x 67	3	65 Nm (48 ft lb)
2	M12 x 90	1	65 Nm (48 ft lb)
3	M12 x 80	1	65 Nm (48 ft lb)
4	M10 x 45	3	45 Nm (33 ft lb)
5	M10 x 135	1	45 Nm (33 ft lb)
51)	M12 x 130	1	65 Nm (48 ft lb)

1) Upper starter bolt

A: Dowel sleeves



A Transmission/engine assembly mount (6-cylinder)

Item No.	Bolt	Qty.	Tightening torque
1	M10 x 35	3	40 Nm (30 ft lb)
2	M8 x 20	2	23 Nm (17 ft lb)

Component	Nm	ft lb
Drive axle to flange shaft M8	40	30
Drive axle to flange shaft M10	80	59
Engine speed sensor -G28-	10	7
Clutch slave cylinder to transmission	20	15
Heat shields over drive axles on transmission	23	17
Shift rod to transmission	23	17
Pivot rod to transmission	40	30
Driveshaft to transmission	55	41
Heat shield for driveshaft to cover of Torsen differential	25	18
Three Way Catalytic Converter (TWC) to mounts	25	18
Front exhaust pipe to turbocharger or exhaust manifold	25	18
Clamp for exhaust pipe	40	30
Bracket for noise insulation panel to body	25	18