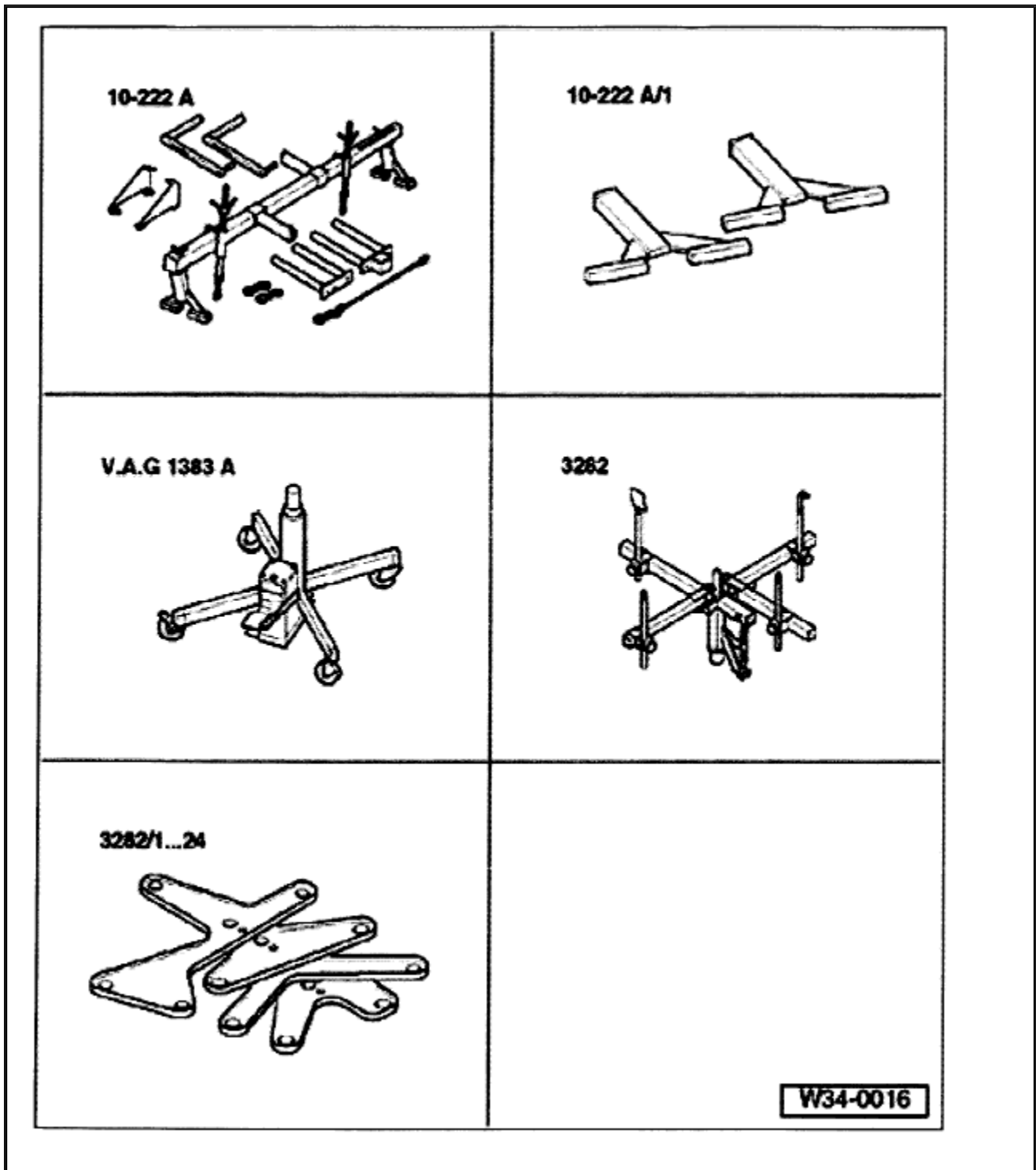


5 Speed Manual 02J



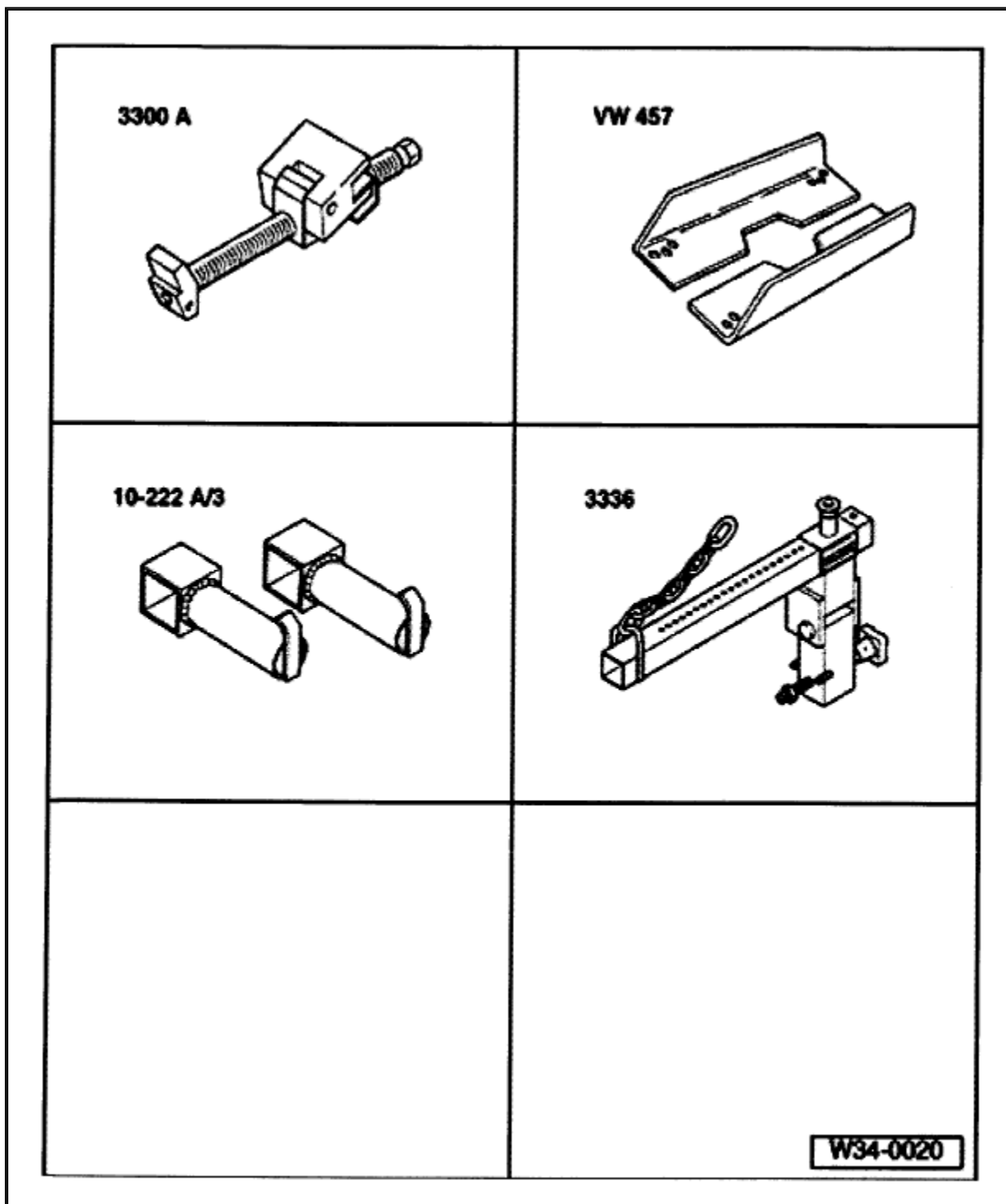
Zoom

Sized for Print

Special tools and equipment

- 10-222 A Support

- 10-222 A/1 Support
- V.A.G 1383A Transmission jack
- 3282 Transmission support
- 3282/8 Adjustment plate
- 3282/40 Pin (3x)
- 3282/59 Support



Zoom

Sized for Print

Special tools and equipment

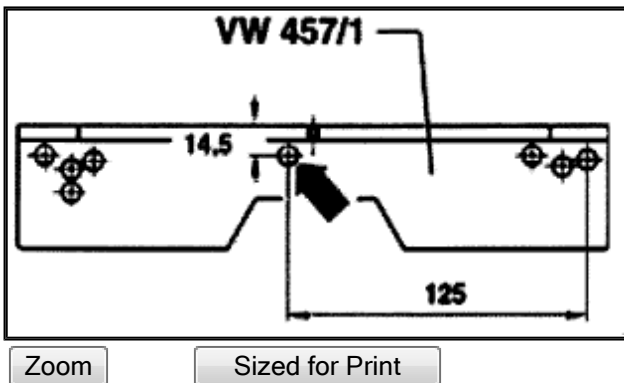
- 3300 A Engine support
- VW 457/1 Support rails
- 3336 Transmission lifting beam

Additionally for vehicles with 6-Cyl. engines

- 10-222 A/3 Adapter

Modifying Support Rails VW 457/1

- Support rails VW 457/1 are required to remove and install the transmission.



To secure support rail VW 457/1 to the subframe a new hole is required. Dimensions given are in mm.

- Drill an **8.5 mm (0.335 inch)** diameter hole (arrow) in Support rail VW 457/1.

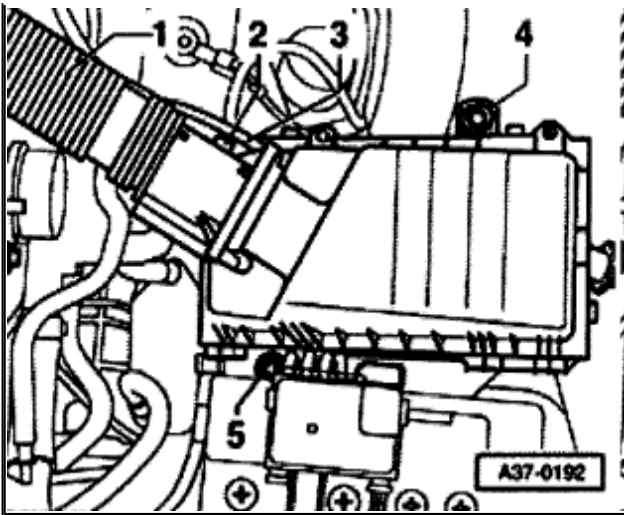
Removing

- Remove engine cover.

Note: Check whether a coded radio is installed as during the forthcoming work sequences the battery ground strap must be disconnected. Obtain radio code first if necessary.

- With ignition switched off disconnect battery ground strap.



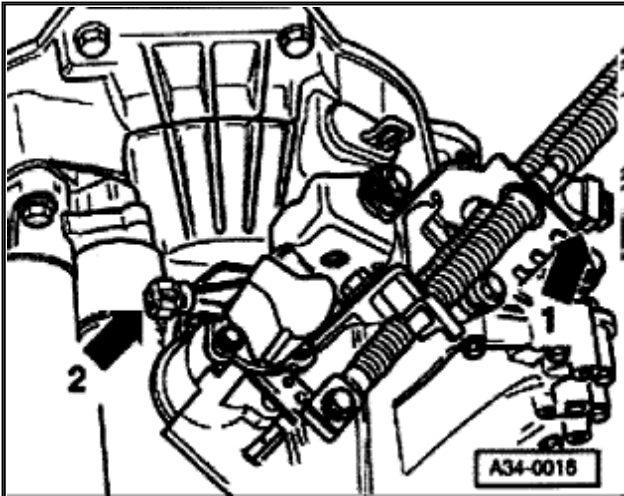


Zoom

Sized for Print

- Remove intake hose -1 -, connector -2- and hose -3- from Mass Air Flow (MAF) Sensor.
- Remove complete air cleaner housing by unscrewing bolts -4- and -5-.
- Refer to; Powertrain Management.

Transmissions up to 05.99

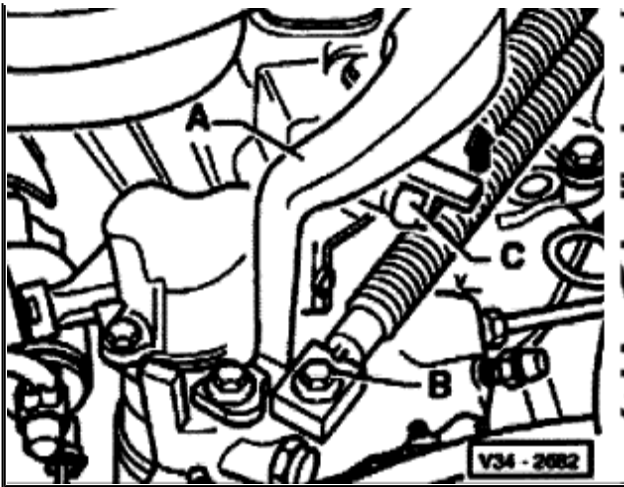


Zoom

Sized for Print

- Pull connector off vehicle speed sensor (arrow 1).
- Disconnect reverse light connector (arrow 2).

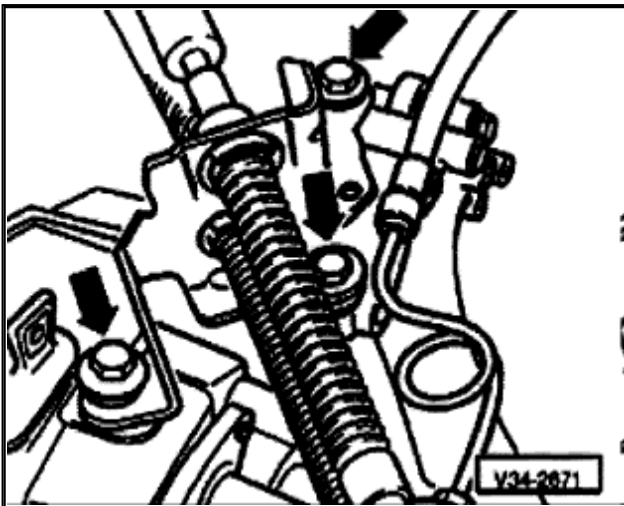




Zoom

Sized for Print

- Remove balance weight -A- and gear selector cable -B- from gear selector lever.
- Remove gear selector cable with washer and square nut (self-locking).
- Lift tab in direction of arrow and pull gate selector cable off actuating arm/relay lever - C-

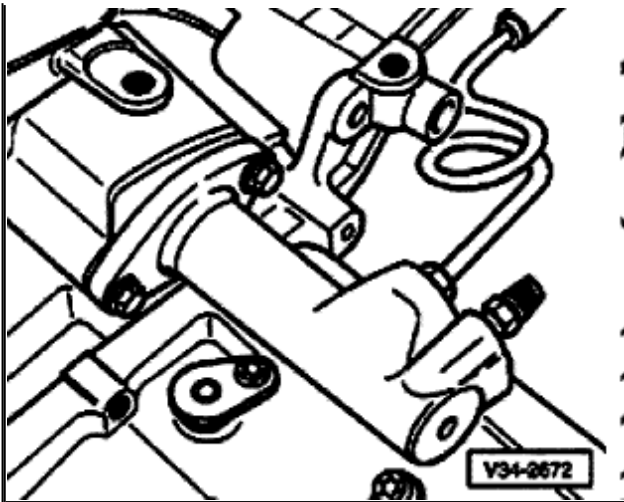


Zoom

Sized for Print

- Remove cable support bracket from transmission (arrows), if necessary unclip hose at cable support bracket first.



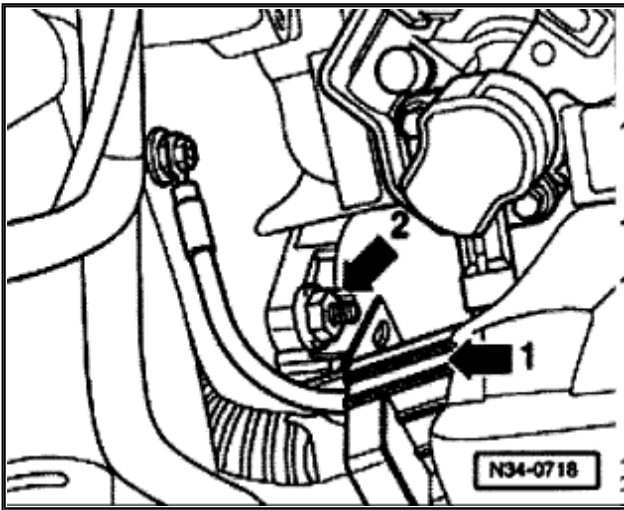


Zoom

Sized for Print

- Remove slave cylinder place to side and secure with wire, do not disconnect lines.

Note: Do not depress clutch pedal.



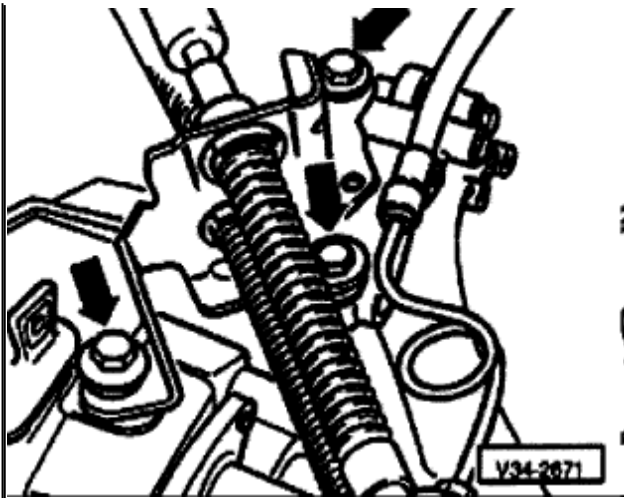
Zoom

Sized for Print

- Remove cable retainer (arrow -1-) on starter.
- Remove upper securing bolt (arrow -2-) on starter.
- Remove ground strap at engine/transmission upper securing bolt.
- Remove upper engine/transmission securing bolts.
- Remove engine/transmission upper securing bolts.

Transmissions from 05.99

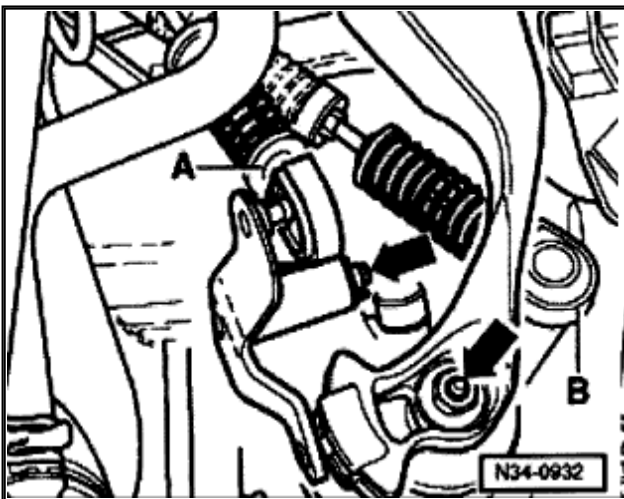




Zoom

Sized for Print

- Remove cable support bracket from transmission(arrows). If necessary unclip hose at cable support bracket first.

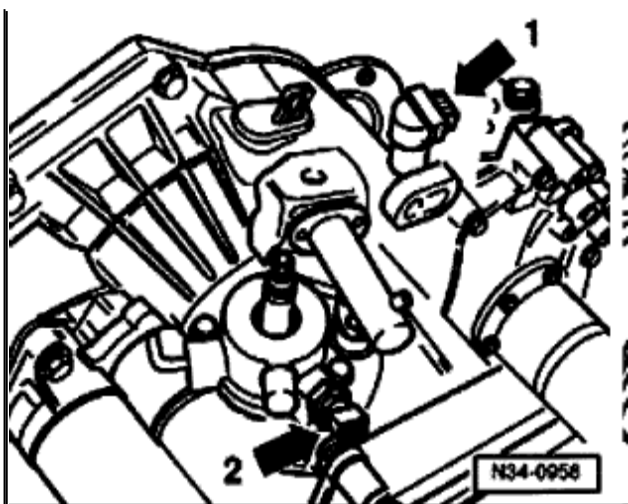


Zoom

Sized for Print

- Remove circlip and pull off gate selector cable -A- with relay lever.
- Remove nut (arrow) and remove gear selector cable -B- with transmission selector lever.
- Tie selector cable with transmission selector lever and gate selector cable with relay lever up.

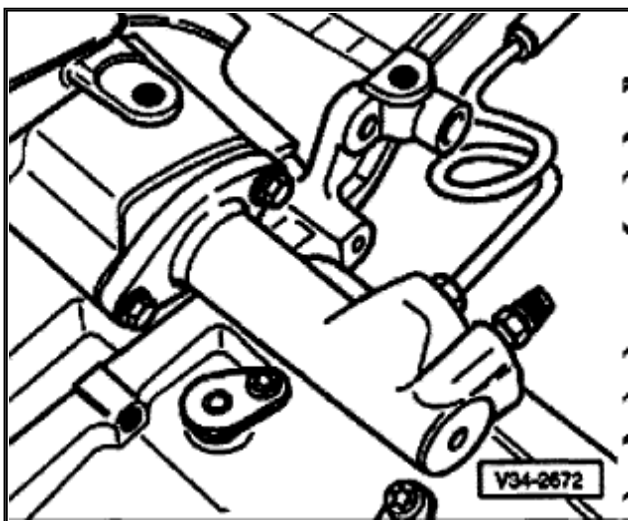




Zoom

Sized for Print

- Disconnect connector from vehicle speed sensor (arrow 1).
- Disconnect reverse light connector (arrow 2).

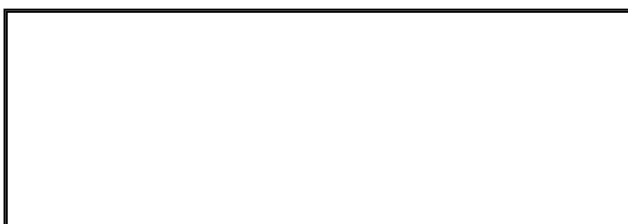


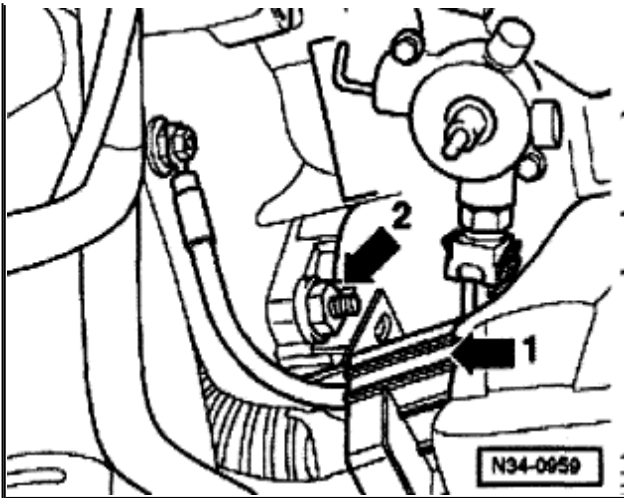
Zoom

Sized for Print

- Remove slave cylinder and place to side, secured with wire. Do not disconnect hydraulic lines.

Note: Do not depress clutch pedal.

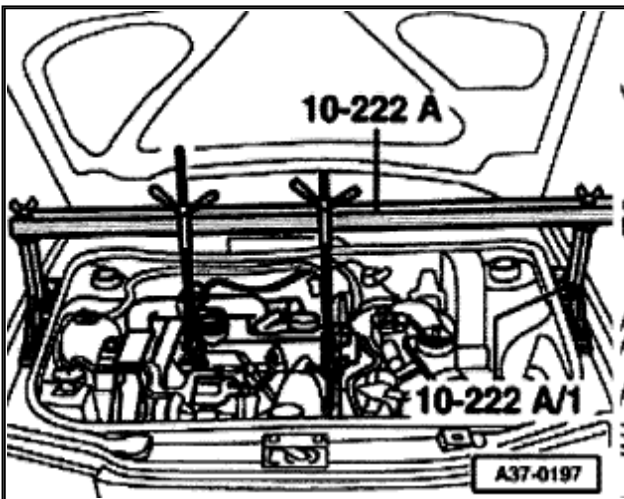




Zoom

Sized for Print

- Remove cable retainer (arrow 1) on starter.
- Remove wiring and cable from starter.
- Remove ground strap at engine/transmission upper securing bolt.
- Remove upper securing bolt (arrow 2) on starter.
- Remove engine/transmission upper securing bolts.
- If there are hoses and cable connections in area of engine mounting eye for support 1 0-222A, remove these now.



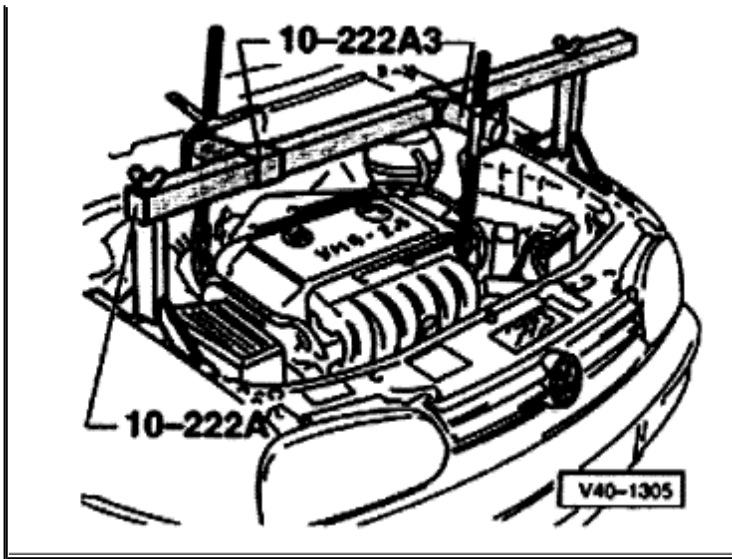
Zoom

Sized for Print

Continued for vehicles with 4-Cyl. engine

- Fit support bar 1 0-222A together with legs 10222 A/1.



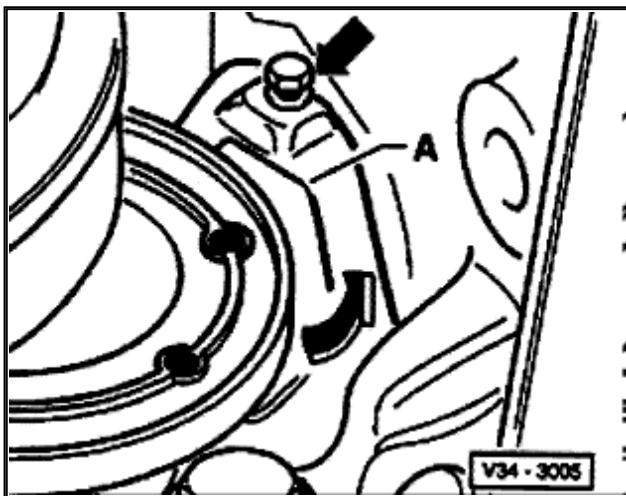


Zoom

Sized for Print

Continued for vehicles with 6-Cyl. engines

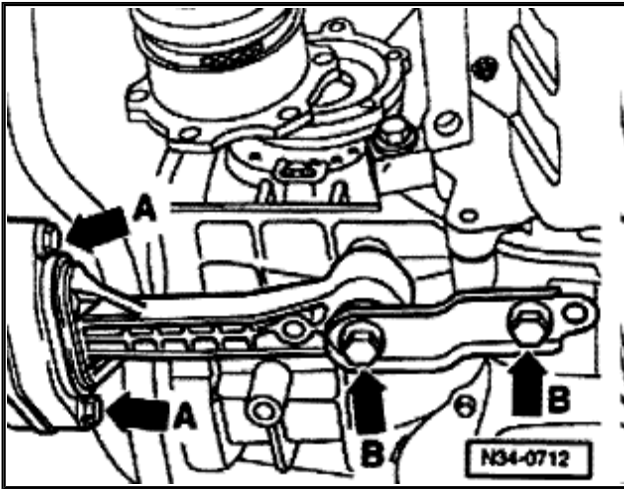
- Fit support bar 10-222A together with legs 10222 A/1 and adapters 10-222 A/3. Continued for all vehicles
- Take weight of engine/transmission assembly on spindles.
- If fitted, remove center and left part of insulation tray below engine/transmission.
- Remove power steering line from starter and transmission.
- Remove starter. Refer to Starting and Charging.
- Remove right hand inner [constant velocity joint](#) protective cover from engine if fitted.
- Turn wheels fully onto left lock.
- Disconnect drive shafts from flanged shafts and tie up as high as possible. Do not damage surface protection of parts.



Zoom

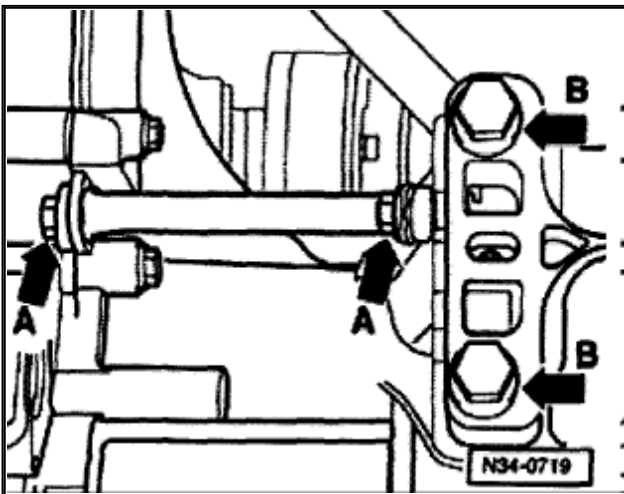
Sized for Print

- Remove [flywheel](#) small cover plate -A- behind right-hand flanged shaft (arrows), if fitted.
- Remove lower [flywheel](#) cover plate, if part of original equipment.
- Separate exhaust system and if necessary remove from subframe.



Zoom Sized for Print

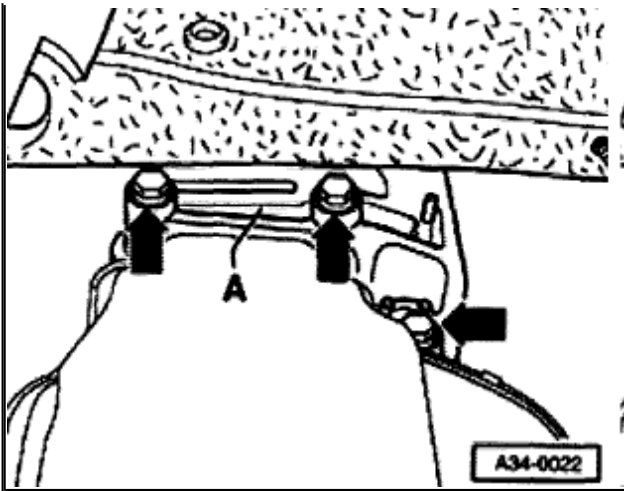
- Remove pendulum support (arrows A and B).



Zoom Sized for Print

- Remove transmission support (arrow A) from transmission.
- Remove hex bolts (arrows B) from left-hand hand assembly mounting.
- Incline engine/transmission assembly by lowering it via left spindle of support bar 10-222A.
- The [transmission mount](#) -A- securing bolts (arrows) must be accessible.

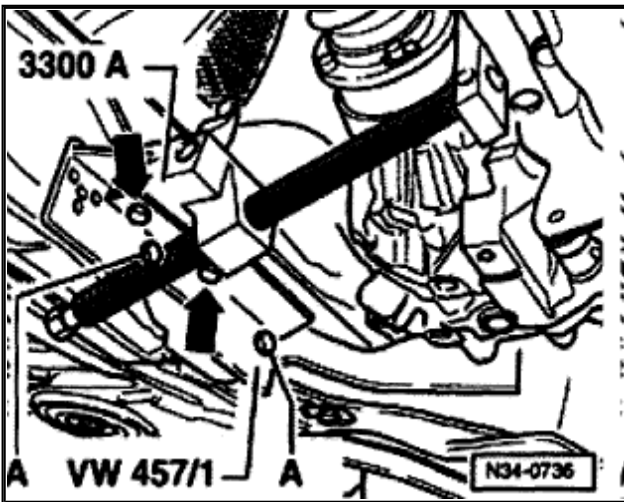




Zoom

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- Remove [transmission mount](#) -A- (arrows).

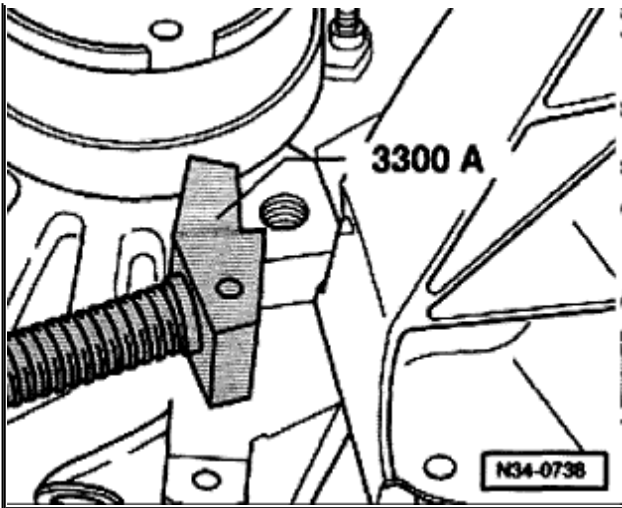


Zoom

Sized for Print

- Bolt support rail VW 457/1 to both pendulum support securing holes on subframe.
- Insert spacers totaling 6 mm between subframe and support rail VW 457/1. -A- Qty. 2 hex bolts M 8 x 25
- Fit support 3300 A and secure (arrows).





Zoom

Sized for Print

Vehicles with 5 valve engine

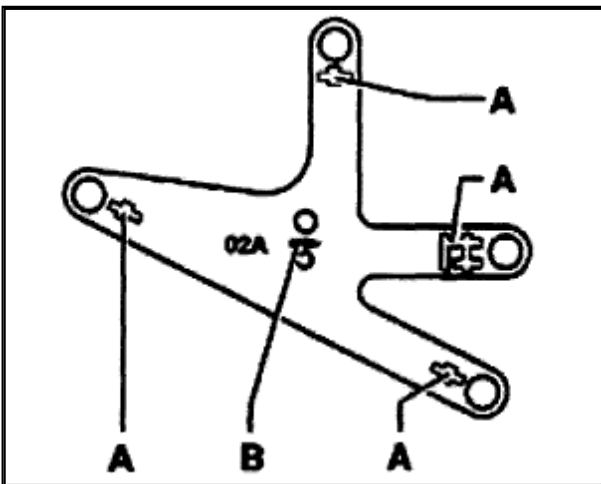
- Remove a lower engine/transmission securing bolt so that support 3300 A can be installed. The support 3300 A must be installed directly next to the transmission on the engine.

Continued for all vehicles

- Press engine/transmission forward carefully.

Note: Do not damage power steering line when moving engine/transmission assembly.

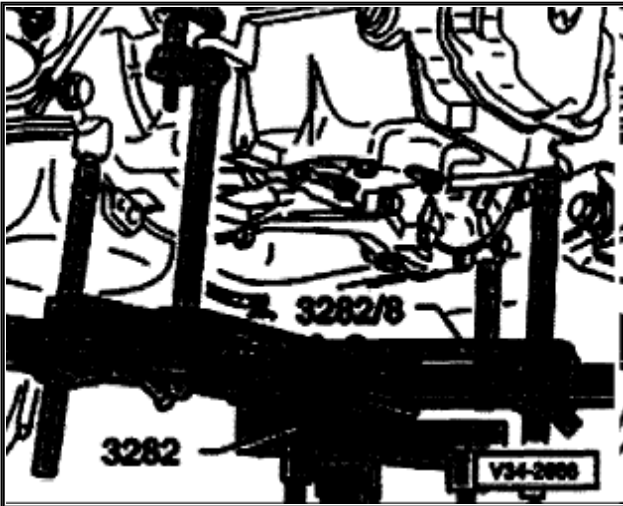
- Assemble transmission jack with transmission support 3282, adjustment plate 3282/8 for "02A" transmission and support elements as follows:
- Place adjustment plate 3282/8 on transmission support 3282 (adjustment plate only fits in one position).
- Align arms of transmission support according to holes in adjustment plate.



Zoom

Sized for Print

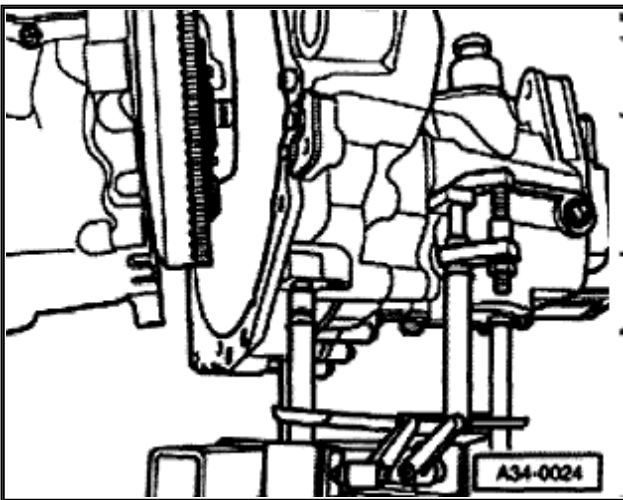
- Bolt support elements -A-, as illustrated, on adjustment plate.



Zoom

Sized for Print

- Place transmission jack under vehicle.
- Align adjustment plate parallel to transmission and lock safety supports on transmission.
- Remove lower engine/transmission securing bolts.



Zoom

Sized for Print

- Press transmission off dowels and carefully swing towards subframe.
- Lower transmission slightly and incline to left via spindles of transmission support 3282.



Zoom

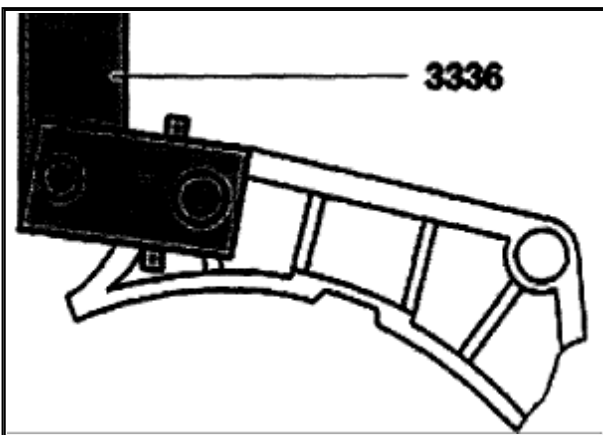
Sized for Print

- Lower transmission carefully guiding right-hand flange shaft -A- in area of [flywheel](#) as illustrated. Guide left-hand flange shaft -B- in area of subframe.

Note:

- When lowering, change position of transmission using the transmission support 3282 spindles.
- Do not damage power steering line when lowering transmission.

Transporting the transmission

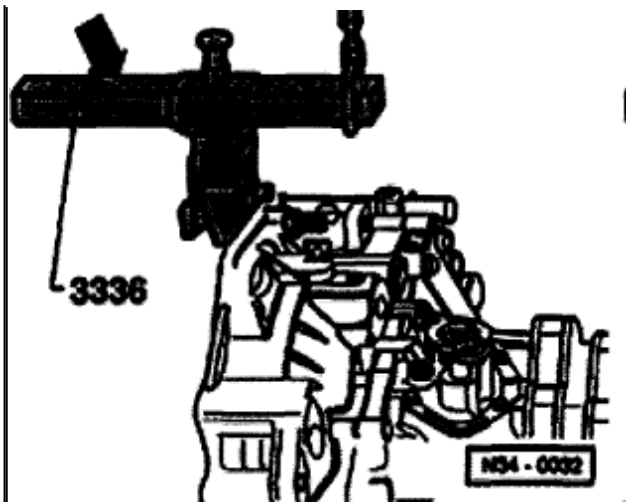


Zoom

Sized for Print

- Bolt transmission lifting device 3336 to clutch housing.



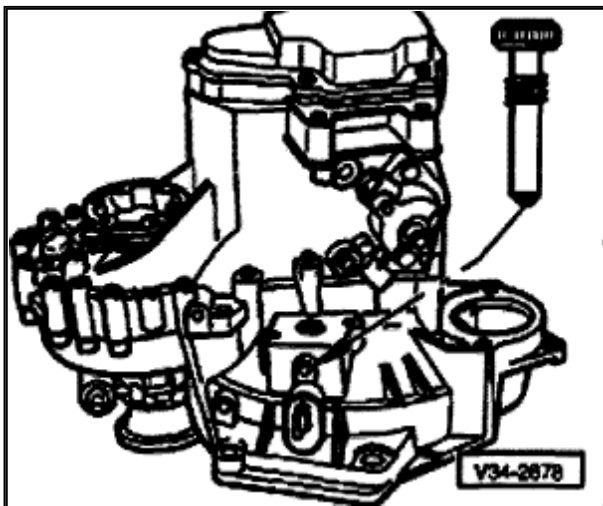


Zoom

Sized for Print

- Set support arm on sliding piece with locking pin (arrow). No. of holes visible = 5
- Lift transmission with workshop crane and transmission lifting device 3336.
- Place transmission, for example, onto transport container.

Installing



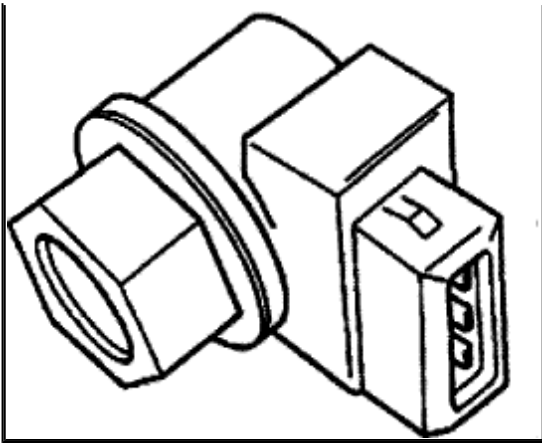
Zoom

Sized for Print

Note:

- Before installing the transmission press the clutch release lever toward the transmission housing and secure it with an assembly pin, assembly bolt or a M 8 x 35 bolt. Remove it after the transmission has been installed. The hole will then be sealed by the 3rd cable support bracket securing bolt or plugged.

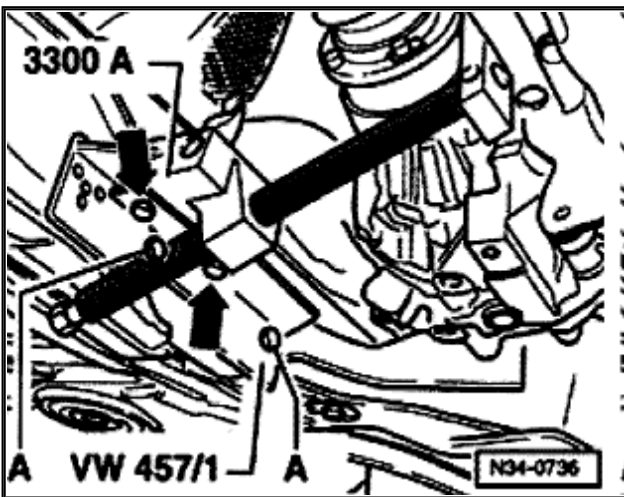




Zoom

Sized for Print

- When replacing a transmission, the sensors for the speedometer, gear selector and relay lever must be transferred to the new assembly.
- Clean [input shaft](#) splines and lightly grease with GOOD 100 grease. The clutch plate must be able to slide lightly back and forth on the [input shaft](#).
- Check whether dowel sleeves for aligning engine/transmission are fitted in cylinder block, install if necessary.
- Ensure that intermediate plate is correctly positioned on engine.

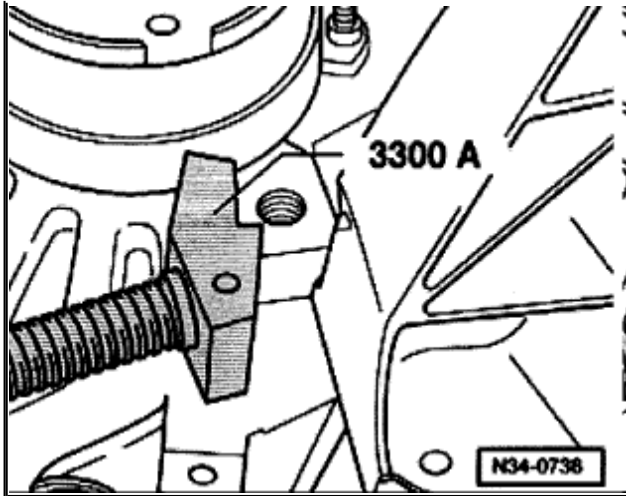


Zoom

Sized for Print

- Bolt support rail VW 457/1 to both pendulum support securing holes on subframe.
- Insert spacers totaling **6 mm** between subframe and support rail VW 457/1. -A- Qty. 2 hex bolts M 8 x 25
- Fit support 3300 A and secure (arrows).





Zoom

Sized for Print

Vehicles with 5 valve engine

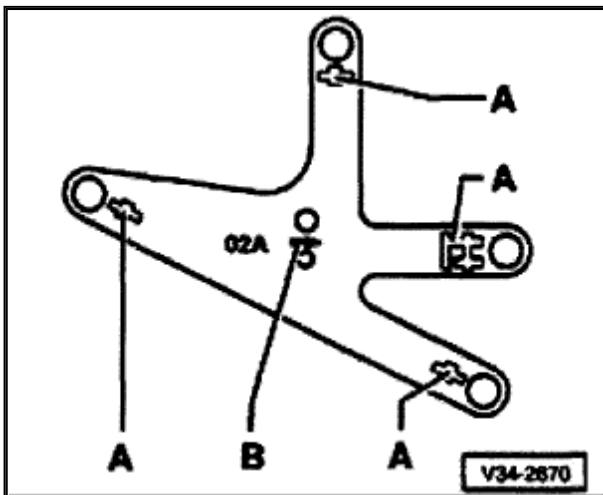
The support 3300 A must sit on the threaded boss on the engine.

Continued for all vehicles

- Press engine forward carefully.

Note: Do not damage power steering line.

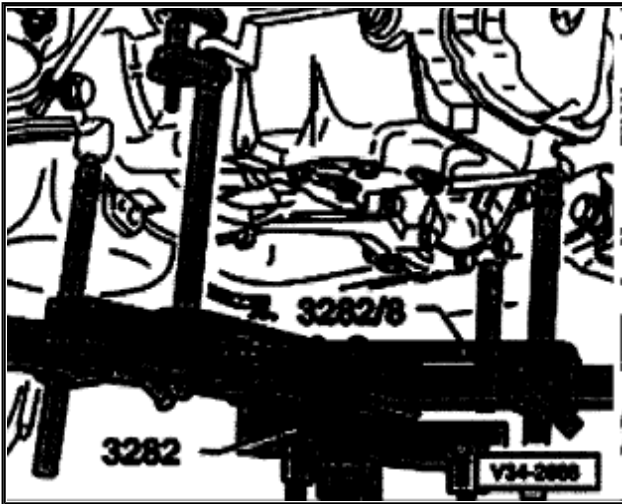
- Assemble transmission jack with transmission support 3282, adjustment plate 3282/8 for "02A" transmission and support elements as follows:
- Place adjustment plate 3282/8 on transmission support 3282. (Adjustment plate only fits in one position).
- Align arms of transmission support according to holes in adjustment plate.



Zoom

Sized for Print

- Bolt on support elements -A-, as illustrated, on adjustment plate.
- Place transmission on transmission jack.
- Align adjustment plate and transmission parallel with one another and lock safety supports on transmission.



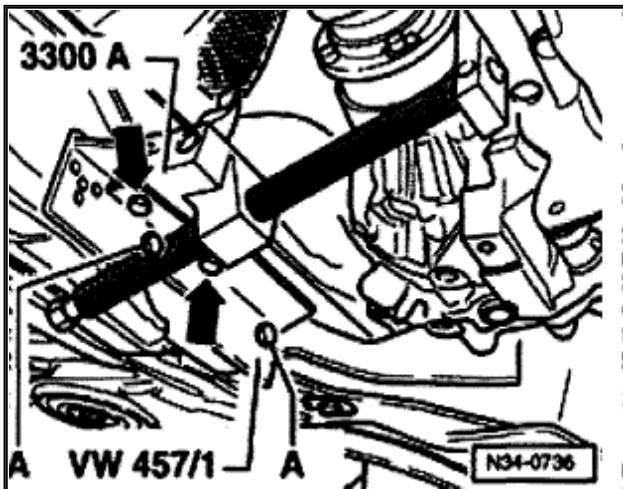
Zoom

Sized for Print

- Place transmission jack under vehicle, arrow symbol -B- (= Illustration V34-2670) on adjustment plate points to front of vehicle.
- Incline transmission to left via spindles of transmission mounting 3282.
- Insert transmission.

Note: Do not damage power steering line.

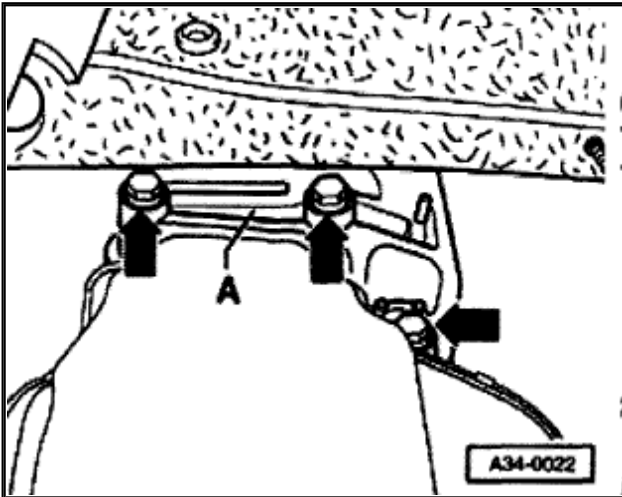
- Install lower engine/transmission securing bolts.



Zoom

Sized for Print

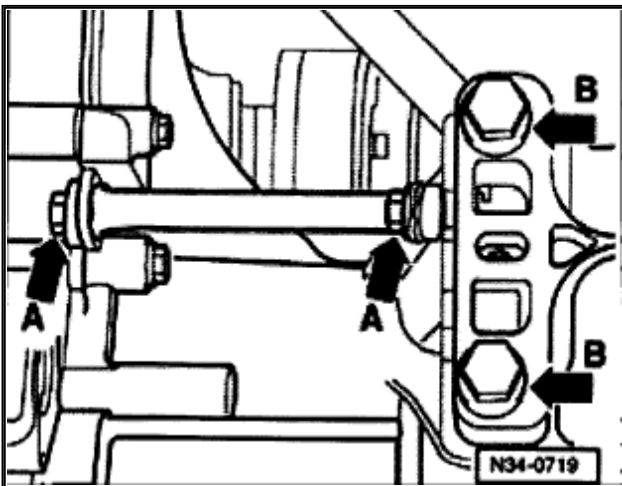
- Remove support 3300 A (arrows).
- Remove bolts -A- and remove support rail VW 457/1.
- Install upper engine/transmission securing bolts.



Zoom

Sized for Print

- Install [transmission mount](#) -A- with new bolts (arrows).
- Align engine/transmission in installation position.

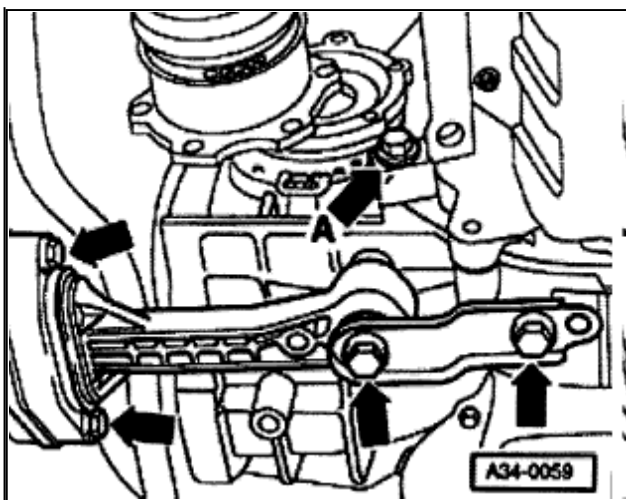


Zoom

Sized for Print

- Install new hex bolts (arrows -B-) for left hand assembly mounting in transmission mounting.
- Mount transmission support (arrows -A-) to transmission.

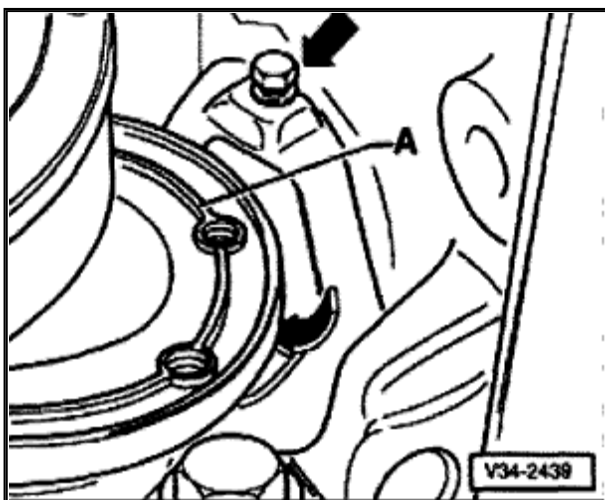
WARNING: Do not remove support bar 10-222A until the bolts securing the left-hand [transmission mount](#) have been tightened to torque setting.



Zoom

Sized for Print

- Install lower engine/transmission securing bolt (arrow A).
- Install pendulum support (arrows). Use new bolts for securing.
- Reconnect exhaust system.
- Install retainer for power steering line on starter and on transmission.

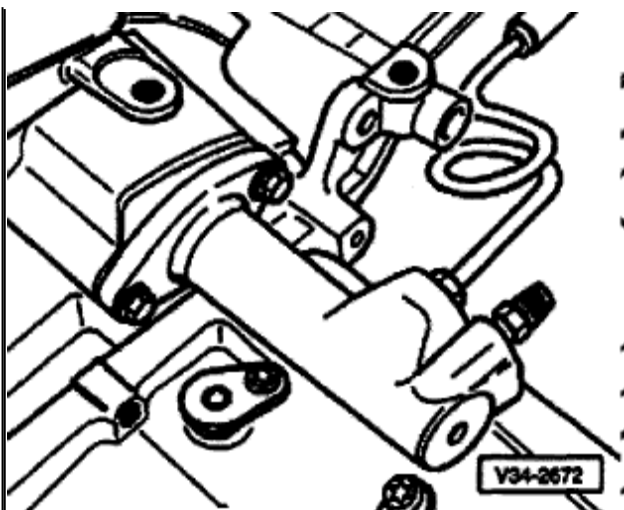


Zoom

Sized for Print

- If removed, install small cover plate -A- behind right-hand drive flange (arrows).
- If removed, install large cover plate for [clutch](#).
- Fit drive shafts to transmission.
- If removed, install protective cap for right-hand inner [constant velocity joint](#) to engine.
- Install starter.

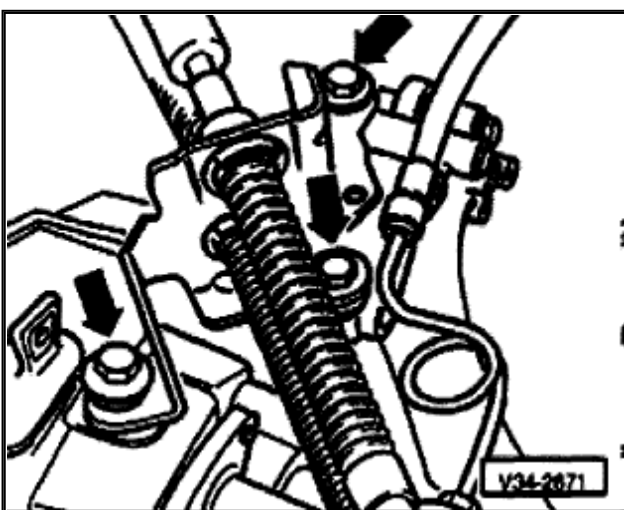




Zoom

Sized for Print

- Install slave cylinder.



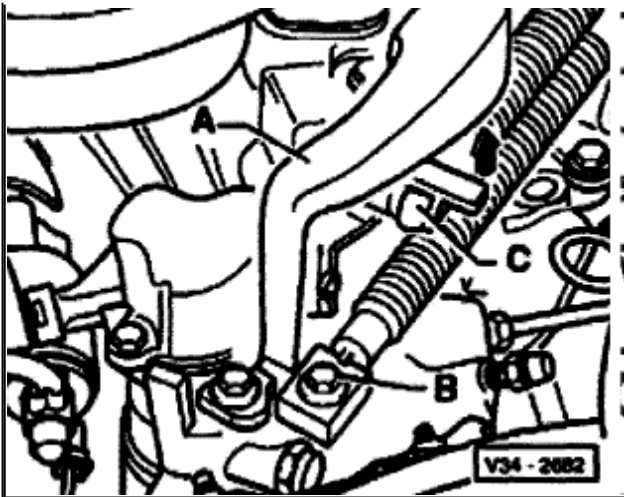
Zoom

Sized for Print

- Install cable support bracket on transmission (arrows), if necessary push hose onto cable support bracket.

Transmissions up to 05.99

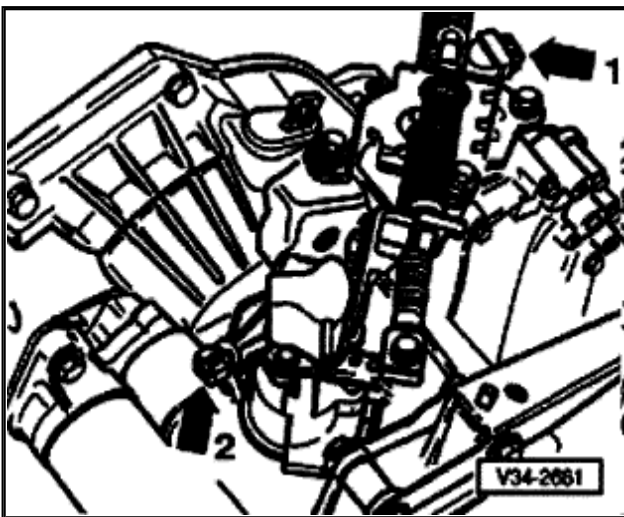




Zoom

Sized for Print

- Install gear selector cable -B- and balance weight -A- on gear selector lever.
- Lift tab in direction of arrow and fit gate selector cable on follower/relay lever -C-.



Zoom

Sized for Print

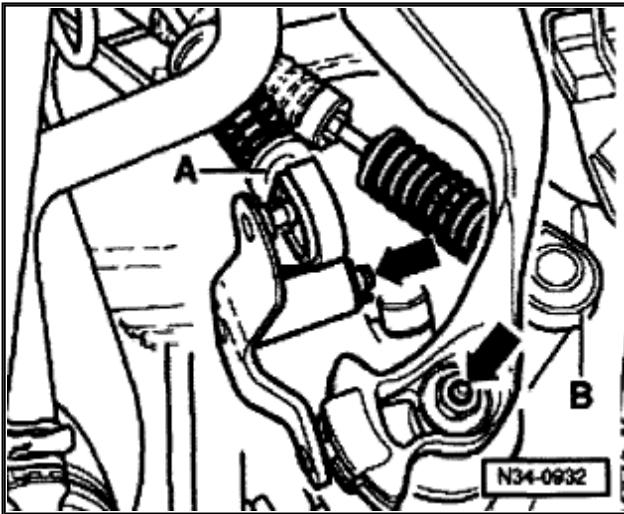
- Attach reverse light connector (arrow 2). Attach all other electrical connections and ground wires to transmission and to engine/transmission securing bolts.
- Attach connector to speedometer sensor (arrow 1).
- Assemble air intake duct.
- Reconnect ground strap to battery.

Note: Note radio coding for vehicles with coded radio.

- Check transmission oil.
- Adjust gear selector mechanism.
- Install engine cover.

- Install insulation tray below engine/transmission, if fitted.

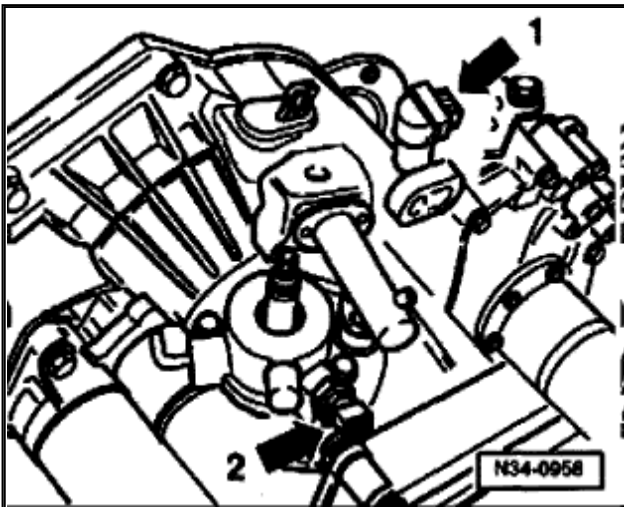
Transmission from 05.99



Zoom

Sized for Print

- Fit gear selector cable -B- with transmission selector lever (arrow).
- Fit gate selector cable -A- with relay lever and secure (arrow).



Zoom

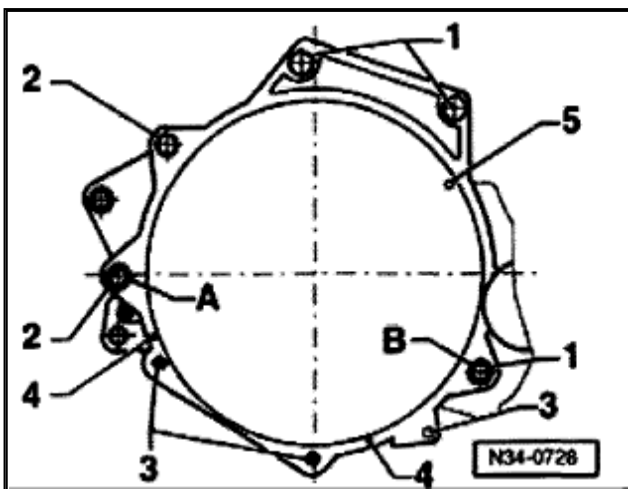
Sized for Print

- Attach reverse light connector (arrow 2). Attach all other electrical connections and ground wires to transmission and to engine/transmission securing bolts.
- Attach connector to speedometer sensor (arrow 1).
- Assemble air intake duct.
- Reconnect ground strap to battery.

Note: Note radio coding for vehicles with coded radio.

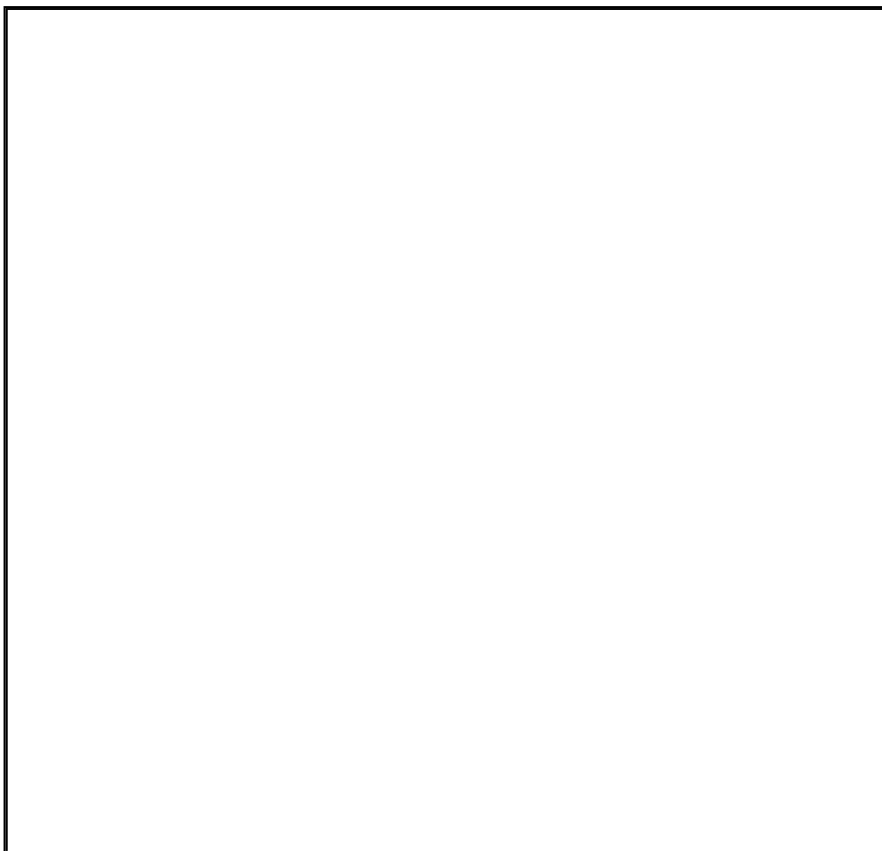
- Check transmission oil.
- Adjust gear selector mechanism.
- Install engine cover.
- Install insulation tray below engine/transmission, if fitted.

Continued for all vehicles
Tightening torques
Transmission to engine



Zoom

Sized for Print



Item	Bolt	Qty.	Nm
1	M 12 x 55	3	80
2 1)	M 12 x 150	2	80
3 2)	M 10 x 50	3	60
4 3)	M 7 x 12	2	10
5 4)	M 7 x 12	1	10

1) Also starter to transmission

2) Only on engines with an aluminium oil pan,

3) Large cover plate for flywheel only on engines with sheet steel oil pan (pan painted black)

4) Small cover plate for flywheel

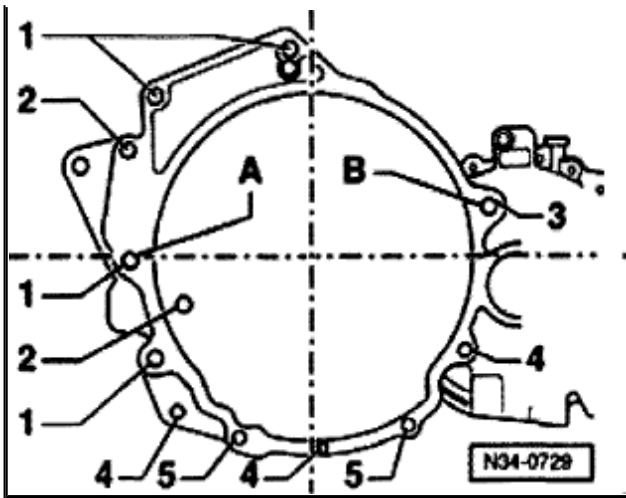
Items A + B - Fitting sleeves

Zoom

Sized for Print

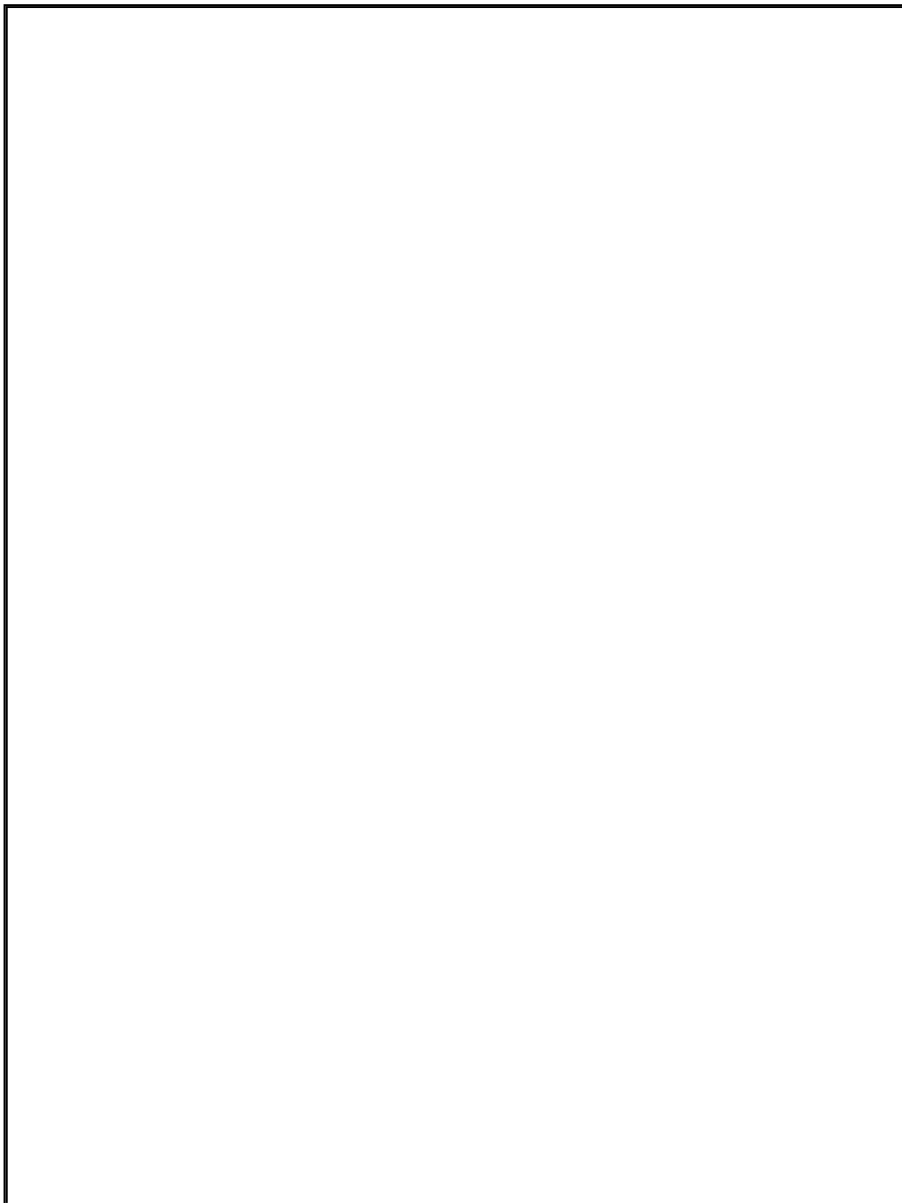
Vehicles with 4-Cyl. engine

1. Also starter to transmission
2. Only on engines with an aluminum oil pan,
3. Large cover plate for [flywheel](#) only on engines with sheet steel oil pan (pan painted black)
4. Small cover plate for [flywheel](#) Items A + B - Fitting sleeves



Zoom

Sized for Print



Item	Bolt	Qty.	Nm
1	M 12 x 55	4	80
2 1)	M 12 x 55	2	80
3	M 12 x 65	1	80
4 2)	M 10 x 60	3	40
5 3)	M 7 x 12	2	10

1) Also starter to transmission

2) Only on engines with an aluminium oil pan, on some engines M 10 x 50 bolts are fitted and the tightening torque is 25 Nm.

3) Flywheel cover plate only on engines with a sheet steel oil pan (pan painted black)

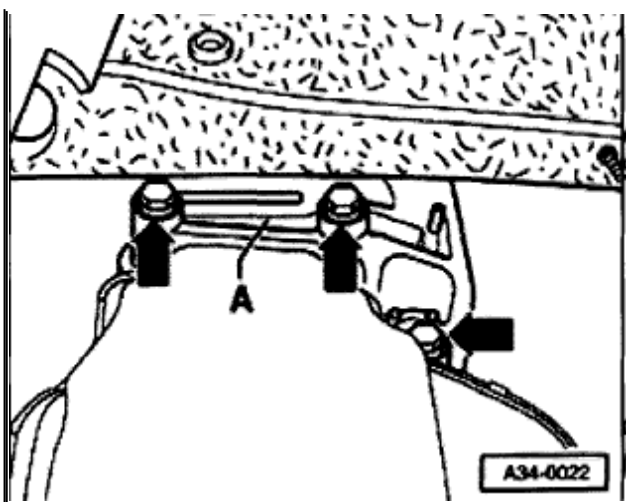
Items A + B - Fitting sleeves

Zoom

Sized for Print

Vehicles with 6-Cyl. engine

1. Also starter to transmission
2. Only on engines with an aluminum oil pan, on some engines M 10 x 50 bolts are fitted and the tightening torque is **25 Nm**.
3. [Flywheel](#) cover plate only on engines with a sheet steel oil pan (pan painted black)
Items A + B - Fitting sleeves

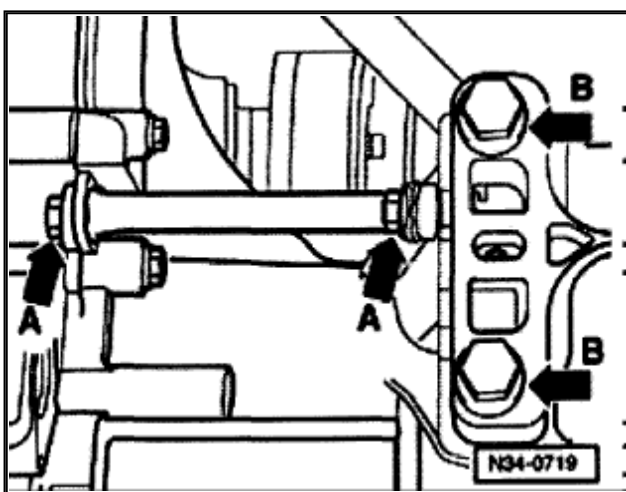


Zoom

Sized for Print

Transmission mount -A- to transmission **50 Nm + 90°**

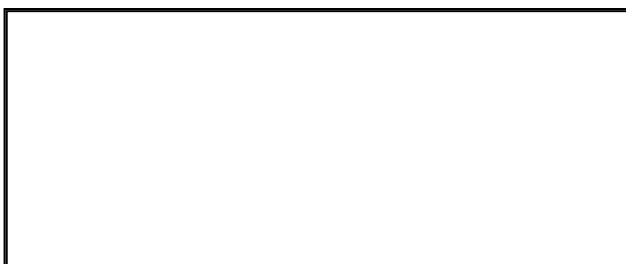
- **Replace bolts.**

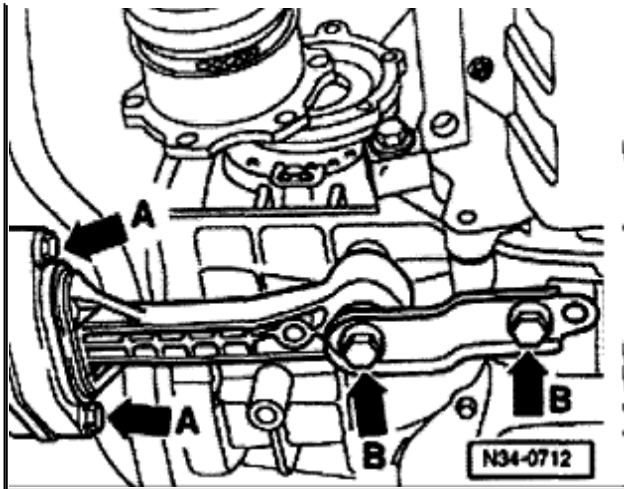


Zoom

Sized for Print

Transmission to body
Bolts -A- **25 Nm**
Bolts-B- **100 Nm**





Zoom

Sized for Print

Rear transmission mounting

Bolts -A- **20 Nm + 90°**

Bolts-B- **40 Nm + 90°**

- Replace bolts

Note: Install engine transmission mountings stress free.

Selector cable support bracket to transmission **25 Nm**

Selector cable bolt to transmission selector lever **25 Nm**

Balance weight to transmission selector lever **25 Nm**

Transmission selector lever to transmission **20 Nm**