

## Transmission, removing and installing

### Removing

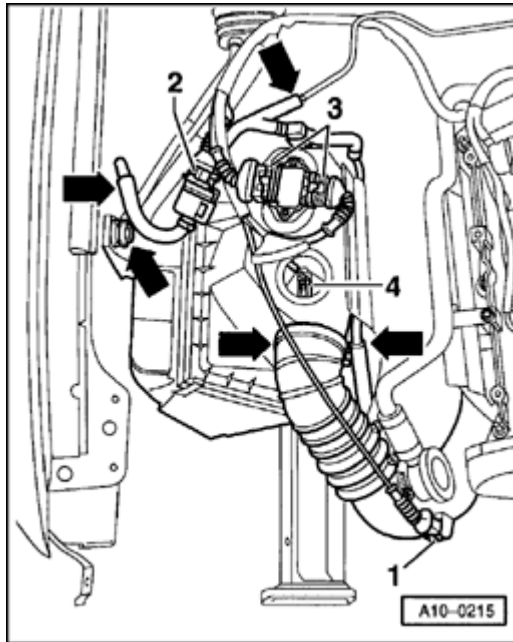
#### Special tools and equipment

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

#### **Notes:**

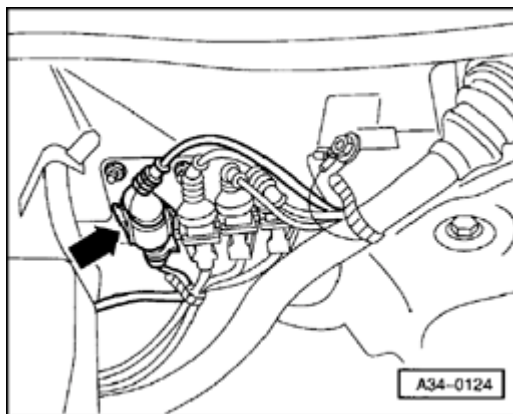
- ◆ *Determine the correct coding for the anti-theft radio (if equipped).*
- ◆ *Switch the ignition off and disconnect battery Ground (GND) strap.*

### Vehicles with 1.8T four-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 from bracket and lay to side.



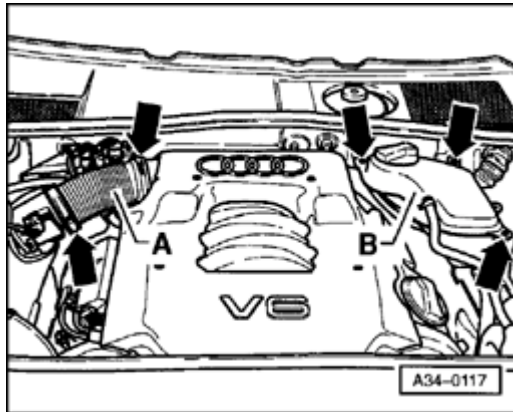
A

- Disconnect 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:**

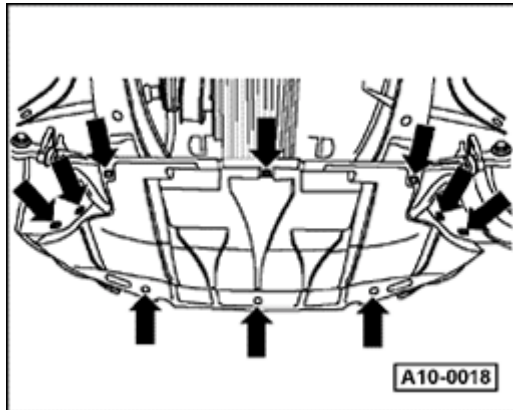
*Do not bend flex pipe on front exhaust pipe more than 10° .*

**Vehicles with 2.8 liter six-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.

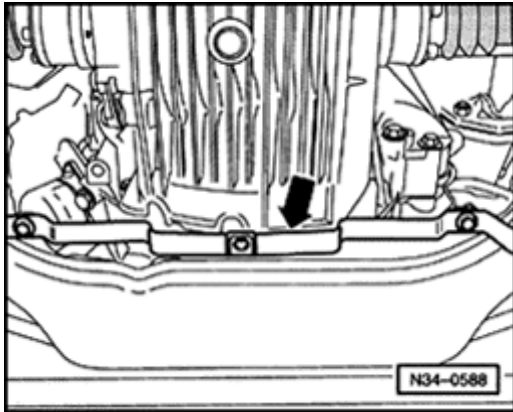
**All models**

- Remove engine/transmission mounting bolts accessible from above.

**A**

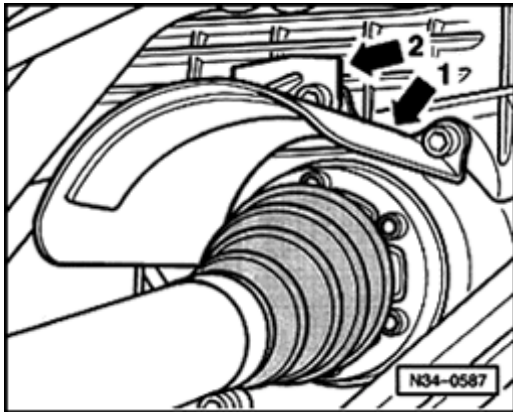
- Remove noise insulation panel (arrows).

34-21



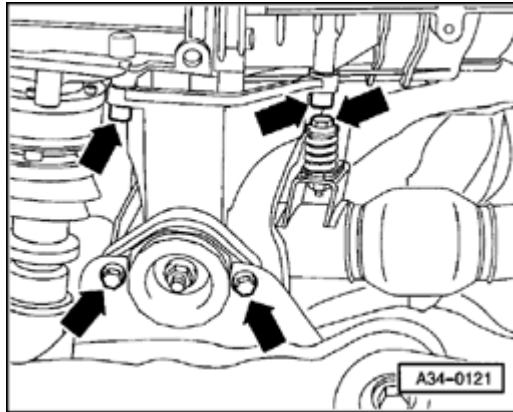
- A** - Remove bracket for noise insulation panel (arrow).

**4-cylinder engine**



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

34-22

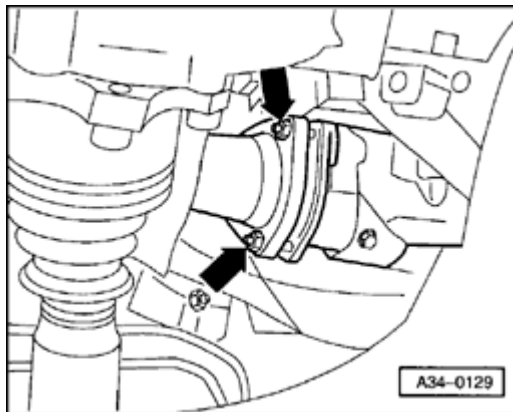


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- Unbolt right transmission support together with bonded rubber mount (arrows).
- Loosen clamping sleeves of exhaust system and slide toward Three Way Catalytic Converter (TWC).
- Remove Three Way Catalytic Converter (TWC) together with exhaust pipe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

### 6-cylinder engine

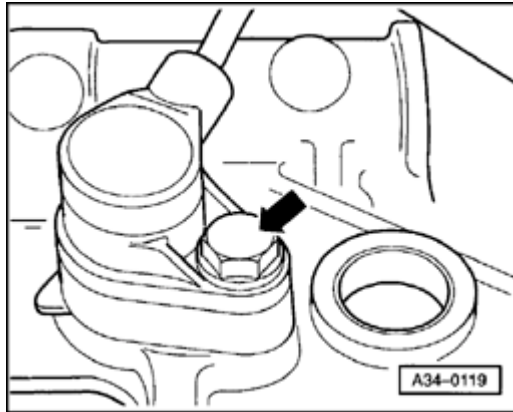
- Remove heat shields above left and right drive axles.



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- 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*



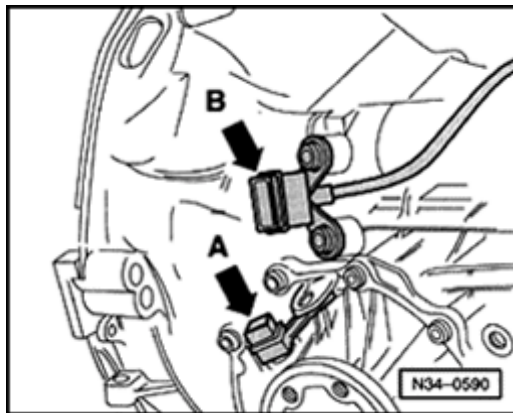
- A**
- Remove engine speed (RPM) sensor -G28- on left of transmission (arrow) and move clear to side.

#### All models

- Disconnect drive axles from flange shafts and rest them on suspension links.

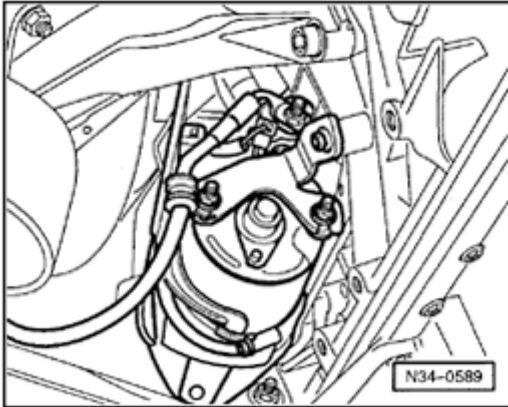
#### Note:

*Take care not to damage protective coating on drive axles.*



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

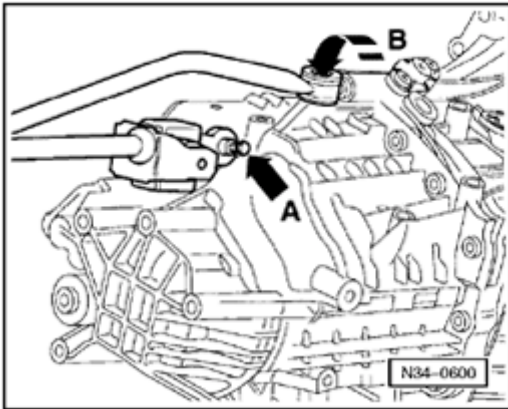
34-24



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

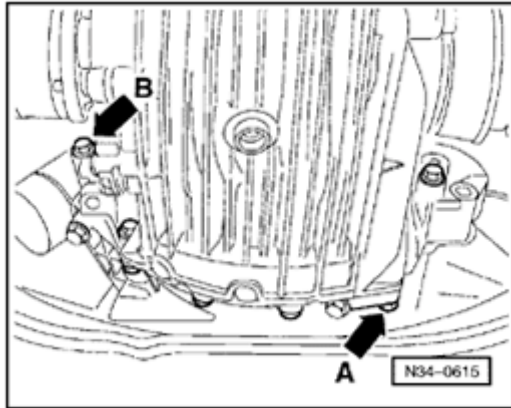
**Note:**

*Starter cables do not have to be disconnected.*



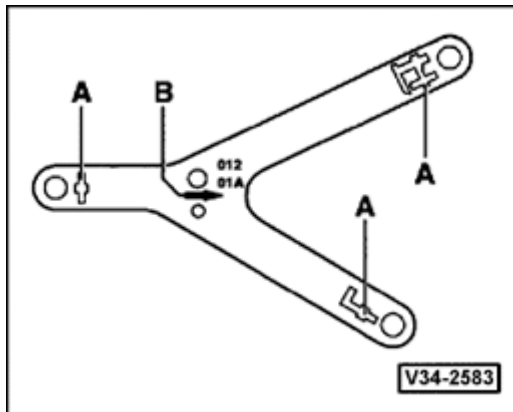
- A**
- Disconnect shift rod (arrow -A-).
  - Remove socket-head bolt from pivot rod (arrow -B-).

34-25

**All models**

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



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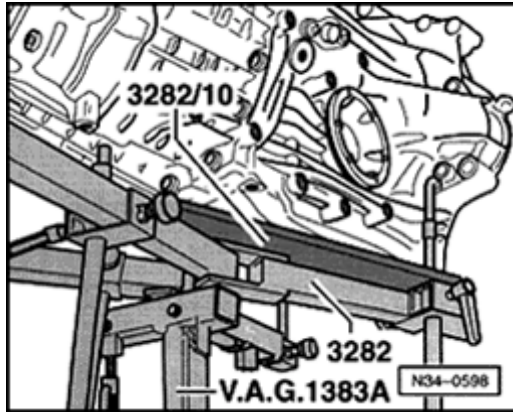
- Set up 3282 transmission support for removing manual transmission 01A (all wheel drive) using 3282/10 adjustment plate and place on VAG1383A transmission jack.

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.





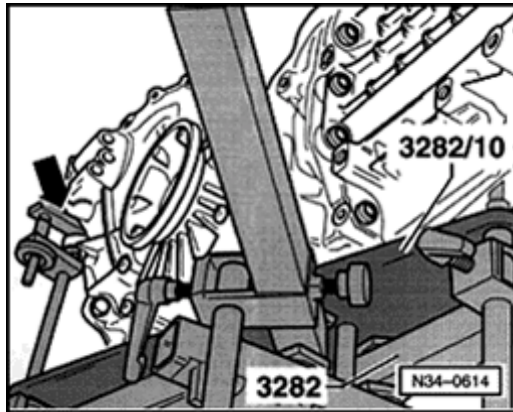
A

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

**Note:**

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

- Support transmission using VAG1383A transmission jack.

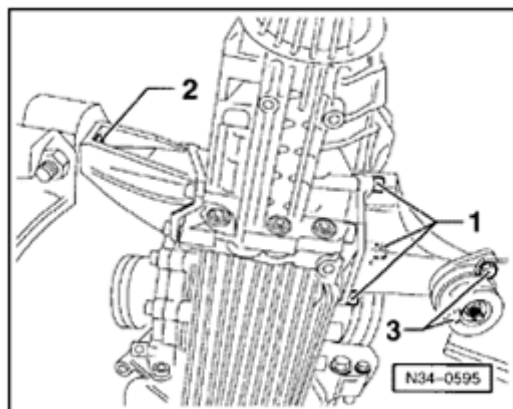


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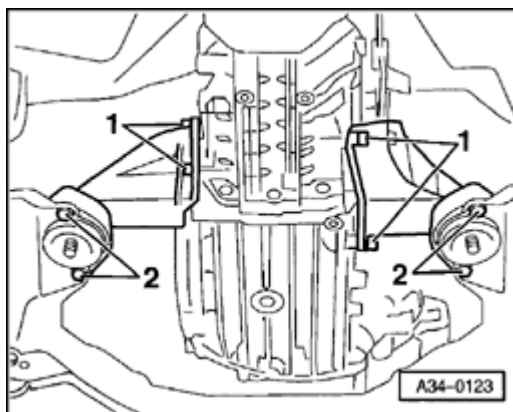
- Align adjustment plate parallel to transmission and lock safety support (arrow) on transmission.

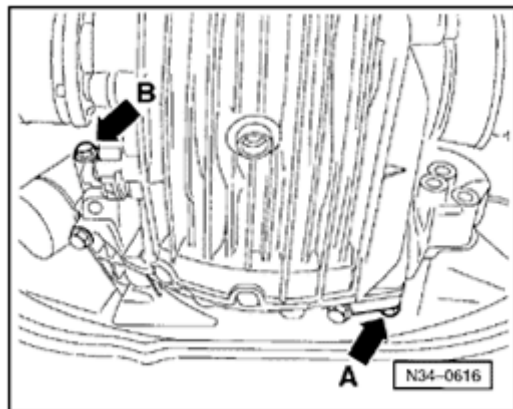
**4-cylinder engine****A**

- 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-.





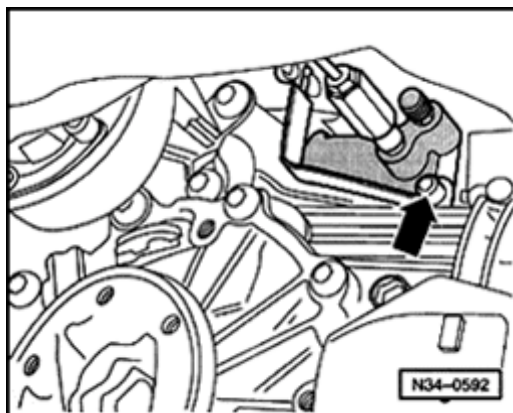
A

**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.

**Note:**

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



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

**Note:**

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

- Lower transmission completely.

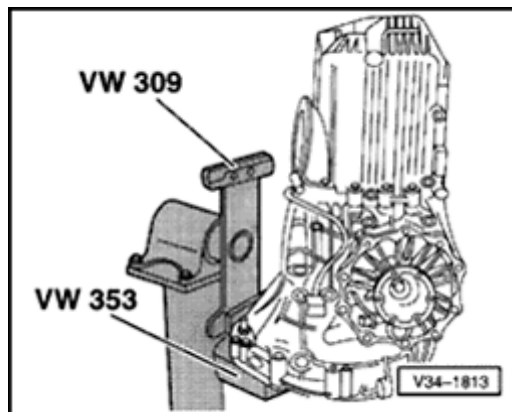
**Note:**

*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



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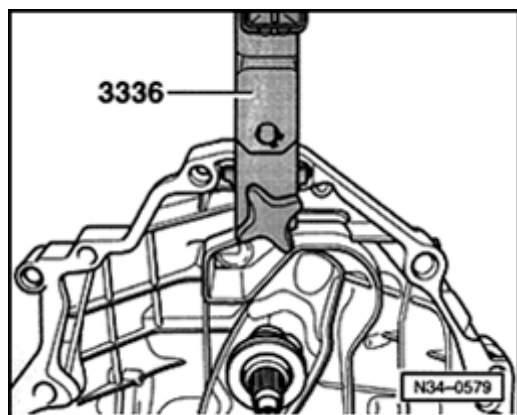
- Secure transmission to assembly stand using VW353 transmission support and VW309 holding plate when working on transmission.

## Transmission, transporting

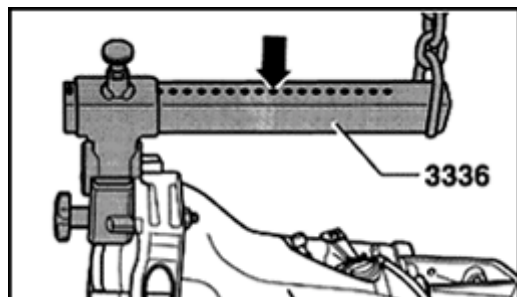
### Special tools and equipment

- ◆ 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 (arrow).  
Number of visible holes = 17
- Lift transmission using workshop crane and 3336 transmission support jig.

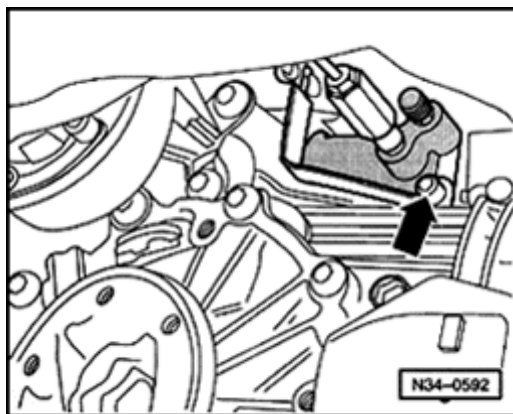
## Installing

Installation is the 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 a very thin coating of lubricant G 000 100 on splines. Do not grease guide sleeve.
- Check throwout bearing for wear and replace if necessary.
- Before installing, coat contact surface of clutch release lever plunger with thin layer of copper grease, e.g. Z 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 threaded tap before installation.
- Make sure centering sleeves for engine to transmission are installed correctly in cylinder block. Install or replace if necessary.
- Always replace self-locking nuts.
- Install engine/transmission intermediate plate (if

present) onto engine centering sleeves.

- Make sure intermediate plate is correctly seated on engine.



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- Lift transmission until clutch slave cylinder with mounting bracket for line/hose can be installed (arrow).
- Install lower engine/transmission and starter mounting bolts and install starter.

⇒ [Repair Manual, Electrical Equipment, Repair Group 27](#)

- Check adjustment of shift mechanism and adjust if necessary ⇒ [Page 34-12](#) .
- Align exhaust system free of stress.

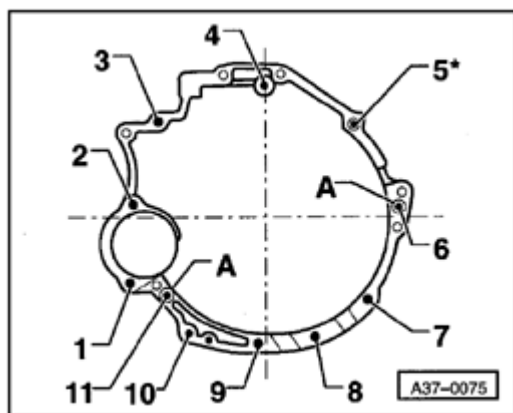
⇒ [Repair Manual, Engine Mechanical, Repair Group 26](#)

- Check transmission oil level ⇒ [Page 34-36](#) .
- After connecting battery, enter anti-theft code for radio.

⇒ [Radio Operating Manual](#)

- Fully close power windows to stop.
- Then activate all power window switches ("up") for at least a second to activate automatic window raising/lowering.
- Set clock to correct time.



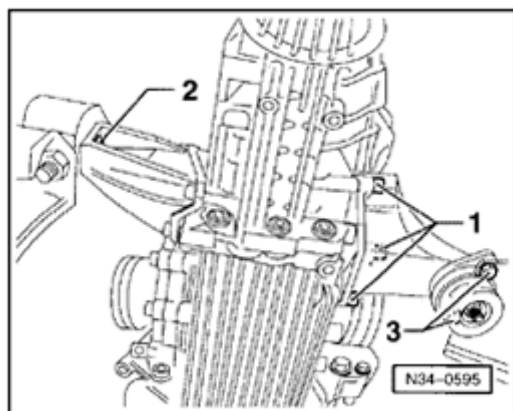


### Tightening torques

#### A Transmission to engine (4-cylinder)

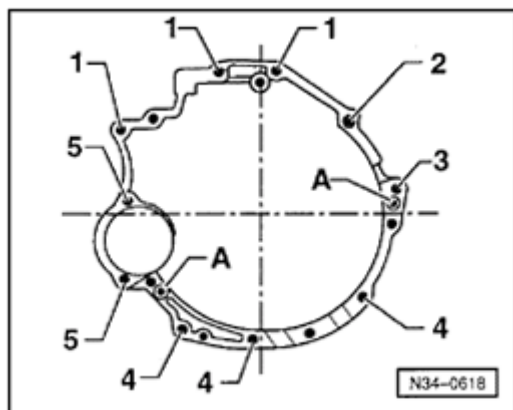
Item No.	Bolt	Tightening torque
1, 3, 4	M12 x 67	65 Nm (48 ft lb)
2, 6	M12 x 90	65 Nm (48 ft lb)
5, 11	M12 x 110	65 Nm (48 ft lb)
7 - 10	M10 x 45	45 Nm (33 ft lb)

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)

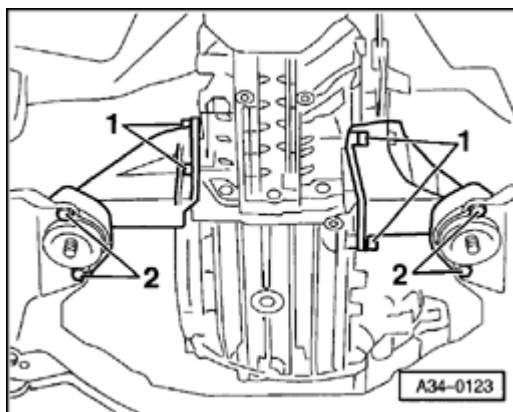


**A** Transmission to engine (6-cylinder)

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)

<b>Component</b>		<b>Tightening torque</b>
Drive axle to flange shaft	M8	40 Nm (30 ft lb)
	M10	77 Nm (57 ft lb)
Engine Speed (RPM) sensor - G28-		10 Nm (7 ft lb)
Clutch slave cylinder to transmission	Socket-head bolt 1)	20 Nm (15 ft lb)
	Bolt 2)	25 Nm (18 ft lb)
Heat shields over drive axles to transmission		23 Nm (17 ft lb)
Shift rod to transmission 1)		20 Nm (15 ft lb)
Pivot rod to transmission		40 Nm (30 ft lb)
Three Way Catalytic Converter (TWC) to mounts		25 Nm (18 ft lb)
Front exhaust pipe to turbocharger or exhaust		25 Nm (18 ft lb)

manifold	
Clamp for exhaust pipe	40 Nm (30 ft lb)
Bracket for noise insulation panel to body	10 Nm (7 ft lb)

- 1) Always replace bolt.
- 2) Coat with locking fluid D 185 400 A2 before installing.